



MEMBER

*Since 1874*

YERKES ENGINEERING CO.

CONSULTING ENGINEERS  
SITE PLANNERS  
LAND SURVEYORS

BRYN MAWR, PA.

• • •

WEST CHESTER, PA.



YERKES ENGINEERING CO.

CONSULTING ENGINEERS • SITE PLANNERS • SURVEYORS

101 CHARLES DRIVE  
BRYN MAWR • PA. • 19010  
(215) LA 5-6200

26 S. HIGH STREET  
WEST CHESTER • PA. • 19380  
(215) 692-4411





# YERKES ENGINEERING CO.

## Scope of Services

### CONSULTING ENGINEERING

Sanitary Sewerage Systems.  
Roads, Highways • Railroads.  
Water Supply Systems • Swimming Pools.  
Bridges • Storm Drainage.  
Structural Engineering.  
Soils and Foundation Reports.  
Grading Plans • Earthwork Analysis.  
Feasibility Reports • Investigations.  
Consultants to Municipalities • Specifications.

### SITE PLANNING

Residential Developments • Shopping Centers.  
Apartment Complexes • Recreation Facilities.  
Industrial Park Planning • Institutional.  
Public Housing • Schools.

### LAND SURVEYING

Engineering • Architectural • Topographic.  
Construction Layout • Boundary Surveys.  
Geodetic and Control.  
Astronomical Observations.  
Quantity and Measurements.  
Cross Sections • Design Data.  
Subdivisions • Plans.

### CARTOGRAPHY

Municipal Maps • Display Maps.  
Auction Maps • Overlays.  
Zoning Presentations.

### CONSTRUCTION CONTROL

Inspection • Soil Testing.  
Compaction Control.





## SINCE 1874

**YERKES ENGINEERING CO.** was founded in Bryn Mawr, Pennsylvania in 1874. In that year Samuel and John Garrigues formed a partnership for the practice of Civil Engineering and Land Surveying. They remained in practice until the late 1800's when John Garrigues left the firm while his brother continued with the firm name of Samuel M. Garrigues, C.E. Milton R. Yerkes became employed by the firm during the same period and purchased the business in 1902. The firm name became M. R. Yerkes, C.E., and practiced Municipal and Civil Engineering and Land Surveying. John B. Yerkes entered the firm in 1933 and in 1943 the name was changed to M. R. and J. B. Yerkes, Civil Engineers and Land Surveyors. Until this time the firm had been a small one employing approximately fifteen people and had performed services of a local scope. With the end of World War II demands for the services of the Company increased at a rapid rate and expansion of the size and

scope of services followed. In 1955 the Company had outgrown its quarters in the center of Bryn Mawr and larger quarters were purchased on the outskirts of town. In 1955 M. R. Yerkes retired and the name of the firm became Yerkes Engineering Co. In 1961 John B. Yerkes, Jr., joined the firm. The firm was incorporated in 1965 in the State of Pennsylvania. In 1966 the Company purchased the firm of T. G. Colesworthy in West Chester, Pa., and opened a branch office in that town. Mr. Colesworthy remains consultant to that office. Through the years the firm has expanded its services into the States of New Jersey, Maryland, and Delaware as well as Pennsylvania. Projects engineered by the Company range to a construction cost of \$2,200,000 and the Company now supplies a complete service in the fields of Consulting Civil Engineering, Site Planning and Land Surveying.

YERKES ENGINEERING CO.  
1000 Locust Street  
Philadelphia, Pa. 19106  
Telephone: 215-763-1100  
Telex: 155-1100  
Cable: 155-1100

REVOLUTIONARY CAMPGROUND — VALLEY FORGE  
DRAWN 1897

OWNERSHIP OF LANDS AT  
AND TO THE PRESENT TIME  
— 1897  
RECORDED IN PHILA. COUNTY AND IN  
PA.





MP (GROUND)

gc

INC. AMERICAN (1227-20)

INCORPORATED, 1911

1000 AND ORIGINAL, 1911



### JOHN B. YERKES, P.E.

Professional Engineer and Land Surveyor

Mr. Yerkes is President of Yerkes Engineering Co., and is a Registered Professional Engineer and Land Surveyor in the States of Pennsylvania, New Jersey, Delaware, and Maryland. Mr. Yerkes graduated from the Pennsylvania State University in 1933 with a Bachelor of Science Degree in Civil Engineering. He became employed by Yerkes Engineering Company at that time and remained with the firm until 1942. In 1942 he was employed on the Hog Island Project of the Army Corps of Engineers. This project consisted of docking facilities, roads, railroads and warehouses. In 1943 he was employed at the Reading Air Force Base expansion, another project of the Army Corps of Engineers. In 1943 he became a partner in Yerkes Engineering Co., and has been a principal in the firm since that time.

Mr. Yerkes is a member of the following professional societies: The American Society of Civil Engineers; The National Society of Professional Engineers; The Pennsylvania Society of Civil Engineers; The American Society of Military Engineers; The American Concrete Institute; The National Swimming Pool Institute; and The American Congress of Surveying and Mapping. Mr. Yerkes is also consultant to the Public Housing Administration.





**JOHN B. YERKES, JR.**  
PROFESSIONAL ENGINEER, LAND SURVEYOR, SITE PLANNER

## PERSONNEL



**RICHARD JENNEY**  
PROFESSIONAL  
ENGINEER

**WALTER F. GIERSCH**  
PROFESSIONAL  
ENGINEER

### **JOHN B. YERKES, JR., P.E.**

Professional Engineer, Land Surveyor, Site Planner

Mr. Yerkes is Vice-President of Yerkes Engineering Co. and is a Registered Professional Engineer and Land Surveyor in Pennsylvania and Registered Professional Engineer in the States of Maryland and Delaware. He is a registered Landscape Architect in the State of Pennsylvania. He was graduated from Bucknell University in 1961 with a Bachelor of Science Degree in Civil Engineering. He has done graduate work at Villanova University and the University of Pennsylvania.

Mr. Yerkes, Jr. is a member of the following Professional Societies: American Society of Civil Engineers; The American Congress of Surveying and Mapping; The Pennsylvania Society of Professional Engineers; and The Engineers Club of Philadelphia. He is President of the Consulting Engineers Council, Philadelphia Chapter, and past President of The Delaware Valley Association of Land Surveyors.

### **RICHARD JENNEY, P.E.**

Professional Engineer

Mr. Jenney is a Registered Professional Engineer in the State of Pennsylvania and in fifteen other states. He was Chief Structural Engineer with United Engineers and Constructors of Philadelphia, Pa. until 1959. In 1960 he became associated with Yerkes Engineering Co. as Structural Engineer and Consultant. He is in charge of all structural and foundations engineering.

### **WALTER F. GIERSCH, P.E.**

Professional Engineer

Mr. Giersch has been with Yerkes Engineering Co. since 1939. He received his Bachelor of Science degree in Civil Engineering from Drexel Institute of Technology in 1957 and became a Registered Land Surveyor in the State of Pennsylvania in 1957 and a Registered Professional Engineer in 1961.

He is in charge of Industrial Park Planning and the design of Sanitary Sewerage Systems.

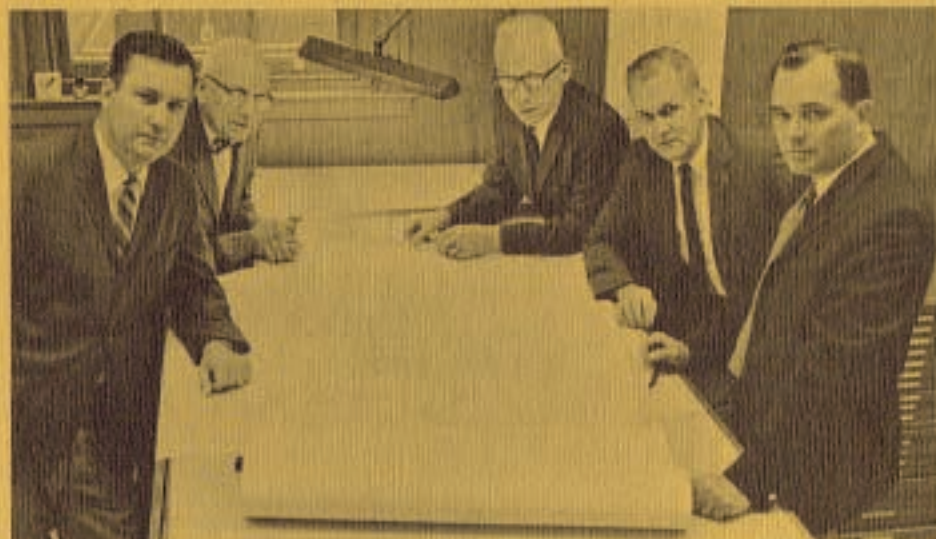
Mr. Giersch is a member of the Pennsylvania Society of Professional Engineers and The American Society of Professional Engineers.



#### **A. VERNON BEATTY**

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Mr. Beatty is Senior Office Manager and administrator for Yerkes Engineering Co. He began his business career with the Pennsylvania Railroad, served in World War I and became associated with Yerkes Engineering Co. in 1925. He has been with the Company since that time as draftsman, draftsman-designer, office manager and senior office manager.



Left to right: N. DAVID SCHREVELIUS, A. VERNON BEATTY, ERNEST P. GIERSCHE, THOMAS L. WOLFORD, R.S., BENJAMIN WILSON, R.S.

#### **N. DAVID SCHREVELIUS**

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Mr. Schrevelius is Director of Surveys and Office Manager for the West Chester Office of Yerkes Engineering Co. Mr. Schrevelius started his survey career with the County Surveyor of Chester County in 1949 as draftsman. In 1951 he left to join the Air Force as surveyor and senior-draftsman. In 1954 he returned to the County Surveyor of Chester County and assumed his present position when that office was purchased by Yerkes Engineering Co.

#### **ERNEST P. GIERSCHE**

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Mr. Giersch is Director of Surveys and Office Manager for Yerkes Engineering Co. He joined the Company in 1936 in the print department and worked in that capacity until 1941 when he joined the Navy. Upon his discharge in 1945 he returned to the Company and worked as instrumentman and party chief until 1948. In that year he was made a draftsman-designer and in 1953 was advanced to his present position. In addition to Director of Surveys, he acts as purchasing agent for the Company.

#### **THOMAS L. WOLFORD, R.S.**

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Mr. Wolford is Director of Surveys and Subdivisions for Yerkes Engineering Co. He was graduated from the Wyomissing Polytechnic Institute in 1943 and was a member of the Armed Forces from 1943 to 1946. He joined Yerkes Engineering Co. in 1946, became survey party chief in 1947 and was appointed office manager of a branch office in King of Prussia in 1955. When that office was closed he returned to Bryn Mawr in his present capacity. Mr. Wolford was registered as a land surveyor in 1958 and is a member of The American Congress of Surveying & Mapping.

#### **BENJAMIN WILSON, R.S., SITE PLANNER**

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Mr. Wilson is Director of Site Planning for Yerkes Engineering Co. He joined Yerkes Engineering Co. in 1946. In 1950 he was advanced to the position of survey party chief. Mr. Wilson was made draftsman-designer in 1955 and became a registered land surveyor in 1960. He is currently directing all Site Planning for the Company as well as designing swimming pools. In addition, Mr. Wilson started and is director of the cartography section of the Company.



# PERSONNEL



SURVEY PARTY CHIEFS

## FIELD PERSONNEL

Field personnel of Yerkes Engineering Co. comprise some 25 to 30 employees, consisting of survey corps personnel and inspectors. Survey party personnel are well versed in all types of surveys. All party chiefs have been with the Company from ten to forty years providing a versatility and wealth of experience that enables the Company to assign any corps to any type of project. This helps to provide faster service to the client.

The Company inspectors provide a competent, thorough inspection of any project designed by the Company, if requested by the client.

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## OFFICE PERSONNEL

Office and Design personnel of Yerkes Engineering Co. support a broad range of talents and skills. Personnel include draftsman-designers, draftsmen, and various support personnel. These categories include a total of approximately 15 to 20 persons. Personnel average over ten years in length of service and while each employee has a special function, all are conversant with most, if not all, phases of Company operations.

COMPUTER ROOM



PRINT ROOM



A DRAFTING ROOM





YERKES ENGINEERING CO. is a medium sized consulting firm that has enjoyed a steady growth over the years. The size of the firm is purposely kept at a point that will allow frequent direct contact with the principals of the firm.

The firm presently occupies some 5,000 square feet of office space in their Bryn Mawr building including a large portion that was recently renovated. An additional 3,000 square feet remains for expansion purposes. The Bryn Mawr office contains the Company Executive offices, completely equipped drafting rooms, print and file rooms, computer room, soils laboratory and garages. The West Chester office comprises some 1,000 square feet of rented office space.

The Company maintains a fleet of fifteen cars and survey vehicles to insure the mobility of their personnel.

The survey records of the Company, dating back to 1874, consist of some 60,000 plans in the Bryn Mawr Office and some 15,000 plans in the West Chester Office.

The recent addition of a solid state electronic computer added to the capability and flexibility of the Company as well as providing increased speed and accuracy. Computer services have been extended to calculations of subdivisions, horizontal and vertical alignment of roads, survey computations and cut and fill problems.

The Company regularly purchases special equipment deemed necessary to provide a more economical service. Survey crews are equipped with such items as electronic pipe locators, walkie-talkies, chain saws and other special purpose items.



BRYN MAWR OFFICES

## YERKES ENGINEERING CO.







# CONSULTING ENGINEERING

YERKES ENGINEERING CO. has been providing the service of Consulting Engineering since its inception in 1874. The Company combines this depth of experience with modern concepts to provide a comprehensive service extending from the planning stage through final plans and specifications to construction supervision and control.

The Company approaches each project as a comprehensive entity, not solely as an engineering design. It considers economics, esthetics and the effect of the project on the surrounding area.

SECTION A-A

SECTION B-B

SECTION C-C

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## SANITARY SEWERAGE SYSTEMS

YERKES ENGINEERING CO. is constantly working with clients in the field of sanitary sewerage. Complete services are provided to state and local governmental agencies and private clients alike. Feasibility reports, plans and specifications, supervision of construction, and assistance with operations of the system are all a part of service provided. Projects in this category are of all sizes and range from a construction cost of \$25,000 to over two million dollars. The Company designs many miles of large and small diameter sewers each year. Pump stations and sewage treatment plants of varying capacities are designed by the Company for their clients. Sewage treatment plants of unusual size or complexity are designed in conjunction with a consultant.

Recent projects of varying size include the following:

**Tredyffrin Township** — Sewers including meter pits for the Strafford and Trout Creek areas of the Township. Construction cost was \$2,000,000.

**Radnor Township** — Various projects over the years, including the Ithan Creek trunk sewer with a construction cost of \$1,200,000 and a sewage pump station and sewer for another section of the Township at a cost of \$150,000.

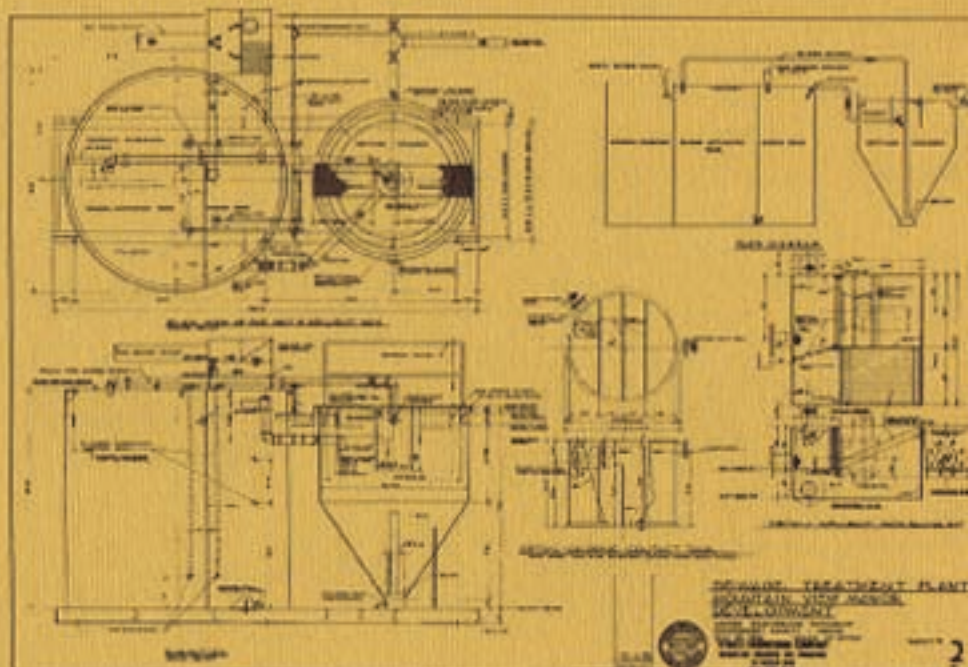
**General State Authority** — Two pumping stations and several miles of sanitary sewer lines to serve camp grounds at Gifford Pinchot State Park, York, Pennsylvania.

**Penn Warner Industrial Park** — Two 250 G.P.M. pump stations and several miles of sewer of varying diameter to serve the Industrial Park.

**Mountain View Manor Development** — 20,000 G.P.D. treatment plant.

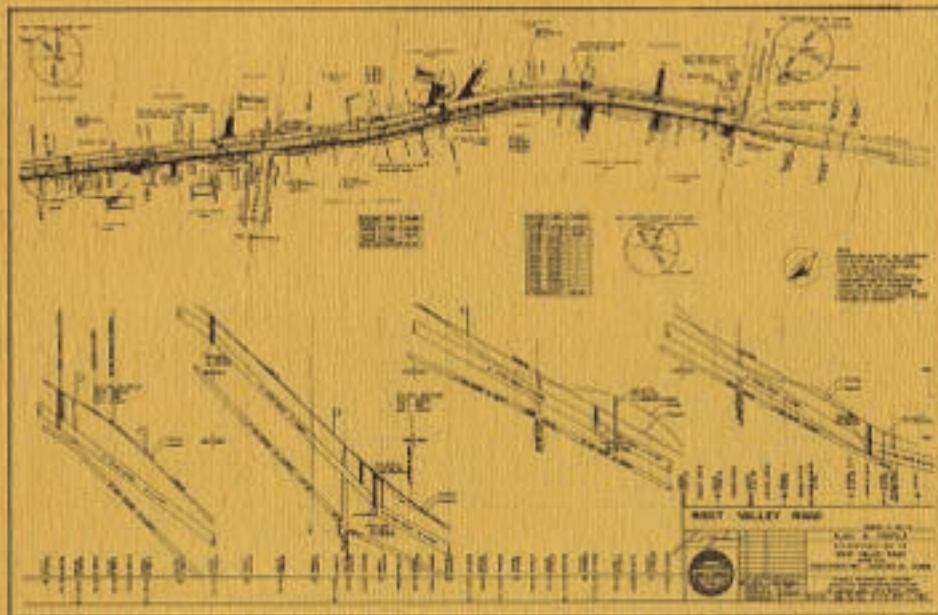


SANITARY SEWER INSPECTION



SEWAGE TREATMENT PLANT





PLAN AND PROFILE—WEST VALLEY ROAD



## ROADS

The Company is experienced in all phases of design for construction and reconstruction of secondary roads. In addition to those roads designed each year for residential and commercial projects, road designs are executed for private and public clients. Projects in this category include:

**Tredyffrin Township** — Design for reconstruction of 3500 feet of West Valley Road. Design for reconstruction of portions of Pugh Road and Old State Road. Design for reconstruction of portions of Strafford Avenue.

**Pennsbury Township** — Design for reconstruction of one mile of Hickory Hill Road.

**Clarence Staats** — Design for reconstruction of 1500 feet of Cedar Hollow Road to State Department of Highways Standards.

**Penn Warner Park** — Design for relocation of 3,000 feet of Tyburn Road including redesign of intersection to State Department of Highways Standards.

## STORM DRAINAGE

Design of adequate storm drainage facilities for new projects and redesign of inadequate or deteriorated facilities is a most important part of modern planning. The high value placed on real estate and its improvements makes this design paramount. Studies and designs completed in this category include:

**Andorra Nurseries** — Storm drainage study for this residential and commercial development and its effect on surrounding areas.

**Sim Corp.** — Storm drainage study for a residential subdivision of some 50 lots.

**Willistown Township** — Drainage study and design of two concrete box culverts for Grubb Road. Drainage area for each culvert was approximately one-half square mile.

**Fox Companies** — Drainage study for 100 acre residential and commercial subdivision including design of storm sewers and concrete box culvert.



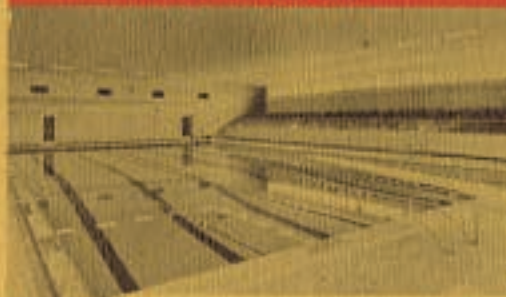
## SWIMMING POOLS

YERKES ENGINEERING CO. has been consultant and designer of many of the larger pools in this locale and has designed pools over a four state area. Their work has won several awards for excellence of design. Clients have included swim clubs, private and public institutions, resorts and pool builders. Both indoor and outdoor pools have been designed that range to a total gallonage of 500,000; one of the largest in the east. In addition to new pools, plans and specifications have been prepared for rehabilitation of existing structures. The Company has also acted as agent of the owner during pool construction and is familiar with all phases of design and construction on the several types of pools available.

### Representative Pools Include:

Martins Dam Club • Lafayette Swim Club • West Chester Country Club • Springhaven Country Club • Wilmington Country Club • Timberwyck Club • University Inn-State College • Valley Forge Military Academy • Waynesborough C.C. • West Chester Golf & C.C. • West End Gun Club • Westminster Swim Club • West End Garden Motel, Elkton, Md. • Radnor Crossing Apts. • Strafford Station Apts. • Beach Comber Swim Club • Cedarbrook Country Club • Continental Spa • Devereux Foundation • Delaware Assoc. for Retarded Children • Episcopal Conference Center • Hershey Hotel • Holiday Inns (6 Pools) • Camp Jubilee—Boy Scouts • Karakung Swim Club • Media Inn Motor Lodge • Packer Park Swim Club • Park Towne Bathing Club • Pennington School • Pine Hill Day Camp • Ply-Mar Swim Club • Pocono Gardens Lodge • Presbyterian Children's Village.

PENNINGTON SCHOOL



SKYTOP LODGE



*Swimming Pool Age Award*  
For Design Excellence  
CLASS V  
PUBLIC POOLS



WAYNESBOROUGH C.C.



POCONO MANOR





PRESTRESSED CONCRETE BRIDGE  
VALLEYBROOK RADNOR TWP., PA.



WAREHOUSE AND OFFICES — THE COPE COMPANY  
COLLEGEVILLE, PA.

## BRIDGES

The first bridges designed by the Company were stone masonry and brick arch. Some of the plans in the files bear dates well before the turn of the century. Since then hundreds of small to medium span bridges of various types have been designed. Materials used have been steel, reinforced concrete, prestressed concrete and timber (to blend with a rural setting). Recent projects include:

**Valleybrook Residential Development** — Two thirty-five foot spans of prestressed concrete on reinforced concrete piers, parapet walls were of stone masonry.

**Radnor Valley Country Club** — Seven small bridges of varying spans with a total cost of \$25,000 were designed for golf and delivery vehicles.

**Subdivision - Easttown Township** — Timber bridge for two lane traffic serving a residential subdivision—span approximately seventeen feet.

## STRUCTURAL ENGINEERING

Structural design experience of YERKES ENGINEERING CO. is broad and varied, ranging from the structural analysis of a burned out dwelling built in the 1600's to design of large office and warehouse buildings.

**Toms River Chemical Corp.** — Toms River, New Jersey, 50,000 square foot structural steel warehouse on base of compacted fill.

**United Parcel** — Hyattsville, Maryland, 30,000 square foot building for package handling. Building of structural steel.



## REPORTS

Once a basic need for a project is determined the feasibility of that project must be investigated. What is the scope of the project? What alternate programs can be developed? What is the best timing for the project? What alternate methods of financing are available and which is best? What expenses can be expected for maintenance and replacement? These are only a few of the many questions answered by the typical feasibility report.

Reports have recently been completed for the Strafford area of Tredyffrin Township, Paoli Area of Tredyffrin Township, northern portion of Easttown Township, and portions of Schuylkill Township and Lower Providence Township.

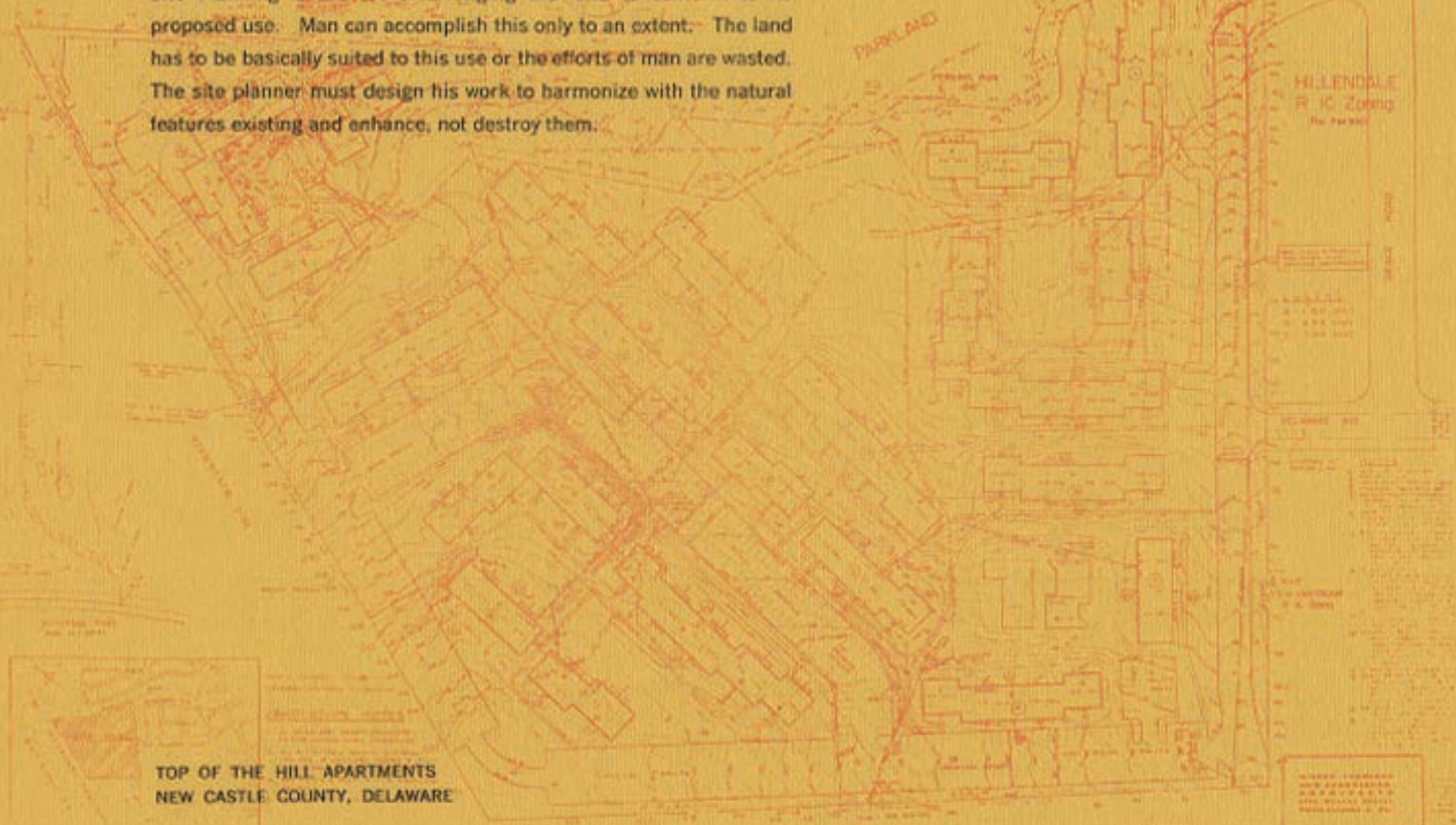
In addition to those pictured, reports have recently been completed for Warehouse Number 4 — Penn Warner Park, proposed parking garage for Boro of West Chester and various smaller reports and soils and foundation studies as they are a part of site investigation and evaluations.





Site Planning is the art of arranging the land to conform to its proposed use. Man can accomplish this only to an extent. The land has to be basically suited to this use or the efforts of man are wasted. The site planner must design his work to harmonize with the natural features existing and enhance, not destroy them.

Site Planning is the art of arranging the land to conform to its proposed use. Man can accomplish this only to an extent. The land has to be basically suited to this use or the efforts of man are wasted. The site planner must design his work to harmonize with the natural features existing and enhance, not destroy them.



TOP OF THE HILL APARTMENTS  
NEW CASTLE COUNTY, DELAWARE

NAME: CATHY D. DODD, AG  
 TITLE: Zoning

[illegible]



## RESIDENTIAL DEVELOPMENTS

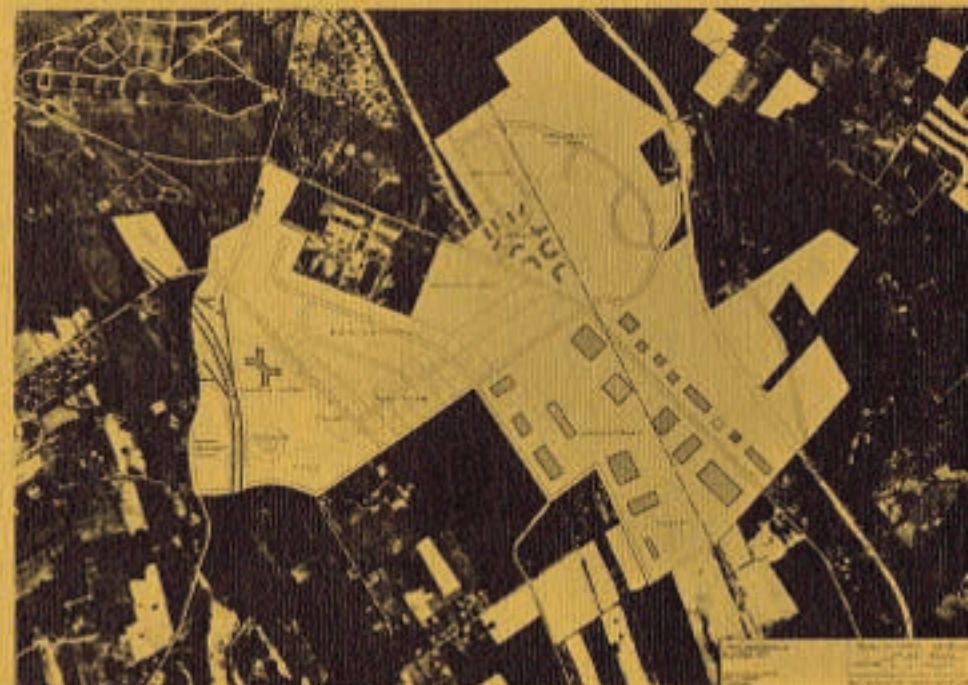
YERKES ENGINEERING CO. has designed residential developments since the turn of the century. With the surge in residential building after the Second World War this phase of the Company's operations assumed a major scope. In the intervening years hundreds of subdivisions have been planned and designed by our personnel. Residential developments have varied in size from a few houses along an existing street to developments consisting of hundreds of homes that were serviced with new roads, storm and sanitary sewers and treatment facilities, water and all the other necessary utilities.

Residential planning is undergoing a period of radical change. Concepts such as greenbelt subdivisions, density zoning and cluster developments have come to the fore. No longer are rectangular blocks and row after row of identical houses acceptable. Yerkes Engineering Co. has adopted this new attitude toward residential developments and incorporates it into their planning and design. Planning of all residential developments is developed to insure that it will harmonize with the surrounding community, be economical to construct and above all be livable.

The Company offers a complete service from initial boundary and topographical surveys through the planning and design phases to the construction stakeout. Addition of an in-house solid state computer has added flexibility and versatility to our operations.



SKETCH OF PLANNED UNIT DEVELOPMENT



SKETCH OF PLANNED UNIT DEVELOPMENT  
EAST WHITELAND TOWNSHIP, CHESTER COUNTY, PA.





GREEN HILL APARTMENTS — LOWER MERION, PA.



RADNOR CROSSING APARTMENTS — RADNOR, PA.

## APARTMENTS

The rising costs and scarcity of land, combined with a demand generated by a more mobile population, have led to a drastic increase in the number and size of apartment projects built. No person wishes to live in an environment that smacks of mass thinking. It is the job of the site planner to design the roads, walks, landscaping and place structures in a manner that will allow each apartment dweller maximum individuality and yet still retain the benefits of large scale building for the developers. In this field of intense competition the project must afford maximum livability and yet be economical to build and maintain.

Too often in the planning of an apartment complex much thought and effort is given to the planning of the site and very little to the utilities and other services which may become a major maintenance problem in the future.

These features should be fully planned and coordinated in conjunction with planning of the other features. Two of the major projects that Yerkes Engineering Co. has planned in this field are:

**Top of the Hill Apartments** — By Reider Haas Enterprises. This project, located in New Castle County, Delaware, is comprised of 420 apartments situated on a wooded, hilly site overlooking the Delaware River. Yerkes Engineering Co. did all site planning and design of roads and utilities on this project. Architect: Milton Schwartz & Assocs.

**Greenhill in Lower Merion** — By Madway Engineers & Constructors. This project, located in Lower Merion Township, Pennsylvania, consists of five eleven-story buildings containing approximately 750 apartments, a swimming pool complex, and two garages located on 20 rolling, wooded acres. Yerkes Engineering Co. designed all utilities, roads, parking, calculated positions of all structures and did layout work. Architect: Milton Schwartz & Assocs.



## PUBLIC HOUSING

Planning for public housing is particularly demanding in that too often limited funds are available for the project. It is the obligation of the planner to provide a project that is livable, durable and esthetically pleasing, and yet he must adhere to the budget. Yerkes Engineering Co. has participated in the following projects:

**Montgomery County Housing Authority** — Pottstown, Pennsylvania. Redesign and renovation of an existing project. Elimination of drainage and grading problems, seeding and sodding.

**Abington, Pennsylvania** — Site planning, foundations investigation and design of utilities for a community of semi-detached homes.

**Chester Housing Authority** — Rehabilitation of site at Ruth L. Bennett Terrace Homes in Chester, Pennsylvania. Design including grading, seeding, sodding, playgrounds and landscaping. Louis Schmidt, Landscape Architect, was consultant.

**Wilmington Housing Authority** — Rehabilitation of site including sodding, grading and storm drainage. Paglia and Trembley were consulting landscape architects.

## INDUSTRIAL PARKS

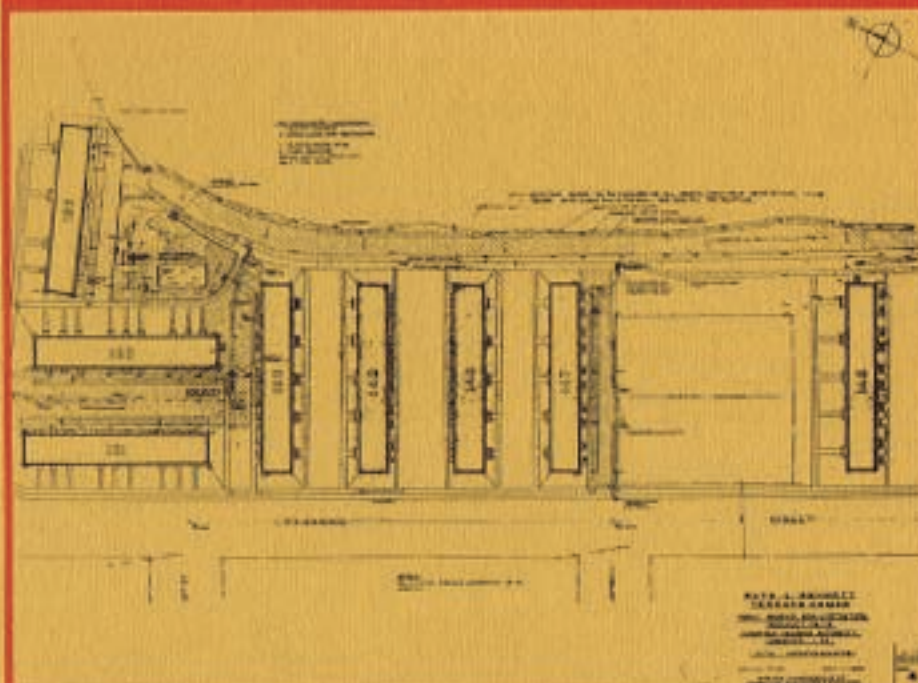
In planning an industrial park, flexibility is imperative. Neither owner or planner can foresee the exact demands of an industry that chooses to locate in the park. The park as planned must be able to provide one acre or fifty acres and must provide the necessary utilities and means of access. In the planning of an industrial park is the necessity of providing a pleasant work environment and a pleasing project. Yerkes Engineering Co. has participated in the planning and design of the following projects:

**Penn Warner Park** — Planning and engineering for a 3,000 acre industrial park owned by The Warner Company, Morrisville, Pennsylvania.

**Great Valley Industrial Park** — Planning and engineering for a 750 acre development for housing and industry in Chester County, Pennsylvania, owned by A. J. Volpi.

**Paoli Industrial Park** — Planning and engineering for a 250 acre industrial park in Paoli, Pennsylvania, owned by C. S. Staats, Jr.

**Devon Industrial Park** — Devon, Pennsylvania, owned by Aner, Inc.



RUTH L. BENNETT TERRACE HOMES  
CHESTER, PA.



VALLEY FORGE INDUSTRIAL PARK  
VALLEY FORGE, PA.  
OWNER: ROBERT E. LAMB, INC.





AERIAL VIEW — VALLEY FORGE SHOPPING CENTER  
KING OF PRUSSIA, PA.



SITE PLAN — BUCKS COUNTY COMMUNITY COLLEGE  
NEWTOWN, PA.

## SHOPPING CENTERS

With the demand for, and construction of, residential facilities, came the demand for additional shopping facilities. Because of rapidly worsening traffic and parking problems within the towns and cities a new concept was born—that of the shopping center. A relatively complete cross-section of stores situated in close proximity to ample parking and support facilities. Yerkes Engineering Co. were site planners and engineers for two of the earliest in the Philadelphia area:

**Valley Forge Center** — King of Prussia, Pennsylvania. Site planning and engineering for a shopping center consisting of approximately two dozen stores. Design and planning including utilities, roads, parking, and structural engineering for buildings, and general planning. The Company recently completed an assessment of damage and structural redesign of one of the major buildings after a disastrous fire.

**Paoli Shopping Center** — Paoli, Pennsylvania. Site planning and engineering for a twelve acre site including design of utilities and parking.

## EDUCATIONAL/INSTITUTIONAL

The expanding population has placed a heavy burden on the educational and institutional facilities of the nation. To keep pace with the demand a gigantic building program has been undertaken. Some of the projects that Yerkes Engineering Co. has participated in are:

**Radnor High School**—Radnor, Pennsylvania. Complete site planning and engineering for this fifty acre high school site, including initial surveys and construction layout. Banwell, Armentrout, Divvens, Architects.

**Bucks County Community College** — Newtown, Pennsylvania. Complete site planning and engineering for 100 acre campus, including utilities. Architects: Nolen & Swinburne, Assoc.

**Radnor Convalescent Home** — Radnor, Pennsylvania. Site planning, engineering and landscaping for 100-bed nursing home. Louis Schmidt, Consulting Landscape Architect; Milton Schwartz Assocs., Architect.





MAIN POOL — MARTINS DAM SWIM CLUB  
KING OF PRUSSIA, PA.

## RECREATIONAL

With the increased leisure time of the American public, existing recreational facilities became inadequate. In the past decade public and private agencies and groups have undertaken to provide the public with the recreational facilities they desire. Yerkes Engineering Co. has been consultant to many of these agencies and groups as they have developed their projects.

**Martins Dam Swim Club** — King of Prussia, Pennsylvania. A swimming club established in the early 1900's and situated on 35 wooded acres. Swimming was done in a lake until water pollution required the construction of pools. Rather than destroy a part of the wooded setting it was decided to fill a portion of the lake and construct the pools on compacted fill. With a capacity of 500,000 gallons these pools are one of the larger complexes in the east.

**Downs Farm Swim Club** — Cherry Hill, New Jersey. Site planning and engineering for a 150,000 gallon capacity swimming pool complex constructed on compacted fill.

**Westminster Swim Club** — Wilmington, Delaware. Site planning and engineering including bathhouses for a 100,000 gallon capacity pool complex.

**Gifford Pinchot State Park** — York County, Pennsylvania. Site planning and engineering for a 350-unit camping ground. Design and planning for this site included sites suitable for travel trailers or tents, sanitary disposal areas for travel trailers, washhouses, sanitary sewers, water supply, and rehabilitation of two beach areas.



GIFFORD PINCHOT  
STATE PARK

YORK COUNTY, PA.



# SURVEYING



TOPOGRAPHY



BOUNDARY SURVEYS

Yerkes Engineering Co. has been land surveyors since its beginning in 1874. This long history has resulted in a completely staffed and equipped survey force with experience in almost any type of survey. Surveys performed each year number over 500 in a four state area.

The Company has extensive experience in boundary and title surveys ranging from a single lot with 25 feet of frontage to a survey of property owned by Buck and Doe Run Ranch in Chester County, Pennsylvania, totaling more than ten thousand acres.

Survey situations range from rural to city. A survey was recently completed in rural Chester County that has not been done since Colonial times. Another was recently completed for No. 2 Penn Center Building in Philadelphia that involved separate property lines at three levels and air rights for transfer of ownership.

The Company makes topographical surveys of many hundreds of acres each year. Topographical work ranges from reconnaissance work at small scales to detailed work at large scales. All topography is done by the plane table and alidade method. Clients for this work include private individuals, government agencies and many of the architects in the area.

Construction layout is one of the major phases of the survey operations of the Company. In addition to the layout of engineering works designed in-house the Company performs layout on a contract basis. Recent projects of this type include a high rise office building at 17th and Market Streets, Philadelphia, Penna.; a 200,000 square foot warehouse building for Mack Truck in Allentown, Penna.; Berwyn Apartments, Berwyn, Penna.; Glenhardie Apartments, Valley Forge, Penna.; and road layout at Lehigh University, Allentown, Penna.

"As Built" surveys are frequently required by the holder of the mortgage. Surveys of this nature performed include those for Radcliffe Apartments, Radnor Township, Penna.; Wessex House



Apartments, Radnor Township, Penna.; and No. 4 Penn Center, Philadelphia, Penna.

Yerkes Engineering Co. is frequently called upon to provide a complete survey service. Initially, boundary and topographic surveys are provided as well as any special surveys, such as stream sections and profiles. Proposed roads and sewer lines are profiled as necessary to provide design information. After completion of design, survey controls are set and layout of roads, buildings, sewers, grades, etc., proceeds. Upon completion of construction an as-built survey is made and a final plan drawn. Services of this type include the following projects: Green Hill Apartments, Lower Merion Township, Penna.; Hampton House Apartments, Lower Merion Township, Penna.; and Beaver Hill Apartments, Jenkintown, Penna.

The Company has performed a wide variety of special surveys over the years for a variety of clients. Some of these projects include: Surveys of Nike Sites: Boundary and topographical surveys were performed for the twelve Nike sites in the Philadelphia Area. Work included special work in conjunction with the radar and aiming devices for each site. Client was the Ballinger Co., Architects.

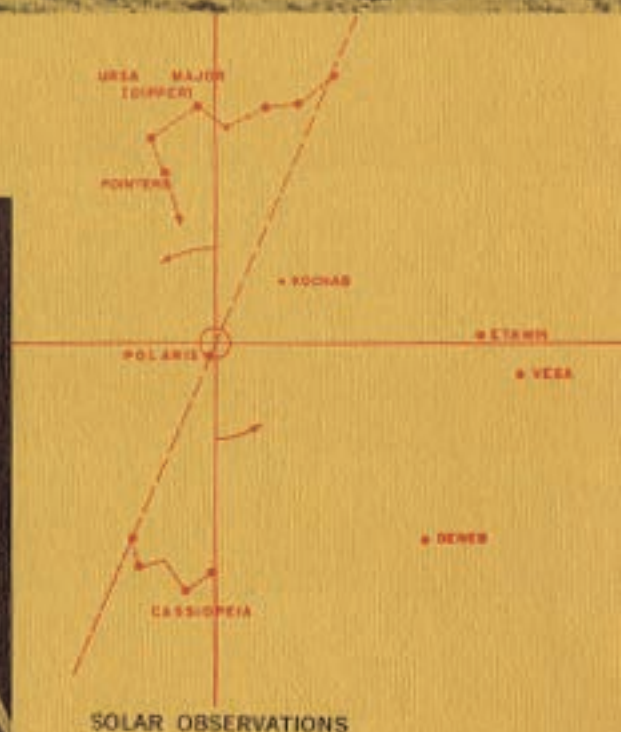
French Creek State Park: A reconnaissance survey was made of a ten square mile area to locate and profile roads, trails, drainage, streams and other features.

W.C.A.U. Radio: A 1300 foot tall tower was plumbed and anchors were set in precise locations during construction. The tower was aimed by azimuth obtained through solar observations. Solar Observations have been made for American Telephone and Telegraph for use with their micro-wave relay stations.

Geodetic: A geodetic survey was made for the General Electric Co., King of Prussia, Penna., to determine the coordinates of a point in a laboratory and a precise azimuth from that point to another point. Work performed was to assist in tracking satellites.



CONSTRUCTION LAYOUT





# CARTOGRAPHY

MUNICIPAL MAPS

DISPLAY MAPS

AUCTION MAPS

OVERLAYS

Cartography is an art within itself and requires different techniques than normal drafting. Cartography must be accurate and to scale, but must also present a finished look suitable for printing in volume or for any other intended use. The experience of the Company in this field includes the following plans: "Towns of The Main Line" for the Main Line Board of Realtors; Zoning and Road Map for the Township of Lower Providence; and maps for the auctioning of land made for Raymond A. McPherson Auctioneers, and Louis Traiman Co., Auctioneers. Multi-colored maps and plans for presentation purposes have been made for zoning changes, legal cases and for real estate sales.

MAJOR HIGHWAYS AND  
TOWNSHIP BOUNDARIES

MAJOR RAILROADS

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## CONSTRUCTION CONTROL

In 1962 the Company established a soils laboratory for the controlled compaction of soils. The laboratory is equipped to perform the basic classification and optimum density tests required for controlled compaction.

Included among the projects for which the laboratory and field control of compacted fill were performed are the following:

**Warehouse** — Wyeth Laboratories, Inc., West Chester, Penna.; **Warehouse** — John Middleton Co., King of Prussia, Penna.; **Swimming Pool** — Packer Park Swim Club, Philadelphia, Penna.; **Warehouse** — Toms River Chemical Co., Toms River, New Jersey. More sophisticated tests on soil required in conjunction with soils and foundation studies are performed by consultants.

Competent inspection protects the interests of the owner and at the same time provides cooperation with the contractor to the end that the project is completed with a minimum of delay and interference. Criteria set forth in the plans and specifications must be complied with, but must be subject to a reasonable interpretation. The most complete and well executed plans and specifications are worthless unless the construction is completely inspected.

Recent inspections conducted include:

**No. 4 Penn Center** — Philadelphia, Penna. Supervision of steel erection and aligning of steel.

**Warehouses** — South Philadelphia. Constructed by Butler Manufacturing Co. Inspection of piles and pile clusters and certification of same.

**Inspection of Sanitary Sewers** — For Supervisors of Willistown Township. Inspection of sanitary sewers constructed to serve Memorial Hospital, Paoli, Pennsylvania.



LIQUID LIMIT TEST —  
SOILS LABORATORY



DETERMINATION OF  
MOISTURE CONTENT —  
CONTROLLED COMPACTION



STRUCTURAL STEEL —  
#4 PENN CENTER  
PHILADELPHIA, PA.



CONSTRUCTION OF  
LARGE STORM SEWER



# CODE OF ETHICS

YERKES ENGINEERING CO. subscribes to the Code of Ethics of the Consulting Engineers Council as follows:

WITH high regard for the Engineering Profession, and recognizing in the Code of Ethics of Consulting Engineers Council a set of dynamic principles to guide his service to his fellowmen, a member of Consulting Engineers Council . . .

1. Brings credit, honor and dignity to the Engineering Profession in his dealings with clients, other Engineers, and the public.
2. Acts for his clients as a faithful agent or trustee and accepts remuneration only in accordance with his stated charges for services rendered.
3. Exchanges Engineering information freely with other Engineers, students, and the Engineering press, encourages the public knowledge of Engineering, and insures proper credit for Engineering work.
4. Upholds the principle of appropriate and adequate compensation for Consulting Engineers and those in their employ.
5. Upholds the professional reputation of other Consulting Engineers and respects their Engineer-Client agreements.
6. Solicits commissions for Engineering work according to high professional standards, without advertising in a self-laudatory manner, offering commissions, or using undue influence.
7. Negotiates fees and contracts without entering into price competition of any nature for Engineering services.
8. Associates as a Consulting Engineer only with Engineers and other professionals who conform to ethical practices.



# SELECTION OF A CONSULTING FIRM

## WHY A CONSULTANT?

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A consultant is a professional offering his services on a fee basis. He has no commercial affiliation to bias him.

A consultant represents only the owner. He is thus able to apply freedom of choice in his design and choice of materials.

A consultant provides the owner with a background of experience and latest methods. He is in a position to analyze the interests of the client and render services that will ideally serve his client.

## SELECTION

Selection of a consulting firm should be based on the qualifications of the firm and its staff for the project to be accomplished. Skill, reputation and experience are important factors. In addition, the client should seek the professional characteristics of objectivity, attention to engineering and esthetic details, and devotion to the client's interests. To help determine these qualifications consider the following:

1. Technical qualifications of the firm.
  2. Reputation of the consultant with his clients.
  3. Standing of the firm within the profession.
  4. Size and capability of the firm.
  5. Experience of the firm in projects similar to the one under consideration.
  6. Their mobility and availability of personnel.
- 

## OUR CHARGES

Like all reputable consulting firms Yerkes Engineering Co. is reimbursed for services on the basis of a negotiated fee. The Company will not enter into competitive price procedures. Fees are determined through use of fee schedules published by local, state and national professional societies as guides. The most used methods of determining fees are:

- Percentage of cost of construction
- Predetermined lump sum
- Per diem rate plus expenses

There are no "bargain" rates for the services of a consultant. An inadequate fee will often provide a substandard project at high cost. An adequate fee allows the consultant to devote sufficient time and resources to provide a well thought-out and documented solution with reduced costs for construction and maintenance.

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# REPRESENTATIVE PROJECTS

Among other works the firm of Yerkes Engineering Co. has participated in development of the following projects:

## Sanitary Sewerage Systems

Tredyffrin Township—Sewers  
Radnor Township—Sewers  
Mountainview Manor Development—Treatment plant and sewers  
Collegeville Inn—Treatment plant  
Camp Grounds—Gifford Pinchot State Park—Pump stations and sewers

## Roads and Highways

West Valley Road, Tredyffrin Township  
Old State Road, Tredyffrin Township  
Pugh Road, Tredyffrin Township  
Hickory Hill Road, Pennsbury Township  
Cedar Hollow Road, Willistown and Tredyffrin Townships

## Water Systems

Glenhardie Apts., Valley Forge  
Plymouth Green Apts., Plymouth Meeting, Pa.  
Penn Warner Industrial Park, Morrisville, Pa.

## Swimming Pools

Martins Dam Swim Club, King of Prussia, Pa.  
Lafayette Swim Club, King of Prussia, Pa.  
Holiday Inns of America—6 pools  
Wilmington Country Club, Wilmington, Del.

## Bridges - Culverts

Valleybrook, Radnor Township  
Coldstream, Tredyffrin Township  
Glenhardie Country Club, Valley Forge, Pa.

## Structural Engineering

Toms River Chemical Corp., Toms River, N. J.  
(for Butler Manufacturing Co.)  
United Parcel, Hyattsville, Md.  
(for Butler Manufacturing Co.)

## Soils and Foundation Reports

Montgomery County Housing Authority, Abington, Twp.  
Penn Warner Industrial Park, Morrisville, Pa.  
Apartments, Briarwood Corp., Wayne, Pa.

## Railroads

Penn Warner Industrial Park, Morrisville, Pa.

## Grading Plans—Earthwork Analysis

Radnor Crossing Apts., Radnor, Pa.  
Radnor High School, Radnor, Pa.  
Top of the Hill Apts., Brandywine Hundred, Del.

## Feasibility Reports

Lower Providence Township  
Schuylkill Township  
Tredyffrin Township  
Portion of Easttown Township

## Consultants to Municipalities

Radnor Township  
Tredyffrin Township  
Pennsbury Township  
Easttown Township

## Residential Developments

Earlton, Radnor Township  
Valleystream, Radnor Township  
Mountainview Manor, Lower Providence Township  
Rolling Green Acres, Springfield Township

## Apartments

Green Hill Apts., Lower Merion Township  
Radnor Crossing Apts., Radnor Township  
Stratford Station Apts., Stratford, Pa.  
Top of the Hill Apts., Brandywine Road, Del.

## Industrial Parks

Penn Warner Park, Morrisville  
Paoli Industrial Park, Paoli  
Valley Forge Industrial Park, Audubon  
Great Valley Industrial Park, East Whiteland

## Public Housing

Montgomery County Housing Authority, Pottstown  
Montgomery County Housing Authority, Abington  
Riverside Project, Wilmington, Del.

## Schools

Radnor High School, Radnor  
Methacton High School, Audubon  
Bucks County Community College, Newtown, Pa.

## Institutional

Radnor Convalescent Home, Radnor

## Shopping Centers

Paoli Shopping Center, Paoli  
Valley Forge Shopping Center, Valley Forge

## Recreation Facilities

Camp Grounds—Gifford Pinchot State Park, York County  
Playgrounds—Ruth L. Bennett Terrace Homes—Chester  
Karakung Swim Club

## Land Surveying

10,000 acres—Buck & Doe Run Farms, Chester County  
Castlebar Corp.—Lower Merion Township, 500 acres topography  
General Electric, Valley Forge, geodetic survey

## Cartography

Zoning Map—Lower Providence Township  
Sewer Grid Map—Tredyffrin Township  
Map of Main Line—Main Line Board of Realtors  
Auction Map—Applebrook Farms, Chester County

## Compaction Control

Warehouse—Toms River Chemical Corp., Toms River, N. J.  
Warehouse—John Middleton Tobacco, King of Prussia  
Building—Wyeth Laboratories, West Chester



#### LOUIS F. SCHMIDT - REGISTERED LANDSCAPE ARCHITECT

In February, 1969 Louis F. Schmidt, A.S.L.A. joined the Company to expand the activities of the Company in the field of Site Planning and to provide services in the field of Landscape Architecture.

Mr. Schmidt received his B.S. in Landscape Architecture from The Pennsylvania State University and has advanced studies in that same field in England and the United States. He is a registered Landscape Architect in the State of Pennsylvania and is a member of the American Society of Landscape Architects.

His experience includes design and consulting in all phases of Landscape Architecture and Site Planning. He has planned and designed Residential Subdivisions, Recreational facilities, Schools, Industrial Facilities, and grading and planting of interchanges and rights of ways for limited access highways. His work has won awards for design excellence.

Mr. Schmidt was previously associated with the firm of Wheelwright, Stevenson, and Langron - City Planners and Landscape Architects.







## *to our prospective clients*

This brochure has been prepared to present to the prospective client the plant, personnel and services of our firm. It is intended primarily as an introduction and covers our broad scope of services in a general fashion rather than specifically.

We will be pleased to present our qualifications for any type of project in detail at your convenience.

In order to present a complete service we maintain close relationship with consultants in the architectural, landscape architectural, electrical engineering and mechanical engineering fields. Their services are drawn upon when necessary for any of our projects.

We are confident that a further examination by you of our record and performance will be of benefit to us, and to you. Your consideration of our firm is greatly appreciated.

YERKES ENGINEERING CO.  
John B. Yerkes, P.E.  
President



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