Math 105—Calculus I Project 3

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Success is yours, and the contracts are pouring in! After two resoundingly successful contracts with large companies (both, curiously, related to the giant MPC, Inc. conglomerate), you have received a third such contract. This comes from the conglomerate itself, and pertains to a recently announced expansion of their wold-wide headquarters, located in the thriving metropolis of Lonlinc, Skanebra. The letter you received on the subject is attached.

M.P.C., Inc.

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1 MPC Drive
Lonlinc, SK
04685

22 November, 1995

Independent Mathematical Contractors, Inc.
Suite 2, Strawmarket Business Plaza
Lonlinc, SK 04685

Dear IMC:

On the recommendation of a number of other companies with which we are affiliated, we have contracted with you to resolve a cost-issue which pertains to the recently announced expansion of our world-wide headquarters in Lonlinc. While the building expansion is to be connected to the existing structure, recent regulations passed by the Lonlinc legislature require us to run a new line from the local power hub to provide electronic connectivity and power. Unfortunately, this necessitates running conduit through the wetlands behind the new construction, which makes it difficult to determine the optimum path along which the conduit should be laid.

We expect that it will cost approximately one and a half times as much to run conduit through the wetland section of the path as it does through non-wetland ground. Owing to concessions made by Lonlinc to encourage business development, we only have to run conduit from the edge of our building to a point at which the power company will make power available, as shown on the map which follows.

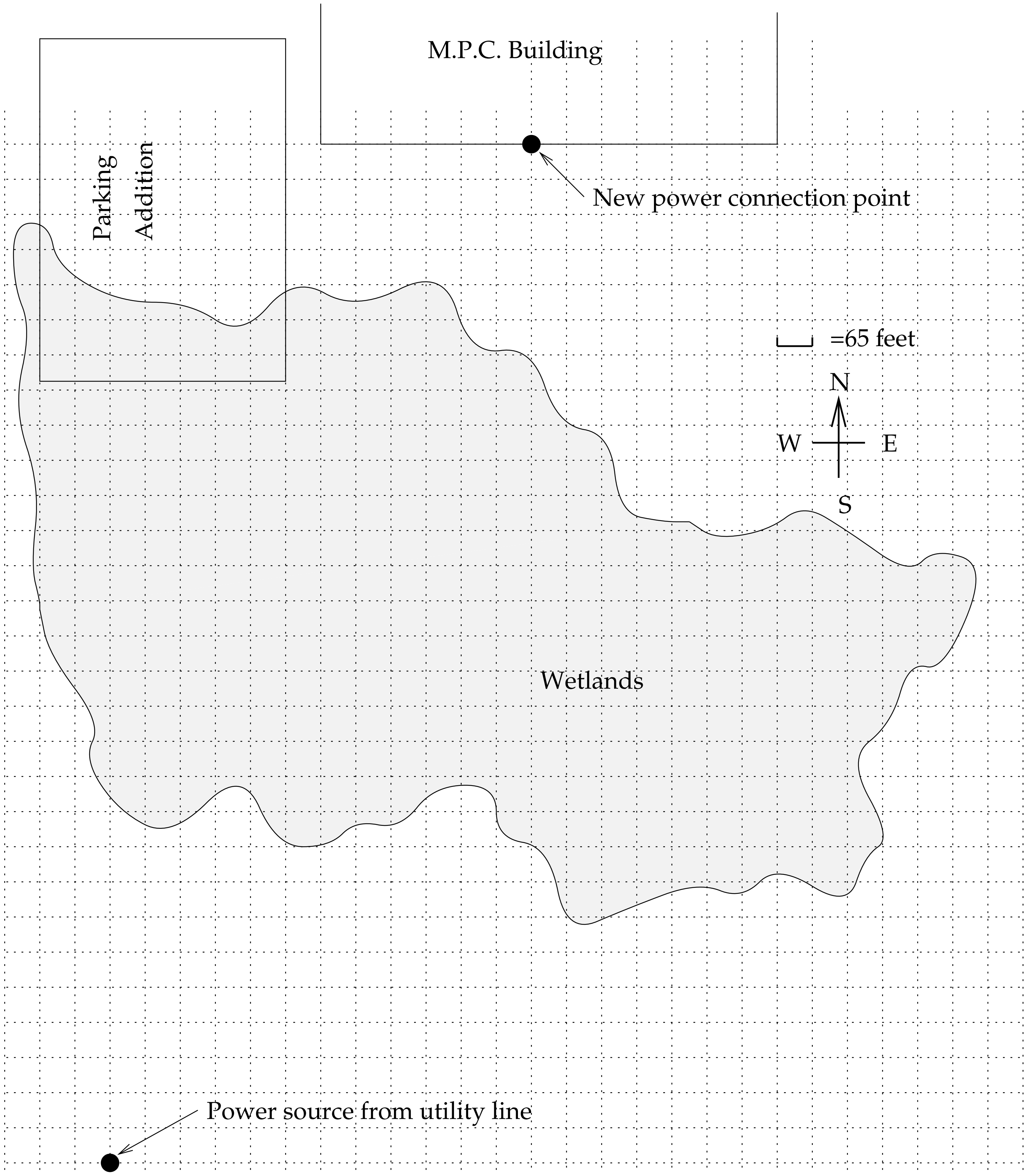
In as much as we hope to have a full budget outline for the expansion project finished by the end of the calendar year, we need your estimate for the cost of laying the conduit by the 15^{th} of December at the very latest. If you have questions as you are working on the project, you should consult with our chief scientist, Dr. Gavin LaRose, who has been instructed to assist you insofar as may be possible. Please also note that it is written into your contract that you contact him by the ends of the weeks of the 27^{th} of November and 4^{th} of December to update us on your progress, and that failure to do so may result in a substantial payment penalty. As is usual, we have enclosed a copy of our technical report specifications, which should govern the presentation of your results.

Yours sincerely,

Warren Fubbet, President
MPC, Inc.

Encl: Technical report requirements, map

M.P.C., Inc. Map of Wetlands and Power Link



Technical Report Requirements

All reports submitted to MPC, Inc. should be written so that all members of the board of directors can understand the issues raised therein and therefore be able to appropriately use the report. The board members can all boast of a good university education, but owing to their preoccupation with business matters should be assumed only to remember precalculus and some basic ideas from calculus.

Reports should further:

- Be written in the first person plural (e.g., "We found the requisite data from the map...").
- Include mathematical formulas in the the text of the body of the report as appropriate to describe the methods and results obtained.
- Clearly explain how the mathematical formulas that are included bear on the problem being solved.
- Consist of
  - An *Introduction*, describing the problem to be solved, and an indication of the mathematical method used to solve it.
  - A *Body*, describing the mathematical problem that was solved to answer the question(s) posed in the introduction, and the solution to it.
  - A *Conclusion*, summarizing the results obtained from the solution described in the body and clearly stating their relevance to the original problem as described in the introduction.
- Be $2\frac{1}{2}$–5 pages in length.