

Abandonment: means an affirmative act on the part of an owner to discontinue maintenance or operation of a dam.

Accuracy: the closeness of observations, computations or estimates to the true value as accepted as being true. Accuracy relates to the exactness of the result, and is distinguished from [precision](#), which relates to the exactness of the operation by which the result was obtained.

Acquire: acquisition by purchase, construction, or any other method.

Agency: an administrative government division empowered to regulate related statutes under their jurisdiction which may include: Michigan Department of Environmental Quality (MDEQ), Michigan Department of Transportation (MDOT), United States Army Corp of Engineers (USACE), Environmental Protection Agency, and local jurisdictions.

Alteration: means a change in the design of an existing dam that directly affects or may directly affect the structural integrity of a dam.

Anti-Spoofing (A-S): for the NAVSTAR system (NAVigation Satellite Timing and Ranging), anti-spoofing (A-S) is the process whereby The P code used for the precise positioning service is encrypted. The resulting encrypted code is called the Y code. The encryption data can only be decoded by GPS receivers with special decryption circuitry, guarding against fake transmissions of satellite data.

Apportionment: a percentage of a project accruing to individual parcels within a Drainage District, including the county at large, for road benefit and to municipalities for public health, convenience and welfare.

ARC/INFO: server based hybrid GIS software package, written and marketed by Environmental Systems Research Institute (ESRI). Comprised of Arc, the spatial GIS component and Info, a relational database, although ArcInfo can also be linked to external databases such as Oracle. Unlike ArcView, ArcInfo unlike the more user friendly ArcView does not run on a Windows based system and therefore has a rather steeper learning curve. A number of add-on extensions are available for example, TIN, GRID, NETWORK and COGO, which provide additional functionality.

ARCVIEW: Desktop GIS software package written and marketed by Environmental Systems Research Institute (ESRI). Cheaper and easier to use than their original system ArcInfo, ArcView has become well established as one of the world's most popular desktop mapping packages. Windows based user interface means that novice users can be quickly taught to manipulate analysis and graphical tools. Can be linked to ArcInfo database files and can handle both vector and raster data types through the addition of extensions.

ASCII-American Standard Code for Information Interchange: a set of codes for representing [alphanumeric information](#). For example, the letter 'A' is stored as the value 65, and 'B' as 66 and so on until the letter 'Z' which is 90. However, there are 128 ASCII codes which provide for all the alphanumeric characters, all the keys on a keyboard, and some special non-pointing characters such as 'delete' or 'ring terminal bell'. Text files, such as those created with a text editor are often stored simply as ASCII files. These files can be read by practically every computer operating system and software applications.

Assessment: a percentage of the cost of a project accruing to individual parcels, including the county at large for road benefits and municipalities for public health, convenience and welfare times the total cost (computation of cost) for the project.

Bonds: bonds issued to finance a project are long term obligations, more than five years.

CAD-Computer Aided Design: the design activities, including drafting and illustrating, in which information processing systems are used to carry out functions such as designing or improving a part or a product.

COGO-Co-ordinate Geometry: a set of procedures for encoding and manipulating bearings, distances and angles of survey data into co-ordinate data. COGO is frequently a subsystem of [GIS](#).

Computation of Cost: the entire cost of a drain including: (1) the entire cost of surveying; (2) the cost of locating, establishing and constructing; (3) the fees and expenses of special commissioners; (4) the compensation to be paid the board of review; (5) the cost of construction of bridges and culverts; (6) the contracts for construction or other work to be done on the drain; (7) the estimated cost of an appeal in case the apportionment made by the commissioner shall not be sustained; (8) the estimated cost of inspection; (9) the cost of publishing all notices required; (10) all fees of the probate judge; (11) attorney fees for legal services in connection with the drain; and (12) interest on bonds for the first year, adding the whole into a gross sum and adding not less than 10% nor more than 15% to cover contingent expenses.

Condominium Project: a plan or project consisting of not less than two condominium units established and approved in conformance with the act.

Condominium Subdivision Plan: a visual representation of a site, including survey, utility and floor plans, floodplain delineation and sections, and existing and proposed structures and improvements.

Condominium Unit: that portion of a condominium project designed and intended for separate ownership and use. The unit may consist of the structural portion of a building, or may be restricted to the air space between walls.

Contour: a set of points representing the same value of a selected [attribute](#) and forming an imaginary line. The terms contour or contour line is most commonly used for lines connecting points on the ground having the same [elevation](#).

Conversion Condominium: a project containing condominium units, some or all of which were occupied before the filing of a notice of taking reservations.

Coverage: a term that refers to a [layer](#) of spatial data within a [Geographical Information System](#).

Dam: means an artificial barrier, including dikes, embankments, and appurtenant works, that impounds water.

Design Flood: means the design flow rate for spillway capacity and dam height design.

DGPS: Differential GPS - A technique for improving GPS solution accuracy. Error is reduced by determining the error at a known location, then subtracting that error from the solution at an unknown location.

Digital Data: data represented in a computer compatible [format](#).

Dilution of Precision (DOP): DOP is a function expressing the mathematical quality of solutions based on the geometry of the satellites. Position dilution of precision (PDOP), the most common such value, has a best case value of one, higher numbers being worse. The best PDOP would occur with one satellite directly overhead and three others evenly spaced about the horizon. Higher numbers of PDOP are worse. PDOP could theoretically be infinite, if all the satellites were in the same plane. PDOP has a multiplicative effect on the user range error (URE) value. A URE of 32 meters with a PDOP of one would give a user an assumed best accuracy of 32 meters. A PDOP of two would result in an assumed accuracy of 64 meters. Many receivers can be programmed to stop providing position solutions above a specific PDOP level (six is common). There are several other DOP factors such as horizontal and vertical DOP, geometric DOP and time DOP.

Drain Orders: drain orders are like post-dated checks issued by the Drain Commissioner to pay a contractor for work performed on a drain. Payments are made over time...say three years. These would be called "three year drain orders". They are presented to the county treasurer for cashing, as example, 1/3 of construction costs upon completion of the work, 1/3 a year later and the final 1/3 the next year.

Drainage District: the land area contributing storm water to a given outlet.

DXF-Digital Exchange Format: a [format](#) for transferring drawings between [Computer Aided Design](#) systems, widely used as a de facto standard in the engineering and construction industries.

Easement: an interest in land owned by another that entitles its holder to a specific limited use and enjoyment.

Emergency Action Plan: means a plan developed by the owner that establishes procedures for notification of the department, public off-site authorities, and other agencies of the emergency actions to be taken prior to and following an impending or actual failure of a dam.

Encoding: the assignment of a unique code to each unit of information, such as encoding of English using the [ASCII](#) character set.

Encroachment: altering property so as to restrict or burden the interest holder's use of the property.

Enlarge or Diminish an Inland Lake or Stream: the dredging or filling of bottomlands, or the dredging of adjacent shorelands, to increase or decrease a body of water's surface area or storage capacity, or the placement of fill or structures, or the manipulation, operation, or removal of fill or structures, to increase or decrease water levels in a lake, stream, or impoundment.

Erosion Control: installation of structures designed to control erosion or protect property adjacent to the great lakes or property affected by levels of the great lakes from erosion.

Expandable Condominium: a project to which additional land may be added at a later date pursuant to provisions expressed in the master deed. Land subject to expansion must be identified in the deed.

Failed Dam: means a dam not capable of impounding water at its intended level due to a structural deficiency.

Failure: means an incident resulting in an unplanned or uncontrolled release of water from a dam.

Geocoding: the cross-referencing between specifically recorded x,y co-ordinates of a location, relative to a standard reference grid such as the UK's National Grid, and non-geographic data such as addresses or post-codes. In this way the accessing of the non-geographic data allows locations to be accurately mapped.

GIS-Geographical Information System-Geographic Information System: a computer system for capturing, storing, checking, integrating, manipulating, analyzing and displaying data related to positions on the Earth's surface. Typically, a Geographical Information System (or Spatial Information System) is used for handling maps of one kind or another. These might be represented as several different layers where each layer holds data about a particular kind of feature. Each feature is linked to a position on the graphical image of a map. Layers of data are organized to be studied and to perform statistical analysis. Uses are primarily government related, town planning, local authority and public utility management, environmental, resource management, engineering, business, marketing, and distribution.

Governing Body: in the case of the county, the county board of commissioners; in the case of a city, the city council; in the case of a village, the village council; in the case of a township, the township board; in the case of a charter township, the township board; in the case of a drainage district, the drain commissioner or drainage board.

Grants: currently (2001) there are very few, if any, grant programs available to finance public project through the drain office. However, the definition of a grant is money received from the federal and/or state and/or local government(s) and is used to pay project costs. There is usually not a requirement to repay any portion of the money, as long as the funds have been spent in the appropriate fashion and the required documentation is provided to the granting government.

High Hazard Potential Dam: means a dam located in an area where a failure may cause serious damage to inhabited homes, agricultural buildings, campgrounds, recreational facilities, industrial or commercial buildings, public utilities, main highways, or class I carrier railroads, or where environmental degradation would be significant, or where danger to individuals exists with the potential for loss of life.

Inland Lake or Stream: a natural or artificial lake, pond or impoundment; a river, stream or creek which may or may not be serving as a drain as defined by the Drain Code, or any other body of water that has definite banks, a bed, and visible evidence of a continued flow or continued occurrence of water, including St. Mary's, St. Clair and Detroit rivers. Inland lake or stream does not include the Great Lakes, Lake St. Clair, or a lake or pond that has a surface area of less than five acres.

Joint Permit Application: a permit application to facilitate the state and federal permit application process administered by the MDEQ and the USACE, respectively, for regulated activities where the land meets the water, including wetlands, often referred to as the land/water interface.

JPEG - Joint Photographic Expert Group: the original name of the committee that designed the standard image compression algorithm. JPEG is designed for compressing either full color or gray-scale digital images of 'natural', real-world scenes. It does not work so well on non-realistic images, such as cartoons or line drawings. JPEG does not handle compression of black-and-white (1-bit-per-pixel) images or moving pictures.

Kinematic Surveying: a precision DGPS surveying technique. The roving user does not need to stop to collect precision information. Meter-centimeter level accuracy is available using modern dual-frequency carrier-phase measurement techniques.

L1 Frequency: one of the two radio frequencies (1575.42 MHz) transmitted by the NAVSTAR satellites. All NAVSTAR satellites transmit on the same frequencies. This frequency carries the C/A code used for the standard positioning service (SPS) and the P code used for the precise positioning service (PPS).

L2 Frequency: one of the two radio frequencies (1227.6 MHz) transmitted by the NAVSTAR satellites. This frequency carries only the P code used for the precise positioning service (PPS).

Lake Improvements: any improvements, authorized by law made to any waters of the state.

LAN-Local Area Network: computer data communications technology that connects computers at the same site. Computers and terminals on a LAN can freely share data and peripheral devices, such as printers and plotters. LANs are composed of cabling and special data communications hardware and software.

LDGPS: Local area Differential GPS is a real-time DGPS system that is made available over a small area, possibly 150 miles or less.

Legend: the reference area on a map that lists and explains the colors, symbols, line patterns, shadings, and annotation used on the map. The legend often includes the [scale](#), origin, orientation, and other map information.

License: permission or authority to do a particular act or series of acts on land of another without possessing any estate or interest in the land.

Maintenance: means the upkeep of a dam and its appurtenant works but does not include alterations or repairs.

Master Deed: a recorded document containing by-laws, the approved subdivision plan, a legal description of the lands involved, numerical identification for each unit, the method or formula used to determine percentage of value for each unit, and the percentage assigned to each unit.

Members Elect: when applied to the county board of commissioners, both members elected and appointed.

Minor Drainage: includes ditching and tiling for the removal of excess soil moisture incidental to the planting, cultivating, protecting, or harvesting of crops or improving the productivity of land for agriculture.

Mobile Home: a structure, transportable in 1 or more sections, which is built on a chassis and designed to be used as a dwelling with or without permanent foundations, when connected to the required utilities, and includes the plumbing, heating, air-conditioning, and electrical systems contained in the structure. Mobile home does not include a recreational vehicle.

Mobile Home Condominium Project: a project in which mobile homes are to be located on separate sites which constitute individual units. The drain commissioner is required to adopt standards regulating stormwater discharges from this type of condominium.

Mobile Home Park: a parcel or tract of land under the control of a person upon which 3 or more mobile homes are located on a continual non-recreational basis and which is offered to the public for that purpose regardless of whether a charge is made therefore, together with any building, structure, enclosure, street, equipment, or facility used or intended for use incident to the occupancy of a mobile home and which is not intend for use as a temporary trailer park.

Municipality: a county, city, village, township, charter township, district, or authority existing under the laws of this state.

NAD - North American Datum: the official [reference ellipsoid](#) used for the primary geodetic network in North America.

NANU: Notice Advisory to NAVSTAR Uers is a periodic bulletin alerting users to changes in system performance.

Notes: generally speaking a note is a short-term obligation, less than five years. The drain office may sell notes to finance projects. Specifically the Drain Code in Sections 434, 479 and 531 speaks of selling a note to pay project costs. The note may pledge the full faith and credit of the drainage district.

Notice of Intent to Establish a Condominium: notice sent to all levels of government by first class or certified mail at least ten days before any one of the following actions occur:

- taking reservations under a preliminary reservation agreement
- recording a master deed
- beginning construction of a project.

Orthophotograph: a modified copy of a perspective photograph of the earth's surface with distortions due to tilt and relief removed.

Orthophotoquad: a standard map sheet overprinted with an [orthophotograph](#)

Permit: an agreement that binds the owners to design requirements and the operators to performance procedures and standards which may include: construction, alterations, and occupancy of right-of-ways such as underground utilities.

Permit Consolidation Unit-PCU: primary contact unit to obtain information regarding proposed commercial and industrial projects that require multiple permits. The emphasis is to facilitate contact with the Department early in the planning phase to insure that all environmental permits are identified and pursued.

Plat: a map or chart of a subdivision of land.

Polygon: a feature used to represent areas. A polygon is defined by the lines that make up its boundary and a point inside its boundary for identification. Polygons have attributes that describe the geographic feature they represent

Precise Positioning Service (PPS): PPS is the most accurate positioning, velocity, and timing information continuously available worldwide from the basic GPS. This service is limited to authorized U.S. and allied Federal Governments; authorized foreign and military users; and eligible civil users. PPS information is usually (but not always) encrypted to prevent use by unauthorized users. The encryption process is known as *Anti-Spoofing*. GPS receivers that can use the P code provide a predictable positioning accuracy of at least 22 meters (2 drms) horizontally and 27.7 meters (2 sigma) vertically. They can also provide timing/time interval accuracy within 90 nanoseconds (95 percent probability). This improved accuracy is provided in two ways. First, P-code users are not subjected to Selective Availability. Second, access to the L2 channel allows the user to correct for atmospheric propagation errors. Equipment that uses the P code is available for civilian use; however, the capability is useless when Anti-Spoofing is active. Access to GPS receivers that can decrypt the Y code is tightly controlled and is subject to National Security considerations. If you are a civilian user, you will need a really good excuse to get one.

Preliminary Plat: a map showing the salient features of a proposed subdivision submitted to an approving authority for the purpose of [preliminary](#) considerations.

Prescriptive Easement: an easement created by use of another's property for a certain number of years.

Proprietor: a natural person, firm, association, partnership, corporation or combination of any of them that may hold any ownership interest in land whether recorded or not.

Query: a statement expressing a set of conditions that forms the basis for the retrieval of information from a [database](#). Queries are often written in a standardized language such as [SQL](#).

Radionavigation: the determination of position or the obtaining of information relating to position for the purposes of navigation by means of the propagation properties of radio waves.

Raster: a method for the storage, processing and display of spatial data. Each given area is divided into rows and columns, which form a regular grid structure. Each cell must be rectangular in shape, although not necessarily square. Each cell within this matrix contains attribute value as well as location co-ordinates. The spatial location of each cell is implicitly contained within the ordering of the matrix, unlike a vector structure which stores topology explicitly. Areas containing the same attribute value are recognized as such, however, raster structures cannot identify the boundaries of such areas as polygons. Also raster structures may lead to increased storage in certain situations, since they store each cell in the matrix regardless of whether it is a feature or simply 'empty' space.

Refuse: decomposable and non-decomposable solid wastes, except body wastes, and includes garbage, rubbish, incinerator ash, incinerator residue, street cleanings, and industrial wastes.

Refuse System: disposal, including all equipment and facilities for storing, handling, processing, and disposing of refuse, including plants, works, equipment, and properties, used or useful in connection with the salvage or disposal of refuse.

Relational Database: a method of structuring data as collections of tables that are logically associated to each other by shared [attributes](#). Any data element can be found in a relation by knowing the name of the table, the attribute (column) name, and the value of the [primary key](#).

Remote Sensing: the technique of obtaining data about the environment and the surface of the earth from a distance, for example, from aircraft or satellite.

Resolution: a resolution or an ordinance.

Right-of-Way: a legal right of passage over another person's land.

Rubber Sheeting: a procedure to adjust the [co-ordinates](#) all of the data points in a dataset to allow a more accurate match between known locations and a few data points within the dataset. Rubber sheeting, also known as rubber banding, preserves the interconnectivity or [topology](#), between points and objects through stretching, shrinking or re-orienting their interconnecting lines.

Seasonal Mobile Home Park: a parcel or tract of land under the control of a person upon which three or more mobile homes are located on a continual or temporary basis but occupied on a temporary basis only, and which is offered to the public for that purpose regardless of whether a charge is made therefore, together with any building, enclosure, street, equipment or facility used or intended for use incident to the occupancy of a mobile home. Seasonal mobile home park does not include a campground licensed pursuant to Sections 12501 to 12516. Mobile home located in a seasonal mobile home park may be occupied on a full-time basis from April 1 through October 31, but shall not be occupied for more than 15 consecutive days in any 30-day period from November 1 to March 31

Selective Availability (SA): selective availability is the name of a process that allows the DoD to limit the accuracy available to users of Navstar's Standard Positioning Service. It is accomplished by manipulating navigation message orbit data (epsilon) and/or the satellite clock frequency (dither) This process is intended to prevent potential adversaries of the United States from using low-cost GPS receivers for certain military functions.

Sewage Disposal System: sanitary sewers, storm sewers, combined sanitary and storm sewers, plants, works, equipment, and properties, used or useful in connection with the collection, treatment, or disposal of sewage including storm water, sanitary sewage, or industrial wastes, or any combination thereof.

Site Condominium: a condominium subdivision where the owner of a unit also owns the defined lot on which the building is located. The lot may or may not conform to local site plan requirements.

Spatial Data: any information about the location and shape of, and relationships among, geographic features. This includes remotely sensed data as well as map data.

Spillway: means a waterway in or about a dam designed for the discharge of water.

Spoofing: the deliberate transmission of fake signals to fool a GPS receiver. Spoofer must mimic a GPS satellite, rather like a psuedolite but with disruptive intent.

SQL-Structured Query Language: a syntax for defining and manipulating data from a [relational database](#). Developed by IBM in the 1970s, it has become an industry standard for [query languages](#) in most relational database management systems.

Standard Positioning Service (SPS): SPS is the standard specified level of positioning and timing accuracy that is available without qualification or restrictions to any user on a continuous worldwide basis. The accuracy of this service is established by the U.S. Department of Defense based on U.S. security interests. Navstar currently provides horizontal positioning accuracy within 100 meters (2 drms) and 300 meters with 99.99 percent probability. The signals providing standard positioning service are inherently capable of greater accuracy than this. The accuracy of the system is limited through the application of a process called *Selective Availability*

State Revolving Fund: the Michigan Department of Treasury, through the Michigan Municipal Bond Authority operates the Clean Water Assistance Revolving Loan Fund, more commonly known as the “State Revolving Fund”. The fund was established in 1988 when the US Congress under Title VI of the Clean Water Act eliminated the Construction Grants program.

Static Surveying: a precision DGPS surveying technique. The roving user is required to sit motionless taking data at a point from fifteen minutes to an hour or more.

Stop-and-Go Surveying: a precision DGPS surveying technique, also called semi-kinematic surveying. The roving user is only required to collect data at a point for a few seconds or minutes.

Subdivide or Subdivision: the partitioning or dividing of a parcel or tract of land by the proprietor thereof or by his heirs, executors, administrators, legal representatives, successors or assigns for the purpose of sale, or lease of more than one year, or of building development where the act of division creates five (5) or more parcels of land each of which is ten (10) acres or less in area; or five (5) or more parcels of land each of which is ten (10) acres or less in area are created by successive divisions within a period of ten (10) years.

Tag: an identifier or pointer to a cartographic object

Theme: a user-defined perspective on a geographic dataset specified, if applicable, by a name and [feature class](#) or dataset name, attributes of interest, or data classification scheme.

TIFF: an industry standard [raster data](#) format. TIFF supports black-and-white, gray-scale, pseudocolour, and true-color images, all of which can be stored in a compressed or uncompressed format. TIFF is commonly used in desktop publishing and serves as an interface to numerous [scanners](#) and graphics packages.

TIGER-Topologically Integrated Geocoding and Referencing: a data format developed by the US Bureau of Census for the 1990 US census.

Topology: the relative location of geographic phenomena independent of their exact position. In digital data, topological relationships such as [connectivity](#), [adjacency](#) and relative position are usually expressed as relationships between nodes, links and polygons. For example, the topology of a line includes its [from-](#) and [to-nodes](#), and its left and right polygons.

United States Geological Survey–USGS: national mapping agency of the United States. Produces paper maps, digital maps and DEMs for the entire nation at a variety of scales, including 1:24,000, 1:100,000, 1:250,000 and 1:1 million. At present the digital map database, which will form the basis of the National Digital Cartographic Database, consists of 1:100,000 maps, which are available as Digital Line Graph (DLG) and TIGER files. The USGS differs from its British counterpart in that it considers national spatial data should be made publicly available at the costs of storage medium only.

WAAS: Wide Area Augmentation Service is a service being developed by the FAA to provide wide area DGPS and integrity information to aviation users.

WAN-Wide Area Network: computer data communications technology that connects computers at remote sites. WANs are composed of special data communications hardware and software and usually operate across public or dedicated telephone networks.

Water Supply System: plants, works, equipment, and properties, used or useful in connection with obtaining a water supply, the treatment of water, or the distribution of water, or any portion or any combination thereof.

WDGPS: Wide area Differential GPS is a real-time DGPS system that is made available over a large area, possibly global.

Wetland: land characterized by the presence of water at a frequency and duration sufficient to support, and that under normal circumstances does support, wetland vegetation or aquatic life, and is commonly referred to as a bog swamp or marsh.