MAP UNIT	NAME	MATERIAL	ESTIMATED THICKNESS	TOPOGRAPHY	DRAINAGE	GROUND ICE CONTENT	ENGINEERING COMMENTS
O	Organic deposits	Peat, gyttja, organic silt	2 to 15 feet	Flat to gently sloping with maximum local relief of 10 feet; larger areas in particular display intricate pattern of elevated peat platforms interspersed with low wet depressions and shallow ponds.	Very poor	Low to moderate in peat, gyttja; moderate to very high in organic silt; thick lenses of segregated ice common at base of unit, especially where underlain by silt.	Very unsuitable for location of any structures.
F	Fluvial deposits (undifferentiated)	Gravel, sand, silt, commonly with cover of silt and/or peat.	See Fp, Ft, Fa.	See Fp, Ft, Fa.	See Fp, Ft, Fa.	See Fp, Ft, Fa.	See Fp, Ft, Fa.
Fp	Fluvial deposits of modern flood plains and low terraces.	Gravel, sand, silt, mostly with cover of organic silt or peat (except for active unvegetated part of flood plain).	3 to 30 feet gravel, sand, mantled by 1 to 15 feet silt, 1 to 5 feet peat.	Generally flat, with local relief rarely greater than 10 feet; active flood plain characterized by unvegetated (or sparsely vegetated) bars and intervening channels; oxbow lakes, low meander scroll ridges common on low terraces.	Flood plains are subject to seasonal flooding; drainage of low terraces impeded by meander scroll ridges.	Nil in deposits of active flood plains; moderate to very high in silt and peat cover of low terraces.	Flood plains unsuitable for location of any structures; low terraces suitable where cover of silt and/or peat is thin or lacking.
Ft	Fluvial deposits of terraces	Gravel, sand, silt mostly with cover of organic silt and/or peat.	3 to 30 feet gravel, sand with 2 to 15 feet silt, 1 to 5 feet peat.	Flat surfaces, locally moderately dissected adjacent to scarps.	Poor except at outer edge of terrace, or where cover of silt and/or peat is thin or lacking.	Low in sand and gravel, moderate to very high in cover of silt and/or peat.	Mostly unsuitable for location of structures; limited suitable sites along outer edges of terraces, and on certain terraces that lack cover of silt and/or peat.
Fa	Deposits of fans, fan aprons.	Highly variable; typically gravel, sand where source rocks are carbonates, quartzites or Tertiary gravel (Tertiary Hills area); typically silt, sand, minor gravel where source rocks are shale or weak sandstone.	15 to 150+ feet	Fan-shaped, gently to moderately sloping surfaces at mouths of tributary streams, or aprons formed by coalescing of fans formed at mouths of gulleys.	Mostly good but subject to sudden shifts of stream channels.	Low or nil in actively aggrading fans consisting of sand and gravel; low to moderate in inactive fans consisting of sand and gravel; moderate to high in fans with high silt content.	Fans composed of sand and gravel offer well-drained building sites, but sudden and damaging shifts of streams on the fans are common; fans with high silt content are highly unsuitable for location of any structures. Fans of gravel, sand, contain large reserves of aggregate.
E	Eolian deposits (mapped only where displaying characteristic form recognizable on air photos).	Sand, mostly fine to medium grained.	10 to 50+ feet	Ridges of U-shaped, longitudinal and complex dunes; mainly within or bordering areas of unit Gl, where the unit consists of silt and clay with a mantle of sand.	Good	Moderate to nil	Offers restricted well-drained sites within large areas of poorly drained unit Gl; subject to wind erosion when vegetation mat is removed.
Gl	Glaciolacustrine deposits	Silt, clay, sand, mostly with peat cover.	10 to 50+ feet silt and clay, with cover of sand 0 to 50+ feet thick, organic cover 1 to 5 feet thick.	Deposits occur in two topographic settings: 1) large plain areas bordering Mackenzie River and lower reaches of major tributaries, where silt and clay is typically mantled by sand; characterized by abundant thermokarst lakes; flow slides common along streams and gulleys. 2) gently sloping shoulders, and locally valley floors, along valleys within and near Mackenzie Mountains; sand cover mostly lacking; flow slides common.	Poor in topographic setting 1, except locally near tops of scarps, fair in topographic setting 2	High in silt and clay; moderate in sand cover	Silt and clay thaw where vegetation is removed by natural or artificial processes, initiating flow slides and slumps; widespread and locally intense thermal erosion bordering thermokarst lakes; extremely difficult terrain for construction of roads or other facilities.
Gf	Glaciofluvial deposits	Gravel, sand, locally with cover 1 to 2 feet thick of eolian silt	10 to 50+ feet	Mostly flat to gently irregular surfaces, with scattered kettle depressions; in part markedly ridged and pitted.	Moderate to very good.	Moderate to nil.	Deposits offer best sites in area for construction purposes, and constitute the largest source of aggregate.
Gfc	Glaciofluvial channel complex	Gravel, sand, locally with cover 1 to 2 feet thick of eolian silt; channels commonly floored by silt and/or peat.	10 to 50+ feet	Mostly flat to gently irregular surfaces interrupted by channels and scarps; locally gradational into sand cover of unit Gl.	Moderate to very good except in channels, where drainage may be very poor	Moderate to nil except in channels or depressions where peat may overlie silt with high ice content.	Offers good construction sites except for channels and depressions; where unit grades into unit Gl, material is probably mainly sand rather than gravel, and may be underlain by glaciolacustrine silt and clay.
M	Morainic deposits	Glacial till (pebbles, cobbles, boulders in matrix ranging from silty clay to silty sand; minor patches and lenses of gravel).	10 to 100+ feet	Irregular ridges and hummocks with local relief 10 to 100+ feet.	Moderate to very good on ridges and hummocks, fair to very poor in intervening depressions	Highly variable depending on composition of constituent glacial till and on topographic position; ranges from low or nil on crests of ridges and hummocks of sandy till to very high in depressions in areas of silty till.	Well-drained ridges and hummocks offer good but mostly restricted building sites; sandy tills could be washed to produce aggregate.
R	Bedrock	Bedrock, mainly Paleozoic carbonates and sandstone, and Cretaceous sandstone		Mainly prominent ridges, scarps, and hills developed on resistant Paleozoic and Cretaceous carbonate rocks and sandstones.	Moderate to very good.	No data; probably low to nil.	Carbonate rocks of Paleozoic age provide suitable material for rip-rap and crushed aggregate; Bear Rock and Hume formations are locally highly cavernous, with karst sinks at surface; possibility of weakly roofed-over caverns adjacent to areas of karst sinks.
Er	Eroded topography	Deeply eroded and gulleyed deposits of Cretaceous, Tertiary and Quaternary age (minor areas of Paleozoic age along Mackenzie Mountain front).		Highly dissected and gulleyed.	Good; erosion locally extremely active.		Active stream erosion, slumping, flow slides common; irregularity of topography and slope instability present major problems for any kind of construction.
U	Undifferentiated	Mainly flat lying rocks of Cretaceous age with thin featureless cover of glacial drift and thin organic cover.		Mainly flat to moderately sloping.	Poor to good depending on slope	No data; may be locally very high in drift cover.	Extensive undifferentiated areas are underlain by weak Cretaceous shale with as little as 2 feet of glacial drift and organic cover; little data available on behaviour of such shale in permafrost environment. Undifferentiated areas in "Tertiary Hills" west of Tate Lake (96C 96 D) are underlain by Tertiary deposits, mainly gravel, that constitute very large reserves of aggregate.

Drumlin, fluting, crag-and-tail form; direction of ice-movement inferred, not inferred, from feature ...

Meltwater channel, major, minor .....

Esker .....

Moraine ridge .....

Shoreline, abandoned .....

Scarp .....

Geological boundary, defined, approximate .....

Direction of dune-forming wind, where inferred from dune form .....

Photo interpretation by O.L. Hughes 1969, 1970.
Field checking by O.L. Hughes 1969*.

*Field checking consisted of examination of a limited number of presumably representative examples of each map-unit. Placement of boundaries of map-units (in particular the Organic unit) from airphotos is based in part on vegetation patterns. Boundaries are therefore most subject to revision where vegetation patterns have been disrupted by past forest fires.