

GENERAL MONTHLY REPORT, OPERATING DEPARTMENT.

F. M. LOCKWOOD, MANAGER.

Report of transactions of the Operating Department for the month of June, 1917.

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The selection of San Diego for a training camp for thirty thousand men, as well as for a remount station for from five to fifteen thousand head of stock, entailing, as it will a greatly increased consumption of water, renewed attention to the advisability of hastening the reconstruction of the Lower Otay storage reservoir, and the Council, on June 4th, appointed as Hydraulic Engineer, Mr. H. N. Savage, with authority to take full charge of the rebuilding of the dam.

Preliminary work was begun immediately. Temporary quarters were provided the Hydraulic Engineer and his assistants in buildings occupied by employes of the Water Bureau, and plans were put into effect for housing the employes to be engaged in the construction of the dam. Four frame houses were built to accommodate the Water Bureau employes, and all buildings at the dam were turned over to the Hydraulic Engineer. A mess house was built, with meat cooler in connection. A two stage centrifugal pump was installed to furnish water to the camp, and wash houses for the men, with showers and sanitation to conform with state laws were built. Exploration and excavation work was prosecuted throughout the month to determine the nature of the foundation of the dam site, and work was commenced on a coffer dam a short distance above, from which the probable flow of water will be diverted past the site to enable excavation work to be carried on without interruption.

The season for brush fires arriving with the first hot days of the summer called for the establishment of fire breaks along the impounding system. The new growth of underbrush, now dry and inflammable, is being cleared from about flume and pipe trestles and station buildings are being safeguarded. The fence about Morena has been completed and is now in better shape than for years. Civilian guards at Morena have been transferred to other locations and the dam is now being guarded by Infantrymen from the 21st Regiment.

The work of furnishing an adequate water works system to serve the cantonment at Linda Vista was pushed in spite of the uncertainty of the plans of the government, and by the end of the month a 12" line was practically completed from the Mission Valley pump plant at the foot of Texas Street to the east line of the cantonment site, a distance of approximately six and one-half miles. Crossing the river and up to the 400-foot level 15,800 feet of steel pipe was used. Here a booster pump with a capacity of one and one-half million gallons was installed, and from thence, crossing the mesa, 20,000 feet of machine banded wood stave pipe was laid.

Some 4,000 feet of 2" pipe was installed at the temporary camp at Linda Vista Station, 1000 feet leading to and serving the camp, and a line 3,000 feet long extending from there to the grading camp on the mesa.

A number of minor improvements have been made at the Pueblo Farm this month. The reservoir supplying the farm has been repaired; a brick water filter constructed for the men; a 30-gallon kettle set up in brick for boiling food for the hogs. In addition, fire guards have been plowed and repairs made to the road to Linda Vista.

There are now five head of young colts at the farm, and twelve head of hogs have been sent to the Lower Otay dam to be fattened on the garbage from the mess house.

An excellent crop of potatoes was obtained. One hundred sacks have been dug and sacked and there are approximately 150 sacks more to be dug.

Much attention has been given this month to the maintenance of the Rose Canon road and the road from the Pueblo Farm to Linda Vista, both being main traveled roads to Camp Kearney. Sprinkling is being done night and day, but the distance necessary to haul water, and the inadequacy of the equipment makes it practically impossible to keep the dust down. An auto sprinkler has been ordered and will be received within the month which will enable the department to greatly relieve conditions on the country roads. A 2' stand pipe has been installed at the south end of the Rose Canon road and that section is now kept well sprinkled. The sprinkling of city streets is now being done at night, and is proving to be more economical, as well as giving more satisfactory results.

Permits for the construction of 3655 feet of sidewalk were issued in June, and three street paving jobs were completed and accepted, besides three contracts for sidewalk and curb and one sewer contract.

Sprinkling city streets cost	.101	per 1000	square yards		
" Pt. Loma and Ocean Beach	.106	"	"	"	"
" La Jolla Boulevard	.111	"	"	"	"
Vacuum street cleaning cost	.119	"	"	"	"
White Wings	.085	"	"	"	"

June saw the completion of the contract for the installation of rip rap along the temporary bulkhead between Broadway and Market Streets, and the addition of fifty-three new fender piles on the north side of the Municipal Pier. Cargo received at the pier exceeds by 35% that received in June of 1916.

The fourteen automobiles of the department covered 18,767 miles during June, at an average cost of 5 1/2¢ per mile.

STATEMENT OF WATER SUPPLY.

WATER CONSUMED DURING JUNE, 1917.

San Diego, Calif.	318,294,653	gal.
Coronado	641,869	"
East San Diego	3,532,300	"
Encanto	1,813,825	"
Pipe Line (Misc).	800,350	"
Total	325,082,977	"
Daily average	10,356,099	"
" " (City)	10,609,822	"

WATER IN STORAGE JUNE 30, 1917.

Morena	14,129,000,000	"
Upper Otay	629,516,000	"
Challas Heights.	67,064,000	"
Total	14,825,580,000	
Water in storage May 31st	15,208,161,000	"
" " " June 30th	14,825,580,000	"
Decrease for month	382,581,000	"

FINANCIAL STATEMENT.

EXPENDITURES.

Bureaus	Capital	Operation	Maintenance	Total	
				Labor	Material
General Office		1062.85		958.15	110.70
Street Lighting		4038.33			4038.33
Inspection		867.10		720.00	147.10
Street	819.44	6805.44	5185.61	7072.11	5738.38
Public Buildings		1160.28	161.29	555.00	766.57
Harbor & Wharf		717.92	40.58	508.45	250.05
Engineers		2236.45	3.94	2031.48	208.91
Pueblo Lands	334.09	1207.05	117.17	1049.63	608.66
Sewer & Drainage	23.20	201.47	481.26	441.26	261.65
Water	41032.41	8008.33	5855.36	17053.67	37833.53
Miscellaneous	451.30	59.15		40.00	470.45
Totals	42651.54	26370.37	11845.21	30429.77	50437.35

RECEIPTS.

Bureaus	Credited to		Total
	Budget Accounts	Auditors Accounts	
Water	804.60	24246.44	25051.04
Building		194.75	194.75
Sewer	319.92	42.50	362.42
Electrical		404.00	404.00
Engineering	103.35		103.35
Street	1339.53		1339.53
Harbor & Wharf	16.35	1496.94	1513.29
Pueblo Lands	2.00		2.00
Totals	2585.75	26384.63	28970.38

We are pleased to report that by careful expenditure of the budget funds during the first six months we are able to show an unexpended balance of \$22,181.19.

GENERAL MONTHLY REPORT, OPERATING DEPARTMENT

City of San Diego

F. M. Lockwood, Manager.

Report of transactions of the Operating Department for the month of August, 1917.

The principal activities of the Operating Department during August in addition to the daily routine work, itself of no small consideration, were still those concerned with the construction work being accomplished by the city in connection with the Cantonment at Camp Kearny and the continuation of the preliminary work at the site of the Lower Otay Dam.

The construction of the 12" wood stave and riveted steel pipe line to Camp Kearny was completed. Construction on the 1,760,000 gallon concrete reservoir was placed well under way as well as the excavation for the dirt reservoir adjacent to the booster pump on this line. The dirt reservoir is an auxiliary storage and balancing reservoir of 15,000,000 gallons capacity and will be used in case of a break in the line. Two wooden tanks were erected on towers near the Camp Kearny distributing reservoir, and the booster pump, which was also completed, filled these tanks with water which was used for wetting down the roads and for construction work not only by the city but also by the Cantonment contractor.

The contract for the Silver Terrace Road leading to Camp Kearny was signed by the Council and John Engebretsen, the contractor.

The water works installed by the city will cost very close to \$83,000. The contract for the paved street is approximately \$75,000.

Such an expenditure was not contemplated by the Common Council when the budget for the year was made up and the tax rate fixed in May. Extraordinary means were therefore resorted to in order to raise the funds necessary to do this work. After all available bond funds which could be legally used had been secured, the Common Council asked each department to contribute 10 per cent of their budget allowances. The contribution from the Operating Department was made without reserve and totalled some \$56,000. Strictly speaking this was some \$6,000. more than the 10 per cent of the working allowance of the department since the Street Lighting allowance is a contract one which could not be cut and the Machine Shop allowance is a rotating account which properly should not have been considered in the reduction. However, this department desiring to facilitate in every way possible the work necessary to land the Cantonment, made the 10 per cent of the total allowance by extraordinary cuts in the water and street bureaus. Such a reduction does not mean a saving or an economy but merely means that work which is absolutely essential must be delayed until next year. It means that the people of San Diego will have to bear with this department in the emergency and must expect that their streets will suffer somewhat, and that improvements to the water system asked for in many localities will have to wait until a later date. It also means that the forces of the department must be cut and that not a few employees must look elsewhere for work.

The summer season continued to be normally warm and the daily consumption of water drawn from the system was 11,000,000 gallons, of which the city proper took practically all.

Street work in the Mission Hills district and other portions of the city necessitated the laying of 1970 feet of 4" cast iron pipe. There were 32 new water meters set during the month and these with the 247 meters acquired with the Encanto system make a total number of meters in use in San Diego of 15,253.

On the impounding system the usual routine work of operation and maintenance of dams, reservoirs, conduits, and pipe lines was carried out.

An event which attracted almost nation wide attention on account of the military operations in this section, occurred on the night of August 17. A malicious attempt was made to blow up with dynamite a section of the 40" wood stave pipe line just below the filter plant at Lower Otay. The attempt was unsuccessful and the slight damage was repaired in 7 hours with no interruption of the water supply in the city, the reserve in the University Heights reservoir being sufficient to handle the consumption. Circumstantial evidence seemed to indicate that the damage had been done with the intention of showing that it was necessary to maintain guards upon the pipe line, but the evidence was not strong enough to hold the man arrested in connection with the case.

During August Hydraulic Engineer H. N. Savage completed specifications for the Lower Otay Dam and for the cement to be used in the construction of the same. These specifications were mimeographed by the office force and furnished to contractors desiring to bid.

The arrangement of the camp buildings and quarters for the men was continued and the Hydraulic Engineer accomplished an arrangement with the San Diego public library whereby magazines and books will be made available and a branch library established for the construction forces at the dam.

A price of \$3.15 per ton was submitted by the San Diego & South-eastern Railway Co. for hauling all materials from San Diego to the dam. The rate is conditioned upon the highway up the Otay Valley being restored in good condition by the County of San Diego with the cooperation of the city.

The Harbor Bureau reports a grand total of 63,725.9 tons of freight handled through the local port of a total valuation of \$2,419,763. The Harbormaster entertained various representatives of ship building concerns during the month. The work of placing rip rap along the bulkhead adjacent to the Neptune Sea Food Co. plant, at the foot of Ivy Street, was completed during the month.

The Engineering Bureau was engaged during the month with the usual street improvement work and the necessary engineering work in connection with the work being carried on by the various bureaus of this department and the other departments of the city.

At the Pueblo Farm the plowing for the new hay crop has been continued with a total of 100 acres plowed for the month. This work is being accomplished this year under a much more difficult plan than heretofore. During the past the helpers, whom the city pays 50¢ a day and board, have been able to accomplish this work. This year, however, labor conditions are such that the grade of men who applied at the farm for work had declined to such an extent that it was impossible to trust this class of men with the work of plowing. On account of this it has been necessary to hire first class

teamsters at a higher wage. During the month the fencing of about 500 acres of pasture land has been completed and the rentals received from parties pasturing their stock has not only paid interest on the investment but will within a year wipe out the original expense. The city received from Mr. Wilson of Orofino 600 pounds of white beans the city's share of the crop from 3 acres used by him.

In addition to the routine work of keeping the city's equipment, wagons, scrapers, graders, sprinklers, sweepers, and automobiles in order, the Machine Shop did approximately \$100. worth of work in altering the new automobile for sprinkling purposes for the Street Bureau, the cost of this work being paid for by the firm furnishing this machine. The average cost per mile for the city automobiles was .04¢, the machines having travelled 16821 miles.

The Building Bureau reports 300 building inspections and 173 boiler inspections, the Gas & Electric Bureau reports 355 inspections. There are no assistant inspectors employed by the department at present and the building and electrical inspectors each have their hands full.

The Street Bureau has been somewhat handicapped during the past few weeks owing to the fact that we have had 25 head of stock and 14 men working on the Camp Kearny and booster pump reservoirs. However, the streets have been kept in excellent condition on the main thoroughfares and little complaint has been made by the people. The 30th Street, B Street, Old Town, and Lemon Grove Boulevard bridges were sanded and oiled and minor repairs made. Reynard Way was regraded as well as several streets in Roseville, the southerly portion of Ocean Beach, Tide St., and "I" Street. All available equipment was utilized in hauling decomposed granite from the Electric Railway Company's job on Fort Stockton and Lewis Streets to repair other streets in that vicinity. The new automobile street sprinkler was placed in operation during the month. Data is being kept on its efficiency and we will, in subsequent reports, make comparative statements of the operation of this machine as against the horse drawn sprinklers. We do not consider, however, that our tests at the present time are sufficient to warrant such comparisons. We are glad, however, to say that the automobile sprinkler is very satisfactory and that we believe it will prove to be an excellent investment for the city.

The Plaza Comfort Station has been undergoing various repairs, it being necessary to overhaul the plumbing, to repair the sidewalk above the station and to alter some drains within the building. The many service men in the city have proven this station to be an asset of which the city may be proud. Between three and four thousand people use the station each day.

The Sewer Bureau has loaned several men to the contractor at Camp Kearny and has been working short handed. Nevertheless the Fourth and "E" Street deep sewer job is well on its way towards completion and the sewer system throughout the city is in excellent condition. The completion of the contract sewer in University Heights will make a great deal of extra work in the installation of sewer connections for this bureau during September.

GENERAL MONTHLY REPORT, OPERATING DEPARTMENT

CITY OF SAN DIEGO, CALIFORNIA

F. M. LOCKWOOD, MANAGER

Report of transactions of the Operating Department for the month of September, 1917.

With the object of assisting the government in every way possible to hasten the construction of the big army camp at Linda Vista, and at the request of the officers in charge of that work, the water was turned into the reservoir being erected by the city at that place while it was still in course of construction. A depth of some seven feet of water was maintained in the bottom of the reservoir while the last three feet was being added to the top. The reservoir was completed by the middle of September, and by the end of the month, when the concrete was set sufficiently, was filled to its capacity. A chlorine plant was installed and the water, although from the city's certified supply, was given an additional treatment at the camp.

The 15,000,000 gallon ~~storage~~ storage reservoir at the booster pump also, was practically completed by the end of September.

San Diego's water front is rapidly becoming one of the City's most valuable assets. Prior to the time San Diego was given control of the water front the earnings of the harbor were practically nil, but these have gradually increased until the present earnings range from \$1500 to \$2500 per month. Tide land leases which are being made to new manufacturing concerns, are bringing the returns to the city up at a rapid rate.

In this connection it is gratifying to note the growth of the fishing and kelp products industries in the harbor. San Diego stands foremost among the ports of the southwest in the fishing industry, and the eleven plants devoted to the packing of tuna, albacore and sardines, principally, have created a market for their products throughout the world. The fish pack for the first eight months of the year amounted to 10,818 tons the value of the fish (on board the boats and before caning) being \$874,990. During the same time the kelp handled by the larger plants, irrespective of the many small burners, amounted to 195,906 tons, and was valued at \$254,678.

The prospect of a large ship building plant in the near future adds impetus to the inquiry for water front property, and the early commencement of dredging for the construction of the Marine Base at Dutch Flats gives assurance of ample employment for the future.

At Morena, the spare time of the Keeper and his helper was devoted to clearing from the shore of the lake adjacent to the dam, the summer's growth of weeds and brush. The Lower Otay pipe line was gone over for the purpose of repairing small leaks, and inspection showed that the roof of Tunnel No. 4 of the Otay San Diego pipe line was in bad shape, portions of it having given way and considerable of the side lagging, bulging and rotted.

WATER CONSUMED DURING AUGUST, 1917

San Diego	336,277,209 gallons
Coronado	690,400 "
East San Diego	2,873,600 "
Encanto	3,330,037 "
Pipe Line (Misc)	907,445 "
TOTAL	344,078,691 "

Daily Average 11,099,312 gallons
City 10,847,652 "

Water in storage July 31st	14,237,879,000 "
" " August 31st	13,564,285,060 "
Decrease for month	673,593,940 "

FINANCIAL STATEMENT.

	EXPENDITURES		
	Labor	Material	Total
General Office	993 75	17 50	1011 25
Street Lighting		4034 49	4034 49
Inspection	657 50	93 50	751 00
Street Bureau	7347 88	6750 03	14097 91
Public Buildings	595 00	682 48	1277 48
Harbor & Wharf	611 54		611 54
Engineers	1399 85	156 30	1556 15
Pueblo Lands	677 95	65 80	743 75
Sewer & Drainage	988 45	157 31	1145 76
Water	13558 96	16555 87	30114 83
TOTALS	26830 88	28513 28	55344 16
Less Misc. Credit		44 16	44 16
NET TOTALS	26830 88	28469 12	55300 00

CASH RECEIPTS CREDITED TO

	Budget A/C	Auditor's A/C	Total
Water	309 73	28366 97	28676 70
Building		226 25	226 25
Sewer	938 84	82 50	1021 34
Electrical		252 80	252 80
Engineers	69 96		69 96
Street	2012 86		2012 86
Harbor & Wharf	150 59	1822 25	1972 84
Pueblo Lands		235 31	235 31
TOTALS	3481 98	30986 08	34468 06

Repairs were at once started, old timbers being replaced with new, and new lagging installed where necessary.

Repairs to the hydraulic valves of the filtration plant were commenced; and it was also necessary to install a new nozzle to the flow meter. Trouble having developed with the feed of the chlorine plant, it was moved up the hill from its old location at the filter plant and changed from pressure to gravity, no further trouble being experienced.

The auto sprinkler purchased by the city has been given a fair trial, and has proven a success, not only in covering more territory, but in enabling the department to work outlying streets which otherwise could not be worked on account of the prohibitory haul of water; also enabling the department to work to and from outlying sections without much loss of time, as the working force goes out and in with the sprinkler, thus doing away with the maintenance of a small camp for a short period.

The regular maintenance force of the Street Bureau graded over the road from Old Town to La Jolla, to Ocean Beach, and across the Strand; finished regrading 35th from Broadway to Market, and F from 16th to 24th. Regraded the Mission Valley road from Old Town to the city limits and from the bottom of the grade to the top of the Murphy Canon grade. The decomposed granite taken from the car tracks on Fort Stockton was used on the streets in the Mission Hills district. Reynard Way was also regraded, as was 14th and 15th streets.

An average of twenty horses and twelve men was employed in excavating the storage reservoir for Camp Kearny the entire month.

The "hot stuff" mixer bought by the Purchasing Department was received early in the month and was immediately set up at the pipe yards at California and Fir Streets. Bins for sand and rock were erected alongside the Santa Fe siding into which material can be unloaded, and from thence shoveled directly into the mixer. Trial runs were made between the 18th and 23rd, and the plant turned out 18 tons of hot stuff, running about an hour each day. The capacity of the plant is seventy boxes per day. This first output cost approximately \$2.55 per batch of eight cubic feet, a cost that on a capacity run could very nearly be cut in two. It was used to patch Front, Broadway, B and C Streets, but owing to the limited capacity for laying the hot stuff and the inconvenience of moving so often from one small job to another, the run was cut down to about twelve boxes per day.

Arrangements are being made to have this plant supply the hot stuff for all street repair work including that of the Street Railway and the Gas Company. In this manner the pavement can be repaired from curb to curb by the city forces, no unsightly holes being left for other concerns to repair.

The cost of running the cars of the department varies little from month to month and is effected chiefly by the repairs necessary. A 50% mixture of distillate and gasoline is used bringing the average cost for fuel per mile down to 1 1/2 cents. The average cost of running the thirteen machines of the department during September, including shop repairs, tires, tubes, fuel and oil, was .049, the distance covered being 13,491 miles.

STATEMENT OF WATER SUPPLY
WATER CONSUMED DURING SEPTEMBER, 1917.

San Diego	314,719,569 gal.
Coronado	1,080,860 "
East San Diego	3,288,956 "
Encanto	3,438,556 "
Pipe Line (Misc.)	1,167,158 "
Total	323,695,099 "
Daily average	10,789,836. City, 10,490,652 "

WATER IN STORAGE SEPTEMBER 30, 1917.

Morena	12,271,000,000 gal.
Upper Otay	579,283,000 "
Chollas Heights	85,649,336 "
Total	12,935,932,336 "
Water in storage August 31st	13,564,285,060 "
" " " September 30th	12,935,932,336 "
Decrease for month	628,352,724 "

FINANCIAL STATEMENT

Expenditures:	Labor	Material	Total
General Office	1100.00	89.57	1189.57
Street Lighting		3978.66	3978.66
Inspection	570.00	79.85	649.85
Street Bureau	5805.17	2007.39	7812.56
Public Buildings	671.15	554.20	1225.35
Harbor & Wharf	580.51	423.80	1004.31
Engineers	791.25	160.68	951.93
Pueblo Lands	416.35	672.56	1088.91
Sewer & Drainage	1466.89	458.07	1924.96
Water	8340.06	4208.72	12548.78
Miscellaneous	3150.11	7863.18	11013.29
Totals	22891.49	20496.68	43388.17

Receipts: Credited to Budget A/c	Auditors A/c	Total
Water	407.01	30359.63
Building		332.50
Sewer	290.00	55.00
Electrical		361.70
Engineers	71.25	71.25
Street	3305.14	3305.14
Harbor	140.34	1524.58
Pueblo Lands		11.70
Street Lights	40.50	40.50
Totals	4254.24	32545.16

It will be noted that the actual expenditures of the department exceed by some \$6588.77 the receipts, but when it is explained that \$15,248.15 was for capital expenditures it will be seen that the receipts of the department are in excess of the cost of maintenance and operation.

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GENERAL MONTHLY REPORT -- OPERATING DEPARTMENT

CITY OF SAN DIEGO, CALIFORNIA.

F. M. LOCKWOOD, MANAGER.

With the approach of the winter season the necessity of providing more substantial shelter for the sixteen infantrymen guarding the Morena Dam presented itself, and work was started on the construction of a barracks, 18' X 40' in size. A sentry house also was built, and enough old lumber was collected to construct a substantial mess hall.

Provision for the winter's supply of coagulant for clarifying the water is also being made, and forty tons of coagulant are now in storage at the Upper Otay. An average dosage of 600 pounds per day is now being used, which, during the rainy season will undoubtedly have to be increased, sometimes reaching as high as one and one-half tons per day. During the month of October 1,386 pounds of chlorine was used at the Lower Otay plant. All treatment of water used by city consumers takes place at the Lower Otay, but in addition to this, and at the request of governmental authorities, a chlorine plant has been installed on the Camp Kearny line and a further treatment is given the water supplied to the camp.

Morena supplied 99% of the water consumed by the city during the month of October, the remaining 1% consisting of run-off from the Pine Creek territory. The water stage at Morena reservoir on the first day of November was 141.40; on January 1st was 143.68, showing a decrease of but 2.28 feet in that time.

Active construction on the dam at the Lower Otay was commenced during the month. The contract was formally executed on the 11th day of October; work on an excavation for a cement stock house begun on the 16th; the dam site was laid out on the 19th and on the same day lumber for the camp buildings began to arrive. Construction of offices and dormitories began on the 20th and by the 28th the laborers' dormitory was completed and in use. Excavation for the curtain wall portion of the base of the dam commenced October 22d, and was continued throughout the month.

In Mission Valley, work was started on the protection from possible flood waters of the 12" pipe line leading to Camp Kearny, at the point where it crosses the San Diego River. Piling was driven into the river bed to a depth of 23 feet, to which the pipe was clamped, one pile being placed at either side of each joint and one in between. Old piles from the harbor, which had been eaten off by the toreda, but which were still long enough for this purpose, were utilized.

Upon completion of the 15,000,000 gallon supply reservoir at the Booster Pump on the Camp Kearny line, water was turned in, and the department will continue to pump a little in each day until it is filled. The 6" booster pump at Pacific Beach was transferred to the University Heights reservoir for the purpose of increasing the flow to Camp Kearny.

Fishing and hunting privileges at Morena reservoir which for some months had been prohibited, were resumed this month, resulting in many visitors to the lake. Signs are posted, no one being allowed within a distance of 1000 feet of the dam, which, in addition, is well guarded.

At the request of the Police Department, provision was made at the Pueblo Farm for the accommodation of prisoners convicted chiefly of bootlegging and drunkenness, and these men were put to work, under the supervision of the Street Superintendent, hauling rock and putting surface material on the road from Camp Kearny to La Jolla. Other, odd jobs about the farm were done by these men, cutting fence posts, chopping wood, etc., and later on they were sent to La Jolla to dig sewer and water ditches, with headquarters still at the Farm, where a substantial stockade has been constructed for their use.

Considerable attention has been given this month to the culverts about the city, clearing them of weeds and the summer's accumulation of rubbish.

A 10,000 gallon wooden tank has been installed on the newly surfaced Linda Vista road, the better to facilitate sprinkling. The recently purchased automobile sprinkler was given a thorough trial on this road and proved conclusively its superiority in this class of work, the cost per 1000 square yards being .237, against \$2.03 for the horse-drawn sprinkler.

The department began furnishing hot stuff to the Electric Railway Company this month for use in the repair of the paved streets along the car lines, and in addition to this, the new asphalt plant turned out the mix for 530 square feet of concrete base and 3472 square feet of asphalt paving installed by the Street Bureau.

STATEMENT OF WATER SUPPLY

WATER CONSUMED DURING MONTH OF OCTOBER 1917.



San Diego.....	304,236,965	gallons
Coronado.....	59,228	"
East San Diego.....	2,265,994	"
Encanto.....	2,737,297	"
Pipe Line..(Misc).....	779,520	"
TOTAL	310,619,004	"
Daily Average.....	10,019,967	"
" " (City).....	9,814,095	"

WATER IN STORAGE OCTOBER 31, 1917

Morena.....	11,676,000,000	"
Upper Otay.....	591,331,000	"
Chollas Heights.....	90,282,335	"
TOTAL	12,357,613,335	"
Water in storage Sept.30th	12,935,932,336	"
" " " Oct.31st	12,357,613,335	"
Decrease for Month	578,319,001	"

FINANCIAL STATEMENT

BUREAUS	CAPITAL	OPERATION	MAINTENANCE	LABOR	MAINTENANCE	TOTAL
General Office		1225.42		1110.00	115.42	
Street Lights		4028.16			4028.16	
Inspection		599.38		510.00	89.38	
Street	331.29	6119.46	7821.50	7785.50	6486.75	
Public Buildings		1199.07	105.56	596.95	707.68	
Harbor & Wharf		545.28	82.37	572.60	55.05	
Engineers	4.50	2311.71	10.08	2110.34	215.95	
Pueblo Lands		2205.33	31.85	349.05	1888.13	
Sewer & Drainage	994.05	185.18	306.03	1041.17	444.09	
Water	286.31	11276.49	6357.22	8022.37	9897.65	
Miscellaneous	1704.34			449.95	1254.39	
	3320.49	29695.48	14714.61	22547.93	25182.65	
Less excess credits	125.12					
	3195.37	29695.48	14714.61	22547.93	25182.65	
					22547.93	
				TOTAL	47730.58	

RECEIPTS

BUREAUS	BUDGET ACCOUNTS	AUDITOR'S ACCOUNTS	TOTAL
Water	973.41	27796.37	28769.78
Building		175.00	175.00
Sewer	410.00	80.00	490.00
Electrical		458.85	458.85
Engineers	69.58		69.58
Street	677.70		677.70
Harbor	73.17	1687.87	1761.04
Pueblo Lands		26.40	26.40
TOTAL	2203.86	30224.49	32428.35

GENERAL MONTHLY REPORT-OPERATING DEPARTMENT

CITY OF SAN DIEGO, CALIFORNIA.

F. M. LOCKWOOD, MANAGER.

Report of transactions of the Operating Department for the month of November, 1917.

The efficiency of city departments having of late been questioned, it is deemed that in justice to the employes of this department a brief mention be made of some of the work performed, and of money saved by them during the past two and one-half years, or during the period the Operating Department has been in existence.

It would hardly seem necessary to remind the average citizen that during this time the city has successfully completed a two-year exposition; that it experienced and has recovered from the most disastrous flood of its existence; that it has helped to build an army cantonment for the government; and that while each of these situations have called for unusual expenditure on the part of the city, they have been handled with little apparent addition to the tax payers burdens.

The Operating Department is making no claim for credit for the success of the Exposition, but wishes to mention the fact that all cleaning of the Exposition grounds was done by the Street Bureau at a cost to them of some \$600.00 per month, and the additional fact that the Water Bureau furnished, and still furnishes, gratis, the water necessary to make this one of the most beautiful parks in the United States.

The expenditures of the Operating Department for the year 1916 were some \$198,000 less than in 1915, in spite of the fact that it was necessary to spend \$142,000 in repairing damages caused by the flood in January. Notwithstanding the damage sustained at this time to some five hundred miles of streets, it is universally acknowledged that never in the history of the city have the streets been in better condition than now. And, although the water system was badly crippled, and water pipes, sewer pipes and bridges all over the city were undermined and destroyed, repairs were quickly and thoroughly made and little inconvenience was experienced by the citizens.

This year the cantonment has drawn practically \$70,000 from the budget allowance of the Operating Department, alone, and still the maintenance of those bureaus within the jurisdiction of the Operating Department has shown no depreciation, a fact that is due to the increased efficiency of it's members, and a desire on their part to give the best that is in them at this time when every loyal American is doing his bit in whatever position he may be placed.

In the constantly increasing development of the city many miles of new streets have been acquired and many new water and sewer services installed. These require, and have, as thorough

attention as has ever been given them, and this at less cost to the city each year, despite the almost phenomenal rise in the price of material and the increased wage paid. The following figures will show the lessening expenditures of the bureaus composing the Operating Department for the past three years:

1914 Expenditures	\$963,758.06
1915 "	825,691.58
1916 "	627,319.45
1917 Budget allowance	559,680.58

The last item shows the budget allowance for the year 1917. Deducting the \$70,000 used in promoting the cantonment, the sum of \$489,680.58 is left for maintenance and operation of the department for the year, which amount is practically one-half of the sum expended in 1914.

In order to facilitate work on the city's portion of the paved highway to Camp Kearny, some four miles of 2" pipe was laid from the booster pump at Linda Vista along the roadway, which, by the end of the month was practically 75% graded. In addition to the usual repair work, the Street Bureau worked the Murray Canon road, and the Mission Valley road was regraded from the Poor Farm grade to the Texas Street grade. Sixth Street, from the Park to University Avenue, Upas Street, between 5th and 6th, and a portion of Cleveland Avenue were resurfaced; the old oiled pavement was plowed up on 24th, from Broadway to F; on E, from 23d to 25th, and on a portion of F Street, hauled away and the streets regraded; and three blocks of Genter Street in La Jolla were graded in order to make a detour around Prospect Street, now in the hands of the paving contractors.

The city's garbage contract expiring with the first of the month, the Operating Department was compelled to take over the collection and disposal of city garbage and refuse pending the award of a new one. Not being prepared, it was necessary to utilize wagons and teams of the Street Bureau for this purpose, and being unable to obtain lists of routes, the telephone was resorted to, and from two to four clerks were kept busy receiving calls for collection. The award of the contract toward the end of the second week relieved the department of this work.

Attention being drawn to the inadequacy of the Comfort Station at the Plaza to handle the visitors, a man was stationed there for a week to check those entering between certain periods, the result showing that between three and four thousand people use the station daily. During one half-hour period the men's side had 340 visitors, and there were many half hour periods during which 200 men used the station. The hours for keeping open the station have been prolonged, it being now kept open until midnight, but it is evident that larger accommodations must be furnished.

STATEMENT OF WATER SUPPLY.

Water consumed during November.

San Diego	274,149,631	gallons
Coronado	487,608	"
East San Diego	1,961,500	"
Encanto	2,028,098	"
Pipe Line (Misc)	1,437,100	"

Total 280,063,937 "

Daily average 9,335,464 "
" " (city) 9,138,321 "

WATER IN STORAGE NOVEMBER 30th.

Morena	11,259,000,000	"
Upper Otay	614,648,000	"
Chollas Heights	86,281,134	"

Total 11,959,939,134 "

Water in storage Oct. 31 12,357,613,335 "
" " " Nov. 30 11,959,939,134 "

Decrease for month 397,674,201 "

FINANCIAL STATEMENT

EXPENDITURES

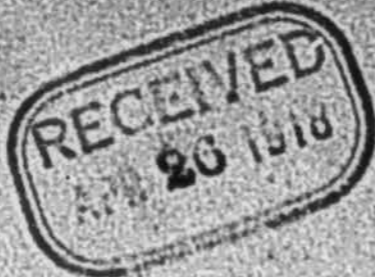
	LABOR	MATERIAL	TOTAL
General Office	1108.81	36.10	1144.91
Street Lighting		4028.16	4028.16
Inspection	570.00	105.19	675.19
Street	7558.51	3744.45	11302.96
Public Buildings	1384.77	1002.78	2387.55
Harbor & Wharf	607.05	54.23	661.28
Engineers	2510.13	192.07	2702.20
Pueblo Lands	383.08	842.25	1225.33
Sewer & Drainage	617.56	599.87	1217.43
Water	8288.48	5516.82	13805.30
Miscellaneous	598.75	801.55	1400.30

Total 23627.14 18923.47 40550.61

RECEIPTS.

Water	29388.26
Building	251.35
Sewer	711.11
Electrical	393.75
Engineers	52.56
Street	5.70
Harbor	2252.41
Pueblo Lands	203.70
Machine Shop	3.00

Total 33260.74



GENERAL MONTHLY REPORT, OPERATING DEPARTMENT.

F. M. LOCKWOOD, MANAGER.

Report of transactions of the Operating Department for the first three months of the year 1918.

Owing to the necessity of getting out work of more immediate importance, the monthly reports of the Operating Department for January and February were not issued. So many requests for these reports have been received, however, that it was thought best to include in the March report a brief summary of the work accomplished since the beginning of the year, and this report will, therefore, cover the first quarter of the year 1918.

This first quarter has been an active one, in which were started a number of improvements planned in 1917, but which, on account of depletion of that years' funds, were held up until the funds of 1918 were available.

One of the first undertakings was the remodeling of the general office of the department, and the re-placing of the office force to further a more advantageous working together of all units. An organization chart was also gotten out, which, together with a statement setting forth the duties and responsibilities of the heads of the different bureaus, was furnished to each said bureau head.

In March a general renovation of the City Hall was commenced, the third and fourth floors being completed and the second well under way by the end of the month. Sundry alterations were also made in the office of the Treasurer, at 3d and G Streets. This work is in charge of the Mechanical Bureau of the department, which bureau also completed the Isolation Hospital Annex in accordance with the plans of the Health Department, constructed a dressing room for the bathers at the new recreation grounds on the tide lands, and also constructed a new bunkhouse for the prisoners at the Pueblo Farm. This bunkhouse contains 72 bunks, built in tiers of three, surrounding a 16' square lounging room in the center, equipped with benches and a table.

This bureau also dismantled the old dredger "Capps" and remodeled it into a pile driver and pile puller; has installed a rock crusher on the road above Torrey Pines for the purpose of crushing rock for the new paved highway, and has replaced the old 2" pump at the Pueblo Farm with a 6" pump.

In January, contract was awarded and the sidewalk built on the north side of Broadway, leading across the tide lands to the Municipal Pier. Originally a parking strip sixteen feet wide was left between the walk and the curb, but with the increase of business at the pier it became apparent that to avoid congestion this strip should be eliminated and the curb set in close to the walk. This change accordingly was made, the work being done by the Street Bureau. This bureau also graded approximately 1000

feet of road across the tide lands, and has graded and leveled the new athletic field for the Playgrounds Department which occupies all that portion of the tide lands between Beech and Date Streets, an area of 300 x 600 feet.

The plan of sending prisoners to the City Farm, begun in December at the instigation of the Police Department, has proven of such assistance in solving the question of living expenses for these men that it has assumed somewhat greater proportions than the Operating Department at first contemplated. The original bunkhouse became entirely inadequate for the number of prisoners, an average of sixty being maintained, and it became necessary to provide larger quarters. A bunk house capable of accommodating seventy-two men was constructed, opening into the stockade, in which are several smaller quarters and which is at all times under guard. The concrete foundation, 54½' x 31' was laid by the prisoners under supervision of one cement man, the carpenter work being handled by the Operating Department. The prisoners are employed in cutting wood and fence posts, repairing roads, digging ditches, and in necessary work about the farm. A force of these men has brushed a fifty foot roadway for the new paved road through the farm to connect the Biological and Torrey Pines grades and has removed the 2" water main from the old Torrey highway, laying it along the side of the new road.

The farming has this year been turned over to the Street Bureau. Some 300 acres of hay is flourishing, and considerable new ground has been broken up for planting next year. From 175 to 200 head of stock is kept in pasture, which is amply supplied with water by means of the earth dams built last year, and which adds considerably to the revenue of the farm. In addition, some 1200 acres of pasture land has been leased to neighboring ranchers, and the Government has the use of approximately all the territory for maneuver purposes, subject to certain prohibitions during period of crop.

A mile of new roadway has just been completed in Rose Canon, skirting the edge of the hillside and avoiding the sand, making a better grade and a better road. The balance of the Rose Canon road has been graded twice since the first of the year, once after each heavy storm. The bridge in the Canon, weakened by the freshets, was strengthened and the approaches regraded. Two new bridges have been built at Inca. All city streets, also, have had to be regraded after these storms, and the usual deposit of sand and earth, washed down from the unpaved hill streets, was removed from the paved streets of the down town section.

Very little thought is given by the average citizen to the great necessity of building another pier to handle the business that is now being refused for lack of dockage facilities, although these same citizens have no idea of retarding the city's progress or prosperity. In addition to the fact that the city is losing a substantial revenue each month, little encouragement can be given shippers, many of whom are making inquiries, when it is impossible to assure them of accommodations in the future.

Another dock, equal in size to the Municipal Pier, would be necessary to handle the shipping that is being turned away day after day. Were immediate construction begun on such a pier, it would be in the neighborhood of a year before it could be finished, and by that time the completion of the Arizona Railway will have opened up the enormous possibilities of the territory to the east of us.

The inroads of the teredo upon the piles have necessitated replacing a few about the pier and floats. These piles were pulled and the new ones driven with the recently constructed pile driver belonging to the department. The teredo eaten fender piling along the bulkhead north of the municipal pier, for a distance of 250 feet, was also pulled. Instead, however, of driving new piling, which, taking into consideration the prohibitive cost per pile would prove an expensive installation, the worm eaten ends of the old piles were removed and the sound portions utilized for fenders by suspending them against the side of the bulkhead from lower low water, up. By this method it is hoped to do away with the necessity of future driving of fender piling. As the present driven piles become eaten, they can be removed and used in this manner.

The leasing of tide lands near the foot of Hawthorne to three large packing companies and the rapidity with which these concerns are improving their holdings, is gratifying. A recently adopted resolution which makes it compulsory that buildings erected on the tide lands north of Broadway be of one style and of attractive design, is being followed in each case, and promises a class of water front building of uniform and pleasing architecture.

A six inch water main has been laid to accommodate these industries, streets have been graded across the tide lands, and plans for a sewer system are being prepared.

Water mains have also been installed on Utah Street, and on Prospect Street in La Jolla, prior to the installation of paving.

Although San Diego's water consumption has increased greatly through the acquisition of the many Army and Navy posts in its neighborhood, it is well able to stand the extra inroads upon its supply. Up to the early part of March there was little rainfall, and no run-off into the Morena Reservoir. During March, however, several severe storms and a heavy run-off practically refilled the reservoir, bringing the water to the 144.18 foot elevation. Practically no draught has been made upon this supply as yet, the run-off from Pine Creek and Hauser being sufficient for the city's needs.

Close watch is kept at the Harvey Diverting Dam on the flow of water during these storms, excessively turbid water

being excluded from the pipe lines at this point. Should water of high turbidity pass the Otay Filtration plant, however, gate moves at the Bonita Wye and at Chollas are made to by-pass this water into Chollas for sedimentation. Concrete stilling wells have been built at Upper Hauser dam and at the stilling basin, preparatory to the installation of Special Wier Recorders.

No little damage was done during these March storms, in spite of the fact that considerable time had been spent in building cross drains and in general repair of trestles and pipe lines. While the concrete slabs placed over the Dulzura Conduit prevented entry into it of sand and earth, the Hauser dam was practically filled, necessitating the employment of men and teams in its clearance.

Sentry boxes were built at the Lower Otay Filter Plant and at the Upper Otay for the use of the guards on rainy nights. The cast iron and wood stave pipe, and the 16" pump used for discharge from the sump at Lower Otay in 1916 have been removed and stored, ready for transportation into the city.

The building operations are steadily increasing, permits for the first quarter reaching \$416,641. This gain is due chiefly to the new buildings for the industries on the water front, although permits for residences and bungalows have doubled, both in number and in valuation.

STATEMENT OF WATER SUPPLY

Water in storage March 31st.

Morena	13,733,000,000 gal.
Upper Otay	711,076,283 "
	<u>85,859,955 "</u>
TOTAL	13,528,936,237 "

Water in storage February

28th 11,514,336,405 "

Increase 2,014,599,832 "

FINANCIAL STATEMENT.

Budget allowance for period ending March 31,	\$142,234.53
Net expenditures for period ending March 31,	<u>135,701.74</u>
Saving for period	\$ 8,532.79

Bureau.	Cash receipts for Quarter. Credited to Op. Dept. Acc.	Credited to Auditors Acc.	Total Receipts.
Water	2764.52	92345.31	95109.83
Building		960.30	960.30
Sewer	1227.72	502.50	1730.24
Electrical		1345.50	1345.50
Engineers	5.80	581.82	587.62
Street	71.78	1144.80	1216.58
Harbor	140.37	6584.04	6724.31
Pueblo	23.00	60.50	83.50
Shop	360.24		360.24
TOTALS	4593.35	103524.77	108118.12

Ed Fletcher Papers

1870-1955

MSS.81

Box: 56 Folder: 15

**Business Records - Water Companies - Cuyamaca
Water Company - City of San Diego - General
monthly reports, operating department**



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