Village of East Aurora Planning Commission

Agenda

Tuesday, September 13, 2022, at 7 p.m.

Call to Order	Chair
Introduction of Planning Commission Members	Chair
Approval of Meeting Minutes	Chair

July 12, 2022

New Business

- **270 Quaker Rd**-Site Plan-installation of 1-1500 gallon liquid Nitrogen tank

Member Consideration

Adjournment

Randy West – Chair
Daniel Castle – Member
Allen A. Ott. Jr. – Member
Geoff Hintz – Member
Arron Fisher – Member
Dale Morris – Member
Stacy Oar - Member
Cornell "Bud" Babcock – Alternate Member

Elizabeth Cassidy – Code Enforcement Officer
Chris Trapp – Village Attorney
Jessica Taneff – Planning Commission Secretary
Marcia Kimmel-Hurt Liaison

original

TOWN OF AURORA

575 OAKWOOD AVENUE, EAST AURORA, NY 14052
BUILDING DEPARTMENT
(716) 652-7591

MEMO

TO: Mayor Mercurio and Village Board Members

FROM: Elizabeth Cassidy, Code Enforcement Officer

DATE: August 10, 2022

The Building Department has received a Site Plan Application for API Delevan at 270 Quaker Rd to install a 1500-gallon liquid Nitrogen tank for their operations. This tank will replace the smaller tanks stored within their building. The EAFD Chief has been notified of the project.

Village Code section 285-51.5 requires the Village Board to refer the Site Plan application to the Planning Commission for their review and recommendation. The Village Board shall then schedule a public hearing prior to the SEQR determination and decision.

Village Code section 285-50.4C requires the Village to submit the application to Erie County Department of Environment and Planning for their review and comment due to proximity to a State highway (Quaker Rd/20A) and to a Municipal Boundary.

This is an Unlisted action for purposes of SEQR.

Thank you
Liz Cassidy

VILLAGE OF EAST AURORA
571 Main Street, East Aurora, New York 14052
716-652-6000
In conjunction with
Town of Aurora Building Department
300 Gleed Ave, East Aurora, NY 14052
716-652-7591

Building Dept:
Date Received 8/2/22
Complete App 8/10/22
Village Clerk:
Date Received 8/10/22
Amount $ 125
Receipt # Cash

SITE PLAN APPLICATION

PROPOSED PROJECT Install 1,500 gallon LN2 TANK SBL#: 175.06-1-6.1
LOCATION API Delevan, 270 Quaker Rd ZONING DISTRICT GM

The applicant agrees to reimburse the Village for any additional fees required for consultant's review of submitted technical data, including but not limited to, traffic studies, drainage, lighting, water and sewer plans.

APPLICANT NAME API Delevan oGeneral Manager matthew rigerman
ADDRESS 270 Quaker Rd East Aurora NY 14052
TELEPHONE 716-652-6172 FAX 716-652-4814 E-MAIL matthew.rigerman@delevan.com
SIGNATURE Matthew Rigerman

OWNER NAME General Manager : Matthew Rigerman
ADDRESS 270 Quaker Rd East Aurora NY 14052
TELEPHONE 716-805-8117 FAX 716-652-4814 E-MAIL matthew.rigerman@delevan.com
SIGNATURE Matthew Rigerman

ENGINEER/ARCHITECT/LANDSCAPE ARCHITECT
NAME _____ FIRM _____
ADDRESS _____
TELEPHONE _____ FAX _____ E-MAIL _____
SIGNATURE _____ AFFIX STAMP

THIS APPLICATION MUST INCLUDE THE FOLLOWING:
- Twenty (20) Sets – Cover letter to Village Board, Supporting Documents, and SEQR as required in §285-51.3
- One (1) complete file of submittal package in PDF format via email (under 10MB) to maureen.jerackas@east-aurora.ny.us. Larger files may be submitted on a USB drive or CD Rom.
- Application fee $25.00 and Public Hearing fee $100.00 – Total $125 at time of application

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OFFICE USE ONLY: Sketch Plan Meeting Date _____ Minor Project written request to waive PC mtg Y/N/NA: VB Decision Y/N

REQUIRED MEETINGS/REFERRALS:

	Mtg/Mail Date	Conditions/Comments, if applicable:
Planning Commission		
Historic Preservation		
ZBA		
EC Div of Planning		
NYS DOT		
Town Notification		
Safety Committee		
VEA DPW		
OTHER (specify)		

SEQR ACTION:
___ Type 1 ___ Type 2 X Unlisted

VILLAGE BOARD ACTION:

	Mtg/Mail Date
Public Hearing	
Notices Mailed	
Posted Notice-VEA Hall	
Posted Notice-Prop	
Approval/Denial Date	

Attach Village Board resolution with noted conditions.

API Delevan®

July 25, 2022

Ms. Elizabeth Cassidy
Code Enforcement Officer / Building Inspector
Aurora Town Hall
575 Oakwood Avenue
East Aurora, NY 14052

Dear Ms. Cassidy:

API Delevan has been an established business operating at 270 Quaker Road within the Village of East Aurora for 75 years, tracing our lineage to Delevan Electronics, Inc. which was founded in 1947. Our present business in East Aurora employees 130 highly skilled employees in the manufacture of electronics components to serve the Aerospace & Defense, Medical and Industrial markets.

Our site is seeking approval for the placement of a bulk 1,500-gallon liquid nitrogen tank to support our operations. It is our goal to have this tank installed prior to November 2022.

The bulk 1,500-gallon tank installation project is being managed by Linde, Inc., a world leader in the provider of liquid and gases for industrial / production applications. Similar tanks have been installed in other area manufacturing business, such as businesses found in Elma, NY. Linde, Inc. has supplied drawings for the cement pad, piping / connections from the tank to API Delevan equipment, as well as fencing / guarding. A site plan and drawings are being submitted with the permit outlining all the details for this project.

The purpose of this tank is to provide a safer work environment for our employees. Presently, our employees use portable liquid nitrogen tanks to support our manufacturing processes. These tanks are 5.5ft in height with a weight of 30lbs empty, 200lbs full. We use three portable tanks per day, requiring our employees to move / connect / disconnect tanks every 8-12 hours. The movement of the tanks presents an opportunity for our employees to be injured through the physical movement of the tanks as well as the connection / disconnection process. By eliminating the portable tanks with a bulk 1,500-gallon tank, we will remove the potential safety risks to our employees as the bulk tank will have secure connections to our equipment, eliminating the need to move tanks and to connect / disconnect the tanks.

We thank the Village of East Aurora for reviewing our permit for the installation of the bulk tank. Should any additional documents be required in support of approval for our permit, please contact myself and or Frank Ragau, our Materials Manager at 716-805-8122, ragau@delevan.com.

Sincerely,

Matthew Rigerman
General Manager | **API Delevan**
270 Quaker Road
East Aurora, NY 14052
☎: 716.805.8117| 📱: 716.601.9956
✉: matthew.rigerman@delevan.com

Short Environmental Assessment Form
Part 1 - Project Information

Instructions for Completing

Part 1 - Project Information. The applicant or project sponsor is responsible for the completion of Part 1. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification. Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information.

Complete all items in Part 1. You may also provide any additional information which you believe will be needed by or useful to the lead agency; attach additional pages as necessary to supplement any item.

Part 1 - Project and Sponsor Information

API Delevan General Manager: Matthew Rigerman

Name of Action or Project:

Install 1,500 gallon 2N2 TANK

Project Location (describe, and attach a location map):

Install TANK on West side of existing facility onto cement pad with security fence, bumpers. TANK to be plumbed into facility for use in mfg. process.

Brief Description of Proposed Action:

- PARKING lot material to be removed
- Cement Pad to be poured
- TANK installed onto pad
- TANK to be plumbed into facility for connections needed in mfg. process
- Security fence, bumpers to be installed around ~~bump~~ installation

Name of Applicant or Sponsor:	Telephone: 716-805-8117
Matthew Rigerman	E-Mail: matthew.rigerman@delevan.com

Address:

270 Quaker Rd

City/PO:	State:	Zip Code:
East Aurora	NY	14052

	NO	YES
1. Does the proposed action only involve the legislative adoption of a plan, local law, ordinance, administrative rule, or regulation? If Yes, attach a narrative description of the intent of the proposed action and the environmental resources that may be affected in the municipality and proceed to Part 2. If no, continue to question 2.	☒	☐
2. Does the proposed action require a permit, approval or funding from any other governmental Agency? If Yes, list agency(s) name and permit or approval:	☒	☐

3.a. Total acreage of the site of the proposed action?	15.4 acres
b. Total acreage to be physically disturbed?	0.1 acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor?	15.4 acres

4. Check all land uses that occur on, adjoining and near the proposed action.

☐ Urban ☐ Rural (non-agriculture) ☒ Industrial ☒ Commercial ☒ Residential (suburban)
☐ Forest ☐ Agriculture ☐ Aquatic ☐ Other (specify): _____
☐ Parkland

	NO	YES	N/A
5. Is the proposed action, a. A permitted use under the zoning regulations?	☐	☒	☐
b. Consistent with the adopted comprehensive plan?	☐	☒	☐
6. Is the proposed action consistent with the predominant character of the existing built or natural landscape?	NO ☐	YES ☒	
7. Is the site of the proposed action located in, or does it adjoin, a state listed Critical Environmental Area? If Yes, identify: _____	NO ☒	YES ☐	
8. a. Will the proposed action result in a substantial increase in traffic above present levels?	NO ☒	YES ☐	
b. Are public transportation service(s) available at or near the site of the proposed action?	☒	☐	
c. Are any pedestrian accommodations or bicycle routes available on or near site of the proposed action?	☒	☐	
9. Does the proposed action meet or exceed the state energy code requirements? If the proposed action will exceed requirements, describe design features and technologies:	NO ☒	YES ☐	
10. Will the proposed action connect to an existing public/private water supply? If No, describe method for providing potable water: _____	NO ☒	YES ☐	
11. Will the proposed action connect to existing wastewater utilities? If No, describe method for providing wastewater treatment: _____	NO ☒	YES ☐	
12. a. Does the site contain a structure that is listed on either the State or National Register of Historic Places?	NO ☒	YES ☐	
b. Is the proposed action located in an archeological sensitive area?	☒	☐	
13. a. Does any portion of the site of the proposed action, or lands adjoining the proposed action, contain wetlands or other waterbodies regulated by a federal, state or local agency?	NO ☒	YES ☐	
b. Would the proposed action physically alter, or encroach into, any existing wetland or waterbody? If Yes, identify the wetland or waterbody and extent of alterations in square feet or acres: _____	☒	☐	
14. Identify the typical habitat types that occur on, or are likely to be found on the project site. Check all that apply: ☐ Shoreline ☐ Forest ☐ Agricultural/grasslands ☐ Early mid-successional ☐ Wetland ☐ Urban ☐ Suburban ☒ Commercial Industrial			
15. Does the site of the proposed action contain any species of animal, or associated habitats, listed by the State or Federal government as threatened or endangered?	NO ☒	YES ☐	
16. Is the project site located in the 100 year flood plain?	NO ☒	YES ☐	
17. Will the proposed action create storm water discharge, either from point or non-point sources? If Yes, a. Will storm water discharges flow to adjacent properties? ☒ NO ☐ YES	NO ☒	YES ☐	
b. Will storm water discharges be directed to established conveyance systems (runoff and storm drains)? If Yes, briefly describe: ☒ NO ☐ YES			

	NO	YES
18. Does the proposed action include construction or other activities that result in the impoundment of water or other liquids (e.g. retention pond, waste lagoon, dam)? If Yes, explain purpose and size: _____	☒	☐
19. Has the site of the proposed action or an adjoining property been the location of an active or closed solid waste management facility? If Yes, describe: _____	☒	☐
20. Has the site of the proposed action or an adjoining property been the subject of remediation (ongoing or completed) for hazardous waste? If Yes, describe: _____	☒	☐

I AFFIRM THAT THE INFORMATION PROVIDED ABOVE IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE

Applicant/sponsor name: Matthew Rzesman Date: 8/01/2022

Signature: Matthew Rzesman

PRINT FORM

PROJECT DESIGN CRITERIA

1). REFERENCE THE 'BILL OF MATERIAL' ON THIS SHEET. THE SITE WORK, le CIVIL, ELECTRICAL, PERMITTING etc, IS THE RESPONSIBILITY AND OWNED BY THE 'CUSTOMER' AS SHOWN. THE PRODUCT SUPPLY SYSTEM, le TANK, VAPORIZERS & INTERCONNECTING PIPING, IS THE RESPONSIBILITY AND IS OWNED BY 'PRAXAIR INC'.

2). ALL ACCESS ROADWAYS ARE THE RESPONSIBILITY OF THE CUSTOMER AND ARE TO BE CAPABLE OF SUPPORTING 80,000 lbs. AASHTO HS-20 LOADING.

3). THIS FOUNDATION SYSTEM IS DESIGNED ASSUMING THE FOLLOWING CONDITIONS;

2000 psf SOIL BEARING CAPACITY
110 MPH WIND LOAD EXPOSURE 'C'
SEISMIC ZONE 2 ESSENTIAL SERVICE Ss=16.6 S1=4.5
NORMAL WATER TABLE CONDITIONS
IN ACCORDANCE WITH A.C.I.318 LATEST EDITION

FOR CONDITIONS OUTSIDE THESE CRITERIA IT IS THE CUSTOMER'S RESPONSIBILITY TO PROVIDE SUITABLE FOUNDATION DESIGNS THAT MUST BE APPROVED BY 'PRAXAIR INC.' BEFORE CONSTRUCTION.

4). CONTRACTOR TO REMOVE TOPSOIL UNTIL A SUITABLE BASE IS ESTABLISHED FOR GRAVEL UNDERLAYMENT IF CONDITIONS CANNOT BE MET AT DRAWING DEPTHS.

5). CONTRACTOR TO USE AIR ENTRAINED , 4"-5"SLUMP CONCRETE; ASTM #C-150 TYPE I, FC=4500psi @ 28 DAYS. OR ASTM #C-150 TYPE III, FC=4500psi @ 7 DAYS.

6). ROUND EDGES OF PADS WITH SIDEWALK EDGING TOOL.

7). TOP OF PADS TO BE BROOM FINISHED AND LEVEL, ALL PAD ELEVATIONS TO BE REFERENCED FROM CHOSEN BENCHMARK.

8). SKIRTING OF PAD TO BE BELOW FROST LINE PER LOCAL BUILDING CODES.

9). BUMPER POSTS TO BE FILLED WITH CONCRETE. IN MULTIPLE POST INSTALLATIONS, ALL POST TOPS ARE TO BE IN A LINE.

10). BUMPER POSTS TO BE PAINTED; BLAST=SSPC-SP6
PRIME=2.5mil RED OXIDE
PAINT=2.5mil SAFETY YELLOW
W/3 STIPS OF REFLECTIVE
TAPE AT TOP OF POST.

11-A). INDIVIDUAL PADS le: TANK, VAPORIZER etc, TO BE SEPARATED WITH A SAWCUT, 1/3 OF 'Dt' DEEP (WHERE 'Dt' IS THE TOTAL. DEPTH OF THE SLAB).

11-B). INDIVIDUAL PADS le: TANK, TRANSFER etc, TO BE SEPARATED WITH AN ISOLATION JOINT; USE PLYWOOD TREATED WITH WAX (OR EQUIV. BOND-BREAKER), EXCEPT ON TOP FACE; TOP OF PLY-WOOD TO BE 1" FROM TOP OF CONCRETE; THIS SURFACE TO BE SEALED w/ 'CS-2727' FLEXIBLE EPOXY JOINT SEALER (OR EQUIV.).

12). ALL OUTDOOR RECEPTACLES AT SITE TO BE PROTECTED WITH GROUND FAULT INTERRUPTERS.

13). ALL ELECTRICAL COMPONENTS NOT INSTALLED WITHIN A BUILD-ING MUST BE IN WEATHERTIGHT ENCLOSURES.

BILL of MATERIAL

ITEM	QTY	U/M	DESCRIPTION	SUPPLIER
1	1	EA	VESSEL CRYOGENIC STORAGE, TM-1500 - LIQUID NITROGEN	LINDE
2	1	EA	MODULE, TANK PRESSURE CONTROL, 1"	LINDE
3	1	EA	VAPORIZER, PRESURE BUILDING, THERMAX PBV804	LINDE
4	1	EA	MODULE, 'TRACKER', REMOTE TELEMETRY UNIT,	LINDE
5	AS REQ'D		BOLT, MECHANICAL WEDGE/STUD, HITI OR OTHERS	LINDE
6	AS REQ'D		PIPE, 6" SCH 60 x 72" lg, C-STL	CUSTOMER
7	AS REQ'D		BAR, NO. 6, ASTM TYPE A-615, GRADE 60	CUSTOMER
8	AS REQ'D		BAR, NO. 5, ASTM TYPE A-615, GRADE 60	CUSTOMER
9	AS REQ'D		FENCE, GALVANIZED CHAIN LINK 2" MESH, 9 GA. X 72" HIGH	CUSTOMER
10	1	EA	GATE, SLIDING, 72" WIDE MIN, CHAIN LINK, 9 GA. X 72" HIGH	CUSTOMER
11	1	EA	GATE, SWING, 36" WIDE MIN, CHAIN LINK, 9 GA. X 72" HIGH	CUSTOMER
12	AS REQ'D		CONCRETE, SEE NOTE # 5	CUSTOMER
13	AS REQ'D		120V / 15A SERVICE (UNDERGROUND CONDUIT)	CUSTOMER

PRAXAIR MAJOR EQUIPMENT TABLE

ITEM #	EQUIPMENT NAME	REMARKS	DIMENSIONS			WEIGHT (lbs.)	
			Length	Width	Height	Empty	Full-N2
1	TM-1500 VERTICAL TANK (N2)	on new foundation	X	6'-6"	15'-9"	10,300	20,600
2	THERMAX TF 804 PB VAPORIZER	on new foundation	1'-6"	1'-7"	10'-10"	120	X

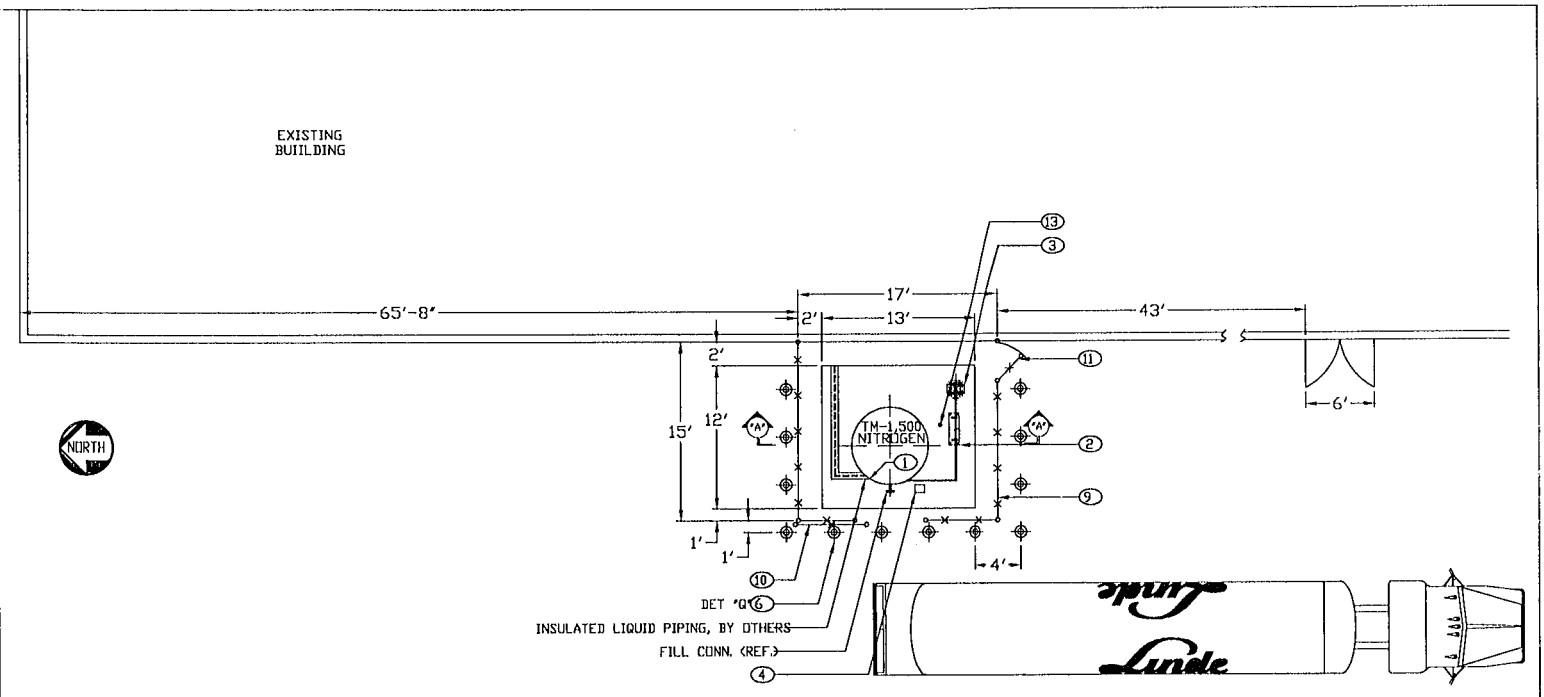
BILL OF MATERIALS

GREAT LAKES SERVICE CENTER - YOUNGSTOWN, OHIO

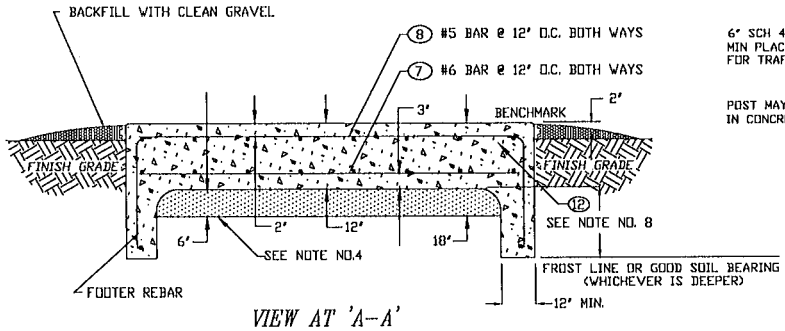
API DELEVAN

270 EAST QUAKER ROAD
EAST AURORA, NY 14052

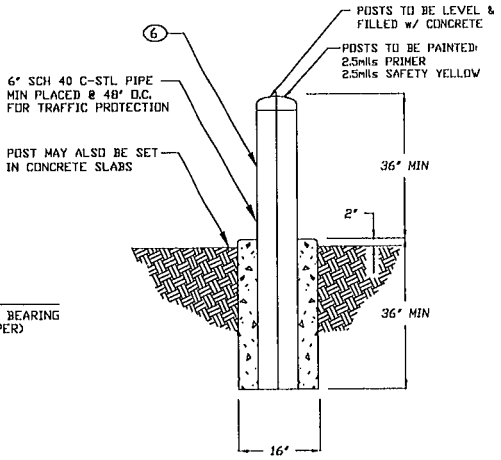
JWP	EWG	2404654
EWG	EWG	1 / 3
NTS	12/14/21	—
		B



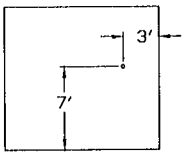
OVERALL SITE PLAN	GREAT LAKES SERVICE CENTER – TONAWANDA, NY	DRAWN BY: JWP	CHECKED: EWG	PACKAGE NUMBER: 2404654	
	PROJECT: API DELEVAN	SUBMITTED: EWG	APPROVED: EWG	SHEET NUMBER: 2	SHEET WIDTH: J
	LOCATION: 270 EAST QUAKER ROAD EAST AURORA, NY 14052	SCALE: NTS	DATE: 12/14/21	ALTERNATE: —	
		FILE NAME:		SIZE: B	



VIEW AT 'A–A'
TANK PAD FOR: TM-1500
NO SCALE



DETAIL "Q"
BUMPER POST
NO SCALE



CUSTOMER TIE–IN VALVES/CONDUIT LOCATION
NO SCALE

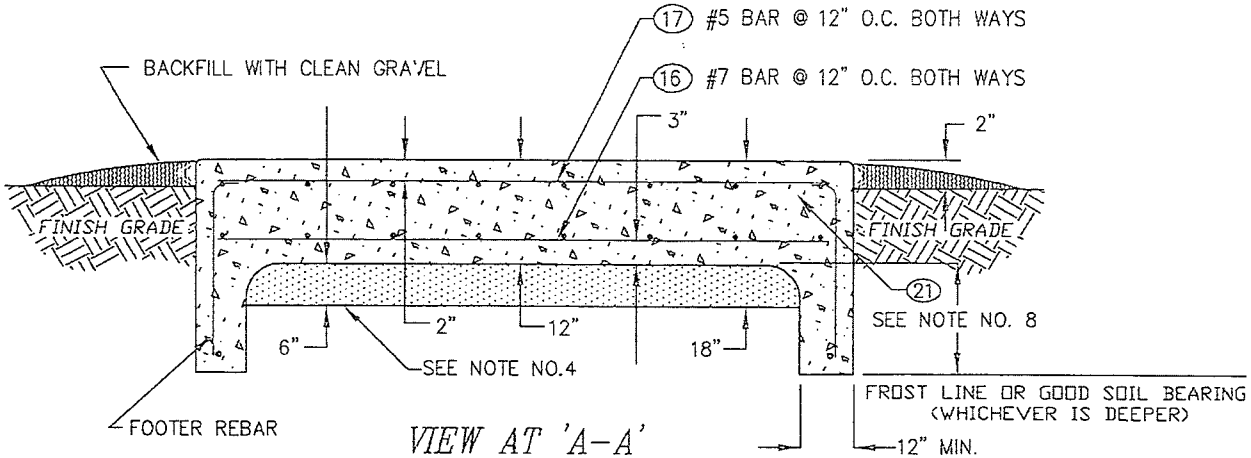
CONCRETE DETAILS

GREAT LAKES SERVICE CENTER – YOUNGSTOWN, OHIO

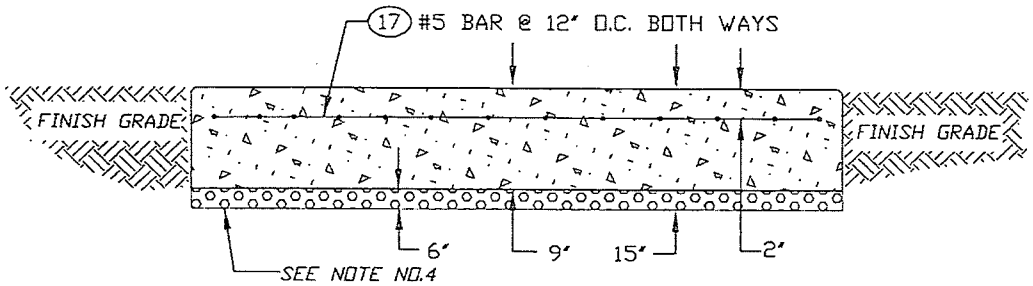
API DELEVAN

270 EAST QUAKER ROAD
EAST AURORA, NY 14052

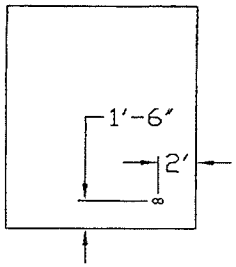
DRAWN BY	CHECKED	PROJECT NUMBER
JWP	EWG	2404654
DESIGNED	CHECKED	SHEET NUMBER	SHEET COUNT
EWG	EWG	3	3
SCALE	DATE	ATTACHMENT
NTS	12/14/21	—
CAD FILE		SIZE
		B



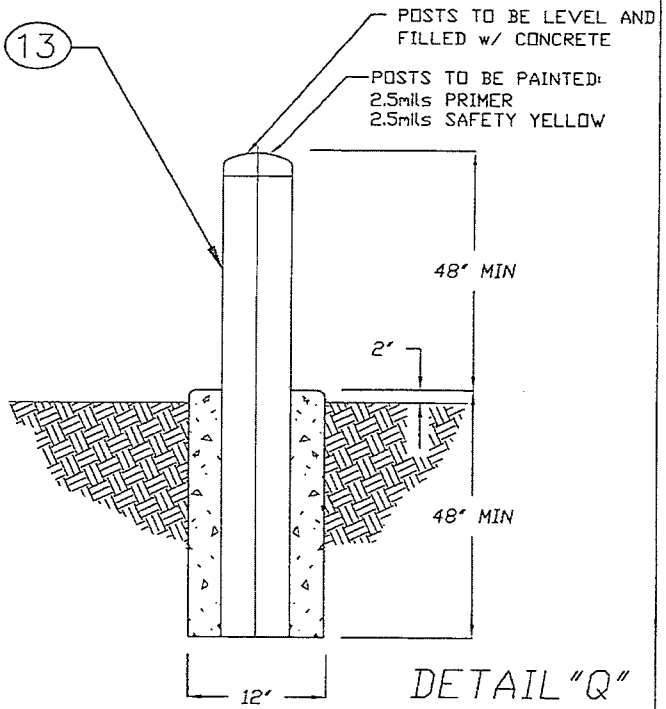
VIEW AT 'A–A'
TANK PAD FOR: TM–1,500
NO SCALE



VIEW AT "B–B"
TRANSFER PAD
NO SCALE



STUD–UP LOCATIONS
SCALE: 1"=10'



DETAIL "Q"
BUMPER POST
NO SCALE

FOR ESTIMATION PURPOSES ONLY
NOT FOR CONSTRUCTION

PRAXAIR Making Our Planet More Productive CUSTOMER SERVICE	PRAXAIR NO. GENERIC	
	FILE: NOT FOR CONSTRUCTION	
	DRAWN BY: JLH	DATE: 04/01/13
PROJECT: TM-1,500 OR TM-900	CHECK BY: RTK	SCALE: 1"=10FT
LOCATION: GENERIC	APPROVED BY: JTT	SHEET 3 OF 3
	REV. A DATE: 04/23/13	

PROJECT DESIGN CRITERIA

1). REFERENCE THE "BILL OF MATERIAL" ON THIS SHEET. THE SITE WORK, ie CIVIL, ELECTRICAL, PERMITTING etc, IS THE RESPONSIBILITY AND OWNED BY THE "CUSTOMER" AS SHOWN. THE PRODUCT SUPPLY SYSTEM, ie TANK, VAPORIZERS & INTERCONNECTING PIPING, IS THE RESPONSIBILITY AND IS OWNED BY "PRAXAIR INC".

2). ALL ACCESS ROADWAYS ARE THE RESPONSIBILITY OF THE CUSTOMER AND ARE TO BE CAPABLE OF SUPPORTING 80,000 lbs. AASHTO HS-20 LOADING.

3). THIS FOUNDATION SYSTEM IS DESIGNED ASSUMING THE FOLLOWING CONDITIONS;

2000 psf SOIL BEARING CAPACITY
90 MPH WIND LOAD EXPOSURE 'C'
SEISMIC VALUES: Ss<150 S1<60
NORMAL WATER TABLE CONDITIONS
IN ACCORDANCE WITH A.C.I.318 LATEST EDITION

FOR CONDITIONS OUTSIDE THESE CRITERIA IT IS THE CUSTOMER'S RESPONSIBILITY TO PROVIDE SUITABLE FOUNDATION DESIGNS THAT MUST BE APPROVED BY "PRAXAIR INC." BEFORE CONSTRUCTION.

4). CONTRACTOR TO REMOVE TOPSOIL UNTIL A SUITABLE BASE IS ESTABLISHED FOR GRAVEL UNDERLAYMENT IF CONDITIONS CANNOT BE MET AT DRAWING DEPTHS.

5). CONTRACTOR TO USE AIR ENTRAINED , 4"-5"SLUMP CONCRETE; ASTM #C-150 TYPE I, FC=3000psi @ 28 DAYS. OR ASTM #C-150 TYPE III, FC=3000psi @ 7 DAYS.

6). ROUND EDGES OF PADS WITH SIDEWALK EDGING TOOL.

7). TOP OF PADS TO BE BROOM FINISHED AND LEVEL, ALL PAD ELEVATIONS TO BE REFERENCED FROM CHOSEN BENCHMARK.

8). SKIRTING OF PAD TO BE BELOW FROST LINE PER LOCAL BUILDING CODES.

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PAINT=2.5mil SAFETY YELLOW
W/3 STIPS OF REFLECTIVE
TAPE AT TOP OF POST.

11). INDIVIDUAL PADS ie: TANK, TRANSFER etc, TO BE SEPARATED WITH AN ISOLATION JOINT; USE PLYWOOD TREATED WITH WAX (OR EQUIV. BOND-BREAKER), EXCEPT ON TOP FACE; TOP OF PLY-WOOD TO BE 1" FROM TOP OF CONCRETE; THIS SURFACE TO BE SEALED w/ "CS-2727" FLEXIBLE EPOXY JOINT SEALER (OR EQUIV.).

12). ALL OUTDOOR RECEPTACLES AT SITE TO BE PROTECTED WITH GROUND FAULT INTERRUPTERS.

13). ALL ELECTRICAL COMPONENTS NOT INSTALLED WITHIN A BUILDING MUST BE IN WEATHERTIGHT ENCLOSURES.

14). VOICE GRADE PHONE LINE MUST BE DEDICATED FOR CUSTOMERS WITH AUTOMATIC PRODUCT ORDERING.

BILL of MATERIAL

ITEM	QTY	U/M	DESCRIPTION	SUPPLIER
1	1	EA	VESSEL CRYOGENIC STORAGE, TM-1,500 OR TM-900	PRAXAIR
2	2	EA	VAPORIZER, ATMOSPHERIC PRODUCT, SG-20	PRAXAIR
3	1	EA	MANIFOLD, 1" KAYE-MAC	PRAXAIR
4	0	EA	VAPORIZER, ATMOSPHERIC PRESSURE BLDNG	PRAXAIR
5	0	EA	MODULE, LIQUID DEWAR FILL	PRAXAIR
6	0	EA	MODULE, CRITICAL FLOW, w/ -100F TO +100F THERMOMETER	PRAXAIR
7	0	EA	MODULE, FILTER, 1" PS	PRAXAIR
8	0	EA	MIXER, THERMCO	PRAXAIR
9	1	EA	MODULE, "TRACKER", REMOTE TELEMETRY UNIT, WIRED	PRAXAIR
10	0	EA	MODULE, REMOTE FILL	PRAXAIR
11	0	EA	MODULE, EXTENDED FILL w/ STAND	PRAXAIR
12	AS REQ'D		BOLT, MECHANICAL WEDGE/STUD, HILTI OR OTHERS	PRAXAIR
13	AS REQ'D		PIPE, 6" SCH 40 x 96" lg, C-STL	CUSTOMER
14	AS REQ'D		BAR, NO. 6, ASTM TYPE A-615, GRADE 60	CUSTOMER
15	AS REQ'D		BAR, NO. 3, ASTM TYPE A-615, GRADE 60	CUSTOMER
16	AS REQ'D		BAR, NO. 7, ASTM TYPE A-615, GRADE 60	CUSTOMER
17	AS REQ'D		BAR, NO. 5, ASTM TYPE A-615, GRADE 60	CUSTOMER
18	AS REQ'D		FENCE, GALVANIZED CHAIN LINK 2" MESH, 9 GA. X 72" HIGH	CUSTOMER
19	1	EA	GATE, SLIDING, 72" WIDE MIN, CHAIN LINK, 9 GA. X 72" HIGH	CUSTOMER
20	1	EA	GATE, SWING, 36" WIDE MIN, CHAIN LINK, 9 GA. X 72" HIGH	CUSTOMER
21	AS REQ'D		CONCRETE, SEE NOTE # 5	CUSTOMER
22	AS REQ'D		120V / 15A GFI SERVICE (UNDERGROUND CONDUIT)	CUSTOMER
23	AS REQ'D		VOICE GRADE PHONE LINE (UNDERGROUND CONDUIT), NOTE #14	CUSTOMER

WEIGHTS AND MEASURES

TM-1,500 TANK - DIAMETER 6.50', HEIGHT 15.75'
WEIGHT EMPTY 10,500#
WEIGHT FULL WITH LIQUID OXYGEN 24,900#
WEIGHT FULL WITH LIQUID NITROGEN 20,700#
WEIGHT FULL WITH LIQUID ARGON 28,100#

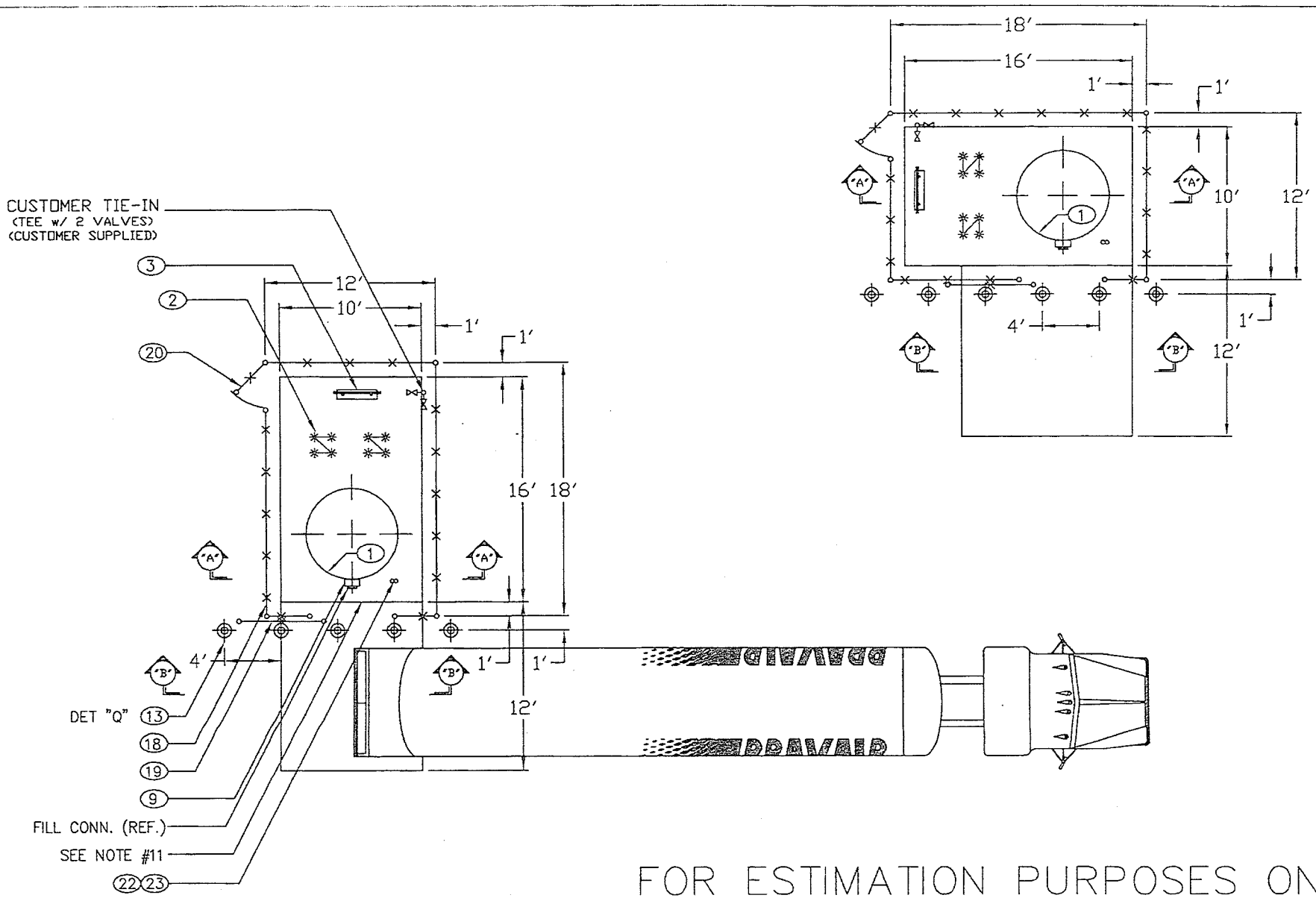
THERMAX SG20 VAPORIZER - LENGTH 1.83', WIDTH 1.83', HEIGHT 10.67'
WEIGHT EMPTY 135#, WEIGHT FULL WITH ICE 1,275#

FOR ESTIMATION PURPOSES ONLY
NOT FOR CONSTRUCTION

PRAXAIR
Making Our Planet More Productive
CUSTOMER SERVICE

PROJECT: TM-1,500 OR TM-900
LOCATION: GENERIC

PRAXAIR NO. GENERIC
FILE: NOT FOR CONSTRUCTION
DRAWN BY: JLH DATE: 04/01/13
CHECK BY: RTK SCALE: 1"=10FT
APPROVED BY: JTT SHEET 1 OF 3
REV. A DATE: 04/23/13



FOR ESTIMATION PURPOSES ONLY
NOT FOR CONSTRUCTION

PRAXAIR Making Our Planet More Productive CUSTOMER SERVICE	PRAXAIR NO. GENERIC	
	FILE: NOT FOR CONSTRUCTION	
	DRAWN BY: JLH	DATE: 04/01/13
PROJECT: TM-1,500 OR TM-900	CHECK BY: RTK	SCALE: 1"=10FT
LOCATION: GENERIC	APPROVED BY: JTT	SHEET 2 OF 3
	REV. A DATE: 04/23/13	

Cryogenic Tanks

Liquid oxygen, liquid nitrogen and liquid argon are cryogenic liquids. Their boiling temperatures are:

Liquid Oxygen	-297.3 °F (-183 °C)
Liquid Nitrogen	-320.4 °F (-195.8 °C)
Liquid Argon	-302.6 °F (-185.9 °C)

Sublimation Point	
Liquid CO_2	-109.3 °F (-78.5 °C)

To minimize heat transfer and sustain very low temperatures, the storage vessel must be specially designed. Storage vessels for liquid oxygen, liquid nitrogen and liquid argon are commercially available in various capacities from 350 to 13,000 U.S. gallons (1,325 to 49,210 liters) water capacity. The storage vessels may be either vertical, spherical, or horizontal depending on the site and consumption requirements.

Cryogenic liquids storage vessels have three basic components:

1. Inner Pressure Vessel –
A vessel usually made of stainless steel or other materials that have favorable strength characteristics when exposed to cryogenic temperatures.

2. Outer Vessel – A vessel made of carbon steel or stainless steel. Under normal operating conditions, this vessel retains the insulation around the inner pressure vessel, and can also maintain a vacuum around the inner vessel. Typically, the outer vessel is not exposed to cryogenic temperatures.

3. Insulation – The space between the inner and outer vessel, containing several inches of insulating material maintained in a vacuum. The vacuum and insulating material help to reduce heat transfer and thereby reduce the boil-off of the liquid oxygen, liquid nitrogen or liquid argon stored within the vessel.

The inner vessel of the storage tank is typically designed to sustain a maximum allowable working pressure of 250 psig (1724 kPa). Vessels may be fabricated for higher or lower working pressures and special applications. The service pressure of the vessel is adjustable.

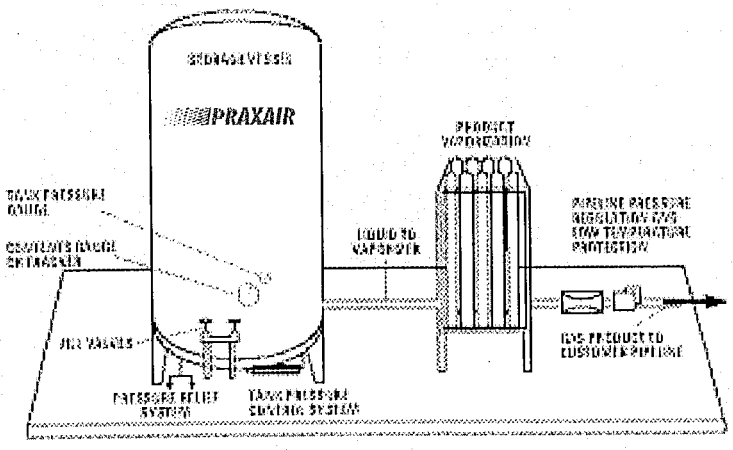
Caution: Storage Facility Maintenance. Only authorized and trained personnel should maintain and operate the liquid oxygen, liquid nitrogen or liquid argon storage facility and its components. Safety concerns should be reported immediately.

General Safety Rules for Liquid Oxygen, Liquid Nitrogen and Liquid Argon

The following are general safe handling rules for liquid oxygen, liquid nitrogen and liquid argon:

- Do not store liquid oxygen, liquid nitrogen or liquid argon in confined spaces or poorly ventilated areas.
- Ensure that cryogenic liquids are handled only by persons instructed in the properties of the material and in the proper procedures for handling it.
- Ensure that all piping in which cryogenic liquids could be trapped between two valves and receptacles is equipped with pressure relief valves that are piped to properly designed vents.
- Do not smoke or create sparks near liquid oxygen equipment and tanks. Do not approach liquid oxygen tanks with an open flame.

Note 1: Please refer to Section 11 – Technical Data for more information on Gas Properties.

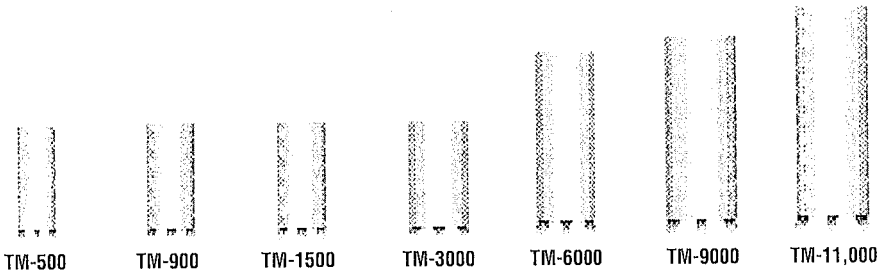


Typical Cryogenic Liquid Customer Station

(Oxygen installations require a spill pad)

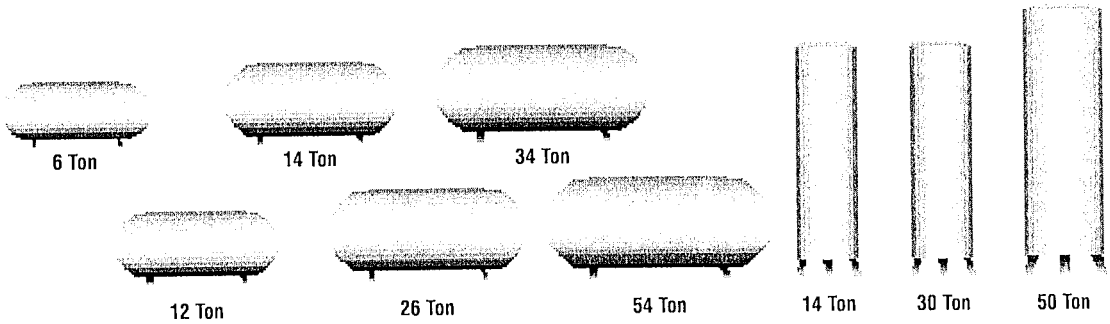
Cryogenic Storage Tank Specifications – Oxygen, Nitrogen and Argon

Characteristics	TM-500	TM-900	TM-1500	HTM-3000	TM-6000	TM-9000	HTM-11,000
Gross Volume (gal)	568	956	1,611	3,117	6,022	9,180	11,290
Net Capacity (gal)	530	904	1,517	3,000	5,889	8,900	11,040
Oxygen (cft)	61,000	104,000	174,600	345,200	677,700	1,024,400	1,266,100
Nitrogen (cft)	49,300	84,100	141,200	279,200	548,100	826,700	1,024,200
Argon (cft)	59,600	101,600	170,654	337,200	662,000	1,001,300	1,237,500
Maximum Working Pressure Liquid Container (psig)	250	250	250	250	250	250	250
Weight (lb)							
Tank Empty	5,400	9,700	10,300	15,500	27,800	37,000	47,000
Filled Oxygen	10,500	18,400	24,800	44,100	84,000	121,800	152,000
Filled Nitrogen	9,100	15,800	20,600	35,800	67,600	97,000	121,000
Filled Argon	11,700	20,300	28,000	50,400	96,300	140,500	175,000
Configuration	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	Vertical
Dimensions							
Diameter (in)	60	78	78	96	96	114	122
Height (ft-in)	15-6	15-9	15-9	16-0	25-9	27-10	31-7



Cryogenic Storage Tank Specifications - Carbon Dioxide

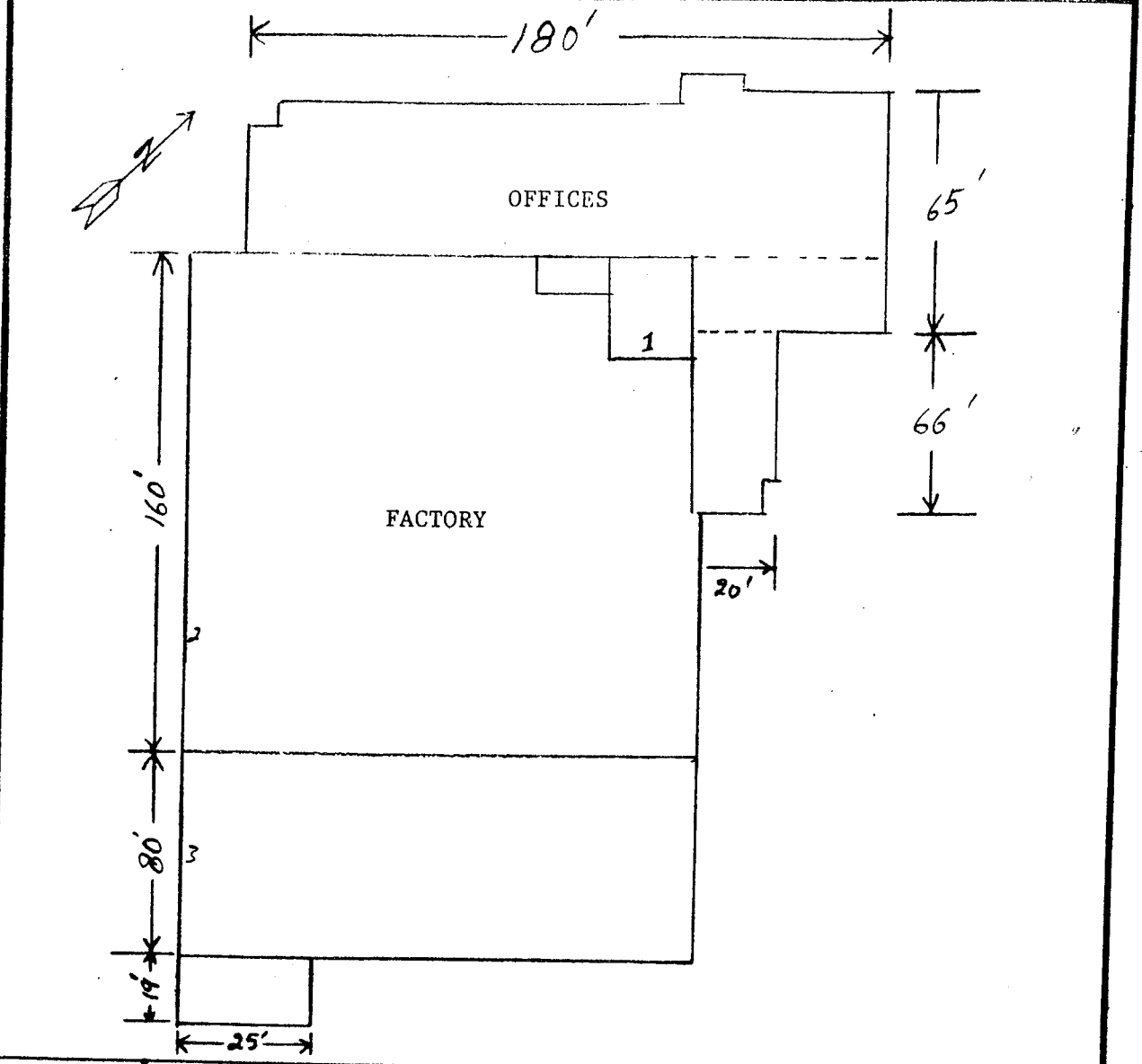
Characteristics	6 Ton	12 Ton	14 Ton	26 Ton	34 Ton	54 Ton	14 Ton	30 Ton	50 Ton
Net Volume (tons)	6	12	14	26	34	54	14	30	50
Maximum working pressure (psig)	350	350	350	350	350	350	350	350	350
Weight									
Empty	12,000	18,000	10,400	25,000	27,500	43,000	15,500	30,000	40,000
Filled	24,000	42,000	38,400	52,000	95,500	151,000	43,500	90,000	140,000
Dimensions									
Diameter (in)	64	68	88	90	94	94	96	96	114
Height (ft-in)	15-0	22-0	15-3	31-0	32-0	48-5	20-4	25-3	39-6



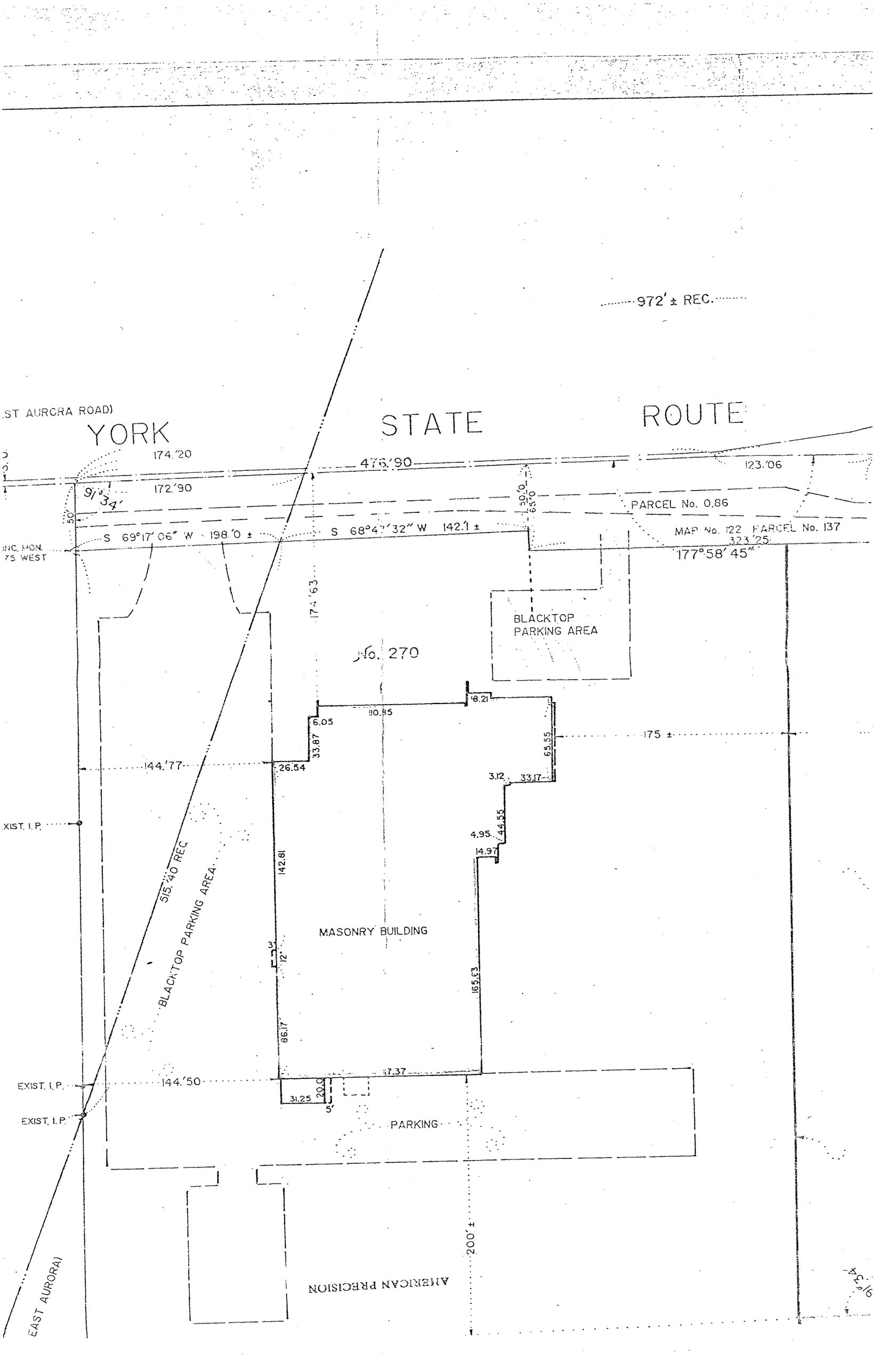
1-800-225-8247

TOWN HIGHWAY DEPT.
TO NORTH

REVISIONS				
SYM.	ECO	DESCRIPTION	DATE	BY



–	PART NUMBER	PART NAME	MATERIAL
		REMOVE ALL BURRS AND BREAK SHARP EDGES – .005 MAX.	Delevan Division / AMERICAN PRECISION INDUSTRIES INC. EAST AURORA, N. Y. 14052
		DRAWN BY: G. Flage 01/22/87	
		CHECK: / /	
		ENG'R'G.: / /	
		QUAL.: / /	
		MANUF.: / /	
MATERIAL		NEXT ASSY.	API-EAST AURORA PROPERTY
		SCALE: ~ CODE IDENT: 99800	B DWG. NO.
			WGT. SHEET 1 OF 1 REV. /


.ST AURORA ROAD)
YORK
STATE
ROUTE
972' ± REC.
174.'20
476.'90
123.'06
172.'90
PARCEL No. 0.86
MAP No. 122 PARCEL No. 137
S 69°17'06" W 198.'0 ±
S 68°47'32" W 142.'1 ±
323.'25
177°58'45"
BLACKTOP
PARKING AREA
No. 270
174.'63
18.21
110.85
6.05
33.87
65.55
175 ±
144.'77
26.54
3.12
33.17
44.85
4.95
14.97
142.81
515.'40 REC
BLACKTOP PARKING AREA
MASONRY BUILDING
12'
165.63
86.17
17.37
144.'50
31.25
20.0
5'
PARKING
EXIST. I.P.
EXIST. I.P.
EXIST. I.P.
200' ±
AMERICAN PRECISION
EAST AURORA)