New GIS Technologies at Sandia Labs

- **Incorporating Overflight Photography**
- **Bernalillo County Data**
- **Facilities Geo Data & Drawings**
- **MapInfo Mapping & Bentley CAD Software**

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New GIS Technologies at Sandia Labs

- OrthoPhotography
  - Overflights cost approx. $25k (every 2 years)

- Bernalillo County/City of Albuquerque Data
  - Roads/Streets, Parks, Schools, Hospitals
  - Railroads, Airports, Churches, Property Parcel IDs
  - Downloadable from web site (free)

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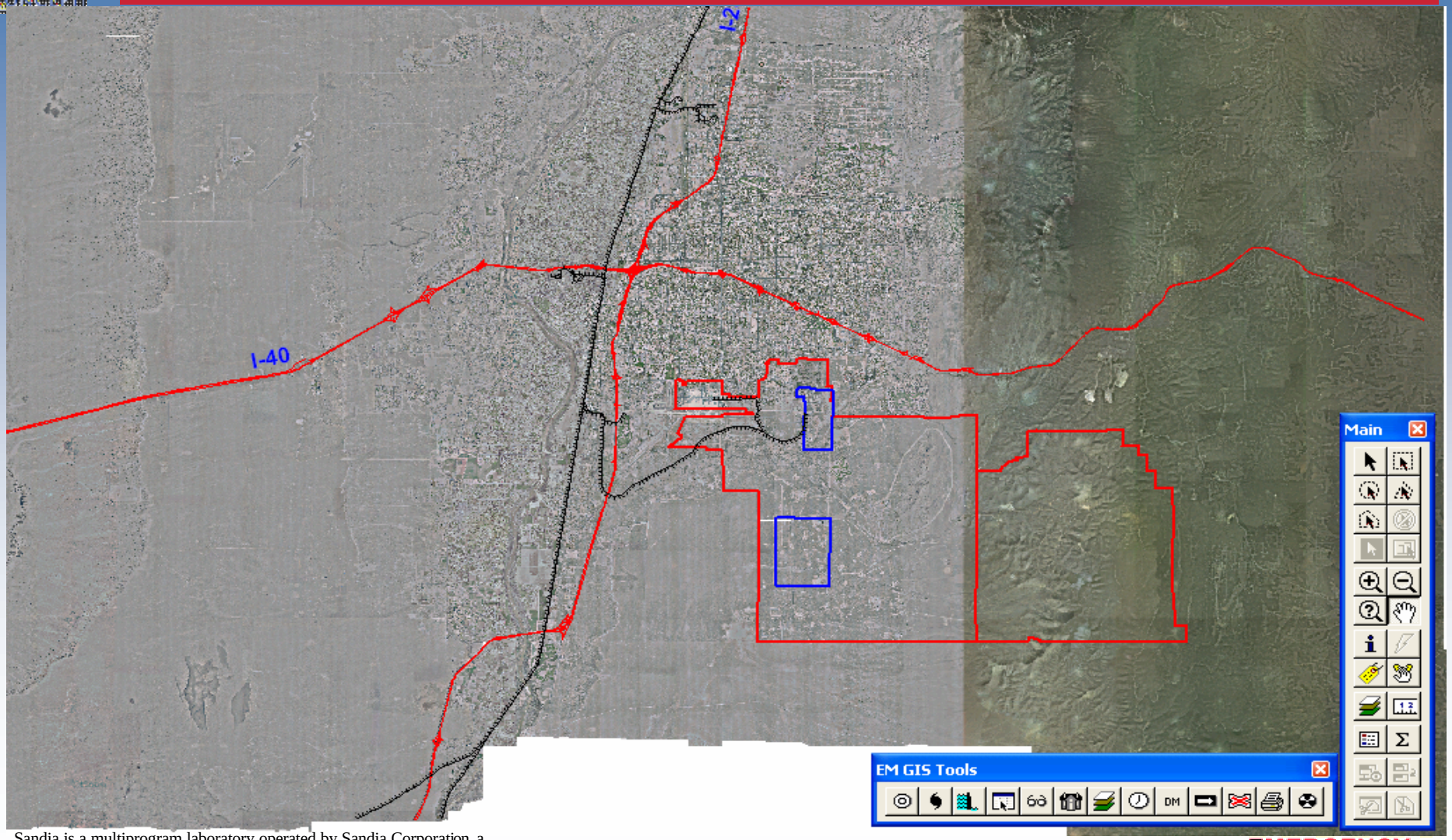
Bernalillo County/Albuquerque Ortho



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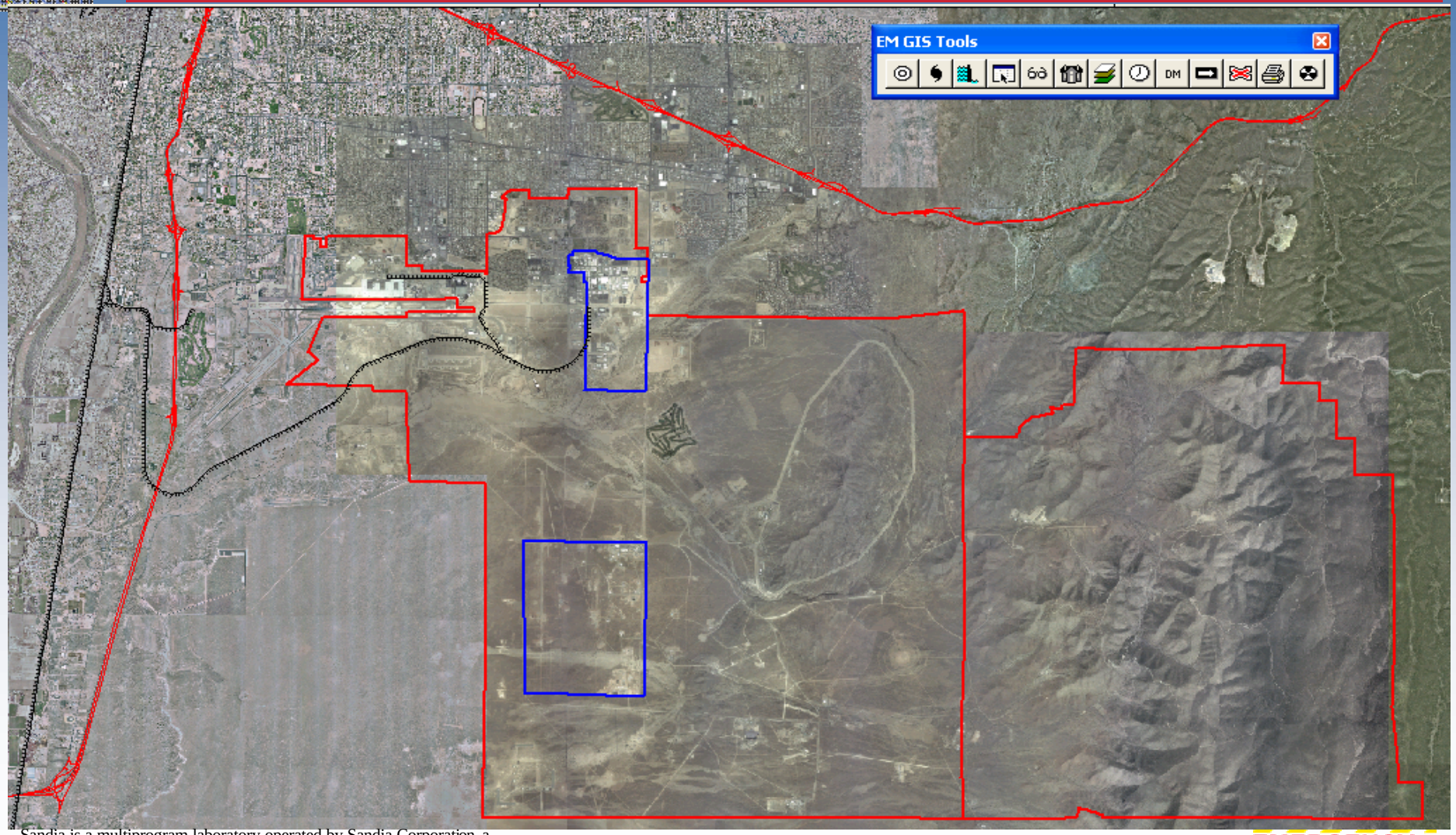
Kirtland AFB/Sandia Labs Ortho



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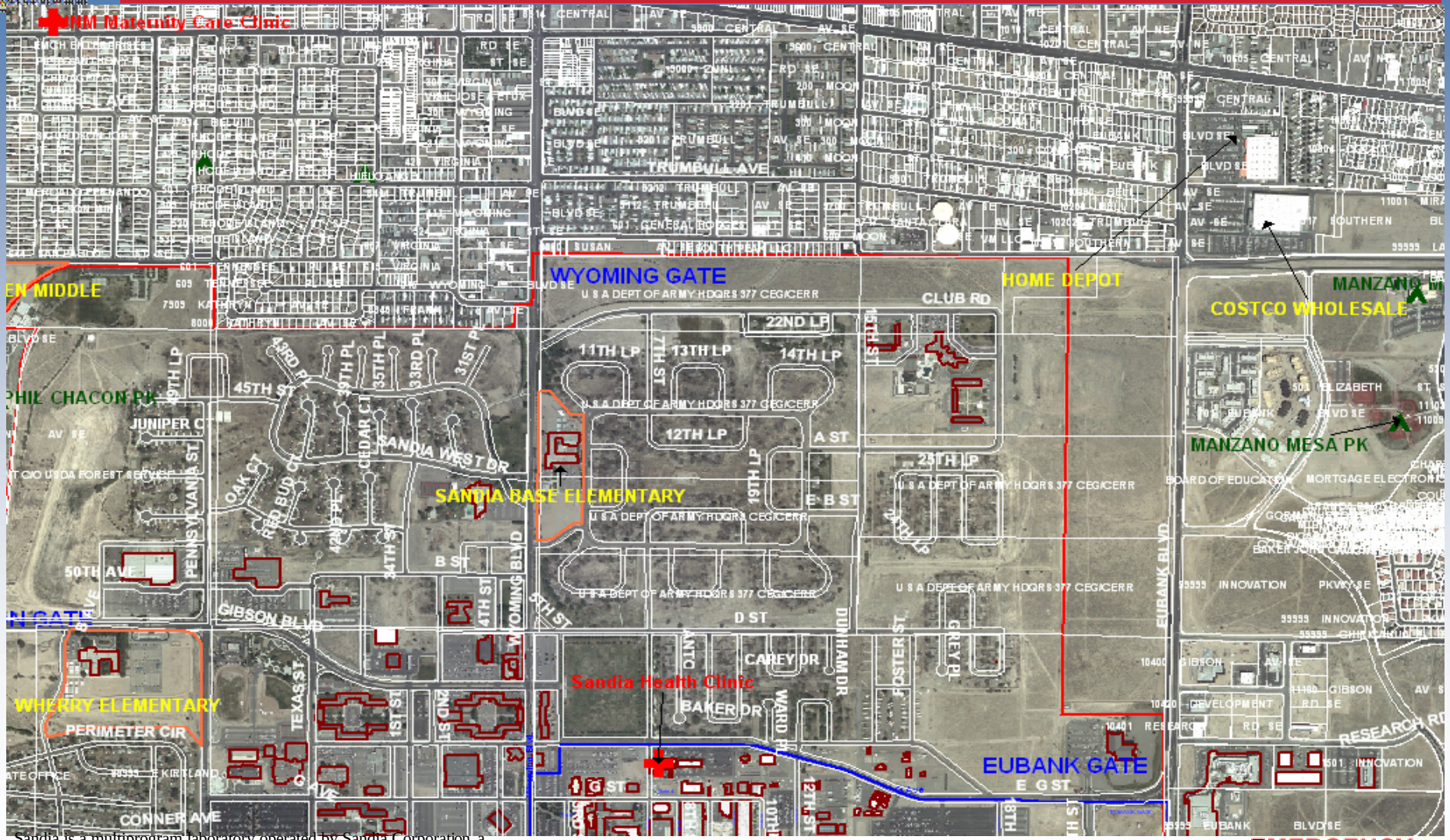
City Streets/KAFB Ortho



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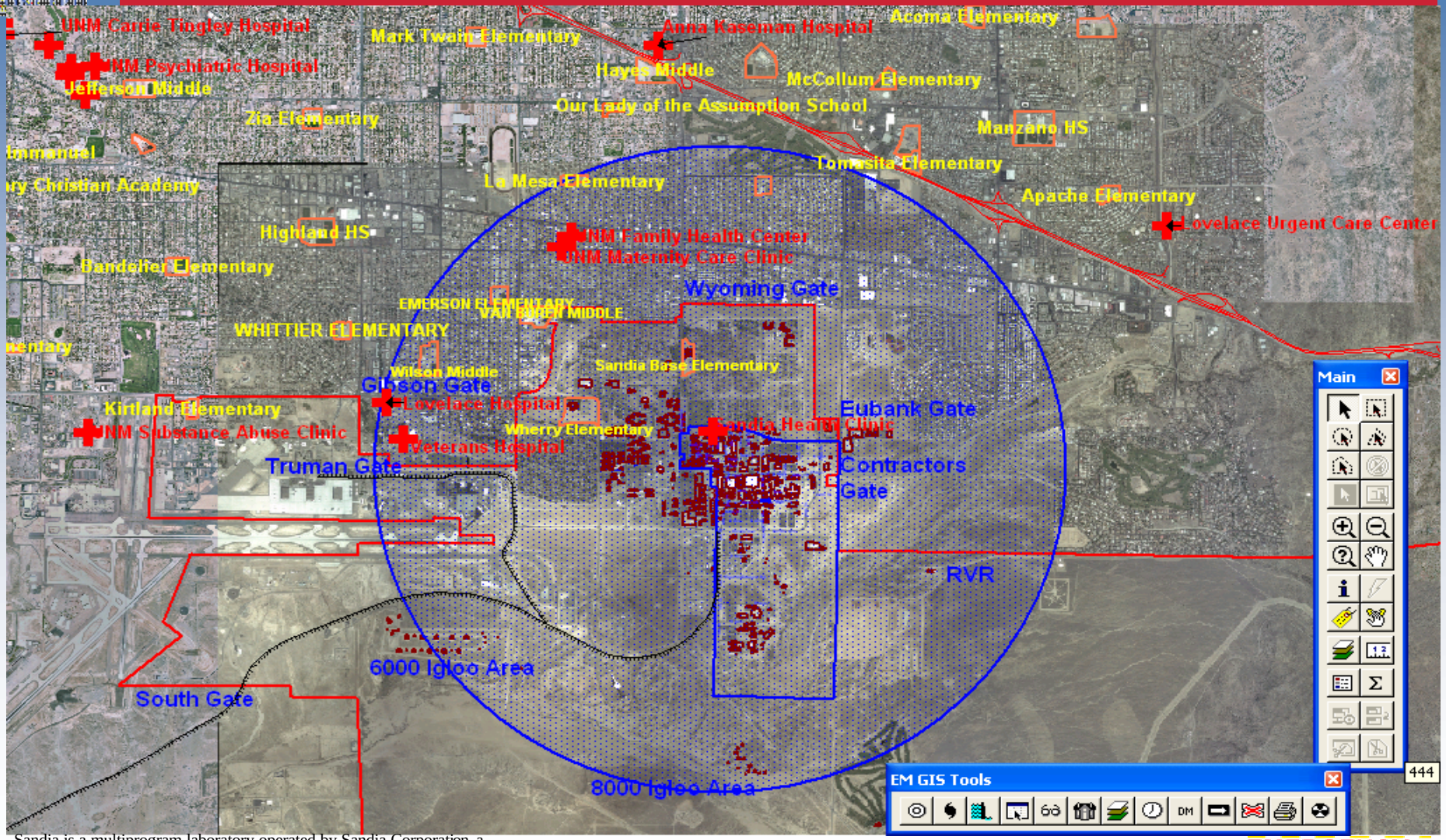
Example of EPZ with City Features Ortho



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New GIS Technologies at Sandia Labs

- **Sandia Labs Buildings and Facilities**
- **Building footprints, roads, gates/security fences**
- **Facilities disciplines (gas lines, electrical, mechanical, etc.)**

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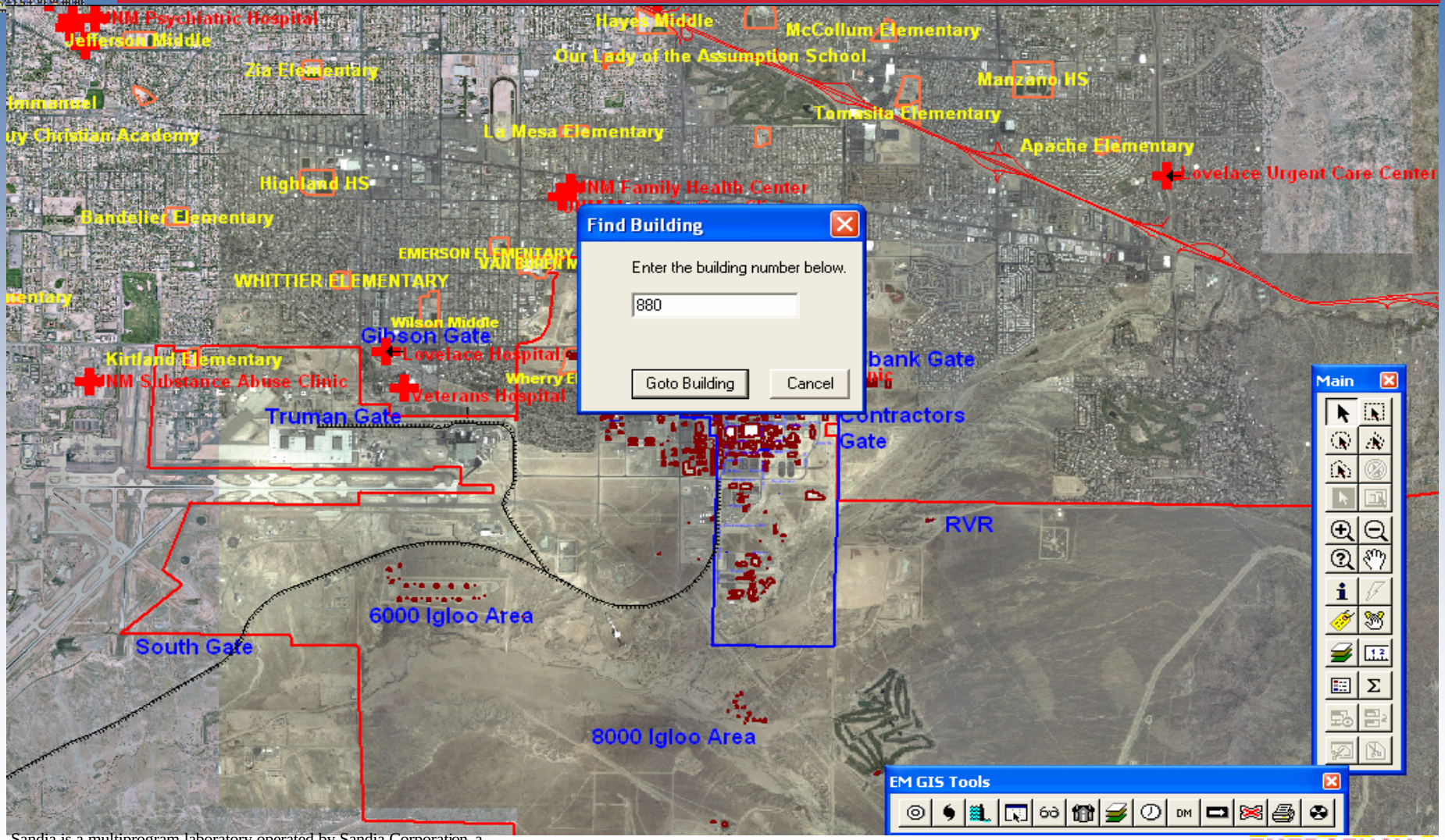
Find a Sandia Building Tool



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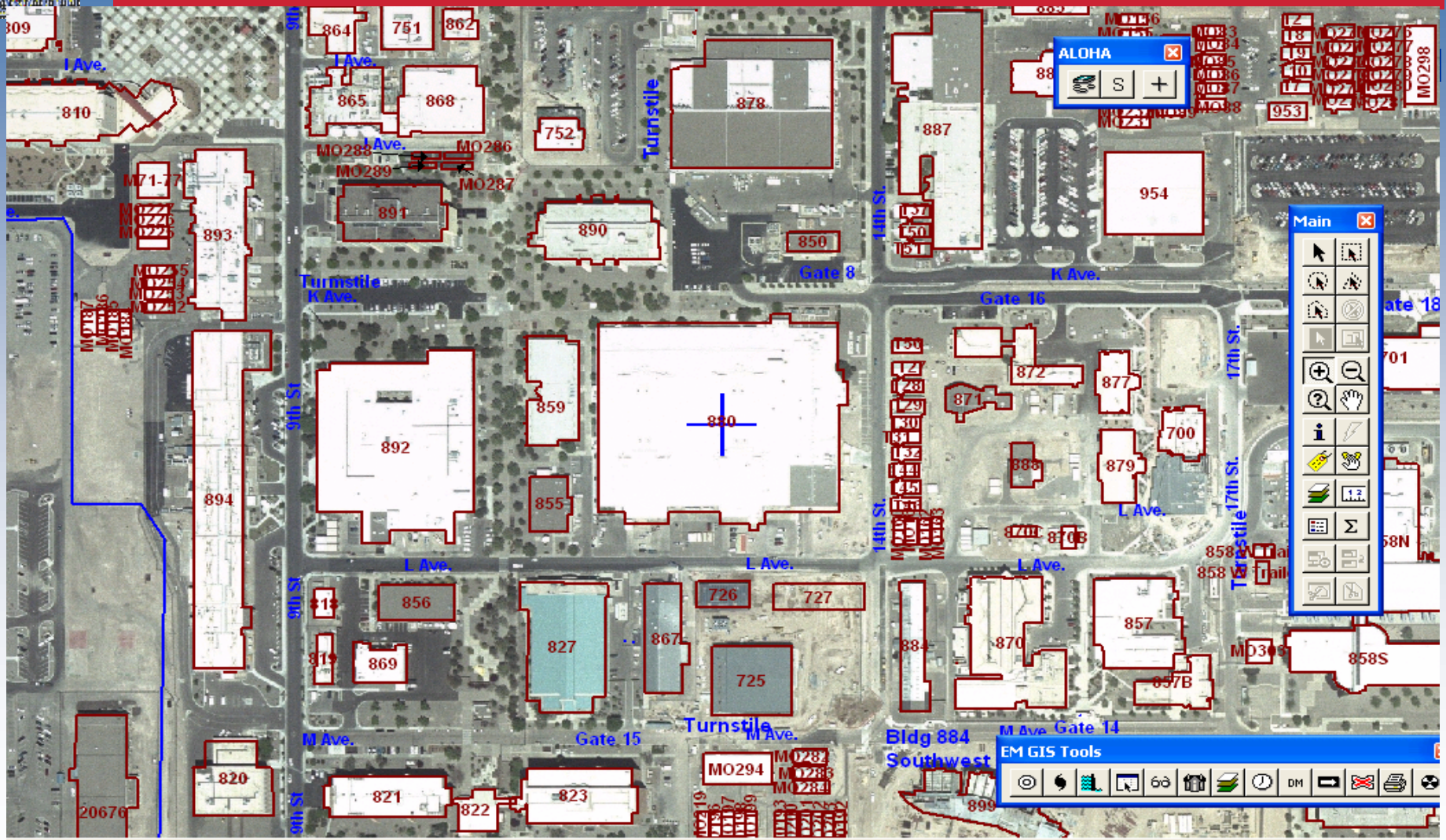
Find a Sandia Building Tool Results



Select GIS Layer(s)

Layer Control

Select the Layers you want visible and de-select the ones you don't. Then click on the OK button.

KAFB/SNL Data

- [ ] KAFB Crash Grid
- [ ] Tone Alert Receiver Grid
- [x] DOE Property
- [x] KAFB Property
- [ ] Building 858 EPZ
- [ ] Building 884 EPZ
- [ ] Building 893 EPZ
- [ ] Building 905 EPZ
- [ ] Building 958-959 EPZ
- [ ] Building 983 EPZ
- [ ] Building 6597 Aux. Hot Cell EPZ
- [ ] Building 6590 SPR. EPZ
- [ ] Building 6588 ACRR EPZ
- [ ] Building 6586 GIF EPZ
- [ ] Hydrogen vic. 858 EPZ
- [ ] Hydrogen vic. 878 EPZ
- [ ] Hydrogen vic. 893 EPZ
- [ ] Manzano Bunkers EPZ
- [ ] Propane vic. 6587 EPZ
- [ ] Propane vic. 9984 EPZ
- [ ] JP8 Lurance EPZ
- [ ] Electrical Power Lines Inground
- [ ] Electrical Power Lines Overhead
- [ ] Irrigation Lines
- [ ] Sanitary Sewage
- [ ] Steam Lines
- [ ] Storm Drainage Lines
- [ ] Gas Lines
- [ ] Roof Vents
- [ ] Power Manholes
- [ ] Chilled Water Lines
- [ ] Water Lines
- [x] Security & Property Fencing
- [x] Overhead Photos
- [ ] TAR Groups
- [ ] Limited Area Fence
- [x] Building Legend
- [ ] Weather Towers
- [ ] PNM Electric Power Feed

City/County Data

- [ ] Albuquerque Fire Dept. Zones & Districts
- [ ] County Fire Zones
- [ ] Airports
- [x] Railroads
- [x] Interstate Highways
- [ ] City/County Major Roads
- [ ] City/County Streets
- [ ] Private/Public Property Parcels
- [ ] Medical Facilities
- [ ] City/County Schools
- [ ] City/County Parks
- [ ] SNL City/County EPZ

Topography

- [ ] TA I, II, IV Area
- [ ] 6000 Igloos and South Runway Area
- [ ] KUMSC, TA III and V, Isleta Area
- [ ] North Runway and KAFB Main Area
- [ ] Manzano Lovelace ITRI Area
- [ ] Withdrawn Area

OK Cancel

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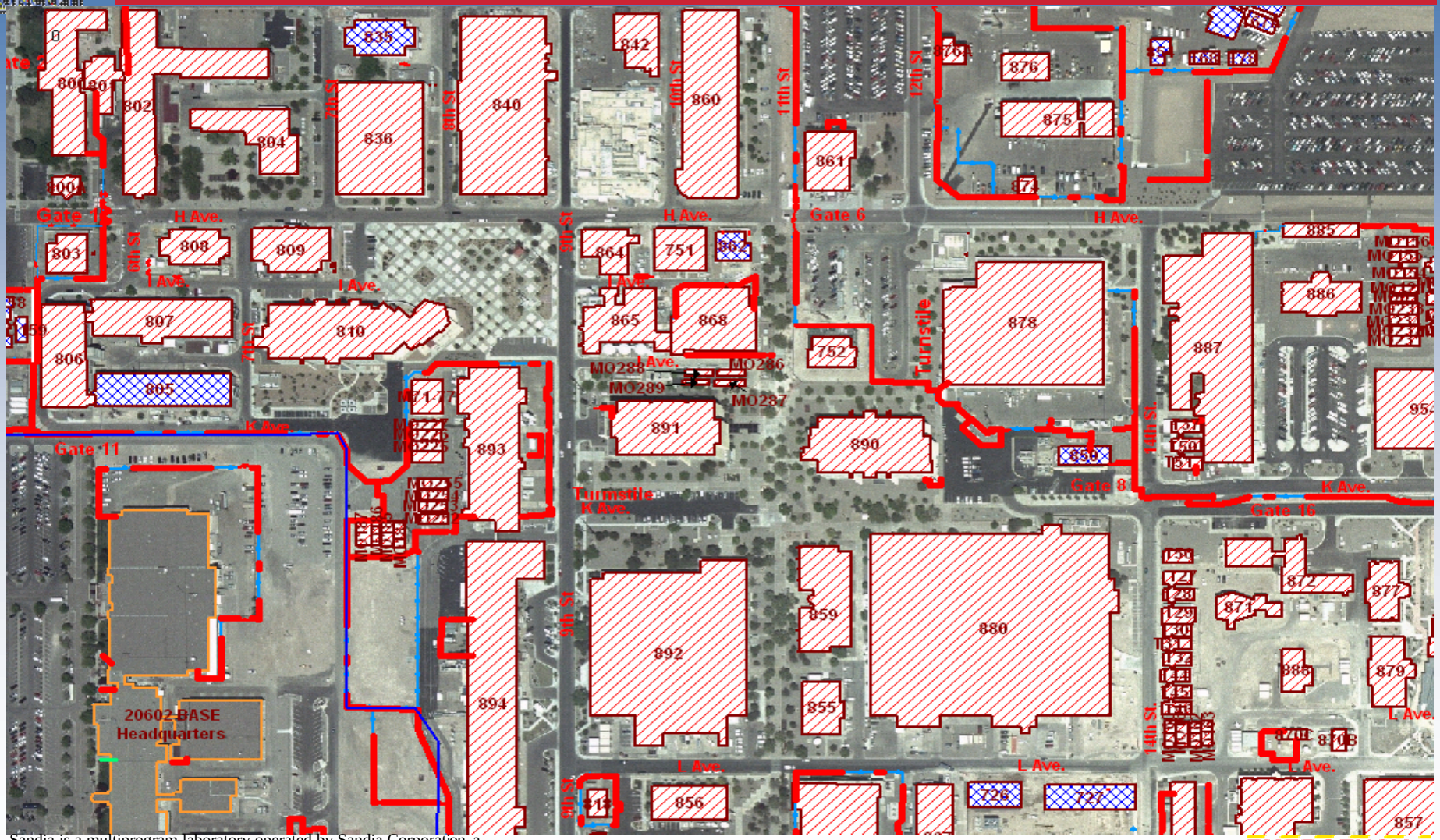
Building Legend, Security Fencing Results



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OK Cancel

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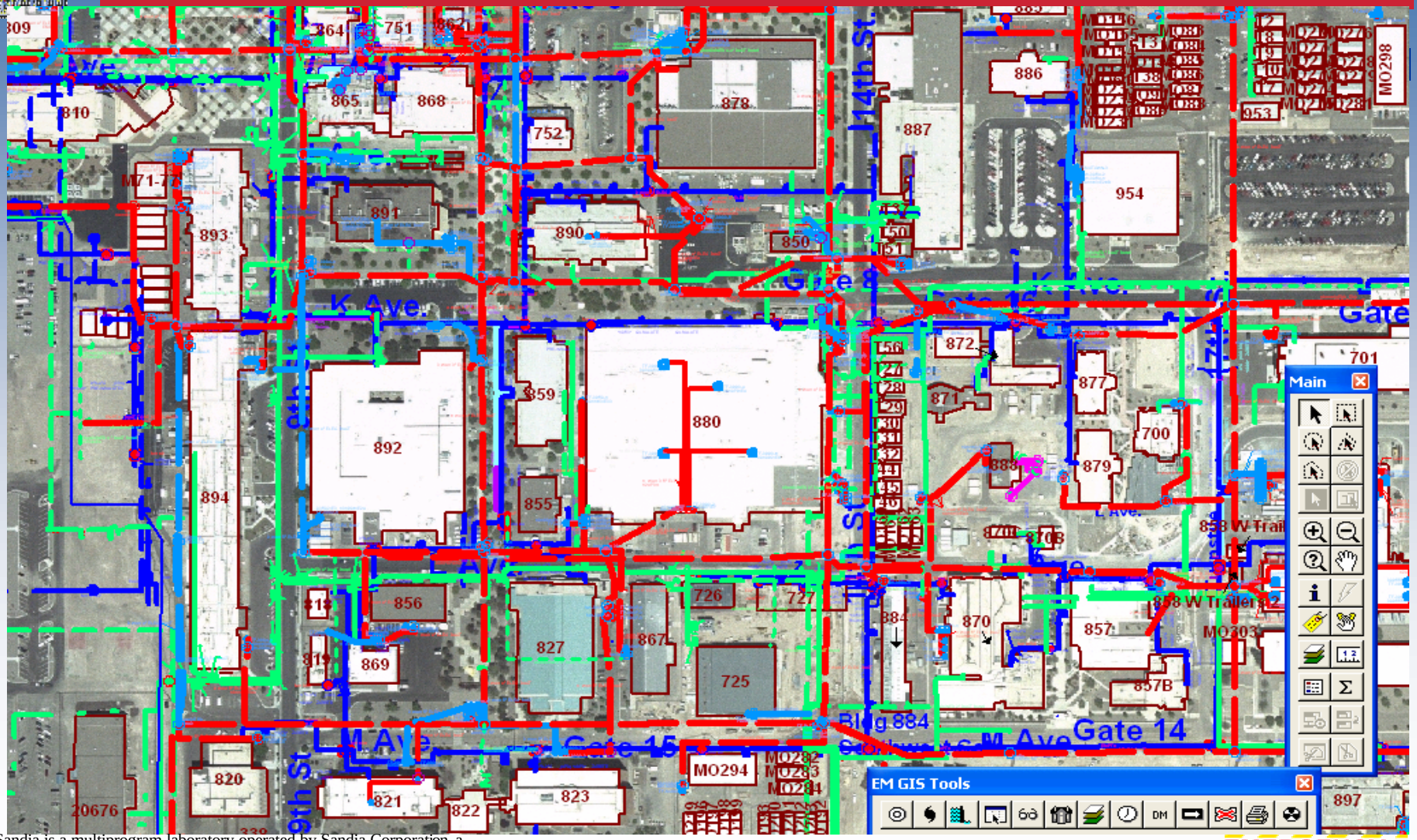
Steam, Gas, Electrical Lines Results



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New GIS Technologies at Sandia Labs

- Tools for Protective Actions and Response
- Can be used by IC at scene
- Displayed on “Big Screens” in EOC

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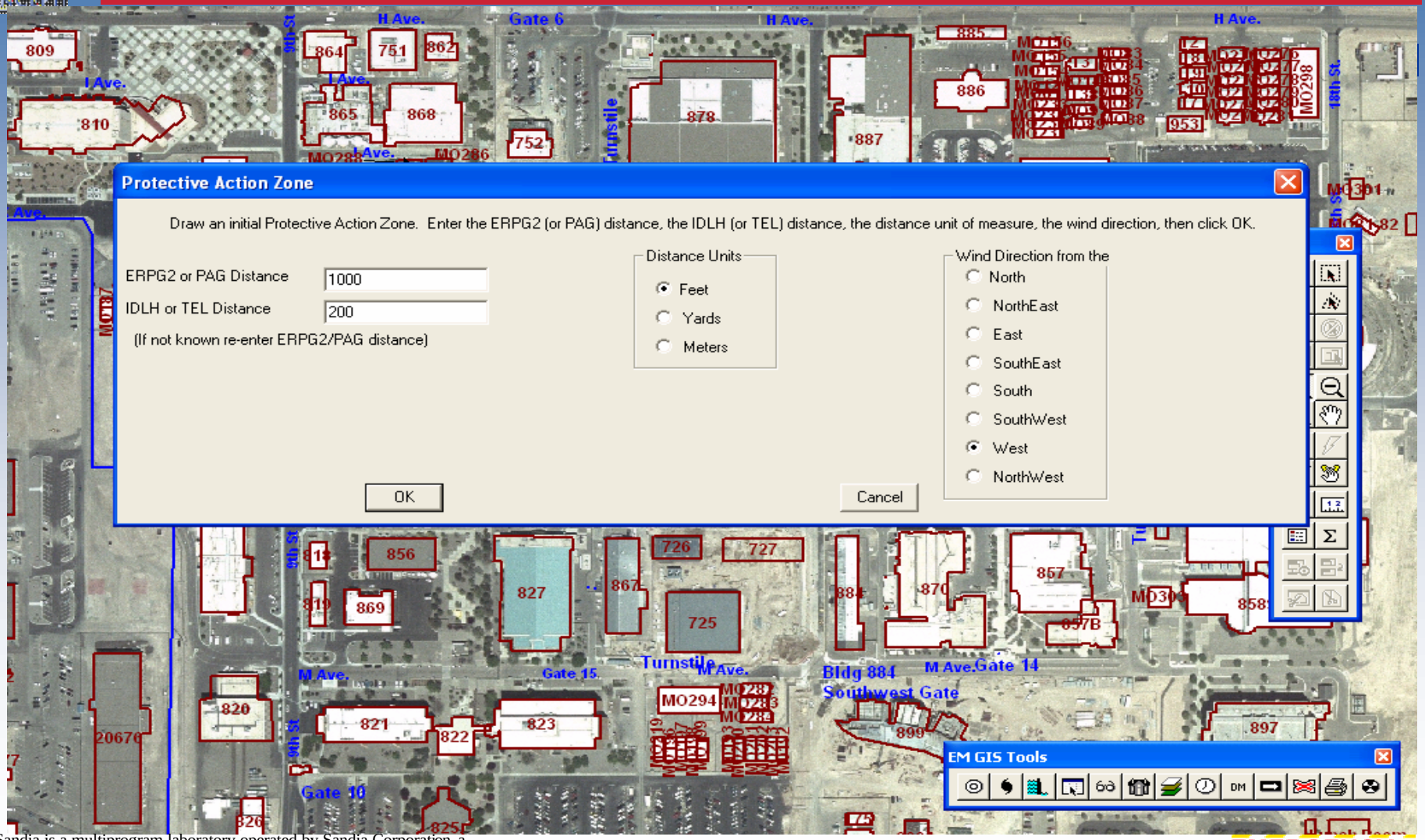
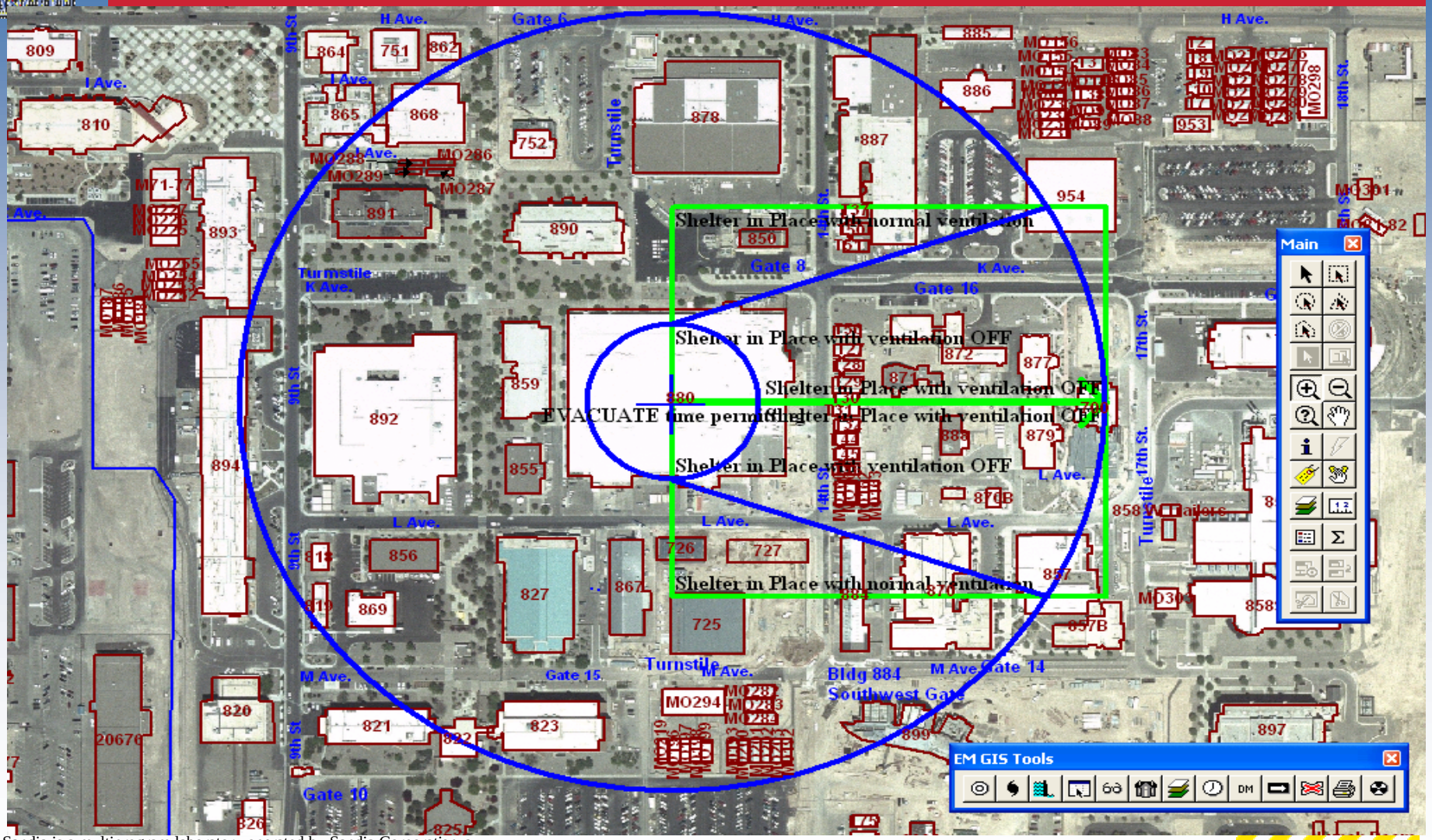
Draw an Initial Protective Action Zone



Initial Protective Action Zone with west wind



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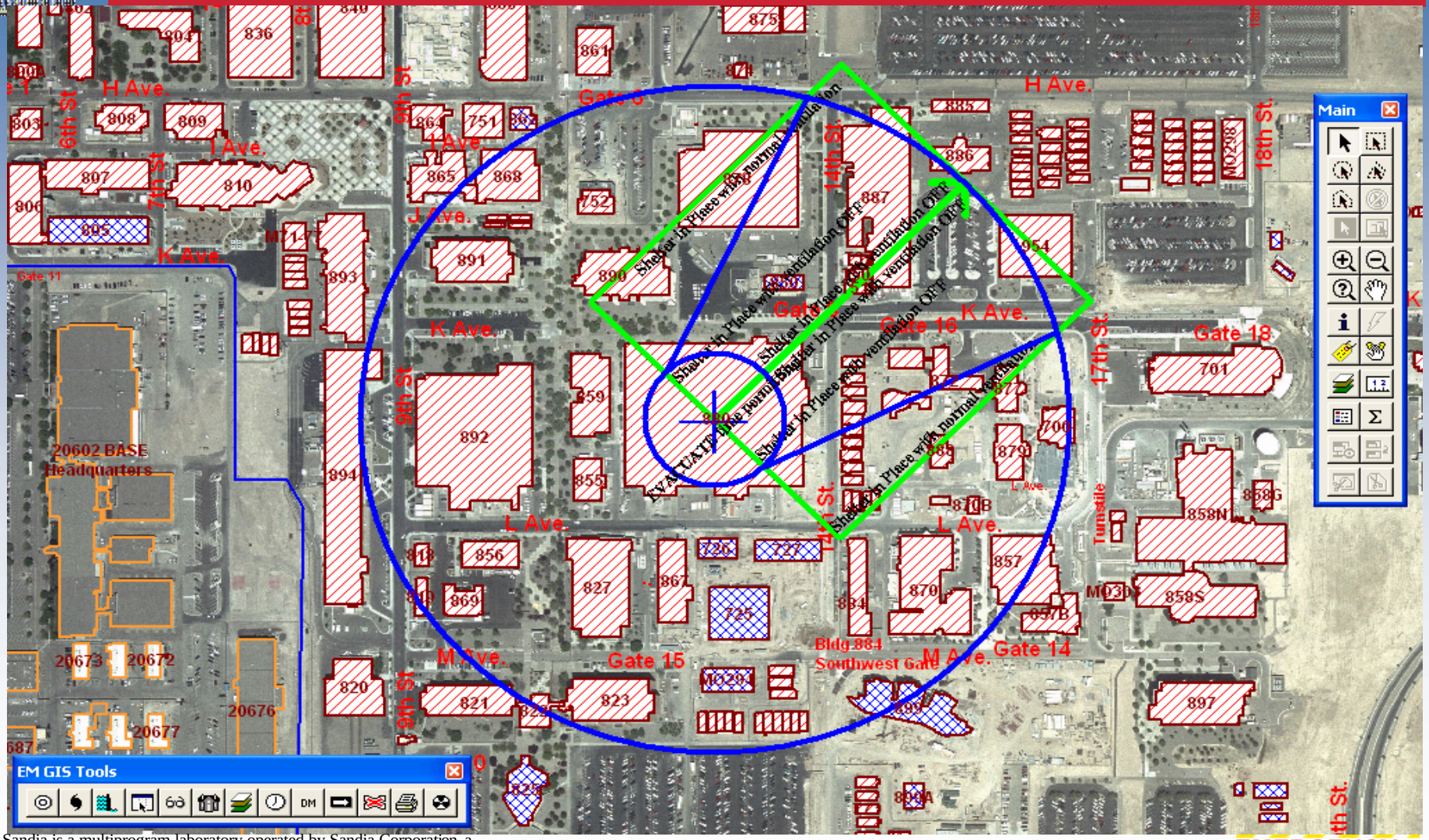
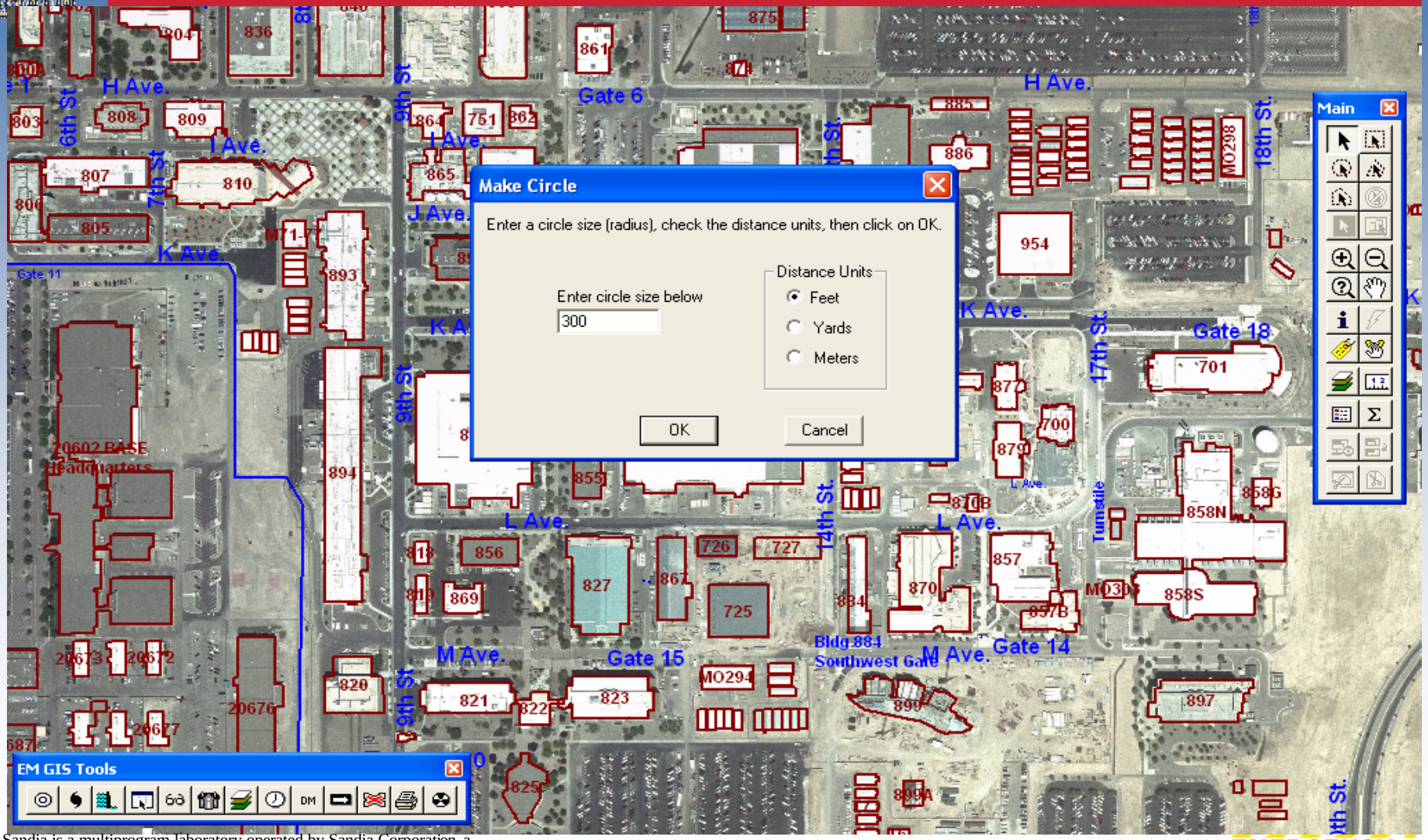
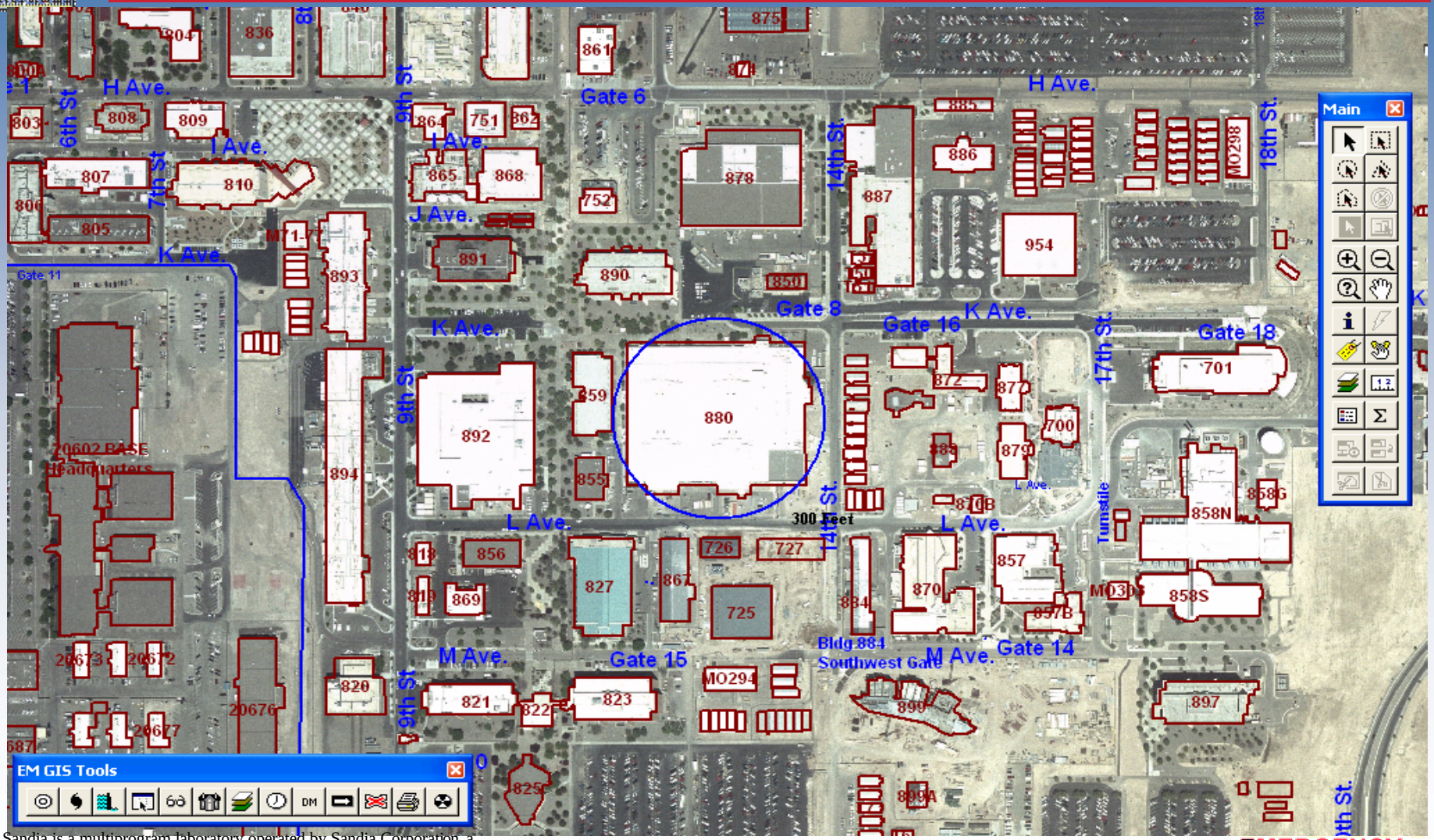
Wind shift to the southwest, building legends "on"



Draw a Circle



A 300’ circle around a building



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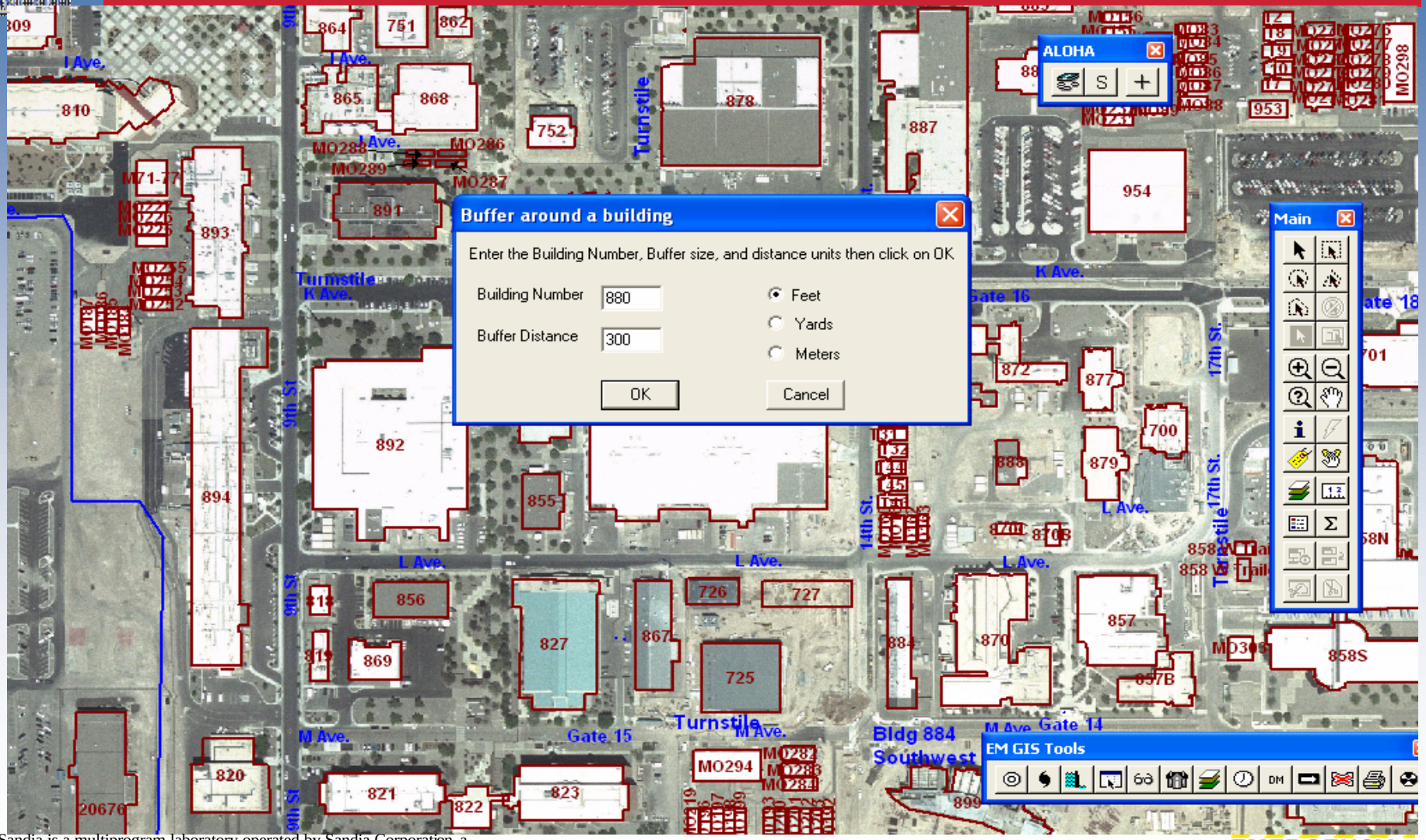
Create a buffer zone around a building

Create a 300’ buffer zone around a building



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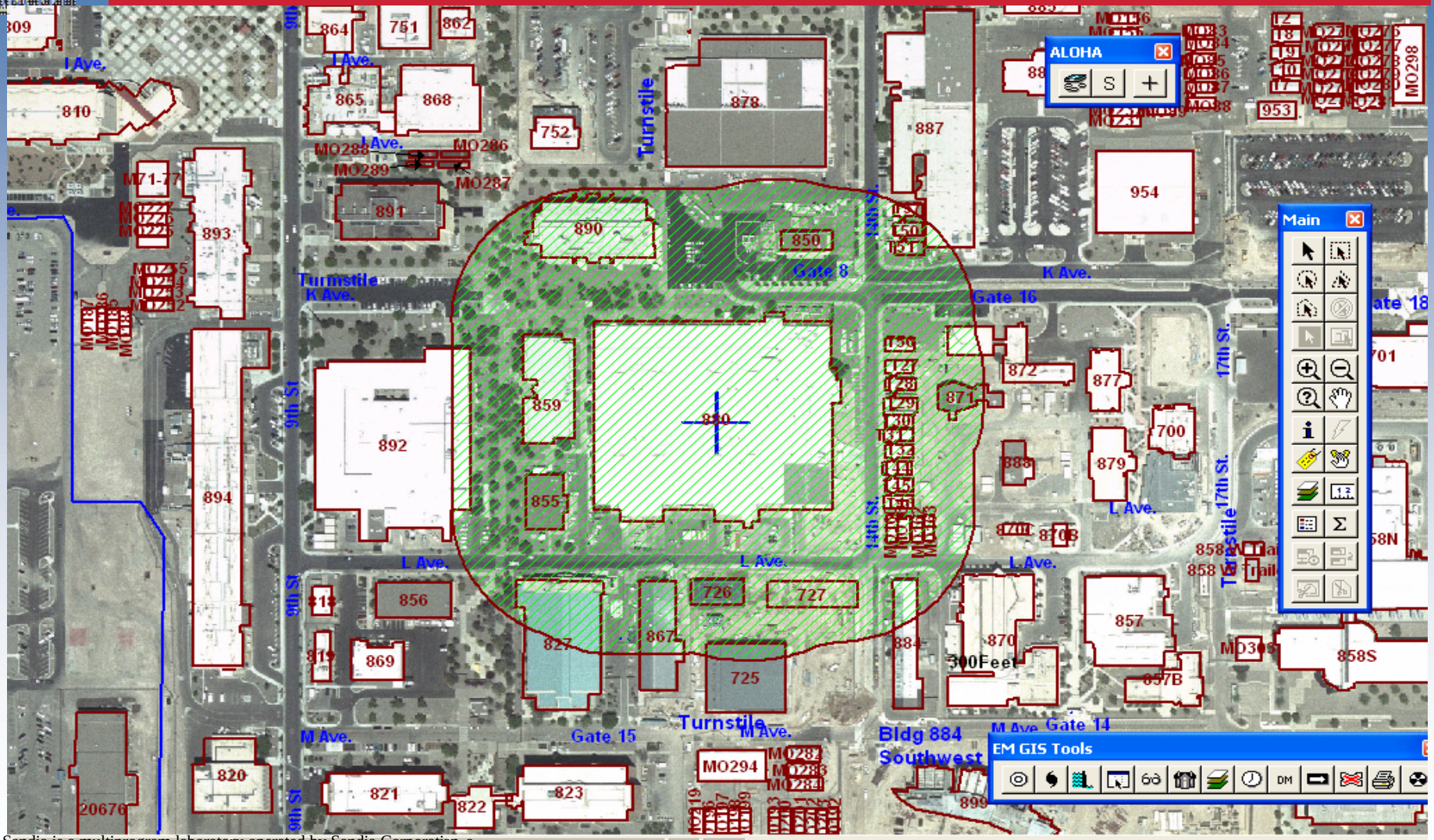
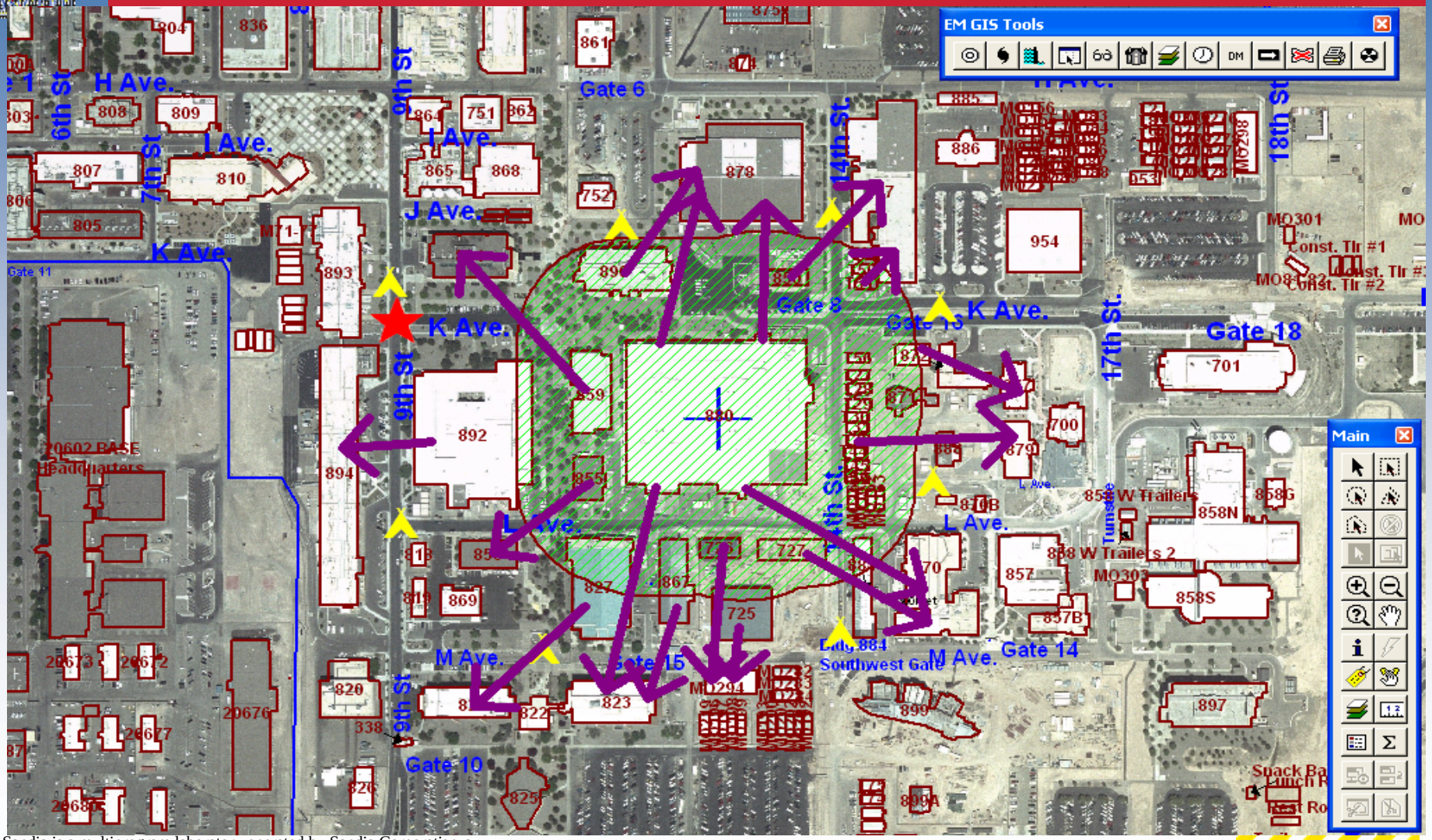
A 300’ buffer zone around the same building



ICP, Security CPs, Evac Routes shown



New GIS Technologies at Sandia Labs

- **Terrain contour data can also be shown as a separate layer**

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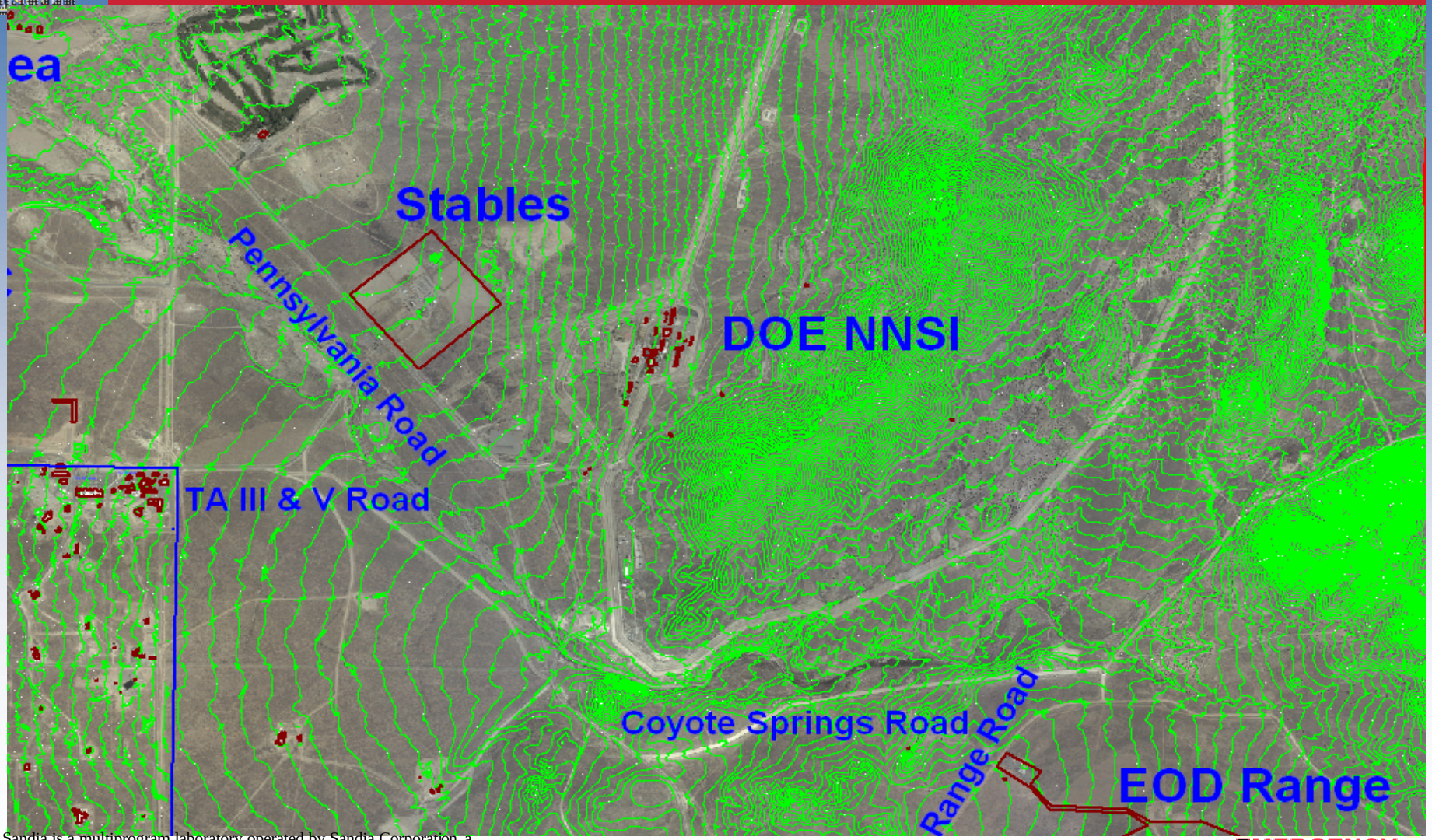
Thirty foot contour lines



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New GIS Technologies at Sandia Labs

- **Sandia Facilities Drawings are also used**
- **CAD drawings shown using Bentley software**
- **Most disciplines, i.e, architectural, mechanical, electrical, fire protection, alarms and locks, lab equipment, etc.**

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Select a building, floorplan, and discipline

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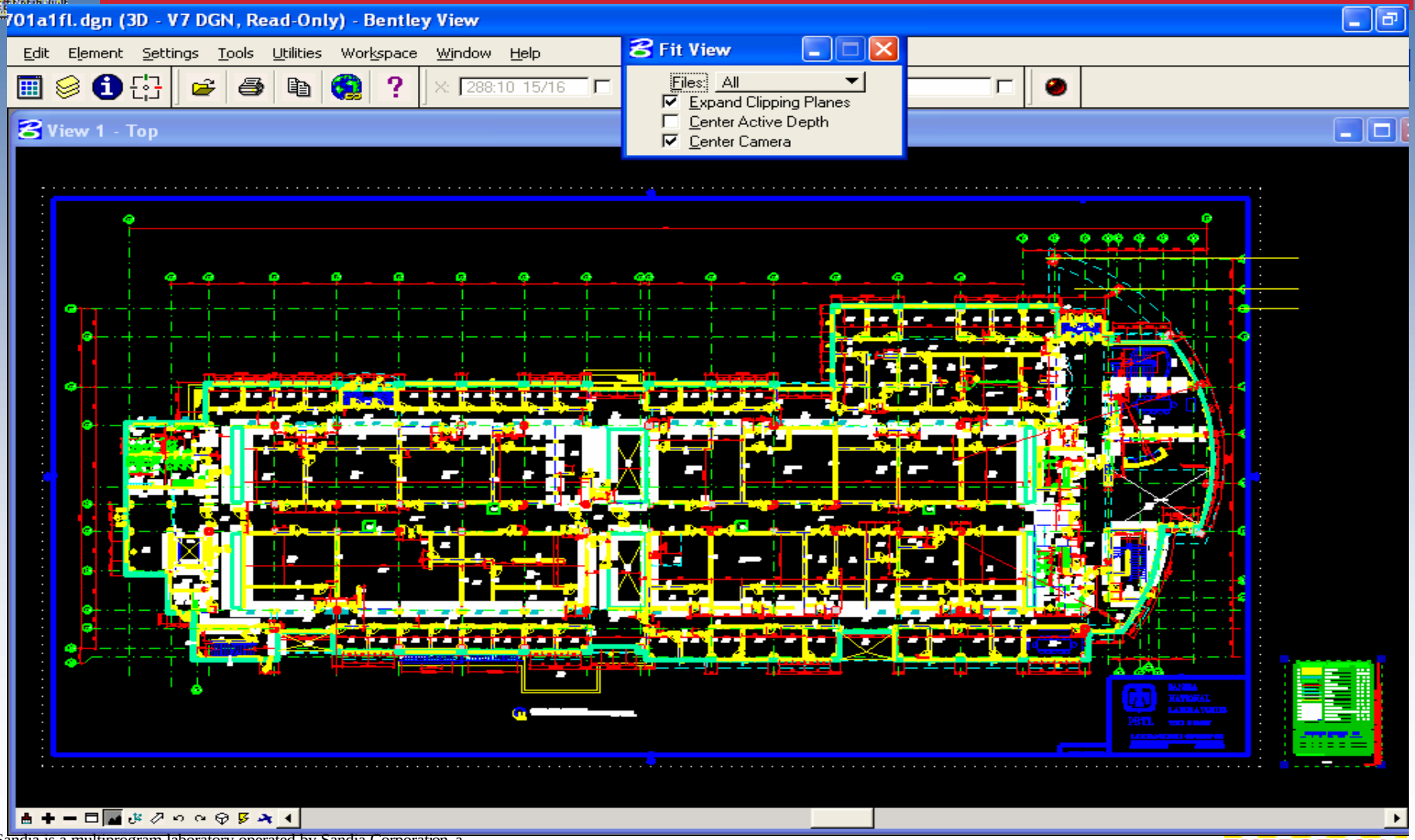
Building, 1st Floor, Architectural Floor Plan



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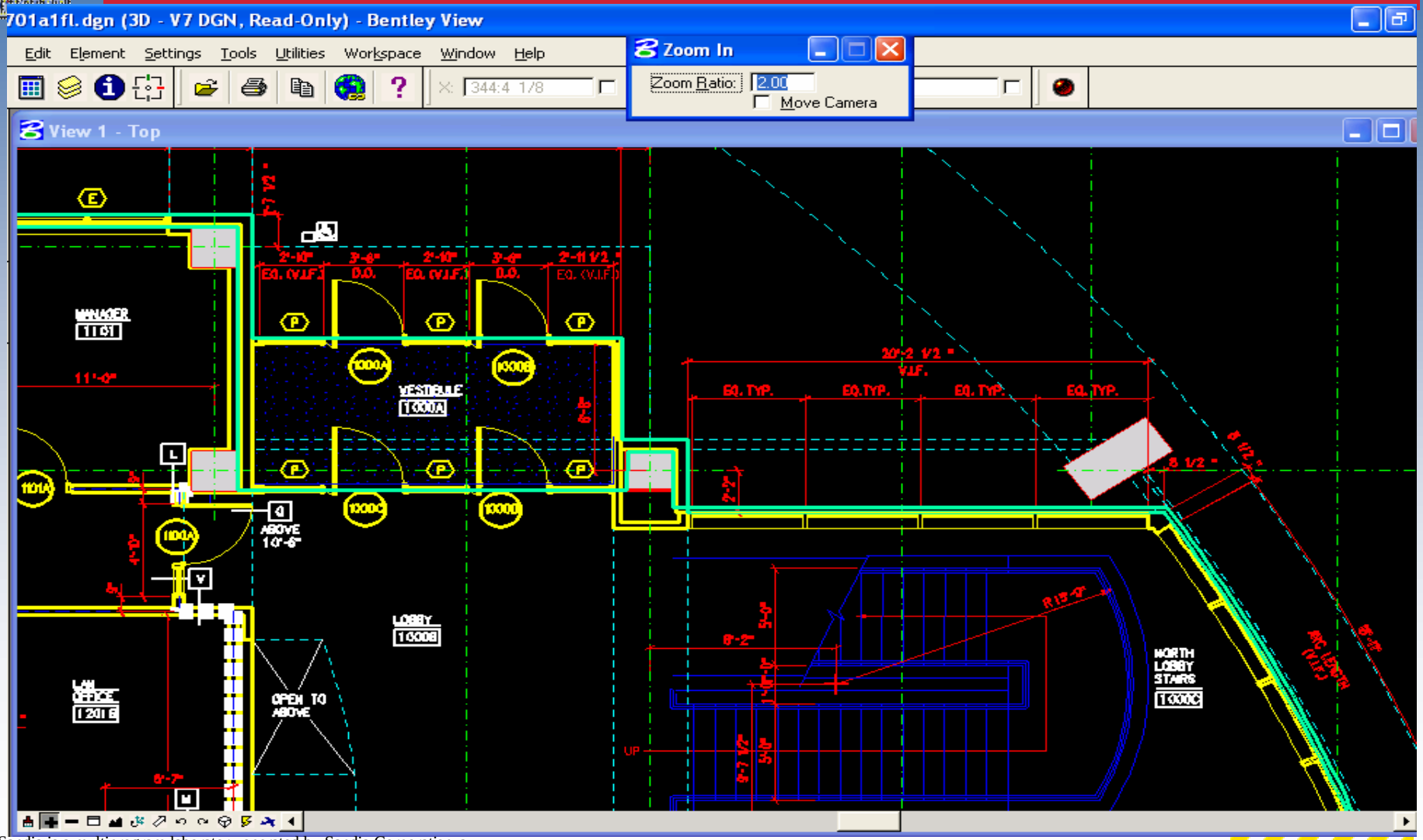
Building, 1st Floor, Architectural Floor Plan, Zoom-In



New GIS Technologies at Sandia Labs

- **Challenges for the future**
  - **Maintaining data currentness**
  - **Making it easier to use by scene responders**
  - **Incorporating latest Consequence Assessment tools (currently using HOTSPOT & Aloha)**

- **Questions?**

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