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PORT OF OSWEGO Oswego, New York



C&S Engineers, Inc.
499 Col. Eileen Collins Blvd.
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**PORT OF OSWEGO
OSWEGO, NEW YORK
GRAIN HANDLING SYSTEMS
IMPROVEMENT PROJECT**

MARK	DATE	DESCRIPTION

PROJECT NO: 301.MKT.PRO
DATE: 4/22/2020
DRAWN BY: RK
DESIGNED BY: RK
CHECKED BY:
NO ALTERATION PERMITTED HEREON
EXCEPT AS PROVIDED UNDER SECTION
7209 SUBDIVISION 2 OF THE NEW YORK
EDUCATION LAW

**PHASE I
POA
EAST TERMINAL WHARF
GRAIN RECEIVING AND
SHIPPING SYSTEMS**

TITLE SHEET

T1

CONCEPT DRAWINGS for the

GRAIN HANDLING SYSTEMS IMPROVEMENT PROJECT - PHASE I

- Prepared by -
C&S ENGINEERING, INC.®
www.cscos.com

DRAWING LIST

NO.	DESCRIPTION
T1	TITLE SHEET
C1	CONCEPT FACILITIES ARRANGEMENT
C2	SOUTH CONCEPT ELEVATION
P1	PROCESS FLOW DIAGRAM
P2	EQUIPMENT LIST
M1	BUCKET ELEVATOR GENERAL DIMENSIONS
M2	CONVEYOR GENERAL DIMENSIONS
LP1	PLAN AT GRADE
LP2	UPPER AREA PLANS
LP3	UPPER AREA PLANS
LS1	SECTIONS '1' & '2'
LS2	SECTION '3'
LS3	SECTION '4'

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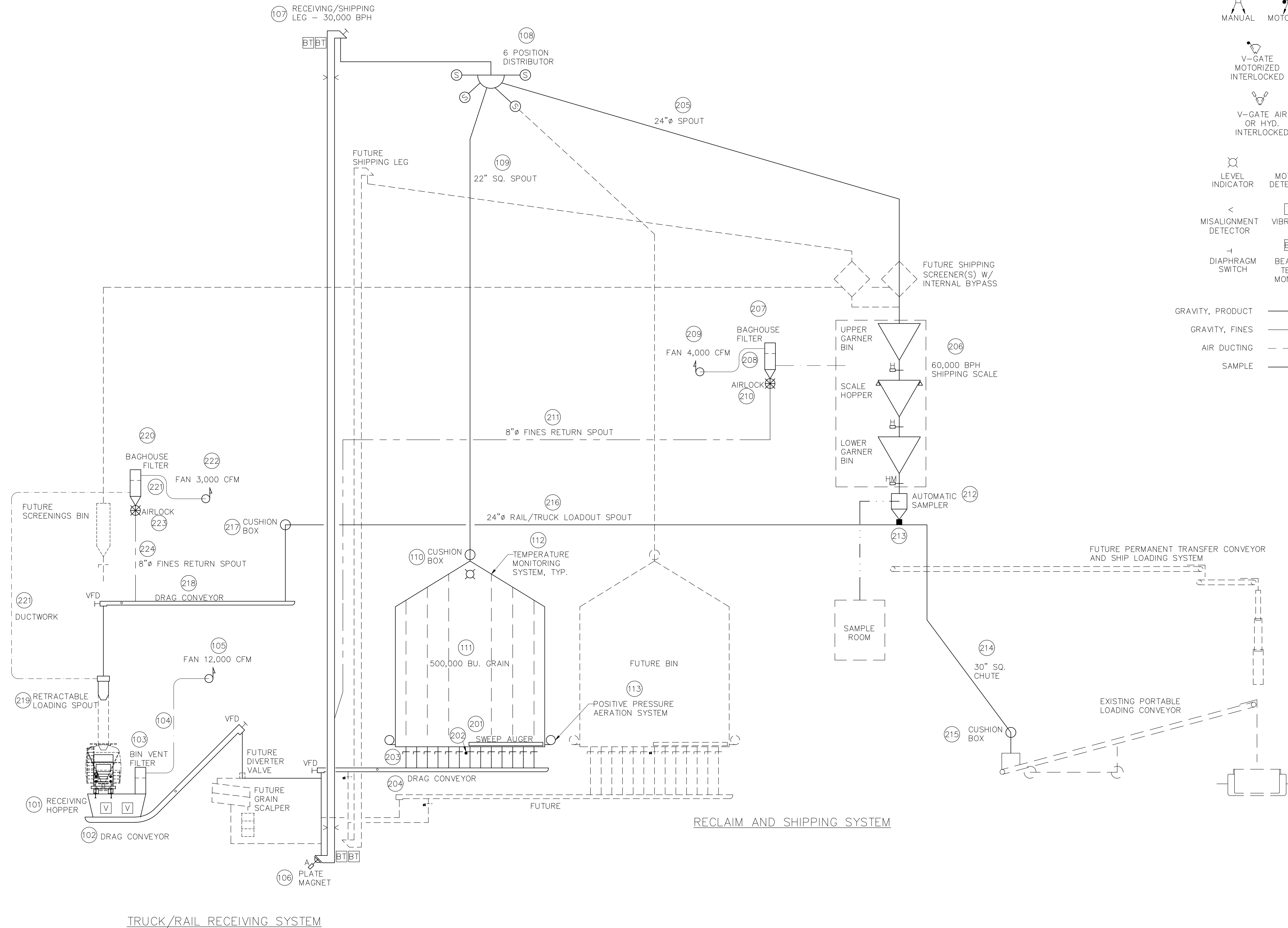
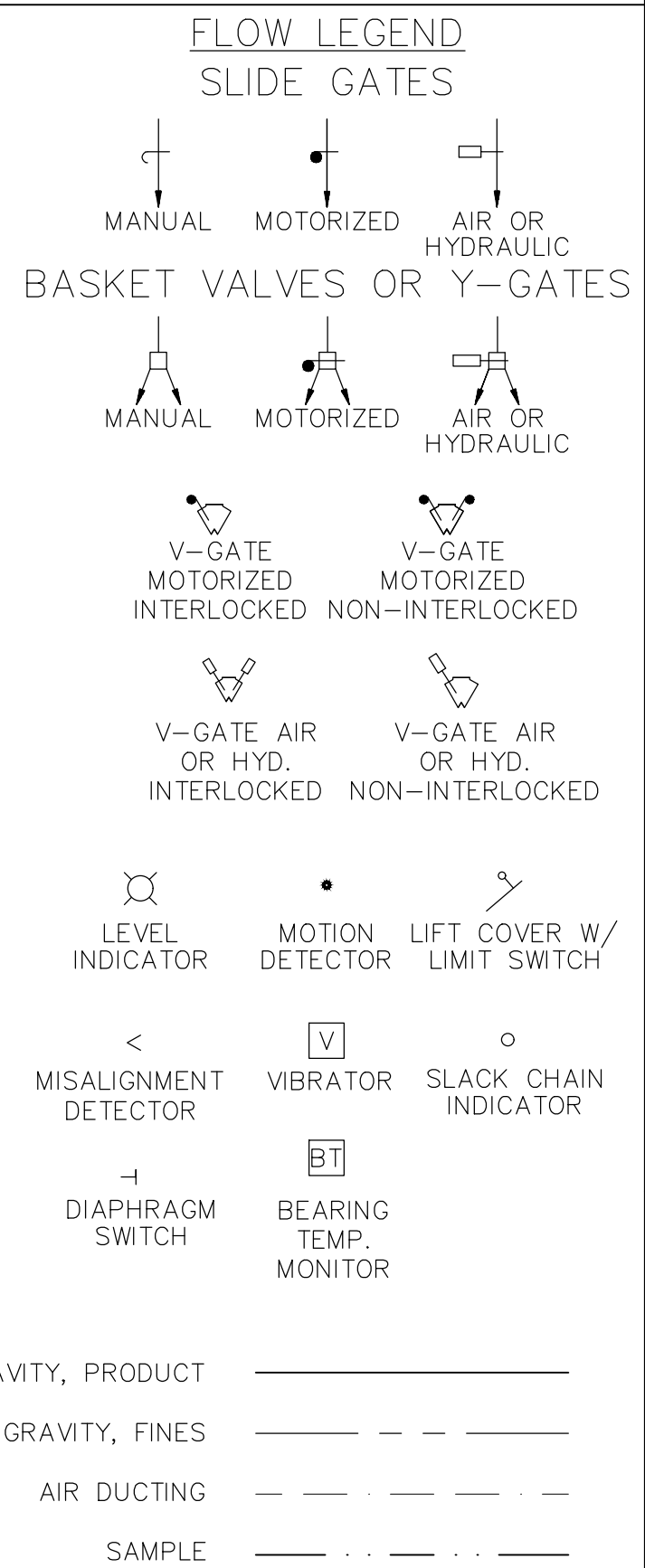
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PROCESS FLOW DIAGRAM

P1

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EQUIPMENT LIST

Item #	Description	Basis of Design Manufacturer or Supplier	Phone #	Proposal ID	Model/Specification	Capacity		Length or Height, Ft	Hp Est	Devices	Remarks
						bu/hr	Tonnes/Hr				
Truck/Rail Receiving System - 30,000 bu/hr - 850 tonnes/hr											
101	Receiving Hopper	Contractor	na	na	3/16 plate, w/ grate, beams and swinging baffles						
102	Drag Conveyor	Schlagel	800-328-8002	P270330	IC3644, galvanized, AR liners	30,000	850	93	100	DS, SC, VFD	Vibrator both sides of inlet
103	Baghouse Filter	Airlanco	800-500-9777	012857 - 00	DX					Per mfg'r.	
104	Ductwork	Airlanco	800-500-9777	012857 - 00	20'+/- 24" dia., 16 ga., 2-90° elbows, galvanized						
105	Fan, 12,000 cfm	Airlanco	800-500-9777	012857 - 00	Bl-27 Class IV Fan ARR 1				40	2LS	
106	Magnet	Schlagel	800-328-8002	L269643	Air Op.					2LS	
107	Bucket Elevator	Schlagel	800-328-8002	L269643	4224-10LP, galvanized, 10 ga. min. trunk, ceramic lined boot, urethane lined head	30,000	850	178 HTD	2@125	DS, MaxiScan Sys	
108	Distributor	Schlagel	800-328-8002	P270332	6 Position, 24" dia. inlet & outlets, Flat Back, 45 deg. Elec. Op., ceramic lining, EDI contr	30,000	850		1	Per mfg'r.	
109	Spout to Grain Bin	LCDM	888-961-4881	Q1984	22" sq., 10 ga. galv., vac. bonded cer. lining bottom & 2/3 sides, trussed						
110	Cushion Box at Grain Bin	LCDM	888-961-4881	L2001	45 deg, 7 ga., galvanized, large access door, 1/4" Extreme Green lining						
111	Grain Bin	Sukup, Inc.	641-892-4222	See Remarks	Spiral stair to eave, stair from eave to peak						Ref. budgetary sheet 3.25.20(2)
112	Temperature Monitoring System	SafeGrain, Inc.	513 398-2500		Per proposal					Per mfg'r.	
113	Aeration System	SafeGrain, Inc.	513 398-2500		Per proposal					Per mfg'r.	
Reclaim and Shipping System - 30,000 bu/hr - 850 tonnes/hr											
201	Sweep Auger and Accessories	Sioux Steel Co.	605-336-1750	DK000964	DPS 12K	12,000	340	52	40	Per mfg'r.	
202	Slide Gate	Essmueller	800-325-7175	na	42" sq., Elec. Op., galvanized					2LS	
203	Slide Gate	Essmueller	800-325-7175	na	12" sq., Manual Op., galvanized, 10 units required					2LS	
204	Drag Conveyor	Schlagel	800-328-8002	P270329	P4240, galvanized, AR liners	30,000	850	116	60	DS, SC, VFD	
205	Spout to Scale	Contractor	na	na	24" dia. X 3/8" wall, galvanized						
206	Bulk Scale	Warrior Mfg. Co., Inc.	320-587-5505	028352-00	BWSTD-OT bulk scale w/ upper garner, scale hopper, lower garner	60,000	1700			Per Mfg'r.	
207	Baghouse Filter	Airlanco	800-500-9777	012857 - 00	60 Series 36AST10 Style III					Per Mfg'r.	
208	Ductwork	Airlanco	800-500-9777	012857 - 00	20'+/- 15" dia., 16 ga., 2-90° elbows, galvanized						
209	Fan, 4,000 cfm	Airlanco	800-500-9777	012857 - 00	264LS Series 20, Arr 9						
210	Airlock	Airlanco	800-500-9777	012857 - 00	FT-12					1	
211	Fines Return Spout	Contractor	na	na	8" dia. X 10 ga., galvanized						
212	Sampler	Warrior Mfg. Co., Inc.	320-587-5505	028352-00	OTPS-30 Spout Sampler						
213	Diverter Valve	Hayes & Stolz	800-725-7272	na	30" square, 10 ga., galvanized, vacuum bonded ceramic lining						
214	Spout to Shipping Conveyor Inlet	LCDM	888-961-4881	na	30" square, 10 ga., galvanized, vacuum bonded ceramic lining						
215	Cushion Box	LCDM	888-961-4881	L2001	45 deg, 7 ga., galvanized, large access door, 1/4" Extreme Green lining						
216	Spout to Truck/Rail Loadout	Contractor	na	na	24" dia. X 3/8" wall, galvanized						
217	Cushion Box	LCDM	888-961-4881	L2001	DBAR1808GED, hot dipped galvanized						
218	Drag Conveyor	Schlagel	800-328-8002	LEE43927C	P3630, galvanized, AR liners	30,000	850	52	30	DS, SC, VFD	
219	Truck/Rail Loading Spout	DCL	231-547-5600	xxx	Retractable enclosed vehicle loading spout					Per Mfg'r.	
220	Baghouse Filter	Airlanco	800-500-9777	012857 - 00	60 Series 36AST10 Style III					Per Mfg'r.	
221	Ductwork	Airlanco	800-500-9777	012857 - 00	20'+/- 15" dia., 16 ga., 2-90° elbows, galvanized						
222	Fan, 4,000 cfm	Airlanco	800-500-9777	012857 - 00	264LS Series 20, Arr 9						
223	Airlock	Airlanco	800-500-9777	012857 - 00	FT-12					1	
224	Fines Return Spout	Contractor	na	na	8" dia. X 10 ga., galvanized						
Structures and Support Systems											
301	Receiving Tunnel & Leg Boot Pit	Contractor	na	na	Per concept drawings						Rail beams for both spurs
302	Process Tower Foundation	Contractor	na	na	Per concept drawings						
303	Grain Bin Foundation	Contractor	na	na	Per concept drawings						
304	Leg/Scale Tower w/ Stair	Warrior	320-587-5505	028352-00	3" maximum lateral deflection at 100' above base						
305	Rail/Truck Conveyor Bridge	Contractor	na	na							
306	Vibrators	Cleveland Vibrator Co.	216-241-7157	na	Rotary Electric					Per mfg'r.	
307	High Level Indicators	Binmaster	402-434-9102	na	Procap II					Per mfg'r.	

DEVICE LEGEND	
DS	Diaphragm Switch
SC	Slack Chain Detection Device
AS	Alignment Switch
LS	Limit Switch
PS	Proximity Switch
MD	Motion Detector
BDT	Bearing Temperature Detector
HL	High Level Sensor
ML	Mid Level Sensor
LL	Low Level Sensor



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GRAIN BIN, MONITORING AND AERATION SYSTEMS GENERAL SPECIFICATIONS – REFER TO THE ALSO MFG'RS. PROPOSALS

ITEM #111 –GRAIN BIN

105' 17 Ring Sukup 2–Post Stiffened Commercial Tank
 Capacity: 523,055 Bushels
 Eave Height: 62' 5" Fill Height: 91' 1"
 Roof Load Capacity: 100,000 Lbs. (55 PSF Ground Snow)
 Peak Deck Diameter: 16'
 Wind Rings: (4) Std. & (2) Extra
 Doorway: 44" Square

Bin Includes:

- 2 – Extra Wind Rings Beyond Standard
- 1 – 66" Walk–Thru Doorway (Main Door Opposite The 44" Std. Door)
- 1 – Inside Ladder

A–Series OSHA Stair Pkg w/ Double Eave Platform, Manhole Guardrail, Safety Gate, Rest Platforms Every 3 Rings, Outside Handrail & Guardrail, & Inside Handrail Lengthened To Ground With Rest Platform At Main Door Entry

A–Series OSHA Stair Pkg w/ Double Eave Platform, Safety Gate, Outside Handrail & Guardrail, & Inside Handrail Access To 44" Entry Door
 Roof Safety Pkg w/ Roof Exhauster Walk Around & Guardrail, Peak Deck Handrail, Roof Stairs, & Manhole Guard

- 34 – Roof Sheet Cutout F/ Vents
- 34 – 18" 80' Poly Roof Vent w/ Screen

- 1 – Zero–Entry Paddle Sweep (12,000 BPH) F/ 105' Bin
- 1 – 24" Square Center Sump w/ Paddle Sweep Attachment
- 1 – 25Hp. 3Ph. 1800Rpm. Weg Motor (Explosion Proof)
- 2 – 2Hp. 3Ph. 1800Rpm. Weg Motor (Explosion Proof)
- 1 – Tar & Anchor Kit

ITEM #112 –TEMPERATURE MONITORING SYSTEM

Safe–Grain Safe–Track Bin Monitoring System Includes:
 Based On Fill & Unload Rates Up To 50,000 BPH
 (4) Inner–Radius Cables, (8) Mid–Radius Cables, & (12) Eave Radius Cables
 (1) Safe–Track Software
 (1) SafeTrack Scanner w/ Enclosure, 24 Cards, (1) Client Radio, & (1) Server Radio
 (2,964') Lead Wire & (50') Data Wire and Conduit
 (1) Relay Control Module Kit

ITEM #113 –AERATION SYSTEM

Safe–Grain Aeration Package F/ 105'x 62' 4" Bin Includes:
 (4) 20Hp. 3Ph. 460V. 1750Rpm. TEFC Centrifugal Fans w/ Inlet Screens
 (4) 12ga. Galv. Fan Transitions F/ 12" x 74" Floor Opening
 Fans To Generate 1/10 CFM/Bu.
 (8) 2Hp. 3Ph. 1750Rpm. TEFC Roof Exhausters
 (2,200) 10" Floor Supports F/ Quad–F Flush Floor Aeration (Field Welded)
 (16) 25.5" x 80" x 14ga. Galv. Corrugated Cover Sheets (Solid)
 (84) 25.5" x 80" x 14ga. Galv. Corrugated Cover Sheets (Perforated)
 (60) 25.5" x 60" x 14ga. Galv. Corrugated Cover Sheets (Perforated)

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EQUIPMENT LIST

P2

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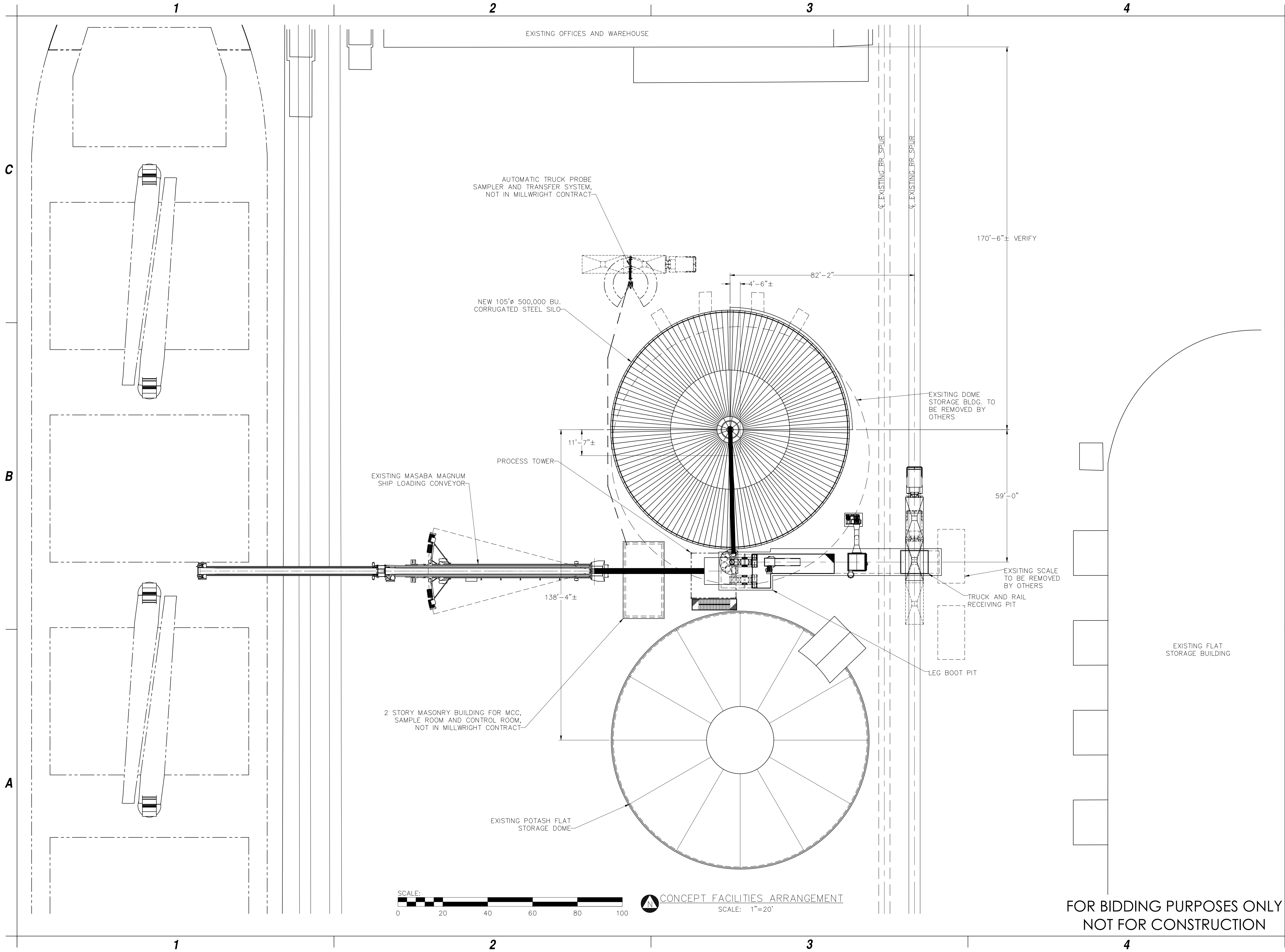
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 CONCEPT FACILITIES
 ARRANGEMENT

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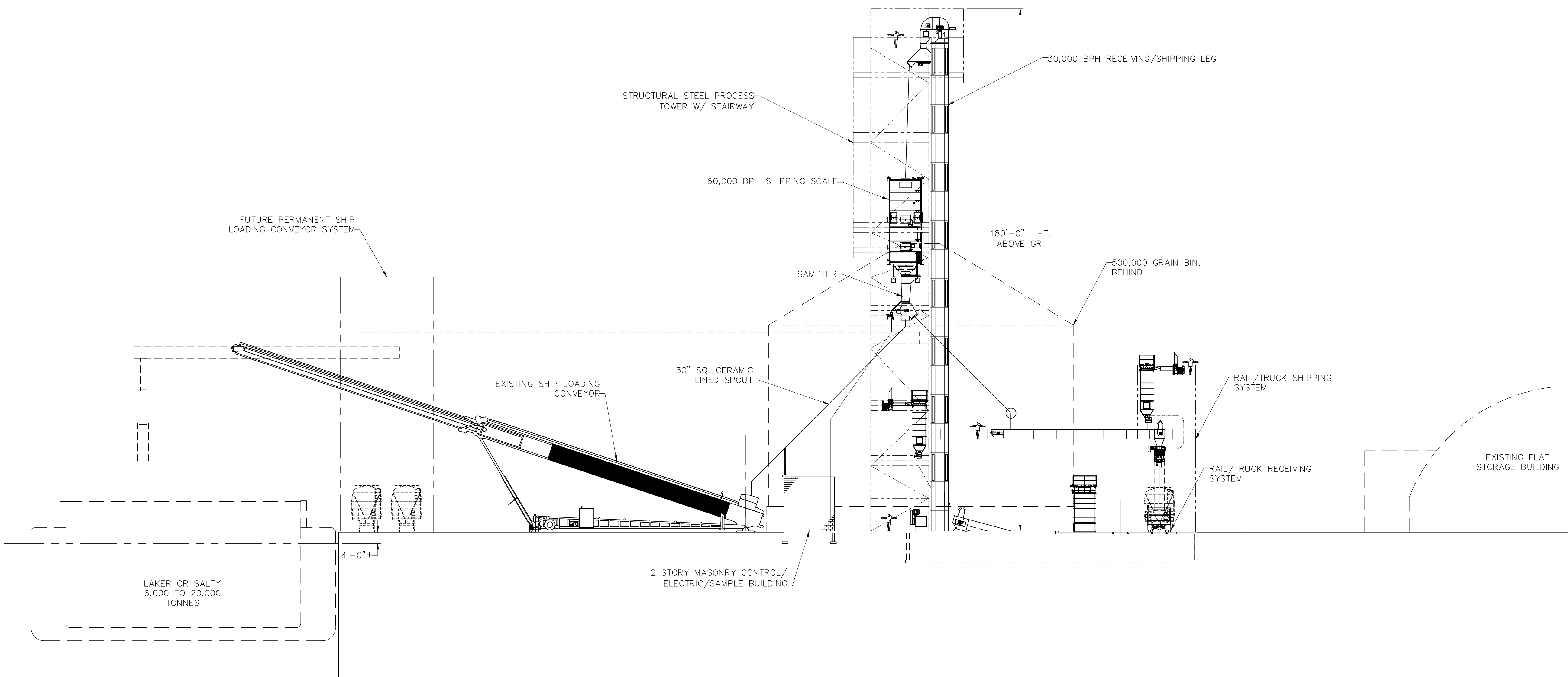
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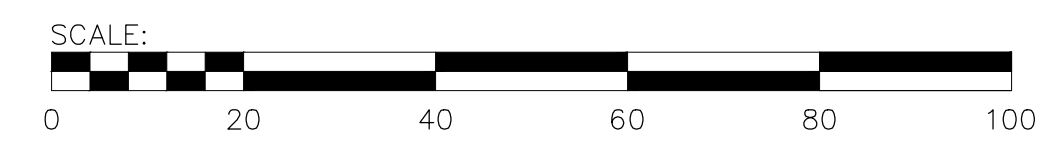


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SOUTH CONCEPT ELEVATION
 SCALE: 1"=20'



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 SOUTH CONCEPT
 ELEVATION

C2

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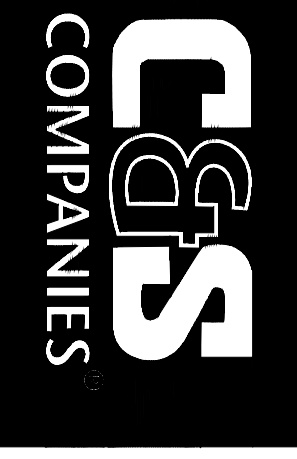
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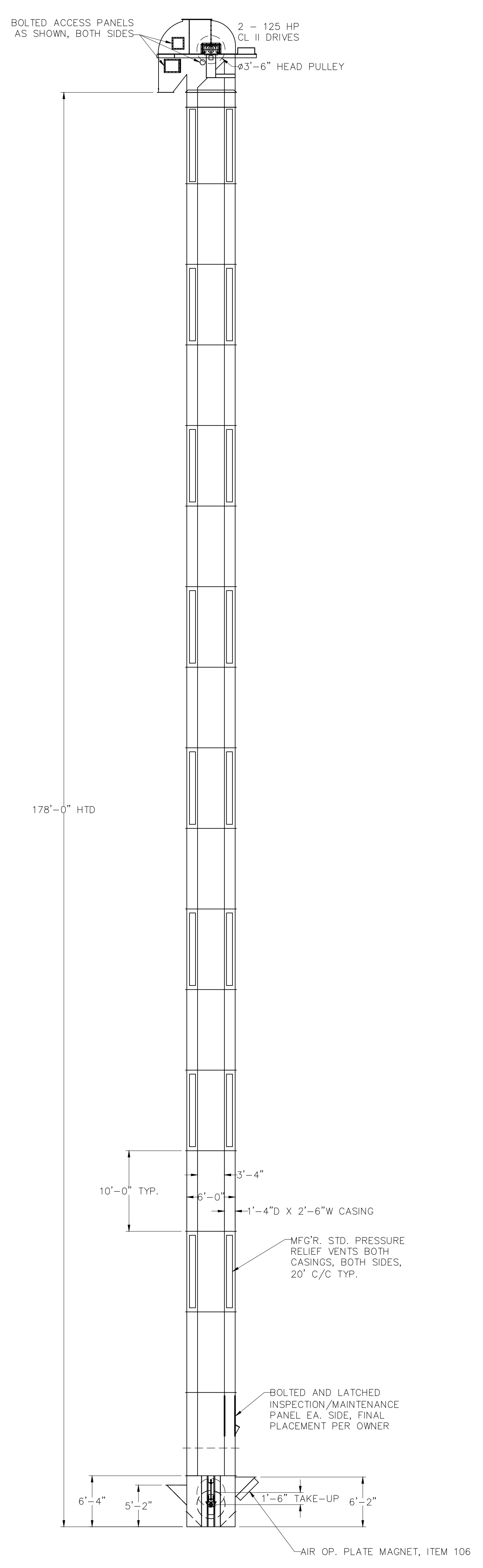
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 BUCKET ELEVATOR
 GENERAL DIMENSIONS

M1

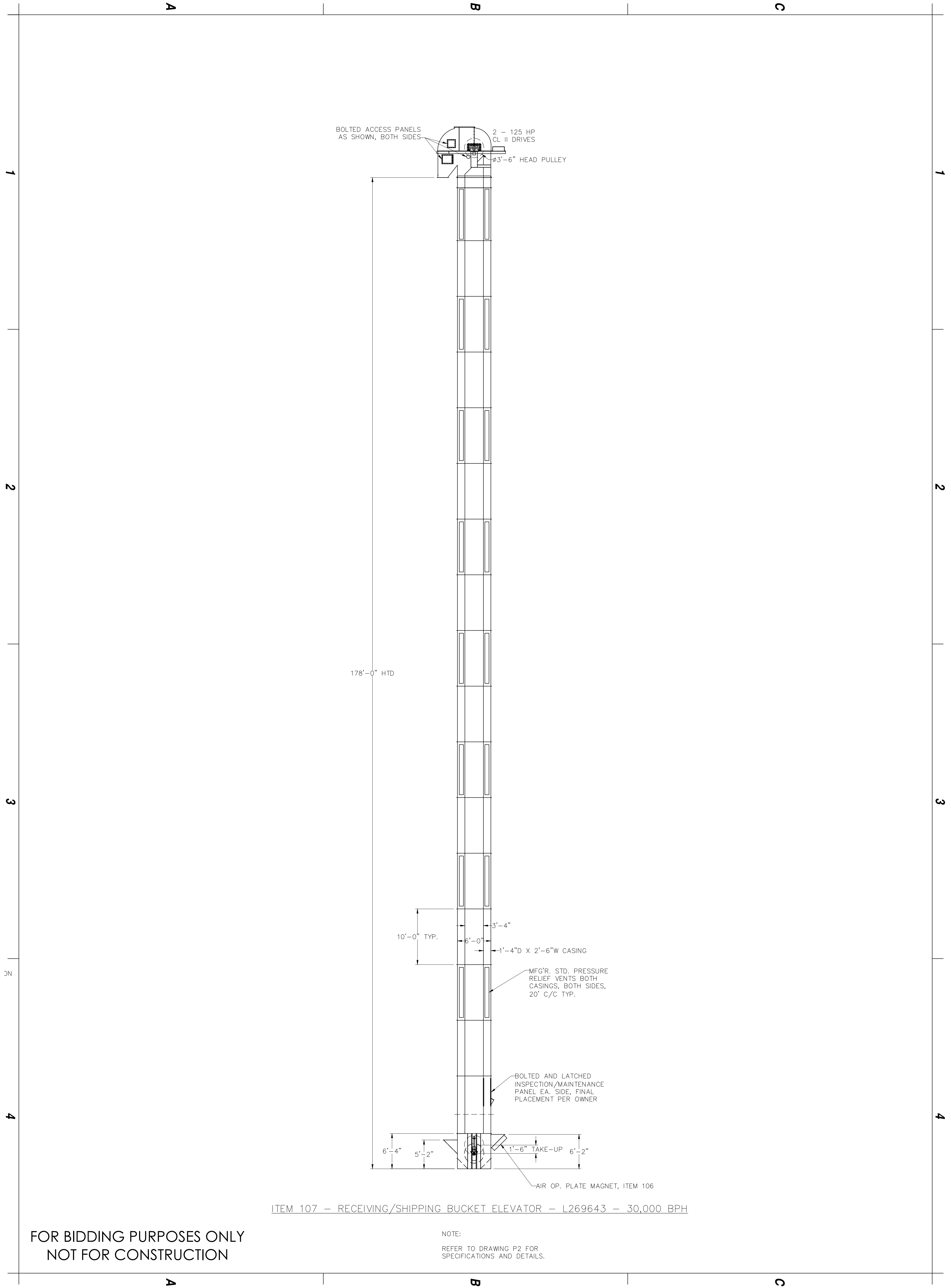
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ITEM 107 – RECEIVING/SHIPPING BUCKET ELEVATOR – L269643 – 30,000 BPH



NOTE:
 REFER TO DRAWING P2 FOR
 SPECIFICATIONS AND DETAILS.

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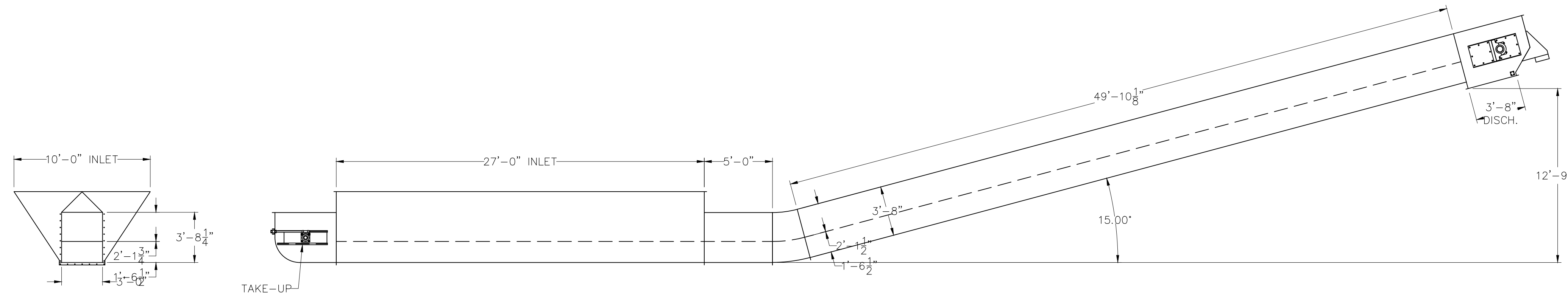
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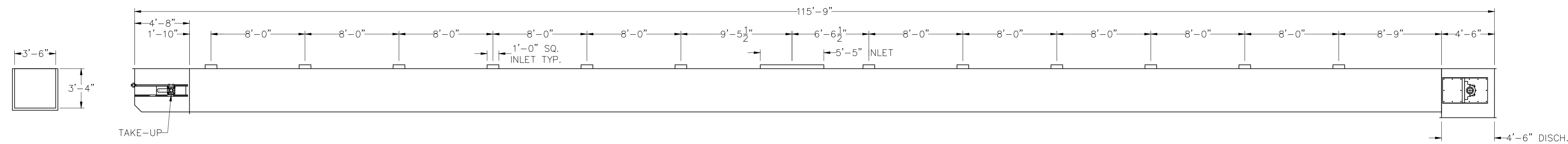
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ITEM 102 - RECEIVING CONVEYOR - IC3644 - 30,000 BPH

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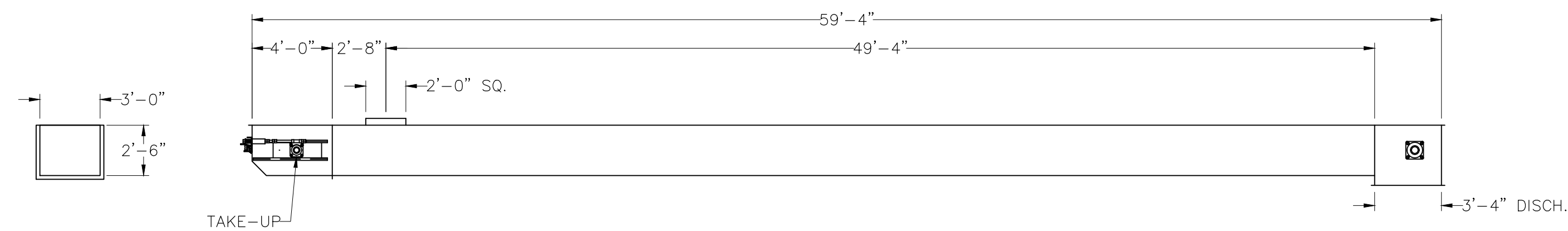
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ITEM 204 - RECLAIM CONVEYOR - P4240 - 30,000 BPH NOW/60,000 BPH FUTURE (W/ NEW DRIVE)

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ITEM 218 - RAIL/TRUCK SHIPPING CONVEYOR - P3630 - 30,000 BPH

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CONVEYOR GENERAL
DIMENSIONS

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