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A N N U A L R E P O R T

of the

BUREAU OF ENGINEERING, SURVEYS AND ZONING

of the

DEPARTMENT OF PUBLIC WORKS

CITY OF PHILADELPHIA

1943

THOMAS BUCKLEY

CHIEF ENGINEER AND SURVEYOR

* * * * *

1-1943

BUREAU OF ENGINEERING, SURVEYS AND ZONINGThomas Buckley, Chief Engineer and Surveyor

The normal functions performed by this sub-division of the Department of Public Works are numerous and diverse because of the administrative demands that have controlled its organization over a period of eighty-eight (88) years. This Public Works unit, as it stands today, is the result of the consolidation of three separate bureaus into one master bureau, i.e., the Bureau of Surveys, the Bureau of Zoning, and the Bureau of Engineering.

The Surveys Division is under the responsible charge of the Assistant Chief Engineer and Surveyor, and includes the following elements of the Bureau organization: The Board of Surveyors, the nine Survey Districts into which the City is sub-divided, and the City Plan, Land Title and Road Records units.

The primary activities of the Surveys Division are land surveying in all its branches; studies, surveys, plans, lines, grades, estimates and assessments for various classes of municipal improvements; surveys, plans and other data for many municipal departments and bureaus, including legal use; the preparation, establishment, and administration of the official City Plan; city planning, research studies and reports; maintaining for public access and reference official records of City Plan changes, street openings, and property ownerships.

By reason of the number of well trained, experienced, and efficient personnel in the Surveys Division, its assistants are subject to assignments for special services within the Bureau and for inter-departmental duties.

The Zoning Division is under the responsible charge of an Assistant Engineer-Zoning, and comprises an efficient single unit, carefully organized to perform the highly specialized duties involved. The primary activity of the Zoning Division is the administration of zoning, as authorized by ordinances of Council August 10, 1933, and amendments thereto, including the supplemental ordinance of October 26, 1936, and Act of Assembly approved May 6, 1929. The work performed includes all of the duties essential to the regulating and restricting of the height, location, size, bulk and use of buildings or land within the city and county of Philadelphia under a complete zoning code.

The Engineering Division is under the responsible charge of the Principal Assistant Engineer, and includes the following elements of the Bureau organization: the design, construction, inspection, operation, testing and sewer registrar and permits units.

The primary activities of the Engineering Division are the design and construction of bridges, retaining walls, buildings, flood controls, storm and sanitary sewers, and other drainage and sewage structures; participation with railroads in grade crossing eliminations and terminal improvements; plans for major highway improvements; inspection of materials and workmanship; preparation of standards and specifications; physical and chemical testing of materials; a City-wide service; preparing complete plans of drainage system and issuance of permits for sewer connections; investigations of drainage and flooding complaints; control of trade wastes; checking and approval of structural designs for other

departments and public utilities, and general engineering investigations and reports on various projects and conditions affecting the interests of the City.

In addition to these three major functions, there is also an auxiliary unit attached to the Bureau, designated as The Co-Ordinating Division for projects of the Works Progress Administration, under the responsible charge of an Assistant Engineer and Co-Ordinator. The primary purpose of this division is to act as a consulting and co-ordinating staff for the Mayor in setting up, equipping, financing, supervision, and completing all Works Administration projects sponsored by the City. The work performed includes recommendations and advice in formulating worth-while projects, submitting estimates and ordinances to Council for Works Projects programs, preparing material and equipment, requisitions, and special specifications, inspecting supplies, materials, and workmanship, preparing minor designs, and supervising the laying out and conduct of the work.

These four divisions of the Bureau of Engineering, Surveys and Zoning are not completely detached from each other and do not function independently. They are harmoniously co-ordinated into an united and effective working whole, capable of performing annually an unusual volume of work varying greatly in character and extent. Although the combined man-power is relatively small, and the salaries received are considerably below the standards now in force in private business employments, these factors have not affected the productiveness of the Bureau.

The Surveys, Zoning, Engineering, and Co-ordinating divisions are served by an Accounting Unit under the responsible charge of a Chief Clerk. The principal activities of this function include the bookkeeping, accounting, and auditing necessary in connection with the budget and loan appropriations to the Bureau, and for the estimates, requisitions, supplies, leases, contracts payrolls, pensions, reports and other financial business under the jurisdiction of the Bureau, and the maintenance of the transportation facilities required by the different units, and complete service records of active and inactive personnel.

Considering the Bureau functions as a whole, there are other certain general activities performed that are worthy of record. These include the drafting of ordinances, agreements, deeds of dedication, reports to administrative heads and legislative committees concerning the City Plan, municipal improvements, municipal and State legislation and other subjects; participating in court and Board of View proceedings and in the meetings of the Fairmount Park Commission, the Board of Highway Supervisors, the Zoning Board of Adjustment, the Board of Surveyors, road day hearings on City Plan changes, the Utilities Technical Committee, and other special meetings; furnishing daily to a large number of the general public and to special business interests information concerning property surveys, City Plan and planning data, legal status of streets, property ownerships, zoning regulations, availability of sewer and stormwater drainage facilities, locations of drainage connections, bids and contract data, and other miscellaneous data; acting as a consultant in the laying out of new developments in drainage and highway projections and construction, in traffic controls and other municipal engineering problems.

A detailed account of the work done during the year 1943 by the various functional divisions of the Bureau of Engineering, Surveys and Zoning appears in the following description, which is supplemented at the end of the report

by a statistical summarization of the activities of each unit. Included in this tabulation is the report of the Photographic and Blue Print division of the Department of Public Works. While this unit is assigned to the Director's office in the budget, it is most intimately associated with and supervised by the Bureau of Engineering, Surveys and Zoning.

WAR EMERGENCY DEMANDS

National Defense.- National defense and war production work continued to be the controlling objectives and all other activities remained secondary thereto. Practically all Government construction projects affecting Bureau operations were completed during the year with the exception of those related to access roads, Emergency housing and the Northeast Philadelphia Airport. Restrictions in the use of critical materials continued in full force and, at the same time, the problems of furnishing equipment and the employment of labor on construction work became increasingly difficult. These influences resulted in the curtailment of the City's construction program and particularly two of its most important elements. One of these was for City-State highway improvements, wherein approval for construction was limited to access roads or highway projects definitely established as essential to the war effort. The other was for the elimination of bad drainage conditions in the suburban areas of Philadelphia, due to the use of obsolescent cesspools. In the latter case, the War Production Board would not permit the construction of any stormwater sewers in connection with the extension of the Sandy Run system. The City strongly opposed such action but was forced to abandon its former rigid policies and construct only the sanitary elements of the separate system of drainage, because of the urgent need of this service. The ban placed upon the construction of storm sewers in the Sandy Run area is expected to last for the duration, although the surface water problems are almost as bad as those resulting from the use of cesspools.

The war conditions mentioned reduced the total volume of work done by the Bureau in the current year. While the number of different projects undertaken was sharply curtailed in 1943 for the reasons given, the difficulties encountered in performing work increased far beyond normal because of these wartime regulations and restrictions. Other related factors were the losses in manpower, due to military service and the total inability of the Department to find competent replacements. Owing to these causes the amount of effort put forth and the pressure of work required to be done by the Bureau forces were equal to the standards set in the years when work volumes were at much higher level.

Civilian and Public Works Defense.- The Bureau continued active in Civilian Defense operations, although the intensity of such activities has been reduced by the definite trend of the war. The present policy is to effect a gradual tapering off of Civilian Defense functions to a level where its chief objective will be that of cooperation with municipal agencies in case of disaster.

However, some cities are employing elements of Civilian Defense in post-war construction surveys, and the Philadelphia Council is now considering the merits of this plan. The application of the forces of Civilian Defense to such post-war work may involve the Bureau because of its relation to planning and post-war construction.

SPECIAL PROJECTS

City-State Highway Program and Related Projects.- As previously mentioned, State highway construction in 1943 was limited to access roads, approved by the War Production Board and war officials as military necessities. South and Southwest Philadelphia contain many important agencies of the United States Government and numerous large industries and terminal facilities intensively activated by the war emergency. The importance of these agencies, industries and facilities to the war effort was clearly indicated when the War Production Board approved the continuation of the City-State highway program in South and Southwest Philadelphia and thereby recognized the great need of adequate "access roads and highways" in this section of the City. An outline of these projects follows:

26th street approach to League Island Navy Yard from Passyunk avenue to Navy Yard entrance:

Section 1 - Penrose avenue to Navy Yard entrance (not a State highway)
ordinance approved 5-18-42 - Agreement executed 5-19-42 -
Work started 5-18-42 - completed 6-5-1943.

Width 88 feet - dual roadways 35 feet wide - width of center divisor 4 feet - length 1900 feet. Right-of-way provided jointly by City and Pennsylvania Railroad Company - total cost \$277,757. paid out of funds appropriated to United States Public Roads Office - no cost to the City.

Section 2 - 26th street from Passyunk avenue to Penrose avenue (not a State highway), including Penrose avenue approaches thereto - ordinance approved 12-15-42 - agreement executed 1-6-43 - work started 3-25-43 - completed December 31, 1943.

Width of 26th street 88 feet - dual roadways 33 feet wide - width of center divisor 4 feet - length 5800 feet - width of Penrose avenue approaches 120 to 148 feet - dual roadways 36 feet wide - width of center divisor 24 to 40 feet - length 2200 feet. Right-of-way provided by the City covered largely by dedications from the Atlantic Refining Company and no claims for damages to the City by the Girard Estate. Construction cost \$356,382. paid out of funds appropriated to the United States Public Roads Office and approximately \$7,000. to be paid by the City for damages and water facilities.

Vare-Oregon avenue:

Section 1 - Passyunk avenue to 18th street - ordinance approved 9-27-41 - agreement executed 10-23-41 - work started 10-1-42 - completed December 31, 1943.

Width 108 to 120 feet - dual roadways 36 feet wide - width of center divisor 12 feet - length 4000 feet. Right-of-way largely contributed by Girard

Estate and other abutting owners - balance opened at Commonwealth's expense. Cost to Commonwealth \$210,574. - to City about \$100,000. for sanitary sewer construction and curbing. A portion of the City's expenditure will be recaptured by the payment of service charges when connections are made to the sewers.

Passyunk-Essington avenue from 63d street to Island avenue:

Section 1 - From Island avenue to a point northeast of Powers lane - ordinance approved 9-27-41 - agreement executed 10-21-41 - work started 3-23-42 - completed 5-10-43.

Width 108 feet - dual roadways 36 feet wide - width of center divisor 6 feet wide - length 5400 feet. Right-of-way provided by City. Cost to the Commonwealth \$417,671. - to City about \$20,000.

Section 2 - from a point northeast of Powers lane to 63d street and Passyunk avenue - ordinance approved 9-27-41 - agreement executed 10-21-41 - work started 9-16-42 - completed December 31, 1943.

Width 108 feet - dual roadways 36 feet wide - width of center divisor 6 feet - length 6600 feet. Right-of-way provided by the City - cost to Commonwealth \$364,631. - to City about \$20,000.

Essington avenue from Island avenue to Philadelphia-Delaware County line at Bow Creek:

Ordinance approved 3-19-43 - agreement executed 3-20-43 - work started 9-4-43 - completed about 5-1-44.

Width 108 feet - dual roadways 36 feet wide - width of center divisor 6 feet - length 6600 feet. By order of the War Production Board only two of the six 12-foot traffic lanes are being constructed at present. However, the State Department of Highways hopes to change this ruling so that all paved traffic lanes may be completed under the present contract. The intersection of Essington avenue and Island avenue will feature a traffic circle having an outside diameter of 428 feet and an inside diameter of 300 feet. Right-of-way provided by City, excepting traffic circle - construction cost borne jointly by Commonwealth and United States Public Roads Office \$500,810. - by City about \$60,000.

Island avenue from Tinicum avenue to Eastwick avenue:

Ordinance approved 9-27-41 - agreement executed 10-23-41 - work started 7-29-42 - completed 8-6-43.

Width 108 feet - dual roadways 30 feet wide - width of center divisor 20 feet - length 2200 feet. Right-of-way provided by Commonwealth without cost to City. The cost to the Commonwealth \$116,291. - to City \$4,000. for curbing. A portion of the City's expense will be recaptured by assessments against the abutting owners.

Penrose-Moyamensing avenue from 500 feet southwest of Pattison avenue to 126 feet east of 19th street.

Ordinance approved 8-13-43 - agreement executed 8-18-43 - work under contract and other construction.

Width 100 to 148 feet - dual roadways 36 feet wide - width of center divisor 4 to 60 feet - length 4500 feet. Right-of-way provided by Commonwealth without cost to the City - construction cost about \$326,655. paid out of funds appropriated to the United States Public Roads Office and about \$50,000. to be paid by the City for miscellaneous appurtenant work.

Supplementing the above mentioned projects are Section 2 of the 34th-Vare-Oregon avenues improvement, i.e., Grays Ferry road to Passyunk avenue. The War Production Board would not approve construction work at this time, although the project is urgently needed to provide an outlet for the Vare-Oregon avenue and 26th street improvements now completed, and dead-ended at Passyunk avenue. Also, Section 2 of the Island avenue improvement, i.e., from Eastwick avenue to Buist avenue.

Ordinance approved 9-27-41 - agreement executed 10-23-41 - plans completed.

War Production approval was withheld because of the priorities needed for the steel in the new trolley tracks required. Therefore, these two projects are scheduled for undertaking during the first year of the post-war construction program.

The Low-Grade Industrial Highway - In addition to the approaches to 26th street which have been completed, all of the Essington-Penrose-Moyamensing avenue portion of the low-grade industrial highway, from the County Line at Bow Creek and Essington avenue to 19th street and Moyamensing avenue, is under contract excepting the intermediate section between the traffic circle at Island avenue and a point about one thousand feet west of 26th street. The Delaware County elements of the low-grade industrial route are now under construction from Essington avenue at the Philadelphia County line to the City of Chester. The construction of the final, or closing, link in Philadelphia has been retarded by reason of the requirement of a new bridge overpassing the Schuylkill River on the line of Penrose avenue. It is proposed to construct a fixed bridge at this location, and the United States Engineer's Office has ruled that it must conform to the 135-foot clearance prescribed for navigable waters. Study plans are now being prepared for this project, and negotiations under way to determine the width of the bridge structure. The Bureau and the State Department of Highways agree that a bridge carrying four traffic lanes will be adequate by reason of the fluid flow possible on the long approaches having moderate 3 per cent. grades without any traffic intersections. On the other hand, the Public Roads Administration, which is providing funds for the industrial highway, suggests a 6-lane bridge. Traffic data is now being assembled for the purpose of settling this issue.

Vine Street.- Considerable progress was made in the development of plans for the Vine street approaches to the Philadelphia-Camden bridge during the closing months of 1943. The demolition plans for the first section have been completed, and the contract drawings for the said portion of the work will be completed on or before the first of March, 1944. The

first section of the work includes Vine street from Franklin square to 11th street, Ridge avenue from Vine street to Race street, and Race street from Ridge avenue to Franklin square. Important changes that have been agreed upon include the use of vitrified brick or block on all of the roadways to be reconstructed and the use of buff brick markers to delineate all traffic lanes providing channelizations as follows:

Vine street - The 31 feet wide side roadways will comprise: 8 feet parking lane, 11 feet intermediate lane, and a 12-foot wide outside lane adjacent to the divisor curbing.

The 33 feet wide center roadways will comprise: 12 feet wide outside lane adjacent to the divisor curbing, 11 feet wide intermediate lane, and a 10 feet wide deceleration lane.

The 24 feet wide center roadways will comprise: two 12-foot wide traffic lanes.

The 40 feet wide roadways will comprise: 8 feet parking lane, two 11-foot intermediate lanes, and a 10 feet wide deceleration lane.

Ridge avenue - The 64 feet wide roadway will comprise: Two 8-foot wide parking lanes and four 12-foot wide traffic lanes.

Race street - The 32 feet wide roadway on the south side will comprise: 8 feet wide parking lane, two 12-foot wide traffic lanes, and the 36 feet wide roadway on the north side, three 12-foot wide traffic lanes.

The Bureau prepared an architect's study for a new Reading Railway bridge to overpass the widened Vine street which has been accepted by the Reading Company. An important feature of this design is that it provides a minimum clearance of 15 feet 9 inches over the confirmed curb elevations. The detailed plans for this important bridge structure will be prepared by the Railway Company and the cost of the work will be shared by the Commonwealth of Pennsylvania and the Reading Company in proportions not yet determined.

Delaware avenue Skyway.- During the close of 1943, considerable thought was given to the plan for constructing a traffic viaduct in Delaware avenue as an integral element of the low grade industrial highway. The skyway would overpass all of the surface congestion which now develops in this important surface commercial avenue and would connect the Oregon-Moyamensing-Penrose-Essington avenue system on the south with the Aramingo-Harbisson-Roosevelt boulevard system on the north. This project has received considerable publicity and has been accepted by the State Highway Department as a desirable urgent improvement. It constitutes one of the important projects listed for post-war construction.

General System.- Studies of the general City-State highway system were made in the current year for the purpose of deciding whether or not any changes in established routes would be of advantage to the City. All such changes must be authorized by amendments to the State Highway Act, and it is planned to develop this program in time for the 1945 session of the Legislature. As the result of studies made, it has been tentatively decided to recommend the elimination of the following:

	<i>Miles</i>
Route 67021 (Cottman avenue, Frankford avenue to Rising Sun avenue);	2.879
Route 67030 (25th street and West College avenue from Pennsylvania avenue to Girard avenue, Girard avenue from West College avenue to 29th street);	0.814
Route 67031 (26th street from Pennsylvania avenue to Girard avenue);	— 0.435
Route 67038 (Sedgley Drive from Spring Garden street to Girard avenue);	— 1.023
Route 67008 (65th street from Chester avenue to the County Line).	— 0.284
and substituting in lieu thereof,-	<i>Total</i> → 5.435
Route 67020 (Levick street from the Roosevelt boulevard to either Rising Sun avenue or the Montgomery County line);	— 2.083
Route 67030 (Pennsylvania avenue from 26th street to Girard avenue);	— 0.701
Route 67008 (Chester avenue from 65th street to 70th street and 70th street to the County line (route 180));	— 0.568
Washington avenue from Delaware avenue to Grays Ferry avenue, and Grays Ferry avenue from Washington avenue to 34th street.	3.030
	<i>Total</i> → 6.382

Airports.- The management of the Municipal Airport at Hog Island during 1943 was greatly affected by operation due to war conditions. The controlling factors produced a crisis at the end of the year when all activities at this important terminal were banned for military reasons. In the meantime, construction work for the development of the Northeast Municipal Airport by the United States Engineers gradually approached a standstill in the fall of 1943 with the partial clearance and grading of the field and the construction of three paved runways. This new airport is located on the site within the boundaries of Red Lion road, Academy road, Grant avenue, and Blue Grass road, which the City provided through condemnation proceedings at a cost of nearly half a million dollars. The project resulted from an agreement between the C.A.A. and the City, subject to the condition that the Northeast Philadelphia Airport improvement would be transferred to the City for airport purposes after the war. While the Army has apparently abandoned the field for military purposes, commercial operations are impossible in its present condition because of incomplete development and unsatisfactory design and construction work.

The closing of the Southwest Philadelphia Airport has directed attention to the possibility of transferring all commercial operations to the Northeast field, which cannot be placed in efficient running order without considerable cost. A major problem confronting the Bureau in 1944 is the task of reconstructing and developing the Northeast Municipal Airport so as to place it, at least on a par with the Hog Island air terminal. If the ban continues in effect at Hog Island, it will be necessary to place the Northeast field in operation at the earliest possible date,— a task demanding a large amount of pressure work from Bureau personnel.

Sanitary Sewer Program.- The program for the elimination of bad drainage conditions in areas using cesspools was considerably retarded below 1942 levels

by resistance on the part of the War Production Board. The adverse position taken by this powerful Body was not based solely on the factors of critical materials, equipment, and manpower, because these issues had been met by local methods of procedure. It centered on the City's applications to construct separate systems of sewers in the Sandy Run drainage area located in Rhawnhurst, Burholme and Fox Chase. The large size of the stormwater conduit required (maximum eleven feet semi-elliptical cross-section) was doubtless the basic factor in the decision.

Upon the advice of the sanitary engineering consultants of the W.P.B. it was decided and ruled that stormwater sewers were not essential and that their construction could be postponed at least to the post-war period. This decision was made in the face of strong opposition from the City because the area in question is largely covered by soil containing a high percentage of clay overlying rock formations. By reason of this ground condition, surface water represents a real problem. Stagnant gutters, mosquito-breeding pools, and icy street intersections are common to the communities situated within the Sandy Run watershed.

The construction of the separate system type of sewers in two stages forced upon the City by the W.P.B. requires careful planning in subsurface areas containing rock. This condition prevails in the Sandy Run district, where the stormwater conduits are quite large. It will be difficult to prevent the disturbance of the elements of the sanitary sewer system when the construction of stormwater facilities are undertaken. Another problem arising under the special procedure was the matter of sewer assessments. The Department of Law decided that the maximum rate of assessment of \$4.00 per foot of frontage must be charged upon the completion of the sanitary sewers. The result of this application is that the abutting property owners will pay the major share of the cost of the sanitary sewer construction, and the City all of the cost of stormwater construction. Present indications are that the War Production Board will approve very little sewer construction of any classification for the year 1944.

Bridges.- Important bridges, for which studies were begun or continued during 1943, include the Penrose avenue bridge over the Schuylkill River, the Philadelphia and Reading Railway bridge over Vine street, the Aramingo avenue bridge over Frankford Creek, the Harbison avenue or Aramingo avenue bridge under the Pennsylvania Railroad, the Roosevelt boulevard bridge over Taony Creek, the Castor avenue bridge over Frankford Creek, and the 70th street bridge over Cobbs Creek. The first two of these proposed structures are major improvements involving careful designing and high costs. All constitute objectives for post-war construction and, excepting the last two mentioned projects, are integral elements of the City-State highway program.

GENERAL CONCLUSIONS

Personnel.- The manpower problems within the Bureau remained unabated throughout 1943, although the situation was not as critical as in the previous year because of the decrease in current work and the retardation of improvement programs by related war conditions. It is anticipated that

further inroads will be made in the personnel by the induction of married men into active military service. Notwithstanding this situation, the Bureau is expected to expand its designing forces in order to carry on the tremendous schedule of post-war planning for which it will be responsible.

The classification of titles put into effect January 1, 1943, was found to contain many faults, some of which were rectified during the course of the year. Others developed as time advanced, particularly with the adoption of the salary gradings and their application to the 1944 budget. Recommendations for the adjustments of these conditions and for the classification and grading of Loan employees are before the Civil Service Commission and Council, and it is hoped that they will be approved promptly.

Post-War Planning and Construction.- The next four years should see the end of the war and, with its termination, will come a tremendous urge for post-war construction activities of every description. One of the chief objectives of post-war construction is to create a safe transition from the tempo of war to the normal conditions of peace time. At the same time, this new era of construction is expected not only to uphold, but to improve, the American way of living. By reason of the important social and civic services and facilities provided through municipal Public Works, its contribution to the post-war period is being counted upon most heavily.

The Department of Public Works, through its Bureau of Engineering, Surveys and Zoning, has been engaged for sometime past in the development of a comprehensive program of major improvements of vital importance to the entire city at large. One group of these urgent municipal improvements includes complete sewage treatment facilities; the extension of the sewer systems; the replacement of obsolescent sewers; the construction of flood controls for Frankford Creek; the rebuilding of old, and construction of new, bridges; a continuation of the fifty million dollar City-State highway program; and the development of complete airport facilities.

The two outstanding improvements in this program are City-State highway developments and sewage treatment project. Both of these improvements require an extensive amount of planning preparatory to featuring post-war construction.

City-State highway Improvements.- A five-year program of construction work totaling \$39,500,000. has been arranged so as to provide for an expenditure of nine million dollars the first year, and an average of about \$7,600,000. in each of the remaining four years. The purpose of this plan is to permit the accumulation of overlapping amounts in a given year because of back-logs which are bound to occur. The limits in the State Highway Act is that not more than twelve million dollars may be spent in any one year. The total has been kept below the fifty million dollar limit because of the work now under contract and other obligations resulting from the present program. The estimates given are but rough approximations intended solely for the purpose of presenting a tentative picture of a five-year program of City-State highway projects considered desirable for post-war construction. They are not based on specific engineering plans but amounts considered sufficient to cover the various classes of projects proposed. The State Highway Department has also accepted this tentative program as the basis of its own planning.

CITY-STATE HIGHWAY PROGRAM
POST-WAR CONSTRUCTION WORK

FIRST YEAR

Route 67045 - Vine street approaches to the Delaware River bridge - Ridge avenue- Race street-Vine street from 6th street to 11th street	\$550,000.00	
Vine street 15th street to 18th street	250,000.00	\$800,000.00
Route 67012 - 34th street from Grays Ferry avenue to Vare avenue, Vare avenue from 34th street to Passyunk avenue	\$400,000.00	400,000.00
Route 67053 - Island avenue from Buist avenue to Eastwick avenue		400,000.00
Route 67054-43 - Essington avenue - completion of 4-lane highway between Passyunk avenue and County Line .		200,000.00
Route 67023 - Penrose avenue from Island avenue to 26th street (Bridge \$3,000,000. - roadway (construction \$1,500,000.)		4,500,000.00
Route 67009 - Roosevelt boulevard from Oxford Circle to Broad street, including five bridge widening:		
(5 bridges	\$900,000.00	
(roadway construction . . .	1,200,000.00)	2,100,000.00
Route 67051-30 - Grade separation at Hunting Park and Ridge avenue - credited to first year		600,000.00
		<u>TOTAL \$9,000,000.</u>

SECOND YEAR

Route 67045 - Vine street - 11th to 12th streets	\$1,500,000.00	
18th St. to Parkway	600,000.00	
12th St. to 15th street	400,000.00	2,500,000.00
Route 67022 - Tacony-Palmyra bridge approaches		1,000,000.00
Route 67049-17-50 - Stenton avenue, Godfrey avenue and Adams avenue - Section 1 - Roosevelt boulevard to Broad st. Section 2 - Broad St. to Washington Lane	\$800,000.00 250,000.00	
		Total . . 1,050,000.00
Route 67047 - Aramingo avenue-Harbisson avenue - Section 1 - Delaware avenue to Allegheny avenue		600,000.00
Route 67055 - Henry avenue from Walnut lane to Ridge avenue		1,500,000.00

Route 67012-25 - Oregon avenue, 18th street to Delaware avenue - channelization	\$ 150,000.00
Route 67023 - Moyamensing avenue, 19th street to Broad street - channelization	100,000.00
Route 67051-30 - Grade separation at Hunting Park and Ridge avenues - credited to second year . . .	<u>400,000.00</u>
TOTAL	\$7,300,000.

THIRD YEAR

Route 67049-17-50 - Stenton avenue, Godfrey avenue and Adams avenue - Section 3 - Washington lane to Bethlehem Pike ,	\$ 2,250,000.00
Route 67047 - Aramingo avenue-Harbison avenue - Section 2 - Allegheny avenue to Orthodox street - Bridge over Frankford Creek \$200,000. Roadway construction <u>800,000.</u> . .	1,000,000.00
Route 67009 - Grade separation at Wissahickon Drive . . .	200,000.00
Route 67025 - Delaware avenue viaduct - Section 1	3,000,000.00
Route 67030 - Pennsylvania avenue - 27th street to 29th street	1,000,000.00
Route 67040 - Washington lane from Chew street to Stenton avenue	150,000.00
Route 67030 - Spring Garden street, Broad street to Parkway	<u>150,000.00</u>
TOTAL	\$7,750,000.

FOURTH YEAR

Route 67047 - Aramingo avenue-Harbison avenue - Section 3- Orthodox street to Roosevelt boulevard	\$500,000.00
Bridge over Pennsylvania Railroad Right-of-way and road construction <u>2,000,000.00</u>	\$2,500,000.00
Route 67007-46 - Church lane bridge over Gobbs Creek . .	250,000.00

Route 67025 - Delaware avenue viaduct - Section 2	\$3,000,000.00
Route 67009 - Reconstruction of outside roadways - Roosevelt boulevard Section 1	1,250,000.00
Route 67043 - Passyunk avenue, Essington avenue to Island avenue	<u>600,000.00</u>
TOTAL	\$7,600,000.00

FIFTH YEAR

Route 67025 - Delaware avenue viaduct - Section 3	\$3,000,000.00
Route 67009 - Reconstruction of outside roadways - Roosevelt boulevard, Section 2	1,250,000.00
Route 67030 - Pennsylvania avenue, 29th street to Girard avenue	1,750,000.00
Route 67002 - Benjamin Franklin Parkway	500,000.00
Route 67009 - Roosevelt boulevard, Welsh road to County line	1,000,000.00
Route 67048 - Tacony street, Aramingo avenue to Levick street	<u>400,000.00</u>
TOTAL	\$7,900,000.00

RECAPITULATION

1st year	\$ 9,000,000.00
2nd year	7,300,000.00
3rd year	7,750,000.00
4th year	7,600,000.00
5th year	<u>7,900,000.00</u>

GRAND TOTAL \$39,550,000.00

Sewage Treatment Project.- Work on this project is well advanced in both design and contract plans. Plans for construction work are completed or in advanced stage for improvements estimated to cost over twenty million dollars, out of a total of thirty-nine million dollars. Considerable progress has been made in the design plans on all of the details comprised in the program of the State Sanitary Water Board. The most urgent need for the continuance of this work as post-war planning is a substantial increase in the drafting force. The status of the sewage treatment project at the present time is as follows:

<u>Detail</u>	<u>Percent Complete</u>			
	<u>Design</u>	<u>Cost</u>	<u>Contract Plans</u>	<u>Cost</u>
<u>Northeast Division</u>				
Treatment Works extension	20%	\$2,200,000.00		
Somerset Intercepting Chamber			95%	\$200,000.00
Upper Delaware Collector to Torresdale	15%	1,100,000.00		
Gunners Run Interceptor	10%	1,550,000.00		
Frankford Creek High Level	10%	476,000.00		
Convent ave. Pumping station	10%	319,000.00		
Pennypack Low Level Interceptor	10%	1,290,000.00		
		<u>\$6,935,000.00</u>		<u>\$200,000.00</u>
<u>Southwest Division</u>				
Treatment Works	10%	4,000,000.00		
West Central Schuylkill Low Level			95%	990,000.00
" " " Chambers			95%	49,000.00
" Lower " Low Level	10%	2,280,000.00		
East Central " " "			90%	2,325,000.00
" " " Chambers			20%	252,000.00
" Lower " Low Level			10%	2,672,000.00
Schuylkill River Siphon			15%	333,000.00
Central Schuylkill Pumping Station			75%	740,000.00
" " " Force Mains			75%	483,000.00
Southwest Main Gravity Collector			75%	5,800,000.00
" " " Chambers			75%	186,000.00
60th St. High Level Cut Off			75%	483,000.00
43d St. Pumping Station	10%	63,000.00		
80th St. Interceptor Extension	10%	55,000.00		
Wissahickon Low Level extension	20%	63,000.00		
		<u>\$6,461,000.00</u>		<u>14,313,000.00</u>
<u>Southeast Division</u>				
Treatment Works	10%	\$3,360,000.00		
Low Level Pumping Station	60%	536,000.00		
Lower Delaware Low Level			50%	5,360,000.00
" " " " Chambers	10%	1,150,000.00		
" " " " Branches			50%	754,000.00
Wissahickon High Level extension	10%	50,000.00		
		<u>\$5,096,000.00</u>		<u>6,114,000.00</u>
TOTALS		18,492,000.00		20,627,000.00

GRAND TOTAL \$39,119,000.00

15-1943

EXCLUSIVE - of :-
Design supervision, inspection, contract expense (add-5%)

The total cost of the projects considered by the Bureau of Engineering, Surveys and Zoning as desirable improvements for post-war planning and construction may be placed at \$125,000,000. This large program of planning cannot be carried by the present personnel which has been maintained at a minimum since 1932. Energetic efforts will be made in 1944 to augment the technical staff and the key to the solution rests with the manpower situation. Anticipating the limitations to Bureau resources, the City Planning Commission requested an appropriation in the 1944 budget for the "preparation of plans including personal services for City-wide capital improvements, and expenses incident thereto". The amount allocated by Council for this purpose was \$692,000., of which \$175,000. has been tentatively earmarked for the completion of the plans for the sewage treatment project; \$50,000. for City-State highway plans; and \$25,000. for airport plans. The City Planning function is being organized on a very broad basis, with the intention of utilizing the Bureau of Engineering, Surveys and Zoning to the fullest degree possible for the design of projects included in its capital programs.

The year 1943 ended, therefore, and the year 1944 began, with the ground carefully prepared for intimate cooperation between the Planning Commission and the Bureau in undertaking the most comprehensive program of planned objectives ever conceived for the City of Philadelphia.

SURVEYS DIVISION

Board of Surveyors. - The Board of Surveyors, which the City Charter requires "shall be attached to, and be a part of, the Department of Public Works", is an integral part of the Bureau of Engineering, Surveys and Zoning. As constituted by the Act of Consolidation of 1854 and subsequent Acts, including the present City Charter, it consists of the Surveyors and Regulators of the various Survey Districts, with the Chief Engineer and Surveyor as President, and the Assistant Chief Engineer as Vice-President.

The Board of Surveyors, under authority of City Council, and with the powers granted and duties imposed on it by various Acts of Assembly, is the body through which control of the official City Plan is exercised.

The past year was an extremely busy one for the Board because of activities caused by the expansion of Government establishments and war industries, the renewed activities of the war housing program, and the demands of the City-State highway program, combined with the program of access roads to military reservations.

Two of the plans confirmed in connection with the City-State highway program are worthy of note because of their importance and scope. The first was the confirmation of the lines of widened Vine Street from Franklin Street to 18th Street. This plan adopted the lines which had been designed for the legal opening of this important highway the previous year in cooperation with the State Highway Department. The second plan was the revision of the lines and grades of Essington avenue from Island avenue to the County line at Bow

Creek. This plan provides for a 108 feet wide dual highway which will connect to the southwest with a modern highway to Chester. The northeast terminus at Island avenue is a large circle providing for scientific control of traffic movements. The length of this section of main arterial highway is six thousand feet.

Another significant plan confirmed was the plan revising the lines and grades of the area bounded by Ridge avenue, Gorgas Lane, Henry avenue and Gates street. This plan included strikings and the establishment of new streets within a tract of 110 acres in order to permit the development of 408 building lots. The plan was long in preparation because of complicated grade problems in a section with close contours.

SURVEY DISTRICTS

Cash Receipts. - The cash receipts of the Survey Districts were \$60,758.29 as compared to \$72,998.81 in 1942. The cash receipts as an index of activities represents only that portion of the District work which is performed for private parties. Many thousands of dollars worth of surveying work is performed in connection with City contracts for which no cash charge is made. During this year the Survey Districts were also called on to perform a vast amount of work in connection with activities of the U. S. Government and in connection with the City-State Highway program, which are also not reflected in the cash receipts.

Personnel. - The effective personnel in the Survey Districts, which in 1942 had been reduced to 75%, was further reduced in the year 1943 to 66% of the authorized personnel. This was due to the fact that eight more district assistants entered the armed forces, bringing the total thereof to 31. In addition to this shrinkage of personnel there are twelve vacancies due to various causes which it has been impossible to fill owing to the shortage in manpower.

General Activities. - The general picture which is disclosed by the statistical report of work performed by the Survey Districts shows an increase over the previous year in the number of lots surveyed, while a decrease is noted in the properties surveyed for conveyancing purposes. The linear feet of curb regulations given shows a decided falling off. One of the activities which showed a decided increase was the repaving of alleys and driveways. The increase is shown both in the plans prepared and actual contracts completed. Plans for the sub-division of property showed a marked falling off. In the category of preparation of City Plans and the work in connection therewith, there were fewer City Plans made but a larger acreage of field surveys was necessary than for the plans made in the previous year. In connection with sewer construction, there was a considerable increase in number of preliminary surveys and plans prepared. The linear feet of lines and grades furnished and cubic yards of excavation measured also exceeded the previous year. The number of plans of constructed sewers was less than the previous year. Lines, grades and measurements for grading and also for paving show a decrease, while lines, grades and measurements for repaving increased. The contracts completed represented a larger expenditure of funds than the previous year. An interesting feature of the funds expended for completed contracts is the fact that 74%

of the funds were expended in three survey districts, the First District, the Fifth District, and the Eighth District.

First District. - The highlight of the work of this district during the year was the work occasioned by the Bureau's program to eliminate unsanitary conditions in the Burholme, Rhawnhurst and Fox Chase sections. In connection therewith the following items of work were performed: Five surveys and base plans were made for main sewers, length 4971 feet; 59 surveys and base plans were made for branch sewers, length 46972 feet; one main sewer constructed including all appurtenances, return sewer plan made and 21 assessment bills prepared (Glendale Avenue from Castor Avenue to Elgin Avenue, and Elgin Avenue from Glendale Avenue to Faunce Street) length 2272 lin. ft., Cost \$175,682, Two branch sewers constructed including all appurtenances, return plans made and 40 assessment bills prepared, length 2510 lin.ft.

This district was one of the three outstanding districts in contract work, most of which was in sewer construction.

Second District. - The field and office activities for the year were mostly routine. During the year the Pennsylvania State Highway Department completed the paving and improvement of Oregon Avenue from 18th Street to Vare Avenue, Vare Avenue from Oregon Avenue to Passyunk Avenue, 26th Street from Passyunk Avenue to Penrose Avenue, and Penrose Avenue from 26th Street to about Pattison Avenue, and from 26th Street westward about 1500 feet; the total length of the above work being about two miles.

A Board of View plan was completed during the year for the opening of the relocated Penrose Avenue from Pattison Avenue to the intersection of 20th Street and Packer Avenue.

A City Plan was practically completed during the year for the revision of about 320 acres in the area bounded by 20th Street, Pattison Avenue, Penrose Avenue, 26th Street, Vare Avenue and Oregon Avenue. This plan is advertised for the Road Day, February 7, 1944.

Third District. - Outstanding among the activities of this district was the City Plan to revise the lines and grades of Vine Street, as the principal feature in connection with the improvement of the approaches to the Philadelphia-Camden Bridge, confirmed by the Board of Surveyors from the west curb line of Sixth Street to and including the east curb line of Eighteenth Street on March 1, 1943. Under this confirmation the width of Vine Street (at present 50 feet wide) was increased to various widths from 101 feet to 171 feet in different blocks.

Field surveys were continued during the year on Vine Street, Race Street and Ridge Avenue. All utility manholes, boxes and poles were located. The size and character of existing curbing was determined and sidewalk encroachments such as steps, cellar doors, etc., were measured. Studies were made to fix grades for paving Vine Street from Franklin Street to Ninth Street, Ridge Avenue from Vine Street to Race Street, and Race Street from Eighth Street to Seventh Street.

Fourth District. - The work of this district is normally property surveying, and the surveys and studies necessary in connection with planning this large undeveloped area. During the past year, this was augmented by the work in connection with the contract for the paving of Red Lion Road from Bustleton Avenue to the County Line, a distance of 6844 feet. This work was a rush job constructed under unfavorable weather conditions to serve the Budd airplane assembly plant of the Defense Plant Corporation. It took all the resources of the small staff of men in this district to keep this work progressing.

Fifth District. - The character of work in this district comprises all the items of work performed by survey district forces. The past year was outstanding in volume of contract work. This district was the only one of nine districts to complete contracts in each of the categories of main and branch sewers, private sewers and drains, grading, paving and improvement and repaving and resurfacing. It was one of the three districts to perform a major portion of the contract work.

Sixth District. - The outstanding item of work in this district during the past year, and one which was directly related to the war effort, was the completion of a survey and plan for the E. G. Budd Manufacturing Company of nine tracts of ground containing approximately thirty-five acres, and another survey and plan for the same company of a five acre tract.

A Board of View plan was completed in the matter of the construction of an underpass on Hunting Park Avenue under Ridge Avenue. This plan involved ten properties covering an area of about twenty-five acres.

Seventh District. - The normal activities of this district showed a falling off, but the depleted force in this district had its working capacity taxed by an unusual number of non-recurring items. Farm surveys were made of five properties aggregating seventy-one acres. Consultations were held and field data and other information furnished to the contractor for the pipe line from Norris City, Illinois, to the Eastern Seaboard. The Philadelphia extension of this pipe line entered the City at Bow Creek and continued across the southern portion of West Philadelphia to the Schuylkill River.

Lines and grades were furnished to the contractor for the improvement of Essington Avenue from the County Line to Island Avenue, including the traffic circle at Island Avenue; Essington Avenue from Island Avenue to Passyunk Avenue; Passyunk Avenue from Essington Avenue to 63rd Street; and Island Avenue from Tinicum Avenue to Eastwick Avenue. Board of View plans were completed for Essington Avenue from Island Avenue to Passyunk Avenue, and Passyunk Avenue from Essington Avenue to 63rd Street. These plans contain an aggregate of 33 properties comprising 543 acres. These plans were also in connection with the City-State program. City Plan revisions covering 193 acres were also made in order to make possible the improvement of Essington Avenue and Passyunk Avenue.

Eighth District. - The contract work performed in this district exceeded that which was performed in any of the other survey districts.

During the year 1943, about three miles of branch sewers were constructed in this district, at a cost of \$277,942. This work involved the preparation of 401 assessment bills against the property owners and furnishing the necessary

lines and grades. These sewers were constructed in streets that are improved with dwellings and formerly used cesspools for sanitary drainage.

The Navy Department constructed a Naval Aviation Supply Depot on a plot of ground at Oxford Avenue and Martins Mill Road. This project covers an area of about 118 acres. Plans were prepared by this office for the condemnation of the land by the United States of America, and no charge was made for the work.

A contract was awarded for Flood Control of Frankford Creek and Channel Restoration between Ashland Street and Leiper Street. This work involved an increase in width of the Channel and removal of material in the Channel of the Creek and shaping of the slopes. This office gave the necessary lines and grades for this work, and it was necessary that a corps of men be assigned to this work in order that a correct estimate of the amount of material removed could be ascertained. The quantity of material removed was 31,296 cubic yards, at a cost of \$45,769.

Ninth District. - Although the past year was a war year, the routine work performed by this district was unusually heavy. This was due to the fact that five large private building operations were built, comprising a total of 573 houses. The largest of these was one of 408 houses built by the Nelson-Pedley Corporation on a tract of about 54 acres in Roxborough. This operation was constructed on rolling topography having a difference of 170 feet between the highest and lowest points. The work of the district consisted in planning a street system which would obtain the maximum benefit from the rolling topography and at the same time keep the construction costs to a minimum. In addition to the preparation and computation of the City Plan, the work involved giving lines and grades for 25,000 cubic yards of grading, 9000 linear feet of sewers and 13,500 linear feet of water pipe. During the coming year, lines and grades will have to be furnished for 21,000 linear feet of curbing and 37,000 square yards of paving.

Considerable work was done involving line measurements and cross sections for the design of a road connecting Chestnut Hill with Roxborough, to be called Cathedral Road.

REGISTRY DIVISION

The annual statistical report submitted herewith can best be studied if the numerous functions performed by the Division are separated into groups.

Group 1. - Activities in the Book Room

There was only a slight decrease in the volume of straight transfers of title to real estate from the past two years:

1941 - 60,902 transfers; 1942 - 59,778 transfers; 1943 - 59,062 transfers.

However, the number of title transfers parcelling smaller tracts to permit new dwelling construction fell off 40 percent from the 1942 figures:

1941 - 6,008 originals; 1942 - 4,537 originals; 1943 - 2,665 transfers.

During the year 1943 there were nine acquisitions of land, improved and unimproved, made by the Federal Government within the limits of the City, and seven condemnations of leaseholds, also by the Federal Government. Set forth in the table below are the locations of the tracts acquired and intended use thereof.

<u>Location</u> (Condemnations and Deeds)	<u>Intended Use</u>
1. Both sides of Fort Mifflin Road 2500' more or less S.W. of Penrose Ferry Road	Expansion of Fort Mifflin site
2. Both sides of Fort Mifflin Road 1300' more or less S.W. of Penrose Ferry Road	" " " " "
3. Area bounded by Broad Street, Pattison Avenue, 16th Street, and Hartranft Street.	Expansion of U.S. Naval Hospital site
4. Area bounded by 16th Street, Hartranft Street, 19th Street and Pattison Avenue.	Expansion of U.S. Naval Hospital site
5. S.W. corner Schuylkill Avenue and Bainbridge St.	Expansion of U.S. Naval Hospital site
6. N.E. corner 36th Street and Sansom Street. . . .	Apartments and office space
7. N. side Abbottsford Avenue W. of Wissahickon Ave.	Expansion of Signal Corps Depot
8. East side of 10th Street N. of Fisher Avenue . .	Warehouse
9. East from 8th Street north of Fisher Avenue. . .	Warehouse

<u>Location</u> (Leaseholds)	<u>Intended use</u>
1. West side 34th Street from Dickinson Street to Morris Street	Temporary war housing
2. Strips extending S.W. from 36th Street and Morris Street	Easement to war housing site
3. Area bounded by Broad street, Hartranft Street, 18th Street and Packer Avenue.	Temporary war housing
4. Tract extending west from 24th street, from Market Street to Chestnut Street	Warehouse and Office Building
5. N.E. corner 32nd Street and Allegheny Avenue . .	Factory building
6. Tract extending west from Langdon Street from Sanger Street to Comly Street	Temporary war housing
7. Tract extending south from Church Street from Melrose Street to Bermuda street,	Temporary war housing

Group 2. - Activities in the Plans and Legal Records Room

In this room forty-one plans showing registered owners and legal status of streets and roads were prepared for the various City departments and 14 Deeds of Dedication covering portions of the beds of streets proposed to be dedicated were drawn up.

Advertising data was prepared to legally advertise public hearings on nineteen City Plan changes. Twenty-one confirmed City Plans were indexed and filed and the record maps and cards revised. Legal openings affecting sixty-five streets were received and the records maps and cards likewise revised. Also two changes in street names were received and entered on the records.

Loaned out to the various Bureaus and divisions were 769 City Plans.

During the year the assistants in this room made sixty-one appearances in court as custodians of the City plan, legal openings and registered owners.

WPA Project Nos. 29345-5161 sponsored by this Bureau to draft cards and maps showing legal status of streets and roads terminated on April 21, 1943. The card records work is practically completed and the map work approximately fifty percent completed.

Of the six streets opened by ordinance there were two outstanding, and which form important links in the City-State highway program. They are the access road - Penrose and Moyamensing Avenues (State Highway Route 67023, Section 2), and the access road - Essington Avenue from Island Avenue to the Philadelphia-Delaware County Line at Bow Creek. Both new roads meet provisions of the Defense Highway Act of 1941, Public Law 295, 77th Congress, Chapter 474, 1st Session (S-1840), providing for the construction of roads needed for national defense.

Group 3. - Activities of the Board of Surveyors

The Chief Engineering Clerk of the Registry Division is also the Secretary of the Board of Surveyors. This fact, coupled with the fact that all plans acted on by the Board are filed and become a permanent record in the Registry Division, makes a considerable contribution to the Division activities.

The Board held 26 meetings at which they reported on 23 ordinances. They held public hearings on 19 City plan changes and confirmed 21 City Plans. Five street railway plans were approved and two changes in street names were made. Of the 21 plans confirmed, 6 accomplished expansion of industrial sites; 7 enabled private dwelling development; 4 were in connection with the City-State highway program; 1 was in connection with the construction of a main sewer; 1 was in connection with the development of the water works improvement program; and 2 were for miscellaneous purposes.

CITY PLANS DIVISION

City-State Highway Program. - The Division continued work on this program with original studies, revisions of former plans, trigometric calculations for condemnation of rights-of-way and preparation of the condemnation plans for approval of the necessary officials. State-prepared construction plans were checked and rechecked for intersectional channelization and divisor detail. Ten (10) highways were considered during the year.

Examples: Moyamensing and Penrose avenues
Aramingo avenue
Essington avenue and rotary at Island avenue
Vine and Race streets
34th street and Vare avenue, etc.

In addition, other City highways were planned to link in with these State highways and intersectional studies for the channelization of traffic were prepared.

Examples: Roosevelt boulevard
Aramingo avenue
Delaware avenue
Germantown avenue
Moyamensing avenue

City Plan Revisions. - Twenty-six (26) studies were completed during the year preliminary to the confirmation of a revised City plan. This included some trigometric calculations.

Examples: The Northeast Philadelphia Airport
Torresdale area
Camp Happy area, etc.

Two (2) compilations of old City plans were completed and a land subdivision study made at Red Lion Road and Verree Road adjacent to the Budd Manufacturing Company Aircraft Assembly plant.

Plans - Maps - Information. - The Division furnished plans, maps and various information services to ninety-seven (97) businesses and individuals; also to thirty-three (33) Federal and State governmental units; also eighty-six (86) contacts and services were made with other City departments, bureaus, Council, Draft and Rationing Boards, courts, boards, commissions and authorities; also, twenty-three (23) services were furnished public utilities; also twenty-eight (28) services were furnished the various branches of the United States armed forces; also five (5) services were furnished to miscellaneous sources such as University of Delaware, the City of Columbus, Ohio, Boy Scouts, Red Cross.

In addition, loans of plans, equipment, technical books and articles, charts, etc., were furnished one hundred and twenty (120) times during the year.

City Sectional Maps and Other Records. - The Division issued sectional maps and other records during the year in large numbers.

Some of the blueprint paper required was furnished by the parties receiving the prints, but all the reproducing labor was done by the Public

Works Photographer with his equipment. One hundred and fifty-eight (158) orders were issued by the Division to cover this reproduction work.

<u>Issued</u>	<u>No Charge</u>	<u>Fee</u>
Land Use Maps (108 plates) 200' scale	399	25 - \$12.50
Street Maps " " 200' "	357	
" " (39 plates) 500' "	300	
" " (21 ") 1000' "	697	78 - \$11.70
" " (21 ") 1600' "	103	
" " (3 secs.) 1600' "	27	
Street Data Maps (39 plates) 500' "	312	56 - \$12.00
Other records	565	4 - \$ 3.90
Photographic Prints 8" x 10"	206	
Hunter Electro Copies (various sizes)	92	
Civilian Defense Council	295	
Totals -	3353	163 - \$40.10

During the year these map records required changes and revisions as follows:

From Zoning permits	49
From Use Registration permits	881
From Demolition permits	159
From Registry records	96
From Miscellaneous records	33
From Street Numbering records	21
From General changes	198
From Confirmation of City Plans	120
From Deeds of Dedication and other openings	65
From Grading and Paving records	76
From Change of street names	12
Total -	1710 revisions

Civilian Defense. - The Division supplied in the spring of the year the necessary wall maps, charts, personnel maps, etc., necessary in equipping the 4th Division, North Control Center.

Services were furnished the other Control Centers, main Control, auxiliary police, wardens, zones and posts with maps, forms, charts, problems and other phases of civilian defense activity. The personnel of the Division contributed their personal time in control centers and during alerts and practices.

City Planning Commission. - The Division cooperated in furnishing information as to the available records useful to the Commission within the division.

Records and equipment of the former Commission were removed from the Architects Building and stored in the Bureau until wanted.

A plan and layout for placing existing filing equipment in the Commission's 12th floor quarters were prepared.

The organization chart of the Commission was prepared by the Division, at their request.

Statistical Charts and Research. - The Street Data Map changes were analyzed showing scaled changes as follows:

Gain in streets paved	5.487 miles
Loss in streets confirmed not legally open	1.027 miles
Loss in streets on plan legally open - not paved	3.894 miles

Mileage of legally opened streets, not on City plan and private streets remained unchanged.

Analysis of the 1940 census population gains and losses by wards and census tracts was made and charted. Charts were made of dwelling information by census tracts for rentals, percentage owner occupied, and percentage occupied by colored.

Reports and Memoranda. - Twenty reports and memoranda were prepared for the Chief and Assistant Chief Engineers, relating to such activities as the City-State highway program and other problems.

Lectures and Exhibits. - Material was prepared to aid the Chief Engineer and Surveyor in his lecture activities and exhibits.

Cooperation with W.P.A. Coordinator. - The Division cooperated in furnishing plans and information when requested.

Personnel Loaned. - During the year the Division loaned personnel to the Zoning Division, Official Photographer, Registry Division, and the Fourth Survey District, for short periods to help out on particular work.

Other Activities. - The Division furnished information from the Land Use Map Analysis to the Bureau of Highways for their research into the expansion of disposal facilities.

Sixty-seven (67) tracings of sewer plan bases were prepared for the First Survey District.

An Honor Roll was prepared of the Bureau personnel serving in the armed forces.

A field survey was made to revise the Division's plan of the Benjamin Franklin Parkway area.

A plan of registered owners in the Cresheim Valley area was made for the Ninth Survey District.

Another room was added in expanding the Division's quarters, but due to the lack of manpower, no personnel has been assigned.

Part of the personnel have been giving much of their personal time in taking a course for "In-Service" training in Local and State Government at the Institute of like name at the University of Pennsylvania.

ZONING DIVISION

The work of the Zoning Division for the past year shows a falling off in every item of work. This is, of course, a result of the decrease in building caused by war restrictions. The number of applications filed fell off 33.2%. Zoning permits issued fell off 47%, while the Use Registration permits fell off only 24.6%. This indicates that the decrease in building construction has caused the matter of Use permits to become predominant in Zoning matters. The number of complaints investigated has shown by far the least decrease of any item, having decreased only 7%.

The personnel problems of this Division have been more severe than those of any other Division of this Bureau. Even with the material decrease in volume of work, it has been difficult to keep this Division sufficiently staffed to cope with the work. Three members of the staff are in the armed forces, and one of the experienced zoning examiners resigned. Replacements are hard to obtain. It became necessary at different times during the year to assign employees from other Divisions to keep the work from falling behind. One new appointment was made late in the year.

A new procedure which was inaugurated this year in the handling of Use applications refused by the Department of Health has further increased the work. This is due to an amendment to the Housing Act of June 11, 1915, which was approved on May 26, 1943. This amendment gives the Board of Adjustment power to grant variances under certain conditions in connection with the enforcement of the Housing Act. The Zoning Division collaborated with the Department of Health in preparing new forms and setting up proper procedure for putting the new law into effect.

ENGINEERING DIVISION

Design. - The principal activities of the Design Division during the year were the preparation of sewer plans to relieve unsanitary conditions in the northeast, and studies for post-war work. In addition, the normal activities were carried on, such as the preparation of plans for other drainage projects, highway bridges, viaducts, highway bridge and wharf repairs, street improvements, traffic studies, Northeast Sewage Treatment plant reconstruction, Southeast Sewage Pumping Station; preparation of reports on drainage and flooding, preliminary sewer estimates, maintenance of drainage maps; checking State Highway construction plans for drainage; investigation and approval of applications of Utility Companies and others for permits for underground structures in the streets, such as conduits, pipes, tunnels, vaults and new railroad siding locations for possible interference with existing or proposed drainage structures and for strength of proposed structures; checking and approval of proposed structures, marquees, canopies, signs, etc., projecting within the street lines; checking routes for heavy hauling for strength and clearance of bridge structures and the checking and approval of railroad bridge plans across City streets.

During the year 1943, the Design Division had 280 major assignments, most of which are listed elsewhere herein.

Sewers (private). - The construction of sewers by operative builders at private cost was limited during the greater part of the year to that required for housing considered essential to the war effort. Plans and specifications were prepared by the Design Division for 6 sewers of this type.

Sewers (public). - The planning and construction of public sewers to relieve sections where lack of drainage resulted in unsanitary conditions, and for the drainage of essential developments such as the "Wissahickon Hills" housing project, as prosecuted during the year, was authorized under ordinances of City Council of 1937, and subsequent years including a number of ordinances in 1943. Plans, estimates and specifications have been prepared under these ordinances during the year for 66 new sewers.

Sandy Run Main Sewer Extension. - The construction of this main separate system sewer was completed to Faunce Street and Summerdale Avenue during 1943. The extension in Faunce Street to Tabor Avenue, and the construction of branch sewers along this extension to remedy insanitary conditions in this area was planned to proceed during 1943. However, the War Production Board refused to permit the prosecution of this work, and after numerous conferences with the City officials, it was finally agreed to limit the construction to the sanitary pipe sewers, and construct the stormwater conduits as a post-war project. Plans were completed for the main sanitary sewer in Faunce Street, Tabor Avenue, Napfle Avenue, Ferndale Street and Hartel Avenue to Hasbrook Avenue, and for numerous branch sewers along this extension. Construction of the main sewer to Faunce Street and Tabor Avenue, and several branch sewers, was begun in the latter half of the year. The unusual procedure involved in this construction, i.e., to provide for the future construction of the stormwater conduits, required special designs for manholes, laterals and slants. Complete encasement of the pipe sewers was required, as well as extra width excavation, especially in rock, to prevent possible damage to the sanitary sewer when the stormwater conduits are constructed in the future.

During the year the construction of all sewers was subject to the issuance of contract preference ratings by the War Production Board. The preparation of applications for this purpose required complete material lists and cost estimates for each project, which entailed a large volume of work by the Division; 30 such applications were filed during the year, and priorities were granted on 21. In general, the issuance of a contract preference rating was governed by the relation of the proposed work to the war effort, and projects having no direct relation to the war effort were discouraged.

As in 1942, special design of sewer and drainage structures eliminating structural and reinforcing steel, cast and wrought iron, was continued to conform to the requirements of the W.P.B.

The wartime design of the Emergency City Inlet, as developed during 1942, was altered by substituting a brick arch for the flagstone beam supporting the plain concrete slab cover, and by discontinuing the special strength precast concrete trap in favor of a vitrified tee with 90 degree bend supported by a minimum amount of concrete foundation. The change in the trap was due to the greater amount of labor involved in producing the precast trap.

State Highway Improvements. - Plans have been prepared for a number of street improvements of this kind during the year. With the exception of the Vine Street project, these were located in south and southwest Philadelphia. They all involve highways related to the war effort. For all of these projects the Division furnished plans for stormwater drainage and sewers, electrical conduits for lighting and traffic control, etc. Several of these projects have been continued from 1942. The completion of the Essington Avenue improvement southwest of Island Avenue required the relocation of the Church Creek for a distance of approximately 2600 feet from Island Avenue southwest, and plans for this were prepared by this Division. The improvement of Penrose Avenue from south of Pattison Avenue to Moyamensing Avenue, and Moyamensing Avenue to 19th Street was a new project. This involved a relocation of Penrose Avenue between Pattison Avenue and Moyamensing Avenue and radical changes in the City Plan in this area to adjust to the new highway.

The preparation of contract plans for the improvement of Vine Street is being done by this Division instead of by the State Highway Department as in previous projects. Demolition plans have been completed for Vine Street from Franklin Street to 11th Street, and contract plans for the improvement are being completed for the section of Vine Street from Marshall Street to 9th Street; Ridge Avenue from Race Street to Vine Street; and Race Street from 7th Street to Ridge Avenue.

Drainage Studies. - Investigations and reports were made on various drainage problems including the effect upon the drainage system and surface drainage of proposed revisions to the City Plan, as striking off or placing on of certain streets; the drainage of proposed private developments; public housing sites; Federal installations, etc.; investigation of capacity of outlet sewers for possible additions to planned drainage area; flooding investigations to determine cause and possible remedy. Altogether, 44 such studies were made in 1943.

Preliminary Sewer Estimates. - Numerous estimates were made during the year for the construction and reconstruction of sewers, stormwater drains, etc.

Sewage Treatment and Disposal Project. - In April 1943 a permit was issued by the State Sanitary Water Board approving the method of sewage treatment as proposed by the City, and directing that the Northeast Sewage Treatment Works shall be given a priority status, because of its direct effect upon the quality of the water of the Delaware River at the intake of the Torresdale Water Works. The development of detailed plans for the proposed extension of the Northeast Sewage Treatment Works has been started during the year, and is now well under way.

The preparation of detailed plans was begun during the year for the proposed Sewage Pumping Station at the Southeast Sewage Treatment Works. This station will have a capacity of 215,000,000 gallons per day.

Burholme Park Sanitary Sewer. - During 1943 plans were completed and construction begun of an outlet separate system sewer extending from Cottman Avenue and Orville Avenue through Burholme Park and in Fillmore Street, Napfle Avenue and Burholme Avenue to Borbeck Street, to furnish relief for unsanitary conditions in this area. The sewage from this area will be connected to the Cheltenham Township intercepting sewer at Cottman Avenue, under the existing agreement between the City and the Township, and the sewage meter at this point is now being provided by the Township.

Bridges. - The bridge design squad was very busy throughout the year on post-war plans, many of which were for the Pennsylvania Department of Highways. Through an agreement between the municipal and State authorities, this Bureau loaned its facilities and personnel to the preparation of studies and contract plans for several major highway improvements within the City limits. Some of these projects are only in the formative stage, such as the Delaware Avenue traffic viaduct and its approaches and ramps; others are almost completed, such as the plans for the improvement of the Delaware River Bridge approach loop formed by Vine Street, Ridge Avenue and Race Street.

In connection with the improvement of Vine Street, this Bureau also made an architectural study of a bridge to carry the tracks of the Reading Company across Vine Street, which was submitted to the Reading Company for their use. The Reading Company was informed that they might occupy temporarily the bed of Marvine Street from Spring Street to Vine Street for detour tracks during the construction of the bridge.

Penrose Avenue Bridge over the Schuylkill River. - One of the vital links in the highway improvement plan is a new bridge across the Schuylkill River on the line of Penrose Avenue replacing the dilapidated and dangerous Penrose Ferry Bridge. In order to make a proper beginning of the plans for a new bridge it was necessary to obtain an opinion from the United States Engineers as to permissible clearances. Accordingly, sketches were made showing the proposed location and profile of the crossing and submitted informally to the U. S. Engineers through the Department of Wharves, Docks and Ferries. On November 9th, Col. Neff notified this Bureau by letter that "informal concurrence of the Department had been obtained for the following clearances:

Minimum vertical clearance of 135 feet above mean highwater for a fixed bridge.

Minimum horizontal clearance of 400 feet between fenders normal to the axis of the waterway for any type bridge at the locality."

The river at this point is 620 feet between bulkheads and overflows its banks in times of high water. To ~~put~~ ^{put} huge piers in the stream would further restrict the flow to a point where it would be necessary to rebuild the bulkheads. Furthermore, the space between the bulkhead and the river pier fenders would be too small for the berthing of vessels. These facts, coupled with the added difficulty of river construction, made it good design to plan the piers on the banks, leaving the river clear of obstruction, a desirable feature in view of the winding course of the river at this location. With the piers on the banks, the span is about 700 feet, far beyond the present length of movable bridges.

The design selected was a three-span continuous truss having a center span of 700 feet and two side spans of 420 feet each. The roadway has a vertical curve at the center with a radius of 11,670 feet and 3% grades tangent thereto; off the bridge the approach grades are 3% making a total length of improvement about 10,000 feet.

Marquees, Canopies, Vaults, Signs, etc. - Under this heading comes a wide variety of structures, the failure of which might endanger some of the citizens using the City streets. Five overhead structures were submitted by the Board of Highway Supervisors for approval as to strength, and five submissions were made for approval as to clearance of drainage structures of vaults and pipe tunnels.

Bridge Repairs. - The redecking of Penrose Ferry Bridge serves as an example of this type of work. The bridge consists of a wrought iron, pin connected, swing span 411 feet long; two steel I-beam girder spans 55 feet long and two timber viaduct approaches 200 feet long. The overall length of the structure is 921 feet. The roadway is 19 feet wide and the footwalk on the downstream side is 5 feet wide. The bridge has a capacity of 5 tons.

The bridge was reported to be badly in need of redecking in order to reduce maintenance costs and excessive vibration in the main river span. Accordingly, plans were prepared calling for a tongue and groove timber sub-deck with a mineral surfaced asphalt plank wearing surface. The selection of the tongue and groove timber sub-deck was used because it gives great strength and stiffness with minimum weight. The mineral surfaced asphalt planks were used because of their durability and smooth wearing surface. This type of construction has been installed recently on several bridges and found very satisfactory.

Construction - General. - During the year 1943, contracts were entered into for twenty-seven public sewers, and six sewers at private cost, which together with sewers built by the Federal Public Housing Authority, by the Commonwealth of Pennsylvania in connection with paving within the City limits, and sewer contracts carried over from 1942, made an increase of 6.42 miles to the drainage system of the City. This amount represents an increase of 0.41 mile over the previous year.

It was necessary for the City to obtain priority assistance from the War Production Board for all sewer contracts before construction, and this assistance was limited to essential war work needs, defense housing and preservation of public health. The mileage of private sewers built was 0.48, a drop of 75% from 1942, reflecting the inability of home builders to obtain required priorities.

At the end of 1943, there was a total of 1,834.68 miles of sewers completed within the limits of the City of Philadelphia.

Main Sewer Construction. - Main sewer in Glendale Avenue from Castor Avenue to Elgin Avenue and in Elgin Avenue from Glendale Avenue to Faunce Street. This is a 12 feet semi-elliptical concrete stormwater conduit with vitrified plate invert lining, and two 24" diameter vitrified pipe sewers in concrete. The work was started in April 1942, and completed this year, at a total cost of \$175,668.18. *including assessments of \$10915.16*

Vare and Oregon Avenues between 18th Street and Passyunk Avenue. The drainage work included in the improvement of this section of Route No. 67012, by the Commonwealth of Pennsylvania, is being paid for by the City. Work was started in 1942, and continued during 1943, being now practically completed. The sewers range from a 5'0" diameter brick sewer through intermediate sizes to a 2'3" x 1'6" sewer. Payments by the City, up to now, total \$93,645.10, and 1.13 miles of sewers are completed.

464 1/2 L

DO

Flood Control. - Flood control of Frankford Creek - Channel restoration between Ashland Street and Leiper Street. Because of the deposit of silt and other obstructions in the bed of Frankford Creek, it became necessary to dredge between the above streets to insure proper flow of the Creek during storms. The work was started and completed this year at a total cost of \$45,769.68. 31,296 cubic yards of material was removed.

Hydraulic dredging in the Schuylkill River at selected points between Fairmount Dam and north of Strawberry Mansion Bridge. A contract in the sum of \$70,000 was entered into at the end of 1943 for this work, which will be started in 1944.

Sewer Permits. - The Sewer Permit Division experienced a sharp falling off in part of its activities during 1943. The total number of sewer connection inspections was 2,751, less than half that for 1942. The construction of half as many dwellings in 1943 as in 1942, due to the refusal of The Federal Housing Authority to grant necessary priorities and also the scarcity of plumbers and plumbers' helpers undoubtedly caused this decrease.

The total receipts for the year were \$11,102.69, again a drop of more than 50% from 1942. \$5,190 were collected from lateral fees and \$5,912.69 from service charge bills. The amount collected for service charge bills was 40% of that for 1942, the decrease in building being responsible.

16,000 reports on sewers were made to the Title Companies, a slight increase over 1942, caused by a slight real estate boom.

Testing Laboratory. - Work during 1943 consisted of chemical and physical testing of materials for construction and maintenance in accordance with their respective specification requirements as submitted by the various City Departments and Bureaus; investigation of materials proposed for use on City contracts and various failures; formulation and revision of specifications; consulting service; inspections, sampling and sample collection.

Efficiency standard of the highest possible level is maintained on all work; this is greatly aided by the Laboratory's connection with national organizations who standardize in this type of work. The Laboratory has direct contact with the American Society for Testing Materials, holding membership on four of its major and nine of its sub-committees, and thus directly aids the Society in formulating its standards and test methods for materials. The City adopts and uses many of the standards published by this Society.

War conditions have forced many changes in quality of materials used in construction and maintenance, and this condition will remain for the duration; to this end the A.S.T.M. and like societies have formulated and published specifications (called emergency alternates), embodying such changes. The Laboratory is in possession of many of these alternate specifications and will consult with any branch of the City's service wishing to make use of the same.

Periodic cooperative tests were performed with various laboratories of recognized standing to establish the efficiency ratio between the same; the importance of this is that many of these finely equipped laboratories are allied with business concerns who sell their products to the City. Many investigations and varied services were performed for the various branches of the City.

All brands of Portland cement common to the Philadelphia market have been checked during the year for the purpose of classification to the City's list of approved brands. Check tests were performed at the local central mix concrete plants to establish the grade of concrete produced by them for the City.

The appended tables show the total, variety, distribution and percentage of distribution of the tested specimens.

Coordinating Division - Work Projects Administration. - The Coordinating Engineer's Office, a division of the Bureau of Engineering, Surveys and Zoning, was established to administer funds appropriated by City Council for work relief projects in connection with Federal Work Relief Agencies.

The monies appropriated by City Council enabled the City of Philadelphia to cooperate with the Government in a work relief program, a program designed to give immediate relief to the unemployed. This office, beside administering the funds appropriated, submitted ordinances to City Council for the allocation of funds to related projects, prepared and approved requisitions, expedited delivery of materials and equipment, furnished engineering services as required, including the plans, preparation of projects, specifications of services, equipment and materials used, estimates, field supervision, inspection and related work.

In February 1943, the President of the United States ordered the liquidation of Work Projects Administration. In line with the President's order, a program was adopted by the State of Pennsylvania's Work Projects Administration whereby the work in progress was permitted to continue to a point where its incompleteness did not present an unsafe condition. However, all of the projects sponsored by the City of Philadelphia were closed, as units were completed, between February and April 30, 1943.

Although this plan was not satisfactory, as it left many major projects in an incompleteness state, the City did benefit in the completion of many public works improvements of noticeably useful value and as a result of the activities great progress was made in the rehabilitation of City structures, the restoration of worn-out official records, and the compilation of such data and information of worthwhile value to City Bureaus, enabling them to carry out their programs.

The City of Philadelphia appropriated approximately \$4,000,000 between 1935 and 1943, and with the professional services and supervision, both essential factors in each project, office rentals, rental of sponsor-owned plant, tools and equipment, brought the City of Philadelphia's sponsor contribution to more than \$16,500,000. Federal expenditures at the same time amounted to more than \$91,000,000. During this period approximately 1,200,000 man-months of work were provided.

This program was of considerable benefit to the City and its taxpayers. In addition to giving work to the unemployed, it contributed to the social and economical welfare of the City.

Major projects left incomplete by the cessation of Work Projects Administration (listed for a future planned work program), are as follows:

Department of Wharves, Docks and Ferries:

Improvements to Piers and Bulkheads in the Delaware and Schuylkill Rivers.

Department of Public Safety:

Electrical Bureau:

Rehabilitation of wiring in the electrical systems in 145 police stations and fire houses throughout the City.

Traffic Engineering:

Location of new traffic signals and synchronization of old traffic signals throughout the City.

Department of Prisons:

Philadelphia County Prison - Holmesburg:

Improvements to buildings and grounds at the Holmesburg County Prison and Farm.

Philadelphia County Prison - 16th and Reed Streets:

Rehabilitation of buildings, plumbing, electric wiring and heating at Moyamensing Prison.

Department of the Mayor:

Improvements to buildings and grounds at the Commercial Museum and Convention Hall.

Department of Public Works:

Bureau of City Property:

Rehabilitation of Independence Hall and Square.

Improvements to Municipal Stadium.

Renovation of City Hall and City Hall Annex.

Rehabilitation of 145 Police Stations and Fire Houses throughout the City.

Bureau of Engineering, Surveys and Zoning:

Improvements to Schuylkill Avenue viaduct and Schuylkill Avenue West.

Dredging of the Schuylkill River.

Department of Public Works (continued):

Bureau of Water:

Improvements to buildings, grounds, filter beds and facilities at Belmont, Queen Lane and Torresdale filters.

Renovation of valves and fire hydrants throughout the City.

Water waste or Pitometer Surveys of practically all of North Philadelphia.

Bureau of Highways:

Improvements to roads and streets throughout the City of Philadelphia.

Street designation sign project.

Department of Public Welfare:

Improvement to grounds and buildings at the House of Correction and Home for the Indigent.

Construction of new and rehabilitation of old buildings at Camp Happy.

Renovation and rehabilitation of Swimming Pools and Recreation Centers throughout the City.

Department of Public Health:

Improvements to buildings and grounds at the Philadelphia General Hospital.

Improvements to buildings and grounds at the Philadelphia Hospital for Contagious Diseases, including Minor Contagion and Municipal Laboratory Buildings.

Fairmount Park:

Increasing recreational facilities in Fairmount Park.

Raising and paving the East River Drive, Midvale Avenue to Ridge Avenue.

Construction of lighting facilities at City Line Bridge approaches.

Gallery construction and interior finish at the Philadelphia Museum of Art.

Subsequent to and during the liquidation of Work Projects Administration, this office was assigned by the Director of Public Works as the coordinating office for contact between the City, their consulting engineers, and various governmental alphabetical agencies in the conversion from fuel oil to coal-burning units in City buildings ordered converted by the Petroleum Administration for War. The duties consisted of obtaining critical materials from War Production Board, arranging for emergency rations of oil from the Petroleum Administration for War and Office of Price Administration, checking specifications, advertising for bids, inspecting work, and making current estimates and final bills.

Conversions were made at the following buildings:

House of Correction and Home for the Indigent, State Road and Rhawn Street.
 Free Library, 19th and Benjamin Franklin Parkway.
 Northeast Sewage Treatment Works, Wheatshaf Lane and Richmond Street.
 Mingo Creek Pumping Station, Mingo Creek and Schuylkill River.
 Belmont Pumping Station, West River Drive and Montgomery Drive.
 Free Library, Widener Branch, 1200 N. Broad Street.
 Free Library, Greenwich Branch, 4th and Shunk Streets.
 Foot Traffic Division, Police College, 21st and Race Streets.
 House of Detention, 2133 Arch Street.
 Engine Company #14, Foulkrod and Darrah Streets.
 " " #12, 4445 Main Street
 Truck Company #3, 2003 N. 2nd Street
 Atwater Kent Museum, 15 South 7th Street.

An additional assignment consisted of continuing the Schuylkill River Dredging Project with City employees. Duties are supervision of the work, manning the project, requisitioning materials, and getting permits.

Accounting and Reporting Division. - The Accounting and Reporting Division was a sufferer in common with the other divisions of the Bureau from a wartime economy as the year 1943 developed additional impediments to the usual functioning of public works.

Curtailment of the sewer program, which all logic dictated should be permitted to expand, greatly reduced the activities of the Division. Eleven contracts carried over from 1942, coupled with twenty-three new awards for sewers that had been granted priorities and several joint City-State improvements enabled the Division to continue at a reasonable pace throughout the year.

Five public readings of bids were held, involving thirty-three contracts, some of which while advertised, constructed and calculated by the Bureau, were payable from funds allocated to Public Works Director's Office items. Exclusive of these items, forty-four estimates were drawn calling for payments to contractors of \$290,472.98. Payrolls and miscellaneous expense accounted for an expenditure of \$559,407.29. During the year four hundred twenty-seven warrants were drawn by the Bureau calling for a total expenditure of \$849,880.27.

Personnel changes continued almost at the pace established in 1942 with parallel action on the Bureau records and many vacancies remaining unfilled. Additional work caused by the withholding of taxes from pay checks served to keep payroll clerks busy and encourage accuracy.

Receipts for the year follow:

	<u>Vouchers</u>	<u>Amount</u>
Survey Districts	2,486	\$60,758.29
Registry	84	100.70
Sewer Registrar	171	11,102.69
Zoning	1,848	10,415.00
Lower Merion Township) Sewer		100.00
Upper Darby Township) Rentals		1,000.00
Witness Fees		195.00
		<hr/> \$83,671.68

I L L U S T R A T I O N S

of

C O N S T R U C T I O N W O R K

* * * * *

BRIDGES

SEWERS

HIGHWAYS

36-1943

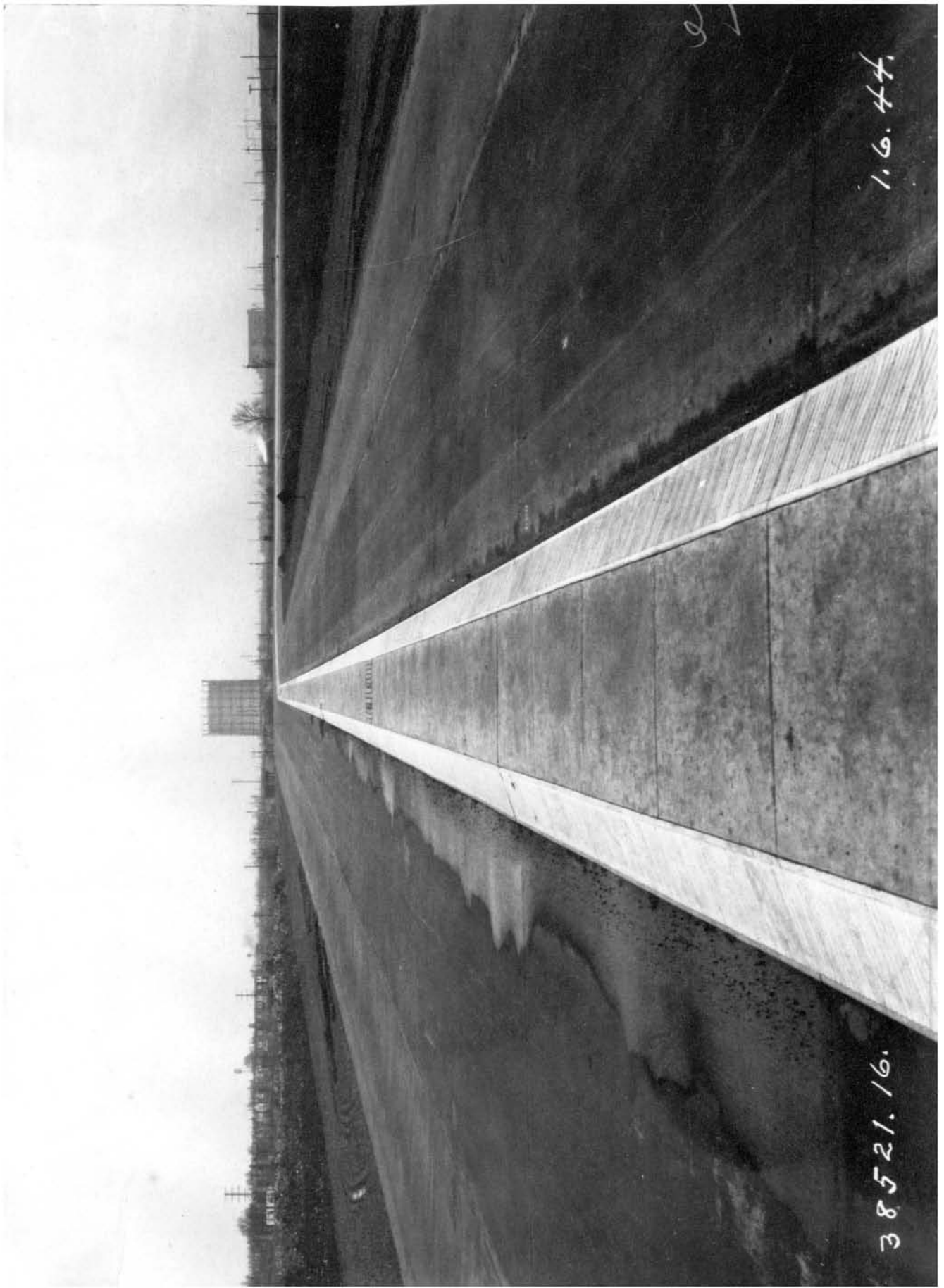


16.74.

38520.4.

LOOKING SOUTHEAST ALONG ISLAND AVENUE
FROM N.H.L. EASTWICK AVENUE PRODUCED

37-1943

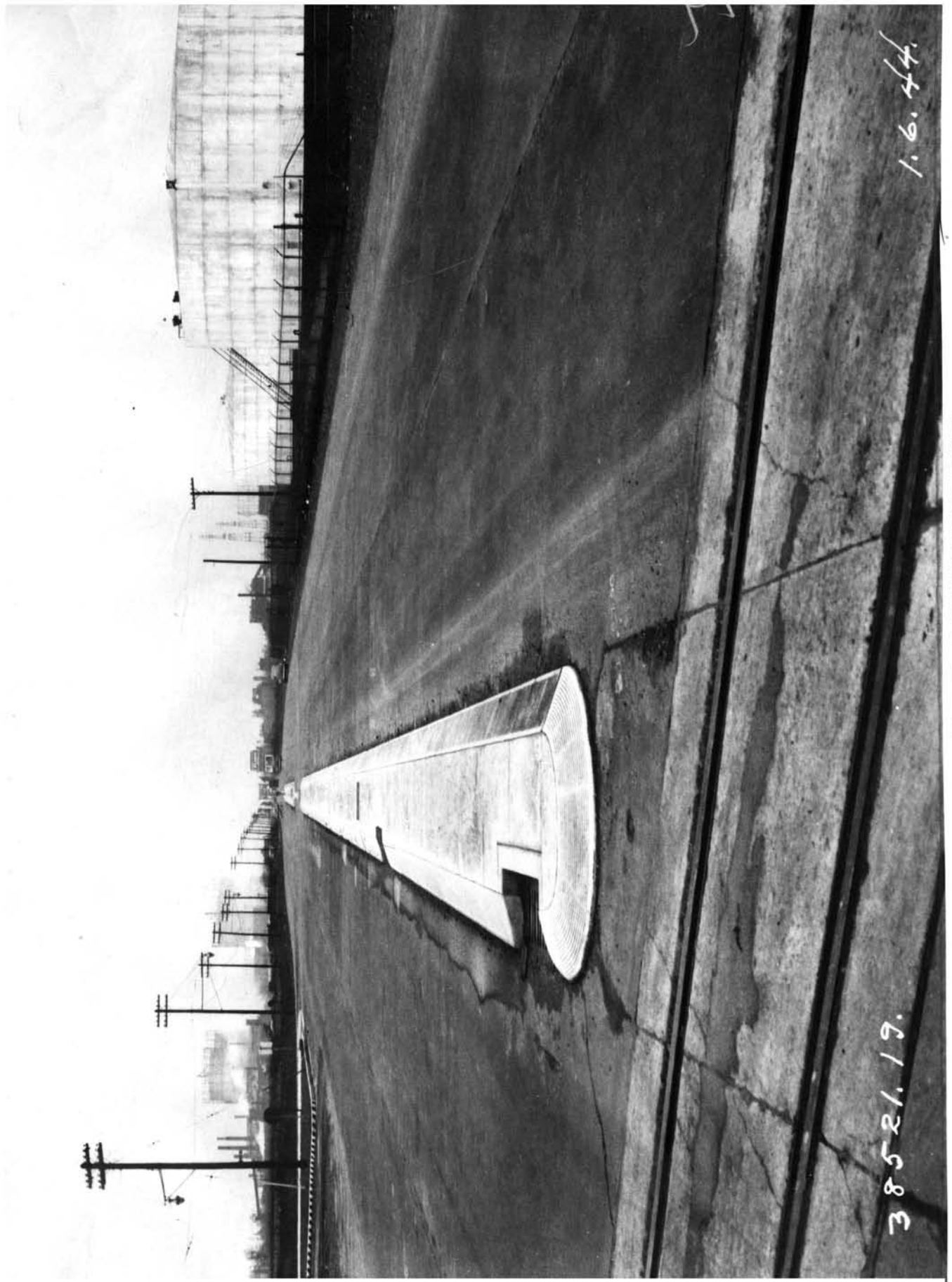


LOOKING NORTHEAST ALONG ESSINGTON AVENUE
FROM 67TH STREET

1.6.44.

38521.16.

38-1943



38521.17.

1.6.44.

LOOKING NORTHEAST ALONG PASSYUNK AVENUE
FROM 60TH ST. BR. P. B & W. RR.

39-1943



38521.23.

1.6.44.

CIRCLE AT ESSINGTON AVENUE AND ISLAND AVENUE
LOOKING S.E. FROM VANCE AVENUE

40-1943

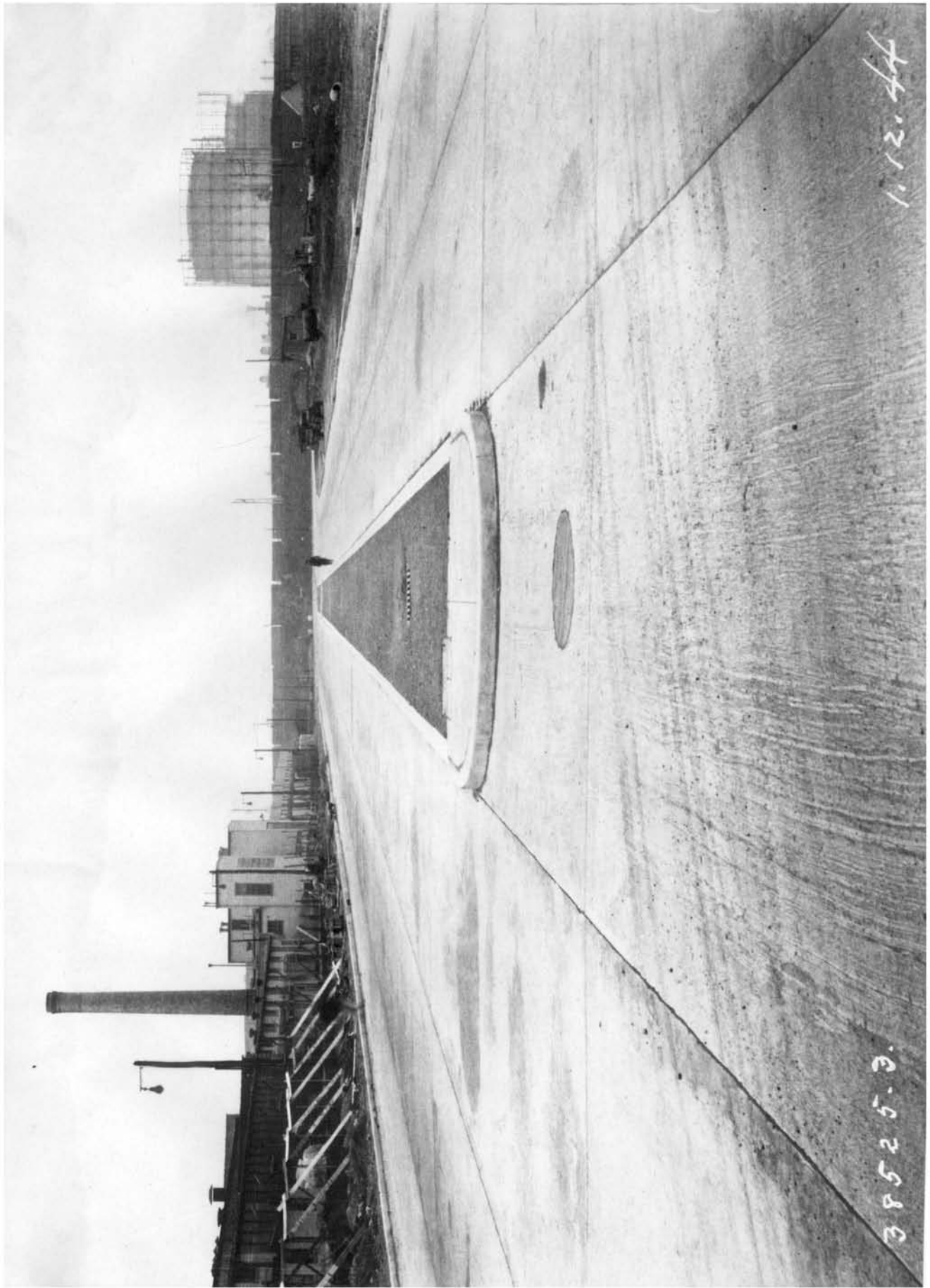


1.12.44

78325-1

INTERSECTION - 19TH STREET AND OREGON AVENUE
LOOKING EAST

41-1943



1.12.44

INTERSECTION - 23RD STREET AND OREGON AVENUE
LOOKING NORTH

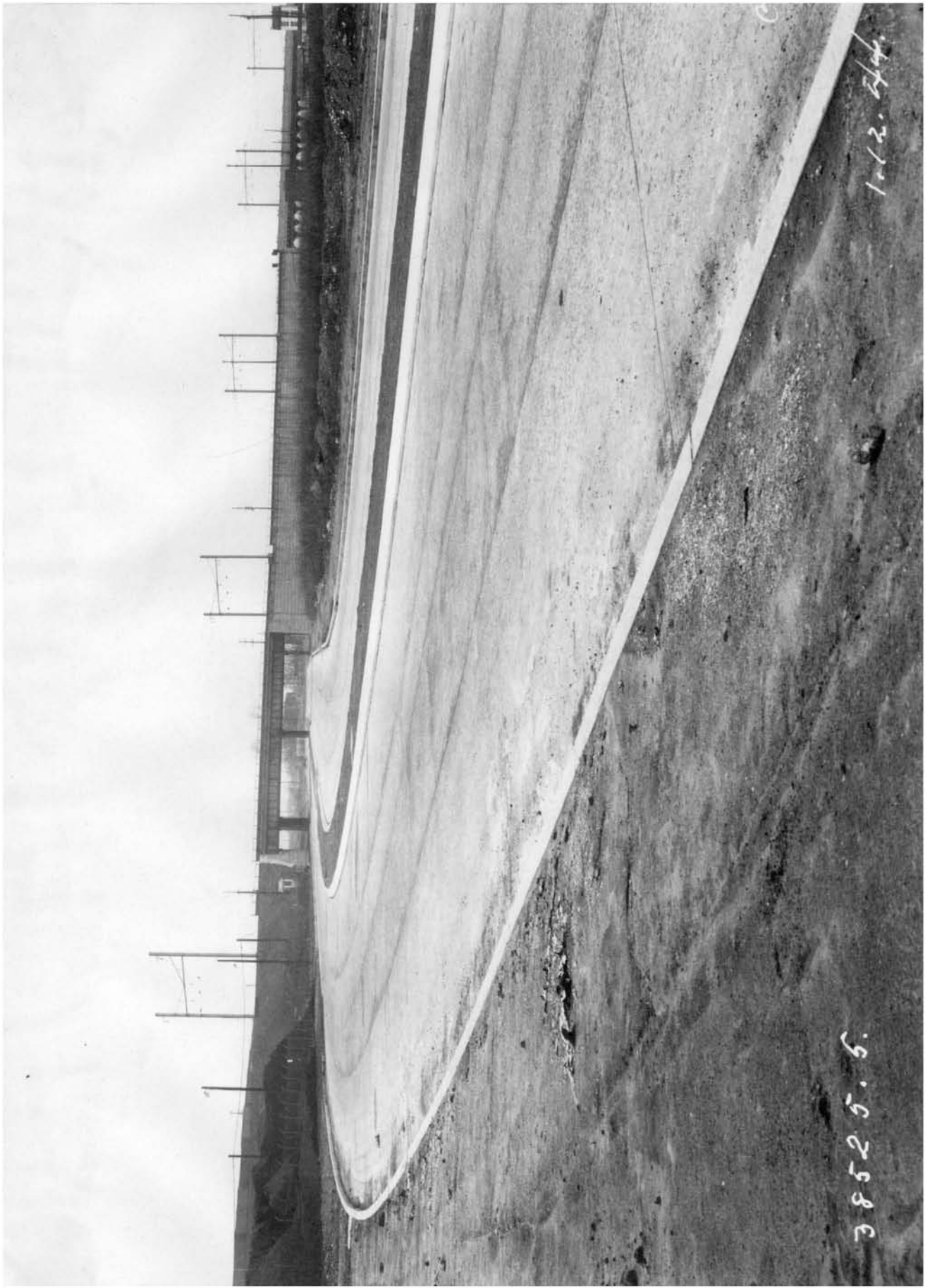
38525.3.

42-1943



INTERSECTION - OREGON AVENUE AND 23RD STREET
LOOKING EAST

43-1943



EAST P. C. CURVE VARE AVENUE
LOOKING NORTH

44-1943



1.12.44

38526.1.

INTERSECTION - VARE AVENUE AND PASSYUNK AVENUE
LOOKING SOUTHEAST

45-1943



INTERSECTION - 26TH STREET AND PASSYUNK AVENUE
LOOKING SOUTH

46-1943



1.13.44.

INTERSECTION - 26TH STREET AND HARTRANFT STREET
LOOKING SOUTH

38526.3.

47-1943



INTERSECTION - 26TH STREET AND HARTMAN STREET
LOOKING NORTH

48-1943



1.12.47

38527.1

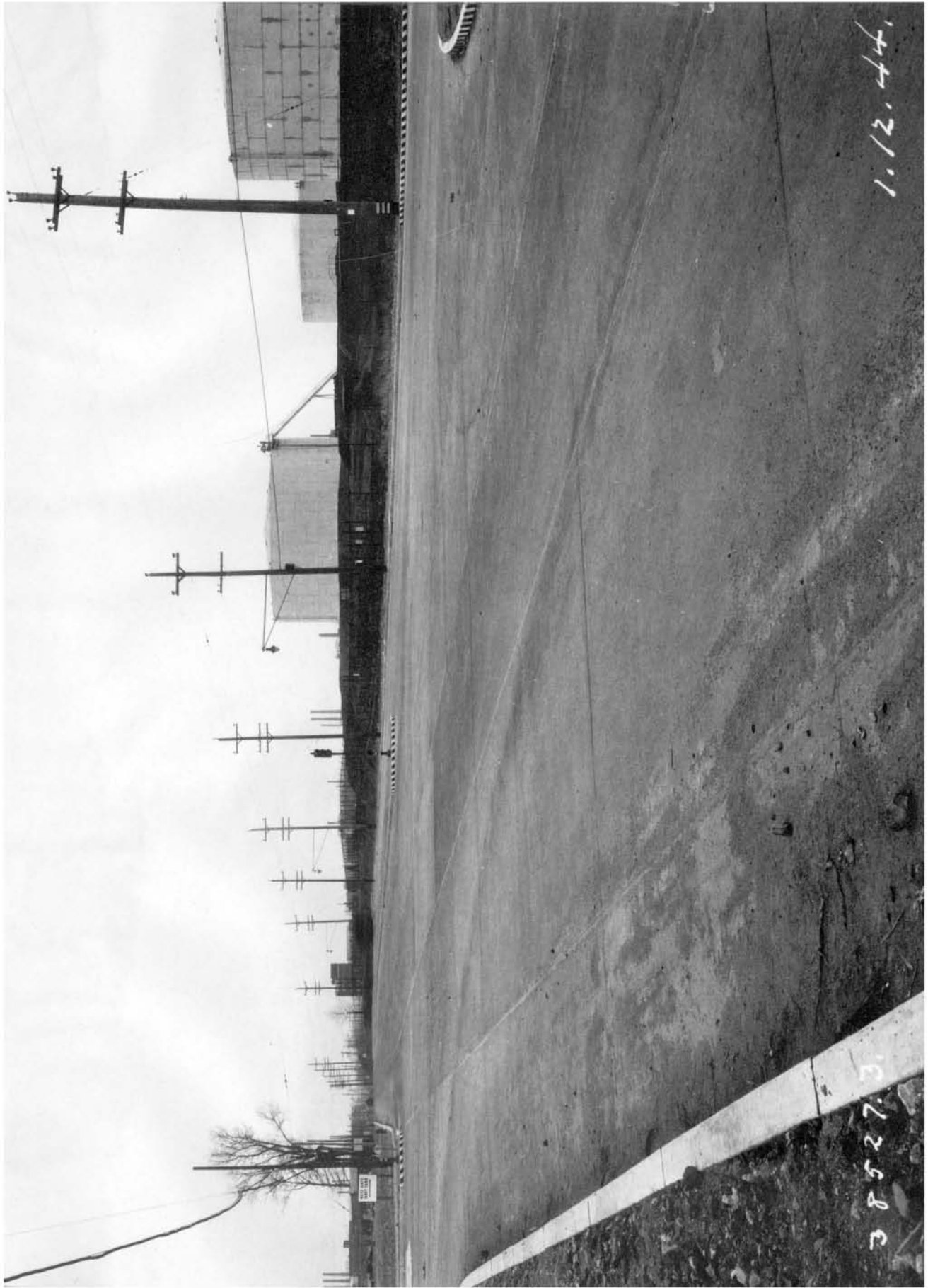
INTERSECTION - 26TH STREET, PENROSE AVENUE AND ACCESS ROAD
LOOKING SOUTH

49-1943



INTERSECTION - 26TH STREET AND PENROSE AVENUE
LOOKING EAST

50-1943



INTERSECTION - 26TH STREET AND PENROSE AVENUE
LOOKING WEST

51-1943



LOOKING NORTHWEST ALONG I ISLAND AVENUE
FROM SOUTH OF TINICUM AVENUE

1.6. 44.

38520.1

52-1943



8-26-43

FRANKFORD CREEK
LOOKING UPSTREAM BEFORE WORK STARTED

38413-3

53-1943



FRANK ORD CREEK
LOOKING UPSTREAM AFTER COMPLETION OF WORK

54-1943

STATISTICAL SUMMARIZATION

OF

ACTIVITIES

55-1943

DETAILS OF WORK PERFORMED IN THE SURVEY DISTRICTS

<u>Lots Staked</u> - for building purposes, scattered, four or less	511
for building purposes, operations, over four	504
grades furnished for new buildings, linear feet	3,947
<u>Conveyance</u> - properties surveyed for conveyance, scattered	836
" " " " operations	1,720
plans made for conveyance purposes	574
descriptions of property prepared	69
<u>Farm Surveys</u> - number made	39
acres surveyed or staked	1,236.6
<u>Miscellaneous Surveys</u> - made and staked	52
<u>Curb Regulation</u> - orders	1,417
linear feet	100,021
curb corners staked out	261
linear feet of curb measured and certified	14,210
<u>Footways</u> - square yards of paving or repaving measured and certified	3,536
curb and footway assessment bills prepared	153
<u>Alleys and Driveways</u> - plans for paving or repaving	38
linear feet covered	15,591
number for which lines and grades were furnished	68
linear feet furnished	31,180
square yards of paving or repaving measured and certified	24,607
assessment bills prepared	1,647
<u>Subdivision plans</u> - number made	22
lots shown thereon	323
<u>Architect Plans</u> - number made	15
<u>Wharf Plans</u> - plans and surveys made	7
number for which lines were furnished	2
linear feet	2,275
<u>Miscellaneous Plans</u> - number made	101
<u>City Plans</u> - small City Plans Prepared	19
sectional City Plans prepared or revised (number	6
(acres	599
acres surveyed for new or revised sectional plans	726
topography taken for city or private plans, acres	739
acres covered by stoning or restoning city plans	305
monuments set or reset (city or private)	134
linear feet of levels run to establish grades or benches	94,900
reports on city plan changes	25
" " deeds of dedication, releases and affidavits	25
descriptions prepared for deeds of dedication	32
<u>Law Plans</u> - plans prepared for Board of View	10
properties included	199
area in acres	736
plans prepared for various legal purposes	10
<u>Passenger Railways</u> - plans prepared (number	2
(linear feet of street covered	1,210
linear feet of lines and grades furnished	11,340
<u>Utility Companies</u> - plans prepared	1
linear feet of street covered	8,000
" " " lines and grades furnished	1,075
reports on applications for footway locations	172
<u>Bridges</u> - preliminary plans and surveys made	1
linear feet	9,400

<u>Drainage</u> - preliminary surveys and plans made for sewers and drains	114
linear feet of street covered	86,834
" " " lines and grades furnished	46,845
cubic yards of trench excavation measured	95,268
" " " masonry measured	422
number of inlets staked out	362
linear feet of lateral pipe and inlet connections measured	37,720
plans of constructed sewers and appurtenances prepared	35
linear feet of street covered	28,939
assessment bills prepared	602
<u>Water pipe</u> - plans prepared for Bureau of Water and Water companies	76
linear feet covered	80,248
" " of lines and grades furnished	7,850
fire hydrants for which lines and grades were furnished	4
reports on grade of streets for water pipe to be laid	40
assessment bills prepared	35
<u>Current Estimates</u> - any contract	101
<u>Reports</u> - on street openings, including plans or estimates	15
" " improvements, including plans or estimates	43
made to Chief Engineer	527
miscellaneous (not otherwise classified)	548
<u>Liens</u> - descriptions prepared for any department or bureau	213
<u>Permits</u> - Bureau of Building Inspection, number investigated	986
<u>Miscellaneous</u> - Linear feet - lines and grades, repaving, gutter marks,	
cross sections, revision, resurvey, etc.	72,838
Blue Print copies of property plans previously made	133
Linear feet - Pierhead and bulkhead lines recalculated	
and revised	25,000
Plan - Pierhead and bulkhead line (Schuylkill & Delaware	
Rivers)	1
linear feet	51,451
Survey for Philadelphia Navy Yard - Area in Acres	7
Inlets	21
Manholes	16
<u>Grading</u> - plans and preliminary estimates (including country roads)(number	12
linear feet of street covered	15,174
cubic yards measured, cut and fill	32,307
linear feet of street covered	12,974
" " " lines and grades furnished	44,233
<u>Paving</u> - plans prepared for paving (including country roads)	35
linear feet of street covered	21,502
square yards measured and certified	93,239
linear feet of street covered	37,194
" " " lines and grades furnished	117,885
assessment bills prepared	239
<u>Repaving</u> - plans prepared for repaving (including country roads)	20
linear feet of street covered	23,388
square yards measured and certified	42,683
linear feet of street covered	24,408
" " " lines and grades furnished	41,471
<u>Amount of completed contracts</u> - main and branch sewers	\$642,790.39
private sewers and drains	46,358.27
grading	63,429.99
paving and improvement	471,969.84
repaving and resurfacing	156,404.67
	<hr/>
	Total costs
	\$1,380,953.16
<u>Receipts</u> - District Cash Receipts	\$60,758.29

DETAILS OF WORK PERFORMED BY ZONING DIVISION

	<u>1942</u>	<u>1943</u>	%
			DECREASE
			INCREASE
Number of requests for information	14,444	10,246	29.1
Number of applications filed	6,343	4,240	33.2
Number of Zoning Permits issued	4,572	2,427	47.0
Number of Use Registration Permits issued	2,073	1,564	24.6
Number of References to the Board of Adjustment	72	26	63.8
Number of applications stamped "Permit not Required"	2,911	1,853	36.3
Number of Zoning Permits refused	415	189	54.4
Number of Use Registration Permits refused	1,121	1,004	10.3
Number of refusals appealed to the Board of Adjustment	1,336	1,010	24.3
Number of Inspections	940	686	27.1
Number of Complaints investigated	186	173	7.0
Number of Vouchers issued	2,681	1,851	31.0
Amount of Cash Receipts	\$17,870.	\$10,415	41.7
Number of true copies of applications certified for B. of A.	1,234	999	19.0
Number of Sign Applications (Highway) acted upon	55	0	100.0
Number of descriptions for District Classification changes made for the Board of Adjustment	23	9	60.9
Number of Letters to Fire Marshal for his approval or disapproval of use	115	55	56.5
Number of changes of Zoning Maps made by Ordinance of Council	18	8	55.6
Number of changes of Zoning Maps proposed by Resolution of Council	41	15	63.3
Number of Housing and Sanitation Refusals	0	100	Item carried first time in June, 1943.

DETAILS OF WORK PERFORMED IN THE REGISTRY DIVISION

Descriptions filed	52,820
Transfers plotted	59,062
Original lots plotted	2,665
Descriptions filed from 1865 to 1943 (inclusive)	3,247,374
Titles examined for plan book entries	5,074
Plan books examined by the public and officials	103,200
Certificates of registered owners issued to public	83
Certificates of registered owners issued to Law Department	684
Registry plates redrawn	13
Miscellaneous receipts	\$100.70
Miscellaneous plans drawn for City departments	41
Plans loaned out	769
Subpoenas issued against Registry Division	68
Appearance in Court	61
Amount of Witness Fees collected	\$186.00
Certificates of street openings issued to City departments	384
Affidavits of street openings filed	9
Streets opened by affidavits	8
Jury plans ordered	7
Jury plans filed	6
Streets authorized to be opened by ordinance	3
Certifications filed of openings and condemnations	6
Street opening agreements filed	6
Agreements filed in connection with City plan changes	15
Deeds of Dedication filed	29
Deeds of Dedication approved and recorded	30
Releases of abutting owners filed	--

Releases of abutting owners approved and recorded	---
Cost of recording deeds and releases	\$17.50
Number of meetings, including Road Day hearings	26
City plans ordered	22
Confirmed City plans filed	21
City plans advertised for public hearing	19
Ordinances returned to Council, favorable recommendation	18
Subt. " " " " " "	4
Ordinances returned to Council, special recommendation	---
" " " " negative "	1
General plans for construction Bridge approved	---
General plans for construction Sewer approved	---
Approved street railway plans filed	5

DETAILS OF WORK PERFORMED BY THE OFFICIAL PHOTOGRAPHER

	<u>Photography</u>				<u>Blueprinting</u> <u>Blueprinting, etc.</u>				
	8 x 10 megs.	8 x 10 prints	14 x 17 megs	lantern slides	electro copies square feet paper	tracings	Blue Prints	Van Dykes	Linen
Engineering, Surveys & Zoning	445	848	28		1,067	102	34,386	2,987	
Highway	259	360					13,299	243	
Water	220	1,893	4		267		80,521	1,336	2,100
City Property		36			16		450	40	
Traffic Eng.							8,084	615	
Electrical							807	25	
Law	143	156							
Health	28	18		19			341		
Art Jury	4	8							
Civilian Defense	65	72		77	90		3,225	920	
Director	7	7			36				
Mech.-Equipment	3	6							
Civil Service	3	9							
Totals	1,177	3,413	32	96	1,476	102	161,113	6,166	2,100

DETAILS OF WORK DONE IN THE TESTING LABORATORY

Total Number of Specimens - 1943

Boiler Feed Water	822
Boiler Compounds	11
Bricks, Vitrified	46
Cement, Hydraulic	660
Concrete, Aggregate	11
Beams	125
Cylinders	1,020
Products, Miscellaneous	302
Fuels	4,184
Miscellaneous Materials	26
Oil, Lubricating	128
Paint and Paint Materials	65
Water, Industrial Waste and Sewage	<u>416</u>
Total	8,209

Distribution of Total Specimens

	<u>No. Specimens</u>	<u>%</u>	<u>Number Specimens</u>	<u>%</u>
Department of Public Health			822	10.1
Department of Public Safety			102	1.2
Bureau of Building Inspection	101	1.2		
Bureau of Police	1	0.0		
Department of Public Welfare			11	0.1
Department of Public Works			5,553	67.6
Bureau of Engineering, Surveys and Zoning	1,346	16.4		
Bureau of Highways	1,415	17.2		
Bureau of Mechanical Equipment	13	0.1		
Bureau of Water	2,779	33.9		
Department of Supplies and Purchases			1,609	19.6
Water Works Improvement			112	<u>1.4</u>
Total				100.0

Specimens for Chemical Test

Boiler Feed Water		822
Boiler Compounds		11
Coal		4,125
(anthracite	3,948	
(bituminous	177	
Metals		66
(ferrous	13	
(non-ferrous	53	
Miscellaneous Materials		23
Oils		187
(fuel	59	
(lubricating	128	
Paint and Paint Materials		65
(driers	7	
(linseed oil	8	
(mixed paints	13	
(pastes	25	
(pigments	1	
(turpentine	5	
(vernish	6	
Water, Industrial Waste and Sewage		<u>416</u>
	Total	5,715

Distribution of Chemical Specimens

Department of Public Health		822
Department Department of Public Welfare		11
Department of Public Works		3,265
Bureau of Engineering, Surveys and Zoning	- 409	
Bureau of Highways	79	
Bureau of Mechanical Equipment	13	
Bureau of Water	2,764	
Department of Supplies and Purchases		1,609
Water Works Improvement		<u>8</u>
	Total	5,715

Specimens for Physical Tests

Brick, vitrified		46
(building	16	
(paving	30	
Concrete		1,744
(aggregate, fine	7	
" coarse	4	
(beams	125	
(cores	286	
(cylinders	1,020	
(products, misc.	302	
Metals		41
(ferrous	38	
(non-ferrous	3	
Miscellaneous Materials		3
	Total	1,834

Distribution of Physical Specimens

Department of Public Safety		100
Bureau of Building Inspection	99	
Bureau of Police	1	
Department of Public Works		1,630
Bureau of Engineering, Surveys and Zoning	683	
Bureau of Highways	932	
Bureau of Water	15	
Water Works Improvement		104
	Total	1,834

Hydraulic Cement Specimens

Domestic Hydraulic Cement	660	660.
	Total	660.

Distribution of Cement Specimens

Department of Public Safety		2
Bureau of Building Inspection	2	
Department of Public Works		658
Bureau of Engineering, Surveys and Zoning	254	
Bureau of Highways	404	
	Total	660

DETAILS OF WORK PERFORMED BY THE DESIGN DIVISION

Preliminary Estimates

Wissahickon Hills-Nelson-Pedley Tract-Additional streets
New Channel - Church Creek - Essington Ave., Island Avenue south
Castor Avenue, Cottman Avenue to Strahle (improvement)
Faunce Street, Summerdale Avenue to Tabor Avenue - high level pipe sewer
Burholme Park, Cottman Avenue to Fillmore Street; Fillmore Street, Napfle Avenue,
Burholme Avenue to Borbeck Street
Proposed Development - Red Lion, Bustleton, Verree - stormwater conduit - Zane tract.
Sandy Run Main and Branches - sanitary system.
Sandy Run Main and Branches - sanitary system extension to upper end.
Sandy Run Main and Branches - stormwater drainage after sanitary drainage
Conversion of Greenwood Avenue combined system above Sedgwick and Williams Avenues
Forrest Avenue and Sedgwick Avenue, via Forrest Avenue, Gorgas Street, Baldwin Street
and Vernon Road to Mansfield Avenue

Private Sewers

Gilbert Street, Upsal Street to Sharpnack Street (new plan)
Agusta Street, Comly Street to Benner Street
Souder Street, Tyson Avenue to summit southwest
Unruh Avenue, Frontenac Street to Summerdale Avenue
Fanshawe Street, Frontenac Street to Summerdale Avenue
Frontenac Street, Magee Avenue to Fanshawe Street

Temporary Drain

Oak Lane, 13th Street to 340 ft. westward

Public Sewers

Bradford Street, Hellerman Street to Magee Street
Sharpnack Street, Williams Street to Fayette Street
Sharpnack Street, Williams Street to Thouron Street
Thouron Street, Sharpnack Street to Upsal Street
In Burholme Park, Cottman Avenue to Fillmore Street; and Fillmore Street,
Shelmire Avenue to Napfle Avenue
Napfle Avenue, Fillmore Street to Burholem Avenue and Burholme Avenue, Napfle
Avenue to Borbeck Street
Algon Avenue, Magee Avenue to Unruh Avenue
Williams Avenue, Phil-Ellena Street to Vernon Road
Clarkson Avenue, Mascher Street to point 310 feet east
Barton Street, Wissinoming Street to State Road
Castor Avenue, Glendale Avenue to Rhawn Street
Fountain Street, Henry Avenue to Shalkop Street
Fountain Street, Shalkop Street to Matthias Street
Lawnton Street, Fountain Street to Acorn Street
Pedley Road, Lawnton Street to Fairway Terrace
Fairway Terrace, Fountain Street to Lawnton Street
Shalkop Street, Fountain Street to Overlook Road; Overlook Road, Shalkop
Street to Matthias Street; Matthias Street, Overlook Road to Fountain St.
Matthias Street, Fountain Street to Acorn Street
Acorn Street, Ridge Avenue to Shalkop Street
Henry Avenue, Acorn Street to 200 ft. north; Acorn Street, Henry Avenue to Shalkop St
18th Street, Godfrey Avenue to Limekiln Turnpike
Thouron Avenue, Washington Lane to Cliveden Street
Shelborne Street, Tyson Avenue to Longshore Street
Hasbrook Avenue, Devereaux Avenue to Robbins Street

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Public Sewers (Continued)

Gilham Street, Rising Sun Avenue to summit N. W. of Oakley Street
Hellerman Street, Rising Sun Avenue to summit N. W. of Oakley Street
Faunce Street, Summerdale Avenue to 262 ft. E. of Whitaker Avenue - sanitary sewer
Faunce Street, 262 ft. E. of Whitaker Avenue to Tabor Avenue - sanitary sewer
St. Vincent Street, Sackett Street to Hawthorne Street
Pennway Street, Shel mire Avenue to Faunce Street
Shel mire Avenue, Dorcas Street to Whitaker Avenue
Whitaker Avenue, Bleigh Avenue to Faunce Street
Bleigh Avenue, Dungan Road to Whitaker Avenue
Claridge Street, Shel mire Avenue to Faunce Street
Vista Street, Dungan Road to Whitaker Avenue
Tabor Avenue, summit south of Shel mire Avenue to Shel mire Avenue
Claridge Street, Bleigh Avenue to Shel mire Avenue
Montour Street, Bleigh Avenue to Shel mire Avenue
Dungan Road, Bleigh Avenue to Faunce Street
Revere Street, Stevens Street to Devereaux Avenue
Devereaux Avenue, S. W. side, Revere Street to Brous Avenue
Oakmont Street, Palmetto Street to Bingham Street
Faunce Street, Tabor Avenue to Bingham Street
Bingham Street, Shel mire Avenue to Faunce Street
Lawndale Street, Shel mire Avenue to Faunce Street
Palmetto Street, Shel mire Avenue to Oakmont Street
Tabor Avenue, Shel mire Avenue to Faunce Street
Shel mire Avenue, summit E. of Dungan Road to Lawndale Street
Tulpehocken Street, Rodney Street to Woolston Avenue
Walnut Lane, Rodney Street to Woolston Avenue
Montour Street, Shel mire Avenue to Faunce Street
Tyson Avenue, Rutland Street to Horrocks Street
Dorcas Street, Faunce Street to Shel mire Avenue
Tabor Avenue, Faunce Street to Napfle Avenue and Napfle Avenue, Tabor Avenue to
Bingham Street
Napfle Avenue, Bingham Street to Ferndale Street
Ferndale Street, Napfle Avenue to Hartel Avenue
Rising Sun Avenue, Napfle Avenue to Faunce Street
Faunce Street, Rising Sun Avenue to Verree Road
Afton Street, Rising Sun Avenue to Verree Road
Brighton Street, Frontenac Street to 300 ft. west
Rising Sun Avenue, Napfle Avenue to Chandler Street
Chandler Street, Rising Sun Avenue to Verree Road
Hartel Avenue, Rising Sun Avenue to Verree Road
Lansing Street, Rising Sun Avenue to Verree Road
Hermit Street, Daniel Street to Wissahickon Avenue
Bridget Street, Hermit Street to Walnut Lane

Drainage

26th Street, Penrose Avenue to Passyunk Avenue
Penrose Avenue, 900 ft. W. of 26th Street to 1000 ft. E. of 26th Street
Traffic Circle, Island Avenue and Essington Avenue
Essington Avenue and Passyunk Avenue, Powers Lane to 63rd Street
Essington Avenue, Island Avenue to County Line
Plan - location and section for new channel Church Creek, south of Island Avenue
Vine Street, Marshall Street to 18th Street, Ridge Avenue, Race Street to Vine Street
and Race Street, 7th Street to Vine Street
Vare Avenue, Passyunk Avenue to 34th Street, and 34th Street, Vare Avenue to Grays
Ferry Avenue
Penrose Avenue, south of Pattison Avenue to Moyamensing Avenue and Moyamensing Ave.,
Penrose Avenue to 19th Street.

Electrical Conduits and Outlets

26th Street, Penrose Avenue to Passyunk Avenue
Penrose Avenue, 900 ft. W. of 26th Street to 1000 ft. E. of 26th Street
Essington Avenue and Passyunk Avenue, Powers Lane to 63rd Street
Vine Street, Marshall Street to 18th Street, Ridge Avenue, Race Street to Vine Street, and Race Street, 7th Street to Vine Street
Penrose Avenue, 300 ft. S. W. of Pattison Avenue to Moyamensing Avenue, and Moyamensing Avenue, Penrose Avenue to 19th Street

Drainage Studies

Flooding Data - Cresheim Creek obstruction at Crittenden Street
Schuylkill Avenue, Ellsworth Street to Annin Street, etc.
Diversion of Bingham Street via Disston Street to Oxford Avenue
Castor Avenue, Glendale Avenue to Rhawn Street
Proposed Underpass - Aramingo Avenue under R. R. between Bridge Street and Wakeling St
Proposed Apartment Development, Wissahickon Avenue and Harvey Street
Frankford Avenue, Linden Avenue, State Road, Placid Street (Camp Happy)
30th Street, Walnut Street to 700 ft. south
Conshohocken Avenue and Windemere Avenue - stormwater
Flooding study - 54th Street and City Avenue
Hawthorne Street, St. Vincent Street to Wellington Street
Temple Road, Vernon Road to Greenwood Street
Red Lion Road, Verree Road, Bustleton Avenue - proposed development (Zane tract)
Penrose Avenue, Pattison Avenue to Moyamensing Avenue
Harmony Street, 3rd Street to Orianna Street
Devereaux Street, Revere Street to Bross Avenue
Edgemont Street, Butler Street to S. W. of Luzerne Street (temporary drain)
Solly Avenue, Halstead Street to Ferndale Street - stormwater
James Street, Cottman Avenue to Wellington Street
Paschall Avenue, 50th Street to 51st Street
Gratz Street, Stenton Avenue to Chelton Avenue
Flooding study - Glendale Avenue west of Castor Avenue
Benner Street, Bross Avenue to Farnsworth Street
Shalkop Street, Gates Street to Acorn Street
Overbrook Avenue, Vine Street, Sherwood Avenue, Haverford Avenue
Matthias Street, Gates Street to Acorn Street
Lardner Street and Stevens Street, Revere Street to Farnsworth A.
Averdell Street, Phila. & Trenton R. R., Poquessing Creek, Delaware
Bingham Street and Napfle Avenue
Hermit Street, Daniel Street to Wissahickon Avenue
Sylvester Street, Vankirk Street to Comly Street
Algon Avenue, Cranford Avenue to Benner Street, etc.
Blue Grass Road, Red Lion Road to Grant Avenue
McMichael Street, Roberts Avenue to Abbottsford Avenue
Sherwood Avenue, Callowhill Street, Columbia Avenue, Race Street
Eastwick Avenue, 56th Street to Harley Street, etc.
Hegerman Street, Rhawn Street to Right-of-Way Bustleton Branch Connecting Railway
St. George's Road, Cresheim Valley Drive, Greene Street
Greenwood Avenue System above Sedgwick and Williams Avenue
Passmore Avenue, Newtown Avenue to County Line
Orchard Lane, Crestmont Avenue to Poquessing Creek
Penrose Avenue, Pattison Avenue to 20th Street, etc.
Bustleton Avenue, Princeton Avenue to St. Vincent Avenue
"B" Street, Clarkson Avenue to Somerville Avenue

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Sewage Disposal

Sewage Meter data - Cottman and Orville Avenues, for Cheltenham Township engineer
Sewer Rental Maps and Reports
Southeast Sewage Pumping Station - Design
Northeast Sewage Treatment Works - Extension Design
Estimate of percent completion various items of Sewage Disposal Project
Estimate of net fill required for Southeast Treatment Works site (North of Pattison A

Miscellaneous

W. W. I. location future sewers - vicinity Shawmont Avenue and Eva Street and Minerva Street
W. W. I. - Ext. sewer data 10th Street, Callowhill Street to Bainbridge Street
Sewer Revision - Leverington Avenue, Reading Railway Venice Branch
Ashdale Street - new channel for outlet to Tacony Creek
Fuel Oil Pipe Line Essington Avenue, Penrose Avenue, etc.
Atlantic Refining Company - 30" diameter conduit Hartranft Avenue 320 ft. E. of Schuylkill Avenue
Critical material estimates - for W. P. B. Priority Rating for proposed sewers in various locations.
Emergency City Inlet - revised standard
Belmont Pumping Station - Timber crib intake
Sketch Plan, etc. Frankford Creek Channel Restoration
Flood Control of Frankford Creek - Channel Restoration between Ashland St. and Leiper Street
W. W. I. - sewer data - Passyunk Avenue, 25th St. to 26th St. and other locations
Pennway Street, Magee to Unruh - location future sewer for Water Bureau
Cuthbert Street at 5th Street, proposed tunnel
Waterway for new bridge - 70th Street over Cobbs Creek
Drainage - proposed County Prison Canning Plant
Bell Telephone Company M. H. drainage - Hazzard Street at Jasper Street
Philadelphia Municipal Airport - Air Obstruction map and location map to Army Air Corps Engineers
W. W. I. - sewer data - Church Street, Waln Street, Kinsey Street, Sellers Street, etc
Plan - Power House Drain - Philadelphia General Hospital
Bell Telephone Company. M. H. flooding, 13th Street at Cuthbert Street
Emergency Concrete Covers for Existing Inlets
Benner Street, Frontenac Street to Loretto Avenue - location future sewer for Water Bureau
League Street west of 12th Street - proposed artesian well
Hellerman Street, Ditman Street to Torresdale Avenue - location future sewer for Water Bureau
Intake Crib - E. side Schuylkill River 600 ft. below Grays Ferry Bridge - P. E. Co.
Fuel Oil Pipe Line - alignment in R. R. Right-of-way at Pennypacker Avenue
W. W. I. Sewer Data - Clarkson Avenue, "F" Street, Mayfair Street, Harrison Street, Hasbrook Street
Underground Conduits - Shurs Lane and Station
14" Oil Pipe Line - Passyunk Avenue west of Schuylkill Avenue
W. W. I. Sewer Data - Oregon Avenue, 3rd Street, Roosevelt Boulevard, Loretto Street, etc.
Barrett Company Bridge over Frankford Creek 75 ft. north of Ash Street
W. W. I. Sewer Data - Penrose Avenue, Packer Avenue to Pattison Avenue; Delaware Avenue, Oregon Avenue to Bigler Street
Steam Conduit - 15th Street and Alter Street
Standards - Low Retaining Walls
Revision - Standards High Retaining Walls
P. R. R. Siding - Swanson Street and Catharine Street
W. W. I. Sewer Data - Front Street, Chew Street to Olney Avenue
Location of Powelton Avenue sewer - 31st Street to Schuylkill River for P. R. R.

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Checking Applications for the Public Utilities

Philadelphia Gas Works Company	342
Bell Telephone Company	68
Philadelphia Electric Company	10
Philadelphia Steam Co. (P.E.)	2
Keystone Telephone Company	3
Bureau of Engineering	76
Bureau of Water	159
Miscellaneous	21

Total 681

Mimeographing

Sheets and Records for Zoning Division
for Survey Districts
for Registry Division (Forms - Notes, etc.)
for Bureau (Specifications, Proposals, etc.)
for Civilian Defense Centers

Filing

Main and Branch Sewer Plans - Bridge Division Plans - Grade Crossing Plans -
Miscellaneous Plans - etc.

Bridges

70th Street over P. B. & W. R. R. - design and contract drawings
Aramingo Avenue over Frankford Creek - design and perspective
Henry Avenue over Green Lane - design and perspective
Henry Avenue over Gorgas Lane - design and perspective
70th Street over Cobbs Creek - Preliminary design studies
Castor Avenue over Frankford Creek - Preliminary alignment studies
Aramingo Avenue under Phila. & Trenton R. R. - Preliminary alignment studies
Vine Street Improvement - Marshall Street to 9th Street)
Ridge Avenue, Race Street to Vine Street) Perspective
Race Street, 7th Street to 8th Street) paving plans
Vine Street Improvement - Franklin Street to 11th Street - Demolition plans
Penrose Avenue Bridge - Design and architectural sketches
Delaware Avenue Elevated Highway - Design studies and perspective
Ridge Avenue Underpass - sketches and plans
Levick Street under Phila. & Trenton R. R. - perspective
26th and Penrose Avenue - perspective
20th Street and Parkway Underpass - perspective
Reading Company Bridge over Vine Street - check of location and clearances)
architectural studies)
Phila. & Trenton R. R. over Grant Avenue - check of reconstructed south span
Reading Company Venice Branch - check of track relocation at Green Lane and
Leverington Avenue

Marquees, Canopies, Vaults, Signs, etc.

U. S. Marine Corps Chute across 15th Street at Washington Avenue
Marquee - 232 N. Delaware Avenue
Canopy - Defense Plant Corp., W. S. Wissahickon Ave., S. of Abbottsford Avenue
Driveway slab - 262 S. American Street
Private Bridge - Wakeling Street and Frankford Creek
Retaining Walls - Hutchinson Street Improvement, Nedro Avenue to Champlost Avenue
Red Cross Sign - City Hall Plaza.

Bridges Checked for Strength

Schuylkill River bridge sidewalks investigated for use of snow plows
Margie Street and Glenwood Avenue

Routing Lists

Bridge capacity list for Bureau of Highways

Hauling Permits

Heavy truck routing - 500 checked

Bridge Repairs

Broad and Pollock Streets - drawing and estimate for reconstruction
Clarissa Street and Hunting Park Avenue - drawing for inspection report
Erie Avenue and Fourth Street - drawing and estimate for shortening end spans of
floor stringers
Grays Ferry Avenue over Schuylkill River - drawings and estimate for repaving
Grays Ferry Avenue over Schuylkill River - drawing and estimate for smoke plates
Grays Ferry Avenue over Schuylkill River - drawing and estimate for fender repairs
Grays Ferry Avenue over Schuylkill River - drawing for inspection diagram
Girard Avenue over Schuylkill River - drawing for inspection diagram
Linden Avenue and State Road - drawing for end bulkheads
Marshall Road over Cobbs Creek - drawing and estimate for reconstruction of abutment
Passyunk Avenue over Schuylkill River - drawing and estimate for repaving
Passyunk Avenue over Schuylkill River - drawing and estimate for increasing overhead
clearance
Passyunk Avenue over Schuylkill River - drawing for inspection diagram
Penrose Ferry Road over Schuylkill River - drawings and estimate for renewal of deck
Rising Sun and Godfrey Avenues - drawing and estimate for renewal of deck
South Street over Schuylkill River - drawings for renewal of deck and strengthening
west approach spans
Spring Garden Street over Schuylkill River - drawings and estimate for steel repairs
Tenth and Pollock Streets - drawing and estimate for renewal of deck and filling in
of four spans
Walnut Street over Schuylkill River - drawing for inspection diagram
Wyoming Avenue over Tacony Creek - drawing for inspection diagram

Wharf Repairs and Miscellaneous Structures

Delaware Avenue and Green Street - drawing and estimate for additional piles
Delaware Avenue and Green Street - drawing and estimate for repairs
Delaware Avenue and Green Street - drawing and estimate for proposed repairs
Delaware Avenue and Green Street - investigation for use of seven and one-half ton
trucks
Twenty-fifth and Fox Streets - drawing and estimate for reconstruction of retaining
wall
Shur's Lane and Manayunk Avenue - preliminary design or study and estimate for
proposed stairs

Inspection

Highway Bridges over Reading R. R. - inspected all in conjunction with Reading
engineers
Clarissa Street and Hunting Park Avenue - inspected for deterioration.