

"KING'S MARK"
ENVIRONMENTAL REVIEW TEAM REPORT
ON THE
CORNWALL INDUSTRIAL ZONE
CORNWALL, CONNECTICUT

SEPTEMBER, 1974

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ENVIRONMENTAL REVIEW TEAM REPORT - CORNWALL INDUSTRIAL ZONE

This report was prepared based upon a request from the Chairman of the Cornwall Planning and Zoning Commission and was carried out with the approval of the landowners in the Cornwall Industrial Zone. The information in this report is intended to provide the Town with an environmental analysis sufficient to aid in determining how to make wise long-term land use decisions.

On August 9, 1974 under the auspices of the "King's Mark" Project, a variety of land use and environment analysts were gathered together for a conference and field investigation on the Cornwall Industrial Zone. Team members submitted individual reports that were reviewed, summarized and printed into this final report by the Northwestern Connecticut Regional Planning Agency.

The soils of the site were mapped by a soil scientist of the USDA Soil Conservation Service. Reproductions of the soil survey and a table of soil limitations for development were forwarded to all members of the Team prior to their review of the site.

The Team that reviewed the Cornwall Industrial Zone consisted of the following personnel: George Sweeney, District Conservationist, Mack Wilson, Conservationist and Dwight Southwick, Engineer, all of the Soil Conservation Service (SCS); Paul Marrin, Geologist/Hydrologist, and Elliot Bronson, Environmental Analyst, of the Natural Resource Data Center, DEP; Lawrence Brandolin, Fish Biologist, Carl Stamm, Park & Recreation Specialist, and Steven Jackson, Wildlife Specialist of DEP District I; Lee Debes, Community Resource Specialist of the Extension Service; Jay Zaragoza, Planner and Thomas McGowan, Planning Director of the Northwestern Connecticut Regional Planning Agency and Review Team Coordinator.

This report does not compete with private consultants by supplying site designs or detailed solutions to development problems. By identifying the existing resource base and evaluating its significance to potential development, the aim of this report is to encourage land use decisions that recognize both the long-term economics of land use and the need to maintain environmental quality.

The "King's Mark" Project Executive Committee hopes you will find this report of value and assistance in making your decisions on this particular site.

If you require any additional information on this report, please contact Thomas McGowan, Planning Director of the Northwestern Connecticut Regional Planning Agency (868-7341). For information concerning the Environmental Review Team, contact "King's Mark" Project Coordinator George Sweeney, Litchfield Agricultural Center (567-8288).

INTRODUCTION

The Cornwall Industrial Zone was adopted based upon a recommendation in the 1965 Cornwall Town Plan. The Town Plan stated that "...the (industrial) district is a narrow valley bounded by the Housatonic River on the west and a very steep slope on the east, hence, its development should cause a minimum of interference with the overall rural residential character of the Town".

Since the completion of this Town Plan a significant amount of new and detailed information has been developed regarding the environmental and natural resource characteristics of this site. Especially critical is the information regarding the potential supply of groundwater that exists under the Industrial Zone. This factor and the large size of the site (approximately 220 acres) raised questions concerning the potential environmental impact of industrial development within the zone. With these factors in mind, Mrs. Joan Terrall, Chairman of the Cornwall Planning and Zoning Commission, requested the "King's Mark" Environmental Review Team to study and report on this site.

This report will first describe the land use and natural resources on the land in the Industrial Zone and then discuss the suitability and potential for development of this site for industrial activities. Comments or recommendations in this report are offered for consideration by the Town, but should not be construed as mandatory or regulatory in nature.

LAND USE AND NATURAL RESOURCE INVENTORY

EXISTING LAND USE

The Industrial Zone is 220 acres in area located in the southwestern corner of the Town and its entire length is accessible from Route 7. The western boundary is the Penn Central Railroad track and just beyond the tracks, the Housatonic River. On the north the Zone begins at about 500 feet from Swift's Bridge Road, and on the south about 1,000 feet above Deep Brook.

A major portion of the site is in active agricultural use. There are four single family residences, two commercial uses (a small gun shop and the Cornwall Inn), and one industrial activity, the Neoweld plant.

Based upon a recent survey by the County Extension Service, there are eight operating farms in Cornwall, two of which are utilizing land in the Industrial Zone. About three-quarters of the 220-acre Industrial Zone is farmland, approximately one-third of which is tillable (hay and corn) and the balance is pasture land for an estimated 100 cows.

The single family residences are all located near Route 7 spaced widely along the road frontage.

There is a concentration of land use adjacent to Millard Brook. On the north side of the brook is the Cornwall Inn, which is a significant commercial activity in the Town of Cornwall consisting of both dining facilities and overnight accommodations.

Next to the farmland, the most significant land use is the Neoweld manufacturing plant. This is the town's major industry. The company, which is presently located on Route 7 just south of Millard Brook, has plans approved for constructing a new plant on a 10-12 acre parcel near the existing plant. Eventually this new plant may house up to sixty employees.

The major question that arises from the land use evaluation centers upon the conflict between the existing farmland and future potential industrial activity.

EXISTING ZONING REGULATIONS

In evaluating what can develop on this site, it is necessary to examine the Cornwall Zoning Regulations. These regulations provide for what may be called a "stepladder" type of zoning. That is, at the top rung of the ladder is the residential zone;

this is an "exclusive" zone; only residential activity is allowed in a residential zone. On the second rung is the commercial zone, both residential and commercial activities are permitted in this zone. Next is the industrial zone, which permits both residential and commercial, as well as industrial activities.

The permitted minimum lot size in the Industrial Zone is one acre. The minimum lot width is 150 feet. Under these regulations there are general performance standards that apply to industrial activities. These standards are not rigid or readily measurable and are generally not adequate to control industrial pollution. However, in practice the Town's regulations may be superceded by stringent federal and state requirements, especially for air pollution control.

In summary, according to the zoning regulations, this site must be evaluated upon the basis of a potential mixture of uses—residential, commercial and industrial—at a minimum density requirement of one acre per unit.

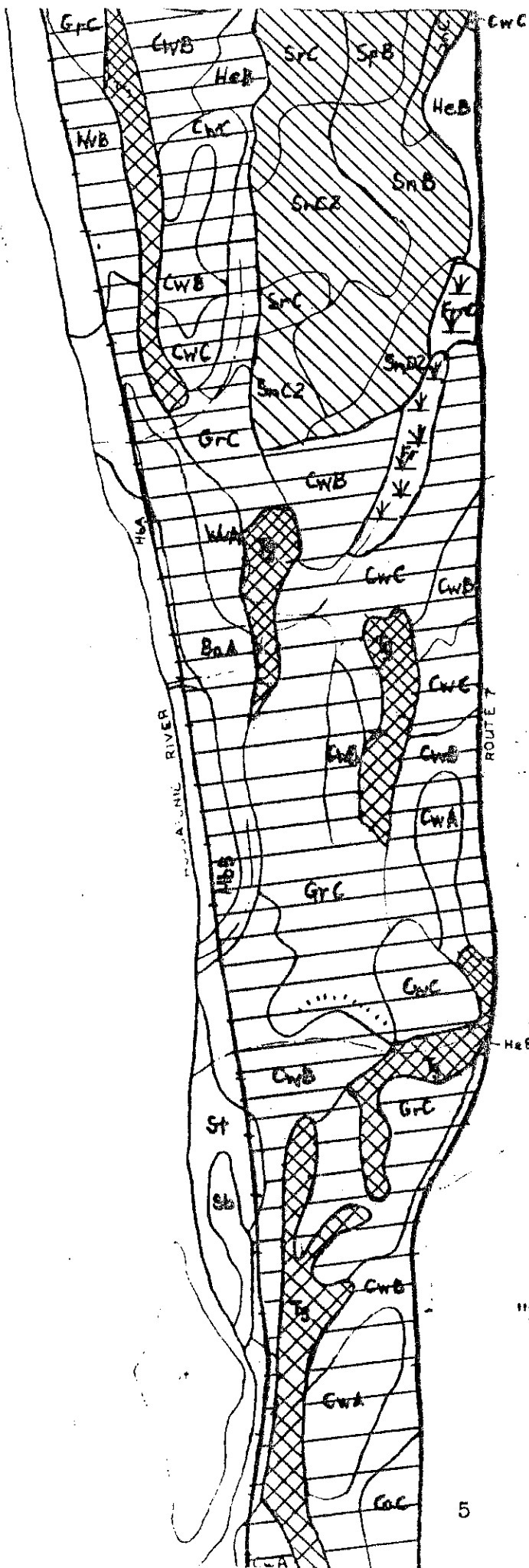
SOILS - GENERAL

A basic tool for environmental evaluation is soils analysis. A detailed soils map of the site has been prepared and is shown in Appendix A of this report along with a soils interpretation chart. The soils map on the next page is a simplification of the detailed soils map showing generalized categories including sand and gravel soils, hardpan soils, inland-wetland soils, and areas with steep slopes (in excess of 15%).

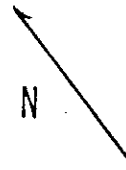
The sand and gravel soils occur above flood plains in river and stream valleys. Most of this site (64%) is made up of this soils group. Nearly all sources of sand and gravel, and many of the important sources of water supply, are in areas associated with this soils group. Properties of the sand and gravel soils in this site are generally favorable for development. Drainage ranges from excessive to moderate and the grade of the slopes is from 0-15%.





The steep slope soils on this site are terrace escarpments. These are also sand and gravel soils, but the primary factor limiting development on the escarpments is the very steep slopes which are commonly in excess of 25%. These slopes are quite susceptible to erosion and care must be taken during excavation in the vicinity of these slopes so that these areas are not disturbed.

The hardpan soils occur mostly on the tops and slopes of drumlins (hills that were smoothed and elongated north to south by the movement of glaciers). The drumlin area in the north-eastern corner of this site consists of hardpan soils which con-



GENERAL SOILS MAP
INDUSTRIAL ZONE
CORNWALL, CONNECTICUT



-  Sand and Gravel Soils
-  Steep Slope Soils
-  Hardpan Soils
-  Inland Wetlands Soils

Scale: 1 inch = 660 feet

"KING'S MARK" ENVIRONMENTAL REVIEW TEAM
NORTHWESTERN CONNECTICUT
REGIONAL PLANNING AGENCY

stitute 40 acres or 18.5% of the site area. These soils are underlain by compact glacial till and have an impervious hardpan layer located generally 16-36 inches below the soil surface. These soils are generally unfavorable for development due to the hardpan layer which makes it difficult to design and install a properly functioning septic system.

Most of the land area immediately adjacent to the zone boundary along the Housatonic River consists of flood plain soils, but this area is not included in the Industrial Zone which is bounded by the railroad tracks. Within the Industrial Zone there is a 7-acre tract of wetland soils located north of the farm buildings on the Stony Batter Farm. Activity within this area would be permitted under the Cornwall Inland-Wetlands Regulations.

GEOLOGY

Most of the site lies high above the river (100-250 feet) and commands an impressive view of the valley below and the ridges across the Housatonic in Sharon. However, based on data from past records, areas less than 25 feet above the channel bottom are subject to inundation during major floods. Permanent construction below this level should be discouraged.

Running generally north-south along the entire length of the parcel and parallel to the Housatonic River is an almost continuous terrace escarpment having 50 to 100 feet of relief. From the edge of the escarpment on upslope to Route 7 the topography is generally rolling and hammocky. Karme complex is the geologic term for this kind of terrain and the definition is based on both the form and substance of the underlying unconsolidated material. Karme materials are glaciofluvial sands and gravels which are poorly sorted and stratified. The term glaciofluvial indicates that these sands and gravels were deposited by melted water streams abutting stagnant ice lobes that were occupying the Housatonic Valley 10-12 thousand years ago.

These glaciofluvial (sand and gravel) deposits have been identified by the State Department of Transportation Aggregate Survey, which indicates that 25 to 50 percent of the material is of gravel size.

These glaciofluvial deposits are also identified in the U.S. Geographical Survey's Upper Housatonic Water Resource Study as a major potential source of groundwater. Within the nine towns of the Northwestern Connecticut Planning Region this groundwater site is considered as one of the eight best areas for producing water, which could provide a future drinking water supply. This factor is discussed in more detail in the next section.

The country rock or ledge beneath this 220-acre parcel of land is Stockbridge Marble. It is a dense, medium-grained, impure calcitic marble buried beneath approximately 50 feet of glaciofluvial deposits. In the northeastern corner of the area and in scattered spots adjacent to U.S. Route 7, the glaciofluvial deposits are mantled with a till-derived solum.

VEGETATION AND WILDLIFE

Important wildlife commonly found in the area are:

Mammals: deer, cottontail rabbits, woodchucks, otter, mink, weasles, raccoon and a variety of smaller farmland mammals including deer mice, meadow voles, and shrews.

Birds: ruffed grouse, woodcock, ducks (inclusive on the river), and a variety of smaller birds including woodpeckers, herons, and songbirds (inclusive and varied).

There are wide variations in habitat. The variation includes hay fields, crop fields, brushland, and a variety of age classes of woodland.

Due to high usage by wildlife and its aesthetic value, the area west of the railroad tracks should be left open as a buffer between the Housatonic River and the higher terrace areas. Flood prone and steep sloping areas on the first terrace above the river should also be included in the buffer zone.

While disturbance of the wildlife habitat will increase with an increase in human activity, low density residential, commercial, and industrial usage would have limited adverse effects. A density lower than one unit per acre would be desirable. If however, other conditions make the area suitable for this type of density in limited areas, no dramatic changes in the present wildlife would occur.

EVALUATION OF DEVELOPMENT POTENTIAL

This section will examine the elements that will affect the development potential on the site: water supply, waste disposal, foundation development and grading conditions, roads and site access, potential hazards, aesthetics and preservation.

The final element discusses alternative land uses for the site based upon the evaluation of the development potential.

WATER SUPPLY

Much of the land underlying the Industrial Zone could be a major source of groundwater for future drinking water supplies. The groundwater sources, or "aquifer", according to estimates of the U.S. Geographical Survey could produce up to 2.2 million gallons of water per day. Individual wells placed along the river bank could yield from 200-500 gallons per minute. (It was noted that the quality of this groundwater is good. It has a hardness of from 61-120 mg/L; hardness of greater than 180 mg/L requires softening.)

The aquifer extends the length of the Industrial Zone along the Housatonic River at a width of approximately 500-700 feet. In the area of Millard Brook, which is near the center of the site, the extent of the aquifer expands to a distance of approximately 1,200 to 1,400 feet from the river. However, all the land area in the site is related to the aquifer in that water draining off this site will move toward the Housatonic River through the aquifer. The water quality of this aquifer is important as a major source of streamflow to the Housatonic River, especially during periods of low flow. Since surface water quality is worst during low flow, aquifer contamination could have a disastrous affect upon the water quality of the river. For these reasons, if the future use of this aquifer is to be preserved and the water quality of the Housatonic River is to be protected, precaution must be taken to carefully review plans for development within the site area.

Wells placed outside of the aquifer area will be bedrock wells that can be expected to produce from 10 to 100 gallons of water per minute at depths of between 100-200 feet below the land surface.

Another point concerning water supply is that caution should be applied in locating wells in the more coarse textured soils, such as Groton (Gr) and Copake (Cw), which have a high permeability in the soil substratum. In these soils shallow wells may be subject to pollution from septic systems.

Industrial development would be best served by a small public or "community" water system. A single community well located in the sand and gravel (aquifer) area would produce much higher yields than numerous bedrock wells. The soils analysis indicates slight limitations for the installation of water transmission lines.

A key to a successful community-type water supply system is good system planning, organization and maintenance. The State Department of Health could offer suggestions or review plans for this type of water system.

WASTE DISPOSAL

In areas where there are no public sewers, all other factors considered, the most restrictive element affecting development potential is on-site waste disposal. There is no public sewage system in Cornwall or near the Industrial Zone, nor are there any local or state plans for extending sewage service to the Cornwall Industrial Zone. Waste disposal on this site will depend entirely upon the ability of the soils to suitably accept and filter the waste.

Existing soil conditions for on-site sewage disposal are generally judged to be favorable. As was described above, 64% of the site area is composed of sand and gravel soils, most of which have slight to moderate limitations for on-site septic systems (see soils interpretation table on page 15). But, since septic effluent moving too rapidly through sand and gravel could pollute groundwater supplies, special precautions should be taken in designing and installing any septic systems on this site. Excessively drained soil types are Windsor (WvA, WvB) and Groton (GrC). Most of the sand and gravel soils are Copake (CwA, CwB, CwC), which are moderately well drained and somewhat more acceptable for placement of septic systems over an aquifer.

For different reasons, the same caution applies to the northeastern segment of the site which is underlain by hardpan. Septic systems should be permitted on these soils only after a careful assessment of the system design. The hardpan layer located no more than several feet below the ground surface is relatively impervious, with the result that sewage effluent seeping down to the hardpan will flow laterally instead of vertically, until it seeps out at the surface presenting a danger to the public health. Tests have shown that septic systems designed with extra large leaching fields can function in these soils, if the systems are not overburdened with sewage effluent.

In summary, it is felt that limited development can take place on the site if septic systems are carefully located and properly designed. Because there is a substantial thickness of sand and gravel above the water table, between 26-65 feet, a

properly planned waste disposal system should operate satisfactorily.

But industrial or toxic wastes, processed or unprocessed, should not be released into the ground. In addition, the overall density of the site should be limited. The present zoning requirements which permit a one-acre minimum lot for residential, commercial and industrial uses is not adequate to safeguard the quality of the aquifer. In order to quantitatively assess the impact of complete development on the aquifer, a model of the hydrological system would be required, detailing the volume and concentration of effluent along with the flow rate and direction of movement of the groundwater.

In the absence of such a model, it would be wise to limit the industrial development of this site to the light industrial type of activity on an area of no more than between 50-75 acres. This would permit from 5-7 industrial buildings on parcels averaging 10 acres each.

The density of the industrial development should also be limited based upon a definable standard such as is illustrated in the Appendix C (Procedures for Determining Permitted Density for Light Industrial Activity). It is suggested that the permissible density for industrial activities at a minimum should be no less than that which is comparable to a single family home on a two-acre lot. Because of the sensitivity of the aquifer to pollution, a density of one home per three acres may be a better basis. Utilizing such a formula with a two-acre minimum lot size as a basis, it would permit a density of 16.6 employees per two-acre lot or a maximum of 80 employees on a 10-acre lot.

FOUNDATION DEVELOPMENT AND GRADED CONDITIONS

There should be little problem with foundation development for small buildings of 3,000 square feet to 4,000 square feet, except in an area where it is shallow to bedrock. Buildings with a floor area of 20,000 to 40,000 square feet would have grading problems because of steep slopes. Two or three level buildings could be planned and may better fit the contour of the land.

Because of the rolling terrain and the steep terrace escarpments, storm runoff from roofs and parking areas would need special attention so as not to cause erosion where the storm water is discharged or would run over a steep bank. Cuts and fills could also be a source of erosion and should be planned to have slopes no steeper than 2:1 or 3:1 and be properly vegetated.

ROADS AND SITE ACCESS

Although Route 7 is the major highway in this region of the state, by today's standards it is not adequate for truck transport. Route 7 is a narrow road and the sight lines are generally poor in the vicinity of the site. If small industrial buildings were each served by a separate access road, this would compound the traffic safety problems on Route 7.

Instead of individual access roads it would be advisable to construct a short access road parallel to Route 7 about 100-200 feet from the existing pavement line to serve any industrial activities developed on the site. This access road would permit a safe means of entering and leaving an industrial lot. An alternative would be to have one access road serve all the industrial buildings, similar to a road serving homes in a subdivision.

The rail line will probably not be a factor in attracting industry to the site, at least in the near future. The rail line is in disrepair and it has been declared an "excess" line in the New England rail system. This means that it is highly unlikely that rail service will be restored, unless it is by a private group intending to operate a short line, for instance, between New Milford and Canaan.

HAZARDS

Natural Hazards

Although mostly outside of the Industrial Zone, there is an extensive flood prone area along the bank of the Housatonic River. Along with the need to protect the aquifer, this is additional reason to keep development well away from the river. Outside of the flood hazard, there should be no unusual natural hazards affecting the site such as earthquakes or rockfalls.

Man-Induced Hazards

A warning should be raised concerning the effects of excessive groundwater pumping. While a tremendous potential exists for drawing water from the aquifer at this site, a full scale water consuming industrial development, such as a brewery, could produce several problems. A brewery, or any similar industry that consumes between 1.4 to 2.2 million gallons per day would cause a draw down of water (induced infiltration) from the Housatonic River thereby reducing its flow downstream. This effect would in turn reduce the river's water quality. Finally, the groundwater table in the area will be lowered, which may result in an increase of the concentration of sewage effluent in the groundwater body.

AESTHETICS AND PRESERVATION

Protection of the river bank and the aquifer could be enhanced by the creation of a protected area or streambelt along the Housatonic River and Millard Brook and the stream that runs behind Stony Batter Farm.

A streambelt is an open area based upon a water course including land subject to overflow, associated wetlands, and potential water development sites of public significance. A streambelt of 500 feet along the Housatonic River and 250 feet on either side of both Millard Brook and the stream and wetlands along Stony Batter Farm, should provide a significant buffer area that would aid in the protection of the aquifer and the fragile natural areas that are within the zone.

The visual quality of the site is excellent. With adequate industrial or commercial building setbacks and height limitations this quality can be preserved. New industrial buildings should be placed well off the highway and be limited to two and one half or three stories in height. With some attention to site design a new building could be inconspicuously placed, taking advantage of naturally rolling terrain. It would also be advisable to require an evergreen buffer around industrial lots located in this zone. These site design requirements will permit a mixture of land uses—residential and industrial—to co-exist without detracting from residential land values.

ALTERNATIVE LAND USES

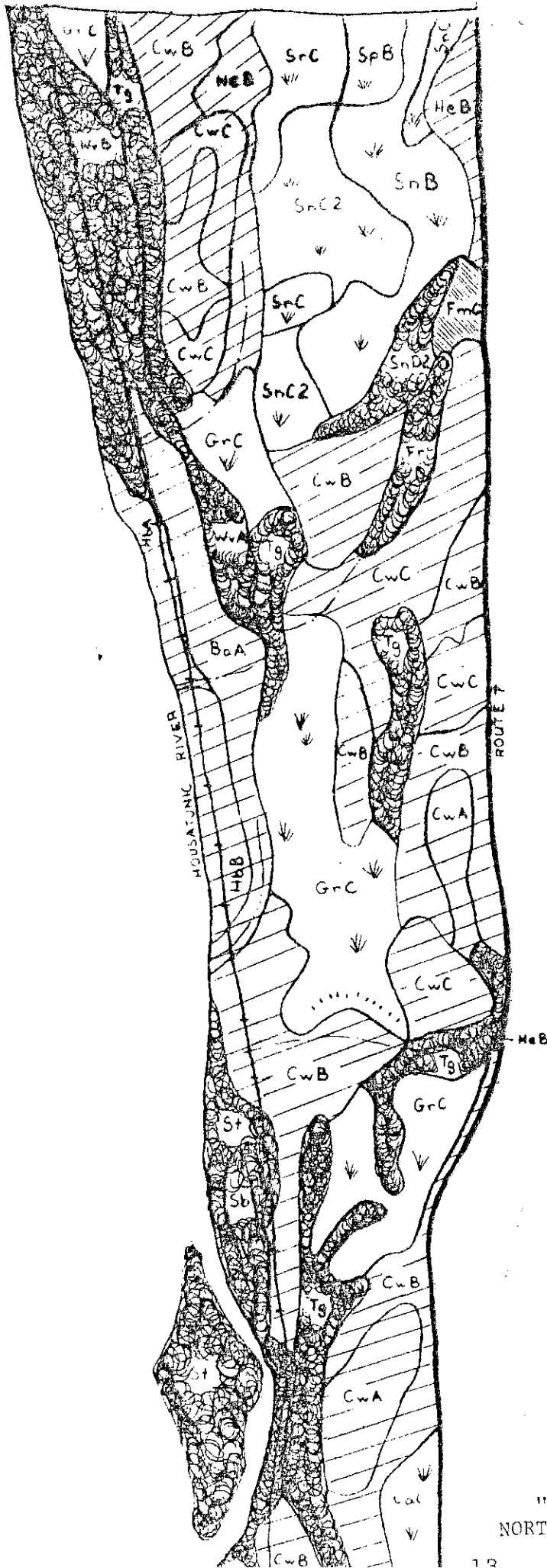
This site is one of the most suitable areas for agriculture in the Town. The map on the next page shows "The Potential for Agriculture Soils in the Industrial Zone". It is clear that a choice exists for the Town between agriculture and industry on this site. Although industry and farming are not mutually exclusive activities, the Industrial Zone would have to be greatly reduced in size and controlled in design, if the two land uses are to be compatible within the present zone. A limited industrial area with adequate design requirements could be permitted without damaging the rest of this site's value for agriculture. Appendix D provides some general criteria for the creation of a small industrial subdivision.



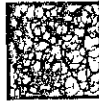

No special potential exists for recreational development, although there could be a bike or hiking trail along the railroad right-of-way.

There would be a slight possibility for commercial recreational activity such as a private camp, if located in the northern segment of the Industrial Zone.

Residential development could occur on much of this site but should be permitted on a minimum of 2 or 3-acre lots, if the groundwater quality is to be preserved.

THE POTENTIAL FOR
 AGRICULTURE
 BY SOILS
 IN THE
 INDUSTRIAL ZONE
 CORNWALL, CONNECTICUT



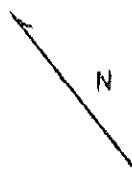
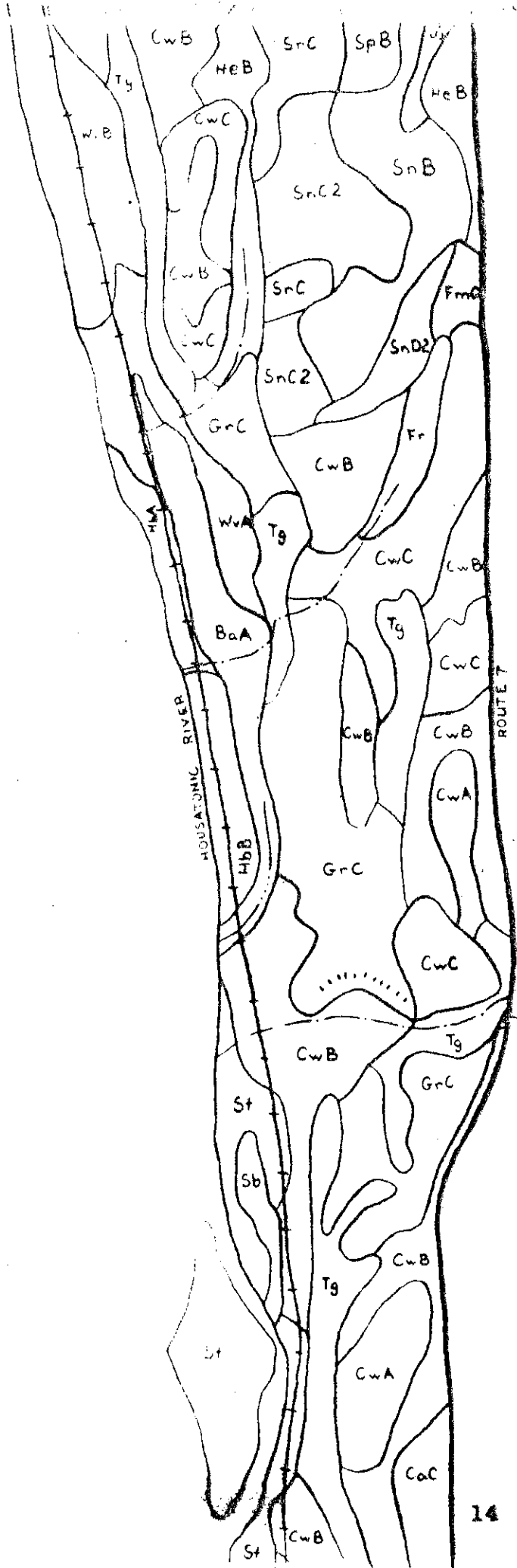
-  Seed Crops and Grains
-  Grasses and Legumes
-  Forestry
-  No Agricultural Value

Scale: 1 inch = 660 feet

APPENDIX 2

DETAILED
SOIL MAP

INDUSTRIAL ZONE
CORNWALL, CONNECTICUT



SCALE: 1 INCH = 660 FT.

PREPARED BY: U.S. DEPARTMENT
OF AGRICULTURE SOIL CONSER-
VATION SERVICE

APPENDIX B

INTERPRETATION TABLE INDUSTRIAL ZONE, CORNWALL, CONNECTICUT

Soil Symbol	Soil Name	Acres	Percent of Total Acres	On-Site Sewage	Basements	Landscaping	Streets & Parking	Principal Limiting Factor
WvA	Windsor	19	8.6%	1	1	1-3	2	Slope 0-8%, excessively drained soils
WvB	"							
GrC	Groton	31	14.0%	1	1	1-3	2	Slope 3-15%
CwA, CwB	Copake	60	27.2%	1	1	1-3	2	Slope 0-8%, well-drained soils
HbA, HbB	Hartland							
CwC	Copake	14	6.3%	2	1	2	3	Slope 8-15%
HeB	Hero	13	5.9%	2	2	2	2	Slope 0-8%
BaA	Belgrade							
Fr	Fredon	4	1.8%	3	3	3	3	High seasonal water table
CaC	Charlton	4	1.89%	1	1	1	1	Slope 8-15%
SpB, SnB	Stockbridge	16	7.4%	3	1	1	1	Slope 3-8%
SnC, SnC2	Stockbridge	16	7.4%	3	2	2	3	Slope 8-15%, eroded
SiC	Stockbridge	8	3.8%	3	2	2	3	Slope 3-15%, very stony loam
FmC	Farmington	3	1.4%	3	3 or 4	3	3	Slope 3-15%, rocky and very rocky soils
St	Suncook	7	3.2%	3	3 or 4	1	3	Subject to occasional flooding
Sb	Saco	4	1.8%	3	3 or 4	1	3	High water table during most of the year
SnD2	Stockbridge	5	2.2%	3	2 or 3	3	3	Slope 15-25%, eroded
Tg	Terrace Escarpments	16	7.2%	3	2 or 3	3	3	Steep & droughty
	TOTAL	220	100.0%					

Prepared by: U.S. Department of Agriculture
Soil Conservation Service

August, 1974

LIMITATIONS:

- 1 - Slight
- 2 - Moderate
- 3 - Severe
- 4 - Very Severe

APPENDIX C

PROCEDURE FOR DETERMINING PERMITTED DENSITY FOR LIGHT INDUSTRIAL ACTIVITY

Standards:

- A. No activity will be permitted that produces any toxic waste discharge, whether treated or untreated.
- B. The amount of waste water generated by the industrial employees should not exceed that which would be generated by single-family homes on two-acre lots with four persons per family.
- C. Each person in the family generates a maximum of 125 gallons of waste water per day, for a total of 500 gallons per residential acre, while the average amount of waste water generated by an industrial employee is 30 gallons per day, exclusive of process water.

Formula:

$$\frac{500 \text{ gallons/day/per single-family dwelling}}{30 \text{ gallons/day/industrial employee}} = 16.6 \text{ industrial employees permitted per two-acre lot.}$$

Source: Community Water Systems Source Book. J.Ameen, 1971.

APPENDIX D: INDUSTRIAL PARKS - BUILDING AND SITE STANDARDS

SUBDIVISION

Size and location requirements of individual industries vary widely. The areas of the park should be subdivided into parcels averaging ten acres each. This size parcel permits initial construction of 100-foot by 100-foot buildings, covering about ten percent of the area (20,000 square feet) with allowance for ultimate expansion of two to three times the initial construction. Depending on the specific needs of industries desiring to locate here, the parcels may be further subdivided or combined. Such modifications, if executed with care, will not adversely affect the overall master plan. A minimum parcel size of not less than five acres should be established.

The following site standards have been established and must be adhered to by all industries locating in the Industrial Park:

- Minimum land-to-building ratio of 4:1
- Minimum building setback of 100 feet from main roads. Such setback areas must be appropriately landscaped.
- Minimum side lot setback of 75 feet. Such side lot areas may be devoted to parking.
- A 200-foot buffer strip must be maintained. It serves to protect the character of the park.
- All parking must be to the rear or side of buildings.
- No truck loading docks or doors are permitted on the front of buildings. Such docks or doors shall be located at sides or rears of buildings. This requirement also applies to rail siding facilities.

The following provisions relative to types of industry and architecture must be met:

- Plans of all proposed buildings must be submitted for approval prior to the start of construction.
- Building exteriors on all four sides shall be constructed of materials considered first class exterior finishes. In the case of expansion walls only, concrete blocks will be allowed as the finish of the exterior wall. Stucco is not considered a first class finish.
- All buildings must have a sprinkler system for fire protection.
- Outside storage must be appropriately screened on all sides.

CRITERIA FOR SIDETRACK SERVICE

The standards presented below relative to track layout, clearances, grade crossings and grade crossing protection, are based on requirements of the New Haven Railroad. These standards are as follows:

- No. 10 connections off the main track.
- No. 8 connections off switching tracks.
- Minimum track centers—13 feet.
- Maximum curvature—19 degrees (i.e. minimum radius of 300 feet).
- Maximum grade—1.5 percent.

The railroad has in certain instances relaxed its requirements for curvature and grade. This should be discussed in detail prior to entering into any agreements.

INTERIOR ROADS

To insure smooth flow of traffic and easy access to individual plants by truck and trailers, minimum interior roads should have 100-foot right-of-way and 40-foot pavements. Any turn-arounds should have a minimum 60-foot radius.

UTILITIES

Adequate provisions for present and future requirements of water supply, waste disposal, storm water collection systems, electric and gas lines must be provided. Special requirements should be placed upon the design of the storm water collection system relative to water run-off from all surfaced areas and its impact upon the ground-water and water quality of the Housatonic River.

Source: Planning Design Criteria, J.DeChiara and L.Koppelman