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OFFICE OF CONTRACT ADMINISTRATION
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Date: 9/27/78

Project Title: Feasibility of Developing the Millard Farmer Industrial Park

Project No: A-2213

Project Director: R. B. Cassell

Sponsor: Mrs. Millard Farmer

Agreement Period: From 9/7/78 Until 11/6/78

Type Agreement: Std. Ind.

Amount: \$3,200

Reports Required: As requested

Sponsor Contact Person (s):

Technical Matters

Contractual Matters
(thru OCA)

Mrs. Millard Farmer
P. O. Box 1054
Newnan, GA 30264

Defense Priority Rating:

Assigned to: Technology & Development (School/Laboratory)

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GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION
SPONSORED PROJECT TERMINATION

Date: 3/1/79

Project Title: Feasibility of Developing the Millard Farmer Industrial Park

Project No: A-2213

Project Director: R. B. Cassell

Sponsor: Mrs. Millard Farmer

TERMINATED

Effective Termination Date: 2/15/79

Clearance of Accounting Charges: 2/28/79

Grant/Contract Closeout Actions Remaining:

- ☒ Final Invoice ~~and Closing Documents~~
- ☐ Final Fiscal Report
- ☐ Final Report of Inventions
- ☐ Govt. Property Inventory & Related Certificate
- ☐ Classified Material Certificate
- ☐ Other _____

Assigned to: Technology & Development (School/Laboratory)

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FEASIBILITY OF DEVELOPING
THE MILLARD C. FARMER INDUSTRIAL PARK

Prepared for
Mrs. Millard C. Farmer

by
Robert B. Cassell
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and
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Technology and Development Laboratory
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GEORGIA INSTITUTE OF TECHNOLOGY
February 1979

FEASIBILITY OF DEVELOPING
THE MILLARD C. FARMER INDUSTRIAL PARK

Introduction

This report is intended to provide the optimum development plan for an industrial park in the northern quadrant of Newnan. Already identified as the "Millard C. Farmer Industrial Park", the area has been zoned for commercial, industrial, and office/institutional uses.

This report concentrates on approximately 150 acres which constitute the designated industrial sector. In the following sections are recommendations for subdivision of the tract, for utility and transportation services, for development staging, for protective covenants and for certain marketing strategies.

Consideration has been given in preparing this report to identify the most economical and practical means of development. Because of the extensive terrain contrasts, major costs in land development can easily be incurred, unless certain cautions and restraints are observed. Thus, the plot plan does not provide for interior roads, minimum grading is anticipated (meaning some land cannot be utilized), and rail installation is discounted.

Industrial Park

In the modern terminology employed by economic developers, the term industrial park has a restricted and precise definition:

"An industrial park is a tract of land, the control and administration of which are vested in a single body, suitable for industrial use because of location, topography, proper zoning, availability of utilities, and accessibility to transportation. . .

"All requirements are to be compatible with the community and surrounding land uses in accordance with a comprehensive plan to enable a group of industries to operate efficiently within it."^{1/}

Thus, the contemporary industrial park has as ingredients: a comprehensive plan, compatibility among industrial operations it supports, compatibility of the park with the community, design controls and park character, zoning to protect the surrounding area, and continuing responsibility of park management.^{2/}

Description of the Park

The Farmer property is located on the northern edge of Newnan, along U.S. Highway 29. The tract is bordered on the west by U.S. Highway 29; on the north by a property line; on the east by the Atlanta and West Point Railroad and on the south by a property line. Map 1 shows the property's locational relationship to Newnan.

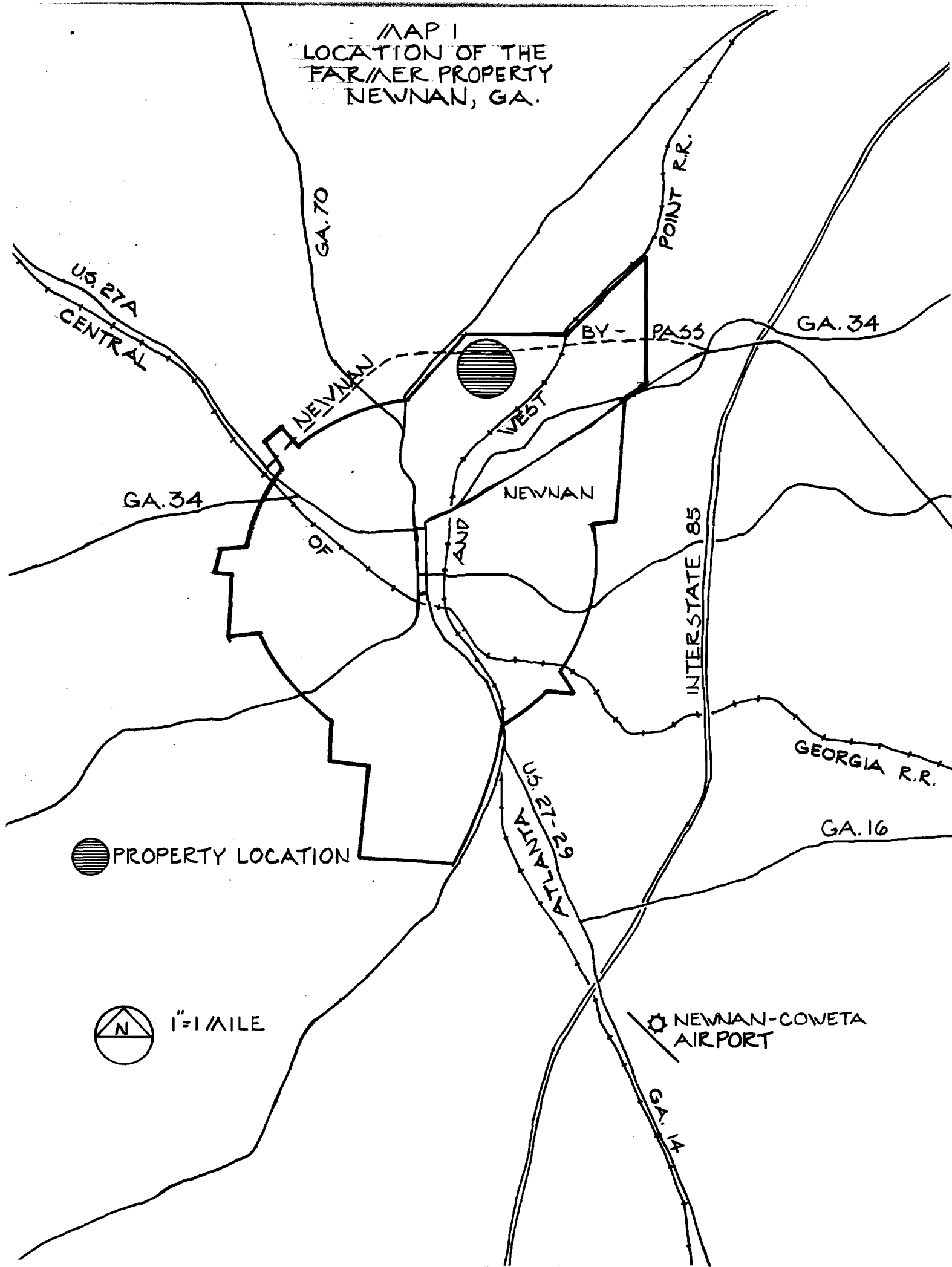
The entire area contains about 200 acres and is presently forested except for a section of cleared highway right-of-way generally running east-west through the property. This right-of-way for the Newnan By-Pass will connect existing Georgia 34 on the east with U.S. 29 on the west. Currently under construction (to be completed in 1979) this By-Pass will provide the site with greatly improved road access.

Land use along U.S. Highway 29 is a mixture of commercial and institutional. The area is largely undeveloped to the north, west and south, except for two residential subdivisions, one north called Lake Hills, and

1. Planning for Industrial Parks, National Industrial Zoning Committee (1967).

2. Industrial Development Handbook, Urban Land Institute (1975).

MAP I
LOCATION OF THE
FARMER PROPERTY
NEWNAN, GA.



another, Greenwood Manor area to the south.

Topography over the site is generally hilly with slopes ranging from 6 to 16 percent. The property is dominated by three hills extending north-south, surrounding two creek valleys draining northward to Wahoo Creek. Elevations over the site range from a high of approximately 940 feet on the south side to around 840 feet on the north side. On its east side, the elevation drops sharply into a deep cut formed by the Atlanta and West Point Railroad. Extension of rail onto the property is not considered feasible for topographic reasons.

Wahoo Creek lies in a broad flood plain crossing through the property's eastern section. Here, the creek lies approximately at elevation 840. Data from the Soil Conservation Service Office in Newnan indicate that the maximum 100-year flood elevation for the site area is approximately 860 feet. Soils over the property appear to be suitable for industrial use.

Proposed Development Plan

The proposed development plan is based upon certain assumptions, in addition to completion of the Newnan By-Pass. The study area was incorporated within the city and portions have been zoned commercial, industrial and office/institutional. An area fronting on U.S. Highway 29, containing approximately 40 acres is to be developed commercially while a 10-acre site in the property's northeast corner, is to be developed as a small office park. Between these two, constituting the center of the tract is the area which will contain the industrial park and is the subject for this report on development of the industrial park.

As a first step in creating the development plan, the site was examined to determine which sub-areas are suitable for development and which are not. Map No. 2 shows these areas, two of which are designated as undevelopable. One area is the wide flood plain along Wahoo Creek, on the property's east side. Here, all land below the 860 foot elevation is reported to be subject to flooding and therefore not suitable for development. This is the most extensive undevelopable sub-area within the entire site, and accounts for most of the undevelopable acreage. However, in the development plan to follow, this flood plain has been modified somewhat through piping and landfilling to permit more developable area. The second undeveloped area lies on the property's west side and surrounds a lake. This area is below the 860 foot elevation and is not suitable for use due to periodic flooding. Table I shows the estimated industrial park acreage allocations.

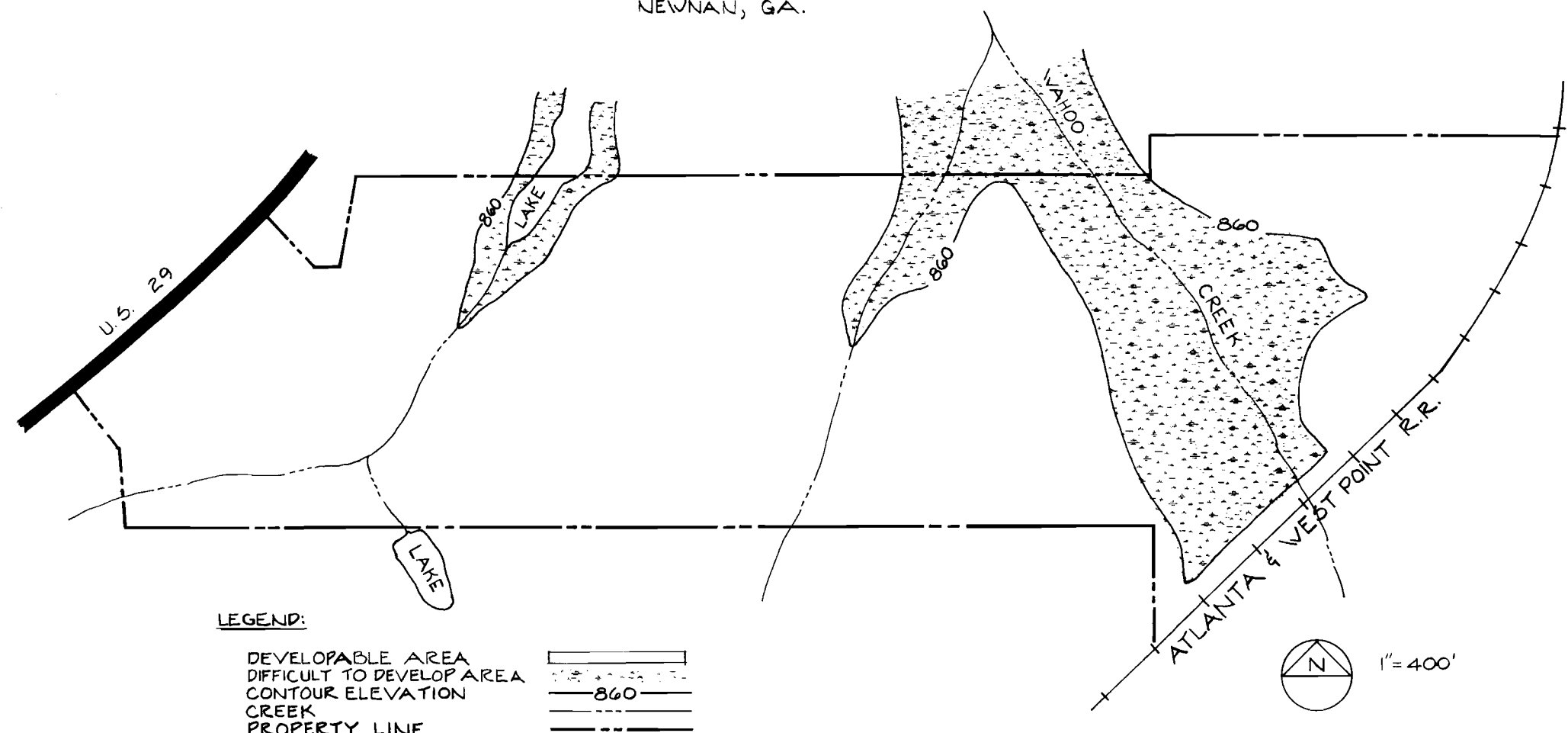
TABLE I

ESTIMATED ACREAGE ALLOCATIONS*
MILLARD C. FARMER INDUSTRIAL PARK

	<u>Acres</u>	<u>% of Total Acres</u>
Net Developable Industrial	106	71
Newnan By-Pass R/W	20	13
Undevelopable Area	<u>24</u>	<u>16</u>
Total Industrial	150	100

*
This table does not include acreage to be used for commercial development (approximately 40 acres) and office/institutional (approximately 10 acres).

MAP 2
DEVELOPABLE AREAS
FARMER PROPERTY
NEWNAN, GA.



The remainder of the property is suitable for development, although this statement must be qualified. Generally, the site is hilly with interspersed creek valleys containing somewhat steep slopes. Developing this type of terrain into rather large industrial sites will require more grading and filling than normally would be the case if the property were less hilly and flatter. The general nature of the site's terrain is more amenable to residential or other development requiring smaller lot sizes than to industrial use.

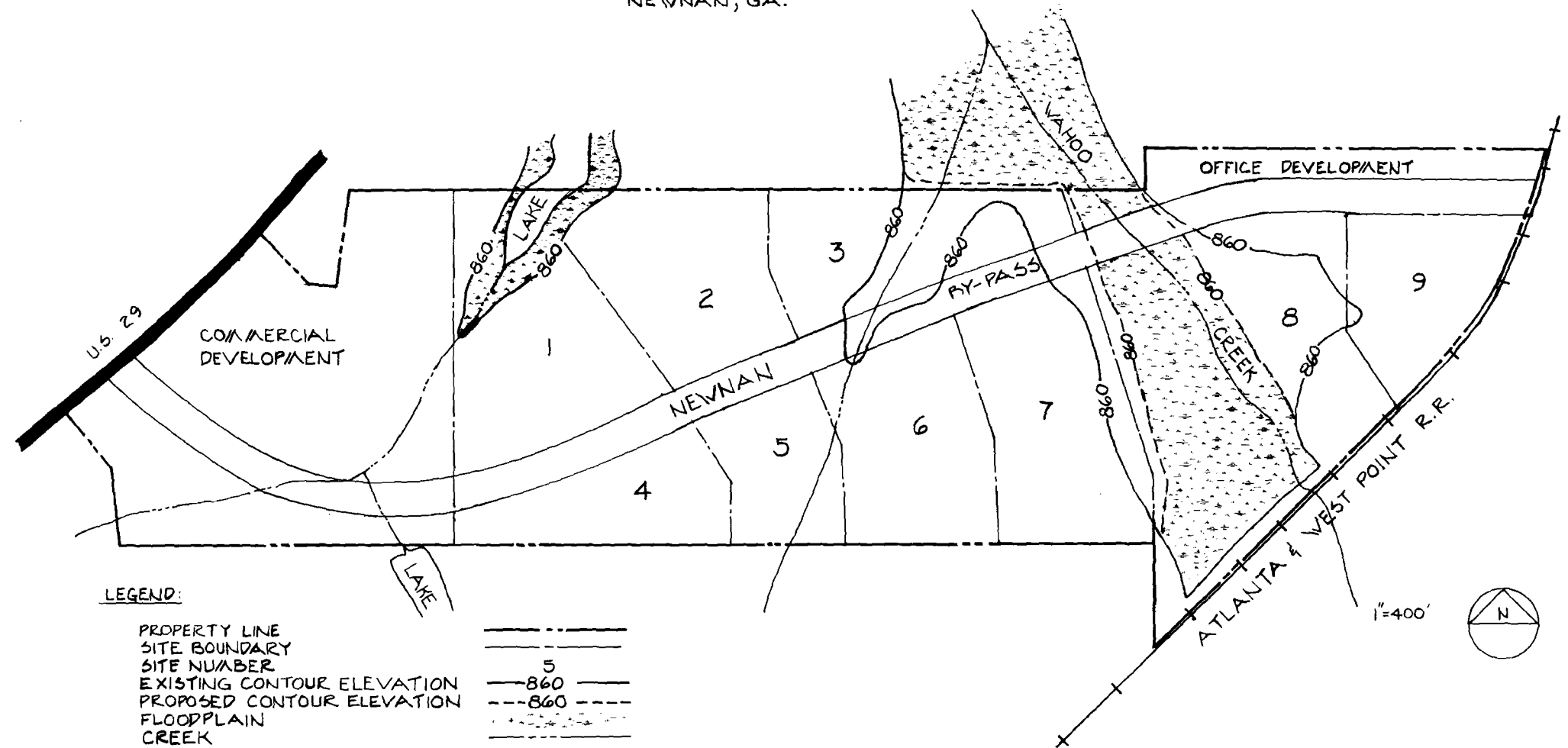
At any rate, the additional land preparation required will tend to increase costs and, hence, the price per acre that must be obtained to sustain an acceptable profit. Thus, while land can be developed industrially, the cost per acre will be more than might otherwise be the case for another type of use.

Plan Concept: At the outset it must be emphasized that the development plan presented here is a conceptual design, and not one prepared with engineering precision. It is intended to provide guidance to the engineer in his work, but it is not intended to replace his efforts. Prior to such efforts, a grading plan on at least two-foot contours must be prepared.^{3/}

The plan proposes an industrial park which contains nine sites that range in size from 8 to 16 acres. As shown in Map 3, six of these sites are south of the Newnan By-Pass, and two have a common border with the Atlanta and West Point Railroad. All have direct access to the By-Pass, thus eliminating the necessity for any internal road system, an

3. Best estimates given us for this contour mapping indicate that it would cost about \$1,800 -- at \$12 per acre for 150 acres.

MAP 3
PROPOSED DEVELOPMENT PLAN
FARMER INDUSTRIAL PARK
NEWNAN, GA.



additional cost to the property developer. The estimated acreage of each proposed site is shown in Table II.

TABLE II
ESTIMATED ACREAGE OF PROPOSED SITES IN
FARMER INDUSTRIAL PARK

<u>Site Number</u>	<u>Acreage</u>
1	11
2	13
3	13
4	10
5	8
6	14
7	16
8	11
9	<u>10</u>
Total	106

Although the proposed park is subdivided into nine sites, this particular subdivision pattern does not have to be followed precisely. The developer may choose to follow the proposed road pattern but leave the area unsubdivided, allowing it to subdivide naturally as industries locate in the park. However, if this course is followed, the developer should be careful to see that the last remaining site is at least 8 to 10 acres in size and as rectangular in shape as the road alignment and abutting property lines will permit. An odd-shaped site of less acreage will be difficult, if not impossible, to dispose of.

Thoroughfares: The park's thoroughfare system consists of the Newnan By-Pass which was a predetermined element in the park's overall design. This facility, offering a 48-foot, 4-lane pavement on a 130-foot right of way, will provide street access to all nine proposed sites, making unnecessary the need for additional access streets. The By-Pass is not intended to be a limited access thoroughfare; therefore, it is assumed that curb cuts serving the nine sites can be developed where needed, subject to city or county requirements.

Rail Service: The main line of the Atlanta and West Point Railroad runs through a 30-foot cut bordering the industrial park's east side. Rail access at this point is impossible. Discussion with railroad officials indicates that developing rail service to the property would probably be infeasible from an economic standpoint and might require obtaining some additional land to the north for right-of-way. Further, extending rail would involve developing a turnout approximately 500 feet north of the property and installing a lead track southward through the park's office/institutional area and across the Newnan By-Pass to sites 8 and 9; because of the hilly terrain over the remainder of the area, rail service will have to be restricted to sites 8 and 9. Partial costs for developing rail would be \$15,000 for a turnout; \$30 per linear foot for track, exclusive of the cost of grading, drainage and subgrade ballast; and about \$75,000 for a signalized crossing on the By-Pass.

Extending rail service to sites 8 and 9 would require about 1500 feet of track in addition to the approximately 500 feet of lead track needed to get from turnout to the property, and would cost about \$150,000. However,

since this cost is exclusive of grading, drainage and subgrade ballast costs, the final, bottom-line figure will be greater. As sites 8 and 9 together contain some 21 acres, even if the rail cost were no more than \$150,000, the per-acre cost for rail would be over \$7,000. This development cost would have to be included in the final sale price; doubtful, therefore, that the provision of rail for just these two sites is feasible. In addition, the extension of rail through the area set aside for office development is not recommended from an environmental standpoint, as it would tend to detract from the high quality character intended for that development.

Water and Sewer Service: For the most part utilities are, or will be, available to the industrial park area. Water service from the Newnan Water, Sewer and Light Commission will be available from a 16-inch line along the new By-Pass right-of-way.

Public sewerage is only partially available at present. A 21-inch line to the nearby Wahoo Creek Water Pollution Control Plant passes through the property's east side, and sewerage is available from a point approximately 2000 feet east of U.S. 29 to the railroad. However, sewerage to the property's west side will require constructing an additional line.

Other Utilities: Electric power will be available from a 12-kv line to be developed along the By-Pass. This line will be served by two substations having 5000 kv and 10,000 kv capacities, respectively.

Natural gas service is available from the Atlanta Gas Light Company via a 2-inch line along U.S. 29; a 2-inch line to Greenwood Manor subdivision, adjoining the Farmer property on the south; and a 4-inch medium

pressure line along Bullsboro Road, approximately one mile east of the proposed industrial park. Atlanta Gas Light Company is currently working on upgrading this line to high pressure service. If this upgrading is accomplished, we recommend that the industrial park be served by this facility.

Buffering Development: While the proposed industrial park is zoned for industrial use and is in a general area of Newnan where new industry is being located, the immediate contrasting uses of land near the Farmer Park must be taken into account.

Two residential subdivisions border the proposed industrial park, Lake Hills on the north and Greenwood Manor to the south. In time more residential development may come about, adjacent to these subdivisions. To protect both the industrial park's residents and adjoining development, it is recommended that development within the park be suitably buffered so that it is, in effect, set off from neighboring non-industrial uses. It is recommended that space of a suitable width be reserved at the back of each site to permit development of buffer planting.

Floodplain Areas: The land along Wahoo Creek in the vicinity of sites 3, 7 and 8 and the land surrounding the lake in the vicinity of sites 1 and 2 contain floodplain, and are, therefore, considered undevelopable below the 860-foot elevation. In the case of sites 3, 7 and 8, some of this floodplain area is proposed to be filled in up to the 860 elevation to "round-out" the site. In the case of sites 3 and 8, extensive fill is proposed so that these can become sites. Without this fill, sites 3 and 8 would be too small to use. Filling on site 3 is proposed to completely

eliminate a drainage swale and to raise the site's elevation as described by the dotted 860 contour line on Map 3. Sites 7 and 8 will also be changed in elevation as shown by the dotted 860 contour line.

Phasing Development

At the outset, the industrial park will be in the fortunate position of having access to all of its sites from a paved thoroughfare. This will greatly facilitate the marketing of sites to prospects and will eliminate the need to develop a road system to serve the park. The development concept presented in Map 3 proposes that all site access be from the By-Pass. However, there will be other aspects of park development which must be phased in order to make the development a reality, and these are itemized below.

- o Phase I: Initiate the necessary engineering studies, including two-foot topographic mapping and a grading plan. At the same time, have prepared a plan for erosion and sedimentation control for approval by local authorities.

- o Phase II: Grade and otherwise prepare several sites so that they can be shown to industrial prospects; this really gets the development underway.

- o Phase III: Obtain sewer and natural gas service. (Water, it is assumed, will be extended along with development of the By-Pass.)

Depending upon cost considerations, the actual extension of service may be carried out, or at least the park's developer should obtain letters from the utility suppliers indicating how soon service can be extended and at what cost. These letters can be shown to industrial prospects to demonstrate the feasibility of obtaining such services.

- o Phase IV: Provide a set of protective covenants for the park.
- o Phase V: Undertake an extensive marketing program.

Environmental Considerations

Land development has its impact on our environment, and in recognition of this fact, certain local regulations have to be met to control erosion and sedimentation. Under the Georgia Erosion and Sedimentation Act of 1975, control of development activity rests with local government, in this case the city of Newnan, and specifically the city planning department. The Act requires that a suitable plan be proposed to control the erosion and sedimentation along with grading and other plans for development of the site.

Once an engineer is retained to detail the development, he should contact the local planning office so that an acceptable erosion and sedimentation control plan is developed along with other specifics for the park. This plan must be approved by the city in order for development to proceed.

If any federal funding is involved in the development of the park, an archeological survey must be carried out. This should be pursued with the State Geologist at West Georgia College in Carrollton.

Site Appearance: In keeping with good marketing practices, the developer should prevent the dumping of litter or other trash on the property and along thoroughfares leading to or directly serving the property, so that it is ready at all times for showing to an industrial prospect. Although our on-site inspections did not indicate such a problem existed in the immediate area, it could quickly develop, and the developer should be on the alert for such, and be prepared to handle the problem.

Protective Covenants

Nearly all first class industrial parks today have a set of covenants or criteria which apply to the development and eventual use of each site within the park. These covenants regulate most, if not all, of the following conditions:

- o Building design and material - specify materials and heights which are acceptable.
- o Setbacks - amount of front and side yard setbacks; percent of lot which can be covered by building.
- o Construction plans - right of review by developer.
- o Site coverage - specify amount of site which building may cover.
- o Parking - off street parking; may be permitted in front or in side area of property.
- o Landscaping - front yard and other areas should be kept attractive.
- o Loading docks - to side or rear of building.
- o Signs - consistency and location and size of signs.
- o Outside storage - whether it shall be permitted and screened from view.
- o Maintenance - extent of exterior maintenance.

Pertinent suggestions on these and other restrictions are attached as Appendix A (taken from a Georgia Tech report Industrial Districts: Their Planning and Development). Not all of these may be necessary or appropriate; however, the developer should give them some study.

Marketing Strategy

An aggressive marketing program will be required to insure successful development of the Millard C. Farmer Industrial Park. This will take into

consideration the competitive land situation as represented by the Shenandoah community and Newnan Industrial and Commercial Park immediately to the east. Also, it will seek to capitalize on the industrial strengths of the Newnan economy and appeal to industrial companies most like to seek the advantages that general location offers.

Several basic elements are required in this approach. First information on the industrial park, tract sizes, utility services and negotiation requirements must be disseminated. Local development groups, such as the Chamber of Commerce and Development Authority, must be furnished full details. Also all other development sources, such as the Georgia Department of Industry and Trade, Georgia Chamber of Commerce, Georgia Power Company, Oglethorpe Electric Corporation, and others should be supplied full details.

A brochure on the park, with a sketch of the area and pertinent details, should be prepared in quantity for distribution to these and other agencies. Map 3 in this report can be used for the property sketch, with adequate narrative information on utilities, the immediate area and the like. Also, the recently published "Economic Development Profile" of Coweta County, prepared by the Georgia Department of Industry and Trade, will suffice for initial data information on the community. Decisions should be made on arrangements with real estate firms or brokers as to whether the property can be represented by third parties.

An advertising program at this time is not deemed suitable. However, if determination can be made that certain types of industry are moving into the area, or that a large segment of Atlanta's industrial complex is seeking to expand, an intensive mail campaign might be justified.

Finally, some decision must be reached as to the developer's position with respect to constructing industrial buildings. Numerous industrial park developers are successful because they are able to offer a complete package: completely prepared land, utilities installed, financing or ability to construct an industrial building.

One alternative to this last element might be to work out an arrangement with a development company which has expertise in certain of these areas. Thus, the promotional or mid-stage developmental functions could be shifted to a third party. In lieu of that, the park developer must assume most of those responsibilities.

APPENDIX A
PROTECTION OF THE INDUSTRIAL PARK

PROTECTION OF THE INDUSTRIAL PARK

(Excerpted from Industrial Districts: Their Planning and Development)

General Considerations

One of the most valuable assets of an industrial park is the protection afforded the occupant industries. Through zoning, private covenants and other restrictions and controls and by the design, improvement and maintenance of the area, the industries within such a park are assured that their investments in land and plant are adequately protected against loss or depreciation in value due to unsightly or offensive neighbors.

Modern practice in applying zoning standards in industrial areas categorizes industries by their actual performance rather than by arbitrary classifications which formerly relegated certain types of industry to heavy or unrestricted districts. Today, many of the industries that were once considered obnoxious can, through improved equipment and techniques, be made a compatible neighbor with many light industrial operations. By the use of fume destructors and other modern equipment, a paint and varnish plant could be located next to a food processing plant, and they could still be completely compatible.

Certainly the restriction of residential uses from industrial areas is most necessary, since such zoning regulation prevents the indiscriminate mixing of industrial and residential uses that is to the detriment of both.

While local zoning ordinances generally govern the location of industrial districts through the permitted types of use, most developers now proceed

beyond these regulations and impose other limitations on the use of the tract. By their sales policies, by blanket protective covenants, or by restrictions included in individual deeds or lease agreements, developers offer the occupants protection against the nuisances created by undesirable neighbors.

Deed restrictions or blanket covenants should be carefully drawn so as to provide the maximum protection in combination with sufficient flexibility to meet future changed conditions. Standards as to minimum building setback, location and amount of offstreet parking, architectural control, landscaping, and maintenance can be covered by deed restrictions. Any specifications of type of material permitted in a building should be so written as to allow new materials to be approved. A blanket restriction for masonry or face brick exterior finish is far too rigid and ignores the use of architectural metal panels and various other new, attractive and economical materials. Restrictions should permit the approval of equivalent materials.

Below are summarized suggested restrictions and covenants for industrial parks. While these are all practical and commonly used provisions, their listing here does not mean that each is necessary, or that they should be used without modification. Further, legal assistance will be needed in writing up these provisions in order to keep them in conformity with local and state laws. Considerable judgment should be exercised in establishing setback distances, restricting usage of materials, etc. The degree of success in properly meeting these problems obviously is dependent upon the experience of the developer.

Restrictions and Covenants

Zoning. The entire park shall conform with the most exclusive industrial

zoning classification possible. Even if this classification normally disallows all commercial activities, certain service-type activities (branch plants, cafeterias, etc.) considered essential for the most efficient functioning of the district and should be permitted, provided these service establishments are restricted to a specified area within the district.

Use of Property. All property conveyed within the park shall be used only for industrial, manufacturing, warehousing, or distribution purposes, excepting only such land expressly delineated as a service area for the district. Use for residential purposes shall be expressly prohibited, as well as the retail sale of any merchandise or service, excepting retail sales by district occupants of those products which they manufacture or handle at wholesale. The sale of such merchandise is expressly permitted, as is the retail sales of food, beverages, and other convenience items to the occupant industries' employees, so long as these items are not offered for sale to the general public. The purpose of this restriction is to prohibit operation in the district of any business primarily devoted to retailing of consumer-type merchandise.

Admission to the Park. The admission of any industrial occupant to the park shall be at the discretion of the developer. Whether an industry or business is objectionable and shall be refused admission because of unsightliness or the excessive emission of smoke, dust, noise, glare, odors, fumes or vibrations shall be determined by the developer. The basis for this decision can be the performance standards of industrial zoning. Further, occupant industries shall not be permitted to use any of their land or premises for manufacture, storage, distribution or sale of materials or products

that will increase insurance rates, depreciate the value of adjoining property, or for any purposes which constitute a nuisance.

Architectural Design and Materials. All buildings or other structures erected in the park shall be fireproof and constructed of masonry or other strong and architecturally acceptable materials, in conformity with local building codes. No improvements shall be erected, placed or altered on any building site in the district until the building or improvement plans, specifications and plot plan showing the location of proposed improvements on the particular building site have been submitted to and approved in writing by the developer. Such approval shall necessitate that the proposed improvements are in conformity and harmony of external design with existing structures in the park, are so located as to not adversely affect adjoining structures, uses, or operations, and are compatible with existing topography, grade, and finished ground elevation of the building site.

Heights of Structures. Any structure erected within the district shall not exceed 45 feet in height, measured from the average elevation of the finished lot grade at the front of the building to the roof line. However, this height may be exceeded, with the approval of the developer, for water towers or tanks, standpipes, penthouses or structures for housing elevators or related equipment, stairways, ventilating fans, or other equipment required to operate or maintain the buildings; fire or parapet walls; cooling tanks or other towers; wireless radio or television masts; signs on top of parapets; flagpoles, chimneys, or smokestacks, storage and/or mixing towers; and similar structures. But no structure or

any space above the height limit shall be allowed for the purpose of creating additional office or production floor space or for sign display other than the permitted signs on top of the parapet.

Building Setbacks. Some building setback should be specified in the deed restrictions. Setbacks may vary considerably, depending upon the depth of the tract and size of the building. Where the park fronts on a major highway route, property fronting on that highway shall have a building line setback of 100 feet (or other specific distance -- see below) from the street right-of-way. Property facing all other interior streets of the park shall have a building line setback of 50 feet (or other specific distance) from the street right-of-way line. No buildings or other structures shall be located closer than 25 feet (or other specific distance) to any side building site line or real property line, to insure that an open area of at least 50 feet (more or less) shall exist between all adjacent but separately owned improvements, both sides and rear. Whenever a building site abuts upon a railroad lead track easement or right-of-way, sufficient space shall be reserved to permit the construction of a side track approximately parallel to the track easement.

The precise distances for setbacks should be established in relation to street widths and to building lot sizes, with the objective of creating ample open areas on all sides of the building that will occupy the site. It is of interest, therefore, to note the following setback ranges as found in an Urban Land Institute survey: Setbacks for buildings fronting on major highways usually range from 50 to 200 feet or more, while buildings fronting on district streets have 25- to 60-foot setbacks; from side and rear property

lines, the setbacks generally are from 10 to 30 feet.

Site Coverage. No buildings or other structures should be built or maintained which, in the aggregate, cover more than 50% of the total land area (although the Urban Land Institute found in its 1960 survey of all districts and parks that individual site coverages vary tremendously -- from less than 1% to over 90%). The great majority of park occupants, however, were found to utilize only 20% to 50% of their sites for buildings, and ultimate coverage of more than 60% was relatively infrequent, especially in districts established since 1950.

Some developers question the need for site restrictions if the district covenants require ample building setbacks, side yard areas, and adequate space for employee parking and truck maneuvering and loading.

The required open areas between property lines and building lines may remain as green lawn areas or landscaped or may be used for off-street surfaced parking areas. If used for parking, the surfacing and parking arrangement must be approved in writing by the developer.

Off Street Parking. No street parking of cars or trucks shall be permitted in the district. It shall be the responsibility of each occupant industry to provide off-street parking facilities for employees, customers, and visitors at a ratio of at least one and one-half spaces for every person employed on the premises by the original occupant.

Establishment of a standard ratio that would be universally applicable would be practically impossible to derive and, consequently, any plans for the provision of parking facilities should be reviewed with local planning commissions or other technical advisors who are familiar with worker-travel

habits in specific types of industry. Plants on shift operations may need to have their parking space requirement considerably expanded, but such upward adjustment should receive approval of the developer.

Off-street parking also shall be provided for all company trucks and for trailers awaiting pick up or arriving after plant closing time.

These parking areas may be provided anywhere on the premises except in the minimum front yard. Most districts permit only guest parking in front of buildings; employee parking and truck loading are designated for side and rear yard areas.

Site Landscaping Improvements and Maintenance. Any landscaped area within a building site shall be planted attractively with lawn, trees, shrubs and other growing plants, according to plans approved in writing by the developer. All landscaped areas shall be properly maintained thereafter in a sightly and well-kept condition.

Front yards of building sites shall be maintained in grass, except walks, drives, plantings and flagpoles. No driveways parallel to the street shall be permitted in the required minimum front yard. Side yards shall have a partial foundation planting.

Paved areas subject to wheeled traffic shall be surfaced with bituminous, concrete or equivalent coatings and, when needed, bumper or wheel guards shall be installed. Occupant industries shall have the responsibility of extending driveways to existing or projected streets, at their own expense, even though parts of this construction are within the street right-of-way.

Parking areas that are located between the front of the building and the required minimum front yard shall be screened from the street. Light

standards for the illumination of parking areas shall be so shielded that the light source will not be visible from the street or from adjacent properties.

Unpaved parts of the site shall be maintained in grass and landscaped, including any such property which may be in a street, rail or utility right-of-way.

Maintenance of individual building sites within the district shall be the responsibility of the occupant industry, and the premises, buildings and all improvements shall be kept in a safe, clean, healthful and presentable condition at all times.

The removal of undergrowth, weeds, debris, rubbish, trash, excess dirt, industrial wastes, or garbage, and any other unsightly material from a building site shall be done by the occupant industry.

Loading Facilities. The maneuvering of trucks and trailers shall be confined to the premises of each occupant industry.

Minimum requirements for off-street loading facilities shall be one loading space at least 14 x 60 feet with a 15-foot height clearance, if covered; total depth of the off-street maneuvering apron and truck position at dock shall be a minimum of 115 feet. The number of truck loading docks will be dependent upon the nature of the industry and types of transport service needed.

Loading bays shall be located only on those sides of the building not facing streets and at least 25 feet away from the nearest right-of-way.

Power. Power used in or developed or obtained for any operations within the district shall be confined to electrical or substantially equivalent

type of power using in its production only oil, gasoline, gas, liquid petroleum products or similar combustible materials which do not produce excessive smoke, odor or fumes.

Signs. No billboards or advertising signs other than those identifying the name, business and products of the person or firm occupying the premises shall be permitted, except that plaques, directional signs, and "for rent" or "for sale" signs may be permitted.

A maximum of two signs should be permitted for each industry occupying a building, including any sign that is part of the building's architecture. In multiple-unit buildings the same number of signs may be allowed for each industry, provided that on any such building only a wall or a parapet sign be permitted, but not both, and that no sign affixed to the wall may extend above the roof or parapet.

Signs shall pertain only to the identification of the business conducted within a building and products sold or manufactured, and to the direction of visitors.

Permitted types of signs may include horizontal wall signs, excluding those painted on the wall itself; parapet signs, including those on top of canopy or marquee: identifying plaques attached to the face of the building near the main entrance; and signs offering the premises for sale or lease.

Wall and parapet signs shall have a maximum height of four feet and a maximum area of not more than three square feet for each running foot of the face of the building displaying the sign; maximum projection of the sign from the face of the building shall be 12 inches. Plaques shall not exceed eight square feet and directional signs, two square feet. Sale or lease signs shall be prescribed by the developer.

Any spotlight or other illumination of a sign shall be so directed or shielded that the light source is not visible from the street or adjacent property. Animated signs should not be allowed.

Outside Storage. Outside storage shall not be permitted. Where necessary to store temporarily finished or semi-finished products or other materials on the outside of the plant building, the rear part of the property shall be used for such storage, and the storage area shall be screened by a fence at least six feet in height. All fencing for screening, security or other purposes shall be attractive in appearance and be of an all-metal industrial type of galvanized or non-ferrous material.

Repurchase of Land. One restriction very important to the orderly development of an industrial park is some provision for repurchase of land. For example, after the expiration of one year from the date of execution of a deed to any site in the park, if the purchaser has not commenced in good faith the construction of an approved building, the developer should have the option to repurchase the site at the original sale price. Moreover, until buildings cover at least one-sixth of the total area of a building site, the occupant industry should be prohibited from selling any of the site on which buildings have not been constructed, without first offering such excess land to the developer, at the original sale price. In either instance, the developer should have a period of 90 days within which to exercise these rights of repurchase.

Streets, Utilities and Rail Service. Paved street and water, power, gas, telephone and sewer lines in the easements or rights-of-way adjoining building sites shall be provided by the developer at no cost to park occupants.

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The developer would arrange with the railroad for serving the park, deeding all rights-of-way needed for lead tracks, but the occupant industries would have the responsibility of individually negotiating with the carrier for their spur trackage needs.