VENICE HISTORY

is running one neck ahead of A. Oustad. Arnold was about thirty laps ahead of his brother Carl, who is rather coy, but when the new Ford roadster arrives, Arnold will have to lose a little more sleep to maintain his lead.

Scheutzow stepped out in front by filing his ordinance of intention, but the usual thirty-day period of protest is still running.

Every time Reynolds gets that far away look, he breaks out with more boils. He has a hard choice to make.

Jack Melton is still running strong; the bathing season will give him an unfair advantage soon.

Ralph DeArmond just sits back and kids the others along.

Tubby, the dark horse, has moved in with Ralph, so will soon be able to overcome the handicap of being in strange territory.

Our stenographer is an unknown quantity, but it has been observed that she knows how to be a passenger in the front seat.

Tennis again has sway of the enthusiasts. Irwin Reynolds again will lead the forces, but with a different lineup. Tommy Hossler has gone golf and Saunders has gone married, but with the old stand-bys, Hall, Bennett, Ball and Turner, and the re-habilitation of Carl Oustad, a good fight will be provided at every match.

Venice District

J. H. DAVIDSON, *District Engineer*
I. F. WHITE, *Correspondent*

There is perhaps a no more interesting chapter in Southern California history than the story of Venice. From the acquisition by Abbot Kinney of the barren sand dunes south of the old city of Ocean Park, and their transformation into a miniature of the Italian Venice, the history of this Venice of America has been exciting, sometimes turbulent, and at all times most interesting.

The founder of Venice was a world traveler, an author, and a dreamer who found it possible to build on the shore of the Pacific, a replica of the famous old-world city of canals, arched bridges, plazas, arcaded streets and buildings of Italian architecture.

The canals were filled at periods of high tide, the flow in and out of the system being controlled by gates. In this manner, the water was kept in good condition for boating and swimming. Palms, shrubbery and flowers were planted along the banks of the canals as a means of beautification and an ornamental lighting system cast various colors upon the water addin gto the beauty of night time, together with the procession of lantern-lighted gondolas formed a scene that will linger long with Venetians.

That was in the days of the horse and buggy. The advent of the automobile soon brought out the fact that the dedicated streets in and about the canal section were too narrow to accommodate the every increasing vehicular traffic. The interest in the canal area began to fade—property changed ownership, and the canals gradually drifted into a deplorable condition, until the only practical solution was to turn the water ways into modern thorofares, in order to stimulate new activity, attract new capital, and provide suitable access to the down town business district.

The canals were first dedicated to the use of the general public as waterways and later were re-deeded for use as public streets.

In 1925, the board of trustees of the former city of Venice adopted plans and ordinances providing for the filling of all canals north of North Venice Boulevard (formerly Center Street). The estimated amount of fill was 85,000 cubic yards. Nine contractors submitted bids for this work and contract was awarded on a unit price basis of fifty-three cents per cubic yard in place. On August sixth, interest opposed to the canal filling, on account of sentimental attachments to the waterways and the seclusion afforded the area within their embrace, together with those who feared that the assessments for the improvement would not find a commensurate advance and activity in the property affected, secured a temporary injunction on the whole proceedings.

After a period of approximately two years, the courts ruled that the city had jurisdiction to carry out the work as originally planned. In the meantime the city of Venice had consolidated with the city of Los Angeles and as favorable decision had been rendered by the courts the city council instructed the city engineer to prepare plans and ordinances for the improvement of the canals by filling, paving, and the construction of storm drains, together with a storm water disposal plant.

Proceedings for the latter improvement were initiated in September, 1927, and in December of that year contract was awarded. An injunction was again filed and after about one and one-half years of litigation, final decision of the courts was rendered.

Construction work was begun in July, 1929, and the improvements were completed by February first of this year, the total cost being $691,797.84.

he streets as now paved are wide and nit proper circulation of traffic ughout the area. Three new thoro- s leading directly into the business rict will result, as well as making ible a through north and south ry, namely proposed Second Avenue. new era of prosperity is certainly to come to the new Venice of Amer-

Storm Drains

Economic Value Engineering Problems

FORREST M. CASEY

orm drains are a vital and necessary of the public improvement program should be so accepted by laymen engineers alike.

o little is appreciated, of the prac- and physical advantages of storm s—applied to street improvement n in a large city.

is understood, of course, that the ary purpose of a storm drain sys- is to take the surplus water of heavy ers off the streets and so prevent or n the inconvenience and damage d by accumulated torrents which streets impassible, and damage y improved property.

e of the most important results of onstruction of a storm drain sys- in a section of a city is the possi- of an economical and ideally de- d pavement. When one considers ement of yester-year, with its high faces, and high crown, designed to the ever increasing water streams no place to dispose of it, with the inable cross-gutters at each cross t throughout the district, or per- instead the entirely inadequate sur- culverts at street intersections n can be expected to carry but a portion of the run-off; it is a won- hat there should be a question of mic value to the community to the perfect improvement, where nt catch basins at the street cor- take in the gutter streams from block or small area and conduct it rground to some convenient river nel or arroyo.

th all principle thoroughfares and rtant intersections served in a dis- no "drainage complaints" need s either owners or "city fathers." moderate street crowns, shallower and neater pavements result. nd curb returns at street corners avement surface is but a six inch from the curb instead of twelve, or ly more. The pedestrian's course mpeded by murky rivelets at street rs, to say nothing of the motorist's ure at not being compelled to slow each cross-gutter in his path, the year 'round. Safety, comfort and ncy thus result from the installa- f the storm drain system, and the unity at once becomes highly de- e.

asured in dollars and cents, the when compared with property val- ues attaining where such improvement is made, is not great.

Such systems built in Los Angeles have cost generally not more than one hundred dollars to an average city lot. Though such costs are usually made on the area basis, it may be also assumed at two dollars per front foot, if desired.

Design and construction of the storm drain system presents many problems which require study and practical application.

The anticipated maximum flood condition to be encountered, present and future improvements within the district, possible future extension of the system, economical routes and many other factors must be considered to produce an efficient and economical layout.

Constant study and observation in the theory and practice of storm drain design, and recent extensive experimental work at the California Institute of Technology, in the effective capacities of various types and sizes of catch basin inlets, (sponsored by the Los Angeles Bureau of Engineering), under the supervision of Mr. L. W. Armstrong, engineer of storm drains, has brought about much improvement in efficiency and practice of storm drain design in that organization, and resulted in clear and intelligent construction plans, tending to a minimum of misunderstanding.

In a large city, construction problems are many and varied. Capacity of the streets in which the laterals are to be laid, to handle necessary traffic and provide space for material and machinery with economy of time and operation, is highly important. Car tracks on such streets present a problem which the designer does well to keep in mind.

The subject of "interferences" of public utilities and sewer lines is an old story to the contractor, for with all due care, this problem is ever present. Occasionally the grades necessary for the storm drain require that a short portion of sanitary sewer be rebuilt or paralleled; and few jobs in any built up residence area fail to intercept one or several house connection sewers, which must of course be re-laid above or below the drain as the case may be.

The importance of serving a major artery frequently results in a storm drain being routed along such a street. The problem of speed in construction looms up at once, for, on account of ordinary traffic conditions and inconvenience to merchants on such streets, it is important that the work be consumated without delay. It is fortunate if ready-made pipe can be specified for this section of the drain, and all monolithic work possible eliminated, making feasible early filling and resurfacing of the trenches.

Contractors constructing drains in some of the foothill subdivisions frequently encounter very hard ledges of rock. Progress in such trenching is slow