**The Optimum Location of Diwaniyah Sewage Treatment Plants**

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**Abstract**

The purpose of this research is to decide the optimum location of a wastewater treatment plant in terms of people health and environmental aspects of AL-Diwaniyah city. However, the waste water only from the districts was disposed to treatment plants so as to recycle them and then into river water which it is represented by AL-Diwaniyah river along the Shatt AL-Hillah that divides the city into two parts. The aim of this research is to find the least path of conveyance of the wastewater treatment plant and to achieve the least cost of treatment. This research based on twenty-eight districts in Diwaniyah city are selected districts to be studied and grouped into three parts to be investigated in terms of sea level. The direction of the winds was also considered as an important factor to evaluate the suitability of the proposed positions. In addition, the district No. 1 is already serviced by the No. 1 treatment plant. Google Earth was used to determine most of the investigated parameters. Linear programming by (Win QSB) Program technique was also adopted to optimize the selected positions of treatment plants.