YAKIMA REGIONAL CLEAN AIR AGENCY

Order of Approval Permit No NSRP-17-DG-14

New Source Review Order of Approval for Darigold, Inc. for the Installation of a New Spray Dryer(GEA Niro MSD 1250) for Drying Skim Milk, Two Reverse Air Pulse Baghouses, One Packaging Dust Collector(Hopper) and Three Silos.

IN THE MATTER OF approving a project which establishes a new air contaminant source at Darigold, Inc., in Sunnyside, WA. THIS ORDER OF APPROVAL IS HEREBY ISSUED TO:

Applicant/Permittee: Darigold, Inc.
Food Processing Facility

Located at: 400 Alexander Rd
Sunnyside, WA. 98944

Contact: Darigold, Inc.
Attn: Doug Pettinger
Director of Environmental Compliance
400 Alexander Rd
Sunnyside, WA. 98944
(509) 837-8000

Contact at the site: Ronald Phillips, EH&S Manager

IN COMPLIANCE WITH THE PROVISIONS OF THE STATE OF WASHINGTON CLEAN AIR ACT (Revised Code of Washington (RCW)) CHAPTER 70.94.152, WASHINGTON ADMINISTRATIVE CODE (WAC) 173-400-110, 173-460-040:

ISSUE DATE: SEPTEMBER 9 , 2015.

THIS ORDER OF APPROVAL PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS:

Construction/Installation of the equipment must be conducted in compliance with all data and specifications submitted with the New Source Review (NSR) application under which this Order of Approval is issued unless otherwise specified herein. The conditions and limitations of this NSR Order of Approval are attached as follows:

1.0 Description of the Source

1.1 Darigold, Inc., hereafter referred to as the Permittee, the Facility, DGI or the Source is the owner and operator of the dairy processing facility at 400 Alexander Rd., Sunnyside, WA. The Permittee is proposing to install a new Niro spray dryer (GEA Niro, MSD1250) with a maximum design capacity of 18,003 lbs/hr, two new reverse air pulse at 90 psig baghouses (Niro BF-R-16-367 and Niro BF-L-367) to control air emission from the new dryer as shown in Figure 1., three silos controlled by bin vent sock filters, and a packaging surge hopper controlled by a dust collector. The silo bin vents emit inside the building. The burner for the dryer uses a natural gas as the sole source of fuel with a design capacity of 30.51 MMBtu/hr.

1.2 The following equipment are currently in operation and permitted with YRCAA at this facility: a Spray Damrow Dryer (NOC-22-WFF-00), a Niro Dryer (NOC-ATF-WFF-01), a 900 Hp Johnston boiler (NSRP-22-DI-07), and two 800 HP boilers (NOC-ATF-WFF-01).

1.3 The City of Sunnyside issued a Mitigated Determination of Nonsignificance (MDNS) pursuant to the State Environmental Policy Act (SEPA).

1.4 Specifications for the proposed equipment installation are listed in Table 1 below. The Permittee submitted the specifications for these units with the NSR application and the additional requested information by Yakima Regional Clean Air Agency (YRCAA) which shall be part of this Order of Approval (Order/Permit). In addition, the technical support data and analysis are part of this Order.

1.5 Air emissions from this operation are in form of Particulate Matters (PM_{10} and $PM_{2.5}$), Carbon Monoxide (CO), Carbon Dioxide (CO_2), Oxides of Nitrogen and sulfur (NOx, SOx), and Volatile Organic Compounds, some of which are Hazardous Air Pollutant (HAP) and Toxic Air Pollutants (TAPs) in accordance with the Federal Clean Air Act (FCAA) and Washington Administrative Code (WAC), respectively.

2.0 Determinations

In relation to the above installation, YRCAA determines that the source shall comply with the federal, state and local laws and regulations including but not limited to the following determination:

2.1 The Facility is located in an area that is in attainment with all criteria pollutants;

2.2 The Facility is not a major stationary source at this time nor is this installation is subject to the Prevention of Significant Deterioration permitting requirements of WAC 173-400-700 through 173-400-750;

2.3 This Facility shall be classified as a synthetic minor source at or greater than 80 percent of a Title V threshold as of the time of issuance of this permit.

2.4 The conditions and limitations of this Order will become part of a Title V Air Operating Permit (AOP) when and if the Permittee becomes a Title V source.

2.5 This installation is subject to the NSR requirements of WAC 173-400-110 and WAC 173-460-040; and

2.6 The Facility is subject to WAC 173-400-099 – Registration Program and YRCAA Regulation 1, 4.01 – Registration Program, unless the facility becomes a Title V Permits source, pursuant to the State and Federal Clean Air Acts.

THEREFORE, it is hereby ordered that the project as described above, in the NSR application, and in detailed plans, specifications and other additional information submitted in reference thereto, is **APPROVED** for operation, **PROVIDED** the specification submitted with the application and the following conditions are met:

3.0 Operating Approval Conditions

3.1 This Order of Approval is for the New Niro Dryer and the peripheral equipment with it for Darigold Inc., located at 400 Alexander Rd, Sunnyside WA, in accordance with the plan and specifications submitted with the NSR application and subsequent requested information to YRCAA and specified in Table 1 and drawing (page 14 to 24) Figure 2 of this Order.

3.2 Best Available Control Technology (BACT) shall be satisfied for any proposed new facility or modified air emission source to control air emissions. YRCAA finds BACT to be satisfied as follows:

3.2.1 An Operation and Maintenance (O&M) plan for all specified equipment shall be developed as specified in this Order and manufacturers recommended standards;

3.2.2 All specified equipment in Table 1 must be operated as per manufacturer specifications and certification;

3.2.3 The TAPs air emissions calculation as submitted from this installation were shown to be below the Small Quantity Emission Rate (SQER) pursuant to WAC 173-460-150;

3.2.4 All equipment must meet ASIL of WAC 173-460 and the National Ambient Air Standards (NAAQs) of 40 CFR 50 as specified in this Order;

3.2.5 Natural Gas shall be the only source of fuel for the burner;

3.2.6 Good Combustion Practices shall be performed for the low-NOx burner (less than or equal to 20 ppm emissions corrected to 3% O_2); and

3.2.7 The PM emission rate for the baghouses must be equal to or less than 0.005 grain per dry standard cubic feet (gr/dscf).

3.3 The Permittee must develop/update a site-specific O&M plan for all equipment. The O&M Plan shall contain at minimum four sections: general information, operation plan (i.e., key operating parameters), maintenance plan and any other additional information for all equipment. In addition, if an O&M is not developed yet, a plan must be completed within 120 days of the issuance of this Order or the start of operation whichever comes first, and shall include, but not be limited to the following:

3.3.1 Dryer operating conditions and specification as per manufacture's recommendation.

3.3.2 Check and record from the gauge readings of the pressure drops across all exhaust filters. The acceptable range for the gauge shall be based on the manufacturer's specification and clearly marked on or nearby the gauge;

3.3.3 Check the baghouse filters for signs of excessive wear or damage as per the manufacturer's recommended intervals;

3.3.4 Monitor the physical condition of the baghouse and log any repairs and replacement;

3.3.5 Frequency of dryer cleaning and method used for cleaning including a log; and

3.3.6 Regular changes of filters as per the manufacturer's recommendation or usage.

3.4 The O&M plan and all records including this Order and other Permits must be maintained at the Facility's site or accessible place when requested by the YRCAA Air Pollution Control Officer (APCO) or his representative.

3.5 The equipment's must be maintained and operated as per manufacturer specification. It shall be the responsibility of the Permittee to check and make sure that the units are maintained and operated as per manufacturer specification.

3.6 Air laws and regulations changes or are updated at regular intervals or any time. It shall be the responsibility of the Permittee to be current with the rules and regulation.

3.7 Control equipment must be operating at all times that the dryer and other process is in operation. In no event the operation process shall operate without the control equipment for that process.

3.8 As a result of air modeling, east side of Facility's boundary land lines shall be clearly delineated and if necessary fenced. However, signs must be post and visible to the general public by indicating no public access or no public trespassing. Upon completion of the signs or fence at the east side, the Permittee shall submit in writing that signs or fence have been installed and completed.

3.9 Air modeling shows that NAAQS for $PM_{2.5}$ are not exceeded at or beyond the boundary lines, thus it shall not be exceeded.

3.10 This Order authorizes the installation of the following equipment:

Table 1: Authorized equipment list

Unit No	Unit Type	Manufacturer and Model Number	Capacity
1	New Spray Dryer	GEA Niro Model: MSD1250 Serial #: 67561-719001-011	18,003 lb/hr
2	Two Baghouse	Niro Model: BF-R-16-367 and BF-L-16-367	63,450 acfm each
3	Spray dryer burner	Low-NOx-Natural Gas (manufactures guarantee 20ppm NOx and 400 ppm CO) Model: Munters.	30.51 MMBtu/hr
4	New packaging line	Surge hopper controlled by packaging dust collector	N/A
5	Dust collector	For the new packaging line – fugitive emissions	EF: 0.01 lb/Ton
6	Three silos	Controlled by bin vent sock filters	N/A
7	3 bin vents	3 Socks filters per bin vent.	99%

4.0 General Approval Conditions

4.1 Installation of all equipment must comply with all applicable federal, state, and local laws and regulations, including, but not limited to, RCW 70.94 (Washington Clean Air Act), those identified in the determination above, WAC 173-400 (General Regulations for Air Pollution Sources), WAC 173-460 (Controls for New Sources of Toxic Air Pollutants) and YRCAA Regulation 1.

4.2 All plans, specifications, other information and any further authorizations or approvals or denials in relation to this project, shall be incorporated herein and made a part of YRCAA file.

4.3 Except as specified in this Order, any new or additional construction, modifications or alterations not covered in this review process which will affect air emissions from any equipment in this Facility are subject to a NSR permitting process before it takes place or construction starts as required by RCW 70.94.152, WAC 173-400-110 and WAC 173-460-040.

4.4 The YRCAA APCO or his representative shall be allowed to inspect the Facility at a reasonable time to inspect equipment and/or records specific to the control, recovery, or release of contaminants into the atmosphere, in accordance with RCW 70.94.200 and YRCAA Regulation 1.

4.5 Nothing in this approval shall be construed as preventing compliance with any requirement(s) of law including those imposed pursuant to the federal and state Clean Air Acts, and rules and regulations thereunder. Any violation(s) of such rules and regulations are subject to enforcement and penalty action in accordance with RCW 70.94.430 and YRCAA Regulation 1, Article 5.

4.6 This Order permit number NSRP-17-DG-14 may be modified, suspended or revoked in whole or part for cause including, but not limited to, the following:

4.6.1 Violation of any terms or conditions of this authorization; or

4.6.2 If this authorization has been obtained by misrepresentation or failure to disclose fully all relevant facts.

4.7 The provisions of this authorization are severable and, if any provision or application of any provision of this authorization to any circumstance is held invalid, the application of such provision to their circumstances, and the remainder of this authorization, shall not be affected thereby.

4.8 There must be no fallout or any fugitive emissions from these equipment beyond the property boundary in a quantity that interferes unreasonably with the use and enjoyment of the property owner upon which the material is deposited, or is detrimental to the health, safety or welfare of any person, or causes damage to any property or business.

4.9 NAAQS for $PM_{2.5}$ shall not be exceeded at or beyond the boundary lines of this Facility.

4.10 Deviations from these conditions are violations subject to penalties in accordance with RCW 70.94.430 and 431, WAC 173-400-230 and YRCAA Regulation 1, Article 5, Section 5.02.

4.11 The requirements of this Order apply to the Facility owner and/or operator(s) and any contractor or subcontractor performing any activity authorized under this Order. Any person(s), including contractor(s) and subcontractor(s), not in compliance with the applicable Order requirements are in violation of State and Local laws and subject to appropriate civil and criminal penalties. The Facility owner and/or operator, and all contractor(s) or subcontractor(s) are liable for the actions and violations of their employee(s). Any violation committed by a contractor or subcontractor shall be considered a violation by the Facility owner and/or operator, and is also a violation by the contractor and/or any subcontractor(s).

5.0 Emission Limits

5.1 The allowable air emissions are based on potential to emit with control. The air emissions from the equipment's should not exceed the allowable limits as shown in Appendix A.

5.2 In addition to those limits identified in this Order, The Permittee shall comply with all applicable general standards for maximum air emissions as specified in WAC 173-400-040, WAC 173-460 and WAC 173-400-075.

5.3 Within 180 days or earlier after complete installation and normal operation, the Facility shall conduct a source test pursuant to 40 CFR Part 60, Appendix A, Method 7E for NO_x, Method 10 for CO, Methods, 3 and 3A for O_2 and CO_2 in accordance with the limits specified in this Order.

5.4 Within 180 days from the issuance of this order or earlier, provided that the operation attains its normal operation, a source test for fine particulate matter ($PM_{2.5}$) for the dryer and baghouse shall be conducted in accordance with 40 CFR Part 60, Appendix A, Method 5 with Method 202 or 201A with 202 front and back half to demonstrate compliance with BACT determination above. The source test protocol shall be submitted to YRCAA at least 30 days prior to the source test date. Results of the source test must be submitted to the YRCAA within 30 days after the source test date.

5.5 Every five years after the first source test date, the Permittee shall conduct a source test for $PM_{2.5}$ using 40 CFR Part 60 Appendix A, Method 202 or 201A with 202 front and back half.

5.6 NOx emission limit shall not exceed 20 ppm from the dryer exhaust stack corrected to 3% O_2.

5.7 PM_{10} and $PM_{2.5}$ emission limit shall not exceed 0.025 1b per ton of milk product from the dryer exhaust stack.

5.8 PM_{10} and $PM_{2.5}$ shall not exceed 0.005 gr/dscf for the baghouses.

5.9 CO limit shall not exceed 400 ppm corrected to 3% O2 from the burner exhaust stack.

5.10 The Permittee shall provide a source test protocol to YRCAA at least thirty days before any source test is to be conducted. The parameters must not be changed or altered before the test without written approval from YRCAA.

5.11 The final source test results must be reported to YRCAA in units of ppmvd and potential pounds per hour for each pollutant as appropriate to the pollutant tested.

5.12 The Permittee must conduct visible emission inspections of the facility at least once per

month. Opacity as measured by 40 CFR Part 60, Appendix A, Method 9 should not exceed a five percent (5%) average for the baghouse and the burners from the exhaust stack. If the opacity is greater than 5% the Permittee shall immediately stop the equipment in question and take corrective actions as the O&M plan until visible emissions are below the respective opacity limit. Inspections are to be performed while the Facility is in operation during daylight hours. If during the monthly visible emissions inspection, visible emissions (using method 22) other than uncombined water and greater than 5% are observed from the units, the Permittee must as soon as practicable but within 24 hours of the initial observation do the following:

5.12.1 Take corrective action, per the O&M which may include shutting down the units or activity until it can be repaired, and until there are no visible emissions (or until the unit or activity is demonstrated to be in compliance with all applicable opacity limitations in the permit using the reference test method); or

5.12.2 Alternatively, determine the opacity using the reference test method. If visible emissions are observed from the unit, check to make sure that the unit is operated and maintained properly and either shut it down within 3 hours or observe visible emissions using 40 CFR Part 60 Appendix A, Method 9 within 24 hours which shall not exceed 5%. All observations using the opacity reference test method must be kept on-site and made available to YRCAA staff during inspection or upon request. If the Permittee have not opacity certified reader, the Permittee must contact YRCAA and they will be advised accordingly.

6.0 Monitoring, Recordkeeping and Reporting Requirements

6.1 The Permittee shall keep all records including this Order on site. Records shall include, at minimum, the monthly number of hours of operation of all units, the natural gas usage, and the O&M items performed. Forms for recordkeeping must be designed by the Permittee and shall include the date and time of maintenance performed and the operator's name.

6.2 The required records, logs and a copy of the O&M plan for this Facility shall be kept on site and shall always be readily available, organized and accessible when requested by YRCAA personnel or during an inspection. The O&M plan shall be updated to reflect any changes in operating procedures and such changes shall be routinely implemented.

6.3 Records shall be maintained and kept at the site for any of the previous five years from any current date, and be made available to the APCO of the YRCAA or his designated staff during inspections or upon request.

6.4 Any application form, report, or compliance certification, monthly record and the annual consumption report submitted to YRCAA pursuant to this Order must be signed by a responsible official or official designee.

6.5 Total emissions for PMs, HAPs/TAPs and the number of hours of operation must be calculated and reported to YRCAA on an annual basis as specified in the annual registration provided by YRCAA to the Facility, as long as the Facility is not a title V source.

6.6 This Order and its conditions shall remain in effect in the event of any change in control or ownership of the Facility. In the event of any such change in control or ownership of the subject Facility, the Permittee shall notify the succeeding owner of the Order of Approval and conditions and shall notify the YRCAA of the change in control or ownership by filing an "Ownership or Name Change" form within fifteen (15) days of that change. The form can be obtained or requested from YRCAA's office.

6.7 This Order is invalid without paying the complete appropriate/required fees to YRCAA, pursuant to RCW 70.94.152.

Any person feeling aggrieved by this NSR Order of Approval may obtain review thereof by application, within thirty (30) days of receipt of this NSR order to the Pollution Control Hearings Board, P.O. Box 40903, Olympia, WA, 98504-0903. Concurrently, a copy of the application must be sent to the YRCAA, 329 N 1st St., Yakima, WA 98901. These procedures are consistent with the provisions of Chapter 43.21B RCW and the rules and regulations adopted thereunder.

DATED at Yakima, Washington September 9**, 2015.**

PREPARED and APPROVED BY:

Hasan M. Tahat, Ph.D.
Engineering and Planning Division Supervisor
Yakima Regional Clean Air Agency
for
Gary W. Pruitt
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Yakima Regional Clean Air Agency

REVIEWED BY:

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JOSEPH ANDREOTTI
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REGISTERED PROFESSIONAL ENGINEER

9/9/15

Potential Emissions from the Proposed New Dryer Burner

Operating Hours	8,760	hr/year
Dryer Capacity	18,003	lb powder/hr
Natural Gas Heating Value [a]	1,020	Btu/scf
Maximum Heat Input Capacity [a]	30.51	MMBtu/hr

Pollutant	Natural Gas Emission Factor (lb/MMscf)	Exhaust Gas Emission Factor (lb/MMscf)	Emission Factor (lb/MMBtu)	Emission Rate (lb/hr)	Emission Rate (tpy)
PM_{10} [b]	7.6	--	7.45E-03	0.23	1.00
$PM_{2.5}$ [b]	7.6	--	7.45E-03	0.23	1.00
SO_2 [b]	0.6	--	5.88E-04	0.02	0.08
NO_x [c]	--	2.79	2.43E-02	0.74	3.25
VOC [b]	5.5	--	5.39E-03	0.16	0.72
CO [c]	--	33.90	2.95E-01	9.01	39.46
HAPs				2.41E-03	1.05E-02
Benzene [d]	2.1E-03	--	2.06E-06	6.28E-05	2.75E-04
Formaldehyd [d]	7.5E-02	--	7.35E-05	2.24E-03	9.83E-03
Toluene [d]	3.4E-03	--	3.33E-06	1.02E-04	4.45E-04
CO_2e [e]				#REF!	#REF!
CO_2 [f]	--	--	116.98	3,569.18	15,633.00
N_2O [f]	--	--	2.20E-04	6.73E-03	0.03
CH_4 [f]	--	--	2.20E-03	6.73E-02	0.29

[a] The natural gas heating value uses a typical heating value from AP-42. The maximum heat input capacity is 34.2 MMBtu/hr based on a heating value of 910 Btu/scf. Therefore, the heat input capacity is scaled to be based on a heating value of 1,020 Btu/scf, which is in line with typical heating value ranges for the natural gas composition.

[b] Emission factors from natural gas combustion are obtained from Table 1.4.2, AP-42 Chapter 1.4, Natural Gas Combustion. It is assumed that all condensable particulates from natural combustion have a size smaller than 1 μm.

[c] Emission factors for NO_x and CO are obtained from engineering data, which are 20 ppm and 400 ppm corrected to 3% oxygen, respectively. The emission factors are converted from ppm to lb/MMscf using EPA Method 19 using the equations below. A conversion fuel factor of 8,710 dscf/MMBtu is used to determine the emission factor in lb/MMBtu.

NO_x EF (lb/MMscf) = NO_x concentration (ppm) × 1.194×10^{-7} (lb/scf)/(ppm-NO_x) × 20.9%/(20.9%-3% × 10^6)

CO EF (lb/MMscf) = CO concentration (ppm) × 1.660×10^{-7} (lb/scf)/(ppm-SO_2) × 28.0101 (g/mol SO_2) / 64.066 (g/mol CO) × 20.9%/(20.9%-3%) × 10^6

[d] HAP emission factors are obtained from Table 1.4.3, AP-42 Chapter 1.4, Natural Gas Combustion. Only the species with emission factor ratings of C or higher are used to determine HAP and TAP emission rates from natural gas combustion.

[e] The GHGs emissions are calculated based on the Global Warming Potentials (GWP) provided in Table A-1 of 40 CFR 98. CO2=1; N_2O=298 CH_4=25

[f] The emission factors are obtained from 40 CFR 98 Subpart C, Tables C-1 and C-2, and converted to values in lb/MMBtu.

Potential TAP Emissions from the Proposed New Dryer Burner

Pollutant [a]	CAS Number	TAP?	Proposed Dryer Emissions	Averaging Period	De Minimis (lb/avg period)	Below De Minimis?	SQER (lb/avg period)	Modeling Required?
Benzene	71-43-2	Yes	0.55	Year	0.331	No	6.62	No
Formaldehyde	50-00-0	Yes	19.65	Year	1.6	No	32	No
Toluene	108-88-3	Yes	2.44E-03	24-hr	32.9	Yes	657	No
NO_2 [b]	10102-44-0	Yes	0.74	1-hr	0.457	No	1.03	No
SO_2	7446-09-05	Yes	0.02	1-hr	0.457	Yes	1.45	No
CO	630-08-0	Yes	9.01	1-hr	1.14	No	50.4	No

[a] NO_2, SO_2 and CO are listed toxic air pollutants (TAPs) under WAC 173-460-150. The averaging period, de minimis level and small quantify emission rate (SQER) for each TAP are obtained from WAC 173-460-150.

[b] It is conservatively assumed that all NO_x is NO_2.

Potential $PM_{10}/PM_{2.5}$ Emissions from Baghouses

Pollutant	Capacity (acfm)	Exhaust Temperatur (°F)	Flow Rate [b] (scfm)	Emission Factor [c] (gr/dscf)	Emission Rate (lb/hr)	Emission Rate (tpy)
Dryer Baghouses [a]	124,496	169	104,901	0.005	4.50	19.69
Packaging Dust Collector [a]	3,500	70	3,500	0.005	0.15	0.66

[a] There are two dryer baghouses associated with the dryer with a total designed flow rate of 124,496 acfm at 169 °F. It is assumed that the Packaging Dust Collector exhausts at ambient temperature (i.e. 70 °F).

[b] The flow rate is converted to standard condition by the equation below:

Standard flow rate (scfm) = Capacity (acfm) × (70+460)°R/(Exhaust temperature in ° F +460)°R

[c] The grain loading is provided by vendor.

Bin Vents Emissions

	Emission Factor [a] (lb/ton)	Throughput (lb/hr)	Control Efficiency [b]	Emission Rate (lb/hr)	Emission Rate (tpy)
$PM_{10}/PM_{2.5}$	0.0063	18,003	99%	5.67E-04	2.48E-03

[a] The emission factor is obtained from Table 9.9.1-1 for Storage bin (vent), AP-42, which is the best available emission factor to represent the uncontrolled emissions from bin vents. It is conservatively assumed that the emission factor for $PM_{2.5}$ is the same as PM_{10}.

[b] There are three filters at each vent: the Vacuum Receiver Filter, the Vacuum Line Filter and the internal vacuum pump filter. The control efficiency for the Vacuum Receiver Filter is conservatively assumed to be 99.172% (which is for particle size ranged from 0.3 to 0.5 μm). The control efficiency for the Vacuum Line Filter is 99.95% for particle with sizes between 0.2 to 2 μm. The control efficiency for the internal vacuum pump filter is 99%. The total control efficiency is conservatively assumed to be the lowest among the three types of filters (i.e. 99%).

Fugitive Emissions - Packaging

	Emission Factor [a] (lb/ton)	Throughput (lb/hr)	Emission Rate (lb/hr)	Emission Rate (tpy)
$PM_{10}/PM_{2.5}$	0.01	18,003	0.09	0.40

[a] The gravity packaging at the down end of the storage silos is contained within an enclosed area and the fugitive emissions are expected to be contained in the enclosed area. The worst-case fugitive emissions from the gravity packaging at the storage silos are estimated according to Equation 1 of AP-42, Chapter 13.2.4.

Particle size multiplier k is conservatively assumed to be 1 for both PM_{10} and $PM_{2.5}$ for milk powder.

Mean wind speed U 1.3 mph, which is conservatively assumed to be the lower range that's applicable to Equation 1

Moisture content M 0.25 %, which is conservatively assumed to be the lower range that's applicable to Equation 1.

Summary of Air emission from
New Niro Dryer installation
To be Installed in 2014-2015

	Tons per year							
Emission Unit	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**NO_X**	**VOC**	**CO**	**HAPs**	**CO_2e**
Proposed Niro New Dryer *	22.75	22.75	0.08	3.25	0.72	39.46	0.01	15,649

* Includes: burner, 2 baghouses, 3 silos bin vents and the fugitive emissions from the packaging

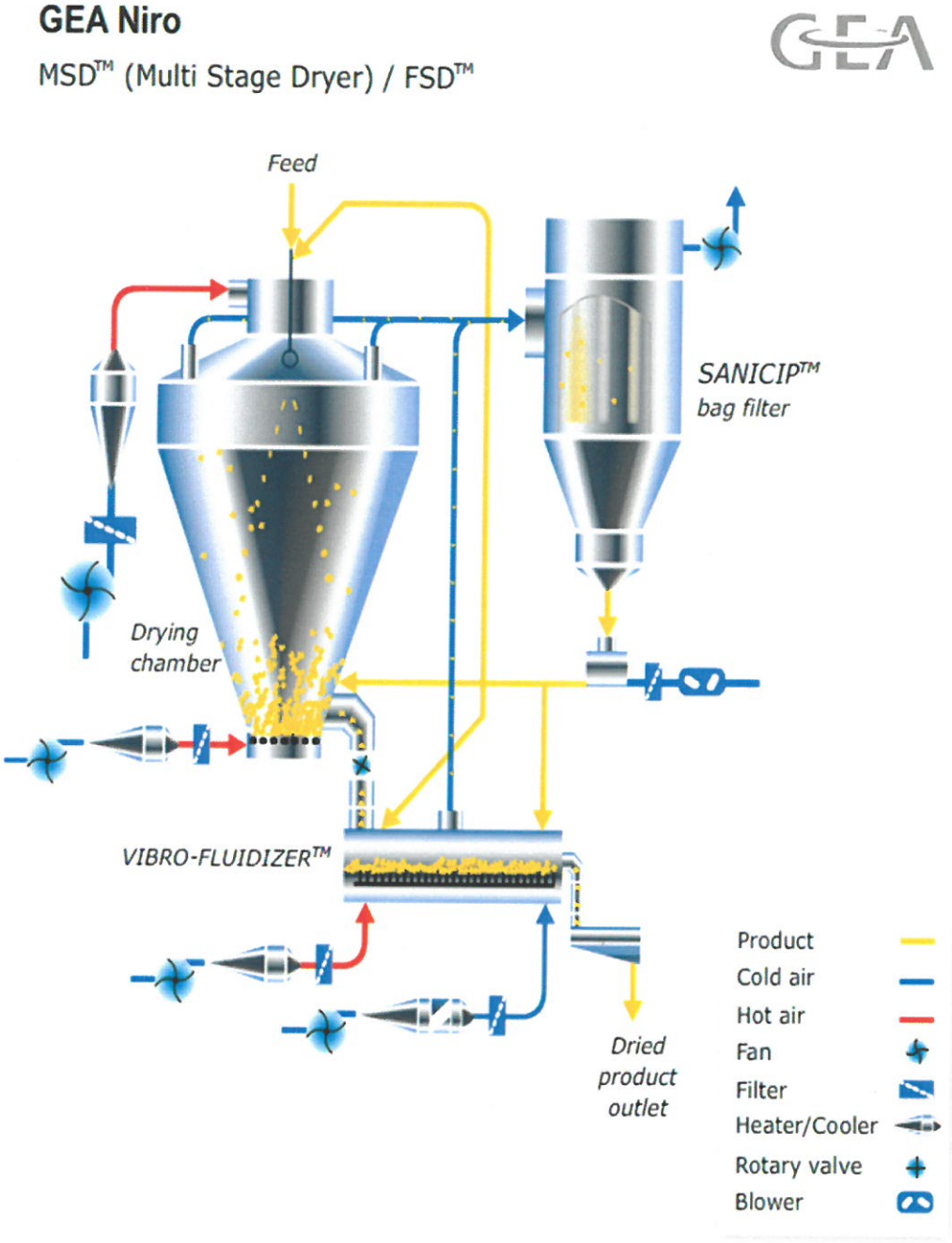
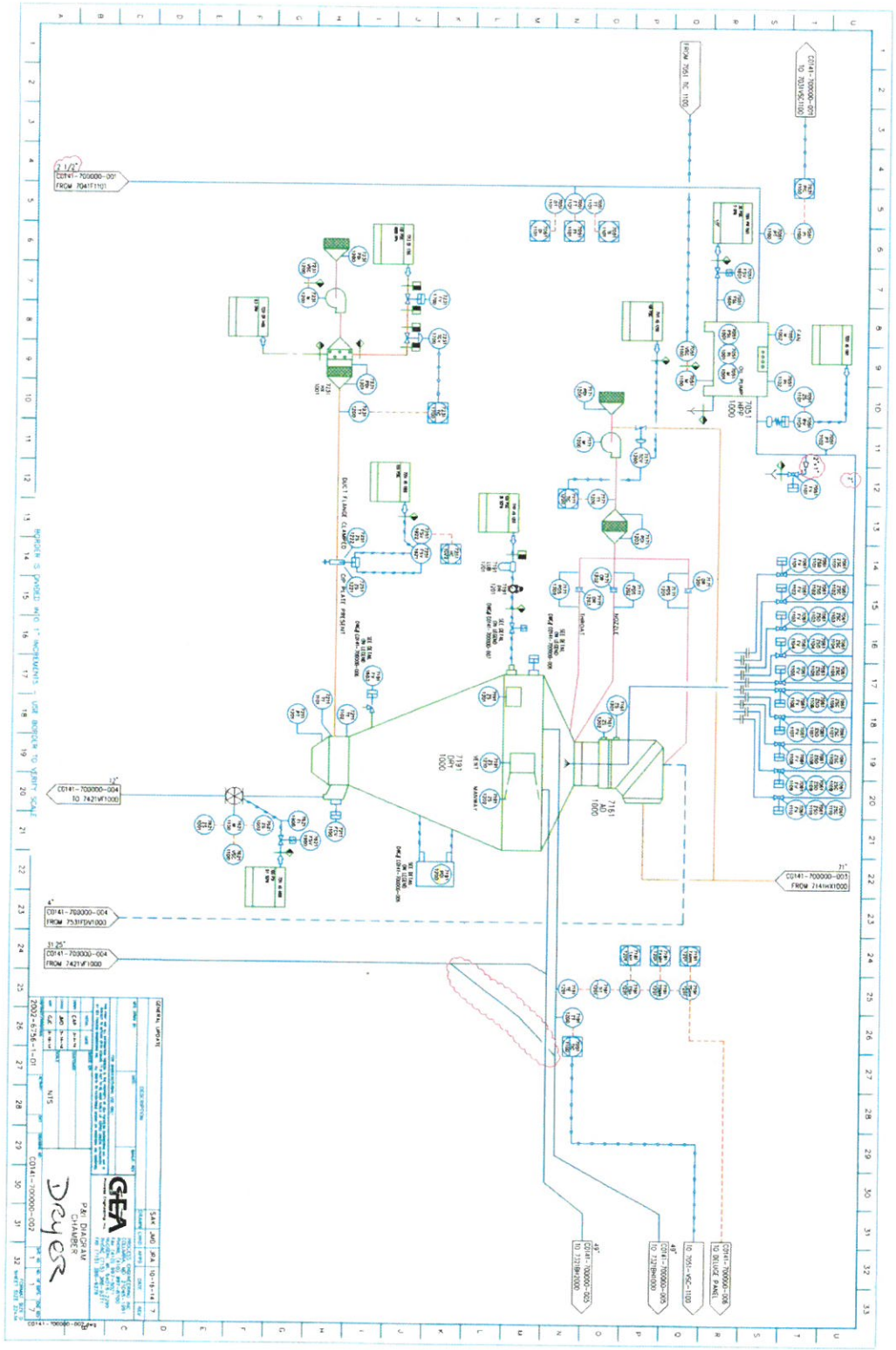
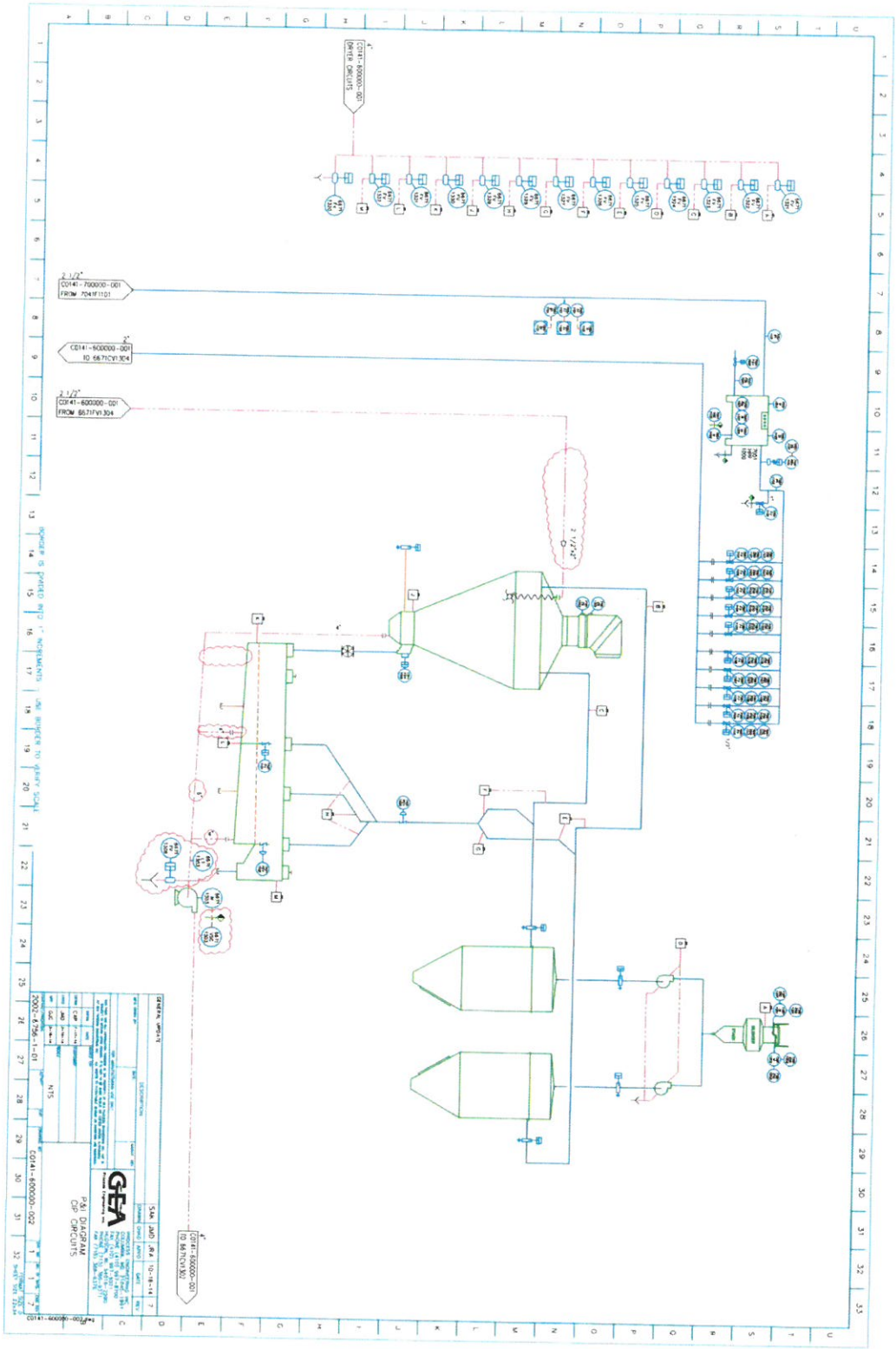
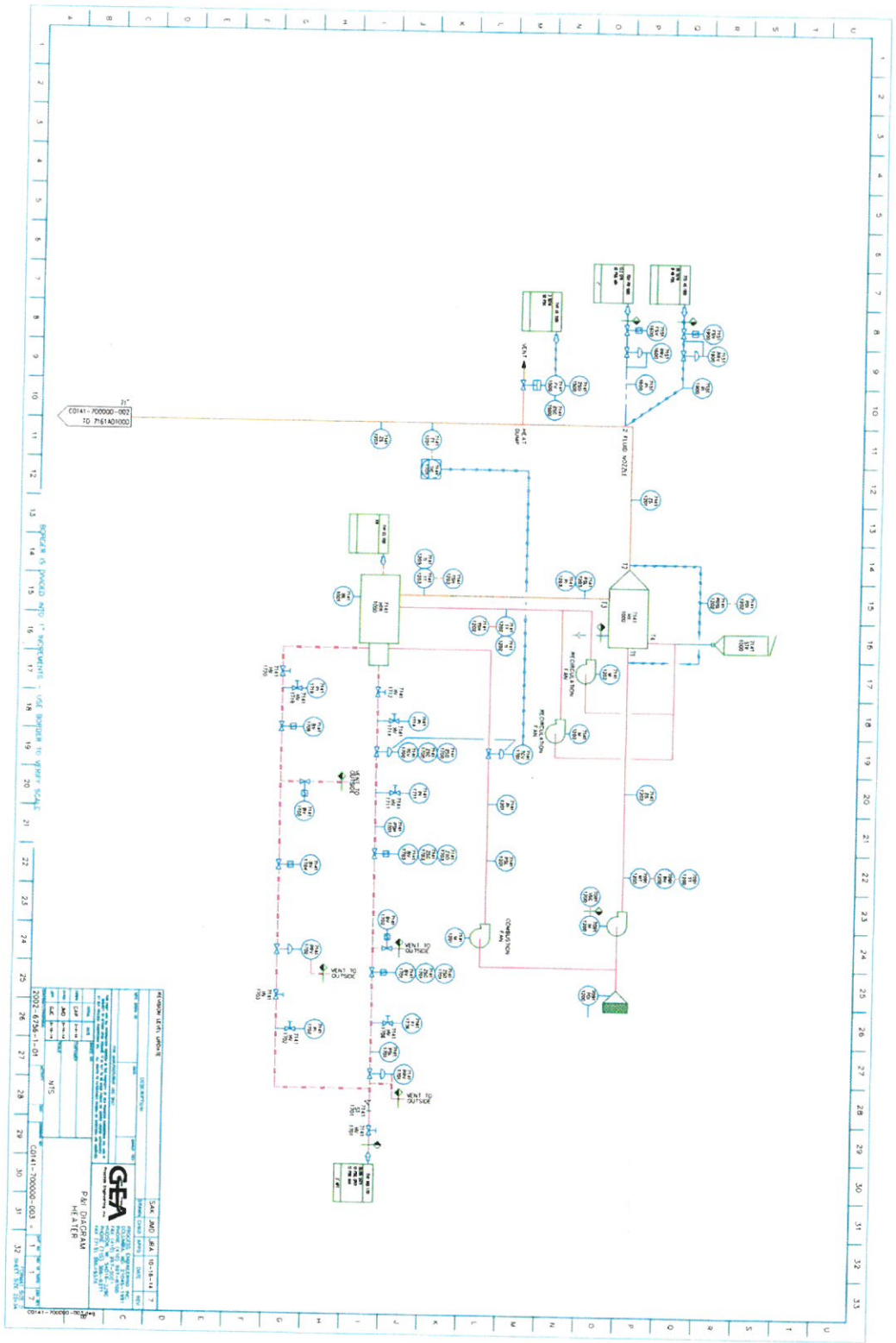


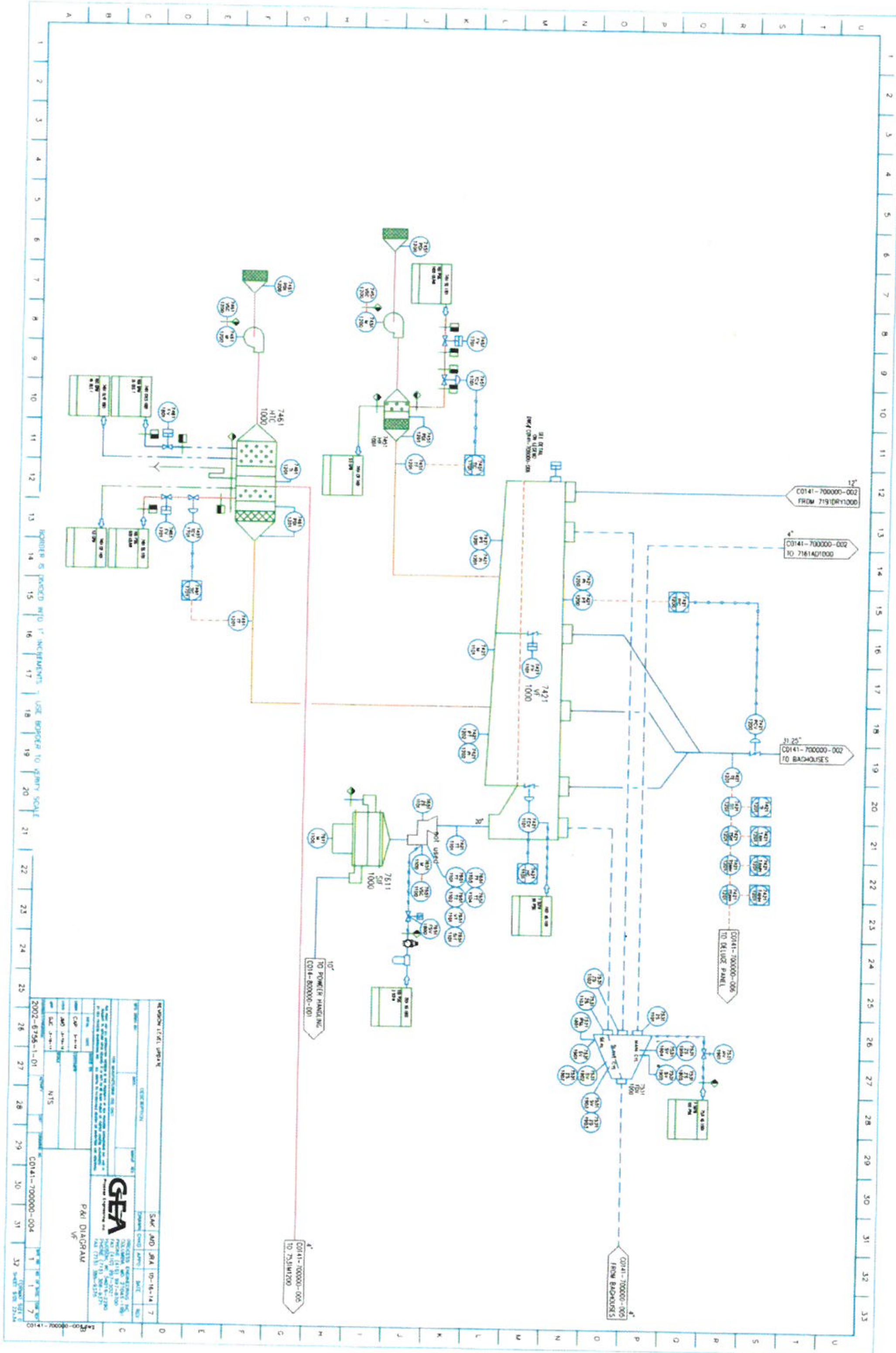
Figure 1. Process flow diagram for the dryer and baghouse only. (Diagram obtained from GEA website).

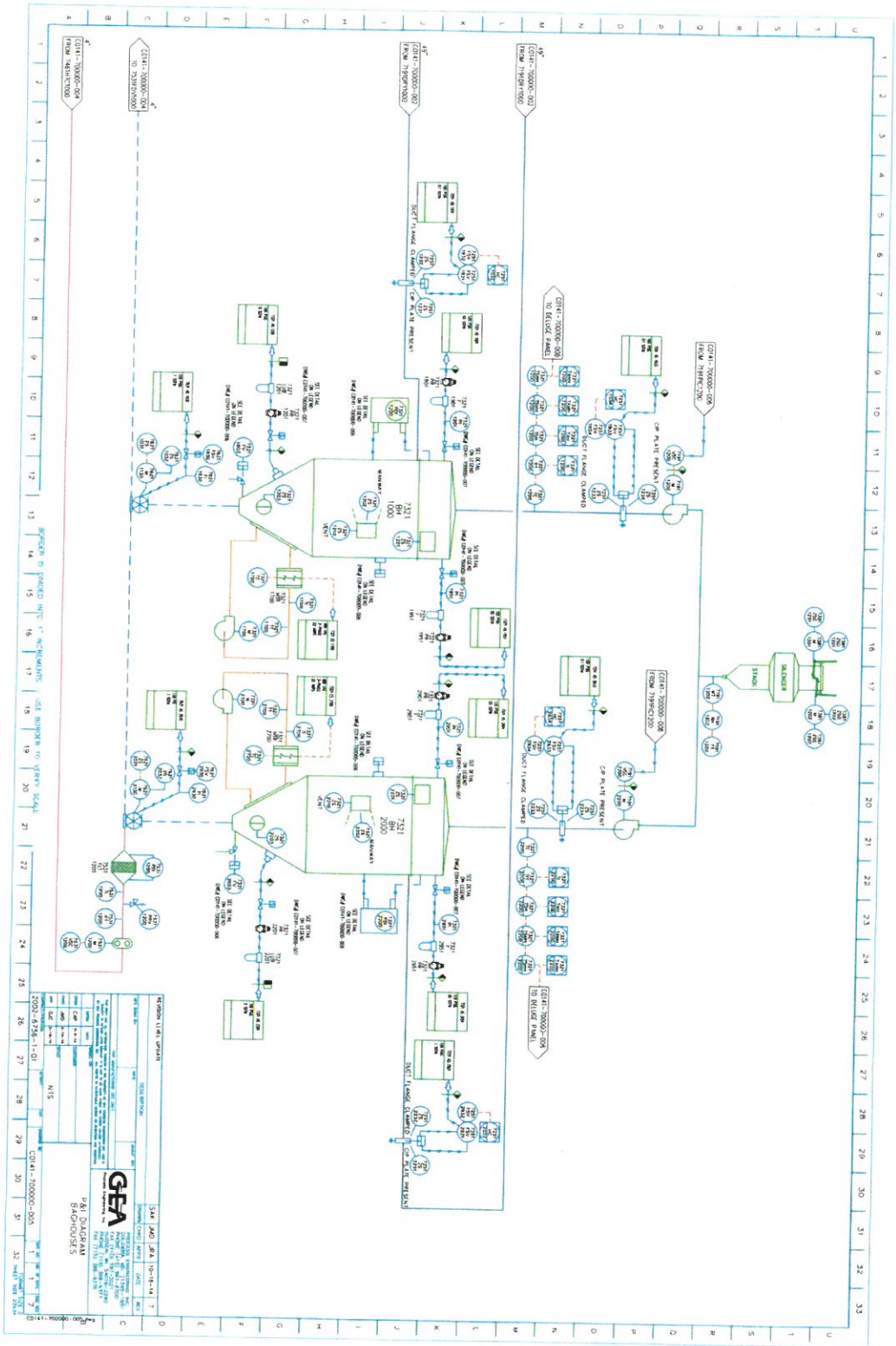
Darigold\Darigold complete New Niro Dryer Drawing.pdf

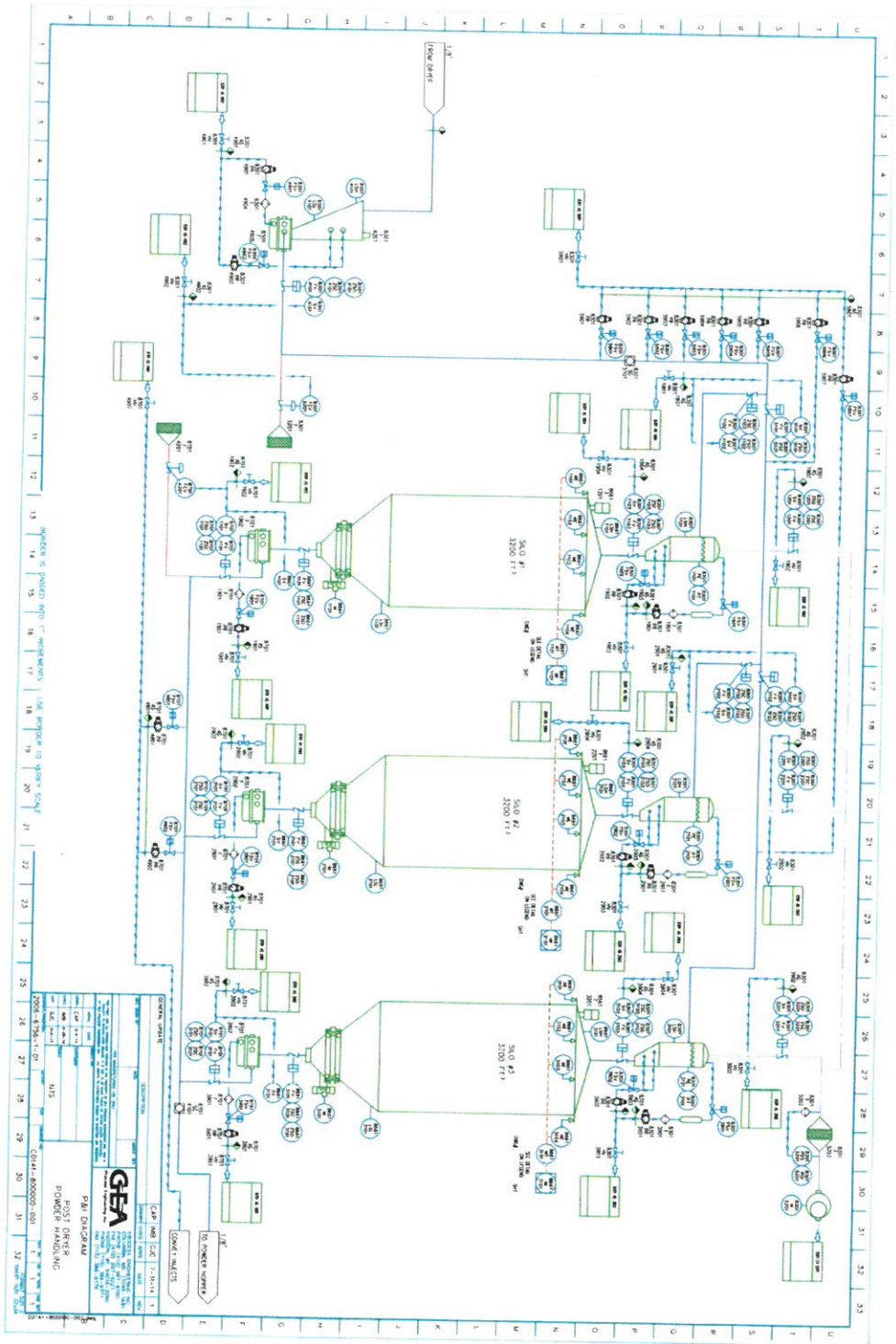


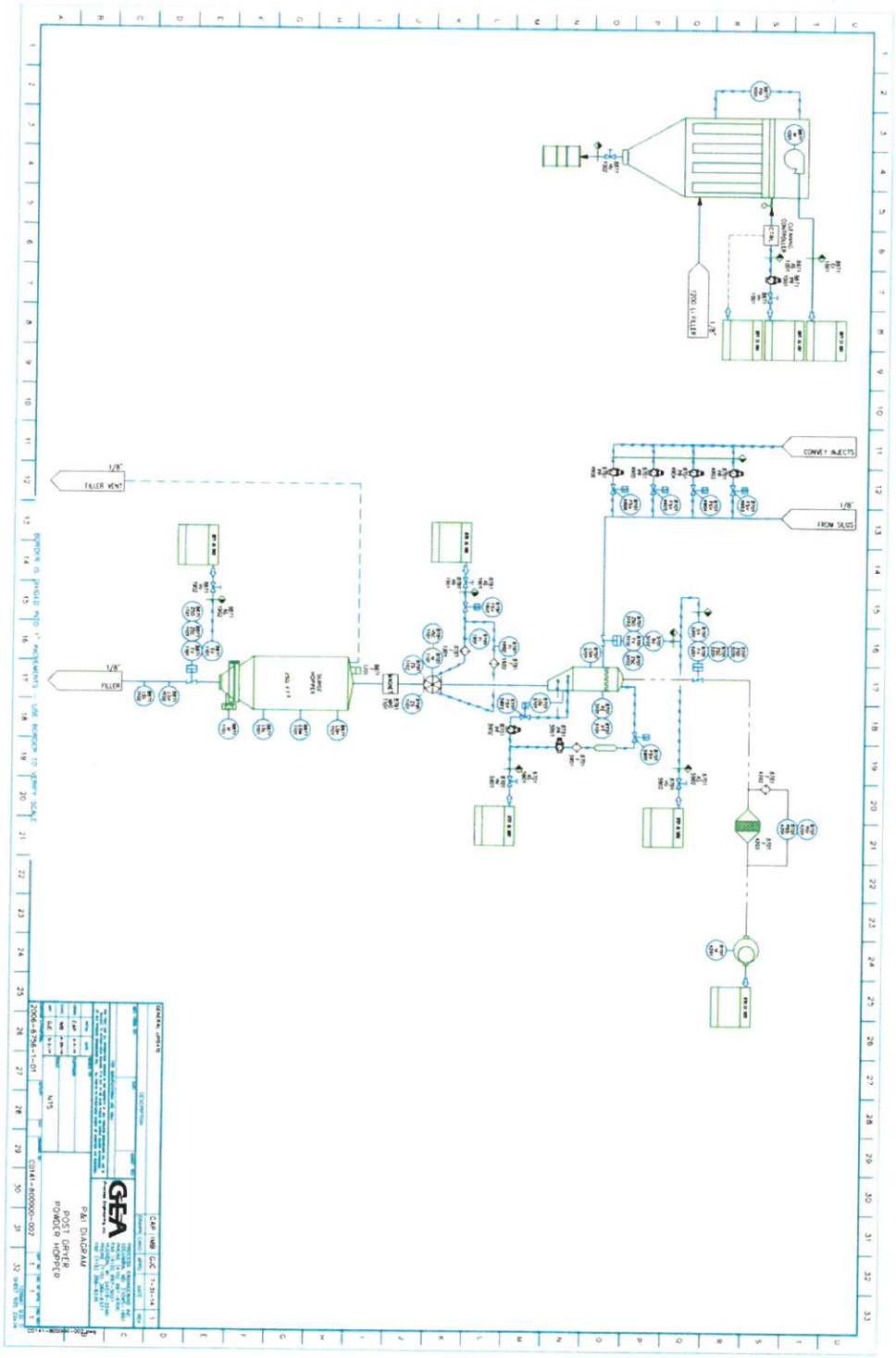

P&I DIAGRAM
CIP CIRCUITS

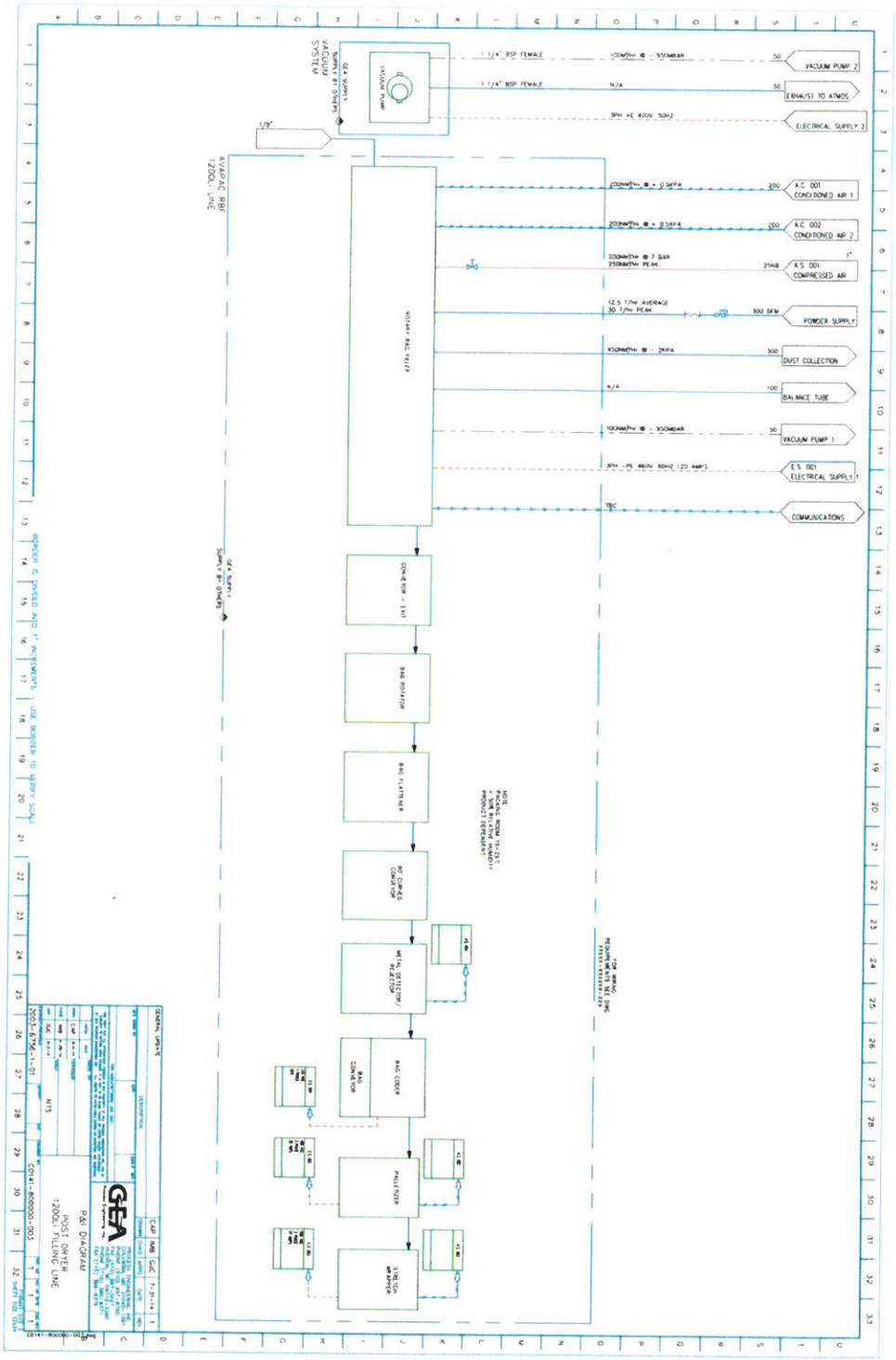

P&I DIAGRAM
HEATER
GEA
NTS
VENT TO OUTSIDE
COMBUSTION FAN
RECIRCULATION FAN

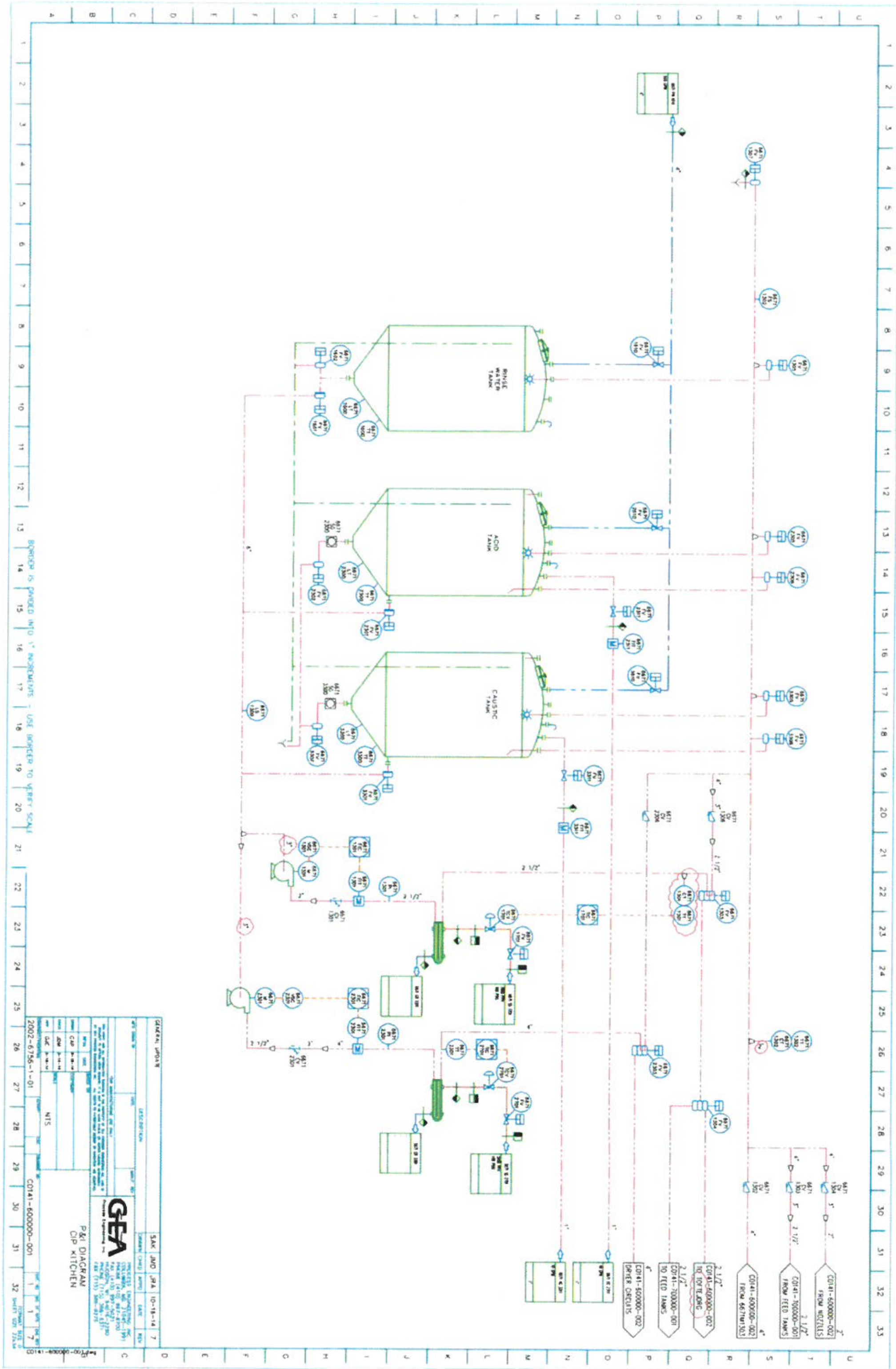

BORDER IS DIVIDED INTO 1" INCREMENTS - USE BORDER TO VERIFY SCALE
C0141-700000-002
FROM 7191DRY1000
C0141-700000-002
TO 7161AD1000
C0141-700000-002
TO BAGHOUSES
C0141-700000-006
TO DELUGE PANEL
C0141-700000-005
FROM BAGHOUSES
TO POWDER HANDLING
P&I DIAGRAM
VF
C0141-700000-004
NTS

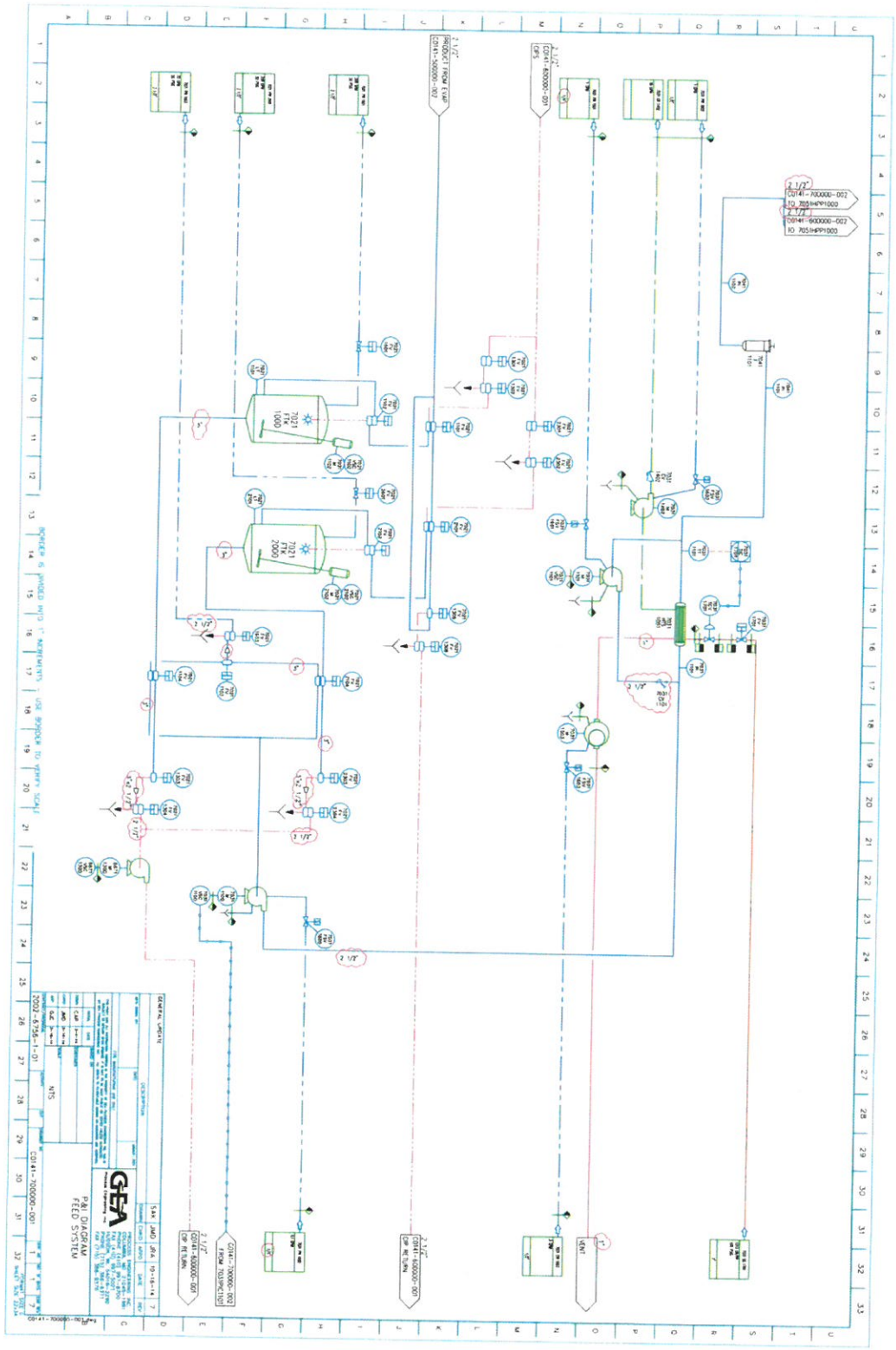

P&I DIAGRAM
BAGHOUSES
GEA


P&I DIAGRAM
POST DRYER
POWDER HANDLING
SILO #1
3200 FT³
SILO #2
3200 FT³
SILO #3
3200 FT³
FROM DRYER
TO POWDER HOPPER
GENERAL NOTES


CONVEY INJECTS
FROM SILOS
FILLER VENT
FILLER
P&I DIAGRAM
POST DRYER
POWDER HOPPER
GEA


VACUUM PUMP 2
EXHAUST TO ATMOS
ELECTRICAL SUPPLY 2
A.C. 001 CONDITIONED AIR 1
A.C. 002 CONDITIONED AIR 2
A.S. 001 COMPRESSED AIR
POWDER SUPPLY
DUST COLLECTION
BALANCE TUBE
VACUUM PUMP 1
E.S. 001 ELECTRICAL SUPPLY 1
COMMUNICATIONS
P&ID DIAGRAM
POST DRYER
12OZ FILLING LINE


RINSE WATER TANK
ACID TANK
CAUSTIC TANK
GEA
P&I DIAGRAM
CIP KITCHEN
CD141-600000-001
BORDER IS DIVIDED INTO 1" INCREMENTS - USE BORDER TO VERIFY SCALE


P&I DIAGRAM
FEED SYSTEM
GEA
NTS

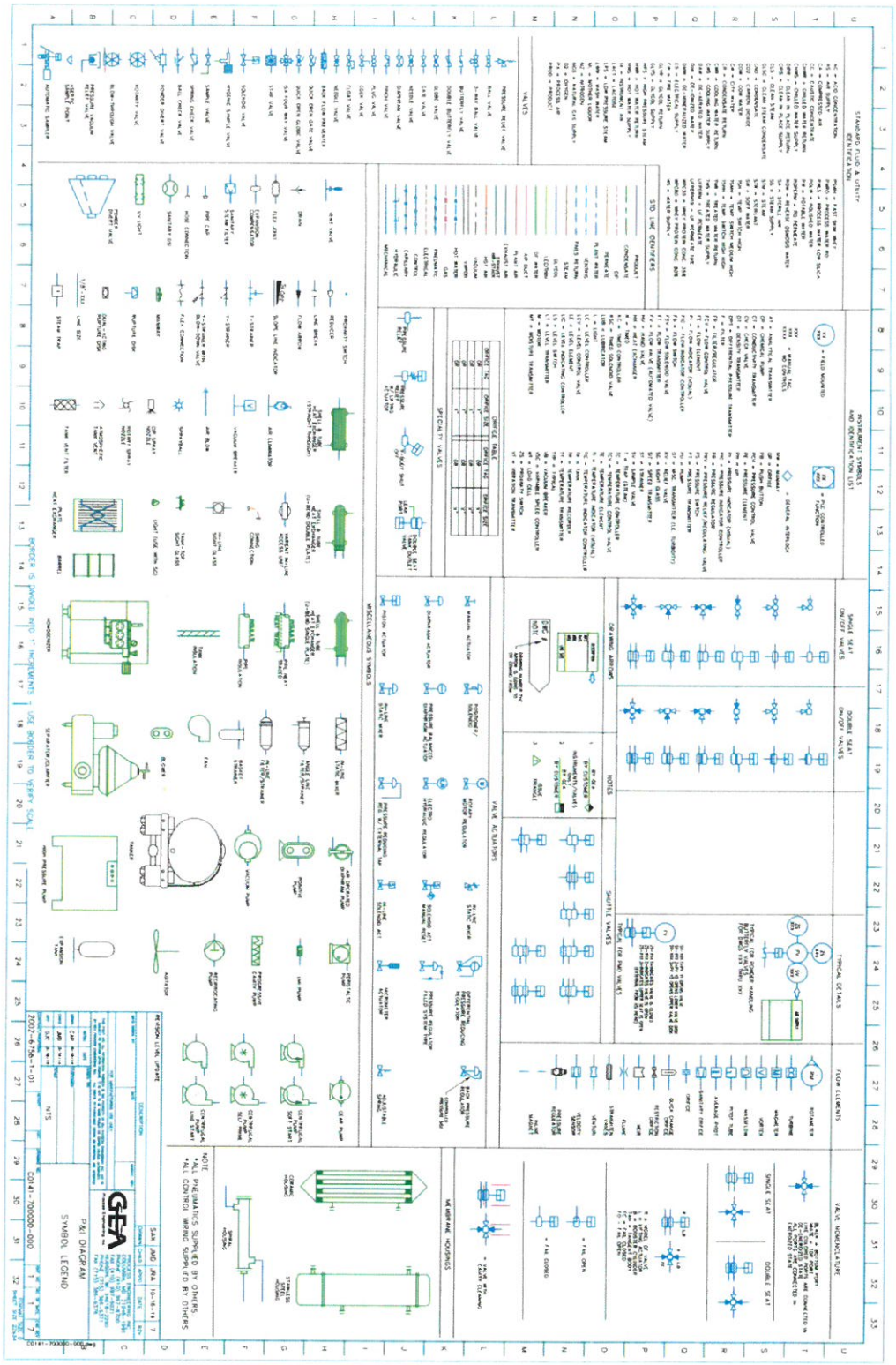


Figure 2. Complete drawing of the new Niro Dryer. (Pages 14-24)