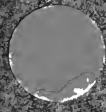


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SPECIAL MESSAGE
OF
GOVERNOR GEORGE STONEMAN

TRANSMITTING THE
REPORT OF THE STATE ENGINEER
ON THE SEWERAGE OF THE
DEAF, DUMB, AND BLIND ASYLUM AND THE STATE UNIVERSITY,

MADE IN COMPLIANCE WITH SENATE CONCURRENT RESOLUTION No. 7.

TWENTY-FIFTH SESSION, 1883.

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SPECIAL MESSAGE.

STATE OF CALIFORNIA, EXECUTIVE DEPARTMENT, }
SACRAMENTO, CAL., February 1, 1883. }

To the Honorable Senate and Assembly of the State of California :

I herewith transmit to your honorable bodies a report of the State Engineer on a plan for the sewerage of the Deaf, Dumb, and Blind Asylum and the State University, made in accordance with Senate Concurrent Resolution No. 7.

In connection with this subject I call your attention to the following facts and make some suggestions which seem fitting:

The water supply, sewerage, ventilation, and heating of the buildings of public institutions—such as the Insane Asylums, the Prisons, the Blind Asylum, the University, the Normal Schools, and the Capitol Building—the water supply, drainage, and general improvement of the grounds about the buildings of these institutions, and the general improvement of the Yosemite Valley, are all subjects calling for engineering consideration and treatment, on which the Legislature is asked to act in some way at each session, concerning which the Governor, as ex officio member of most of the Boards of control, is continually called upon to pass judgment and act, and on which many thousands of dollars of the State's money are yet to be expended.

The engineering duty in connection with such works should be performed by the State Engineer, and that officer should intimately familiarize himself with the wants of the public institutions in these respects, so that the Governor may at any time be promptly and fully advised on subjects concerning which he has to act as ex officio member of the several Boards of control, and so that the Legislature may have at command, so far as plans and estimates are concerned, in the State Capitol building, all the information necessary upon which to decide the questions which are brought to its notice each session; and, finally, so that the various Boards of control of the public institutions mentioned may be well advised on engineering subjects without the expense of employing civil engineers for the purpose.

I shall hereafter avail myself of the services of the State Engineer to collect the information referred to, for my own guidance, and in order that the Legislature may be informed when it meets again.

242759 GEORGE STONEMAN,
Governor.

REPORT.

OFFICE OF THE STATE ENGINEER,
SACRAMENTO, January 31, 1883. }

To the Honorable Senate and Assembly of the State of California :

In compliance with your concurrent resolution (Senate No. 7), I have visited the site of the Deaf, Dumb, and Blind Asylum and of the State University at Berkeley, with the view of making a permanent plan for the disposition of the sewage of these institutions, and now beg leave to submit a report setting forth the condition of things, in this regard, as I have found them, and the possibilities in the case, drawing your attention to the extent of work which your resolution necessitates, and ask further instruction before incurring additional expense and consuming more time.

THE SITUATION AT THE DEAF, DUMB, AND BLIND ASYLUM.

The Deaf, Dumb, and Blind Asylum comprises six brick structures grouped upon the steep, sloping plain close against the base of the Alameda hills, at a distance of about 14,700 feet from the bay shore.

These buildings are disposed according to a set plan, upon a plat somewhat less than five hundred feet square.

They have all been built within the past seven years, and the subject of the removal of sewage matter, waste, and drainage waters from them appears to have been closely and intelligently studied, for I find an admirable system for house drainage incorporated into the plans, and works for this purpose apparently well executed in each structure.

The ideas embodied in this system are the most modern, and those now generally approved by sanitary engineers of advanced ideas.

The works, I believe, will insure the prompt removal of all refuse matter from the buildings, and will keep these structures well ventilated and free from the noxious effects so very commonly encountered from bad house drainage, even in most pretentious modern structures.

After removal from the buildings, the sewage and drainage matter is conducted in glazed stoneware pipes from each building to a main pipe which conducts the whole, westward, down the slope, and along it, southerly, a distance of about eight hundred feet from the central building to the southeast corner of the tract belonging to the institution, and there it is used in irrigation.

The amount of water used per day in the buildings of the institution is about 20,000 gallons. This is approximately the measure of the ordinary volume of sewage and drainage matter, and it is disposed upon an acre of land through ditches about five feet apart,

allowed to soak away into the cultivated soil, or plowed under from time to time.

This system of disposing of the sewage matter is undoubtedly the best which, under the circumstances, could have been adopted, as has been proven by general experience in such matters in older countries, where the subject has been closely studied and experimented upon.

But now after years of use the soil of this irrigated tract has become thoroughly charged with sewage; it has lost in a great measure its power of purifying the fresh matter brought to it.

The property in the immediate neighborhood is being occupied, and a progressive and enlightened population is gathering in.

While at some point remote from habitations, this system of disposing of the sewage matter might well be carried on by taking new lands for the purpose from time to time, for an indefinite period in the future, it is no longer permissible in this neighborhood.

The effects in the Fall of the year, I am told—and I can readily understand that such is the fact—are most disagreeable and unhealthful to the occupants of the institution, and to residents in the neighborhood.

The State is virtually maintaining a nuisance at this place, but not by or through any fault or omission of those having it in charge.

THE SITUATION AT THE UNIVERSITY.

The State University comprises four main structures, situated upon a flat spur from the Alameda hills at the commencement of the steep sloping plains towards the bay, at a point about four thousand feet northwest from the Deaf, Dumb, and Blind Asylum, and twelve thousand and seven hundred feet in a straight line from the bay shore.

These structures, built at intervals during the last sixteen years, have been provided with pipes and fixtures for the removal of sewage, offal, and drainage waters, after a very defective system.

The fixtures as a general thing are by no means of the most efficient types, and the arrangement of the pipes is not such as to promote their proper ventilation and prevent the injection of sewer gases into the buildings.

Thus removed from the structures, the sewage and drainage matter is conducted into three cesspools, in the immediate neighborhood of the buildings themselves, and situated at distances of five hundred to seven hundred feet from each other.

The cesspool system of disposing of sewage matter is one generally condemned by all students, experimentalists, and practical workers in sanitary science. At best it can be but a mere temporary makeshift. I suppose it was adopted as such at the University, and now the time of its efficiency, the period of its admissibility, has passed. The cesspools have become a nuisance. One has burst and disposes its matter through the adjacent soil, and another requires constant cleaning to prevent its effects from being unbearable to the University students and faculty.

In addition to these buildings there is another, the gymnasium, which is drained into a creek immediately south of the flat spur on which the main buildings rest, and a group of cottages from thirteen hundred to two thousand feet down the creek, which are drained into cesspools.

The immediate neighborhood of these structures and of the University is well built up in beautiful homesteads, on the south side particularly, stretching away to the grounds of the Deaf, Dumb, and Blind Asylum.

I am told that some of these private houses are drained into the little creek or *arroyo* before mentioned, and it is generally conceded that certain unhealthfulness of the neighborhood in the fall months, is due to the accumulation of foul matter in this *arroyo* and in the cesspools before mentioned, and I can well believe, from the knowledge of experience elsewhere, that such is the case.

DISPOSITION OF THE SEWAGE.

The sewage matter from these institutions can only be permanently disposed of by conducting it to the bay and depositing it where it will be swept off by tidal action.

In the case of the Deaf, Dumb, and Blind Asylum all else has been accomplished except the provision of a conduit from the grounds to the bay shore, and proper outfall works at that point.

In the case of the University the sewage will have to be collected by branch pipes for the several structures and brought to one point for discharge into a main pipe to be carried to the bay. The cesspools will have to be thoroughly cleaned and filled up, and the house drainage works in the buildings should be remodeled to some extent, at least, in order that the benefit of the new system may be fully felt in them.

If the State were going to provide independent works for the disposal of the sewage of these institutions, as here suggested, it would take about twenty-two thousand linear feet of glazed earthenware drain pipe, varying in diameter from four to eight inches, which laid, would cost about twelve thousand dollars, if the work is done with only a small margin of profit to a contractor on it.

It would cost about one thousand dollars for additional outside work in the removal and filling of cesspools, and arranging connections, etc.

I have not had time to study the house drainage of the buildings at the University, so as to make any reliable estimate of the cost of remodeling it, but believe two thousand dollars would be the least sum from the expenditure of which any considerable benefit might be expected in this regard.

THE TOWN OF BERKELEY.

The neighborhood in which these institutions are situated, embracing a tract about eight thousand feet in width, and extending back about seventeen thousand feet from the bay shore, is organized as a town, under a special Act of Legislature, has its system of town government, and levies taxes for municipal purposes. It is the Town of Berkeley.

The sewerage of these State institutions in this town, so far as the conduction of sewage to the bay is concerned, is properly a part of the town sanitary works. It seems to me that if the State could act in conjunction with the town authorities, and this burden were equitably distributed, the State would save a material portion of the twelve thousand dollars estimated for the main conduit.

It is only by a close study of the situation that a definite plan and detail of cost can be submitted for the drainage and sewerage of this district, and I respectfully represent that this would take a month of time and at least six hundred to eight hundred dollars expense for surveys, plans, estimates, etc.

I cannot recommend that the State undertake this alone. The town authorities should contribute towards it. I am told that these town authorities are anxious to have something done in the matter, and will doubtless cooperate with the State.

Hence, I would recommend that a further inquiry be made as to this point, that knowledge be had as to what proportion of the cost of a main pipe the State would have to pay.

The Town Council are to have a meeting next week, and steps have been taken to communicate and negotiate with the members on the subject.

I am, with respect, your obedient servant,

WM. HAM. HALL,
State Engineer.

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