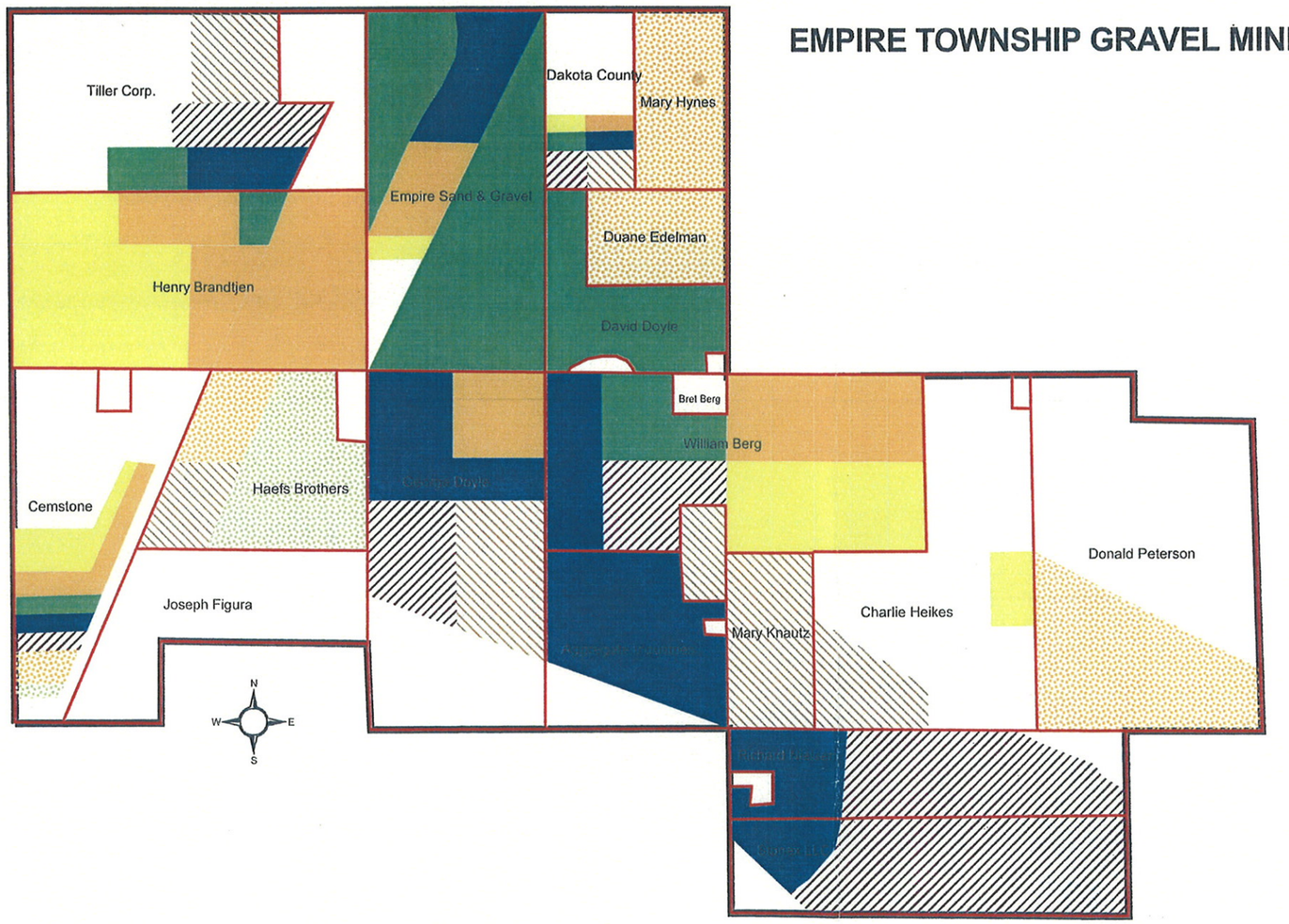
EMPIRE TOWNSHIP GRAVEL MINING AREA



5 Year Mine Phasing

5 Year Mine Phasing

- 2006-2010
- 2011-2015
- 2016-2020
- 2021-2025
- 2026-2030
- 2031-2035
- 2036-2040
- 2041->
- Property Line
- Gravel Mining Area Boundary

EMPIRE TOWNSHIP GRAVEL MINING AREA

5 YEAR MINE PHASING

SECTIONS 5-10 & 16, EMPIRE TOWNSHIP,
DAKOTA COUNTY, MINNESOTA

AGGREGATE INDUSTRIES

PREPARED BY:
AGGREGATE INDUSTRIES
2915 WATERS ROAD
SUITE 105
EAGAN, MINNESOTA
(651) 683-0600
APRIL 14, 2004

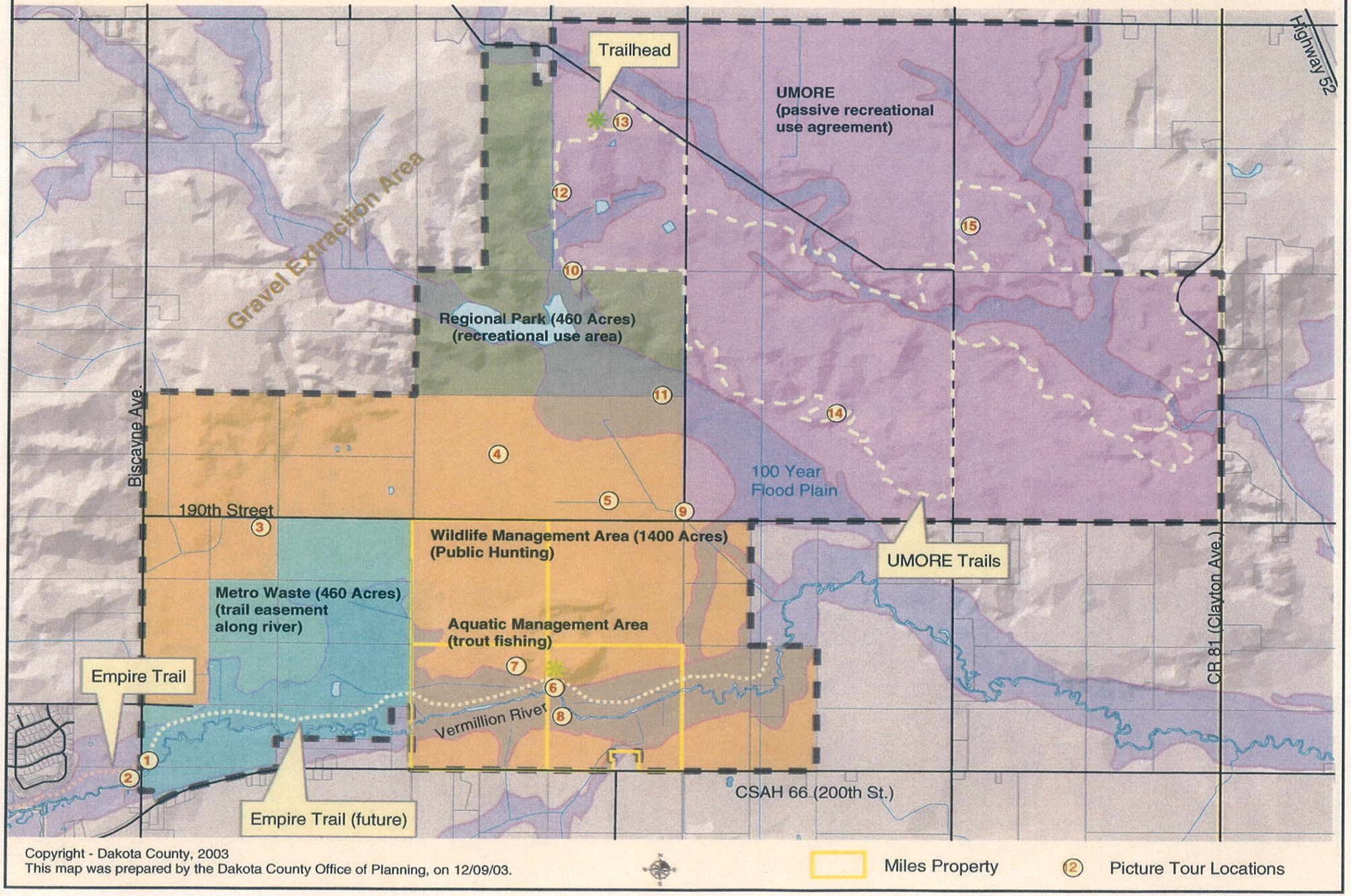
Southwest Regional Park - Proposed Park Boundary

Proposed Park Boundary

Copyright - Dakota County, 2004
This map was prepared by the Dakota County Office of Planning, on 1/29/04.

0 1,500 3,000 6,000
Feet

Empire Wetlands Natural Area - Management Concept (photo tour)



Copyright - Dakota County, 2003
This map was prepared by the Dakota County Office of Planning, on 12/09/03.

Miles Property

② Picture Tour Locations

158th St W
Dakota Dr
170th St W
170th St W
170th St E
Station Tr
Annette Ave
Biscayne Ave
Echo D
06-NE-02
06-NE-01
06-NW-01
05-NW-01
04-NW-01
07-NW-01
07-SE-02
07-SE-01
18-NE-03
18-NE-02
18-NW-01
18-NE-01
18-SE-03
17-SW-02
17-NW-01
17-NW-02
17-SW-01
17-SW-04
17-SW-03
17-SE-01
16-SW-01
15-NW-01
15-NW-02
15-NW-03
15-SW-01
10-NW-01
10-NE-01
10-NE-02
10-SE-06
11-SW-01
10-SE-01
10-SE-02
10-SE-04
10-SE-03
10-SE-05
14-NW-01
14-NW-02
14-NW-03
15-SE-02
21-SE-01
46
3

Legend
- Preserve
- Manage I
- Manage II
- Utilize
- Restore
- Study Area

URS Corporation N:\31809572\projects\wetland inventroy.mxd Date: 9/10/2004 4:19:08 PM Name: estra

Sand & Gravel Mining and Accessory Uses

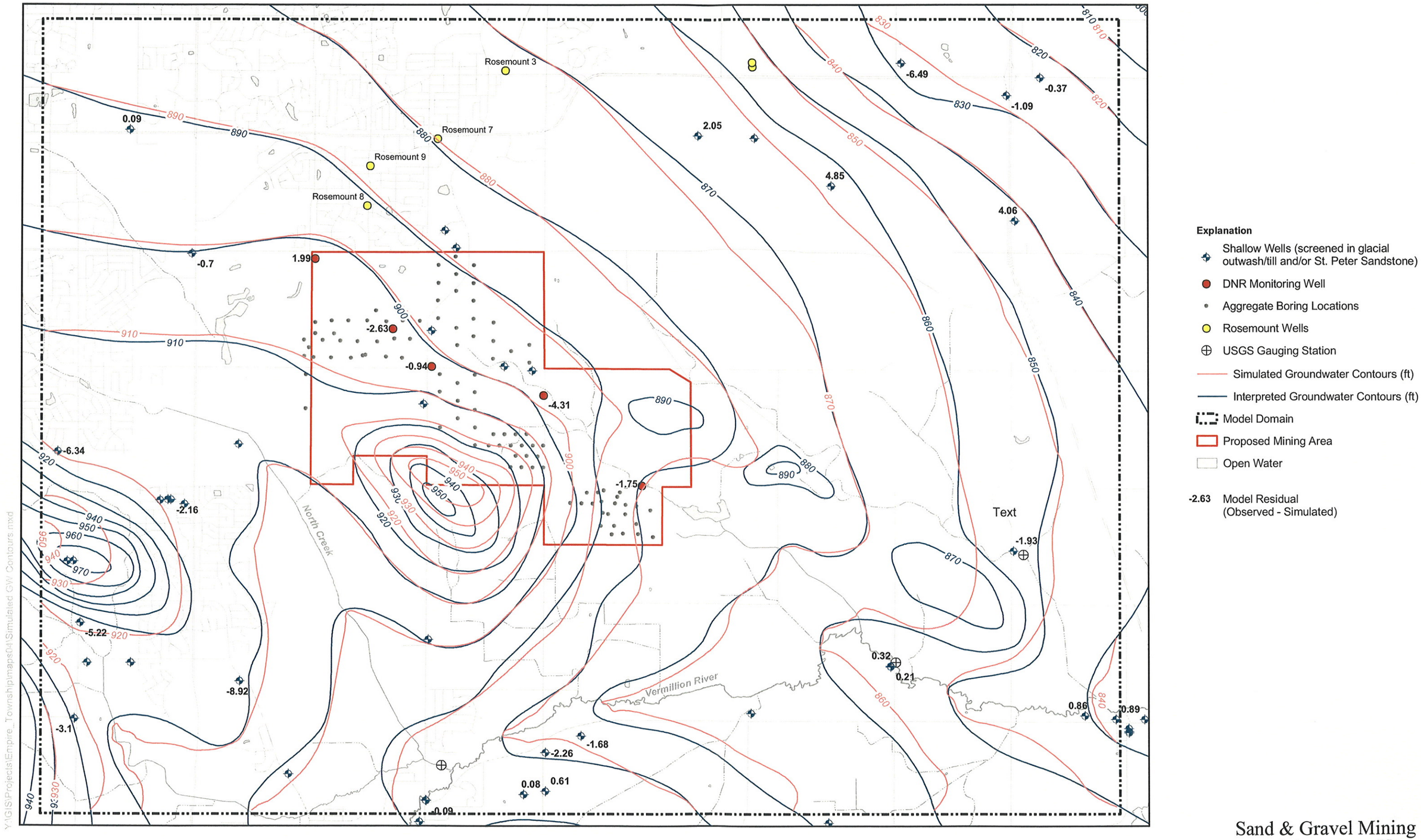
URS

Empire Township

N

0 0.5 Miles

Figure 5
Page 5
Empire Township Wetland Inventory



Explanation

- Shallow Wells (screened in glacial outwash/till and/or St. Peter Sandstone)
- DNR Monitoring Well
- Aggregate Boring Locations
- Rosemount Wells
- USGS Gauging Station
- Simulated Groundwater Contours (ft)
- Interpreted Groundwater Contours (ft)
- Model Domain
- Proposed Mining Area
- Open Water

-2.63 Model Residual (Observed - Simulated)

Y:\GIS\Projects\Empire_Township\mapsf\4\Simulated GW Contours.mxd

URS

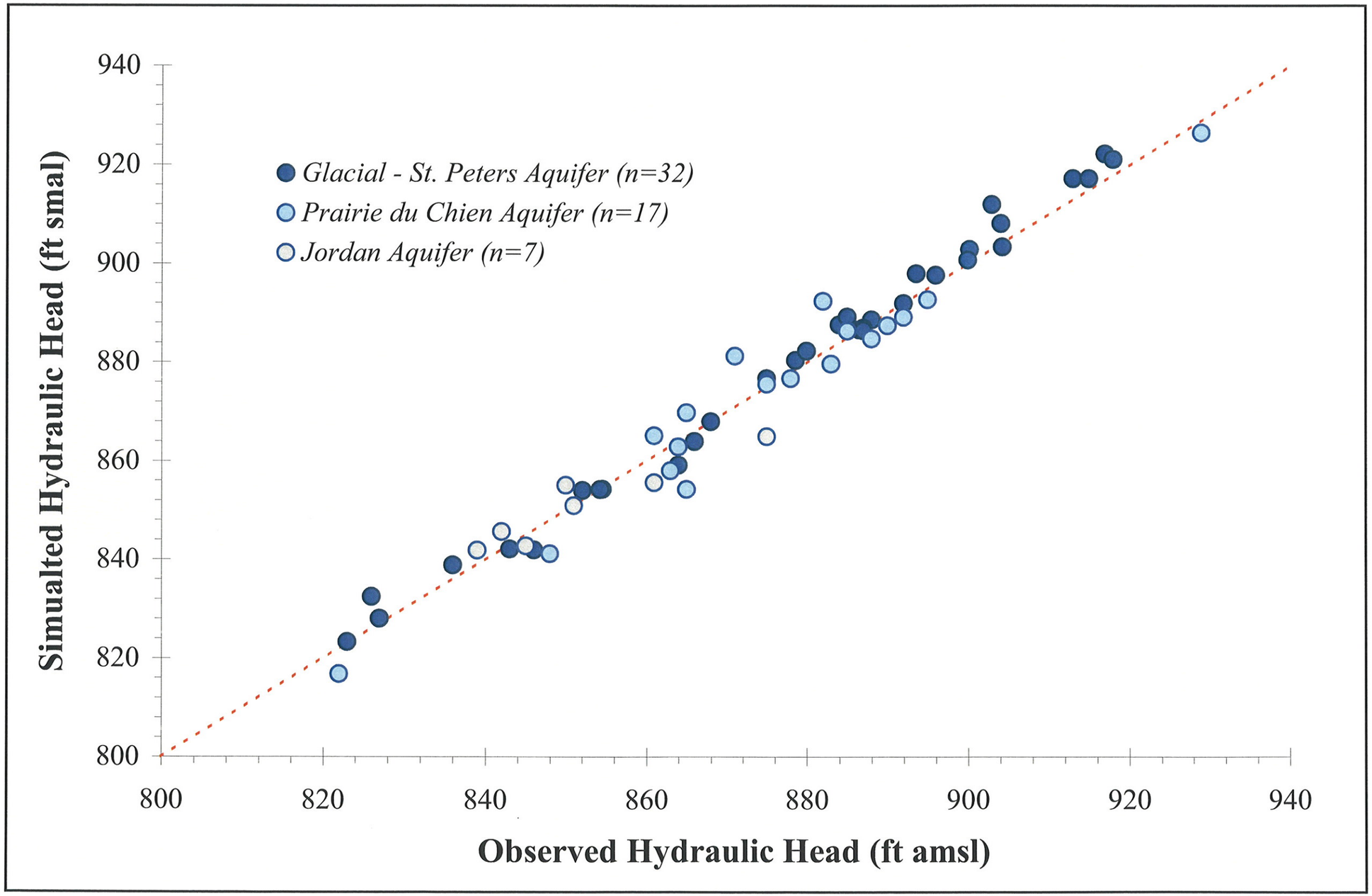
Empire Township

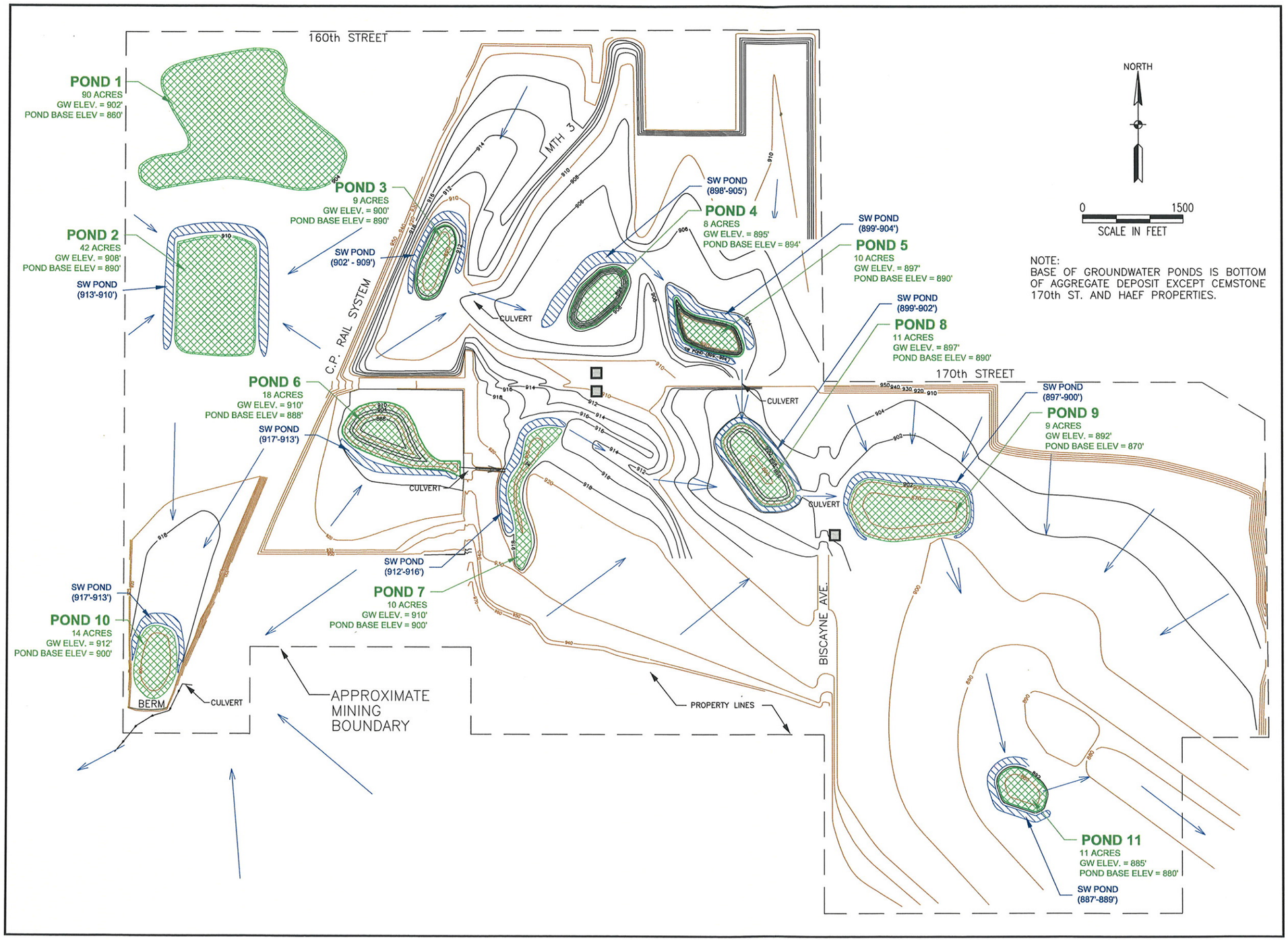
0 2,000 4,000 8,000 Feet

Sand & Gravel Mining and Accessory Uses

Figure 5 Revised Page 6

Interpreted vs. Simulated Groundwater Contours for Model Layer 1


Glacial - St. Peters Aquifer (n=32)
Prairie du Chien Aquifer (n=17)
Jordan Aquifer (n=7)
Simualted Hydraulic Head (ft smal)
Observed Hydraulic Head (ft amsl)
940
920
900
880
860
840
820
800
800
820
840
860
880
900
920
940



NOTE:
BASE OF GROUNDWATER PONDS IS BOTTOM OF AGGREGATE DEPOSIT EXCEPT CEMSTONE 170th ST. AND HAEF PROPERTIES.

EXPLANATION

- PROPOSED 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED STORMWATER FLOW
- PROPOSED MINING AREA
- PROPOSED GROUNDWATER POND (GROUNDWATER AND POND BASE ELEVATIONS APPROXIMATE)
- PROPOSED STORMWATER POND (ELEVATIONS APPROXIMATE)
- POTENTIAL LOCATION OF GRAVEL WASHING PITS. (NOTE: WASHING PITS WILL BE IN USE DURING MINING OPERATIONS AND WILL BE REMOVED PRIOR TO CONSTRUCTION OF THE END-USE PLAI

NOTE: END USE GRADING PLAN AND POOL INFORMATION OBTAINED FROM MINING CONSORTIUM.

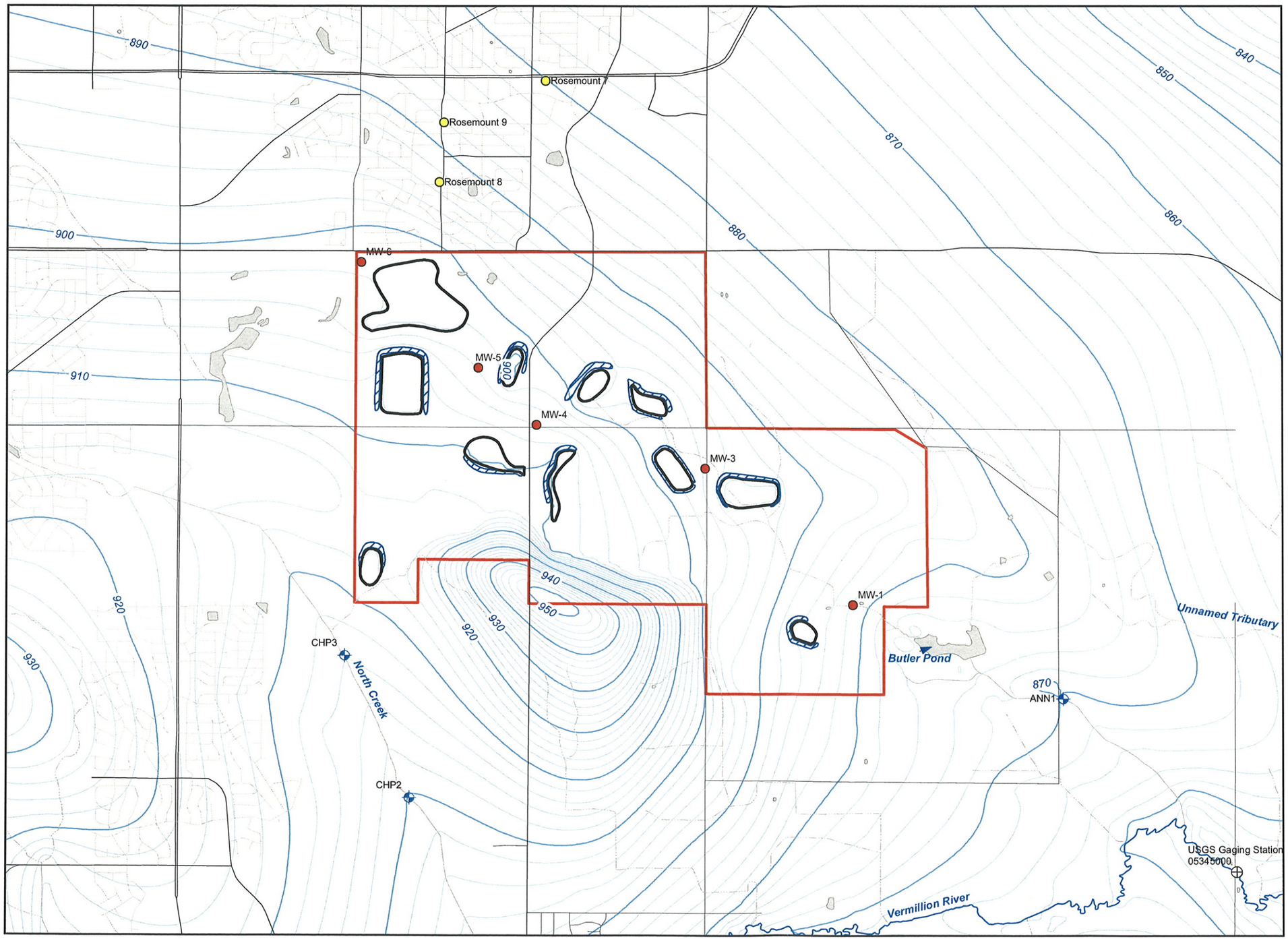
S:\jcrawford\Fig13_Proposed_End_Use_Plan.dwg May 17, 2005

URS

Empire Township

Sand & Gravel Mining and Accessory Uses

Figure 13
Proposed End Use Plan



Explanation

- USGS Gaging Station
- Gaging stations depicted in Almendinger and Mitton (1995)
- SWCD In-river piezometer and gaging station
- Rosemount Wells
- Township Monitoring Well
- Perennial Stream
- Ephemeral Stream

Simulated Groundwater Contours (with ponds)

- Index Groundwater Contour
- Intermediate Groundwater Contour
- Proposed Mining Area
- Open Water

Proposed Ponds

- Groundwater Pond
- Stormwater Pond

URS

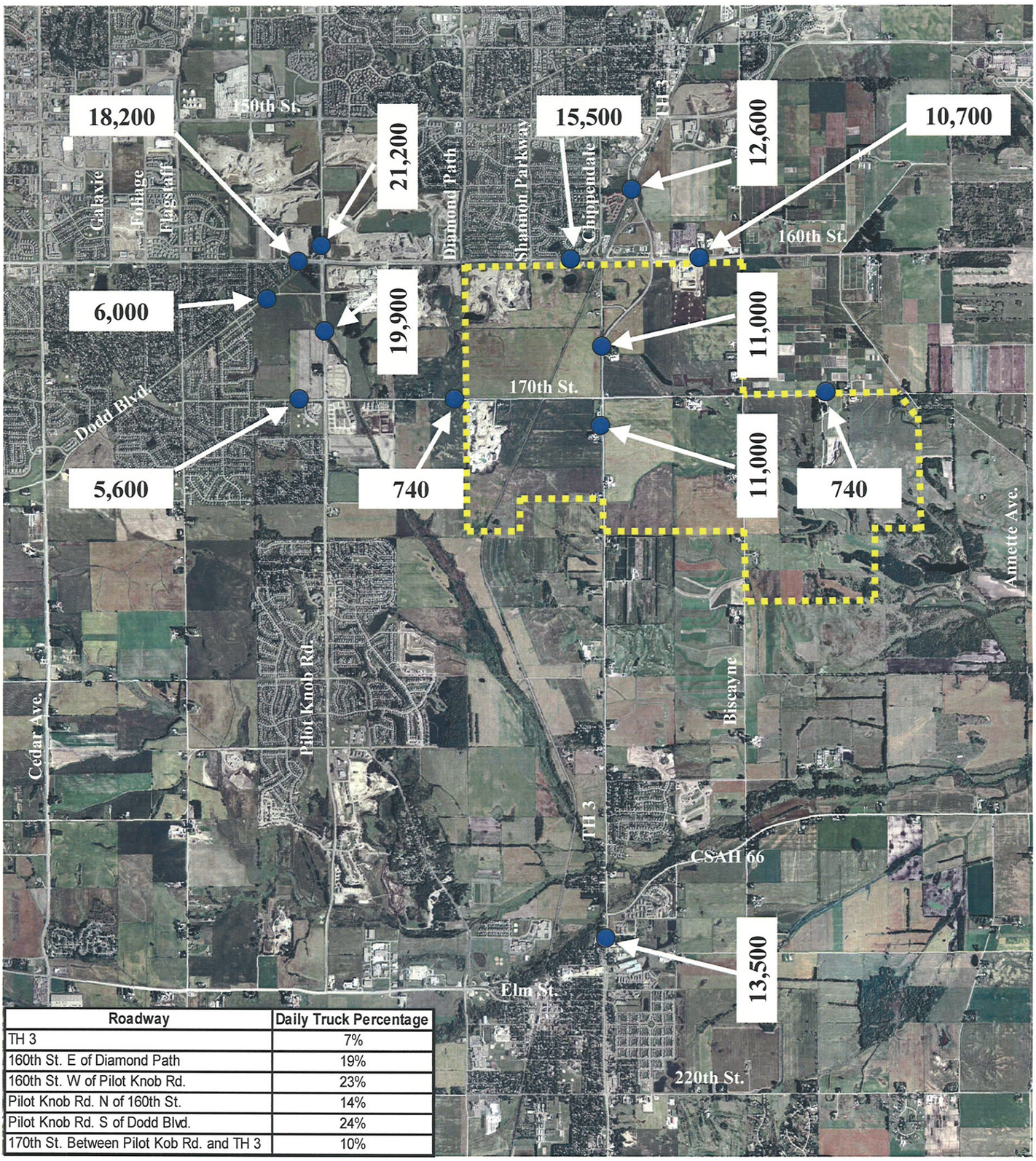
Empire Township

N

0 750 1,500 3,000 Feet

Sand & Gravel Mining and Accessory Uses

Figure 14
Simulated Reasonable Water Levels After End-Use Plan Implementation



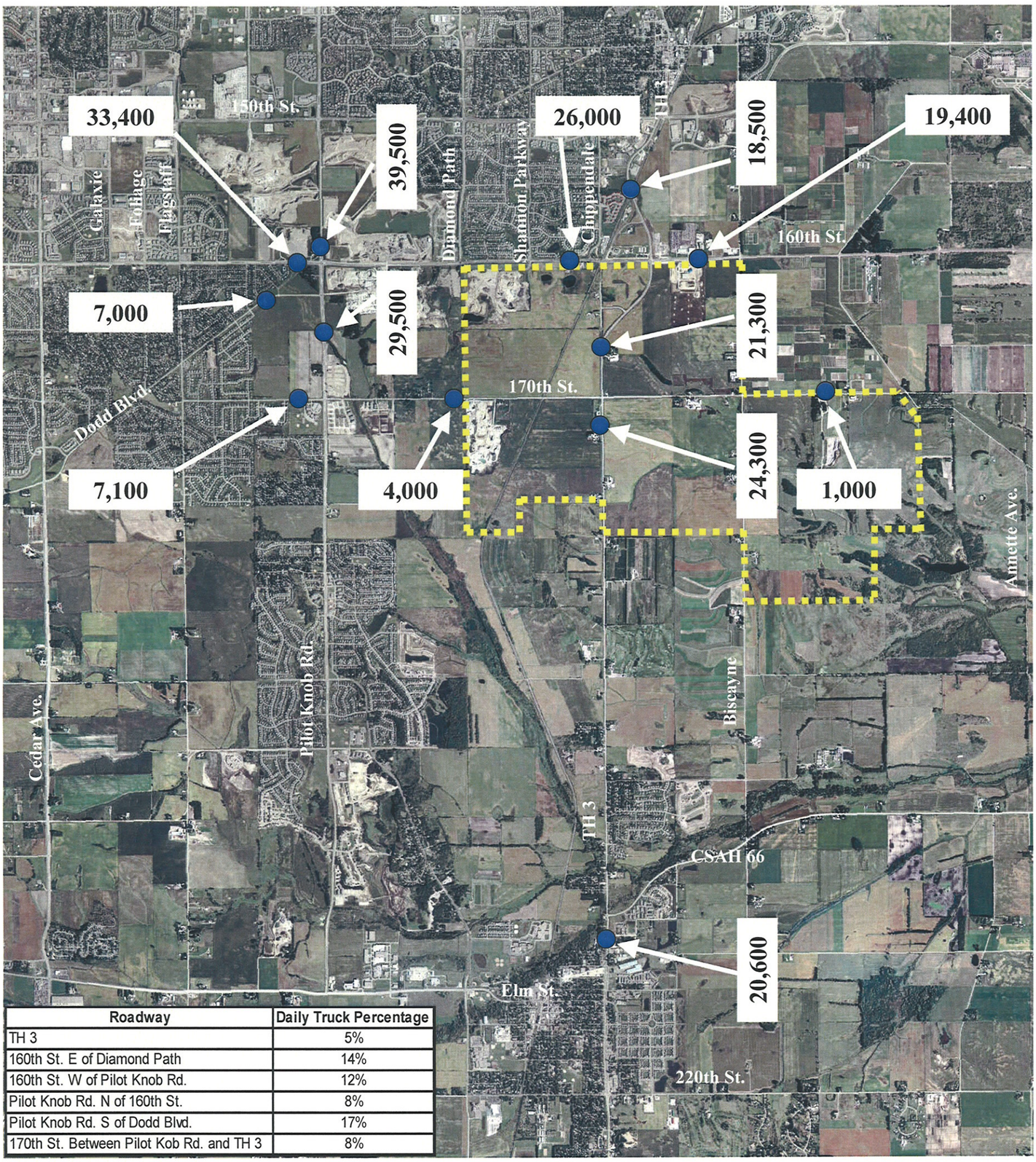
Roadway	Daily Truck Percentage
TH 3	7%
160th St. E of Diamond Path	19%
160th St. W of Pilot Knob Rd.	23%
Pilot Knob Rd. N of 160th St.	14%
Pilot Knob Rd. S of Dodd Blvd.	24%
170th St. Between Pilot Kob Rd. and TH 3	10%

Data Source: URS Corporation

Indicates proposed project site

URS Empire Township No Scale

Figure 4-9B
Year 2015 Daily Traffic Volumes (AADT)
No-Build (Background Growth Only)



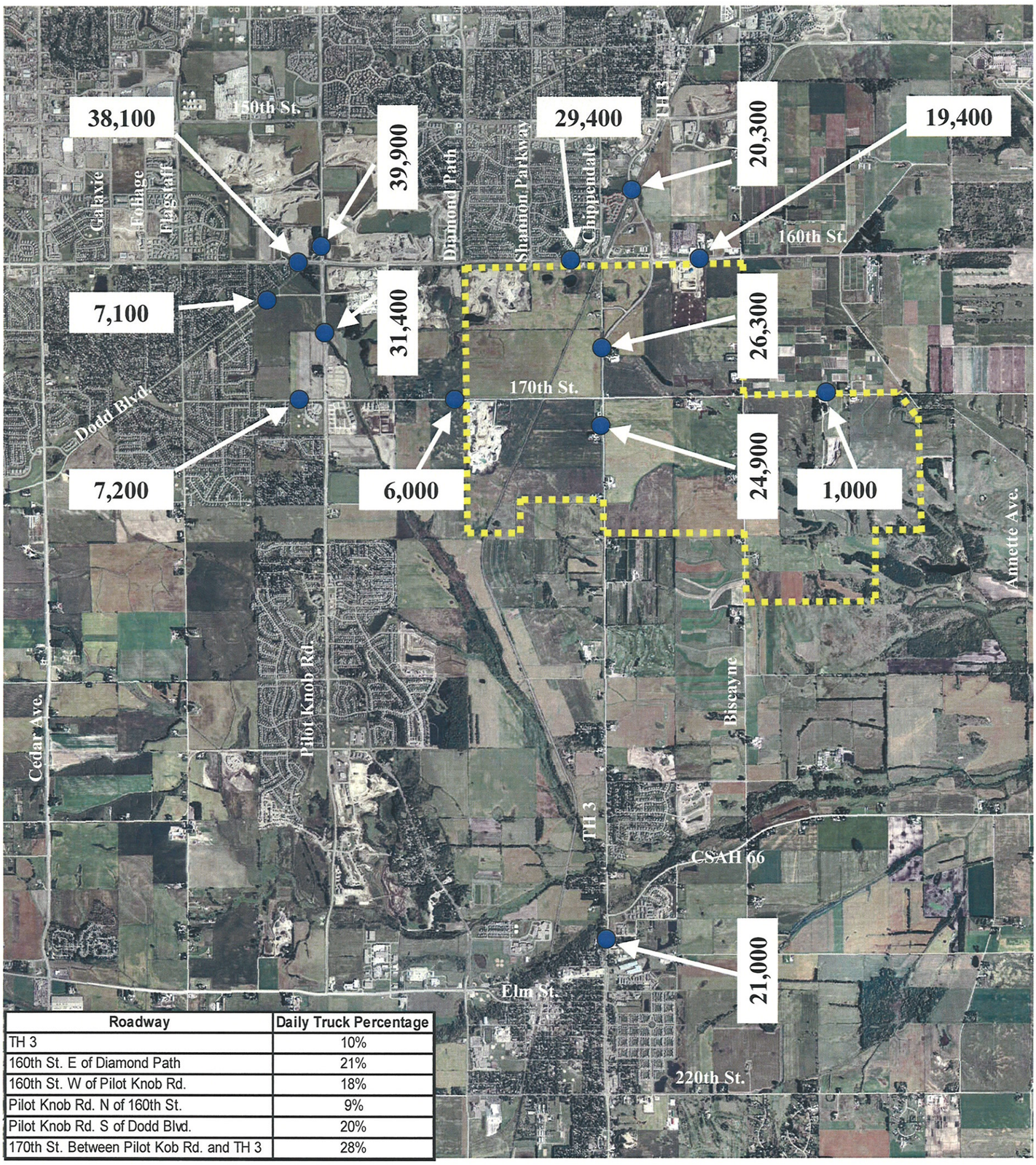
Roadway	Daily Truck Percentage
TH 3	5%
160th St. E of Diamond Path	14%
160th St. W of Pilot Knob Rd.	12%
Pilot Knob Rd. N of 160th St.	8%
Pilot Knob Rd. S of Dodd Blvd.	17%
170th St. Between Pilot Kob Rd. and TH 3	8%

Data Source: URS Corporation

Indicates proposed project site

URS Empire Township No Scale

Figure 4-11B
Year 2015 Daily Traffic Volumes (AADT)
No-Build (Background Growth
Plus Planned Land Developments)



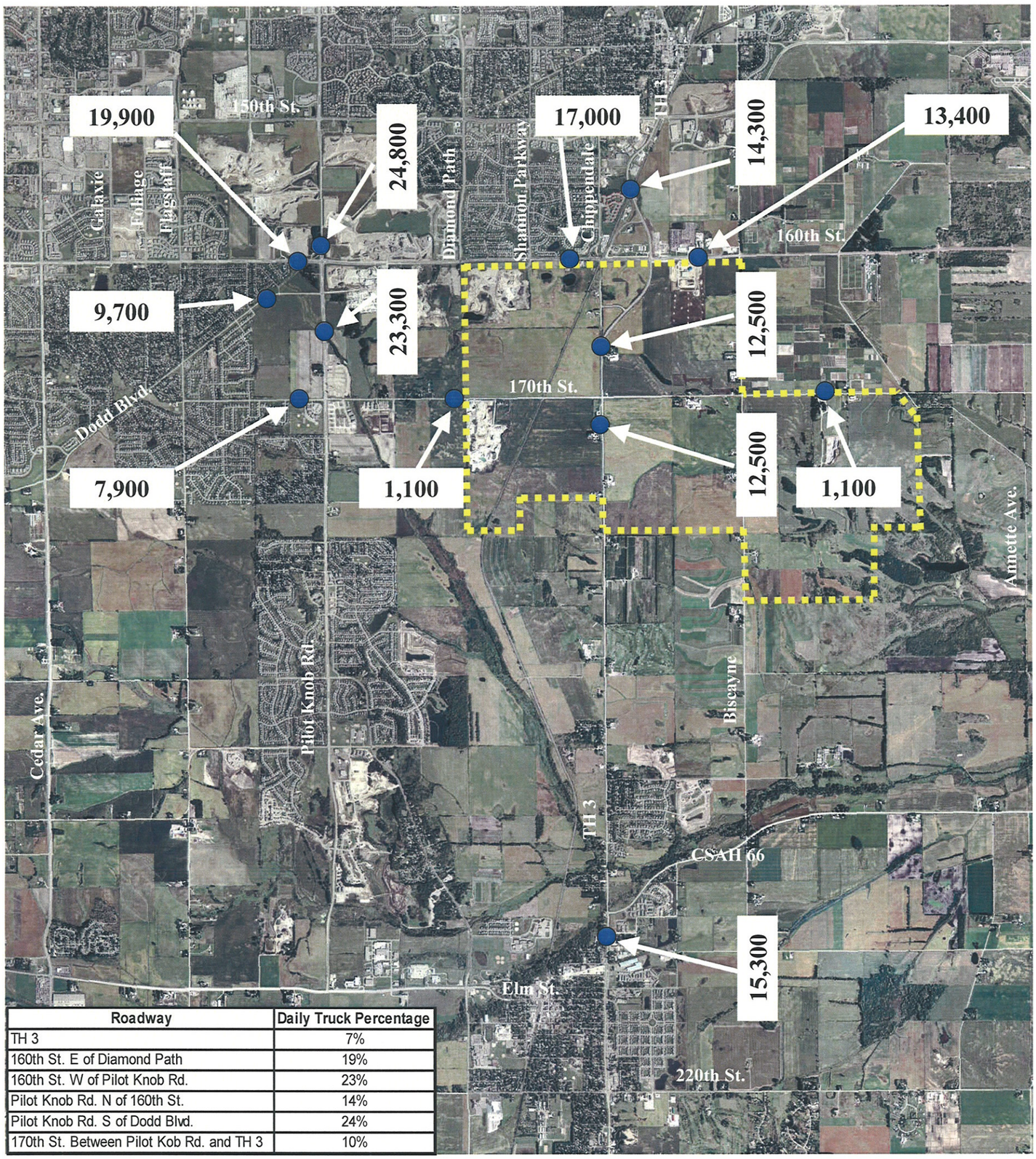
Roadway	Daily Truck Percentage
TH 3	10%
160th St. E of Diamond Path	21%
160th St. W of Pilot Knob Rd.	18%
Pilot Knob Rd. N of 160th St.	9%
Pilot Knob Rd. S of Dodd Blvd.	20%
170th St. Between Pilot Kob Rd. and TH 3	28%

Data Source: URS Corporation

Indicates proposed project site

URS Empire Township No Scale

Figure 4-13B
Year 2015 Daily Traffic Volumes (AADT)
Build (Mining Operation Plus Background Growth Plus Planned Land Developments)



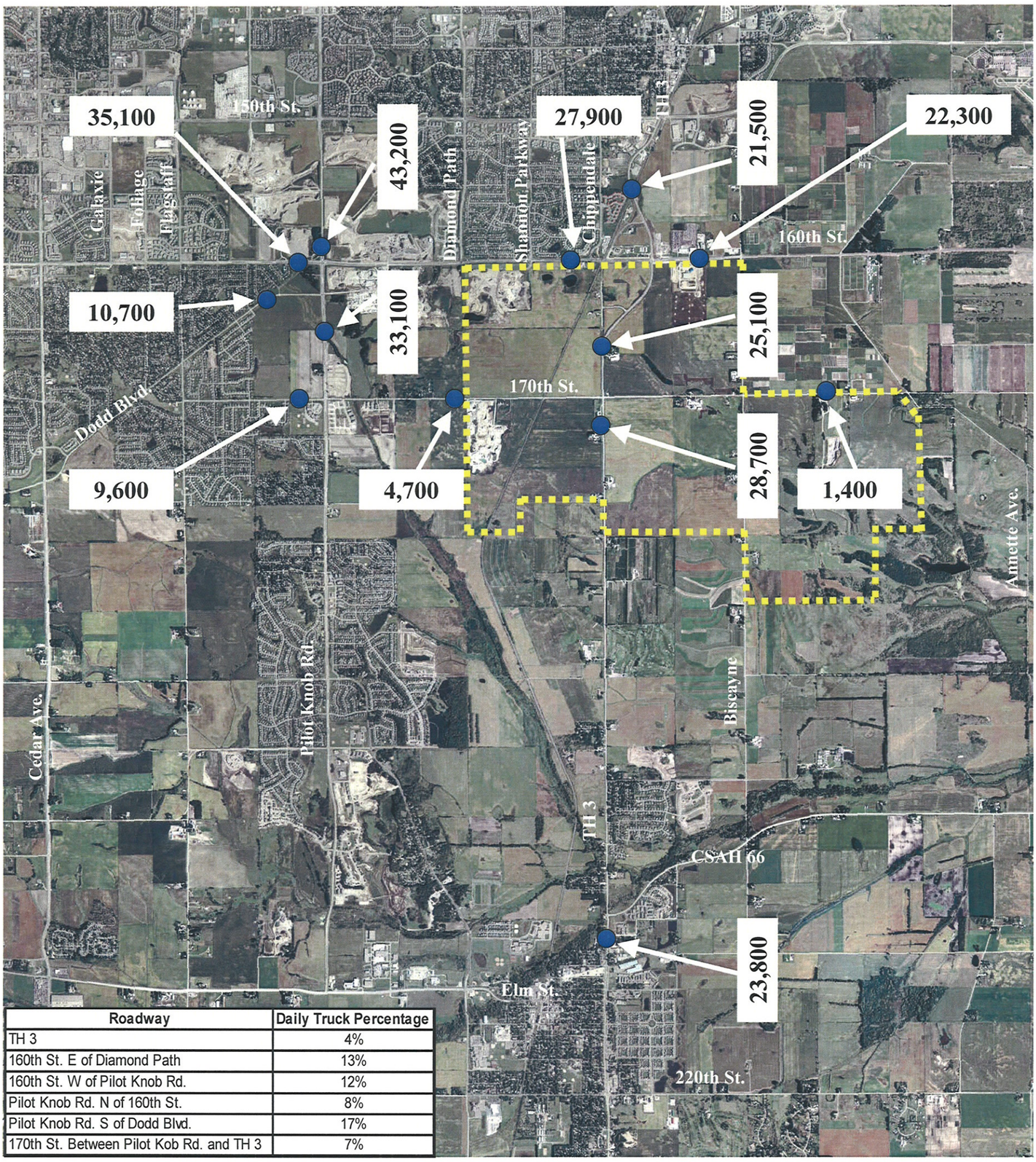
Roadway	Daily Truck Percentage
TH 3	7%
160th St. E of Diamond Path	19%
160th St. W of Pilot Knob Rd.	23%
Pilot Knob Rd. N of 160th St.	14%
Pilot Knob Rd. S of Dodd Blvd.	24%
170th St. Between Pilot Kob Rd. and TH 3	10%

Data Source: URS Corporation

Indicates proposed project site

URS Empire Township No Scale

Figure 4-21B
Year 2025 Daily Traffic Volumes (AADT)
No-Build (Background Growth Only)



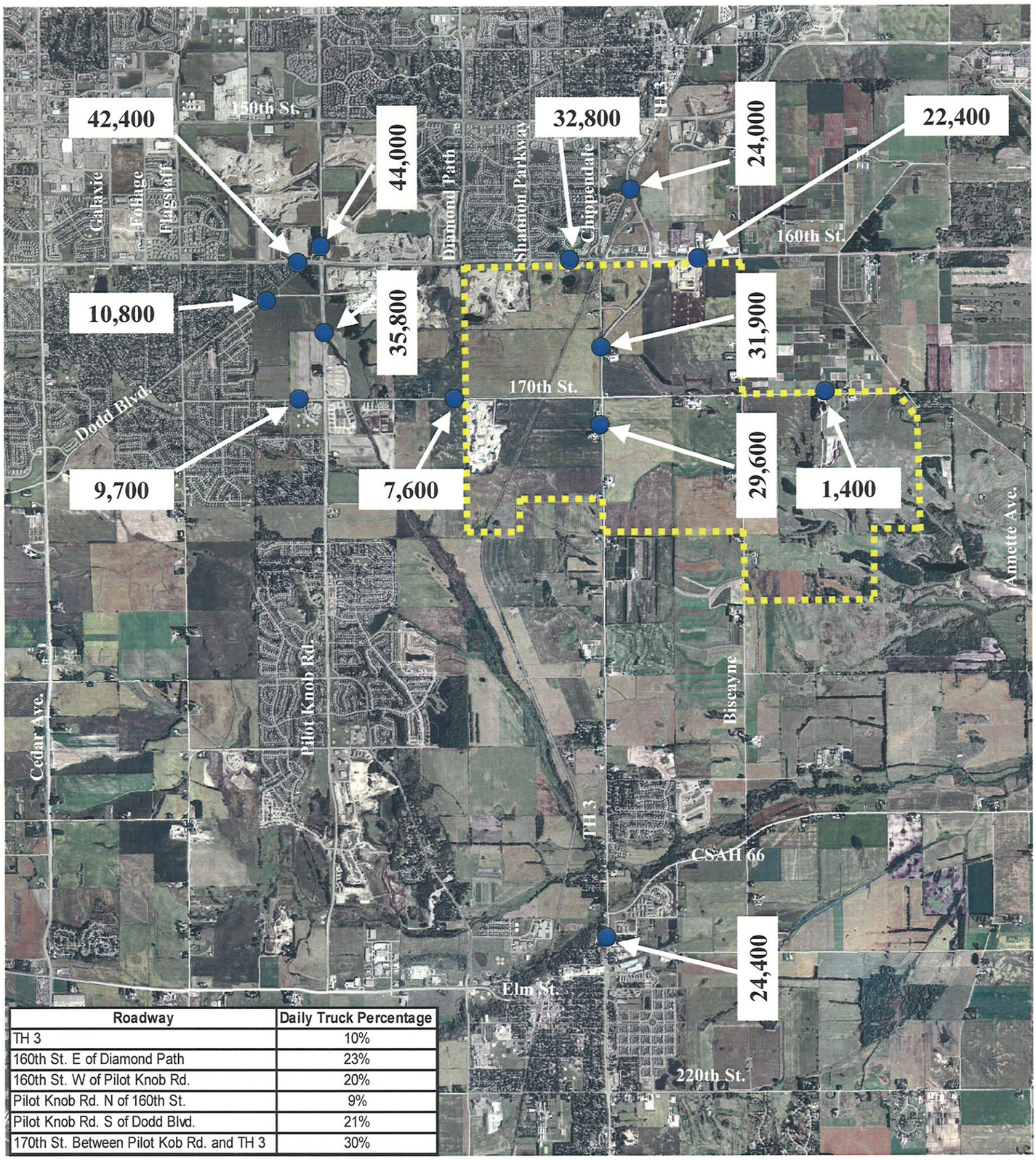
Roadway	Daily Truck Percentage
TH 3	4%
160th St. E of Diamond Path	13%
160th St. W of Pilot Knob Rd.	12%
Pilot Knob Rd. N of 160th St.	8%
Pilot Knob Rd. S of Dodd Blvd.	17%
170th St. Between Pilot Kob Rd. and TH 3	7%

Data Source: URS Corporation

Indicates proposed project site

URS Empire Township No Scale

Figure 4-23B
Year 2025 Daily Traffic Volumes (AADT)
No-Build (Background Growth
Plus Planned Land Developments)



Roadway	Daily Truck Percentage
TH 3	10%
160th St. E of Diamond Path	23%
160th St. W of Pilot Knob Rd.	20%
Pilot Knob Rd. N of 160th St.	9%
Pilot Knob Rd. S of Dodd Blvd.	21%
170th St. Between Pilot Kob Rd. and TH 3	30%

Data Source: URS Corporation

Indicates proposed project site

URS Empire Township No Scale

Figure 4-25B
Year 2025 Daily Traffic Volumes (AADT)
Build (Mining Operation Plus Background Growth Plus Planned Land Developments)