#### Loading and Viewing a County SQL Database Version 4 – 8/4/2022

## **Tables Of Contents**

Section 1 - Downloading Data Files	Pages 1-2
Section 2 - Loading SQL Data Files	Pages 3-7
Section 3 - Opening the Database File	Pages 8-10
Section 4 - Creating a Database View	Pages 10-13
Section 5 - Helpful SQL Resources	Page 13

## **Downloading Data Files**

1. The installation process of Microsoft SQL Express does not include network connectivity, you must store SQL databases and queries in a local file system. We recommend a file structure similar to the following screenshot.

🏪   🗹 🔒 🛨	Manage Windows (C:)		– 🗆 X
File Home Share View	Drive Tools		~ 😮
$\leftarrow$ $\rightarrow$ $\checkmark$ $\Uparrow$ his PC $\Rightarrow$ Win	dows (C:)	✓ Ū	○ Search Windows (C:)
Name	✓ Date modified	Туре	Size
🔒 .idea	11/2/2021 10:29 PM	File folder	
apps	2/18/2021 2:05 PM	File folder	
🔒 avatar	11/17/2021 10:46 AM	File folder	
	12/7/2019 2:14 AM	File folder	
📙 Program Files	4/11/2022 9:05 AM	File folder	
Program Files (x86)	11/30/2021 9:44 AM	File folder	
SQL_databases	4/12/2022 9:55 AM	File folder	
SQLServer2017Media	2/18/2021 2:27 PM	File folder	
📙 temp	10/12/2021 9:56 AM	File folder	
Users	1/18/2022 6:28 AM	File folder	
	3/18/2022 7:05 PM	File folder	
11 items			

2. Create a folder called **SQL\_databases**. Within that folder create two folders called **ORION\_County\_DB** and **Query\_Scripts** (you will need this folder later).

📙   🛃 🚽 🗧 SQL_databases			_	o x
File Home Share View				~ 🕐
$\leftarrow$ $\rightarrow$ $\checkmark$ $\uparrow$ $\blacksquare$ $\lt$ Windows (C:) $\rightarrow$ SQL	→ × ↑ → « Windows (C:) > SQL_databases			
Name	Date modified	Туре	Size	
ORION_County_DB	4/12/2022 11:37 AM	File folder		
Query_Scripts	4/12/2022 11:38 AM	File folder		
2 items				

- 3. Within a browser, go to <u>Montana State Library FTP</u>, within the SQL database directory, download the **BEGIN HERE.ZIP** and unzip it into a folder called **Documentation**. There is a **Revised Data Dictionary.xlsx & Orion Data File Diagram.pdf** within that folder that will be handy to reference from time to time in the future.
- 4. The county directories are listed by the county number (often referred to as the county license plate number), see a complete list of the counties <u>here</u>. Click on the COUNTY [county number].ZIP to download the SQL database for that county. Move or save that zip file to your ORION\_County\_DB folder.
  - a. There is a Statewide directory (**STATE\_WIDE.ZIP**) but it will run incredibly slow using Microsoft SQL Express. The speed will depend on how many records you need to pull. An example of when you'd want to use the Statewide SQL database is to pull a table from 2-5 counties (i.e. residential buildings for Madison, Gallatin & Park counties).
- 5. You'll need to extract the zip file you previous saved into your ORION\_County\_DB folder. You can either extract the zip file with the default Windows tools that will create a folder to extract the content to or use 7zip to use the method Extract Here to copy the file to the base folder of ORION\_County\_DB. Either method will work fine. The below screenshot shows the folder after the zip file was extracted (COUNTY5 is Lewis & Clark County). Feel free to rename this folder to the county name or to something more recognizable.

📙   🕑 📙 🗕 (COUNTY5			_		×
File Home Share View					~ ?
$\leftarrow$ $\rightarrow$ $\checkmark$ $\uparrow$ $\bigcirc$ $\sim$ ORION_County_DB	> COUNTY5	ب 5	Search COU	JNTY5	
Name	Date modified	Туре	Size		
📴 Output.mdf	4/12/2022 1:46 AM	SQL Server Databa	468,99	2 KB	
1 item					

## Loading SQL Data Files in SQL Server Express

- 1. Open Microsoft SQL Server Management Studio (SSMS)
  - a. Go to Start>Microsoft SQL Server Tools 18>SQL Server Management Studio
     i. Or you may have a desktop icon
  - b. Run the program as administration by right clicking More>Run as Administration
    - i. Or right-click Run as Administration if on the desktop

Dent Connect to Server		×
	SQL Server	
Server type:	Database Engine	~
Server name:	MSLGEOINFO10\SQLEXPRESS	~
Authentication:	Windows Authentication	$\sim$
User name:	STATE	~
Password:		
	Remember password	
		_
[	Connect Cancel Help Options >>	

- 2. You should the screen above. By default, your server name should appear as *Your Computer Name*\SQLEXPRESS. Click **Connect** and you should be connected to the SSMS.
  - a. If you receive an error, it may be related to your server name.
  - b. Try entering in as the Server name either:
    - i. LocalHost\SQLExpress
    - ii. LocalHost

c. If there's still issues, you can try clicking the dropdown menu for Server name and then click **browser for more..**>. Expand **Database Engine** and you should see your local server name. Click on it and then click Ok.

Database Engine			
MSLGEOINFO10\SQL	EXPRESS		~
MSLGEOINFO10\SQLE <browse for="" more=""></browse>	XPRESS		
Browse for Servers		×	
Local Servers Network Servers			
Select the server to connect to:			
Batabase Engine     MSLSEOINFO10XSQLEX	PRESS		
ОК	Cancel H	lelp	

- 3. Attaching a county SQL database file
  - a. Once connected to SSMS, you will see a similar view as the screenshot below:



- b. Right click on the **Databases** folder (on the left side of SSMS navigation screen) and click on **Attach**.
- c. Click the Add button. Navigate to your SQL\_databases/Orion\_County\_DB folder (or whatever you decided to call it in Downloading Data Files > Step 1.) and expand the county database you downloaded. In the county folder, you will find a file with and .mdf extension.

Locate Database Files - MSLG	OINFO10\SQLEXPRESS		— 🗆	×
Database Data File location:	databases\ORION_County_D	B\COUNTY		ρ
OneDrive Temp     PerfLogs     Program Files     Program Files     Program Data     Pyton27     Pyton27     Pyton27     OLdatabases     Occumentation     ORION_County_DB     ORION_County_DB     ORION_County5     SQL2019     STATE_OF_MT     System Volume Informati     Temp     Ouers     Windows     Windows     Windows	n v	ama.mdf		
File name: LewisCla	kCama.mdf	Database Data F	Files(*.mdf)	$\sim$
		ОК	Cancel	

- d. By default, this file will be named County **Output.mdf**. You can rename these files within the Windows/File Explorer window to **LewisClarkCama.mdf**, (as shown in the screenshot above) or to the county you are working with.
- e. In the previous screenshot we **renamed (prior to attaching)** the .mdf file to something more recognizable than just "Output". Click on desired file you want to attach and then click **OK**.

🗑 Attach Databases					-		×
Select a page	🖵 Script 👻 😯 Help	)					
Ceneral							
	Databases to attach:						
	MDF File Locat	ion		Database	Name		Atta
	C:\SQL_datab	ases\ORION_C	ounty_DB\COUN	Output			Out
	¢						>
				Add		Remove	
	"Output" database del	tails:					
Connection	Original File Name	File Type	Current File Path		Message		
Server:	Output.mdf	Data	C:\SQL_databas	es\ORI	Not Foun	d	
MSLGEOINF010\SQLEXPRESS	Output.ldf	Log	C:\SQL_databas	es\ORI	Transacti	on log file i	n
Connection:							
Y <u>View connection properties</u>							
Progress							
Ready							
Seat of the second seco				Add Catalog		Remove	
					ОК	Can	cel

f. At this point, you should see the screen below:

- g. Click on the box outlined in red. This will take you back to your original local database folder. Click **on the file with the .mdf extension** in this case we had called the file **LewisClarkCama.mdf** and click **Ok**.
- h. At this point your screen should look like the following screen below:

🗑 Attach Databases					-		×			
Select a page	🖵 Script 🔻 😯 Help									
Ceneral										
	Databases to attach:	Databases to attach:								
	MDF File Location		[	atabase	Name		Atta			
	C:\SQL_databas	)utput			Out					
	<						>			
			hA	4		Remove				
	"O. 4									
-	Original File Name	S.	Current Die Deth		Manager		_			
Connection	LewisClarkCama mdf	Data	C:\SQL databases\ORI		message					
Server: MSLGEOINFO10\SQLEXPRESS	Output ldf	Log	C:\SQL databases\ORI		Transacti	ion log file i	n			
Connection:		-				-				
Connection.										
View connection properties										
Progress										
Ready										
rieduy			Add Ca			Remove				
			Aud Co	taiog		TIGHTO YO				
					OK	Car	cel			
					UK	Can	COI			

i. Click on the Output box, highlighted in red (below) under the Attach As column and rename this to county name you're working with (i.e. LewisClarkCama).

🗎 Attach Databases						-		×
Select a page	🖵 Script 👻 😯 Help							
Ceneral General								
	Databases to attach:							
	MDF File Location	on	D	atabase N	ame	A	tach As	
	C:\SQL_databa	ises\ORION_C	ounty_DB\COUN 0	lutput		0	lutput	
			_					
	<							>
					Add		Remove	
	"Output" database deta	ails:						
Connection	Original File Name	File Type	Current File Path		Message			
Server:	Output.mdf	Data	C:\SQL_databases\ORIC	)	Not Found			
MSLGEOINFO10\SQLEXPRESS	Output.ldf	Log	C:\SQL_databases\ORIC	)	Transaction	log file no	t found. A	ne
Connection:								
View connection properties								
Progress								
Ready								
Weas of				Ad			Remove	
						ОК	Ca	ncel
						UN	Ca	

j. Click on the **Output\_log.ldf** box outlined in green. At this point there is no log file associated with the database. When you click on the box the **Remove** button highlighted by the purple box will activate. Click **Remove**. Click **OK**.

🗑 Attach Databases								-		×
Select a page	🖵 Scr	pt 🔻 😯 Help								
Seneral General										
	Data	bases to attach:								
		MDF File Locatio	n			Database Name		Attach /	As	
		C:\SQL_databa	ses\ORION_Count	ty_DB\COUN		Output		LewisC	larkCama	
	< "Outr	ut" database deta	ils:			A	dd		Remove	>
Connection	Origi	nal File Name	File Type	Current File P	ath		Message			
Server		and an df	Data	C:\SQL_data	abase	es\ORION	Not Found	ł		
MSLGEOINFO10\SQLEXPRESS	Out	out.ldf	Log	C:\SQL_data	abase	es\ORION	Transactio	on log file n	not found.	A
Connection:										
Progress										
C Ready						Add C	atalog		Remove	
								ОК	Cano	xel

- k. If you expand your database folder on the left, you will see that the database is attached with the name you chose to rename the database in step 3d (or if you didn't rename it will be "Output").
- MSLGEOINFO10\SQLEXPRESS (SQL Se



1. If you encounter an error, like the error prompt below, it may mean you did not run the program as administrator, see **Step 1b**.



## **Opening the Database and Performing some Basic Queries**

1. Within SQL Management Studio, expand the county database you just attached to by clicking the plus sign. Expand the Tables folder and you will see a list of database tables starting with **dbo.[table name]** (you can do this in left hand pane as shown or by double clicking the county database and Tables in the left-hand pane).



- 2. Right click on any of the tables and click on **Select top 1000 Rows**. The contents of the table will display in a manner similar to most databases you may be familiar with.
- 3. To create a simple query, click **New Query** on the toolbar (button is highlight in red below).

💀 Microsoft SQL Server Management Studio (Administrator)	Quick Launch (Ctrl+Q)	P	_ =	x
File Edit View Tools Window Heln				
🕺 G - O   約 - 台 - 😩 🖴 🥻 🚨 New Query 🟮 🔊 🖓 🖓 🎧 🕼 🕼 / スロ 白   ジ - ペ -   🖾   -   声	- 🗔 🌶 🖮	Þ • .		

- a. When setting up a SQL statement, you always want to start with Select \* from [table]. By putting this in the statement, it will select every column in the table. Unless you only want to display certain fields, then you wouldn't put an asterisk (\*).
- b. An example of this is Select \* from Res. If you are only connected to one database, it should auto-populated the 'Res' portion and know what table you're talking about. In other cases, you may need to lead with the database name (i.e. LewisClarkCama.dbo.Res) to complete the first line of the statement.

SQLQu	ery1.sql - MSTATE\ 📴 👘 👘 😕 🔀
9	Select * from Res
	i. If you hover over 'Res' it should spell out the full name of the table
	SQLQuery1.sql - MSTATE\
	□Select * from Res

table LewisClarkCama.dbo.Res

c. Next, you need to add a 'Where' clause. This is prompting the SQL statement to ask basic questions and the results will provide in a table below. For example, if you want to know how many residential structures are built the year 2000 and after (meaning greater than or equal to), you could set up your where clause like this: Where YearBuilt >= 2000 And TaxYear = '2022'.

SQ	LQuery1.sql - MSTATE\
	⊖Select * From Res
	Where YearBuilt >= 2000 And TaxYear = '2022'

- d. Click **Execute** to view the results of query.
- e. Results will vary depending on the county database you have attached. Below is a screenshot of the results from the Lewis & Clark Cama database.

TIESTD.	PropertyID	TaxYear	ResType	Style	Style_Desc	Grade	ClassCode	YearBuilt	EffectiveYear	StoryHeight	Attic	Attic_Desc	ExtWall	ExtWall_Desc	ExtWallFinish	ExtWallFinish_Desc	
424767230	547192	2022	MH	Double Wide	DW	G	6201	2020.000000	NULL	1.0	0	0 - None	Frame	NULL	5	5 - Maintenance Free Aluminum/Vinyl/Ste	
324950757	511878	2022	SFR	08	08 - Conventional	6	3301	2014.000000	NULL	2.0	0	0 - None	1	1 - Frame	3	3 - Masonite	
382355061	511887	2022	SFR	03	03 - Ranch	5	3301	2003.000000	NULL	1.0	0	0 - None	1	1 - Frame	3	3 - Masonite	
419874454	511882	2022	SFR	03	03 - Ranch	5	3110	2004.000000	NULL	1.0	0	0 - None	1	1 - Frame	3	3 - Masonite	
287634528	511883	2022	SFR	08	08 - Conventional	6	3301	2008.000000	NULL	1.0	3	3 - Fully Finished (40%)	1	1 - Frame	3	3 - Masonite	
260597486	511867	2022	SFR	03	03 - Ranch	5	3301	2010.000000	NULL	1.0	0	0 - None	1	1 - Frame	3	3 - Masonite	
414922901	511852	2022	SFR	08	08 - Conventional	5	3301	2011.000000	NULL	1.0	0	0 - None	1	1 - Frame	6	6 - Wood Siding or Sheathing	
398527690	549123	2022	MH	Single Wide	SW	A	6201	2000.000000	NULL	1.0	0	0 - None	Frame	NULL	5	5 - Maintenance Free Aluminum/Vinyl/Ste	
289600635	549122	2022	MH	Single Wide	SW	G	6201	2000.000000	NULL	1.0	0	0 - None	Frame	NULL	3	3 - Masonite	
342416398	549130	2022	MH	Single Wide	SW	L	6201	2000.000000	NULL	1.0	0	0 - None	Frame	NULL	3	3 - Masonite	
357571767	549133	2022	MH	Single Wide	SW	G	6201	2000.000000	NULL	1.0	0	0 - None	Frame	NULL	3	3 - Masonite	
425114079	549175	2022	MH	Single Wide	SW	A	6201	2000.000000	NULL	1.0	0	0 - None	Frame	NULL	6	6 - Wood Siding or Sheathing	
394613583	549177	2022	MH	Single Wide	SW	A	6201	2000.000000	NULL	1.0	0	0 - None	Frame	NULL	3	3 - Masonite	
392669429	549179	2022	MH	Single Wide	SW	Α	6201	2000.000000	NULL	1.0	0	0 - None	Frame	NULL	6	6 - Wood Siding or Sheathing	
342516160	549205	2022	MH	Double Wide	DW	G	6201	2000.000000	NULL	1.0	0	0 - None	Frame	NULL	3	3 - Masonite	
342502060	549202	2022	MH	Double Wide	DW	G	6201	2000.000000	NULL	1.0	0	0 - None	Frame	NULL	3	3 - Masonite	
342473244	549363	2022	MH	Single Wide	SW	G	6201	2000.000000	NULL	1.0	0	0 - None	Frame	NULL	5	5 - Maintenance Free Aluminum/Vinyl/Ste	
	549266	2022	MH	Single Wide	CM .	C	6201	2000 00000	NULL	10	0	0 - None	Frame	NULL	3	2 . Maennita	

- f. As you can see from the above table, there are 8,091 rows, which means there are that many houses built the year 2000 and later.
- g. Continue to add to this query if you wanted to know how many of those residents where single-family homes which the code within the database is 'SFR'.

```
SQLQuery1.sql - M...STATE\cwb374 (54))* + ×

□ Select * From Res

Where (YearBuilt >= 2000 And ResType = 'SFR' And TaxYear = '2022')
```

h. Expanding on this query further, if you wanted how many houses were built the year 2000 and later, that were a single-family home and had a metal roof.

i. For additional help on creating additional SQL statements, see the <u>SQL Helpful</u> <u>Resources</u> section on the last page of these tutorial.



## **Creating a Database View**

- 1. There are two purposes for creating a database view: (1) is to limit the number of fields that you see with the results table and (2) is to join other tables together and pull off certain fields that you are interested in for a property or building.
- 2. The Montana State Library provides for download a small number of "canned" database views. If you downloaded the **BEGINHERE.zip** you should already have a Query\_Scripts folder. If you do not already have this folder, download the **QueryScripts.zip** on the Montana State Library FTP.
- 3. In either scenario you acquired the query scripts, copy the **.sql files** (should be seven files) into your **Query Scripts** folder that you created in Downloading Data Files > Step 2.



4. For this example, we will import the ResidentialBuilding\_View.sql file. Within SQL Management Studio, click File>Open>File and navigate to your Query\_Scripts folder. Select the ResidentialBuilding\_View.sql file or any of the other files if it suits your purpose better and click Open. At this point you may (ignore this warning if you do not) see the query with a lot of red underlines as in the screenshot below. The red underlines

indicate an error in the query. That is because the query is not attached to your county database but to the master database (see red box).



- Click the dropdown arrow where you see "master" and change it to your county database. The red underlines should disappear indicating that the script is good to run. Click Execute – the green box on the screenshot above. You should see a message that says Command(s) completed successfully.
- 6. A new view table is created from the previous result. Expand the Views folder to see **dbo.Residental\_View**. If you don't see this view table, right-click on the Views folder and click Refresh.
- 7. Right-click on the **dbo.Residental\_View** and click on **Select Top 100 Rows** to open it. This view shows information about every residential building that the Department of Revenue has information on for the county.

100 %	SELEC TOP (1000) (Tawasa) (Assessment (LevyDistr (CAMA Township) (Range) (Section) (PermacvO	ntCode] rict] nship]	del	and Trom SSHS					,	<b>⊥</b>
III	Results 📲 Messages									
	Geocode	TaxYear	AssessmentCode	LevyDistrict	CAMA Township	Township	Range	Section	PrimaryOwner	^
1	05188725438030000	2021	000007480	05-048701-0101	1887	10 N	04 W	25	WINSOR PEARL L	
2	05188831145290000	2021	0000007481	05-048701-0101	1888	10 N	03 W	31	SCHADE PETER	
3	05188832234150000	2021	000007482	05-048701-0101	1888	10 N	03 W	32	HULME JANET	
4	05188724109170000	2021	000007483	05-048701-0101	1887	10 N	04 W	24	FREEMAN ZACHARY	J
5	05188819415120000	2021	000007484	05-048701-0101	1888	10 N	03 W	19	HOLLOW CAROL C	
6	05188830436190000	2021	000007485	05-048702-0102	1888	10 N	03 W	30	LIFE COVENANT CHU	F
7	05188724326130000	2021	000007486	05-048701-0101	1887	10 N	04 W	24	1626 HENDERSON LL	
8	05188725116130000	2021	000007487	05-048701-0101	1887	10 N	04 W	25	METZGER IAN D & CH	1
9	05188725131050000	2021	000007489	05-048701-0101	1887	10 N	04 W	25	U & M ENTERPRISES	l I
10	05188724119030000	2021	000000433	05-048701-0101	1887	10 N	04 W	24	STURM GARY L & KA	R
11	05188830411150000	2021	000007490	05-048701-0101	1888	10 N	03 W	30	FEHLIG KATHRYN MA	AI .
12	05188724126290000	2021	000007493	05-048701-0101	1887	10 N	04 W	24	KNATTERUD RICHAR	13
13	05188832227010000	2021	000007494	05-048701-0101	1888	10 N	03 W	32	LYNCH JEREMIAH & T	n ., I
<									>	
<b>9</b> Q	uery executed successf	ully.	MSLGE	OINFO10\SQLEXP	RESS (15	4 (60	))   Lewis	ClarkCam	a   00:00:03   1,000 rov	vs

8. To open the entire results for the residential building view, change the query within green box you see in the upper screenshot. Remove **TOP (1000)** from the SQL statement, similar to the screenshot below.

7 Design for Desceroping
SELECT [Geocode]
,[TaxYear]
,[AssessmentCode]
,[LevyDistrict]
[CAMA Townshin]

9. Click **Execute** to view the results.

10. In the example above, the total number of residential buildings in the county are **20,985**.

	Kesuits 🗎 Messages														
	Geocode	TaxYear	AssessmentCode	LevyDistrict	CAMA Township	Township	Range	Section	PrimaryOwner	PropertyAddress	Fronting	ResType	Style_Desc	YearBuilt	EffectiveYe 🔨
1	05168301304010000	2022	000008262	05-048903-0203	1683	08 N	06 W	01	LENMARK PETER O	NULL		SFR	11 - Log	1990	NULL
2	05168504201060000	2022	000008504	05-048903-0203	1685	08 N	05 W	04	MARTIN JAMES W	3642 RIMINI RD, HELENA, MT 59601		SFR	08 - Conventional	1977	NULL
3	05168504201110000	2022	0000033146	05-048903-0203	1685	08 N	05 W	04	MCNAIR ERIC	NULL		SFR	14 - Other	2007	NULL
4	05168504201150000	2022	000008631	05-048903-0203	1685	08 N	05 W	04	MARTIN CRAIG & LEAH	3638 RIMINI RD, HELENA, MT 59601		SFR	11 - Log	1929	1975
5	05168504201170000	2022	0000033148	05-048903-0203	1685	08 N	05 W	04	MCNAIR ERIC C	3625 RIMINI RD, HELENA, MT 59601		SFR	11 - Log	1994	NULL
6	05168504201210000	2022	0000026017	05-048903-0203	1685	08 N	05 W	04	ROSS DOUGLAS D FAMILY TRUST	NULL		SFR	08 - Conventional	1991	NULL
7	05168504201230000	2022	000008518	05-048903-0203	1685	08 N	05 W	04	RYAN PETER & TAMMY	3624 RIMINI RD, HELENA, MT 59601		SFR	11 - Log	1910	1960
8	05168504201250000	2022	0000009098	05-048903-0203	1685	08 N	05 W	04	HARDING CHARLES W & SHEILA J	3615 RIMINI RD, HELENA, MT 59601		SFR	08 - Conventional	1915	1960
9	05168504201250000	2022	0000009098	05-048903-0203	1685	08 N	05 W	04	HARDING CHARLES W & SHEILA J	3615 RIMINI RD, HELENA, MT 59601		SFR	08 - Conventional	1915	1960
10	05168504201250000	2022	000009098	05-048903-0203	1685	08 N	05 W	04	HARDING CHARLES W & SHEILA J	3615 RIMINI RD, HELENA, MT 59601		SFR	11 - Log	1915	1960
11	05168504301040000	2022	0000031699	05-048903-0203	1685	08 N	05 W	04	HITZEROTH BARBARA A	NULL		SFR	08 - Conventional	2011	NULL
12	05168504301160000	2022	0000025639	05-048903-0203	1685	08 N	05 W	04	MARGOTAT JESSICA	4395 RIMINI RD, HELENA, MT 59601		SFR	08 - Conventional	2004	NULL
13	05168504301180000	2022	0000031704	05-048903-0203	1685	08 N	05 W	04	MEEKER RICHARD L	NULL		SFR	03 - Ranch	2005	NULL
14	05168504301240000	2022	0000026102	05-048903-0203	1685	08 N	05 W	04	MILLER MICHAEL J & KAYLIN J	3781 RIMINI RD, HELENA, MT 59601		SFR	11 - Log	1994	NULL
15	05168504301260000	2022	0000025365	05-048903-0203	1685	08 N	05 W	04	TUBER RICK & NANCY	4445 RIMINI RD, HELENA, MT 59601		SFR	03 - Ranch	1992	NULL
16	05168504301320000	2022	0000035925	05-048903-0203	1685	08 N	05 W	04	HABEL DELORES H	NULL		SFR	11 - Log	2001	NULL
17	05168505401070000	2022	0000033165	05-048903-0203	1685	08 N	05 W	05	BAILEY DAN & LEA ANN	NULL		SFR	11 - Log	1994	2002
18	05168508101030000	2022	0000031705	05.048903.0203	1695	08 N	05 W	08	COGLEY H DAVID & HELEN I	4353 RIMINI RD HEI ENA MT 59601		SEB	08 - Conventional	2005	MERT Y
<															,
<b>O</b> Q	uery executed successfi	ully.								MSLGEOINFO10\SQLEXPRES	SS (15   S	TATE	LCCama	00:00:01	20,985 rows

- 11. Similar to the example outlines in the previous section, "Performing some basic queries", you can add to this script to answer certain questions.
- 12. The question you may want answered is how many residential structures were built before 1970, have 3 or more bedrooms and do not have a metal roof.

SQLQuery2.sql - MSTATE
,[Basement]
, [HeatSystem]
,[HeatType]
,[HeatFuel]
,[Subdivision]
,[InterestType]
FROM [LewisClarkCama].[dbo].[ResidentialBuilding_View]
WHERE YearBuilt < 1970 AND Bedrooms >= 3 AND RoofMaterial <> '5 - Metal'

#### 13. The table returned 4,059 records

100 %	•												•
III F	Results 📲 Messages												
	Geocode	TaxYear	AssessmentCode	LevyDistrict	CAMA Township	Township	Range	Section	PrimaryOwner	PropertyAddress	Fronting	ResType	Style \land
1	05178101301050000	2022	000008787	05-048903-0203	1781	09 N	05 W	01	KAUFFMAN MICHAEL A & KYLA C	1532 COLORADO GULCH DR, HELENA, MT 59601		SFR	- 80
2	05178101401010000	2022	000008135	05-048903-0203	1781	09 N	05 W	01	BAKER MARK A & DEVLIN BAKER JENNIFER	1561 COLORADO GULCH DR, HELENA, MT 59601		SFR	11+
3	05178101401050000	2022	000008261	05-048903-0203	1781	09 N	05 W	01	DOYLE THOMAS & TAMMIE J	1480 COLORADO GULCH DR, HELENA, MT 59601		SFR	08 -
4	05178101401130000	2022	0000024181	05-048903-0203	1781	09 N	05 W	01	JOHN THOMAS C & AUTUM	1462 COLORADO GULCH DR, HELENA, MT 59601		SFR	08 -
5	05178103201190000	2022	000008272	05-048903-0203	1781	09 N	05 W	03	KUNTZ MATTHEW JOHN & MARINA ALEKSANDROVNA	1323 RIMINI RD, HELENA, MT 59601		SFR	11 -
6	05178112103060000	2022	0000026962	05-048903-0203	1781	09 N	05 W	12	ULLREY JEFF & TRACY	1735 COLORADO GULCH DR, HELENA, MT 59601		SFR	08 -
7	05178112103070000	2022	000008484	05-048903-0203	1781	09 N	05 W	12	BURGOYNE JAMES A & KRISTIN L HAN	1695 COLORADO GULCH DR, HELENA, MT 59601		SFR	11 -
8	05178112104030000	2022	0000009114	05-048903-0203	1781	09 N	05 W	12	BUFFALO DANIEL ETAL	1722 COLORADO GULCH DR, HELENA, MT 59601		SFR	08 -
9	05178112105030000	2022	000008220	05-048903-0203	1781	09 N	05 W	12	SIMPSON KAREN L TRUST	1632 COLORADO GULCH DR, HELENA, MT 59601		SFR	08 -
10	05178112105050000	2022	000008912	05-048903-0203	1781	09 N	05 W	12	PASSAMANI JOSEPH C & JACQUELINE G	1610 COLORADO GULCH DR, HELENA, MT 59601		SFR	06 -
11	05178112401030000	2022	000008744	05-048903-0203	1781	09 N	05 W	12	NICKEL STEVEN G CO-TRUSTEE & SUCCESSOR TRUSTEE	1930 COLORADO GULCH DR, HELENA, MT 59601		SFR	08 -
12	05178112401060000	2022	0000040053	05-048903-0203	1781	09 N	05 W	12	AHMANN RICHARD A & JENNIFER L	1890 COLORADO GULCH DR, HELENA, MT 59601		SFR	05 -
13	05178112401070000	2022	000008257	05-048903-0203	1781	09 N	05 W	12	DOUGLAS ROBERT G & DONNA LEE	1866 COLORADO GULCH DR, HELENA, MT 59601		SFR	08 -
14	05178112401090000	2022	000009167	05-048903-0203	1781	09 N	05 W	12	PUTNAM KAREN K & STANLEY R	1852 COLORADO GULCH DR, HELENA, MT 59601		SFR	02 -
15	05178112402110000	2022	000008825	05-048903-0203	1781	09 N	05 W	12	POWELL JAMES L	6081 POWELL RD, HELENA, MT 59601		SFR	08 -
16	05178112402170000	2022	000008068	05-048903-0203	1781	09 N	05 W	12	DYLL JOYCE MTRUSTEE	1851 COLORADO GULCH DR, HELENA, MT 59601		SFR	11 -
17	05178112402230000	2022	000008553	05-048903-0203	1781	09 N	05 W	12	FIELD CHRISTOPHER A & MICHELLE	1813 COLORADO GULCH DR, HELENA, MT 59601		SFR	08 -
19 <	05178113401090000	2022	0000029808	05-048903-0203	1781	N P0	05 W	13	ANDERSON SCOTT R & DERRA &	6159 MOOSE CREEK RD HEI ENA MT 59601		CEB	×
🔊 Qı	uery executed successfu	ully.							MSLGEOIN	FO10\SQLEXPRESS (15   STATE\	ama   00:	00:00 4,05	59 rows

# **SQL Helpful Resources**

- 1. W3Schools SQL Tutorial: https://www.w3schools.com/sql/
- 2. Codecademy Learn SQL: https://www.codecademy.com/learn/learn-sql
- 3. Learn SQL: <u>https://learnsql.com/</u>
- 4. Khan Academy Intro to SQL: <u>https://www.khanacademy.org/computing/computer-programming/sql</u>
- 5. SQLZoo: https://sqlzoo.net/wiki/SQL\_Tutorial

#### **Contact Information**

I'd like to thank you for going through this tutorial document and I hope you found it helpful. If you have any additional questions, feel free to reach out to me and I'd be happy to set up a teleconference meeting to answer your questions or to discuss potential solutions you may be experiencing. My contact information is below:

## Jeff Hedstrom, Cadastral Theme Lead/GIS Analyst

<u>ihedstom@mt.gov</u>
 406.444.5371

msl.mt.gov/geoinfo

