ROAD NOMENCLATURE.

IN *The Canadian Engineer* for January 7th, 1914, the conclusions were given of a report prepared by a special committee on materials for road construction, for presentation at the annual meeting of the American Society of Civil Engineers. The committee also submitted a list of terms of frequent use in expressions relating to highway work, setting forth their meanings, and recommending their recognition by the Society. This list is given below:

Definitions.—Aggregate—The mineral material, such as sand, gravel, shells, slag, or broken stone, or combinations thereof, with which the cement or the bituminous material is mixed to form a mortar or concrete. Fine aggregate may be considered as the mineral inert material which will pass a ¼-in. screen, and coarse aggregate the material which will not pass a ¼-in. screen.

Asphalt—Solid or semi-solid native bitumens, solid or semi-solid bitumens obtained by refining petroleums, or solid or semi-solid bitumens which are combinations of the bitumens mentioned with petroleums or derivatives thereof, which melt on the application of heat, and which consist of a mixture of hydrocarbons and their derivatives of complex structure, largely cyclic and bridge compounds.

Asphalt Block Pavement—One having a wearing course of previously prepared blocks of asphaltic concrete.

Asphalt Cement—A fluxed or unfluxed asphaltic material, especially prepared as to quality and consistency, suitable for direct use in the manufacture of asphaltic pavements, and having a penetration of between 5 and 250.

Asphaltines—The components of the bitumen in petroleum, petroleum products, malthas, asphalt cements, and solid native bitumens, which are soluble in carbon disulphide, but insoluble in paraffin naphthas.

Asphaltic—Similar to, or essentially composed of, asphalt.

Base—Artificial foundation.

Binder—(1) A foreign or fine material introduced into the mineral portion of the wearing surface for the purpose of assisting the road metal to retain its integrity under stress, as well as, perhaps, to aid in its first construction. (2) The course, in a sheet-asphalt pavement, frequently used between the concrete foundation and the sheet-asphalt mixture of graded sand and asphalt cement.

Bitumen—A mixture of native or pyrogenous hydrocarbons and their non-metallic derivatives, which may be gases, liquids, viscous liquids, or solids, and which are soluble in carbon disulphide.

Bituminous Cement—A bituminous material suitable for use as a binder having cementing qualities which are dependent mainly on its bituminous character.

Bituminous Concrete Pavement—One composed of stone, gravel, sand, shell, or slag, or combinations thereof, and bituminous materials incorporated together by mixing methods.

Bituminous Macadam Pavement—One having a wearing course of macadam with the interstices filled by penetration methods with a bituminous binder.

Bituminous Material—Material containing bitumen as an essential constituent.

Liquid Bituminous Material—Bituminous material showing a penetration at normal temperature under a load of 50 grammes applied for 1 sec. of more than 350.

Semi-solid Bituminous Material—Bituminous material showing a penetration at normal temperature under a load of 100 grammes applied for 5 sec. of more than 10, and under a load of 50 grammes applied for 1 sec. of not more than 350.

Solid Bituminous Material—Bituminous material showing a penetration at normal temperature under a load of 100 grammes applied for 5 sec. of not more than 10.

Bituminous Pavement—One composed of stone, gravel, sand, shell or slag, or combinations thereof, and bituminous materials incorporated together.

Bituminous Surface—A superficial coat of bituminous material with or without the addition of stone or slag chips, gravel, sand, or material of similar character.

Blanket—See "Carpet."

Bleeding—The exudation of bituminous material on the roadway surface after construction.

Blown Petroleums—Semi-solid or solid products produced primarily by the action of air upon originally fluid native bitumens which are heated during the blowing process.

Bond—The combined action of inertia, friction, and of the forces of adhesion and cohesion which helps the separate particles composing a crust or pavement to resist separation under stress. Mechanical bond is the bond produced almost wholly, in a well-built broken-stone macadam road, by the interlocking of angular fragments of stone and the subsequent filling of the remaining interstices with the finer particles.

Bound—Bonded.

Water-bound—Bonded with the aid of water.

Bituminous-bound—Bonded with the aid of bituminous material.

Brick Pavement—One having a wearing course of paving bricks or blocks.

Bridge—A structure for the purpose of carrying traffic over a gap in the road-bed measuring 10 ft. or more in the clear span.

Camber of a Road—See "Crown."

Camber of a Bridge—The rise of its centre above a straight line through its ends.

Carbenes—The components of the bitumen in petroleums, petroleum products, malthas, asphalt cements, and solid native bitumens, which are soluble in carbon disulphide, but insoluble in carbon tetrachloride.

Carpet—A bituminous surface of appreciable thickness, generally formed on top of a roadway by the application of one or more coats of bituminous material with gravel, sand, or stone chips added.

Cement—An adhesive substance used for uniting particles of other materials to each other. Ordinarily applied only to calcined "cement rock," or to artificially prepared, calcined, and ground mixtures of limestone and silicious materials. Sometimes used to designate bituminous binder used in bituminous pavements, when the expression "bituminous cement" (q. v.) is understood to be meant.

Cement-concrete—An intimate mixture of gravel, shell, slag, or broken stone particles with certain proportions of sand or similar material, cement, and water, made previous to placing.

Cement-concrete Pavement—One having a wearing course of hydraulic cement concrete.

Cemented—Bonded. Referring to water-bound macadam, the term "cemented" is used to designate that condition existing when, after rolling the stone forming the crust, the remaining voids have been filled with the finer