

ABBREVIATIONS

Abbreviation	Description
⁰ C	Degree Centigrade
2D	Two Dimensional
3D	Three Dimensional
A	Net suitable area for groundwater recharge
AICTE	All India Council for Technical Education
ASCE	American Society of Civil Engineers
b.g.l.	Below Ground Level
C. C. A.	Cultivable Command Area
CGWB	Central Ground Water Board
Cl	Chloride
Co ₃	Carbonate
CRIV	Streambed hydraulic conductance
CSSRI	Central Soil Salinity Research Institute
Cumecs	Cubic meter per second
CWC	Central Water Commission
D/S	Down Stream
D _w	Gross Kharif draft
E	East
EC	Electrical Conductivity
ECP	Effluent Channel Project
ECPL	Effluent Channel Project Limited
EMRL	Environmental Modeling Research Laboratory
FEM	Finite Element Method
Fig	Figure
GACL	Gujarat Alkali and Chemicals Limited
GEC	Gujarat Ecology Commission
GERI	Gujarat Engineering Research Institute
GIDC	Gujarat Industrial Development Corporation

GIS	Geographical Information System
GMS	Groundwater Modeling System
GOG	Government of Gujarat
GPCB	Gujarat Pollution Control Board
GSFC	Gujarat State Fertilizer Corporation
GWRDC	Ground Water Resources Development Corporation
h	Potential head
$H\text{ CO}_3$	Bi Carbonate
ha	Hectare
$h_{i,j,k}$	Head at the node in the cell (in the aquifer) corresponds to water table
H_k	Horizontal permeability
HRIV	Head at the stream
HWL	High Water Level
IARI	Indian Agricultural Research Institute
ICAR	Indian Council of Agriculture Research
IOCL	Indian Oil Corporation Limited
IPCL	Indian Petrochemical Corporation Limited
IS	Indian Standards
ISO-RWL	ISO-Reduced Water Level
ISTE	Indian Society for Technical Education
K	Hydraulic conductivity of the streambed material
Km	Kilo Meter
Km p. h.	Kilometer per hour
K_{xx}, K_{yy}, k_{zz}	Hydraulic conductivity along the x, y and z coordinate axes
L	Length of the conductance block is taken as the length of the stream
LPF	Layer Property Flow
m	Meter
M	Thickness of the streambed layer
m/day	Meter per day
m/s	Meter per second
m^2/hr	Square meter per hour

m ³ /sec	Cubic meter per second
MCM	Million Cubic Meter
MCM/year	Million Cubic Meter per year
Mg	Magnesium
mg/l	Milligram per litre
MGD	Million Gallon per day
MIC	Mahi Irrigation Circle
MLD	Million Liter per day
mm	Millimeters
MRBC	Mahi Right Bank Canal
m.s.l.	Mean sea level
N	North
Na	Sodium
NEERI	National Environmental Engineering Research Institute
NF	Normalization factor
NIO	National Institute of Oceanography
N-W	North- West
ORG	Operations Research Group
ppm	Parts per million
ppt	Parts per thousand
QRIV	Flow between stream and the groundwater system(aquifer)
RBOT	Bottom of the stream bed
RCC	Reinforced Cement Concrete
RCW'S	Radial Collector Wells
R _{1gw}	Recharge due to monsoon seepage from groundwater irrigation
R _{1s}	Recharge due to monsoon seepage from surface water irrigation
RL	Reduced Level
RL's	Reduced Levels
R _s	Recharge due to monsoon seepage from canals and tanks
Rvr	River
RWL	Reduced Water Level

shp	Shape
So ₄	Sulphate
Sq. km	Square kilometer
S _s	Specific storage of the porous material
SSNL	Sardar Sarovar Narmada Nigam
SUTRA	Saturated-Unsaturated Transport
SWDC	State Water Data Centre
S _y	Specific Yield
t	time
TDS	Total Dissolved Solids
TH	Total Hardness
TIN	Triangulated irregular Network
U/S	Up Stream
USA	United States of America
USDA	United States Department of Agriculture
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
VIC	Vadodara Irrigation Circle
VMSS	Vadodara Mahanagar Seva Sadan
W	Volumetric flux per unit volume representing sources and/or sinks of water
WL	Water Level
WRIC	Water Resources Investigation Circle
WTF	Groundwater table Fluctuation