

**London, Ont.**—Adam Beck, chairman of the Ontario Hydro-Electric Commission, has submitted a report to the council of London, Ont., recommending the electrification of the municipally owned London and Port Stanley Railway at an approximate cost of \$890,000. The report recommends the adoption of the overhead system and the double-tracking of the entire line between London and Lake Erie. The intention is to maintain a high-speed half-hourly service between London and St. Thomas. A fifteen-minute shuttle service between St. Thomas and Port Stanley would also be maintained for especially heavy traffic. The estimated gross revenue for the first year under electric operation is \$261,500. Of this \$140,000 would come from freight and \$121,500 from passenger traffic. The estimated disbursements are \$220,545, consisting of \$130,000 for operating expenses and \$90,545 on capital expenditure, leaving net earnings of about \$41,000.

**Edmonton, Alta.**—Further extension of municipal ownership at Edmonton, Alta., was indicated when the commissioners directed City Engineer Latornell to report upon the cost of installing a paving plant of not less than 100,000 square yards capacity during the building season, also to engage a construction engineer qualified to take charge of the city's paving work. The plant is to be in operation early next spring. The cost is estimated at between \$40,000 and \$50,000. The office of construction engineer is a new one in the city's service. His duty will be to take charge of the plant and supervise the paving work. The city will compete with private firms in all municipal work, taking contracts to keep the plant running at full capacity throughout the season. Five hundred thousand square yards of new pavement will be laid by the city next year, as against about 250,000 square yards put down during the season of 1912. It is expected that the specifications will be announced in January or February, giving ample time for contractors to assemble men and materials.

**Niagara Falls, Ont.**—The Ontario Power Company has filed an application with the Queen Victoria Park Commissioners for permission to install another turbine and generating unit, to be known as wheel No. 13. The necessity of installing this additional unit is the natural result of the greatly increasing load of the hydro-electric, which has assumed such large proportions that it has been found next to impossible to supply the demand for electric energy with the present machinery. The last two units installed, Nos. 11 and 12, have not yet been completed, but probably will be put in operation on or about January 15, but unit No. 13 will probably be placed in commission by July 1. With ten units already in operation, approximately 125,000 electrical horsepower is being generated, and this will be greatly increased with the completion of the three additional units. All of the exterior excavation work on the new wheel and Nos. 11 and 12 will be entirely completed by April 15, in compliance with an agreement between the power company and the park commission.

**Province of Saskatchewan.**—The large amount of work which has devolved upon the Department of Public Works in connection with the laying out of the grounds of the numerous government buildings in the province has necessitated the employment of an expert in this line, and Mr. Malcolm N. Ross has been appointed to take charge of this very important work. The grounds of the parliament buildings, of the university, the normal schools, the provincial asylum and the court houses will all be under his care. In some of the larger works such as the university and parliament buildings grounds where the architectural features of the buildings will have to be considered, Professor Mawson has been retained to assist Mr. Ross. Mr. Ross, who was until recently Parks Superintendent of the City of Regina, is a man with high qualifications for his new position. He is a Bachelor in Scientific Agriculture, a graduate of Guelph

Agricultural College, with a post graduate experience in the several parts of the United States, and was in the employ of Mr. George Vanderbilt on the Viltmore estate in North Carolina.

**Edmonton, Alta.**—One hundred thousand dollars is the estimated cost of a three-story market building to be erected by the municipality of Edmonton, Alta., early in 1913. The plans, prepared by City Architect Jeffers, show a structure of horseshoe shape, built of reinforced concrete and brick with stone trimmings. The site chosen for the building is the present hay market in First Street, which is served by the municipal street railway and is within easy distance of the Grand Trunk Pacific, the Canadian Northern and the Edmonton, Dunvegan & British Columbia Railroads. The last named line is under construction and will serve the north country. Provisions have been made for stores and offices in the wings of the building, which will face First Street and Queens Avenue. An arcade entrance will lead to the market proper, consisting of long rows of stalls, where market gardeners and growers will be able to display their products and deal directly with the consumer. It is probable that a refrigerating system will be installed in the butter and egg and fowl and meat departments. The building to be erected next spring will form part of the general market. It is expected that a by-law to provide funds will be submitted to the ratepayers in a short time. Commissioner Chalmers, who has charge of the plan, states that the market is to be the central point for the street railway system, as well as for all the suburban lines on the north side of the Saskatchewan River. The suburban roads will become express lines within the city limits, running direct to the central station. This will facilitate the handling of products from the suburban communities and will be the means of settling the close-in districts.

## EXPERIMENTS ON REDUCTION OF STRESS.

A description of and data from experiments made at the testing laboratory of the Darmstadt Technical High School on the reduction of stresses in metal members by rounding off sharp angles are given in a recent issue of the Journal of the American Society of Mechanical Engineers. The author states that although the fact that the stresses are particularly large at sharp angles was known for a long time, there are practically no experiments available showing numerically the precise influence of the radius of curvature

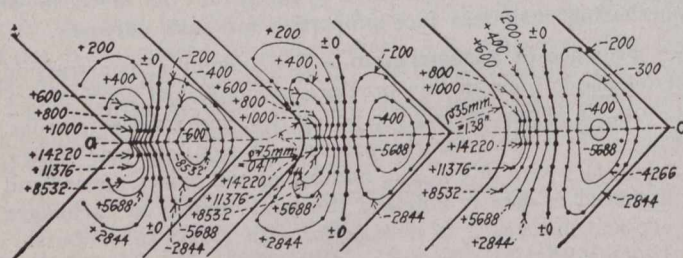


Fig. 1.—Distribution of Lines of Equal Stresses for Various Radii of Curvature.

+ Tensile stress; — Compression; o Points constructed from Measurements: above Line aa in kg/qcm, below in Lb. per Sq. In

on the stress at and near the point of flexure. Fig. 1 shows graphically how the change in the radius of curvature affects the distribution of lines of equal stresses. Among other things, these experiments have established the fact that the neutral point of stresses as found from actual measurements does not coincide with that determined theoretically.