SDE GIS Database Metadata for Field Definitions, Subtypes, & Domains.

Last Updated 4/1/2016

Document Format:

- Each **Database Feature Dataset** is a header field such as "sde.SDE.StormSewerFeatures", which lists below the header all GIS feature classes (layers) contained within that SDE feature dataset.
- Within each **feature class name** (such as "sde.SDE.stsGPSpts") contains a description of what the overall feature class is used for, and then lists all field names (aka attributes) with definitions for each field. If the field is associated with a subtype or a domain, those "Options" of values in the dropdown menu are listed in the field name definition.
- NOTE on **feature class name** naming conventions:
  - "sts" (example: "sde.SDE.stsGPSpts") = for all **storm sanitary**-related feature classes.
  - "ss" (example: "sde.SDE.ssBasin") = for all **sanitary sewer**-related feature classes.
  - "w" (example: "sde.SDE.wFitting") = for all **water**-related feature classes.
  - "g" (example: "sde.SDE.gasMeterSetting") = for all **gas**-related feature classes

Contents

*** indicates feature class is rarely used, no longer updated (only kept as a historical record), not used at all, or as no records.*

sde.SDE.StormSewerFeatures

1. **sde.SDE.stsGPSpts: Point feature class table of stream feature GPS points collected with lower accuracy equipment during 2001-2003. For reference only; table is no longer updated.**

   - **OBJECTID** (OBJECTID, OID, 4): System generated.
   - **ID_NUM** (ID_NUM, String, 9): UDI of associated GIS asset.
   - **Size_** (Size_, String, 20): Diameter of GIS asset.
   - **Matrl** (Matrl, String, 20): Material of utility.
   - **COMMENT** (COMMENT, String, 20): Text field.
   - **Max_PDOP** (Max_PDOP, Double, 8): Maximum Position Dilution of Precision (PDOP).
   - **Max_HDOP** (Max_HDOP, Double, 8): Maximum HDOP recorded during GPS collection.
   - **Corr_Type** (Corr_Type, String, 36): Type of correction applied to GPS data.
   - **GPS_Date** (GPS_Date, Date, 36): Date GPS point was collected.
   - **GPS_Time** (GPS_Time, String, 10): Time GPS point was collected.
   - **Feat_Name** (Feat_Name, String, 20): Point Code.
   - **GPS_Height** (GPS_Height, Double, 8): Elevation.
   - **Vert_Prec** (Vert_Prec, Double, 8): Vertical precision in feet.
   - **Horz_Prec** (Horz_Prec, Double, 8): Horizontal precision of GPS point in NAD83 Coordinate system in feet.
   - **Std_Dev** (Std_Dev, Double, 8): Standard deviation of accuracy.
   - **Northing** (Northing, Double, 8): Northing Y coordinate in NAD83 Coordinate system in feet.
   - **Easting** (Easting, Double, 8): Easting Y coordinate in NAD83 Coordinate system in feet.
   - **Point_ID** (Point_ID, Integer, 4): Incrementing ID for GPS point, different from the OBJECTID.
   - **Type** (Type, String, 5): **Domain field (DomainName = "ssDomainGPSPointType").** Type of drainage. Options = STRMS : Stream Source | CB : Catch Basin | MH : Manhole | CULV : Culvert | STRMO : Stream Outlet | DP : Discharge Point.
   - **Drainage_Name** (Drainage_Name, String, 25): **Domain field (DomainName = "ssDomainDrainage").** Name of drainage area. Options = 82nd : 82nd Ave W Creek | Superior : Lake Superior | Tischer : Tischer Creek | Sargent : Sargent Creek | US_Steel : US Steel Creek | Other : Other | 58th : 58th Ave East Creek | Brewery : Brewery Creek | Coffee : Coffee Creek | Amity : Amity Creek | St_Louis : St Louis River | Oregon : Oregon Creek | 43rd : 43rd Ave East Creek | Buckingham : Buckingham Creek | Keene : Keene Creek | 40th : 40th Ave East Creek | 68th : 68th Ave West Creek | 79th : 79th Ave W Creek | Chester : Chester Creek | Morgan : Morgan Park Creek | Merrit : Merrit Creek | 62nd : 62nd Ave West Creek | Stewart : Stewart Creek | Bent : Bent Creek | Miller : Miller Creek | Mission : Mission Creek | Lester : Lester River | Kingsbury : Kingsbury Creek | Knowlton : Knowlton Creek.
   - **Inspection_Date** (Inspection_Date, Date, 36): Date when utility was inspected.
   - **Shape** (Shape, Geometry, 8): System-generated.

2. **sde.SDE.stsCatchment: Polygon feature class showing storm water catchment areas within the City of Duluth. Created in 2009/2010.**

   - **OBJECTID** (OBJECTID, OID, 4): System generated.
   - **CID** (CID, Double, 8): Catchment ID number.
   - **sde.SDE.stsCatchment.AREA** (sde.SDE.stsCatchment.AREA, Double, 8): System-calculated area.
   - **SLO1** (SLO1, Double, 8): percent slope, measured in GIS by another company out in California. They used elevations from 2001 aerial photography.
   - **BNAME** (BNAME, String, 100): Basin name. Colloquial description of catchment area
   - **ASPECT** (ASPECT, Double, 8): aspect ratio of slope, measured from another company out in California. They used elevations from 2001 aerial photography.

- **GISOBJID** (GISEAMID, Integer, 4): System Generated. Infor EAM number.
- **Shape** (Shape, Geometry, 8): System-calculated.
- **Shape.area** (Shape.area, Double, 0): System-calculated area.
- **Shape.len** (Shape.len, Double, 0): System-calculated length.

3. **sde.SDE.stsRidgeline: Line feature class showing the top of the hill ridge line across the City. Only 1 record.**

   - **OBJECTID** (OBJECTID, OID, 4): System generated.
   - **Id** (Id, Integer, 4): ***NOT USED***.
   - **Shape** (Shape, Geometry, 8): System generated.
   - **Shape.len** (Shape.len, Double, 0): System-calculated length.

4. **sde.SDE.stsBMP_Systems: Point feature class showing general area of Best Management Practice (BMP) systems for storm sewers.**

   - **OBJECTID** (OBJECTID, OID, 4): System generated.
   - **BMP_ID** (BMP_ID, String, 9): UDI for BMPs. Begins with the 3 alpha characters "BMP"
   - **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
   - **Description** (Description, String, 50): General location, name of neighborhood or building.
   - **Install_Date** (Install_Date, Date, 36): Data entry. Date of installation; default = 1/1/1855 if unknown
   - **SHAPE** (SHAPE, Geometry, 8): System generated.
   - **Owner** (Owner, String, 5): **Domain field (DomainName = "stsDomainOwner")**. Owner of utility. Options = CITY : CITY OF DULUTH | RR : RAILROAD | TWSHP : TOWNSHIP | STATE : MNDOT | NTMS4 : NONTRADITIONAL MS4 | DNR : DNR | UNK : UNKNOWN | CNTY : COUNTY | PRIV : PRIVATE.
   - **Access_Desc** (Access_Desc, String, 100): Access Description. Only 1 record filled in. ***NOT USED***.
   - **No_Inlets** (No_Inlets, SmallInteger, 2): Number of inlets.
   - **No_Outlets** (No_Outlets, SmallInteger, 2): Number of outlets.
   - **Xcoord** (Xcoord, Double, 8): Data entry. X coordinate if GPS point was collected at utility's location. This is calculated into the field through ArcMap.
   - **Ycoord** (Ycoord, Double, 8): Data entry. Y coordinate if GPS point was collected at utility's location. This is calculated into the field through ArcMap.

5. **sde.SDE.stsWaterStructure: Polygon feature class depicting the approximate location and size and location of individual above and below ground parts of a stormwater BMP.**

   - **OBJECTID** (OBJECTID, OID, 4): System generated.
   - **WorkorderID** (WorkorderID, String, 20): Data entry field. Should not be used anymore. It's a duplicate of the "Job" field. Sometimes, the EAM Workorder was entered into this field, but not consistently. Project number.
   - **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** Types of water structures including: Pond, Rain Garden, Sand Filter, Green Roof, Pervious Pavement, Bio-Retention System, Grass Buffer, Dry Pond, Dry Swale, Underground Detention, Sedimentation Box, Swirl Chamber, & Forebay.
   - **LocationDescription** (LocationDescription, String, 255): Data entry field. General name of building or neighborhood where structure is.

- **CoverMaterial** (CoverMaterial, String, 5): **Domain field (DomainName = "ssDomainFrameCoverMaterial")**. Material of cover, usually Unknown. Options = STL : Steel | CI : Cast Iron | UNK : Unknown | RC : Reinforced Concrete.
- **CoverType** (CoverType, String, 5): **Domain field (DomainName = "ssDomainAccessType")**. Usually "Manhole Cover", otherwise all are left blank. Options = Lid : Lid | Door : Door | Cover : Manhole Cover | Hatch : Access Hatch | Grate : Grate | UNK : Unknown.
- **FrameMaterial** (FrameMaterial, String, 50): **Domain field (DomainName = "ssDomainFrameMaterial")**. For material of frame including steel, cast iron, unknown, or reinforced concrete. Options = STL : Steel | CI : Cast Iron | UNK : Unknown | RC : Reinforced Concrete.
- **Job** (Job, String, 10): Data entry field. Project number.
- **File_** (File_, String, 10): Data entry field. A reference to old engineering project jobs, usually those in the Engineering vault.
- **Owner** (Owner, String, 5): **Domain field (DomainName = "stsDomainOwner")**. Owner of utility. Options = CITY : CITY OF DULUTH | RR : RAILROAD | TWSHP : TOWNSHIP | STATE : MNDOT | NTMS4 : NONTRADITIONAL MS4 | DNR : DNR | UNK : UNKNOWN | CNTY : COUNTY | PRIV : PRIVATE.
- **Comments** (Comments, String, 100): Text field entry.
- **Shape** (Shape, Geometry, 8): System generated.
- **BMP_ID** (BMP_ID, String, 9): field linking each polygon to its parent point in the sde.SDE.stsBMP_Systems table.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **Invert_Elev_In** (Invert_Elev_In, Double, 8): Data entry field. Invert elevation of pipe into structure.
- **Invert_Elev_Out** (Invert_Elev_Out, Double, 8): Data entry field. Invert evation of pipe out of structure.
- **Top_Berm_Elev** (TopBerm_Elev, Double, 8): Data entry field. Top of berm elevation.
- **Emer_Overflow_Elev** (Emer_Overflow_Elev, Double, 8): Data entry field. Emergency overflow elevation.
- **Base_Elev** (Base_Elev, Double, 8): Data entry field. Elevation of structure base.
- **Total_Volume** (Total_Volume, Double, 8): Total volume of structure, if known.
- **Dead_Volume** (Dead_Volume, Double, 8): Amount of total storage that remains (permanent pool or sump).
- **Live_Storage** (Live_Storage, Double, 8): Amount of total storage that drains off.
- **UnderDrain** (UnderDrain, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False whether there is an underdrain.
- **GreenRoof_Type** (GreenRoof_Type, String, 15): **Domain field (DomainName = "stsDomainGreenRoofType")**. Rarely used, but those entered are for "Extensive." Options = INTENSIVE : Intensive | EXTENSIVE : Extensive.
- **UG_Storage** (UG_Storage, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False. Whether there is underground storage.
- **Infiltration** (Infiltration, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False whether there is infiltration.
- **Filtration** (Filtration, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False whether there is filtration.
- **Install_Date** (Install_Date, Date, 36): Data entry. Date of installation; default = 1/1/1855 if unknown
- **Operational_Date** (Operational_Date, Date, 36): Data entry field. Date utility becomes operational; could be same as InstallDate.

- **Maint_Auth** (Maint_Auth, String, 5): **Domain field (DomainName = "stsDomainOwner")**. Maintenance authority of utility. Options = CITY : CITY OF DULUTH | RR : RAILROAD | TWSHP : TOWNSHIP | STATE : MNDOT | NTMS4 : NONTRADITIONAL MS4 | DNR : DNR | UNK : UNKNOWN | CNTY : COUNTY | PRIV : PRIVATE.
- **Surface_Area** (Surface_Area, Double, 8): Data entry field. Surface area of BMP item.
- **Drainage_Area** (Drainage_Area, Double, 8): Data entry field. Drainage area contributing to BMP item.
- **Qrate_Control** (Qrate_Control, Double, 8): ***NOT USED.***
- **Prim_Func** (Prim_Func, String, 5): **Domain field (DomainName = "stsDomainWaterbodyFuntion")**. For primary function of water structure. Options = None : No Control Function | Infil : Infiltration/Volume Control | Flood : Flood Control | Rate : Rate Control | WQ : Water Quality | UNK : Unknown.
- **Sec_Func** (Sec_Func, String, 5): **Domain field (DomainName = "stsDomainWaterbodyFuntion")**. For secondary function of water structure. Options = None : No Control Function | Infil : Infiltration/Volume Control | Flood : Flood Control | Rate : Rate Control | WQ : Water Quality | UNK : Unknown.
- **UDI** (UDI, String, 9): Data entry field. Unique identifier field, that increments by 1 from the last UDI number. Starts with "WS."
- **Rim_Elev** (Rim_Elev, Double, 8): Data entry field. Elevation at rim of structure.
- **Shape.area** (Shape.area, Double, 0): System-calculated area
- **Shape.len** (Shape.len, Double, 0): System-calculated length

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sde.SDE.StormSewerNetwork

6. **sde.SDE.stsFitting: Point feature class of main and service fittings for storm water.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** Type of fitting. Options = Cap, Bend, Coupling, Expansion Joint, Sleeve, Tap, Tee, Weld, Wye, Saddle, Riser, Offset, Cross, Reducer, & Unknown.
- **Rotation** (Rotation, Double, 8): ***NOT USED***. Only zeros entered as default, which mean nothing.
- **Material** (Material, String, 20): **Domain field (DomainName = "ssDomainstsJunctionMaterial")**. **SHouldn't be used anymore since it's a duplicate of the pipe material.** Material of pipe. Options = PPC : Poured-in-Place Concrete | AC : Asbestos Concrete | BRZ : Bronze | DI : Ductile Iron | STL : Steel | TMB : Timber | RCP : Reinforced Concrete Pipe | CI : Cast Iron | TP : Thermal Plastic | HDPE : High Density Polyethylene | VCP : Vitrious Clay Pipe | PVC : Poly Vinyl Chloride | BR : Brick | UNK : Unknown | STN : Stone | CMP : Corrugated Metal Pipe.
- **Diameter1** (Diameter1, Integer, 4): Data entry field. Diameter of 1st fitting connection.
- **Diameter2** (Diameter2, Integer, 4): Data entry field. Diameter of 2nd fitting connection, if exists.
- **Diameter3** (Diameter3, Integer, 4): Data entry field. Diameter of 3rd fitting connection, if exists.
- **Diameter4** (Diameter4, Integer, 4): Data entry field. Diameter of 4th fitting connection, if exists.

- **UDI** (UDI, String, 9): Data entry field. Unique identifier field, that increments by 1 from the last UDI number. Starts with WE=wye; TE=tee; OF=Overflow.
- **Owner** (Owner, String, 5): **Domain field (DomainName = "stsDomainOwner")**. Owner of utility. Options = CITY : CITY OF DULUTH | RR : RAILROAD | TWSHP : TOWNSHIP | STATE : MNDOT | NTMS4 : NONTRADITIONAL MS4 | DNR : DNR | UNK : UNKNOWN | CNTY : COUNTY | PRIV : PRIVATE.
- **Comments** (Comments, String, 100): Text field entry.
- **Elevation** (Elevation, Double, 8): Data entry field. Elevation of invert of pipe at fitting.
- **BookPage** (BookPage, String, 10): Data entry field. Map book page from sewer books in Engineering Vault.
- **Job** (Job, String, 10): Data entry field. Project number.
- **File_** (File_, String, 10): Data entry field. A reference to old engineering project jobs, usually those in the Engineering vault.
- **Manufacturer** (Manufacturer, String, 5): ***NOT USED***.
- **WSID** (WSID, Integer, 4): Not currently used. Will be used by GIS administrators in future.
- **Discharge_ID** (Discharge_ID, Integer, 4): ***NOT USED***.
- **Year_Built** (Year_Built, SmallInteger, 2): Redundant field of installDate. No longer used.
- **Drainage_Name** (Drainage_Name, String, 25): **Domain field (DomainName = "ssDomainDrainage")**. Drainage name fitting is within. Options = 82nd : 82nd Ave W Creek | Superior : Lake Superior | Tischer : Tischer Creek | Sargent : Sargent Creek | US_Steel : US Steel Creek | Other : Other | 58th : 58th Ave East Creek | Brewery : Brewery Creek | Coffee : Coffee Creek | Amity : Amity Creek | St_Louis : St Louis River | Oregon : Oregon Creek | 43rd : 43rd Ave East Creek | Buckingham : Buckingham Creek | Keene : Keene Creek | 40th : 40th Ave East Creek | 68th : 68th Ave West Creek | 79th : 79th Ave W Creek | Chester : Chester Creek | Morgan : Morgan Park Creek | Merrit : Merrit Creek | 62nd : 62nd Ave West Creek | Stewart : Stewart Creek | Bent : Bent Creek | Miller : Miller Creek | Mission : Mission Creek | Lester : Lester River | Kingsbury : Kingsbury Creek | Knowlton : Knowlton Creek.
- **Discharge_Type** (Discharge_Type, SmallInteger, 2): Type of discharge. Options = 0 : None | 1 : ORVW - Lake Superior | 2 : NPDES - Trout Stream | 3 : Non-Trout Stream | 4 : St. Louis River | 5 : Ground | 6 : Other.
- **Date_Edit** (Date_Edit, Date, 36): ***NOT USED***. Will be replaced with a system-generated field.
- **Editor** (Editor, String, 3): ***NOT USED***. Will be replaced with a system-generated field.
- **XCoord_GPS** (GPS_XCoord, Double, 8): Data entry. X coordinate if GPS point was collected at utility's location. This is calculated into the field through ArcMap.
- **YCoord_GPS** (YCoord_GPS, Double, 8): Data entry. Y coordinate if GPS point was collected at utility's location. This is calculated into the field through ArcMap.
- **Date_GPS** (Date_GPS, Date, 36): Date of GPS point if one was taken at the location. To check if GPS was taken at given utility, turn on layer "GPS Points."
- **GISOBJID** (GISOBJID, Integer, 4): System Generated. Infor EAM number.
- **Install_Date** (Install_Date, Date, 36): Data entry. Date of installation; default = 1/1/1855 if unknown
- **Shape** (Shape, Geometry, 8): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.

7. ****sde.SDE.stsAnnoCB: Annotation feature class showing labels for storm water catch basins. Layer no longer updated.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **FeatureID** (FeatureID, Integer, 4):

- **ZOrder** (ZOrder, Integer, 4):
- **AnnotationClassID** (AnnotationClassID, Integer, 4):
- **Element** (Element, Blob, 0):
- **SymbolID** (SymbolID, Integer, 4):
- **Status** (Status, SmallInteger, 2):
- **TextString** (TextString, String, 255):
- **FontName** (FontName, String, 255):
- **FontSize** (FontSize, Double, 8):
- **Bold** (Bold, SmallInteger, 2):
- **Italic** (Italic, SmallInteger, 2):
- **Underline** (Underline, SmallInteger, 2):
- **VerticalAlignment** (VerticalAlignment, SmallInteger, 2):
- **HorizontalAlignment** (HorizontalAlignment, SmallInteger, 2):
- **XOffset** (XOffset, Double, 8):
- **YOffset** (YOffset, Double, 8):
- **Angle** (Angle, Double, 8):
- **FontLeading** (FontLeading, Double, 8):
- **WordSpacing** (WordSpacing, Double, 8):
- **CharacterWidth** (CharacterWidth, Double, 8):
- **CharacterSpacing** (CharacterSpacing, Double, 8):
- **FlipAngle** (FlipAngle, Double, 8):
- **Override** (Override, Integer, 4):
- **SHAPE** (SHAPE, Geometry, 8): System generated.
- **SHAPE.area** (SHAPE.area, Double, 0): System-calculated area.
- **SHAPE.len** (SHAPE.len, Double, 0): System-calculated length.

8. **sde.SDE.stsNetworkStructure: Point feature class containing types of storm water structures. These are similar locations represented by the stsWaterStructure feature class.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** Type of network structure. Options = Lift Station, Diversion Structure, Sump Catchbasin, Sedimentation Structure, Outlet Structure, & Dissapator.
- **Rotation** (Rotation, Double, 8): ***NOT USED***. Only zeros entered as default, which mean nothing.
- **NetworkOID** (NetworkOID, Integer, 4):
- **Owner** (Owner, String, 15): **Domain field (DomainName = "stsDomainOwner")**. Owner of utility. Options = CITY : CITY OF DULUTH | RR : RAILROAD | TWSHP : TOWNSHIP | STATE : MNDOT | NTMS4 : NONTRADITIONAL MS4 | DNR : DNR | UNK : UNKNOWN | CNTY : COUNTY | PRIV : PRIVATE.
- **Comments** (Comments, String, 100): Text field entry.
- **Top_Elev** (Top_Elev, Double, 8): Data entry field. Elevation at top of structure.
- **Bot_Elev** (Bot_Elev, Double, 8): Data entry field. Elevation at bottom of structure.
- **UDI** (UDI, String, 9): Data entry field. Unique identifier field, that increments by 1 from the last UDI number. Starts with PS,'BA,'DC, SB, DR, or DS.
- **Job** (Job, String, 10): Data entry field. Project number.

- **BookPage** (BookPage, String, 10): Data entry field. Map book page from sewer books in Engineering Vault.
- **File_** (File_, String, 10): Data entry field. A reference to old engineering project jobs, usually those in the Engineering vault.
- **WSID** (WSID, Integer, 4): Not currently used. Will be used by GIS administrators in future.
- **INVERT_OUT** (INVERT_OUT, Double, 8): Data entry field. Elevation of lowest pipe, orifice or weir going out of structure.
- **INVERT_IN** (INVERT_IN, Double, 8): Data entry field. Elevation of pipe invert coming into structure.
- **Date_Edit** (Date_Edit, Date, 36): ***NOT USED***. Will be replaced with a system-generated field.
- **Editor** (Editor, String, 3): ***NOT USED***. Will be replaced with a system-generated field.
- **XCoord_GPS** (XCoord_GPS, Double, 8): Data entry. X coordinate if GPS point was collected at utility's location. This is calculated into the field through ArcMap.
- **YCoord_GPS** (YCoord_GPS, Double, 8): Data entry. Y coordinate if GPS point was collected at utility's location. This is calculated into the field through ArcMap.
- **Date_GPS** (Date_GPS, Date, 36): Date of GPS point if one was taken at the location. To check if GPS was taken at given utility, turn on layer "GPS Points."
- **GISOBJID** (GISOBJID, Integer, 4): System Generated. Infor EAM number.
- **Install_Date** (Install_Date, Date, 36): Data entry. Date of installation; default = 1/1/1855 if unknown
- **Shape** (Shape, Geometry, 8): System generated
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **BMP_ID** (BMP_ID, String, 9): field linking each polygon to its parent point in the sde.SDE.stsBMP_Systems table.
- **Invert_Out_2** (Invert_Out_2, Double, 8): Data entry field. Elevation of 2nd lowest pipe, orifice or weir going out of structure.
- **Invert_Out_3** (Invert_Out_3, Double, 8): Data entry field. Elevation of 3rd lowest pipe, orifice or weir going out of structure.
- **SedimentStructureType** (SedimentStructureType, String, 15): **Domain field (DomainName = "stsDomainSedimentStructureType")**. Type of sediment structure, if applicable. Options = BOX : Box | SWIRL : Swirl | GRIT : Grit | FOREBAY : Forebay.
- **Operational_Date** (Operational_Date, Date, 36): Data entry field. Date utility becomes operational; could be same as InstallDate.
- **Maint_Auth** (Maint_Auth, String, 5): **Domain field (DomainName = "stsDomainOwner")**. Maintenance authority of utility. Options = CITY : CITY OF DULUTH | RR : RAILROAD | TWSHP : TOWNSHIP | STATE : MNDOT | NTMS4 : NONTRADITIONAL MS4 | DNR : DNR | UNK : UNKNOWN | CNTY : COUNTY | PRIV : PRIVATE.

9. ****sde.SDE.stsAnno: Annotation feature class that shows various labels associated with storm water features. Features are no longer updated.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **FeatureID** (FeatureID, Integer, 4):
- **ZOrder** (ZOrder, Integer, 4):
- **AnnotationClassID** (AnnotationClassID, Integer, 4):
- **Element** (Element, Blob, 0):
- **Type** (Type, String, 1):
- **SymbolID** (SymbolID, Integer, 4):
- **Status** (Status, SmallInteger, 2):

- **TextString** (TextString, String, 255):
- **FontName** (FontName, String, 255):
- **FontSize** (FontSize, Double, 8):
- **Bold** (Bold, SmallInteger, 2):
- **Italic** (Italic, SmallInteger, 2):
- **Underline** (Underline, SmallInteger, 2):
- **VerticalAlignment** (VerticalAlignment, SmallInteger, 2):
- **HorizontalAlignment** (HorizontalAlignment, SmallInteger, 2):
- **XOffset** (XOffset, Double, 8):
- **YOffset** (YOffset, Double, 8):
- **Angle** (Angle, Double, 8):
- **FontLeading** (FontLeading, Double, 8):
- **WordSpacing** (WordSpacing, Double, 8):
- **CharacterWidth** (CharacterWidth, Double, 8):
- **CharacterSpacing** (CharacterSpacing, Double, 8):
- **FlipAngle** (FlipAngle, Double, 8):
- **Override** (Override, Integer, 4):
- **SHAPE** (SHAPE, Geometry, 8): System generated
- **SHAPE.area** (SHAPE.area, Double, 0): System calculated area
- **SHAPE.len** (SHAPE.len, Double, 0): System calculated length

10. ****sde.SDE.stsAnnoLeaders: General annotation labels feature class for storm water. No longer updated.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **INT_REFNO** (INT_REFNO, Double, 8):
- **UDI** (UDI, String, 64): Data entry field. Unique identifier field, that increments by 1 from the last UDI number. No longer updated.
- **TEXT_FLAG** (TEXT_FLAG, String, 1):
- **SYMBOL_NAM** (SYMBOL_NAM, String, 32):
- **SYMNUM** (SYMNUM, Integer, 4):
- **TXT** (TXT, String, 254):
- **POINTER** (POINTER, String, 1):
- **STYLE** (STYLE, Integer, 4):
- **SEQ** (SEQ, Integer, 4):
- **TEXT_** (TEXT_, String, 254):
- **FONTNUM** (FONTNUM, Integer, 4):
- **FONTHEIGHT** (FONTHEIGHT, Double, 8):
- **Type** (Type, String, 1):
- **Shape** (Shape, Geometry, 8): System generated
- **Shape.len** (Shape.len, Double, 0): System calculated length

11. **sde.SDE.stsInletsOutlets: Point feature class showing inlets and outlets of storm water structures.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.

- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** Type of inlet or outlet. Options = Pipe End, Ground Inflow, Curb Cutout, Unknown, & Apron.
- **Rotation** (Rotation, Double, 8): ***NOT USED***. Only zeros entered as default, which mean nothing.
- **Material** (Material, String, 20): Material of inlet/outlet. Options include = PPC : Poured-in-Place Concrete | AC : Asbestos Concrete | BRZ : Bronze | DI : Ductile Iron | STL : Steel | TMB : Timber | RCP : Reinforced Concrete Pipe | CI : Cast Iron | TP : Thermal Plastic | HDPE : High Density Polyethylene | VCP : Vitrious Clay Pipe | PVC : Poly Vinyl Chloride | BR : Brick | UNK : Unknown | STN : Stone | CMP : Corrugated Metal Pipe.
- **Diameter1** (Diameter1, Integer, 4): **Domain field (DomainName = "ssDomainstsMainDistributionDiameter")**. Diameter of 1st inlet/outlet. Options = 128 : 128 inch | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 15 : 15 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 21 : 21 inch | 22 : 22 inch | 24 : 24 inch | 132 : 132 inch | 26 : 26 inch | 27 : 27 inch | 28 : 28 inch | 30 : 30 inch | 0 : Unknown | 32 : 32 inch | 34 : 34 inch | 36 : 36 inch | 38 : 38 inch | 40 : 40 inch | 156 : 156 inch | 42 : 42 inch | 44 : 44 inch | 45 : 45 inch | 46 : 46 inch | 48 : 48 inch | 50 : 50 inch | 51 : 51 inch | 52 : 52 inch | 54 : 54 inch | 55 : 55 inch | 56 : 56 inch | 58 : 58 inch | 31 : 31 inch | 60 : 60 inch | 192 : 192 inch | 62 : 62 inch | 64 : 64 inch | 66 : 66 inch | 68 : 68 inch | 70 : 70 inch | 72 : 72 inch | 78 : 78 inch | 84 : 84 inch | 88 : 88 inch | 96 : 96 inch | 144 : 144 inch | 108 : 108 inch | 120 : 120 inch | 122 : 122 inch.
- **Diameter2** (Diameter2, Integer, 4): **Domain field (DomainName = "ssDomainstsMainDistributionDiameter")**. Diameter of 2nd inlet/outlet. Same options as Diameter 1.
- **Diameter3** (Diameter3, Integer, 4): **Domain field (DomainName = "ssDomainstsMainDistributionDiameter")**. Diameter of 3rd inlet/outlet. Same options as Diameter 1.
- **Diameter4** (Diameter4, Integer, 4): **Domain field (DomainName = "ssDomainstsMainDistributionDiameter")**. Diameter of 4th inlet/outlet. Same options as Diameter 1.
- **UDI** (UDI, String, 9): Data entry field. Unique identifier field, that increments by 1 from the last UDI number. Starts with PE=pipe end; AP=apron; there are numerous other codes, but only PE and AP are used currently.
- **Owner** (Owner, String, 5): **Domain field (DomainName = "stsDomainOwner")**. Owner of utility. Options = CITY : CITY OF DULUTH | RR : RAILROAD | TWSHP : TOWNSHIP | STATE : MNDOT | NTMS4 : NONTRADITIONAL MS4 | DNR : DNR | UNK : UNKNOWN | CNTY : COUNTY | PRIV : PRIVATE.
- **Comments** (Comments, String, 100): Text field.
- **BookPage** (BookPage, String, 10): Data entry field. Map book page from sewer books in Engineering Vault.
- **Job** (Job, String, 10): Data entry field. Project number.
- **File_** (File_, String, 10): Data entry field. A reference to old engineering project jobs, usually those in the Engineering vault.
- **Manufacturer** (Manufacturer, String, 5): ***NOT USED***.
- **Discharge_ID** (Discharge_ID, Integer, 4): Not currently used; will be used by GIS administrators in future.
- **Drainage_Name** (Drainage_Name, String, 25): **Domain field (DomainName = "ssDomainDrainage")**. Drainage name utility is within. Options = 82nd : 82nd Ave W Creek | Superior : Lake Superior | Tischer : Tischer Creek | Sargent : Sargent Creek | US_Steel : US Steel Creek | Other : Other | 58th : 58th Ave East Creek | Brewery : Brewery Creek | Coffee : Coffee Creek | Amity : Amity Creek | St_Louis : St Louis River | Oregon : Oregon Creek | 43rd : 43rd Ave East Creek | Buckingham : Buckingham Creek | Keene : Keene Creek | 40th : 40th Ave East Creek | 68th : 68th Ave West Creek | 79th : 79th Ave W Creek | Chester : Chester Creek | Morgan : Morgan Park Creek | Merrit : Merrit Creek | 62nd : 62nd Ave West Creek |

Stewart : Stewart Creek | Bent : Bent Creek | Miller : Miller Creek | Mission : Mission Creek | Lester : Lester River | Kingsbury : Kingsbury Creek | Knowlton : Knowlton Creek.

- **Discharge_Type** (Discharge_Type, SmallInteger, 2): **Domain field (DomainName = "ssDomainDischargeType")**. Type of discharge. Options = 0 : None | 1 : ORVW - Lake Superior | 2 : NPDES - Trout Stream | 3 : Non-Trout Stream | 4 : St. Louis River | 5 : Ground | 6 : Other.
- **Date_Edit** (Date_Edit, Date, 36): ***NOT USED***. Will be replaced with a system-generated field.
- **Editor** (Editor, String, 3): ***NOT USED***. Will be replaced with a system-generated field.
- **XCoord_GPS** (GPS_XCoord, Double, 8): Data entry. X coordinate if GPS point was collected at utility's location. This is calculated into the field through ArcMap.
- **YCoord_GPS** (YCoord_GPS, Double, 8): Data entry. Y coordinate if GPS point was collected at utility's location. This is calculated into the field through ArcMap.
- **Date_GPS** (Date_GPS, Date, 36): Date of GPS point if one was taken at the location. To check if GPS was taken at given utility, turn on layer "GPS Points."
- **GISOBJID** (GISOBJID, Integer, 4): System Generated. Infor EAM number.
- **Install_Date** (Install_Date, Date, 36): Data entry. Date of installation; default = 1/1/1855 if unknown
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **Maint_Auth** (Maint_Auth, String, 5): **Domain field (DomainName = "stsDomainOwner")**. Maintenance authority of utility. Options = CITY : CITY OF DULUTH | RR : RAILROAD | TWSHP : TOWNSHIP | STATE : MNDOT | NTMS4 : NONTRADITIONAL MS4 | DNR : DNR | UNK : UNKNOWN | CNTY : COUNTY | PRIV : PRIVATE.
- **Operational_Date** (Operational_Date, Date, 36): Data entry field. Date utility becomes operational; could be same as InstallDate.
- **Invert_Elev** (Invert_Elev, Double, 8): Data entry field. Invert Elevation.
- **BMP_ID** (BMP_ID, String, 9): field linking each polygon to its' parent point in the sde.SDE.stsBMP_Systems table.
- **Shape** (Shape, Geometry, 8): System generated
- **Waterbody_ID** (Waterbody_ID, String, 25): Discharge water body code.
- **WSID** (WSID, String, 9): Not currently used. Will be used by GIS administrators in future.
- **InletOutlet** (InletOutlet, String, 6):

12. **sde.SDE.stsGravityMain: Line feature class showing storm water mains with water moving by gravity.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field**. Type of gravity main. Options = Collector, Culvert, Overflow, Tunnel, Network Connection, Trench Drain, Sedimentation Channel, Curb Drain, Ditch, Swale, & Lateral.
- **UpstreamInvert** (UpstreamInvert, Double, 8): Data entry field. Invert elevation upstream end of pipe.
- **DownstreamInvert** (DownstreamInvert, Double, 8): Data entry field. Invert elevation on the downstream end of pipe.
- **NominalDiameter** (NominalDiameter, Integer, 4): **Domain field (DomainName = "ssDomainstsMainDistributionDiameter")**. The size of the pipe in inches. Options = 128 : 128 inch | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 15 : 15 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 21 : 21 inch | 22 : 22 inch | 24 : 24 inch | 132 : 132 inch | 26 : 26 inch | 27 : 27 inch | 28 : 28 inch | 30 : 30 inch | 0 : Unknown | 32 : 32 inch | 34 : 34

inch | 36 : 36 inch | 38 : 38 inch | 40 : 40 inch | 156 : 156 inch | 42 : 42 inch | 44 : 44 inch | 45 : 45 inch | 46 : 46 inch | 48 : 48 inch | 50 : 50 inch | 51 : 51 inch | 52 : 52 inch | 54 : 54 inch | 55 : 55 inch | 56 : 56 inch | 58 : 58 inch | 31 : 31 inch | 60 : 60 inch | 192 : 192 inch | 62 : 62 inch | 64 : 64 inch | 66 : 66 inch | 68 : 68 inch | 70 : 70 inch | 72 : 72 inch | 78 : 78 inch | 84 : 84 inch | 88 : 88 inch | 96 : 96 inch | 144 : 144 inch | 108 : 108 inch | 120 : 120 inch | 122 : 122 inch.

- **Slope** (Slope, Double, 8): Data entry field. Slope of pipe in decimals.
- **WaterType** (WaterType, String, 10): **Domain field (DomainName = "ssDomainWaterType")**. Type of water. Always storm runoff. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Treated : Treated Water | Sewage : Sewage.
- **Material** (Material, String, 5): **Domain field (DomainName = "ssDomainstsMainMaterial")**. Material of pipe. Options = PPC : Poured-In-Place Concrete | VCP : Vitreous Clay Pipe | CI : Cast Iron | UNK : Unknown | DI : Ductile Iron | NCP : Non-Reinforced Concrete Perforated Pipe | CPD : Corrugated Polyethylene Drainage Pipe | STN : Stone | RCP : Reinforced Concrete | TMB : Timber | TP : Thermal Plastic | SLL : Slip-Lined | STL : Steel | PVC : Polyvinyl Chloride | BR : Brick | DHDPE : Dual Wall High-Density Polyethylene | SHDPE : Single Wall High-Density Polyethylene | CSP : Corrugated Steel Pipe (New Coating) | CMP : Corrugated Metal Pipe (Iron or Steel).
- **JointType1** (JointType1, String, 5): **Domain field (DomainName = "ssDomainJointType")**. Joint type connecting 1st pipe when additional pipes need to be joined. Options = WELD : Weld | SLV : Sleeve | MJ : Mechanical Joint | SJ : Slip Joint | FUSED : Fused | UNK : Unknown | FL : Flange | THRD : Threaded | BOND : Bond.
- **JointType2** (JointType2, String, 5): **Domain field (DomainName = "ssDomainJointType")**. Joint type connecting 2nd pipe when additional pipes need to be joined. Same options as JointType1.
- **LiningType** (LiningType, String, 5): **Domain field (DomainName = "stsDomainLiningType")**. Type of lining used in pipe. Options = CIPP.
- **PipeClass** (PipeClass, String, 5): ***NOT USED***.
- **CrossSectionShape** (CrossSectionShape, String, 5): **Domain field (DomainName = "ssDomainstsGravityMainShapes")**. Shape of pipe cross-section. Mostly all are Circular. Options = BOX : Box | ELLP : Ellipse | CIR : Circular | OVAL : Oval | UNK : Unknown | ARCH : Arch.
- **UDI** (UDI, String, 9): Data entry field. Unique identifier field, that increments by 1 from the last UDI number. Starts with SS; there are other codes, but only SS is used currently.
- **UDI_From** (UDI_From, String, 9): Data entry field. UDI of utility from which the main originates.
- **Rock** (Rock, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False whether rock is present near the pipe.
- **Comment** (Comment, String, 100): Text entry.
- **Job** (Job, String, 10): Data entry field. Project number.
- **File_** (File_, String, 8): Data entry field. A reference to old engineering project jobs, usually those in the Engineering vault.
- **UDI_To** (UDI_To, String, 9): Data entry field. UDI of utility to which the main goes.
- **PipeLength** (PipeLength, Double, 8): Data entry field. Length of pipe as reported on Record Drawing; this is NOT measured from the GIS map.
- **PipeWidth** (PipeWidth, Double, 8): Data entry field. Width of pipe in inches.
- **Owner** (Owner, String, 5): **Domain field (DomainName = "stsDomainOwner")**. Owner of utility. Options = CITY : CITY OF DULUTH | RR : RAILROAD | TWSHP : TOWNSHIP | STATE : MNDOT |

NTMS4 : NONTRADITIONAL MS4 | DNR : DNR | UNK : UNKNOWN | CNTY : COUNTY | PRIV : PRIVATE.

- **Manufacturer** (Manufacturer, String, 5): ***NOT USED***.
- **Year_Built** (Year_Built, SmallInteger, 2): Redundant field of installDate. No longer used.
- **Wye_Check** (Wye_Check, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False whether the wye was checked? ?? Mostly all are False or Null. Kim & Jon are uncertain what this field refers to.
- **PerforatedPipe** (PerforatedPipe, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False whether the pipe is perforated.
- **Book_Page** (Book_Page, String, 20): Data entry field. Map book page from sewer books in Engineering Vault.
- **Drop_Elev** (Drop_Elev, Double, 8): Data entry field. Lower elevation of inside or outside drop pipe, only if applicable.
- **WRMO** (WRMO, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False. Whether there is an order assigned to the pipe as a Water Resource Management Order. (See engineer Tom Johnson for questions).
- **Date_Edit** (Date_Edit, Date, 36): ***NOT USED***. Will be replaced with a system-generated field.
- **Editor** (EDITOR, String, 3): ***NOT USED***. Will be replaced with a system-generated field.
- **GISOBJID** (GISEAMID, Integer, 4): System Generated. Infor EAM number.
- **Install_Date** (Install_Date, Date, 36): Data entry. Date of installation; default = 1/1/1855 if unknown
- **Shape** (Shape, Geometry, 8): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = ssDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **BMP_ID** (BMP_ID, String, 9): field linking each polygon to its parent point in the sde.SDE.stsBMP_Systems table.
- **Maint_Auth** (Maint_Auth, String, 5): **Domain field (DomainName = "stsDomainOwner")**. Maintenance authority of utility. Options = CITY : CITY OF DULUTH | RR : RAILROAD | TWSHP : TOWNSHIP | STATE : MNDOT | NTMS4 : NONTRADITIONAL MS4 | DNR : DNR | UNK : UNKNOWN | CNTY : COUNTY | PRIV : PRIVATE.
- **Operation_Date** (Operation_Date, Date, 36): Data entry field. Date utility becomes operational; could be same as InstallDate.
- **Prim_Func** (Prim_Func, String, 5): **Domain field (DomainName = "stsDomainWaterbodyFuntion")**. Primary function of pipe, but is rarely filled in. Options = None : No Control Function | Infil : Infiltration/Volume Control | Flood : Flood Control | Rate : Rate Control | WQ : Water Quality | UNK : Unknown.
- **Sec_Func** (Sec_Func, String, 5): **Domain field (DomainName = "stsDomainWaterbodyFuntion")**. Secondary function of pipe, but is rarely filled in. Options = None : No Control Function | Infil : Infiltration/Volume Control | Flood : Flood Control | Rate : Rate Control | WQ : Water Quality | UNK : Unknown.
- **Length_Plan** (Length_Plan, Double, 8): Data entry field. Length of pipe as reported on Record Drawing; this is NOT measured from the GIS map.
- **Shape.len** (Shape.len, Double, 0): System calculated length.

13. **sde.SDE.stsSystemValve: Point feature class showing controllable system valves for storm water.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.

- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** Type of system valve including Ball, Butterfly, Cone, Gate, & Plug. As of 3/30/2016, the 3 feature classes are all Plug.
- **Rotation** (Rotation, Double, 8): ***NOT USED***. Only zeros entered as default, which mean nothing.
- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **WorkorderID** (WorkorderID, String, 20): Data entry field. Should not be used anymore. It's a duplicate of the "Job" field. Sometimes, the EAM Workorder was entered into this field, but not consistently. Project number.
- **Elevation** (Elevation, Double, 8): Data entry field. Inver elevation of valve.
- **Diameter** (Diameter, Integer, 4): **Domain field (DomainName = "ssDomainstsMainDistributionDiameter")**. Diameter of valve. Options = 128 : 128 inch | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 15 : 15 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 21 : 21 inch | 22 : 22 inch | 24 : 24 inch | 132 : 132 inch | 26 : 26 inch | 27 : 27 inch | 28 : 28 inch | 30 : 30 inch | 0 : Unknown | 32 : 32 inch | 34 : 34 inch | 36 : 36 inch | 38 : 38 inch | 40 : 40 inch | 156 : 156 inch | 42 : 42 inch | 44 : 44 inch | 45 : 45 inch | 46 : 46 inch | 48 : 48 inch | 50 : 50 inch | 51 : 51 inch | 52 : 52 inch | 54 : 54 inch | 55 : 55 inch | 56 : 56 inch | 58 : 58 inch | 31 : 31 inch | 60 : 60 inch | 192 : 192 inch | 62 : 62 inch | 64 : 64 inch | 66 : 66 inch | 68 : 68 inch | 70 : 70 inch | 72 : 72 inch | 78 : 78 inch | 84 : 84 inch | 88 : 88 inch | 96 : 96 inch | 144 : 144 inch | 108 : 108 inch | 120 : 120 inch | 122 : 122 inch.
- **BypassValve** (BypassValve, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False whether there is a bypass valve attached.
- **ClockwiseToClose** (ClockwiseToClose, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False. Not currently used, but may be used in future.
- **CurrentlyOpen** (CurretlyOpen, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False for whether the operating valve is open or closed.
- **Motorized** (Motorized, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False whether valve is motorized.
- **NormallyOpen** (NormallyOpen, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False whether the valve is normally open.
- **PercentOpen** (PercentOpen, Integer, 4): Data entry field. The percentage of the valve being turned to open; 0= not open, 100=all the way open.
- **PressureSetting** (PressureSetting, String, 20): ***NOT USED***.
- **RegulationType** (RegulationType, String, 20): **Domain field (DomainName = "ssDomainWHSystemValveRegulationType")**. Type of regulation enforced for pipe. 2 are Flow. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Treated : Treated Water | Sewage : Sewage.
- **TurnsToClose** (TurnsToClose, Double, 8): Data entry field. Number of valve turns to close it.
- **WaterType** (WaterType, String, 10): **Domain field (DomainName = "ssDomainWaterType")**. Type of water. Always storm runoff. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed

Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Treated : Treated Water | Sewage : Sewage.

- **Job** (Job, String, 10): Data entry field. Project number.
- **File_** (File_, String, 10): Data entry field. A reference to old engineering project jobs, usually those in the Engineering vault.
- **UDI** (UDI, String, 9): Data entry field. Unique identifier field, that increments by 1 from the last UDI number. Starts with PL.
- **Owner** (Owner, String, 5): **Domain field (DomainName = "stsDomainOwner")**. Owner of utility. Options = CITY : CITY OF DULUTH | RR : RAILROAD | TWSHP : TOWNSHIP | STATE : MNDOT | NTMS4 : NONTRADITIONAL MS4 | DNR : DNR | UNK : UNKNOWN | CNTY : COUNTY | PRIV : PRIVATE.
- **WSID** (WSID, Integer, 4): Not currently used. Will be used by GIS administrators in future.
- **Manufacturer** (Manufacturer, String, 5): ***NOT USED***.
- **Material** (Material, String, 5): **Domain field (DomainName = "ssDomainstsJunctionMaterial")**. Material of valve. Options = PPC : Poured-in-Place Concrete | AC : Asbestos Concrete | BRZ : Bronze | DI : Ductile Iron | STL : Steel | TMB : Timber | RCP : Reinforced Concrete Pipe | CI : Cast Iron | TP : Thermal Plastic | HDPE : High Density Polyethylene | VCP : Vitrious Clay Pipe | PVC : Poly Vinyl Chloride | BR : Brick | UNK : Unknown | STN : Stone | CMP : Corrugated Metal Pipe.
- **YEAR_BUILT** (YEAR_BUILT, SmallInteger, 2): Data entry field. Year system valve was installed.
- **Editor** (EDITOR, String, 3): ***NOT USED***. Will be replaced with a system-generated field.
- **Date_Edit** (Date_Edit, Date, 36): ***NOT USED***. Will be replaced with a system-generated field.
- **Shape** (Shape, Geometry, 8): System generated.

14. **sde.SDE.stsCatchBasin: Point feature class showing storm water catch basins.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Rotation** (Rotation, Double, 8): ***NOT USED***. ***NOT USED***. Only zeros entered as default, which mean nothing.
- **AccessDiameter** (AccessDiameter, Integer, 4):
- **Owner** (Owner, String, 10): **Domain field (DomainName = "stsDomainOwner")**. Owner of utility. Options = CITY : CITY OF DULUTH | RR : RAILROAD | TWSHP : TOWNSHIP | STATE : MNDOT | NTMS4 : NONTRADITIONAL MS4 | DNR : DNR | UNK : UNKNOWN | CNTY : COUNTY | PRIV : PRIVATE.
- **Type** (Type, String, 10): **Domain field (DomainName = "ssDomainCatchBasinType")**. Type of catch basin including = YARD : YARD | UNK : UNKNOWN | STREET : STREET | CURB : CURB.
- **UDI** (UDI, String, 9): Data entry field. Unique identifier field, that increments by 1 from the last UDI number. There are other codes, but only CB is used currently.
- **Job** (Job, String, 10): Data entry field. Project number.
- **File_** (File_, String, 5): Data entry field. A reference to old engineering project jobs, usually those in the Engineering vault.
- **Comments** (Comments, String, 100): Text field.
- **Inv_Elev_Out** (Inv_Elev_Out, Double, 8): Data entry field. Invert elevation of pipe out of catch basin.

- **Inv_Elev_High** (Inv_Elev_High, Double, 8): Data entry field. Invert elevation of highest pipe into catch basin.
- **Inv_Elev_3** (Inv_Elev_3, Double, 8): ***NOT USED*** anymore. Should be replaced by entering upstream & downstream elevations for the connected pipes.
- **Inv_Elev_4** (Inv_Elev_4, Double, 8): ***NOT USED*** anymore. Should be replaced by entering upstream & downstream elevations for the connected pipes.
- **Rim_Elev** (Rim_Elev, Double, 8): Data entry field. Rim elevation of catch basin.
- **Year_Built** (Year_Built, SmallInteger, 2): Redundant field of installDate. No longer used.
- **Date_Edit** (Date_Edit, Date, 36): ***NOT USED***. Will be replaced with a system-generated field.
- **Editor** (Editor, String, 3): ***NOT USED***. Will be replaced with a system-generated field.
- **XCoord_GPS** (XCoord_GPS, Double, 8): Data entry. Y coordinate if GPS point was collected at utility's location. This is calculated into the field through ArcMap.
- **YCoord_GPS** (YCoord_GPS, Double, 8): Data entry. Y coordinate if GPS point was collected at utility's location. This is calculated into the field through ArcMap.
- **Date_GPS** (Date_GPS, Date, 36): Date of GPS point if one was taken at the location. To check if GPS was taken at given utility, turn on layer "GPS Points."
- **GISOBJID** (GISOBJID, Integer, 4): System Generated. Infor EAM number.
- **Install_Date** (Install_Date, Date, 36): Data entry. Date of installation; default = 1/1/1855 if unknown
- **Material** (Material, String, 5): **Domain field (DomainName = "stsCatchBasinMaterial")**. Material of catch basin. Options = Brick : Brick | UNK : Unknown | Metal : Metal | Plast : Plastic | Con : Concrete.
- **SHAPE** (SHAPE, Geometry, 8): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.

15. ****sde.SDE.stsAnnoCBLeaders: Line annotation feature class for storm water catch basins. No longer updated.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **INT_REFNO** (INT_REFNO, Double, 8):
- **UDI** (UDI, String, 64): Data entry field. Unique identifier field, that increments by 1 from the last UDI number. Starts with CB and CV. No longer updated.
- **TEXT_FLAG** (TEXT_FLAG, String, 1):
- **TYPE** (TYPE, String, 1):
- **SYMBOL_NAM** (SYMBOL_NAM, String, 32):
- **SYMNUM** (SYMNUM, Integer, 4):
- **AZM** (AZM, Double, 8):
- **TXT** (TXT, String, 254):
- **POINTER** (POINTER, String, 1):
- **STYLE** (STYLE, Integer, 4):
- **SEQ** (SEQ, Integer, 4):
- **TEXT_** (TEXT_, String, 254):
- **FONTNUM** (FONTNUM, Integer, 4):
- **FONTHEIGHT** (FONTHEIGHT, Double, 8):
- **Shape** (Shape, Geometry, 8): System generated
- **Shape.len** (Shape.len, Double, 0): System calculated length

16. **sde.SDE.stsManhole: Point feature class of storm water manholes.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AncillaryRole** (ANCILLARYROLE, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Rotation** (Rotation, Double, 8): ***NOT USED***. Only zeros entered as default, which mean nothing.
- **WorkorderID** (WorkorderID, String, 20): Data entry field. Should not be used anymore. It's a duplicate of the "Job" field. Sometimes, the EAM Workorder was entered into this field, but not consistently. Project number.
- **AccessDiameter** (AccessDiameter, Integer, 4): Data entry field. Should be called "Manhole diameter."
- **AccessType** (AccessType, String, 5):
- **GroundType** (GroundType, String, 5):
- **WallMaterial** (WallMaterial, String, 5):
- **WaterType** (Water Type, String, 10): **Domain field (DomainName = "ssDomainWaterType")**. Type of water. Always storm runoff.
- **UDI** (UDI, String, 9): Data entry field. Unique identifier field, that increments by 1 from the last UDI number. Starts with ST.
- **Owner** (Owner, String, 15): **Domain field (DomainName = "stsDomainOwner")**. Owner of utility. Options = CITY : CITY OF DULUTH | RR : RAILROAD | TWSHP : TOWNSHIP | STATE : MNDOT | NTMS4 : NONTRADITIONAL MS4 | DNR : DNR | UNK : UNKNOWN | CNTY : COUNTY | PRIV : PRIVATE.
- **Comments** (Comments, String, 100): Text field.
- **Basin** (Basin, SmallInteger, 2): Data entry field. Unknown basin id. ***NOT USED.***
- **BookPage** (BookPage, String, 10): Data entry field. Map book page from sewer books in Engineering Vault.
- **Job** (Job, String, 10): Data entry field. Project number.
- **File_** (File_, String, 10): Data entry field. A reference to old engineering project jobs, usually those in the Engineering vault.
- **Rim_Elev** (Rim_Elev, Double, 8): Manhole rim elevation.
- **Drop_** (Drop_, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. Yes/No whether manhole has a Drop in it.
- **Inv_Elev_Out** (Inv_Elev_Out, Double, 8): Data entry field. Invert elevation of pipe out of manhole.
- **Inv_Elev_High** (Inv_Elev_High, Double, 8): Data entry field. Elevation of the highest elevation pipe into manhole.
- **Inv_Elev_3** (Inv_Elev_3, Double, 8): ***NOT USED*** anymore. Should be replaced by entering upstream & downstream elevations in the mains.
- **Inv_Elev_4** (Inv_Elev_4, Double, 8): ***NOT USED*** anymore. Should be replaced by entering upstream & downstream elevations in the mains.
- **Year_Built** (Year_Built, SmallInteger, 2): Redundant field of installDate. No longer used.
- **Editor** (EDITOR, String, 3): ***NOT USED***. Will be replaced with a system-generated field.
- **Date_Edit** (Date_Edit, Date, 36): ***NOT USED***. Will be replaced with a system-generated field.
- **XCoord_GPS** (xCoord_GPS, Double, 8): Data entry. X coordinate if GPS point was collected at utility's location. This is calculated into the field through ArcMap.
- **YCoord_GPS** (YCoord_GPS, Double, 8): Data entry. Y coordinate if GPS point was collected at utility's location. This is calculated into the field through ArcMap.
- **Date_GPS** (Date_GPS, Date, 36): Date of GPS point if one was taken at the location. To check if GPS was taken at given utility, turn on layer "GPS Points."

- **GISOBJID** (GISOBJID, Integer, 4): System Generated. Infor EAM number.
- **Install_Date** (Install_Date, Date, 36): Data entry. Date of installation; default = 1/1/1855 if unknown
- **Shape** (Shape, Geometry, 8): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.

17. **sde.SDE.stsPressurizedMain: Line feature class of storm water mains that are pressurized. There are only two.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** Type of pressurized main including Forced or Pressure.
- **InstallDate** (InstallDate, Date, 36): Data entry. Date of installation; default = 1/1/1855 if unknown.
- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **WorkorderID** (WorkorderID, String, 20): Data entry field. Should not be used anymore. It's a duplicate of the "Job" field. Sometimes, the EAM Workorder was entered into this field, but not consistently. Project number.
- **ExteriorCoating** (ExteriorCoating, String, 20): Data entry field. Coating on pipe exterior.
- **Roughness** (Roughness, Double, 8): ***NOT USED***.
- **Depth** (Depth, Integer, 4):
- **Diameter** (Diameter, Integer, 4):
- **Material** (Material, String, 5):
- **FlowMeasurement_ID** (FlowMeasurement_ID, String, 5): ***NOT USED.***
- **JointType1** (JointType1, String, 5):
- **JointType2** (JointType2, String, 5):
- **LiningType** (LiningType, String, 5): **Domain field (DomainName = "stsDomainLiningType")**. Type of lining used in pipe. Options = CIPP.
- **PipeClass** (PipeClass, String, 5): ***NOT USED***.
- **GroundSurfaceType** (GroundSurfaceType, String, 5):
- **PressureRating** (PressureRating, String, 5): ***NOT USED***.
- **UDI** (UDI, String, 9): Unique identifier field, that increments by 1 from the last UDI number. Starts with FM.
- **RefNo** (RefNo, Double, 8): Data entry field. Uncertain field.
- **UDI_From** (UDI_From, String, 9): Data entry field. UDI of utility from which the main originates.
- **UDI_To** (UDI_To, String, 9): Data entry field. UDI of utility to which the main goes.
- **Rock** (Rock, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False whether rock is present near the pipe.
- **Drop_Elev** (Drop_Elev, Double, 8): misnamed field. Used as downstream invert elevation field.
- **Up_Elev** (Up_Elev, Double, 8): Invert elevation at pump.
- **Alt_Drop_Elev** (Alt_Drop_Elev, Double, 8): No longer updated. All other elevation data should be entered in the manhole feature class. This could probably be deleted.
- **Alt_Up_Elev** (Alt_Up_Elev, Double, 8): No longer updated. All other elevation data should be entered in the manhole feature class. This could probably be deleted.
- **Comment** (Comment, String, 100): Text field.
- **BookPage** (BookPage, String, 10): Data entry field. Map book page from sewer books in Engineering Vault.

- **Job** (Job, String, 10): Data entry field. Project number.
- **File_** (File_, String, 8): Data entry field. A reference to old engineering project jobs, usually those in the Engineering vault.
- **WaterType** (WaterType, String, 10): **Domain field (DomainName = "ssDomainWaterType")**. Type of water. Always storm runoff. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Treated : Treated Water | Sewage : Sewage.
- **Owner** (Owner, String, 5): **Domain field (DomainName = "stsDomainOwner")**. Owner of utility. Options = CITY : CITY OF DULUTH | RR : RAILROAD | TWSHP : TOWNSHIP | STATE : MNDOT | NTMS4 : NONTRADITIONAL MS4 | DNR : DNR | UNK : UNKNOWN | CNTY : COUNTY | PRIV : PRIVATE.
- **Manufacturer** (Manufacturer, String, 5): ***NOT USED***.
- **Pipe_Length** (Pipe_Length, Double, 8): Data entry field. Length of pipe as reported on Record Drawing; this is NOT measured from the GIS map.
- **GIS_Text** (GIS_Text, String, 100): Text data entry field.
- **YEAR_BUILT** (YEAR_BUILT, SmallInteger, 2): Redundant field of installDate. No longer used.
- **Date_Edit** (Date_Edit, Date, 36): ***NOT USED***. Will be replaced with a system-generated field.
- **Editor** (Editor, String, 3): ***NOT USED***. Will be replaced with a system-generated field.
- **Shape** (Shape, Geometry, 8): System generated.
- **Shape.len** (Shape.len, Double, 0): System calculated length.

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sde.SDE.Water_Distribution_Network

1. **sde.SDE.wFitting – Point feature class of water fittings connect pipes and allow for connecting pipes of different materials and of different sizes. They also allow for connections for services and branches to buildings and hydrants.**

   - **OBJECTID** (OBJECTID, OID, 4): System generated.
   - **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
   - **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
   - **AdministrativeArea** (AdministrativeArea, String, 200): **Domain field (SDE DomainName = "wDomainAdministrativeArea")**. Establishes if utility is inside of the City Limits. Options = CITY : City of Duluth | OTHER : Outside of City.
   - **FacilityID** (FacilityID, String, 20): ***NOT USED.***
   - **InstallDate** (InstallDate, Date, 36): Data Entry field. Date the fitting was installed. This comes from the Record Drawing.
   - **LocationDescription** (LocationDescription, String, 200): ***NOT USED.***
   - **OperationalArea** (OperationalArea, String, 200): **Domain field (DomainName = "wDomainOperatingArea")**. In which service area the fitting is attached to a pipe. This is determined by the main from which the pipe is connected. Options = PS : Proctor System | FS : Fond-du-Lac System | LSB : Lower System w/ Booster | HS : Highland System | ULS : Upper Lakeside | WS : Woodland System | LS : Lower System | MS : Middle System | BS : Bayview System | OS : Orphanage System.

- **Rotation** (Rotation, Double, 8): ***NOT USED.***
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** Type of fitting. This comes from the Record Drawing.
- **WorkorderID** (WorkorderID, String, 20): Data Entry field. Project number of the project the fitting was installed under. This comes from the Record Drawing. Subtypes = Bend, Cap, Cross, Coupling, ExpansionJoint, Offset, Reducer, Riser, Saddle, Sleeve, Tap, Tee, Weld, Wye, & BellJointClamp.
- **Elevation** (Elevation, Double, 8): Data entry field. Default should be 0.
- **WaterType** (WaterType, String, 255): **Domain field (DomainName = "wDomainWaterType")**. All water fittings are potable water. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Treated : Treated Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Salt : Salt Water | Sewage : Sewage.
- **Material** (Material, String, 20): **Domain field (DomainName = "wDomainJunctionMaterial")**. Type of material of the main that the fitting is connecting to. This comes from the Record Drawing. Options = AC : Asbestos Concrete | DI : Ductile Iron | STL : Steel | CI : Cast Iron | PB : Lead | PVC : Poly Vinyl Chloride | PE : Polyethylene | Unk : Unknown | CU : Copper.
- **JointType** (JointType, String, 20): **Domain field (DomainName = "wDomainJointType")**. Type of joint between the main and the fitting. Options = LD : Lead | FS : Fused | Weld : Weld | THRD : Threaded | Flange : Flange | MJ : Mechanical Joint | SJ : Slip Joint | RVT : Rivet | UNK : Unknown | Bond : Bond.
- **Diameter1** (Diameter1, Integer, 4): **Domain field (DomainName = "wDomainMainDistributionDiameter")**. Size of the main the fitting is connecting to. Options = 0 : Unknown | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 24 : 24 inch | 30 : 30 inch | 36 : 36 inch | 42 : 42 inch | 48 : 48 inch | 60 : 60 inch | 97 : 3/4 inch | 98 : 5/8 inch | 99 : 1 1/4 inch.
- **Diameter2** (Diameter2, Integer, 4): **Domain field (DomainName = "wDomainMainDistributionDiameter")**. Size of the main the fitting is connecting to. In a tee this would mean the top two ends of the tee. Same Options as Diameter1.
- **Diameter3** (Diameter3, Integer, 4): **Domain field (DomainName = "wDomainMainDistributionDiameter")**. Size of the branch connection. In a tee this would mean the bottom of the tee. Same Options as Diameter1.
- **Diameter4** (Diameter4, Integer, 4): **Domain field (DomainName = "wDomainMainDistributionDiameter")**. Size of the cross branch. Same Options as Diameter1.

Diameter	Main Material	JointType1	Notes
<=1"	Lead	Leaded	
<=2"	Copper	Threaded	
<=1"	PE	Fused/Threaded	
>1"-...	PE	Fused	
>=3"-...	Ductile Iron	MJ	
>=3"-...	Cast Iron		these would be really old since new iron pipe is typically Ductile Iron

- **XCoord_GPS** (XCoord_GPS, Double, 8): Data Entry field. This is the coordinate for the fitting gathered from a GPS point taken by the inspector. It is calculated into the field in ArcMap.

- **YCoord_GPS** (YCoord_GPS, Double, 8): Data Entry field. This is the coordinate for the fitting gathered from a GPS point taken by the inspector. It is calculated into the field in ArcMap.
- **Date_GPS** (Date_GPS, Date, 36): Date Entry field. This is the date that the GPS shot was taken.
- **GISOBJID** (GISOBJID, Integer, 4): System-generated.
- **UDI** (UDI, String, 9): Data Entry field. This is the catalog number for the fitting and is the next available number in the table with a prefix of "W".
- **Shape** (Shape, Geometry, 8): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "wDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. This is the status of the fitting. Active for fittings in use, abandoned for fittings in the ground but not in use and removed for fittings taken out of the ground.
- **GlobalID** (GlobalID, GlobalID, 38): System generated.

2. **sde.SDE.wNetworkStructure: Polygon feature class of water-related structures that contain water utilities.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **AdministrativeArea** (AdministrativeArea, String, 200): **Domain field (DomainName = "wDomainAdministrativeArea")**. All should be "City of Duluth". Establishes if utility is inside of the City Limits. Options = CITY : City of Duluth | OTHER : Outside of City.
- **FacilityID** (FacilityID, String, 20): Data entry field. Description of facility.
- **InstallDate** (InstallDate, Date, 36): Data entry field. Date of installation.
- **LocationDescription** (LocationDescription, String, 200): Data entry field. Nearest intersection.
- **OperationalArea** (OperationalArea, String, 200): **Domain field (DomainName = "wDomainOperatingArea")**. Operational Area the reservoir serves. Options = PS : Proctor System | FS : Fond-du-Lac System | LSB : Lower System w/ Booster | HS : Highland System | ULS : Upper Lakeside | WS : Woodland System | LS : Lower System | MS : Middle System | BS : Bayview System | OS : Orphanage System.
- **Rotation** (Rotation, Double, 8): ***NOT USED.***
- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "wDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. All should be "Active".
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** Type of facility. Subtypes = Reservoir, ProductionWell, PumpStation, StorageBasin, & TreatmentPlant.
- **WorkorderID** (WorkorderID, String, 20): Data entry field. Project number.
- **Elevation** (Elevation, Double, 8): Data entry field. Elevation of facility. If type is reservoir, then elevation is overflow elevation.
- **WaterType** (WaterType, String, 255): **Domain field (DomainName = "wDomainWaterType")**. All are "potable water". Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Treated : Treated Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Salt : Salt Water | Sewage : Sewage.
- **Name** (Name, String, 20): Data entry field. Common name for facility.
- **OperationalDate** (OperationalDate, Date, 36): ***NOT USED.***

- **ReferenceID** (ReferenceID, String, 20): ***NOT USED.***
- **Source** (Source, String, 20): ***NOT USED.***
- **NetworkUsage** (NetworkUsage, String, 20): ***NOT USED.***
- **NetworkOID** (NetworkOID, Integer, 4): ***NOT USED.***
- **Capacity** (Capacity, Double, 8): Data entry field. Capacity of facility in gallons.
- **Depth** (Depth, Double, 8): Data entry field. Depth from top to bottom.
- **OverFlow** (OverFlow, Double, 8): Data entry field. This field should be used for the overflow of the reservoir.
- **XCoord_GPS** (XCoord_GPS, Double, 8): ***NOT USED.***
- **YCoord_GPS** (YCoord_GPS, Double, 8): ***NOT USED.***
- **Date_GPS** (Date_GPS, Date, 36): ***NOT USED.***
- **Shape** (Shape, Geometry, 8): System generated.
- **UDI** (UDI, String, 9): Data entry field. Catalog number, next consecutive number with a "W" as a prefix.
- **GISOBJID** (GISOBJID, Integer, 4): System generated. Infor EAM number.
- **GlobalID** (GlobalID, GlobalID, 38): System generated.

3. **sde.SDE.wControlValve: Point feature class of water valves that are controllable.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **FacilityID** (FacilityID, String, 20): ***NOT USED.***
- **InstallDate** (InstallDate, Date, 36): Data entry field. Date of installation.
- **Rotation** (Rotation, Double, 8): ***NOT USED.***
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** Our use is either an "Air Valve" or a "Simple Check" valve. Options = AirGap, AirControl, Altitude, BackflowControl, DoubleCheck, ReducedPressureBackflow, RPZ, & SimpleCheck.

In the past GIS database review (12/2015), Mick said these subtypes should be removed since they're ***NOT USED***:
CVAirRelease, AtmosphericVacuum, CVCombination, PressureVacuum, Vacuum, VacuumBreaker & VacuumRelease.

- **WorkorderID** (WorkorderID, String, 20): Data entry field. Project number.
- **Elevation** (Elevation, Double, 8): Data entry field. Default should be 0.
- **WaterType** (WaterType, String, 255): **Domain field (DomainName = "wDomainWaterType")**. All are potable water. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Treated : Treated Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Salt : Salt Water | Sewage : Sewage.
- **UDI** (UDI, String, 10): Data entry field. Catalog number, next consecutive number with a "W" prefix.
- **DimensionTie1** (DimensionTie1, String, 50): Data entry field. Street tie to the nearest street or Avenue.
- **DimensionTie2** (DimensionTie2, String, 50): Data entry field. Street ties to the nearest cross street or avenue.
- **DT1StName** (DT1StName, String, 20): Data entry field. Name of the nearest street or avenue.
- **DT2StName** (DT2StName, String, 20): Data entry field. Name of the nearest cross street or avenue.
- **Comments** (Comments, String, 100):

- **Use_** (Use_, String, 5): **Domain field (DomainName = "wDomainValveUse")**. These are either "Air Valve" or "Blowoff". Options = SERV : Service | FS : Fire Service | CO : Cross Over | HYDT : Hydrant | RIDE : Rider | BO : BlowOff | DC : Drop Connection | STUB : Stub | BP : ByPass | SECT : Section | AV : Air Valve | LINE : Line | UNK : Unknown.
- **Joint1** (Joint1, String, 5): **Domain field (DomainName = "wDomainValveJoint")**. How the structure is connected at the main. Options = WE : Welded End | FS : Fused | LJ : Leaded Joint | MJ : Mechanical Joint | TH : Threaded | RM : Reamed | UNK : Unknown | FL : Flange | BND : Bond.
- **Joint2** (Joint2, String, 5): **Domain field (DomainName = "wDomainValveJoint")**. How the structure is connected at the valve. Same Options as Joint1.
- **Material** (Material, String, 5): **Domain field (DomainName = "wDomainValveMaterial")**. What type of pipe is the structure. All water valves are actually steel, but we record the main material. Options = CI : Cast Iron | DI : Ductile Iron | STL : Steel | WI : Wrought Iron | PB : Lead | NYL : Nylon | PE : Plastic | UNK : Unknown | CU : Copper.

Diameter	Main Material	JointType1	Notes
<=1"	Lead	Leaded	
<=2"	Copper	Threaded	
<=1"	PE	Fused/Threaded	
>1"-...	PE	Fused	
>=3"-...	Ductile Iron	MJ	
>=3"-...	Cast Iron		these would be really old since new iron pipe is typically Ductile Iron

- **Owner** (Owner, String, 15): **Domain field (DomainName = "wDomainOwner")**. All should be "City of Duluth". Options = CITY : City of Duluth | PRIV : Private.
- **Housing** (Housing, String, 5): **Domain field (DomainName = "wDomainValveHousing")**. How will we access this structure. Options = UNK : Unknown | VB : Valve Box | B : Box | MH : Manhole | V : Vault.
- **AdministrativeArea** (AdministrativeArea, String, 5): **Domain field (DomainName = "wDomainAdministrativeArea")**. Establishes if utility is inside of the City Limits. Options = CITY : City of Duluth | OTHER : Outside of City.
- **OperationalArea** (OperationalArea, String, 5): **Domain field (DomainName = "wDomainOperatingArea")**. Which service area is this structure connected to. Options = PS : Proctor System | FS : Fond-du-Lac System | LSB : Lower System w/ Booster | HS : Highland System | ULS : Upper Lakeside | WS : Woodland System | LS : Lower System | MS : Middle System | BS : Bayview System | OS : Orphanage System.
- **Diameter** (Diameter, Double, 8): Data entry field. What size is the pipe and/or valve.
- **Manufacturer** (Manufacturer, String, 5): ***NOT USED.***
- **GPSx** (GPSx, Double, 8): Data entry field. ***NOT USED*** much right now, but we will gather this information in the future.
- **GPSy** (GPSy, Double, 8): Data entry field. ***NOT USED*** much right now, but we will gather this information in the future.
- **GPS_Date** (GPS_Date, Date, 36): Data entry field. ***NOT USED*** much right now, but we will gather this information in the future.
- **GISOBJID** (GISOBJID, Integer, 4): System generated. Infor EAM number.

- **Shape** (Shape, Geometry, 8): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "wDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. All should be "Active".
- **GlobalID** (GlobalID, GlobalID, 38): System generated.

4. **sde.SDE.wRegulatorStation: Point feature class of locations where the regulator station for water utilities are located.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Owner** (Owner, String, 5): **Domain field (DomainName = "wDomainOwner")**. All are "City of Duluth". Options = CITY : City of Duluth | PRIV : Private.
- **WorkOrderID** (WorkOrderID, String, 15): Data entry field. Project number.
- **InServiceDate** (InServiceDate, Date, 36): Data entry field. Date of installation.
- **P_In** (P_In, Double, 8): Data entry field. Pressure of the incoming pipe.
- **P_Out** (P_Out, Double, 8): Data entry field. Pressure setting of the regulator.
- **Diameter** (Diameter, Integer, 4): **Domain field (DomainName = "wDomainMainDistributionDiameter")**. Diameter of the regulator. Options = 0 : Unknown | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 24 : 24 inch | 30 : 30 inch | 36 : 36 inch | 42 : 42 inch | 48 : 48 inch | 60 : 60 inch | 97 : 3/4 inch | 98 : 5/8 inch | 99 : 1 1/4 inch.
- **LifecycleStatus** (LifecycleStatus, String, 10): **Domain field (DomainName = "wDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. All should be "Active".
- **SystemSupply** (SystemSupply, String, 10): **Domain field (DomainName = "wDomainOperatingArea")**. Which service area supplies the regulator. Options = PS : Proctor System | LSB : Lower System W/Booster | WSR1 : Woodland System Regulated 1 | WSR2 : Woodland System Regulated 2 | LSBR1 : Lower System w/Booster Regulated 1 | ULS : Upper Lakeside System | BS : Bayview System | BSR1 : Bayview System Regulated 1 | WS : Woodland System | LS : Lower System | MS : Middle System | HS : Highland System | OS : Orphanage System | MSR3 : Middle System Regulated 3 | MSR2 : Middle System Regulated 2 | MSR1 : Middle System Regulated 1.
- **Elevation** (Elevation, Double, 8): Data entry field. Elevation of the regulator.
- **Manufacturer** (Manufacturer, String, 50): Data entry field. Manufacturer of the regulator.
- **Housed** (Housed, String, 50): Data entry field. Where is the regulator housed.
- **SHAPE** (SHAPE, Geometry, 8): System generated.
- **UDI** (UDI, String, 9): ***NOT USED.***
- **GISOBJID** (GISOBJID, Integer, 4): ***NOT USED.***
- **GlobalID** (GlobalID, GlobalID, 38): System generated.

5. **sde.SDE.wMeter : Point feature class of water meters located at buildings that monitor water usage.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.

- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **AdministrativeArea** (AdministrativeArea, String, 200): **Domain field (DomainName = "wDomainAdministrativeArea")**. All should be in the "City of Duluth". Establishes if utility is inside of the City Limits. Options = CITY : City of Duluth | OTHER : Outside of City.
- **FacilityID** (FacilityID, String, 20): Data entry field. Currently these are all large meters. This field is currently used to describe the large facility that the meter serves.
- **InstallDate** (InstallDate, Date, 36): ***NOT USED.***
- **LocationDescription** (LocationDescription, String, 200): Data entry field. Nearest intersection from the meter.
- **OperationalArea** (OperationalArea, String, 200): **Domain field (DomainName = "wDomainOperatingArea")**. Service area that supplies the meter. Options = PS : Proctor System | FS : Fond-du-Lac System | LSB : Lower System w/ Booster | HS : Highland System | ULS : Upper Lakeside | WS : Woodland System | LS : Lower System | MS : Middle System | BS : Bayview System | OS : Orphanage System.
- **Rotation** (Rotation, Double, 8): ***NOT USED.***
- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "wDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. All should be "Active".
- **Subtype** (Subtype, Integer, 4): ***NOT USED.***
- **WorkorderID** (WorkorderID, String, 20): Data entry field. Project number.
- **Elevation** (Elevation, Double, 8): ***NOT USED.***
- **WaterType** (WaterType, String, 255): **Domain field (DomainName = "wDomainWaterType")**. All are potable water. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Treated : Treated Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Salt : Salt Water | Sewage : Sewage.
- **Diameter** (Diameter, Integer, 4): **Domain field (DomainName = "wDomainMainDistributionDiameter")**. Diameter of the meter. Options = 0 : Unknown | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 24 : 24 inch | 30 : 30 inch | 36 : 36 inch | 42 : 42 inch | 48 : 48 inch | 60 : 60 inch | 97 : 3/4 inch | 98 : 5/8 inch | 99 : 1 1/4 inch.
- **FlowRange** (FlowRange, String, 20): ***NOT USED.***
- **MeasurementDate** (MeasurementDate, Date, 36): ***NOT USED.***
- **Shape** (Shape, Geometry, 8): System generated.
- **GlobalID** (GlobalID, GlobalID, 38): System generated.

6. **sde.SDE.wPressurizedMain: Line feature class of water distribution mains that are pressurized.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **AdministrativeArea** (AdministrativeArea, String, 200): **Domain field (DomainName = "wDomainAdministrativeArea")**. All should be "City of Duluth". Establishes if utility is inside of the City Limits. Options = CITY : City of Duluth | OTHER : Outside of City.
- **FacilityID** (FacilityID, String, 20): ***NOT USED.***
- **InstallDate** (InstallDate, Date, 36): Data entry field. Date of installation.

- **OperationalArea** (OperationalArea, String, 200): **Domain field (DomainName = "wDomainOperatingArea")**. Service area that the pressurized main is connected to. Options = PS : Proctor System | LSB : Lower System W/Booster | WSR1 : Woodland System Regulated 1 | WSR2 : Woodland System Regulated 2 | LSBR1 : Lower System w/Booster Regulated 1 | ULS : Upper Lakeside System | BS : Bayview System | BSR1 : Bayview System Regulated 1 | WS : Woodland System | LS : Lower System | MS : Middle System | HS : Highland System | OS : Orphanage System | MSR3 : Middle System Regulated 3 | MSR2 : Middle System Regulated 2 | MSR1 : Middle System Regulated 1 |
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** This contains mostly pipes to drain the larger mains for shutdown, and some pipes at the filter plant. Options = Blowoff, Bypass, AirRelease, PipeBridge, TransmissionMain, & Intake.

Previously reviewed in GIS database review (12/2015) to be removed:
ChemicalInjection
DistributionMain
Interconnect
SamplingStation

- **WorkorderID** (WorkorderID, String, 20): Data entry field. Project number.
- **FlowMeasurementID** (FlowMeasurementID, String, 255): ***NOT USED.***
- **WaterType** (WaterType, String, 255): **Domain field (DomainName = "wDomainWaterType")**. All are potable water. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Treated : Treated Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Salt : Salt Water | Sewage : Sewage.
- **Material** (Material, String, 255): **Domain field (DomainName = "wDomainWaterLineMaterial")**. Material of the pipe. This comes from the Record Drawing. Options = AC : Asbestos Concrete | DI : Ductile Iron | CI : Cast Iron | ST : Steel | PB : Lead | PVC : Poly Vinyl Chloride | GI : Galvinized Iron | PE : Polyethylene | UNK : Unknown | CU : Copper.
- **ExteriorCoating** (ExteriorCoating, String, 20): ***NOT USED.***
- **JointType1** (JointType1, String, 20): **Domain field (DomainName = "wDomainJointType")**. How are the pipes connected. Options = LD : Lead | FS : Fused | Weld : Weld | THRD : Threaded | Flange : Flange | MJ : Mechanical Joint | SJ : Slip Joint | RVT : Rivet | UNK : Unknown | Bond : Bond.
- **JointType2** (JointType2, String, 20): **Domain field (DomainName = "wDomainJointType")**. How are the pipes connected. Same Options as JointType1.
- **LiningType** (LiningType, String, 20): ***NOT USED.***
- **PipeClass** (PipeClass, String, 20): ***NOT USED.***
- **Roughness** (Roughness, Double, 8): ***NOT USED.***
- **Depth** (Depth, Integer, 4): ***NOT USED.***
- **Diameter** (Diameter, Integer, 4): **Domain field (DomainName = "wDomainMainDistributionDiameter")**. Diameter of the pipe. Options = 0 : Unknown | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 24 : 24 inch | 30 : 30 inch | 36 : 36 inch | 42 : 42 inch | 48 : 48 inch | 60 : 60 inch | 97 : 3/4 inch | 98 : 5/8 inch | 99 : 1 1/4 inch.
- **GroundSurfaceType** (GroundSurfaceType, String, 20): ***NOT USED.***
- **PressureRating** (PressureRating, String, 20): ***NOT USED.***
- **GISOBJID** (GISOBJID, Integer, 4): System generated. Infor EAM number.
- **UDI** (UDI, String, 9): Data entry field. Catalog number, next consecutive number with a "W" prefix.

- **Shape** (Shape, Geometry, 8): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "wDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **Length** (Length, SmallInteger, 2): Data entry field. Length of pipe in feet.
- **GlobalID** (GlobalID, GlobalID, 38): System generated.
- **Shape.len** (Shape.len, Double, 0): System generated.

7. **sde.SDE.wHydrant – Point feature class of water hydrants show fire protection to the homes in Duluth. Most are owned by the City of Duluth, but there are about 400+ privately owned hydrants. City hydrants are connected to City of Duluth distribution mains. Private hydrants are connected to water lateral lines.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **FacilityID** (FacilityID, String, 20): ***NOT USED.***
- **InstallDate** (InstallDate, Date, 36): Data entry field. Date the hydrant was put into service.
- **Rotation** (Rotation, Double, 8): ***NOT USED.***
- **WorkorderID** (WorkorderID, String, 20): Data entry field. Project number of the project the hydrant was installed under.
- **Elevation** (Elevation, Double, 8): Data entry field. Nearest contour elevation from DEM contour 2ft layer or from GPS shot rounded to the foot.
- **BarrelDiameter** (BarrelDiameter, Integer, 4): ***NOT USED.***
- **MainValveType** (MainValveType, String, 20): ***NOT USED.***
- **NozzleDiameter1** (NozzleDiameter1, Integer, 4): ***NOT USED.***
- **NozzleDiameter2** (NozzleDiameter2, Integer, 4): ***NOT USED.***
- **NozzleDiameter3** (NozzleDiameter3, Integer, 4): ***NOT USED.***
- **NozzleDiameter4** (NozzleDiameter4, Integer, 4): ***NOT USED.***
- **OutletConfiguration** (OutletConfiguration, String, 20): ***NOT USED.***
- **SeatDiameter** (SeatDiameter, Integer, 4): ***NOT USED.***
- **Corner** (Corner, String, 2): **Domain field (DomainName = "wDomainHydrantCorner")**. Corner of intersection where hydrant resides or side of street if hydrant is not located at intersection. Options = E : East | MB : Mid-Block | SW : Southwest | NE : Northeast | N : North | S : South | W : West | SE : Southeast | NW : Northwest.
- **DimensionTie1** (DimensionTie1, String, 50): Data entry field. Measurement to nearest street or intersection. Measured in GIS or from Record Drawing.
- **DimensionTie2** (DimensionTie2, String, 50): Data entry field. Measured to nearest cross street or intersection. Measured in GIS or from Record Drawing.
- **RefNo** (RefNo, Double, 8):
- **UDI** (UDI, String, 8): Data entry field . Same number as the valve that controls the hydrant with a "H" prefix.
- **Manufacturer** (Manufacturer, String, 5): **Domain field (DomainName = "wDomainHydrantManufacturer")**. 80% of our hydrants are Waterous. This information comes from Record Drawing or EAM. Options = MATW : Mathews | IOWA : Iowa Valve | MUEL : Mueller Co. | MICH : Michigan Valve & Foundary | UNK : Unknown | WATR : Waterous.

- **Model** (Model, String, 5): **Domain field (DomainName = "wDomainHydrantModel")**. This is used if hydrant is Waterous. Options = PACER : Waterous - PACER | UNK : Unknown.
- **BuryDepth** (BuryDepth, Double, 8): Data entry field. This represents the depth to the bottom of the hydrant. Standard depth is 7'6", but the City has hydrants deeper and shallower. This information comes from the Record Drawing or the EAM workorder.
- **MaintoHydrant** (MaintoHydrant, Double, 8): Data entry field. Measurement distance from the water distribution main to the hydrant. This information comes from the Record Drawing or the EAM workorder.
- **ValvetoHydrant** (ValvetoHydrant, Double, 8): Data entry field. Measurement distance from the valve that conr=trolls the hydrant to the hydrant. This information comes from the Record Drawing or the EAM workorder.
- **Offset** (Offset, SmallInteger, 2): **Domain field (DomainName = "wDomainBoolean wDomainBoolean")**. True/False to signify if the hydrant lateral has bends between the water main and the hydrant. This information comes from the Record Drawing or the EAM workorder.
- **District** (District, SmallInteger, 2): ***NOT USED.*** Old maintenance area.
- **Comments** (Comments, String, 100):
- **VentCap** (VentCap, SmallInteger, 2): **Domain field (DomainName = "wDomainBoolean")**. True/False to signify if the hydrant has a vented cap installed on one of the nozzles. These are used to allow air to enter the barrel and water to drain out the bottom of the hydrant. This information comes from the Record Drawing or the EAM workorder.
- **DrainPlug** (DrainPlug, SmallInteger, 2): **Domain field (DomainName = "wDomainBoolean")**. True/False to signify if the hydrant's drain hole at the bottom of the barrel has a plug installed. This is used to eliminate the hydrant from draining. This information comes from the Record Drawing or the EAM workorder.
- **ImpConnection** (ImpConnection, String, 14): ***NOT USED.***
- **ImpConnect_To** (ImpConnect_To, String, 2): ***NOT USED.***
- **MainStreetName** (MainStreetName, String, 20): ***NOT USED.***
- **StaticPressure** (StaticPressure, SmallInteger, 2): Data entry field. This information is calculated from the water system overflow and the elevation field above. You take the system the hydrant is in overflow elevation minus the elevation of hydrant, then multiply by 0.4.

$$\frac{\text{Water System Overflow Elevation (ft)}}{\text{Hydrant's Elevation}} \times 0.4$$

- **AdministrativeArea** (AdministrativeArea, String, 5): **Domain field (DomainName = "wDomainAdministrativeArea")**. States whether the hydrant is located inside of the City of Duluth limits. Options = CITY : City of Duluth | OTHER : Outside of City.
- **OperationalArea** (OperationalArea, String, 5): **Domain field (DomainName = "wDomainOperatingArea")**. List of the water system service areas. This is determined by the water main that supplies the fire hydrant. PS : Proctor System | LSB : Lower System W/Booster | WSR1 : Woodland System Regulated 1 | WSR2 : Woodland System Regulated 2 | LSBR1 : Lower System w/Booster Regulated 1 | ULS : Upper Lakeside System | BS : Bayview System | BSR1 : Bayview System Regulated 1 | WS : Woodland System | LS : Lower System | MS : Middle System | HS : Highland System | OS : Orphanage System | MSR3 : Middle System Regulated 3 | MSR2 : Middle System Regulated 2 | MSR1 : Middle System Regulated 1.

- **WaterType** (WaterType, String, 10): **Domain field (DomainName = "wDomainWaterType")**. All hydrants have potable water. Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Treated : Treated Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Salt : Salt Water | Sewage : Sewage.
- **DT1StName** (DT1StName, String, 35): Data entry field. Name of the nearest street or avenue.
- **DT2StName** (DT2StName, String, 35): Data entry field. Name of the nearest cross street or avenue.
- **AddressTie** (AddressTie, String, 50): Data entry field. This may be a field the Fire Dept. uses.
- **Owner** (Owner, String, 50): **Domain field (DomainName = "wDomainOwner")**. This is determined by whether the hydrant is supplied from a distribution main (city owned) or a water service lateral line (private). CITY : City of Duluth | PRIV : Private.
- **WinterUse** (WinterUse, SmallInteger, 2): **Domain field (DomainName = "wDomainBoolean")**. True/False for showing whether Utility Operations maintains a list of hydrants they allow for water truck filling during the winter months.
- **SummerUse** (SummerUse, SmallInteger, 2): **Domain field (DomainName = "wDomainBoolean")**. True/False for showing whether Utility Operations maintains a list of hydrants they allow for water truck filling during the summer months.
- **GPSx** (GPSx, Double, 8): Data entry field. This information is calculated if the hydrant has a GPS shot from the inspector.
- **GPSy** (GPSy, Double, 8): Data entry field. This information is calculated if the hydrant has a GPS shot from the inspector.
- **GPSdate** (GPSdate, Date, 36): Data entry field. Date that the GPS shot was taken.
- **DFD_RuleID** (DFD_RuleID, Integer, 4): Fire Department use.
- **DFD_Override** (DFD_Override, Blob, 0): Fire Department use.
- **GISOBJID** (GISOBJID, Integer, 4): System generated. Infor EAM number.
- **Winterize** (Winterize, SmallInteger, 2): **Domain field (DomainName = "BooleanSymbolValue")**. This information is determined by Utility Operations for hydrants that require antifreeze to avoid winter freezing. Options = 0 : No | 1 : Yes.
- **Shape** (Shape, Geometry, 8): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "wDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. Active for in service, Removed if the hydrant has been dug out, Abandoned if the barrel remains.
- **GlobalID** (GlobalID, GlobalID, 38): System generated.

8. **sde.SDE.wServiceValves – Point feature class of water service valves are features that show where the valves are located to turn off a customer's service. The records contain location information to where to find the valve.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **RID** (RID, String, 6): ***NOT USED.***
- **Address** (Address, String, 255): Data Entry field. Address of the property being served by the service. This would come from the EAM work order.
- **Stub** (Stub, String, 6): ***NOT USED.***
- **Length** (Length, Double, 8): Data Entry field. This is the length in feet of the service line. This information would come from the EAM work order.

MAIN TO BOX (FT): just a number from the card

- **Tmp_SupplyFrom** (Tmp_SupplyFrom, String, 40): ***NOT USED.***
- **Replaced** (Replaced, String, 1): ***NOT USED.***
- **Abandoned_Date** (Abandoned_Date, Date, 36): ***NOT USED.***
- **PlatParcel** (PlatParcel, String, 15): Data entry. Parcel ID for parcel served by water service.
- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **FacilityID** (FacilityID, String, 20): ***NOT USED.***
- **InstallDate** (InstallDate, Date, 36): Data Entry field. Date the service was installed. This would come from the EAM work order.
- **Rotation** (Rotation, Double, 8): ***NOT USED.***
- **Subtype** (Subtype, Integer, 4): **Domain Field (DomainName = "wDomainServValveType").** All valves 2" and smaller are ball valves. Valves larger than 2" would likely be gate valves. This information would come from the EAM work order. Options = 8 : Unknown | 1 : Ball | 2 : Butterfly | 4 : Gate.
- **WorkorderID** (WorkorderID, String, 20): Data Entry field. The work Order number or Project Number that the valve was installed under. In the case of a street or road project that Utility Operations installed a service the WorkOrderID would be the Street or Road Project number not the EAM work order.
- **Elevation** (Elevation, Double, 8): Data Entry field. This is determined with the GIS map with the DEM contours turned on. It is the estimate to the nearest contour. This is used to estimate static pressure in another field in this table.
- **ClockwiseToClose** (ClockwiseToClose, SmallInteger, 2): ***NOT USED.***
- **CurrentlyOpen** (CurrentlyOpen, SmallInteger, 2): **Domain field (DomainName = "wDomainBoolean")**. True/False to show which wServiceValves are cut off at the curb valve. A "False" for currently open means the service ends at the valve, but is available for future use. This information comes from the EAM workorder.
- **OperationalArea** (OperationalArea, String, 5): **Domain field (DomainName = "wDomainOperatingArea")**. This field specifies which service area the service is connected to currently. Options = PS : Proctor System | LSB : Lower System W/Booster | WSR1 : Woodland System Regulated 1 | WSR2 : Woodland System Regulated 2 | LSBR1 : Lower System w/Booster Regulated 1 | ULS : Upper Lakeside System | BS : Bayview System | BSR1 : Bayview System Regulated 1 | WS : Woodland System | LS : Lower System | MS : Middle System | HS : Highland System | OS : Orphanage System | MSR3 : Middle System Regulated 3 | MSR2 : Middle System Regulated 2 | MSR1 : Middle System Regulated 1.
- **Diameter** (Diameter, Double, 8): Data Entry field. This is the diameter of the service valve. We use decimal numbers. (example ¾" service is 0.75).
- **TurnsToClose** (TurnsToClose, Double, 8): Data Entry field. This would be used for larger valves. All ball valves are one quarter turn to close. Larger valves would each have a different number of turns to close. This information would be provided from the EAM workorder.
- **UDI** (UDI, String, 10): Data Entry field. This is the catalog number for GIS. It is the next consecutive number with a prefix of "W".
- **DimensionTie1** (DimensionTie1, String, 50): Data Entry field. This is a listing of distance from nearest street centerline. This comes from the record drawing.

FEET FROM CL: this is the shorter length

- **DimensionTie2** (DimensionTie2, String, 50): Data Entry field. This is a listing of distance from the nearest cross street centerline. This distance comes from the record drawing.

STREET TIE:

- **Use_** (Use_, String, 5): **Domain field (DomainName = "wDomainServValveServType")**. There are only two choices, service or fire service anything smaller than 6" is a service and everything 6" or larger is a fire service.
- **Material** (Material, String, 5): **Domain field (DomainName = "wDomainValveMaterial")**. Material of the service line. Options = CI : Cast Iron | DI : Ductile Iron | STL : Steel | WI : Wrought Iron | PB : Lead | NYL : Nylon | PE : Plastic | UNK : Unknown | CU : Copper.

Diameter	Main Material	JointType1	Notes
<=1"	Lead	Leaded	
<=2"	Copper	Threaded	
<=1"	PE	Fused/Threaded	
>1"-...	PE	Fused	
>=3"-...	Ductile Iron	MJ	
>=3"-...	Cast Iron		these would be really old since new iron pipe is typically Ductile Iron

- **Owner** (Owner, String, 15): **Domain field (DomainName = "ssDomainOwner")**. The section of service from the main to the first service valve is always owned by the City of Duluth as long as the main is owned by the City of Duluth. All service that are connected to a private water main are private. Options = CITY : CIty of Duluth | HERM : Hermantown | WL : WLSSD | RL : Rice Lake TWP | UNK : Unknown | PRIV : Private.
- **Housing** (Housing, String, 5): **Domain field (DomainName = "wDomainValveHousing")**. This is dependent on the size of the valve. 2" or smaller valves are usually in a Box, 3" or larger valves are usually in a Valve Box. Options = UNK : Unknown | VB : Valve Box | B : Box | MH : Manhole | V : Vault.
- **Manufacturer** (Manufacturer, String, 5): ***NOT USED.***
- **AppNo** (AppNo, String, 50): Data Entry field. This is a historic field that logs the number of services customers apply for each year. This is supplied by the Engineering Office.
- **GPSx** (GPSx, Double, 8): Data Entry field. This data is calculated into the field from a GPS shot taken in the field.
- **GPSy** (GPSy, Double, 8): Data Entry field. This data is calculated into the field from a GPS shot taken in the field.
- **GPS_Date** (GPS_Date, Date, 36): Data Entry field. This is the date the GPS shot was recorded.
- **ServCard** (ServCard, String, 100): Data Entry field. This field is used to open the scan of the service card. It uses the same number as the Application Number with a "W" prefix on the front and a suffix of ".pdf".
- **GISOBJID** (GISOBJID, Integer, 4): System generated. Infor EAM number.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "wDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. Active would have water up to the valve, Abandoned would not have water to the valve and removed would have been dug up and removed from the ground.

- **Tie_Bldg** (Tie_Bldg, String, 80): Data Entry field. This is a distance to the building being served or another adjacent building if the building being served is very far from the service valve. This information comes from the EAM work order.

BUILDING TIES: 50.5' Out, 24.5 W/WL

- **Tie_Hydt** (Tie_Hydt, String, 50): Data Entry field. This is a distance field from the nearest fire hydrant if there are no streets nearby. This comes from the EAM work order.

HYDRANT TIES:

- **DT1StName** (DT1StName, String, 50): Data Entry field. Name of the nearest street for DimensionTie1. This comes from the EAM work order.

STREET CL TIE 1:

- **DT2StName** (DT2StName, String, 50): Data Entry field. Name of the nearest cross street for DimensionTie2. This comes from the EAM work order.

STREET CL TIE 2:

- **Branch** (Branch, String, 5): **Domain field (DomainName =)**. This field describes if the service is connected to another service or private line. Extra Branch means it is connected to another house service near the curb with each house having a separate valve. Cock & Box means it is connected to a private line possibly serving many houses with one valve shutting all of the houses and each house also having a private valve to just shut off its water. This information comes from the EAM work order. We normally only work on the City owned valves.
- **Joint1** (Joint1, String, 10): **Domain field (DomainName = "wDomainServValveBranch")**. This field describes the connection from the main to the service. Options = CB : Cock & Box | UNK : Unknown | MB : Master Box | EB : Extra Branch.
- **Joint2** (Joint2, String, 10): **Domain field (DomainName = "wDomainServValveBranch")**. This field describes the connection from the service to the valve. Same options as Joint1.
- **Shape** (Shape, Geometry, 8): System generated.
- **StaticPressure** (StaticPressure, SmallInteger, 2): Data Entry field. This field is calculated from the elevation using the overflow of the reservoir it is served from the equation is as follows: (Overflow Elevation of Reservoir – Service Valve Elevation) * 0.4 = Static Pressure. If the service falls in one of our regulated service areas the equation changes to: ((Regulator Elevation – Service Elevation) * 0.4) + Regulator Output Pressure = Static Pressure.
- **Comments** (Comments, String, 40):
- **GlobalID** (GlobalID, GlobalID, 38): System generated.

9. ****sde.SDE.wClearWell** **This one record should be examined to determine if it is really a clearwell or some other feature.**

- **OBJECTID** (OBJECTID, OID, 4):
- **AncillaryRole** (AncillaryRole, SmallInteger, 2):
- **Enabled** (Enabled, SmallInteger, 2):
- **AdministrativeArea** (AdministrativeArea, String, 200):
- **FacilityID** (FacilityID, String, 20):
- **InstallDate** (InstallDate, Date, 36):
- **LocationDescription** (LocationDescription, String, 200):
- **OperationalArea** (OperationalArea, String, 200):
- **Rotation** (Rotation, Double, 8):

- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "wDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.**
- **WorkorderID** (WorkorderID, String, 20):
- **Elevation** (Elevation, Double, 8):
- **WaterType** (WaterType, String, 255):
- **Capacity** (Capacity, String, 20):
- **Depth** (Depth, Integer, 4):
- **OperatingMax** (OperatingMax, String, 10):
- **OperatingMin** (OperatingMin, String, 10):
- **StationID** (StationID, String, 20):
- **Diameter1** (Diameter1, Integer, 4):
- **Diameter2** (Diameter2, Integer, 4):
- **Shape** (Shape, Geometry, 8):
- **GlobalID** (GlobalID, GlobalID, 38):

10. **sde.SDE.wLateralLine – Line feature class for the line running from the water main to the service valve.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **AdministrativeArea** (AdministrativeArea, String, 200): **Domain field (DomainName = "wDomainAdministrativeArea")**. This is determined by if the water service is located inside of the city limits. Options = CITY : City of Duluth | OTHER : Outside of City.
- **FacilityID** (FacilityID, String, 20): ***NOT USED.***
- **InstallDate** (InstallDate, Date, 36): Data Entry field. Date the service was installed. This will come from the EAM work order.
- **OperationalArea** (OperationalArea, String, 200): **Domain field (DomainName = "wDomainOperatingArea")**. This is determined by the water service area that the water main the service is connected to and supplied from. Options = PS : Proctor System | LSB : Lower System W/Booster | WSR1 : Woodland System Regulated 1 | WSR2 : Woodland System Regulated 2 | LSBR1 : Lower System w/Booster Regulated 1 | ULS : Upper Lakeside System | BS : Bayview System | BSR1 : Bayview System Regulated 1 | WS : Woodland System | LS : Lower System | MS : Middle System | HS : Highland System | OS : Orphanage System | MSR3 : Middle System Regulated 3 | MSR2 : Middle System Regulated 2 | MSR1 : Middle System Regulated 1.

Subtype (Subtype, Integer, 4): **GIS Subtype field.** This field is to separate residential service from Hydrant Laterals, Commercial Services, Fire Services and such. Most small services will be Domestic, a 6" or larger service will be a Fire Service and all lines to a City of Duluth Fire Hydrant will be a Hydrant Lateral. A line to a commercial building with a private hydrant will be a Fire Service and the branch to the private hydrant will be a private hydrant lateral. Subtypes = Domestic: Most small services will be Domestic, Fire: a 6" or larger service, Commercial, Irrigation, & Industrial.

In previous GIS database review (12/2015), Mick suggested removing this subtype:
HydrantLaterals: all lines to a City of Duluth Fire Hydrant

- **WorkorderID** (WorkorderID, String, 20): Data Entry field. Project number which the service was installed. This will come from the EAM work order.
- **FlowMeasurementID** (FlowMeasurementID, String, 255):
- **WaterType** (WaterType, String, 255): **Domain field (DomainName = "wDomainWaterType")**. All service will be potable water. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Treated : Treated Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Salt : Salt Water | Sewage : Sewage.
- **Material** (Material, String, 255): **Domain field (DomainName = "wDomainWaterLineMaterial")**. Material of the service pipe. Options = AC : Asbestos Concrete | DI : Ductile Iron | CI : Cast Iron | ST : Steel | PB : Lead | PVC : Poly Vinyl Chloride | GI : Galvinized Iron | PE : Polyethylene | UNK : Unknown | CU : Copper.
- **LocationDescription** (LocationDescription, String, 50):
- **Diameter** (Diameter, Integer, 4): **Domain field (DomainName = "wDomainMainDistributionDiameter")**. Service size in inches. This will come from the EAM work order. Options = 0 : Unknown | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 24 : 24 inch | 30 : 30 inch | 36 : 36 inch | 42 : 42 inch | 48 : 48 inch | 60 : 60 inch | 97 : 3/4 inch | 98 : 5/8 inch | 99 : 1 1/4 inch.
- **Street_Inside** (Street_Inside, String, 50): **Domain field (DomainName = "wDomainServiceInOut")**. This is to show ownership. Street services are owned by the City of Duluth, Inside services are private. Options = IN : Inside | ST : Street.
- **GISOBJID** (GISOBJID, Integer, 4): System-generated.
- **UDI** (UDI, String, 9): Data Entry field. Catalog number from the GIS table. Next available number with a "W" prefix.
- **Shape** (Shape, Geometry, 8): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "wDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. In-place pipes are either Active or abandoned. This will come from the EAM work order. Pipes removed will be listed on the EAM work order.
- **GlobalID** (GlobalID, GlobalID, 38): System generated.
- **Shape.len** (Shape.len, Double, 0): System generated.

11. ****sde.SDE.wGravityMainAnno: Annotation feature class of labels that show older comments or labels associated with water gravity mains. These are no longer updated.**

- **OBJECTID** (OBJECTID, OID, 4):
- **FeatureID** (FeatureID, Integer, 4):
- **ZOrder** (ZOrder, Integer, 4):
- **AnnotationClassID** (AnnotationClassID, Integer, 4):
- **Element** (Element, Blob, 0):
- **SymbolID** (SymbolID, Integer, 4):
- **Status** (Status, SmallInteger, 2):
- **TextString** (TextString, String, 255):
- **FontName** (FontName, String, 255):
- **FontSize** (FontSize, Double, 8):
- **Bold** (Bold, SmallInteger, 2):
- **Italic** (Italic, SmallInteger, 2):

- **Underline** (Underline, SmallInteger, 2):
- **VerticalAlignment** (VerticalAlignment, SmallInteger, 2):
- **HorizontalAlignment** (HorizontalAlignment, SmallInteger, 2):
- **XOffset** (XOffset, Double, 8):
- **YOffset** (YOffset, Double, 8):
- **Angle** (Angle, Double, 8):
- **FontLeading** (FontLeading, Double, 8):
- **WordSpacing** (WordSpacing, Double, 8):
- **CharacterWidth** (CharacterWidth, Double, 8):
- **CharacterSpacing** (CharacterSpacing, Double, 8):
- **FlipAngle** (FlipAngle, Double, 8):
- **Override** (Override, Integer, 4):
- **SHAPE** (SHAPE, Geometry, 8):
- **GlobalID** (GlobalID, GlobalID, 38):
- **SHAPE.area** (SHAPE.area, Double, 0):
- **SHAPE.len** (SHAPE.len, Double, 0):

12. **sde.SDE.wSystemValve – Point feature class of water valves stop the flow of water in a pipe. The pipe can be a main or a hydrant lateral or a drain line to empty out a closed down pipeline.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **FacilityID** (FacilityID, String, 20): ***NOT USED.***
- **InstallDate** (InstallDate, Date, 36): Data entry field. Date the valve was installed.
- **Rotation** (Rotation, Double, 8): ***NOT USED.***
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** This displays the type. Normal types include Gate, Butterfly and Ball. Subtypes = Ball, Butterfly, Cone, Gate, Spurred Gear, Beveled Gear, & Unknown.

In GIS Database Review (12/2015) Mick recommended removing this subtype:
Plug (in the GIS review, you mentioned to remove this subtype; is that true?)

- **WorkorderID** (WorkorderID, String, 20): Data entry field. This is the project Number of the project when the valve was installed.
- **Elevation** (Elevation, Double, 8): Data entry field. Default should be 0.
- **BypassValve** (BypassValve, SmallInteger, 2): **Domain field (DomainName = "wDomainBoolean")**. True/False used on vary large valves. The bypass is used to equalize pressure on both sides of the valve for operation.
- **ClockwiseToClose** (ClockwiseToClose, SmallInteger, 2): **Domain field (DomainName = "wDomainBoolean")**. True/False for whether the valve opens to the right or left. We only install Clockwise valves now.
- **CurrentlyOpen** (CurrentlyOpen, SmallInteger, 2): **Domain field (DomainName = "wDomainBoolean")**. True/False for the valve's current open status. It is changed only if the valve were to change function that included being closed, like becoming a System Separation Valve.
- **Motorized** (Motorized, SmallInteger, 2): ***NOT USED.***

- **NormallyOpen** (NormallyOpen, SmallInteger, 2): **Domain field (DomainName = "wDomainBoolean")**. True/False to designate if the valve is normally open. All valves are normally open except for valves that separate water system service areas or valves that control pipes to drain large water mains.
- **PercentOpen** (PercentOpen, Integer, 4): ***NOT USED.***
- **PressureSetting** (PressureSetting, String, 20): ***NOT USED.***
- **RegulationType** (RegulationType, String, 20): ***NOT USED.***
- **AdministrativeArea** (AdministrativeArea, String, 5): **Domain field (DomainName = "wDomainAdministrativeArea")**. This field lists whether the valve is located inside the City of Duluth City Limits. Options = CITY : City of Duluth | OTHER : Outside of City.
- **OperationalArea** (OperationalArea, String, 5): **Domain field (DomainName = "wDomainOperatingArea")**. Water system Service Area that the valve is in. This is always the upper system on valves that separate two systems. Options = PS : Proctor System | LSB : Lower System W/Booster | WSR1 : Woodland System Regulated 1 | WSR2 : Woodland System Regulated 2 | LSBR1 : Lower System w/Booster Regulated 1 | ULS : Upper Lakeside System | BS : Bayview System | BSR1 : Bayview System Regulated 1 | WS : Woodland System | LS : Lower System | MS : Middle System | HS : Highland System | OS : Orphanage System | MSR3 : Middle System Regulated 3 | MSR2 : Middle System Regulated 2 | MSR1 : Middle System Regulated 1.
- **WaterType** (WaterType, String, 10): **Domain field (DomainName = "wDomainWaterType")**. All of our valves have potable water. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Treated : Treated Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Salt : Salt Water | Sewage : Sewage.
- **Diameter** (Diameter, Double, 8): **Domain field (DomainName = "wDomainValveDiameter")**. Size of the valve in inches. No options, but just a number field to enter diameter.
- **TurnsToClose** (TurnsToClose, Double, 8): Data entry field. The number of turns to close the valve. This most often comes from EAM.
- **UDI** (UDI, String, 10): Data entry field. Next consecutive odd number in the table with a "W" prefix.
- **DimensionTie1** (DimensionTie1, String, 50): Data entry field. Distance from the nearest street or avenue. This comes from the record drawing.
- **DimensionTie2** (DimensionTie2, String, 50): Data entry field. Distance from the nearest cross street or avenue. This comes from the record drawing.
- **DT1StName** (DT1StName, String, 20): Data entry field. Name of the nearest street. This information goes along with DimensionTie1. This comes from the record drawing.
- **DT2StName** (DT2StName, String, 20): Data entry field. Name of the nearest cross street or avenue. This comes from the record drawing.
- **Comments** (Comments, String, 100):
- **Use** (Use_, String, 5): **Domain field (DomainName = "wDomainValveUse")**. Designates the use for each valve. Most common are line, hydrant and blowoff valves. Options = SERV : Service | FS : Fire Service | CO : Cross Over | HYDT : Hydrant | RIDE : Rider | BO : BlowOff | DC : Drop Connection | STUB : Stub | BP : ByPass | SECT : Section | AV : Air Valve | LINE : Line | UNK : Unknown.
- **Joint1** (Joint1, String, 5): **Domain field (DomainName = "wDomainValveJoint")**. All current valves are mechanical joint. Options = WE : Welded End | FS : Fused | LJ : Leaded Joint | MJ : Mechanical Joint | TH : Threaded | RM : Reamed | UNK : Unknown | FL : Flange | BND : Bond.
- **Joint2** (Joint2, String, 5): **Domain field (DomainName = "wDomainValveJoint")**. All current valves are mechanical joint. Same options as Joint 1.

- **Material** (Material, String, 5): ***NOT USED.***
- **Owner** (Owner, String, 15): **Domain field (DomainName = "wDomainOwner")**. All valves on Distribution Mains are owned by the City of Duluth. We do show services that would have valves that are owned privately. Options = CITY : City of Duluth | PRIV : Private.
- **Housing** (Housing, String, 5): **Domain field (DomainName = "wDomainValveHousing")**. Designates how the access to the valve for operation is currently gained. Most valves have a valve box, but manholes are also used. Options= UNK : Unknown | VB : Valve Box | B : Box | MH : Manhole | V : Vault.
- **Manufacturer** (Manufacturer, String, 5): **Domain field (DomainName = "wDomainValveManufacturer")**. This could be tracked in EAM. Options = DEZ : Dezurik | IOWA : Iowa Valve | DRS : Dresser | DARL : Darling Valve | VFC : V&F Co. | CHAP : Chapman Valve | CLOW : Clow Valve Corp. | LUD : Ludlow Valve | MICH : Michigan Valve and Foundary | AMER : American | COLB : Columbian Iron Works | PRATT : Pratt | KERO : Kerotest | AMD : American Darling | MUEL : Mueller Co. | EDDY : Eddy Valve | USP : U.S. Pipe | GW : G & W Co. | EI : Eddy-Iowa | KNDY : Kennedy Valve | STO : Stockham | AFC : American Flow Control | WOL : Wolworth | RENS : Rensselaer Mfg. & Valve Co. | MHV : M & H Valve & Fitting Co. | CR : Crane Co. | MILL : Milliken | UNK : Unknown | WATR : Waterous | APS : A.P. Smith Mfg. Co. | SB : Smith & Blair.
- **GPSx** (GPSx, Double, 8): Data entry field. This information is calculated into the field if the valve has been GPS'ed.
- **GPSy** (GPSy, Double, 8): Data entry field. This information is calculated into the field if the valve has been GPS'ed.
- **GPS_Date** (GPS_Date, Date, 36): Data entry field. The date from the GPS shot at the valve location.
- **GISOBJID** (GISOBJID, Integer, 4): System generated. Infor EAM number.
- **Shape** (Shape, Geometry, 8): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "wDomainLifecycleStatus")**. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. Current status of valve. Proposed for planned valves, active for current valves, abandoned for valves left in the ground and removed for valves dug out.
- **GlobalID** (GlobalID, GlobalID, 38): System generated.

13. ****sde.SDE.wSystemValveAnno: Annotation feature class of labels that show older comments or labels associated with water system valves. These are no longer updated.**

- **OBJECTID** (OBJECTID, OID, 4):
- **FeatureID** (FeatureID, Integer, 4):
- **ZOrder** (ZOrder, Integer, 4):
- **AnnotationClassID** (AnnotationClassID, Integer, 4):
- **Element** (Element, Blob, 0):
- **SymbolID** (SymbolID, Integer, 4):
- **Status** (Status, SmallInteger, 2):
- **TextString** (TextString, String, 255):
- **FontName** (FontName, String, 255):
- **FontSize** (FontSize, Double, 8):
- **Bold** (Bold, SmallInteger, 2):
- **Italic** (Italic, SmallInteger, 2):
- **Underline** (Underline, SmallInteger, 2):
- **VerticalAlignment** (VerticalAlignment, SmallInteger, 2):

- **HorizontalAlignment** (HorizontalAlignment, SmallInteger, 2):
- **XOffset** (XOffset, Double, 8):
- **YOffset** (YOffset, Double, 8):
- **Angle** (Angle, Double, 8):
- **FontLeading** (FontLeading, Double, 8):
- **WordSpacing** (WordSpacing, Double, 8):
- **CharacterWidth** (CharacterWidth, Double, 8):
- **CharacterSpacing** (CharacterSpacing, Double, 8):
- **FlipAngle** (FlipAngle, Double, 8):
- **Override** (Override, Integer, 4):
- **SHAPE** (SHAPE, Geometry, 8):
- **GlobalID** (GlobalID, GlobalID, 38):
- **SHAPE.area** (SHAPE.area, Double, 0):
- **SHAPE.len** (SHAPE.len, Double, 0):

14. **sde.SDE.wGravityMain: Line feature class of water main distribution lines that only use gravity to move water.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **FacilityID** (FacilityID, String, 20): ***NOT USED.***
- **LocationDescription** (LocationDescription, String, 200): ***NOT USED.***
- **Rotation** (Rotation, Double, 8): ***NOT USED.***
- **Elevation** (Elevation, Double, 8): ***NOT USED.***
- **AdministrativeArea** (AdministrativeArea, String, 10): **Domain field (DomainName = "wDomainAdministrativeArea")**. Establishes if utility is inside of the City Limits. Options = CITY : City of Duluth | OTHER : Outside of City.
- **FacilityID** (FacilityID, String, 20): ***NOT USED.***
- **InstallDate** (InstallDate, Date, 36): Data entry field. Date the pipe was installed.
- **OperationalArea** (OperationalArea, String, 5): **Domain field (DomainName = "wDomainOperatingArea")**. This is the water service area that the pipe is part of in our system. Our water system is made up of 9 gravity systems and 7 regulated systems. Options = PS : Proctor System | LSB : Lower System W/Booster | WSR1 : Woodland System Regulated 1 | WSR2 : Woodland System Regulated 2 | LSBR1 : Lower System w/Booster Regulated 1 | ULS : Upper Lakeside System | BS : Bayview System | BSR1 : Bayview System Regulated 1 | WS : Woodland System | LS : Lower System | MS : Middle System | HS : Highland System | OS : Orphanage System | MSR3 : Middle System Regulated 3 | MSR2 : Middle System Regulated 2 | MSR1 : Middle System Regulated 1.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** All of our water mains are DistributionMain. Subtypes = DistributionMain or TransmissionMain.
- **WorkorderID** (WorkorderID, String, 20): Data entry field. Project number of the project the main was constructed under.
- **FlowMeasurementID** (FlowMeasurementID, String, 10):
- **WaterType** (WaterType, String, 10): **Domain field (DomainName = "wDomainWaterType")**. All of our water mains are Potable Water. Options = Effluent : Waste Water Effluent | Reclaimed :

Reclaimed Water | Treated : Treated Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Salt : Salt Water | Sewage : Sewage.

- **ExteriorCoating** (ExteriorCoating, String, 20): ***NOT USED.***
- **Material** (Material, String, 5): **Domain field (DomainName = "wDomainWaterLineMaterial")**. The material of the pipe. Options = AC : Asbestos Concrete | DI : Ductile Iron | CI : Cast Iron | ST : Steel | PB : Lead | PVC : Poly Vinyl Chloride | GI : Galvinized Iron | PE : Polyethylene | UNK : Unknown | CU : Copper.

Main Material	JointType1	JointType2
Steel	Flange	Flange
	Weld	Weld
	Flange/Weld	Weld/Flange
Cast Iron	Leaded	Leaded
Ductile Iron	Mechanical Join (MJ)	MJ
	Slip Joint (SJ)	SJ
PE	Fused	Fused
PVC	Slip Joint	Slip Joint

- **JointType1** (JointType1, String, 20): **Domain field (DomainName = "wDomainJointType")**. Joint on the supply side of the pipe. Options = LD : Lead | FS : Fused | Weld : Weld | THRD : Threaded | Flange : Flange | MJ : Mechanical Joint | SJ : Slip Joint | RVT : Rivet | UNK : Unknown | Bond : Bond.
- **JointType2** (JointType2, String, 20): **Domain field (DomainName = "wDomainJointType")**. Joint on the flow side of the pipe. Same otpions as JointType1.
- **LiningType** (LiningType, String, 20): Data entry field. If the pipe is lined, what type of lining.
- **PipeClass** (PipeClass, String, 20): ***NOT USED.***
- **Roughness** (Roughness, Double, 8): ***NOT USED.***
- **BarrelCount** (BarrelCount, Integer, 4): ***NOT USED.***
- **CrossSectionShape** (CrossSectionShape, String, 20): ***NOT USED.***
- **UpstreamInvert** (UpstreamInvert, Double, 8): ***NOT USED.***
- **DownstreamInvert** (DownstreamInvert, Double, 8): ***NOT USED.***
- **Measurement1** (Measurement1, Integer, 4): ***NOT USED.***
- **Measurement2** (Measurement2, Integer, 4): ***NOT USED.***
- **NominalDiameter** (NominalDiameter, Integer, 4): **Domain field (DomainName = "wDomainMainDistributionDiameter")**. The size of the pipe in inches. Options = 0 : Unknown | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 24 : 24 inch | 30 : 30 inch | 36 : 36 inch | 42 : 42 inch | 48 : 48 inch | 60 : 60 inch | 97 : 3/4 inch | 98 : 5/8 inch | 99 : 1 1/4 inch.
- **Slope** (Slope, Double, 8): ***NOT USED.***
- **Comments** (Comments, String, 100):
- **GISOBJID** (GISOBJID, Integer, 4): System generated. Infor EAM number.
- **UDI** (UDI, String, 9): Data entry field. Next consecutive number in the table with a "W" prefix.
- **Length** (Length, Integer, 4): Data entry field. Length of pipe in feet rounded to the nearest foot.
- **Shape** (Shape, Geometry, 8): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "wDomainLifecycleStatus")**. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.Status of pipe. Proposed for

planned installations, active for current used pipe, abandoned for pipe left in the ground not in use and removed for pipe dug out of the ground.

- **SDR** (SDR, Double, 8): Data entry field. All should be filled in. This is the ratio of the diameter to the wall thickness. It determines how far to squeeze the pipe to stop the flow of water.
- **GlobalID** (GlobalID, GlobalID, 38): System generated.
- **Shape.len** (Shape.len, Double, 0): System generated.

15. **sde.SDE.wPump: Point feature class of locations of water pumps.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **AdministrativeArea** (AdministrativeArea, String, 200): **Domain field (DomainName = "wDomainAdministrativeArea")**. All should be "City of Duluth". Establishes if utility is inside of the City Limits. Options = CITY : City of Duluth | OTHER : Outside of City.
- **FacilityID** (FacilityID, String, 20): Data entry field. Description of where the pump resides.
- **InstallDate** (InstallDate, Date, 36): Data entry field. Date of installation.
- **LocationDescription** (LocationDescription, String, 200): Data entry field. Nearest intersection to the facility where the pump is located.
- **OperationalArea** (OperationalArea, String, 200): **Domain field (DomainName = "wDomainOperatingArea")**. Service area from where the pump is getting its water. Options = PS : Proctor System | LSB : Lower System W/Booster | WSR1 : Woodland System Regulated 1 | WSR2 : Woodland System Regulated 2 | LSBR1 : Lower System w/Booster Regulated 1 | ULS : Upper Lakeside System | BS : Bayview System | BSR1 : Bayview System Regulated 1 | WS : Woodland System | LS : Lower System | MS : Middle System | HS : Highland System | OS : Orphanage System | MSR3 : Middle System Regulated 3 | MSR2 : Middle System Regulated 2 | MSR1 : Middle System Regulated 1.
- **Rotation** (Rotation, Double, 8): ***NOT USED.***
- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "wDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. All should be "Active".
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** These are filled in, but are not updated.
- **WorkorderID** (WorkorderID, String, 20): ***NOT USED.***
- **Elevation** (Elevation, Double, 8): ***NOT USED.***
- **WaterType** (WaterType, String, 255): **Domain field (DomainName = "wDomainWaterType")**. All are potable water. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Treated : Treated Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Salt : Salt Water | Sewage : Sewage.
- **InletDiameter** (InletDiameter, Integer, 4): **Domain field (DomainName = "wDomainMainDistributionDiameter")**. Diameter of the pipe that supplies the pump. Options = 0 : Unknown | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 24 : 24 inch | 30 : 30 inch | 36 : 36 inch | 42 : 42 inch | 48 : 48 inch | 60 : 60 inch | 97 : 3/4 inch | 98 : 5/8 inch | 99 : 1 1/4 inch.

- **DischargeDiameter** (DischargeDiameter, Integer, 4): **Domain field (DomainName = "wDomainMainDistributionDiameter")**. Diameter of the pipe leaving the pump. Options = 0 : Unknown | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 24 : 24 inch | 30 : 30 inch | 36 : 36 inch | 42 : 42 inch | 48 : 48 inch | 60 : 60 inch | 97 : 3/4 inch | 98 : 5/8 inch | 99 : 1 1/4 inch.
- **RatedFlow** (RatedFlow, String, 20): Data entry field. Pump rating for flow. This comes from record drawing.
- **RatedPressure** (RatedPressure, String, 20): ***NOT USED.***
- **TotalDynamicHead** (TotalDynamicHead, String, 20): ***NOT USED.***
- **HorsePower** (HorsePower, Double, 8): ***NOT USED.***
- **Shape** (Shape, Geometry, 8): System generated.
- **GlobalID** (GlobalID, GlobalID, 38): System generated.

16. **sde.SDE.wManhole: Point feature class of manholes in the water system**.

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **FacilityID** (FacilityID, String, 20): ***NOT USED.***
- **InstallDate** (InstallDate, Date, 36): Data entry field. Date of installation.
- **Rotation** (Rotation, Double, 8): ***NOT USED.***
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** ***NOT USED.***
- **WorkorderID** (WorkorderID, String, 20): Data entry field. Project number.
- **Elevation** (Elevation, Double, 8): ***NOT USED.***
- **AccessDiameter** (AccessDiameter, Integer, 4): ***NOT USED.***
- **AccessType** (AccessType, String, 20): **Domain field (DomainName = "wDomainAccessType")**. All should be "Manhole Cover". Options = Lid : Lid | Door : Door | Cover : Manhole Cover | Hand : Hand | Grate : Grate | Unk : Unknown.
- **GroundType** (GroundType, String, 20): ***NOT USED.***
- **HighPipeElevation** (HighPipeElevation, Double, 8): ***NOT USED.***
- **InteriorDrop** (InteriorDrop, SmallInteger, 2): ***NOT USED.***
- **InvertElevation** (InvertElevation, Double, 8): ***NOT USED.***
- **Wallmaterial** (Wallmaterial, String, 20): ***NOT USED.***
- **AdministrativeArea** (AdministrativeArea, String, 5): **Domain field (DomainName = "wDomainAdministrativeArea")**. All should be "City of Duluth". Establishes if utility is inside of the City Limits. Options = CITY : City of Duluth | OTHER : Outside of City.
- **OperationalArea** (OperationalArea, String, 5): **Domain field (DomainName = "wDomainOperatingArea")**. Service area of pipe that the manhole covers. Options = PS : Proctor System | LSB : Lower System W/Booster | WSR1 : Woodland System Regulated 1 | WSR2 : Woodland System Regulated 2 | LSBR1 : Lower System w/Booster Regulated 1 | ULS : Upper Lakeside System | BS : Bayview System | BSR1 : Bayview System Regulated 1 | WS : Woodland System | LS : Lower System | MS : Middle System | HS : Highland System | OS : Orphanage System | MSR3 : Middle System Regulated 3 | MSR2 : Middle System Regulated 2 | MSR1 : Middle System Regulated 1.

- **WaterType** (WaterType, String, 10): **Domain field (DomainName = "wDomainWaterType")**. All are potable water. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Treated : Treated Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Salt : Salt Water | Sewage : Sewage.
- **DimensionTie1** (DimensionTie1, String, 50): Data entry field. Street tie to nearest street or avenue.
- **DimensionTie2** (DimensionTie2, String, 50): Data entry field. Street tie to nearest cross street or avenue.
- **DT1StName** (DT1StName, String, 20): Data entry field. Name of nearest street or avenue.
- **DT2StName** (DT2StName, String, 20): Data entry field. Name of nearest cross street or avenue.
- **Comments** (Comments, String, 100):
- **XCoord_GPS** (XCoord_GPS, Double, 8): ***NOT USED.***
- **YCoord_GPS** (YCoord_GPS, Double, 8): ***NOT USED.***
- **Date_GPS** (Date_GPS, Date, 36): ***NOT USED.***
- **GISOBJID** (GISOBJID, Integer, 4): System generated. Infor EAM number.
- **UDI** (UDI, String, 9): Data entry field. Next consecutive number with "W" prefix.
- **Shape** (Shape, Geometry, 8): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "wDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. Status of structure, Active for in use, abandoned for left in place but not in use, removed for dug out.
- **GlobalID** (GlobalID, GlobalID, 38): System generated.

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sde.SDE.Water_Distribution_Features

17. **sde.SDE.wHydrantDist **This table is not in use.**

- **OBJECTID** (OBJECTID, OID, 4):
- **District_Number** (District_Number, String, 50):
- **District_Name** (District_Name, String, 50):
- **Inspection_Year** (Inspection_Year, String, 50):
- **District_Area_No** (District_Area_No, SmallInteger, 2):
- **SHAPE** (SHAPE, Geometry, 8):
- **GlobalID** (GlobalID, GlobalID, 38):
- **SHAPE.area** (SHAPE.area, Double, 0):
- **SHAPE.len** (SHAPE.len, Double, 0):

18. **sde.SDE.wUndergroundEnclosure: Polygon feature class showing areas surrounding a water underground utility.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AdministrativeArea** (AdministrativeArea, String, 200): **Domain field (DomainName = "wDomainAdministrativeArea")**. All should be "City of Duluth". Establishes if utility is inside of the City Limits. Options = CITY : City of Duluth | OTHER : Outside of City.
- **FacilityID** (FacilityID, String, 20): Data entry field. Description of facility.
- **InstallDate** (InstallDate, Date, 36): Data entry field. Date of installation.
- **OperationalArea** (OperationalArea, String, 200): **Domain field (DomainName = "wDomainOperatingArea")**. Service area that enclosure resides. Options = PS : Proctor System | LSB : Lower System W/Booster | WSR1 : Woodland System Regulated 1 | WSR2 : Woodland System

Regulated 2 | LSBR1 : Lower System w/Booster Regulated 1 | ULS : Upper Lakeside System | BS : Bayview System | BSR1 : Bayview System Regulated 1 | WS : Woodland System | LS : Lower System | MS : Middle System | HS : Highland System | OS : Orphanage System | MSR3 : Middle System Regulated 3 | MSR2 : Middle System Regulated 2 | MSR1 : Middle System Regulated 1.

- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "wDomainLifecycleStatus")**. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. Status of structure. Active for in use, abandoned for in-place not in use and removed for dug out.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** What is in the structure.
- **WorkorderID** (WorkorderID, String, 20): Data entry field. Project number.
- **Elevation** (Elevation, Double, 8): Data entry field. Default should be 0.
- **LocationDescription** (LocationDescription, String, 255): ***NOT USED.***
- **WaterType** (WaterType, String, 255): **Domain field (DomainName = "wDomainWaterType")**. All are potable water. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Treated : Treated Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Salt : Salt Water | Sewage : Sewage.
- **CoverMaterial** (CoverMaterial, String, 20): **Domain field (DomainName = "wDomainFrameCoverMaterial")**. All should be steel. Options = Steel : Steel | Unk : Unknown | Iron : Iron.
- **CoverType** (CoverType, String, 20): **Domain field (DomainName = "wDomainAccessType")**. All should be Manhole Cover. Options = Lid : Lid | Door : Door | Cover : Manhole Cover | Hand : Hand | Grate : Grate | Unk : Unknown.
- **Depth** (Depth, Double, 8): ***NOT USED.***
- **FrameMaterial** (FrameMaterial, String, 20): ***NOT USED.***
- **FrameType** (FrameType, String, 20): ***NOT USED.***
- **InvertElevation** (InvertElevation, Double, 8): ***NOT USED.***
- **Measurement1** (Measurement1, Integer, 4): ***NOT USED.***
- **Measurement2** (Measurement2, Integer, 4): ***NOT USED.***
- **Shape** (Shape, Geometry, 8): System generated.
- **GlobalID** (GlobalID, GlobalID, 38): System generated.
- **Shape.area** (Shape.area, Double, 0): System generated.
- **Shape.len** (Shape.len, Double, 0): System generated.

19. ****sde.SDE.wScadaSensor** **This table is *NOT USED.***

- **OBJECTID** (OBJECTID, OID, 4):
- **AdministrativeArea** (AdministrativeArea, String, 200):
- **FacilityID** (FacilityID, String, 20):
- **InstallDate** (InstallDate, Date, 36):
- **OperationalArea** (OperationalArea, String, 200):
- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "wDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **Subtype** (Subtype, Integer, 4):
- **WorkorderID** (WorkorderID, String, 20):
- **Elevation** (Elevation, Double, 8):
- **LocationDescription** (LocationDescription, String, 255):
- **WaterType** (WaterType, String, 255):
- **CurrentValue** (CurrentValue, String, 20):
- **ID** (ID, String, 20):

- **MeasurementType** (MeasurementType, String, 20):
- **Shape** (Shape, Geometry, 8):
- **GlobalID** (GlobalID, GlobalID, 38):

20. **sde.SDE.wCasingold **This table is *NOT USED*.**

- **OBJECTID** (OBJECTID, OID, 4):
- **AdministrativeArea** (AdministrativeArea, String, 200):
- **FacilityID** (FacilityID, String, 20):
- **InstallDate** (InstallDate, Date, 36):
- **OperationalArea** (OperationalArea, String, 200):
- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "wDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **Subtype** (Subtype, Integer, 4):
- **WorkorderID** (WorkorderID, String, 20):
- **Elevation** (Elevation, Double, 8):
- **LocationDescription** (LocationDescription, String, 255):
- **WaterType** (WaterType, String, 255):
- **Diameter** (Diameter, Integer, 4):
- **Material** (Material, String, 20):
- **RecordedLength** (RecordedLength, Double, 8):
- **Shape** (Shape, Geometry, 8):
- **GlobalID** (GlobalID, GlobalID, 38):
- **Shape.area** (Shape.area, Double, 0):
- **Shape.len** (Shape.len, Double, 0):

21. **sde.SDE.wThrustProtection: This table is *NOT USED*.**

- **OBJECTID** (OBJECTID, OID, 4):
- **AdministrativeArea** (AdministrativeArea, String, 200):
- **FacilityID** (FacilityID, String, 20):
- **InstallDate** (InstallDate, Date, 36):
- **OperationalArea** (OperationalArea, String, 200):
- **LifecycleStatus** (LifecycleStatus, String, 20):
- **Subtype** (Subtype, Integer, 4):
- **WorkorderID** (WorkorderID, String, 20):
- **Elevation** (Elevation, Double, 8):
- **LocationDescription** (LocationDescription, String, 255):
- **WaterType** (WaterType, String, 255):
- **Shape** (Shape, Geometry, 8):
- **GlobalID** (GlobalID, Guid, 38):
- **GlobalID_1** (GlobalID_1, GlobalID, 38):
- **Shape.area** (Shape.area, Double, 0):
- **Shape.len** (Shape.len, Double, 0):

22. **sde.SDE.wAnode: Point feature class showing a cathodic protection anode point location representing where anodes are placed next to mains to prevent corrosion for water utilities.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.

- **AdministrativeArea** (AdministrativeArea, String, 200): **Domain field (DomainName = "wDomainAdministrativeArea")**. All should be "City of Duluth". Establishes if utility is inside of the City Limits. Options = CITY : City of Duluth | OTHER : Outside of City.
- **FacilityID** (FacilityID, String, 20): ***NOT USED.***
- **InstallDate** (InstallDate, Date, 36): Data entry field. Date of installation.
- **OperationalArea** (OperationalArea, String, 200): **Domain field (DomainName = "wDomainOperatingArea")**. Service area of pipe anode is attached. Options = PS : Proctor System | LSB : Lower System W/Booster | WSR1 : Woodland System Regulated 1 | WSR2 : Woodland System Regulated 2 | LSBR1 : Lower System w/Booster Regulated 1 | ULS : Upper Lakeside System | BS : Bayview System | BSR1 : Bayview System Regulated 1 | WS : Woodland System | LS : Lower System | MS : Middle System | HS : Highland System | OS : Orphanage System | MSR3 : Middle System Regulated 3 | MSR2 : Middle System Regulated 2 | MSR1 : Middle System Regulated 1.
- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "wDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. All should be Active.
- **Subtype** (Subtype, Integer, 4): ***NOT USED.*** **GIS Subtype field.**
- **WorkorderID** (WorkorderID, String, 20): Data entry field. Project number or work order number.
- **Elevation** (Elevation, Double, 8): ***NOT USED.***
- **LocationDescription** (LocationDescription, String, 255): Data entry field. General location of anode.
- **WaterType** (WaterType, String, 255): **Domain field (DomainName = "wDomainWaterType")**. All are potable water. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Treated : Treated Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Salt : Salt Water | Sewage : Sewage.
- **AnodeCount** (AnodeCount, Integer, 4): ***NOT USED.***
- **Material** (Material, String, 20): **Domain field (DomainName = "wDomainJunctionMaterial")**. Material of pipe anode is attached. Options = AC : Asbestos Concrete | DI : Ductile Iron | STL : Steel | CI : Cast Iron | PB : Lead | PVC : Poly Vinyl Chloride | PE : Polyethylene | Unk : Unknown | CU : Copper.
- **Weight** (Weight, String, 20): Data entry field. Weight in pounds.
- **Shape** (Shape, Geometry, 8): System generated.
- **GlobalID** (GlobalID, GlobalID, 38): System generated.

23. **sde.SDE.wCasing: Line feature class showing the pipe that surrounds another water pipe to increase support.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **Subtype** (Subtype, SmallInteger, 2): **GIS Subtype field.** All but 2 records are casings, check the 2 records to make sure they are not casings.
- **Material** (Material, String, 5): **Domain field (DomainName = "wDomainCasingMaterial")**. Material of pipe that is the casing. Options = STL : Steel | PVC : Poly Vinyl Chloride | PE : Polyethylene | CI : Cast Iron | RC : Reinforced Concrete.
- **EndSeal** (EndSeal, String, 5): **Domain field (DomainName = "wDomainCasingEndSeal")**. Type of end seal. Options = BT : Boot Seal | UNK : Unknown | NO : None | CN : Concrete | LS : Link Seal.
- **LifecycleStatus** (LifecycleStatus, String, 10): **Domain field (DomainName = "wDomainLifecycleStatus")**. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. Status of casing, active fir in use, abandoned for not in use but still underground and removed for dug out.

- **RecordedLength** (RecordedLength, Integer, 4): Data entry field. Length of casing. This would come from record drawing.
- **OperationalArea** (OperationalArea, String, 5): **Domain field (DomainName = "wDomainOperatingArea")**. Service area for pipe inside the casing. Options = PS : Proctor System | LSB : Lower System W/Booster | WSR1 : Woodland System Regulated 1 | WSR2 : Woodland System Regulated 2 | LSBR1 : Lower System w/Booster Regulated 1 | ULS : Upper Lakeside System | BS : Bayview System | BSR1 : Bayview System Regulated 1 | WS : Woodland System | LS : Lower System | MS : Middle System | HS : Highland System | OS : Orphanage System | MSR3 : Middle System Regulated 3 | MSR2 : Middle System Regulated 2 | MSR1 : Middle System Regulated 1.
- **InstallDate** (InstallDate, Date, 36): Data entry field. Date of installation.
- **Vented** (Vented, SmallInteger, 2): **Domain field (DomainName = "wDomainBoolean")**. True/False as to whether the casing end has a vent pipe.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Diameter** (Diameter, Integer, 4): **Domain field (DomainName = "wDomainMainDistributionDiameter")**. Diameter of casing. Options = 0 : Unknown | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 24 : 24 inch | 30 : 30 inch | 36 : 36 inch | 42 : 42 inch | 48 : 48 inch | 60 : 60 inch | 97 : 3/4 inch | 98 : 5/8 inch | 99 : 1 1/4 inch.
- **SHAPE** (SHAPE, Geometry, 8): System generated.
- **GlobalID** (GlobalID, GlobalID, 38): System generated.
- **SHAPE.len** (SHAPE.len, Double, 0): System generated.

24. **sde.SDE.wOperationalAreas: Polygon feature class showing a general area that surrounds larger Duluth neighborhoods to represent the water system to which a water utility is connected.**

    - **OBJECTID** (OBJECTID, OID, 4): System generated.
    - **DistrictID** (DistrictID, SmallInteger, 2): Data entry field. This is a misc. number to organize the list.
    - **DistrictName** (DistrictName, String, 20): Data entry field. Legacy name of the service area.
    - **OperationalArea** (OperationalArea, String, 5): **Domain field (DomainName = "wDomainOperatingArea")**. Name of service area. Options = PS : Proctor System | LSB : Lower System W/Booster | WSR1 : Woodland System Regulated 1 | WSR2 : Woodland System Regulated 2 | LSBR1 : Lower System w/Booster Regulated 1 | ULS : Upper Lakeside System | BS : Bayview System | BSR1 : Bayview System Regulated 1 | WS : Woodland System | LS : Lower System | MS : Middle System | HS : Highland System | OS : Orphanage System | MSR3 : Middle System Regulated 3 | MSR2 : Middle System Regulated 2 | MSR1 : Middle System Regulated 1.
    - **SHAPE** (SHAPE, Geometry, 8): System generated.
    - **GlobalID** (GlobalID, GlobalID, 38): System generated.
    - **SHAPE.area** (SHAPE.area, Double, 0): System generated.
    - **SHAPE.len** (SHAPE.len, Double, 0): System generated.

25. **sde.SDE.wSpatialOperationsRecord_2: a standalone table used to record utility leaks. It's currently stored in the Water_Distribution_Features dataset, but actually holds information for all utilities.**

    - **OBJECTID** (OBJECTID, OID, 4): System generated.

- **AdministrativeArea** (AdministrativeArea, String, 200): **Domain field (DomainName = "wDomainAdministrativeArea")**. Where is the repair, inside of the city limits or outside of the city limits. Options = CITY : City of Duluth | OTHER : Outside of City.
- **FacilityID** (FacilityID, String, 20): ***NOT USED.***
- **InstallDate** (InstallDate, Date, 36): Data entry field. Date of repair.
- **OperationalArea** (OperationalArea, String, 200): **Domain field (DomainName = "wDomainOperatingArea")**. Service area of pipe repaired. Options = PS : Proctor System | LSB : Lower System W/Booster | WSR1 : Woodland System Regulated 1 | WSR2 : Woodland System Regulated 2 | LSBR1 : Lower System w/Booster Regulated 1 | ULS : Upper Lakeside System | BS : Bayview System | BSR1 : Bayview System Regulated 1 | WS : Woodland System | LS : Lower System | MS : Middle System | HS : Highland System | OS : Orphanage System | MSR3 : Middle System Regulated 3 | MSR2 : Middle System Regulated 2 | MSR1 : Middle System Regulated 1.
- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "wDomainLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. Repaired for active pipes, abandoned for repairs on pipes abandoned.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** All are leaks.
- **WorkorderID** (WorkorderID, String, 20): Data entry field. Work order number of repair.
- **Elevation** (Elevation, Double, 8): ***NOT USED.***
- **LocationDescription** (LocationDescription, String, 255): Data entry field. Location or address of repair.
- **WaterType** (WaterType, String, 255): **Domain field (DomainName = "wDomainWaterType")**. All are potable water. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Treated : Treated Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Salt : Salt Water | Sewage : Sewage.
- **RecordDate** (RecordDate, Date, 36): Data entry field. Date of repair.
- **ID** (ID, String, 20): Data entry field. This was used for pipe ID, but not in use now.
- **NetworkOID** (NetworkOID, Integer, 4): ***NOT USED.***
- **MainSize** (MainSize, String, 50): Data entry field. Diameter of pipe repaired.
- **ID_NUM** (ID_NUM, SmallInteger, 2): Data entry field. Type of leak, 1 for split or crack, 2 for corrosion, 3 for joint leak.
- **Shape** (Shape, Geometry, 8): System generated.
- **GlobalID** (GlobalID, GlobalID, 38): System generated.

26. **sde.SDE.wAssessmentAreas** **This table is historic information.**

- **OBJECTID** (OBJECTID, OID, 4):
- **Date** (Date, Date, 36):
- **Petition** (Petition, String, 15):
- **Project** (Project, String, 15):
- **Assess_Code** (Assess_Code, SmallInteger, 2):
- **SHAPE** (SHAPE, Geometry, 8):
- **GlobalID** (GlobalID, GlobalID, 38):
- **SHAPE.area** (SHAPE.area, Double, 0):
- **SHAPE.len** (SHAPE.len, Double, 0):

27. **sde.SDE.wWaterStructure: Point layer that shows points where the "wNetworkStructure" polygon surrounds. This also is water-related structures that contain water utilities.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.

- **AdministrativeArea** (AdministrativeArea, String, 200): **Domain field (DomainName = "wDomainAdministrativeArea")**. All are "City of Duluth". Establishes if utility is inside of the City Limits. Options = CITY : City of Duluth | OTHER : Outside of City.
- **FacilityID** (FacilityID, String, 20): Data entry field. Common name of facility.
- **InstallDate** (InstallDate, Date, 36): Data entry field. Date of construction.
- **OperationalArea** (OperationalArea, String, 200): **Domain field (DomainName = "wDomainOperatingArea")**. Service area the structure supplies. Options = PS : Proctor System | LSB : Lower System W/Booster | WSR1 : Woodland System Regulated 1 | WSR2 : Woodland System Regulated 2 | LSBR1 : Lower System w/Booster Regulated 1 | ULS : Upper Lakeside System | BS : Bayview System | BSR1 : Bayview System Regulated 1 | WS : Woodland System | LS : Lower System | MS : Middle System | HS : Highland System | OS : Orphanage System | MSR3 : Middle System Regulated 3 | MSR2 : Middle System Regulated 2 | MSR1 : Middle System Regulated 1.
- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "wDomainLifecycleStatus")**. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.Status of structure. Most are active.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** Type of structure. Reservoir, ProductionWell, PumpStation, StorageBasin, TreatmentPlant & Meter House.
- **WorkorderID** (WorkorderID, String, 20): Data entry field. Project number.
- **Elevation** (Elevation, Double, 8): Data entry field. Elevation of structure. For reservoir this would be overflow elevation.
- **LocationDescription** (LocationDescription, String, 255): Data entry field. Nearest intersection to structure.
- **WaterType** (WaterType, String, 255): **Domain field (DomainName = "wDomainWaterType")**. All are potable except structures at treatment plant. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Treated : Treated Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Salt : Salt Water | Sewage : Sewage,
- **OperationalDate** (OperationalDate, Date, 36): Data entry field. Date of construction.
- **Shape** (Shape, Geometry, 8): System generated.
- **GlobalID** (GlobalID, GlobalID, 38): System generated.
- **Shape.area** (Shape.area, Double, 0): System generated.
- **Shape.len** (Shape.len, Double, 0): System generated.

28. **sde.SDE.wSpatialOperationsRecord **This table is not in use.**

- **OBJECTID** (OBJECTID, OID, 4):
- **AdministrativeArea** (AdministrativeArea, String, 200):
- **FacilityID** (FacilityID, String, 20):
- **InstallDate** (InstallDate, Date, 36):
- **OperationalArea** (OperationalArea, String, 200):
- **LifecycleStatus** (LifecycleStatus, String, 20):
- **Subtype** (Subtype, Integer, 4):
- **WorkorderID** (WorkorderID, String, 20):
- **Elevation** (Elevation, Double, 8):
- **LocationDescription** (LocationDescription, String, 255):
- **WaterType** (WaterType, String, 255):
- **RecordDate** (RecordDate, Date, 36):
- **ID** (ID, String, 20):
- **NetworkOID** (NetworkOID, Integer, 4):

- **LeakType** (LeakType, SmallInteger, 2):
- **Main_Size** (Main_Size, Integer, 4):
- **Shape** (Shape, Geometry, 8):
- **GlobalID** (GlobalID, GlobalID, 38):

29. **sde.SDE.wInsulation: Polygon feature class that represents water insulation used to prevent a water line or service from freezing.**

    - **OBJECTID** (OBJECTID, OID, 4): System generated.
    - **TYPE** (TYPE, String, 50): Data entry field. Insulation type.
    - **MANUFACTURE** (MANUFACTURE, String, 50): ***NOT USED.***
    - **LENGTH** (LENGTH, Integer, 4): Data entry field. Length in feet.
    - **WIDTH** (WIDTH, Integer, 4): Data entry field. Width in feet.
    - **THICKNESS** (THICKNESS, SmallInteger, 2): Data entry field. Thickness in inches.
    - **INSTALLDATE** (INSTALLDATE, Date, 36): Data entry field. Date of installation.
    - **SHAPE** (SHAPE, Geometry, 8): System generated.
    - **GlobalID** (GlobalID, GlobalID, 38): System generated.
    - **SHAPE.area** (SHAPE.area, Double, 0): System generated.
    - **SHAPE.len** (SHAPE.len, Double, 0): System generated.

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sde.SDE.SanitarySewerFeatures

1. **sde.SDE.ssBasin –Polygon feature that represents the individual service areas that feeds into sanitary sewer interceptor lines.**

    - **OBJECTID** (OBJECTID, OID, 4):System generated
    - **PREFIX** (PREFIX, String, 8): Data entry. They are all “AREA”. I don’t know what this field represents.
    - **UDI** (UDI, String, 64): Data entry. Prefix of “SANA” and the last 4 digits are the number of the basin starting at 0001.
    - **TYPE** (TYPE, String, 1): Data entry. They are all “A”. I don’t know what this represents.
    - **SYMBOL_NAM** (SYMBOL_NAM, String, 32): Data entry. They are all “SANAREA”. I don’t know what this represents.
    - **Basin** (Basin, SmallInteger, 2): Data entry. This is the Basin Number.
    - **GISOBJID** (GISOBJID, Integer, 4): System Generated. Infor EAM number.
    - **Install_Date** (Install_Date, Date, 36): Data entry. This is just a filler field as all feature classes need an install date.
    - **Shape** (Shape, Geometry, 8): System generated.
    - **Shape.area** (Shape.area, Double, 0): System generated.
    - **Shape.len** (Shape.len, Double, 0): System generated.

2. **sde.SDE.TracerBox: Point feature class shows locations of tracer boxes for all utilities. This feature class should probably be in a different dataset, but is currently located within the Sanitary feature dataset.**

    - **OBJECTID** (OBJECTID, OID, 4): System generated.

- **Manufacturer** (Manufacturer, String, 50): Data entry. Currently ***NOT USED***, but we do know the manufacturer of the boxes we have installed. It should be one company.
- **Utility** (Utility, String, 50): **Domain field (DomainName = "UtilityList")**. Which utility does the tracer box connect to. Options = A : Gas | C : Storm | B : Sanitary | E : Other | D : Water,
- **Location_1** (Location_1, String, 50): Data entry. Street ties to the nearest street.
- **Location_2** (Location_2, String, 50): Data entry. Street ties to the nearest cross street.
- **x_coord** (x_coord, Double, 8): Data entry. This is calculated into the field through ArcMap.
- **y_coord** (y_coord, Double, 8): Data entry. This is calculated into the field through ArcMap.
- **GPS_Date** (GPS_Date, Date, 36): Data entry. Date of GPS shot.
- **PID** (PID, SmallInteger, 2): Data entry. Parcel ID of building the service that the tracer box serves.
- **Comments** (Comments, String, 50):
- **Install_Date** (Install_Date, Date, 36): Data entry. Date of installation.
- **House_Ties** (House_Ties, String, 50): Data entry. Ties from the building that the tracer box serves.
- **Street_1** (Street_1, String, 50): Data entry field. Street name of the nearest street.
- **Street_2** (Street_2, String, 50): Data entry. Street name of the nearest cross street.
- **SHAPE** (SHAPE, Geometry, 8): System generated.

3. **sde.SDE.ssWaterStructure: Polygon feature class that shows the geographic locations of sanitary sewer Lift Stations, Valve Vaults, Pump Stations, or Storage Basins.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "ssDomainLifecycleStatus").** All are active. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **FacilityID** (FacilityID, String, 20): Data entry. Name of structure.
- **WorkorderID** (WorkorderID, String, 20): Data entry. Project number.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** Type of structure. Subtypes = Lift Station, DiversionPoint, JunctionChamber, ProductionWell, PumpStation, SplitManhole, StorageBasin, Diversion Chamber, Diversion Point, MeterBox, ValveVault, & Vault.
- **LocationDescription** (LocationDescription, String, 255): Data entry. Intersection of streets nearest to structure.
- **OperationalDate** (OperationalDate, Date, 36): Data entry. Date of structure being put into service.
- **WaterType** (WaterType, String, 10): Data entry field. All should be "Sewage".
- **Bot_Elev** (Bot_Elev, Double, 8): Data entry field. Elevation at bottom of structure.
- **Top_Elev** (Top_Elev, Double, 8): Data entry field. Elevation at top of structure.
- **InvertElev** (InvertElev, Double, 8): Data entry field. Elevation for pipe leaving structure.
- **AccessDim1** (AccessDim1, Double, 8): Data entry field. Size of access opening to structure.
- **AccessDim2** (AccessDim2, Double, 8): Data entry field. Size to auxiliary entry to structure.
- **CoverMaterial** (CoverMaterial, String, 5): Data entry field. Type of opening cover.
- **CoverType** (CoverType, String, 5): Data entry field. Type of opening.
- **FrameMaterial** (FrameMaterial, String, 50): Data entry field. Material of frame for opening to structure.
- **Job** (Job, String, 10): Data entry. Project number.
- **File_** (File_, String, 10): Data entry. File number for the Engineering vault,
- **Owner** (Owner, String, 5): Data entry. Owner, most are City of Duluth.
- **Comments** (Comments, String, 100):
- **Basin** (Basin, SmallInteger, 2): Data entry. Basin that the structure serves.
- **BookPage** (BookPage, String, 10): Data entry. ***NOT USED.***
- **YEAR_BUILT** (YEAR_BUILT, SmallInteger, 2): Data entry. Year the structure was built.
- **Shape** (Shape, Geometry, 8): System generated.

- **Shape.area** (Shape.area, Double, 0): System generated.
- **Shape.len** (Shape.len, Double, 0): System generated.

4. ****sde.SDE.ssInsulation** **This table has 1 record.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **TYPE** (TYPE, String, 50): Data entry. Type of insulation.
- **MANUFACTURE** (MANUFACTURE, String, 50): Data entry. Company that manufactured the insulation.
- **LENGTH** (LENGTH, Integer, 4): Data entry. Length of insulation in feet.
- **WIDTH** (WIDTH, Integer, 4): Data entry. Width of insulation in feet.
- **THICKNESS** (THICKNESS, SmallInteger, 2): Data entry field. Thickness of insulation in inches.
- **INSTALLDATE** (INSTALLDATE, Date, 36): Data entry field. Date insulation was installed.
- **Shape** (Shape, Geometry, 8): System generated.
- **Shape.area** (Shape.area, Double, 0): System generated.
- **Shape.len** (Shape.len, Double, 0): System generated.

5. ****sde.SDE.ssCasing** **This table has only 1 record**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of casing. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **InstallDate** (InstallDate, Date, 36): Data entry field. Date casing was installed.
- **WorkorderID** (WorkorderID, String, 20): Data entry field. Project number.
- **Subtype** (Subtype, Integer, 4): Data entry field. I don't know what this field represents. *Could be a* **GIS Subtype field, but is not currently.**
- **Elevation** (Elevation, Double, 8): Data entry field. I don't know what elevation this represents.
- **Diameter** (Diameter, Integer, 4): Data entry field. Size of casing in nominal diameter.
- **Material** (Material, String, 20): **Domain field (DomainName = "ssDomainWaterLineMaterial")**. Material of casing. Options = VCP : Vitreous Clay Pipe | AC : Asbestos Concrete | CL : Clay | WO : Wood | DI : Ductile Iron | CI : Cast Iron | HDPE : High Density Polyethylene | PB : Lead | PVC : Poly Vinyl Chloride | BR : Brick | UNK : Unknown.
- **RecordedLength** (RecordedLength, Double, 8): Data entry field. Length from Record Drawing in feet.
- **WaterType** (WaterType, String, 10): **Domain field (DomainName = "ssDomainWaterType")**. All will be sewage. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Treated : Treated Water | Sewage : Sewage.
- **Basin** (Basin, SmallInteger, 2): Data entry field. Basin of the pipe inside the casing.
- **UDI** (UDI, String, 9): Data entry field. Catalog number with a two letter prefix, three number map number and four digit misc. number starting at 0001.
- **Owner** (Owner, String, 5): **Domain field (DomainName = "ssDomainOwner")**. All should be City of Duluth. Options = CITY : CIty of Duluth | HERM : Hermantown | WL : WLSSD | RL : Rice Lake TWP | UNK : Unknown | PRIV : Private.
- **Comments** (Comments, String, 100):
- **BookPage** (BookPage, String, 10): Data entry field. This was used for the sewer books in the vault. This is no longer used.
- **Job** (File, String, 10): Data entry field. Project number.
- **File_** (UDI, String, 10): Data entry field. File number for the vault.
- **Shape** (Shape, Geometry, 8): System generated.

- **Shape.area** (Shape.area, Double, 0): System generated.
- **Shape.len** (Shape.len, Double, 0): System generated.

6. ****sde.SDE.ssOverflowAreas2** **This table is historic only.**

- **OBJECTID** (OBJECTID, OID, 4):
- **sde.SDE.ssOverflowAreas2.AREA** (AREA, Double, 8):
- **PERIMETER** (PERIMETER, Double, 8):
- **OVERFLOW_** (OVERFLOW_, Integer, 4):
- **OVERFLOW_ID** (OVERFLOW_ID, Integer, 4):
- **OverFlow_Drainages** (OverFlow_Drainages, String, 50):
- **COMP_STATUS** (COMP_STATUS, String, 5):
- **Shape** (Shape, Geometry, 8):
- **Shape.area** (Shape.area, Double, 0):
- **Shape.len** (Shape.len, Double, 0):

7. ****sde.SDE.ssOverflowDrainAreas** **This table is historic only.**

- **OBJECTID** (OBJECTID, OID, 4):
- **Overflow_ID** (Overflow_ID, SmallInteger, 2):
- **Overflow_Status** (Overflow_Status, String, 4):
- **SHAPE** (SHAPE, Geometry, 8):
- **SHAPE.area** (SHAPE.area, Double, 0):
- **SHAPE.len** (SHAPE.len, Double, 0):

8. **sde.SDE.ssUndergroundEnclosurept** **– Point feature class showing sanitary sewer vaults.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of Enclosure. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **FacilityID** (FacilityID, String, 20): Data entry field. ***NOT USED.***
- **InstallDate** (InstallDate, Date, 36): Data entry field. Date enclosure installed.
- **WorkorderID** (WorkorderID, String, 20): Data entry field. Project number.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** All are vaults. Options = MeterBox, ValveVault, & Vault.
- **Depth** (Depth, Double, 8): Data entry field. ***NOT USED.***
- **InvertElevation** (InvertElevation, Double, 8): Data entry field. ***NOT USED.***
- **Measurement1** (Measurement1, Integer, 4): Data entry field. ***NOT USED.***
- **Measurement2** (Measurement2, Integer, 4): Data entry field. ***NOT USED.***
- **OperationalArea** (OperationalArea, String, 5): Data entry field. ***NOT USED.***
- **WaterType** (WaterType, String, 10): **Domain field (DomainName = "ssDomainWaterType")**. All will be sewage. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Treated : Treated Water | Sewage : Sewage.
- **CoverMaterial** (CoverMaterial, String, 5): Data entry field. ***NOT USED.***
- **FrameMaterial** (FrameMaterial, String, 5): **Domain field (DomainName = "ssDomainFrameMaterial")**. ***NOT USED.***
- **FrameType** (FrameType, String, 5): Data entry field. ***NOT USED.***
- **Top_Elev** (Top_Elev, Double, 8): Data entry field. Top of Manhole casting.
- **Bot_Elev** (Bot_Elev, Double, 8): Data entry field. Elevation at bottom of vault.

- **RefNo** (RefNo, Double, 8): ***NOT USED.*** Legacy data.
- **UDI** (UDI, String, 9): Data entry field. Catalog number for GIS. Prefix of two characters with "VA" for vault, three numbers for the map area and four digits for a misc. number at the end.
- **Owner** (Owner, String, 5): **Domain field (DomainName = "ssDomainOwner")**. All City of Duluth.
- **orgMHType** (orgMHType, String, 2): Legacy data. ***NOT USED.***
- **orgSymbolName** (orgSymbolName, String, 32): Legacy data. ***NOT USED.***
- **CoverType** (CoverType, String, 5): Data entry field. All Cover.
- **Comments** (Comments, String, 100): Text entry field.
- **Shape** (Shape, Geometry, 8): System generated.

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sde.SDE.SanitarySewerNetwork

9. ****sde.SDE.ssAnnoLeaders** **This table is used to connect the annotation to feature. These are no longer updated.**

- **OBJECTID** (OBJECTID, OID, 4):
- **INT_REFNO** (INT_REFNO, Double, 8):
- **UDI** (UDI, String, 64):
- **Type** (Type, String, 1):
- **Shape** (Shape, Geometry, 8):
- **Shape.len** (Shape.len, Double, 0):

10. ****sde.SDE.ssAnno** **This table has been replaced with labels. These are no longer updated.**

- **OBJECTID** (OBJECTID, OID, 4):
- **FeatureID** (FeatureID, Integer, 4):
- **ZOrder** (ZOrder, Integer, 4):
- **AnnotationClassID** (AnnotationClassID, Integer, 4):
- **Element** (Element, Blob, 0):
- **Type** (Type, String, 1):
- **SymbolID** (SymbolID, Integer, 4):
- **Status** (Status, SmallInteger, 2):
- **TextString** (TextString, String, 255):
- **FontName** (FontName, String, 255):
- **FontSize** (FontSize, Double, 8):
- **Bold** (Bold, SmallInteger, 2):
- **Italic** (Italic, SmallInteger, 2):
- **Underline** (Underline, SmallInteger, 2):
- **VerticalAlignment** (VerticalAlignment, SmallInteger, 2):
- **HorizontalAlignment** (HorizontalAlignment, SmallInteger, 2):
- **XOffset** (XOffset, Double, 8):
- **YOffset** (YOffset, Double, 8):
- **Angle** (Angle, Double, 8):
- **FontLeading** (FontLeading, Double, 8):
- **WordSpacing** (WordSpacing, Double, 8):
- **CharacterWidth** (CharacterWidth, Double, 8):
- **CharacterSpacing** (CharacterSpacing, Double, 8):

- **FlipAngle** (FlipAngle, Double, 8):
- **Override** (Override, Integer, 4):
- **SHAPE** (SHAPE, Geometry, 8):
- **SHAPE.area** (SHAPE.area, Double, 0):
- **SHAPE.len** (SHAPE.len, Double, 0):

11. **sde.SDE.ssLateralLine – Line feature class showing sanitary sewer services from the main to the building.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** Domestic for most except large businesses. Options = Domestic, Commercial, Industrial, & Combination.
- **InstallDate** (InstallDate, Date, 36): Data entry field. Date lateral was installed.
- **WorkorderID** (WorkorderID, String, 20): Data entry field. Project number.
- **FlowMeasurementID** (FlowMeasurementID, String, 255): ***NOT USED.***
- **Diameter** (Diameter, Integer, 4): **Domain field (DomainName = "ssDomainMainDistributionDiameter")**. Size of pipe. Options = 0 : Unknown | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 150 : 1.5 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 15 : 15 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 21 : 21 inch | 22 : 22 inch | 24 : 24 inch | 26 : 26 inch | 27 : 27 inch | 28 : 28 inch | 30 : 30 inch | 32 : 32 inch | 34 : 34 inch | 36 : 36 inch | 40 : 40 inch | 42 : 42 inch | 45 : 45 inch | 48 : 48 inch | 54 : 54 inch | 55 : 55 inch | 60 : 60 inch | 72 : 72 inch | 84 : 84 inch | 122 : 122 inch | 125 : 1.25 inch.
- **Material** (Material, String, 5): **Domain field (DomainName = "ssDomainLateralMaterial")**. Material of pipe. Options = CI : Cast Iron | DI : Ductile Iron | STL : Steel | HDPE : High Density Polyethylene | VCP : Vitreous Clay Pipe | PVC : Polyvinyl Chloride | UNK : Unknown.
- **Manufacturer** (Manufacturer, String, 5): ***NOT USED.***
- **Comments** (Comments, String, 100):
- **Basin** (Basin, SmallInteger, 2): Data entry field. Basin to which the service flows into.
- **WaterType** (WaterType, String, 10): **Domain field (DomainName = "ssDomainWaterType")**. All sewage. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Treated : Treated Water | Sewage : Sewage.
- **Year_Built** (Year_Built, SmallInteger, 2): Data entry field. Date service installed.
- **LENGTH_NOMINAL** (LENGTH_NOMINAL, Double, 8): Data entry field. This is a length field based on the system generated shape.len field.
- **GISOBJID** (GISOBJID, Integer, 4): System generated. Infor EAM number.
- **UDI** (UDI, String, 9): Data entry field. Prefix is LL, the next three numbers are the map area number and the last four numbers are a misc. number starting at 0001.
- **Shape** (Shape, Geometry, 8): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of the sewer service pipe. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **Lining** (Lining, String, 1): **Domain field (DomainName = "Yes_No_Indicator")**. This designates if the service was lined or not. Options = Yes/No.
- **Shape.len** (Shape.len, Double, 0): System generated.

12. **sde.SDE.ssMeter **There are no records in this table.**

- **OBJECTID** (OBJECTID, OID, 4):
- **AncillaryRole** (AncillaryRole, SmallInteger, 2):
- **Enabled** (Enabled, SmallInteger, 2):
- **Subtype** (Subtype, Integer, 4):
- **InstallDate** (InstallDate, Date, 36):
- **Rotation** (Rotation, Double, 8):
- **LifecycleStatus** (LifecycleStatus, String, 20):
- **WorkorderID** (WorkorderID, String, 20):
- **Elevation** (Elevation, Double, 8):
- **Diameter** (Diameter, Integer, 4):
- **FlowRange** (FlowRange, String, 20):
- **MeasurementDate** (MeasurementDate, Date, 36):
- **WaterType** (WaterType, String, 10):
- **Manufacturer** (Manufacturer, String, 5):
- **Shape** (Shape, Geometry, 8):

13. sde.SDE.ssSystemValve**- Point feature class showing valves used to shut down sanitary sewer lines.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** Type of valve. Some choices seem to be more of a use than a type. Subtypes = Ball, Butterfly, Cone, Gate, Plug, Weir, & Overflow Invert.
- **Rotation** (Rotation, Double, 8): ***NOT USED.***
- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of the valve. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **Elevation** (Elevation, Double, 8): Data entry field. Elevation of the valve.
- **Diameter** (Diameter, Integer, 4): **Domain field (DomainName = "ssDomainMainDistributionDiameter")**. Size of the valve in nominal diameter. Options = 0 : Unknown | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 150 : 1.5 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 15 : 15 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 21 : 21 inch | 22 : 22 inch | 24 : 24 inch | 26 : 26 inch | 27 : 27 inch | 28 : 28 inch | 30 : 30 inch | 32 : 32 inch | 34 : 34 inch | 36 : 36 inch | 40 : 40 inch | 42 : 42 inch | 45 : 45 inch | 48 : 48 inch | 54 : 54 inch | 55 : 55 inch | 60 : 60 inch | 72 : 72 inch | 84 : 84 inch | 122 : 122 inch | 125 : 1.25 inch.
- **BypassValve** (BypassValve, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False. All values are false except for one.
- **ClockwiseToClose** (ClockwiseToClose, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False. All are True showing they are all clockwise to close.
- **CurrentlyOpen** (CurrentlyOpen, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False indicating if the valve is open = True.
- **Motorized** (Motorized, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False whether the valve is motorized. All are False indicating they are not motorized.

- **NormallyOpen** (NormallyOpen, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False incidicating True=open.
- **PercentOpen** (PercentOpen, Integer, 4):
- **PressureSetting** (PressureSetting, String, 20): ***NOT USED.***
- **RegulationType** (RegulationType, String, 20): ***NOT USED.***
- **TurnsToClose** (TurnsToClose, Double, 8): ***NOT USED.***
- **WaterType** (WaterType, String, 10): **Domain field (DomainName = "ssDomainWaterType")**. All are sewage. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Treated : Treated Water | Sewage : Sewage.
- **Job** (Job, String, 10): Data entry field. Project number.
- **File_** (File_, String, 10): Data entry field. Vault file number.
- **UDI** (UDI, String, 9): Data entry field. Prefix of two letters, three numbers for the map area, and four numbers for misc. number starting with 0001.
- **Owner** (Owner, String, 5): **Domain field (DomainName = "ssDomainOwner")**. All but two are City of Duluth. Options = CITY : CIty of Duluth | HERM : Hermantown | WL : WLSSD | RL : Rice Lake TWP | UNK : Unknown | PRIV : Private.
- **WSID** (WSID, Integer, 4): Data entry field for an unkown id.
- **Manufacturer** (Manufacturer, String, 5): **Domain field (DomainName = "ssDomainValveManufacturer")**. ***NOT USED.***
- **Material** (Material, String, 5): **Domain field (DomainName = "ssDomainJunctionMaterial")**. Material of pipe. Options = AC : Asbestos Concrete | BRZ : Bronze | Cl : Clay | STL : Steel | DI : Ductile Iron | CI : Cast Iron | HDPE : High-Density Polyethylene | PB : Lead | WO : Wood | PVC : Poly Vinyl Chloride | UNK : Unknown | CU : Copper | CON : Concrete.
- **Comments** (Comments, String, 50):
- **Year_Built** (Year_Built, SmallInteger, 2): Data entry field. Date of valve installation.
- **XCoord_GPS** (XCoord_GPS, Double, 8): Data entry field. This value is calculated in from ArcMap.
- **YCoord_GPS** (YCoord_GPS, Double, 8): Data entry field. This value is calculated in from ArcMap.
- **Date_GPS** (Date_GPS, Date, 36): Date of GPS point if one was taken at the location. To check if GPS was taken at given utility, turn on layer "GPS Points."
- **Shape** (Shape, Geometry, 8): System generated.

14. **sde.SDE.ssControlValve – Point feature class showing sanitary sewer valves used for air relief or check valves.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** Type or use of control valve. Subtypes = Air Relief & Check.
- **FacilityID** (FacilityID, String, 20): ***NOT USED.***
- **Rotation** (Rotation, Double, 8): ***NOT USED.***
- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of the valve. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **Elevation** (Elevation, Double, 8): ***NOT USED.***

- **Diameter** (Diameter, Integer, 4): **Domain field (DomainName = "ssDomainMainDistributionDiameter")**. Diameter of valve in nominal diameter. Options = 0 : Unknown | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 150 : 1.5 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 15 : 15 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 21 : 21 inch | 22 : 22 inch | 24 : 24 inch | 26 : 26 inch | 27 : 27 inch | 28 : 28 inch | 30 : 30 inch | 32 : 32 inch | 34 : 34 inch | 36 : 36 inch | 40 : 40 inch | 42 : 42 inch | 45 : 45 inch | 48 : 48 inch | 54 : 54 inch | 55 : 55 inch | 60 : 60 inch | 72 : 72 inch | 84 : 84 inch | 122 : 122 inch | 125 : 1.25 inch.
- **WaterType** (WaterType, String, 10): **Domain field (DomainName = "ssDomainWaterType")**. All are sewage. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Treated : Treated Water | Sewage : Sewage.
- **UDI** (UDI, String, 9): Data entry field. Prefix of two letters, the next three numbers are the map area, and the last four numbers are the misc. number starting with 0001.
- **Comments** (Comments, String, 100):
- **Owner** (Owner, String, 5): **Domain field (DomainName = "ssDomainOwner")**. Most of the ones in the table are owned by WLSSD. A few are City of Duluth. Options = CITY : CIty of Duluth | HERM : Hermantown | WL : WLSSD | RL : Rice Lake TWP | UNK : Unknown | PRIV : Private.
- **Basin** (Basin, SmallInteger, 2): Data entry field. Basin that the pipe resides in that the control valve is attached.
- **Job** (Job, String, 10): Data entry field. Project number.
- **BookPage** (BookPage, String, 10): ***NOT USED.***
- **Material** (Material, String, 5): **Domain field (DomainName = "ssDomainJunctionMaterial")**. Material of the pipe the valve is attached to. Options = AC : Asbestos Concrete | BRZ : Bronze | Cl : Clay | STL : Steel | DI : Ductile Iron | CI : Cast Iron | HDPE : High-Density Polyethylene | PB : Lead | WO : Wood | PVC : Poly Vinyl Chloride | UNK : Unknown | CU : Copper | CON : Concrete.
- **Manufacturer** (Manufacturer, String, 5): ***NOT USED.***
- **File_** (File_, String, 10): Data entry field. Vault file number.
- **WSID** (WSID, Integer, 4): I don't know what this represents.
- **YEAR_BUILT** (YEAR_BUILT, SmallInteger, 2): Data entry field. Year of installation.
- **XCoord_GPS** (XCoord_GPS, Double, 8): Data entry field. This value is calculated in from ArcMap.
- **YCoord_GPS** (YCoord_GPS, Double, 8): Data entry field. This value is calculated in from ArcMap.
- **Date_GPS** (Date_GPS, Date, 36): Date of GPS point if one was taken at the location. To check if GPS was taken at given utility, turn on layer "GPS Points."
- **Shape** (Shape, Geometry, 8): System generated.

15. **sde.SDE.ssFitting – Point feature class showing sanitary sewer fittings along the pipe, mostly caps.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AncillaryRole** (ANCILLARYROLE, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** Type of sewer fitting. Subtypes = Cap, Bend, Coupling, Expansion Joint, Sleeve, Tap, Tee, Weld, Wye, Saddle, Riser, Offset, Cross, Reducer, & Apron.
- **Rotation** (Rotation, Double, 8): ***NOT USED.***
- **Material** (Material, String, 20): **Domain field (DomainName = "ssDomainJunctionMaterial")**. Material of fitting. Options = AC : Asbestos Concrete | BRZ : Bronze | Cl : Clay | STL : Steel | DI :

Ductile Iron | CI : Cast Iron | HDPE : High-Density Polyethylene | PB : Lead | WO : Wood | PVC : Poly Vinyl Chloride | UNK : Unknown | CU : Copper | CON : Concrete.

- **Diameter1** (Diameter1, Integer, 4): **Domain field (DomainName = "ssDomainMainDistributionDiameter")**. Diameter of one end of the fitting. Options = 0 : Unknown | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 150 : 1.5 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 15 : 15 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 21 : 21 inch | 22 : 22 inch | 24 : 24 inch | 26 : 26 inch | 27 : 27 inch | 28 : 28 inch | 30 : 30 inch | 32 : 32 inch | 34 : 34 inch | 36 : 36 inch | 40 : 40 inch | 42 : 42 inch | 45 : 45 inch | 48 : 48 inch | 54 : 54 inch | 55 : 55 inch | 60 : 60 inch | 72 : 72 inch | 84 : 84 inch | 122 : 122 inch | 125 : 1.25 inch.
- **Diameter2** (Diameter2, Integer, 4): **Domain field (DomainName = "ssDomainMainDistributionDiameter")**. Diameter of one end of the fitting. Same options as Diameter1.
- **Diameter3** (Diameter3, Integer, 4): **Domain field (DomainName = "ssDomainMainDistributionDiameter")**. Diameter of one end of the fitting. Same options as Diameter1.
- **Diameter4** (Diameter4, Integer, 4): **Domain field (DomainName = "ssDomainMainDistributionDiameter")**. Diameter of one end of the fitting. Same options as Diameter1.
- **WaterType** (WaterType, String, 10): **Domain field (DomainName = "ssDomainMainDistributionDiameter")**. All are sewage. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Treated : Treated Water | Sewage : Sewage.
- **UDI** (UDI, String, 9): Data entry field. Prefix is two letters to signify the fitting type, the next three numbers are the map area and the last four numbers are a misc. number starting at 0001.
- **Owner** (Owner, String, 5): **Domain field (DomainName = "ssDomainOwner")**. All but a few are City of Duluth. This is based on the pipe the fitting is attached to. Options = CITY : CIty of Duluth | HERM : Hermantown | WL : WLSSD | RL : Rice Lake TWP | UNK : Unknown | PRIV : Private.
- **Comments** (Comments, String, 100):
- **Basin** (Basin, SmallInteger, 2): Data entry field. Basin number for the pipe the fitting is attached to.
- **Elevation** (Elevation, Double, 8): Data entry field. Only two features have an elevation.
- **BookPage** (BookPage, String, 10): Legacy data, ***NOT USED.***
- **Job** (Job, String, 10): Data entry field. Project number.
- **File_** (File_, String, 10): Data entry field. Vault file number.
- **Manufacturer** (Manufacturer, String, 5): **Domain field (DomainName = "ssDomainFittingManufacturer")**. Only about four features have a value. ***NOT USED.***
- **WSID** (WSID, Integer, 4): I don't know what this value means.
- **YEAR_BUILT** (YEAR_BUILT, SmallInteger, 2): Data entry field. Year of fitting installation.
- **WLSSD_INLET** (WLSSD_INLET, SmallInteger, 2): Data entry field. Only two features have a value. ***NOT USED.***
- **XCoord_GPS** (XCoord_GPS, Double, 8): Data entry field. This value is calculated in from ArcMap.
- **YCoord_GPS** (YCoord_GPS, Double, 8): Data entry field. This value is calculated in from ArcMap.
- **Date_GPS** (Date_GPS, Date, 36): Date of GPS point if one was taken at the location. To check if GPS was taken at given utility, turn on layer "GPS Points."**GISOBJID** (GISEAMID, Integer, 4): System generated. Infor EAM number.
- **Install_Date** (Install_Date, Date, 36): Data entry field. Date of fitting installation.
- **Shape** (Shape, Geometry, 8): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of the fitting. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.

16. **sde.SDE.ssNetworkStructure – Point features representing sanitary sewer Lift Stations, or Grinder Stations.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.** Lift station for pressurized pipe, pump station is the same as a lift station, production well is for water treatment plant, storage basin is a holding basin to clean the water, treatment plant is for making potable water or sewage treatment, discharge structure is placing water back into the river, split manhole (I don't know), diversion chamber is for directing overflow water, meter box is for holding a meter, valve vault is to house large valves, vault is a large structure for fittings, grinder station is a lift station for an individual home. Subtypes = Lift Station, Pump Station, Production Well, Storage Basin, Treatment Plant, Discharge Structure, Split, Manhole, Diversion Chamber, Diversion Point, Meter Box, Valve Vault, Vault, & Grinder Station.
- **Rotation** (Rotation, Double, 8): ***NOT USED***
- **WorkorderID** (WorkorderID, String, 20): Data entry field. Project number
- **NetworkOID** (NetworkOID, Integer, 4): Data entry field. This might be a relationship field.
- **WaterType** (WaterType, String, 10): **Domain field (DomainName = "ssDomainWaterType")**. All sewage. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Treated : Treated Water | Sewage : Sewage,
- **Owner** (Owner, String, 15): **Domain field (DomainName = "ssDomainOwner")**. Owner of structure. Options = CITY : CIty of Duluth | HERM : Hermantown | WL : WLSSD | RL : Rice Lake TWP | UNK : Unknown | PRIV : Private.
- **Comments** (Comments, String, 100): Text entry field.
- **Top_Elev** (Top_Elev, Double, 8): Data entry field. Elevation of top of structure
- **Bot_Elev** (Bot_Elev, Double, 8): Data entry field. Elevation of bottom of structure (invert).
- **UDI** (UDI, String, 9): Data entry field. Catalog number based on map page polygon.
- **Invert_Elev** (Invert_Elev, Double, 8): Data entry field. Same as bottom elevation.
- **Basin** (Basin, SmallInteger, 2): Data entry field. Data entry field. Based on the sewage basin the structure resides in.
- **Job** (Job, String, 10): Data entry field. Same as Work Order ID. Project number.
- **BookPage** (BookPage, String, 10): ***NOT USED.***
- **File_** (File_, String, 10): ***NOT USED.***
- **WSID** (WSID, Integer, 4): Data entry field. I don't know.
- **Overflow_ID** (Overflow_ID, SmallInteger, 2): Data entry field. Related to the lift station that would overflow.
- **LABEL** (LABEL, String, 30): Data entry field. Name of structure.
- **Year_Built** (Year_Built, SmallInteger, 2): Data entry field. Year of structure construction.
- **WLSSD_INLET** (WLSSD_INLET, SmallInteger, 2): ***NOT USED.***
- **XCoord_GPS** (XCoord_GPS, Double, 8): Calculated field. Coordinate of structure.
- **YCoord_GPS** (YCoord_GPS, Double, 8): Calculated field. Coordinate of structure.
- **Date_GPS** (Date_GPS, Date, 36): Date of GPS point if one was taken at the location. To check if GPS was taken at given utility, turn on layer "GPS Points."

- **Edit_Init** (Edit_Init, String, 5): ***NOT USED.*** Name of person editing GIS data. GIS Administrators will change field to editor_tracking in future.
- **GISOBJID** (GISOBJID, Integer, 4): System generated. Infor EAM number.
- **Install_Date** (Install_Date, Date, 36): Data entry field. Date of structure construction.
- **Shape** (Shape, Geometry, 8): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of the structure. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.

17. **sde.SDE.ssGravityMain – Line feature class showing sanitary sewer main pipes that use gravity.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Subtype** (Subtype, Integer, 4): **Domain field (DomainName =)**. Collector is the standard pipe for collecting sewage from homes, culvert is ***NOT USED***, inline storage is a buried pipe used to house overflow sewage during period of overflow, interceptor is a major collector with minimal connections, inverted siphon (I don't know), open channel is ***NOT USED***, outfall is ***NOT USED***, overflow is the pipe at a storage basin to allow sewage to escape the structure if full, tunnel is a large possibly deep interceptor, network connection is a non-pipe line to connect structures in a network.
- **Roughness** (Roughness, Double, 8): ***NOT USED***
- **BarrelCount** (BarrelCount, Integer, 4): ***NOT USED***
- **UpstreamInvert** (UpstreamInvert, Double, 8): Data entry field. Elevation of upper end of pipe. This is provided on record drawing.
- **DownstreamInvert** (DownstreamInvert, Double, 8): Data entry field. Elevation of lower end of pipe. This is provided on record drawing.
- **NominalDiameter** (NominalDiameter, Integer, 4): **Domain field (DomainName = "ssDomainMainDistributionDiameter")**. Diameter of pipe in inches. Options = 0 : Unknown | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 150 : 1.5 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 15 : 15 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 21 : 21 inch | 22 : 22 inch | 24 : 24 inch | 26 : 26 inch | 27 : 27 inch | 28 : 28 inch | 30 : 30 inch | 32 : 32 inch | 34 : 34 inch | 36 : 36 inch | 40 : 40 inch | 42 : 42 inch | 45 : 45 inch | 48 : 48 inch | 54 : 54 inch | 55 : 55 inch | 60 : 60 inch | 72 : 72 inch | 84 : 84 inch | 122 : 122 inch | 125 : 1.25 inch.
- **Slope** (Slope, Double, 8): Data entry field. Slope of pipe. This is provided on record drawing.
- **FlowMeasurementID** (FlowMeasurementID, String, 10): ***NOT USED.***
- **WaterType** (WaterType, String, 10): **Domain field (DomainName = "ssDomainWaterType")**. All sewage. Options = Effluent : Waste Water Effluent | Reclaimed : Reclaimed Water | Raw : Raw Water | Combined : Combined Waste Water | Storm : Storm Runoff | Potable : Potable Water | Treated : Treated Water | Sewage : Sewage.
- **Material** (Material, String, 5): **Domain field (DomainName = "ssDomainSewerMainMaterial")**. Polyvinyl Chloride is our standard small collector material, Reinforced Concrete is used for larger or high volume lines, Circular brick is an old hand constructed pipe, non-reinforced concrete pipe (I don't know when this would be used), ductile iron pipe is used for pressurized mains or mains placed within 10' of a water main, corrugated metal pipe is ***NOT USED*** for sewage, steel pipe (***NOT USED***), poly-ethylene is used for pressurized mains, cast iron is an old material used for pressurized mains, poured-in-place concrete is an old material, brick arch pipe is an old material hand built in place, slip lined is a pipe slipped inside a larger pipe and sealed on both ends, asbestos pipe is an old material, truss pipe (I don't know), rock tunnel (I don't know), reinforced concrete arch pipe is the same as RCP pipe with a difference cross-section to provide a different flow, high density

polyethylene is the same as polyethylene with a difference density and melting point, cured in place polyethylene is a lining type of pipe, corrugated polyethylene pipe is for storm water, vitreous clay pipe is an old material. Options = PPC : Poured-In-Place Concrete | SLL : Slip-Lined | CI : Cast Iron | ROK : Rock Tunnel | CIPP : Cured-in-Place Polyethylene | DI : Ductile Iron | NCP : Non-Reinforced Concrete Perforated Pipe | CPD : Corrugated Polyethylene Drainage Pipe | RCP : Reinforced Concrete | HDPE : High-Density Polyethylene | ABS : Truss Pipe | CBR : Circular Brick | STL : Steel | PVC : Polyvinyl Chloride | ACP : Asbestos | VCP : Vitreous Clay Pipe | PE : Poly-Ethylene | RCA : Reinforced Concrete - Arch type | BRA : Brick Arch | CMP : Corrugated Metal Pipe (Iron or Steel).

- **ExteriorCoating** (ExteriorCoating, String, 5): ***NOT USED.***
- **JointType1** (JointType1, String, 5): **Domain field (DomainName = "ssDomainJointType")**. This is how the pipe connects to another pipe. Options = WELD : Weld | SLV : Sleeve | MJ : Mechanical Joint | SJ : Slip Joint | FUSED : Fused | UNK : Unknown | FL : Flange | THRD : Threaded | BOND : Bond.
- **JointType2** (JointType2, String, 5): **Domain field (DomainName = "ssDomainJointType")**. This is how the pipe connects to another pipe.
- **LiningType** (LiningType, String, 5): **Domain field (DomainName = "ssDomainLiningType")**. CIPP is the only type. This is a liner slipped into the pipe, inflated and cured inside the pipe.
- **PipeClass** (PipeClass, String, 5): ***NOT USED.***
- **CrossSectionShape** (CrossSectionShape, String, 5): All circular.
- **UDI** (UDI, String, 9): Data entry field. Catalog number with a prefix of SL and a map number based on map area the pipe resides, and the last four numbers are a misc. number.
- **UDI_From** (UDI_From, String, 9): Data entry field. Catalog number of the structure the pipe starts at.
- **Rock** (Rock, SmallInteger, 2): **Domain field (DomainName = "ssDomainBoolean")**. True/False for whether there's rock nearby the pipe.
- **Alt_DropElev** (Alt_DropElev, Double, 8): Data entry field. This is used if the pipe has a drop connection at the downstream manhole to record the elevation.
- **Alt_UpElev** (Alt_UpElev, Double, 8): Data entry field. This is used if the pipe has a drop connection at the downstream manhole to record the elevation.
- **Comment** (Comment, String, 100):
- **Label** (Label, String, 100): Data entry field. This was used to record misc. information about the pipe. Not currently used.
- **Label2** (Label2, String, 100): Data entry field. This was used to record misc. information about the pipe. Not currently used.
- **BookPage** (BookPage, String, 10): Data entry field. Sewer book number and page number.
- **Job** (Job, String, 10): Data entry field. Project number.
- **File_** (File_, String, 8): Date entry field. Vault file number.
- **Basin** (Basin, SmallInteger, 2): Data entry field. Number of the basin that the pipe is part of.
- **MapNum** (MapNum, String, 3): Data entry field. ***NOT USED.***
- **LineNum** (LineNum, String, 4): Data entry field. ***NOT USED.***
- **Old_Basin** (Old_Basin, String, 5): Data entry field. ***NOT USED.***
- **Old_BsnNum** (Old_BsnNum, String, 2): Data entry field. ***NOT USED.***
- **Old_BsnSub** (Old_BsnSub, String, 1): Data entry field. ***NOT USED.***
- **UDI_To** (UDI_To, String, 9): Data entry field. Catalog number of the structure the pipe flows into.
- **PipeLength** (PipeLength, Double, 8): Data entry field. Length of pipe in feet.
- **PipeHeight** (PipeHeight, Double, 8): Data entry field. ***NOT USED.***
- **PipeWidth** (PipeWidth, Double, 8): Data entry field. ***NOT USED.***

- **Owner** (Owner, String, 5): **Domain field (DomainName = "ssDomainOwner")**. Owner of the pipe. Options = CITY : CIty of Duluth | HERM : Hermantown | WL : WLSSD | RL : Rice Lake TWP | UNK : Unknown | PRIV : Private.
- **Manufacturer** (Manufacturer, String, 5): Data entry field. ***NOT USED.***
- **Year_Built** (Year_Built, SmallInteger, 2): Data entry field. Year of pipe construction.
- **WLSSD_Inlet** (WLSSD_Inlet, SmallInteger, 2): Data entry field. I don't know what this means.
- **Location** (Location, String, 28): Data entry field. Name of the street where the pipe resides.
- **FromLoc** (FromLoc, String, 28): Data entry field. Name of the street the pipe flows from.
- **ToLoc** (ToLoc, String, 28): Data entry field. Name of the street the pipe flows to.
- **Edit_Init** (Edit_Init, String, 5): ***NOT USED.*** Name of the person that edits the pipe in GIS.
- **GISOBJID** (GISOBJID, Integer, 4): System generated. Infor EAM number.
- **Install_Date** (Install_Date, Date, 36): Data entry field. Date the pipe was installed.
- **Shape** (Shape, Geometry, 8): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. Status of the pipe. Active for in service, Abandoned for pipe not in use but still in the ground, removed for pipe dug out of the ground, proposed for pipe to be installed in future.
- **Length_Plan** (Length_Plan, Double, 8): Data entry field. Length of pipe from record drawing.
- **Lining_Date** (Lining_Date, Date, 36): Data entry field. Date pipe was lined.
- **Shape.len** (Shape.len, Double, 0): System generated.

18. **sde.SDE.ssWyes – Point feature class of fittings at the main to connect sanitary sewer services.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **PARCEL** (PARCEL, String, 17): Data entry field. Parcel number of property served by sewer service.
- **LineNbr** (LineNbr, String, 9): Data entry field. UDI number of sanitary line the service flows into.
- **DistCLineMH** (DistCLineMH, Double, 8): Data entry field. Measured distance from the upstream manhole to the wye.
- **SideOfLine** (SideOfLine, String, 1): Looking from the upstream manhole this field describes which side of the sanitary main the wye is coming into the main from.
- **ApplicationNbr** (ApplicationNbr, Double, 8): Data entry field. Misc. number of service.
- **IntoMH** (IntoMH, String, 1): Data entry field. Yes / No if service flows directly into a manhole.
- **BldgName** (BldgName, String, 80): Data entry field. Name of structure sewer serves.
- **Within200Ft** (Within200Ft, String, 1): Data entry field. I don't know what this is.
- **JointConnect** (JointConnect, String, 1): Data entry field. I don't know what this is.
- **ProjectNumber** (ProjectNumber, String, 10): Data entry field. Project number for the sewer wye.
- **ServiceNumber** (ServiceNumber, String, 9): Data entry field. Misc. number for the service.
- **WyeSize** (WyeSize, String, 20): Data entry field. Description of the size of the wye.
- **WyeNbr** (WyeNbr, Double, 8): Data entry field. Misc. number for the wye.
- **x_Coord** (x_Coord, Double, 8): Data entry field. Calculated in from a GPS shot.
- **y_Coord** (y_Coord, Double, 8): Data entry field. Calculated in from a GPS shot.
- **Basin** (Basin, SmallInteger, 2): Data entry field. Basin number for the wye.
- **Install_Date** (Install_Date, Date, 36): Data entry field. Date the wye was installed.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.Status of the wye fitting.
- **Shape** (Shape, Geometry, 8): System generated.
- **GISOBJID** (GISOBJID, Integer, 4): System Generated. Infor EAM number.
- **WyeNbr_ID** (WyeNbr_ID, String, 9): Data entry field. Misc. number for wye.
- **Address** (Address, String, 39): Data entry field. Address of building that the sewer serves.

- **Lining** (Lining, String, 1): **Domain field (DomainName = "Yes_No_Indicator").** Yes / No if the sewer service has been lined.

19. **sde.SDE.ssPump – Point feature to represent a sanitary sewer pump.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Subtype** (Subtype, Integer, 4): Data entry field. The table only has 11 records and this field shows all 1's.
- **LocationDescription** (LocationDescription, String, 200): Data entry field. Description of the location of the lift station the pump is housed in.
- **Rotation** (Rotation, Double, 8): ***NOT USED.***
- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of the utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. All are "Active".
- **Elevation** (Elevation, Double, 8): ***NOT USED.***
- **WaterType** (WaterType, String, 255): **Domain field (DomainName =)**. All are "Sewage".
- **InletDiameter** (InletDiameter, Integer, 4): **Domain field (DomainName = "ssDomainMainDistributionDiameter")**. Diameter of inlet pipe. Options = 0 : Unknown | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 150 : 1.5 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 15 : 15 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 21 : 21 inch | 22 : 22 inch | 24 : 24 inch | 26 : 26 inch | 27 : 27 inch | 28 : 28 inch | 30 : 30 inch | 32 : 32 inch | 34 : 34 inch | 36 : 36 inch | 40 : 40 inch | 42 : 42 inch | 45 : 45 inch | 48 : 48 inch | 54 : 54 inch | 55 : 55 inch | 60 : 60 inch | 72 : 72 inch | 84 : 84 inch | 122 : 122 inch | 125 : 1.25 inch.
- **DischargeDiameter** (DischargeDiameter, Integer, 4): **Domain field (DomainName = "ssDomainMainDistributionDiameter")**. Diameter of outlet pipe. Options = 0 : Unknown | 1 : 1 inch | 2 : 2 inch | 3 : 3 inch | 4 : 4 inch | 150 : 1.5 inch | 6 : 6 inch | 8 : 8 inch | 10 : 10 inch | 12 : 12 inch | 14 : 14 inch | 15 : 15 inch | 16 : 16 inch | 18 : 18 inch | 20 : 20 inch | 21 : 21 inch | 22 : 22 inch | 24 : 24 inch | 26 : 26 inch | 27 : 27 inch | 28 : 28 inch | 30 : 30 inch | 32 : 32 inch | 34 : 34 inch | 36 : 36 inch | 40 : 40 inch | 42 : 42 inch | 45 : 45 inch | 48 : 48 inch | 54 : 54 inch | 55 : 55 inch | 60 : 60 inch | 72 : 72 inch | 84 : 84 inch | 122 : 122 inch | 125 : 1.25 inch.
- **RatedFlow** (RatedFlow, String, 20): ***NOT USED.***
- **RatedPressure** (RatedPressure, String, 20): ***NOT USED.***
- **TotalDynamicHead** (TotalDynamicHead, String, 20): Data entry field. Description of pump capacity.
  NetworkOID (NetworkOID, Integer, 4): I don't know what this is.
- **Basin** (Basin, SmallInteger, 2): Data entry field. Basin number of the basin the pump is pushing from.
- **Owner** (Owner, String, 5): **Domain field (DomainName =)**. Owner of the pump.
- **BookPage** (BookPage, String, 10): ***NOT USED.***
- **File_** (File_, String, 10): ***NOT USED.***
- **Job** (Job, String, 10): Data entry field. Project number.
- **UDI** (UDI, String, 9): ***NOT USED.***
- **Comments** (Comments, String, 100):
- **Manufacturer** (Manufacturer, String, 5): Data entry field. Company that manufactured pump.
- **Model** (Model, String, 20): Data entry field. Pump model number.
- **WSID** (WSID, Integer, 4): I don't know what this field is.
- **Year_Built** (Year_Built, SmallInteger, 2): Data entry field. Year the pump was installed.

- **Shape** (Shape, Geometry, 8): System generated.

20. **sde.SDE.ssManhole – Point feature class of sanitary sewer manholes.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Subtype** (Subtype, Integer, 4): Data entry field. 8500 of 9500 records are Null.
- **Rotation** (Rotation, Double, 8): ***NOT USED.***
- **WorkorderID** (WorkorderID, String, 20): Data entry field. Project number of project manhole was constructed under.
- **AccessDiameter** (AccessDiameter, Integer, 4): ***NOT USED.*** Most are unknown.
- **AccessType** (AccessType, String, 5): ***NOT USED.*** Most are unknown.
- **GroundType** (GroundType, String, 5): **Domain field (DomainName = "ssDomainGroundType")**. Shows what surrounds the manhole lie dirt for manholes out of the pavement, or blacktop for manholes in the pavement. Options = CON : Concrete | UNK : Unknown | ROCK : Rock | BLKT : Blacktop | DIRT : Dirt.
- **WallMaterial** (WallMaterial, String, 5): **Domain field (DomainName = "ssDomainWallMaterial")**. Type of manhole construction. Brick for manholes constructed in the field (old manholes.), Concrete for preformed manholes (new manholes). Options = UNK : Unknown | BRK : Brick | CON : Concrete.
- **WaterType** (WaterType, String, 10): All are sewage.
- **UDI** (UDI, String, 9): Data entry field. Catalog number based on the map number where the manhole is located with a prefix of SA for a normal manhole, SD for a drop manhole and WL for a manhole that belongs to WLSSD.
- **Owner** (Owner, String, 15): **Domain field (DomainName =)**. Most are City of Duluth, some are WLSSD, and a few are private.
- **Comments** (Comments, String, 100):
- **Basin** (Basin, SmallInteger, 2): Data entry. Sanitary sewer basin that the manhole is connected.
- **BookPage** (BookPage, String, 10): Data entry. Old data. ***NOT USED.***
- **Job** (Job, String, 10): Data entry. Project number for manhole installation.
- **File_** (File_, String, 10): Data entry. Project vault file number.
- **Rim_Elev** (Rim_Elev, Double, 8): Data entry. Elevation from record drawing to top of casting of manhole.
- **Drop_** (Drop_, SmallInteger, 2): Data entry. I think this is a Yes/No field if the sanitary manhole has a drop from an onlet pipe to the outlet pipe.
- **Storm** (Storm, SmallInteger, 2): I don't know what this field means.
- **Inv_Elev_Out** (Inv_Elev_Out, Double, 8): Data entry field. Elevation from the reord drawing to the low point of the outlet pipe leaving the manhole.
- **Inv_Elev_High** (Inv_Elev_High, Double, 8): Data entry field. This is the elevation from the record drawing to the pipe entering the manole with the highest elevation.
- **Inv_Elev_3** (Inv_Elev_3, Double, 8): Data entry field. Elevation from the record drawing for additional pipes entering the manhole.
- **Inv_Elev_4** (Inv_Elev_4, Double, 8): Data entry field. Elevation from the record drawing for additional pipes entering the manhole.
- **OverFlow_ID** (OverFlow_ID, SmallInteger, 2): Data entry field. Old field. We no longer have overflows.
- **OVERFLOW_LABEL** (OVERFLOW_LABEL, String, 50): Data entry field. Old field. We no longer have overflows.
- **YEAR_BUILT** (YEAR_BUILT, SmallInteger, 2): Data entry field. Year of manhole construction.

- **WLSSD_INLET** (WLSSD_INLET, SmallInteger, 2):
- **ChimneySeal** (ChimneySeal, SmallInteger, 2):
- **CSType** (CSType, String, 15):
- **CSManufacture** (CSManufacture, String, 15):
- **XCoord_GPS** (XCoord_GPS, Double, 8): Data entry field. Calculated in from GPS point location.
- **YCoord_GPS** (YCoord_GPS, Double, 8): Data entry field. Calculated in from GPS point location.
- **Date_GPS** (Date_GPS, Date, 36): Date of GPS point if one was taken at the location. To check if GPS was taken at given utility, turn on layer "GPS Points."
- **Edit_Init** (Edit_Init, String, 5): ***NOT USED.*** Name of person editing data.
- **GISOBJID** (GISOBJID, Integer, 4): Data entry field. This field is filled in by Infor EAM softeware during sync operation.
- **Install_Date** (Install_Date, Date, 36): Data entry field. Date of manhole installation.
- **Shape** (Shape, Geometry, 8): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. Status of manhole. Active for most, a few could be removed, or abandoned.

21. **sde.SDE.ssCleanOut – Point feature to represent an access point in sanitary sewer pipe.**

- **OBJECTID** (OBJECTID, OID, 4):
- **AncillaryRole** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.**
- **Rotation** (Rotation, Double, 8):
- **LifecycleStatus** (LifecycleStatus, String, 20):
- **Depth** (Depth, Double, 8): Data entry field. Depth of cleanout.
- **AccessDiameter** (AccessDiameter, Integer, 4):
- **AccessMaterial** (AccessMaterial, String, 20):
- **FrameMaterial** (FrameMaterial, String, 5):
- **UDI** (UDI, String, 9):
- **Top_Elev** (Top_Elev, Double, 8):
- **Bot_Elev** (Bot_Elev, Double, 8):
- **Owner** (Owner, String, 15):
- **Comments** (Comments, String, 100):
- **Basin** (Basin, SmallInteger, 2):
- **BookPage** (BookPage, String, 10):
- **Job** (Job, String, 10): Data entry field. Project number.
- **File_** (File_, String, 10):
- **YEAR_BUILT** (YEAR_BUILT, SmallInteger, 2):
- **Shape** (Shape, Geometry, 8):

22. **sde.SDE.ssDischargePoint – Point feature for points where sanitary sewage is discharged into river or lake.**

- **OBJECTID** (OBJECTID, OID, 4):
- **AncillaryRole** (ANCILLARYROLE, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.

- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Subtype** (Subtype, Integer, 4): **GIS Subtype field.**
- **Rotation** (Rotation, Double, 8):
- **LifecycleStatus** (LifecycleStatus, String, 20): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of the utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **AverageDischarge** (AverageDischarge, String, 10):
- **Diameter** (Diameter, Integer, 4):
- **DischargeID** (DischargeID, String, 20):
- **PeakDischarge** (PeakDischarge, String, 10):
- **PermitName** (PermitName, String, 30):
- **PermitID** (PermitID, String, 20):
- **WaterType** (WaterType, String, 10):
- **Owner** (Owner, String, 5):
- **Comments** (Comments, String, 100):
- **UDI** (UDI, String, 9):
- **Elevation** (Elevation, Double, 8):
- **Basin** (Basin, SmallInteger, 2):
- **BookPage** (BookPage, String, 10):
- **Job** (Job, String, 10): Data entry field. Project number.
- **File_** (File_, String, 10):
- **YEAR_BUILT** (YEAR_BUILT, SmallInteger, 2):
- **XCoord_GPS** (XCoord_GPS, Double, 8):
- **YCoord_GPS** (YCoord_GPS, Double, 8):
- **Date_GPS** (Date_GPS, Date, 36): Date of GPS point if one was taken at the location. To check if GPS was taken at given utility, turn on layer "GPS Points."
- **Shape** (Shape, Geometry, 8):

23. **sde.SDE.ssPressurizedMain – Line feature class showing sanitary sewer mains that are pressurized from a pump station or grinder pump.**

- **OBJECTID** (OBJECTID, OID, 4):
- **Enabled** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **Subtype** (Subtype, Integer, 4):
- **WorkorderID** (WorkorderID, String, 20):
- **ExteriorCoating** (ExteriorCoating, String, 20):
- **Roughness** (Roughness, Double, 8):
- **Depth** (Depth, Integer, 4):
- **Diameter** (Diameter, Integer, 4):
- **Material** (Material, String, 5):
- **FlowMeasurement_ID** (FlowMeasurement_ID, String, 5):
- **JointType1** (JointType1, String, 5):
- **JointType2** (JointType2, String, 5):
- **LiningType** (LiningType, String, 5):
- **PipeClass** (PipeClass, String, 5):
- **GroundSurfaceType** (GroundSurfaceType, String, 5):
- **PressureRating** (PressureRating, String, 5):
- **UDI** (UDI, String, 9):

- **RefNo** (RefNo, Double, 8):
- **UDI_From** (UDI_From, String, 9):
- **UDI_To** (UDI_To, String, 9):
- **Rock** (Rock, SmallInteger, 2):
- **Drop_Elev** (Drop_Elev, Double, 8):
- **Up_Elev** (Up_Elev, Double, 8):
- **Alt_Drop_Elev** (Alt_Drop_Elev, Double, 8):
- **Alt_Up_Elev** (Alt_Up_Elev, Double, 8):
- **Comment** (Comment, String, 100):
- **Label** (Label, String, 100):
- **Label2** (Label2, String, 100):
- **BookPage** (BookPage, String, 10):
- **Job** (Job, String, 10): Data entry field. Project number.
- **File_** (File_, String, 8):
- **MapNum** (MapNum, String, 3):
- **LineNum** (LineNum, String, 4):
- **Basin** (Basin, SmallInteger, 2):
- **Old_Basin** (Old_Basin, String, 5):
- **Old_BsnNum** (Old_BsnNum, String, 2):
- **Old_BsnSub** (Old_BsnSub, String, 1):
- **Old_BsnSub2** (Old_BsnSub2, String, 1):
- **Old_BsnBlank** (Old_BsnBlank, String, 1):
- **WaterType** (WaterType, String, 10):
- **Owner** (Owner, String, 5):
- **Manufacturer** (Manufacturer, String, 5):
- **Length_Nominal** (Length_Nominal, Double, 8):
- **Year_Built** (Year_Built, SmallInteger, 2):
- **WLSSD_Inlet** (WLSSD_Inlet, SmallInteger, 2):
- **Location** (Location, String, 28):
- **FromLoc** (FromLoc, String, 28):
- **ToLoc** (ToLoc, String, 28):
- **Edit_Init** (Edit_Init, String, 5):
- **GISOBJID** (GISOBJID, Integer, 4):
- **Install_Date** (Install_Date, Date, 36):
- **Shape** (Shape, Geometry, 8):
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "ssDomainLifecycleStatus")**. Status of the utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **Shape.len** (Shape.len, Double, 0):

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sde.SDE.Gas

1. ****sde.SDE.gasSubTransmissionMain – This table to be deleted.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.

- **ENABLED** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **CREATIONUSER** (Creation User, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATECREATED** (Date Created, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATEMODIFIED** (Date Modified, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **LASTUSER** (Last User, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **NOMINALDIAMETER** (Nominal Diameter, String, 10): Diameter of pipe.
- **NOMINALDIAMETERUNITS** (Nominal Diameter Units, String, 20): ***NOT USED.***
- **ACTUALINTERNALDIAMETER** (Actual Internal Diameter, Double, 8): Internal diameter. ***NOT USED.***
- **OPERATINGPRESSURE** (Operating Pressure, Integer, 4):
- **COATINGTYPE** (Coating Type, String, 5):
- **CPSYSTEMSTATUS** (CP System Status, Integer, 4):
- **DESIGNPRESSUREENTERED** (Design Pressure - Entered, Double, 8):
- **DESIGNPRESSURESTANDARD** (Design Pressure - Standard, Double, 8):
- **DESIGNPRESSUREUNITOFMEASURE** (Design Pressure - Unit of Measure, String, 20):
- **ELECTRICSURVEYINDICATOR** (Electric Survey Indicator, String, 5):
- **LASTLEAKSURVEY** (Last Leak Survey, Date, 36):
- **LEAKSURVEYFREQUENCY** (Leak Survey Frequency, String, 20):
- **OWNER** (OWNER, String, 20):
- **PIPESTATUSINDICATOR** (Pipe Status Indicator, Integer, 4):
- **PIPETESTDATE** (Pipe Test Date, Date, 36):
- **PIPETESTDURATION** (Pipe Test Duration, String, 20):
- **PIPETESTPRESSURE** (Pipe Test Pressure, String, 20):
- **PIPETESTTYPE** (Pipe Test Type, String, 5):
- **PIPETYPE** (Pipe Type, String, 5):
- **PLASTICTYPE** (Plastic Type, String, 5):
- **SOPENTERED** (System Operating Pressure - Entered, Double, 8):
- **SOPRANGE** (System Operating Pressure Range, String, 20):
- **SOPSTANDARD** (System Operating Pressure - Standard, Double, 8):
- **SOPUNITOFMEASURE** (System Operating Pressure - Unit of Measure, String, 20):
- **WALLTHICKNESS** (Wall Thickness, String, 10):
- **MEASUREDLENGTH** (Measured Length, Double, 8):
- **LENGTHSOURCE** (Length Source, String, 5):
- **MANUFACTURER** (Manufacturer, String, 20):
- **WORKORDERID** (Work Order ID, String, 20):
- **INSERVICEDATE** (In Service Date, Date, 36):
- **INSTALLATIONMETHOD** (Installation Method, String, 20):
- **PROPERTYUNITCODE** (Property Unit Code, String, 20):
- **CPSYSTEMOBJECTID** (CP System ObjectID, Integer, 4):
- **EMERISOLATIONSYSOBJECTID** (Emergency Isolation System ObjectID, Integer, 4):
- **GASPRESSURESYSTEMOBJECTID** (Gas Pressure System ObjectID, Integer, 4):
- **GASSYSTEMOBJECTID** (Gas System ObjectID, Integer, 4):
- **GASTRACEWEIGHT** (Gas Trace Weight, Integer, 4):
- **Material** (Material, String, 4):
- **SURFACELENGTH** (SURFACELENGTH, Double, 8):

- **SHAPE** (Shape, Geometry, 8):
- **DateAbandoned** (DateAbandoned, Date, 36):
- **SHAPE.len** (SHAPE.len, Double, 0): System-calculated length.

2. ****sde.SDE.gasLeakSurveyArea – This table to be deleted.**

- **OBJECTID** (OBJECTID, OID, 4):
- **CREATIONUSER** (Creation User, String, 20):
- **DATECREATED** (Date Created, Date, 36):
- **DATEMODIFIED** (Date Modified, Date, 36):
- **LASTUSER** (Last User, String, 20):
- **LEAKSURVEYAREAID** (Leak Survey Area ID, String, 20):
- **DUEDATE** (Due Date, Date, 36):
- **LASTSURVEYDATE** (Last Survey Date, Date, 36):
- **LEAKSURVEYDUEDATE** (Leak Survey Due Date, Date, 36):
- **LEAKSURVEYFREQUENCY** (Leak Survey Frequency, String, 5):
- **SURVEYAREATYPE** (Survey Area Type, String, 20):
- **TARGETMONTH** (Target Month, String, 20):
- **COMMENTS** (COMMENTS, String, 100):
- **SHAPE** (Shape, Geometry, 8):
- **SHAPE.area** (SHAPE.area, Double, 0):
- **SHAPE.len** (SHAPE.len, Double, 0):

3. **sde.SDE.gasMeterSetting – Point feature class that represents the gas Meter Setting at the building.**

- **OBJECTID** (OBJECTID, OID, 4): System-generated.
- **ANCILLARYROLE** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **ENABLED** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **CREATIONUSER** (Creation User, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATECREATED** (Date Created, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATEMODIFIED** (Date Modified, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **LASTUSER** (Last User, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **SUBTYPECD** (Subtype, Integer, 4): ***NOT USED.***
- **FACILITYID** (Facility ID, String, 20): ***NOT USED.***
- **PREMISE** (PREMISE, String, 50): Data Entry field. This is the address for the building.
- **BYPASSINDICATOR** (Bypass Indicator, String, 5): ***NOT USED.***
- **OWNER** (OWNER, String, 20): ***NOT USED.***
- **LOCATIONDESCRIPTION** (Location Description, String, 50): Data Entry field. This describes the location of the meter in relation to the building. This information comes from the “Service Card”.
- **GASTRACEWEIGHT** (Gas Trace Weight, Integer, 4): ***NOT USED.***
- **SYMBOLROTATION** (Symbol Rotation, Double, 8): ***NOT USED.***
- **SHAPE** (Shape, Geometry, 8): ***NOT USED.***

4. **sde.SDE.gasCPRectifierCable – Line feature class showing the cable that connects to the rectifier to the gas pipe.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **ENABLED** (Enabled, SmallInteger, 2): System field. Not currently used. Will be used by GIS administrators in future.
- **CREATIONUSER** (Creation User, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATECREATED** (Date Created, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATEMODIFIED** (Date Modified, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **LASTUSER** (Last User, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **SUBTYPECD** (Subtype, Integer, 4): ***NOT USED.***
- **DEPTH** (DEPTH, Double, 8): Depth in inches.
- **GAUGE** (Gauge, String, 5): Size of cable.
- **OPERATINGSTATUS** (Operating Status, String, 5): Active, or abandoned
- **MEASUREDLENGTH** (Measured Length, Double, 8): Length of cable.
- **LENGTHSOURCE** (Length Source, String, 5): ***NOT USED.***
- **COMMENTS** (COMMENTS, String, 100):
- **PROPERTYUNITCODE** (Property Unit Code, String, 20): ***NOT USED.***
- **GASTRACEWEIGHT** (Gas Trace Weight, Integer, 4): ***NOT USED.***
- **SHAPE** (Shape, Geometry, 8): System generated.
- **SHAPE.len** (SHAPE.len, Double, 0): System generated.

5. ****sde.SDE.gasGatheringFieldPipe This table to be deleted.**

- **OBJECTID** (OBJECTID, OID, 4):
- **ENABLED** (Enabled, SmallInteger, 2):
- **CREATIONUSER** (Creation User, String, 20):
- **DATECREATED** (Date Created, Date, 36):
- **DATEMODIFIED** (Date Modified, Date, 36):
- **LASTUSER** (Last User, String, 20):
- **NOMINALDIAMETER** (Nominal Diameter, String, 10):
- **NOMINALDIAMETERUNITS** (Nominal Diameter Units, String, 20):
- **ACTUALINTERNALDIAMETER** (Actual Internal Diameter, Double, 8):
- **OPERATINGPRESSURE** (Operating Pressure, Integer, 4):
- **COATINGTYPE** (Coating Type, String, 5):
- **CPSYSTEMSTATUS** (CP System Status, Integer, 4):
- **DESIGNPRESSUREENTERED** (Design Pressure - Entered, Double, 8):
- **DESIGNPRESSURESTANDARD** (Design Pressure - Standard, Double, 8):
- **DESIGNPRESSUREUNITOFMEASURE** (Design Pressure - Unit of Measure, String, 20):
- **ELECTRICSURVEYINDICATOR** (Electric Survey Indicator, String, 5):
- **LASTLEAKSURVEY** (Last Leak Survey, Date, 36):
- **LEAKSURVEYFREQUENCY** (Leak Survey Frequency, String, 20):
- **OWNER** (OWNER, String, 20):
- **PIPESTATUSINDICATOR** (Pipe Status Indicator, Integer, 4):
- **PIPETESTDATE** (Pipe Test Date, Date, 36):

- **PIPETESTDURATION** (Pipe Test Duration, String, 20):
- **PIPETESTPRESSURE** (Pipe Test Pressure, String, 20):
- **PIPETESTTYPE** (Pipe Test Type, String, 5):
- **PIPETYPE** (Pipe Type, String, 5):
- **PLASTICTYPE** (Plastic Type, String, 5):
- **SOPENTERED** (System Operating Pressure - Entered, Double, 8):
- **SOPRANGE** (System Operating Pressure Range, String, 20):
- **SOPSTANDARD** (System Operating Pressure - Standard, Double, 8):
- **SOPUNITOFMEASURE** (System Operating Pressure - Unit of Measure, String, 20):
- **WALLTHICKNESS** (Wall Thickness, String, 10):
- **MEASUREDLENGTH** (Measured Length, Double, 8):
- **LENGTHSOURCE** (Length Source, String, 5):
- **MANUFACTURER** (Manufacturer, String, 20):
- **WORKORDERID** (Work Order ID, String, 20):
- **INSERVICEDATE** (In Service Date, Date, 36):
- **INSTALLATIONMETHOD** (Installation Method, String, 20):
- **PROPERTYUNITCODE** (Property Unit Code, String, 20):
- **CPSYSTEMOBJECTID** (CP System ObjectID, Integer, 4):
- **EMERISOLATIONSYSOBJECTID** (Emergency Isolation System ObjectID, Integer, 4):
- **GASPRESSURESYSTEMOBJECTID** (Gas Pressure System ObjectID, Integer, 4):
- **GASSYSTEMOBJECTID** (Gas System ObjectID, Integer, 4):
- **GASTRACEWEIGHT** (Gas Trace Weight, Integer, 4):
- **SHAPE** (Shape, Geometry, 8):
- **SHAPE.len** (SHAPE.len, Double, 0):

6. ****sde.SDE.gasShutDown_Section - Polygon feature class that shows areas that would be shut down if the section valves on the gas main are used to control a gas leak.**

   - **OBJECTID** (OBJECTID, OID, 4): System-generated.
   - **SECTIONNUMBER** (SECTIONNUMBER, String, 50): Data Entry field. This is a code with a letter and an adjoining number. New sections are given a letter the same as a section near and a new number unique from any others.
   - **ROTATION** (ROTATION, String, 50): This is used for printing to rotate the layout
   - **SCALE** (SCALE, String, 50): This is used to scale the plan in layout view.
   - **TYPEID** (TYPEID, String, 50): ***NOT USED.***
   - **Rotation1** (Rotation1, Double, 8): ***NOT USED.***
   - **Pressure** (Pressure, Integer, 4): ***NOT USED.***
   - **SHAPE** (SHAPE, Geometry, 8): System generated.
   - **SHAPE.area** (SHAPE.area, Double, 0): System generated.
   - **SHAPE.len** (SHAPE.len, Double, 0): System generated.

7. ****sde.SDE.gasScrubber This table will be deleted.**

   - **OBJECTID** (OBJECTID, OID, 4):
   - **CREATIONUSER** (Creation User, String, 20):
   - **DATECREATED** (Date Created, Date, 36):
   - **DATEMODIFIED** (Date Modified, Date, 36):
   - **LASTUSER** (Last User, String, 20):

- **OWNER** (OWNER, String, 20):
- **PROPERTYUNITCODE** (Property Unit Code, String, 20):
- **SHAPE** (Shape, Geometry, 8):

8. ****sde.SDE.gasAlcoholInjectionEquipment** **This table will be deleted.**

- **OBJECTID** (OBJECTID, OID, 4):
- **CREATIONUSER** (Creation User, String, 20):
- **DATECREATED** (Date Created, Date, 36):
- **DATEMODIFIED** (Date Modified, Date, 36):
- **LASTUSER** (Last User, String, 20):
- **OWNER** (OWNER, String, 20):
- **PROPERTYUNITCODE** (Property Unit Code, String, 20):
- **SHAPE** (Shape, Geometry, 8):

9. **sde.SDE.gasCPRectifier – Point feature class for the gas electrical device that connects to the rectifier cable to convert AC to DC to allow current to flow in 1 direction.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **ANCILLARYROLE** (ANCILLARYROLE, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **ENABLED** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **CREATIONUSER** (Creation User, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATECREATED** (Date Created, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATEMODIFIED** (Date Modified, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **LASTUSER** (Last User, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **SUBTYPECD** (Subtype, Integer, 4): ***NOT USED.***
- **LOCATIONDESCRIPTION** (Location Description, String, 50): General description of location.
- **OPERATINGSTATUS** (Operating Status, String, 5): Active or abandoned.
- **COMMENTS** (COMMENTS, String, 100):
- **WORKORDERID** (Work Order ID, String, 20): Project number
- **INSERVICEDATE** (In Service Date, Date, 36): Date of activation
- **PROPERTYUNITCODE** (Property Unit Code, String, 20): ***NOT USED.***
- **GASTRACEWEIGHT** (Gas Trace Weight, Integer, 4): ***NOT USED.***
- **SYMBOLROTATION** (Symbol Rotation, Double, 8): ***NOT USED.***
- **FACILITYID** (Facility ID, String, 20): ***NOT USED.***
- **AMPERAGE** (AMPERAGE, String, 10): ***NOT USED.***
- **COOLINGMETHOD** (Cooling Method, String, 20): ***NOT USED.***
- **INTERNALMETER** (Internal Meter Indicator, String, 5): ***NOT USED.***
- **RECTIFIERTYPE** (Rectifier Type, String, 5): ***NOT USED.***
- **VOLTAGE** (VOLTAGE, Integer, 4): Amount of voltage in rectifier.
- **MANUFACTURER** (Manufacturer, String, 20): Name of manufacturer.
- **MODEL** (MODEL, String, 255): ***NOT USED.***
- **SERIALNUMBER** (Serial Number, String, 20): ***NOT USED.***

- **CPSYSTEMOBJECTID** (CP System ObjectID, Integer, 4): ***NOT USED.***
- **SHAPE** (Shape, Geometry, 8): System generated.
- **DateAbandoned** (DateAbandoned, Date, 36): Date of abandonment.

10. ****sde.SDE.gasPipelineMarker** **This table is not in use.**

- **OBJECTID** (OBJECTID, OID, 4):
- **CREATIONUSER** (Creation User, String, 20):
- **DATECREATED** (Date Created, Date, 36):
- **DATEMODIFIED** (Date Modified, Date, 36):
- **LASTUSER** (Last User, String, 20):
- **EQUIPMENTID** (Equipment ID, String, 20):
- **CONDITION** (CONDITION, String, 20):
- **DATEINSPECTED** (Date Inspected, Date, 36):
- **NEXTINSPECTIONDATE** (Next Inspection Date, Date, 36):
- **OWNER** (OWNER, String, 20):
- **DIMENSIONTIE1** (Dimension Tie 1, String, 20):
- **DIMENSIONTIE2** (Dimension Tie 2, String, 20):
- **WORKORDERID** (Work Order ID, String, 20):
- **INSERVICEDATE** (In Service Date, Date, 36):
- **PROPERTYUNITCODE** (Property Unit Code, String, 20):
- **SYMBOLROTATION** (Symbol Rotation, Double, 8):
- **SHAPE** (Shape, Geometry, 8):

11. **sde.SDE.gasValve – Point feature class showing valves that control the flow of gas in the Distribution Mains.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **ANCILLARYROLE** (ANCILLARYROLE, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **ENABLED** (ENABLED, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **CREATIONUSER** (CREATIONUSER, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATECREATED** (DATECREATED, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATEMODIFIED** (DATEMODIFIED, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **LASTUSER** (LASTUSER, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **SUBTYPECD** (SUBTYPECD, Integer, 4): **GIS Subtype field.** They are all gas valves
- **FACILITYID** (FACILITYID, String, 20): ***NOT USED.***
- **EQUIPMENTID** (EQUIPMENTID, String, 20): ***NOT USED.***
- **OWNER** (OWNER, String, 20): Data Entry field. All gas valves in the gas system are owned by the City of Duluth.
- **WORKORDERID** (WORKORDERID, String, 20): Data entry field. This field is the project number in which the valve was installed.

- **INSERVICEDATE** (InServiceDate, Date, 36): Data entry field. This is the date the valve was installed. This comes from the GPS shot or the record drawing.
- **PROPERTYUNITCODE** (PROPERTYUNITCODE, String, 20): maybe used?
- **GASTRACEWEIGHT** (GASTRACEWEIGHT, Integer, 4): maybe used?
- **SYMBOLROTATION** (SYMBOLROTATION, Double, 8): maybe used?
- **MATERIAL** (MATERIAL, String, 10): **Domain field (DomainName = "Gas_Valve_Material")**. This reflects the material of the valve. Steel mains all have steel valves, Polyethylene pipe normally has a polyethylene valve, but it can have a steel valve too. The information comes from the GPS shot or the record drawing. Options = UNK : Unknown | CSTL : Coated Steel | PE : Polyethylene.
- **CONNTYPE1** (CONNTYPE1, String, 5): **Domain field (DomainName = "Gas_Fitting_Connection_Type")**. This is the connection on the supply side of the valve. Steel valves would either be weld or flanged. Plastic valves are all Fused. Options = WE : Weld | FS : Fused | CM : Compression | UNK : Unknown | FL : Flanged | BND : Bond.

- **CONNTYPE2** (CONNTYPE2, String, 5): **Domain field (DomainName = "Gas_Fitting_Connection_Type")**. This is the connection on the flow side of the valve. Steel valves would either be weld or flanged. Plastic valves are all Fused.

Main Material	Connecting to…	CONNTYPE1	CONNTYPE2
PE	PE	Fused	Fused
Steel	Steel	Weld	Weld
		Weld (or Flange)	Flange (or Weld)
		Flange	Flange

- **VALVEDIAMETER** (VALVEDIAMETER, String, 5): **Domain field (DomainName = "Gas_Valve_Diameter")**. This valve is the size of the valve. Normally the valve is the same size as the pipe on either side, but large pipe can sometimes have a smaller size valve. This comes from the GPS shots or the record drawing. Options = 1.5 : 1 1/2" | 30 : 30" | 0.5 : 1/2" | 0.63 : 5/8" | 2.5 : 2 1/2" | 24 : 24" | 26 : 26" | 20 : 20" | 5.5 : 5 1/2" | 0.25 : 1/4" | 1 : 1" | 0 : Unknown | 3 : 3" | 2 : 2" | 5 : 5" | 4 : 4" | 7 : 7" | 6 : 6" | 8 : 8" | 1.875 : 1 7/8" | 1.375 : 1 3/8" | 1.125 : 1 1/8" | 0.75 : 3/4" | 10 : 10" | 12 : 12" | 14 : 14" | 0.38 : 3/8" | 18 : 18" | 16 : 16" | 1.25 : 1 1/4".
- **VALVETYPE** (VALVETYPE, String, 5): **Domain field (DomainName = "Gas_Valve_Type")**. This specifies the valve type. The information comes from the record drawing or the inspector's notes. Options = OSY : OS&Y | PLG : Plug Valve | CHK : Check | CRT : Curb Valve Tee | UNK : Unknown | GAT : Gate Valve | EFV : Excess Flow | STK : Stacked | CRB : Curb Stop | POL : Poly | STP : Stop Cock | BUT : Butterfly | WFR : Wafer | BAL : Ball Valve | VBL : V-Ball | REG : Regular | RED : Reducing Port Valve.
- **VALVEUSE** (VALVEUSE, String, 5): **Domain field (DomainName = "Gas_Valve_Use_Type")**. This describes the valve use. Line valves shut down small sections of main, section valves shut down large areas of gas mains. Service valves control a single gas service. Other choices in this list are more specific and are ***NOT USED*** very often. Options = SERV : Service | STUB : Stub | BYPS : Bypass | REGL : Regulator | PURG : Purge | SECT : Section | ISO : Isolation | LINE : Line | UNK : Unknown | RELF : Relief.
- **ANSIPRESSURERATING** (ANSIPRESSURERATING, String, 5): ***NOT USED.***
- **BONDEDINDICATOR** (BONDEDINDICATOR, String, 5): ***NOT USED.***

- **CLOCKWISETOCLOSE** (CLOCKWISETOCLOSE, String, 20): They are all true.
- **DEPTH** (DEPTH, Double, 8): ***NOT USED.***
- **DEPTHTONUT** (DEPTHTONUT, Double, 8): ***NOT USED.***
- **EMERISOLATIONSYSSTATUS** (EMERISOLATIONSYSSTATUS, String, 20): ***NOT USED.***
- **GASPRESSURESYSTEMSTATUS** (GASPRESSURESYSTEMSTATUS, String, 20): ***NOT USED.***
- **GASSYSTEMSTATUS** (GASSYSTEMSTATUS, String, 20): ***NOT USED.***
- **GROUNDLEVELINDICATOR** (GROUNDLEVELINDICATOR, String, 5): Used to list above ground valves.
- **INSULATEDINDICATOR** (INSULATEDINDICATOR, String, 5): ***NOT USED.***
- **NORMALPOSITION** (NORMALPOSITION, Integer, 4): **Domain field (DomainName = "Normal_Position")**. Closed = 0, Open =1. The default is OPEN and most valves normal position is open.
- **PRESENTPOSITION** (PRESENTPOSITION, Integer, 4): **Domain field (DomainName = "Present_Position")**. Closed = 0, Open = 1. The default is OPEN. This would only be changed if the record drawing indicated the valve is closed.
- **OPERATINGCLASSIFICATION** (OPERATINGCLASSIFICATION, String, 5): **Domain field (DomainName = "Operating_Classification")**. This field is used to call out the fact that section valves require a yearly inspection. All section valves should be classified "Critical/Inspection Required." Options = CIR : Critical/Inspection Required | NC : Non-Critical | CINR : Critical/Inspection Not Required.
- **TURNSTOCLOSE** (TURNSTOCLOSE, Integer, 4): ***NOT USED.***
- **LOCATIONDESCRIPTION** (LOCATIONDESCRIPTION, String, 50): ***NOT USED.***
- **DIMENSIONTIE1** (DIMENSIONTIE1, String, 50): Data entry field. This holds a measurement to the nearest street or avenue centerline.
- **DIMENSIONTIE2** (DIMENSIONTIE2, String, 50): Data entry field. This holds a measurement to the nearest cross street or avenue centerline.
- **MANUFACTURER** (MANUFACTURER, String, 5): **Domain field (DomainName = "Gas_Valve_Manufacturer")**. Listing of most common companies that we have used that make gas valves. Options = ACF : A.C.F. | DRS : Dresser | HOM : Homestead | WAL : Walworth | LUD : Ludlow | MUL : Mueller | BAL : Baylon | IOW : Iowa | ROC : Rockwell | RKF : Rockford | LYA : Lyall | LYC : Lycall | JOM : Jomar | CLO : Clow | ENE : Energy | CNP : Central Plastic | STO : Stockum | KRT : Kerotest | PER : Perfection | GRO : Grove | UNK : Unknown | EDD : Eddy | APL : Apollo | VSI : V.S.I. | NOR : Nordstrom.
- **MODEL** (MODEL, String, 20): Data entry field. This is important if the gas valve is a certain model that has certain characteristics that field staff will need to know for maintenance purposes.
- **EMERISOLATIONSYSOBJECTID** (EMERISOLATIONSYSOBJECTID, Integer, 4):
- **GASPRESSURESYSTEMOBJECTID** (GASPRESSURESYSTEMOBJECTID, Integer, 4):
- **GASSYSTEMOBJECTID** (GASSYSTEMOBJECTID, Integer, 4):
- **UDI** (UDI, String, 6): Data entry field. This is the catalog number for the valve. The number is prefixed with a "G" and is the next even number in the table.
- **LABEL** (LABEL, String, 60):
- **DT1STNAME** (DT1STNAME, String, 30): Data entry field. Name of the nearest Street or Avenue name. It is connected to DIMENSIONTIE1.
- **DT2STNAME** (DT2STNAME, String, 30): Data entry field. Name of the nearest cross Street or Avenue. It is connected to DIMENSIONTIE2.
- **ORGMAKE** (ORGMAKE, String, 12): Old field, ***NOT USED.***

- **ORGUSE** (ORGUSE, String, 14): Old field, ***NOT USED.***
- **COMMENTS** (COMMENTS, String, 150): Text field entry.
- **HOUSING** (HOUSING, String, 5): **Domain field (DomainName = "Gas_Valve_Housing")**. This represents the structure that the valve is housed in and most valves reside in valve boxes. The other choices are Above Ground, Manhole, Vault, No Box and Unknown.
- **INSP_ORDER** (INSP_ORDER, Double, 8): maybe used?
- **GPSx** (GPSx, Double, 8): Data entry field. This field contains the Easting Coordinate for the valve. This is calculated into the field if the valve has a GPS shot taken in the field.
- **GPSy** (GPSy, Double, 8): Data entry field. This field contains the Northing coordinate for the valve. This is calculated into the field if the valve has a GPS shot taken in the field.
- **GPS_Date** (GPS_Date, Date, 36): Data entry field. This is the date that the GPS shot was taken.
- **GISOBJID** (GISOBJID, Integer, 4): Infor EAM number generated by that system.
- **SHAPE** (Shape, Geometry, 8): System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "gasLifecycleStatus")**. This is the status of the valve. Active, Proposed, Abandoned, and Removed are the choices.
- **DateAbandoned** (DateAbandoned, Date, 36): Data entry field. This would be the date the valve status changed from Active to Abandoned.
- **RuleID** (RuleID, Integer, 4): Data entry field. This is used to create a representation of the valve location.
- **Override** (Override, Blob, 0): maybe used?

12. **sde.SDE.gasManholes** – **Point feature class of manholes for the gas system.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **CREATIONUSER** (CREATIONUSER, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATECREATED** (DATECREATED, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATEMODIFIED** (DATEMODIFIED, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **LASTUSER** (LASTUSER, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **FACILITYID** (FACILITYID, String, 20): ***NOT USED.***
- **CONTRACTOR** (CONTRACTOR, String, 20): ***NOT USED.***
- **LOCATIONDESCRIPTION** (LOCATIONDESCRIPTION, String, 50): ***NOT USED.***
- **OWNER** (OWNER, String, 20): All City of Duluth
- **STRUCTUREHEIGHT** (STRUCTUREHEIGHT, String, 20): ***NOT USED.***
- **STRUCTURELENGTH** (STRUCTURELENGTH, String, 20): ***NOT USED.***
- **STRUCTUREWIDTH** (STRUCTUREWIDTH, String, 20): ***NOT USED.***
- **WORKORDERID** (WORKORDERID, String, 20): Project number
- **INSERVICEDATE** (INSERVICEDATE, Date, 36): Date of installation
- **PROPERTYUNITCODE** (PROPERTYUNITCODE, String, 20): ***NOT USED.***
- **REGULATORSTATIONOBJECTID** (REGULATORSTATIONOBJECTID, Integer, 4): ***NOT USED.***
- **TBSOBJECTID** (TBSOBJECTID, Integer, 4): ***NOT USED.***
- **MATERIAL** (MATERIAL, String, 5): Brick or Concrete
- **COVERDIAMETER** (COVERDIAMETER, Double, 8): ***NOT USED.***
- **COVERLENGTH** (COVERLENGTH, Double, 8): ***NOT USED.***
- **COVERWIDTH** (COVERWIDTH, Double, 8): ***NOT USED.***

- **VENTINGINDICATOR** (VENTINGINDICATOR, String, 5): ***NOT USED.***
- **LABEL** (LABEL, String, 20): ***NOT USED.***
- **GISOBJID** (GISOBJID, Integer, 4): Infor EAM number generated by system.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "wDomainLifecycleStatus")**. Status of manhole. Active or abandoned. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **EAMID** (EAMID, String, 30): Catalog number to add structure to Infor EAM.
- **SHAPE** (SHAPE, Geometry, 8): System generated.
- **DateAbandoned** (DateAbandoned, Date, 36): Date of abandonment

13. **sde.SDE.gasCPTestPoint-Point feature class showing test stations for checking the voltage on a pipe.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **ANCILLARYROLE** (ANCILLARYROLE, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **ENABLED** (ENABLED, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **CREATIONUSER** (CREATIONUSER, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATECREATED** (DATECREATED, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATEMODIFIED** (DATEMODIFIED, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **LASTUSER** (LASTUSER, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **SUBTYPECD** (SUBTYPECD, Integer, 4): **GIS Subtype field.** They are all Test Points.
- **LOCATIONDESCRIPTION** (LOCATIONDESCRIPTION, String, 50): Description of general location.
- **OPERATINGSTATUS** (OPERATINGSTATUS, String, 5): Active or abandoned.
- **COMMENTS** (COMMENTS, String, 100): Text field entry.
- **WORKORDERID** (WORKORDERID, String, 20): Project number
- **INSERVICEDATE** (INSERVICEDATE, Date, 36): Date of activation.
- **PROPERTYUNITCODE** (PROPERTYUNITCODE, String, 20): ***NOT USED.***
- **GASTRACEWEIGHT** (GASTRACEWEIGHT, Integer, 4): ***NOT USED.***
- **SYMBOLROTATION** (SYMBOLROTATION, Double, 8): ***NOT USED.***
- **TESTPOINTTYPE** (TESTPOINTTYPE, String, 5): What is the test point near. (Valve, Power pole)
- **WIRECOUNT** (WIRECOUNT, String, 5): ***NOT USED.***
- **CPSYSTEMOBJECTID** (CPSYSTEMOBJECTID, Integer, 4): ***NOT USED.***
- **STATION_NUMBER** (STATION_NUMBER, String, 8): Catalog number to enter in Infor EAM. An old catalog number, replaced by UDI.
- **DIMENSIONTIE1** (DIMENSIONTIE1, String, 50): Street ties to test point from nearest street.
- **DIMENSIONTIE2** (DIMENSIONTIE2, String, 50): Street ties to test point nearest cross street.
- **DT1LOCATION** (DT1LOCATION, String, 50): Name of nearest street.
- **DT2LOCATION** (DT2LOCATION, String, 50): Name of nearest cross street.
- **MANUFACTURER** (Manufacturer, SmallInteger, 2): Name of manufacturer.
- **PSI** (PSI, SmallInteger, 2): Pressure of pipe. ***NOT USED.***
- **GAS_SECT** (GAS_SECT, SmallInteger, 2): Number of area the test point is located in.
- **PT_NUM** (PT_NUM, SmallInteger, 2): Misc. number of test point
- **GISOBJID** (GISOBJID, Integer, 4): Infor EAM number created by system.

- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field. (DomainName = "gasLifecycleStatus").** Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. Usually Active or abandoned.
- **SHAPE** (Shape, Geometry, 8): System generated.
- **DateAbandoned** (DateAbandoned, Date, 36): Date of abandonment.

14. ****sde.SDE.gasPressureMonitoringDevice** **This table *NOT USED*.**

- **OBJECTID** (OBJECTID, OID, 4): System-generated
- **ANCILLARYROLE** (ANCILLARYROLE, SmallInteger, 2):
- **ENABLED** (Enabled, SmallInteger, 2):
- **CREATIONUSER** (Creation User, String, 20):
- **DATECREATED** (Date Created, Date, 36):
- **DATEMODIFIED** (Date Modified, Date, 36):
- **LASTUSER** (Last User, String, 20):
- **SUBTYPECD** (Subtype, Integer, 4):
- **FACILITYID** (Facility ID, String, 20):
- **EQUIPMENTID** (Equipment ID, String, 20):
- **OWNER** (OWNER, String, 20):
- **COMMENTS** (COMMENTS, String, 100):
- **WORKORDERID** (Work Order ID, String, 20):
- **INSERVICEDATE** (In Service Date, Date, 36):
- **PROPERTYUNITCODE** (Property Unit Code, String, 20):
- **GASTRACEWEIGHT** (Gas Trace Weight, Integer, 4):
- **SYMBOLROTATION** (Symbol Rotation, Double, 8):
- **COMPANYPAIDTELEPHONE** (Company Paid Telephone Indicator, String, 5):
- **DURATION** (DURATION, Integer, 4):
- **PERMANENTINDICATOR** (Permanent Indicator, String, 5):
- **PSIRATING** (PSI Rating, String, 20):
- **RECORDINGMETHOD** (Recording Method, String, 20):
- **SCADA** (SCADA Indicator, String, 5):
- **TELEPHONENUMBER** (Telephone Number, String, 20):
- **TEMPRATING** (Temperature Rating, String, 20):
- **USAGETYPE** (Usage Type, String, 20):
- **LOCATIONDESCRIPTION** (Location Description, String, 50):
- **MANUFACTURER** (Manufacturer, String, 5):
- **MODEL** (MODEL, String, 20):
- **SERIALNUMBER** (Serial Number, String, 20):
- **SHAPE** (Shape, Geometry, 8):

15. ****sde.SDE.gasCPBondWire** **This table is *NOT USED*.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **ENABLED** (Enabled, SmallInteger, 2): System field. Not currently used. Will be used by GIS administrators in future.
- **CREATIONUSER** (Creation User, String, 20): ***NOT USED.***
- **DATECREATED** (Date Created, Date, 36): ***NOT USED.***
- **DATEMODIFIED** (Date Modified, Date, 36): ***NOT USED.***
- **LASTUSER** (Last User, String, 20): ***NOT USED.***

- **SUBTYPECD** (Subtype, Integer, 4): ***NOT USED.***
- **MATERIAL** (MATERIAL, String, 20):
- **COLOR** (Color, String, 5):
- **DEPTH** (DEPTH, Double, 8):
- **OPERATINGSTATUS** (Operating Status, String, 5):
- **WIRESIZE** (Wire Size, String, 10):
- **LOCATIONDESCRIPTION** (Location Description, String, 50):
- **MEASUREDLENGTH** (Measured Length, Double, 8):
- **LENGTHSOURCE** (Length Source, String, 5):
- **COMMENTS** (COMMENTS, String, 100):
- **WORKORDERID** (Work Order ID, String, 20):
- **INSERVICEDATE** (In Service Date, Date, 36):
- **PROPERTYUNITCODE** (Property Unit Code, String, 20):
- **CPSYSTEMOBJECTID** (CP System ObjectID, Integer, 4):
- **GASTRACEWEIGHT** (Gas Trace Weight, Integer, 4):
- **SHAPE** (Shape, Geometry, 8):
- **SHAPE.len** (SHAPE.len, Double, 0):

16. ****sde.SDE.gasStationStructure** **This table is not currently used.**

- **OBJECTID** (OBJECTID, OID, 4):
- **CREATIONUSER** (Creation User, String, 20):
- **DATECREATED** (Date Created, Date, 36):
- **DATEMODIFIED** (Date Modified, Date, 36):
- **LASTUSER** (Last User, String, 20):
- **FACILITYID** (Facility ID, String, 20):
- **CONTRACTOR** (CONTRACTOR, String, 20):
- **LOCATIONDESCRIPTION** (Location Description, String, 50):
- **OWNER** (OWNER, String, 20):
- **STRUCTUREHEIGHT** (Structure Height, String, 20):
- **STRUCTURELENGTH** (Structure Length, String, 20):
- **STRUCTUREWIDTH** (Structure Width, String, 20):
- **WORKORDERID** (Work Order ID, String, 20):
- **INSERVICEDATE** (In Service Date, Date, 36):
- **PROPERTYUNITCODE** (Property Unit Code, String, 20):
- **REGULATORSTATIONOBJECTID** (Regulator Station ObjectID, Integer, 4):
- **TBSOBJECTID** (Town Border Station ObjectID, Integer, 4):
- **MATERIAL** (MATERIAL, String, 20):
- **PIPELINEOPERATOR** (Pipeline Operator, String, 20):
- **PIPELINESTATION** (Pipeline Station, String, 20):
- **SYMBOLROTATION** (Symbol Rotation, Double, 8):
- **SHAPE** (Shape, Geometry, 8):

17. ****sde.SDE.gasCPAnode** **– anode utilities used to divert corrosion off of pipes.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **ANCILLARYROLE** (ANCILLARYROLE, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.

- **ENABLED** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **CREATIONUSER** (Creation User, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATECREATED** (Date Created, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking..
- **DATEMODIFIED** (Date Modified, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **LASTUSER** (Last User, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **SUBTYPECD** (Subtype, Integer, 4): **GIS Subtype field.** They are all anode.
- **LOCATIONDESCRIPTION** (Location Description, String, 50): General description of structure location.
- **OPERATINGSTATUS** (Operating Status, String, 5): Active or abandoned.
- **COMMENTS** (COMMENTS, String, 100): Text field entry.
- **WORKORDERID** (Work Order ID, String, 20): Project number.
- **INSERVICEDATE** (In Service Date, Date, 36): Date of installation.
- **PROPERTYUNITCODE** (Property Unit Code, String, 20): ***NOT USED.***
- **GASTRACEWEIGHT** (Gas Trace Weight, Integer, 4): ***NOT USED.***
- **SYMBOLROTATION** (Symbol Rotation, Double, 8): ***NOT USED.***
- **FACILITYID** (Facility ID, String, 20): ***NOT USED.***
- **MATERIAL** (Material, String, 5): Material of anode.
- **QUANTITY** (QUANTITY, String, 10): ***NOT USED.***
- **WEIGHT** (Weight, String, 10): Weight in pounds.
- **CPRECTIFIERCABLEOBJECTID** (CP Rectifier Cable ObjectID, Integer, 4): ***NOT USED.***
- **CPSYSTEMOBJECTID** (CP System ObjectID, Integer, 4): ***NOT USED.***
- **REFNO** (REFNO, Double, 8): Old field. ***NOT USED.***
- **UDI** (UDI, String, 6): Catalog number.
- **SHAPE** (Shape, Geometry, 8): System generated.
- **DateAbandoned** (DateAbandoned, Date, 36): Date of abandonment.

18. ****sde.SDE.gasMainJobSeparator** **This table only has 3 records. *NOT USED.***

- **OBJECTID** (OBJECTID, OID, 4):
- **ANCILLARYROLE** (ANCILLARYROLE, SmallInteger, 2):
- **ENABLED** (Enabled, SmallInteger, 2):
- **CREATIONUSER** (Creation User, String, 20):
- **DATECREATED** (Date Created, Date, 36):
- **DATEMODIFIED** (Date Modified, Date, 36):
- **LASTUSER** (Last User, String, 20):
- **SUBTYPECD** (Subtype, Integer, 4):
- **WORKORDERID** (Work Order ID, String, 20):
- **INSERVICEDATE** (In Service Date, Date, 36):
- **GASTRACEWEIGHT** (Gas Trace Weight, Integer, 4):
- **SHAPE** (Shape, Geometry, 8):

19. ****sde.SDE.gasExposedPipeInspection** **This table is *NOT USED.***

- **OBJECTID** (OBJECTID, OID, 4):
- **CREATIONUSER** (Creation User, String, 20):

- **DATECREATED** (Date Created, Date, 36):
- **DATEMODIFIED** (Date Modified, Date, 36):
- **LASTUSER** (Last User, String, 20):
- **INSPECTIONDATE** (Inspection Date, Date, 36):
- **INSPECTOR** (INSPECTOR, String, 20):
- **INSPECTIONNUMBER** (Inspection Number, String, 20):
- **COMMENTS** (COMMENTS, String, 100):
- **SYMBOLROTATION** (Symbol Rotation, Double, 8):
- **COATINGCONDITION** (Coating Condition, String, 20):
- **PIPEDEPTH** (Pipe Depth, String, 20):
- **PITTINGDEPTH** (Pitting Depth, String, 20):
- **REPAIRORDERREQUIREDINDICATOR** (Repair Order Required Indicator, String, 255):
- **SOILTYPE** (Soil Type, String, 20):
- **DISTRIBUTIONMAINOBJECTID** (Distribution Main ObjectID, Integer, 4):
- **PIPEEXPOSUREOBJECTID** (Pipe Exposure ObjectID, Integer, 4):
- **SHAPE** (Shape, Geometry, 8):

20. ****sde.SDE.gasDistribution_MainAnno – Annotation feature class for labels of gas distribution lines. No longer updated.**

- **OBJECTID** (OBJECTID, OID, 4):
- **FEATUREID** (FeatureID, Integer, 4):
- **ZORDER** (ZOrder, Integer, 4):
- **ANNOTATIONCLASSID** (AnnotationClassID, Integer, 4):
- **ELEMENT** (Element, Blob, 0):
- **SymbolID** (SymbolID, Integer, 4):
- **Status** (Status, SmallInteger, 2):
- **TextString** (TextString, String, 255):
- **FontName** (FontName, String, 255):
- **FontSize** (FontSize, Double, 8):
- **Bold** (Bold, SmallInteger, 2):
- **Italic** (Italic, SmallInteger, 2):
- **Underline** (Underline, SmallInteger, 2):
- **VerticalAlignment** (VerticalAlignment, SmallInteger, 2):
- **HorizontalAlignment** (HorizontalAlignment, SmallInteger, 2):
- **XOffset** (XOffset, Double, 8):
- **YOffset** (YOffset, Double, 8):
- **Angle** (Angle, Double, 8):
- **FontLeading** (FontLeading, Double, 8):
- **WordSpacing** (WordSpacing, Double, 8):
- **CharacterWidth** (CharacterWidth, Double, 8):
- **CharacterSpacing** (CharacterSpacing, Double, 8):
- **FlipAngle** (FlipAngle, Double, 8):
- **Override** (Override, Integer, 4):
- **SHAPE** (SHAPE, Geometry, 8):
- **SHAPE.area** (SHAPE.area, Double, 0):
- **SHAPE.len** (SHAPE.len, Double, 0):

21. ****sde.SDE.gasValveAnno – Annotation feature class for labels for gas valves. No longer updated.**

- **OBJECTID** (OBJECTID, OID, 4):
- **FEATUREID** (FeatureID, Integer, 4):
- **ZORDER** (ZOrder, Integer, 4):
- **ANNOTATIONCLASSID** (AnnotationClassID, Integer, 4):
- **ELEMENT** (Element, Blob, 0):
- **SymbolID** (SymbolID, Integer, 4):
- **Status** (Status, SmallInteger, 2):
- **TextString** (TextString, String, 255):
- **FontName** (FontName, String, 255):
- **FontSize** (FontSize, Double, 8):
- **Bold** (Bold, SmallInteger, 2):
- **Italic** (Italic, SmallInteger, 2):
- **Underline** (Underline, SmallInteger, 2):
- **VerticalAlignment** (VerticalAlignment, SmallInteger, 2):
- **HorizontalAlignment** (HorizontalAlignment, SmallInteger, 2):
- **XOffset** (XOffset, Double, 8):
- **YOffset** (YOffset, Double, 8):
- **Angle** (Angle, Double, 8):
- **FontLeading** (FontLeading, Double, 8):
- **WordSpacing** (WordSpacing, Double, 8):
- **CharacterWidth** (CharacterWidth, Double, 8):
- **CharacterSpacing** (CharacterSpacing, Double, 8):
- **FlipAngle** (FlipAngle, Double, 8):
- **Override** (Override, Integer, 4):
- **SHAPE** (SHAPE, Geometry, 8):
- **SHAPE.area** (SHAPE.area, Double, 0):
- **SHAPE.len** (SHAPE.len, Double, 0):

22. **sde.SDE.gasControllableFitting – Point feature class showing controllable (can turn on/off) valves for gas.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **ANCILLARYROLE** (ANCILLARYROLE, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **ENABLED** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **CREATIONUSER** (CREATIONUSER, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATECREATED** (DATECREATED, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATEMODIFIED** (DATEMODIFIED, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **LASTUSER** (LASTUSER, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **SUBTYPECD** (SUBTYPECD, Integer, 4): **GIS Subtype field.** Stopple is the only fitting that should be in this table. We need to move the other subtypes into the non-controllable fitting table. Options = Short Stop, Three-Way Tee, No Blow Tee, Service Tap Tee, & Stopple.
- **FITTINGDIAMETER** (FITTINGDIAMETER, String, 15): Diameter of main the fitting is connected to and of the outgoing pipe.

- **MATERIAL** (Material, String, 5): These are all steel fittings.
- **OWNER** (OWNER, String, 20): All City of Duluth
- **MANUFACTURER** (Manufacturer, String, 5): Name of manufacturer
- **WORKORDERID** (WORKORDERID, String, 20): Project number
- **INSERVICEDATE** (INSERVICEDATE, Date, 36): Date of installation
- **PROPERTYUNITCODE** (PROPERTYUNITCODE, String, 20): ***NOT USED.***
- **GASTRACEWEIGHT** (GASTRACEWEIGHT, Integer, 4): ***NOT USED.***
- **SYMBOLROTATION** (SYMBOLROTATION, Double, 8): ***NOT USED.***
- **NORMALPOSITION** (NORMALPOSITION, Integer, 4): All stopples should be open.
- **PRESENTPOSITION** (PRESENTPOSITION, Integer, 4): ***NOT USED.***
- **EMERISOLATIONSYSSTATUS** (EMERISOLATIONSYSSTATUS, String, 20): ***NOT USED.***
- **GASPRESSURESYSTEMSTATUS** (GASPRESSURESYSTEMSTATUS, String, 20): ***NOT USED.***
- **GASSYSTEMSTATUS** (GASSYSTEMSTATUS, String, 20): ***NOT USED.***
- **CONNTYPE1** (CONNTYPE1, String, 5): Always Weld.
- **CONNTYPE2** (CONNTYPE2, String, 5): Always Weld.
- **TIE1** (TIE1, String, 20): Street ties to nearest street.
- **TIE2** (TIE2, String, 20): Street ties to nearest cross street.
- **TIE1STNAME** (TIE1STNAME, String, 50): Name of nearest street.
- **TIE2STNAME** (TIE2STNAME, String, 50): Name of nearest cross street.
- **GISOBJID** (GISOBJID, Integer, 4): Infor EAM number. System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field. (DomainName = "gasLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. Usually Active or abandoned.
- **SHAPE** (Shape, Geometry, 8): System generated.
- **EAMID** (EAMID, String, 30): Catalog number to add to Infor EAM system.

23. **sde.SDE.gasRegulatorStation** – **Point feature class for Regulator Stations and/or Regulators. Most of the information was just location and general size. We will be making the information more complete in the near future.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **ANCILLARYROLE** (ANCILLARYROLE, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **ENABLED** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **SUBTYPECD** (Subtype, Integer, 4): ***NOT USED.***
- **FACILITYID** (Facility ID, String, 20): Data Entry field. Regulator number. This is provided by the Record Drawing.
- **OWNER** (OWNER, String, 20): **Domain field (DomainName = "gasLifecycleStatus")**. All of the regulators and regulator stations in our GIS system are owned by the City of Duluth.
- **COMMENTS** (COMMENTS, String, 100): Text field entry.
- **WORKORDERID** (Work Order ID, String, 20): Data Entry field. Project number of the project the regulator was installed under.
- **INSERVICEDATE** (In Service Date, Date, 36): Data entry field. Date of the regulator installation.
- **SYMBOLROTATION** (Symbol Rotation, Double, 8): ***NOT USED.***
- **MOPIN** (Maximum Operating Pressure - In, Double, 8): Data Entry field. Operating pressure of the pipe entering the regulator station.

- **MOPOUT** (Maximum Operating Pressure - Out, Double, 8): Data Entry field. Operating pressure of the piping exiting the regulator station.
- **SOPIN** (System Operating Pressure - In, Double, 8): Data Entry field. Operating pressure of the piping entering the regulator station.
- **SOPOUT** (System Operating Pressure - Out, Double, 8): maybe used?
- **OVERPRESSUREPROTECTIONTYPE** (Over Pressure Protection Type, String, 5): Data Entry field. This describes the type of system that protects the regulator station from over pressurizing the downward piping.
- **BYPASSINDICATOR** (Bypass Indicator, String, 5): **Domain field (DomainName = "Yes_No_Indicator")**. This is a Yes/No field regarding if the station has a bypass pipe.
- **DESIGNCAPACITYMCFH** (Design Capacity - MCFH, String, 20): maybe used?
- **INSULATEDINDICATOR** (Insulated Indicator, String, 5): **Domain field (DomainName = "Yes_No_Indicator")**. This is a Yes/No field as to whether the regulator station has an insulated flange installed to isolate the piping.
- **LOCATIONDESCRIPTION** (Location Description, String, 50): Data Entry field. A description of where the regulator station is located.
- **PIPEDIAMETER** (Pipe Diameter, String, 5): **Domain field (DomainName = "Gas_Pipe_Diameter")**. Nominal diameter of the pipe entering the regulator station. Options = 1.5 : 1 1/2" | 30 : 30" | 42 : 42" | 0.5 : 1/2" | 6.5 : 6 1/2" | 3.5 : 3 1/2" | 7.5 : 7 1/2" | 2.5 : 2 1/2" | 24 : 24" | 1 : 1" | 26 : 26" | 20 : 20" | 1.13 : 1 1/8" | 22 : 22" | 0.25 : 1/4" | 48 : 48" | 28 : 28" | 40 : 40" | 1.38 : 1 3/8" | 3 : 3" | 2 : 2" | 3.25 : 3 1/4" | 4 : 4" | 4.88 : 4 7/8" | 6 : 6" | 5 : 5" | 0.88 : 7/8" | 7 : 7" | 0.75 : 3/4" | 8 : 8" | 4.25 : 4 1/2" | 5.5 : 5 1/2" | 10 : 10" | 12 : 12" | 14 : 14" | 0.38 : 3/8" | 18 : 18" | 16 : 16" | 36 : 36" | 34 : 34" | 0.63 : 5/8" | 32 : 32" | 1.25 : 1 1/4" | 2.25 : 2 1/4".
- **STATUS** (Status, String, 5): **Domain field (DomainName = "Station_Status")**. This field is a listing of whether the regulator station is currently in use or on stand by. Options = UNK : Unknown | OFF : Offline | ONL : Online.
- **EMERISOLATIONSYSOBJECTID** (Emergency Isolation System Low ObjectID, Integer, 4): ***NOT USED.***
- **GASPRESSURESYSTEMOBJECTID** (Gas Pressure System Low ObjectID, Integer, 4): ***NOT USED.***
- **GASSYSTEMOBJECTID** (Gas System Low ObjectID, Integer, 4): ***NOT USED.***
- **SHAPE** (Shape, Geometry, 8): System generated.
- **UDI** (UDI, String, 9): Data Entry field. Unique catalog number based on the next available number in the list with a prefix of "G".
- **GISOBJID** (GISOBJID, Integer, 4): Infor EAM number. System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field. (DomainName = "gasLifecycleStatus")**. Status of utility. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. All of the regulators would be considered "Active".

24. **sde.SDE.gasReliefValve** **New table, no records yet.** **Point feature class that will be the same as Regulators.**

- **OBJECTID** (OBJECTID, OID, 4):
- **ANCILLARYROLE** (ANCILLARYROLE, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **ENABLED** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.

- **CREATIONUSER** (Creation User, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATECREATED** (Date Created, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATEMODIFIED** (Date Modified, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **LASTUSER** (Last User, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **SUBTYPECD** (Subtype, Integer, 4): **GIS Subtype field.**
- **FACILITYID** (Facility ID, String, 20):
- **EQUIPMENTID** (Equipment ID, String, 20):
- **OWNER** (OWNER, String, 20):
- **COMMENTS** (COMMENTS, String, 100):
- **WORKORDERID** (Work Order ID, String, 20):
- **INSERVICEDATE** (In Service Date, Date, 36):
- **PROPERTYUNITCODE** (Property Unit Code, String, 20):
- **GASTRACEWEIGHT** (Gas Trace Weight, Integer, 4):
- **SYMBOLROTATION** (Symbol Rotation, Double, 8):
- **DIAMETER** (DIAMETER, String, 20):
- **CAPACITYCFH** (Capacity - CFH, String, 20):
- **OPERATINGTYPE** (Operating Type, String, 5):
- **SETPRESSUREENTERED** (Set Pressure - Entered, Double, 8):
- **SETPRESSURESTANDARD** (Set Pressure - Standard, Double, 8):
- **SETPRESSUREUNITOFMEASURE** (Set Pressure - Unit of Measure, String, 20):
- **LOCATIONDESCRIPTION** (Location Description, String, 50):
- **MANUFACTURER** (MANUFACTURER, String, 20):
- **MODEL** (MODEL, String, 20):
- **REGSTATIONOBJECTID** (Regulator Station ObjectID, Integer, 4):
- **TBSOBJECTID** (Town Border Station ObjectID, Integer, 4):
- **CONNTYPE1** (Connection Type 1, String, 5):
- **CONNTYPE2** (Connection Type 2, String, 5):
- **SHAPE** (Shape, Geometry, 8):

25. **sde.SDE.GasPipeCasing – Line feature class showing gas pipe casings are used to protect gas pipes or to provide a trenchless installation under structures like railroads or major highways.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **CREATIONUSER** (CREATIONUSER, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATECREATED** (DATECREATED, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATEMODIFIED** (DATEMODIFIED, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **LASTUSER** (LASTUSER, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **MATERIAL** (MATERIAL, String, 20): **Domain field (DomainName = "Pipe_Casing_Material")**. The materials we install now are either steel, PVC or Polyethylene. Options = CI : Cast Iron | STL : Steel | GWI : Galvanized Wrought Iron | VCP : Clay | PVC : PVC | PE : Polyethelyne | UNK : Unknown.

- **CASINGDIAMETER** (CASINGDIAMETER, Integer, 4): **Domain field (DomainName = "Pipe_Casing_Diameter")**. The nominal diameter of the casing in inches. Options = 0 : Unknown | 2 : 2 " | 3 : 3 " | 36 : 36 " | 6 : 6 " | 8 : 8 " | 10 : 10 " | 12 : 12 " | 14 : 14 " | 16 : 16 " | 20 : 20 " | 24 : 24 " | 30 : 30 ".
- **COATINGTYPE** (COATINGTYPE, String, 5): maybe used?
- **ENDCONNECTION** (ENDCONNECTION, String, 5): **Domain field (DomainName = "Pipe_Casing_End_Connection")**. This indicates how the ends of the casing are sealed. Options = HOME : Homemade | CONCR : Concrete | BOOT : Boot | LINK : Link Seals | RUBR : Rubber Boots.
- **FILLDATE** (FILLDATE, Date, 36): ***NOT USED.***
- **FILLTYPE** (FILLTYPE, String, 5): ***NOT USED.***
- **GALLONSOFFILL** (GALLONSOFFILL, Integer, 4): ***NOT USED.***
- **LOCATIONDESCRIPTION** (LOCATIONDESCRIPTION, String, 50): Data Entry field. Nearest Intersection
- **PROTECTIONTYPE** (PROTECTIONTYPE, String, 5): ***NOT USED.***
- **REASON** (Reason, String, 5): **Domain field (DomainName = "Pipe_Casing_Reason")**. The reason the casing was installed. Railroad, Highway or Street. Options = STR : Street | RR : Railroad | HWY : Highway.
- **VENTEDINDICATOR** (VENTEDINDICATOR, String, 255): Yes / No if the casing has vents.
- **MEASUREDLENGTH** (MEASUREDLENGTH, Double, 8): Data entry field. This is the length provided with GPS shots or from the Record Drawing.
- **LENGTHSOURCE** (LENGTHSOURCE, String, 5): ***NOT USED.***
- **WORKORDERID** (WORKORDERID, String, 20): Project number.
- **INSERVICEDATE** (INSERVICEDATE, Date, 36): Data entry field. Date that the casing was installed. This would come from the GPS shot or Record Drawing.
- **PROPERTYUNITCODE** (PROPERTYUNITCODE, String, 20): ***NOT USED.***
- **REFNO** (REFNO, Double, 8): Old field. ***NOT USED.***
- **UDI** (UDI, String, 10): ***NOT USED.***
- **GISOBJID** (GISOBJID, Integer, 4): Infor EAM number system generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "wDomainLifecycleStatus")**. This would be based on the pipe status. If the pipe inside is Active, the casing must be Active. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **EAMID** (EAMID, String, 30): Data entry field. Next consecutive number in the table with a "G" prefix.
- **SHAPE** (Shape, Geometry, 8): System generated.
- **SHAPE.len** (SHAPE.len, Double, 0): System generated.

26. **sde.SDE.gasNonControllableFitting – Point feature class showing fittings that connect pieces of gas pipe together or pipe to valves. They also connect pipes of different sizes and materials.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **ANCILLARYROLE** (ANCILLARYROLE, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **ENABLED** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **CREATIONUSER** (CREATIONUSER, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATECREATED** (DATECREATED, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.

- **DATEMODIFIED** (DATEMODIFIED, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **LASTUSER** (LASTUSER, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **SUBTYPECD** (SUBTYPECD, Integer, 4): **GIS Subtype field.** This designates the type of fitting. Fittings include reducers, service connections, end caps, tees, and transitions. Options = Coupling, Ell, End Cap, Expansion Joint, Flange, Reducer, Tee, Transition, Service Connection, Excess Flow Valve, Weld Saddle, Bend, & Branch Saddle.
- **FITTINGDIAMETER** (FITTINGDIAMETER, String, 15): **Domain field (DomainName = "Gas_Fitting_Diameter")**. This represents the diameter of the pipe that the fitting is connecting to and the diameter exiting the fitting. Example- a service connection from a 2" gas main that will supply a ½ " service would be a 2" X ½" fitting. Another example is a tee with all ends being 3" PE would be a 3" TEE.
  - Options = 30x24 : 30 x 24 | 5x4 : 5 x 4 | 5x5 : 5 x 5 | 5x2 : 5 x 2 | 5x3 : 5 x 3 | 10x0.5 : 10 x 1/2 | 5x1 : 5 x 1 | 3x3x3x1.25 : 3 x 3 x 3 x 1 1/4 | 14x0.5 : 14 x 1/2 | 24x20 : 24 x 20 | 5x5x3x2 : 5 x 5 x 3 x 2 | 24x1.25 : 24 x 1 1/4 | 3x1 : 3 x 1 | 3x2 : 3 x 2 | 3x3 : 3 x 3 | 5x4x4x4 : 5 x 4 x 4 x 4 | 16x2 : 16 x 2 | 4x4x2x1.25 : 4 x 4 x 2 x 1 1/4 | 6x6x4x3 : 6 x 6 x 4 x 3 | 3x3x3x2 : 3 x 3 x 3 x 2 | 24 : 24 | 20 : 20 | 20x16x4 : 20 x 16 x 4 | 3x3x2x1.5 : 3 x 3 x 2 x 1 1/2 | 8x4x3 : 8 x 4 x 3 | 8x4x2 : 8 x 4 x 2 | 8x1.25 : 8 x 1 1/4 | 6x0.5 : 6 x 1/2 | 8x4x4x4 : 8 x 4 x 4 x 4 | 6x4x3 : 6 x 4 x 3 | 3x2x2x1 : 3 x 2 x 2 x 1 | 3x2x2x2 : 3 x 2 x 2 x 2 | 4x4x4x2 : 4 x 4 x 4 x 2 | 12x8x6 : 12 x 8 x 6 | 12x8x4 : 12 x 8 x 4 | 12x8x3 : 12 x 8 x 3 | 8x8x4x2 : 8 x 8 x 4 x 2 | 8x4x4x3 : 8 x 4 x 4 x 3 | 8x3 : 8 x 3 | 8x2 : 8 x 2 | 8x1 : 8 x 1 | 8x6 : 8 x 6 | 1x0.5 : 1 x 1/2 | 5x3x3x2 : 5 x 3 x 3 x 2 | 5x1.25 : 5 x 1 1/4 | 1.125 : 1 1/8 | 20x1.25 : 20 x 1 1/4 | 1.25x1.125 : 1 1/4 x 1 1/8 | 6x4 : 6 x 4 | 6x3x3x2 : 6 x 3 x 3 x 2 | 3x1.25 : 3 x 1 1/4 | 16x12x3 : 16 x 12 x 3 | 3x3x1.25x1 : 3 x 3 x 1 1/4 x 1 | 8x8x8x6 : 8 x 8 x 8 x 6 | 4x4x2x1 : 4 x 4 x 2 x 1 | 4x0.875 : 4 x 7/8 | 4x4x2x1.5 : 4 x 4 x 2 x 1 1/2 | 3x0.5 : 3 x 1/2 | 8x0.5 : 8 x 1/2 | 8 : 8 | 2x1.25x1 : 2 x 1 1/4 x 1 | 4x4 : 4 x 4 | 4x3 : 4 x 3 | 4x2 : 4 x 2 | 4x1 : 4 x 1 | 3x2x1.25 : 3 x 2 x 1 1/4 | 6x6x3x2 : 6 x 6 x 3 x 2 | 3x2x1.5 : 3 x 2 x 1 1/2 | 16x10 : 16 x 10 | 16x12 : 16 x 12 | 2x1.5 : 2 x 1 1/2 | 16x16 : 16 x 16 | 20x20 : 20 x 20 | 3 : 3 | 2x1.5x1 : 2 x 1 1/2 x 1 | 4x3x1.25 : 4 x 3 x 1 1/4 | 4x4x1.25x1 : 4 x 4 x 1 1/4 x 1 | 1.25 : 1 1/4 | 6x6 : 6 x 6 | 6x1 : 6 x 1 | 6x3 : 6 x 3 | 6x2 : 6 x 2 | 6x2x1.5 : 6 x 2 x 1 1/2 | 20x16x10 : 20 x 16 x 10 | 1.25x0.625 : 1 1/4 x 5/8 | 8x6x2 : 8 x 6 x 2 | 8x6x4 : 8 x 6 x 4 | 5x5x5x2 : 5 x 5 x 5 x 2 | 6x1.25 : 6 x 1 1/4 | 5x5x5x3 : 5 x 5 x 5 x 3 | 4x3x2 : 4 x 3 x 2 | 8x3x2 : 8 x 3 x 2 | 8x8x6x3 : 8 x 8 x 6 x 3 | 8x8x6x2 : 8 x 8 x 6 x 2 | 8x8x6x4 : 8 x 8 x 6 x 4 | 4x4x3x1.25 : 4 x 4 x 3 x 1 1/4 | 24x1.5 : 24 x 1 1/2 | 4x3x3x3 : 4 x 3 x 3 x 3 | 4x3x3x2 : 4 x 3 x 3 x 2 | 8x8 : 8 x 8 | 20x16 : 20 x 16 | 8x1.5 : 8 x 1 1/2 | 2x1 : 2 x 1 | 2x2 : 2 x 2 | 3x1.25x1 : 3 x 1 1/4 x 1 | 5x1.5 : 5 x 1 1/2 | 4x4x3x2 : 4 x 4 x 3 x 2 | 12x12x12x8 : 12 x 12 x 12 x 8 | 4x4x4x3 : 4 x 4 x 4 x 3 | 20x6 : 20 x 6 | 2x1.125 : 2 x 1 1/8 | 12x6x3 : 12 x 6 x 3 | 24x20x4 : 24 x 20 x 4 | 4x0.625 : 4 x 5/8 | 8x2x1.5 : 8 x 2 x 1 1/2 | 16x0.5 : 16 x 1/2 | 12x4 : 12 x 4 | 20x8 : 20 x 8 | 12x6 : 12 x 6 | 12x1 : 12 x 1 | 12x3 : 12 x 3 | 12x2 : 12 x 2 | 20x2 : 20 x 2 | 20x3 : 20 x 3 | 1.25x0.875 : 1 1/4 x 7/8 | 20x1 : 20 x 1 | 10x1.25 : 10 x 1 1/4 | 12x8 : 12 x 8 | 20x4 : 20 x 4 | 24x14 : 24 x 14 | 16x3 : 16 x 3 | 2 : 2 | 24x10 : 24 x 10 | 16x4 : 16 x 4 | 24x12 : 24 x 12 | 16x6 : 16 x 6 | 8x8x4x3 : 8 x 8 x 4 x 3 | 16x8 : 16 x 8 | 26x24 : 26 x 24 | 4 : 4 | 4x1.25 : 4 x 1 1/4 | 5x4x2 : 5 x 4 x 2 | 5x4x3 : 5 x 4 x 3 | 24x16x12 : 24 x 16 x 12 | 2x1.25x0.75 : 2 x 1 1/4 x 3/4 | 6x6x6x3 : 6 x 6 x 6 x 3 | 6 : 6 | 8x8x8x4 : 8 x 8 x 8 x 4 | 12x10 : 12 x 10 | 5x2x1.5 : 5 x 2 x 1 1/2 | 12x12 : 12 x 12 | UNK : Unknown | 16x8x6 : 16 x 8 x 6 | 1.5x1.25 : 1 1/2 x 1 1/4 | 10 : 10 | 12 : 12 | 3x3x2x1 : 3 x 3 x 2 x 1 | 14 : 14 | 24x8 : 24 x 8 | 16 : 16 | 24x6 : 24 x 6 | 18 : 18 | 24x4 : 24 x 4 | 24x2 : 24 x 2 | 24x3 : 24 x 3 | 5x5x4x3 : 5 x 5 x 4 x 3 | 5x5x4x2 : 5 x 5 x 4 x 2 | 3x0.625 : 3 x 5/8 | 5x4x4x3 : 5 x 4 x 4 x 3 | 20x10 : 20 x 10 | 1.25x1.25 : 1 1/4 x 1 1/4 | 20x12 : 20 x 12 | 10x8x6 : 10 x 8 x 6 | 10x8x3 : 10 x 8 x 3 | 1.5 : 1 1/2 | 6x1.5 : 6 x 1 1/2 | 0.5 : 1/2 | 4x3x2x2 : 4 x 3 x 2 x 2 | 12x12x12x6 : 12 x 12 x 12 x 6 | 0.63 : 5/8 | 2x0.75 : 2 x 3/4 | 26x16 : 26 x 16 | 26x10 : 26 x 10 | 24x16 : 24 x 16 | 8x4 : 8 x 4 | 1 : 1 | 5 : 5 | 6x4x4x3 : 6 x 4 x 4 x 3 | 6x4x4x4 : 6 x 4 x 4 x 4 | 10x6 : 10 x 6 | 10x4 : 10 x 4 | 10x3 : 10 x 3 | 10x2 : 10 x 2 | 10x1 : 10 x 1 | 6x4x2 : 6 x 4 x 2 | 1.5x1 : 1 1/2 x 1 | 10x8 : 10 x 8 | 2x2x2x1.5 : 2 x 2 x 2 x 1 1/2 | 12x0.5 : 12 x 1/2 | 0.75 : 3/4 | 4x1.5 : 4 x 1 1/2 | 1.5x1.5 : 1 1/2 x 1 1/2 | 1x0.625 : 1 x 5/8 | 1.5x1.25x1 : 1 1/2 x 1 1/4 x 1 | 8x8x8x3 : 8 x 8 x 8 x 3 | 3x0.75 : 3 x 3/4 | 6x6x6x2 : 6 x 6 x 6 x 2 | 2x0.5 : 2 x 1/2 | 10x12 : 10 x 12 | 1.25x1 : 1 1/4 x 1 | 6x6x4x2 : 6 x 6 x 4 x 2 | 3x1.5 : 3 x 1 1/2 | 2x1.25 : 2 x 1 1/4 | 1.25x0.5 : 1 1/4 x 1/2.
- **MATERIAL** (MATERIAL, String, 5): **Domain field (DomainName = "Gas_Fitting_Material")**. Material of actual fitting. Either Steel or Plastic. This comes from the record drawing.
- **CONNTYPE1** (CONNTYPE1, String, 5): **Domain field (DomainName = "Gas_Fitting_Connection_Type")**. Connection on the supply side of the fitting (at the **MAIN)**. Steel fittings are always welded. Plastic fittings are either fused or compression. Options = WE : Weld | FS : Fused | CM : Compression | UNK : Unknown | FL : Flanged | BND : Bond.
- **CONNTYPE2** (CONNTYPE2, String, 5): **Domain field (DomainName =)**. Connection on the flow side of the fitting (at the **SERVICE side)**. Steel fittings are always welded. Plastic fittings are either fused or compression.

Fitting Material	Connecting to…	CONNTYPE1	CONNTYPE2
PE	PE service/main	Fused	Fused/Compression
Steel	Steel	Weld	Weld
		Weld (or Flange)	Flange (or Weld)
		Flange	Flange

- **OWNER** (OWNER, String, 20): **Domain field (DomainName = "wDomainOwner")**. All gas pipes up to the gas meter are owned by the City of Duluth.
- **MANUFACTURER** (MANUFACTURER, String, 5): ***NOT USED.***
- **WORKORDERID** (WORKORDERID, String, 20): Data entry field. This is the Project Number of the project that constructed the gas main and fittings.
- **INSERVICEDATE** (INSERVICEDATE, Date, 36): Data entry field. Date that the fitting was installed.
- **PROPERTYUNITCODE** (Property Unit Code, String, 20): ***NOT USED.***
- **GASTRACEWEIGHT** (GASTRACEWEIGHT, Integer, 4): ***NOT USED.***
- **SYMBOLROTATION** (SYMBOLROTATION, Double, 8): ***NOT USED.***
- **BONDEDINDICATOR** (BONDEDINDICATOR, String, 5): ***NOT USED.***
- **INSULATEDINDICATOR** (INSULATEDINDICATOR, String, 5): ***NOT USED.***
- **STYLE** (Style, String, 6): ***NOT USED.***
- **UDI** (UDI, String, 6): Data entry field. Catalog number for the gas fitting. The next consecutive number with a "G" as a prefix.
- **TIE1** (TIE1, String, 50): Data entry field. This is a measurement from the fitting to the nearest Street or Avenue. This can be measured in GIS if you are using GPS shots from the fitting to the centerline or it comes from the record drawing.
- **TIE2** (TIE2, String, 50): Data entry field. This is a measurement from the fitting to the nearest cross Street or Avenue. This can be measured in GIS if you are using GPS shots from the fitting to the Street or it comes from the record drawing.
- **TIE1STNAME** (TIE1STNAME, String, 20): Data entry field. Name of the nearest Street or Avenue name. It is connected to TIE1.
- **TIE2STNAME** (TIE2STNAME, String, 20): Data entry field. Name of the nearest cross Street or Avenue. It is connected to TIE2.
- **PRESSURE** (PRESSURE, Integer, 4): ***NOT USED.***
- **MAINTAREA** (MAINTAREA, String, 5): ***NOT USED.***
- **HOUSETIES** (HOUSETIES, String, 30): Measurement from house corner foundation to fitting.
- **GISOBJID** (GISOBJID, Integer, 4): Infor EAM number. System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "wDomainLifecycleStatus")**. This would be based on the pipe status. If the pipe inside is Active, the casing must be Active. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **EAMID** (EAMID, String, 30): Data entry. This is the next consecutive number in the table with a "G" prefix.
- **SHAPE** (Shape, Geometry, 8): System generated.
- **DateAbandoned** (DateAbandoned, Date, 36): Data entry field. This reflects the date the fitting was status changed from Active to Abandoned.

27. ****sde.SDE.gasRuralTap** **This table is *NOT USED.***

- **OBJECTID** (OBJECTID, OID, 4):
- **ANCILLARYROLE** (ANCILLARYROLE, SmallInteger, 2):
- **ENABLED** (Enabled, SmallInteger, 2):
- **CREATIONUSER** (Creation User, String, 20):
- **DATECREATED** (Date Created, Date, 36):
- **DATEMODIFIED** (Date Modified, Date, 36):
- **LASTUSER** (Last User, String, 20):
- **SUBTYPECD** (Subtype, Integer, 4):
- **ODORIZERINDICATOR** (Odorizer Indicator, String, 5):
- **PIPELINEOPERATOR** (Pipeline Operator, String, 10):
- **PIPELINESTATION** (Pipeline Station, String, 20):
- **SHUTOFFVALVEDIAMETER** (Shut Off Valve Diameter, String, 5):
- **SHUTOFFVALVETYPE** (Shut Off Valve Type, String, 5):
- **TAPDIAMETER** (Tap Diameter, String, 10):
- **TAPTYPE** (Tap Type, String, 20):
- **OWNER** (OWNER, String, 20):
- **PROPERTYUNITCODE** (Property Unit Code, String, 20):
- **GASTRACEWEIGHT** (Gas Trace Weight, Integer, 4):
- **SYMBOLROTATION** (Symbol Rotation, Double, 8):
- **SHAPE** (Shape, Geometry, 8):

28. **sde.SDE.gasTownBorderStation – Polygon feature class that shows where the interstate natural gas pipelines transfers ownership from others to the City of Duluth.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **ANCILLARYROLE** (AncillaryRole, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **ENABLED** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **CREATIONUSER** (Creation User, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATECREATED** (Date Created, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATEMODIFIED** (Date Modified, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **LASTUSER** (Last User, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **SUBTYPECD** (Subtype, Integer, 4): ***NOT USED.***
- **FACILITYID** (Facility ID, String, 20): ***NOT USED.***
- **EQUIPMENTID** (Equipment ID, String, 20): ***NOT USED.***
- **OWNER** (OWNER, String, 20): Verify all are City of Duluth.
- **COMMENTS** (COMMENTS, String, 100): Text field entry.
- **WORKORDERID** (Work Order ID, String, 20): Project number.
- **INSERVICEDATE** (In Service Date, Date, 36): Date of construction.
- **PROPERTYUNITCODE** (Property Unit Code, String, 20): ***NOT USED.***
- **GASTRACEWEIGHT** (Gas Trace Weight, Integer, 4): ***NOT USED.***
- **SYMBOLROTATION** (Symbol Rotation, Double, 8): ***NOT USED.***
- **NAME** (NAME, String, 20): General name of TBS (Town Border Station).
- **MOPIN** (Maximum Operating Pressure - In, Double, 8): Maximum pressure to the station.

- **MOPOUT** (Maximum Operating Pressure - Out, Double, 8): Maximum pressure going out of the station.
- **SOPIN** (System Operating Pressure - In, Double, 8): Standard pressure to the station.
- **SOPOUT** (System Operating Pressure - Out, Double, 8): Standard pressure going out of the station.
- **OVERPRESSUREPROTECTIONTYPE** (Over Pressure Protection Type, String, 5): Type of over protection.
- **BYPASSINDICATOR** (Bypass Indicator, String, 5): All should be NO.
- **DESIGNCAPACITYMCFH** (Design Capacity - MCFH, String, 20): Volume of designed station.
- **EMERISOLATIONSYSSTATUS** (Emergency Isolation System Status, String, 20): ***NOT USED.***
- **GASPRESSURESYSTEMSTATUS** (Gas Pressure System Status, String, 20): ***NOT USED.***
- **GASSYSTEMSTATUS** (Gas System Status, String, 20): ***NOT USED.***
- **INSULATEDINDICATOR** (Insulated Indicator, String, 5): ***NOT USED.***
- **LOCATIONDESCRIPTION** (Location Description, String, 50): General location description.
- **PIPEDIAMETER** (Pipe Diameter, String, 5): Pipe diameter
- **STATUS** (Status, String, 5): Online if being used or Offline if idle.
- **EMERISOLATIONSYSOBJECTID** (Emergency Isolation System Low ObjectID, Integer, 4): ***NOT USED.***
- **GASPRESSURESYSTEMOBJECTID** (Gas Pressure System Low ObjectID, Integer, 4): ***NOT USED.***
- **GASSYSTEMOBJECTID** (Gas System Low ObjectID, Integer, 4): ***NOT USED.***
- **PIPELINEOPERATORNUMBER** (Pipeline Operator Number, String, 20): ***NOT USED.***
- **SUPPLIER** (SUPPLIER, String, 20): Company name of supplier.
- **SHAPE** (Shape, Geometry, 8): System generated.
- **UDI** (UDI, String, 9): Catalog number to enter station into Infor EAM system.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "wDomainLifecycleStatus")**. This would be based on the pipe status. If the pipe inside is Active, the casing must be Active. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. Usually Active or Abandoned.
- **GISOBJID** (GISOBJID, Double, 8): Infor EAM number, system generated.

29. ****sde.SDE.gasAbandonedGasDevice** **This table is *NOT USED.***

- **OBJECTID** (OBJECTID, OID, 4):
- **CREATIONUSER** (Creation User, String, 20):
- **DATECREATED** (Date Created, Date, 36):
- **DATEMODIFIED** (Date Modified, Date, 36):
- **LASTUSER** (Last User, String, 20):
- **DEVICETYPE** (Device Type, String, 20):
- **MATERIAL** (MATERIAL, String, 20):
- **RETIREDDATE** (Retired Date, Date, 36):
- **VALVEDIAMETER** (Valve Diameter, String, 10):
- **VALVETYPE** (Valve Type, String, 20):
- **MANUFACTURER** (MANUFACTURER, String, 20):
- **MODEL** (MODEL, String, 20):
- **PROPERTYUNITCODE** (Property Unit Code, String, 20):
- **SHAPE** (Shape, Geometry, 8):

30. ****sde.SDE.gasSection_ValveAnno** **– Annotation feature class of labels for the gas sections polygon. These are no longer updated.**

- **OBJECTID** (OBJECTID, OID, 4):
- **FEATUREID** (FeatureID, Integer, 4):
- **ZORDER** (ZOrder, Integer, 4):
- **ANNOTATIONCLASSID** (AnnotationClassID, Integer, 4):

- **ELEMENT** (Element, Blob, 0):
- **SymbolID** (SymbolID, Integer, 4):
- **Status** (Status, SmallInteger, 2):
- **TextString** (TextString, String, 255):
- **FontName** (FontName, String, 255):
- **FontSize** (FontSize, Double, 8):
- **Bold** (Bold, SmallInteger, 2):
- **Italic** (Italic, SmallInteger, 2):
- **Underline** (Underline, SmallInteger, 2):
- **VerticalAlignment** (VerticalAlignment, SmallInteger, 2):
- **HorizontalAlignment** (HorizontalAlignment, SmallInteger, 2):
- **XOffset** (XOffset, Double, 8):
- **YOffset** (YOffset, Double, 8):
- **Angle** (Angle, Double, 8):
- **FontLeading** (FontLeading, Double, 8):
- **WordSpacing** (WordSpacing, Double, 8):
- **CharacterWidth** (CharacterWidth, Double, 8):
- **CharacterSpacing** (CharacterSpacing, Double, 8):
- **FlipAngle** (FlipAngle, Double, 8):
- **Override** (Override, Integer, 4):
- **SHAPE** (SHAPE, Geometry, 8):
- **SHAPE.area** (SHAPE.area, Double, 0):
- **SHAPE.len** (SHAPE.len, Double, 0):

31. ****sde.SDE.gasCPArea** **This table is *NOT USED*.**

- **OBJECTID** (OBJECTID, OID, 4):
- **CREATIONUSER** (Creation User, String, 20):
- **DATECREATED** (Date Created, Date, 36):
- **DATEMODIFIED** (Date Modified, Date, 36):
- **LASTUSER** (Last User, String, 20):
- **NAME** (NAME, String, 20):
- **SHAPE** (Shape, Geometry, 8):
- **SHAPE.area** (SHAPE.area, Double, 0):
- **SHAPE.len** (SHAPE.len, Double, 0):

32. ****sde.SDE.gasDrip** **This table is *NOT USED*.**

- **OBJECTID** (OBJECTID, OID, 4):
- **ANCILLARYROLE** (ANCILLARYROLE, SmallInteger, 2):
- **ENABLED** (Enabled, SmallInteger, 2):
- **CREATIONUSER** (Creation User, String, 20):
- **DATECREATED** (Date Created, Date, 36):
- **DATEMODIFIED** (Date Modified, Date, 36):
- **LASTUSER** (Last User, String, 20):
- **SUBTYPECD** (Subtype, Integer, 4):
- **INSPECTOR** (INSPECTOR, String, 20):
- **LASTPUMPEDDATE** (Last Pumped Date, Date, 36):
- **OWNER** (OWNER, String, 20):

- **LOCATIONDESCRIPTION** (Location Description, String, 50):
- **COMMENTS** (COMMENTS, String, 100):
- **INSTALLATIONDATE** (Installation Date, Date, 36):
- **PROPERTYUNITCODE** (Property Unit Code, String, 20):
- **DISTRIBUTIONMAINOBJECTID** (Distribution Main ObjectID, Integer, 4):
- **GASTRACEWEIGHT** (Gas Trace Weight, Integer, 4):
- **SHAPE** (Shape, Geometry, 8):

33. **sde.SDE.gasDistributionMain – Line feature class that shows gas distribution mains.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **ENABLED** (ENABLED, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **CREATIONUSER** (CREATIONUSER, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATECREATED** (DATECREATED, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATEMODIFIED** (DATEMODIFIED, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **LASTUSER** (LASTUSER, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **NOMINALDIAMETER** (NOMINALDIAMETER, String, 10): The nominal diameter of the pipeline. This information would be found on the Record Drawing.
- **NOMINALDIAMETERUNITS** (NOMINALDIAMETERUNITS, String, 20): maybe used?
- **ACTUALINTERNALDIAMETER** (ACTUALINTERNALDIAMETER, Double, 8): maybe used?
- **OPERATINGPRESSURE** (OPERATINGPRESSURE, Integer, 4): maybe used?
- **COATINGTYPE** (COATINGTYPE, String, 5): **Domain field (DomainName = "Coating_Type")** Only applies to steel pipe. The information would be from the project specifications and from our Standard Construction Book. Options = FLX : Flex Clad | BAR : Bare | EPX : Epoxy | CRB : Cor-Bond | CTE : Coal Tar Enamel | NAP : Nap-Guard | CONC : Concrete | SK215 : Scotch Kote 215 | C&W : C & W | CTP : Cold Tape | SK212 : Scotch Kote 212 | SK217 : Scotch Kote 217 | CGN : Coated-General | YDG : YardGuard | C720 : Cooks 720 | TAPE : Tape | SK101 : Scotch Kote 101 | OTH : Other | GALV : Galvanized | DNA : Does Not Apply | XTR : X-Tru-Coat | BLM : Black Mastic | HOT : Hot Tape | BLG : Blue Guard | UNK : Unknown | ZTR : Z-Tru Coat | SK201 : Scotch Kote 201 | SK202 : Scotch Kote 202 | SK205 : Scotch Kote 205 | SK207 : Scotch Kote 207 | SK206 : Scotch Kote 206 | 3MT : 3M Tape | SW : Scotch Wrap | PNT : Paint | SK : Scotch Kote | MW : Mill Wrap | HYS : Hysol | NOX : No-Oxid 6X | FBE : F.B.E.
- **CPSYSTEMSTATUS** (CPSYSTEMSTATUS, Integer, 4): maybe used?
- **DESIGNPRESSUREENTERED** (DESIGNPRESSUREENTERED, Double, 8): Lists the general system pressure. The choices list 22 psi, 66 psi, 125 psi, 900 psi. All of our distribution mains operate at either 22 psi or 66 psi.
- **DESIGNPRESSURESTANDARD** (DESIGNPRESSURESTANDARD, Double, 8): maybe used?
- **DESIGNPRESSUREUNITOFMEASURE** (DESIGNPRESSUREUNITOFMEASURE, String, 20): maybe used?
- **ELECTRICSURVEYINDICATOR** (ELECTRICSURVEYINDICATOR, String, 5):
- **LASTLEAKSURVEY** (LASTLEAKSURVEY, Date, 36):
- **LEAKSURVEYFREQUENCY** (LEAKSURVEYFREQUENCY, String, 20): maybe used?

- **OWNER** (OWNER, String, 20): **Domain field (DomainName =)**. The City of Duluth owns all of the gas mains inside the City limits.
- **PIPESTATUSINDICATOR** (PIPESTATUSINDICATOR, Integer, 4): maybe used?
- **PIPETESTDATE** (PIPETESTDATE, Date, 36): Data entry field. This information comes from the Record Drawing and/or the inspector notes.
- **PIPETESTDURATION** (PIPETESTDURATION, String, 20): Data entry field. This information comes from the inspector notes and is recorded in minutes. The reason is that most of our tests are short in duration and we want to have information standard across feature classes.
- **PIPETESTPRESSURE** (PIPETESTPRESSURE, String, 20): Data entry field. This information comes from the inspector notes and is also listed in our Standard Construction Book. The most common pressure is 100 psi, but it is possible to have higher values.
- **PIPETESTTYPE** (PIPETESTTYPE, String, 5): **Domain field (DomainName = "PipeTestType")**. We conduct almost all of our tests with air. Options = WTR : Water | GAS : Gas | AIR : Air.
- **PIPETYPE** (PIPETYPE, String, 5): **Domain field (DomainName =)**. This field reflects either PE pipe or Steel pipe by declaring pinchable for PE or Non-pinchable for steel pipe.
- **PLASTICTYPE** (PLASTICTYPE, String, 5): **Domain field (DomainName = "Gas_Pipe_Plastic_Type")**. The only plastic we use is Polyethylene. This would be filled only if the Pipe Type is Pinchable. Options = PVC : PVC | POLY : Polyethylene.
- **SOPENTERED** (SOPENTERED, Double, 8): ***NOT USED.***
- **SOPRANGE** (SOPRANGE, String, 20): ***NOT USED.***
- **SOPSTANDARD** (SOPSTANDARD, Double, 8): ***NOT USED.***
- **SOPUNITOFMEASURE** (SOPUNITOFMEASURE, String, 20): ***NOT USED.***
- **WALLTHICKNESS** (WALLTHICKNESS, String, 10): ***NOT USED.***
- **MEASUREDLENGTH** (MEASUREDLENGTH, Double, 8): ***NOT USED.***
- **LENGTHSOURCE** (LENGTHSOURCE, String, 5): ***NOT USED.***
- **MANUFACTURER** (MANUFACTURER, String, 20): ***NOT USED.***
- **WORKORDERID** (WORKORDERID, String, 20): Data entry field. This is the Project Number for the pipe installation.
- **INSERVICEDATE** (INSERVICEDATE, Date, 36): Data entry field. This is the date from the GPS shot or the Record Drawing.
- **INSTALLATIONMETHOD** (INSTALLATIONMETHOD, String, 20): ***NOT USED.***
- **PROPERTYUNITCODE** (PROPERTYUNITCODE, String, 20): ***NOT USED.***
- **CPSYSTEMOBJECTID** (CPSYSTEMOBJECTID, Integer, 4): ***NOT USED.***
- **EMERISOLATIONSYSOBJECTID** (EMERISOLATIONSYSOBJECTID, Integer, 4): ***NOT USED.***
- **GASPRESSURESYSTEMOBJECTID** (GASPRESSURESYSTEMOBJECTID, Integer, 4): ***NOT USED.***
- **GASSYSTEMOBJECTID** (GASSYSTEMOBJECTID, Integer, 4): ***NOT USED.***
- **GASTRACEWEIGHT** (GASTRACEWEIGHT, Integer, 4): ***NOT USED.***
- **MATERIAL** (Material, Integer, 4): **GIS Subtype Field.** This is either Coated Steel or Polyethylene.
- **CONNTYPE1** (CONNTYPE1, String, 5): **Domain field (DomainName = "Gas_Fitting_Connection_Type")**. This refers to the connection at the **beginning of the pipe**. Steel pipe would have either WELD or FLANGED. Polyethylene pipe would be FUSED. Options = WE : Weld | FS : Fused | CM : Compression | UNK : Unknown | FL : Flanged | BND : Bond.
- **CONNTYPE2** (CONNTYPE2, String, 5): **Domain field (DomainName = "Gas_Fitting_Connection_Type")**. This refers to the connection at the **end of the pipe**. Steel pipe would have either WELD or FLANGED. Polyethylene pipe would be FUSED. Same options as CONNTYPE1.

Main Material	Connected to…	CONNTYPE1	CONNTYPE2
PE	PE pipe will only connect to PE fittings/valves	Fused	Fused
Steel	Weld fitting	Weld	Weld
		Weld (of Flange)	Flange (or Weld)
		Flange	Flange
	Flange fitting (bolted)	Flange (has to be CONNTYPE1)	Weld/Flange

- **CRITICALINDICATOR** (CRITICALINDICATOR, String, 5): ***NOT USED.***
- **CROSSINGTYPE** (CROSSINGTYPE, String, 5): ***NOT USED.***
- **LABEL** (LABEL, String, 50): ***NOT USED.***
- **SECTION_NO** (SECTION_NO, String, 50): Data entry field. This field refers to the Emergency Shutdown Section that the pipe is connected to. Use the same data as an adjoining pipe.
- **GISOBJID** (GISOBJID, Integer, 4): System-generated
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "wDomainLifecycleStatus")**. Proposed for pipes planned to be installed, Active for pipes in service, abandoned for pipes taken out of service, and removed for pipes removed from the ground. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **EAMID** (EAMID, String, 30): Data entry field. This is the catalog data for matching with EAM. This needs to be the next consecutive number in the table.
- **Length** (Length, Integer, 4): Data entry field. This is taken from the Shape.len field and rounded off the nearest foot.
- **SHAPE** (Shape, Geometry, 8): System generated.
- **DateAbandoned** (DateAbandoned, Date, 36): Data entry field. This field is filled in when the lifecyclestatus changes from Active to Abandoned or Removed.
- **SDR** (SDR, Double, 8): **Domain field (DomainName = "Gas_SDR")**. We only have a limited number of gas mains that are not SDR 11. This field only applies to polyethylene pipe. Options = 11.5 : 11.5 | 11.0 : 11 | 9.3 : 9.3 | 7.0 : 7.
- **SHAPE.len** (SHAPE.len, Double, 0): System generated.

34. ****sde.SDE.gasLineHeater** **This table has one feature. *NOT USED.***

- **OBJECTID** (OBJECTID, OID, 4):
- **CREATIONUSER** (Creation User, String, 20):
- **DATECREATED** (Date Created, Date, 36):
- **DATEMODIFIED** (Date Modified, Date, 36):
- **LASTUSER** (Last User, String, 20):
- **OWNER** (OWNER, String, 20):
- **PROPERTYUNITCODE** (Property Unit Code, String, 20):
- **SHAPE** (Shape, Geometry, 8):

35. **sde.SDE.GasServices: Line feature class of all home/building services that connect from a gas distribution main to a building.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **ENABLED** (ENABLED, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **ACTUALINTERNALDIAMETER** (ACTUALINTERNALDIAMETER, Double, 8): ***NOT USED.***
- **OPERATINGPRESSURE** (OPERATINGPRESSURE, Integer, 4): ***NOT USED.***
- **PIPETESTDATE** (PIPETESTDATE, Date, 36): Date of pipe pressure test.
- **PIPETESTDURATION** (PIPETESTDURATION, String, 20): Duration of pipe pressure test in minutes.
- **PIPETESTPRESSURE** (PIPETESTPRESSURE, String, 20): Should be 100.
- **PIPETESTTYPE** (PIPETESTTYPE, String, 5): All will be Air.
- **WALLTHICKNESS** (WALLTHICKNESS, String, 10): ***NOT USED.***
- **LENGTHSOURCE** (LENGTHSOURCE, String, 5): ***NOT USED.***
- **CONNTYPE1** (CONNTYPE1, String, 5): **Domain field (DomainName = "Gas_Fitting_Connection_Type")**. Fused for PE pipe, unless it's connected to a steel main-which is a compression joint. Connection at the **MAIN.** Options = WE : Weld | FS : Fused | CM : Compression | UNK : Unknown | FL : Flanged | BND : Bond.
- **CONNTYPE2** (CONNTYPE2, String, 5): **Domain field (DomainName = "Gas_Fitting_Connection_Type")**. Fused for PE pipe, unless it's connected to a steel main-which is a compression joint. Connection at the **METER.** Same options as CONNTYPE1.
- **Material** (Material, String, 3): **Domain field (DomainName = "gasDomainServiceMaterial")**. All new services should be PE. Options = CI : Cast Iron | UNK : Unknown | BI : Black Iron | GI : Galvanized Iron | PE : Polyethylene |
- **Diameter** (Diameter, Double, 8): **Domain field (DomainName = "gasServiceDiameter")**. Diameter of service pipe. Options = 0.5 : 0.5 | 0.75 : 0.75 | 2.0 : 2 | 3.0 : 3 | 6.0 : 6 | 1.5 : 1.5 | 1.0 : 1 | 8.0 : 8 | 1.25 : 1.25.

Service Pipe Material	Main Pipe Material	CONNTYPE1	CONNTYPE2
PE	PE	Fused	Fused
PE	Steel	Compression	Fused
Steel	Steel	Flange	Flange

- **ServCard** (ServCard, String, 100): This is a data entry field. This field is used to open a scan of the service card. The number is the same as the Application Number with a "G" as a prefix and ".pdf" as a suffix.
- **GISOBJID** (GISOBJID, Integer, 4): Infor EAM number. System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "wDomainLifecycleStatus")**. Status of gas service line. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active.
- **RID** (RID, String, 6): I don't know what this field is. ***NOT USED.***
- **Address** (Address, String, 255): Data entry field. Address of the building being supplied with natural gas.
- **Gas_Application** (Gas_Application, String, 7): Data entry field. Numbered by year, supplied by Front Office staff.
- **Gas_Branch** (Gas_Branch, String, 2): ***NOT USED.***
- **Gas_Length** (Gas_Length, Double, 8): Data entry field. Length of service in feet.
- **Gas_Supply_From** (Gas_Supply_From, String, 40): ***NOT USED.***
- **Gas_Relocation_Details** (Gas_Relocation_Details, String, 80): ***NOT USED.***
- **Gas_Abandoned** (Gas_Abandoned, SmallInteger, 2): ***NOT USED.***
- **Gas_Abandoned_Date** (Gas_Abandoned_Date, Date, 36): Data entry field. Date service was abandoned.
- **EFV_Year_Installed** (EFV_Year_Installed, Integer, 4): ***NOT USED.***
- **EFV_Size** (EFV_Size, String, 5): ***NOT USED.***
- **EFV_Manufacturer** (EFV_Manufacturer, String, 15): ***NOT USED.***

- **EFV_Model** (EFV_Model, String, 15): ***NOT USED.***
- **EFV_Part_Number** (EFV_Part_Number, String, 20): ***NOT USED.***
- **PlatParcel** (PlatParcel, String, 15): Data entry field. Parcel ID of property being supplied with natural gas.
- **UDI** (UDI, String, 9): Data entry field. Next consecutive number with "G" prefix.
- **Service_Type** (Service_Type, String, 10): **Domain field (DomainName = "Gas_ServiceType")**. All are "Service." Options = UNK : Unknown | YARD : Yard | SERVICE : Service.
- **Job_Num** (Job_Num, String, 10): Data entry field. Project number.
- **Install_Date** (Install_Date, Date, 36): Data entry field. This date can be different than the Pipe Test Date.
- **Tie_Bldg** (Tie_Bldg, String, 39): ***NOT USED.***
- **Tie_CLtoTap** (Tie_CLtoTap, String, 39): ***NOT USED.***
- **Tie_TapLoc** (Tie_TapLoc, String, 39): ***NOT USED.***
- **GasServDetails1** (GasServDetails1, String, 39): ***NOT USED.***
- **GasServDetails2** (GasServDetails2, String, 39): ***NOT USED.***
- **Shape** (Shape, Geometry, 8): System generated.
- **SupplyMainUDI** (SupplyMainUDI, String, 9): Data entry field. This is the ID of the gas main that the service is connected to.
- **LocateQuality** (LocateQuality, String, 35): **Domain field (DomainName = "UtilityDomain_LocateQuality")**. Determined by how well the service line can be located in the field by locating staff. Options = UNK : Unknown | SERVICE RINGS NOT MAIN : Service Rings not Main | NO SERVICE RING : No Service Ring | NO WIRE ON SERVICE : No Wire on Service | NO WIRE AT SURFACE : No Wire at Surface | MAIN RINGS BOTH DIRECTIONS : Main Rings Both Directions | PARTIAL SERVICE RING : Partial Service Ring | MAIN RINGS TO LEFT ONLY : Main Rings to Left Only | MAIN RINGS TO RIGHT ONLY : Main Rings to Right Only.
- **Shape.len** (Shape.len, Double, 0): System generated.

36. ****sde.SDE.gasCPBondJunction** **This table is *NOT USED.***

- **OBJECTID** (OBJECTID, OID, 4):
- **ANCILLARYROLE** (ANCILLARYROLE, SmallInteger, 2):
- **ENABLED** (Enabled, SmallInteger, 2):
- **CREATIONUSER** (Creation User, String, 20):
- **DATECREATED** (Date Created, Date, 36):
- **DATEMODIFIED** (Date Modified, Date, 36):
- **LASTUSER** (Last User, String, 20):
- **SUBTYPECD** (Subtype, Integer, 4):
- **LOCATIONDESCRIPTION** (Location Description, String, 50):
- **OPERATINGSTATUS** (Operating Status, String, 5):
- **COMMENTS** (COMMENTS, String, 100):
- **WORKORDERID** (Work Order ID, String, 20):
- **INSERVICEDATE** (In Service Date, Date, 36):
- **PROPERTYUNITCODE** (Property Unit Code, String, 20):
- **GASTRACEWEIGHT** (Gas Trace Weight, Integer, 4):
- **SYMBOLROTATION** (Symbol Rotation, Double, 8):
- **BONDJUNCTIONTYPE** (Bond Junction Type, String, 5):
- **CRITICALINDICATOR** (Critical Indicator, String, 5):
- **RESISTANCEINDICATOR** (Resistance Indicator, String, 5):
- **CPBONDWIREOBJECTID** (CP Bond Wire ObjectID, Integer, 4):
- **SHAPE** (Shape, Geometry, 8):

37. **sde.SDE.gasVault **This table has 2 records. Verify if these records are still active.**

- **OBJECTID** (OBJECTID, OID, 4):
- **CREATIONUSER** (Creation User, String, 20):
- **DATECREATED** (Date Created, Date, 36):
- **DATEMODIFIED** (Date Modified, Date, 36):
- **LASTUSER** (Last User, String, 20):
- **FACILITYID** (Facility ID, String, 20):
- **CONTRACTOR** (CONTRACTOR, String, 20):
- **LOCATIONDESCRIPTION** (Location Description, String, 50):
- **OWNER** (OWNER, String, 20):
- **STRUCTUREHEIGHT** (Structure Height, String, 20):
- **STRUCTURELENGTH** (Structure Length, String, 20):
- **STRUCTUREWIDTH** (Structure Width, String, 20):
- **WORKORDERID** (Work Order ID, String, 20):
- **INSERVICEDATE** (In Service Date, Date, 36):
- **PROPERTYUNITCODE** (Property Unit Code, String, 20):
- **REGULATORSTATIONOBJECTID** (Regulator Station ObjectID, Integer, 4):
- **TBSOBJECTID** (Town Border Station ObjectID, Integer, 4):
- **MATERIAL** (Material, String, 5):
- **COVERDIAMETER** (Cover Diameter, Double, 8):
- **COVERLENGTH** (Cover Length, Double, 8):
- **COVERWIDTH** (Cover Width, Double, 8):
- **VENTINGINDICATOR** (Venting Indicator, String, 5):
- **SHAPE** (Shape, Geometry, 8):
- **DateAbandoned** (DateAbandoned, Date, 36):
- **SHAPE.area** (SHAPE.area, Double, 0):
- **SHAPE.len** (SHAPE.len, Double, 0):

38. sde.SDE.gasTransmissionMain **– Line feature class showing gas transmissions lines.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **ENABLED** (Enabled, SmallInteger, 2): System field. ***NOT USED.*** Will be used by GIS administrators in future.
- **CREATIONUSER** (Creation User, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATECREATED** (Date Created, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATEMODIFIED** (Date Modified, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **LASTUSER** (Last User, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **NOMINALDIAMETER** (Nominal Diameter, String, 10): Data entry field. Size of pipe.
- **NOMINALDIAMETERUNITS** (Nominal Diameter Units, String, 20): ***NOT USED.***
- **ACTUALINTERNALDIAMETER** (Actual Internal Diameter, Double, 8): ***NOT USED.***
- **OPERATINGPRESSURE** (Operating Pressure, Integer, 4): ***NOT USED.***
- **COATINGTYPE** (Coating Type, String, 5): ***NOT USED.***
- **CPSYSTEMSTATUS** (CP System Status, Integer, 4): ***NOT USED.***

- **DESIGNPRESSUREENTERED** (Design Pressure - Entered, Double, 8): Maximum operating pressure (MAOP) of pipeline.
- **DESIGNPRESSURESTANDARD** (Design Pressure - Standard, Double, 8): ***NOT USED.***
- **DESIGNPRESSUREUNITOFMEASURE** (Design Pressure - Unit of Measure, String, 20): ***NOT USED.***
- **ELECTRICSURVEYINDICATOR** (Electric Survey Indicator, String, 5): ***NOT USED.***
- **LASTLEAKSURVEY** (Last Leak Survey, Date, 36): ***NOT USED.***
- **LEAKSURVEYFREQUENCY** (Leak Survey Frequency, String, 20): ***NOT USED.***
- **OWNER** (OWNER, String, 20): Data entry field. Owner of pipeline.
- **PIPESTATUSINDICATOR** (Pipe Status Indicator, Integer, 4): ***NOT USED.***
- **PIPETESTDATE** (Pipe Test Date, Date, 36): ***NOT USED.***
- **PIPETESTDURATION** (Pipe Test Duration, String, 20): ***NOT USED.***
- **PIPETESTPRESSURE** (Pipe Test Pressure, String, 20): ***NOT USED.***
- **PIPETESTTYPE** (Pipe Test Type, String, 5): ***NOT USED.***
- **PIPETYPE** (Pipe Type, String, 5): ***NOT USED.***
- **PLASTICTYPE** (Plastic Type, String, 5): ***NOT USED.***
- **SOPENTERED** (System Operating Pressure - Entered, Double, 8): ***NOT USED.***
- **SOPRANGE** (System Operating Pressure Range, String, 20): ***NOT USED.***
- **SOPSTANDARD** (System Operating Pressure - Standard, Double, 8): ***NOT USED.***
- **SOPUNITOFMEASURE** (System Operating Pressure - Unit of Measure, String, 20): ***NOT USED.***
- **WALLTHICKNESS** (Wall Thickness, String, 10): ***NOT USED.***
- **MEASUREDLENGTH** (Measured Length, Double, 8): ***NOT USED.***
- **LENGTHSOURCE** (Length Source, String, 5): ***NOT USED.***
- **MANUFACTURER** (Manufacturer, String, 20): ***NOT USED.***
- **WORKORDERID** (Work Order ID, String, 20): Data entry field. Project number.
- **INSERVICEDATE** (In Service Date, Date, 36): Data entry field. Date of pipe installation.
- **INSTALLATIONMETHOD** (Installation Method, String, 20): ***NOT USED.***
- **PROPERTYUNITCODE** (Property Unit Code, String, 20): ***NOT USED.***
- **CPSYSTEMOBJECTID** (CP System ObjectID, Integer, 4): ***NOT USED.***
- **EMERISOLATIONSYSOBJECTID** (Emergency Isolation System ObjectID, Integer, 4): ***NOT USED.***
- **GASPRESSURESYSTEMOBJECTID** (Gas Pressure System ObjectID, Integer, 4): ***NOT USED.***
- **GASSYSTEMOBJECTID** (Gas System ObjectID, Integer, 4): ***NOT USED.***
- **GASTRACEWEIGHT** (Gas Trace Weight, Integer, 4): ***NOT USED.***
- **GISOBJID** (GISEAMID, Integer, 4): Infor EAM number. System generated.
- **LifecycleStatus** (LifecycleStatus, String, 4): **Domain field (DomainName = "wDomainLifecycleStatus")**. Options = P : Proposed | R : Removed | ABD : Abandoned | ACT : Active. All are active.
- **EAMID** (EAMID, String, 30): ***NOT USED.***
- **SHAPE** (Shape, Geometry, 8): System generated.
- **SHAPE.len** (SHAPE.len, Double, 0): System generated.

39. ****sde.SDE.gasStrip2** **This table is *NOT USED.***

- **OBJECTID** (Object ID, OID, 4):
- **SMAP_NAME** (StripMapName, String, 50):
- **SMAP_ANGLE** (Map Angle, Integer, 4):
- **SMAP_NUM** (Number In Series, Integer, 4):
- **SMAP_SCALE** (Plot Scale, Double, 8):
- **SHAPE** (SHAPE, Geometry, 8):
- **SHAPE.area** (SHAPE.area, Double, 0):
- **SHAPE.len** (SHAPE.len, Double, 0):

40. **sde.SDE.gasOdorizer **This table is *NOT USED*.**

- **OBJECTID** (OBJECTID, OID, 4):
- **ANCILLARYROLE** (ANCILLARYROLE, SmallInteger, 2):
- **ENABLED** (Enabled, SmallInteger, 2):
- **CREATIONUSER** (Creation User, String, 20):
- **DATECREATED** (Date Created, Date, 36):
- **DATEMODIFIED** (Date Modified, Date, 36):
- **LASTUSER** (Last User, String, 20):
- **SUBTYPECD** (Subtype, Integer, 4):
- **STORAGECAPACITY** (Storage Capacity, String, 10):
- **OWNER** (OWNER, String, 20):
- **MANUFACTURER** (Manufacturer, String, 5):
- **SERIALNUMBER** (Serial Number, String, 20):
- **PROPERTYUNITCODE** (Property Unit Code, String, 20):
- **GASTRACEWEIGHT** (Gas Trace Weight, Integer, 4):
- **RURALTAPOBJECTID** (Rural Tap ObjectID, Integer, 4):
- **SHAPE** (Shape, Geometry, 8):

41. sde.SDE.gasAbandonedGasPipe - **Line feature class that represents our abandoned low pressure gas pipe. This system was generally cast iron, was installed with the water main and was sometimes used as a carrier pipe to carry a PE high pressure gas main under pavement or some other type of structure.**

- **OBJECTID** (OBJECTID, OID, 4): System generated.
- **CREATIONUSER** (Creation User, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATECREATED** (Date Created, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **DATEMODIFIED** (Date Modified, Date, 36): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **LASTUSER** (Last User, String, 20): ***NOT USED.*** GIS Administrator will replace this in future by editor_tracking.
- **MATERIAL** (MATERIAL, String, 20): **Domain field (DomainName = "Gas_Pipe___Service_Material")**. The pipe material. Most of the pipe is cast iron. Options = CS : Coated Steel | CI : Cast Iron | PL : Plastic | CU : Copper | BS : Bare Steel.
- **NOMINALDIAMETER** (Nominal Diameter, String, 10): **Domain field (DomainName = "Gas_Pipe_Diameter")**. The diameter of the pipe. This is important first to distinguish it from the water main possibly in the same trench and secondly to determine if it can be used to insert a high pressure as the diameter determines what size plastic main can be used. (See standard specs.). Options = 1.5 : 1 1/2" | 30 : 30" | 42 : 42" | 0.5 : 1/2".
- **CONDUITINDICATOR** (Conduit Indicator, String, 5): ***NOT USED.***
- **CONDUITLENGTH** (Conduit Length, String, 20): ***NOT USED.***
- **RETIREDDATE** (Retired Date, Date, 36): Data entry field. This would be the year the pipe was abandoned.
- **REASON** (REASON, String, 50): ***NOT USED.***
- **MANUFACTURER** (MANUFACTURER, String, 20): ***NOT USED.***
- **PROPERTYUNITCODE** (Property Unit Code, String, 20): ***NOT USED.***
- **SHAPE** (Shape, Geometry, 8): System generated.

- **SHAPE.len** (SHAPE.len, Double, 0): System generated.

42. **sde.SDE.gasAssessmentAreas **This table is historic data only.**

- **OBJECTID** (OBJECTID, OID, 4):
- **Date** (Date, Date, 36):
- **Petition** (Petition, String, 15):
- **Project** (Project, String, 15):
- **Assess_Code** (Assess_Code, SmallInteger, 2):
- **SHAPE** (SHAPE, Geometry, 8):
- **SHAPE.area** (SHAPE.area, Double, 0):
- **SHAPE.len** (SHAPE.len, Double, 0):