



Saskatchewan  
Agriculture  
and Food

Agricultural  
Engineering  
Branch

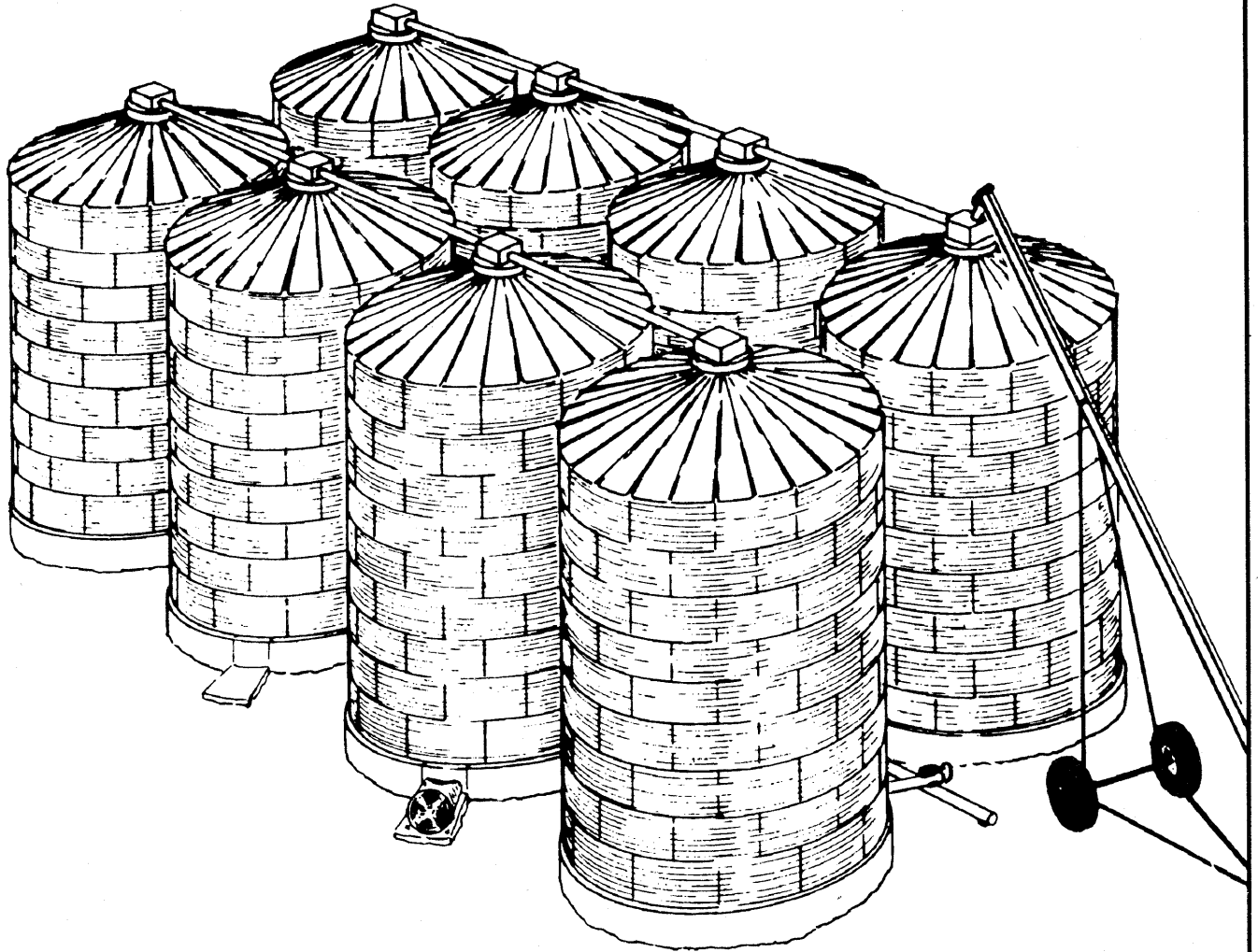
Saskatchewan  
Rural  
Development

Extension  
Service

# Plan S-720

## In - Line Grain Bin Arrangements

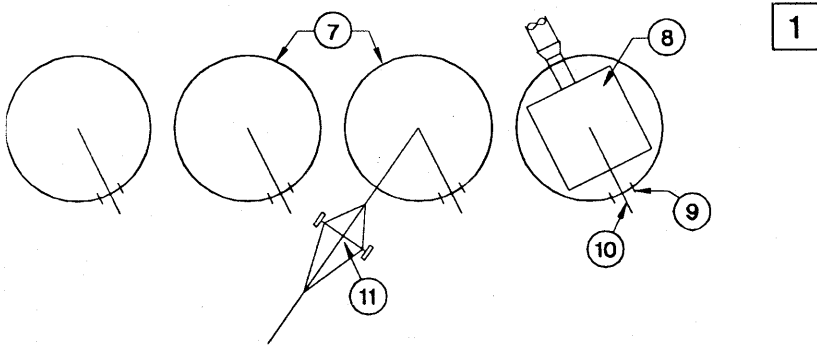
### COMPLETE INSTRUCTIONS



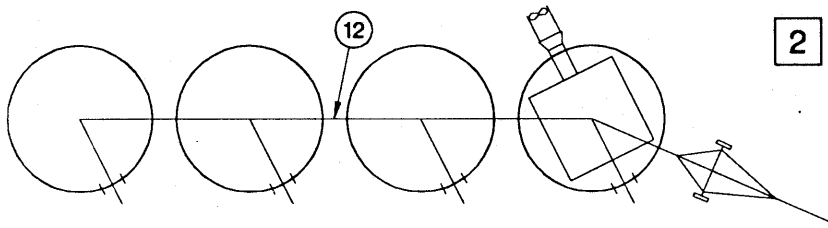
This plan illustrates the development stages of double in-line storage systems beginning with one row of bins. **Planning is important.** Placement of the first bin will effect future development and the ability to expand.

Two alternative systems are shown. One system provides for a heated air grain dryer combined with aeration and/or natural air grain drying bins. This system incorporates central loading and unloading.

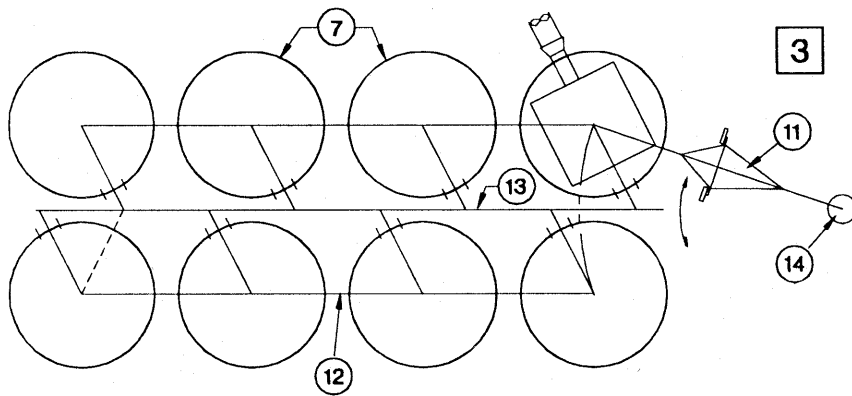
The second system provides for natural air grain drying and central loading with multi-point unloading.



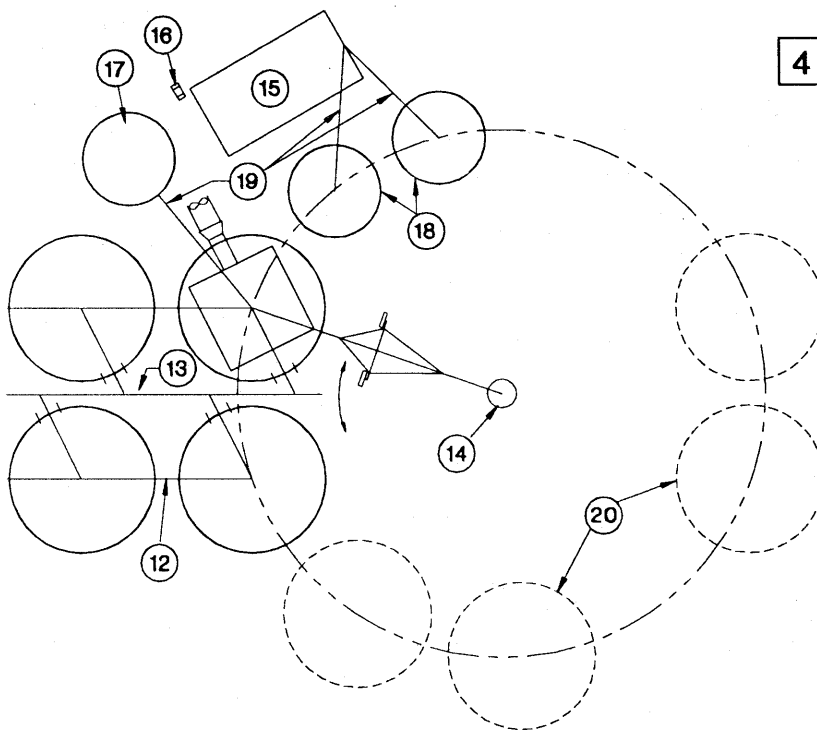
1



2

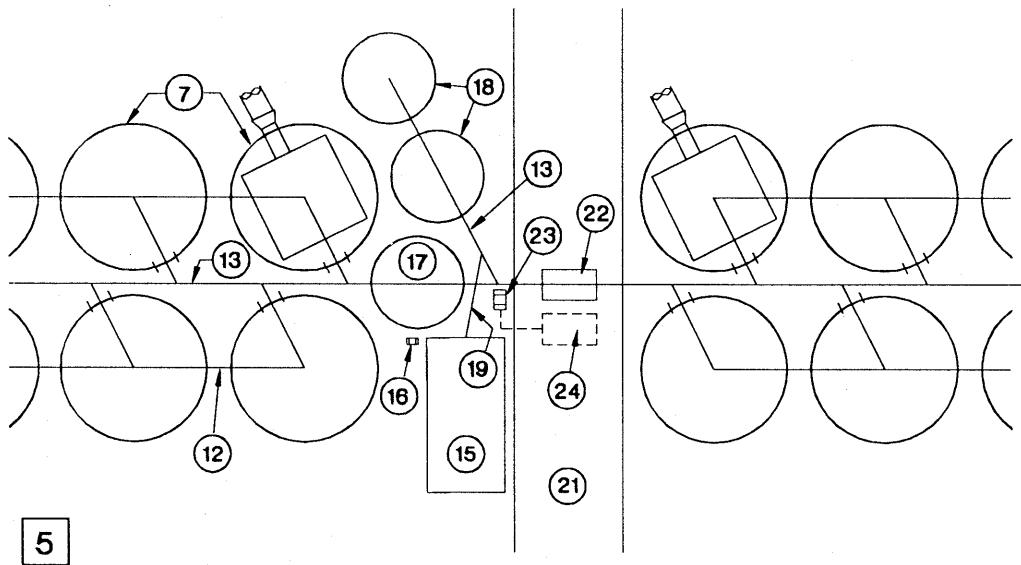


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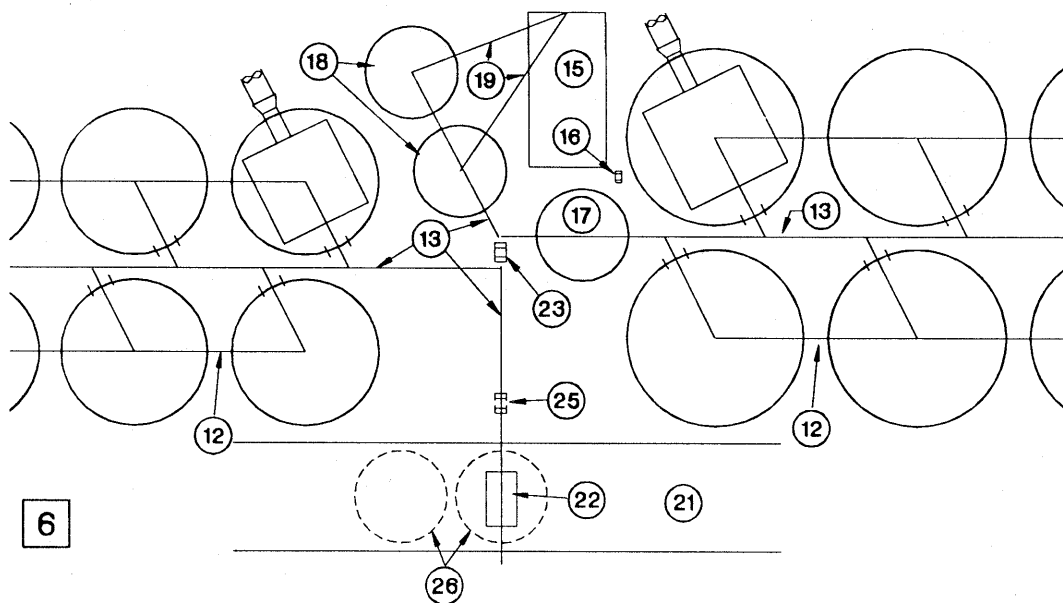


4

1. Basic Single In-Line Bin System
2. Basic Single In-Line Bin System With Horizontal Loading Conveyor
3. In-Line Bin System With Horizontal Loading and Unloading Conveyors
4. In-Line Bin System With Horizontal Loading and Unloading Conveyors and Grain Dryer; possible expansion to semi-circle or double in-line
5. Double In-Line System With Bucket Elevator and Perpendicular Driveway
6. Double In-Line System With Bucket Elevator and Parallel Driveway
7. metal storage bins
8. drying or aeration floor
9. bin door or access port
10. underfloor unloading auger
11. portable inclined auger
12. overhead horizontal conveyor
13. horizontal return conveyor
14. auger (11) pivot and hopper
15. dryer
16. bucket elevator for dryer unload
17. hopper bottom dry grain surge bin
18. hopper bottom wet grain surge bin
19. inclined auger
20. alternate bin locations for expansion
21. elevated drive
22. dump
23. bucket elevator
24. alternate location for (22)
25. alternate location for (23)
26. overhead bins with (25)



5



6

**Note:**

Bin layouts 3, 4, 5 and 6 are designed for eventual central loading and unloading

All bin foundations to have provision for underfloor unloading augers (see plan S-711)

All bin foundations should have either aeration or natural air grain drying provisions (see plan S-711); also consult Saskatchewan Agriculture and Food publications *Aeration of Grain in Storage* and *Natural Air Grain Drying*

All bin access doors or ports to be located above the underfloor augers

A single row of bins should be completed (as in 1 and 2) before starting a second row

The number of bins in a row is dependent on bin diameters and the maximum length of horizontal conveyors selected

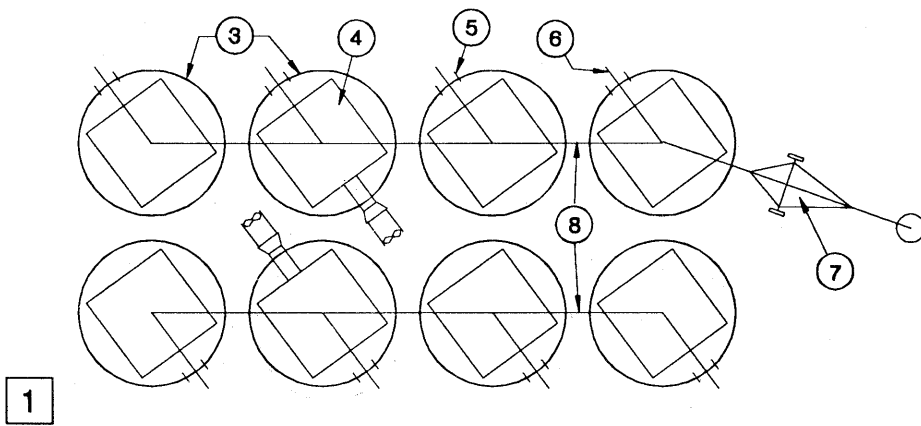
Underfloor augers are angled to provide clearance for removal

The dryer (15) and wet surge bins (18), shown in 4, may be added at any stage

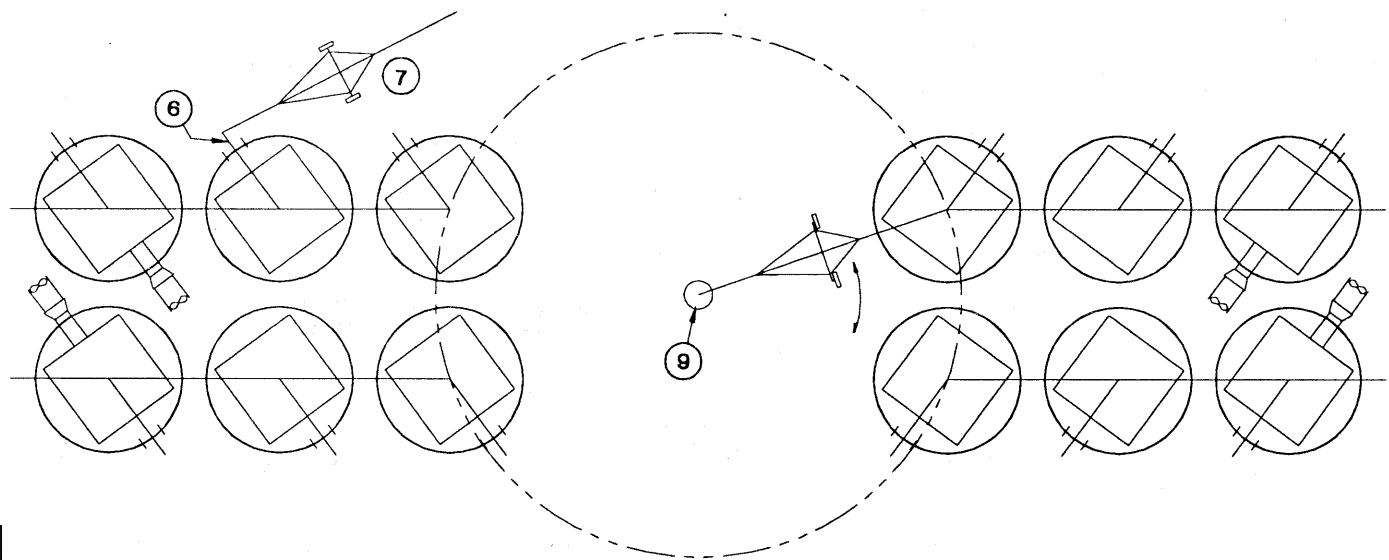
One wet surge bin (18), the dryer (15) and the dry surge bin (17) require relocation for 5 and 6

The bucket elevator (23) may be positioned for intake on either the up leg or the down leg

Bins in the second in-line set, shown in 5 and 6, may be of a different diameter than the bins in the first in-line set



1



2

1. In-Line Bin System With Horizontal Loading Conveyors

2. Double In-Line Bin System

3. metal storage bins

4. natural air grain drying floor

5. bin door or access port

6. underfloor unloading auger

7. portable inclined auger

8. overhead horizontal conveyor

9. auger (7) pivot and hopper

**Note:**

Bin layouts **1** and **2** are designed for central loading with multi-point unloading and for natural air grain drying

Bins in the second in-line set, shown in **2**, may be a different diameter than the bins in **1**

Bin foundations may or may not have provision for underfloor unloading augers