

Relocation at Williston

New Buildings Erected on Land Where Future Branch Station Is Established

By Howard M. Olson¹

Discovery of oil in the Williston Basin in 1951 caused the city of Williston to expand rapidly. This expansion pushed city limits boundaries out beyond the Williston Branch Experiment Station which had been established in 1907, one mile northeast of what were then the city boundaries.

Recognizing the undesirability of having the station within the city, relocation was proposed by a local group identified as a Trade and Vocational School Committee organized in the fall of 1952. This group, composed of prominent business and professional people, educators, legislators and farmers had as its first objective the establishment of a vocational school in Williston. It was proposed that a site for this school be on a portion of the properties held by the State of North Dakota in the name of the Williston Experiment Station. Hence, it became apparent that if this were to be realized the station first must be relocated. This, then, became the major objective of the general committee.

Its first accomplishment was the preparation of enabling legislation to permit relocation. This legislation was enacted into law by the 1953 legislative assembly. It provided for sale of 80 acres of the old station for residential development, income from which could be used for establishment of a new station. Also it reserved the remaining 80 acres for educational purposes, the latter being intended by sponsors of the bill as a site for the proposed school. Note that this legislation required no appropriation of funds, but authorized the State Board of Higher Education to spend up to \$250,000 of the monies which might be realized from land sale for developing the new experiment station.

Sale of the Old Station

Following enactment of the law the State Board of Higher Education worked closely with the Williston group to prepare a plat for subdivision of the property so it would have FHA approval and appropriate restrictive covenants. This was deemed essential if a well planned and orderly addition to the city of Williston was to be made.

While planning the subdivision a legal entity was organized and formulated within the original Trade and Vocational School Committee. This was incorporated as the College Hill Development Association, a non-profit corporation. Its primary purpose was to purchase from the state the property to be offered for sale as one tract, then subdivide and dispose of it for residential development. At the then current real estate prices it was anticipated that the

¹Superintendent, Williston Branch Experiment Stations.

group could possibly realize a sizable profit on the transaction. It was intended that such profits would be reserved for aiding in establishment of the originally proposed trade and vocational school. To do this the association had first to be the successful bidder at public auction of the property. The state board offered the 80 acres plus all buildings excepting the shop and garage at public auction in the Williams County Courthouse on December 7, 1953. The College Hill Development Association was high bidder with an offering of \$175,000.

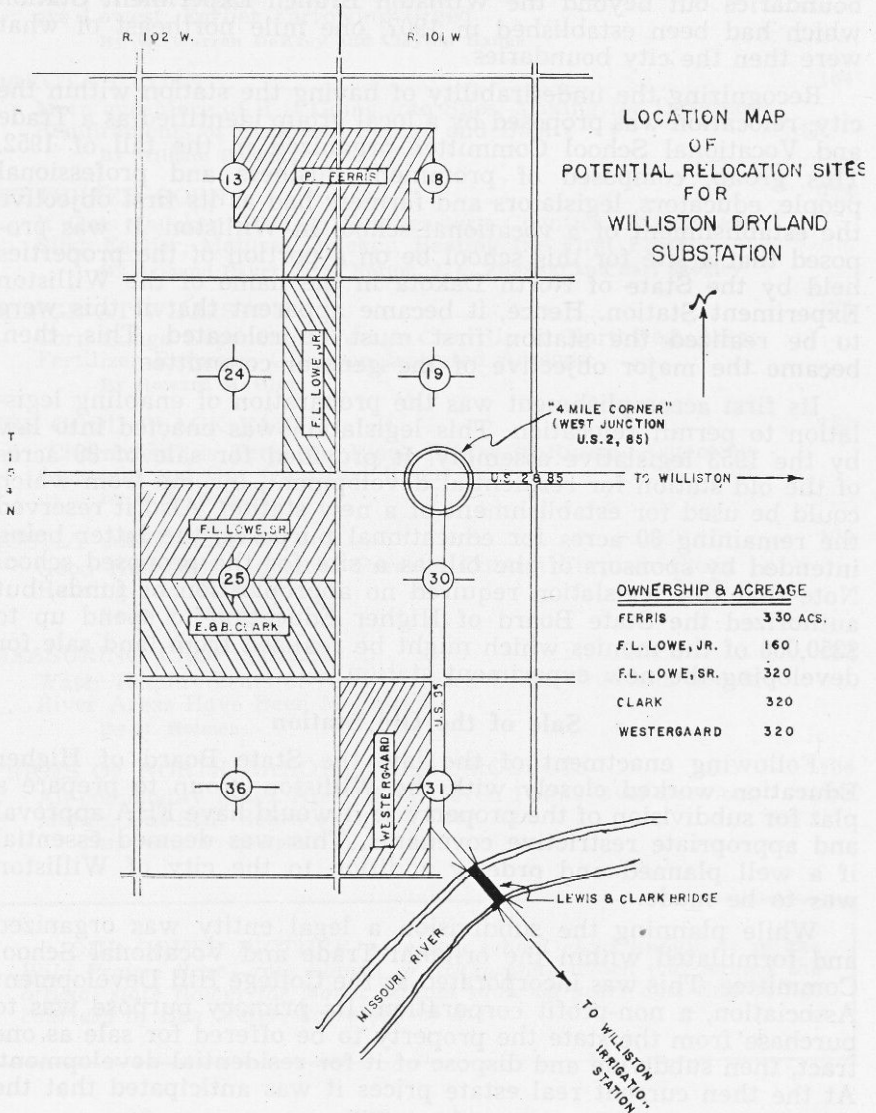


FIGURE 1.—Sites considered in seeking relocation.

To meet the obligation of the purchase price, the association launched a lot sales campaign. By this time the building boom which had prevailed in Williston for the past two years began to ebb and real estate moved slowly. This was evidenced by a sale of only \$110,000 worth of lots after a six-month campaign. As the deadline date for completing the purchase agreement approached, the association found it necessary to amend the articles of incorporation to permit them to negotiate a loan for the difference between lot sales receipts and the bid price. This was accomplished and on August 17, 1954 a payment of \$175,000 was made to the State of North Dakota for the "West 80" of the Williston Experiment Station.

Survey of New Sites and Purchase of Land

During the period of fund raising for purchase of the old property, a committee appointed by the association was locating a new site. A report on potential relocation sites was prepared and submitted to the director of the North Dakota Experiment Station in July, 1953.

In appraising potential new sites several factors were considered, namely, soil type, location, availability, acreage and suitability of the area for locating headquarters buildings. Of these factors, soils were given major consideration for it was intended that this new station be situated on soils typifying the area. The new site must necessarily be in the vicinity of the irrigation station situated on the Lewis & Clark project, for the irrigation unit is operated from the dryland station by the same personnel. Also it was desirable that the new dryland station be on a surfaced highway to provide easy accessibility for the public and substation personnel.

Land availability was determined by the current asking price for the property. If it exceeded \$100 an acre the land was not considered. Land prices were very high at the time as a result of the oil development which created a demand for mineral acres and in so doing inflated surface valuations also. The acreage of the available areas and the sites available for building location were also carefully considered. Approximately 4,000 acres were investigated and of this approximately 1,300 acres were studied in detail. This included making a land classification survey of the acreage and the preparation of soil survey maps. The acreage considered is shown in Figure 1. Of the five potential sites the land in the name of F. L. Lowe Sr. and the Clark Brothers located on Section 25 was recommended to the director of the Experiment Station and the State Board of Higher Education for purchase. This is a section of land bounded on the north by U. S. Highway No. 2 and located $4\frac{1}{2}$ miles west of Williston. It represents the typical size farm unit in the area. The soils are also representative of the area. Approximately 520 acres are tillable and of these 216 acres fall in land Class II and 306 acres in land class III. All soils are predominately Williams. A detailed soils classification made since the land was

purchased substantiates determinations of the original survey. All tillable acreage was determined to be readily adapted for experimental work or seed increase. Further, the location provided a convenient commuting distance to the irrigation station.



FIGURE 2.—Headquarters of the new station, as photographed in the early spring of 1956.

The recommendation for purchase of this land was accepted and in late 1953 the State Board of Higher Education entered into an agreement with the land owners for purchase of their property. However, because the lot sales campaign of the association faltered—and thus sale of the old station—purchase of the new lands was necessarily delayed. It became necessary to rent the land to be purchased in order to provide the station with a site for operations during the 1954 season. Finally on August 23, 1954 the land was purchased at the price of \$100 per acre.

Planning of Construction of New Headquarters Facilities

In the sale agreement of the old station the right was reserved to occupy the old headquarters until the new facilities were available. However, being desirous of moving headquarters to the new site as promptly as possible, plans for developing the new farmstead were soon formulated. Richard L. Witz, associate agricultural engineer, Arlon G. Hazen, assistant to the director and Howard M. Olson, superintendent of the Williston Branch Stations, were appointed as a committee to make plans for development. A building site was selected, tentative farmstead plans prepared and an order for development adopted. Preparatory to locating and laying out the farmstead, a topographical map of the area was prepared

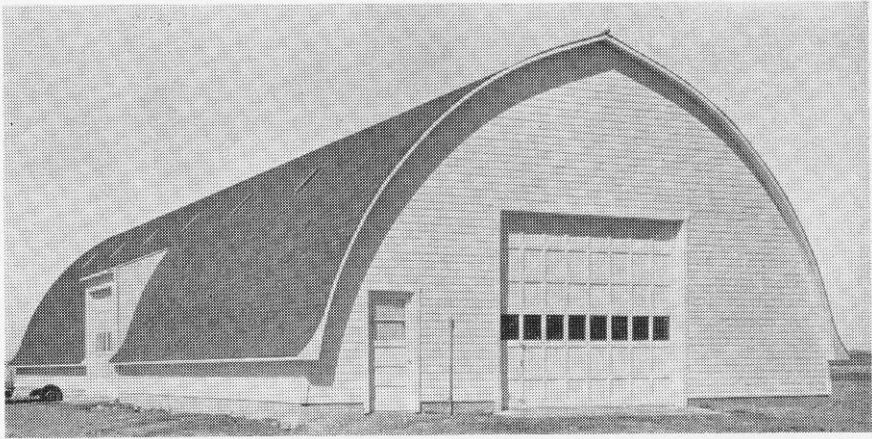


FIGURE 3.—First new building at the new site was this machine shed.

so as to be assured of adequate drainage. Concrete monuments were located and buried at the four corners of the area selected for a farmstead. These markers were to serve as reference points for all future building locations and other facilities.

Development activity in the fall of 1954 included drilling a well for a water supply, construction of an access road from the highway to the farmstead, and calling for bids for construction of a machine shed. This building was about 75 percent complete when winter halted further activity. It was completed in early spring of 1955 and used thereafter as headquarters for field operations during the transition period.

During the winter of 1954-55 plans for further development and building construction were prepared. The final farmstead layout was adapted and plans and specifications for the dwellings prepared. Bids for two dwellings, with an alternate for three, were opened in March, 1955. The low bid for the two dwellings was accepted. Construction began in April. By late July these two buildings were completed and ready for occupancy. In the meantime plans had been prepared and a contract let for construction of a seedhouse. The last building to be constructed in 1955 was a shop and garage building, completed in December.



FIGURE 4.—Superintendent's dwelling and office.

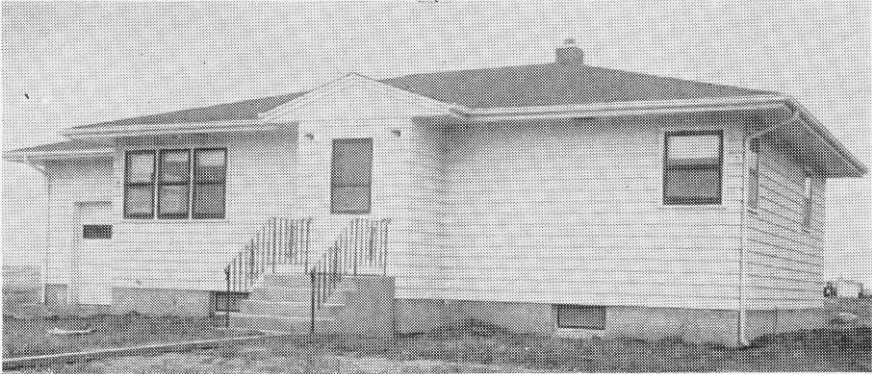


FIGURE 5.—Foreman's residence at the new farmstead. It has facilities for winter heating with electricity.

Other activities during summer of 1955 relating to development of the farmstead included the planting of a shelterbelt on two sides of the farmstead, laying of sewer, water and power lines between buildings to be served by each, and placement of fill around buildings. Much of this work was accomplished by substation personnel and machinery. Another major task was the moving of all station and employee properties from the old buildings to the new during July and August. This was completed on August 18.

The shelterbelt consists of six rows on the north and five rows on the west of the farmstead area. The two inside rows are ponderosa pine and spruce. In the spruce row the Black Hills and Colorado species are alternated. Both rows of evergreens are involved in an experiment comparing bare root with potted seedlings. Toward the outside of the belt on the north are a row each of green ash, Dropmore elm, Russian Olive and honeysuckle. On the west the planting is the same excepting that the row of ash is eliminated and the hedge row on the outside is caragana instead of honeysuckle. The corners of this planting are rounded to eliminate the need for sharp turning with the cultivating machinery.

Several basic concepts were accepted and considered essential in preparing the farmstead layout. They were: (1) A compact arrangement of buildings spaced properly to afford fire protection yet arranged in an orderly and functional manner which would provide a pleasing appearance to the passerby. (2) A separation of the living area from the work area. (3) A location of dwellings which would place them on the leeward side of service buildings in the winter, yet on the breezy side in the summer. (4) A grouping of the service buildings around a central work area. (5) Provide space for adding buildings as the need developed and resources permitted.

A construction feature of all service buildings is the glued laminated rafter used to support the roofs. The machine shed

shown in Figure 3 is a 40' x 100' structure with an arch supported roof. It has concrete slab floor and is utilized for housing machinery. Figure 6 is a photo of the seedhouse. It is a T-shaped structure with the main bin storage section being 36' x 42' and the annex 32' x 42'. The walls of this building from the footings to the eaves line are constructed of concrete block. Steel doors open into each bin on the inside of the building. This type of construction provided smooth wall surfaces and a maximum of protection from rats and mice. A grain transfer system and cleaning equipment are provided in the structure. The annex portion houses a wash room, small laboratory, two rooms for bag storage and additional cleaning space. The shop and garage building is 28' x 64'. It provides space for housing three vehicles, small plot equipment and a shop. It is constructed of light weight masonry block.

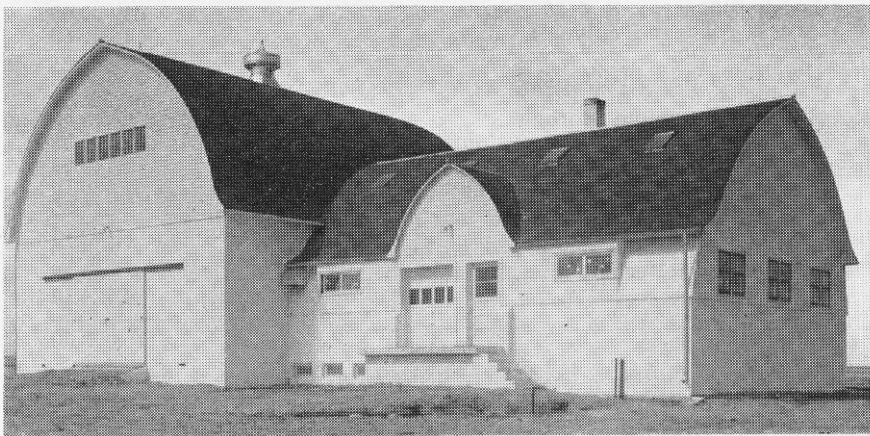


FIGURE 6.—The seed storage building, as described above.



FIGURE 7.—This shop building, with vehicle storing space, can house three vehicles, additional equipment, plus its well-equipped workshop area.

The dwellings are single story frame buildings with full basements and attached garages. The floor plans of each are similar to those used for dwellings on the college farm at Fargo for housing of herdsmen. Both houses are well constructed and functional. They are shown in Figures 4 and 5. An office with separate entry was provided as an addition to the superintendent's residence. The other house, which is occupied by the foreman and his family, has an electrical heating system in addition to the conventional hot air system. The two heating systems are operated on alternate weeks for purposes of comparing costs and other features of these two heating methods. This study is a part of Regional Research Project NC-9.

The expenditure of funds obtained from sale of the old site and used for relocating the station may be itemized as follows:

Land, 640 acres @ \$100 per acre	\$ 64,000.00
Access road and culverts	1,357.80
Machine shed	10,625.31
Dwellings and office	39,748.78
Seedhouse	36,963.82
Shop and vehicle storage	9,370.00
Well, water distribution system and sewage system	3,475.38
Wiring, power panel and wiring between buildings	3,119.75
Engineering service, drafting and printing of plans	466.15
Insurance (Builders Risk)	448.25
Advertising for bids	295.24
Hauling fill and leveling around buildings	435.00
Trees for shelterbelt	60.00
Combine	4,724.52
Total	\$175,000.00

The above figures do not include salaries of regular employees of the staff of the North Dakota Experiment Station who devoted considerable time and effort to the engineering and administrative tasks in connection with developing the new site. Other items not included are expenditures for additional farm equipment necessary for operating the increased acreage of the new station.

Despite the considerable effort that has been directed toward development much remains to be done. A third dwelling for the technical assistant and his family should be provided; landscaping, sidewalks, improved farmstead roads and boundary fencing should be provided. It is planned that these additions and improvements shall take place as time and resources permit. Even greater tasks await accomplishment in the fields of the station. First attention will be given to cleaning up the vacated farmsteads occupied by the former land owners. Though buildings have been removed, debris such as old footings, scrap metal, fences, etc., must be cleared away so the area may be tilled to control weeds and eventually placed back in production. Along farm field boundaries, old fence lines and numerous rock piles need be cleared away so as to reduce hazards when operating farm equipment and permit control of weeds. When this has been accomplished some of the field layouts will be changed to utilize conservation techniques to reduce wind and water erosion.

Experimental Program

The present experimental program includes variety testing of oats, wheat, barley, potatoes, corn and sorghums for forage; a uniform wheat breeding nursery, a nursery of sawfly resistant wheat varieties, and fertility trials with small grains. A tillage experiment involving various methods of summerfallow management is being initiated this year. On each of the different fallow treatments several different spring tillage and seeding methods will be imposed. A cooperative study with the Soil Conservation Service is also being started this year. It involves various methods of weed control in new windbreaks. A seed increase program of new and current small grain varieties recommended for this area is also being conducted at the station. One of the objectives in planning and developing the new and larger branch station was to provide a limited seed source for the area.

CONTROLLING SMUT IN SEED WHEAT

This station's Department of Plant Pathology has shown that loose smut of wheat, heretofore controlled only by the hot water treatment, can be killed by soaking the seed for 48 hours in a cold solution of Spergon-SL, using one part of the chemical to 750 parts of water by weight. Almost as good control resulted from soaking the seed in cold water (70 degrees fahrenheit) for 48 hours, using no chemical. This treatment reduced smut to less than one per cent.

