

The National Grid Standard Maps Structures Data

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Governor's Council Emergency
Preparedness Committee

United States National Grid (USNG)

- National standard
 - Adopted by FGDC in 2001
- Implemented by federal agencies
 - Department of Homeland Security
 - National Geospatial-Intelligence Agency
 - USGS – National Map
- Adopted by several states
 - Florida, Missouri, North Carolina, others
 - Minnesota (March 25, 2009)

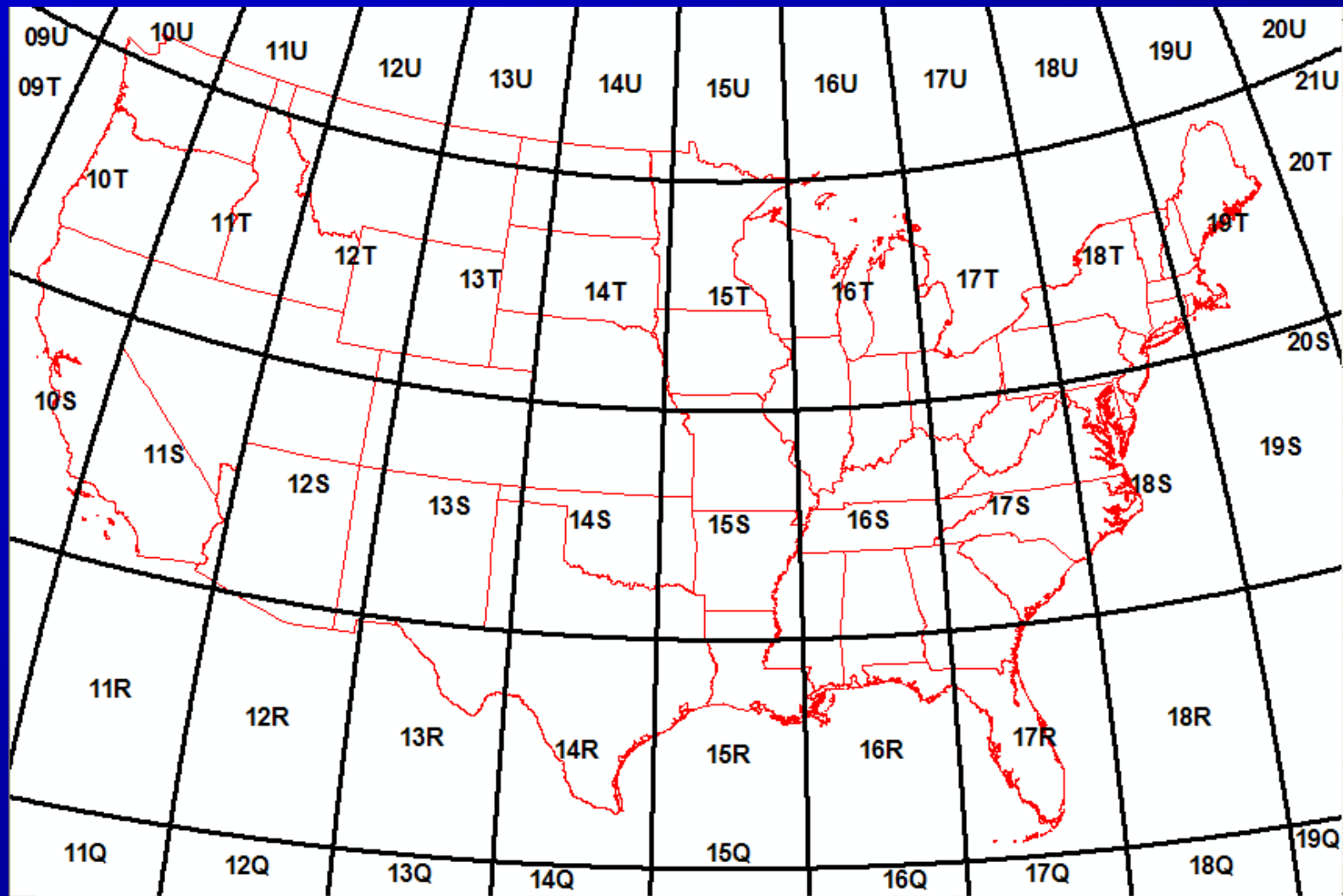
History

- Originated as the Military Grid Referencing System (MGRS)
 - Global system
 - Developed in World War 2
 - Adapted from Universal Transverse Mercator (UTM) system
- Interoperable with MGRS and UTM

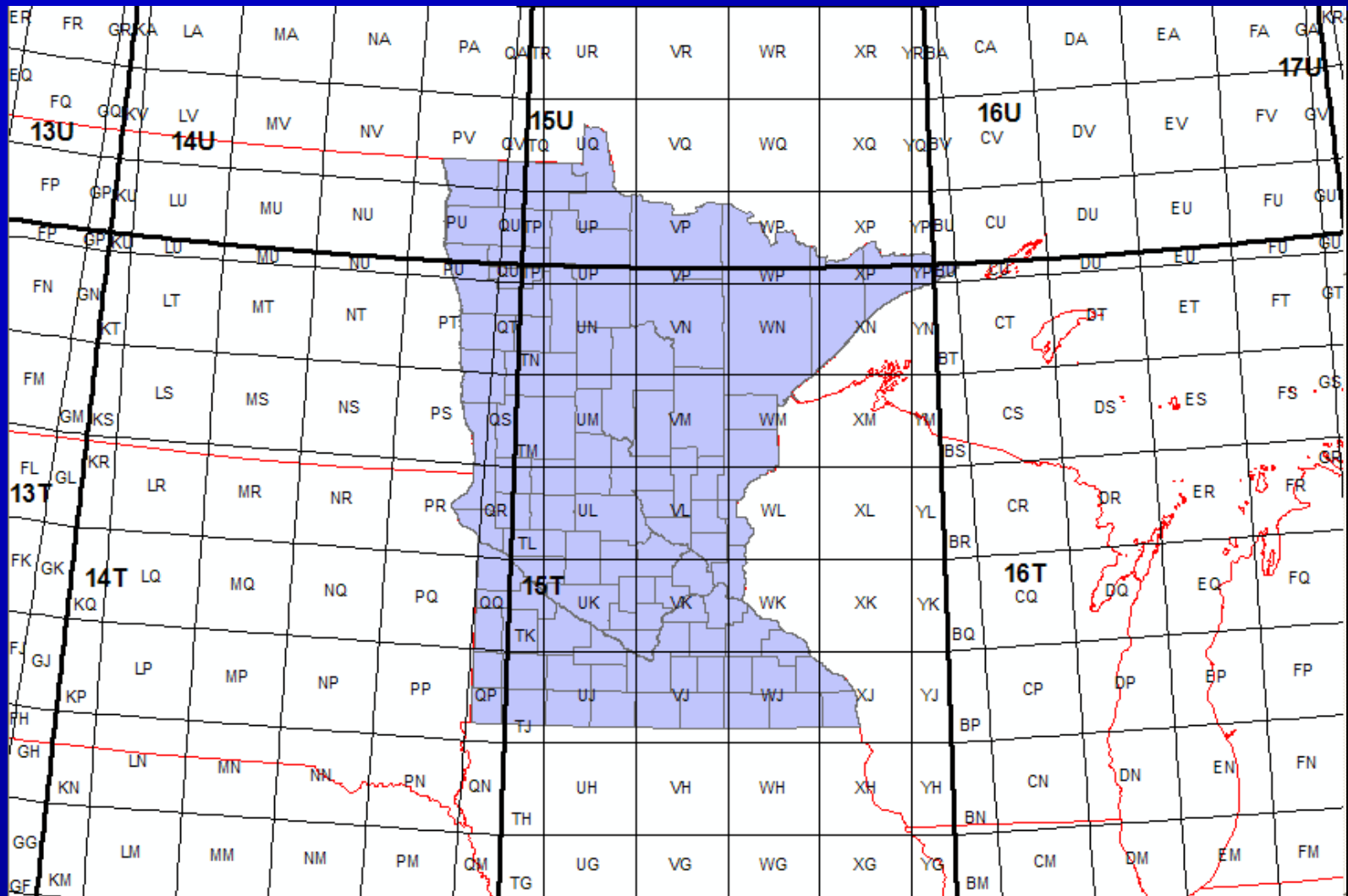
Why?

- Not a replacement for data storage
- Not a replacement for existing systems
 - Addresses, PLS, Lat / Long, county coordinates, other grids
- Supplement for efficient, interoperable location referencing and navigation

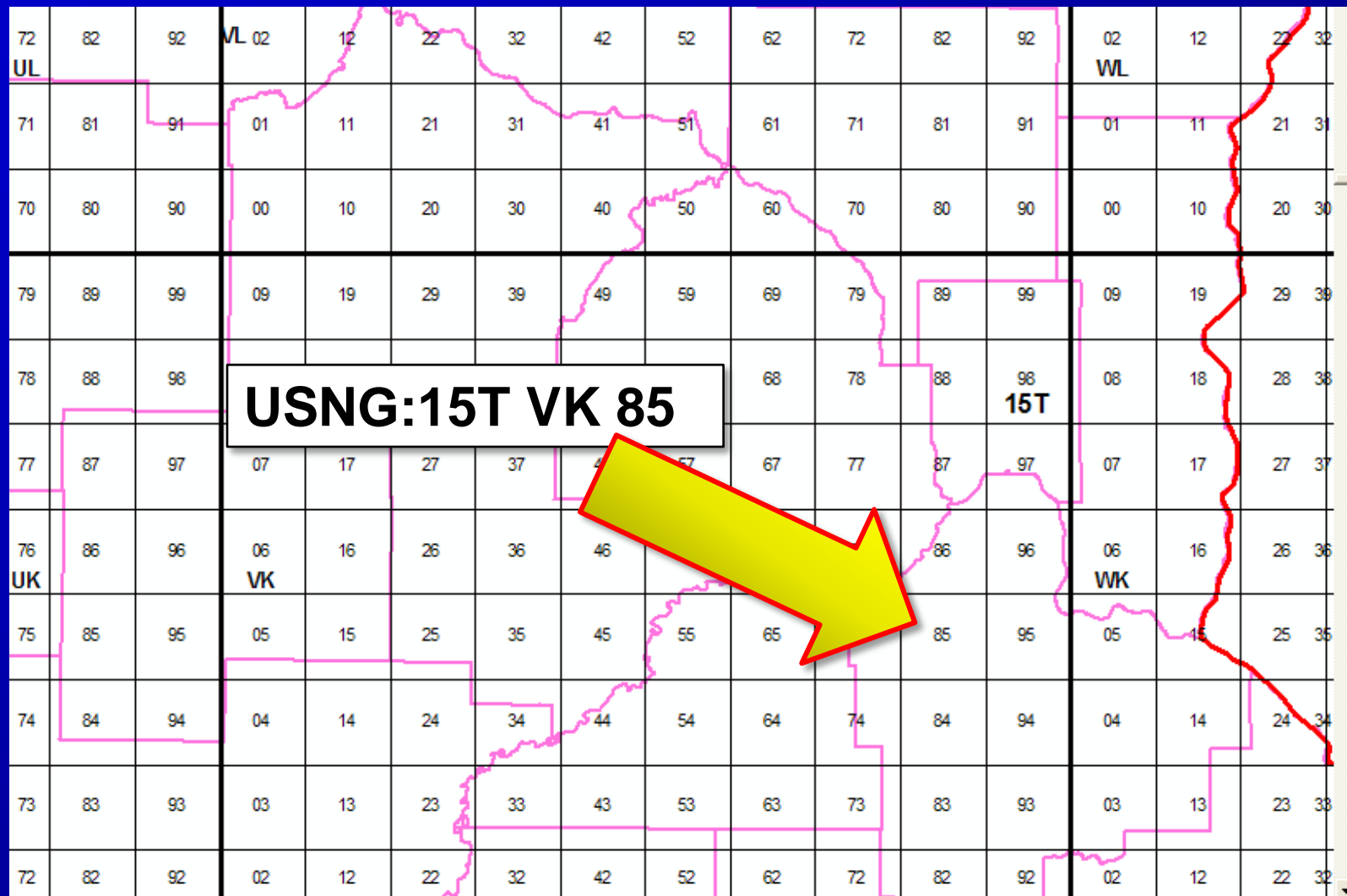
Grid Zone Designation 6 x 8 Degrees



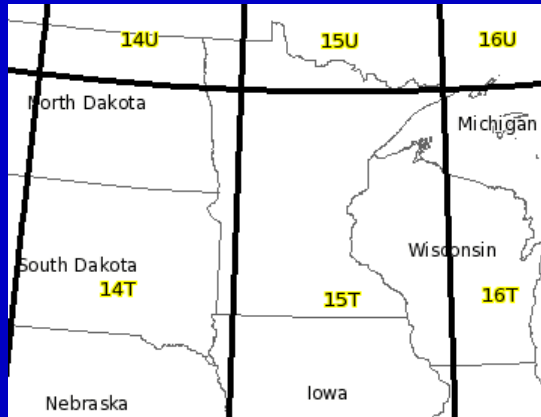
100 Km Squares



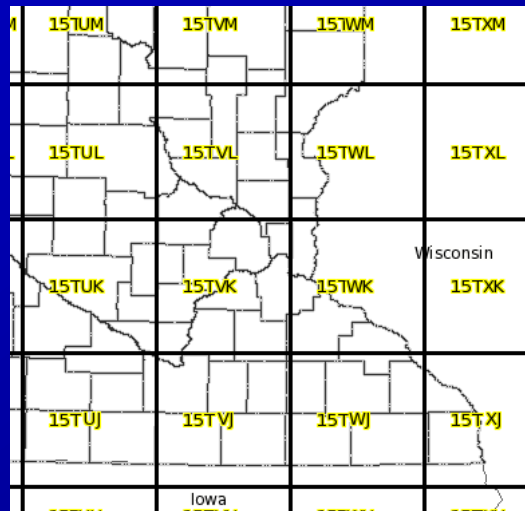
10 Km Squares



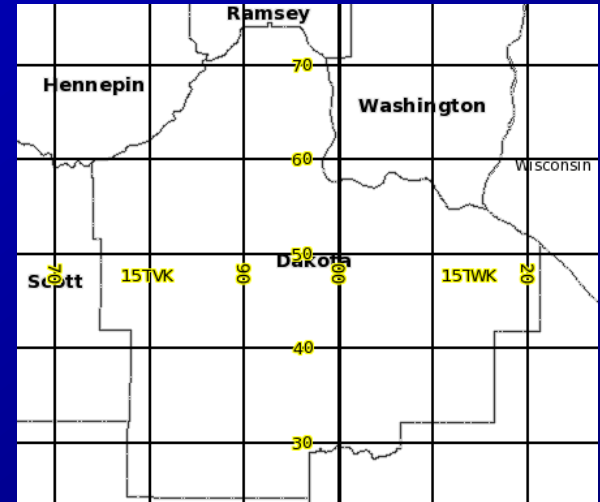
Scalable



National



Regional

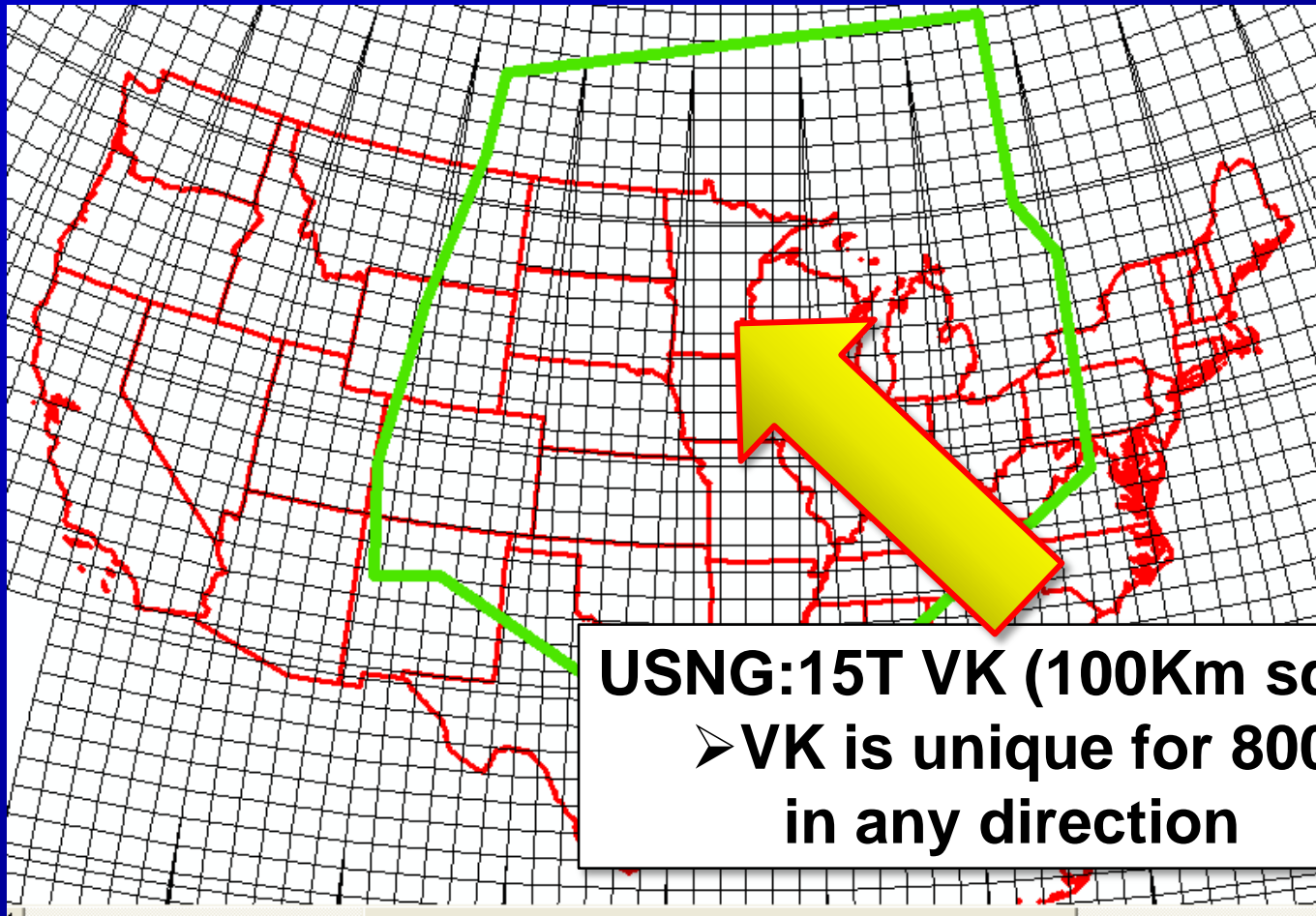


Local

Precision and Truncation

- 18SUJ2337106519
 - 18S – UJ – 23371 – 06519
 - 1 meter square, full USNG designation
 - UJ2306
 - Assume GZD (18S)
 - UJ – 100,000 m square
 - 23 06 – 1000 m (1 km) square
 - 2337 0651
 - Assume GZD and 10 km square

Truncating



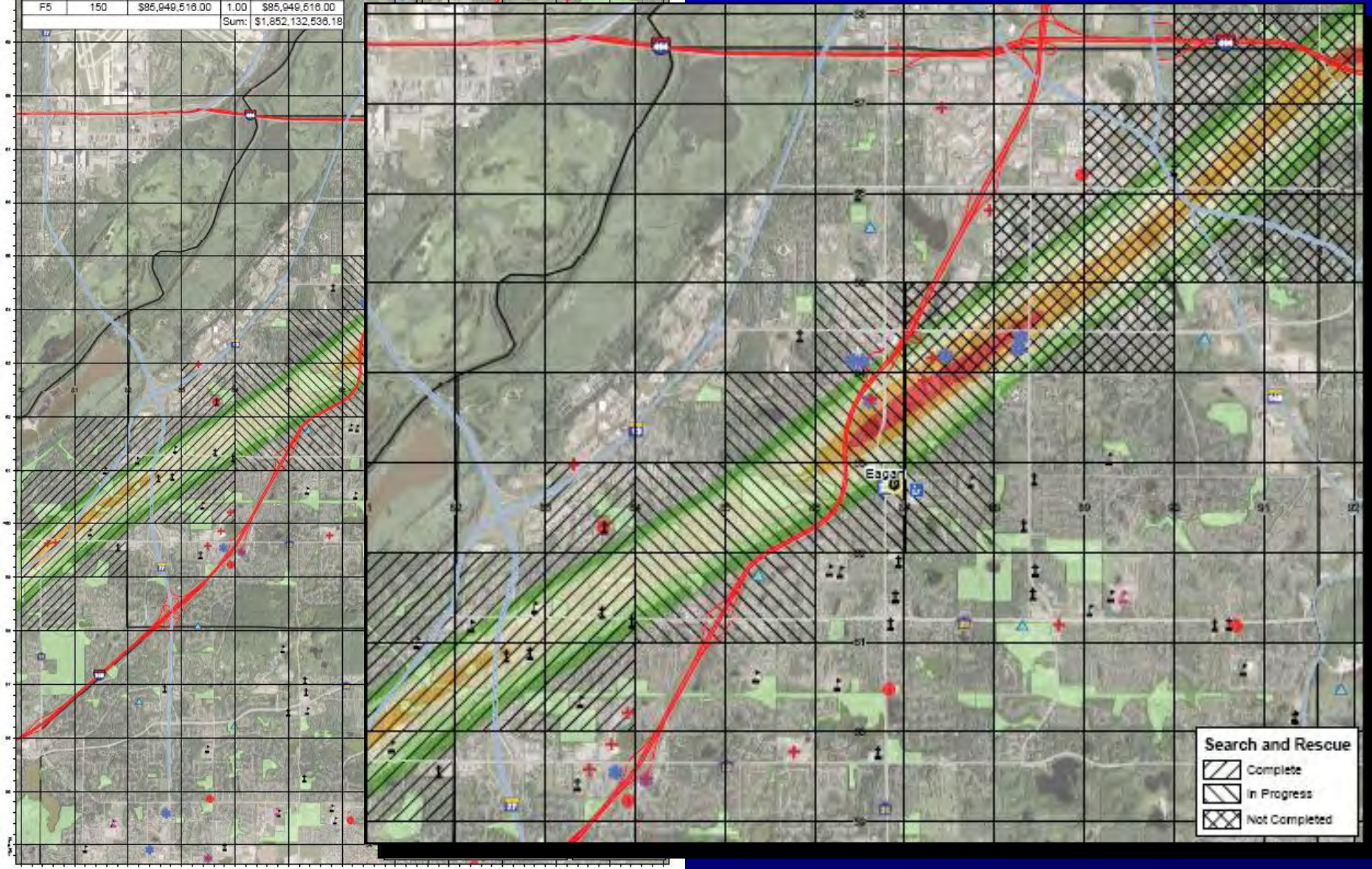


Simulated Tornado Path

This map shows a simulated tornado path from the City Hall in Burnsville to the City Hall in South St. Paul. The path was taken from the Moore, Oklahoma tornado of 1999. The damage estimate was calculated using current property and building values in Dakota County.

| Strength | # of Parcels | Unadjusted Value | Ratio | Adjusted Value |
|----------|--------------|------------------|-------|--------------------|
| F1 | 4965 | \$141,989,436.48 | 0.10 | \$14,198,943.65 |
| F2 | 3172 | \$771,614,261.19 | 0.60 | \$617,291,408.95 |
| F3 | 2584 | \$709,690,661.75 | 0.60 | \$638,721,622.58 |
| F4 | 718 | \$495,971,145.00 | 1.00 | \$495,971,145.00 |
| F5 | 150 | \$85,949,516.00 | 1.00 | \$85,949,516.00 |
| | | Sum: | | \$1,852,132,636.18 |

Status Mapping



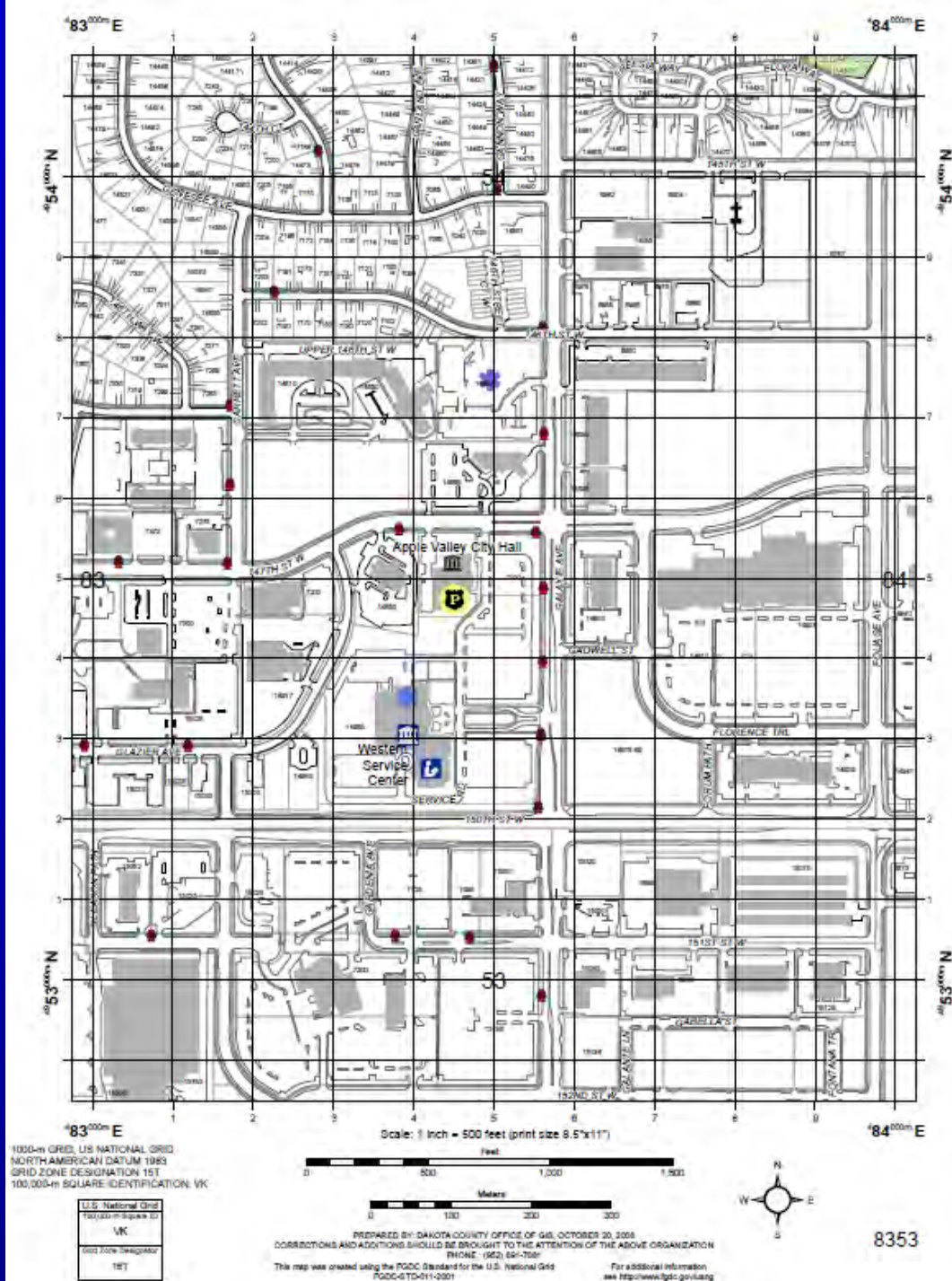
County-Wide Fire Maps

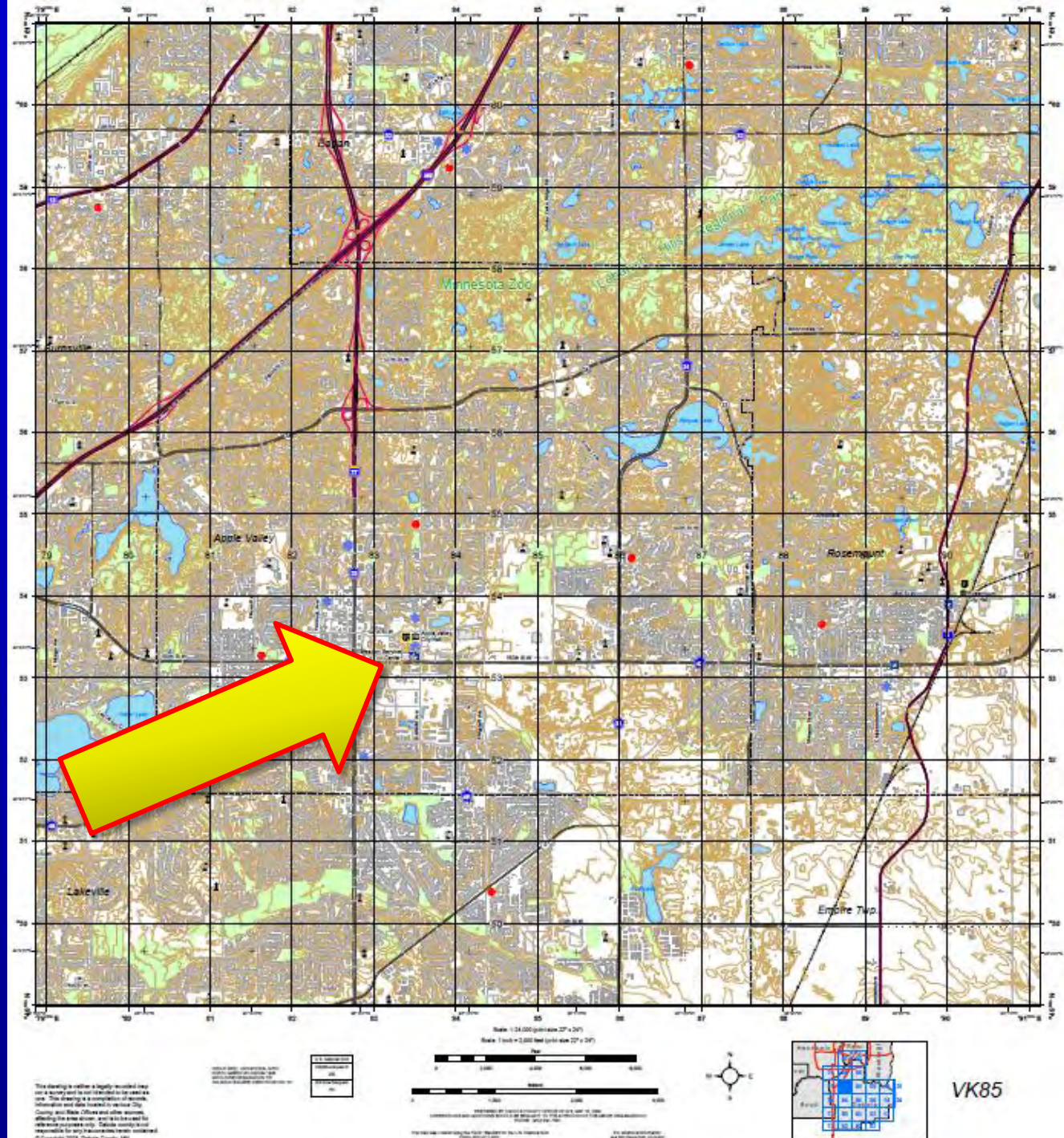
- Fire Chiefs
- Mutual Aid
- Collaborative project
- Alignment with other efforts
- The United States National Grid

Map

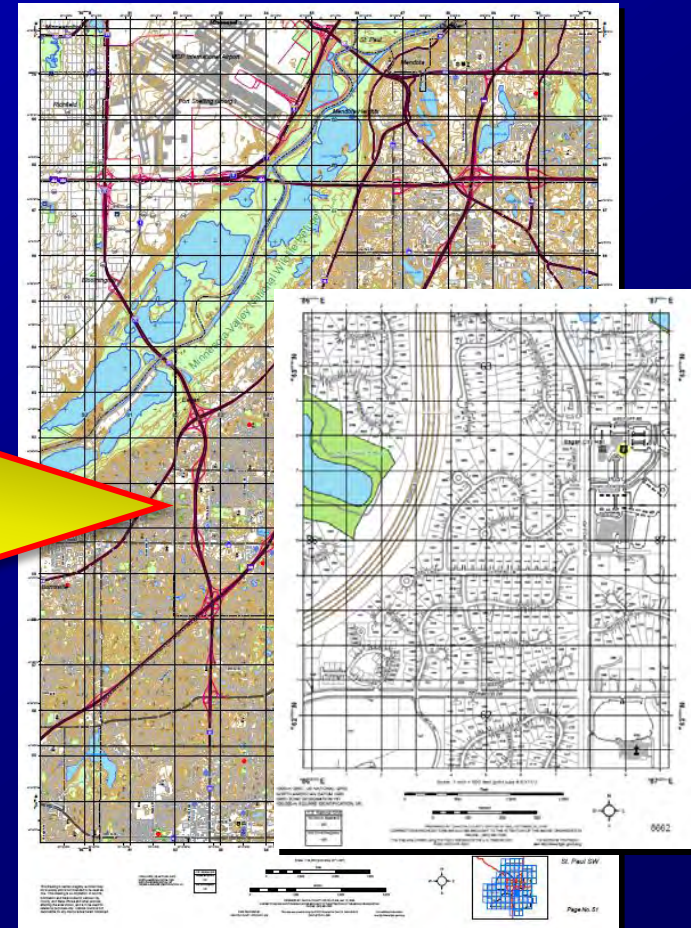
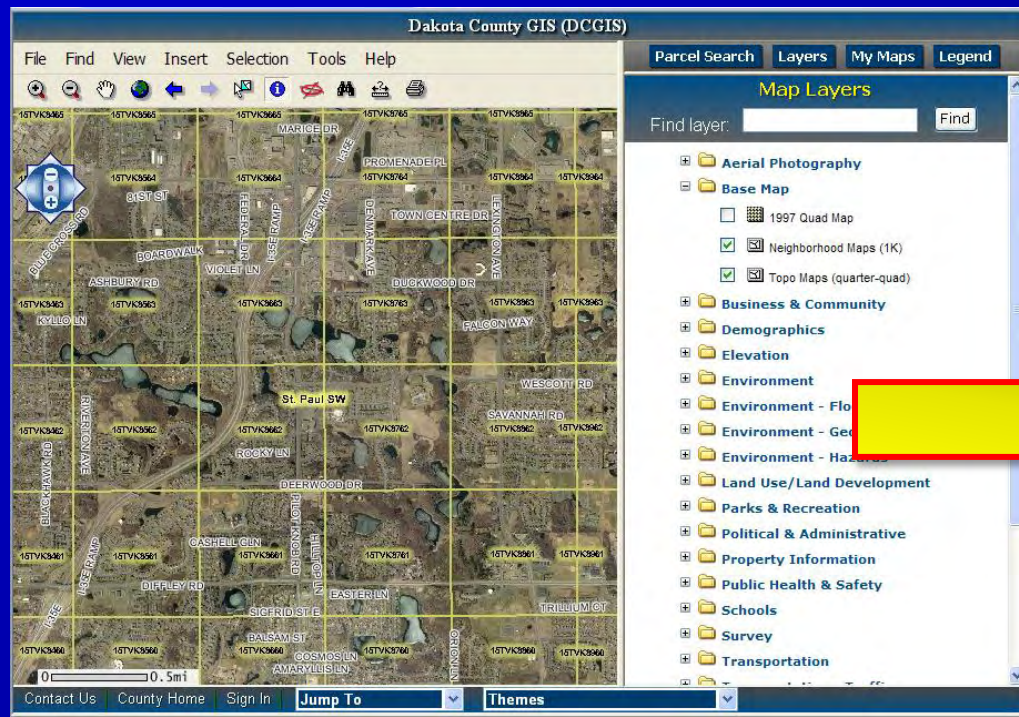
8353

(15T VK 83 53)

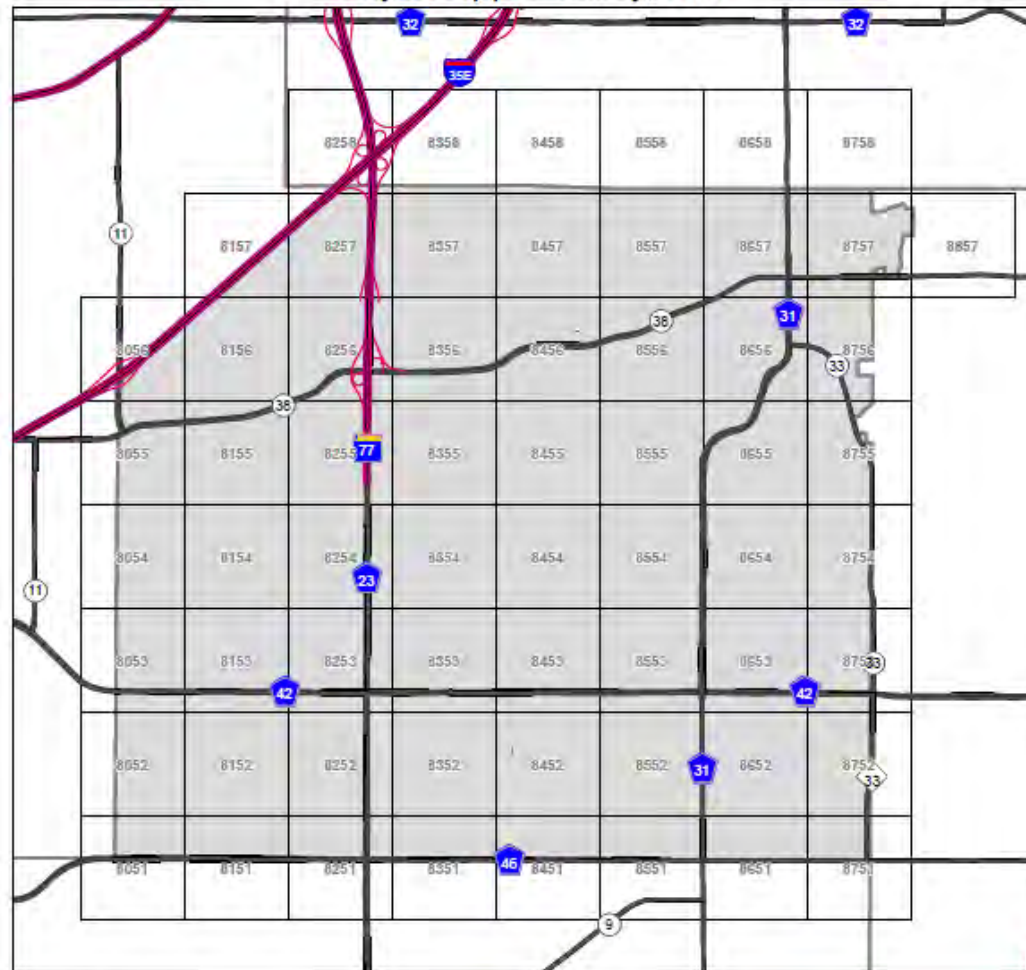




Maps Online (DCGIS)



City of Apple Valley, MN



Legend

- | | | | |
|----------------------------------|------------------------------|-------------------------|------------------------------|
| Fire Hydrant | Road Edge/Curb Edge/Sidewalk | Buildings | State/Local Park |
| Church | Driveway | Military Install | Zoo |
| School | Gravel Road | Marinas | Arboretums/Nature Centers |
| City Hall | Trail | Educational Institution | Fair Grounds |
| Fire Station | Railroad Track | Airport or Airfield | Beach |
| Hospital/Clinic/Medical Facility | Creek/Stream | Industrial Park | Island |
| Library | Ditch | Amusement Center | Lake or Pond |
| Police Station | State Trail | Golf Course | parcels_dako |
| County Service Center | | Cemetery | City and Township Boundaries |
| Shopping Center | | National Park | County Boundary |
| | | | 100 Meter USNG |

1207TH ST W: 8637, 8638, 8737, 8738
12157 ST W: 8337
1238D ST W: 8257, 8337
1238D STREET CT: 8337
1257H ST W: 8337, 8337, 8637, 8737, 8837
1267H ST W: 8336, 8337, 8536
1267H STREET CT: 8336, 8337
1277H ST W TO NB HWY77: 8256, 8257
1277H ST W: 8256, 8336, 8636
1287H ST W: 8256, 8336, 8536, 8636, 8736
1287H STREET CT: 8336
1297H ST W: 8136, 8336, 8436, 8736
1307H ST W: 8236, 8336, 8536
1307H STREET CT: 8336
13157 CIR: 8336
13157 ST W: 8136, 8236, 8436, 8536
13157 STREET CT W: 8436
132ND CT: 8136, 8236, 8336
132ND ST W: 8233, 8236, 8336, 8436, 8536, 8633, 8636
132ND WAY: 8433, 8436, 8533, 8536
1338D CT: 8333
1338D ST W: 8133, 8136, 8233, 8333, 8433
1338D STREET CT: 8136, 8333
1347H CT W: 8433
1347H ST E: 8036
1347H ST W: 8033, 8133, 8233, 8433, 8533, 8633
1347H STREET CT: 8133, 8333
1357H ST W: 8033, 8133, 8333, 8433
1357H STREET CT: 8433
1367H CT: 8133, 8333
1367H ST W: 8633, 8733
1367H STREET CT: 8533
1377H CIR W: 8733
1377H CT W: 8133, 8333
1377H CT: 8433
1377H ST E: 8033
1377H ST W: 8134, 8133, 8433, 8733
1387H CT W: 8733
1387H ST E: 8033
1387H ST W: 8033, 8233, 8333, 8633, 8733
1387H STREET CT: 8033, 8333, 8633
1397H CT: 8133, 8234
1397H ST W: 8334, 8333
1397H STREET CT: 8334, 8333
1407H CT W: 8234
1407H ST E: 8033
1407H ST W: 8033, 8134, 8133, 8234, 8334, 8434, 8534, 8634, 8734
1407H STREET BLVD W: 8033
1407H STREET CT: 8134
14157 CT W: 8134
14157 ST W: 8134, 8634, 8734
1417 STREET CT: 8134, 8734
142ND PATH W: 8634
142ND ST W: 8134, 8234, 8334, 8534, 8634, 8734
142ND STREET CT W: 8134, 8234

Street Name: USNG Page #

B

BALDWIN CIR: 8052
BALDWIN DR: 8052, 8152
BARCLAY CIR: 8758
BEACON HILL CIR: 8358
BEACON HILL DR: 8358
BEACON LN: 8152
BEAUMONT CT: 8256, 8257
BELMONT CT: 8156
BELMONT DR: 8156
BERKSHIRE DR: 8358
BERKSHIRE WAY: 8358
BRYCE CT: 8157
BURNSVILLE PKWY E: 8157, 8257, 8258
BURR OAK ST: 8258
BUTTE AVE: 8257

C

CARLSBAD CT: 8157
CARRIAGE HILL DR: 8658, 8758
CEDAR AVE: 8251, 8252, 8253, 8254
CEDAR AVE S: 8255
CEDAR AVE: 8255
CHAPARRAL CIR: 8157
CHAPARRAL CT: 8257
CHAPARRAL DR: 8156, 8157, 8257
CIMARRON CIR: 8157
CIMARRON CT: 8257
CIMARRON RD: 8156, 8157, 8256, 8257
CLIFFORD LN: 8758
COACH DR: 8658
COBBLESTONE CT: 8857
COBBLESTONE LAKE PKWY: 8651, 8652, 8751, 8752
COFFEE TRL: 8857
COMMONWEALTH DR: 8056
CINEMARA TRL: 8754
COOPER LN: 8152
CORD11 TO NB (35): 8056
CORD11 TO SB (35): 8056
CORD38 TO NB HWY77: 8256, 8356
CORD38 TO PENNOCK AVE: 8256
CORD38 TO SB HWY77: 8255, 8256
CORTRIGAN CT: 8753
CORTLAND DR S: 8152
CORTLAND DR: 8152
COUNTY ROAD 11: 8055, 8056
COUNTY ROAD 38: 8256, 8356, 8456, 8556, 8656, 8657
COUNTY ROAD 42 E: 8053
COUNTY ROAD 42: 8053, 8153, 8253
COVINGTON LN: 8358, 8458, 8658
CRATER CT: 8157
CRYSTAL HILLS DR: 8051
CRYSTAL PATH: 8752
CYPRESS PT: 8658

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Page 2

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Street Name: USNG Page #

LOWER 127TH ST W: 8236
 LOWER 129TH CT: 8156
 LOWER 131ST STREET CT: 8256
 LOWER 134TH ST W: 8455, 8255
 LOWER 138TH CT: 8155
 LOWER 139TH CT W: 8254, 8255
 LOWER 147TH ST W: 8153
 LOWER 161ST ST W: 8451, 8551
 LOWER 162ND ST W: 8451
 LOWER ELKWOOD CT: 8655
 LOWER ENDICOTT WAY: 8653
 LOWER FJORD WAY: 8451, 8452
 LOWER GUTHRIE CT: 8254
 LOWER HAMLET CT: 8256

M
 MARILYN AVE: 8258
 MCANDREWS RD E: 8055, 8155, 8255, 8256
 MCINTOSH DR: 8152, 8153, 8252
 MEAD CT: 8157
 MESA VERDE CT: 8157
 MINION DR: 8152
 MIRA AVE: 8654

N
 NARVIK DR: 8458
 NB HWY77 TO CORD38: 8256
 NB HWY77 TO NB 150E: 8257, 8258, 8558
 NB HWY77 TO SB 150E: 8258
 NB 150E TO CORD11: 8055, 8056
 NB 150E TO NB HWY77: 8257, 8258
 NB 150E TO SB HWY77: 8257, 8258
 NEWELL CIR: 8252
 NEWELL DR: 8152, 8252
 NICOLS DR: 8258
 NORWOOD CIR: 8558
 NORWOOD CT: 8558
 NORWOOD DR: 8558

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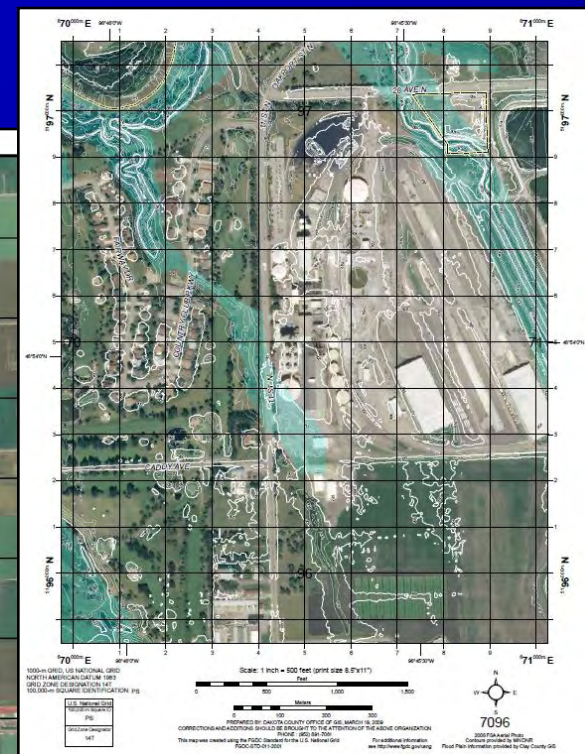
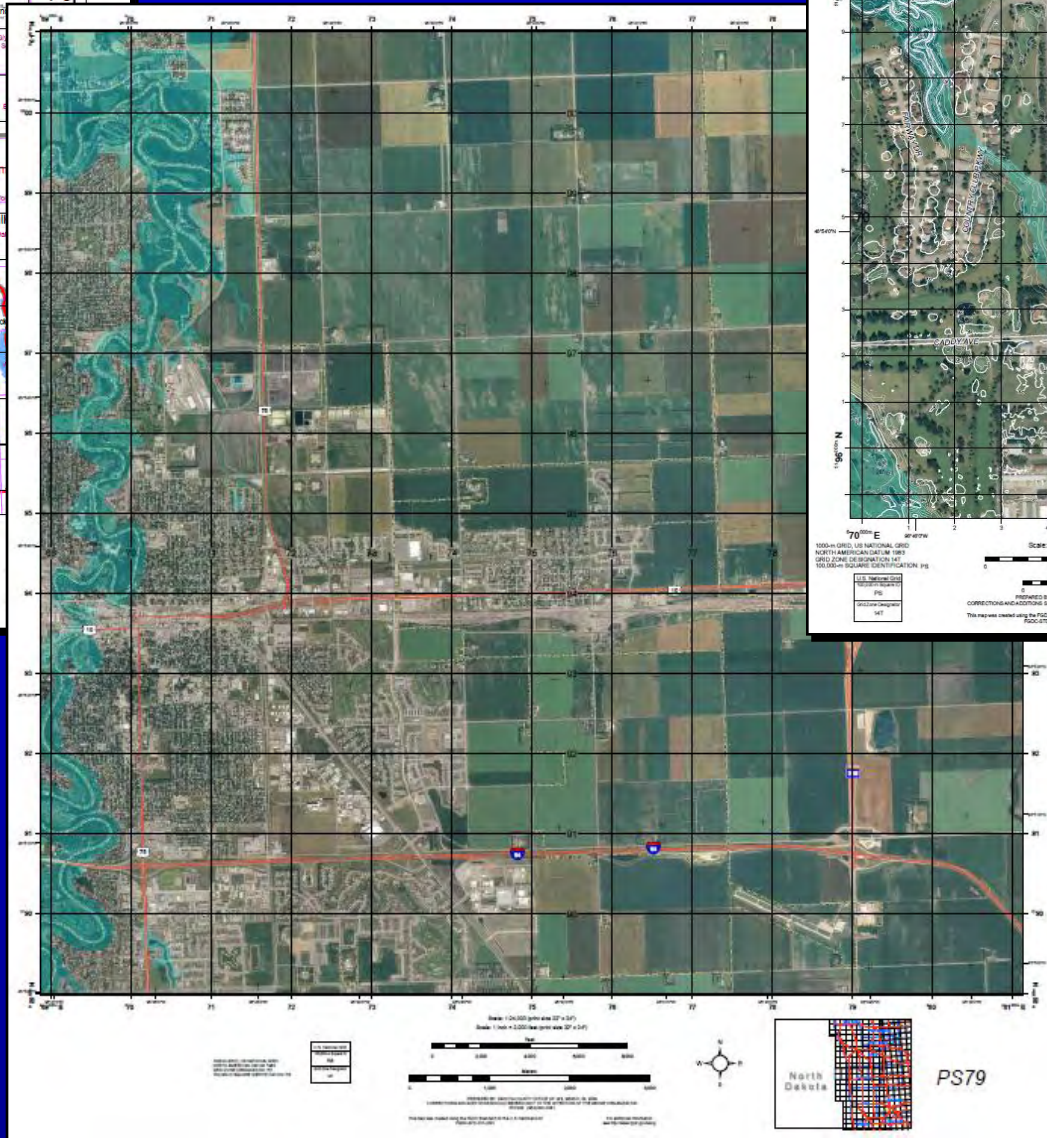
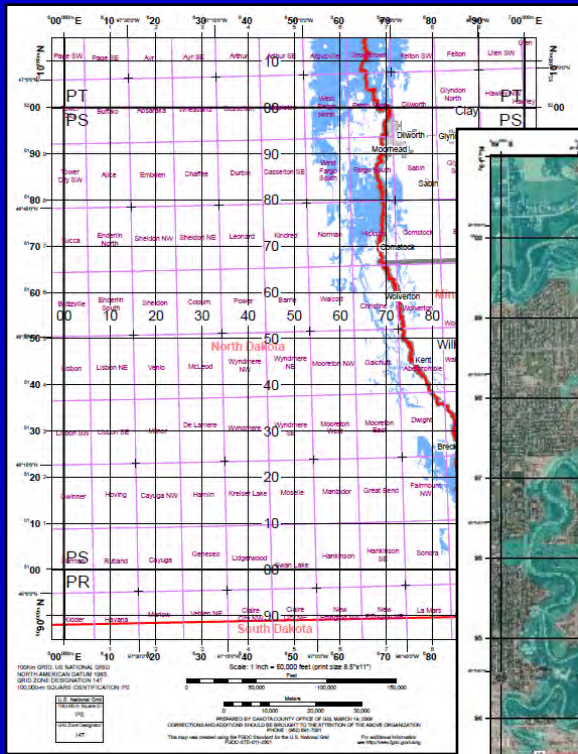
PALOMINO DR: 8053, 8056, 8156
PALOMINO DR S: 8256
PALOMINO DR: 8256
PARC DR: 8157
PARK LN: 8053, 8054
PARSON HILL DR: 8053
PENNOCK AVE: 8253, 8254, 8255, 8256, 8257
PENNOCK CT: 8253
PENNOCK LN: 8252, 8253
PILOT KNOB RD TO 160TH ST W: 8351
PILOT KNOB RD: 8351, 8352, 8353, 8354, 8355
PILOT KNOB RD TO 160TH ST W: 8651

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PILOT KNOB RD: 8651, 8652, 8653, 8654, 8655, 8656, 8657, 8658
PINETREE PASS: 8658
PINETREE TRL: 8658
PINEWOOD CIR: 8033
PINEWOOD DR: 8053, 8153
PONDVIEW DR: 8458
PONY LN E: 8156
PONY LN W: 8156
PORTER LN: 8152
PRIVATE RD: 8256, 8257, 8358

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RED
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REFL
REG
RICH
RIDGE
RIDGE
RIM
ROM
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ROY
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SABLE DR: 8157
SABRA CT: 8256, 8257
SAFARI CR: 8358
SAFARI CT N: 8358
SAFARI CT S: 8358
SAFARI HEIGHTS TRL: 8358
SAFARI PASS: 8357, 8358
SAR TRAIL: 8358
SB HWY77 TO CORD38: 8256
SB HWY77 TO NB I35: 8258, 8358
SB HWY77 TO PALOMINO DR: 8256, 8257
SB HWY77 TO SB I35: 8257, 8258
SB I35E TO CORD11: 8056
SB I35E TO NB HWY77: 8258, 8358
SB I35E TO SB HWY77: 8258, 8358
SEQUOIA CT: 8157
SERVICE RD: 8252, 8352, 8353
SETTLERS RIDGE CT: 8056
SETTLERS RIDGE DR: 8056
SETTLERS RIDGE LN: 8056

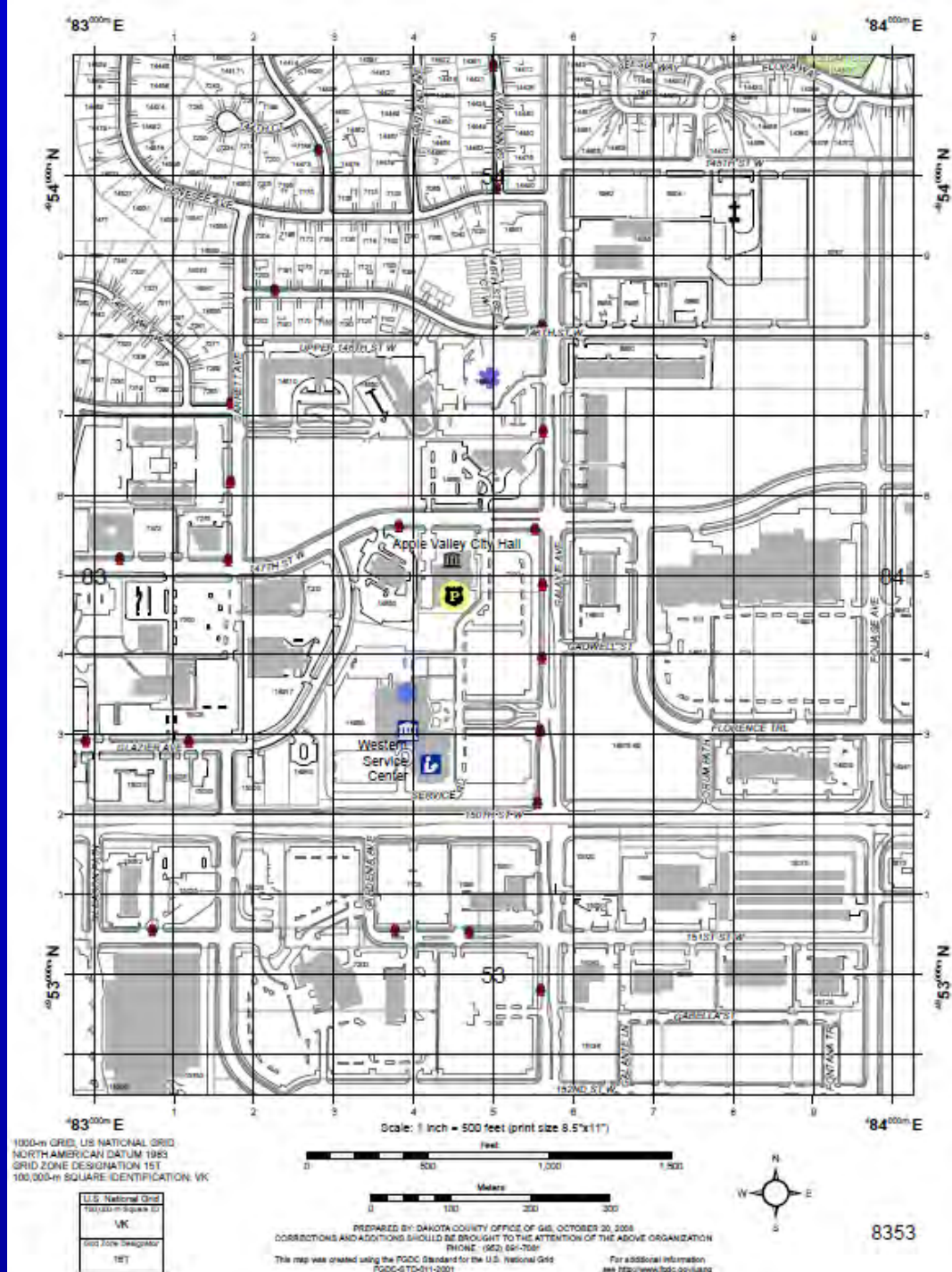











PS79

- www.gis.state.mn.us

National Spatial Data Infrastructure (NSDI) Cooperative Agreement Program (CAP)

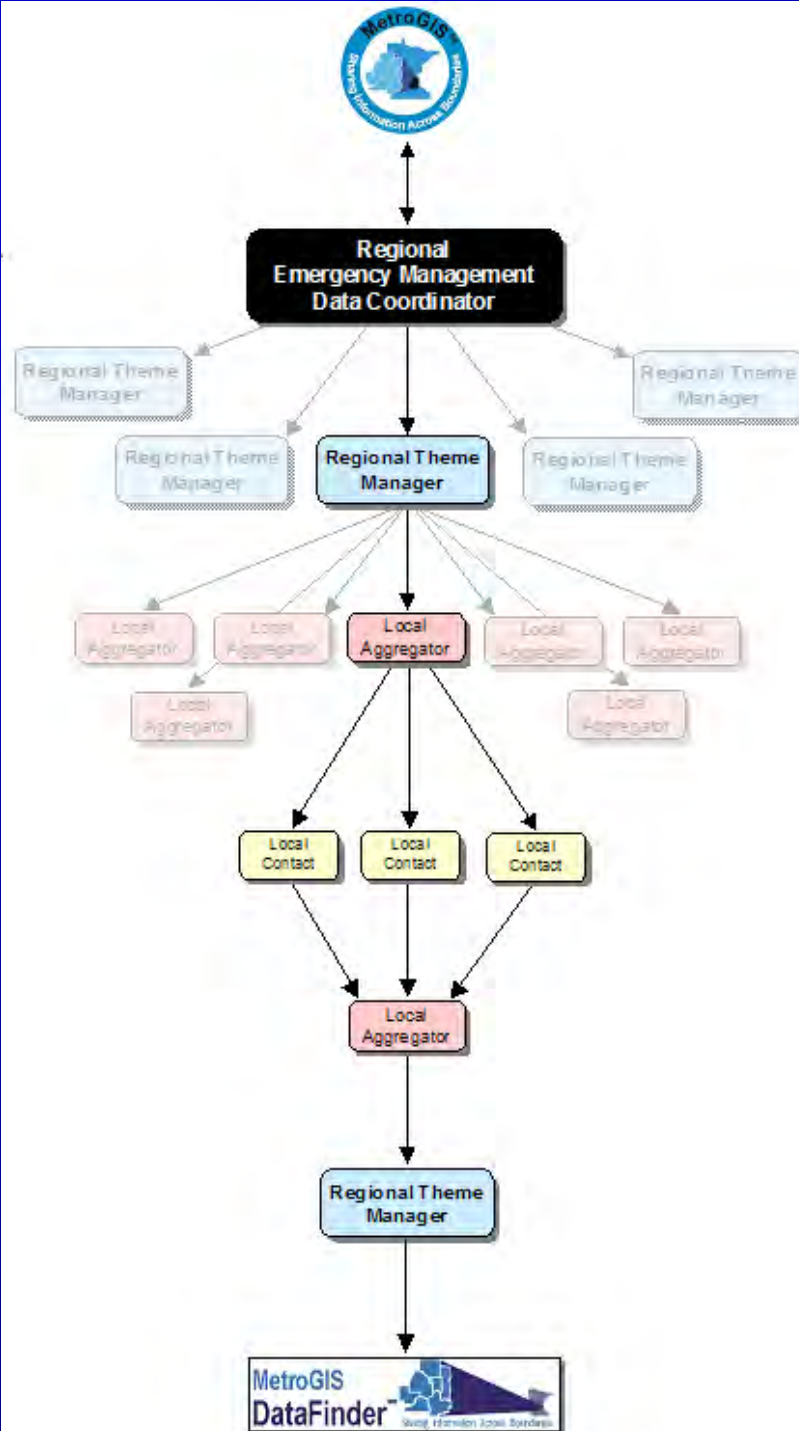
- Category 5: Building data stewardship
 - Schools
 - Hospitals / clinics
 - Police stations
 - Fire stations



-  Church
-  School
-  City Hall
-  Fire Station
-  Hospital/Clinic/Medical Facility
-  Library
-  Police Station
-  County Service Center
-  Shopping Center

Data Stewardship

- Identify data sources
- Identify custodians
- Engage local government
 - The best data is local!
- Create supporting systems



Tying It All Together

- Put USNG on maps!
- Define standard map products
 - Seamless across jurisdictions (?)
- Include critical assets / key resources
 - Structures
- Create supporting documents
- Training

