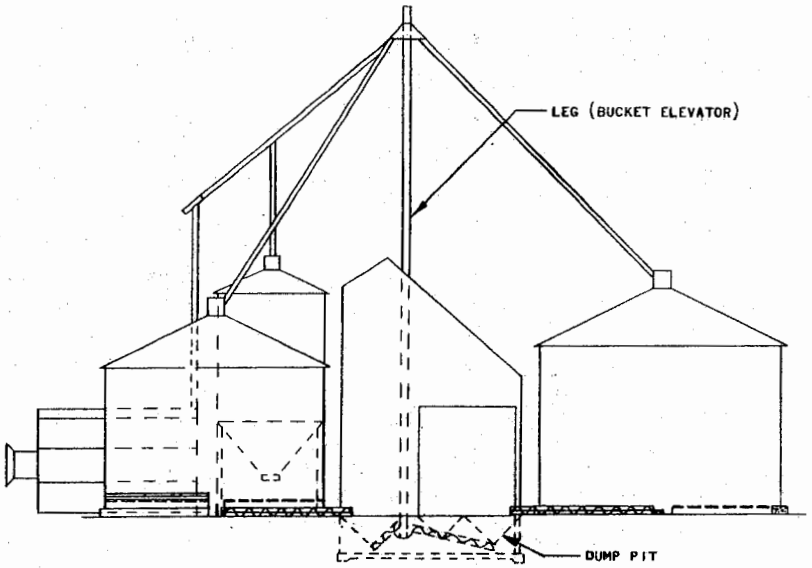


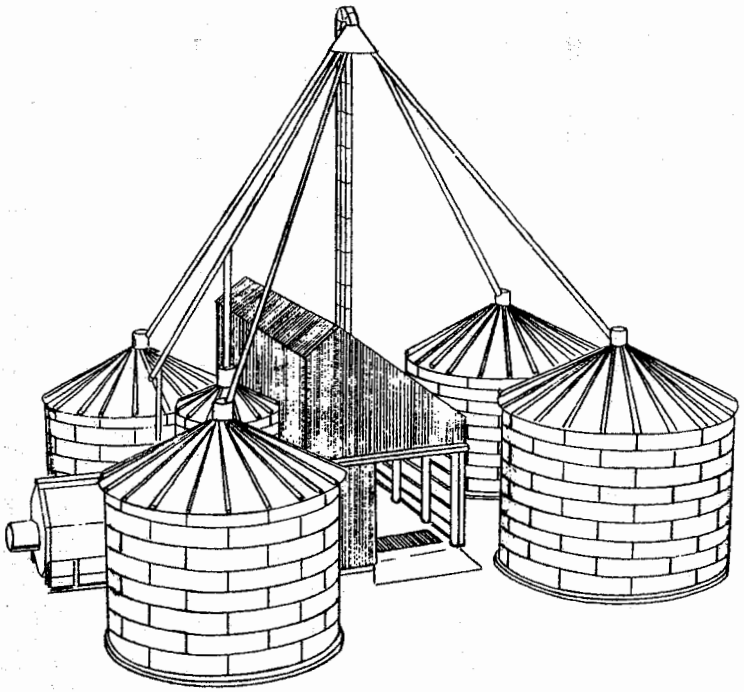

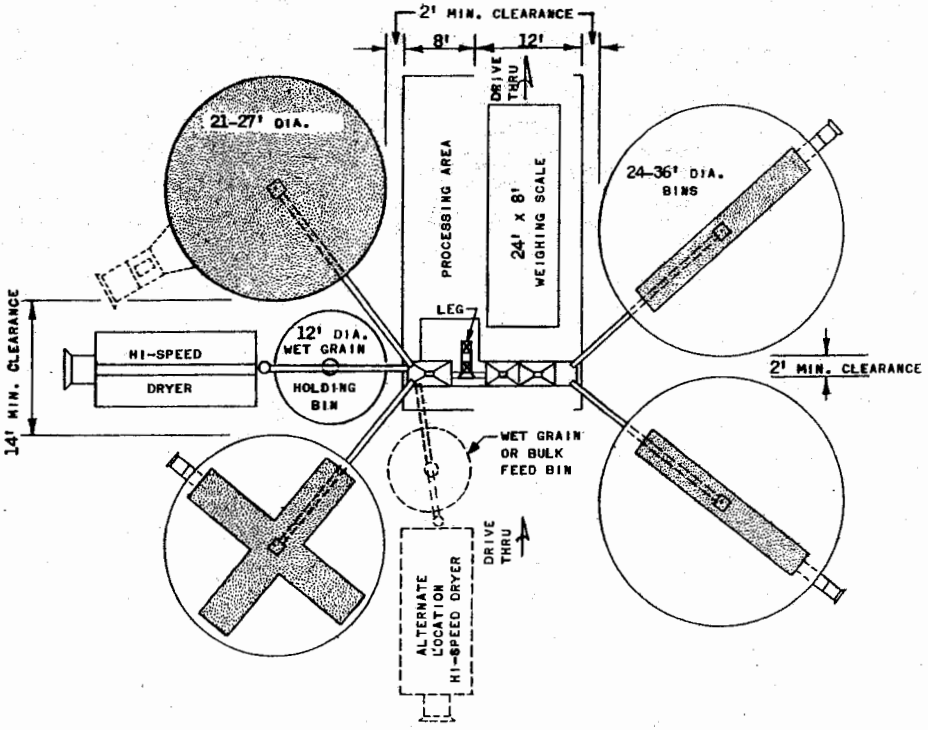


LAYOUT & MECHANIZATION SCHEMATIC

This plan was developed and prepared by:

BRUCE A. MCKENZIE AND JOHN E. MENTZER, Extension Agricultural Engineers, and W. H. FRIDAY, Assistant Professor, Agricultural Engineering Department, Purdue University, Lafayette, Indiana.

It was originally published by Purdue University as Plan No. P73294 and is reprinted with approval.

MWPS 73294

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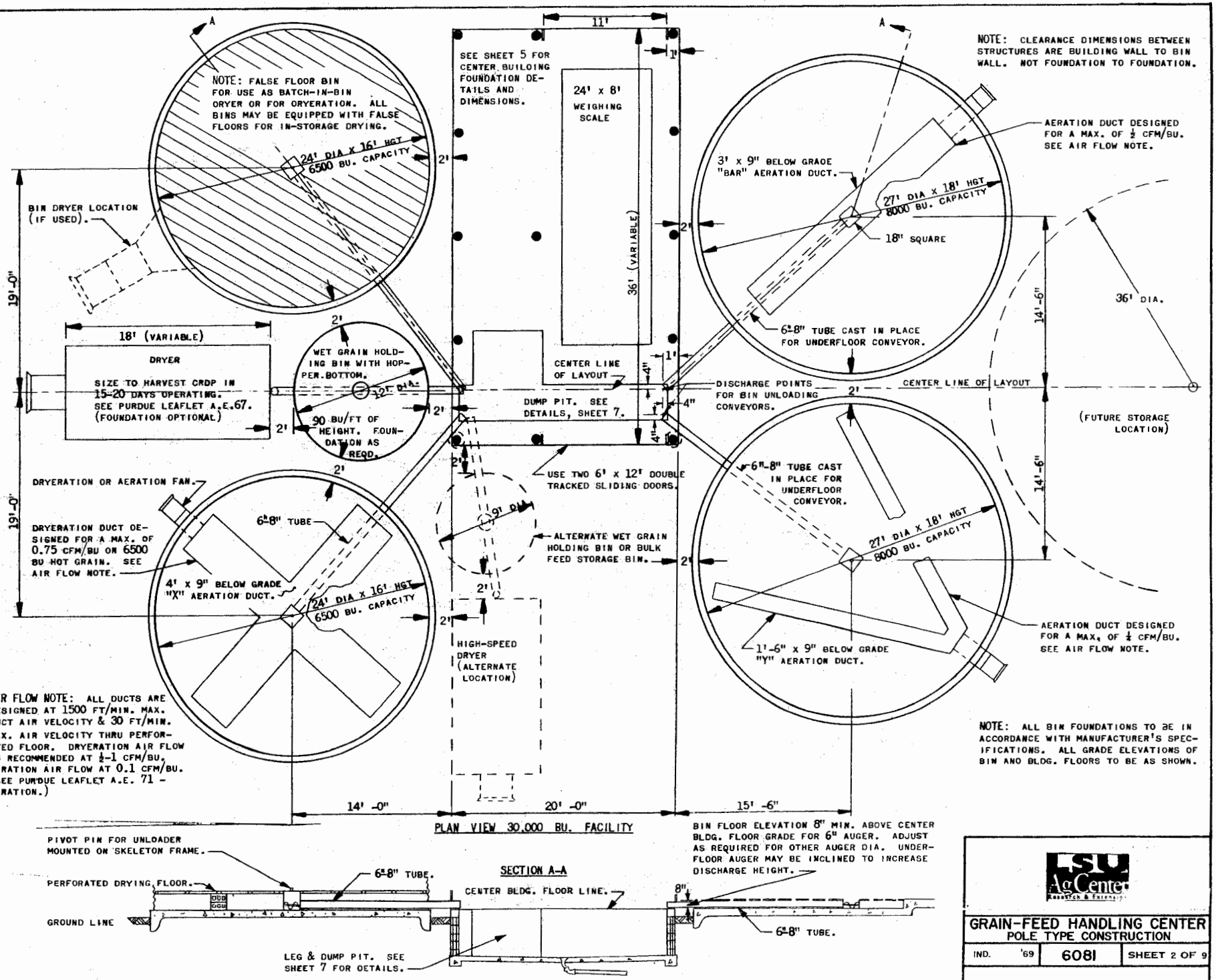
# GRAIN-FEED HANDLING CENTER
## POLE TYPE CONSTRUCTION

| IND. '69 | 6081 | SHEET 1 OF 9 |
|---|---|---|

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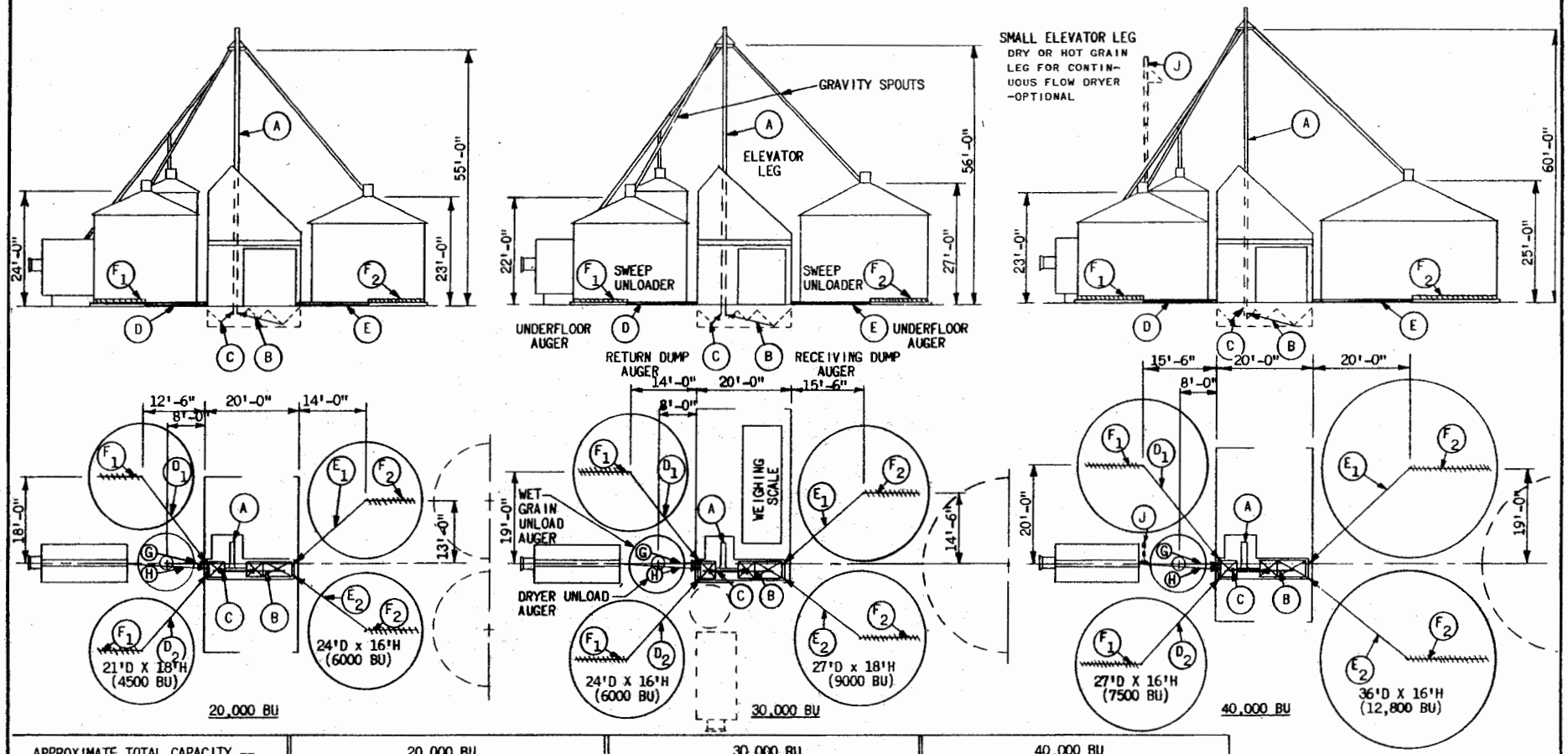
# GRAIN-FEED HANDLING CENTER
## POLE TYPE CONSTRUCTION

| IND. | '69 | 6081 | SHEET 2 OF 9 |
|---|---|---|---|




| APPROXIMATE TOTAL CAPACITY -- ALTERNATIVE HANDLING RATES -- | 20,000 BU 1000-1200 BU/HR FLOW RATE | | | | | 30,000 BU 1500-2000 BU/HR FLOW RATE | | | | | 40,000 BU 2500-3000 BU/HR FLOW RATE | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRAIN HANDLING EQUIPMENT | CODE | LENGTH OR HEIGHT | SIZE | ESTIMATED CAPACITY BU/HR | HP | CODE | LENGTH OR HEIGHT | SIZE | ESTIMATED CAPACITY BU/HR | HP | CODE | LENGTH OR HEIGHT | SIZE | ESTIMATED CAPACITY BU/HR | HP |
| ELEVATOR LEG | A | 55' | 7x5" | 1000-1200 | 2-3 | A | 56' | 8x5 OR 9x5" | 1500-2000 | 3-5 | A | 60' | 9x6" | 2500-3000 | 7½ |
| GRAVITY SPOUTS | | | 6" | | | | | 6" | | | | | 8" | | |
| RECEIVING DUMP AUGER | B | 11' | 8" | 1200(WET) | 2-3 | B | 11' | 10" | | 3-5 | B | 11' | 12" OR 14" | | 3-5 |
| RETURN DUMP AUGER | C | 4' | 8" | 1200(WET) | 1 | C | 4' | 10" | | 1 | C | 4' | 12" | | 1½ |
| UNDERFLOOR AUGER | $D_1$ | 23' | 6" | 1000-1200 | 2 | $D_1$ | 24' | 6" | 1500 | 3 | $D_1$ | 26' | 8" | 2500 | 5 |
| UNDERFLOOR AUGER | $D_2$ | 21' | 6" | 1000-1200 | 2 | $D_2$ | 22' | 6" | 1500 | 3 | $D_2$ | 24' | 8" | 2500 | 5 |
| UNDERFLOOR AUGER | $E_1$ | 20' | 6" | 1000-1200 | 2 | $E_1$ | 22' | 6" | 1500 | 3 | $E_1$ | 30' | 8" | 2500 | 5 |
| UNDERFLOOR AUGER | $E_2$ | 18' | 6" | 1000-1200 | 2 | $E_2$ | 20' | 6" | 1500 | 3 | $E_2$ | 28' | 8" | 2500 | 5 |
| SWEEP UNLOADERS | $F_1$ | 10' | 4" OR 6" | 1000 | ¾ 1 | $F_1$ | 11½' | 6" | 1000-1200 | 1 | $F_1$ | 13' | 6" | 1000-1200 | 1½ |
| SWEEP UNLOADERS | $F_2$ | 11½' | 4" OR 6" | 1000 | ¾ 1 | $F_2$ | 13' | 6" | 1000-1200 | 1½ | $F_2$ | 17½' | 6" | 1000-1200 | 2 |
| WET GRAIN UNLOAD AUGER | G | 10' | 8" | 1000-1200 | 1½ | G | 10' | 10" | 1500-2000 (WET) | 2-3 | G | 10' | 12" | | 2 |
| DRYER UNLOAD AUGER | H | 18' | 6" | 1000-1200 | 1½-2 | H | 18' | 6" OR 8" | 1500 2000 | 2 3 | H | 18' | 8" | 2500 | 3 |
| SMALL ELEVATOR LEG (FOR CONT. FLOW DRYER) | J | 45' | (SEE RIGHT) | | | J | 44' | (SEE RIGHT) | | | J | 48' | 4x6" | 500-700 | 1 |

1. HANDLING FLOW RATES ILLUSTRATED ARE WORKABLE COMBINATIONS AND NOT LIMITED TO EACH SPECIFIC FACILITY.
2. AUGER INTAKE EXPOSURE MATCHED TO CAPACITY--MINIMUM EXPOSURE = AUGER DIA.; MAXIMUM EXPOSURE 2'±. ADDITIONAL EXPOSURE INCREASES HORSEPOWER NOT CAPACITY.
3. SWEEP UNLOADER CAPACITIES GIVEN FOR UNITS WITH GRAIN SHIELDS BEHIND AUGER.
4. FLAT STORAGE STRUCTURES CAN BE SUBSTITUTED FOR BIN ON RIGHT SIDE OF LAYOUT. DOTTED BINS SHOWN FOR FUTURE EXPANSION ARE INTERCHANGABLE FOR ALL LAYOUTS.

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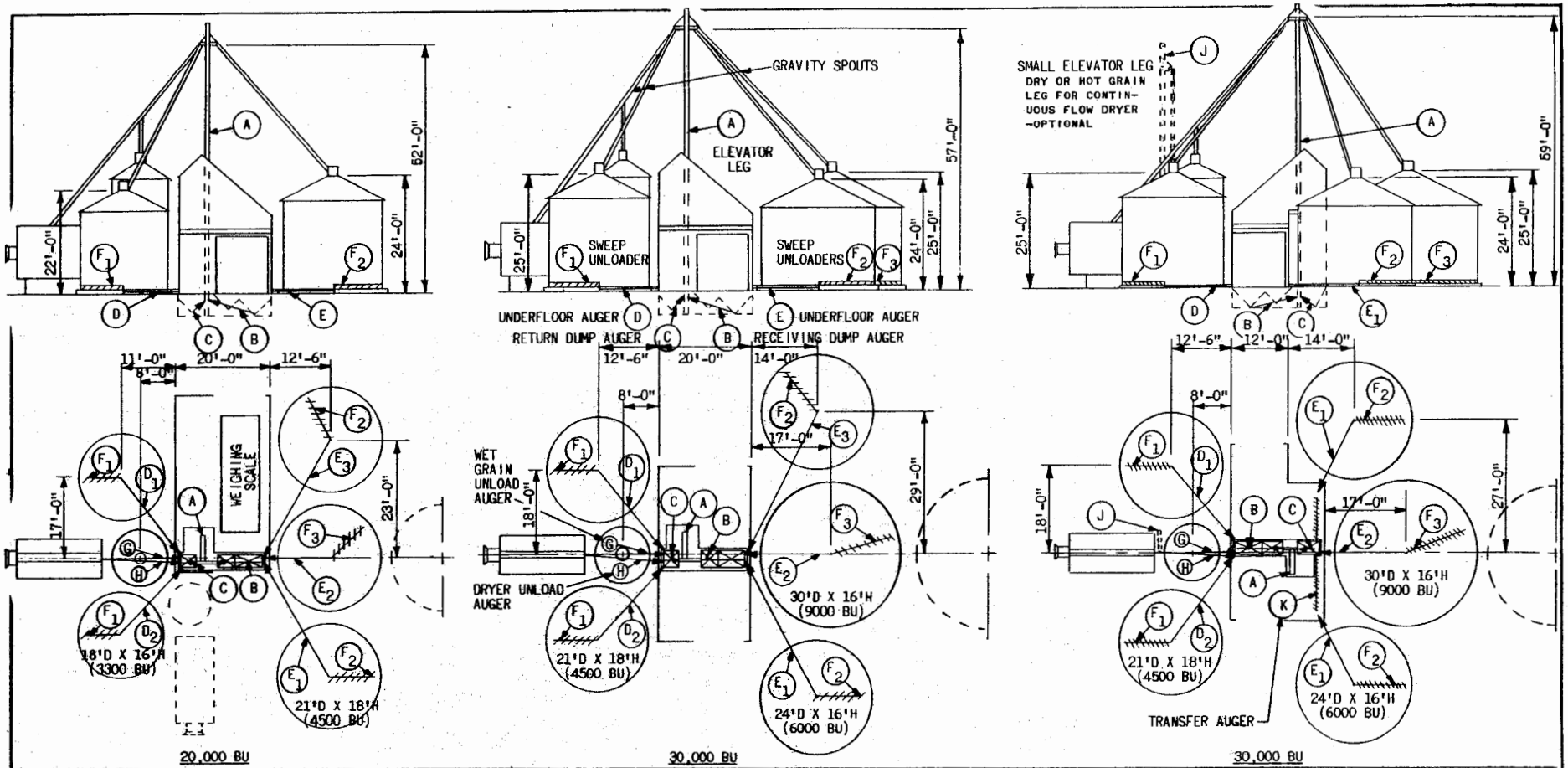
# GRAIN-FEED HANDLING CENTER
## POLE TYPE CONSTRUCTION

| IND. '69 | 6081 | SHEET 3 OF 9 |
|---|---|---|




20,000 BU | 30,000 BU | 30,000 BU

| APPROXIMATE TOTAL CAPACITY-- ALTERNATIVE HANDLING RATES-- | 20,000 BU 1000-1200 BU/HR FLOW RATE | | | | | 30,000 BU 2500-3000 BU/HR FLOW RATE | | | | | 30,000 BU 2500-3000 BU/HR FLOW RATE | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GRAIN HANDLING EQUIPMENT | CODE | LENGTH OR HEIGHT | SIZE | ESTIMATED CAPACITY BU/HR | HP | CODE | LENGTH OR HEIGHT | SIZE | ESTIMATED CAPACITY BU/HR | HP | CODE | LENGTH OR HEIGHT | SIZE | ESTIMATED CAPACITY BU/HR | HP |
| ELEVATOR LEG | A | 52' | 7x5" | 1000-1200 | 2-3 | A | 57' | 9x6" | 2500-3000 | 7½ | A | 59' | 9x6" | 2500-3000 | 7½ |
| GRAVITY SPOUTS | | | 6" | | | | | 8" | | | | | 8" | | |
| RECEIVING DUMP AUGER | B | 11' | 8" | 1200(WET) | 2-3 | B | 11' | 12" OR 14" | | 3-5 | B | 11' | 12" OR 14" | | 3-5 |
| RETURN DUMP AUGER | C | 4' | 8" | 1200(WET) | 1 | C | 4' | 12" | | 1½ | C | 4' | 12" | | 1½ |
| UNDERFLOOR AUGER | $D_1$ | 20' | 6" | 1000-1200 | 2 | $D_1$ | 22' | 8" | 2500 | 3 | $D_1$ | 22' | 8" | 2500 | 3 |
| UNDERFLOOR AUGER | $D_2$ | 22' | 6" | 1000-1200 | 2 | $D_2$ | 24' | 8" | 2500 | 3 | $D_2$ | 24' | 8" | 2500 | 3 |
| UNDERFLOOR AUGER | $E_1$ | 29' | 6" | 1000-1200 | 3 | $E_1$ | 31' | 8" | 2500 | 5 | $E_1$ | 16' | 8" | 2500 | 3 |
| UNDERFLOOR AUGER | $E_2$ | 14' | 6" | 1000-1200 | 1½ | $E_2$ | 19' | 8" | 2500 | 3 | $E_2$ | 20' | 8" | 2500 | 3 |
| UNDERFLOOR AUGER | $E_3$ | 27' | 6" | 1000-1200 | 3 | $E_3$ | 29' | 8" | 2500 | 5 | (K) | 14' | 8"-"U" | 2500 | 2 |
| SWEEP UNLOADERS | $F_1$ | 8½' | 4" | | 3/4 | $F_1$ | 10' | 6" | 1000-1200 | 1 | $F_1$ | 10' | 6" | 1000-1200 | 1 |
| SWEEP UNLOADERS | $F_2$ | 10' | 6" | 1000 | 1 | $F_2$ | 11½' | 6" | 1000-1200 | 1 | $F_2$ | 11½' | 6" | 1000-1200 | 1 |
| SWEEP UNLOADERS | $F_3$ | 10' | 6" | 1000 | 1 | $F_3$ | 14½' | 6" | 1000-1200 | 1½ | $F_3$ | 14½' | 6" | 1000-1200 | 1½ |
| WET GRAIN UNLOAD AUGER | G | 8' | 8" | 1200(WET) | 1½ | G | 8' | 10" | 1500-2000 | 2-3 | G | 10' | 12" | | |
| DRYER UNLOAD AUGER | H | 14' | 6" | 1000-1200 | 1½ | H | 14' | 8" | 2500 | 3 | H | 18' | 8" | 2500 | 3 |
| SMALL ELEVATOR LEG (FOR CONT. FLOW DRYER) | J | 34' | (SEE RIGHT) | | | J | 38' | (SEE RIGHT) | | | J | 45' | 4x6" | 500-700 | 1 |

1. HANDLING FLOW RATES ILLUSTRATED ARE WORKABLE COMBINATIONS AND NOT LIMITED TO EACH SPECIFIC FACILITY.
2. AUGER INTAKE EXPOSURE MATCHED TO CAPACITY--MINIMUM EXPOSURE = AUGER DIA; MAXIMUM EXPOSURE 2' ±. ADDITIONAL EXPOSURE INCREASES HORSEPOWER, NOT CAPACITY.
3. SWEEP UNLOADER CAPACITIES GIVEN FOR UNITS WITH GRAIN SHIELDS BEHIND AUGER.
4. FLAT STORAGE STRUCTURES CAN BE SUBSTITUTED FOR BIN ON RIGHT SIDE OF LAYOUT. DOTTED BINS SHOWN FOR FUTURE EXPANSION ARE INTERCHANGABLE FOR ALL LAYOUTS.

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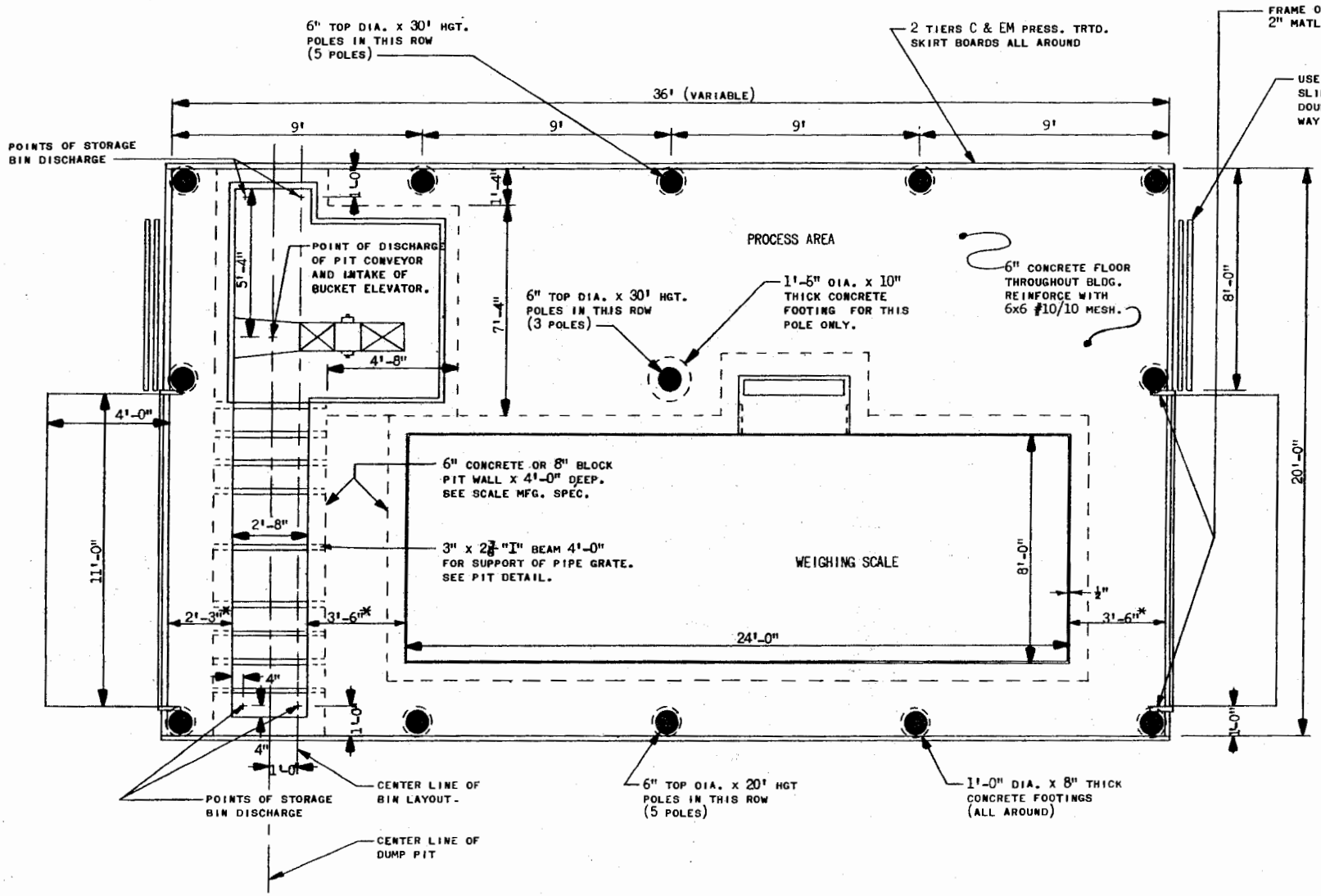
# GRAIN-FEED HANDLING CENTER
## POLE TYPE CONSTRUCTION

| IND. '69 | 6081 | SHEET 4 OF 9 |
|---|---|---|




FLOOR & FOUNDATION PLAN

*NOTE: 4'-0" CLEARANCE IS MORE DESIRABLE TO REDUCE SNOW AND GRAIN FLOW PATTERNS. INCREASE BUILDING LENGTH TO ACCOMPLISH.

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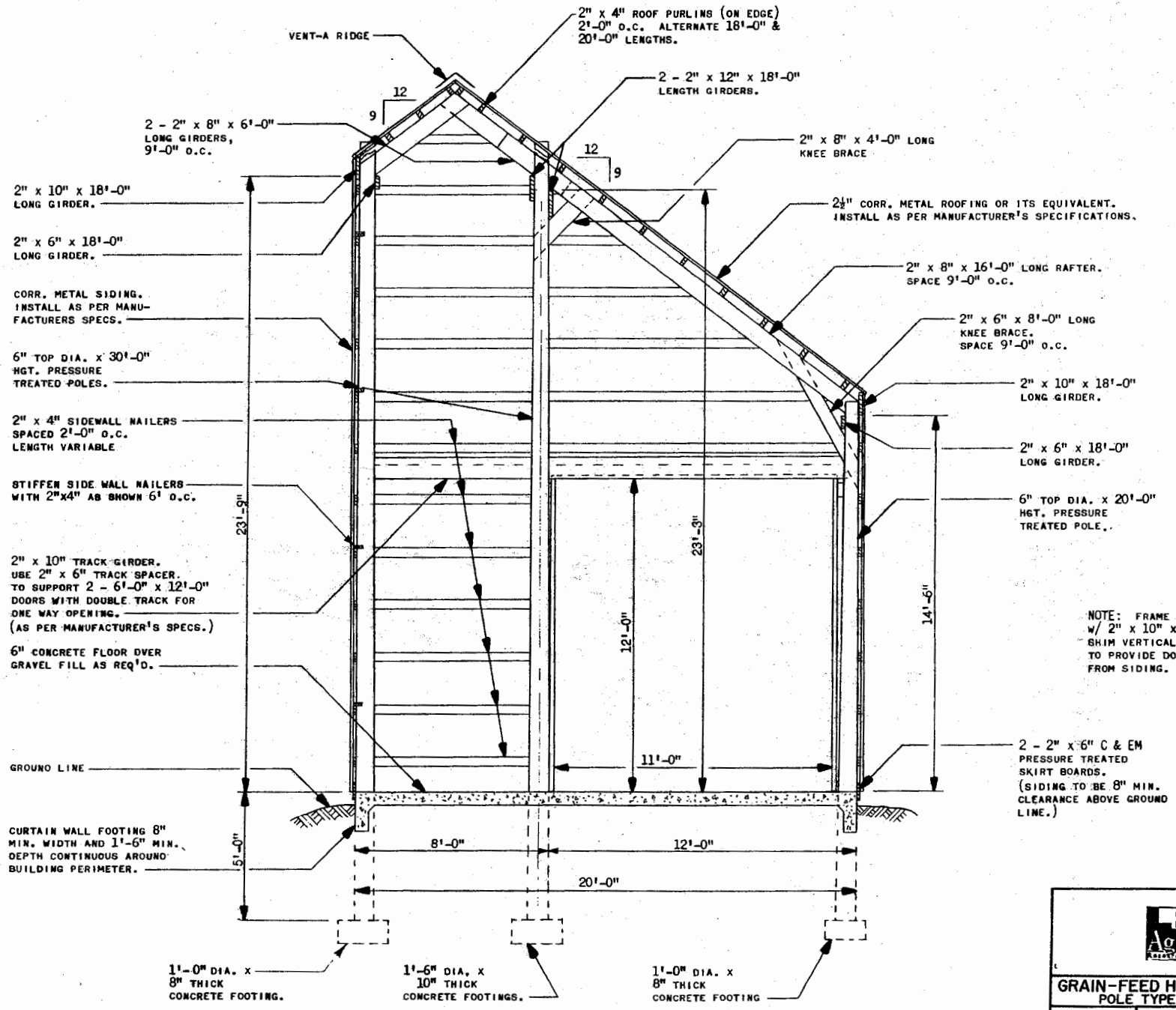
# GRAIN-FEED HANDLING CENTER
## POLE TYPE CONSTRUCTION

| IND. '69 | 6081 | SHEET 5 OF 9 |
|---|---|---|




TYPICAL SECTION VIEW

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**GRAIN-FEED HANDLING CENTER**
**POLE TYPE CONSTRUCTION**

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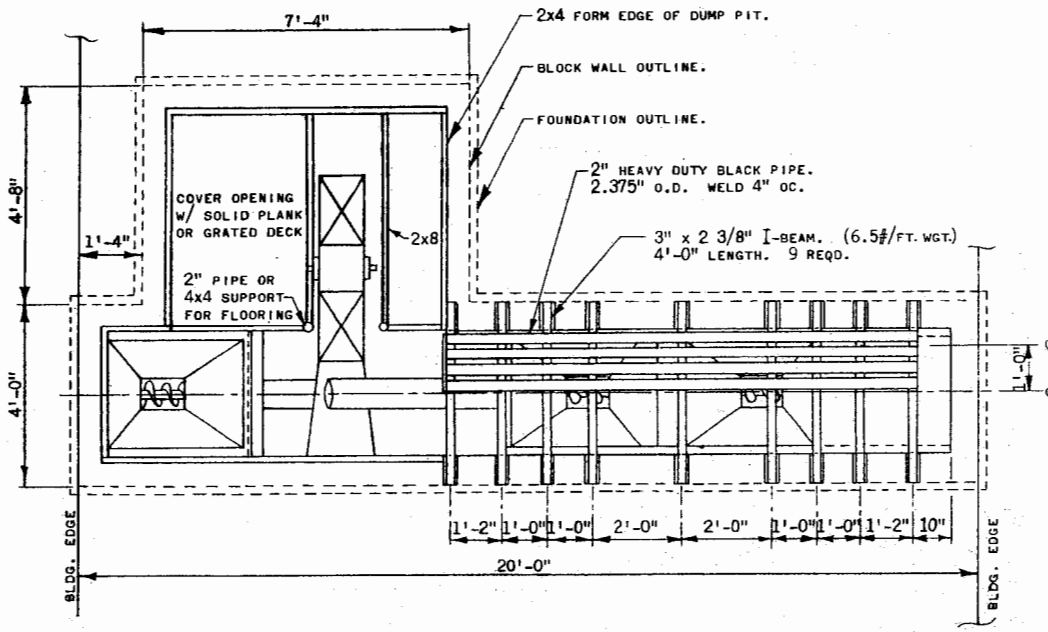
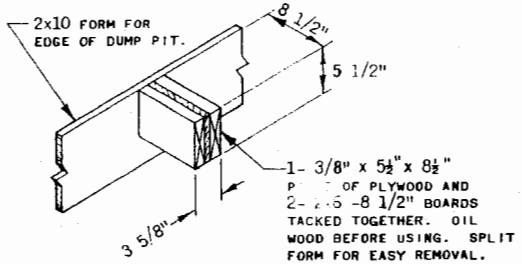
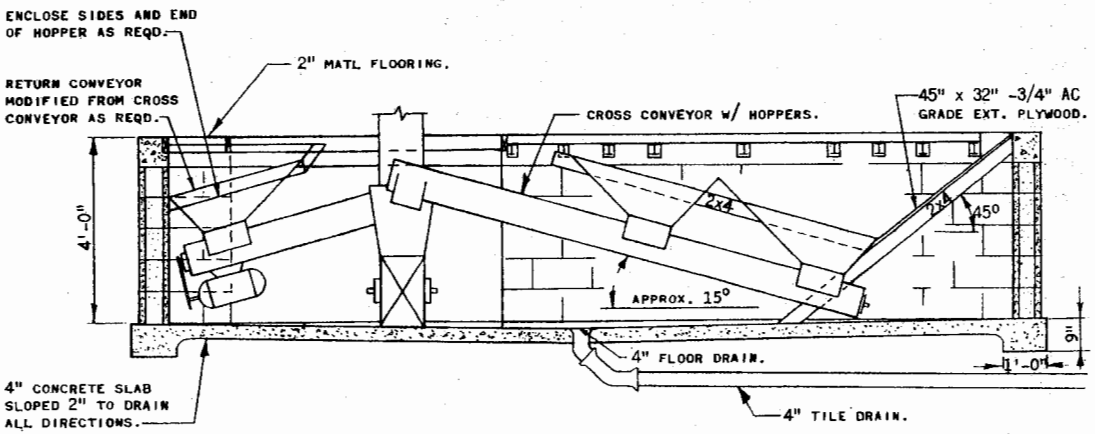
|---|---|---|



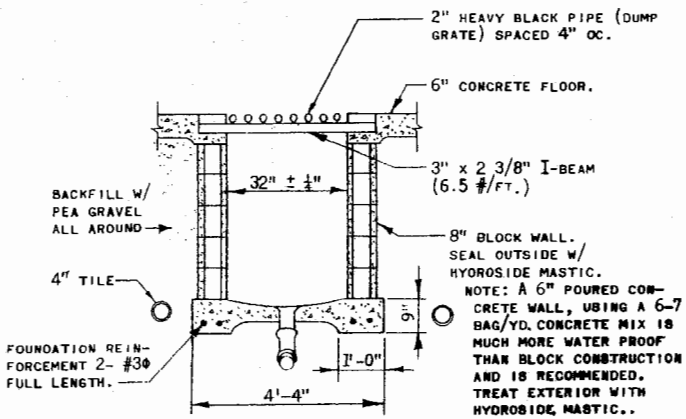

PLAN VIEW




I-BEAM NOTCH FORMING DETAIL




ELEVATION VIEW




NOTE: A 6" POURED CONCRETE WALL, USING A 6-7 BAG/YD. CONCRETE MIX IS MUCH MORE WATER PROOF THAN BLOCK CONSTRUCTION AND IS RECOMMENDED. TREAT EXTERIOR WITH HYDROSIDE, MASTIC..

END SECTION OF DUMP PIT

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# GRAIN-FEED HANDLING CENTER
## POLE TYPE CONSTRUCTION

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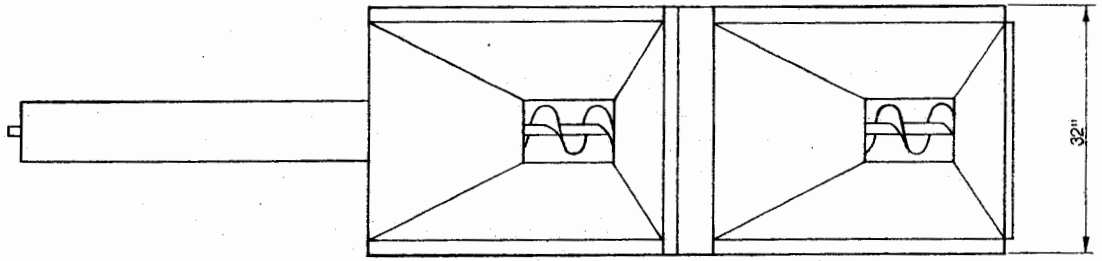
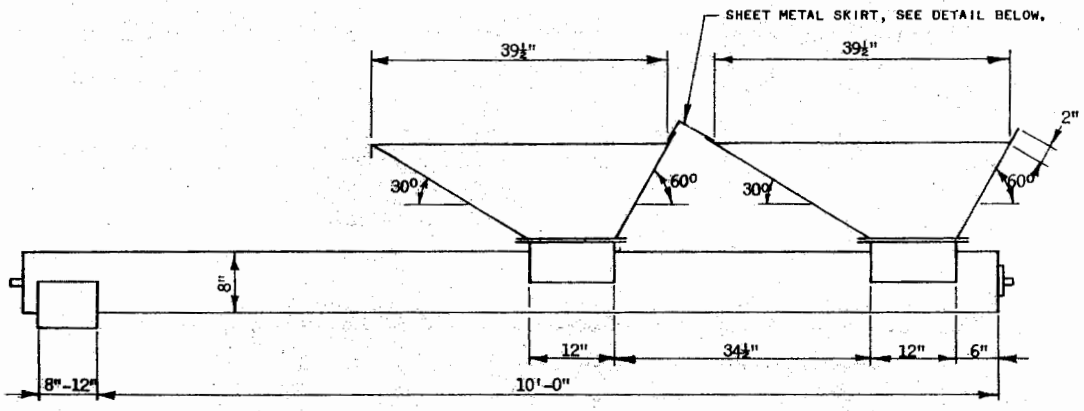
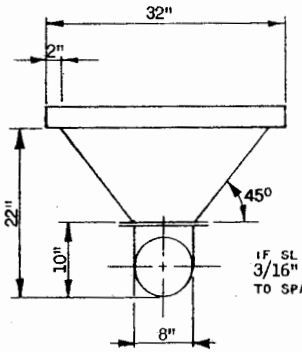
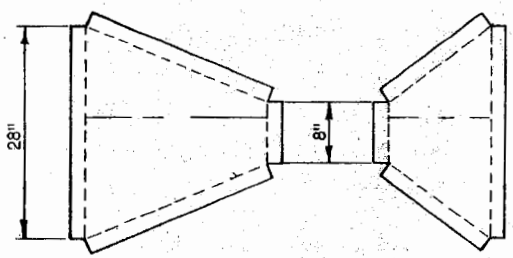
|---|---|---|



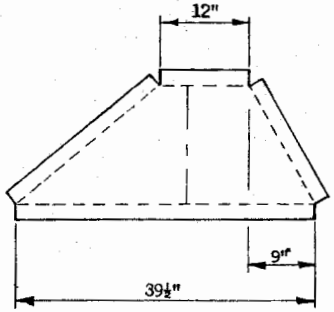



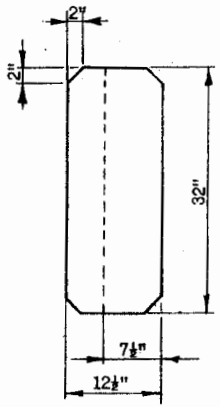

IF SLIDE IS DESIRED, USE 3/16" x 3/4" BAR STOCK TO SPACE EACH SIDE.




HOPPER END PANELS




HOPPER SIDE PANELS




SKIRT BETWEEN HOPPERS

NOTE: ALL FLANGES ARE DRAWN 2", BUT MAY BE MODIFIED TO EASE FABRICATION. 16 GAGE STEEL IS SUGGESTED. MODIFICATIONS MAY BE NECESSARY TO ADAPT TO A PARTICULAR SCREW CONVEYOR.

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GRAIN-FEED HANDLING CENTER
POLE TYPE CONSTRUCTION

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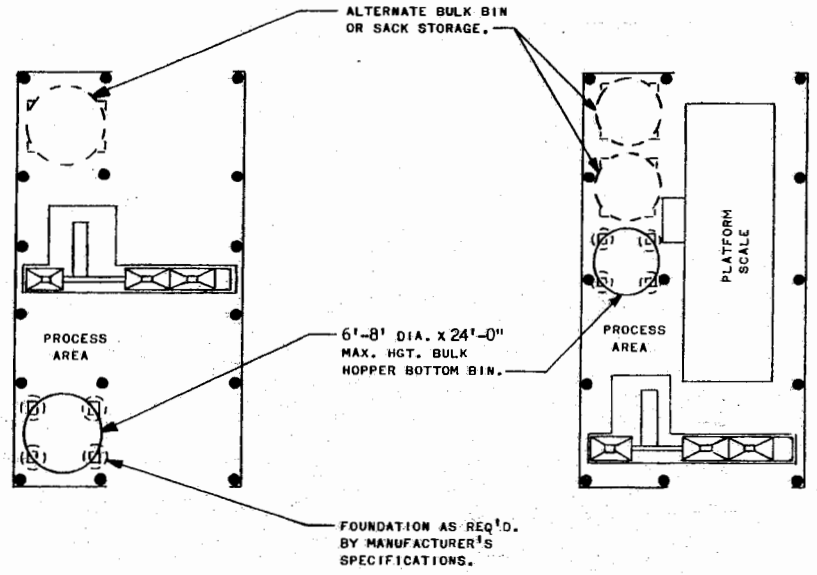
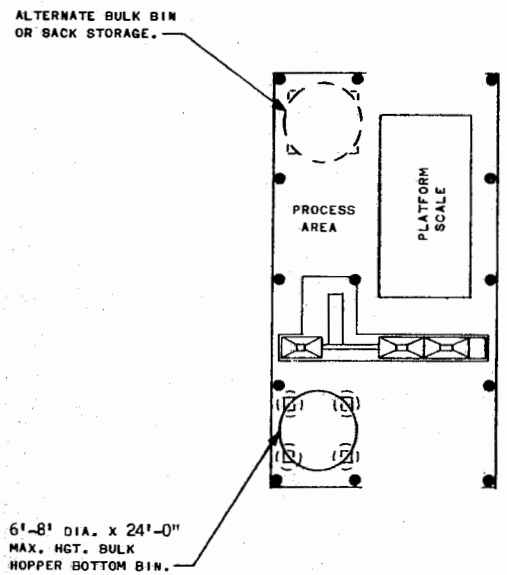
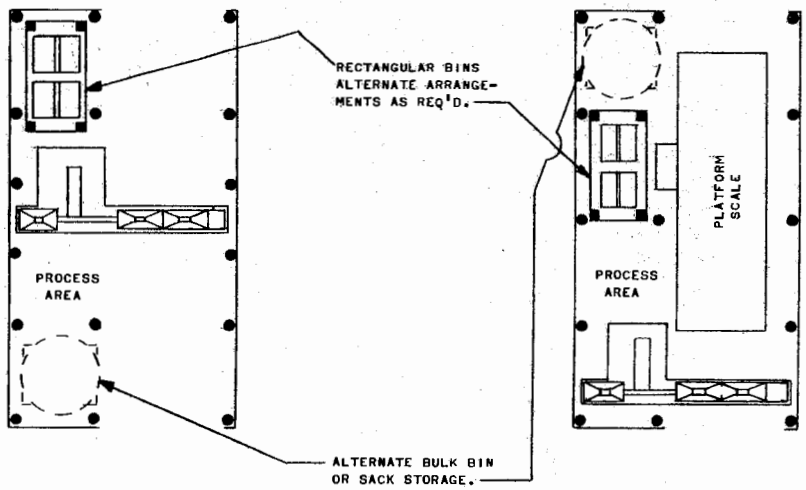
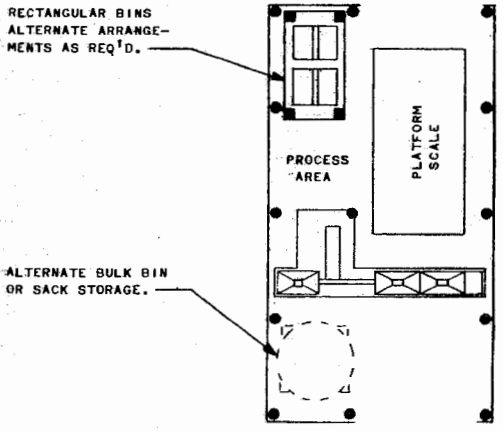
|---|---|---|

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# GRAIN-FEED HANDLING CENTER
## POLE TYPE CONSTRUCTION

| IND. '69 | 6081 | SHEET 9 OF 9 |
|---|---|---|

# Disclaimer

This site makes available conceptual plans that can be helpful in developing building layouts and selecting equipment for various agricultural applications. These plans do not necessarily represent the most current technology or construction codes. They are not construction plans and do not replace the need for competent design assistance in developing safe, legal and well-functioning agricultural building system. The LSU Agriculture Center, the Mid-West Plan Service, the United States Department of Agriculture and none of the cooperating land-grant universities warranty these plans.