



The Mining and Lands Commissioner

In the matter of The CONSERVATION AUTHORITIES Act

AND IN THE MATTER OF

An appeal against the refusal to permit the placing of fill on parts of lots 20 and 21 in Concession A (North Gower) in the Township of Rideau in The Regional Municipality of Ottawa-Carleton.

B E T W E E N :

JOSTAN ENTERPRISES LIMITED

Appellant

- and -

THE RIDEAU VALLEY CONSERVATION AUTHORITY

Respondent

J. L. Shields for the appellant.
P. A. Webber for the respondent.

The appellant applied under clause b of section 3 of Ontario Regulation 875/76 to the respondent for permission to remove and replace fill on part of lots 20 and 21 in Concession A (North Gower) in the Township of Rideau. The respondent refused the permission and on an appeal being made to the Minister of Natural Resources under section 2c of section 27 of The Conservation Authorities Act, as amended by The Conservation Authorities Amendment Act, 1973, the power and duty of hearing and determining the appeal was assigned to the Mining and Lands Commissioner by Ontario Regulation 406/77.

The subject lands contain approximately 20 acres and form an irregular parcel on the westerly bank of the Rideau River and a tributary thereof. The southerly boundary of the subject lands is Regional Road 4. The southerly quarter of the easterly boundary of the parcel is the westerly bank of the Rideau River and the northerly

part of the easterly boundary is a tributary that enters into the Rideau River. The northerly boundary of the parcel is Sutherland Avenue with the exception of a site of an existing house at the north-easterly corner of the parcel which lies to the south of Sutherland Avenue. On the west the parcel is bounded by lands of other persons.

Generally speaking the site, with an exception of a very small portion at the southwest corner, appears to be low and marshy with elevations ranging from one foot to four and one-half feet above the normal summer elevation of the Rideau River that was assumed to be 281.5 feet above sea level. It is proposed to lay out a street across the parcel commencing at Sutherland Avenue on the north at a location westerly of the existing house and proceeding southerly approximately 500 feet. This roadway would then turn toward the west a distance of approximately 300 feet and then curve southerly toward Regional Road 4. This street is identified on the proposed plan as "Street No. 1". It would terminate in a cul-de-sac with an emergency access to Regional Road 4. It is proposed to lay out 11 residential lots on a plan of subdivision. Three of the lots would be laid out fronting on the westerly bank of the tributary at the northerly end of the parcel. The remainder of the lots would be on the westerly side of Street No. 1. An area to be known as Block C containing 2.91 acres was laid out at the northwest corner of the parcel and an area shown as Block D containing 13.12 acres was laid out in the southeast remnant of the parcel.

The consulting engineering company of Oliver, Mangione, McCalla and Associates Limited was engaged by the appellant to prepare the draft plan of subdivision and to design the subdivision in a way that would comply with the requirements of the respondent. In so doing the consultant designed a proposal whereby fill would be removed from blocks C and D and placed on the proposed lots and Street No. 1 bringing the elevation of the street and the lots to 284 feet. It was appreciated that the regional floodline had been established at an elevation of 286 feet and while the submission to the respondent merely indicated that the lots would be filled to 284 feet, Joseph Mangione of the company, who has had a certain amount of experience in

hydraulics and floodline mapping, gave evidence that it was the intent to have the area surrounding the houses raised to 286 feet by the use of the excavated fill from the foundations. This evidence caused some concern on the part of counsel for the respondent as it appeared that the appellant was changing its proposal at the appeal stage.

It should be noted in passing that with the exception of a small portion of lots 10 and 11 which lie immediately to the north of Regional Road 4 all of the subject lands lie below the regional flood elevation. The elevation of Regional Road 4 is 290 feet. The elevation of Sutherland Avenue is 282.5 feet along the frontage that would front on Block C. The design was to excavate blocks C and D to an elevation of 281.5 feet along the shoreline and gradually slope the blocks back to Street No. 1. The evidence was clear that the amount of fill being made available would be adequate for the proposal and the consultant was satisfied that he had designed a system that was free of any safety hazards, that it would comply with the requirements of the Ministry of Environment respecting septic tanks and that with the utilization of the fill from the excavation of basements and foundations the first floors of the houses would be above the regional flood elevation and there would be a method of escape through the emergency access at the southerly end of Street No. 1 to Regional Road 4.

Running in a northerly direction from Sutherland Avenue and at a location that would be opposite Street No. 1 there is a street named Lewis Way. There are existing houses along Lewis Way as well as the existing house on the southerly side of Sutherland Avenue mentioned earlier. These houses are fairly valuable and were believed to have been constructed on slabs and without basements. Along the easterly shore of the river there is a cottage type of development with cottages of twenty to thirty years of age. Further north along the river near the community of Manotick there are estate type residences. However, this is some ten miles closer to Ottawa.

On cross-examination of the witness Mangione it was brought out that he had not applied the modern doctrine respecting the cut and fill principle which is usually referred to as the stage storage

doctrine. Under this doctrine it is essential that any replacement storage be created at the same elevation as the elevation at which the fill is placed. It was the witness's opinion that this doctrine should not be applied as he could see no problems or difficulties in respect of the application of the basic cut and fill principle. Counsel for the respondent illustrated at length the problems associated with the basic principle but the witness continued to be of the opinion that an application of the basic cut and fill principle was adequate.

Thomas Kent, the Resources Development Co-ordinator for the respondent, gave evidence that the site had been flooded in the springs of 1976 and 1977. Part of his evidence was supported by aerial photographs and by his observations on the ground, particularly in 1976 when he stood in one to two feet of water on Sutherland Avenue.

F. Ivan Lorant of the company of M. M. Dillon Limited, who has had twenty years of experience on a worldwide base in hydraulics and hydrology and who recently was involved in a provincial government study on related matters, was called on behalf of the respondent. The witness indicated that his company had established the regional floodline on the basis of the one in one hundred year flood theory which was a less stringent theory than the Hurricane Hazel theory or the Timmins storm theory. With reference to the appropriateness of the cut and fill principle the witness confirmed the validity of the stage storage doctrine or as he appeared to express it, the "incremental balance theory". He pointed out that the significant distinction is the loss in the application of the basic principle of the storage at the higher elevations at the time when the storage at these elevations is most relevant. The witness indicated that in his assessment of the matter he had prepared a cross-section that indicated that more than 50 per cent of the cross-section would be occupied by the proposal and in his opinion this was a substantial and unwarranted reduction.

It appeared that the witness had not made a study of the effect of the proposals on the flow of the river in the event of a regional flood. He was asked regarding the significance of filling to an elevation of 284 or 286 and he indicated that neither proposal was preferable but that filling to an elevation of 284 would be the better

of the two evils.

One could tersely dispose of this appeal on the hydraulic basis adopted by the respondent. The need to apply the stage storage doctrine has become well accepted and its application in the particular case has been supported by the witness, Lorant who is a very qualified expert in this type of matter. However, I feel that more can be said although in fact it may be nothing other than an illustration of the types of situation that The Conservation Authorities Act is designed to prevent or may be mere applications of the stage storage doctrine.

Firstly, let us consider the situation in the event of a regional storm. With reference to lots 1, 2 and 3 they will be bounded on the east by the tributary of the river. We do not have any evidence on the depths of the tributary but in addition to these depths there will be 4 and 1/2 feet of water. South of Lot 3 there will be water along the south boundary varying from 4 and 1/2 feet to zero feet at Street No. 1. Further there will be water on Block C which extends to Street No. 1 which is at the rear of these three lots. In addition there will be 3 and 1/2 feet of water on Sutherland Avenue to the north. For all practical purposes these three lots will be complete islands and while there may be a theoretical outlet through the emergency access this will depend on whether the culvert between blocks C and D is adequate to permit the passage of the crest of any flood that may come down the river. There is always the possibility that the street could be washed out at the culvert.

In similar vein if one looks at Lot 4 it will have water on three sides assuming that the street is considered as one side of the lot. The land to the west of the subdivision will not be raised and there will be water at the rear of lots 4 to 8 inclusive. These are, in my opinion, completely unacceptable circumstances for residential buildings. Frequently these peaks arise during the night and in addition to emergencies such as health and fire there are risks to children of wandering into the flooded areas and drowning. Counsel for the appellant indicated that this type of risk should be apparent to any purchasers. However, in my opinion the purpose of The Conservation Authorities Act is to prevent the errors of 200 years of

development in floodplains in Ontario and residential development is the prime concern in controlling areas such as the subject lands.

In addition there was adequate evidence of the more scientific aspect of the control of flooding. The effect of the filling of lands to the higher elevation is that there is a serious reduction of storage capacity which, to an individual landowner may not appear significant but which if it were permitted to all landowners would have a cumulative effect, and in effect defeat one of the purposes of The Conservation Authorities Act, namely the preventing of flooding.

There is also the question of constriction as it is frequently identified. The creation of a circular arch into the floodplain by Lots 4 to 10 will probably interfere with the flow during a regional storm. I appreciate that the witness Lorant had done no calculations on this point but observation of the exhibits make it apparent that a flow of water through the floodplain would be restricted and constricted by this fill and the houses that would be built thereon. Similarly the fill on lots 1 to 3 would have the same effect and from the point of their vulnerability to flooding, the houses to be erected thereon would for practical purposes be in the centre or the heart of the floodplain. There was no evidence that a culvert in Street No. 1 would pass the flow at the peak of a regional storm and this is no assurance that the peak flow could reach the storage area above the street, creating a further constriction. In my opinion it is apparent that in addition to the other matters already dealt with there is a serious problem of constriction in the proposed design.

From the foregoing reasons, I am of the opinion that the appeal in this matter cannot be allowed.

IT IS ORDERED that the appeal in this matter be and is hereby dismissed.

AND IT IS FURTHER ORDERED that no costs shall be payable by either of the parties to this matter.

DATED this 23rd day of November, 1977.

Original signed by G.H. Ferguson

MINING AND LANDS COMMISSIONER.