

Appendix 4-A
Symbols and Acronyms

Chapter 4

Symbols

<u>Symbol</u>	<u>Definitions</u>	<u>Units</u>
A	Cross-sectional area of flow	sf
A _i	Cross-sectional area of subsection	sf
A _t	Total cross-sectional area of section	sf
B	Bottom width of channel	ft.
d	Hydraulic depth	ft.
E	Specific energy	ft.
g	Gravitational acceleration	ft./s ²
h ₁	Upstream water stage (depth)	ft.
h _z	Downstream water stage (depth)	ft.
h _L	Head loss due to local cross-sectional changes (minor loss) as well as boundary resistance	ft.
K _i	Conveyance in subsection	-
K _m	Expansion or contraction loss coefficient	-
K _t	Total conveyance in section	-
L	Discharge-weighted or conveyance-weighted reach length	ft.
n	Mannings roughness coefficient or number of section	-
P	Wetted perimeter	ft.
Q	Total discharge	cfs
R	Hydraulic radius	ft.
S	Slope of the energy gradeline	ft./ft.
S _f	The mean slope of the energy gradelines evaluated from Manning's equation and a selected averaging technique	ft./ft.
T	Channel top width at water surface	ft.
V	Mean velocity	fps
WP	Wetted perimeter	ft.
ws	Water surface	-
y	Depth	ft.
Z	Trapezoidal channel side slope	ft.
z	Elevation head	ft.
α	Velocity distribution coefficient	-

Acronyms

AASHTO	American Association of State Highway Transportation Officials
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIS	Flood Insurance Study
MDEQ	Michigan Department of Environmental Quality
MDOT	Michigan Department of Transportation
NCDC	National Climatic Data Center
NRCS	Natural Resources Conservation Service
NREPA	Natural Resources Environmental Protection Act, Michigan Act 451, Public Acts of 1994, as amended
SCS	Soil Conservation Service, now known as NRCS
USACE	United States Army Corps of Engineers
USGS	United States Geological Survey