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BUREAU OF ENGINEERING, SURVEYS AND ZONING
Executive Offices, Room 1105 City Hall Annex
Philadelphia

Chief Engineer and Surveyor
A. ZANE HOFFMAN

Assistant Chief Engineer
SAMUEL S. BAXTER

Assistant Chief Engineer and Surveyor
FREDERICK T. THORPE, Jr.

Design Division

Principal Assistant Engineer - E. R. Schofield (until September 30th)
John R. Grandinetti (acting since Sept. 30th)

Construction Division

Principal Assistant Engineer - Max Barofsky
Division Engineers - J. G. Bailey, M. T. Connell, F. Zielinski,
C. E. Black, G. C. Munoz

Plans and Registry Division

Chief - James J. Gratin
Assistant Chief - Lester Freedman
Senior Assistant Engineer, City Plans - Albert W. Moser

Zoning Division

Chief - Charles MacDonnell
Assistant Chief - Joseph H. Rosenberg

Accounting Division

Chief Clerk - Robert H. Bell
Cost Accountant - George W. Allen

Testing Laboratory

Principal Assistant Testing Engineer - A. F. Burbidge

Projects Control Division

Office Engineer - James A. Brady, Jr.

Sewer Permit Division

Chief Engineering Clerk - Guy K. Haldeman
Senior Engineering Clerk - T. J. Sweeney (until October 30th)
J. F. Dealy (since October 30th)

Northeast Sewage Treatment Works

Assistant Superintendent - Edward P. Morris
Senior Engineering Chemist - Joseph H. Thorpe

Industrial Waste Division

Chief - Harry M. Beaumont
Industrial Waste Engineer - J.S. Reich

BOARD OF SURVEYORS

President - A. Zane Hoffman
Chief Engineer and Surveyor
Vice President - Frederick T. Thorpe, Jr.
Assistant Chief Engineer and Surveyor

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Raymond C. Good
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Ernest R. Brooks
John T. Campbell
Joseph A. Singer

Secretary - James J. Gratin

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BUREAU OF ENGINEERING, SURVEYS AND ZONINGA. ZANE HOFFMAN, Chief Engineer and SurveyorADMINISTRATION

The Bureau of Engineering, Surveys and Zoning is a major branch of the Department of Public Works. Its present organization is the result of the consolidation of three separate Bureaus into one Bureau, i.e., the Bureau of Surveys, the Bureau of Zoning, and the Bureau of Engineering. The normal functions performed by this Bureau are numerous and diverse because of the administrative demands that have controlled its organization over a period of ninety-four years.

The Act of Consolidation of February 2, 1854, created a Department of Surveys for the consolidated City of Philadelphia. The supplementary Act of April 21, 1855, provided for the organization of the Board of Surveyors. The Act of June 1, 1885, known as the Bullitt Bill, created the Department of Public Works. The Department of Surveys became the Bureau of Surveys which carried on the same surveying and engineering functions as the Department of Surveys. On January 1, 1925, City Council, recognizing the work load which had devolved on the Bureau of Surveys, divided its functions and created a Bureau of Engineering to carry on the engineering functions of the Bureau of Surveys. On February 1, 1929, City Council again consolidated the engineering and surveying functions into one Bureau which was called the Bureau of Engineering and Surveys.

On August 10, 1933, City Council enacted the Philadelphia Zoning Ordinance and, in compliance with the zoning enabling act of May 6, 1929, which provides for the creation of a Bureau of Zoning in the Department of Public Works, ordained that the Bureau of Engineering and Surveys was to become the Bureau of Zoning. The Bureau of Engineering and Surveys, therefore, in order to absorb the zoning functions became the Bureau of Engineering, Surveys and Zoning.

The genesis of the present Bureau, therefore, was the Department of Surveys which was created by the Act of Consolidation. The present title of the Chief of the Bureau is Chief Engineer and Surveyor, which title was set up by the Act of Consolidation and has been continued by law ever since.

The Hon. Eli K. Price, who as a State Senator, spear-headed the enactment of the Act of Consolidation, in his book entitled 'The History of the Consolidation of the City of Philadelphia', published in 1873, has the following to say of the Survey Department and the Board of Surveyors:

"The establishment of the Survey Department was a favorite measure with the writer of this narrative. The surveyors of the City and Districts claimed many of their plans and records of surveys as their private property, and they were subjects of sale to their successors, or might remain in private hands. The public suffered loss in this way, and individuals were often left without certain proof of the lines of their property. Owners of rural lands laid out plots and improved, in certain sections, or influenced the surveys of plots, with a view to the most profitable sales of their grounds. Now all City plans must come

before the Board of Surveys, composed of the Chief Engineer and Surveyor, and all the District Surveyors, which commands the knowledge and skill of all, to insure the best systems of streets, grades, surface drainage, and underground sewers; while all these must be the special study of the Engineer-in-Chief. These systems will secure harmony and fitness of work, and prevent much future loss in the destruction of work done without regard to an ultimate plan for the whole. Mr. Kneass has done much to establish this Department. Surveys of lots are now preserved in the central office, and every owner's property will, when the work is completed, be found plotted there in books, easily referred to by indexes, and this record will in all the future establish the line of ownership, as well as constitute a certain basis for the ascertainment of property and ownership for the assessment and the collection of taxes. This work is always to be kept up to the latest moment, for every deed of conveyance is required by law to be registered and plotted in the Survey Department, before it can be recorded. None can now, as many formerly did, escape a ratable share of the public taxes."

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 ten Survey Districts into which the City is subdivided, and the Registry (land title registration), road methods and City plan sections.

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 a Chief of Division, 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 ordinance 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 Assistant Chief Engineer, and includes the following elements of the Bureau organization: the design, construction, inspection, operation, testing, and sewer registrar and permits sections.

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.

These three divisions of the Bureau of Engineering, Surveys and Zoning are not completely detached from each other, and do not function entirely independent of each other. They are harmoniously coordinated into an united and effective working whole, capable of performing annually an unusual volume of work varying greatly in character and extent.

The Surveys, Zoning and Engineering divisions are served by an Accounting section 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 sections, and complete service records of active and inactive personnel.

X 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 1949 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 Blueprint 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.

PERSONNEL

The Annual Reports since 1946, the first postwar year and the year which marked the beginning of the expansion of personnel which was needed to cope with the public Works improvement program, have emphasized the difficulties of recruiting and retaining competent technical personnel. The year 1949 provides no let-up in these difficulties. Although the need in numbers is not so great as previous years, due to the fact that stability is being approached, it must be emphasized that personnel turnover is still too high. This is due to the high rate of resignations. It is very apparent that the cause of the resignations stems directly from inadequate salaries in all grades, particularly in Loan funds.

Young qualified engineers, particularly recent college graduates, refuse to be satisfied very long with the salaries which the Bureau is required to pay. Many resignations contain expressions of appreciation of valuable experience gained but go on to state that offers of higher salaries and better prospects must be accepted. It is not alone the young engineers who are dissatisfied but the squad leaders who are in direct charge and are responsible for turning out the various contract design drawings, have become very much dissatisfied.

The trouble is basic and will not be rectified until a higher schedule is adopted all along the line, beginning at the top. The most dissatisfaction, and it is dissatisfaction which is thoroughly justified, occurs in the salaries of the division heads and the squad leaders who must assume direct responsibility for design in the numerous engineering branches of civil, mechanical, electrical, sanitary and structural engineering and other design specialties. Much has been written on this subject in previous reports. It is still true. The fact that the squad leaders must be continually training new men is not only harassing and time-consuming, but adversely affects the effectiveness and efficiency of the leaders. The details of personnel turnover are shown statistically as follows:

	<u>Budget</u>				<u>Loan</u>				<u>Totals</u>			
	<u>1946</u>	<u>1947</u>	<u>1948</u>	<u>1949</u>	<u>1946</u>	<u>1947</u>	<u>1948</u>	<u>1949</u>	<u>1946</u>	<u>1947</u>	<u>1948</u>	<u>1949</u>
New appointments	69	70	41	34	138	113	78	36	107	183	119	70
Promotions	54	33	17	45	36	46	39	17	90	79	56	62
Resignations	29	29	19	17	10	26	42	35	39	55	61	52
Retired-Pension	0	4	0	5	0	0	0	1	0	4	0	6
Deceased	0	2	2	4	0	3	4	4	0	5	6	8
	<u>152</u>	<u>138</u>	<u>79</u>	<u>105</u>	<u>84</u>	<u>188</u>	<u>163</u>	<u>95</u>	<u>236</u>	<u>326</u>	<u>242</u>	<u>198</u>

SURVEYS DIVISION

Board of Surveyors - The Board of Surveyors is an integral part of the Bureau of Engineering, Surveys and Zoning. It was created by the Act of Consolidation and its supplements and subsequent Acts. It is presently constituted and governed by Section 4 of Article VI of the present City Charter in the following language:

Sec. 4. The Board of Surveyors shall consist of a chief engineer and surveyor, who shall be president thereof, an assistant chief engineer and surveyor, who shall be vice-president thereof, and the surveyors and regulators of the several survey districts. The Council shall have power, from time to time to divide the City into survey districts and to increase or reduce the number thereof. The Director of Public Works shall appoint the chief engineer and surveyor, the assistant chief engineer and surveyor, and a surveyor and regulator of each survey district. The chief engineer and surveyor shall be, at the time of appointment, a civil engineer of at least five years' experience. The assistant chief engineer and surveyor and the district surveyors and regulators shall each have had, at the time of appointment, at least five years' experience in surveying and regulating. The Board of Surveyors shall be attached to, and be a part of, the Department of Public Works, and shall continue to have the powers and duties now vested in it by law.

Each District Surveyor and Regulator is in responsible charge of one of the ten Survey Districts, and supervises the activities and personnel of his District, in addition to his duties as a member of the Board. The general duties of the Board of Surveyors are to hold public hearings of parties interested in the confirmation of plans and revision of plans of the street system, to act upon communications with reference to City plan changes, deeds of dedication, releases of damages, street openings, and similar matters, to prepare and approve reports for street railway and railroad plans and projects, to prepare and approve reports upon ordinances of Council relating to City plan changes, and plans and revisions of plans of the general street system, to prepare reports upon and approve deeds of dedication, and ordinances for opening, widening, narrowing, and vacating streets, releases of damages for street openings, to serve on committees of the Board of Surveyors, and to discuss and formulate policies and methods for conducting the general business of the Survey District offices.

The Board of Surveyors held twenty-six (26) meetings, at which they reported on one hundred two (102) ordinances, as compared to ninety-four (94) ordinances in the year 1948. The Board held hearings on one hundred six (106) City plan changes, as compared to eighty-nine (89) in the year 1948. Eight (8) street railway plans were approved as compared to ten (10) in the year 1948, and one hundred fifty-two (152) deeds of dedication and releases were accepted, as compared to one hundred eighty-one (181) for the year 1948. One hundred seven (107) City plans were confirmed, as compared to eighty (80) for the year 1948.

Of the one hundred seven (107) plans confirmed by the Board of Surveyors -

- 32 were in connection with private residential developments
- 12 were in connection with the development of industrial sites
- 7 were in connection with the development of commercial sites

- 25 were in connection with the development of recreational sites
- 1 was in connection with the development of Independence Mall
- 2 were in connection with the construction of the Frankford Creek Flood Control Project
- 1 was in connection with the construction of the proposed Youth Center
- 1 was in connection with the construction of the Market street Subway
- 28 were for miscellaneous purposes.

Four (4) changes in street names were approved by the Board of Surveyors and nine (9) land subdivision plans were approved.

SURVEY DISTRICTS

The yearly cash returns from the Survey Districts indicate a slight decrease in the continuance of the trends for a progressive increase in all items of work performed for the operative builders, land developers, architects, small scale builders and contractors, architects, the real estate profession and land title companies and allied interests generally, and for which fees are charged and returned to the City Treasury. A comparison of the amounts of fees collected by the Survey Districts for the ten-year period (1940-1949 inclusive) is as follows:

<u>1940</u>	<u>1941</u>	<u>1942</u>	<u>1943</u>	<u>1944</u>
\$57,808.64	112,342.06	72,998.61	60,758.00	56,069.36
<u>1945</u>	<u>1946</u>	<u>1947</u>	<u>1948</u>	<u>1949</u>
\$65,054.46	120,477.37	122,636.70	145,666.52	143,192.51

The total amount of completed construction work measured, computed, certified, billed, recorded and assessed by the Survey Districts and for which lines and grades were furnished was \$14,491,941.96, which at the conservative overhead of 3 per cent. for the administration of the above services amounts to \$434,758., so that fees collected by the Survey Districts and engineering services furnished for the administration of City contracts combined amounted to \$577,860. Survey Districts personnel cost approximately \$561,670., or approximately 77.4 per cent. of personnel costs were recouped in 1949 from fees earned by the Survey Districts, and returned to the City Treasury, and from engineering services rendered in the administration of City contracts. There is, therefore, a spread of approximately 22.6 per cent. of district personnel costs which are distributed over about seventy-five (75) different classifications of work performed by the Survey Districts for other City Departments and Bureaus for which fees are not charged and which should be prorated among the municipal agencies for which the work is done. This spread is exclusive of the work performed for the general public for which fees are charged and for furnishing lines and grades, engineering services, and measuring, computing, recording, billing, certifying and furnishing estimates,

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and assessing the costs against private property benefited, for completed City contracts. It is interesting to note, however, that lines and grades were furnished by the District personnel, with some assistance from the Personal Service Contractors, during the year 1949 for 435 miles of completed construction work of all kinds on City contracts, which includes grading, paving, repaving and improving streets, laying water mains and sewers and their appurtenances, alley and driveway paving and repaving, and miscellaneous classes of construction work. Eight hundred and eighty-five (885) plans for street improvements of all classifications were made during the year 1949 by the Survey Districts' personnel and the Personal Service Contractors under the supervision of the District Surveyors and Regulators. These plans covered one hundred nineteen (119) miles of streets.

In the appendix, there are listed eighty-two (82) different classifications of work performed by the Survey Districts' personnel, together with a statistical report showing the volume of this classified work performed by the Survey Districts during the year 1949. There are about fifty-five (55) additional miscellaneous classifications of work which cannot be standardized, are local in their nature, and are confined to certain Survey Districts only by reason of topographical and physical conditions, and cannot be summarized in general form. Some of these classifications are for special purposes, such as a triangulation of the Delaware and Schuylkill Rivers for special engineering projects, settlement levels at the Municipal Stadium, airport surveys and topography, contour plans for the FHA, certifying old surveys and title records, surveys tying into the City plan by precise surveying methods and mathematical calculations of the pierhead and bulkhead lines established by the United States Engineer Department and approved by the Secretary of War; measuring and locating temporary bulkheads constructed by the Department of Wharves, Docks and Ferries, in connection with hydraulic filling and dredging operations and apportionment of the cost of the work among the property owners benefited by the improvement.

Among the City Departments and Bureaus for which the Survey Districts perform special engineering services are the three principal Public Works construction agencies of the City, i.e., the Bureau of Highways, Bureau of Engineering, Surveys and Zoning, and the Bureau of Water. The work for these Bureaus includes making basic surveys, improvement plans, furnishing lines and grades, measuring, certifying and preparing current and final estimates for the grading, paving, improvement, surfacing, repaving and resurfacing of streets and country roads, including curbing and footway paving; construction of main and branch sewers, bridges, tunnels, culverts, laying of water mains, and other special construction activities of these Bureaus.

The Survey Districts perform the duties of preparing plans and furnishing lines and grades, measuring, billing and certifying quantities of work for all alleys and driveways condemned by the Division of Housing and Sanitation, Department of Public Health. Orders for this work are issued by the Bureau of Highways, which advertises the contracts for doing the work and furnishes inspection service.

The Survey Districts prepare plans for the Department of Law for the acquisition of properties through condemnation proceedings for playground and recreation sites, reservoir sites, construction of various types of municipal buildings, such as police and fire stations, health centers, hospitals, etc., parks, parkways, boulevards, and miscellaneous other public purposes. Plans for

the condemnation of properties for street openings are prepared by the Survey Districts and for proceedings before the Board of Viewers for widening, narrowing, vacating and changing the grades of streets. All accident plans are prepared by the Survey Districts in which the City is involved in litigation. Deed descriptions, releases of damages, affidavits for opening streets and lien descriptions for municipal improvements are also prepared by the Survey Districts' forces for the Department of Law. During the year 1949 the Survey Districts and the Personal Service Contractors prepared twenty-three (23) plans for the Board of Viewers, involving one hundred ninety-one (191) properties with an acreage of eighty-four (84) acres, and prepared nine (9) other plans for various legal purposes, in comparison with eighty-six (86) plans for the Board of Viewers, involving three hundred sixty-one (361) properties with an acreage of four hundred thirty-nine (439) acres during the year 1948. These figures indicate the near completion of the preliminary stages of the Public Works Improvement Program, which involves the acquisition of properties for opening streets and other Public Works purposes.

Other City Departments for which the Survey Districts perform engineering services and make surveys and plans are the Department of City Architecture, the Department of Health, the Department of Public Welfare for the design and construction of playground and recreation centers, and the Bureau of City Property for the development, construction and maintenance of City parks.

The Survey Districts furnish City plan and basic survey and engineering data and make surveys and plans for the public utilities, railroads and street railways, the Philadelphia Housing Authority, the Redevelopment Authority and various public or semi-public agencies interested in housing; make preliminary surveys and prepare plans for the construction of the Pennsylvania State Highway Program for the improvement of arterial thoroughfares, furnish miscellaneous surveys and plans, answer numerous requests for checking bench-marks, furnish basic street and property lines for engineering purposes, determine the true meridian and astronomic coordinates, latitude, longitude and time, check tidal datum planes, tie the monuments of the street system into the triangulation net of the United States Coast and Geodetic Survey and check their precise bench marks, establish the center lines of railroads and check railroad plans and surveys, and perform many other special surveying and engineering services for a wide miscellany of engineering and construction purposes.

IMPROVEMENT PLANS

During the year 1949 the following plans were prepared by the District Surveyors and Regulators and the Personal Service Contractors working under their supervision:

Board of Viewers Plans - Twenty-three (23) plans were completed for street openings and other purposes, involving one hundred ninety-one (191) properties

with an acreage of eighty-four (84) acres. During the year 1948, eighty-six (86) plans were prepared, involving three hundred sixty-one (361) properties and four hundred forty (440) acres. The decrease in the number of Board of Viewers plans is attributable to the fact that the preliminary stages for land acquisition and street openings in connection with the Public Works Improvement Program are about completed.

Sewers - One hundred sixty-two (162) base sewer plans were made by the District Surveyors during the year 1949, compared to two hundred five (205) during 1948. The base sewer plans prepared during 1949 covered 22.2 miles of sewers and drains, compared to 28.1 miles of sewers and drains for the year 1948. Two hundred twenty (220) plans of constructed sewers were made in 1949, covering 39.7 miles of sewers and drains, compared to two hundred nine (209) plans of constructed sewers prepared in 1947, covering 33.1 miles of sewers and drains. Lines and grades were furnished for 46.5 miles of sewers and drains, center line measurement, in 1949, compared to 36.3 miles of sewers and drains in the year 1948.

Water Pipe - Two hundred eighty-six (286) plans were prepared for the Bureau of Water during 1949 covering 32 miles of pipe. The figures for 1948 were one hundred twenty-seven (127) plans covering 23.4 miles of pipe.

Grading - One hundred forty-five (145) grading plans covering 21.1 miles of streets were prepared during the year 1949. During 1948 one hundred ninety-nine (199) plans were prepared covering 27.1 miles of streets. Seventy-one and two-tenths (71.2) miles of lines and grades were furnished in 1949 for grading streets, compared to 63.6 miles during the year 1948.

Paving - One hundred ninety-six (196) paving plans covering 30.4 miles of streets were completed during the year 1949 compared to one hundred fifty-nine (159) paving plans covering 28.1 miles of streets in 1948. One hundred and one-tenth (100.1) miles of lines and grades were furnished for paving streets in 1949 compared to 75 miles during the year 1948.

Repaving - Forty-six (46) repaving plans covering 8.5 miles of streets were completed during the year 1949 compared to fifty-one (51) repaving plans covering 13 miles of streets prepared in 1948. Fifty-eight and five-tenths (58.5) miles of lines and grades were furnished for repaving streets in 1949 compared to 34.4 miles during the year 1948.

Amount of Completed Contracts - During the year 1949 the sum of \$14,491,941.96 was certified by the District Surveyors for completed contracts compared to \$9,153,689. during the year 1948.

Lines and grades for the construction of sewers and for grading streets were furnished principally by Personal Service Contractors working under the supervision of the District Surveyors and Regulators. Grading, paving and repaving plans were completed mostly by Personal Service Contractors under the supervision of the District Surveyors and Regulators.

The Advisory Committee of the Board of Surveyors met several times during the month of December 1948 and January 1949, to consider the advisability of retaining the services of Personal Service Contractors during the year 1949. The reports of the ten Survey Districts were carefully compared and conferences were held with operative builders, real estate men, representatives of architects and engineers, the staff of the three principal construction Bureaus, i.e., Bureau of Highways, Bureau of Water, and the Engineering division of the Bureau of Engineering, Surveys and Zoning, for which the Survey Districts perform the greater part of their construction functions, and other agencies interested in residential and industrial building construction, in an effort to forecast in advance the needs of the Survey Districts for handling the anticipated volume of construction work for the ensuing year. In the interests of economy and the saving of the taxpayers' dollars, the Advisory Committee were to make recommendations which would lead to the return to the Survey Districts personnel of the work which was handled during the years 1947 and 1948 by Personal Service Contractors working under the supervision of the District Surveyors and Regulators. It was the final decision of the Advisory Committee that the services of the Personal Service Contractors would have to be retained during the year 1949 to help out in at least the four busiest Survey Districts, which are handling by far the bulk of the Public Works Improvement Program and the work for the operative builders and land developers. Events have justified the decision of the Advisory Committee, as there was no pronounced slackening of construction work for the Public Works Improvement Program and the residential builders and land developers during the year 1949. In fact, the total amount of contract work certified as completed by the District Surveyors and Regulators increased from \$9,153,689.07 during the year 1948 to \$14,491,941.96 in 1949. The following is the list of Personal Service Contractors assisting the Survey Districts during the year 1949:

Barton and Martin - Preparation of paving, improvement grading and Board of Viewers plans.

Damon and Foster - Furnishing lines and grades and engineering services for construction of sewers, furnishing lines and grades for grading streets, preparation of grading plans.

George A. Giesecke - Furnishing lines and grades for grading streets and preparation of grading plans.

Franklin & Lindsey - Furnishing lines and grades and engineering services for sewers, furnishing lines and grades for grading streets, preparation of grading plans and preparation of City plans for a large area in the northwestern section of the City for the development of the Houston Estate.

Jack S. Steele Company - Preparation of construction plans for retaining walls, replacing of access facilities for the widening of Haines street, from Stanton avenue to Limekiln turnpike and from Ogents avenue to Fifteenth street.

The activities of the Survey Districts in furnishing lines and grades, conveyance surveys, architects surveys and plans, curb regulations and other surveys for private interests, for which fees are charged and returned to the City Treasury, showed no appreciable decrease over the work performed during the year 1948, although the total district cash receipts decreased from \$145,566.52, collected in the year 1948, to \$145,102.51, for the year 1949. These figures are approximate indices for measuring the activities of the building industry and the real estate market generally, and therefore indicate no appreciable slump during the year 1949. It is probable that the attention of the building industry having been drawn to the huge potential market for the medium priced dwelling, special efforts will be made to meet this need and that building activity for residential construction during 1950 may remain on the peak plateau reached for the years 1947, 1948 and 1949.

The rate of turnover for the personnel in the Survey Districts was the lowest in years, and there is an indication that stability is at last reached for the Survey Districts. Practically all of the new personnel hired since the close of World War No. 2 are making good, and the usual proportion of superior employees, indicated by the bell-shaped probability curve for industry in general, is emerging from the mass as potential material for maintaining the usual high standards of the Survey Districts in the future.

PLANS AND REGISTRY DIVISION - REGISTRY UNIT

Activities in the Book Room - The volume of real estate transfers throughout the City in 1949 compared favorably with the peak years 1947 and 1948, although there was a slight decrease of straight transfers of title to real estate. Sixty-one thousand nine hundred and eight (61,908) transfers entered during the year 1949 was a decrease of only 4 per cent., as compared to the year 1948, when sixty-four thousand seven hundred and fifty-six (64,756) were entered.

The number of transfers subdividing larger tracts of land, usually indicative of new residential construction by operative builders and land developers, increased by six hundred twenty-five (625) over 1948 figures, representing an increase of 9 per cent. This type of transfer necessitated the drawing on a new scale of seven new registry plates. The number of official certifications

of registered owners issued to the public decreased from three hundred twenty-eight (328) in 1948 to seventy (70) in the year 1949. There was a substantial increase in the number of certifications issued to the Department of Law, one hundred eighty-four (184) certifications being issued in 1949 compared with ninety-four (94) during the year 1948. A total of seventy-seven thousand three hundred (77,500) examinations of the registry books were made by the public and officials of the various City Departments.

Activities in the Plans and Legal Records Room - There was a substantial increase in the work of this unit over 1948 figures. Three hundred seventy (370) plans were drawn by this unit for the various City Departments. Of this number, thirty-two (32) were plans showing registered owners of property for the service of notice of the condemnations of land for opening streets for highway purposes, fifty (50) were plans made for the use of the Department of Law for the preparation of agreements and bonds, eleven (11) were made in connection with the condemnation and appropriation of various sites for playground and recreational purposes, and the balance were furnished in connection with the preparation of preliminary survey and base plans for the construction of sewers and water pipes, paving, grading, repaving and improving streets and other miscellaneous purposes. Advertising data was prepared for legally advertising public hearings on one hundred six (106) City plan changes or area revisions, as required by law. One hundred seven (107) confirmed City plans were indexed and filed, and the City plan changes noted on the registry books, record maps and cards. Legal openings affecting one hundred fifty-five (155) streets were filed in this unit, and the registry books, record maps and cards indexed. One thousand sixty-six (1066) loans of confirmed City plans were made to various City Departments and Bureaus.

During the year the assistants employed in this unit made sixty-five (65) appearances in Court, testifying to City plan information, legal opening records and title records.

One hundred twenty-eight (128) deeds of dedication were drafted and two hundred thirty-eight (238) deeds of dedication were recorded and filed.

In the appendix there is included a statistical summarization of the work performed by this unit during the year 1949.

The head of the Registry unit is also the Secretary of the Board of Surveyors. Early in the year 1949, the Chief of the Registry unit was detached from the active supervision of the unit and assigned to act as Executive Assistant, to the Assistant Chief Engineer and Surveyor; also continuing his duties as Secretary of the Board of Surveyors. The Assistant Chief was assigned to act as Chief of the Registry unit.

PLANS AND REGISTRY DIVISION - CITY PLANS UNIT

City Plans Revisions - During the year, one hundred three (103) revisions were confirmed upon the City plan, striking, placing, widening, redesigning, and

relocating the street system of the City. The Division contributed to numerous of these revisions by examination of developers' plans, suggestions for alterations, field inspections of the site, cooperation with the interested District Surveyor in the preparation of plans and ordinance report plans, design, calculations and drafting of the City plan and fixing of grades on several of the larger area revisions.

Numerous revision studies were made, which were not carried through to confirmation during the year. This required preparation of base plans showing topography, legal and physical conditions, sewer, water and public utility information, registered property owners and the proposed design for the revision of the City plan.

The following are some of the City plans, prepared by the Division, of larger areas, for confirmation:

- Area bounded by The Roosevelt boulevard, Rhawn street and Lexington avenue.
- The Lincoln Drive revision in the area of Pastorius Park.
- The Provident Mutual Insurance Corporation site at Godfrey avenue, Front street, Cheltenham avenue, and Crescentville road.
- The Gulf Oil Company revision in the lower area of Southwest Philadelphia.
- The area adjacent to the Budd Manufacturing Company at Red Lion road and Verree road.
- The Youth Study Center site at 20th street and Callowhill street and Pennsylvania avenue.

City-State Highway Program - The Vine street contract plans were redrawn for the State Highway Department from Fifteenth street to Nineteenth street on a temporary cross-section basis to fit into future plans for expanding into the Vine street Extension to the Schuylkill Expressway as a depressed highway under the Benjamin Franklin Parkway and bridged over the Schuylkill River. These contract plans are being carried out in the first stages of demolition and construction.

Cooperation with the Survey Districts, Personal Service Contractors and Pennsylvania State Highway Department continued through the year by preparation of base studies, field inspection trips, numerous trips to the State Ardmore office, including Division personnel finishing the Vine street plans at the State office, in preparing contract plans for several other City-State routes, as follows:

- The Roosevelt boulevard-east roadway widening - from Welsh road to the Montgomery County line.
- Aradango avenue, from Ontario street to Orthodox street.
- Forty-second street, from Chestnut street to Chester avenue.
- Walnut street, from Thirty-second street to Thirty-fourth street.
- Harbison avenue, from Torresdale avenue to the Roosevelt boulevard, which are still in the process of preparation by the Division personnel.
- New State legislation was enacted during the year, effective January 1, 1960, eliminating some of the older routes from the City-State system and adding others, mainly the Schuylkill

Expressway, the Roosevelt boulevard, and Vine street extensions to the Expressway. This new legislation reduced the system mileage from approximately 189 miles to 100 miles.

Land Subdivision Revision Studies - The Division personnel reviewed many land developers' proposals for subdividing tracts as to their effect on the City plan and prepared studies for the final revisions confirmed on the City plan. The following areas are additional revision studies in collaboration partly with the City Planning Commission, Personal Service Contractors and private interests, few of which reached final confirmation on the City plans:

City Planning Commission's proposals to revise the area bounded by the Roosevelt boulevard, Willits road, Ashton road, Welsh road and Pennypack Park.

Dobbins tract	- Ashton road and Willits road
Mittall tract	- Audubon avenue and Edison avenue
Bronwell tract	- Academy road and Byberry road
Pacific tract	- Broad street and Packer avenue
Gilley tract	- "Crosswell Homes" - Ashton road and Willits road
Lieberman tract	- Byberry road and Thornton road
Rodgers tract	- Verree road and Tomlinson road
Hagee tract	- Krewstown road and Welsh road
Miller tract	- Red Lion road and Bustleton avenue
McClatchy tract	- 72nd street and Sherwood road
Theatre	- "Drive In" - Broad street and Pattison avenue
Peenay tract	- Byberry road and Worthington road
Hoe tract	- Verree road and Byberry road
Walsh tract	- Southampton road and Worthington road
Henry Estate Tract	- McCallum street and Valley Green road
Durkin Tract	- Southampton road and Worthington road
Greenfield tract	- Cottman avenue and Glendale avenue

Many of these locations are in the far northeastern section of the City and might be considered premature for development, but it shows a real desire on the part of the owners to get their land in the present development market. The Division tries constantly to get this type of owner to accept a broad view of planning by considering design over larger areas affected, surrounding the property of the inquiring owner. Their approval of this principle is limited. Most owners want the suggested design limited to their parcel wherever possible.

Street Improvement Plans - The Division prepared basic studies and furnished information to the Personal Service Contractors for preparation of final improvement plans for such street improvements as:

Thirty-third street	- from Walnut street to South street
Bustleton avenue	- from Castor avenue to Welsh road
Taber road	- from Harrison avenue to Godfrey avenue
Welsh road	- from More street to Rowland avenue

Collaboration was furnished the Bridge division on the bridge structure at the Reading Company railroad crossing the Taber road Improvement and numerous field inspections were made on street improvement projects.

Plans - Map Information, etc. - The Division received 932 contacts during the year to furnish plans, maps, various charts, equipment, technical books and articles and miscellaneous information services to the following: Private corporations and individuals; City and County Departments, Bureaus, divisions, commissions and authorities; State departments and agencies; Federal agencies; Public Utilities and miscellaneous sources.

City Sectional Maps and Other Records - The Division issued sectional maps and other records as follows:

<u>Issued</u>	<u>No</u>	<u>Charge</u>	<u>Fee</u>
Land Use Maps - 200 ft. scale	1602	220 -	\$ 180.25
Street Maps - 500 ft. scale	461	18 -	9.00
" " -1000 ft. scale	900	55 -	13.25
" " -1600 ft. scale	248	10 -	20.00
" " -1600 ft. scale (3 sec.)	58	3 -	5.00
Street Data Maps - 500 ft. scale	689	39 -	15.00
Zoning Maps - 500 ft. scale	206	66 -	44.25
Other Records - Various scales	1508	14 -	32.85
Ward Maps - 200 ft. scale	551	--	--
Photo Prints - 8"x10" scale	292	--	--
Photo Prints - 14"x17" scale	135	--	--
Buster Electro Copies	27	--	--
Totals	6462	425 -	\$ 319.60

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

From Zoning Permits	-	1072
From Use Registration Permits	-	2322
From Demolition Permits	-	256
From Registry Records	-	53
From House Numbering Records	-	201
From Miscellaneous Corrections	-	163
From City Plan Confirmations	-	509
From Zoning Map Revisions	-	210
From Dedications and other		
Openings	-	157
From Grading & Paving Records	-	450
Total	-	5393

City Planning Commission - The division furnished the City Planning Commission technical staff with the usual large number of maps and other records as basic information for their studies and projects.

Outstanding examples of cooperation was the service to the Chamber of Commerce committee, composed of builders, the Commission and division representatives to study the replanning of the so-called unimproved 'paper streets' on the City plan. This activity led to a detailed study of the area covered by City plan Nos. 352-353 at the Roosevelt boulevard, Ashton road, Welsh road and

Pennypack Park, by the City Planning Commission staff and a criticism and alternate revision plan by the City Plans division.

Further collaboration was given on such projects as the Schuylkill Expressway and Boulevard Extension, a proposed commercial center at Germantown Avenue and Lincoln Drive, the North Mall project, and proposals for housing sites of the Philadelphia Redevelopment Authority.

Personal Service Contractors - Assistance was given the Personal Service Contractors by furnishing basic City plan data, plans and information for the projects assigned to them.

Clark, Rapuano and Holleran were furnished much data for the Schuylkill Expressway and Boulevard Extension which they are preparing for the City Planning Commission.

Knappen, Tippetts, Abnett Engineering Company, assigned to the City-State Highway, Araminge Avenue, from Ontario Street to Orthodox Street, submitted their design for the highway. Recommendations were made for certain revisions.

Cooperation was given Barton and Martin Engineering Company, Franklin and Lindsey, William Tyson C.E., and George Gieseke C.E., and Damon and Foster on such projects as the three areas revised for the Houston Estate, Frankford Creek revision, design for an alternate route for Island Avenue, from Essington Avenue to the Delaware River, to accommodate the new site for the Pennsylvania National Guard Air Unit at the International Airport, the Roosevelt Boulevard and Harbison Avenue City-State Highway projects, and many other projects. As a result of this collaboration many ideas for revision of the plans by the division were adopted into the projects.

Bureau of Traffic Engineering - The division examined many intersectional channelization studies prepared by Traffic Engineering, including the several proposals made by the Philadelphia Highway Traffic Board, through Chief R.A. Mitchell, acting as secretary to the Board. These proposals required field inspections and reports and some plans for alternate suggestions. The division collaborates constantly with Traffic Engineering on traffic design for City-State Highway routes and many other traffic problems affecting the present confirmed City plan.

The Philadelphia Housing Authority - At the request of the Philadelphia Housing Authority base plans were prepared by the division for four proposed housing sites, showing City plan information, registered property owners, sewer and water facilities, public utilities and legal and physical status of the streets.

These plans will enable the Authority to study the problem of assembling the sites and to have architectural site plans designed to show what revisions will be required on the present City plan.

Development of the Houston Estate - A major project of the Bureau of Engineering, Surveys and Zoning in City planning was the preparation of three

large sectional City plans covering about 1800 acres of land in the extreme northwestern section of the City. Most of the land covered by the three sectional City plans is in the ownership of the Estate of Henry H. Houston. The Trustees of the Estate employed the firm of Saarinen, Saarinen and Associates to prepare a preliminary plan for the development of this huge tract of land. The Bureau was then asked to prepare the final City plans for confirmation by the Board of Surveyors in order that actual development work could be commenced. The firm of Franklin and Lindsey, Consulting Engineers, were engaged by the City to make the necessary field surveys for establishing the precise alignment and grades of streets, to prepare the final plans for confirmation by the Board of Surveyors and to perform the precise surveying and levelling for monumenting the confirmed street system. This work is now practically finished, - one City plan was confirmed during the year 1949, and it is expected to confirm the other two plans early in the year 1950. The City plans unit cooperated with Franklin and Lindsey, Consulting Engineers, and the Trustees of the Houston Estate during the preparation of these City plans and furnished advice and assistance during the course of the work.

Other Activities - The architectural firm of Carroll, Grisdale and Van Alen was furnished calculated information for the design of the footings and foundations of the proposed Youth Center Building, over the existing main sewer in Calleshill street.

American Legion Convention Committees were given many maps and information for routing their parade, which is the main event of the yearly convention.

The United States Army, this year's host at the Army-Navy Football game, were furnished stadium seating and parking plans for making their arrangements for the game.

The Census Bureau was furnished map information for their plans of taking the 1950 census.

ZONING DIVISION

The statistical report for this division is included in the appendix. The year 1949 was the peak year for most of the activities of this unit with the increased work load self-evident in the principal activities, such as information requests, applications filed, permits issued, vouchers issued, number of inspections and Housing and Sanitation refusals. The years that are the most comparable with the year 1949 in volume of work handled by the unit for the three most important items are 1938, 1939, 1946, 1947, 1948. The comparison is indicated as follows:

	War Years						
	1938	1939	not Comparable	1946	1947	1948	1949
Applications	8,734	7,788		8,864	8,986	8,980	10,031
Zoning permits issued	4,569	5,959		6,388	7,712	6,794	7,772
Use Registration permits issued	2,000	2,339		3,788	3,988	3,801	3,939

The number of zoning permits issued indicated a continuance of the plateau reached in 1947 and 1948 for building construction activity with every prospect of a continuance of the trend during 1949, as the operative builders strive to tap the potential market for medium priced homes during the ensuing year. There seems to be more optimism on the part of the operative builders and land developers generally leading to the assumption that the cautious and gingerly feeling of the market that characterized the closing months of 1948 has been replaced by a confident attitude that the new market needs can be met for the type of housing and price bracket in most demand by the consumers of housing.

ENGINEERING DIVISION

The organization of the Engineering division continued in the same general form as described in the 1948 Annual Report. Principal Assistant Engineers continued to head the Design and Construction divisions and the Testing Laboratory. The Operations division continued to serve without a Principal Assistant Engineer with the various subdivisions reporting to the Assistant Chief Engineer.

There was no let-up in the volume of work as described in previous reports. The actual volume of work can be measured by the increase in the value of contracts in progress from \$30,678,145. on December 31, 1948, to \$34,567,302. for the same date in 1949.

Work on the new Northeast Sewage Treatment Plant progressed rapidly during the year, and at the close of 1949 the new plant was approximately 88 per cent. complete. It is expected that the contract work will have been completed to such an extent which will make possible the operation of the new plant by August 1, 1950.

During the year, construction work was completed on the small Pumping Station on Milnor street south of Grant avenue. This pumping station will permit the interception of sanitary drainage from the pipe sewer serving a portion of Torresdale and marks the completion of all the interceptors between the Northeast Sewage Treatment Plant and the Bucks County line.

During the year, construction work on the intercepting chambers at Westmoreland street on the Somerset Collector was begun and design work progressed on other chambers on this collector in order to permit the interception of sewage between Somerset street and the Northeast Works.

At the Southeast Works, construction continued on the pumping station and a second contract on the Lower Delaware Collecting Sower in the amount of \$2,100,000. was awarded on October 17, 1949. This contract extends from Moore street to Kenilworth street.

Work on the Southwest Sewage Treatment Plant was started on August 23, 1949 on a \$1,400,000. contract for the construction of the Primary Settling Tanks;

design work on this plant continued with the start of work on the Sludge Digestion Tanks scheduled for the summer of 1950.

Work continued on the Southwest Main Gravity Sewer as far as Seventieth street and Lyons avenue and the contractor made substantial progress on the University Pumping Station and the Siphon under the Schuylkill River near University Bridge. On May 23, 1949, work started on a \$1,800,000. contract for the first section of the East Central Schuylkill Collector extending from a point on the east side of the Schuylkill River near University Bridge to Twenty-sixth street and Lombard street.

Contracts having a total value of \$23,880,416. have been awarded on the \$60,000,000. sewage disposal program.

Work during the year featured the completion of 42.88 miles of sewers which was the largest mileage completed since 1928. Details of this work are shown in the report of the Construction division.

Flood relief projects continued to take a large place in the program of the Bureau during the year. Actual construction work was completed on the first section of the Main Relief sewer extending from the East River drive to Twenty-third and Aspen streets. An official inspection of this sewer was made by the Mayor and other officials on April 7, 1949, who observed the completed work by riding through the sewer in a jeep. Work continued during the year on the second section of this sewer extending northward in Twenty-third street to North College avenue. Continued progress was also made on the Twenty-ninth street Relief sewer between Pennsylvania avenue and Columbia avenue.

The long awaited resumption of work on the Wingoocking street relief sewer began on May 24, 1949. A \$1,150,000. contract extending from Phillip street to Ninth street was begun on that date and work progressed in rock tunnel during the remainder of the year.

During the year, construction continued on the first section of the work for the relief of flood conditions on Frankford Creek. This contract, which provided for the elimination of the large loop in the creek north of Wyoming avenue and west of Castor avenue, was started in January 1948, and was substantially completed in December 1949. This work permitted the construction of a new bridge on the line of Castor avenue over Frankford Creek and is designed as part of the overall program for the improvement of Frankford Creek. It included the construction of a debris weir about 700 feet west of Castor avenue and the construction of a small footbridge to permit access to Juniata Golf Course property. The work required a change in several of the holes on this public golf course.

Plans for the channelization of Frankford Creek from Castor avenue to Torresdale avenue were completed during the year and efforts were continued to obtain releases from the abutting property owners to permit this construction to start. At the end of the year, sufficient releases had been obtained to schedule the work for advertising in February 1950.

The Church lane Bridge over Cobbs Creek was officially opened to traffic on May 25, 1949, at ceremonies participated in by Mayor Samuel, the Commissioners of Delaware County and representatives of the Borough of Yeadon. Clean-up work on this contract continued to the end of the year. The Mayor also opened the Seventieth street Bridge over the P.B. and W. Railroad on July 14, 1949.

Widespread interest was aroused throughout this country over the design of the new Walnut lane Bridge over Lincoln drive, on which work started on April 16,

1949. The design featured prestressed concrete girders and the bridge is the first of its type to be built in the United States. The Assistant Chief Engineer and Principal Assistant Engineer of Design visited Europe during June 1949 to observe the developments in this type of construction, particularly in France and Belgium. Of special interest to engineers in this country was the testing to destruction of a full scale girder 160 feet long. The actual loading of this girder was witnessed by over 500 engineers on October 25, 1949, with the girder finally breaking on October 27, 1949. Work on the bridge progressed during the year with the abutments being completed and the first of three girders constructed.

During the year, principal interest at the Philadelphia International Airport revolved around the preparation of contract plans and specifications for the new Terminal Building. In March, the Director of Public Works approved preliminary drawings as the basis for the preparation of contract drawings. These plans were prepared during the year by Carroll, Grisdale and VanAllen, architects in Philadelphia under a subcontract with the City's consulting engineers, Airways Engineering Corporation of Washington, D.C. The plans were completed in December and advertised for bids on December 31, 1949, with bids to be received on February 28, 1950.

The large hangars on the Island Avenue frontage were substantially completed during the year and turned over to the Bureau of Aeronautics for operation. "T" hangars on the north side of the field were also completed during the year and contract work is in progress on the taxiways and apron to serve these "T" hangars.

Work started in October on the construction of a temporary cargo and operation building and a large apron and taxiway on the Island Avenue frontage of the field south of the present Terminal Building.

The acute personnel problems in the Design and Construction divisions, which existed in previous years, abated somewhat. A reasonable number of men became available in the lower and medium grades although there still remains a shortage of top level engineers who can take responsible charge of important design and construction problems. Efforts are still being made to obtain such men which will permit further expansion to meet the present work schedule.

DESIGN DIVISION

The activities of the Design division during the year included the preparation of plans, estimates, specifications and proposals for sewers, sewage disposal projects, other drainage projects, highway bridges and viaducts, airport development, street improvements; retaining walls; the preparation of reports on drainage and flooding; preliminary estimates of cost; test borings; preparation of proposals for contracts for other City Bureaus; mimeographing and blueprinting; maintenance of drainage maps; investigations and approval of applications by utility companies and others for permits for underground structures, such as conduits, pipes, tunnels, vaults, and for new railroad sidings in City streets, for interference with existing or proposed drainage structures and for strength of proposed structures; checking and approval of proposed structures such as marquees, canopies, etc. projecting within the street lines; checking and approval of railroad bridge plans, inspection of highway bridges over the Reading R.R., checking shop drawings, conducting tests of pumps and other mechanical equipment. During the year 1949 the Design division had 326 major assignments, most of which are listed elsewhere herein.

Sewers (Public) - No sewers were built at private cost during the year, as public funds were available for all necessary construction. The continuation of the extensive program of sewer construction, which has now been in progress since 1945, was not retarded by lack of funds.

The home building program was checked to some extent during the early portion of the year by the minor recession experienced in the national economy, but was stimulated to new activity in the latter part of the year. The construction of sewers, to provide for new building operations, was planned as carefully as possible to limit actual sewer construction to bona fide projects actually in progress, and all such projects were provided with drainage facilities without unnecessary delay.

The construction of sewers to relieve insanitary conditions was prosecuted with all possible dispatch, and as is to be expected, many of these sewers involve expensive construction and extensive outlet sewers are required in many such areas. The repaving and improvement of many central City streets, such as Spruce and Pine streets, between the rivers, and Fortieth street in West Philadelphia involved extensive sewer reconstruction and unusual design problems, and consumed a considerable portion of the time of the Design force. Other street improvements and major highway improvements, such as Harbison avenue and Aramingo avenue also involved much sewer planning.

Sewer contracts were designated under two classes - 'A' for sewers for new housing and 'B' for the relief of insanitary conditions and other purposes. Plans, estimates and specifications were prepared by the division for one hundred fourteen (114) sewers of the 'A' classification and eighty-two (82) sewers of the 'B' type during the year.

It became necessary during the year to supplement the efforts of our overburdened drafting force by having some sewer plans drafted by Personal Service Contractors. Surveys and base sewer plans were prepared by these Contractors under our instructions, and a complete sewer design was then prepared by the Design division, from which information the finished contract plans were drafted by the contractors.

Brick construction was used on a number of sewer contracts, where special conditions made this advisable. One of these contracts was that of the separate system sewers, the main outlet for which was in Vankirk street from Reach street to Newtown avenue and in drainage right-of-way to outlet in Cheltenham Township south of the line of Vankirk street. To avoid the necessity of a sewage connection to the Township sewer, with additional sewage meter, the sanitary pipe sewers were connected to the existing outlet sewer in Newtown avenue which enters the Township system at Comly street. This required the construction of the sanitary pipe sewers on top of the stormwater conduits in the lower portions of this system, and brick construction for the stormwater conduits was found to be more desirable. Also, in certain complicated alignments at intersections involving a number of branches, brick construction was used to simplify the alignment problems by the use of curvature.

The great majority of sewers were built with reinforced concrete pipe, optional bids being taken for either concrete or vitrified pipe for sizes up to 36 inches diameter. Vitrified pipe was used for sanitary pipe sewers of separate systems. It has been possible to get large sizes of concrete pipe, some being planned up to 102 inches diameter. Where optional bids were taken, reinforced concrete pipe was chosen in almost all cases. Corrugated metal pipes are being used in recent airport stormwater drainage contracts, these pipes generally being provided with specially coated and paved invert sections.

Sandy Run Sewer System - Plans were prepared for a number of sewers on the extreme upper end of the Sandy Run System and construction started early in the year. These sewers were built as complete structures, i.e., both sanitary pipe sewers and stormwater conduits, but no connections will be permitted to the stormwater conduits until the main stormwater outlet is completed. Plans were being prepared during the year for this outlet which will extend from the Sandy Run stream crossing Hapfle avenue west of Taber road via Hapfle avenue, Ferndale street, Martel avenue and Oxford avenue to the stormwater conduit now complete in Oxford avenue at Borbeck street.

The recent plans put forward by industrial developers include the use of the area lying west of Dungan road to west of Taber road and extending between Afton street and Rhawn street for industrial development, and as this is area traversed by the Sandy Run, it will not be practicable to maintain this stream by parking its banks. However, the stream will be utilized as at least a temporary outlet for this Sandy Run stormwater conduit.

Reconstruction - The replacement of old sewers in bad condition - in some cases where dangerous conditions resulted from surface cave-ins - was continued during the year. Plans and specifications were prepared by this division for fourteen (14) such sewers.

A break occurred in the arch of the Mill Creek sewer at Forty-sixth and Market streets. Plans were prepared for the replacing of the existing 20'0" diameter brick sewer in Forty-sixth street crossing Market street with a 17'0" by 18'0" reinforced concrete sewer for a length of approximately one hundred seventy-one (171) feet. Provision was made in the design of this structure to take care of the future Market street Subway, which will pass underneath the new sewer. Large girder beams were built into the sewer so that the future subway cut would not undermine the completed sewer section. Under this contract, the future subway walls are to be built below the bottom of the new sewer. This work was advertised for bids in December.

A failure in the arch of the 7'6" diameter main sewer in Bodine street west of American street occurred during the year. This sewer will be replaced by a larger size rectangular sewer to eliminate flooding in the low points in this area. Plans were started during the year for this construction which will extend in Bodine street from the line of former Culvert street to American street. The future reconstruction of the inadequate main sewer east of American street, in Laurel street and in Hancock street to Germantown avenue, will be done at a later time, when funds are available.

The paving and removal of tracks on Spruce street, in the central city, required the reconstruction of a number of old sewers which had been reported in dangerous condition. This reconstruction was made difficult by the extremely shallow sewers and the multiplicity of underground structures of various kinds. In many cases, the locations and depth of the sewers, as well as that of the other structures, was uncertain. An outlet sewer was constructed in Front street from Dock street to Spruce street to provide adequate outlet for the new

Spruce street sewer between Front street and Third street. The new sewers ranged in size from 24-inch to 42-inch diameter, reinforced concrete pipe being used except for several blocks, where 2'6" x 1'8" brick sewers were built. Reconstruction was required in eight City blocks including the above outlet, and in the portion of Spruce street between Twentieth street and Dock street.

Street Improvements - Plans were completed during the year for sewers and other drainage structures, retaining walls and steps, etc. in connection with highway improvements at various locations.

The improvement of major highways by the City involved extended sewer construction. As these projects were too extensive to be handled entirely by Bureau Survey District personnel, survey and planning work was given to Personal Service Contractors. It was found expedient to incorporate the sewer plan work with the improvement plans, and complete design of this drainage work was made by the Design division and furnished to these contractors. These highway improvements include the following locations:

- Martins Mill road - from Oxford avenue to Rising Sun avenue
- Bustleton avenue - from Roosevelt boulevard to Cottman avenue
- Whitaker avenue - from Erie avenue to Cayuga street (3 plans)
- Hunting Park avenue - from Front street to the Railroad east of Whitaker avenue.

The rapid development of certain areas made the paving of certain key streets imperative, and it was necessary to design the drainage structures such as sewer spurs, inlets, inlet drainage and vent connections to complete the drainage system within the paved area. In each case, plans or sketches were prepared by this division prior to release of street for paving, ten such plans being prepared during the year.

Stormwater Flood Relief - Plans were prepared and placed under contract for the extension of the sewer in Wingohocking street from Third street to Ninth street for a length of 2491 feet. The sewer section consists of a concrete arch of 21 feet span supported on the rock sides of the excavation. The sewer is being built in tunnel which is being lined with steel liner plates so that the excavation can be carried on. The completed sewer section will be 12 feet high by 21 feet wide with the top being an arched section. The feature of this construction was supposed to be that no concrete lining would be needed for the sides of the sewer, the natural rock being used. But the excavation has not occurred as expected. A shelf for the support of the concrete arch has not developed from the blasting. It will probably be necessary to line the sides of the tunnel so as to obtain a support for this arch.

State Highway Improvements - Plans for the construction of new sewers for the new diagonal highway - Harbison avenue from Torresdale avenue to the Roosevelt boulevard - were prepared during the latter part of the year. This required sewer plans for the portion from Sanger street to the Roosevelt boulevard. The design of these sewers was made by the division and involved unusual conditions caused by this extremely wide highway cutting diagonally across a typical residential area. Surveys and contract plans were drafted by Personal Service Contractors.

Plans for sewer construction required for the improvement of Araminge avenue from Venango street to Orthodox street were completed during the year for the portion from Venango street to north of Wheatshaf lane.

Plans for the proposed Pennsylvania boulevard are being prepared by Clarke, Rapuano and Halloran of New York. Sewer plans and profiles for the portion from Thirtieth street to Thirty-second street and Market street were made after consultation with this division, and finished plans and profiles were submitted for approval during the latter part of the year.

Drainage Studies - Many studies and reports were made during the year on various drainage problems - including those involved in proposed additions of new streets or striking of old streets from the City plan, and other revisions and additions to the City plan; proposed private developments, many of which covered extensive areas, public school projects, industrial plant construction, storm-water drainage for street improvements in outlying areas; investigations of existing sewer capacities for possible extension to drainage areas, or to determine causes and possible relief of flooding. A partial list of locations covered by these studies is included in the 'Details of Work Performed' attached hereto.

Sixty-sixth street Footbridge over the Philadelphia, Baltimore and Washington Railroad - This bridge is intended primarily to remove the temptation for school children to cross the tracks of this busy railroad. The Bartram School is adjacent to the proposed bridge. This bridge was initially designed as a three-span structure with reinforced concrete abutments and steel columns at intermediate supports. This design was discarded and plans were prepared for a through truss bridge (one-span), with trusses sufficiently strong to carry a full width highway bridge, in the event of future developments indicate the need for such a bridge. Subsequently, plans were prepared for a through truss Footway bridge and for a prestressed concrete bridge, both of which were discarded and final plans and specifications were prepared on the basis of the initial design. The center span is 60'9", and the side spans are 35'6" and 21'0", the supporting beams are 12'0" c. to c. and the clear width is 10'4 $\frac{1}{2}$ ". The abutments are of reinforced concrete and the intermediate supports are steel column bents. The clearance over the railroad tracks is 21'0".

Walnut lane Bridge over Lincoln Drive and Paper Mill Run - During the year 1949 the Design division completed the preparation of plans and a contract was let for the erection of the Walnut lane Bridge - the first prestressed concrete bridge to be constructed in America. Located in Fairmount Park, it will carry Walnut lane across Lincoln drive and Paper Mill Run. The improvement of approaches will extend from east of Morris street to Wissahickon avenue.

This bridge will be of deck girder type and will have a center span of 160 feet and two side spans of 74 feet each. It will have a 44-foot wide roadway and two 10-foot wide footways. It is designed to carry a series of 20-ton trucks in each traffic lane. The wearing surface of the roadway will be of asphalt plank. Each of the fourteen main span prestressed concrete girders have a dead weight of 150 tons. These girders are six feet seven inches deep and "T" shaped with bottom flanges. They are fifty-two inches wide across the top flange and thirty inches across the bottom flange, and each main span girder contains 256 prestressing wires of an area of 0.276 sq.in. with a yield strength

of 214,000 pounds per square inch, as compared with about 35,000 pounds per square inch required of ordinary rods. The strength of the concrete is to be 5400 pounds per square inch, as compared with 3000 pound concrete required by the Department's specifications.

Tabor Avenue Bridge under Philadelphia and Frankford Branch, Reading Company - The Tabor Avenue bridge has been incorporated in a general improvement program extending from Harrison street to Godfrey Avenue, and includes full width roadway paving with asphalt 8-inch concrete base, curbing, sewer and appurtenant inlets and laterals, the improvement of driveways to existing industrial plants along Tabor Avenue, together with such additional driveways as are needed for the proposed development of lessees of the Reading Railroad, and of the Supplee-Wills-Jones Company's milk processing plant. In order to effect an underclearance of sixteen feet at the railroad bridge, the City plan required revision of the grades of Tabor Avenue, and with this revision and the proposed improvement, retaining walls abutting industrial sites were necessary. The length of the improvement is approximately 1400 feet along Tabor Avenue and approximately 800 feet along the railroad. The bridge structure will consist of granite and gneiss faced abutments and wingwalls and the superstructure has been designed as a single track half-through plate girder bridge of 87-foot span. The floor system consists of wide flanged steel beams with a reinforced concrete deck slab and concrete haunches. Plans were completed during the year and advertised for bids on December 15th.

Winghooking street Bridge under P.N. and N.Y. Railroad - This bridge replaces a temporary structure of steel beams and timber bents which has been in service for some years, and consists of a deck plate girder bridge carrying a single track of the railroad on a ballasted road bed supported on an interlocking steel channel floor. The span will be 66 feet center to center of end bearings. Plans for this bridge were completed in 1949 and will be advertised for bid early in 1950.

Pine road Bridge over P.N. and N.Y. Railroad - This bridge will be a single span steel and concrete deck structure. Plans and specifications were being prepared during the year by Mr. Thomas E. Bruder under contract with the Department and the design is being made under the supervision of this division.

Bustleton Avenue Bridge over Pennypack Creek - Bustleton Avenue Bridge over Pennypack Creek, having a constricted roadway width, it was decided to widen the roadway over the bridge and approaches during the resurfacing of the Bustleton Avenue roadway and to provide 5'6" wide footways. Steel beams will be laid across the entire roadway supported upon the existing retaining walls and cantilevering over these walls for varying distances up to about seven feet. These cantilevers are encased in concrete and are designed to carry the footways and, in some places, a portion of the widened roadway. From the roadway of Bustleton Avenue the design will give the appearance of an entirely new modern bridge, and from the park area the effect is in keeping with the rustic surroundings.

Preliminary and Engineers Estimates - Numerous estimates of cost were made during the year for the construction of new sewers and drains, the reconstruction of sewers, and for the comparison of alternate schemes of drainage.

A partial list of locations covered by the preliminary estimates is included in the 'Details of Work Performed'.

The following summary indicates the volume of work performed by this division in the preparation of proposals for advertisement of work for bids.

<u>Type of Work</u>	<u>Number of Contracts</u>	<u>Bid Prices</u>
Sewer Construction	110	\$ 3,181,748.
Sewage Disposal	15	5,497,606.
Stormwater Relief, etc.	2	863,402
Street Improvement Work	3	323,630.
Airport Construction	21	1,714,724.
Bridges and Bridge Approaches	3	811,944.
Railroad Relocation, 60th st. Branch	1	204,364
Miscellaneous	5	64,847.
Total	160	\$12,662,165.

Philadelphia Airports

The North Philadelphia Airport - has been used during the year for unscheduled air freight operations, and as a base for small aircraft.

Construction of the stormwater drainage system and sanitary sewers for the apron and hangar areas were substantially completed during the year. Plans have been prepared for the construction of a large concrete heavy duty apron, a system of light duty taxiways within the "T" hangar area, and stub taxiways connecting these facilities to the existing taxiways and runway.

Plans have also been prepared during the year for the electrical conduits and lighting system for the "T" hangar area.

Philadelphia International Airport -

The construction of the "T" hangars in the small aircraft area was completed in the early part of the year. Plans for the utilities to serve the small aircraft area were prepared, and following the completion of the stormwater drainage system, a contract for this work, together with the grading and paving of this area, was entered into during the summer.

Work was completed during the early part of the year on the grading of infield areas and stormwater drainage system in the area lying between runways 12 and 17. From the results obtained by a field test section of an 8-inch diameter perforated underdrain, it was determined to underdrain the taxiways within the area between runways 12 and 17. These 8-inch subdrains were laid adjacent to each edge of the taxiways at a depth varying from six to ten feet and connected to the main runway drainage system. Studies, plans and specifications for this work were prepared and advertised and the work completed during the spring of 1949. This was followed by the grading and paving of the taxiways during the summer.

Plans and specifications were prepared and contracts awarded for such facilities as would make the hangars adaptable to the lessees' requirements. These include such items as obstruction lighting, hangar emergency door controls,

partitioning, alterations to heating system, changes in door arrangement, and additions to plumbing system.

A mechanical foam fire extinguishing system, together with its related projects of a booster pump on the present foam first-aid fire-fighting system, the construction of a gasoline separator on the hangar floor drainage system, and the installation of a sprinkler system in the lean-to areas, were designed and plans prepared during the year.

Plans were prepared during the year for the landscaping of the hangars, this work to follow the completion of the hangar fire protective projects above outlined.

The construction of the 3'6" diameter low level intercepting sewer in Penrose avenue from Eightieth street to Island avenue and the pipe sanitary sewer in Island avenue from Penrose avenue southeastward to serve the airport facilities along Island avenue and the Domestic Terminal Area was completed during the year. Plans and specifications were prepared for the connections of these facilities to the sewer and this work was advertised for bids at the close of the year.

Study plans were prepared by this division for the cargo area and taxiway to runways 27 and 30. Contract plans and specifications for this work, together with the related drainage system, were prepared by Airways Engineering Corporation. This construction approached completion at the end of the year.

A 40-foot by 400-foot building to provide facilities for cargo storage and handling, international passenger service, operations office, plane sewage disposal and fire fighting apparatus, was designed, and specifications were prepared by Airways Engineering Corporation. This building was under construction at the close of 1949.

Plans and specifications were prepared by Airways Engineering Corporation for the peripheral taxiway, connecting taxiways, and first stage apron of the new terminal area. This involved the planning of a new field drainage system as an outlet for the drainage of this area, which will deliver the stormwater runoff to a pumping station located adjacent to the former Hog Island Wet-Basin, where it will be lifted to a gravity outlet to the river.

Plans and specifications for the new Terminal Building were completed by the firm of Carroll, Grisdale and Van Alen during the year. These were based on the accepted scheme 9-A and were divided into eight contracts and advertised for bids at the close of the year.

Preliminary plans for field lighting were prepared during the year by Airways Engineering Corporation.

Specifications and profiles were prepared for the resurfacing of runway 4-22. This work was completed to the extent of the money available and bids were taken for the balance of the work and a portion of the resurfacing of runways 27 and 30.

Project plans were prepared for a new access road to serve the Pennsylvania National Guard reservation and as a substituted access for the Atlantic Refining Company and the Gulf Oil Corporation, to replace the portion of Island avenue proposed to be stricken from the City plan. This work required extensive studies for additional drainage facilities, and it was found necessary to drain the area to new outlets to the north of the Airport area.

Pennypack Creek Low Level Intercepting Sewer - Plans were completed during the year for the extension of this sewer from the New York Short Line Railroad northeast of Krewstown road to a point approximately one thousand feet northeast of Verree road, and this work was placed under contract late in the year. The sewer was completed below the New York Short Line Railroad during the year and work on the new contract was begun in November. This contract includes two tunnel sections and the southerly tunnel across the neck of the long southwesterly loop in the creek between the New York Short Line Railroad and Tabor road is now being driven. Steel liner plates are being used in this tunnel construction. A branch connection will be provided at Verree road where the sewage from the large Catholic Home of the Good Shepherd, which is now being expended with an extensive building program, will be connected.

Surveys and base plans have been made for the City by the engineering firm of Franklin and Lindsey for the branch of the intercepting sewer southwestward along the loop in the creek above the Short Line Railroad. This branch, with several minor branches, will serve the extensive area west of Tabor road and southward from Susquehanna road to south of Solly street. The preparation of these plans will be made by the division during 1950, as there is growing demand for the development of this area, and a considerable existing residential population with no sanitary facilities.

Wooden Bridge Run branch of the Pennypack Creek Low Level Intercepting Sewer was completed to a point 1340 feet north of Willets road, and now serves the portion of the large recently developed community known as Academy Gardens. Recent plans for the further development of this community with homes of modern design have attracted many prospective buyers. Plans for the extension of this sewer northward to Grant avenue, which were completed during the year, will permit its immediate construction. This extension is required for outlet for this development.

Upper Delaware Low Level Intercepting Sewer - Surveys were made during the year for the City by the firm of Franklin and Lindsey and an alignment determined for the extension of this sewer above its present terminus at State road and Grant avenue to the confluence of the Byberry and Poquessing Creeks. The low level pumping station on Milnor street south of Grant avenue, which connects to the Upper Delaware Low Level at State road and Grant avenue, has been equipped with its pumps and will be placed in operation early in 1950. This will divert to the intercepting sewer the sewage now being discharged into the river at this point, and furnish an outlet for the development of an extensive area in this vicinity.

Byberry Creek branch of the Upper Delaware Low Level Intercepting Sewer was originally planned to follow the Byberry Creek to a junction at this confluence of this creek with the Poquessing Creek, where it would connect to the Upper Delaware Low Level. The outlet portion of the Byberry Creek branch

sewer north of Grant avenue meanders through the large golf course of the popular Torresdale Golf Club. Studies were made during the year in connection with an investigation of possible sanitary outlets for the sewage of the large Northeast Village located on a branch of the Byberry Creek east of the Roosevelt boulevard, which indicated a desirable alternate route for the Byberry Creek branch intercepting sewer eastward in Grant avenue to a connection with the Upper Delaware Low Level at Tulip street. While this requires a tunnel section in Grant avenue, it results in a reduction in size of the Upper Delaware Low Level above this point which will compensate for the added cost of the tunnel section. The advantage of this plan is the possibility of the early construction of the Byberry Branch intercepting sewer in Grant avenue to Holmes avenue, where it will furnish an outlet for an extensive area south of Grant avenue, including a gravity outlet for the sewage of the large portion of the Academy Gardens tract which is now being temporarily pumped to the Frankford avenue sewer at Academy road. This will not necessitate the intercepting sewer construction through the grounds of the Golf Club along the lower Byberry Creek, although its extension above Holmes avenue will involve some alignment in the upper portion of this course.

Lower Delaware Low Level Intercepting Sewer - Plans and specifications were completed during the year for the extension of this intercepting sewer from Moore street northward to Kenilworth street, and construction of the sewer was begun late in the year. This sewer is a monolithic circular concrete sewer 10'0" in diameter from Moore street to Christian street and 9'6" diameter above Christian street and is being constructed in tunnel.

Southwest Main Gravity Intercepting Sewers - Work was prosecuted during the year on the construction of this sewer in Seventieth street from Essington avenue to Lyons avenue, and this work was 84 per cent. complete at the end of the year.

Plans and specifications were completed during the year for a short run of this sewer across the west interchange of Penrose avenue Bridge approach to permit the completion of this interchange, and this work was begun late in the year.

Work on the completion of plans for the extension of this sewer northward from Lyons avenue to its upper end at Forty-third and Locust streets, where the flow from the Mill Creek Main sewer is to be intercepted, the branch in Sixtieth street to Cobbs Creek, and the branch along the river north of Forty-seventh street to the force mains from the Central Schuylkill Sewage Pumping Station, was carried on during the year. It is the intention to construct this sewer as rapidly as these plans are available.

East Central Schuylkill Low Level Intercepting Sewer - Plans and specifications were completed during the year for the portion of this sewer northward from the Central Schuylkill River Siphon connection, 450 feet east of Thirty-fourth street to a point in Twenty-sixth street north of Lombard street. Construction of this sewer was begun in May and the work is progressing, being

about 35 per cent. complete at the end of the year. This sewer is a circular sewer 8'6" in diameter and is being constructed in tunnel.

West Central Schuylkill Low Level Intercepting Sewer - Construction work on this sewer north of Arch street was prosecuted during the year and the present contract extending 1100 feet northward from Arch street is 85 per cent complete.

Work on plans was started during the year for the portion of this sewer from the Central Schuylkill Sewage Pumping Station northward to Market street. A realignment for this sewer is planned south of South street to adjust it to the final location chosen for the Pumping Station.

Northeast Treatment Works - Plans were completed during the year for the influent conduits of the primary settling tanks. A 6'9" by 7'0" rectangular concrete conduit is provided to connect the present gravity conduit from the Sewage Pumping Station, and the high level sewage from the Frankford Creek Grit Chamber is provided for by a 5'6" by 5'6" conduit with a 7'6" by 10'0" outlet size below the junction of these conduits to the section of 7'6" by 10'0" influent sewer along the west end of the tanks, which was completed during the year.

A venturi meter is provided on the high level conduit and a recording totalizer is included in the plans to be located in the Administration Building to indicate the individual high and low level flows and their summation.

A connection is provided from the low level conduit to the existing low level conduit to the present tanks with stop plank enclosures so located as to make it possible to divert the low level flow to the present outfall. Additional stop plank enclosures are provided below the junction of the high and low level conduits, which permit the diversion of both flows to the present outfall when desired. A system of fluming the flows utilizing these above described diversions has been worked out to provide a change over from the existing tanks to the new tanks.

Sewage Intercepting Chambers - The experimental work on the new type control mechanism for the automatic operation of future intercepting chambers, involving tide gates and an operating unit, hydraulically operated, was completed and the operation of the unit proved satisfactory under these experimental operating conditions.

The use of a commercial type sewage interception regulator, which has been used in many cities in various parts of the country successfully for some years, was adopted for chambers now being designed by this division. This regulator is automatic and the control requires no power, being actuated entirely by float-control. Its use will permit the passage of sewage at all times, the amount being limited by the regulator not to exceed the estimated maximum storm sewage flow pre-determined for interception. This will reduce the long period of time during the duration of storms and the gradual subsidence of the storm flows in the sewers which sometimes last for days, during which time all the sewage is diverted to the rivers or creeks with the present method of controls.

The provision of tide gates is met by the use of a commercially developed tide gate which is hinged and sensitive to pressure head differential and requires no power operation. These gates have been in use for years and found satisfactory in various cities.

The use of this type of interceptor will simplify the design and operation of these chambers and should result in overall economy of installation and operation, as well as giving the streams the maximum degree of protection from pollution.

Westmoreland street Chamber - The construction of this chamber was begun during the year and is now 75 per cent. complete. The flow of sewage was gauged over a period of several weeks, while the reconstruction of the Westmoreland street sewer provided a free outlet for this flow, being diverted to the Somerset Low Level Intercepting Sewer near the site of the chamber. These gaugings indicated somewhat longer flows than the original chamber design contemplated. This chamber is a new type automatically operated, oil pressure system for controlling the port and tide gates. The unit was assembled and tested by division personnel at the Northeast Sewage Treatment Works shop.

Plans were completed and work advertised during the year for the two following chambers:

Cambria street - has a tide gate and an intercepting gate, each operated independently by float activated hydraulic cylinders using City water pressure.

Indiana street - has a sewage dam with a hydraulically operated interceptor gate float controlled.

Plans were completed for the Caster avenue chamber which is of the regulator type and has a timber tide gate hinged at the top. A low sewage dam is also provided to prevent sewage flows spilling through the tide gate at low tide. This chamber will be constructed early in 1950.

A redesign was made of the chambers in Vonango street, Tioga street and Ontario street for the use of the regulator type with hinged timber tide gates. The drafting of contract plans for these chambers is being done by Personal Service contractors. Gauging of the sewage flows are being made by these contractors on these sewers.

The sewage meter chambers along Stenton avenue at Erdenheim street and at Mermaid lane, for the connection of sewage from Springfield Township, were completed during the year and sewage meters installed. The use of daily charts, as provided in the specifications, was found to be impractical and these were changed to weekly charts.

The reconditioning and electric wiring of the four existing meters along Stenton avenue at Winston road, Willow Grove avenue, and Woodbrook lane and on Cheltenham avenue at Bouvier street was virtually completed and their operation awaits the supply of electricity by the Philadelphia Electric Company.

Central Schuylkill Pumping Station - Plans and specifications were completed for the superstructure of this station early in the year, but this will not be advertised for bids until further progress is made on the completion of the substructure. The contract for the substructure has been supplemented by structural and mechanical revisions to the original contract plans. The work on this contract is 92 per cent. complete.

Southeast Sewage Pumping Station - The contract for the construction of this pumping station has also been supplemented by structural and mechanical revisions to the original contract plans. The sewage pumps under contract with the Worthington Pump Manufacturing Company were manufactured during the year and four units were tested in the Worthington shops under supervision of representatives of this division.

Southwest Sewage Treatment Works - Contract plans were completed early in the year for the primary settling tanks at these Works and construction has been in progress during the year.

The study of the disposal of sludge made by Mr. Greeley in 1948 was completed and a final report filed in January of 1949. This was supplemented by a study of the possibilities of utilizing waste heat from the proposed rubbish incinerator, to be built by the City at Pattison's avenue and Seventh street for drying raw sludge, made the first half of the year, and a report filed in June. Data furnished Mr. Greeley for this study entailed considerable work by this division.

As the result of Mr. Greeley's recommendations, the sludge from the Southeast Sewage Treatment Works will be pumped to the Southwest Treatment Works where it will be digested and lagooned. A final installation of eight digestion tanks will be made, and contract plans for these tanks and appurtenant facilities have been in course of preparation during the year.

Studies and preliminary design has been in progress during the year for the screen and grit chambers for the Southwest Works.

An engineering report on the Southwest Sewage Treatment Works was prepared and submitted to the Sanitary Water Board with contract plans for approval. Data has been prepared for a report with hydraulic profile for the flow through the plant, and this report will be submitted at an early date.

Surveys are being made for the effluent conduits for this plant and plans will be drawn for its construction when they are available.

Southeast Sewage Treatment Works - General plans for these Works were completed in accordance with the final layout and general design previously determined and the studies of sludge disposal, previously made. A report on the basic design was prepared during the latter half of the year with hydraulic profile and data on sewage flow through the Works. Preparation of plans for the structural and architectural details proceeded during the year.

Representatives of this division also conducted tests on pumps, blowers, mechanical equipment, motors, and sludge heaters for the Northeast Treatment Works at manufacturers' plants and in the field during the year.

Marquises, Private Bridges etc. - Plans for structures such as marquises, vaults, private bridges, etc., which are to be located within the building lines of City streets, are submitted to the Highway Supervisors for approval and sent to this division for checking for strength, in the interests of safety for the public on the City streets.

CONSTRUCTION DIVISION

The Construction division was reorganized in 1948 with a Principal Assistant Engineer placed in charge of this division. The work of the division, which had been subdivided into two units - one unit supervising the construction of contracts for main and branch sewers and the other unit supervising the construction of all other projects of this Bureau - was merged. This division now functions generally as a single unit without any differentiation being made in the assignment and supervision of the various contracts.

The Construction division is responsible for the supervision of the construction and reconstruction of all main and branch sewers, flood relief sewers, the construction of the various projects for sewage disposal and treatment plants, bridges, airports, street lighting, City-State highway program, and the supervision of the contract work of the projects prepared by consulting engineers engaged by this Bureau.

The preliminary and construction surveys in connection with the various projects, with the exception of main and branch sewers, are performed by the four survey corps of the Construction division.

Other duties include the keeping of all records relating to sewer rentals and the cost of construction and operation of Sewage Disposal facilities.

The large increase in the volume and scope of work in this division since 1946 has necessitated the assignment of additional personnel to supervise the various types of contracts.

The following table shows the growth of this division from thirty-eight (38) to one hundred twenty-nine (129) employees during the period 1946 to 1949:

	<u>12-31-46</u>	<u>12-31-49</u>
Executive and Accounting	4	7
Engineering	3	10
Inspection	22	77
Surveying	6	25
General	1	10
	<u>36</u>	<u>129</u>
Totals	<u>38</u>	<u>129</u>

The increased mileage for the various types of sewers in 1949 is as follows:

<u>Sewers</u>	<u>Miles Completed</u>
For new housing	21.65
For other purposes	12.86
Flood Relief	1.17
Sewage Disposal	4.36
Miscellaneous	2.37
Total	<u>42.41</u>

The above work represents an increase of 11.03 miles of sewers over that of 1948. The 42.41 miles of sewers completed this year has not been exceeded since 1928.

At the end of 1949 there was a total of 1956.32 miles of sewers completed within the limits of the City of Philadelphia.

The construction of the following main relief sewers was in progress during 1949:

Main Relief sewer through Fairmount Park from East Park drive to Fairmount avenue and in Fairmount avenue between Fairmount Park and Twenty-third street and in Twenty-third street. This is a section of the very necessary sewer to relieve flooding in an extensive area in North Philadelphia. The structure is a 13 feet by 13 feet reinforced concrete sewer in tunnel, with a stone slab invert in cement mortar. Construction was started in 1947 and the construction work was completed this year.

Main Relief sewer in Twenty-third street and Girard College from north of Aspen street to North College avenue, and in North College avenue between Twenty-second street and Twenty-fourth street. This contract was entered into late in 1949, and is a continuation of the one above. It consists of a 13 feet diameter concrete sewer in rock tunnel with vacuum processed concrete invert tunnel. Work is 80 per cent completed.

Relief Sewer in Twenty-ninth street from Pennsylvania avenue to Columbia avenue: This contract was entered into in 1948 to relieve extensive flooding in the vicinity of Twenty-ninth street and Columbia avenue. It consists of a 6 feet diameter concrete sewer in tunnel with vacuum processed concrete pipe encased in concrete. Work was started in 1948 and 91 per cent. has been completed.

Relief Sewer in Wingohocking street from Third street to Ninth streets: This is the second contract of the project to relieve the overtaxed Wingohocking Sewer in Courtland street and future contracts will take it from Ninth street to Belfield avenue, and in Belfield avenue from Wingohocking street to Broad street. When this project is completed, extensive flooding and private property damage in the area eastward from Broad street centering at

the depression at Twelfth and Courtland streets. It consists of a 12 feet by 21 feet concrete sewer in rock tunnel, with vacuum processed concrete invert. Work was started this year and is 26 per cent. completed.

During the year 1949 there were 245 active construction contracts, 98 of which were carried over from 1948, and 147 executed during the year. Of these contracts, 159 were completed, totaling \$12,885,103.82.

The number and amount of the various types of contracts awarded and completed in 1949 was as follows:

	No. of Contracts Awarded	Amount of Contracts Awarded	No. of Contracts Completed	Assessment Bills	Total Cost
NE Sewage Disposal	5	\$ 697,821.00	4		\$ 723,521.00
NE Treatment Wks.	2	275,000.00	2		3,668,910.00
SE Sewage Disposal	2	2,127,000.00	0		--
SW Sewage Disposal	6	3,262,337.00	4		433,495.00
Sewage Disposal-Gen.	1	3,800.00	0		--
North Phila. Airport	1	95,000.00	1		196,698.00
Phila. Inter. Airport	14	1,813,210.00	17		2,269,986.00
Bridges	3	907,000.00	0		--
Phila. Mun. Stadium	1	5,757.00	3		70,393.00
City-State Highways	2	213,000.00	0		--
Street Lighting	2	78,693.00	1		47,693.00
Sewers-new housing	49	1,504,500.00	67	\$ 608,771.97	2,475,091.08
Sewers-other purp.	50	1,442,000.00	50	361,112.93	2,291,429.33
Flood Relief	1	1,150,000.00	0		--
Reconstruction	5	695,000.00	6		369,774.21
Sewers - Misc.	3	135,800.00	4		338,113.20
Grand Total	147	\$14,395,918.00	159	\$ 969,894.90	\$12,885,103.82
Totals for 1948	170	14,939,553.00	141	816,547.51	6,483,022.56

The total amount of construction work performed in 1949 including partial payments on projects which have not been completed and are being carried over into 1950 amounted to \$16,919,032.31.

The completed contracts in 1949 for sewer construction represents a total increase in the City's sewer system of 42.41 miles. Five contracts were entered into for the reconstruction of sewers that had either collapsed or were in very bad condition and 0.47 miles were reconstructed.

The method first used in 1948 of reconstructing existing sewers, by means of relining with reinforced concrete placed under pressure, was followed in the reconstruction of the sewer in Fairmount avenue between west of Hope street and Second street. The existing 6'0" diameter brick sewer, while in very poor condition, had not reached the critical stage where total collapse had occurred. This sewer was relined for a distance of 439 feet

without the necessity of closing the street, which would have resulted in serious interference to vehicular and trolley traffic.

The appendix contains a summary and tabulation of the completed sewers and the various types of construction and active contracts supervised by the Construction division in 1949.

PROJECTS CONTROL DIVISION

During the year 1949 this division prepared ordinances amending the sewer ordinance of April 8, 1948, to serve new residential areas at eighty-two (82) locations; and the sewer ordinance of June 20, 1948, to relieve bad sanitary conditions at forty-four (44) locations.

Four (4) ordinances were prepared for the construction of new sewers in place of old at twenty-six (26) locations and five (5) ordinances to relieve other drainage conditions.

General improvement ordinances were prepared for eight (8) locations.

Ordinances were prepared for joint City-State highway work at the following locations:

Fifth street, from Chestnut street to Race street.

Sixth street, from Chestnut street to Race street, and construction of State Park within above streets.

Walnut street, from Thirty-second Street to Thirty-fourth street.

Roosevelt boulevard, from Bucks County Line to Grant avenue and Roosevelt boulevard, from Goodnow street to Welsh road.

An ordinance was prepared for the reconstruction and widening of the bridge on the line of Bustleton avenue over Pennypack Creek.

An ordinance was prepared for the resurfacing of runway and appurtenant work at the Philadelphia International Airport.

An ordinance was prepared for approving the execution of a grant agreement between the City and the United States of America (CAA) for Federal aid.

Ordinance was prepared granting permission to Lower Merion Township, Montgomery County, the right to convey, receive and treatment of sewage from sewers in the Township of Lower Merion along City avenue in city sewers.

Eighty-six (86) reports on ordinances were made to the Public Works Committee of City Council.

Fifty-six (56) reports on Mayor's ordinances.

During the past year schedules for the advertising for bids were prepared covering a variety of construction work as follows:

Sewers for new housing	-	49 contracts	-	100 locations
Sewers to eliminate bad sanitary conditions	-	48 contracts	-	85 locations
Sewer Reconstruction	-	5 contracts	-	7 locations
Street Lighting	-	2 contracts	-	10 locations
Airport	-	28 contracts		
Bridges	-	3 contracts		
General Improvement	-	2 contracts		
Sewage Disposal	-	18 contracts		
Storm relief sewers	-	1 contract		
Miscellaneous	-	5 contracts		

Forty-two (42) affidavits were filed by builders for new sewers to serve new residential areas covering seventy (70) locations.

The following agreements were executed in 1949:

Between the City and the Reading Company:

For the reconstruction of a bridge on line of Newtown Branch of the Company over Winghooking street.

Between the City and the Commonwealth of Pennsylvania:

Fifth street from Chestnut to Race street - Sixth street from Chestnut to Race streets.

Improvement of Walnut street from Thirty-second street to Thirty-fourth street (stricken from State Highway system effective January 1, 1950).

Supplemental agreements between the City and the Commonwealth of Pennsylvania for

Vine street from Ninth street to Eleventh street.

Forty-second street, from Chestnut street to Chester avenue.
Penrose avenue Bridge (superstructure)

Between the City and Cheltenham Township:

Improvement of Cheltenham avenue between Lakeside avenue and Seventh street.

The following agreements were prepared but not executed in 1949:

Between the City and Lower Merion Township, Montgomery County:

For receipt, conveyance and treatment of sewage along properties fronting City avenue.

Between the City and the Commonwealth of Pennsylvania:

Roosevelt boulevard from Bucks County Line to Grant avenue.
Roosevelt boulevard from Goodnow street to Welsh road.

Between the City and the Commonwealth for joint participation in Schuylkill Expressway and Roosevelt boulevard Extension.

A second draft for the improvement of Levisick street (route 67022) from Keystone street to State road.

A second draft for Roosevelt boulevard from Oxford Circle to Broad street, including widening of five bridges.

The following were some of the division's special assignments:

Prepared a map of the Philadelphia International Airport showing location, numbers of contracts under construction, and number of completed contracts with their costs.

Prepared for display purposes - charts showing improvements under construction and pictures associated with same.

Prepared the necessary data for filing necessary applications with the Pennsylvania Public Utility Commission as follows:

Bridge on line of Frankford Branch Reading Company over Tabor avenue.

Bridge on line of Newtown Branch Reading Company over Wingohocking street.

Powers lane grade crossing.

Preparation of the necessary application forms for Airport financial assistance from the Commonwealth of Pennsylvania and the Federal Government.

Preparation of Data for the City Planning Commission's Six-Year Program (1950-1955).

Preparation of the Bureau's portion of the Director of Public Works 1949 improvement program.

Preparation of Data for Bureau of Municipal Research Report on Public Works.

Preparation of Director's monthly statistical report on contracts.

CITY-STATE HIGHWAYS

A significant occurrence in connection with the State Highway system in Philadelphia during 1949 was the passage of the Act of Assembly approved May 11, 1949, which authorized changes in the State Highway system in Philadelphia. This Act, which became effective January 1, 1950, reduces the mileage of the State Highway system in Philadelphia from 159.3 miles to 100.8 miles.

The Act calls for the deletion of many streets which have been on the State Highway system since 1937 but features the addition of the Schuylkill Expressway on the west side of the Schuylkill River from City Avenue to University Bridge and the connections from this Expressway to the Roosevelt Boulevard and to Vine Street.

Although the City is required to reassume the maintenance of approximately sixty (60) miles of streets, the Act will permit the State to build the Schuylkill Expressway and the Roosevelt Boulevard and Vine Street connections. These new highways are estimated to cost between sixty million dollars and seventy-five million dollars, and the willingness of the State to assume construction and maintenance costs is deemed to be a good bargain to offset the additional mileage of streets returned to the City for maintenance.

Ridge Avenue-Hunting Park Avenue (Route 67030-67051) - The City and the Commonwealth jointly constructed an underpass at the intersection of Ridge Avenue and Hunting Park Avenue. As constructed, Hunting Park Avenue passes under Ridge Avenue. It contains a 12-foot wide paved roadway in each direction separated by a divisor strip. The underpass itself is 1700 feet long. In Hunting Park Avenue, from Ridge Avenue eastward, two high level roadways have been built each 24 feet wide. These permit turning movements at Ridge Avenue. Ridge Avenue has been widened between Indiana Avenue and Lehigh Avenue, a length of 1900 feet. This roadway varies between 54 feet and 88 feet and also contains a divisor strip to separate traffic. Mercury-vapor street lighting is used on this project due to the need for high intensity lighting at this location.

City Council approved an ordinance on September 27, 1941, authorizing the execution of an agreement between the City and the Commonwealth for joint participation in the project. This agreement was executed on October 6, 1941 and a supplemental agreement fixing terms of responsibility was entered into on June 18, 1948. The contract was awarded to McNichol Paving and Construction Company of Philadelphia and was signed on July 23, 1948. Work was begun on August 24, 1948, and the underpass on Hunting Park Avenue was officially opened by Mayor Samuel on November 5, 1949.

Ridge Avenue was officially opened to traffic on November 25, 1949. The final division of cost and the official completion date have not been determined as of December 31, 1949. The approximate cost to the State in the McNichol contract is \$947,000. and the cost to the City is \$140,000. The street lighting facilities were constructed by the Welsbach Corporation, under a separate contract with the City amounting to \$31,000. Plans for the project were prepared by the City.

Vine Street Approach to Delaware River Bridge (Routes 67045, 67052, 67004) - Under authority of an ordinance of Council approved February 2, 1942, the City and the Commonwealth entered into an agreement on February 9, 1942, for joint participation in the improvement of Vine Street from the Delaware River Bridge to Logan Circle. Construction work is scheduled to be put under contract in four stages. Under terms of a supplemental agreement entered into on August 16, 1948, the first contract for construction work

was awarded. This was for work on Vine street from seventh street to Ninth street; Ridge avenue from Vine street to Race street; and Race street from Seventh street to Eighth street. On August 16, 1948, Union Paving Company of Philadelphia was awarded the contract for general construction work on this section of 2195 feet. Work began on September 8, 1948, and was completed on July 9, 1949. Final cost of this contract was \$159,509.63 to the City and \$241,510.18 to the State. In addition to the above cost the City paid \$47,693.57 to the Welsbach Corporation under a separate contract for mercury-vapor type street lighting facilities for this area, with the final date of completion being August 26, 1949. Under the contract with Union Paving Company, additional lighting facilities were installed. These lights were purchased by the City from the Westinghouse Electric Corporation for \$15,000. under a contract dated December 5, 1947.

On November 15, 1949, the City entered into a supplemental agreement with the State for another section of the improvement, covering Vine street from Ninth street to Eleventh street, a length of 894 feet. Frank Mark Company of Philadelphia was awarded a contract for general construction work on November 15, 1949, with a time limit of 120 working days to complete the contract after the notice to proceed.

The limit of cost to the City for this section is \$188,400., and the cost to the Commonwealth is \$166,000.

Bids were received on December 21, 1949, for construction of the 3366 feet section between Twelfth street and Nineteenth street. Union Paving Company of Philadelphia submitted the low bid of \$719,835.01, of which the City is responsible for \$326,796.06. At this writing, the contract is not executed but the time limit will be 155 days from the date of the issuance of notice to proceed with the work.

Concurrent with all of the above contracts, the bridge between Eleventh street and Twelfth street, carrying tracks of the Reading Company over Vine street, is being constructed. Colder Construction Company is the general contractor. The Commonwealth will bear the entire cost of this bridge estimated to cost \$1,200,000. Work started on the bridge in 1948.

Penrose avenue Bridge and Approaches (Route 67023) - Council, by ordinance of March 27, 1946, authorized the execution of an agreement between the City and the Commonwealth for joint participation in constructing a bridge on line of Penrose avenue crossing the Schuylkill River, and approaches to the bridge. The entire project extends from west of Twenty-sixth street to Island avenue, a distance of more than 12,660 feet. The agreement was executed on April 8, 1946, and a supplemental agreement for the first construction contract was entered into on September 5, 1947.

The first contract was for construction of sewers, piers, foundations and substructure work. This contract was entered into on December 26, 1947, with Foley Brothers of New York. The limit of cost to the City for this

work is \$977,000., and to the Commonwealth it is \$5,279,306. Work on this contract is nearing completion and work on the superstructure will begin early in 1950.

On April 11, 1949, the City and the Commonwealth entered into a supplemental agreement fixing the City's responsibility in construction of the bridge superstructure. In this contract the City is responsible mainly for roadway lighting facilities and work appurtenant thereto. A contract was awarded to Bethlehem Steel Company for construction of the superstructure on May 23, 1949. The limit of cost to the City of its share of the work is \$155,000. and the limit of cost to the Commonwealth is \$6,547,717.

Forty-second street (Route 67002) - The repaving of Forty-second street, between the trolley track area and the curbs, from Chestnut street to Chester avenue, was completed in 1949. This was undertaken by terms of an agreement between the City and the Commonwealth dated June 18, 1948, and supplemental agreement dated June 8, 1949. The length of improvement was about 2100 feet. Plans for the improvement were prepared by Survey Bureau forces. The final division of cost and the official completion date have not been determined as of December 31, 1949. The approximate cost to the State is \$80,000. and the limit of cost to the City is \$15,000.

Roosevelt boulevard from Bucks County Line to Grant avenue - East Roadway Only - and both Roadways from Goodnow street to Welsh road (Route 67009) - On November 30, 1949, City Council approved an ordinance authorizing the execution of an agreement between the City and the Commonwealth for improving this section of Roosevelt boulevard. At the end of 1949 the agreement was in process of being executed. Previously the west roadway was improved. The nature of improvement consists of widening the roadway and repaving same, including new curbing. The Commonwealth will bear practically the entire cost of the improvement.

Pennsylvania boulevard (Route 67005-P) - Under terms of various agreements the City and the Pennsylvania Railroad have been committed to improve the area between Market street and Filbert street from Broad street to Thirty-second street. Filbert street in this area is known as Pennsylvania boulevard. An ordinance approved March 22, 1946, and amended August 14, 1946, authorizes the City and the Commonwealth to enter into an agreement establishing Pennsylvania boulevard as a part of the State Highway system and provides for joint participation in the improvement of the highway. The City's responsibility includes preparation of plans and contract drawings. Under authority of an ordinance approved March 22, 1946, as amended by ordinance approved August 14, 1946, the City entered into a contract on May 31, 1949, with Clarke, Rapuano and Holleran for preparation of engineering drawings for all structures in the section of Pennsylvania boulevard between Thirtieth street and Thirty-second street.

Aramingo avenue from Ontario street to Orthodox street (Route 67047) - Council, by ordinance approved February 17, 1948, authorized the City to enter into an agreement with the Commonwealth of Pennsylvania for joint

participation in construction of an arterial highway in Aramingo avenue from Ontario street to Orthodox street. The City is obligated to furnish contract drawings to the Commonwealth for this improvement. On January 6, 1949, the City entered into a contract with Knappen, Tibbet and Abbet for preparation of these plans.

The City is also obligated to construct sanitary sewers in the highway and has awarded a contract for sewer construction in this street from Ontario street to Tiega street. Contract was awarded on November 23, 1949, and the limit of contract is \$15,000. Bids will be opened early in 1950 for sewer construction in Aramingo avenue from Venange street to Butler street and from Butler street to about 230 feet northeast of Wheatsheaf lane.

Harbison avenue from Torresdale avenue to Roosevelt boulevard
(Route 67047) - Council, by ordinance approved February 17, 1948, authorized the City to enter into an agreement with the Commonwealth for joint participation in constructing an arterial highway in Harbison avenue from Torresdale avenue to Roosevelt boulevard. It is part of the City's obligation to furnish contract drawings to the Commonwealth for this improvement. These plans are being prepared by Bureau forces.

The City is also responsible for construction of sanitary sewers in the highway. A contract has been awarded on June 1, 1949 for sewer construction in Harbison avenue from Hellenman street to Roosevelt boulevard. This was completed on August 8, 1949 at a cost of \$9,511.20. Bids are scheduled to be opened early in 1950 for sewer construction in Harbison avenue from Sanger street to Vankirk street; Harbison avenue from Benner street to Frankford avenue; Harbison avenue from Frankford avenue to Levick street; and Harbison avenue from Levick street to Hellenman street. In order that Harbison avenue might be improved it is necessary to demolish all or part of about twenty-five dwellings which are in the bed of the street. Eviction notices were issued to the tenants late in 1949, and a contract for demolition will be awarded early in 1950. Property demolition is the responsibility of the City.

Schuylkill Expressway and Roosevelt boulevard Extension (Routes 67057-67058) - By passage of an Act of Assembly approved May 11, 1949, to become effective January 1, 1953, the Commonwealth added to its Highway system in Philadelphia a planned route generally paralleling the Schuylkill River along its west bank from City avenue southward about six and one-half miles to University Bridge. In connection with this route it is planned to construct a highway connecting Roosevelt boulevard with the highway on the west side of the Schuylkill River, also to connect Vine street with this highway. When completed, this highway will become an extension, through Philadelphia, of the Pennsylvania Turnpike. Late in 1949 the City prepared and forwarded to Harrisburg for comment, an agreement to be entered into by the City and the Commonwealth setting forth general obligations and responsibilities of parties to the agreement. To date the Commonwealth has not acted upon the agreement. The preliminary plans for this improvement were prepared by the City Planning Commission.

Walnut street (Route 67006) - In April of 1949 City officials affixed their signatures to an agreement with the Commonwealth for improving Walnut street from Thirty-second street to Thirty-fourth street. This improvement is part of a large project of general improvement covering a large area in this section of the City. However, before work could get under way Walnut street was deleted from the State Highway system by passage of an Act of Assembly approved on May 11, 1949, to become effective January 1, 1950, and the Commonwealth has no longer any responsibility to maintain or improve Walnut street; consequently, the work was never undertaken.

* * * * *

During 1947, preliminary drafts of agreements for improving State highways at various locations were forwarded to the Pennsylvania Department of Highways for comment. One of these highways, Oxford avenue from Verree road to Eastbrook avenue was deleted from the State Highway system by authority of an Act of Assembly approved May 11, 1949, to become effective January 1, 1950. At the suggestion of the Department of Highways, agreements for improving Levick street, Tacony-Palmyra Bridge approach, and Roosevelt boulevard from Oxford Circle to Broad street, including five bridges, were redrafted and returned to Harrisburg. No further action has been taken on these agreements nor on any of the following:

Spring Garden street from Broad street to Park drive.
Henry avenue from Walnut lane to Ridge avenue and
Ridge avenue from Henry avenue to Northwestern
avenue.
Adams avenue from Montour street to Crescentville
avenue, and Godfrey avenue from Broad street to
Crescentville avenue.
Moyamensing avenue from Twentieth street to Broad street.

SEWER PERMIT DIVISION

The Sewer Permit division issued 1388 permits in 1949, an increase of 143 over 1948. These permits resulted in 5914 connections to sewers, an increase of 761, which reflects the increase in the number of new dwellings constructed in 1949.

The total receipts for the year were \$104,751.59, which is an increase of \$23,951.31 over 1948. Of this total amount \$73,665.00 was collected from lateral fees, an increase of \$19,900; and \$31,086.59 from service charge bills, an increase of \$4,051.31.

INDUSTRIAL WASTE DIVISION

During the year 1949 the Industrial Waste division has cooperated with industry to help solve their industrial wastes disposal problems. Often these problems seemed unsolvable to the industries in question but after consultation, in every case, an agreement has resulted which assured the industries of a continued source of wastes disposal and the sewage disposal plants a minimum load to be accepted by industry.

The Clean Streams Act of the Commonwealth of Pennsylvania and the action of the State Sanitary Water Board in citing industry for disposal of industrial wastes into the water courses have contributed numerous problems to industry.

It has been the policy of the Industrial Wastes division to assist industry in the solution of their problems; accept their approved industrial wastes and to attempt to keep industry continuously operating in Philadelphia.

The Industrial Wastes division has made most of its preliminary arrangements by conferences either at the office of industry or at that of the Industrial Wastes division and by telephone. Letters have been sent to those who have committed violations only after telephone conferences and to maintain a position, with the full understanding of industry that the letter only expressed the ultimate and would only be invoked against flagrant and continuous violators.

Numerous consultations have been held with industries both large and small to assist them in solving their industrial water-borne waste disposal. The primary consideration in most of these conferences has been to reduce the volume and the pollutiional load.

Negotiations were entered into and consummated with the Container Corporation whereby their white water now discharged untreated into the Schuylkill River will be purified and the recoverable fibers used. The purified effluent will also be used in place of make up water. Eventually the quality of their water will be no more polluted than standard Philadelphia sewage and the total volume will be greatly reduced below that amount that they were discharging into the Manayunk Intercepting Sewer at the start of the negotiations. This will result in a smaller load to the Southwest Sewage Treatment Works.

The Industrial Wastes division discussed various phases of their problems with representatives and consultants of the International Shoe Company and anticipate a much smaller quantity of wastes with lower pollution values than had been anticipated either by us or the International Shoe Company. The imminence of having to pay for the disposal of their wastes prompted them to run pilot plant studies on new methods of tanning which will materially increase their output while substantially decreasing their wastes.

The Publicker Distillers have partly solved their waste problem by running their wastes to tankers which are dumped at sea. A continuance of

such wasteful and costly methods could tend to make cost of alcohol production from molasses at Philadelphia too high to be profitable. A more reasonable method of disposal will have to be found. There is a great difficulty in dealing with this industry as they refuse to cooperate fully with any external agency in solving their problems.

The Rohm and Haas plant in Bridesburg have completed separation of their contaminated and non-contaminated wastes and will turn their contaminated wastes over to us when we are ready to accept them.

The Barrett Chemical Plants have been making studies on separation of their wastes and should shortly be prepared with a plan to accomplish this result.

The City has an agreement with the United States Navy to receive their acceptable industrial wastes from League Island Navy Yard. Representatives have discussed their problems with us and numerous suggestions for primary treatment at the source were made. Their wastes will probably come to us in a form that will require no special treatment at the Southeast Sewage Disposal Works.

The S K P Industries, producers of ball bearings, have wastes which are very high in oil. When this was called to their attention they made plans to eliminate this source of contamination. This should effectively produce an effluent satisfactory for treatment in our plants.

During the year of 1949 the Industrial Wastes division completed a great number of projects other than those involving industrial wastes. These extraneous projects fell into two distinct classes, namely, drainage and flood control.

The largest of these projects was that which involved obtaining grants and easements between Castor avenue and Worrel street, on the Frankford Creek, to permit construction of facilities for the Frankford Creek flood control program and maintenance upon completion. Numerous difficulties were encountered and compromises effected. At the year's end 87 per cent. of the Creek frontage, between Castor avenue and Worrel street, had been obtained at no cost to the City. Part of the balance of 13 per cent. could not be traced as the owners of record have died and no records appear to exist of the heirs or legatees. Another portion whose signatures were not obtained were to have given the grants and easements in exchange for sewerage in the street fronting their homes. Only one owner, whose frontage totals less than 1 per cent., refused to sign.

The sewage disposal plant, located at Haldeman avenue and the Roosevelt boulevard, owned and operated by Yale and Towne and in service since 1948, has delivered a satisfactory effluent during the year except for an accidental discharge of cyanide made through this plant on August 12th, last, which destroyed fish in the stream into which the plant effluent discharges. Required changes were made in their industrial waste set-up so such an accident could not happen again. This division is also responsible for the operation of this sewage disposal plant and that at the Budd Manufacturing

Company. The effluent of the Budd Sewage Treatment Works has been satisfactory throughout the year.

This division is now engaged in a sanitary survey of the Delaware River from Bristol to Marcus Hook in conjunction with the U. S. Geological Survey. Field trips are made monthly to obtain samples to determine the state of the river at eight cross-sections. The purpose of this survey is to ascertain the quality of the river water and degree of pollution prior to and subsequent to treatment of the City sewage.

A similar survey is being carried on by the Inceel above Trenton.

An industrial survey is also in progress to discover special or excessive wastes from industries which will be discharged into the interceptors going into our Northeast Sewage Treatment Works. This survey should disclose, in a number of instances, industries which are not paying sewage rents for disposal of well or stream water utilized by them in their processes and then discharged into our sewers.

Drainage from Springfield Township into the City at various points along Stanton Avenue was investigated and agreements entered into for handling these discharges.

Negotiations for the use of the land along the east Schuylkill Interceptor was successfully negotiated so that the interceptor tunnel and siphon could be built.

Numerous local drainage problems were discussed with industries such as the Reading Railroad Company, Philadelphia Electric Company, etc.

At various times flows of abnormal industrial wastes were noted at the Northeast Sewage Disposal Works, and the course of these, as well as the special treatment which might be required, were discussed with the operating personnel.

The natural function of a river is to support the aquatic life. It has come to the attention of the Industrial Wastes division that certain protozoa are present in extremely polluted water supplies. There are changes which take place in the species of protozoa as the contamination decreases until in pure water protozoa are almost absent.

It is the intention of the Industrial Wastes division to make a study of the protozoal life in our Delaware River sanitary survey so that a check may be had on the purely chemical tests which are being given.

Numerous cases of breaks in separate system sewers have been traced and these breaks were repaired.

On complaint that the Stanton Laboratories were discharging their wastes into the storm sewer the Industrial Wastes division traced their drainage and found that there was a yard drain taking off one of their industrial

wastes and discharging into the storm sewer. This was ordered out of this sewer and into the sanitary sewer. A further investigation divulged that their wastes could be explosive in a confined area such as a sanitary sewer and they were instructed to install an interceptor before their drainage was discharged. Between these two investigations they had a fire involving a number of explosions. It was subsequently learned that this industry has moved out of town.

Analytical data of the operation of the Northeast Sewage Disposal Works has been periodically submitted to the Industrial Wastes division for study and comment. There has been about four inches (approximately 10 per cent.) deficiency in rainfall for the year. Both stormwater and ground water dilution of the sewage decreased during the dry months, thus increasing the concentration of the sewage during this period. The average flow (daily) for the year was sixty-four million gallons, which is the largest flow to date and resulted from the additional of the sewage from the extensive construction program which is now taking place in the Northeast. The average characteristics of the influent were quite normal and purified very satisfactorily for the type of plant in use.

Annual Rainfall		37.75
Total Sewage Flow		23,360 M.G.
Daily Flow	high level	41 M.G.
	low level	23 M.G.
	total	64 M.G.
Suspended Solids	Influent	154 p p m
	Effluent	54 p p m
	removal	65 per cent.
5 day B O D	Influent	262 p p m
	Effluent	200 p p m
	removal	24 per cent.
Fats	Influent	29 p p m
	Effluent	18 p p m
	sludge produced	55,481 CY = 2.6 CY per M G Sewage
Skimmings	Influent	1258 CY
Grit		1824 CY
Screenings		1328 CY

The Industrial Wastes division has cooperated with the Law Department in the preparation of cases involving the City in claims for damage arising out of sewers and other drainage problems.

In addition to the above, the Industrial Wastes division maintained a liaison with the Plumbing Inspection division of the Department of Health. The function of this liaison is to investigate the character and the amount of discharge from industrial establishments to the drainage system of the

City; to locate violations of drainage regulations and correct undesirable conditions, collect samples for laboratory analysis, locate and direct the correction of stormwater connections to sanitary drains and sanitary connections to stormwater drains; supervise the installation of equipment to neutralize industrial wastes detrimental to the drainage system and sewage treatment processes and perform related work in connection with the Plumbing Division, such as industrial wastes' problems that are brought into the Plumbing Division by contractors and plumbers.

Numerous requests for special information were received from sources outside the City of Philadelphia. The Industrial Wastes division endeavored to reflect the policy of the Department in replies to these municipalities, agencies and industries.

Philadelphia is a great industrial city and it is the policy of the Industrial Wastes division to offer every aid to retain industry within the City.

NORTHEAST SEWAGE TREATMENT WORKS

Administration - During the year a cost system was installed covering material, time consumed on each repair job and operation. By our clerical force, records are compiled showing total time of operation of pumps in pump house, total yearly sewage flow amounting to a total of 23,360 mg last year. Records of amounts of grit and screenings removed, personal records kept, time and payrolls are made up in this office. Automobile cost and mileage records compiled. Weekly reports of operation for Northeast Sewage Works are forwarded to the Assistant Chief Engineer. Monthly reports covering operation of Northeast Sewage Works and Frankford Grit Chamber are forwarded to Sanitary Water Board via the Main Office. Monthly distribution of salaries and wages for maintenance and operation of each unit under control of this office is sent to the Cost Accountant.

Requisitions are issued from this office to the Department of Supplies and Purchases for materials, tool equipment and supplies, needed by each unit of operation. When material is received a record is made on a stock card. Material slips are issued as material is used, charging it to the operation and deducted from the stock card, thus keeping a permanent record of our stock.

Research records are taken daily of readings from the special unit set up to investigate the air flow from Plastic and Ceramic Diffuser Tubes to be used in the aeration tanks for the new plant.

Several new forms for records have been printed, new cabinets have been purchased for the filing of our records.

At various times during the past year we have escorted through the Northeast Sewage Treatment Works, both the old plant and new plant now under construction, Sanitary Engineers from various sections of the United States. Wide interest has been noted in the construction of the new plant by engineers from various countries. The past year visitations, from representatives of Australia, New Zealand, India, Egypt and England have inspected our Works. Various groups of medical and nursing students from hospitals and medical institutions have visited the plant. The School District of Philadelphia in their hygiene course have included visits to the disposal plant by senior and junior high school students. At other times, the Superintendent has presented talks on sewage disposal process before engineering groups and student nursing classes. Along with these lectures a 16 m m sound motion picture entitled 'Clean Waters' was shown. This was supplied by the Roots-Connerville Corporation.

Administration Building - The metering equipment installed in the Administration Building to record the sewage flow from the chamber and Wingo-hooking sewer high level needed the following repairs: Air compressor overhauled, new rings installed in the compressor, air tank blown out and cleaned of rust and sewage accumulation, sediment tanks repaired and cleaned, all copper, sewage and air lines renewed. Venturi tube blown out, orifice plates washed and scraped, main and throat pressure tanks scraped and repainted, buoyancy ring on float renewed. The work was done during the year.

Repairs and maintenance were necessary on the water and air lines throughout the building and laboratory.

Machine Shop - Various new parts were made as needed for repairs, maintenance, operation and stock; new tools and material have been purchased to complete these operations.

Two (2) types of research hydraulic units were built and assembled to operate the control gates in the intercepting chambers being built, or under contract. Patterns and casting of special parts were furnished by the Bureau of Water Shop, Twenty-ninth and Cambria streets, from drawings furnished by us, with machine work done in our machine shop. These research hydraulic units designed by the Design division are erected in the basement of the Administration Building for study and improvement.

Several complete sets of studs, locks and lock rings were machined from stainless steel, these to be used on the locked manhole covers of recent design.

New sampler was made for use of laboratory to collect water samples from the Delaware River during survey now being conducted.

Northeast Grit Chamber - Extensive maintenance and replacement was carried on in the Grit Chamber at the Northeast Sewage Treatment Works. The screening and grit hoppers were sealed and painted with new gaskets being installed on the flapper valve of the grit hopper.

On the mechanical rakes for the bar screens the following work was done: renewed actuating springs and bumpers on the high level, also No. 1 and No. 2 low level rakes, the cams for these rakes were adjusted to correct position.

Several sections of the screw conveyors were replaced along with replacing new cast iron bearings and brackets made in the machine shop, in number 2 - 3 - 4 - 5 - 6 - 7 grit channels. The buckets, worn out chains and lower sprockets and shafts were renewed on No. 5 Bucket Conveyor.

Due to dampness the following electrical work was installed: renewed conduit and wiring to light circuit at belt conveyors, renewed conduit and wiring to No. 1 and No. 5 bucket conveyors, renewed power wiring from panel board to high level gate. Rewired solenoid valves to pumping station. Renewed conduit, wiring and switches to flood lights from panel board in the Grit Chamber. These flood lights were also repaired. One of the re-search hydraulic units was installed to the water cylinder in the Grit Chamber to check pressure for operation of intercepting chamber gates and found to work successfully.

Pumping Station - The Nos. 1 and 2 lift pumps were adjusted to maintain proper pumping capacity. Lubrication systems for all pumps were cleaned, new cloth filter bags and copper heating trays installed in the storage tanks. The exciter motors for the main pump motors were overhauled, armature commutators machined true, new end bearings, seal wipers, new brushes installed and adjusted for pressure. This is the first work needed since starting in operation. A system of maintenance to all motors and generators has been a monthly routine.

New conduit and wiring was installed to No. 6 shutoff valve on the pump floor. This was caused by the condensation in the conduit and grounding of the wiring. The reduction gears for the No. 2 pump discharge valve were removed and new gears installed.

All records of pumps operation and sewage flows were kept on log sheets by the operators, and general duties were performed with regularity.

Repairs necessary for correct registration of the high level and low level venturi meters in the pump house consisted of the following: the separation tank between the sewage and fresh water lines located in the ceiling of the pump house was removed, cleaned of all rust and sediment, balancing trays cleaned, replaced and readjusted. This tank was scraped of scale and repainted. Three hundred (300) feet of 2-inch iron pipe feed lines were removed because of corrosion and improper flow and replaced with galvanized pipe. The main venturi line sediment tanks were removed and steamed out of all sewage and rust accumulations, orifice feeds and glass sight gauges for the meters were replaced. The venturi tubes, orifices are blown down and washed with fresh water twice monthly. The meters for the low level flow were overhauled, mercury washed and new mercury added to maintain correct balance.

Arrangements have been made for storage space on the main pump floor and force main floor for storage of equipment to be placed at the new treatment works. The large motors for the blowers are stored on the main floor.

Boiler Room - Between heating seasons, the two (2) boilers were scaled, cleaned and resealed. They have been inspected by the State Boiler inspector and found to be in good condition and passed. New water gauges were installed on both boilers, all valves tested, boiler feed pumps repacked and adjusted, boiler water preheater cleaned of rust and new gasket installed, all steam pressure gauges were recalibrated and reset. In the grounds and buildings heating pipe lines, flanges, valves and expansion joints were repacked and new gaskets installed, where needed new flanges were installed. All steam traps were cleaned and new gaskets installed.

Automotive Maintenance - In April of 1949 the Northeast Sewage Treatment Works took over the care and maintenance of fifty-nine (59) automobiles and trucks of the Bureau of Engineering, Surveys and Zoning.

We immediately set up a maintenance, mileage and "cost of repair" system. With this system we are able to tell the mileage per gallon of gasoline consumed; also, the cost of keeping each car and truck running efficiently.

Each car and truck is given a complete monthly checkup. This includes a general motor and steering inspection, oil check, overall greasing and a check of the tires, battery, and general tightening. At this time the car is also washed and cleaned inside and road-tested. New equipment was purchased to carry on this work.

We had forms printed (N.E.#1) which we distributed to each Survey District and car operator. When bringing a car or truck into the garage, either for monthly inspection or repair, the operator noted on the form what seemingly was the trouble with the car. In this way our repairmen were able to correct the trouble much more quickly than would otherwise have been possible. This setup has worked very successfully as we have had complete cooperation from the engineers and the District offices.

We made approximately 125 trips with our service car to cars and trucks which were having trouble out in the field. This service has saved the City hundreds of manhours, as the majority of these repairs were made at the scene of the tie-up, and the car continued in service.

Chemical Laboratory - At the Northeast Sewage Treatment Works' chemical laboratory, bacteriological and chemical tests were made to determine the relative quality of the sewage received and discharged by the plant to get the efficiency of operation. Samples were collected every four hours during the day and night and made into a composite sample every day and tested for alkalinity, chlorides, fats, oxygen consuming power, free and organic nitrogen, total volatile and fixed suspended solids. A test for oxygen demand was

made on the influent and effluent sewage to determine the stability and oxygen absorption character of the sewage. When sludge was drawn from the tanks a composite sample from each tank was collected and tested for total solids, alkalinity, volatile matter and grease. Grit and sand settling out of the sewage at the Grit Chambers was tested for organic matter to determine the efficiency of the grit channels. Samples of effluents from all the Industrial Plants in the city are brought to the Laboratory to test for fitness to enter our sewers and disposal plants, and they are required to hold to certain standards of purity.

A survey is being conducted by the Laboratory each month to determine the extent of pollution in the Delaware River with the intention of noting the purification effect of our new disposal plants as they are put into service. This requires the use of two laborers from the plant and one helper from the laboratory to collect and test samples on the boat taken from thirty-two (32) sampling locations between Bristol and Marcus Hook. In order to carry on this work efficiently certain new equipment was purchased.

Routine tests as above were also made on composite samples delivered weekly from Hyberry State Hospital, and reports filed as in the past.

Instrument Laboratory - During the year we have established an instrument laboratory in the Transformer Building. This consists of nitrogen tank with regulators, five master gauges mounted on work bench, also a five-foot mercury manometer for checking, recalibration and resetting all gauges used in various buildings and intercepting chambers. Electrical testing equipment will be also installed for service on smaller electronic control instruments. All recording meters in the intercepting chambers, pump house and administration building are rebuilt, repaired and tested in this laboratory, thus saving the cost and time on such service outside.

Frankford Grit Chamber - Work at the Frankford Grit Chamber included Water booster pump overhauled, new bearing and packing sleeves installed, new end shaft bearings installed and the pump repacked. A new flexible coupling has been installed between the driving motor and pump. One new 6-inch shutoff valve installed in the main feed line.

Repairs to the cage screens and hydraulic lift cylinders consisted as follows: new 2-inch and 3-inch galvanized pipe installed to cylinders to stop pressure leaks. Several of the sheave wheels were rebushed and new shafts made, new lift cables were installed where needed, about fifty rods were replaced in the cage screens.

A break in the 10-inch cast iron cross in the main water supply line from the street to the Grit Chamber was repaired. This was at a depth of twelve feet. The men from the Northeast Sewage Treatment Works did the excavation - the Water Bureau repair crew installed this new section - and we did the filling in when completed.

Due to dampness the elevator and bucket crane were inspected, cleaned and greased every two weeks.

The sand and grit washing hoppers have been repaired and painted, several new sections of 3-inch rubber lined hose were purchased to continue this operation.

Three new stop planks were assembled with correct channels and iron strips to protect them, given a coat of paint to preserve the wood and are now in service.

The grit channels were changed thirteen (13) times during the year, a total of 1215 cu.yds. of grit from the channels and 1088 cu.yds. of screenings from the bar and cage screens was removed from here to the Northeast Sewage Treatment Works by truck.

Inhoff Tanks - Several sections of 6-inch cast-iron pipe has been replaced in the sludge lines to the sludge pump; also in the 6-inch cast-iron line for grit discharge from the grit chamber to the lagoon. The sludge pump overhauled, new bearings, special packing installed, the pump cleaned and readjusted for service. Sludge was drawn from these tanks, thirty-two (32) in number at five different periods, the total amount of sludge drawn for the year of 1949 was 84,634 cu.yds. This was deposited in the drying beds and lagoon. The maintenance of these tanks consisted of changing directions of flow every three weeks, removing the scum and grease from the water top which amounted to 33,980 cu.ft.

Intercepting Chambers - Service and maintenance has continued for the operation of the interceptor chambers, slots and dams. This involves the removal of grit debris, greasing and oiling, minor repairs such as repacking of stuffing-boxes on end of cylinders, and adjusting gate wedges. Several of these interceptor chambers have been repiped, thus allowing better operation by increased pressure.

New spun brass hydraulic cylinder and leather sealing cup was installed in Cottman street chamber. The fan valves of these chambers were overhauled, scraped of rust and repainted. New leather cups were installed on the pistons in each of these valves.

At various times during the year the crew maintaining these chambers have removed large quantities of material and stone from the outfall ends of the sewers leading into the Delaware River in order to keep the float level at correct elevation. By doing this, it allows the gate to function properly at times of storms.

In the past year, the operation and maintenance of the hand-operated gate and dam located in Williams avenue; also a slot in "J" street and Cayuga street has been undertaken.

Meter Service Division - Along with maintaining the Metering equipment for the Northeast Sewage Treatment Works and Frankford Grit Chamber, this division continues daily check on the recording instruments installed in the chamber at Cheltenham avenue east of Tacony Creek. This chart is changed weekly.

Work as follows was necessary at the Cheltenham Chamber; Simplex meter overhauled, float repaired, cables renewed, sheaves scraped, new mercury installed in mercury pot, lines blown out, several lines renewed and meter recalibrated for correct reading.

About November 15, 1949, the sewage lift pump station at Academy road and Holme avenue was placed in operation. This involves daily inspection of the lift pumps which includes, - greasing, adjusting the packing, and cleaning of the bar screen, washing out the chamber.

Recording meters with daily charts were installed at Stenton and Erdenheim avenues - also Stenton avenue and Mermaid lane. These were placed in operation December 1, 1949. The maintenance of these metering stations was assigned to this division. Daily inspections and cleaning is routine.

TESTING LABORATORY

Work during 1949 consisted of chemical and physical testing of specimens in accordance with their respective specification requirements, as submitted by the various City Departments and Bureaus; investigation of materials proposed for City use and on materials failing under usage; formulation and revision of specifications; consulting service; field inspection of materials; sampling and sample collection.

High efficiency standard is maintained on all work by the Laboratory's connection with national standards' organization and membership on several main and sub-committees of the American Society for Testing Materials forming standards and procedures of tests. The City adopts and uses many of the standards published by this Society.

The Laboratory is equipped with modern standard apparatus capable of producing the finest results but, due to the location and general conditions of the present Laboratory, the potential value of this fine apparatus cannot be fully exploited.

Periodic cooperative tests were performed with laboratories allied with business concerns who sell their products to the City. This establishes an efficiency ratio between them and is important.

All brands of portland cement common in 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 prove the grade of concrete purchased by the City from them.

The appended tables show the total, variety, distribution and percentage of distribution of the tested specimens. The tabulation headed 'Tests' is added to demonstrate the minimum number of tests necessary to complete the specification requirements of these specimens and some idea of the time consumed.

ACCOUNTING AND REPORTING DIVISION

All the normal functions of the Bureau, in conjunction with its gigantic construction program, were reflected in the division's activities during 1949.

The routine matters of audit and disbursement of all Budget appropriations for payrolls and supplies, operations attending the expenditures from Loan funds, preparation of proposals, advertising, reading, and scheduling of bids, the furnishing of contract information to the Department of Law, the requisitioning and disbursement of supplies required by the several divisions and Survey District offices, the compilation and maintenance of personnel records, coupled with the progressive program of the Bureau, have all tended toward a busy year for the division.

The continuation of the Bureau's plan for public improvements resulted during the year in forty-seven (47) public readings of bids, involving 147 projects; one hundred and seven (107) contracts were certified and entered on the Bureau's records; during the year 1949, one hundred and fifty-five (155) contracts were carried to completion; 1992 separate warrants were drawn, calling for a payment of \$18,544,673.05 from both Budget and Loan Funds.

Receipts for the year were as follows:

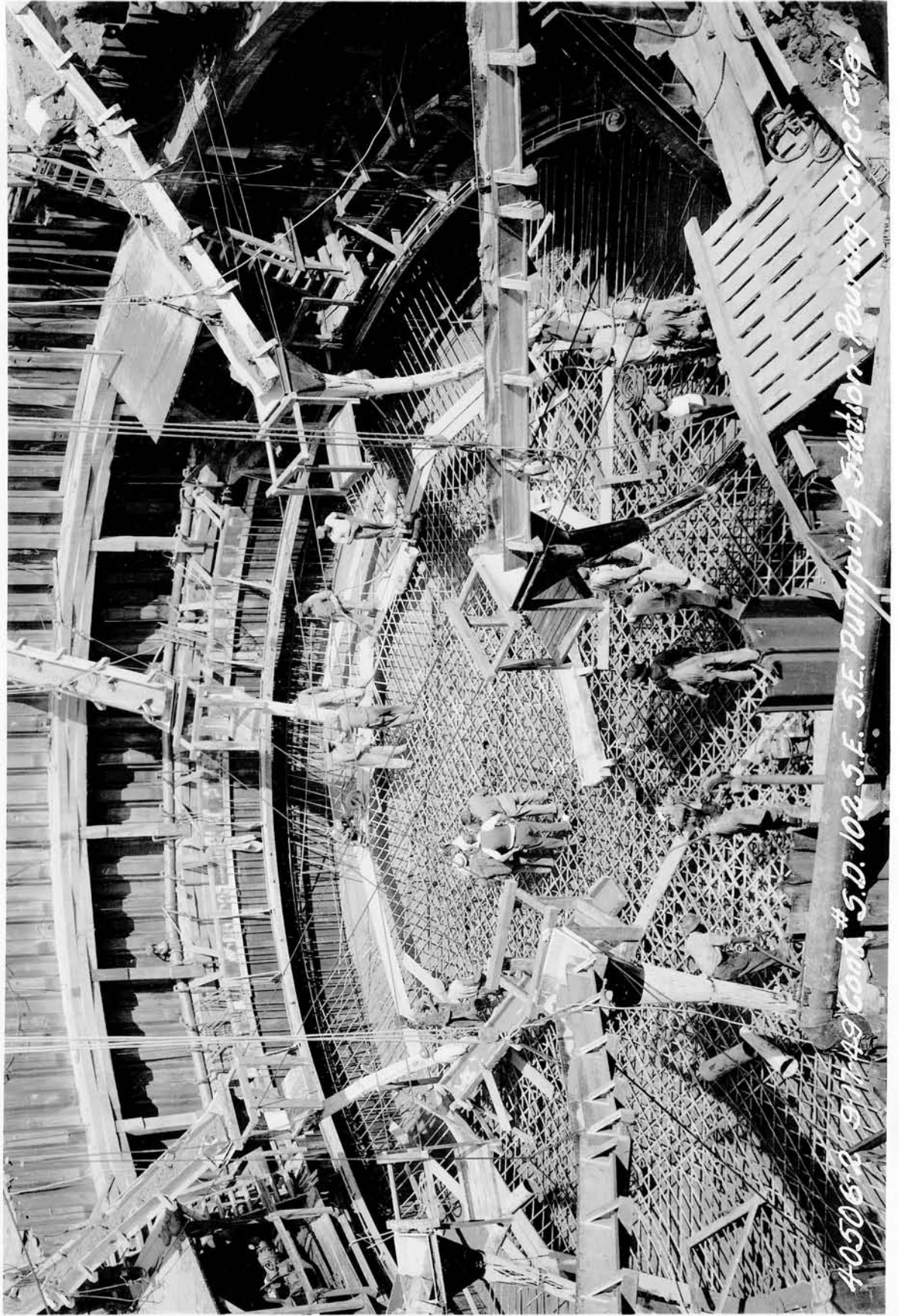
	<u>Vouchers</u>	<u>Amounts</u>	
Survey Districts	4,986	\$145,102.95	
Registry	59	549.75	
Sewer Registrar	963	104,751.59	
Zoning	4,904	39,971.00	
Witness Fees		240.00	
Ground Rents		120.00	
Rental of Wharf		<u>1,200.00</u>	\$280,735.29
Lower Merion Township)	100.00	
Upper Darby Township	:	1,000.00	
Cheltenham Township	:	14,500.87	
Springfield Township	:	59,850.05	
Borough of Rockledge)	<u>19.66</u>	<u>75,470.98</u>
	Total		\$356,205.37

Appropriations and listing of Expenditures with principal projects may be examined on last pages of statistical reports.



40612-5 12-5-49 S. W. SEWAGE TREATMENT WORKS - LOOKING W. SHOWING
BOTTOM SLAB OF FLOCCULATION CHANNEL.

60-1949



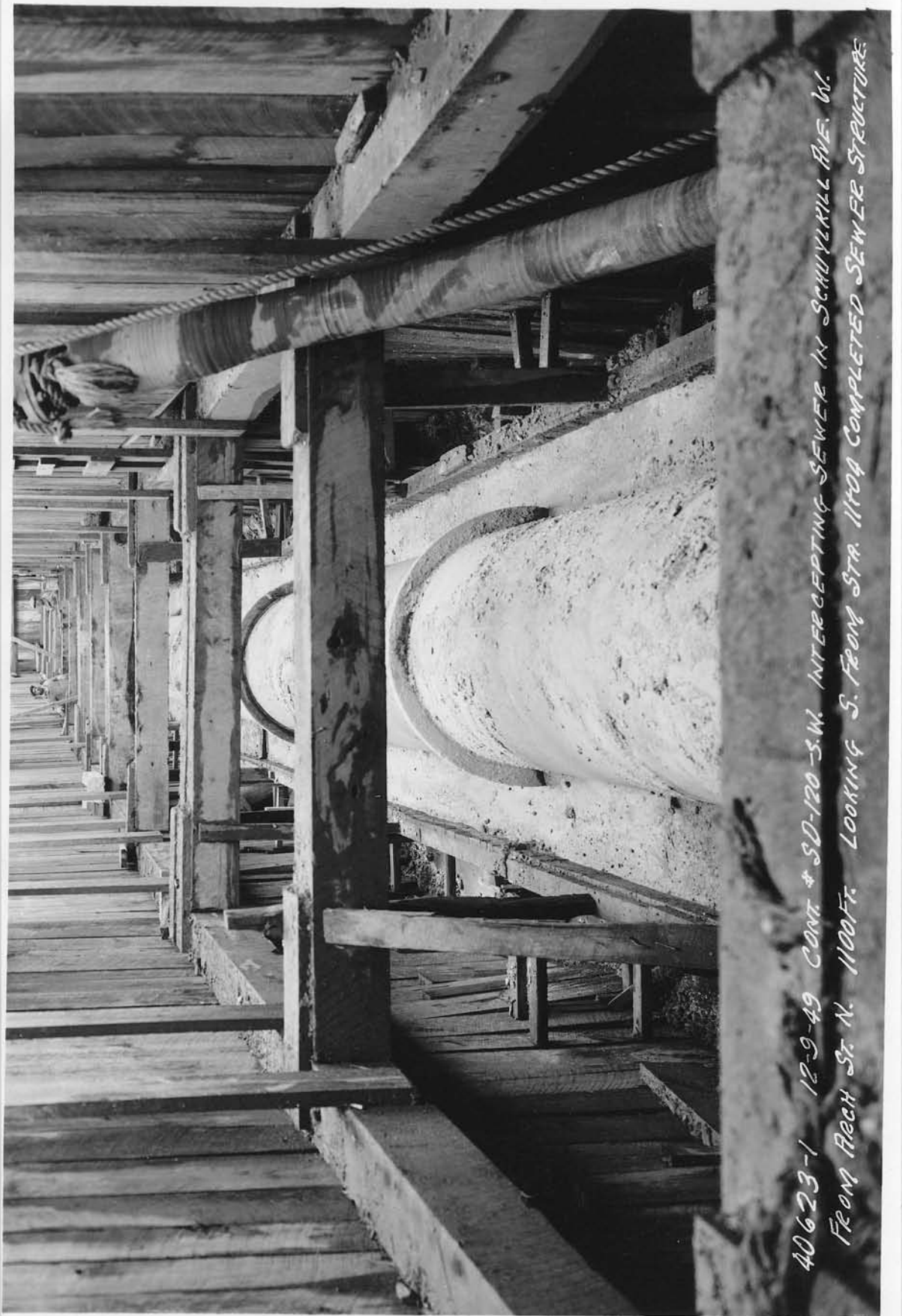
40506-2 5-17-49 Cond #5.D. 102 S.F. S.E. Pumping Station, Pouring Concrete.

61-1949



40493-2 9-2-49 CONT. #S.D.110-S.W. INTERCEPTING SEWER IN 70TH ST. FROM LYONS TO
ESSINGTON AVE. S. ON LINE OF SEWER SHOWING BACK FILL.

62-1949



40623-1 12-9-49 CONT # SD-120 S.W. INTERCEPTING SEWER IN SCHUYLKILL AVE. W.
FROM RECH ST. N. 1100 FT. LOOKING S. FROM STA. 1104 COMPLETED SEWER STRUCTURE

63-1949



40615-2 12-6-49 WALNUT LANE BRIDGE OVER LINCOLN DRIVE. LOOKING N. AT
FALSE WORK FROM LINCOLN DRIVE.

64-1949



40566-11 11-1-49 WALNUT LA. BRIDGE OVER LINCOLN DRIVE - TEST BEAM
GENERAL VIEW BROKEN TEST BEAM - S. SIDE

65-1949



40463-3 8-11-49 70TH ST. BRIDGE OVER P.B. & W.R.R. SHOWING E. FACING OF BRIDGE.



404051 6-21-49 CHURCH LANE BRIDGE OVER COBBS CREEK. GEN. VIEW
N. W. TOWARDS NEW BRIDGE FROM COBBS CREEK BLVD.



40552-1 10-21-49 Bridge on Line of Castro Ave. Over Frio Creek. Looking N.E. At Bridge.

68-1949

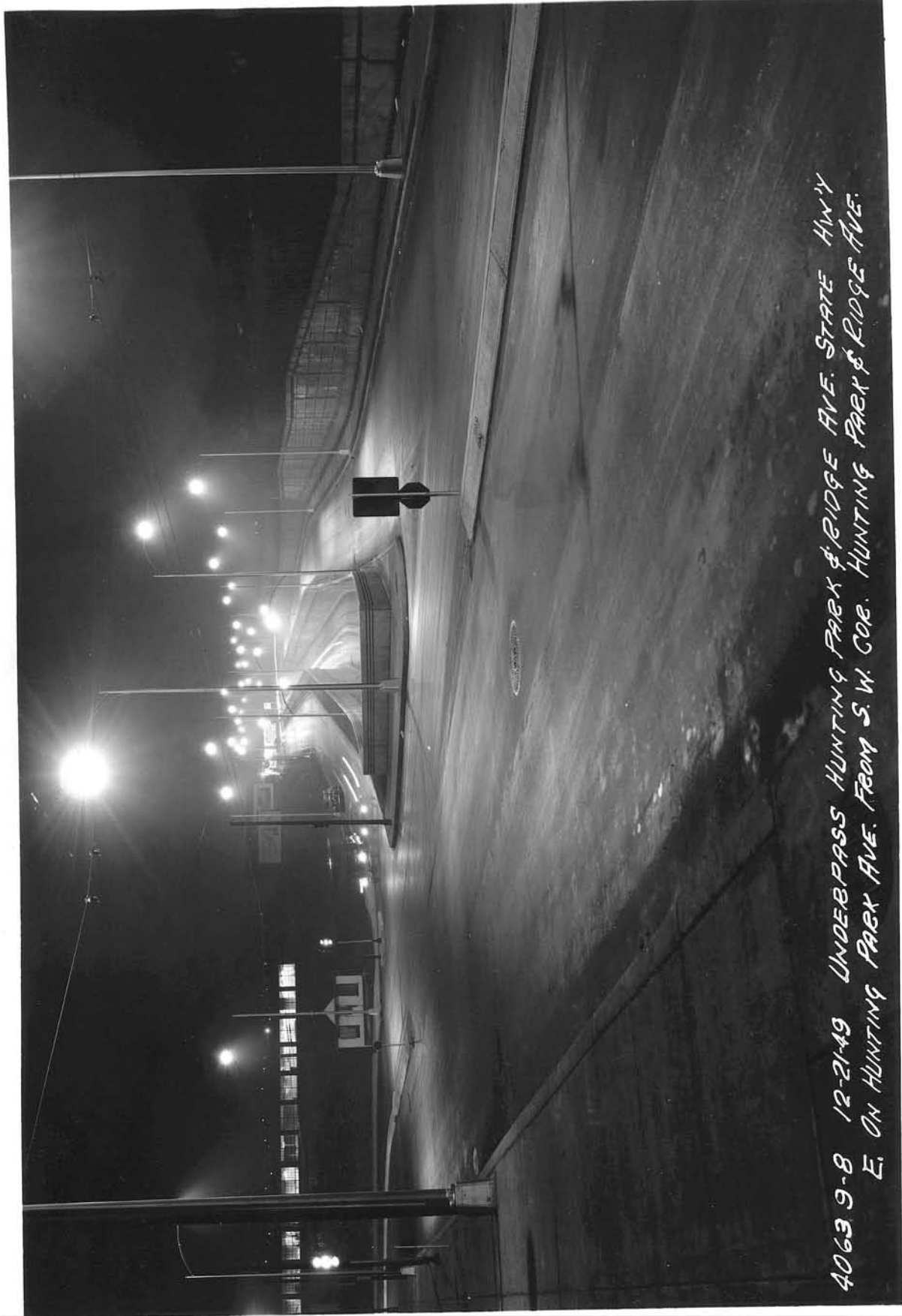


40-541-2 10-17-49 CONT. #A-148 S.W. & 132-S.W. PHILA. INT. AIRPORT COMPLETED SUB-DRAINS & SHOULDERES.



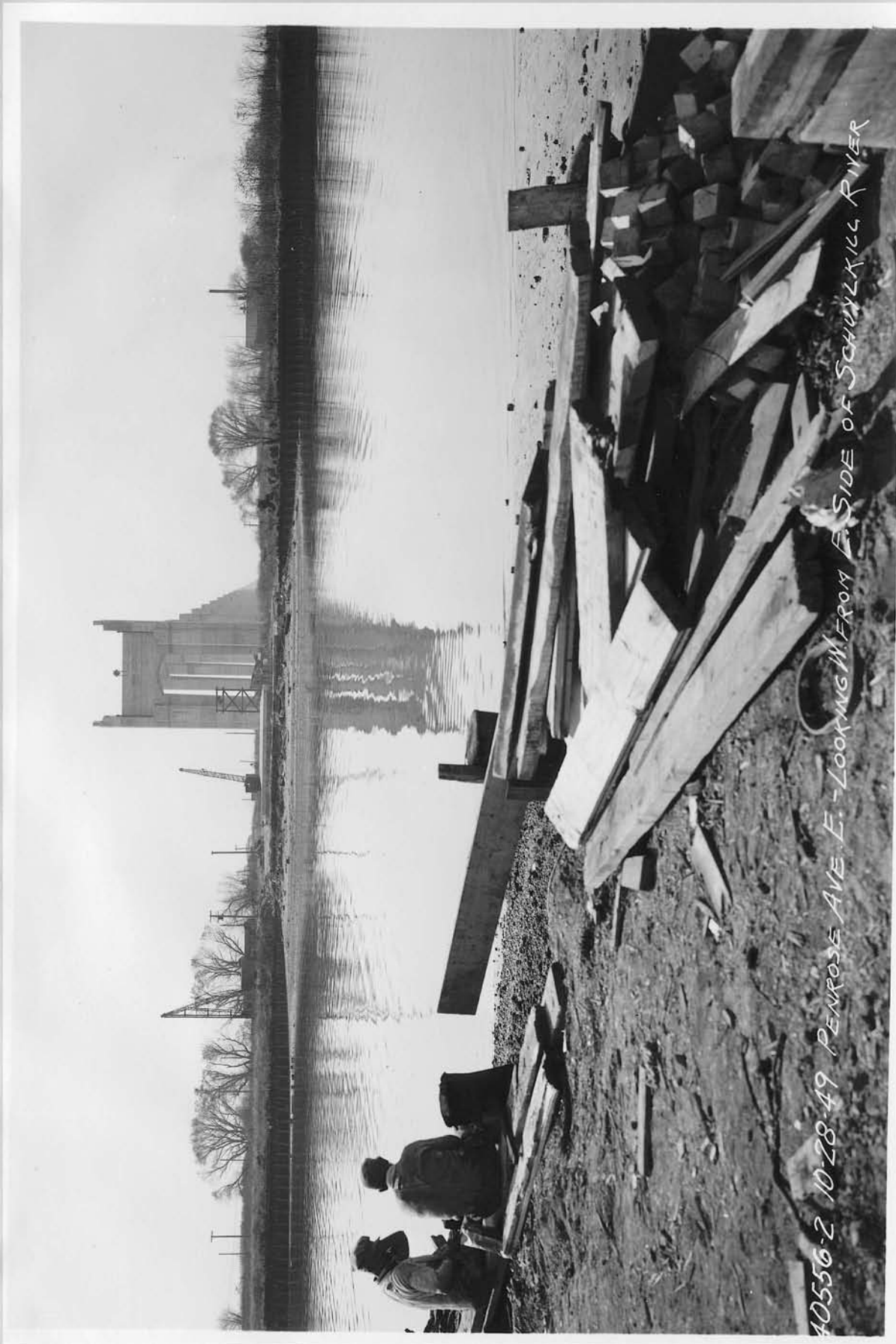
40639-7 12-21-49 UNDERPASS HUNTING PARK & RIDGE AVE. STATE HWY
E. ON HUNTING PARK AVE. FROM S.W. COE. HUNTING PARK & RIDGE AVE.

70-1949



4063 9-8 12-21-49 UNDERPASS HUNTING PARK & RIDGE AVE. STATE HWY
E. ON HUNTING PARK AVE. FROM S. W. COR. HUNTING PARK & RIDGE AVE.

71-1949



40556-2 10-28-49 PENROSE AVE. E. - LOOKING W. FROM E. SIDE OF SCHUYLKILL RIVER

72-1949

PLAN

TO ESTABLISH THE LINES AND GRADES OF
PORTION OF CITY PLAN NO 391

BOUNDED BY

VERREE ROAD, BUSTLETON AVENUE, A PROPERTY LINE NORTHEAST OF
SANFORD STREET, A PROPERTY LINE NORTHWEST OF
JEANES STREET, AND RED LION ROAD.

INCLUDING THE PLACING UPON THE CITY PLAN
OF CERTAIN STREETS AND CERTAIN ROADS.

35TH WARD

PHILADELPHIA

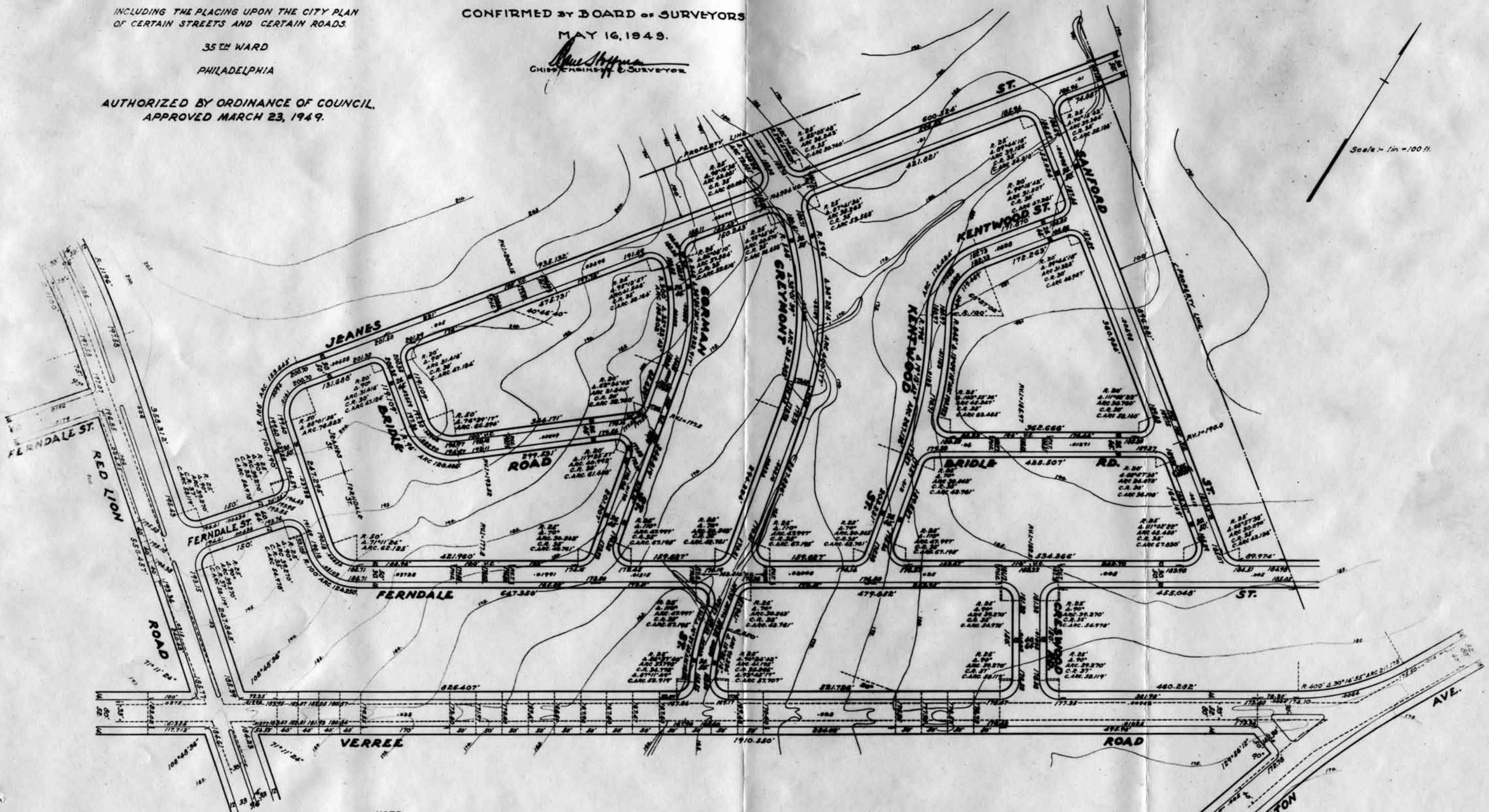
AUTHORIZED BY ORDINANCE OF COUNCIL,
APPROVED MARCH 23, 1949.

Amesbury
Surveyor & Registrar,
4TH District

CONFIRMED BY BOARD OF SURVEYORS

MAY 16, 1949.

Paul Hoffman
Chief Engineer & Surveyor



Scale - 1" = 100 ft.

NOTE: TOPOGRAPHY SHOWN IS ORIGINAL SURFACE OF GROUND TAKEN ABOUT 1910.

73-1949
40663 1-30-50

PLAN
 REVISING THE LINES AND GRADES
 OF
**CITY PLAN NO. 295 AND PORTIONS OF
 CITY PLAN NOS. 240, 286 AND 287**
 BOUNDED BY

THE PHILADELPHIA-MONTGOMERY COUNTY LINE, SENECA ROAD, LYONS LANE,
 THE FORMER GERMANIA TOWNSHIP LINE, WISSAHICKON AVENUE,
 REVERENDS LANE, REVERENDS LANE PRODUCED, PORT ROYAL AVENUE, HADY'S HILL
 ROAD, SPRING LANE AND BUCKNET LANE.

INCLUDING
 THE STRONGING FROM THE CITY PLAN, THE REDUCTION IN WIDTH, THE WIDENING AND
 RELOCATION OF STREETS, ROADS, LAMES AND AVENUES, THE PLACING ON THE CITY
 PLAN OF STREETS, ROADS, LAMES AND AVENUES, DRAINAGE RIGHTS-OF-WAY AND
 DRAINAGE CANALS, AND THE REVISION OF THE LINES AND GRADES OF ADJACENT AND
 INTERSECTING STREETS THAT MAY BE NECESSARY.

DIST. AND 22ND WARDS
 PHILADELPHIA.

AUTHORIZED BY ORDINANCE OF COUNCIL
 APPROVED SEPTEMBER 14, 1949.

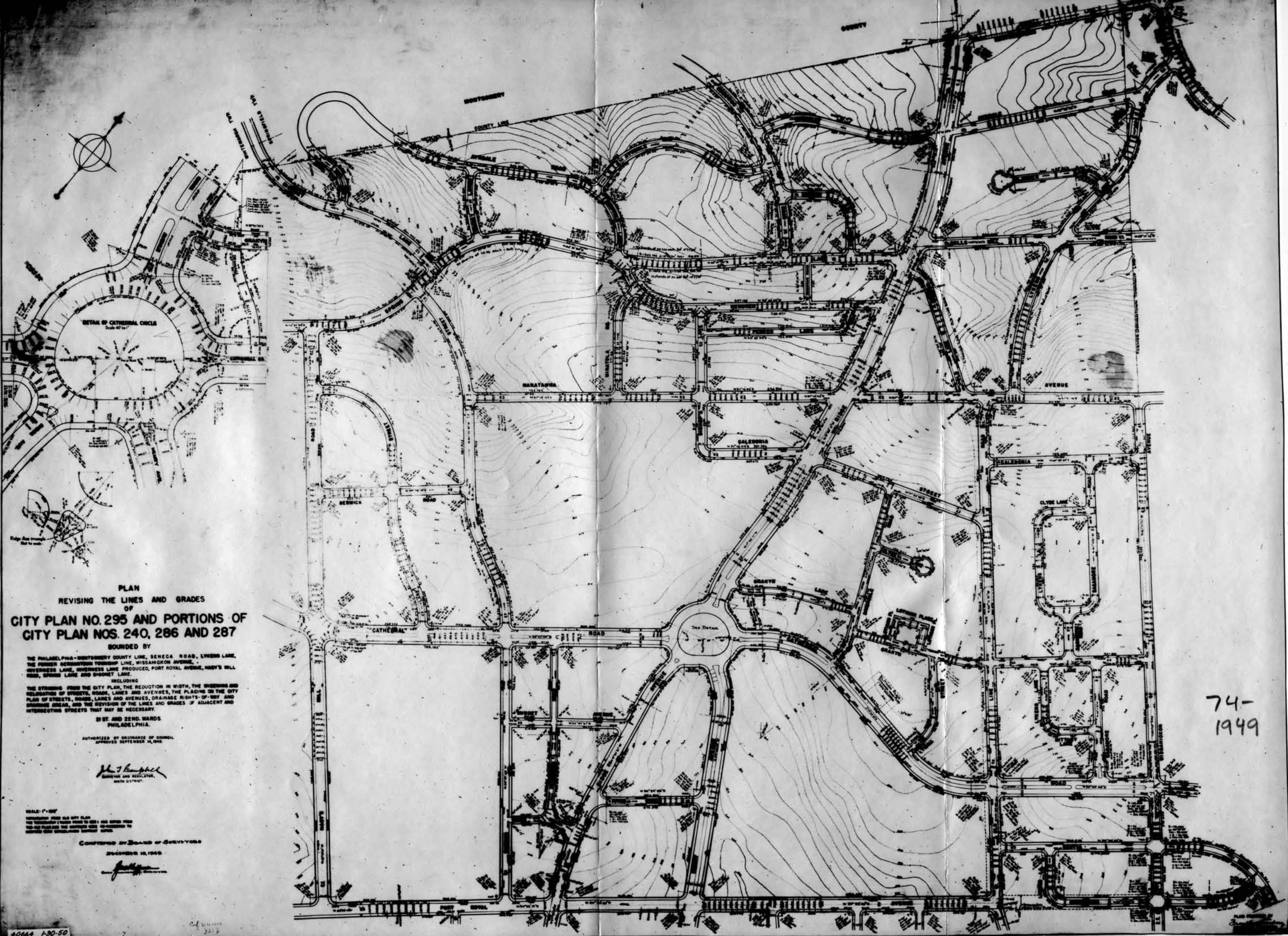
H. J. Campbell
 ENGINEER AND REGISTERED
 SURVEYOR

SCALE 1" = 100'
 THE DISTRICT ENGINEER HAS REVIEWED THIS CITY PLAN
 AND THE INFORMATION CONTAINED HEREIN IS CORRECT AND
 THE DISTRICT ENGINEER HAS REVIEWED THE SURVEY AND
 THE INFORMATION CONTAINED HEREIN IS CORRECT AND
 THE DISTRICT ENGINEER HAS REVIEWED THE SURVEY AND
 THE INFORMATION CONTAINED HEREIN IS CORRECT AND

CONFIRMED BY BOARD OF SURVEYORS
 SEPTEMBER 14, 1949

[Signature]

74-
 1949



DEPARTMENT OF PUBLIC WORKS
ANNUAL REPORT OF THE OFFICIAL PHOTOGRAPHER

	PHOTOGRAPHY										ELECTRO-COPIES-BLUE-PRINTS		
	8"x10" NEGS.	8"x10" PRINTS	4"x5" NEGS.	14"x17" NEGS.	5"x7" ENLARG.	16"x20" ENLARG.	40"x60" ENLARG.	LANTERN SLIDES	SQ. FT. PAPER	SQ. FT. CLOTH	SQ. FT. BLUEPRY	SQ. FT. HANDYKE	
1949													
ENG. SURVEYS & ZONING	2994	6341	75	43	249	124	-	212	9131	960	165039	4294	
HIGHWAYS & ST. CLEAN'G	339	1013	-	-	-	-	-	-	127	127	81018	167	
WATER	286	2529	-	-	-	-	-	40	637	15	67411	702	
CITY PROPERTY	75	276	-	2	120	8	-	-	944	-	3852	-	
TRAFFIC ENG.	34	74	-	2	-	-	-	-	65	-	16874	551	
ELECTRICAL	-	-	-	-	-	-	-	-	-	-	12048	417	
LAW	220	230	-	-	-	-	-	-	-	-	-	-	
HEALTH	89	120	-	-	-	-	-	56	-	-	933	413	
ART JURY	4	58	-	-	-	-	-	-	-	-	-	-	
CITY PLANNING	24	40	-	-	-	10	-	-	-	-	12375	-	
PHILA. HOUSING	-	-	-	-	-	-	-	-	-	-	2000	-	
COMMERCIAL MUSEUM	-	-	-	-	-	-	-	-	-	-	250	8	
AERONAUTICS	-	-	-	-	-	-	-	-	-	-	1211	33	
CITY TRANSIT	-	-	-	-	-	-	-	-	-	-	1650	40	
RECEIVER OF TAXES	-	-	-	-	-	-	-	-	-	-	3675	-	
DISTRICT ATTORNEY	247	-	-	-	-	-	210	-	-	-	-	-	
MAYOR'S OFFICE	2	25	-	-	-	-	-	-	-	-	-	-	
TOTALS	4314	10,706	75	47	369	142	210	308	10,904	1102	368,336	6625	

Charles J. Bond
OFFICIAL PHOTOGRAPHER

STATISTICAL SUMMARIZATION

OF

ACTIVITIES

76-1949

DETAILS OF WORK PERFORMED IN THE SURVEY DISTRICTS

<u>LOTS STAKED</u>	
For building purposes, scattered, four or less	1,493
For building purposes, operations, over four	260
Grades furnished for new buildings, linear feet	17,320
<u>CONVEYANCE</u>	
Properties surveyed for conveyances, scattered	1,420
" " " " Operations	4,139
Plans made for conveyance purposes	1,042
Descriptions of property prepared	41
<u>FARM SURVEYS</u>	
Number made	16
Acres surveyed or staked	288
<u>MISCELLANEOUS SURVEYS</u>	
Number made	53
Acres staked	110
<u>CURB REGULATIONS</u>	
Orders	2,573
Linear feet	361,304
Curb corners staked out	1,025
Linear feet of curb measured and certified	74,299
<u>FOOTWAYS</u>	
Square yds. of paving or repaving measured and certified	17,187
Curb and footway assessment bills prepared	788
<u>ALLEYS AND DRIVEWAYS</u>	
Plans for paving or repaving	50
Linear feet covered	22,765
Number for which lines and grades were furnished	150
Linear feet furnished	67,500
Sq. yds. of paving or repaving measured and certified	13,243
Assessment bills prepared	799
<u>SUBDIVISION PLANS</u>	
Number made	101
Lots shown thereon	941
<u>ARCHITECT PLANS</u>	
Number made	73
<u>WHARF PLANS</u>	
Plans and Surveys made	6
Number for which lines were furnished	1
Linear feet	400
<u>MISCELLANEOUS PLANS</u>	
Number made	51

CITY PLANS

Small City Plans prepared	106
Sectional City Plans prepared or revised - number	8
- acres	1,272
Compiled City Plans prepared - number	2
- acres	450
Topography taken for city or private plans-acres	155
Acres covered by stoning or restoning City Plans	296
Monuments set or reset (city or private)	227
Linear ft. of levels run to establish grades or benches	187,309
Reports on City Plans changes	96
Reports on Deeds of Dedication, releases and affidavits	116
Descriptions prepared for deeds of dedication	108

LAW PLANS

Plans prepared for Board of View	23
Properties included - number	191
- acres	84,388
Plans prepared for various legal purposes	9

PASSENGER RAILWAYS

Linear feet of lines and grades furnished	29,344
---	--------

UTILITY COMPANIES

Linear feet of lines and grades furnished	84,073
Reports on applications for footway locations	637

BRIDGES

Preliminary plans and surveys made	2
Number for which lines and grades were furnished	1
Linear feet furnished	250

DRAINAGE

Preliminary surveys and plans made for sewers and drains	162
Linear ft. st. covered	117,340
Linear ft. of lines and grades furnished	246,625
Cubic yds. of trench excavation measured	477,741
Cubic yds. of masonry measured	1,487
Number of inlets staked out	1,541
Linear ft. of lateral pipe and inlet connections measured	284,706
Plans of constructed sewers and appurtenances prepared	220
Linear ft. street covered	209,685
Assessment bills prepared	2,264

WATER PIPE

Plans prepared for Bureau of Water and water companies	236
Linear feet street covered	168,415
Linear feet of lines and grades furnished	85,091
Fire hydrants for which lines and grades were furnished	102
Reports on grade of streets for water pipe to be laid	10
Assessment bills prepared	1,637

CURRENT ESTIMATES

Any contract	534
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REPORTS

On street openings, including plans or estimates	44
On street improvements " " " "	108
Made to Chief Engineer	437
Miscellaneous (not otherwise classified)	87

LIENS

Descriptions prepared for any department of bureau	139
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MISCELLANEOUS

Blue print copies of property plans	437
Lines and Grades for bureau of Highways - linear ft.	4,000
Curb staked out for Bur. of City property	1,100
Certifying to old surveys	1

GRADING

Plans and preliminary estimates (including country roads)	145
Lin. ft. of street covered	111,451
Cubic yds. measured, cut and fill	635,059
Lin. ft. of street covered	134,445
Lin. ft. of lines and grades furnished	375,968

PAVING

Plans prepared for paving (including country roads)	196
Lin. ft. of street covered	160,309
Square yds. measured and certified	663,754
Lin. ft. of street covered	173,642
Lin. ft. of lines and grades furnished	528,669
Assessment bills prepared	1,044

REPAVING

Plans prepared for repaving (including country roads)	46
Linear feet of street covered	45,085
Square yards measured and certified	337,385
Linear feet of street covered	100,575
Linear feet of lines and grades furnished	308,358

AMOUNT OF COMPLETED CONTRACTS

Main and branch sewers	\$7,632,828.68
Private sewers and drains	99,297.14
Grading	344,899.38
Paving and improvement	3,738,957.44
Repaving and resurfacing	2,475,959.32
Total Costs	14,491,941.96

RECEIPTS

District Cash Receipts	143,102.95
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TRAFFIC

Safety Islands Measured and certified	23
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DETAILS OF WORK PERFORMED IN REGISTRY DIVISION

ACTIVITIES IN THE BOOK ROOM

Group I

1.	Deed abstracts filed for registering.....	47,665
2.	Descriptions contained in abstracts.....	52,769
3.	Transfers plotted.....	61,908
4.	Original lots plotted.....	7,909
5.	Deed abstracts filed from 1865 to 1949 (inclusive).....	3,583,931
6.	Titles examined for plan book entries.....	2,569
7.	Plan books examined by the public and officials.....	77,300
8.	Certificates of registered owners issued to the public.....	70
9.	Certificates of registered owners issued to Law Department....	184
10.	Registry plates redrawn.....	7
11.	Miscellaneous receipts.....	\$349.75

ACTIVITIES IN THE PLANS AND LEGAL RECORDS ROOM

Group II

12.	Miscellaneous plans drawn for City Departments.....	370
13.	Plans loaned out.....	1,066
14.	Subpoenas issued against Registry Division.....	68
15.	Appearances in court.....	65
16.	Amount of Witness fees collected.....	\$195.00
17.	Certificates of street openings issued to City Departments.....	860
18.	Affidavits of street openings filed.....	18
19.	Streets opened by affidavits.....	15
20.	Jury plans ordered.....	17
21.	Jury plans filed.....	13
22.	Streets authorized to be opened by ordinance.....	31
23.	Certifications filed of openings and condemnations.....	24
24.	Street opening agreements filed.....	0
25.	Agreements filed in connection with City plan changes.....	75
26.	Deeds of Dedication filed.....	110
27.	Deeds of Dedication approved and recorded.....	128
28.	Grant of drainage area.....	0
29.	Releases of abutting owners filed.....	7
30.	Releases of abutting owners approved and recorded.....	7
31.	Releases of mortgages approved and recorded.....	17
32.	Cost of recording deeds and releases, etc.....	\$61.75

DETAILS OF WORK PERFORMED BY ZONING DIVISION

	1948	1949	% Decrease	% Increase
Requests for information	18476	20650		11.77
Applications filed	8980	10081		11.70
Zoning Permits issued	6794	7727		13.75
Use Registration Permits issued	3801	3959		0.97
References to the Board of Adjustment	274	309		12.77
Applications stamped 'Permit not Required'	2888	3280		13.57
Zoning Permits refused	2488	1400	43.73	
Use Registration Permits refused	3540	2691	23.98	
Refusals appealed to the Board of Adjustment	3468	3382	2.48	
Inspections	358	561		56.70
Complaints investigated	394	393	2.79	
Vouchers issued	4711	4968		5.45
Cash Receipts	\$28,194.	\$1,076		10.22
True copies of applications certified to B.ofA.	2633	2825		7.29
Sign applications(Highway) acted upon	138	137	0.72	
Descriptions for District Classification Changes	63	41	34.92	
Letters to Fire Marshal for approval or disapproval of Use	371	530		42.85
Changes of Zoning Maps made by Ordinance of Council	51	42	17.65	
Changes of Zoning Maps proposed by Resolution of Council	90	92		2.22
Number of Housing and Sanitation Refusals	427	511		19.67

81-1949

TOTAL SPECIMENS AND TESTS 1949

PHYSICAL AND CHEMICAL

	<u>Specimens</u>	<u>Tests</u>
Standardizing, Apparatus, Instruments	42	504
Boiler Waters and Compounds	33	264
Water, Industrial Waste and Sewage	103	206
Fuels	237	1566
Lubricants	42	168
Jointing Materials and Compounds	15	94
Metals	148	475
Paint and Paint Materials	171	1021
Road Materials	343	1420
Rock and Silicious Material	77	154
Roofing Material	34	169
Soap and Detergents	4	16
Brick	62	211
Cement, Portland	531	2124
Concrete	3502	6834
Miscellaneous Materials	<u>145</u>	<u>625</u>
TOTALS	5539	15651

82-1949

DISTRIBUTION OF PHYSICAL SPECIMENS 1949

	<u>Specimens</u>	<u>%</u>
Department of Public Works		
Bureau of Engineering, Surveys & Zoning	2876	66.8
" " Highways	551	12.8
" " Water	44	1.0
Department of Public Safety		
Bureau of Building Inspection	27	0.6
Department of Supplies and Purchases	14	0.3
Department of Wharves, Docks, and Ferries	315	7.3
Department of City Transit	<u>482</u>	<u>11.2</u>
TOTALS	4307	100.0

CHEMICAL LABORATORY 1949

	<u>Specimens</u>	<u>Tests</u>
Standardizing, Apparatus, Instruments	42	504
Boiler Waters and Compounds	33	264
Water, Industrial Waste and Sewage	103	206
Coal, Anthracite	224	1344
Coal, Bituminous	11	66
Oil, Fuel	47	141
Oil, Lubricating	42	168
Asphaltic Materials, Misc.	52	416
Asphalt Cement	80	160
Asphalt Wearing Surface	211	844
Jointing Materials and Compounds	7	70
Roofing Materials	27	162
Rock and Silicious Material	22	44
Cement Admixtures	5	30
Metals, Ferrous	27	81
Metals, Non-ferrous	38	228
Gasoline	5	15
Soap and Detergents	4	16
Mixed Paint	91	728
Pigments in Oil	15	45
Dry Pigments	16	64
Linseed Oil	18	72

(Cont'd)

84-1949

CHEMICAL LABORATORY 1949 - (cont'd)

	<u>Specimens</u>	<u>Tests</u>
Paint Thinners	12	36
Varnish	9	36
Driers	10	40
Ink	2	16
Foods	1	3
Cordage	10	60
Antifreeze	2	12
Chemicals	2	6
Insulation, Thermal	3	15
Fire Tests	1	4
Tile	2	10
Miscellaneous	<u>58</u>	<u>290</u>
TOTALS	1232	6196

85-1949

DISTRIBUTION OF CHEMICAL SPECIMENS 1949

	<u>Specimens</u>	<u>%</u>
Department of Public Works		
Bureau of Engineering, Surveys & Zoning	382	31.0
" " Highways	348	28.2
" " Water	133	10.8
" " Mechanical Equipment	8	0.7
" " City Property	6	0.5
Department of Public Safety		
Bureau of Building Inspection	4	0.4
" " Police	1	0.1
Electrical Bureau	40	3.2
Department of Supplies and Purchases	248	20.1
Department of Wharves, Docks and Ferries	25	2.0
Department of City Transit	15	1.2
Department of Public Welfare	20	1.6
Water Works Improvement	<u>2</u>	<u>0.2</u>
TOTALS	1232	100.0

86-1949

PHYSICAL LABORATORY 1949

	<u>Specimens</u>	<u>Tests</u>
Brick, Sewer	57	171
Brick, Paving	3	30
Concrete, Aggregates	44	88
Concrete, Block	25	50
Concrete, Beams	170	170
Concrete, Cores	337	794
Concrete, Cylinders	2910	5820
Joint Materials and Compounds	8	24
Metals, Ferrous	51	102
" , Nonferrous	32	64
Portland Cement (Domestic)	531	2124
Rock and Silicious Materials	11	22
Roofing Materials	7	7
Air Entrainment of Concrete (Field Tests)	6	24
Miscellaneous	<u>55</u>	<u>165</u>
TOTALS	4307	9655

87-1949

DETAILS OF WORK PERFORMED BY THE DESIGN DIVISION

Public Sewers

Academy Road, Holyoke Road to Summit South
Akron St., Levick St. to Hellerman St.
Akron St., Princeton Ave. to St. Vincent St.
Alcott St., Newtown Ave. to Weymouth St.
Andover Rd., Brookdale Rd. to Summit South.
Annapolis R., Brookdale Rd. to Holyoke Rd.
Annapolis Rd., Brookdale Rd. to Summit S. of Cloverly Rd.
Anderson St., Cliveden St. to Phil Ellena St.
Aramingo Ave., Butler St. to a point 235 ft. N.E. of Wheatsheaf Lane
from a point 158' S.E. of Aramingo Ave. to N.W. houseline of Aramingo Ave.
Aramingo Ave., Ontario St. to Tioga St.
Aramingo Ave., Venango St. to Butler St.
Ardleigh St., Upsal St. to Summit N.W.
Ardleigh St., Upsal St. to Barringer St.
Arthur St., Caster Ave. to Large St.
Ashurst St., Brookhaven Rd. to Woodbine Ave.
Ashville St., Torresdale Ave. to Edmund St.
Barnes St., Berbeck St. to Loney St.
Barringer St., Crittenden St. to Ardleigh St.
Bath St., Orthodox St. to Hedley St.
Belgrade St., Lefevre St. to Buckins St.
Benner St., Oakland St. to Bustleton Ave.
Bleigh St., Wisconsin St. to a point 265' S.E. of Milnor St. (Sanitary only)
Berbeck St., Horrocks St. to Large St.
Bradford St., St. Vincent St. to Cottman Ave.
Brookdale Rd., Annapolis Rd. to Holyoke Rd.
Burholme Ave., Oxford Ave. to Loney St.
Burholme Ave., Oxford Ave. to Solly Ave.
Bustleton Avenue., Benner St. to Devereaux Avenue.
Bustleton Ave., Hellerman St. to Longshore Ave.
Bustleton Ave., (W. sd.) Roosevelt Blvd. to Hellerman St.
Bustleton Ave., St. Vincent St. to Cottman Ave.
Campus Rd., Brookdale Rd. to Summit South
Cardena St., Crittenden St. to Anderson St.
Cardiff St., Devereaux Ave. to Robbins Ave.
Cardiff St., Robbins Ave. to Levick St.
Casimir St., Miller St. to Belgrade St.
Cheltenham Ave., 7th St. to Lawrence St.
Church Lane, 16th St. to 17th St.
Cliveden St., Anderson St. to Ardleigh St.
Cliveden St., Crittenden St. to Anderson St.
Cloverly Rd., Wooden Bridge Rd. to Annapolis Rd.
Comly St. (N.E. footway) 100 ft. S.E. of Milnor St. to 288' Southeastward
connecting drain.
Conard St., Rockwell Ave. to Rhawn St.
Cottage St., Devereaux Ave. to Robbins St.
Cottage St., Sheffield Ave. to Hartel Ave.
Cottman Ave., (S.W. sd.) Roosevelt Blvd. to Calvert St.
Cottman Ave., Summerdale Ave. to Frontenac St.
Crabtree St., Sheffield Ave. to Sheldaire Ave.

88-1949

Public Sewers - continued

Devereaux Ave., Leonard St. to Farnsworth Ave.
Dover St., Master St. to Thompson St.
Drainage R/W from Annapolis Rd. at Brookdale Rd. to Wooden Bridge Run
Drainage R/W from Annapolis Rd. to Wooden Bridge Run
Drainage R/W from Wooden Bridge Rd. to Wooden Bridge Run
Elberon St., Rhawn St. to Summit N.E. of Stanwood St.
Payette St., Gowen Ave. to Ivy Hill Rd.
Forrest Ave. Gowen Ave. to Ivy Hill Rd.
Foulkred St., Whitaker Ave. to Montour St.
Gaul St., Westmoreland St. to Ontario St.
Gilham St., Enola St. to Dead End
Girard Ave., 66th St. to 67th St.
Glen-Echo Rd., McCallum St. to S. Mt. Pleasant Rd.
Gorgas Lane, Rodney St. to Mansfield Ave.
Gowen Ave., Stenton Ave. to Lynnwood Rd.
Green St., N. Mt. Pleasant Ave. to Allens Lane.
Hanford St., St. Vincent St. to Gottman Ave.
Harbison Ave., Benner St. to Roosevelt Blvd.
Harbison Ave., Roosevelt Blvd. to Hellerman St.
Harbison Ave., Sanger St. to Vankirk St.
Hasbrook Ave., Cheltenham Ave. to Vankirk St.
Hasbrook Ave., Hartel Ave. to Central Ave.
Hedley St., Bath St. to Richmond St.
Holyoke Road, Academy Rd. to Annapolis Rd.
Holyoke Rd., bet. Brookdale Rd. & Annapolis Rd. (Cul de Sac)
Herrocks St., St. Vincent St. to Tyson Ave.
Hortter St., Mansfield Ave. to Lowber Ave.
Independence St., 5th St. to 6th St.
Jackson St., McKenamy St. to Hartel St.
Jackson St., Sheffield Ave. to McKenamy St.
Jeanes St., Rhawn St. to Stanwood St.
John St., Josephine St. to dead end W. of Tackswanna St.
Kerper St., Whitaker St. to Penway St.
Keystone St., Hellerman St. to Magee St.
Kindred St., St. Vincent St. to Princeton Ave.
Kindred St., Tyson Ave. to Princeton Ave.
Langdon St., Robbins St. to Devereaux Ave.
Lanier Ave., point 172.87' N. of Penrose Ave. to Schuylkill Ave. - Stormwater conduit
Lardner St., Reach St. to Newtown Ave.
Lardner St., Roosevelt Blvd. to Benner St.
Lardner St., Bustleton Ave. to Leonard St.
Large St., Arthur St. to Stanwood St.
Large St., Rhawn St. to Fuller St.
Large St., Tyson Ave. to Princeton Ave.
Levick St., Eastwood St. to Bustleton Ave.
Levick St., Revere St. to Hershon St.
Loney St., Oxford Ave. to Burholme Ave.
Longshore St., Bingham St. to Oxford Ave.
Loretta Ave., Rhawn St. to Ripley St.
Loretta Ave., Ripley St. to Loney St.
Lowber Ave., Phil-Ellena St. to Hortter St.
Lynford St., Princeton Ave. to St. Vincent St.
Lynnwood Ave., Mt. Airy Ave. to Gowen Ave.

89-1949

Public Sewers continued

Hagee Ave., Large St. to Lynford St.
Martins Mill Rd., Oxford Ave. to Rising Sun Ave. (5 plans)
McKinley St., Leonard St. to Farnsworth St.
McKenamy St., Ditman to Cottage St.
Merribrook Road, Brookhaven Rd. to Woodbine Ave.
Michener St., Gowen Ave. to Ivy Hill Rd.
Morris Park, 67th and Malvern Ave. northward 360'
Mt. Airy Ave., Greene St. to McCallum St.
Mt. Airy Ave., Mansfield Ave. to Lynswood Ave.
Murdock Rd., Stenton Ave. to Mansfield Ave.
Newtown Ave., Benner St. to Stearly St.
Newtown Ave., Devereaux Ave. to Stearly St.
Newtown Ave. Vankirk St. to Alcott St.
Oakland St., Levick St. to Robbins St.
Oakland St., St. Vincent St. to Princeton Ave.
Oxford Ave., Pine Rd. to Fillmore St.
Parkwyn Rd., Wynnefield Ave. to Wyndale Ave.
Phil-Ellena St., Mansfield Ave. to Lowber Ave.
Princeton Ave., Horrocks St. to Kindred St.
Princeton Ave., Horrocks St. to Oakland St.
Reach St., Devereaux Ave. to Benner St.
Reach St., Vankirk St. to Summit S.W.
Rhawn St., Castor Ave. to Frontenac St.
Rhawn St., Castor Ave. to Horrocks St.
Rhawn St., Elberon St. to Pine Rd.
Rhawn St., Ridgeway St. to Elberon St.
Ridge Avenue, Paoli Ave. To Domino Lane
Ridge Ave., Parker Ave. to Paoli Ave.
Ripka St., Peachin St. to Manayunk Ave.
Robbins St., Eastwood St. to Roosevelt Blvd.
Robbins St., Everett Ave. to Eastwood St.
Robbins St., Gillespie St. to Walker St.
Robbins St., Leonard St. to Farnsworth St.
Rockwell Ave., Ridgeway St. to Rhawn St.
Rodney St., Sedgewick St. to Gorgas Lane
Roosevelt Blvd., (N.W. sd.) Princeton Ave. to St. Vincent St.
Roosevelt Blvd., (N.W. sd.) Robbins St. to Bustleton Ave.
Roosevelt Blvd., (N.W. sd.) St. Vincent St. to Cottman Ave.
S. Mt. Pleasant Road, McCallum St. to Greene St.
Schiller St., Hutchinson St. to 8th St.
Sharpnack St., Crittenden St. to Anderson St.
Shelmire Ave., Rowland Ave. to Bedford St.
St. Vincent St., Large St. to Lynford St.
St. Vincent St., Rutland St. to Lynford St.
Stanwood St., Leon St. to Crispin St.
Stanwood St., Frankford Ave. to Craig St.
Stearly St., Newtown Ave. to Reach St.
Stenton Ave., Reumfort Ave. to Stream N.W. of Ivy Hill Rd.
Stevens St., Reach St. to Newtown Ave.
Stiles St., 66th St. to Atwood St.
Souder St., St. Vincent St. to Horrocks St.
Souder St., Tyson Ave. to Princeton Ave.
Sylvester St., Levick St. to Robbins St.
Temple Rd., Gowen Ave. to Ivy Hill Rd.
Thompson St., Castor Ave. to Butler St.
Thouron Ave., Gowen Ave. to Ivy Hill Road

90-1949

Public Sewers continued

Torresdale Ave., Sheffield Ave. to Decatur St.
Treaty Rd., Annapolis Rd. to Summit S.
Trotter St., Robbins St. to Devereaux Ave.
Upsal St., Matthews St. to Crittenden St.
Upsal St., 79th Ave. N. to 80th Ave. N.
Vankirk St., Reach St. to Newtown Ave. and in drainage R/W from
Newtown Ave. and Vankirk St. to stream southwest.
Vankirk St., Sylvester St. to Saul St.
Weymouth St., Vankirk St. to Cheltenham Ave.
Whitaker Ave., Erie Ave. to Cayuga St. (3 plans)
Wingohocking St., 3rd St. to 9th St. - Storm relief sewer
Wissahickon Ave., Midvale Ave. to School House Lane
Woodbine Ave., 77th St. to Ashurst St.
Woodcrest Ave., 50th St. to Parkwyn Rd.
Woodcrest Ave., 75th St. to 76th St.
Wooden Bridge Rd., Convent Rd. to Annapolis Rd.
Wyndale Ave., 50th St. to Parkwyn Road
Yerkes St., Crittenden St. to Anderson St.
Yerkes St., Stenton Ave. to Crittenden St.
4th St., Acker St. to 68th Ave. N.
5th St., Summit N. of 68th Ave. to Cheltenham Ave.
10th St., 68th Ave. N. to Summit S. of 69th Ave. N.
20th St., Callowhill St. to Wood St.
29th St., Master St. to Thompson St. - laterals only
50th St., Wyndale Ave. to Wynnsfield Ave.
66th St., Girard Ave. to Haverford Ave.
75th St., Malvern Ave. to Woodbine Ave.
76th St., Malvern Ave. to Woodbine Ave.
76th St., Overbrook Ave. to City Ave.

Reconstruction

Front St., Deck St. to Spruce St.
Moore St., 7th St. to 10th St.
Spruce St., Front St. to 3rd St.
Spruce St., 3rd St. to 4th St.
Spruce St., 5th St. to 6th St.
Spruce St., Broad St. to 15th St.
Spruce St., 15th St. to Hicks St.
Spruce St., 20th St. to a point east of 20th St.
40th St., Aspen St. to Brown St.
40th St., Reno St. to Ogden St.
40th St., Spring Garden St. to Fairmount Ave.
46th St., South of Market St. to North of Market St.

Drainage Studies

Castor Ave., Luzerne St. to Wingohocking St.
Maple Ave., Summerdale Ave. to Pennway St.
Wyoming Ave., K St. to Castor Ave.
Umbria St., Parker Ave. to Domino Lane
Wissahickon Ave. and Juniata St.
Sophia St., Van Horn St. to Chenango St.-Proposed striking
21st St., Glenwood Ave. to Sedgley Ave.-Proposed striking

Drainage Studies - continued

Saul Street and Cheltenham Avenue Flooding
78th St., Buist Ave., 80th St., Darby and Cobbs Creek - Surface drainage
Spruce St., 15th St. to Broad St.
Cheltenham Ave., Lakeside Ave. to 7th St.
Portico St., Seymour St. S.E. to Dead End
Cobbs Creek Golf Course - Stormwater Drain & Stream Improvement
16th St. and Columbia Ave.-Flooding Study
Lanier Ave.-North of Penrose Ave.-Union Tank Car flood protection.
20th St. and Callowhill St.-Youth Study Center drainage
Langton Place and Cemetery Lane, Langton Place to Kingsessing Ave.
26th Street, Ritner St. to Vane Ave.
Packer Ave., Front St., Pattison Ave., 10th St.
Harvey St. and Lincoln Drive, Park Lane Apartment Drainage
Houston Estate-General development plan-drainage report
2341 South 11th St.-between Ritner St. & Wolf St.-Flooding study
33rd St., Hagert St. to Cumberland St.-Flooding Study
Dobson's Run - 33rd St. - Drainage Study
Franklin St., Wellens St. to Playground Site
Caster Ave., Delaware Ave. to Delaware River
Houston Estate-City Plan No. 1-Port Royal Ave., Hagy's Mill Rd., County Line,
Wissahickon Avenue
Houston Estate-City Plan No. 2- Wise's Mill Rd., Wigard Ave., Ridge Ave.,
Port Royal Avenue, Cathedral Road
Pratt Street and Saul Street-Flooding study and report
Houston Estate City Plan No.3-Willow Grove Ave., Thomas Mill Rd., Cathedral
Road, Seminole Street
Greymont St., Verree Rd. to Jeanes St.
River St., Snyder Ave. to point 560' South
Proposed St. west of Ella Street, Rising Ave. to Tabor Ave.
Bristol St. North of Hunting Park Ave.
Gorgas Lane, Rodney St. to Baldwin St.-Flooding Study
Vernon Park Drainage
Burholme Industrial District-Napfle Ave., Dungan Rd., Rhawn St., Tabor Ave.
Stonehurst-Valley Green Rd., Cherokee Ave., Mermaid Lane
Southampton-Endicott, Carter, Hershel Avenues
Bayard St. and Provident St., Mt. Airy Ave. to Wadsworth Ave.
12th St., Tabor Rd. to Clarkson Ave.
Fisher Ave., Old York Rd. to 13th St.
Delaware Ave., Reynolds St. to Bridge St.
Murdock Lane, Mansfield Ave. to Stenton Ave.
43rd St. and 42nd St. Breyer Ice Cream Company-Flooding
1310-28 Lawrence St. near Thompson St., Cornell Laundry-Flooding
Moore St., 7th St. to 10th St.
Academy Rd., Frankford Ave. to Leon Ave.
Verbenast. Cheltenham Ave. to Oak Lane
Solly Ave., Halstead St. to Verree Rd.
Ferndale St., Starwood St. to Emerson St.
Rittenhouse St., Morris St. to Musgrave St., etc.
Front St. and Clarkson Ave. across Phila. & Newtown RR.-proposed Striking
Napfle Ave. and Pennway St., Levick St. to Rhawn St.
Market St., 22nd St. to Schaykill River and 32nd St. to 46th St. - re
Transit Subway Work
Hellerman Street, Milnor St. to Delaware River
City Ave. and Monument Street, Phila. Country Club Tract Apartment House
Development

Drainage Studies - continued

Drainage studies in connection with development of various playground sites throughout the City.

9300 Torresdale Ave., North of Convent Ave.-Flooding study

Bristol St., Fox St. to McMichael St.-Proposed striking.

Drainage Right of Way, Ashton Rd. South of Maxwell St. to Wooden Bridge Run
Benner St., Keystone St. to RR.

Preliminary Estimates

Ridge Ave., Parker Ave. to Domino Lane

Bustleton Ave., Frankford Ave. to Cottman Ave.

Edmund St., Cottman Ave. to Bleigh Ave.

Ashton Rd., Tremont St. to S. of Maxwell St. and Drainage R of W
to Wooden Bridge Run.

Pattison Ave., 20th St. to Penrose

25rd Street, Oregon Ave. to Passyunk Ave.

Cheltenham Ave., Lakeside Ave. to West of 7th St.

Oak Lane Road, 5th St. to Cheltenham Ave.

Martin's Mill Road, Rising Sun Ave. to Oxford Ave.

Whitaker Ave., Erie Ave. to Hunting Park Ave.

Academy Rd., Frankford Ave. to Leon St.

Rittenhouse St., Morris St. to Musgrave St., and Proposed St.

Rittenhouse Street and Morris St. to Harvey St.

Academy Rd., Frankford Ave. to Leon Ave.

Langton Place and in Cemetery Lane to Kingsessing Ave.

Stormwater conduit and Stream Improvement-Cobbs Creek Park Golf Course

Packer Ave. sewer extension to Delaware River wall

State Highway Improvements

Pennsylvania Boulevard - Sewer design and approval of sewer plans and profiles prepared by Clarke, Rapuano and Malloran of New York.

Harbison Avenue - Sewer design and approval of sewer plans and profiles prepared by Barton and Martin, and by Franklin and Lindsey, personal services contractors.

Aramingo Avenue - Sewer plans-Aramingo Avenue, Venango Street to N. of Wheatshaf Lane.

Vine Street - Contract plans for sewers and appurtenant work, 12th Street to 18th Street, given final checking.

Philadelphia Airports

North Philadelphia Airport

Drainage Plans for Hangar and Apron Area near Academy Rd. and Grant Ave.-
5 plans.

Paving and Utilities for Small Hangar Area and Apron-7 plans.

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Philadelphia International Airport

Grading, Paving & Utilities "T" Hangar Area-4 plans
Grading & Subdrainage of Taxiways between Runways 12L & 17L - 2 plans.
Resurfacing of Runway 4-22 and intersections-6 sheet of profiles.
Mechanical Foam Fire Extinguishing System for "A" Hangars-12 Plans
Landscaping of "A" Hangars-1 plan
Sanitary Connections from Airport Building to Sewer-1 plan
Project Application Plans-Grading, Paving, Drainage & Utility Plans for
new access Road-7 preliminary plans.
Facilities for "A" Hangars such as obstruction lighting, hangar
emergency door controls, partitioning, alterations to Heating System,
Plumbing, etc.-6 plans.
Preliminary Plans-Study Plans of Paving and Drainage for Proposed Cargo
Area & Taxiways 27 & 30-2 plans.

Sewage Disposal

Sewage Meter Chambers - Erdenheim St. and Mermaid Lane for Springfield
Township Sewage-charts changed from daily to weekly records.
Sewage intercepting chambers-test of control mechanism completed at
Northeast Treatment Works shop.

Intercepting Chambers

Somerset Low Level - Westmoreland Street-sewage flows gauged-contract
plans and specifications prepared.
Cambria Street-contract plans and specifications-hydraulic cylinder
operated tide and sewage gates.
Indiana Street-contract plans and specifications-hydraulic cylinder
operated sewage gate with dam.
Venango Street-Tioga Street and Ontario Street-Allegheny Avenue and
Somerset Street-redesigned for Regulator type control with hinged timber
tide gates.
Castor Avenue-contract plans and specifications-Regulator type with
hinged timber tide gate.
Southwest Main Gravity intercepting chamber, 69th Street at Buist Ave.-
contract plans for Regulator type control with dam.

Intercepting Sewers

Fennypack Creek Low Level-contract plans, specifications and design for
extension.
Upper Delaware Low Level-studies and alignment for extension.
Southwest Main Gravity intercepting sewer-contract plans and specifications
for section across west interchange of Penrose Ave. Bridge: Also for ex-
tension in 70th St. and Buist Ave. to 68th St.
East Central Schuylkill Low Level-contract plans and specifications for
extension northward to 26th St. north of Lombard St.
West Central Schuylkill Low Level-contract plans-Central Schuylkill
Pumping Station northward to Market St.
Lower Delaware Low Level-contract plans and specifications for extension
from Moore Street northward to Kenilworth St.
Fennypack Creek Low Level-Surveys and base plans for Solly Ave. Branch north
of the Reading Company-New York Short Line R.R.
Studies for connection of industrial plant sewage to sewer system at
various points along Frankford Creek and Delaware and Schuylkill Rivers.

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Northeast Sewage Treatment Works

Influent conduits for high and low-level sewage connection to primary settling tanks, venturi meters, etc. - contract plans and specifications.
Spherical pressure gas holder-50,000 cubic feet-contract plans, 2-structural, 3-mechanical, 1 electrical.
Grading, Paving and Stormwater Drainage-contract plans-5.
Waste gas burner building-contract plans-2 structural, 3-mechanical, 2-electrical.
Digestion Tank Embankment-contract plan.
Checking Various shop drawings.

Southwest Sewage Treatment Works

Primary Tanks-contract plans, 16 structural, 8 mechanical, 3 electrical.
Sludge Digestion Tanks, Valve and Pump Houses, Galleries, etc.-contract plans-16 structural, 11 mechanical, 4 architectural.
Influent and Effluent Conduits-studies and design.
Engineering reports on Southwest Work-with comprehensive layout plan, etc., and hydraulic profile of flow through plant with data for applications, to Sanitary Water Board.

Central Schuylkill Pumping Station

Superstructure-plans and specifications. Substructure-structural and mechanical revisions-plans supplementing contract.

Southeast Sewage Pumping Station

Plans and specifications and structural and mechanical revisions-plans supplementing contract.

Southeast Sewage Treatment Works

Design-detail plans-Engineering report and hydraulic profile.
Frankford Creek High Level Grit Chamber-plans and specifications for new roof and skylights.
Population Studies and Estimates.
Lower Merion Township Sewage outlet requirements in City-additional sewage connections.
West Central Schuylkill Low Level-Alignment Revisions.
Lardner St. east of Milnor St.-Intercepting Chamber Manhole adjustment.
Wilnot Street at Frankford Creek-Nicotown Dye Company connection design.
Yankirk Street and Milnor Street-International Shoe Company connection design.
Northeast Village, East of Roosevelt Blvd., Conly Street to Red Lion Rd. study for sewer system and disposal.

Miscellaneous

Phila. Electric Steam Main-22nd & Walnut Sts.
Phila. Electric Steam Main-22nd & Spruce Sts.
P.T.C. Track Revision-2nd & Catherine Sts.
P.E. Duct-78th St., Lindbergh Boulevard to Eastwick Ave.
Atlantic Refining Co.-Filling Station-63rd St. & Passyunk Ave.
P.E. Company Steam Main-22nd & Locust Sts.
Gulf Oil Corporation-Oil Pipe Lines-Essington Ave., 67th St. to 92nd St., Etc.

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Miscellaneous - continued

P.E. Company Conduit-Wheatshaf Lane
Lindbergh Ave. N. of Island Ave-General Electric Co. Switch Gear Testing
Plant - Drainage.
Bell Telephone Co. Manhole-Cherry Street west of 12th Street.
Continental Distilling Company-48" Diameter Pipe Tunnel-Delaware Ave. So. of
Hifflin St.
Penna. Railroad Siding-Delaware Ave.-250 ft. N. of Tasker St.
P.E. Co.-Coal Conveyor-Wheatshaf Lane-Northeast Sewage Treatment Works.
American Stores Warehouse-59th St. and Upland Way-check of drainage plan.
Pier 80 South-Plumbing, Heating and Fire Protection Sprinkler System, plans
prepared for Department of Wharves, Docks and Ferries.
P.E. Co. Sewage Force Main-Richmond Plant via Lewis St. to Upper Delaware
Interceptor.
Atlantic Refining Co.-Parking Lot at 28th St. & Porter St.-Inlet drainage.
Caster Ave. at Wyoming Ave.-Pipe sewer connection for Caster Ave. east side
frontage.
Dredging and Stream Improvement-South of Stenton Ave. along Fort Wash. Br. of
P.G. & C.N.R.R.
Stormwater Drainage for improvement of Gifford Ave., Burgess St. to Remard St.,
Burgess St., Ferndale St. to Gifford Ave., Selma St., Ferndale St. to Gifford
Ave., Larkspur St., Ferndale St. to Gifford Ave., Ferndale St., Tomlinson Rd.
to Remard St., Remard St., Heather St. to 150' W. of Ferndale St.
Special connection to sewer at Schoolhouse Lane & Vaux St.
Plan for revision of existing manholes to grade on intercepting chamber,
Milnor St. and Lardner St.
Revision of sewer plan for gutter grades, Hedley St., Bath St. to Richmond St.
Revision of sewer plan-Belgrade St., Lefevre St. to Buckius St.
Revision of sewer plan-76th St., Woodbine Ave. to Malvern Ave.
Revision of sewer plan for water main-38th Ave. N. and 4th St.
Stormwater Drainage for improvement of Lott Ave., Bustleton Ave. to
Roosevelt Blvd., Wistaria St., Lott Ave. to Fuller St., Dungan Rd., Birwood St.,
Hoff St. and Chaplecroft St., Lott Ave. to Murray St., Clark St., Cowden St.,
Lott Ave. to Fuller St., Hilspach St., Lott Ave. to Murray St., Murray St.,
Bustleton Ave. to Chaplecroft St., Evans St., Lott Ave to Fuller St., Dungan Rd., Birwood St.
Drainage Plan for revision of St. Grade-Ann St., Melvale St. to Allen St.

Plans for Drainage Work for Release of Streets for Paving

Albion Ave. at Stamford Ave.
Revere St. North of Unruh St.
Robbins Ave., Spurs at Trotter St. and at Langdon St.
Horrocks St., Robbins Ave. to Hellerman St.
Whitake Ave. and Disston St.
Cliveden St. and Crittenden St.
Frontenac St. and Alcott St., Spur
Magee St., Bustleton Ave., Hellerman St., and Horrocks St.-Playground
Torresdale Ave., Sheffield Ave. to Decatur St.
Caster Ave. and Wyoming Ave.-Circle

Plans, Specifications and Estimates for use of Bureau of Highways

Convent Ave. from Frankford Ave. to Torresdale Ave., Grading and appurtenant
work. (Walls, steps and sewer).

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Plans, Specifications and Estimates for use of Bureau of Highways - cont'd

Island Road from Buist Ave. to Dicks Ave., Grading sidewalks and appurtenant work (Steps and underpinning masonry).
Marwood R. (West Side) between Tabor Ave. and Geneva Ave., Gravity concrete retaining wall with chain link fence; reinforced concrete steps.
Welsh Rd. (East side) between Crispin St. and Leon St., Rubble masonry retaining wall with parapet, rubble masonry steps.
20th St. (East side) between Champlost Ave. and Church Lane, Reinforced concrete steps.
Regent St. (N.W.E.L.) E. of 68th St., Gravity concrete walls and concrete steps.
Courtland St. (South Side) from "C" St. to Hurley St., Lowering of existing chain link fence.
Driveway between Ruscomb and Ashdale Sts., from Front St. to Mascher St., Restoration of rubble masonry retaining wall, concrete alley, steps and iron fence.
S.W. Corner of Stanwood and Crispin Sts., underpinning of garage wall.
Norwood Ave. Improvement South of Sunset Ave., Checked details of concrete retaining wall and chain link fence.
Brookhaven Rd. (N.E. side) East of 77th St., Concrete steps and underpinning masonry.
Jackson Street (N.W. side) N.E. of Convent Ave., Gravity concrete retaining wall with pipe railing.
26th St. N. of Willard St., Gravity concrete retaining wall with chain link fence.
25th St. N. of Willard St., Gravity concrete retaining wall with chain link fence.
Driveway in rear of Nedro Ave. (1858 to 1910 W. Nedro Ave.), Restoration of rubble masonry retaining walls and driveway, new chain link fence.
25 Miscellaneous estimates of cost for various drainage structures and items in connection with grading and improvement contracts.

Bridges

66th St. footbridge over the P.B. & W.R.R. - Penna. R.R.-redesign as pre-stressed concrete bridge-final contract plans and specifications for bridge as originally designed - 3 - span wide flanged steel beams.
Cathedral Road-over Lincoln Drive-design for pre-stressed concrete with 5 spans simply supported-sketches made.
Walnut Lane-over Lincoln Drive-contract plans and specifications for 3 simple span pre-stressed reinforced concrete bridge.
Tabor Ave. under Phila. and Frankford Branch of the Reading Co.-contract plans completed and specifications.
Bustleton Ave.-over Pennypack Creek-widening of roadway and addition of footways-contract plans and specifications.
Pine Rd. over P.N. & N.Y. Reading Co.-Studies for redesign.
Wingohocking St. under the P.N. & N.Y. Reading Co.-contract plans completed and specifications.

Marquises, Vaults, Etc.

Marquise : 23rd & Walnut Sts. - Apartment Hotel
Marquise : 2042-44 Ridge Ave. - Funeral Home
Marquise : S.W. Cor. Bodine & Callowhill Sts. - Packing House

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Marquises, Vaults, Etc. - continued

Marquise : Allegheny Avenue W. of 28th Street - Clothing Store
Marquise : 12 North 12th Street - Oyster House
Marquise : 1116 Chestnut Street - Theatre
Marquise : 15th & Chestnut Street - Packard Building
Marquise : 4034 Market Street - Pans Theatre
Marquise : Broad Street, 122' North of Chew St- Grange Theatre
Vault : S.E. cor. Juniper & Chestnut Sts. - Bank
Vault : S.E. cor. Germantown & Chelton Avenues - Store
Sign : 9th and Market Sts. - Gimbel's

Checking Applications for the Public Utilities

Philadelphia Gas Works Company	1192
Bell Telephone Company	454
Philadelphia Electric Company	99
Miscellaneous (Traffic Engineering-Water Bureau)	<u>327</u>
Total	2072

Mimeographing

All proposals for the Bureau of Engineering, Records & Forms for the Zoning Division.
Proposals for the Bureau of Lighting & Gas--for the Bureau of Aeronautics, etc.

Filing

Main and Branch Sewer Plans--Sewage Disposal Plans-Bridge Plans, Miscellaneous Plans, etc.

Black Line Printing

Black Line Printing by the Ozalid Dry Ammonia Process for the Bureau of Engineering-Design Division-Projects Division-Registry Division, Lighting and Gas Bureau--Aeronautics Bureau, etc.
Paper used for all purposes amounted to 128,000 square feet.

98-1949

WORK COMPLETED AND UNDER CONSTRUCTION - 1949

COMPLETED

Northeast Sewage Disposal

Contracts carried from 1948

Contract No. SD 120 NE

Wooden Bridge Run Intercepting Sewer
Date of Contract - December 1, 1947
Notice to Proceed - February 18, 1948
5850 linear ft. - 30" V. P. Sewer
106 linear ft. - 10" V. P. Sewer
144 linear ft. - 30" C. I. P. Sewer
66 linear ft. - 10" C. I. P. Sewer
Contractor - James D. Morrissey Inc.
Amount of Contract - \$228,510.00
Completed - April 30, 1949

Contract No. SD 129 NE

Pennypack Creek Intercepting Sewer, Roosevelt Blvd. to
North of Bustleton Avenue

Date of Contract - October 5, 1948
Notice to Proceed - October 25, 1948
4036 linear ft. - 54" dia. C. Pipe
564 linear ft. - 11" dia. C. Pipe
296 linear ft. - 15" dia. C. Pipe
200 linear ft. - 18" dia. C. Pipe
Contractor - James D. Morrissey Inc.
Amount of Contract - \$319,190.00
Completed - November 14, 1949

Northeast Sewage Treatment Works

Contracts carried from 1948

Contract No. SD 104 NE

Settling and Aeration Tanks (Structural)
Date of Contract - April 9, 1947
Notice to Proceed - April 30, 1947
Contractor - Virginia Engineering Co., Inc.
Amount of Contract - \$3,663,860.00
Completed - December 15, 1949

Contract No. SD 106 NE

Settling and Aeration Tanks (Electrical)
Date of Contract - June 9, 1947
Notice to Proceed - June 25, 1947
Contractor - Virginia Engineering Co., Inc.
Amount of Contract - \$3,350.00
Completed - April 15, 1949

99-1949

Northeast Sewage Disposal
Contracts awarded during 1949
Contract No. SD 130 ME

Pennyack Creek Intercepting Sewer, N. of Bustleton Ave.
to N. of Krewstown Rd.

Date of Contract - February 1, 1949
Notice to Proceed - February 17, 1949
3575 linear ft. - 54" dia. C. Sewer Pipe
77 linear ft. - 10" dia. C. Sewer Pipe
Contractor - James D. Morrissey Inc.
Amount of Contract - \$180,076.00
Completed - November 14, 1949

Contract No. SD 139 ME

Rebuilding manholes over Intercepting Sewer in Lardner St.
East of Milnor St.

Date of Contract - May 31, 1949
Notice to proceed - June 21, 1949
18 Vert. Lin. ft. pipe
48 Vert. Lin. ft. pipe
Contractor - Western Construction Co.
Amount of Contract - \$745.00
Completed - June 21, 1949

Sewage Disposal Southwest
Contracts carried from 1948
Contract No. SD 117 SW

Intercepting Sewer in Penrose Ave. from 30th St. to Island Ave.

Date of Contract - July 30, 1948
Notice to Proceed - August 20, 1948
2147 linear feet - 42" concrete pipe
Contractor - Jos. Lombardi & Sons
Amount of Contract - \$245,000.00
Completed - October 28, 1949

Contract No. SD 118 SW

Sanitary Sewer in Island Ave. from Essington Ave. to Domestic
Terminal Building

Date of Contract - July 29, 1948
Notice to Proceed - August 20, 1948
2180 linear feet - 15" Vit. Pipe
221 linear feet - 12" Vit. Pipe
562 linear feet - 8" vit. Pipe
396 linear feet - Cast Iron Pipe
Contractor - Robert Lombardi, Inc.
Amount of Contract - \$113,406.00
Completed - July 18, 1949

100-1949

Sewage Disposal Southwest
Contract awarded during 1949
Contract No. SD 122 SW

Sewer adjacent to Domestic Terminal Area
Date of Contract - April 9, 1949
Notice to proceed - April 18, 1949
676 linear feet - 12" Vit. Sewer Pipe
200 linear feet - 10" Vit. Sewer Pipe
180 linear feet - 6" Extra Heavy Soil Pipe
Contractor - Adam Leva
Amount of Contract - \$18,337.00
Completed - September 31, 1949

AIRPORTS

North Philadelphia Airport
Contracts carried from 1948
Contract No. A 113 NE

^{NEW} Hangars and Shops
Date of Contract - January 20, 1948
Notice to proceed - May 10, 1948
Contractor - Charles F. Rohleder
Amount of Contract - \$196,698.00
Completed - July 22, 1949

Contract No. A 109 NE
Maintenance Equipment and Workshop Bldg. - Heating Work
Date of Contract - December 10, 1947
Notice to Proceed - January 2, 1948
Amount of Contract - \$15,960.00
Contractor - A. McClintocks Sons
Completed - March 31, 1949

Philadelphia International Airport
Contracts carried from 1948
Contract No. A 118 SW

Clearing, Grading & Drainage in Terminal Area
Date of Contract - June 6, 1947
Notice to proceed - June 23, 1947
Contractor - Francis A. Canuso & Sons
Amount of Contract - \$1,520,695.00
Completed - February 4, 1949

Contract No. A 118 SW
Automotive Maintenance and Storage Quadrangle - Heating Work
Date of Contract - August 26, 1947
Notice to proceed - October 1, 1947
Contractor - A. McClintocks Sons
Amount of Contract - \$10,970.00
Completed - May 18, 1949

101-1949

Philadelphia International Airport

Contracts carried from 1948

Contract No. A 119 SW

Plumbing Work

Date of Contract - August 29, 1947

Notice to Proceed - September 30, 1947

Contractor - Bulman Bros.

Amount of Contract - \$17,289.00

Completed - January 20, 1949

Southwest Airport

Contract No. A 128 SW

Hangar Site "A" - Electrical Work

Date of Contract - November 28, 1947

Notice to proceed - December 22, 1947

Contractor - Keystone Engineering Corp.

Amount of Contract - \$64,839.00

Completed - July 16, 1949

Contract No. A 130 SW

"T" Hangars and Shops

Date of Contract - April 22, 1948

Notice to proceed - May 24, 1948

Contractor - Charles F. Rohleder

Amount of Contract - \$259,548.00

Completed - July 16, 1949

Contract No. A 124 SW

Alterations & Improvements to Administration Bldg.-Gen. Constr. Work

Date of Contract - December 5, 1947

Notice to proceed - December 26, 1947

Contractor - J. Joseph Edelman

Amount of Contract - \$87,084.00

Completed - February 5, 1949

Contract No. A 125 SW

Alterations & Improvements to Administration Bldg. - Heating Work

Date of Contract - December 11, 1947

Notice to proceed - January 2, 1948

Contractor - Edward F. Roberts Co.

Amount of Contract - \$26,975.00

Completed - March 8, 1949

Contract No. A 126 SW

Alterations & Improvements to Administration Bldg. - Plumbing Work

Date of Contract - December 8, 1947

Notice to Proceed - December 26, 1947

Contractor - Bulman Bros.

Amount of Contract - \$4,829.00

Completed - June 16, 1949

102-1949

Southwest Airport

Contract No. A 127 SW

Alterations & Improvements to Administration Bldg. - Electr. Work
Date of Contract - December 29, 1947
Notice to proceed - January 26, 1948
Contractor - W. V. Pangborne Co.
Amount of Contract - \$20,892.00
Completed - May 11, 1949

Contract No. A 131 SW

High Intensity Runway and Threshold Lighting - Runway 9L and 27R
Date of Contract - September 9, 1948
Notice to proceed - September 24, 1948
Contractor - Ross Electric Construction Co.
Amount of Contract - \$102,806.00
Completed - October 7, 1949

Contracts awarded during 1949

Alterations and Additions to Express Loading Platform - Gen. Const. Work
Date of Contract - December 30, 1948
Notice to proceed - January 19, 1949
Contractor - J. Joseph Edelman
Amount of Contract - \$3,564.00
Completed March 23, 1949

Alterations and Additions to Express Loading Platform - Electr. Work
Date of Contract - December 30, 1948
Notice to proceed - January 19, 1949
Contractor - Keystone Engineering Co.
Amount of Contract - \$525.00
Completed - July 28, 1949

Contract No. A 136 SW

Painting of Hangars Nos. 1, 2, 3, & 4
Date of Contract - March 4, 1949
Notice to proceed - March 17, 1949
Contractor - Murphy, Inc.
Amount of Contract - \$15,234.00
Completed - June 20, 1949

Contract No. A 137 SW

Temporary Post Office - General Construction
Date of Contract - March 16, 1949
Notice to proceed - April 1, 1949
Contractor - J. Joseph Edelman
Amount of Contract - \$55,565.00
Completed - October 12, 1949

103-1949

Southwest Airport

Contracts awarded during 1949

Contract No. A 150 SW

Temporary Post Office - Plumbing & Heating
Date of Contract - March 25, 1949
Notice to proceed - April 6, 1949
Contractor - Cooper & Hartsfield
Amount of Contract - \$13,397.00
Completed - October 15, 1949

Contract No. A 152 SW

Resurfacing of Runway 4-22 with Bituminous Material - Hot Mix
Date of Contract - October 10, 1949
Notice to proceed - November 21, 1949
Contractor - Harry C. Erb, Inc.
Amount of Contract - \$69,014.00
Completed - December 7, 1949

STADIUM

Municipal Stadium

Contracts awarded during 1948

Contract No. M 102

Repairs, including Membrane waterproofing
Date of Contract - May 25, 1948
Notice to proceed - July 13, 1948
Contractor - Lewis & McDowell, Inc.
Amount of Contract - \$53,723.00
Completed - September 22, 1949

Contract No. M 104

Electrical Work for Press Box of Stadium
Date of Contract - May 11, 1948
Notice to proceed - June 3, 1948
Contractor - Reese Electric Co.
Amount of Contract - \$10,913.00
Completed - April 18, 1949

Contract No. M 121

Membrane Waterproofing
Date of Contract - April 28, 1949
Notice to proceed - May 9, 1949
Contractor - Martin & Green Co.
Amount of Contract - \$5,757.00
Completed - September 22, 1949

104-1949

GENERAL

Contract No. M 119

Street Lighting System for Franklin Square & vicinity

Date of Contract - January 18, 1949

Notice to proceed - February 25, 1949

Contractor - Welsbach Corp.

Amount of Contract - \$47,695.00

Completed - December 28, 1949

WORK UNDER CONSTRUCTION

Northeast Sewage Disposal

Contracts carried from 1948

Contract No. SD 114 NE

Milnor Street Pumping Station - Construction & Equipment Work

Date of Contract - September 30, 1947

Notice to proceed - November 5, 1947

Contractor - Yetman Contractors, Inc.

Amount of Contract - \$53,000.00

Percentage of Completion - 99% December 31, 1949

Contract No. SD 115 NE

Milnor Street Sanitary Sewer - Milnor St. Pumping Sta. to Grant Ave.

Date of Contract - July 31, 1947

Notice to proceed - September 23, 1947

1207 linear feet - 15" V. P. Sewer

14 linear feet - 12" V. P. Sewer

20 linear feet - 16" C. I. P. Sewer

87 linear feet - 6" C. I. P. Sewer

Contractor - Yetman Contractors, Inc.

Amount of Contract - \$30,000.00

Percentage of Completion - 99% December 31, 1949

Contract No. SD 116 NE

Milnor Street Pumping Station (Electrical)

Date of Contract - September 22, 1947

Notice to proceed - November 5, 1947

Contractor - W. V. Pangborne & Co.

Amount of Contract - \$8,500.00

Percentage of Completion - 99% December 31, 1949

Northeast Sewage Disposal

Contracts awarded during 1949

Contract No. SD 138 NE

Intercepting Chamber in Westmoreland St. bet. Delaware Ave. & W. of Brabant St.

Date of Contract - May 31, 1949

Notice to proceed - June 21, 1949

Contractor - Aschions Contracting Co.

Amount of Contract - \$64,000.00

Percentage of Completion - 75% December 31, 1949

Northeast

Contract No. SD 151 NE

Pennypack Cr. Intercepting Sewer along Pennypack Cr. N. of Krewstown Rd.

Date of Contract - October 18, 1949

Notice to proceed - November 16, 1949

Contractor - Bucks County Const. Co.

Amount of Contract - \$410,000.00

Percentage of Completion - None December 31, 1949

105-1949

Northeast Sewage Disposal

Contracts awarded during 1949

Contract No. SD 137 NE

Intercepting Chambers - Chambers - Cambria St. between Milvale St. & Allen St. & in Indiana Ave. in Private property S.E. of Allen St.

Date of Contract - December 9, 1949

Contractor - Perry J. Goldman Construction Co.

Amount of Contract - \$42,000.00

Percentage of Completion - None December 31, 1949

Northeast Sewage Treatment Works

Contracts carried from 1948

Contract No. SD 105 NE

Settling and Aeration Tanks - Mechanical

Date of Contract - June 9, 1947

Notice to proceed - June 25, 1947

Contractor - Virginia Engineering Co., Inc.

Amount of Contract - \$1,050,000.00

Percentage of Completion - 99% December 31, 1949

Contract No. SD 107 NE

East Pump House, Plumbing & Piping - Sludge Digestion System

Date of Contract - June 25, 1947

Notice to proceed - July 25, 1947

Contractor - Bulman Bros.

Amount of Contract - \$2,000.00

Percentage of Completion - None December 31, 1949

Contract No. SD 108 NE

Sludge Digestion Tanks Galleries, etc. - Structural

Date of Contract - June 20, 1947

Notice to proceed - July 25, 1947

Contractor - Virginia Engineering Co., Inc.

Amount of Contract - \$1,200,000.00

Percentage of Completion - 99% December 31, 1949

Contract No. SD 109 NE

Sludge Digestion Tanks Galleries, etc. - Mechanical

Date of Contract - June 20, 1947

Notice to proceed - July 25, 1947

Contractor - Virginia Engineering Co., Inc.

Amount of Contract - \$670,000.00

Percentage of Completion - 99% December 31, 1949

Contract No. SD 110 NE

Sludge Digestion Tanks Galleries, etc. - Electrical

Date of Contract - July 3, 1947

Notice to proceed - July 25, 1947

Contractor - W. V. Pangborne Co.

Amount of Contract - \$28,000.00

Percentage of Completion - 45% December 31, 1949

106-1949

Northeast Sewage Treatment Works

Contracts carried from 1948

Contract No. SD 119 NE

Outdoor Sub-station at Transformer Bldg.
Date of Contract - October 9, 1947
Notice to proceed - November 6, 1947
Contractor - W. V. Pangborne Co.
Amount of Contract - \$105,000.00
Percentage of Completion - 53% December 31, 1949

Contract No. SD 118 NE

Construction - Elevated Water Tank
Date of Contract - November 25, 1947
Notice to Proceed - December 22, 1947
Contractor - Chicago Bridge & Iron Co.
Amount of Contract - \$38,000.00
Percentage of Completion - 95% December 31, 1949

Contract No. SD 111 NE

Centrifugal Blowers Motors & Appurtenances
Date of Contract - September 2, 1947
Notice to proceed - October 3, 1947
Contractor - Roots-Commerstable Blower Corp.
Amount of Contract - \$48,765.00
Percentage of Completion - 95% December 31, 1949

Contract No. SD 112 NE

Positive Displacement Blowers & Motors
Date of Contract - September 2, 1947
Notice to proceed - October 2, 1947
Contractor - Roots-Commerstable Blower Corp.
Amount of Contract - \$100,551.00
Percentage of Completion - 99% December 31, 1949

BLOWER BUILDING

Contract No. SD 122 NE

Construction
Date of Contract - July 28, 1948
Notice to proceed - August 20, 1948
Contractor - Hughes Foulkrod Co.
Amount of Contract - \$700,000.00
Percentage of Completion - 95% December 31, 1949

Contract No. SD 123 NE

Mechanical Equipment & Piping
Date of Contract - August 12, 1948
Notice to proceed - September 10, 1948
Contractor - Virginia Engineering Co., Inc.
Amount of Contract - \$490,000.00
Percentage of Completion - 57% December 31, 1949

107-1949

BLOWER BUILDING - cont'd

Contract No. SD 126 NE

Steam Heating Systems

Date of Contract - August 9, 1948

Notice to proceed - August 30, 1948

Contractor - Phila. Mechanical Cont., Inc.

Amount of Contract - \$16,500.00

Percentage of completion - 70% December 31, 1949

Contract No. SD 127 NE

Plumbing

Date of Contract - July 28, 1948

Notice to proceed - August 20, 1948

Contractor - Bulman Bros.

Amount of Contract - \$6,000

Percentage of Completion - 65% December 31, 1949

Contract No. SD 124 NE

Electrical

Date of Contract - August 4, 1948

Notice to proceed - August 30, 1948

Contractor - Ross Electrical Construction Co.

Amount of Contract - \$135,000.00

Percentage of completion - 42% December 31, 1949

Contract No. SD 128 NE

Sludge Heater Units, etc.

Date of Contract - November 1, 1948

Notice to proceed - November 29, 1948

Contractor - Salas Corp. of America

Amount of Contract - \$92,000.00

Percentage of Completion - 40% December 31, 1949

Northeast Sewage Treatment Works

Contracts awarded during 1949

Contract No. SD 133 NE

Welded Steel Spherical Pressure Gas Holder

Contract Date - April 14, 1949

Notice to proceed - May 2, 1949

Contractor - Virginia Engineering Co., Inc.

Amount of Contract - \$72,000

Percentage of Completion - 46% December 31, 1949

Contract No. SD 140 NE

Earth Embankment for Digestion Tanks

Date of Contract - November 16, 1949

Notice to proceed - December 2, 1949

Contractor - Samuel Glasgow

Amount of Contract - \$38,000

Percentage of Completion - None December 31, 1949

108-1949

Southeast Sewage Disposal
Contract carried from 1948
Contract No. SD 101 SE

Lower Delaware Low Level Intercepting Sewer
Date of Contract - December 12, 1947
Notice to proceed - February 12, 1948
Contractor - James N. Driscoll Co.
2408 linear feet - 11' 0" dia. concrete sewer
4081 linear feet - 10 feet 6" dia. concrete sewer
Amount of Contract - \$2,650,000
Percentage of Completion - 96% December 31, 1949

Contract awarded during 1949
Contract No. SD 105 SE

Lower Delaware Low Level Intercepting Sewer in Swanson St.
from Moore St. to Morris St., etc.
Date of Contract - August 23, 1949
Notice to proceed - October 11, 1949
Contractor - James N. Driscoll Co.
3685 linear ft. - 10' 0" dia. sewer concrete
1504 linear ft. - 9' 6" dia. sewer concrete
42 linear feet - 10 feet 0" dia. sewer concrete
28 linear feet - 9' 6" dia. sewer concrete
Amount of Contract - \$2,100,000.00
Percentage of Completion - 1% December 31, 1949

Southeast Sewage Pumping Station
Contracts carried from 1948
Contract No. SD 102 SE

Construction Work
Date of Contract - October 11, 1948
Notice to proceed - October 29, 1948
Contractor - Virginia Engineering Co., Inc.
Amount of Contract - \$800,000
Percentage of Completion - 47% December 31, 1949

Contract No. SD 104 SE
Plumbing Work

Date of Contract - October 13, 1948
Notice to proceed - October 29, 1948
Contractor - W.M. Anderson Co.
Amount of Contract - \$11,000
Percentage of Completion - Scheduled with Gen. Constr. December 31, 1949

Contracts awarded during 1949
Contract No. SD 103 SE

Electrical
Date of Contract - November 10, 1949
Notice to proceed - December 7, 1949
Contractor - Electro Construction Co.
Amount of Contract - \$27,000
Percentage of completion - None December 31, 1949

109-1949

Southwest Sewage Disposal
Contracts carried from 1948
Contract No. SD 108 SW

East Central Schuylkill Pumping Sta. & River Syphon
Date of Contract - August 4, 1948
Notice to proceed - August 20, 1948
Contractor - Leo Butler Co.
Amount of Contract - \$1,160,000
Percentage of Completion - 92% December 31, 1949

Contract No. SD 110 SW
70th Street S.W. Main Gravity Intercepting Sewer, Essington Ave.
to Lyons Avenue
Date of Contract - September 8, 1948
Notice to proceed - October 7, 1948
4269 linear ft. - 6' 9" triple section R.C. Sewer
65 linear ft. - 36" R.C. Pipe
Contractor - Aachione Contracting Co.
Amount of Contract - \$725,000
Percentage of Completion - 93% December 31, 1949

Contract No. SD 120 SW
W. Schuylkill Ave. Intercepting Sewer from Arch St. N. about 1100 ft.
Date of Contract - November 15, 1948
Notice to proceed - December 1, 1948
932 linear feet - 36" C.I. Pipe Sewer
Contractor - Conduit & Foundation Corp.
Amount of Contract - \$200,000
Percentage of Completion - 89% December 31, 1949
Contracts awarded in 1949

Contract No. SD 118 SW
E. Central Schuylkill Interception Sewer from about 450' E. of 34th
St. to a point in 26th St. North of Lombard
Date of Contract - March 28, 1949
Notice to proceed - May 1, 1949
Contractor - Square Construction Co.
4390 linear feet - 8' 6" Concrete Sewer Pipe
144 linear feet - 48" Concrete Sewer Pipe
42 linear feet - 8' 6" Concrete Sewer Pipe
Amount of Contract - \$1,800,000
Percentage of Completion - 35% December 31, 1949

Contract No. SD 125 SW
Gen. Constr. Mechanical Equipment & Piping for Primary Settling Tanks
Date of Contract - July 26, 1949
Notice to proceed - August 11, 1949
Contractor - Hughes Foulkrod Co.
Amount of Contract - \$1,400,000
Percentage of Completion - 30% December 31, 1949

110-1949

Southwest Sewage Disposal
Contracts awarded in 1949
Contract No. SD 125 SW

S. W. Main Gravity Intercepting Sewer across W. Interchange of
Panrose Ave. Br.

Date of Contract - September 20, 1949

Notice to proceed - October 1, 1949

Contractor - Aechione Contracting Co.

127 linear feet - 6' 9" concrete sewer

Amount of Contract - \$25,000

Percentage of Completion - 90% December 31, 1949

GENERAL

Sewage Disposal
Contracts carried from 1949
Contract No. SD 104 G

Pumps for Central & S. W. Pumping Stations - Electric Motor
Pumping Equipment

Date of Contract - May 4, 1948

Notice to proceed - June 8, 1948

Contractor - Worthington Pump & Machinery Co.

Amount of Contract - \$270,000

Percentage of Completion - 89% wk. in field - equipment being
manufactured December 31, 1949

Contract No. SD 105 G

Gate Valves for Pumping Station

Date of Contract - March 29, 1948

Notice to proceed - April 16, 1948

Contractor - A. P. Smith Mfg. Co.

Amount of Contract - \$96,000

Percentage of Completion - 80% December 31, 1949

Contract No. SD 106 G

Sluice Gates for Pumping Station

Date of Contract - March 29, 1948

Notice to proceed - April 16, 1948

Contractor - Krejowski-Pesant Mfg. Co.

Amount of Contract - \$40,000

Percentage of completion - 99% December 31, 1949

Contract NO: SD 128 G

Sewage Meter Chambers - Stanton Ave. at Erdenheim Ave. & Mermaid Lane

Date of Contract - August 31, 1948

Notice to proceed - September 24, 1948

Contractor - Eastern Engineering Co.

Amount of Contract - \$21,000

Percentage of Completion 99% December 31, 1949

111-1949

General Sewage Disposal

Contracts awarded during 1949

Contract No. SE 108 G

Aluminum Manhole frames & covers, gaskets, and patterns

Date of Contract - October 3, 1949

Notice to proceed - October 25, 1949

Contractor - Robert McMahon

Amount of Contract - \$3,800

Percentage of completion - None December 31, 1949

AIRPORTS

Philadelphia International Airport

Contracts carried from 1948

Contract No. A 116 SW

Hangar Site "A" - General Construction Work

Date of Contract - October 21, 1947

Notice to proceed - June 2, 1948

Contractor - Hughes Foulkrod Co.

Amount of Contract - \$1,225,000

Percentage of completion - 99% December 31, 1949

Contract No. A 122 SW

Hangar Site "A" - Plumbing Work

Date of Contract - December 2, 1947

Notice to proceed - December 22, 1947

Contractor - Daniel J. Keating Co.

Amount of Contract - \$105,000

Percentage of completion - 99% December 31, 1949

Contract No. A 123 SW

Hangar Site "A" - Heating Work

Date of Contract - December 2, 1947

Notice to proceed - December 22, 1947

Contractor - Daniel J. Keating Co.

Amount of Contract - \$110,000

Percentage of Completion - 99% December 31, 1949

Southwest Airport

Contract No. A 132 SW

Taxiway & Field Improvements between Runways 12L & 17L

Date of Contract - September 8, 1948

Notice to proceed - September 24, 1948

Contractor - Union Paving Co.

Amount of Contract - \$540,000

Percentage of completion - 99% December 31, 1949

Contract No. A 133 SW

Paving, Hangars, Aprons & Approaches to Runway 17

Date of Contract - December 20, 1948

Notice to proceed - January 1, 1949

Contractor - Hughes Foulkrod Co.

Amount of Contract - \$500,000

Percentage of Completion - 99% December 31, 1949

112-1949

Southwest Airport

Contract No. A 134 SW

Outdoor Sub-station - Island Rd. 13.2 K.V.
Date of Contract - October 28, 1948
Notice to proceed - November 22, 1948
Contractor - Fenkels & McCoy
Amount of Contract - \$90,000
Percentage of completion - 31% December 31, 1949

North Philadelphia Airport

Contracts awarded during 1949

Contract No. A 118 NE

Drainage of Hangar and Apron Area
Date of Contract - July 27, 1949
Notice to proceed - August 12, 1949
Contractor - Leva Bros.
Amount of Contract - \$95,000
Percentage of completion - 80% December 31, 1949

Philadelphia International Airport

Contracts awarded during 1949

Contract No. A 148 SW

Grading & Sub-drainage between Runways 12L & 17L
Date of Contract - April 25, 1949
Notice to proceed - May 12, 1949
Contractor - Samuel Glasgow
Amount of Contract - \$260,000
Percentage of Completion - 99% December 31, 1949

Contract No. A 141 SW

Clearing and grading Runway Extension and Taxiway
Date of Contract - June 2, 1949
Notice to proceed - July 2, 1949
Contractor - Buckley & Co., Inc.
Amount of Contract - \$575,000
Percentage of completion - 99% December 31, 1949

Contract No. A 140 SW

Grading, Paving & Installation of Utilities in "T" Hangar Area
Date of Contract - September 12, 1949
Notice to proceed - September 29, 1949
Contractor - Union Paving Co.
Amount of Contract - \$170,000
Percentage of completion - 90% December 31, 1949

Contract No. A 139 SW

Electrical Installations at Hangars, Terminal Building, and
Restaurant Building
Date of Contract - August 17, 1949
Notice to proceed - September 7, 1949
Contractor - Electro Construction Co.
Amount of Contract - \$22,000
Percentage of Completion - 60% December 31, 1949

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Philadelphia International Airport

Contracts awarded during 1949

Contract No. A 152 SW

Cargo Apron and Taxiway Connection to Runways 30R and 27R

Date of Contract - October 4, 1949

Notice to proceed - October 25, 1949

Contractor - Union Paving Co.

Amount of Contract - \$475,000

Percentage of Completion - 52% December 31, 1949

Contract No. A 155 SW

Metal Partitions, steel Frame Doors & Appurtenant Electrical Work
in Hangars 1, 2

Date of Contract - November 1, 1949

Notice to proceed - November 23, 1949

Contractor - J. Joseph Edelman

Amount of Contract - \$15,000

Percentage of Completion - None December 31, 1949

Contract No. A 142 SW

Metal Cargo and Operational Buildings

General Construction

Date of Contract - October 26, 1949

Notice to proceed - November 23, 1949

Contractor - Perry J. Goldman Const. Co.

Amount of Contract - \$110,000

Percentage of Completion - 15% December 31, 1949

Contract No. A 143 SW

Electrical Work

Date of Contract - October 27, 1949

Notice to proceed - November 23, 1949

Contractor - Keystone Eng. Corp

Amount of Contract - \$16,000

Percentage of Completion - 2% December 31, 1949

Contract No. A 144 SW

Plumbing

Date of Contract - October 26, 1949

Notice to proceed - November 23, 1949

Contractor - Cooper & Hartsfield

Amount of Contract - \$12,000

Percentage of completion - 4%

Contract No. A. 145 SW

Heating & Ventilating

Date of Contract - November 23, 1949

Notice to proceed - December 12, 1949

Contractor - Cooper & Hartsfield

Amount of Contract - \$22,000

Percentage of completion - None December 31, 1949

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Highways and Bridges

Contracts carried from 1948

Contract No. B 103

Church Lane Br. over Cobbs Crk.
Date of Contract - July 3, 1947
Notice to proceed - August 23, 1947
Contractor - Kaufman Construction Co.
Amount of Contract - City's Share \$180,000
Delaware County's Share \$150,000
Percentage of completion - 99% December 31, 1949

Contract No. B 104

70th St. Bridge over P.B. & W.R.R.
Date of Contract - November 10, 1947
Notice to proceed - January 31, 1948
Contractor - Kaufman Construction Co.
Amount of Contract - \$235,000
Percentage of Completion - 99% December 31, 1949

Contract No. B 105

Castor Ave. Br. over Frankford Crk.
Date of Contract - November 20, 1947
Notice to proceed - January 22, 1948
Contractor - Kaufman Construction Co.
Amount of Contract - \$325,000
Percentage of completion - 98% December 31, 1949

Contracts awarded during 1949

Contract No. B 106

Walnut Lane Bridge over Lincoln Drive.
Date of Contract - March 11, 1949
Notice to proceed - April 8, 1949
Contractor - Henry W. Horst Co.
Amount of Contract - \$770,000
Percentage of completion - 32% December 31, 1949

Contract No. B 107

Footbridge on the line of 66th St. over P.B. & W.R.R.
Date of Contract - October 11, 1949
Notice to proceed - October 27, 1949
Contractor - Perry J. Goldman Const. Co.
Amount of Contract - \$52,000
Percentage of completion - None December 31, 1949

Highways and Bridges

Contracts awarded during 1949

Contract No. B 108

Paving & Improving Castor Ave. from Wingohocking St to Wyoming St.
Date of Contract - September 20, 1949
Notice to Proceed - October 11, 1949
Contractor - Eastern Asphalt Co.
Amount of Contract - \$85,000
Percentage of completion - 45% December 31, 1949

115-1949

GENERAL

Municipal Stadium

Contracts carried from 1948

Contract No. M 106

Foundation Reinforcement

Date of Contract - May 18, 1948

Notice to proceed - June 8, 1948

Contractor - Conduit & Foundation Corp.

Amount of Contract - \$176,000

Percentage of completion - 99% December 31, 1949

Hunting Park and Ridge

Street Lighting System and Vault Equipment

Date of Contract - November 4, 1948

Notice to Proceed - December 8, 1948

Contractor - Welsbach Cor.

Amount of Contract - \$31,000

Percentage of completion - 99% December 31, 1949

Contract No. M 118

Relocation and Reconstruction of a portion of 60th Street
Branch of P.B. & W.R.R.

Date of Contract - February 16, 1949

Notice to proceed - May 16, 1949

Contractor - Robert Hawthorne Inc.

Amount of Contract - \$240,000

Percentage of completion - 95% December 31, 1949

Contract No. M 123

Arch Street Viaduct near PRR Station at 50th St.

Date of Contract - November 7, 1949

Notice to proceed - November 26, 1949

Contractor - W. M. Anderson Co.

Amount of Contract - \$11,000

Percentage of completion - None December 31, 1949

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WORK PERFORMED BY SURVEY DISTRICTS
IN CONNECTION WITH PUBLIC WORKS PROGRAM

First District

Water Pipe Plans Prepared

Afton	Frontenac	to Castor
Ashton	316' 6" S. of Maxwell	" Willits
Algon	120' S. of Hoffnagle	" 148' N. of Hoffnagle
Arendell	Frankford	" Gillespie
Arendell	State	" Melrose
Arendell	Cambridge	" Delaware
Arthur	Crispin	" 25' E. of Leon
Alicia	Marchman	" 161' E. of Stelwood
Albion	Stamford	" 122' 9" East
Algon	Solly	" 120' S. of Hoffnagle
Algard	Robbins	" Levick
Bleigh	Loretto	" W. of Shisler
Belden	Cottman	" Bleigh
Belden	Bleigh	" Shel mire
Bingham	Lansing	" 120' N. of Lansing
Bleigh	Rockwell	" Oxford
Cottman	Loretto	" 82' W. of Shisler
Cottage	Decatur	" 130' West
Cambridge	Linden	" Arendell
Cottage	Unruh	" Knorr
Decatur	Cottage	" Jackson
Delaware	Linden	" Arendell
Emerson	Halstead	" 350' E. of Ferndale
Eden	Ditsman	" Torrèsdale
Eden	Frankford	" Longfield
Edmund	Linden	" Arendell
Ferndale	113' S. of Emerson	" 113' N. of Emerson
Fuller	Leon	" 23' 2" S. of Leon
Frontenac	Afton	" Napfle
Fuller	Moro	" 75' N. of Moro
Ferndale	Marchman	" 161' E. of Stelwood
Frontenac	Afton	" 92' 6" S. of Afton
Ferndale	Benson	" Strahle
Grant	Alton	" Krewstown
Germania	Linden	" Arendell
Hoffnagle	Algon	" Frontenac
Hawthorne	Nesper	" 99' S. of Nesper
Hawthorne	Guilford	" 102' N. of Guilford
Hartel	Verree	" Rising Sun
Jackson	Eden	" 153' S. of Eden
Leon	Rhawn	" Walsh
Linden	State	" Milnor
Linden	Milnor	" Delaware
Lansing	Rising Sun	" Bingham

First District (Cont'd)

Water Pipe Plans Prepared

Levick	Walker	to	Algard
Melrose	Linden	"	Arendell
Milnor	Linden	"	Arendell
Magee	Charles	"	Tackawanna
Magee	Walker	"	Algard
Marchman	Alicia	"	Verree
Ryan	Sackett	"	Rowland
Rising Sun	120' S. of Lansing	"	120' N. of Lansing
Rising Sun	Benson	"	Strahle
Rising Sun	Hartel	"	104' S. of Hartel
Stelwood	Alicia	"	Ferndale
Strahle	Verree	"	Rising Sun
Shelmire	Loretto	"	Glendale
Shelmire	Ditman	"	Torresdale
Verree	Alburger	"	Welsh
Verree	Marchman	"	Alburger
Verree	Meeting House	"	Bloomdale
Welsh	Alton	"	100' N. of Verree
Welsh (W.side)	Winchester	"	Winthrop
Winthrop	Welsh	"	Stamford
Watson	Oxford	"	Napfle
Watson	Napfle	"	Hartel

STREETS WHERE LINES AND GRADES WERE FURNISHED FOR WATER PIPE

Arthur	Leon	to	Crispin
Alicia	Marchman	"	161' E. of Stelwood
Ashville	Torresdale	"	Edmund
Belden	Bleigh	"	150' North
Bleigh	Oxford	"	Rockwell
Bleigh	Glendale	"	95' S.E. of Frontenac
Crispin	Fuller	"	Welsh
Ditman	Eden	"	154' South
Edmund	Linden	"	Arendell
Edmund	Hartel	"	Decatur
Fuller	East and West of Leon	"	
Fuller	Leon	"	Moro
Fuller	Crispin	"	Rowland
Glendale	Loretto	"	Shisler
Hartel	Verree	"	Rising Sun
Hawthorne	Guilford	"	Nesper
Jackson	Eden	"	S. of Eden
Leon	Rhawn	"	Welsh
Lansing	Rising Sun	"	Bingham

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Survey District No. 1 - continued

Streets Where Lines and Grades Were Furnished for Water Pipe

Marchman	Alicia	to Verree
Roosevelt Blvd.	and Hartel	
Ryan	Rowland	" Sackett
Rising Sun	Strahle	" Benson
Rising Sun	Hartel	" South 150'
Strahle	Verree	" Rising Sun
Stelwood	Alicia	" Ferndale
Shisler	Cottman	" Bleigh
Shelmire	Loretto	" Glendale
Shisler	Bleigh	" Glendale
Shelmire	Rowland	" Sackett
Vista	Shisler	" 95' West
Welsh	Tolbut	" Willits
Welsh	Moro	" Rowland

Paving Plans Prepared

Alton	Welsh	to Gregg
Albion	Stamford	" Stamford
Alma	Bleigh	" Elgin
Barry	Frankford	" Torresdale
Bleigh	Loretto	" Shisler
Bustleton	Castor	" S. of Welsh
Bickley	Welsh	" Old Newtown
Bleigh	Alma	" Castor
Elgin	Loretto	" Bleigh
Erdrick	Magee	" Unruh
Emerson	Halstead	" Verree
Edmund	Hartel	" Decatur
Elgin	Alma	" Castor
Frontenac	Faunce	" Napfle
Ferndale	Strahle	" Benson
Ferndale	Hoffnagle	" Solly
Grant	Welsh	" Gregg
Hawthorne	Teesdale	" Nesper
Keystone	Hellerman	" Magee
Magee	Charles	" Algard
Moro	Rhawn	" Welsh
Ryan	Rowland	" Lexington
Stanwood	Frankford	" Craig
Solly	Castor	" Algon
Shelmire	Torresdale	" Ditman
Shelmire	Loretto	" Glendale
Unruh	Teckawanna	" Cottage

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Survey District No. 1 - continued

Streets Where Lines and Grades Were Furnished for Paving

Afton	Castor	to	Frontenac
Albion	Stamford	"	Stamford
Alton	Welsh	"	Gregg (20' wide)
Annapolis	Fordham	"	Convent
Belden	Cottman	"	Bleigh
Belden	Bleigh	"	Shelaire
Bleigh	Oxford	"	Rockwell
Bleigh	Loretto	"	Shisler
Convent	Willits	"	Fordham
Convent	Exeter	"	Annapolis
Convent	Annapolis	"	146' East
Eden	Frankford	"	Torresdale
Exeter	Fordham	"	Convent
Elgin	Loretto	"	Bleigh
Erdrick	Magee	"	Unruh
Fuller	Moro	"	Leon
Fordham	Convent	"	Wesleyan
Fordham	Exeter	"	Treaty
Grant	Welsh	"	Gregg (20' wide)
Horatio	Fordham	"	Exeter
Leon	Rhawn	"	Welsh
Mentague	Magee	"	Unruh
Magee	Erdrick	"	Charles
Magee	Erdrick	"	80' E. of Walker
Moro	Rhawn	"	Welsh
Pilgrim	Fordham	"	Puritan
Puritan	Fordham	"	Exeter
Starwood	Frankford	"	Craig
Stamford	Albion	"	Winthrop
Veree	Bloomfield	"	Winchester (22' wide)
Walker	Magee	"	Unruh
Windish	Hawthorne	"	Sackett
Wesleyan	Fordham	"	Exeter
Willits	Exeter	"	380' N. of Convent

Grading Plans Prepared

Alton	Welsh	to	Gregg
Algon	Afton	"	Hartel
Arthur	Leon	"	Crispin
Ashville	Torresdale	"	Edmund
Bickley	Welsh	"	Gregg
Brous	Cottman	"	Sandyford
Dorcus	Rhawn	"	Solly
Ferndale	Starwood	"	EMERSON
Grant	Welsh	"	Gregg

Survey District No. 1 - Continued

Grading Plans Prepared

Glendale	Cottman	to	Summerdale
Langdon	Afton	"	Hartel
Maxwell	Ashton	"	Tremont
Martindale	Weston	"	Stamford
Moro	Rhawn	"	Welsh
Narvon	Chelfield	"	Stamford
Napfle	Algon	"	Summerdale
Rockwall	Rhawn	"	Hartel
Ryan	Rowland	"	Lexington
Shelshire	Rowland	"	Sackett
Solly	Halstead	"	Verree
Solly	Dorcus	"	Algon
Stanwood	Leon	"	Crispin
Stanwood	Crispin	"	Welsh
Strahle	Rising Sun	"	Verree
Tremont	Ashton	"	Maxwell

Streets Where Lines and Grades Were Furnished for Grading

Alicia	Millwood	to	Dunmore
Afton	Langdon	"	Algon
Alton	Welsh	"	Gregg
Belden	Cottman	"	Shelshire
Bloomfield	W. of Millwood	"	Verree
Bridle	Millwood	"	Marchman
Bickley	Welsh	"	Old Newtown
Brous	Cottman	"	Sandyford
Brous	Carnwath	"	Ryan
Celfax	Stamford	"	Welsh
Duffield	Cottman	"	Nesper
Dunmore	Alicia	"	Ferndale
Dorcus	Rhawn	"	Solly
Erdrick	Magee	"	Unruh
Fuller	Crispin	"	Moro
Ferndale	Millwood	"	Dunmore
Faunce	Shelshire	"	Loretto
Faunce	Frontenac	"	Summerdale
Faunce	Algon	"	Summerdale
Frontenac	Faunce	"	Afton
Guilford	Frontenac	"	Glendale
Glendale	Summerdale	"	Loretto
Grant	Welsh	"	Gregg
Langdon	Faunce	"	Afton
Marchman	Alicia	"	Verree
Millwood	Alicia	"	Bloomfield
Montague	Magee	"	Unruh
Martindale	Stamford	"	Weston

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Survey District No. 1 - continued

Streets Where Lines and Grades Were Furnished for Grading

Harvon	Chelfield	to	Stamford
Oakmont	Summerdale	"	Glendale
Pecan	Verree	"	Stratford
Shisler	Cottman	"	Glendale
Stelwood	Alicia	"	Ferndale
Summerdale	Glendale	"	Faunce
Shelmire	Frontenac	"	Summerdale
Shelmire	Loretto	"	Glendale
Stamford	Colfax	"	Albion
Stamford	Holme	"	Colfax
Stanwood	Crispin	"	Leon
Stratford	Welsh	"	Pecan
Solly	Dorcas	"	Algon
Tackawanna	Magee	"	Unruh
Teesdale	Glendale	"	Frontenac
Vista	Glendale	"	Shisler
Verree	Bloomfield	"	Winchester
Windish	Duffield	"	Hawthorne
Walker	Magee	"	Unruh

Base Sewer Plans Prepared

Ashton	Tremont	to	200' S.W. of Maxwell
Ashville	Terresdale	"	Edmund
Algard	Hellerman	"	Magee
Bleigh	Wissinoming	"	S. E. of Milnor
Cottman	Frontenac	"	Summerdale
Cottage	Sheffield	"	Hartel
Cottage	Robbins	"	Levick
Drainage Right of Way	Ashton	"	Wooden Bridge Run
Dorcas	Cottman	"	Faunce
Jackson	Happle	"	McMenamy
Jackson	McMenamy	"	Hartel
Keystone	Hellerman	"	Magee
Maxwell	Ashton	"	Tremont
McMenamy	Ditman	"	Cottage
Pennway	Cottman	"	Vista
Tremont	Ashton	"	Maxwell
Whitaker	Cottman	"	Bleigh

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Survey District No. 1 continued

Sewer Contracts Completed for Which Lines and Grades Were Furnished
and Return Plans of Constructed sewers Made

Academy	Holme	to	Fordham
Annapolis	Fordham	"	Summit N. of Wooden Bridge Rd.
Afton	Horrocks	"	Bustleton
Arthur	Large	"	Castor
Ashville	Edmund	"	Torresdale
Brous	Cottman	"	Sandy Run
Brous	Roosevelt Blvd.	"	Carmath
Bustleton	Afton	"	Faunce
Berbeck	Oxford	"	Summit E. of Burholme
Bleigh	Glendale	"	Shisler
Berbeck	Horrocks	"	Large
Brookhurst	Brous	"	Carmath
Burholme	Oxford	"	Solly
Burholme	Oxford	"	Loney
Convent	Willits	"	Annapolis
Chandler	Hasbrook	"	Barnes
Cottman	Summerdale	"	Montour
Cottman	Summerdale	"	Frontenac
Cottage	Sheffield	"	Hartel
Conard	Rockwell	"	Rhawn
Duffield	Nesper	"	Guilford
Duffield	Roosevelt Blvd.	"	Carmath
Dean Plaza	Holme	"	Fordham
Dalton	Pine	"	Burholme
Ditman	Hartel	"	Decatur
Decatur	Cottage	"	Ditman
Erdrick	Nages	"	Unruh
Exeter	Convent	"	Willits
Elberon	Rhawn	"	Summit N. of Stanwood
Fordham	Academy	"	Exeter
Fordham	Exeter	"	Convent
Faunce	Horrocks	"	Bradford
Fuller	Pine	"	Burholme
Guilford	Hawthorne	"	Brous
Guilford	Summit N. of Revere	"	Brous
Glendale	Summerdale	"	Cottman
Horatio	Exeter	"	Fordham
Holme (N. side)	Academy	"	Willits
Horrocks	Glendale	"	Summit S. of Shelaire
Hartel	Hasbrook	"	Summit S.E. of Barnes
Hennig	Stanwood	"	Solly
Hasbrook	Hartel	"	Central
Jeans	Rhawn	"	Stanwood
Lexington	Roosevelt Blvd.	"	Carmath

123-1949

Survey District No. 1 - continued

Sewer Contracts Completed for Which Lines and Grades Were Furnished
and Return Planes of Constructed Sewers Made

Loney	Castor	to	Frontenac
Loretto	Bleigh	"	Glendale
Leon	Rhawn	"	Welsh
Large	Stanwood	"	Arthur
Loretto	Loney	"	Rhawn
Large	Rhawn	"	Fuller
Milnor	Cottman	"	Summit N. E.
Montague	Magee	"	Unruh
Nesper	Brous	"	Hawthorne
Oxford	Pine	"	Fillmore
Pilgrim	Fordham	"	Puritan
Puritan	Exeter	"	Fordham
Pine	Rhawn	"	Stanwood
Revere	Cottman	"	Sandyford
Ripley	Castor	"	Frontenac
Rhawn	Horrocks	"	Castor
Rhawn	Ridgeway	"	Elberon
Rhawn	Pine	"	Elberon
Rockwell	Ridgeway	"	Rhawn
Stamford	Winchester	"	Albion
Sandyford	Brous	"	Roosevelt Blvd.
Stanwood	Frankford	"	Craig
Shisler	Cottman	"	Bleigh
Stanwood	Craig	"	Leon
Stanwood	Pine	"	Burholme
Tackawanna	Magee	"	Unruh
Treaty	Fordham	"	Summit N. of Convent
Torresdale	Sheffield	"	Lansing
Unruh	Charles	"	Algard
Welsh	Winchester	"	Winthrop
Winthrop	Welsh	"	Stamford
Walker	Magee	"	Unruh
Windish	Duffield	"	Hawthorne
Wesleyan	Exeter	"	Fordham
Willits	Exeter	"	Convent
Willits	Exeter	"	Holme
Welsh	Moro	"	Crispin

124-1949

Second District

Water Pipe Plans Prepared

Hutchinson Street from Johnston Street to 116' 1" South of Johnston Street

Streets Where Lines and Grades Were Furnished for Water Pipe

Hutchinson Street from Johnston Street to 116' 1" South of Johnston Street
River Street from Snyder Avenue to a point 884' South of Snyder Avenue

Paving Plans Prepared

Bigler Street from 7th Street to 10th Street
Eleventh Street from Bainbridge Street to Reed Street
11th Street and Snyder Avenue
5th Street and Reed Street
Newkirk Street from Morris Street to Moore Street
Orianna Street from Moore Street to a point 231' South of Moore Street
16th Street and Snyder Avenue
3rd Street and Reed Street
Vollmer Street from 4th Street to 5th Street

Streets Where Lines and Grades Were Furnished for Paving

Lanier Avenue, North of Penrose Avenue
Newkirk Street from Moore Street to Morris Street
Passyunk Avenue --- 215' East of Schuylkill Avenue

Repaving Plans Prepared

Bainbridge Street from 5th Street to 13th Street
Dickinson Street from Broad Street to 18th Street
Ellsworth Street from Broad Street to 18th Street
Morris Street from 7th Street to 8th Street
Morris Street from Water Street to Front Street
16th Street from Moyamensing Avenue to Bigler Street

125-1949

Survey District No. 2 - continued

Streets Where Lines and Grades Were Furnished for Repaving

Darien Street from Catharine Street to Christian Street
Morris Street from 7th Street to 8th Street
Morris Street from 10th Street to 13th Street
Morris Street from Water Street to Front Street
19th Street from Mc Kean Street to Jackson Street
12th Street from Oregon Avenue to Shunk Street

Base Sewer Plans Prepared

Carlisle Street from Tasker Street to Morris Street
Christian Street from Front Street to 9th Street
Moore Street from 7th Street to 10th Street
River Street from Snyder Avenue to point 560' South of Snyder Ave.
12th Street from Federal Street to Wharton Street
Vollmer Street from 4th Street to 5th Street

Return Plans of Constructed Sewers Made

Morris Street from Water Street to Front Street
Morris Street from 7th Street to 8th Street

Sewer Contracts Completed for Which Lines and Grades Were Furnished

Lanier Avenue to angle point in Schuylkill Avenue
Morris Street from 7th Street to 8th Street
Morris Street from Water Street to Front Street
Penrose Avenue from Lanier Avenue to Schuylkill River

126-1949

Third District

Paving Plans Prepared

Pennsylvania Avenue from 20th Street to 21st Street

Repaving Plans Prepared

Cuthbert Street from 15th St. to Broad St.
Filbert Street from 7th St. to 8th St.
Frankford Avenue & Girard Ave. (Safety islands)
Market Street from Front St. to 10th St.
Market Street from 12th St. to Juniper St.
19th St. and Race St. (Traffic Island)
17th Street from Chestnut St. to Spruce St.
7th Street from Montgomery Ave. to Susquehanna Ave.
7th Street from Parrish St. to Girard Avenue
6th Street from Germantown Avenue to Oxford St.
23rd Street from Chestnut Street to Market Street

Streets Where Lines and Grades Were Furnished for Repaving

Benj. Franklin Parkway & Washington Monument (Traffic Island)
Fairmount Avenue from 5th Street to 12th Street
Fairmount Avenue from 13th Street to Broad St.
15th Street (West side) South of Market Street
Filbert St. from 6th Street to 7th St.
Frankford Avenue and Girard Avenue (Safety Islands)
Market Street from Front Street to 10th St.
Market Street from 12th Street to Juniper Street
Newmarket Street from Green St. to Fairmount Avenue
19th and Race Streets (Traffic Island)
Oxford Street from 29th Street to 31st Street
Pine Street from Front Street to 23rd Street
Race Street from 7th Street to 8th Street
Ranstead Street from 15th Street to Hicks Street
Ranstead Street from 17th Street to 18th Street
Spruce Street from Delaware Avenue to Front Street
Spruce Street from 4th Street to 5th Street
Spruce Street from 6th Street to Broad Street
Spruce Street from Hicks Street to 19th St.
Spruce Street from 20th Street to 23rd Street
Vine Street from 7th Street to 9th Street
Woodstock Street from Locust Street to Chancellor St.

Streets Where Lines and Grades Were Furnished for Resurfacing

Darien Street from South Street Northward
Juniper Street from So. Penn Sq. to Chestnut Street
St. James Street from Woodstock St. to East of 21st St.

Streets Where Lines and Grades Were Furnished for Grading

Race Street from 7th Street to 8th Street
Vine Street from 7th Street to 9th Street

1927-1949

Survey District No. 3 continued

Base Sewer Plans Prepared

Bodine Street from Culvert St. to Laurel St.
Dover Street from Thompson St. to Master St.
Front Street from Spruce St. to Dock Street
Spruce Street from Front St. to 3rd Street
Spruce Street from 3rd Street to 4th Street
Spruce Street from 4th Street to Orianna St.
Spruce Street from 5th Street to 6th Street
Spruce Street from Broad Street to 15th St.
Spruce Street from 15th Street to Hicks St.
Spruce Street from 20th Street to the East
20th St. from Vine St. to Pennsylvania Ave.
29th Street from Thompson Street to Master
Wood Street from 15th Street to 18th Street

Sewer Contracts for which Lines and Grades were Furnished

Fairmount Avenue from Delaware Ave. to 2nd Street
Fairmount Ave. from Fairmount Park to 23rd St. (Tunnel)
5th Street from Girard Avenue to Master Street
Front Street from Spruce Street to Dock Street
Spruce Street from Front St. to 3rd St. (Not completed)
Spruce Street from 3rd St. to 4th St. (Not completed)
Spruce Street from 5th St. to 6th St. (Not completed)
20th Street from Vine Street to Pennsylvania Avenue
23rd St. from N. of Aspen St. to N. College Ave. (Tunnel not Completed)
29th Street from Pennsylvania Ave. to Columbia Ave. (Tunnel not completed)
Vine Street from Darien Street to 9th Street
25th St. from Fairmount Ave. to Perot St. (Inlets)

Return Plans of Constructed Sewers Made

Fairmount Avenue from Delaware Avenue to 2nd Street
Fairmount Avenue from Fairmount Park to 23rd St. (Tunnel)
5th Street from Girard Avenue to Master Street
Front Street from Spruce Street to Dock Street
20th Street from Vine St. to Pennsylvania Avenue
Vine Street from Darien Street to 9th Street

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Fourth District

Water Pipe Plans Prepared

Banes Street from Hendrix Street to Renard Street
Berwyn Street from Bowler Street to Birwood Street
Berwyn Street from Hoff Street to Clark Street
Birwood Street from Bowler Street to Lott Avenue
Bloomsdale Road from Woodfern Road to 114' Southeast
Bowler Street from Bustleton Avenue to Hoff Street
Clark St. from Lott Avenue to 125' North of Berwyn St.
Evans Street from Fulmer Street to Murray Street
Fulmer Street from Evans Street to 112' 6" Northwest
Gifford Ave. from Selma St. to 127' Northeast of Larkspur St.
Hendrix Street from Bustleton Avenue to Banes Street
Hoff Street from Bowler Street to Lott Avenue
Larkspur Street from Gifford Avenue to Bustleton Avenue
Lott Avenue from Bustleton Avenue to Hoff Street
Lott Avenue from Hoff Street to Evans Street
Oakfield Lane from Woodfern Road to 114' Southeast
Redd Rambler Drive from Oakfield Lane to 115' southwest
Renard Street from Bustleton Avenue to Banes Street

Streets Where Lines and Grades Were Furnished for Water Pipe

Evans Street from Fulmer Street to Murray Street
Verree Road from Bustleton Avenue to Creswood Road
Verree Road from Creswood Road to Red Lion Road
Verree Road from Redd Rambler Drive to Red Lion Road

Paving Plans Prepared

Dungan Road from Murray Street to Fulmer Street
Evans Street from Murray Street to Fulmer Street
Fulmer St. from Bustleton Ave. to Roosevelt Blvd.
Hilspach Street from Fulmer Street to Lott Avenue
Larkspur Street from Bustleton Avenue to Gifford Ave.
Lott Ave. from Bustleton Ave. to Roosevelt Boulevard.
Victoria Street from Fulmer Street to Lott Avenue

Streets Where Lines and Grades Were Furnished for Paving

Evans Street from Fulmer Street to Lott Avenue
Forest Hills Avenue from Overhill Avenue to Erwin St.
Lott Avenue from Bustleton Avenue to Roosevelt Boulevard

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Survey District No. 4 continued

Grading Plans Prepared

Alton Street from Creswood Road to Rising Sun Avenue
Berwyn Street from Bowler Street to Birwood Street
Berwyn Street from Hoff Street to Clark Street
Birwood Street from Bowler Street to Lott Avenue
Bowler Street from Bustleton Avenue to Hoff Street
Bridle Road from Kentwood Street to Sanford Street
Burgess Street from Ferndale Street to Gifford Avenue
Chesworth Road from Ferndale Street to Verree Road
Clark Street from Lott Ave. to 30' south of Bowler St.
Creswood Road from Rising Sun Avenue to Alton Street
Ferndale Street from Greymont Street to Creswood Road
Ferndale Street from Medway Road to Red Lion Road
Ferndale Street from Tomlinson Road to Remard Street
Gifford Avenue from Burgess Street to Remard Street
Greymont Street from Verree Road to Jeanes Street
Hoff Street from Bowler Street to Lott Avenue
Kentwood Street from Ferndale Street to Sanford Street
Larkspur Street from Ferndale Street to Gifford Avenue
Medway Road from Verree Road to Ferndale Street
Remard Street from Heather Street to 150' Northwest of Ferndale St.
Rising Sun Avenue from Welsh Road to Krewstown Road
Sanford Street from Ferndale Street to Jeanes Street
Selma Street from Ferndale Street to Gifford Avenue

Streets Where Lines and Grades Were Furnished for Grading

Alton Street from Creswood Road to Rising Sun Avenue
Creswood Road from Rising Sun Avenue to Alton Street
Larkspur Street from Bustleton Avenue to Gifford Ave.
Rising Sun Avenue from Welsh Road to Krewstown Road

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Fifth District

Water Pipe Plans Prepared

Ashdale St. (S. Footway)
 Duncannon Ave.
 Easton Road
 Easton Road
 Eighth Street
 Forrest Avenue
 Forrest Ave.
 Gilbert St.
 Gorgas St.
 Gowen Avenue
 Gowen Avenue
 Greenwood St.
 Lowber Ave.
 Lowber Ave.
 Lowber Ave.
 Luray Street
 Lynnewood Road
 Mansfield Ave.
 Mansfield Ave.
 Mansfield Ave.
 Mansfield Ave.
 Mt. Airy Ave.
 Mt. Airy Ave.
 Ogontz Ave.
 Pickering St.
 Pickering St.
 Pickering St.
 Rodney St.
 Rowan St.
 Sharpnack St.
 Slocum St.
 Stenton Ave.

 Stenton Ave.
 Thouron Avenue
 20th St.
 Upsal St.
 Vernon Road
 Vernon Road
 Wadsworth Ave. (1)
 Wadsworth Ave. (2)
 Wadsworth Ave.
 Wadsworth Ave.
 Westford Road
 Woolston Ave.
 Woolston Ave.
 Wynsam Street

Rising Sun Ave.
 8th Street
 Woolston Ave.
 Rodney Street
 Wellens St.
 Vernon Road
 Sharpnack St.
 Vernon Road
 Forrest Ave.
 Thouron Ave.
 Michener Ave.
 Fayette St.
 Wynsam St.
 Upsal St.
 Vernon Road
 4th St.
 Mt. Airy Ave.
 Gowen Ave.
 Upsal St.
 Vernon Road
 Wadsworth Ave.
 Mansfield Ave.
 Stenton Ave.
 79th St.-
 Ivy Hill Road
 Rounfort Road
 Wadsworth Ave.
 85' 6" S. of NHL. Wynsam
 17th Street
 Stenton Ave.
 S.W.H.L. Lowber Ave.
 Old York Road

 Woodbrook Lane
 Gowen Ave.
 Independence St.
 Lowber Ave.
 SHL. Lowber Ave.
 Stenton Ave.
 Stenton Ave.
 Stenton Ave.
 95' E. of Temple Rd.
 Thouron Ave.
 Roosevelt Blvd.
 Eastburn Ave.
 Mohican St.
 Rodney St.

"C" Street
 9th Street
 Thouron Ave.
 Woolston Ave.
 Duncannon Ave.
 Gorgas Street
 Phil-Ellens St.
 Phil-Ellens St.
 135' 4" West
 106' E. of EHL Thouron Ave.
 86' W. of WHL. Michener Ave.
 Michener Avenue
 70' N. of NHL. Wynsam St.
 Sharpnack St.
 Slocum Street
 5th St.
 Gowen Ave.
 Wadsworth Ave.
 Sharpnack St.
 Dorset St.
 Mt. Airy Ave.
 Rodney St.
 Mansfield Ave.
 80th Street
 67' 9" S.E. of SEHL. Ivy Hill R
 Gowen Avenue
 Gowen Avenue
 66' 7" E. of Wynsam St.
 153' 2" E. of EHL. 17th St.
 Mansfield Ave.
 92' 7" S.W.
 Godfrey Ave. (now stricken
 from City Plans)

 Wadsworth Ave.
 Wadsworth Ave.
 Wyncote Ave.
 Woolston Ave.
 103' 5" Southwest
 Mansfield Ave.
 Mansfield Ave.
 Mansfield Ave.
 Pickering St.
 105' 6" E. of NHL. Thouron Ave
 Ashdale Street
 Haines Street
 85' S. of SHL. Wynsam St.
 Woolston Avenue

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Survey District No. 5 continued

Streets Where Lines and Grades Were Furnished for Paving

Thouron Ave.	Wadsworth Ave.	Gowen Ave.
20th Street	67th Avenue	Wyncote Ave.
Upsal Street	Lowber Ave.	96' E.EHL.
Upsal St.(S.Shldr.)	Lowber Ave.(N.EHL.)	S.WHL.Woolston Ave.
Upsal St.(N.Sd.)	EHL. Stenton Ave.	WHL. Mansfield Ave.
Upsal St.(S.Shldr.)	WHL.Thouron Ave.	Pt. 78' W.
Vernon Road(S.Shldr.)	WHL.Gilbert St.	Pt. 98' W.
Vernon Road(S.Shldr.)	111' W.WCL.Rugby St.	104' E.ECL.Rugby St.
Vernon Road(S.Shldr.)	Pt.10'S.NCL.Stenton Ave.	SCL. Mansfield St.
Vernon Road(S.Shldr.)	EHL. Thouron Ave.	WHL. Forrest Ave.
Vernon Road(S.Shldr.)	WHL. Thouron Ave.	EHL. Gilbert St.
Wadsworth Ave.	Stenton Ave.	Mansfield Ave.
Westford Road	Roosevelt Blvd.	Ashdale St.
Woolston Ave.	Hains Street	Eastburn St.
Wynsam Street	WCL. Woolston Ave.	WCL. Lowber Ave.
Wynsam Street	WCL. Lowber Ave.	ECL. Rodney St.
Wyoming Ave.	"D" Street	"K" Street
Intersections of	Gowen Ave. and	Forrest Ave.
Intersections of	Gowen Ave. and	Pickering Ave.
Intersections of	Gowen Ave. and	Williams Ave.
Intersections of	Pickering St. and	Elaine Street
Intersections of	Pickering St. and	Ivy Hill Road
Intersections of	Pickering St. and	McPherson St.
Intersections of	Pickering St. and	Murdoch Road
Intersections of	Pickering St. and	Ramfort Road
Intersections of	Pickering St. and	Woodbrook Lane
Intersections of	Mt. Airy Ave. and	Thouron Ave. from House Line to House Line

Repaving Plans Prepared

Courtland St.	9th Street	11th Street
8th Street	Roosevelt Blvd.	Loudon St.
5th Street	Hunting Park Ave.	Luzerne St.
5th St.	Hunting Park Ave.	Wyoming Ave.
Hutchinson St.	Courtland Street	Wyoming Ave.
9th Street	Roosevelt Blvd.	Loudon Street
10th Street	Courtland St.	Wyoming Ave.
Wyoming Avenue	Roosevelt Blvd.	10th St.

Streets Where Lines and Grades Were Furnished for Repaving

"D" Street	Westmoreland St.	Ontario St.
Courtland St.	9th Street	11th Street
Hutchinson St.	Courtland St.	Wyoming Ave.
10th Street	Courtland St.	Wyoming Ave.
Crescentville Road	Adams Ave.	Champlost Ave.
Champlost Ave.	Front Street	Crescentville Road
Crescentville Road	Champlost Ave.	Adams Avenue
Erie Avenue	Front Street	Kensington Ave.
2nd Street	Erie Avenue	Bristol Street

Survey District No. 5 Continued

Grading Plans Prepared

Ashdale St.	"D" Street	Bingham St.
Courtland St.	"C" Street	Hurley St.
"C" St.(N.E.Footway)	Rising Sun Ave.	Pt. 140' S.E.
Rising Sun Ave.(E.Footway)	"C" St.	Taber Road
Grange Avenue	Mascher St.	2nd Street
Gowen Ave.	Stenton Ave.	Lynnswood Road
Hortter St.	Stenton Ave.	Lowber Ave.
Hunting Park Ave.	Front Street	153' E. of Center line of RR.
Ivy Hill Road	Stenton Ave.	176' E. of Mansfield Ave.
Lowber Avenue	Hortter St.	Phil-Ellena Street
Lowber Avenue	Upsal St.	Sharpnack St.
Mansfield Ave.	Wadsworth Ave.	Gowen Ave.
Marwood Road	Geneva Avenue	Taber Road
Mansfield Ave.	Hortter St.	Phil-Ellena St.
Murdoch Road	Stenton Ave.	Mansfield Ave.
Mansfield Ave.	Ivy Hill Road	Roumfort Road
Olney Ave.	Geneva Avenue	Bingham Street
Bingham St.	Olney Avenue	Taber Road
Phil-Ellena St.	Stenton Ave.	Lowber Avenue
20th St.	Champlot Ave.	Church Lane
Venango St.	"I" Street	"K" Street
Woodbrook Lane	Stenton Ave.	Mansfield Ave.
Whitaker Ave.	Erie Avenue	Hunting Park Ave.

Streets Where Lines and Grades Were Furnished for Grading

Ashdale Street	"D" Street	Bingham Street
Bayard Street	Ivy Hill Road	Gowen Avenue
Roumfort Road	Williams Ave.	Michener Ave.
Thouron Ave.	Ivy Hill Road	Gowen Ave.
Champlot Ave.	Front Street	Crescentville Road
Crescentville Road	Champlot Ave.	Adams Avenue
Crescentville Road	Pt. South of Adams Ave.	Cheltenham Ave.
"C" Street (N.E.Footway)	Rising Sun Avenue	140' S. E.
Rising Sun Ave.(E.Footway)	"C" Street	Taber Road
Fayette Street	Wadsworth Ave.	Mt. Airy Ave.
Fayette Street	Gowen Avenue	Wadsworth Ave.
Forrest Avenue	Vernon Road	Phil-Ellena St.
Forrest Avenue	Gowen Ave.	Wadsworth Ave.
Gowen Avenue	Thouron Ave.	Williams Ave.
Gowen Avenue	Williams Ave.	Michener Ave.
Mt. Airy Ave.	Thouron Ave.	Williams Ave.
Pickering Ave.	Ivy Hill Road	Wadsworth Ave.
Sedgwick St.	Thouron Ave.	Forrest Ave.
Temple Road	Gowen Avenue-	Wadsworth Ave.
Temple Road	Mt. Airy Ave.	Wadsworth Ave.
Thouron Ave.	Gowen Ave.	Mt. Airy Ave.
Williams Ave.	Wadsworth Ave.	Gowen Avenue
Williams Avenue	Wadsworth Ave.	Mt. Airy Ave.

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Survey District No. 5 continued

Streets Where Lines and Grades Were Furnished for Grading

Fayette Street	Ivy Hill Road	Gowen Avenue
Forrest Avenue	Ivy Hill Road	Gowen Avenue
Provident St.	Ivy Hill Road	Gowen Avenue
Temple Road	Ivy Hill Road	Gowen Avenue
Williams Ave.	Ivy Hill Road	Gowen Avenue
Gowen Avenue	Stenton Ave.	Lynnwood Road
Mansfield Ave.	Gowen Ave.	Wadsworth Ave.
Ivy Hill Road	Stenton Ave.	Pt. 176'E. of Mansfield Ave.
Mansfield Ave.	Phil-Ellema St.	Hortter Street
Mansfield Ave.	Ivy Hill Road	Roumfort Road
(legally open portion)		
Murdoch Road	Stenton Avenue	Mansfield Ave.
Woodbrook Lane	Stenton Avenue	Mansfield Ave.
Lynnwood Road	Gowen Avenue	Mt. Airy Avenue
Phil-Ellema St.	Stenton Ave.	Lowber Ave.

Base Sewer Plans Prepared

"A" Street	Champlot Ave.	Spencer Ave.
Bayard St.	Gowen Ave.	Ivy Hill Road
Bennington St.	Hunting Park Ave.	Lycoming St.
Bingham St.	Roosevelt Bld.	Ashdale Street
Church Lane	16th Street	Old York Road
Church Lane	16th Street	17th Street
Fayette St.	Gowen Ave.	Ivy Hill Road
Forrest Ave.	Gowen Ave.	Ivy Hill Road
Forrest Ave.	Johnson St.	Upsal Street
Gowen Ave.	Stenton Ave.	Lynnwood Road
Gorgas Lane	Rodney Street	Mansfield Ave.
Hortter St.	Mansfield Ave.	Lowber Ave.
Hunting Park Ave.	Front Street	Oxford BR. Pa. RR.
Independence St.	5th Street	6th Street
Lawndale Ave.	Hunting Park Ave.	Lycoming St.
Lowber Ave.	Phil-Ellema St.	Hortter St.
Lowber Ave.	Upsal Street	Sharpnack St.
Lynnwood Road	Mt. Airy Ave.	Gowen Avenue
Mansfield Ave.	Ivy Hill Road	Roumfort Road
Michener Ave.	Gowen Avenue	Ivy Hill Road
Michener Ave.	Mt. Airy Ave.	Gowen Ave.
Mt. Airy Ave.	Mansfield Ave.	Lynnwood Road
Mt. Airy Ave.	Michener Ave.	Cheltenham Ave.
Mt. Pleasant Ave.	Mansfield Ave.	Rodney Street
Murdoch Road	Stenton Ave	Mansfield Ave.
Phil-Ellema St.	Mansfield Ave.	Lowber Ave.
Provident St.	Gowen Ave.	Ivy Hill Road
Roumfort Road	Pickering St.	Bayard Street
Rodney Street	Sedgwick St.	Gorgas Street
Schiller Street	Hutchinson St.	8th Street
Stenton Ave.	N.W. Gorgas St.	Mt. Pleasant Ave.
Stenton Ave.	Sharpnack St.	Hortter St.
Stenton Ave.	Roumfort Road	Stream N.W. of Ivy Hill Road

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Survey District No. 5 continued

Base Sewer Plans Prepared

Temple Road	Gowen Ave.	Ivy Hill Road
Thouron Ave.	Gowen Ave.	Ivy Hill Road
Upsal Street	79th Ave. N.	80th Ave. N.
Water Street	Champlost Ave.	Spencer Ave.
Whitaker Ave.	Erie Ave.	Cayuga St.
Woodbrook Lane	Stenton Ave.	Mansfield Ave.
Wyoming Ave.	Weymouth St.	"H" Street

Sewer Contracts Completed for which Lines and grades were Furnished and Return Plans of Constructed Sewers Made

Cheltenham Ave.	Verbena St.	7th Street
Church Lane	16th Street	17th Street
Crescentville Road	Ft.S.of Adams Ave.	Cheltenham Ave.
4th Street	Acker Street	68th Ave.
Gowen Ave.	Thouron Ave.	Michener Ave.
Gowen Ave.	Michener Ave.	Pickering St.
Luzerne St.	"G" Street	"I" Street
Luzerne St.	"D" Street	Pt. 350' W.of "D" St.
Mt. Airy Ave.	Mansfield Ave.	Lynnwood Road
Lynnwood Road	Mt. Airy Ave.	Gowen Ave.
Oak Lane	York Road	18th Street
Oak Lane	12th Street	Lawnton Ave.
Oak Lane	Lawnton Ave.	Summit E.
11th Street	N. of 66th Ave.	69th Ave.
Lawnton Ave.	Summit S.of Oak Lane	S. of 69th Ave.
Schiller St.-	Hutchinson St.	8th Street
68th Ave. N.	15th Street	Old York Road
10th Street	Chelton Ave.	68th Ave.
68th Ave.	10th Street	11th Street
Lawnton Ave.	66th Ave.	S. of Oak Lane
11th Street	66th Ave.	N. of 66th Ave.
Vernon Road	Stenton Ave.	Mansfield Ave.
Slocum St.	Stenton Ave.	Mansfield Ave.
Vernon Road	Mansfield Ave.	Lowber Ave.
Lowber Ave.	Vernon Road	Slocum Street
Inlets	Wyoming Ave. - Weymouth St. to "H" St.	
Stormwater Sewer & Inlets -	2nd St. - Erie Ave. to Bristol St.	

Lines and Grades Furnished for Construction of Inlets

S. W. & S. E. cors. 12th and Courtland Streets

Lines and Grades Furnished for Construction of Traffic Islands

Belfield Avenue, Lindley Ave. and Logan St.
Chelton Avenue, Ogontz Ave. & Stenton Ave.
Chew Avenue, Kemble Avenue & Ogontz Ave.
Germantown Ave. at Intersection of Rising Sun Ave.
York Road and Ontario Street
19th Street, Haines Street and Ogontz Ave.

Demolition Plan

6857 and 6858 Woolston Ave.

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Survey District No. 5 continued

Streets Where Lines and Grades Were Furnished for Paving

Bott Street	Broad St.	Kerbaugh St.
Cliveden St.(N.Shldr.)	WHL. Thouron Ave.	Pt. 75'
Duncannon Ave.	8th Street	9th Street
8th Street	Duncannon Ave.	Fisher Ave.
Elaine St.	Cheltenham Ave.	Pickering Ave.
Forrest Ave. (NCL.)	Vernon Road	SCL. Gorgas St.
Forrest Ave. (NCL.)	Sharpnack St.	SCL. Phil-Ellena St.
Gilbert St.	Phil-Ellena St.	Vernon Road
Lowber Ave.	Yerkes St.	Upsal Street
Rodney Street	Yerkes St.	Upsal Street
Gowen Ave.	ECL. Temple Road	Conc.Paving Michener St.
Gowen Ave.	Cheltenham Ave.	Pickering Ave.
Gowen Ave.	WHL. Forrest Ave.	WCL. Thouron Ave.
Gowen Ave.	EHL. Williams Ave.	EHL. Temple Road
Grange Ave.	Mascher Street	2nd Street
Hunting Park Ave.	"G" Street	"H" St. (22' wide in center)
Johnson St.	Rugby St.	Thouron Ave.
Lowber Avenue	Mohican St.	Wynsam St.
Woolston Ave.	Mohican St.	Wynsam St.
Lowber Ave.	Mohican St.	Washington Lane
Lowber Ave. (20' wide in center & 11' Wide E. Shldr.)	NCL. Upsal St.	Pt. 105' N. of Upsal St.
Luzerne St.	"G" Street	"I" Street
Mt. Airy Ave.	S.W. Forrest Ave.	N.E. Williams St.
Mt. Pleasant Ave.	Thouron Ave.	Forrest Ave.
Sedgwick St.	Michener Ave.	Forrest Ave.
Sharpnack St.	Williams Ave.	Thouron Ave.
Woolston Ave.	Upsal St.	Phil-Ellena St.
Mansfield Ave.	Upsal St.	102' N. of Upsal St.
Mansfield Ave.	Vernon Road	Dorset Street
Mt. Airy Ave.	127' 6" S.W. of Forrest Ave.	Thouron Ave.
Mt. Airy Ave.	97' 6" N.W. of Williams Ave.	Temple Road
Intersection of	Phil-Ellena Street and Forrest Ave.	
Intersection of	Phil-Ellena Street and Thouron Ave.	
McPherson St.	13' E.WCL. Cheltenham Ave.	Pickering St.
Phil-Ellena St.	Rugby Street	Woolston Avenue
Phil-Ellena St.	Williams St.	Pt. 120' E.EHL. Rugby St.
Phil-Ellena St. (20' wide in center)	EHL. Woolston Ave.	Woolston Ave. (169' wide)
Sharpnack St.	Stanton Avenue	Mansfield Avenue
Sharpnack St.	Woolston Ave.	107' N.E.
Sharpnack St.	Woolston Ave.	150' S.W.
67th Avenue	20th Street	Linskiln Turnpike
Slocum Street	10'SW. ECL. Stanton Ave.	SWCL. Mansfield Ave.
Temple Road	SCL. Mt. Pleasant Ave.	EHL. Sedgwick Street
Temple Road	NCL. Wadsworth Ave.	SCL. Gowen Ave.
Thouron Ave.	NCL. Mt. Airy Ave.	SCL. Wadsworth Ave.
Thouron Ave.	Phil-Ellena St.	Vernon Road
Pickering St.	Gowen Ave.	Ivy Hill Road

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Survey District No. 5 continued

Streets Where Lines and Grades Were Furnished for Water Pipe

Gowen Ave.	Thouron Ave.	106' E. of EHL. Thouron Ave.
Gowen Ave.	Michener Ave.	86' W. of WHL. Michener Ave.
Lowber Ave.	Wynsam St.	70' N. of NHL. Wynsam St.
Lowber Ave.	Vernon Road	Slocum St.
Lynnwood Road	Mt. Airy Ave.	Gowen Ave.
Mansfield Ave.	Upsal St.	Sharpnack St.
Mansfield Ave.	Vernon Road	Dorset St.
Pickering St.	Rounfort Road	Gowen Ave.
Sharpnack St.	Stenton Ave.	Mansfield Ave.
Stenton Ave.	Woodbrook Lane	Wadsworth Ave.
Thouron Ave.	Gowen Ave.	Wadsworth Ave.
Woolston Ave.	Mehican St.	85' S. of SHL. Wynsam St.
Wynsam St.	Rodney St.	Woolston Ave.

Paving Plans Prepared

Castor Ave.	Winghooking St.	Wyening Ave.
Cliveden St.	Gilbert St.	Thouron Ave.
Duncannon Ave.	8th Street	9th Street
8th Street	Duncannon Ave.	Fisher Ave.
11th Street	Nedre Ave.	Champlott Ave.
Gorgas Street	Forrest Ave.	Williams Ave.
Gorgas Street	Thouron Ave.	Forrest Ave.
Gowen Ave.	Stenton Ave.	Lynnwood Road
Grange Ave.	Mascher St.	2nd Street
Hunting Park Ave.	Front St.	"G" Street
Johnson Street	Rugby St.	W. of Thouron Ave.
Luzerne St.	Phila. & Bustleton R.R.	"G" Street
Luray Street	4th Street	5th Street
Mansfield Ave.	Hortter Street	Phil-Ellema St.
Nedre Ave.	Hutchinson St.	12th Street
Phil-Ellema St.	Williams St.	Pt. 120' E. EHL. Rugby St.
Phil-Ellema St.	Rugby St.	Woolston Avenue
Pickering St.	Gowen Ave.	Ivy Hill Road
Ruscomb St.	"A" Street	Ella Street
Schiller St.	8th Street	Hutchinson St.
Sharpnack St.	Stenton Ave.	Mansfield Ave.
67th Avenue N.	20th Street	Limekiln Turnpike
Thouron Ave.	Wadsworth Ave.	Gowen Avenue
Venango St.	"I" Street	"X" Street
Wadsworth St.	Stenton Ave.	Mansfield Ave.
Wellens St.	Front St.	Howard St.
Westford Road	Roosevelt Blvd.	Ashdale St.
Whitaker Ave.	Erie Ave.	Hunting Park Ave.
Woolston Ave.	Haines St.	Eastburn St.

Sixth District

Water Pipe Plans Prepared

Esery Street from Lehigh Avenue to 151'3" Northeast
30th Street from Clearfield Street to Allegheny Ave.
Harold Street from Almond Street to Kensington Ave.
Ontario St. from Richmond St. to 512' East of the East Curb Line of Casper St.
Line of Caspar Street

Paving Plans Prepared

Ann Street from Melvale Street to Allen Street
Wishart Street from Richmond Street to Allen St.
Gaul Street from Lehigh Ave. to 74' N. of Lehigh Ave.
Castor Avenue from Amber Street to Thompson Street
Gaul Street from 205' N. of Westmoreland St. to Ontario St.
Pacific Street from Tulip Street to Sepviva Street
Tulip Street from Pacific Street to Castor Avenue
Lambert St. from Cambria St. to 152' S. of Cambria Street

Streets Where Lines and Grades Were Furnished for Paving

Eldhart Street from Richmond Street to Allen Street
Garnet St. from Indiana Ave. to 340' South of Indiana Ave.
Indiana Avenue from Melvale Street to Allen Street
Clearfield Street from 29th Street to 30th Street
30th Street from Clearfield Street to Allegheny Ave.
Netherfield Road from Netherfield Road W. to Netherfield Road.
Thompson Street from Castor Avenue to Alresford Street
Miller Street from Commissioner Street to Clearfield St.
Auburn Street from Cedar Street to Aramingo Avenue
Gaul Street from Lehigh Avenue to 74' North of Lehigh Ave.
Castor Avenue from Amber Street to Thompson Street
Lambert Street from Cambria St. to 152' S. of Cambria St.

Repaving Plans Prepared

Huntingdon Street from Richmond Street to Kensington Ave.
3rd Street from Norris Street to Montgomery Avenue
Howard Street from Berks Street to Norris Street
Broad St. from Indiana Ave. to Glenwood Ave. (West Side)
York Street from Aramingo Ave. to Cedar Street
Ann Street from Melvale Street to Allen Street
Erie Ave. from Park Ave. to Germantown Ave. (Widen Roadway)
Erie Avenue from Broad Street to 15th Street
Butler Street from Germantown Avenue to 15th Street

Streets Where Lines and Grades Were Furnished for Repaving

Amber Street from Front Street to Lehigh Avenue
Berks Street from Hope Street to 6th Street
Lehigh Ave. from Kensington Ave. to Richmond St.
Palathorp Street from Columbia Ave. to Oxford St.
Broad St. from Indiana Ave. to Glenwood Ave. (West Side)
Howard Street from Berks Street to Norris Street
3rd Street from Norris Street to Montgomery Avenue
Ann Street from Melvale Street to Allen Street

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Survey District No. 6 continued

Grading Plans Prepared

Gaul Street from Westmoreland Street to Ontario Street
Tulip Street from Pacific Street to Castor Avenue

Streets Where Lines and Grades Were Furnished for Grading

Gaul Street from Westmoreland Street to Ontario Street
Ridge Avenue from Indiana Avenue to Lehigh Avenue (Underpass)
Hunting Park Ave. from E. Park Drive to Indiana Ave.(Underpass)

Base Sewer Plans Prepared

Gaul Street from Westmoreland Street to Ontario Street
Aramingo Avenue from Ontario Street to Tioga Street
Aramingo Avenue from Vengeance Street to Wheatshaf Lane
Wheatshaf Lane from Aramingo Ave. to Belgrade Street
Gaul Street from Wheatshaf Lane to Luzerne Street
Luzerne Street from Gaul Street to Aramingo Avenue
Wissahickon Avenue from Schoolhouse Lane to Midvale Ave.
Salmon Street from Somerset Street to Seltzer Street
Almond Street from Somerset Street to Seltzer Street
Allen Street from Clearfield Street to Allegheny Avenue

Return Plans of Constructed Sewers Made

Oakdale Street from Emerald Street to Jasper Street
Queen Lane Street from Stokley Street to Wissahickon Ave.

Sewer Contracts for which Lines and Grades were Furnished

Aramingo Ave. from Ontario Street to Tioga Street
Westmoreland Street from Delaware Ave. to S.E. of Richmond St.
Wissahickon Ave. from Schoolhouse Lane to Midvale Avenue
Ridge Avenue from the N.H.L. of Indiana Ave. to N.H.L. Hunting Park Ave. (Underpass)
Ridge Ave. From the S.H.L. Hunting Park Ave. to the N.H.L. Lehigh Ave. (Underpass)

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Seventh DistrictWater Pipe Plans Prepared

Botanic	51st	175'8" S. of S.H.L. of 49th
51st	Botanic	608' W. of W.H.L. of Botanic
Redfield	Angora	Baltimore
Rhoads	75th	Haverford
66th	Lotus	Morris Park
66th	Girard	Haverford
75th	Brentwood	Woodbine
Woodbine	75th	76th
Woodcrest	Salford	Upland Way

Streets Where Lines and Grades Were Furnished for Water Pipe

51st	Botanic	608' W. of W.H.L. of Botanic
Redfield	Angora	Baltimore
Rhoads	75th	Haverford
66th	Girard	Haverford
66th	Lotus	Morris Park
75th	Brentwood	Woodbine
76th	-	102' S. of Woodbine
Woodbine	75th	76th
Woodcrest	Salford	Upland Way

Paving Plans Prepared

Brookhaven	75th	77th
50th	Wynnefield	Wyndale
67th	Woodbine	Drexel
Ludlow	45th	46th
Media	66th	67th
Parkwyn	Wynnefield	Wyndale
63rd	Lansdowne	Jefferson
63rd	Jefferson	Malvern
63rd	Malvern	Lancaster
75th	Malvern	Woodbine
76th	Malvern	Woodbine
77th	Sherwood	Woodbine
Woodcrest	50th	Parkwyn
Woodbine	76th	76th
Wyndale	50th	Parkwyn

Streets Where Lines and Grades Were Furnished for Paving

Brentwood	S.W.C.L. 76th	N.E.H.L. 77th
Callowhill	66th	67th
Edgemore	Girard	Callowhill
Girard	66th	67th
Ludlow	45th	46th
Media	66th	67th
Rhoads	Haverford	75th
63rd	Jefferson	Lebanon (track
63rd	Lansdowne	Jefferson Area)

Survey District No. 7 continued

Streets Where Lines and Grades Were Furnished for Paving

66th	Girard	Haverford
67th	Callowhill	Girard
75th	Woodbine	Brookhaven
76th	Brentwood	A Pt. 91.5' S.E.
Woodbine	75th	76th

Repaving Plans Prepared

Baltimore	52nd	53rd
Girard	61st	64th
Pentridge	53rd	54th
Walnut	32nd	34th

Streets Where Lines and Grades Were Furnished for Repaving

Baltimore	52nd	53rd
Daggett	Callowhill	Girard
Daggett	Callowhill	Girard
Edgemore	Lansdowne	Media
Elmwood	Lindbergh	56th
Girard	61st	64th (Track Area)
Lindbergh	Grays	56th
Parkside	Belmont	52nd

Grading Plans Prepared

Ashurst	Brookhaven	Woodbine
Brookhaven	76th	77th
Brookhaven	77th	Cobbs Creek Park Line
Meribrook	Brookhaven	Woodbine
75th	Malvern	Woodbine
76th	Malvern	Woodbine
Woodbine	77th	Ashurst
Woodcrest	75th	76th

Streets Where Lines and Grades Were Furnished for Grading

Ashurst	Brookhaven	Woodbine
Brookhaven	75th	77th
Callowhill	67th	68th
50th	Wyndale	Wynnefield
Girard	67th	68th
Meribrook	Brookhaven	Woodbine
Parkwyn	Wyndale	Wynnefield
68th	Girard	Callowhill
75th	Malvern	Woodbine
76th	Malvern	Woodbine
Woodbine	77th	Ashurst
Woodcrest	50th	Parkwyn
Woodcrest	75th	76th
Wyndale	50th	Parkwyn

Survey District No. 7 continued

Base Sewer Plans Prepared

Angora	Redfield	80th
Ashurst	Brookhaven	Woodbine
40th	Aspen	Brown
40th	Reno	Ogden
40th	Spring Garden	Fairmount
46th	Ludlow	Market
Lancaster	33rd	55th
Lancaster	36th	Powelton
Lancaster	Powelton	Baring
Meribrook	Brookhaven	Woodbine
Morris Park	Malvern	A Pt. 350 N.W. therefrom
75th	Malvern	Woodbine
76th	Malvern	Woodbine
76th	Overbrook	City Avenue
Stiles	66th	Atwood
Woodbine	77th	Ashurst
Woodcrest	75th	75th

Return Plans of Constructed Sewers Made

Brentwood	75th	Summit S.W.
Brentwood	Summit S.W. of 75th	77th
Brookhaven	75th	77th
Callowhill	66th	67th
Cobbs Creek Park	Present Intercepting Sewer	67th & Callowhill
Edgemore	Callowhill	Girard
Girard	66th	67th
Morris Park	Malvern	North
Sherwood	Haverford	76th
Sherwood	77th	76th
Stiles	66th	Atwood
66th	Girard	Haverford
67th	Callowhill	Girard
75th	Brookhaven	Sherwood
76th	Overbrook	City
76th	Overbrook	Sherwood
76th	Sherwood	Brentwood
77th	Woodbine	Sherwood
Woodbine	75th	77th

Sewer Contracts Completed for which Lines and Grades were Furnished

Brookhaven	75th	77th
Callowhill	66th	67th
Cobbs Creek Park	Present Intercepting Sewer	Callowhill including sewers in 67th St.
Clark Park	Callowhill	Girard
Edgemore	Wynnefield	Wynedale
50th	66th	67th
Girard	48th & Haverford	47th & Fairmount
Mill Creek		

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Survey District No. 7 continued

Sewer Contracts Completed for which Lines and Grades Were Furnished

Morris Park	Malvern	A Pt. 350' Northwesterly therefrom
Parkwyn	Wyndale	Wymsfield
66th	Girard	Haverford
67th	Callowhill	Girard
75th	Malvern	Woodbine
76th	Woodbine	Malvern
76th	Overbrook	City
Stiles	66th	Atwood
University	Curie	Woodland
Woodbine	76th	75th
Woodbine	76th	77th
Woodcrest	75th	76th
Woodcrest	50th	Parkwyn
Wyndale	50th	Parkwyn

Traffic Islands Plans Prepared

63rd City	Intersection of Lebanon Columbia Intersection of City
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Streets Where Lines and Grades Were Furnished for Traffic Islands

Market (N.Shoulder)	East of 30th	
63rd(Intersection of)	Columbia &	Lebanon
75th(Intersection of)	Brockton	

Streets Where Lines and Grades Were Furnished for Improvement and Widening

34th	Curie	Spruce
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Eighth DistrictWater Pipe Plans Prepared

Akron	Magee	Knorr
Algon	105'6" S. of SHL Kerper	192' N. of NHL Knorr
Battersby	Passmore	Hellerman
Benner	Newtown	Reach
Bingham	Glenview	Longshore
Brighton	Bustleton	Calvert
Brous	Hellerman	62'6" S. of Passmore
Brous	115'5" S. of SHL Magee	115' N. of NHL Magee
Brous	Hellerman	101'7" N. of NHL Gilham
Burton	Harbison	Kennedy
Bustleton	Hellerman	Tyson
Bustleton	St. Vincent	Cottman
Calvert	Tyson	118' N. of NHL Tyson
Calvert	111' N. of Brighton	101' S. of Brighton
Cheltenham	Sylvester	Oakland
Colgate	Devereaux	193' S. of SHL Devereaux
Devereaux	Boulevard	Bustleton
Devereaux	Colgate	Palmetto
Disston	Leonard	Boulevard
Disston	Eastwood	Bustleton
Dercas	Hellerman	Magee
Eastwood	Princeton	Englewood
Eastwood	57' S. of SCL Robbins	Hellerman
Eastwood	Longshore	Tyson
Elbridge	Farnsworth	Revere
Elbridge	Everett	Horrocks
Elbridge	Boulevard	Farnsworth
Elmhurst	Robbins	Levick
Englewood	Eastwood	64'6" E. of Eastwood
Englewood	Bustleton	92'6" W. of Saul
Enola	Hellerman	Magee
Everett	Robbins	McKinley
Everett	Robbins	Levick
Everett	Elbridge	Hellerman
Fanshawe	Bustleton	Leonard
Farnsworth	Lardner	88' N. of NHL Lardner
Farnsworth	Magee	115'11" N. of NHL Magee
Frontenac	Knorr	Longshore
Frontenac	67'6" S. of Robbins	Stirling
Frontenac	61'6" N. of McKinley	McKinley
Frontenac	110' N. of Unruh	18' S. of Knorr
Gilham	Brous	Battersby
Gilham	Enola	Cul-de-sac eastward
Gilham	Revere	Brous
Glenview	Eastwood	Bustleton
Godfrey	Whitaker	Taber
Hanford	St. Vincent	Cottman
Harbison	Magee	Hellerman
Harrison	Whitaker	Howland
Hasbrook	Benner	Devereaux

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Survey District No. 8 continued

Water Pipe Plans Prepared

Hellerman	78'6" W. of Dorcas	118' E. of Dorcas
Hellerman	Brous	Battersby
Hellerman	Boulevard	Revere
Hellerman	Bustleton	85' W. of Eastwood
Hellerman	Lawndale	Bingham
Hellerman	Loretto	Caster
Horrocks	Robbins	106' S. of Levick
Horrocks	Magee	382' S. of Magee
Horrocks	130'3"S. of SHL Elbridge	110' 6" N. of NHL Elbridge
Horrocks	Cottman	St. Vincent
Kerper	Whitaker	Pennway
Knorr	Boulevard	Bustleton
Knorr	Bustleton	75' W. of Akron
Langdon	Robbins	Levick
Lardner	Farnsworth	Revere
Lawndale	NHL Hellerman	157'1" S. of SHL Hellerman
Leonard	110' N. of Brighton	99' S. of Brighton
Leonard	Magee	Unruh
Leonard	Tyson	121' N. of NHL Tyson
Levick	Farnsworth	Revere
Levick	Boulevard	Farnsworth
Levick	84' E. of Eastwood	85'6" W. of Eastwood
Longshore	Bingham	Oxford
Loretto	Elbridge	Greeby
Magee	Boulevard	Battersby
Newtown	Higbee	88'6" N. of NHL Benner
Oakland	Cottman	St. Vincent
Passmore	Brous	Battersby
Pearce	Church	108' E. of Church
Pennway	Kerper	120' N. of Kerper
Princeton	Bustleton	80' W. of Saul
Revere	Levick	Hellerman
Revere	118' S. of SHL Magee	114' N. of NHL Magee
Revere	Hellerman	97' 4-3/4" N. of NHL Gilham
Robbins	Algon	Summerdale
Robbins	Horrocks	51'11" S.E.
Robbins	Leonard	Farnsworth
Robbins	45'6"E. of EGL Eastwood	100'9" W. of WGL Eastwood
Roosevelt Blvd.	Elbridge	Hellerman
Roosevelt Blvd.	Longshore	Tyson
Roosevelt Blvd.	Bustleton	Elbridge
Roosevelt Blvd.	Magee	187'6" E. of EHL Harbison
Roosevelt Blvd.	178'6"N. of NPI Devereaux	146'2" S. of SPI Devereaux
Roosevelt Blvd.	Tyson	St. Vincent
Rosalie	Harbison	Ditman
St. Vincent	Bustleton	Boulevard
St. Vincent	Kindred	157' E. of EGL Eastwood
St. Vincent	Bustleton	125' E. of Eastwood
Saul	St. Vincent	Englewood
Saul	Princeton	St. Vincent
Shelborne	Longshore	Tyson

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Survey District No. 8 continued

Water Pipe Plans Prepared

Souder	Horrocks	St. Vincent
Summerdale	Devereaux	Levick
Trotter	Robbins	Levick
Tyson	Bustleton	Boulevard
Unruh	Bustleton	75' W. of Akron
Unruh	EHL Leonard	127' W. of WHL Leonard
Whitaker	100' 2" S. of SHL Glenview	129' W. of NHL Glenview
Whitaker	Adams	Godfrey
Whitaker	120' S. of Kerper	120' N. of Kerper

Streets Where Lines and Grades Were Furnished for Water Pipe

Akron	St. Vincent	Princeton
Akron	Knorr	Magee
Algen	Knorr	Northward 204'
Benner	Reach	Newtown
Bingham	Glenview	Disston
Bradford	St. Vincent	Cottman
Brighton	Bustleton	Calvert
Brous	Hellerman	108' N.E. of Gilham
Brous	Elbridge	Hellerman
Buckius & Belgrade		
Burton	Kennedy	Harbison
Bustleton (N.W. side)	St. Vincent	Cottman
Bustleton & Cottman		
Bustleton (S.E. side)	St. Vincent	Cottman
Bustleton	Tyson	St. Vincent
Calvert	Brighton	110' N. E.
Calvert	Robbins	Levick
Calvert	St. Vincent	110' S. of Princeton
Cardiff	Devereaux	Robbins
Cardiff	Levick	Robbins
Crafton	Devereaux	Robbins
Devereaux	Bustleton	Boulevard
Devereaux	95' W. of Hasbrook	95' W. of Newtown
Devereaux	Farnsworth	Brous
Disston	Bustleton	Eastwood
Dercas	Magee	Hellerman
Dercas	Hellerman	Levick
Eastwood	Englewood	St. Vincent
Eastwood	St. Vincent	Princeton
Elbridge	Everett	Horrocks
Elbridge	Horrocks	80' N. W.
Elbridge	Boulevard	Farnsworth
Elbridge	Farnsworth	Revere
Elmhurst	Levick	Robbins
Englewood	Eastwood	75' S. E.
Englewood	Bustleton	Driveway N. W. of Saul
Enola	Magee	Hellerman
Farnsworth	Lardner	N. E. 1/2 block
Farnsworth	Levick	Hellerman
Farnsworth	Devereaux	Robbins

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Survey District No. 8 continued

Streets Where Lines and Grades Were Furnished for Water Pipe

Farnsworth	Levick	Robbins
Friendship	Boulevard	N. W. 50'
Friendship	Bustleton	Boulevard
Gilham	Revere	Battersby
Gilham & Glenview		
Gilham	Enola	Dead End S.E.
Glenloch	Kennedy	Harbison
Glenview	Bustleton	Eastwood
Glenview	Whitaker	Pennway
Harbison	Revere	Magee
Harbison	Hellerman	Farnsworth
Harbison	Magee	Hellerman
Hasbrook	Stevens	Benner
Hasbrook	Benner	100' N.E.
Hellerman	Revere	Battersby
Hellerman	Revere	Boulevard
Hellerman	Doreas, 118' N.W. of	118' S.E.
Horrocks	Everett, 120' N.E. of	125' S.W.
Horrocks & Everett		
Horrocks	Tyson	Princeton
Horrocks	St. Vincent	Princeton
Howell & Langdon		
John	Tackawanna	Dead End N.W.
Keystone & Devereaux		
Kindred	Princeton	Cottman
Kindred	Tyson	Princeton
Knorr	Boulevard	Bustleton
Knorr	85' W. of Akron	Bustleton
Langdon	Levick	Robbins
Lardner	Farnsworth	Revere
Lardner	Boulevard	Benner
Lardner	Reach	Newtown
Large	Princeton	Cottman
Large (W. Side)	Princeton	St. Vincent
Leonard	Knorr	120' N.E.
Leonard	Robbins	Levick
Leonard	St. Vincent	110' S. of Princeton
Levick	Farnsworth	Revere
Levick	Horrocks	Eastwood
Longshore	Oxford	Bingham
Longshore & Bingham		
Longshore	Whitaker	Pennway
Marsden	Brill	Harbison
McKinley	Leonard	Farnsworth
Montour	Diaston	Tyson
Newtown	Higbee	Driveway N. of Benner
Newton	Lardner	Devereaux
Oakland	Cheltenham	115' N.E. of Vankirk
Passmore	Battersby	Brous
Penn	Vankirk	Conly

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Survey District No. 8 continued

Streets Where Lines and Grades Were Furnished for Water Pipe

Fenway	Longshore	100' S. of Glenview
Fenway	135' N. of Kerper	135' S. of Kerper
Princeton	Eastwood	Bustleton
Princeton	Horrocks	Kindred
Princeton	Horrocks	Eastwood
Princeton	Bustleton	Boulevard
Reach	Lardner	Devereaux
Revere	Levick	Hellerman
Revere	Hellerman	108' N.E. of Gilham
Revere	Devereaux	Robbins
Robbins	Horrocks	Eastwood
Robbins	Farnsworth	Mershon
St. Vincent	Bustleton	Driveway N.W. of Saul
St. Vincent	Bustleton	Boulevard
Saul	St. Vincent	Englewood
Saul	St. Vincent	Princeton
Saul	Vankirk	200' N.E.
Saul	Vankirk	Coaly
Stevens	Reach	Newtown
Stevens	Farnsworth	Revere
Summerdale	St. Vincent	Cottman
Sylvester	Vankirk	110' N.E.
Sylvester	Levick	Robbins
Trotter	Levick	Robbins
Tyson	Bustleton	Boulevard
Unruh & Bustleton		
Unruh	Bustleton	85' W. of Akron
Vankirk	Saul	Oakland
Vankirk	Sylvester	Oakland
Vankirk	Saul	Leonard
Whitaker	Kerper, 135' N. of	135' S.
Whitaker	Tyson	Diaston

Paving Plans Prepared

Akron	Levick	Hellerman
Akron	Magee	Knorr
Algon	N. of Knorr	Unruh
Ashdale	"Y"	D. E. northwest
Bingham	Longshore	Glenview
Bustleton	Elvd.	Cottman
Charles	Pratt	Bridge
Cranford & Hellerman Intersection		
Devereaux	Hasbrook	Reach
Dorcas	Levick	Hellerman
Dorcas	Hellerman	Magee
Eastwood	Robbins	Blvd.
Elmhurst	Levick	Robbins
Enola	Magee	Hellerman
Foulkrod	Whitaker	Montour
Frontenac	Longshore	Glenview
Frontenac	Cheltenham	Oxford

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Survey District No. 8 continued

Paving Plans Prepared

Frontenac	Longshore	Cottman
Frontenac	McKinley	Levick
Frontenac & Kerper	Intersection	
Gilham	Brous	Battersby
Glenview	Loretto	Castor
Hasbrook	Levick	Devereaux
Hasbrook	Benner	Devereaux
Hellerman	Horrocks	Eastwood
Hellerman	Revere	Brous
Horrocks	St. Vincent	Princeton
Horrocks	Magee	Hellerman
Howell	Langdon	Oxford
Howell	Rising Sun	360' W. of Rising Sun
Knorr	Eastwood	Bustleton
Langdon	Sanger	Oxford
Langdon	Levick	Robbins
Langdon	Sanger	Bridge
Lardner	Hasbrook	Beach
Lardner	Hasbrook	Shelburne
Levick	Horrocks	Eastwood
Levick	County Line	Martins Mill Road
Longshore	Bingham	Oxford
Loretto	McKinley	Greeby
Loretto (shlds)	Glenview	Friendship
Loretto	Magee	Glenview
Martins Mill Road	Oxford	Rising Sun
Newtown	Levick	Robbins
Oakland	Vankirk	Cheltenham
Oakland	Vankirk	Conly
Princeton	Bustleton	Horrocks
Robbins	Horrocks	Eastwood
Robbins	Eastwood	Blvd.
Robbins	Algon	Susmerdale
St. Vincent	Large	Kindred
St. Vincent	Rutland	Large
Saul	Vankirk	Conly
Summerdale	Cottman	St. Vincent
Sylvester	Levick	Robbins
Sylvester	Vankirk	Conly
Trenton	Margaret	Orthodox
Trotter	Levick	Robbins
Tyson	Castor	Large
Unruh	Frankford	Cottage
Unruh	Eastwood	Bustleton
Vankirk	Bustleton	Sylvester

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Survey District No. 8 continued

Streets Where Lines and Grades Were Furnished for Paving

Algon (exc W. Shld)	NHL Unruh	120' N. of Knorr
Allengrove	Roosevelt Blvd.	Loretto
Battersby	Cottman	St. Vincent
Battersby	Unruh	Hellerman
Battersby	Passmore	Hellerman
Benner	Lawndale	Taber
Benner	Reach	Newtown
Brighton	Calvert	Leonard
Brighton	Leonard	cntr. strip in Bustleton
Brous	115' N. of Unruh	NHL Hellerman
Brous	Elbridge	Hellerman
Burton	Kennedy	Harbison
Bustleton	Devereaux	Robbins
Bustleton	Devereaux	152' S. of Lardner
Bustleton	Vankirk	165' N. of Cheltenham
Bustleton	Vankirk	160' N. of Vankirk
Bustleton	NHL Cheltenham	165' N.
Calvert	Tyson	120' N. of Brighton
Calvert	Robbins	Levick
Castor	Wingohocking	Wyoming
Cranford & Hellerman	Intersection	
Cranford	Hellerman	Passmore
Cranford	Hellerman	85' North
Devereaux	Lawndale	Taber
Devereaux	EHL Bustleton	EHL Leonard
Devereaux (N shld.)	WHL Shelborne	EHL Hasbrook
Devereaux	Bustleton	Blvd.
Devereaux	99.4' W. of Newtown	Reach
Disston	Bustleton	Blvd.
Disston	Eastwood	Bustleton
Dorcas	Hellerman	Magee
Eastwood	Hellerman	Levick
Eastwood	NCL Robbins	SCL Levick
Eastwood	Robbins	Blvd.
Eastwood	St. Vincent	Englewood
Eastwood	Princeton	St. Vincent
Elbridge	Everett	Horrocks
Elbridge	ECL Blvd.	WHL Farnsworth
Elmhurst	Levick	Robbins
Englewood	WCL Bustleton	WCL Eastwood
Enola	Magee	Hellerman
Everett	Magee	Devereaux
Fanshawe	Battersby	Revere
Fanshawe	Bustleton	Leonard
Farnsworth	Levick	Hellerman
Foulkrod	Summerdale	Blvd.
Frontenac (shlds.)	111' S. of SCL Kerper	111' N. of NNC Knorr
Frontenac	SHL Glenview	80' S. of SHL
Frontenac	McKinley	Levick
Gilham	Brous	Revere

Survey District No. 8 continued

Streets Where Lines and Grades Were Furnished for Paving

Gilham	Enola	Dead End East of Enola
Glenloch	Kennedy	Harbison
Glenview	Loretto	Castor
Glenview	Loretto	Frontenac
Glenview (N shld.)	Oxford	Bingham
Glenview	Eastwood	Bustleton
Glenview	10' E. of WHL Blvd.	EHL Leonard
Glenview	EHL Bustleton	WHL Leonard
Godfrey	Tabor	Whitaker
Harrison	Montour	Whitaker
Hastbrook	Benner	Devereaux
Hastbrook (E.shld.)	NHL Devereaux	112' North
Hellerman	Eastwood	Bustleton
Hellerman	ECL Loretto	WHL Castor
Hellerman	Revere	Brous
Hanford	St. Vincent	Cottman
Hellerman	EHL Dorcas	Driveway 82' East
Hellerman	WHL Dorcas	Driveway 90' West
Horrocks	Hellerman	Robbins
Horrocks	Tyson	Princeton
Horrocks	St. Vincent	Cottman
Howell	Langdon	Oxford
Josephine	Plum	108' South
Kerper	Whitaker	Pemway
Kindred	Cottman	St. Vincent
Kindred	Magee	Hellerman
Knorr	Eastwood	Oakland
Knorr (N.shld.)	144'E.of ECL Rising Sun	484'E. of ECL Rising Sun
Knorr	WHL Frontenac	EHL Summerdale
Langdon (E Shld.)	Cheltenham	82' South
Langdon (E Shld.)	Cheltenham	75' North
Langdon	Levick	Robbins
Lardner	WHL Revere	EHL Parnsworth
Lardner	Bustleton	Leonard
Large	Magee	Everett
Leonard	NHL Glenview	Approx.115' North
Leonard	SHL Glenview	Approx.104' South
Leonard & Glenview Intersection		
Leonard	Magee	Harbison
Leonard	SCL Cottman	NCL St. Vincent
Leonard	110' S. of Tyson	120' N. of Brighton
Leonard	Robbins	Levick
Leonard	NHL Disston	Driveway S. of Tyson
Leonard	SHL Disston	Driveway N. of Longshore
Levick (N. shld.)	Battersby	Brous
Longshore	Bingham	Oxford
Longshore	Horrocks	Eastwood
Loretto	SHL Hellerman	NHL Passmore
Loretto	Allengrove	Godfrey
Magee	Bustleton	Oakland

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Survey District No. 8 continued

Streets Where Lines and Grades Were Furnished for Paving

Magee	Blvd.	Battersby
Marsden	Brill	Harbison
McKinley	Leonard	Farnsworth
Miriam Road	Blvd.	Godfrey
Montour	Longshore	Tyson
Mulberry	center Strip in Devereaux	NCL Harbison
Mulberry	SCL Harbison	center strip in Benzer
Newtown	Higbee	Benzer
Oakland	Shl Longshore	NHL Knorr
Oakland	St. Vincent	Cottman
Oakland	Vankirk	Cheltenham
Pearce	Duncan	Church
Pratt	Charles	Valley
Revere	NCL Unruh	120' North
Revere	SCL Unruh	120' South
Revere	120' S. of SCL Unruh	NCL Hellerman
Revere	Devereaux	Robbins
Robbins (N.Shld.)	Leonard	120' E. of Calvert
Robbins	Norrocks	Eastwood
Robbins (S.Shld.)	Leonard	Farnsworth
Robbins	Eastwood	Blvd.
Rosalie	Harbison	Ditman
St. Vincent	Battersby	Brous
St. Vincent	Bustleton	Blvd.
St. Vincent	Kindred	Eastwood
St. Vincent	WCL Bustleton	RHL Eastwood
Saul	NCL St. Vincent	SCL Englewood
Saul	NHL Princeton	SHL S ⁴ . Vincent
Shelborne (W.Shld.)	NHL Devereaux	205' North
Souder	Magee	Hellerman
Souder	St. Vincent	Norrocks
Stevens	7.5' E. of WCL Shelborne	8' W. of ECL Hasbrook
Summerdale (W.shld.)	Robbins	Levick
Summerdale	NHL Unruh	NHL Knorr
Summerdale (cnt & E. Shld.)	NHL Knorr	122' North
Sylvester	Robbins	Levick
Trotter	Levick	Robbins
Tyson	Caster	Large
Tyson	Leonard	Bustleton
Tyson	20' W. of WCL Blvd.	ECL Leonard
Whitaker	Godfrey	S.W. rt.-of-way line of P&F RR.
Whitaker	Glenview	Longshore
Whitaker	Longshore	Tyson
Wyoming	"X"	Caster

Repaving Plans Prepared

Penn Street
Rising Sun Ave.
Rising Sun Ave.

Arrott Street
S. of Godfrey Ave.
South of Lardner St.

Oxford Avenue
N. of Godfrey Ave.
N. of Lardner St.

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Streets Where Lines and Grades Were Furnished for Repaving

Darrah Street	Meadow Street	Foulkrod Street
Ditman Street	Gillingham St.	Margaret Street
Meadow Street	Frankford Ave.	Paul Street
Oakland St.	Wakeling St.	Harrison St.
Rising Sun Ave.	South of Godfrey Ave.	North of Godfrey Ave.
Rising Sun Ave.	South of Lardner St.	North of Lardner St.
Tacony St.	Orthodox St.	Wakeling St.
Torresdale Ave.	Kensington Ave.	Orthodox St.
Thompson St.	Castor Ave.	Alresford St.

Grading Plans Prepared

Adams	Edgemont	Thompson
Akron	Levick	Hellerman
Algerd	Robbins	Devereaux
Algon	Longshore	Tyson
Bustleton	Blvd.	Cottman
Cottage	Robbins	Devereaux
Disston	Whitaker	319' E. of Summerdale
Englewood	Algon	Summerdale
Foulkrod	Whitaker	Montour
Friendship	Calvert	Blvd.
Gilham	Enola	D. E. southeast
Hanford	St. Vincent	Cottman
Juniata	Edgemont	Thompson
Keystone	Devereaux	Robbins
Langdon	Robbins	Devereaux
Lardner	Farnsworth	120' E. of Leonard
Large	Tyson	Princeton
Levick	Horrocks	Eastwood
Longshore	Whitaker	310' E. of Summerdale
Lynford	Princeton	St. Vincent
Martins Mill Road	Oxford	Rising Sun
Oakland	Robbins	Levick
Oakland	Vankirk	Comly
Oakland	St. Vincent	Princeton
Pennway	Longshore	Tyson
Robbins	Horrocks	Eastwood
Roxborough	Edgemont	Thompson
St. Vincent	Algon	Summerdale
St. Vincent	Large	Lynford
Saul	Vankirk	Comly
Souder	Horrocks	St. Vincent
Stearly	Newtown	Reach
Summerdale	Knerr	Tyson
Sylvester	Vankirk	Comly
Sylvester	Levick	Robbins
Taber at Garland	(cut back for visibility)	
Trotter	Robbins	Devereaux
Tyson	Taber	236' E. of Summerdale
Vankirk	Bustleton	Sylvester
Walker	Robbins	Devereaux
Wellington	Algon	Summerdale

Survey District No. 8 continued

Streets Where Lines and Grades Were Furnished for Grading

Adams	Thompson	Edgemont
Akron	Magee	Knorr
Akron	Levick	Hellerman
Algon	Longshore	Tyson
Benner	Oakland	Bustleton
Calvert	Robbins	Levick
Cardiff	Robbins	Levick
Cardiff	Devereaux	Robbins
Conly	Oakland	Saul
Crafton	Devereaux	Robbins
Crafton	Robbins	Levick
Creston	Oakland	Saul
Devereaux	Leonard	Farnsworth
Disston	Eastwood	Bustleton
Disston	Whitaker	219' E. of Summerdale
Eastwood	Robbins	Hellerman
Eastwood	Longshore	Tyson
Englewood	Algon	Summerdale
Enola	Magee	Hellerman
Farnsworth	Levick	Hellerman
Farnsworth	Robbins	Devereaux
Farnsworth	Robbins	Levick
Foulkrod	Whitaker	Montour
Friendship	Calvert	Boulevard
Gilham	Battersby	Brous
Gilham	Enola	Dead End Southeast
Hanford	St. Vincent	Cottman
Harbison	Boulevard	Hellerman
Hawthorne	Brill	80' Northeast
Hellerman	Revere	Battersby
Hellerman	Oakland	Bustleton
Knorr	Oakland	Bustleton
Langdon	Robbins	Devereaux
Lardner	Bustleton	Leonard
Lardner	Boulevard	Benner
Lardner	Leonard	120' Southeast
Large	Tyson	Princeton
Leonard	Robbins	Levick
Leonard	Lardner	Stevens
Levick	Eastwood	Bustleton
Levick	Horrocks	Eastwood
Longshore	Whitaker	310' E. of Summerdale
Lynford	Princeton	St. Vincent
McKinley	Leonard	Farnsworth
Oakland	Robbins	Levick
Penway	Longshore	Tyson
Revere	Robbins	Levick
Revere	Robbins	Devereaux
Robbins	Horrocks	Eastwood
Roxborough	Edgemont	Thompson
St. Vincent	Large	Lynford
St. Vincent	Algon	Summerdale

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Streets Where Lines and Grades Were Furnished for Grading

Stevens	Leonard	130' southeast
Summerdale	Knorr	Tyson
Sylvester	Levick	Robbins
Trotter	Robbins	Devereaux
Tyson	Tabor	236' E. of Summerdale
Unruh	Eastwood	Bustleton
Wellington	Algon	Summerdale

Base Sewer Plans Prepared

Algard	Robbins	Devereaux
Algon	Cottman	Friendship
Aramingo	Frankford Creek	Orthodox
Bradford	Cottman	St. Vincent
Bustleton	Robbins	Boulevard
Casimir	Miller	Belgrade
Conly	Oakland	Saul
Cottage	Devereaux	Robbins
Creston	Oakland	Saul
Ditman	Robbins	Devereaux
Englewood	Algon	Summerdale
Foulkrod	Whitaker	Montour
Hanford	Cottman	St. Vincent
Harbison	Boulevard	Hellerman
Horrocks	St. Vincent	Tyson
John	Josephine	West of Tackawanna
Keystone	Devereaux	Robbins
Kindred	Tyson	Princeton
Kindred	St. Vincent	Princeton
Langdon	Robbins	Devereaux
Lardner	Reach	Newtown
Large	Tyson	Princeton
Levick	Akron	Bustleton
Longshore	Bingham	Oxford
Lynford	Princeton	St. Vincent
Magee	Lynford	Large
Newtown	Benner	Stearly
Newtown	Devereaux	Stearly
Oakland	St. Vincent	Princeton
Oakland	Levick	Robbins
Princeton	Horrocks	Oakland
Reach	Devereaux	Benner
Roosevelt Blvd. N.W. side	Princeton	St. Vincent
St. Vincent	Large	Lynford
St. Vincent	Rutland	Lynford
Souder	St. Vincent	Horrocks
Stearly	Newtown	Reach
Stevens	Reach	Newtown
Sylvester	Levick	Robbins
Trotter	Robbins	Devereaux
Vankirk	Sylvester	Saul
Vankirk	Bustleton	250' East
Walker	Robbins	Devereaux
Wellington	Algon	Summerdale
Wilmot	at Frankford Creek	private

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Streets Where Lines and Grades Were Furnished for Sewers
and Return Plans of Constructed Sewers Made

Akron	Levick	Hellerman
Akron	Magee	Knorr
Akron	Princeton	St. Vincent
Alcott	Newtown	Weymouth
Bath	Orthodox	Hedley
Belgrade	Lefevre	Buckius
Bemmer	Oakland	Bustleton
Bradford	St. Vincent	Cottman
Bustleton	Hellerman	Longshore
Bustleton	Boulevard	Levick
Bustleton	Levick	Hellerman
Bustleton	Bemmer	Devereaux
Bustleton	St. Vincent	Cottman
Bustleton	Princeton	Disston
Bustleton	Cheltenham	Conly
Calvert	Robbins	Levick
Cardiff	Robbins	Levick
Cardiff	Devereaux	Robbins
Casimir	Willer	Belgrade
Conly	100'S.E. of Milnor (private)	
Cottman	Boulevard	Calvert
Crafton	Robbins	Levick
Crafton	Devereaux	Robbins
Deal	Kensington	580' N.W. of Roman
Devereaux at Revere		
Devereaux	Leonard	Farnsworth
Eastwood	Princeton	Englewood
Elbridge	Revere	Boulevard
Farnsworth	Robbins	Levick
Farnsworth	Devereaux	Robbins
Foulerod	Whitaker	Montour
Friendship	Bustleton	Boulevard
Gilham	Enola	Dead End Southeast
Gilham	Dross	Revere
Gilham	Dross	Battersby
Glenview	Whitaker	Pennway
Hanford	St. Vincent	Cottman
Harbison	Boulevard	Hellerman
Hasbrook	Cheltenham	Vankirk
Hedley	Bath	Richmond
Horrocks	St. Vincent	Tyson
Horrocks	Robbins	Levick
Horrocks	Hellerman	Magee
John	Josephine	North of Tackawanna
Kerper	Whitaker	Pennway
Kindred	St. Vincent	Princeton
Kindred	Tyson	Princeton
Kindred	St. Vincent	Cottman
Kindred	Hellerman	Magee
Knorr	Bustleton	Boulevard
Knorr	Eastwood	Bustleton
Langdon	Robbins	Devereaux
Lardner	Hasbrook	Shelborne
Lardner	Bustleton	Leonard
Lardner	Boulevard	Bemmer

Survey District No. 8 continued

Streets Where Lines and Grades Were Furnished for Sewers
and Return Plans of Constructed Sewers Made

Large	Tyson	Princeton
Large	Princeton	Cottman
Leonard	Robbins	Levick
Leonard	Cottman	St. Vincent
Leonard	Stevens	Lardner
Levick	Eastwood	Bustleton
Levick	Revere	Mershon
Levick	Revere	Boulevard
Lewis	315' N.W. of Delaware Ave.	Bath
Longshore	Whitaker	Penway
Longshore	Bingham	Oxford
Lynford	Princeton	St. Vincent
McKinley	Leonard	Farnsworth
Newtown	Vankirk	Alcott
Newtown	Banner	Stearly
Penn 5	Coaly	Vankirk
Princeton	Bustleton	Calvert
Princeton	Horrocks	Kindred
Reach	Vankirk	N.E. of Cheltenham
Revere	Robbins	Levick
Revere	Devereaux	Robbins
Revere	Hellerman	Levick
Revere	Hellerman	Unruh
Robbins	Eastwood	Boulevard
Robbins	Leonard	Farnsworth
Robbins	Everett	Eastwood
Remain	Frankford Creek-	Deal
Roosevelt Blvd.	Princeton	St. Vincent
Roosevelt Blvd.	St. Vincent	Cottman
Roosevelt Blvd.	Robbins	Bustleton
St. Vincent	Summersdale	Montour
St. Vincent	Large	Lynford
Saul	Princeton	Englewood
Souder	Hellerman	Hagee
Souder	Tyson	Princeton
Stearly	Newtown	Reach
Stevens	Hasbrook	Shelborne
Summersdale	Cottman	St. Vincent
Sylvester	Levick	Robbins
Trotter	Robbins	Devereaux
Tyson	Bustleton	Boulevard
Unruh	Eastwood	Akron
Vankirk	Saul	Oakland
Vankirk	Reach	Newtown
Vankirk	Saul	Penn
Weymouth	Cheltenham	Vankirk
Wilnot	at Frankford Creek (private)	

Lines and Grades Furnished for Construction of Traffic
Islands

One (1) at Harbison Avenue, Jackson Street and Sanger Street Intersection
 Four (4) at Castor Avenue and Wyoming Avenue
 Two (2) at Frankford Avenue and Torresdale Avenue

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Ninth District

Water Pipe Plans Prepared

Barnes Street	Hermit Lane	Henry Avenue
Cardexa Street	Crittenden St.	Stenton Ave.
Cliveden St.	Crittenden St.	Stenton Ave.
Crittenden St.	Yerkes St.	Barringer St.
Crittenden St.	Barringer St.	Johnson St.
Daniel St.	Walnut Lane	Hermit St.
Fowler St.	Leroy St.	Livesey St.
Henry Ave.	Hermit St.	Barnes St.
Hortter St.	Crittenden Street	Stenton Ave.
Leroy St.	Pawling St.	Silverwood St.
Livesey St.	Pawling St.	Silverwood St.
Marion St.	S. Mt. Pleasant Ave.	140' East
Mermaid Lane	Crittenden St.	Stenton Ave.
Pechin St.	Hermit St.	Ridge Ave.
Sharpnack St.	Crittenden St.	Stenton Ave.
Stenton Ave.	Willow Grove Ave.	Woodbrook Lane
Washington Lane	Washington Lane(S)	Stenton Ave.
Yerkes St.	Crittenden St.	Stenton Ave.

Streets Where Lines and Grades Were Furnished for Water Pipe

Crittenden St.	55' S. of Sharpnack	Phil-Ellena St.
Hortter St.	Crittenden St.	Stenton Ave.
Sharpnack St.	Crittenden St.	Stenton Ave.

Paving Plans Prepared

Anderson St.	Upsal St.	Johnson St.
Anderson St.	Upsal St.	Phil-Ellena St.
Ardleigh St.	Johnson St.	Upsal St.
Ardleigh St.	Haines St.	150' Northwest
Barringer St.	Crittenden St.	Anderson St.
Barringer St.	Anderson St.	Ardleigh St.
Cardexa St.	Crittenden St.	Anderson St.
Cliveden St.	Crittenden St.	Anderson St.
Cliveden St.	Anderson Street	Sprague St.
Crittenden St.	Upsal St.	Johnson St.
Crittenden St.	Upsal St.	Phil-Ellena St.
Erringer Place	Clapier St.	Manheim St.
Herrick St.	Pensdale St.	225' N. of Shurs Lane
Pechin St.	Fountain St.	Lemonte St.
Portico St.	Seymour St. S.E.	Dead end
Washington Lane	Washington Lane (S)	Stenton Ave.

Streets Where Lines and Grades Were Furnished for Paving

Barringer St.	Crittenden St.	Anderson St.
Cardexa St.	Crittenden St.	Stenton Ave.
Herrick St.	Pensdale St.	225' N. of Shurs Lane
Walnut Lane (N. side)	Daniel St.	200' E. of Kingsby St.
Sharpnack St.	Stenton Ave.	Crittenden St.
Yerkes St.	Stenton Ave.	Crittenden St.

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Repaving Plans Prepared

Baldwin St.	Silverwood St.	Wilde St.
Cotton St.	Silverwood St.	Tower St.
Dupont St.	Silverwood St.	Smick St.
Richie St.	Green Lane	Dupont St.

Improvements Plans Prepared

Hartwell Lane	St. Martins Lane	Pennsylvania RR.
Norwood St.	(South of Sunset Ave.)	

Streets Where Lines and Grades Were Furnished for Improvement

Hartwell Lane	St. Martins Lane	Pennsylvania RR.
Marion St.	S. Mt. Pleasant Rd. S.E.	Dead End

Grading Plans Prepared

Anderson St.	Cliveden St.	Johnson St.
Anderson St.	Johnson St.	Washington Lane
Ardleigh St.	Upsal St.	Cliveden St.
Ardleigh St.	Barringer St.	Washington Lane
Barringer St.	Crittenden St.	Ardleigh St.
Cardeza St.	Crittenden St.	Anderson St.
Cliveden St.	Crittenden St.	Sprague St.
Crittenden St.	Upsal St.	Yerkes St.
Duval St.	Anderson St.	Ardleigh St.
Johnson St.	Crittenden St.	Ardleigh St.
Johnson St.	Boyer St.	Ardleigh St.
Matthews St.	Cliveden St.	Upsal St.
Milton St.	Cliveden St.	Upsal St.
Milton St.	Washington Lane	Johnson St.
Pechin St.	Fountain St.	Lemonte St.
Sharpnack St.	Anderson St.	Crittenden St.
Sprague St.	Cliveden St.	Johnson St.
Upsal St.	S.W. of Matthews St.	Ardleigh St.

Streets Where Lines and Grades Were Furnished for Grading

Anderson St.	Phil-Ellene St.	Cliveden St.
Ardleigh St.	Summit S. of Vernon Rd	Upsal St.
Ardleigh St.	Upsal St.	Cliveden St.
Barringer St.	Crittenden St.	Ardleigh St.
Cardeza St.	Crittenden St.	Anderson St.
Crittenden St.	Upsal St.	Yerkes St.
Hortter St.	Crittenden St.	Stenton Ave.
Johnson St.	Crittenden St.	Ardleigh St.
Sharpnack St.	Crittenden St.	Stenton Ave.
Upsal St.	S.W. of Matthews St.	Crittenden St.
Yerkes St.	Anderson St.	Crittenden St.
Yerkes St.	Crittenden St.	Stenton Ave.

Survey District No. 9 continued

Base Sewer Plans Prepared

Ardleigh St.	Upsal St.	Vernon Rd.
Ardleigh St.	Upsal St.	Barringer St.
Barnes St.	Henry Ave.	Hermit Lane
Barringer St.	Crittenden St.	Ardleigh St.
Cliveden St.	Anderson St.	Ardleigh St.
Henry Ave.	Hermit St.	Barnes St.
Matthews St.	Upsal St.	Cliveden St.
Milton St.	Washington Lane	Johnson St.
Milton St.	Upsal St.	Cliveden St.
Ridge Ave.	Parker Ave.	Domino Lane
Sharpnack St.	Crittenden St.	Anderson St.
Washington Lane	Anderson St.	Ardleigh St.

Sewer Contracts Completed for Which Lines and Grades Were
Furnished and Return Plans of Constructed Sewers
Made

Ardleigh St.	Upsal St.	Barringer St.
Barringer St.	Crittenden St.	Ardleigh St.
Chestnut Hill Ave.	180' West	250'E. of Germantown Ave.
Germantown Ave.	Norman Lane	Rex Ave.
Glen Echo Road	McCallum St.	S. Mt. Pleasant Ave.
Greene St.	N. Mt. Pleasant Rd.	Ellet St.
Greene St.	N. Mt. Pleasant Ave.	Allens Lane
Hortter St.	Crittenden St.	Stenton Ave.
Marion St.	S. Mt. Pleasant Rd. SE	Dead End
Mt. Airy Ave.	Sherman St.	Greene St.
Mt. Airy Ave.	Greene St.	McCallum St.
N. Mt. Pleasant Rd.	Wissahickon Ave.	Greene St.
Ridge Ave.	Lemonte St.	Parker Ave.
Ripka St.	Pechin St.	Manayunk Ave.
Sharpnack St.	Crittenden St.	Stenton
Sherman St.	N. Mt. Pleasant Rd.	Mt. Airy Ave.
S. Mt. Pleasant Rd.	Greene St.	Ellet St.
S. Mt. Pleasant Ave.	McCallum St.	Greene St.
Stenton Ave.	Sharpnack St.	Hortter St.
Upsal St.	Belfield Ave.	71'W. of Matthews St.
Upsal St.	E. W. of Matthews St.	Crittenden St.
Yerkes St.	Crittenden St.	Stenton Ave.
Wissahickon Ave.	Mt. Airy Ave.	Mt. Pleasant Ave.

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Tenth District

Water Pipe Plans Prepared

70th St.	Grovers Ave.	Buist Ave.
Buist Ave.	70th St.	68th St.

Streets Where Lines and Grades Were Furnished for Water Pipe

Chester Ave.	70th St.	Cobbs Creek Parkway
Cobbs Creek Parkway	70th St.	230' North
Kingsessing Ave.	70th St.	Larry St.
Larry St.	Kingsessing Ave.	Greenway Ave.
Lindbergh Blvd.	78th St.	point 880' N.E. of 77th St.
70th (center line)	Regent St.	Chester Ave.
70th St. (E. Footway)	Regent St.	Cobbs Creek Parkway
70th St.	71st St.	Regent St.
78th St.	Buist Ave.	Chelwynde Ave.
71st St.	70th St.	Kingsessing Ave.

Paving Plans Prepared

Regent St.	68th St.	78th St.
Grays Ave.	Edgewood St.	61st St.

Streets Where Lines and Grades Were Furnished for Paving

Chester Ave.	Church Lane	Cobbs Creek Parkway
Church Lane	Cobbs Creek Parkway	bridge over Cobb Creek
Kingsessing Ave.	Larry St.	71st St.
70th St.	Kingsessing Ave.	Cobbs Creek Parkway
71st St.	70th St.	Kingsessing Ave.

Repaving Plans Prepared

Cobbs Creek Parkway	60th St. & Warrington Ave. (Safety Isle)
Island Ave.	across Laycock Ave. (Removing divisor)

Streets Where Lines and Grades Were Furnished for Repaving

Cobbs Creek Parkway	across 70th St. 385'
71st St.	Kingsessing Ave. to point 115' South

Street Improvement Plans Prepared

Ashwood Ave.	86th St.	88th St.
Brunswick Ave.	Island Ave.	79th St.
81st St.	Lyons Ave.	Grovers Ave.
84th St.	Tinicum Ave.	Erwig Ave.
87th St.	Tinicum Ave.	Ashwood Ave.
Erwig Ave.	85th St.	90th St.
Grovers Ave.	79th St.	81st St.
Harley Ave.	Island Ave.	80th St.
Holstein Ave.	86th St.	87th St.
Laycock Ave.	85th St.	88th St.
Lindbergh Blvd	Island Ave.	point 800' N.E. of 77th St.
Lindbergh Blvd	Island Ave.	79th St.
Lindbergh Blvd.	79th St.	80th St. (North Side Only)

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Survey District No. 10 continued

Street Improvement Plans Prepared

Madison Ave.	80th St.	81st St.
79th St.	Suffolk Ave.	Lindbergh Blvd.
77th St.	Buist Ave.	point North of Este Ave.
76th St.	Buist Ave.	point North of Este Ave.
Suffolk Ave.	Island Ave.	Elm St.

Streets Where Lines and Grades Were Furnished for Improvement

Buist Ave.	80th St.	84th St.
Chelwynde Ave.	50' W.W.H.L. 78th St.	84th St.
76th St.	Buist Ave.	Dicks Ave.
77th St.	Buist Ave.	Chelwynde Ave.
78th St.	Buist Ave.	Dicks Ave.

Grading Plans Prepared

Grays Ave.	80th St.	81st St.
Regent St.	88th St.	88th St.

Streets Where Lines and Grades Were Furnished for Sewers

Chelwynde Ave.	80th St.	84th St. (Drain)
77th St.	Buist Ave.	Chelwynde Ave. (Drain)

SEWERS COMPLETED DURING 1949 FOR NEW HOUSING

<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>Total Cost</u>
Academy Rd. from Holmes Ave. to Fordham Rd.				
Fordham Rd. from Academy Rd. to Exeter Rd.				
Fordham Rd. from Exeter Rd. to Convent Ave.				
Annapolis Rd. from Fordham Rd. to submit N. of Wooden Br. Rd. 18178.		\$ 89,897.37	\$ 379,210.88	\$ 468,108.25
Pilgrim Lane from Fordham Road to Puritan Road				
Puritan Road from Exeter Road to Fordham Road				
Horatio Road from Exeter Road to Fordham Road				
Wesleyan Road from Exeter Road to Fordham Road				
Convent Ave. from Willits Road to Annapolis Road				
Willits Rd. from Exeter Road to Wooden Bridge Run				
Exeter Road from Convent Ave. to Willits Road				
Akron Street from Princeton Ave. to St. Vincent St.	1589.	9,701.35	13,180.90	22,882.25
Eastwood St. from Princeton Ave. to Englewood St.				
Ardleigh St. from Upsal St. to Barringer Street	2062.	12,674.11	20,739.64	33,513.75
Barringer St. from Ardleigh St. to Crittenden St.				
Ashville St. from Torresdale Ave. to Edmund St.	583.	3,109.08	2,590.62	5,699.70
Bleigh Ave. from Shialer St. to Glendale Ave.				
Shialer St. from Cottman Ave. to Glendale Ave.	1875.80	11,169.79	31,488.51	42,658.30
Bradford St. from St. Vincent St. to Cottman Ave.	749.	4,991.47	5,579.31	10,570.78
Brocklehurst Ave. from Brous Ave. to Carzenth St.	744.	4,888.96	12,108.93	16,997.89
Brockhaven Road from 75th Street to 77th St.	1387.	9,914.54	22,433.11	32,347.65
Brous Ave. and Fennypack Park from Cottman Ave. to Sandy Run Sewer	2679.	10,119.13	62,432.12	72,551.25

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1949

<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>Total Cost</u>
Bustleton Ave. from Cheltenham Ave. to Comly St. Vankirk St. from Saul St. to Penn St. Penn Street from Comly Street to Vankirk St.	1987.	\$ 11,798.76	\$ 30,502.43	\$ 42,301.19
Bustleton Ave. from Princeton Ave. to Diaston St. Tyson Ave. from Bustleton Ave. to Roosevelt Blvd.	3557.	13,449.13	48,776.24	62,225.37
Bustleton Ave. from St. Vincent St. to Cottman Ave.	964.	5,348.38	19,220.10	24,568.48
Cobbs Cr. Park from Intercepting Sewer to Callowhill St. 67th Street from Callowhill St. to Girard Ave. Callowhill St. from 66th St. to 67th Street Edgemore Rd. from Callowhill St. to Girard Ave.	3333.	9,648.01	55,215.70	63,863.71
Devereaux Ave. from Leonard St. to Farnsworth St.	1062.	3,540.00	7,799.40	11,339.40
Devereaux Ave. from Leonard St. to Roosevelt Blvd.	2549.	7,494.98	26,178.74	33,673.70
Duffield St. from Roosevelt Blvd. to Carmath St.	804.	3,712.54	22,962.31	26,674.85
Farnsworth St. from Robbins St. to Levick St. Farnsworth St. from Devereaux Ave. to Robbins St. Crafton St. from Robbins St. to Levick Street Crafton St. from Devereaux Ave. to Robbins St.	2364.	12,440.00	33,079.25	45,519.25
Gilham St. from Enola Street east to dead end	260.	1,857.92	2,713.38	4,571.30
Gilham Street from Brous Ave. to Revere St. Gilham Street from Brous Ave. to Patteraby St.	1048.	6,175.87	9,882.63	16,058.50
Girard Ave. from 66th St. to 67th St. 66th St. from Girard Ave. to Haverford Ave.	784.50	4,988.82	7,804.53	12,793.35
Gowen Ave. from Thouron Ave. to Michener Ave. Gowen Ave. from Michener Ave. to Pickering Ave.	1750.	10,352.02	25,911.73	36,263.75

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<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>Total Cost</u>
Cullford St. from Hawthorne St. to Frons Ave.	977.	\$ 5,829.62	\$ 15,231.38	\$ 21,061.00
Hanford St. from St. Vincent St. to Cottman Ave.	738.	4,963.20	5,583.10	10,546.30
Harbison Ave. from Roosevelt Blvd. to Helleman St.	610.	3,966.34	5,544.95	9,511.20
Morrocks St. from Robbins St. to Levick Street	554.	2,939.12	8,043.58	10,982.70
Morrocks St. from St. Vincent St. to Tyson St.	1677.	9,688.12	17,049.13	26,937.25
Princeton Ave. from Morrocks St. to Kindred St.	748.	5,170.96	6,809.09	11,980.05
Kindred St. from St. Vincent St. to Cottman Ave.	1408.90	7,744.06	16,508.94	24,243.00
Knorr St. from Bustleton Ave. to Roosevelt Blvd.	1425.10	8,535.26	26,967.21	35,502.47
Large St. from Princeton Ave. to Cottman Ave.				
Leon St. from Rhawn Street to Welsh Road				
Welsh Road from Moro St. to Crispin Street	2152.50	12,546.22	33,231.15	45,777.37
Stanwood St. from Craig St. to Leon Street				
Leonard St. from Robbins St. to Levick St.	1089.	3,520.00	9,620.10	16,140.10
Calvert St. from Robbins St. to Levick St.	887.	4,934.34	23,103.67	30,038.01
Leonard St. from Cottman Ave. to St. Vincent St.				
Levick St. from Revere St. to Mershon St.				
Revere St. from Robbins St. to Levick St.				
Revere St. from Devereaux Ave. to Robbins St.				
Devereaux Ave. at Revere Street	2635.	14,544.	30,133.90	44,677.90
Cardiff St. from Robbins St. to Levick St.				
Cardiff St. from Devereaux Ave. to Robbins St.				
Levick St. from Eastwood St. to Bustleton Ave.	876.	5,506.71	5,067.89	10,574.60
Akron St. from Levick St. to Helleman Street				
Lexington Ave. from Roosevelt Blvd. to Carmath St.				
Brous Ave. from Roosevelt Blvd. to Carmath Street	2087.	3,704.94	47,672.66	56,377.60
Longshore Ave. from Bingham St. to Oxford Ave.	454.	1,559.20	4,426.10	5,985.30

<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>Total Cost</u>
Longshore Ave. from Whitaker Ave. to Penway St. Glenview St. from Whitaker Ave. to Penway St. Kerper St. from Whitaker Ave. to Penway St.	1711.	\$ 9,680.00	\$ 22,146.20	\$ 31,826.20
Montague St. from Magee Ave. to Unruh Avenue Walker St. from Magee Ave. to Unruh Ave.	1139.	7,556.80	6,400.70	13,957.50
Mt. Airy Ave. from Mansfield Ave. to Lynewood Rd. Lynewood Road from Mt. Airy Ave. to Cowen Ave.	1330.	9,135.14	18,351.56	27,486.70
South Mt. Pleasant Rd. from Greene St. to Ellet St. Marion St. from South Mt. Pleasant Rd. southeast to dead end	880.	3,193.07	17,265.93	20,449.00
Kesper St. from Brous Ave. to Hawthorne St. Duffield St. from Kesper St. to Gailford St. Windish St. from Duffield St. to Hawthorne St.	1925.	9,600.25	39,576.05	49,176.30
Newtown Ave. from Benner St. to Stearly St. Stearly St. from Newtown Ave. to Reach St.	768.	4,820.74	9,149.96	13,970.70
Princeton Ave. from Bustleton Ave. to Calvert St. Friendship St. from Bustleton Ave. to Roosevelt Blvd.	2310.	13,596.22	28,092.03	41,688.25
Queen Lane from 568' southwest of Wissahickon Ave. to Stokley Street	865.	5,066.47	24,649.23	29,717.76
Revere St. from Helleman St. to Unruh Ave. Revere St. from Helleman St. to Levick St. Elbridge St. from Revere St. to Roosevelt Blvd. Levick St. from Revere St. to Roosevelt Blvd.	990. 3441.	6,592.48 21,171.72	5,722.62 89,160.03	12,315.10 110,351.80
Robbins St. from Everett Ave. to Eastwood St. Sylvester St. from Levick St. to Robbins St.	1116.	6,744.39	10,510.51	17,254.90
Robbins St. from Leonard St. to Farnsworth Ave. Mckinley St. from Leonard St. to Farnsworth Ave.	994.	6,520.00	10,661.50	17,181.50

<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>Total Cost</u>
Roosevelt Blvd. (northwest side) from Princeton Ave. to St. Vincent St.	1627.	\$ 5,258.57	\$ 22,868.48	\$ 28,127.00
Roosevelt Blvd. (northwest side) from St. Vincent St. to Cottman Ave.				
Cottman Ave. (southwest side) from Roosevelt Blvd. to Calvert St.	2659.	15,586.06	51,981.94	67,568.00
Sandyford Ave. from Broux Ave. to Roosevelt Blvd.	1011.90	6,359.66	6,642.19	15,001.85
Revere St. from Cottman Ave. to Sandyford Ave.	1478.	7,963.35	15,727.25	23,590.60
Quilford St. from summit northwest of Revere St. to Broux Ave.				
Saul St. from Princeton Ave. to Englewood St.	986.	6,320.01	3,425.99	9,746.00
Souder St. from Kellerman St. to Magee Ave.	743.	5,113.25	9,674.15	14,787.40
Kindred St. from Tyson Ave. to Princeton Ave.				
Kindred St. from Tyson Ave. to Princeton Ave.				
Stamford St. from Winchester Ave. to Albion St.	1970.	11,438.50	25,423.20	34,866.70
Stenton Ave. from Sharpnack St. to Hortter St.				
Hortter St. from Crittenden St. to Stenton Ave.				
Sharpnack St. from Crittenden St. to Stenton Ave.				
Terkes St. from Crittenden St. to Stenton Ave.				
Stevens St. from Hasbrook Ave. to Shelburne St.	745.	2,915.33	15,306.84	18,224.17
Lardner St. from Hasbrook Ave. to Shelburne St.				
St. Vincent St. from Large St. to Lynford St.	808	4,440.00	7,179.95	11,619.95
Lynford St. from Princeton Ave. to St. Vincent St.				
Tackawanna St. from Magee Ave. to Unruh Ave.				
Erdrick St. from Magee Ave. to Unruh Ave.	1135.	7,756.64	7,145.10	14,901.94

<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>Total Cost</u>
Buruh St. from Eastwood St. to Akron St.	1665.	\$ 10,344.98	\$ 13,787.12	\$ 24,132.00
Akron St. from Magee Ave. to Knorr St.				
Knorr St. from Eastwood St. to Bustleton Ave.	1265.	4,576.00	22,743.80	27,319.80
Buruh St. from Charles St. to Algard St.				
Upsal St. from Belfield Ave. to 71 ft. southwest of Matthews St.	562.80	3,251.05	59,346.30	62,597.35
Upsal St. from southwest of Matthews St. to Crittenden St.	2100.	11,469.36	44,077.48	55,547.46
Yankirk St. from Saul Street to Oakland St.	348.	2,116.57	2,951.93	5,068.50
Vernon Road from Mansfield Ave. to Stenton Ave.				
Slocum St. from Kansfield Ave. to Stenton Ave.	1555.	10,320.19	23,187.75	33,507.94
Welsh Road from Winchester Ave. to Winthrop St.				
Winthrop St. from Welsh Road to Stamford St.	1464.50	9,865.74	34,821.96	44,687.70
Willits Road from Exeter Road to Holmes Ave.				
Holmes Ave. (north side) from Academy Road to Willits Rd.	4173.	22,175.48	102,629.52	124,803.00
Dean Plaza from Holmes Ave. to Fordham Road				
Treaty Road from Fordham Rd. to summit north of Convent Ave.				
Woodbine Ave. from 75th St. to 76th St.				
Woodbine Ave. from 76th St. to 77th St.	1722.	9,400.93	18,896.57	28,297.50

169-1949

SEWERS COMPLETED DURING 1949 FOR PURPOSES OTHER THAN HOUSING

<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>Total Cost</u>
Afton Street from Bustleton Avenue to Horrocks Street Horrocks Street from Summit south of Shelmire Ave. to Glendale Ave.	3835.	\$ 23,589.10	\$ 95,407.05	\$ 118,996.15
Faunce Street from Horrocks Street to Bradford St. Bustleton Ave. from Faunce St. to Afton St.	1723.	9,214.05	27,802.95	37,017.00
Bath St. from Orthodox Street to Medley Street Medley Street from Bath Street to Richmond St.	608.	4,233.33	12,247.77	16,481.10
Borbeck St. from Horrocks St. to Large St.	856.	5,647.97	5,310.51	10,958.48
Casimir St. from Miller St. to Belgrade St. Belgrade St. from Lefevre St. to Buckius St.	983.	959.17	36,007.61	39,566.68
Cheltenham Ave. from Verbena St. to 7th St.	390.	2,892.04	8,777.86	6,669.90
Church Lane from 16th St. to 17th St. Clark Park Sewer	-----	-----	4,324.50	4,324.50
Cottage St. from Sheffield Ave. to Hartel Ave.	695.	4,496.00	9,631.00	15,127.00
Cottman Ave. from Summerville Ave. to Frontenac St.	542.	3,449.34	18,057.41	21,506.75
Ditsen St. from Hartel Ave. to Decatur St. Decatur St. from Cottage St. to Ditsen St.	989.	4,269.35	13,211.57	17,480.95
Foukred St. from Whitaker Ave. to Montour St.	506.	3,169.00	4,324.00	7,493.00
Fourth St. from Acker St. to 66th Ave. North Germantown Ave. from Norman Lane to Rex Ave. Chestnut Hill Ave. from 180 ft. southwest of Germantown Ave. to 250 ft. northeast of Germantown Ave.	337.5	1,935.66	4,913.45	6,650.11
	2089.	12,557.50	85,162.47	97,719.97

170-1949

<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>Total Cost</u>
Glendale Ave. from Sumnerdale Ave. to Cottman Ave.				
Sumnerdale Ave. from Cottman Ave. to St. Vincent St.				
St. Vincent St. from Sumnerdale Ave. to Montour St.				
Cottman Ave. from Sumnerdale Ave. to Montour St.	10360.40	\$ 39,118.80	\$ 454,971.49	\$ 494,090.29
Green St. from North Mt. Pleasant Rd. to Ellet St.	1174.55	2,524.66	28,880.29	31,404.95
Greene St. from North Mt. Pleasant Rd. to Allens Lane Mt. Airy Ave. from Greene St. to McCallum St.	1406.	9,298.57	29,651.43	38,950.00
Hartel Ave. from Hasbrook Ave. to summit southeast of Barnes St.	2398.	16,708.28	58,652.61	75,360.89
Chandler St. from Hasbrook Ave. to Barnes St.				
Borbeck Ave. from Oxford Ave. to summit east of Burholme Ave.	516.	2,913.29	4,649.05	7,562.34
Hasbrook Ave. from Cheltenham Ave. to Vankirk St.	354.	5,326.72	22,684.03	28,010.75
Hasbrook Ave. from Hartel Ave. to Central Ave.	1028.	6,059.54	19,529.66	24,589.20
Large St. from Stanwood St. to Arthur St.				
Arthur St. from Castor Ave. to Large St.	2466.	15,111.33	54,689.94	69,801.17
Loney St. from Castor Ave. to Frontenac St.				
Ripley St. from Castor Ave. to Frontenac St.	863.60	6,943.75	18,673.66	24,617.41
Loretto Ave. from Bleigh Ave. to Glendale Ave.				
Loretto Avenue from Khawn St. to Ripley St.	492.60	3,094.38	7,122.83	10,207.16
Loretto Ave. from Ripley St. to Loney St.				
Luzerne St. from "D" St. to 330 feet west of "D" Street	330.	2,673.29	3,351.96	6,025.25
Luzerne St. from "C" St. to "I" St.	1029.	7,667.24	14,094.46	21,761.70

171-1949

<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>Total Cost</u>
Wilnor St. from Cottman Ave. to summit Northeast	798.	\$ 5,909.54	\$ 11,449.71	\$ 17,359.25
Morris Park from Malvern Ave. to 850 feet Northwest	363.	-----	3,784.76	3,784.76
North Mt. Pleasant Rd. from Wissahickon Ave. to Greene St. 2239.90	2239.90	6,469.11	61,851.57	68,119.68
South Mt. Pleasant Rd. from McCallum St. to Greene St.	1250.	6,659.82	51,697.33	57,557.20
Glen Echo Rd. from McCallum St. to S. St. Pleasant Rd.	561.	3,769.49	18,246.51	22,016.00
Oak Lane from Old York Rd. to 13th Street	2955.	19,117.47	97,396.53	116,014.00
Oak Lane from 12th St. to Lawnton Avenue				
Oak Lane from Lawnton Ave. to summit east				
11th Street from summit north of 66th Ave. North to 69th Ave. North				
Lawnton Ave. from summit south of Oak Lane to summit South of 69th Ave. North				
Oxford Ave. from Pine Road to Fillmore Street	2471.	14,463.83	65,772.73	80,236.51
Burholme Ave. from Oxford Ave. to Loney St.				
Burholme Ave. from Oxford Ave. to Solly Ave.				
Pine Road from Rhawn Street to Stanwood St.	2931.	18,546.13	96,316.87	114,863.00
Dalton St. from Pine Road to Burholme Ave.				
Fuller St. from Pine Road to Burholme Ave.				
Stanwood St. from Pine Road to Burholme Ave.	1438.	9,842.23	54,038.07	63,880.30
Bennig St. from Stanwood St. to Solly Ave.	527.	3,601.79	15,411.63	17,013.47
Rhawn Street from Horrocks St. to Castor Ave.				
Large St. from Rhawn St. to Fuller St.				
Ripka St. from Pechin St. to Manayunk Ave.				
Rockwell Ave. from Ridgeway St. to Rhawn St.				
Rhawn St. from Ridgeway St. to Elberon Ave.				
Rhawn St. from Elberon Ave. to Pine Road				
Elberon Ave. from Rhawn St. to summit northeast of Stanwood St.	3862.50	20,823.19	100,859.74	121,687.93
Jeanes St. from Rhawn St. to Stanwood St.				
Cenrad St. from Rockwell Ave. to Rhawn St.				

<u>Location</u>	<u>Linear Feet</u>	<u>Assessment Bills</u>	<u>City Cost</u>	<u>Total Cost</u>
Remain St. from Frankford Creek Intercepting Sewer to Deal St.	1186.	\$ 6,813.91	\$ 47,720.12	\$ 54,534.03
Deal St. from Kensington Ave. to 530 ft. Northwest of Remain St.	190.	1,183.56	3,271.00	4,454.56
Schiller St. from Hutchinson St. to 8th St.	1063.50	7,571.53	25,501.72	33,073.25
Sherman St. from N. Mt. Pleasant Rd. to Mt. Airy Ave.	353.	2,165.16	4,112.83	6,277.99
Mt. Airy Ave. from Sherman St. to Greene St.	235.	1,902.36	1,407.22	3,315.58
Stanwood St. from Frankford Ave. to Craig St.	298.	1,943.63	6,923.72	10,867.35
Stiles St. from 66th St. to Atwood Rd.	364.	1,256.76	6,791.24	8,048.00
68th Ave. North from 13th St. to Old York Road	400.	1,592.01	9,733.39	11,325.40
78th St. from Overbrook Ave. to City Ave.				
Torresdale Ave. from Sheffield Ave. to Lansing St.				
10th St. from Chelton Ave. to 66th Ave. North				
66th Ave. North from 10th St. to 11th St.				
Lawnton Ave. from 66th Ave. North to summit S. of Oak Lane	5321.	20,782.79	101,592.71	122,375.50
11th St. from 66th Ave. N. to N. of 66th Ave. North				
25th St. from Fairmount Ave. to Perot St. (inlets)				
University Ave. from Curie Ave. to Woodland Ave.	1785.60	397.05	61,061.62	61,478.97
Vernon Rd. from Mansfield Ave. to Lowber Ave.	901.	5,006.74	17,637.74	22,644.48
Lowber Ave. from Vernon Rd. to Slocum St.				
Wissahickon Ave. from Mt. Airy Ave. to N. Mt. Pleasant Rd.	1783.50	10,345.35	59,359.11	70,204.46
Mt. Airy Ave. from Wayne Ave. to Wissahickon Ave.				
Wyoming Ave. from Weymouth St. to "R" St. (inlets)				

ACCOUNTING AND REPORTING DIVISION

BUDGET ITEMS

<u>ITEM</u>		<u>APPROPRIATED</u>	<u>ENCUMBERED</u>	<u>EXPENDED</u>
A-5	Personal Services	\$ 727,046.00	-	667,789.59
10	Transportation & Expenses not otherwise provided for	1,000.00	-	995.63
11	Recording deeds, agreements & permits, advertising City Plans	1,500.00	-	1,429.90
12	Rent of Sur. District Offices	13,260.00	-	12,575.00
13	Cleaning Offices	1,200.00	-	1,095.00
14	Storage of Automobiles and Trucks	4,000.00	-	3,679.15
15	Purchase of Automobiles and Trucks	11,000.00	-	10,989.88
16	Constr. of Sewers for Flood Control	20,824.85	-	-
17	Flood Control of Frankford Creek	1,786.16	-	15.00
Items 185 to 194 inc. Dept. of Supplies and Purchases		26,100.00	-	24,936.45
		<u>\$807,719.01</u>	-	<u>\$723,503.60</u>
SR-1	Maintenance, Equip, Repairs and Replacements of Sew. Disposal Plants, Grit Chamber & Laboratory Supplies & Purchases	8,000.00	-	5,829.14
SR-1	Sewer Rent Reserve, Depreciation, etc	1,060,331.54	-	-
SR-2	Coal, Including Transportation Services	6,700.00	-	4,103.62
SR-2	Repair, Operation & Maintenance of bldgs., structures & grounds of Sewage Treatment Works	50,000.00	-	17,984.55
SR-5	Constr. & reconstruction of Sewers	777,183.30	59,167.73	708,542.46
SR-A-1	Personal Services	254,300.00	-	173,398.82
		2,156,514.64	59,167.73	909,857.49
		<u>\$2,964,233.85</u>	<u>59,167.73</u>	<u>1,633,361.09</u>

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ACCOUNTING AND REPORTING DIVISION

LOAN ITEMS

<u>ITEM</u>		<u>APPROPRIATED</u>	<u>ENCUMBERED</u>	<u>EXPENDED</u>
380 ¹ / ₂ L	Elimination of grade crossings at 21st-22nd, Allegheny Ave., Westmoreland and Mt. Airy Avenues	121,915.21	-	-
440 ¹ / ₂ L	Highways, Bridges, Viaducts & Bulkheads	1,544.10	-	15.00
441L	Municipal Improvements on E. Bank of Schuylkill River & Fairmount Pk.	135,816.73	-	-
462L	Sewage Disposal	2,795.30	-	2,795.27
463CL	Manayunk, German Town & Chestnut Hill Grade Crossings	115,056.21	-	50.17
464 ¹ / ₂ L	Constr. of Sewers in Sanitary and Stormwater Drainage System	2.21	-	2.21
510AL	Improvement-Phila. International Airport	135,690.18	84,367.04	41,261.08
510BL	Improvement W. Phila. International Airport	648,341.53	35,851.92	417,599.77
520AL	Erection, Improvement & Extension of Sewage Disposal System	1,555,216.21	156,000.29	866,656.16
520BL	Improvement, constr. & extension of sewers & drainage facilities	12,351.18	10,329.67	-
540AL	Erection, Improvement & extension of Sewage Disposal System	16,992,647.41	7,939,194.39	7,324,939.97
540BL	Improvement, constr. & extension of sewers & drainage facilities	4,977,909.22	1,123,023.91	3,062,770.88
540CL	Constr. of relief sewers	1,121,017.43	313,370.08	754,537.10
554AL	Improvement of Frankford Creek	656,840.06	61,269.30	165,916.38
555L	Agreement with Penna. RR. (Chinese Wall)	4,300,000.00	-	-
560AL	Improvement of Phila. International Airport	7,025,700.27	1,297,657.64	3,015,098.65
560BL	Improvement-North Phila. Airport	733,641.47	-	70,532.36

(OVER)

175-1949

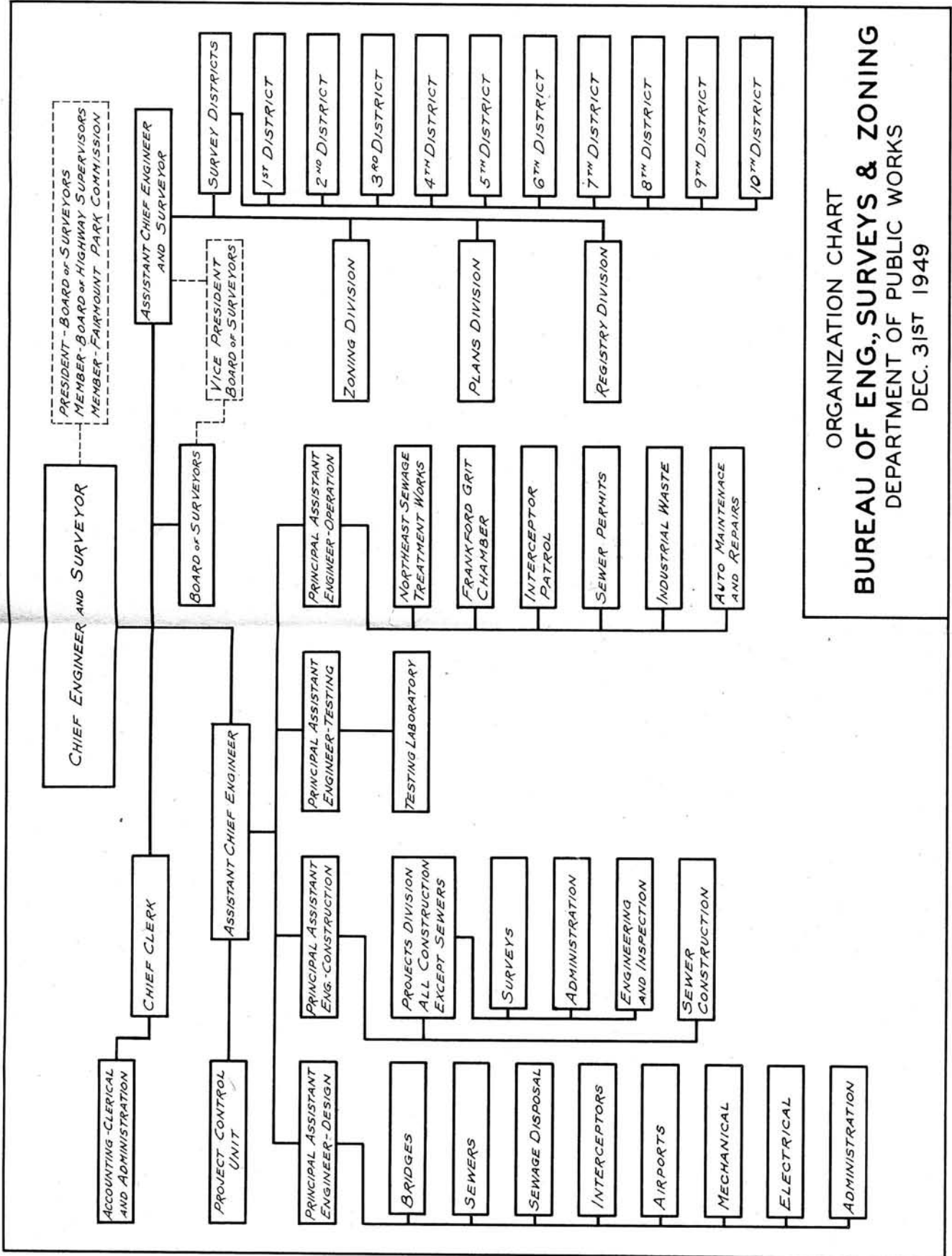
ACCOUNTING AND REPORTING DIVISION

LOAN ITEMS

(continued)

<u>ITEM</u>		<u>APPROPRIATED</u>	<u>ENCUMBERED</u>	<u>EXPENDED</u>
571L	In connection with Penna. Boulevard	395,415.51	81,000.00	5,038.74
591CL	Surveys & Plans for Parks, Playgrounds & Recreation Centers	220.00	-	-
595L	Constr. & repair of Bldgs., ground and equipment of Philadelphia Municipal Stad.	179,931.70	9,819.55	167,155.30
642L	Improvement, Extension & Constr. of facilities for Drainage and Flood Control	3,987,604.64	1,317,939.36	1,051,810.58
670AL	Erection, Improvement & Extension of Sewage Disposal System	3,500,000.00	-	-
670BL	Improvement, Constr. and Extension of Sewers and Drainage Facilities	1,500,000.00	-	-
700L	Improvement & Extension of Sewers & Sewerage System	40,000,000.00	-	-
		<u>487,947,668.57</u>	<u>12,420,843.15</u>	<u>16,946,180.07</u>

176-1949



ORGANIZATION CHART
BUREAU OF ENG., SURVEYS & ZONING
 DEPARTMENT OF PUBLIC WORKS
 DEC. 31ST 1949