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File #272922

Hilderman Thomas Frank Cram  
500 - 115 Bannatyne Avenue East  
Winnipeg, Manitoba  
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Attention: Mr. Allan Beach

Dear Sir:

Re: Fort Garry Skateboard Park

The following will summarize some of the discussions which we have had regarding the above-noted project.

It is understood that it is intended to elevate the site by over a metre to permit storm drainage away from the facility. I am in general agreement with this as I understand from local people that this area has been a low and soft area in the past.

It had been intended that several test holes would be drilled to assess the upper stratigraphy of the subsurface profile. A recent inspection of the area suggested that serious surface damage would be encountered with a truck-mounted drill and the benefits would not be as significant now that the site will be elevated. Hand augering of the test holes could not be done because of frozen ground.

It is highly probable that the site is underlain by the usual Lake Agassiz highly plastic lacustrine silty clay. The silty clay can undergo swelling and shrinkage movements with changes in soil moisture conditions. It is anticipated that the soil moisture contents would be high and the potential for swelling and resulting heave would be reduced.

It is expected that within the upper part of the silty clay are layers of a tan silt. The tan silt is often water bearing and this is likely the case at this site. The tan silt is frost susceptible. Fence post jacking in the area is an indicator that the tan silt is present.

A large portion of the development site is an asphalt paved tennis court which would have a 50 mm surface covering of asphalt and perhaps 150 to 200 mm of granular base course. The beach volleyball court will contain a fine grained clean sand.

We recommend that the site development include the removal of the asphalt pavement and the sand from the beach volleyball court within the general area of the structural development. The surface of this work should extend about a metre outside of the structural development.

The tennis court area which has been excavated should be compacted to a uniform density of at least 95 percent of Standard Proctor density at optimum moisture content. A geotextile should then be placed and covered with 100 mm crushed limestone subbase capped with 100 mm of 20 mm crushed limestone base course. These materials should be compacted with vibratory compaction to a uniform density of 98 percent of Standard Proctor density.

The entire area beneath the structural areas should be covered with high density rigid insulation to prevent the subgrade from freezing and heaving. The thickness of the insulation and the lateral extent beyond the structural elements should be determined in consultation with the insulation suppliers.

The foregoing should help to minimize differential movements in the structure, however, movements are unavoidable. Particular attention should be given to the "joints" between the various structural elements.

I trust that the foregoing is satisfactory for your present purposes. I would be pleased to discuss any questions which you may have.

Yours truly,

DYREGROV CONSULTANTS

Per: 

A.O. Dyregrov, P.Eng.