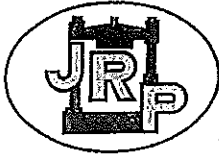


914-6799



## *J.R. Paine & Associates Ltd.*

CONSULTING AND TESTING ENGINEERS  
EDMONTON — GRANDE PRAIRIE — PEACE RIVER

17505 - 106 Avenue  
Edmonton, Alberta  
T5S 1E7

January 16, 2012  
File No. 2412-269

IBI GROUP LTD.  
#1050, 10405 Jasper Avenue  
Edmonton, Alberta  
T5J 3N4

ATTENTION: Mr. Dan Clark, P. Eng.

Dear Sir:

Re: **Engineered Fill Construction**  
**Oxford Stages 17 and 18**  
**Edmonton, Alberta**

J.R. PAINE & ASSOCIATES LTD. has undertaken the construction quality control testing and monitoring of engineered fill constructed in the above noted subdivision. The objective of the engineered fill was to accommodate residential housing construction utilizing footing foundations. Authorization to proceed was granted by IBI Group Ltd. The work was undertaken in June to September, 2011.

Prior to the placement of engineered fill, our firm checked stripping on a part-time, as-required basis. The engineered fill requirements applied to all lot fill placed to finished construction elevation, which is understood to be 0.3 metres lower than the design finished front of lot elevation.

The placement of the engineered fill was monitored to verify material suitability and to ensure compliance with the specified compaction requirements. The recommended compaction of the engineered fill was specified as a minimum of 98 percent of the corresponding Standard Proctor Density. Lift thickness was specified as 150 millimetres or less. A description of the lots in the subject subdivision containing engineered fill is as follows:

**Stage 17:**

**Block 18: Lots 1-14 inclusive**

**Block 20: Lots 2-30 inclusive**

**Block 21: Lots 3-26 inclusive**

**Block 21: Multi-Family Lots 1 and 2**

**Block 22: Lots 1-22 inclusive**

**Stage 18:**

**Block 21: Lots 28-64 inclusive**

**Block 23: Lots 2-22 inclusive**

**NOTE:**

Engineered fill was constructed on two multi-family lots (Block 21: Lots 1 and 2) with the objective of accommodating multi-family residential housing construction. It should be noted that wood framed buildings of maximum 2 storey are the only form of multi-family housing recommended for footing support by the engineered fill. Any apartment style housing would require alternative foundations.

On the basis of the test results obtained and the monitoring conducted for lot fill placed below 0.3 metres of design finished front of lot elevation, engineered fill compliance has been achieved for the lots described previously. Footing foundations bearing directly on the engineered fill are deemed adequate. An allowable bearing value of 100 kilopascals for continuous footings and 120 kilopascals for spread footings may be applied to the design of footing foundations. In addition, the recommended foundation design for the subject engineered fill lots is as follows.

Strip Footings	-	minimum 450 millimetres wide by 150 millimetres deep
Basement Walls	-	minimum 200 millimetres thick, reinforced with 2-10M horizontal rebar placed top and bottom
Spread Footings	-	designed by others utilizing above bearing capacity

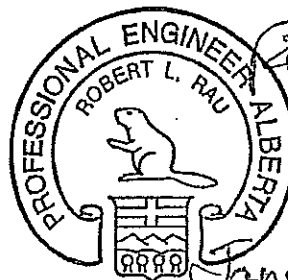
This design applies to wood-framed single family houses of maximum 2 storey. It is reiterated that these values and designs apply only to footings bearing directly on engineered fill at least 0.3 metres below the design finished front of lot elevation, and only in the lots described previously.

As a reminder, the lot purchasers should be made aware of the engineered fill and foundation design recommendations prior to house construction. Normally, provided the footing elevation is as stated, no further site inspection is envisioned to be required by our firm during house construction on these subject lots. However, if soft or organic soil is observed at footing elevation after the basement excavation is complete, our firm should be contacted to inspect the site and provide foundation recommendations. Please endeavour to note the engineered fill situation during all future communications with our firm with respect to the subject lots.

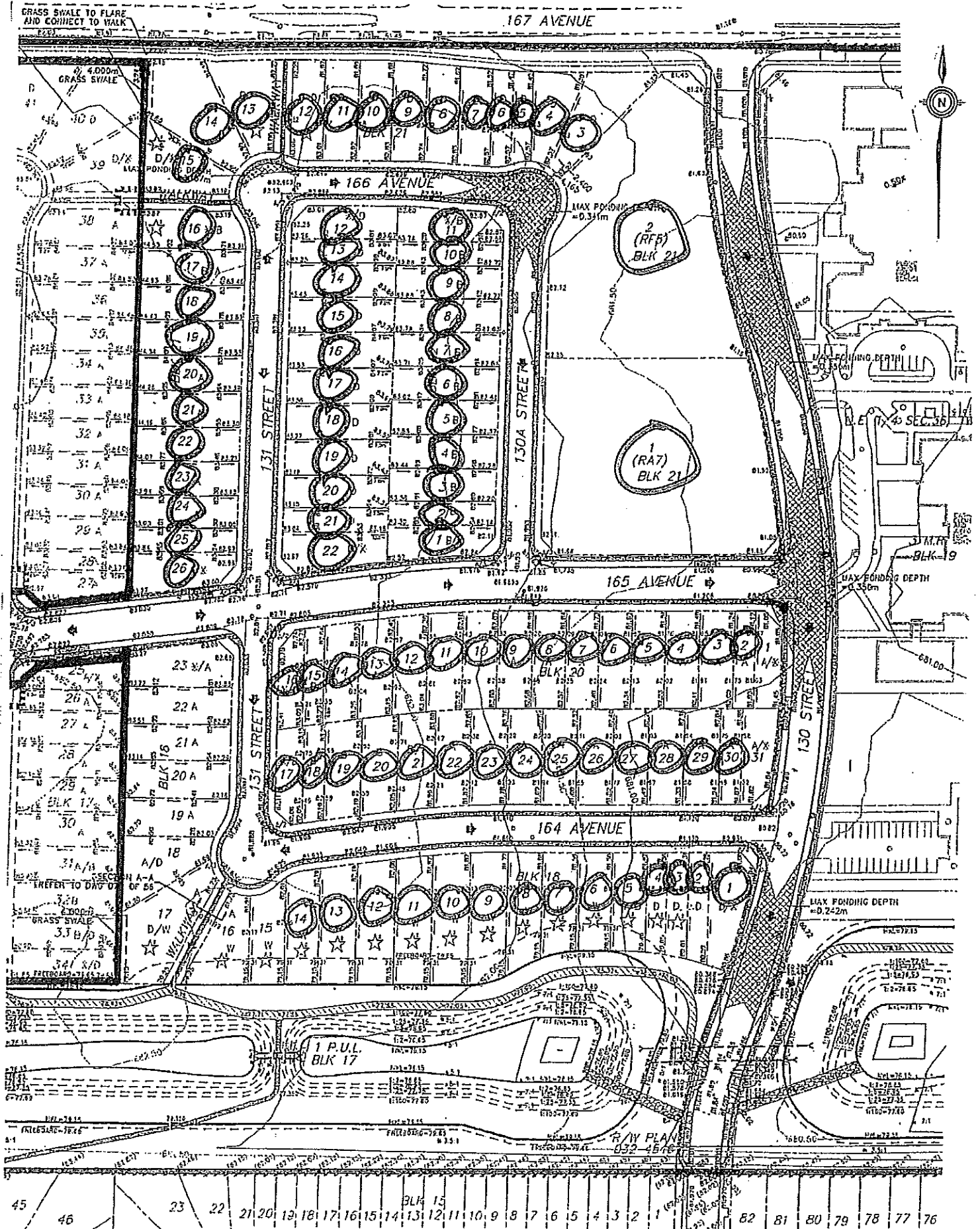
We trust this information is satisfactory. If you should have any further questions, please contact our office.

Yours truly,

J.R. PAINE & ASSOCIATES LTD.



Robert Rau, P. Eng.



Oxford 18

