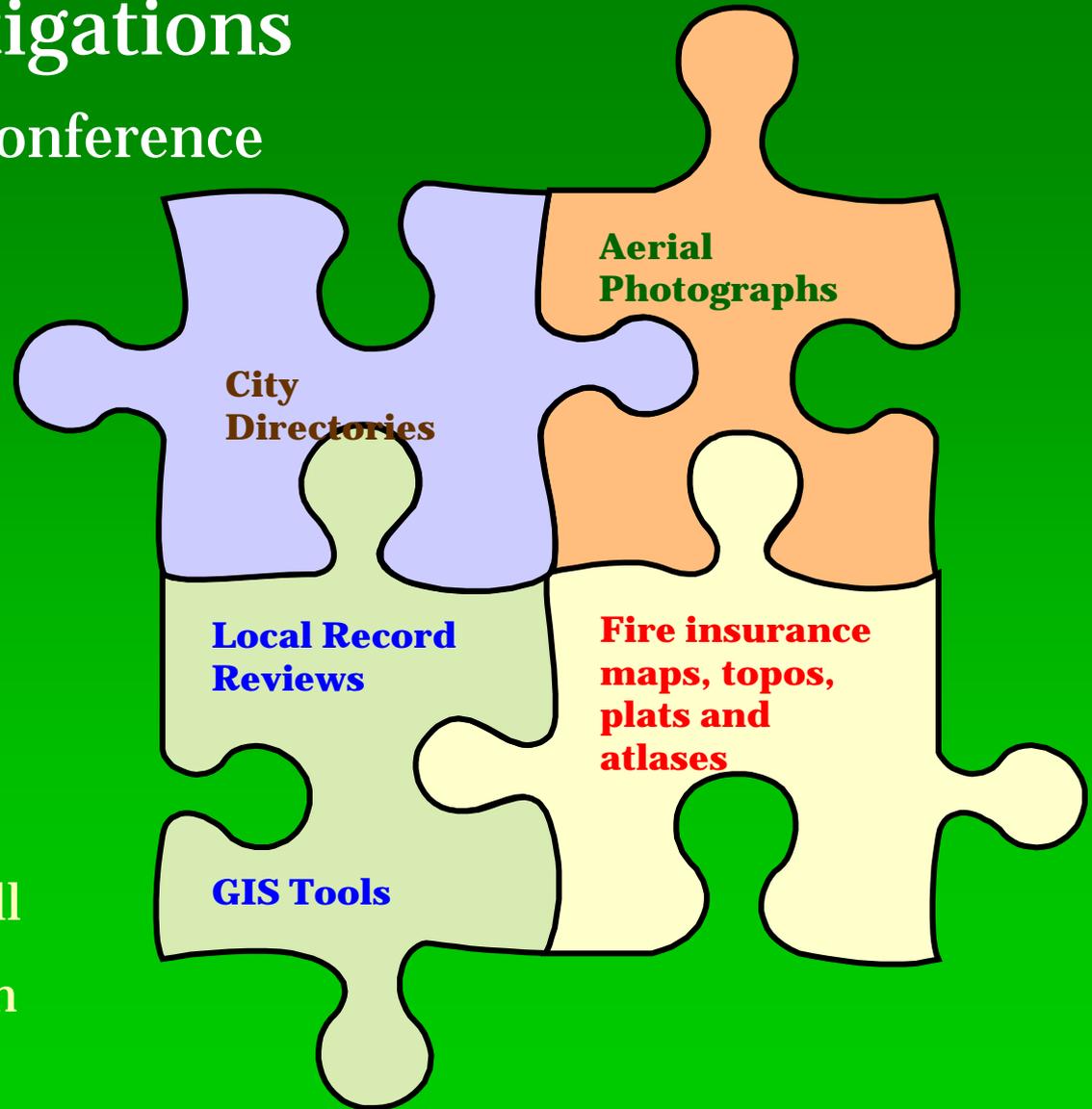


Historical Research Tools for Brownfield Investigations

Ohio EPA Brownfield Conference
May 23, 2012

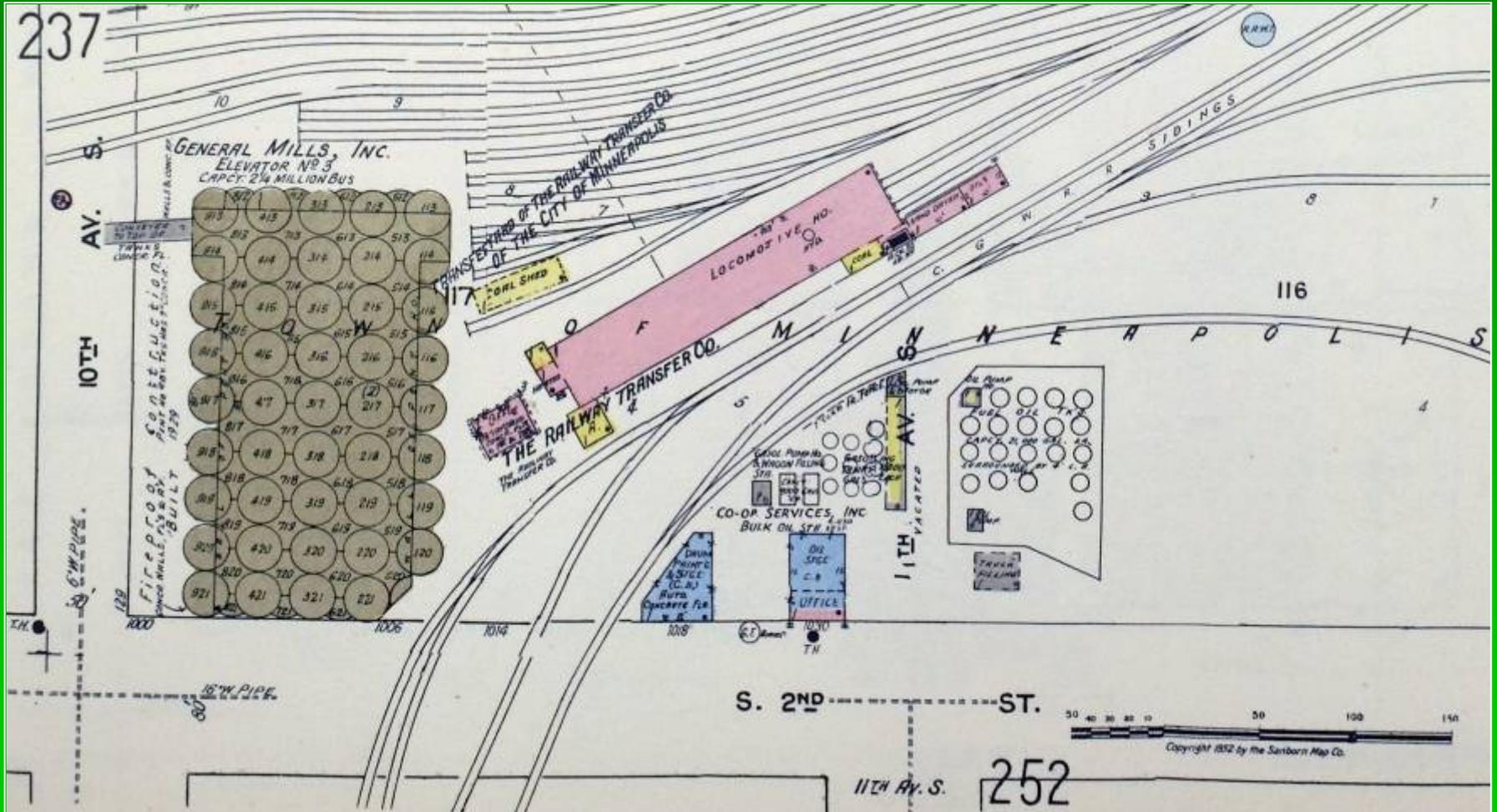


Presented by Jeri Massengill
CEO, Historical Information
Gatherers



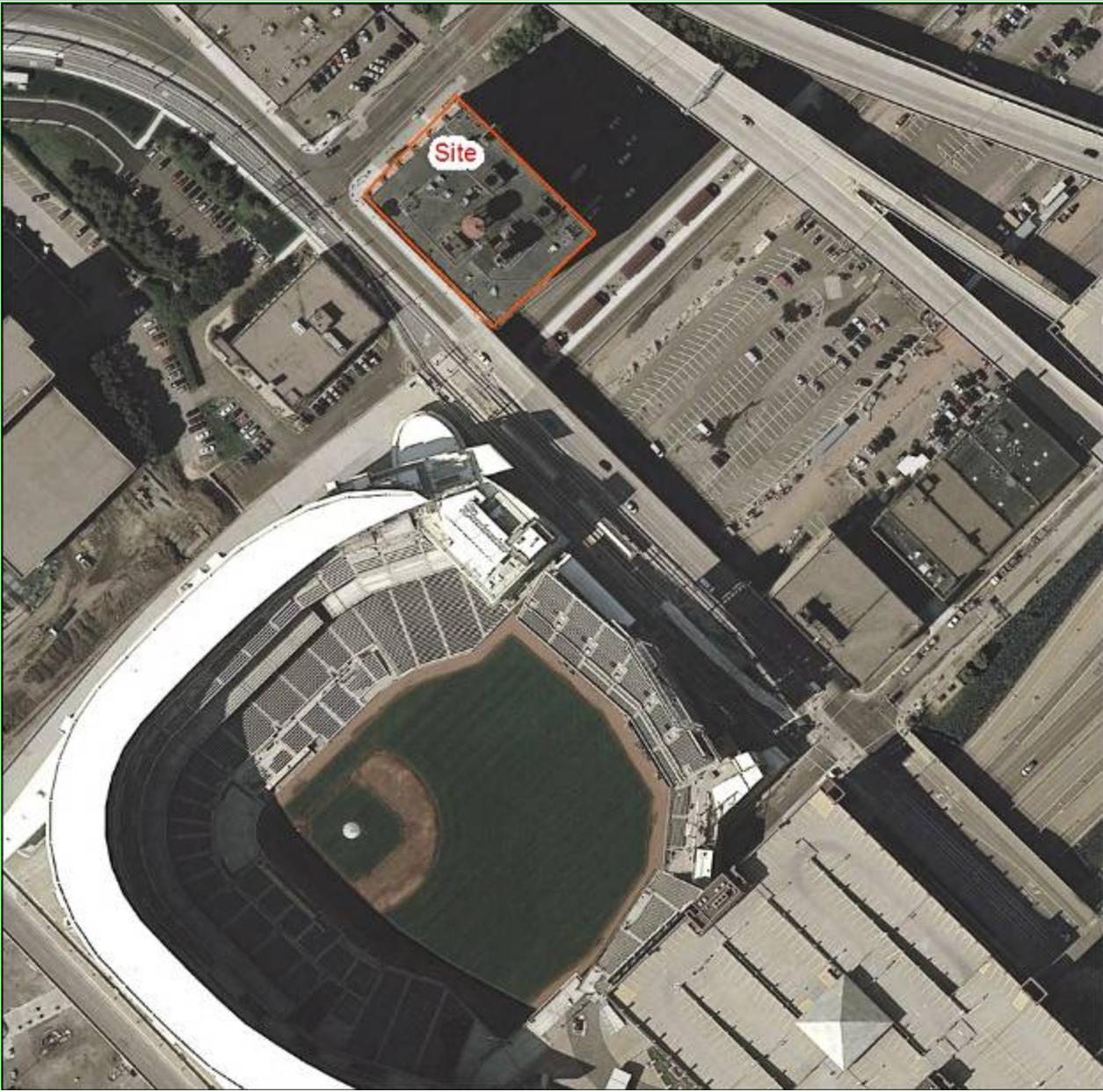
2004 Aerial Photo of the Guthrie construction site and future location of Gold Medal Park.

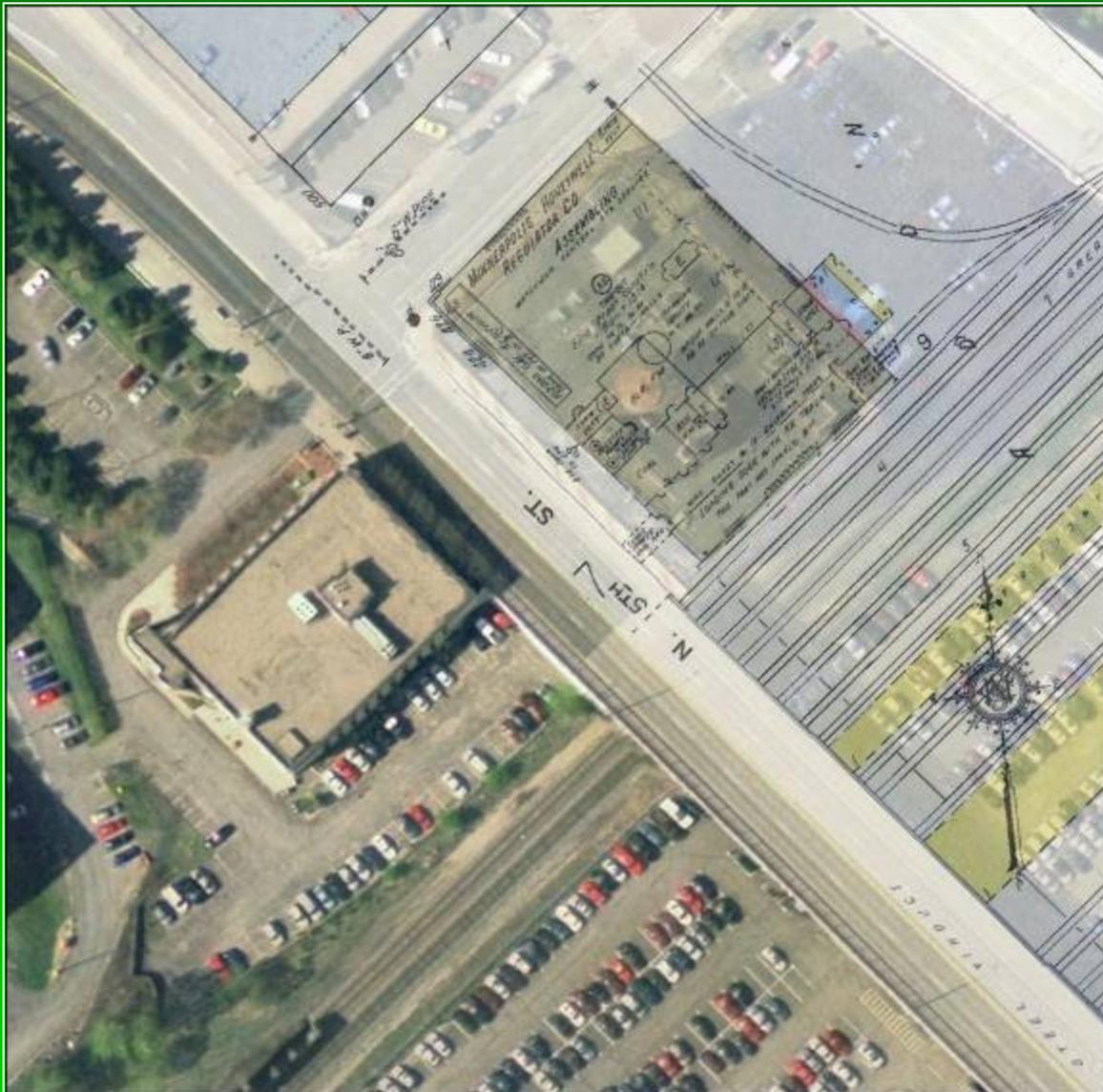
1952 Fire Insurance Map





Overlay of 2009 Aerial Photo and 1952 FIM





1952 Sanborn Fire Insurance Map

2006 Aerial Photo provided by the U.S. Geological Survey



6" W. PIPE

6" W. P.

429
424
426
100,000 GAL. RESERVOIR
TANK IN PIT IN B.S.

MINNEAPOLIS - HONEYWELL REGULATOR CO.

ASSEMBLING

WATCHMAN, CENTRAL STA. SERVICE

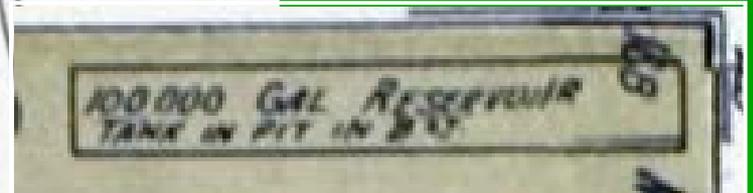
STAIR
VEST

(1)

(AS)

THRU-OUT
FIRE PROOF CONSTR.
- BUILT 1914
CONC. FR. FL. & RF.
OR CURTAIN WALLS

(E)



STAIR
VEST
TO SPR.

STAIR
VEST

BOOSTER
PUMPS

BLR. RM

SPRINKLER
GRAVITY
WT. AB. RF.

(2)

OUTSIDE WALLS 2' TO 4'
AB. RF. ON FOUR SIDES

WALL 1.5"

COAL

ASH
RM

(E)

(3)

(E)

STAIR
VEST

PAINT MIXING EXT. 5' 6"
LACQUER STOVE 3' 0"
4" TILE WALLS 5' 0" x 7'
3' 0" ONLY

WIRE GLASS & 10' SHIPPING DOORS B.S.

LOADING DOCK WITH RR TRACK B
THIS PART NOT SPRK'D. B.S.

PAINT RM 6' 0"
4" SPRAY
4" TILE
5' 0" x 8' 0"
ONLY

9

ST.

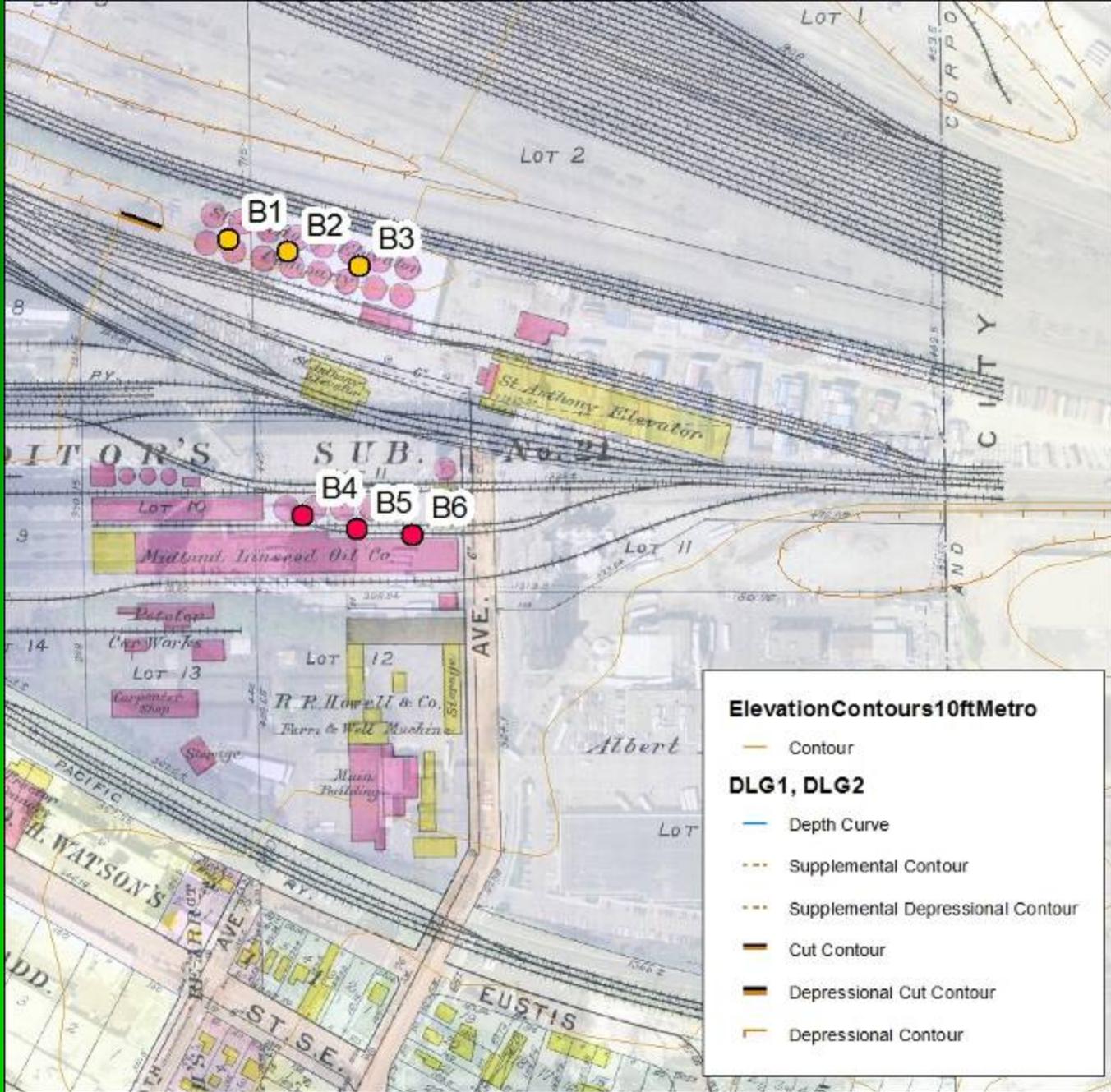
5TH

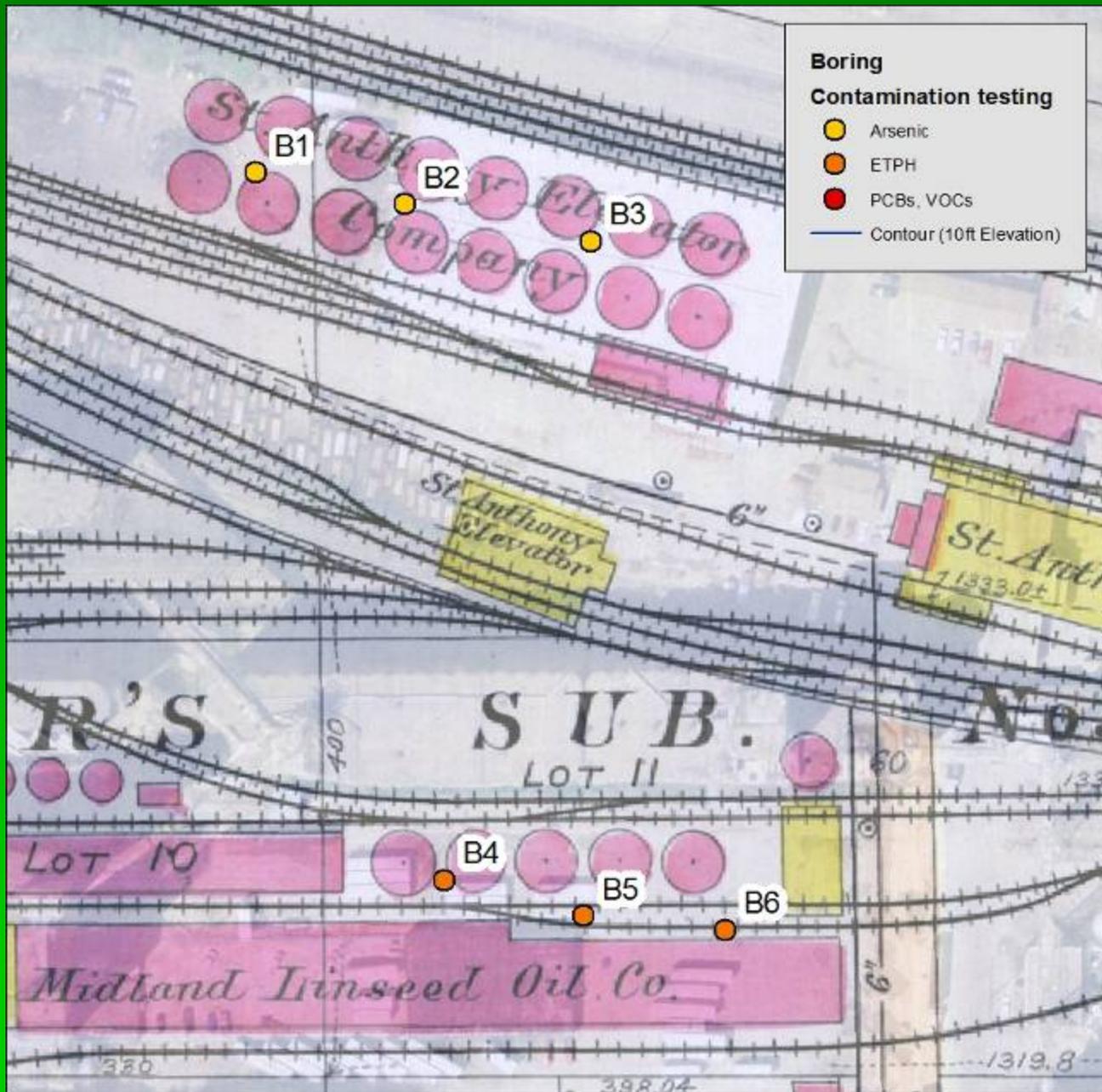
N.

4

Phase II Scoping

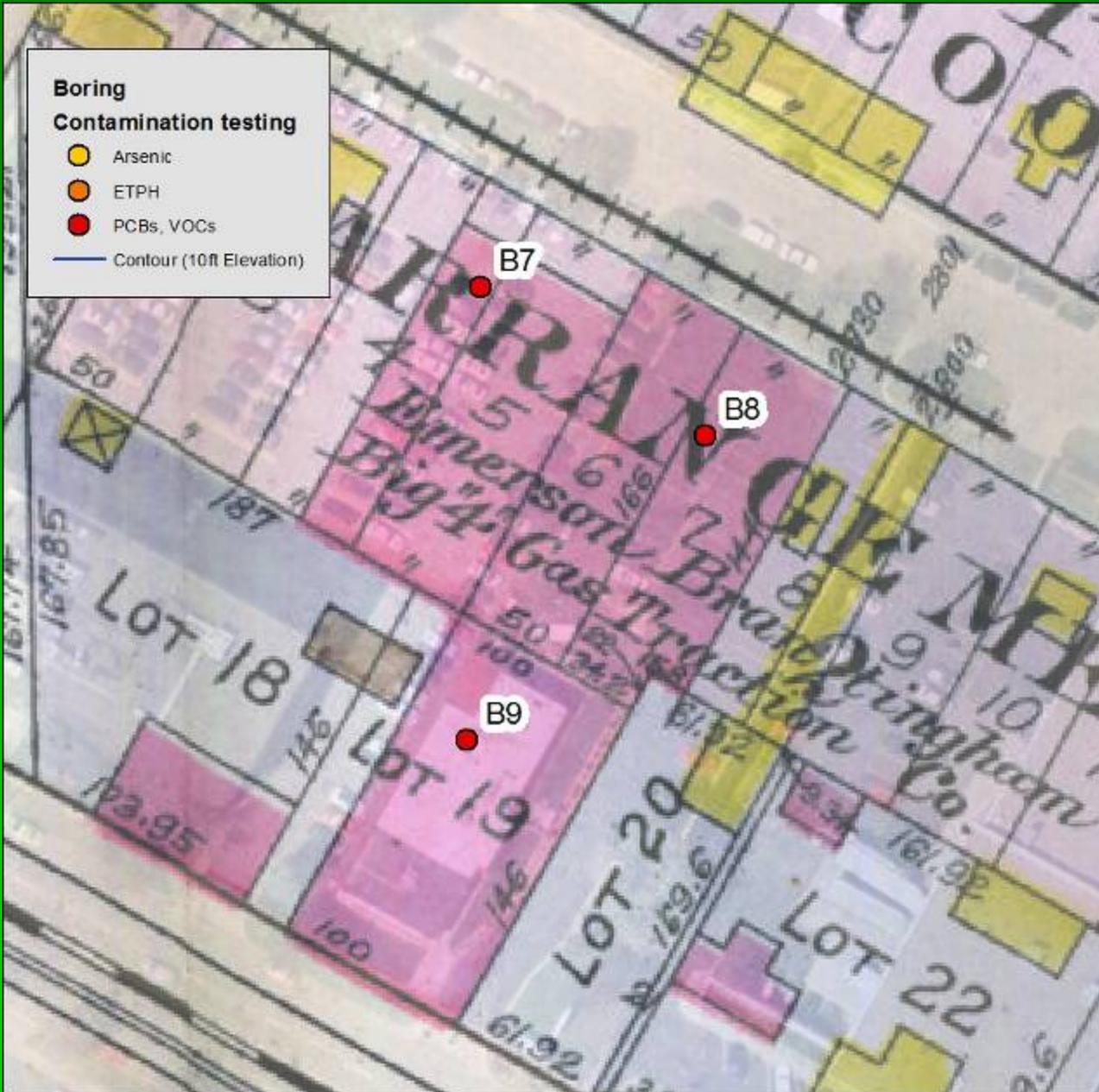
Proposed boring locations and analytic parameters





Phase II Scoping

Proposed boring locations and analytic parameters



Phase II Scoping

Proposed boring locations and analytic parameters

Thank you for attending!

Jeri Massengill

Historical Information Gatherers

952-253-2004

jerim@historicalinfo.com

www.historicalinfo.com



Presentation Overview

Part 1 - Learn about commonly used resources as well as lesser known resources that can be used to create an accurate history of property uses.

Part 2 – Learn how Environmental Professionals use these resources coupled with GIS technology to scope Phase II Investigations, estimate Remediation Costs and create Brownfield Inventories for Area-Wide Assessments.

Common Historical Resources for Phase I Environmental Site Assessments

Aerial Photographs

City Directories

Interviews

Local Property Records

Sanborn© Fire Insurance Maps

Topographic Maps

Additional Historical Resources to Consider for Brownfield Sites and Area-Wide Assessments

City & County Real Estate Atlases *

FIMs from other publishers *

BF inventories based on City Directory research *

Orthorectified Aerial Photographs *

Georeferenced Aerial Photographs & Historic Maps *

Agency File Reviews

Internet Research

Aerial Photographs

Great for determining the location of structures and assessing land use changes over time.



Aerial Photographs

Pros:

Good quality aerials are readily available.

Little chance for human error.

Cons:

Poor scale or resolution.

Search and photo prep time.

Lack of coverage in some areas



Comiskey Park
Chicago, Illinois

1938

HIG Project Number: MAG-SAMPLE

Client Project Number: SAMPLE

Approximate Scale: 1:8000 (1"=500')



Aerial Scale Comparison



Scale: 1:40,000 (1" = 3,333')

Date 1940



Scale: 1:20,000 (1" = 1,667')

Date 1940



Scale: 1:10,000 (1" = 833')

Date 1940



Scale:
1:6,000
(1" = 500')
Date 1940



Scale:
1:2,400
(1" = 200')
Date 1938



Scale:
1:1,200
(1" = 100')
Date 1938

City Directories

Books produced for populated areas that list building occupants in alphabetical order by street and then numerically by address.

Some also contain a business section and/or advertising section similar to the Yellow Pages of a phone book.



City Directories

Great for ~ Determining past occupants and property uses.

Pros ~

Published frequently for urban areas.

Company names & addresses can enhance research capabilities.

Cons ~

Research and review of CD can be time consuming.

Suburban and rural areas may have limited coverage or no coverage.

CD Research challenges ~

Property addresses and street names may have changed over time.

More than one set of publications needed for some locations.

Original City Directories vs. Abstracts

Review of CD pages can be more time consuming but abstracts limit the data provided. Abstracts may not include all surrounding property listings or listing for former site addresses. Depending on format, abstracts may be searchable.

1937 - Columbus, OH - Polk



The Edward E. Fisher Company
Funeral Service
Sixty-seven years continuous service in Columbus
EAST BROAD NEAR FIFTH STREET **MAIN 3213**

<p>4918 1/2 (S. Div.)—Contd 4919 Oil Co. filling sta 4920 Third Intersects 4921 Loez Nels Mrs 4922 Sullivan Mrs B Mrs 4923 Williams Edna E Mrs 4924 Williams Sylvanus 4925 Wilson Wm Mrs 4926 Wilson Sylvanus 4927 Dallas Avenue C 4928 Dallas Avenue C 4929 Luzzella Intersects 4930 Young Thos 4931 Monroe Judo M 4932 Sothen Louise A Mrs 4933 Howe John 4934 Cattell Harry M 4935 Wiscovater Kathryn R Mrs 4936 Wiscovater Kathryn R Mrs 4937 Wiscovater Kathryn R Mrs 4938 Wiscovater Kathryn R Mrs 4939 Wiscovater Kathryn R Mrs 4940 Wiscovater Kathryn R Mrs 4941 Wiscovater Kathryn R Mrs 4942 Wiscovater Kathryn R Mrs 4943 Wiscovater Kathryn R Mrs 4944 Wiscovater Kathryn R Mrs 4945 Wiscovater Kathryn R Mrs 4946 Wiscovater Kathryn R Mrs 4947 Wiscovater Kathryn R Mrs 4948 Wiscovater Kathryn R Mrs 4949 Wiscovater Kathryn R Mrs 4950 Wiscovater Kathryn R Mrs 4951 Wiscovater Kathryn R Mrs 4952 Wiscovater Kathryn R Mrs 4953 Wiscovater Kathryn R Mrs 4954 Wiscovater Kathryn R Mrs 4955 Wiscovater Kathryn R Mrs 4956 Wiscovater Kathryn R Mrs 4957 Wiscovater Kathryn R Mrs 4958 Wiscovater Kathryn R Mrs 4959 Wiscovater Kathryn R Mrs 4960 Wiscovater Kathryn R Mrs 4961 Wiscovater Kathryn R Mrs 4962 Wiscovater Kathryn R Mrs 4963 Wiscovater Kathryn R Mrs 4964 Wiscovater Kathryn R Mrs 4965 Wiscovater Kathryn R Mrs 4966 Wiscovater Kathryn R Mrs 4967 Wiscovater Kathryn R Mrs 4968 Wiscovater Kathryn R Mrs 4969 Wiscovater Kathryn R Mrs 4970 Wiscovater Kathryn R Mrs 4971 Wiscovater Kathryn R Mrs 4972 Wiscovater Kathryn R Mrs 4973 Wiscovater Kathryn R Mrs 4974 Wiscovater Kathryn R Mrs 4975 Wiscovater Kathryn R Mrs 4976 Wiscovater Kathryn R Mrs 4977 Wiscovater Kathryn R Mrs 4978 Wiscovater Kathryn R Mrs 4979 Wiscovater Kathryn R Mrs 4980 Wiscovater Kathryn R Mrs 4981 Wiscovater Kathryn R Mrs 4982 Wiscovater Kathryn R Mrs 4983 Wiscovater Kathryn R Mrs 4984 Wiscovater Kathryn R Mrs 4985 Wiscovater Kathryn R Mrs 4986 Wiscovater Kathryn R Mrs 4987 Wiscovater Kathryn R Mrs 4988 Wiscovater Kathryn R Mrs 4989 Wiscovater Kathryn R Mrs 4990 Wiscovater Kathryn R Mrs 4991 Wiscovater Kathryn R Mrs 4992 Wiscovater Kathryn R Mrs 4993 Wiscovater Kathryn R Mrs 4994 Wiscovater Kathryn R Mrs 4995 Wiscovater Kathryn R Mrs 4996 Wiscovater Kathryn R Mrs 4997 Wiscovater Kathryn R Mrs 4998 Wiscovater Kathryn R Mrs 4999 Wiscovater Kathryn R Mrs 5000 Wiscovater Kathryn R Mrs</p>	<p>580 Hauck Chas A gen 580 1/2 William Lida Mrs 581 Schmitt Edna Mrs 582 Berthe John 583 Schmidt Edna Mrs 584 Adams Frank M 585 Hartzel Edna Mrs 586 Zaitz Edna Mrs 587 Hargrave S Intersects 588 Rubez Roma 589 Hargrave S Intersects 590 Heccl Social 591 Jarvis Florence G 592 Avers Harry 593 McDonald Alex R 594 Schultz Pearl I Mrs 595 Scherer Bernice L nurse 596 Killeen Stanford I 597 Kell Burton Mrs 598 Hartzel Roy I 599 Henter Harry P 600 Black Hazel E Mrs 601 Hubbel al Intersects 602 Henter Harry P 603 Henter Harry P 604 Henter Harry P 605 Henter Harry P 606 Henter Harry P 607 Henter Harry P 608 Henter Harry P 609 Henter Harry P 610 Henter Harry P 611 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Mkt 596 Cottage Food Mkt 597 Cottage Food Mkt 598 Cottage Food Mkt 599 Cottage Food Mkt 600 Cottage Food Mkt 601 Cottage Food Mkt 602 Cottage Food Mkt 603 Cottage Food Mkt 604 Cottage Food Mkt 605 Cottage Food Mkt 606 Cottage Food Mkt 607 Cottage Food Mkt 608 Cottage Food Mkt 609 Cottage Food Mkt 610 Cottage Food Mkt 611 Cottage Food Mkt 612 Cottage Food Mkt 613 Cottage Food Mkt 614 Cottage Food Mkt 615 Cottage Food Mkt 616 Cottage Food Mkt 617 Cottage Food Mkt 618 Cottage Food Mkt 619 Cottage Food Mkt 620 Cottage Food Mkt 621 Cottage Food Mkt 622 Cottage Food Mkt 623 Cottage Food Mkt 624 Cottage Food Mkt 625 Cottage Food Mkt 626 Cottage Food Mkt 627 Cottage Food Mkt 628 Cottage Food Mkt 629 Cottage Food Mkt 630 Cottage Food Mkt 631 Cottage Food Mkt 632 Cottage Food Mkt 633 Cottage Food Mkt 634 Cottage Food Mkt 635 Cottage Food Mkt 636 Cottage Food Mkt 637 Cottage Food Mkt 638 Cottage Food Mkt 639 Cottage Food Mkt 640 Cottage Food Mkt 641 Cottage Food Mkt 642 Cottage Food Mkt 643 Cottage Food Mkt 644 Cottage Food Mkt 645 Cottage Food Mkt 646 Cottage Food Mkt 647 Cottage Food Mkt 648 Cottage Food Mkt 649 Cottage Food Mkt 650 Cottage Food Mkt 651 Cottage Food Mkt 652 Cottage Food Mkt 653 Cottage Food Mkt 654 Cottage Food Mkt 655 Cottage Food Mkt 656 Cottage Food Mkt 657 Cottage Food Mkt 658 Cottage Food Mkt 659 Cottage Food Mkt 660 Cottage Food Mkt 661 Cottage Food Mkt 662 Cottage Food Mkt 663 Cottage Food Mkt 664 Cottage Food Mkt 665 Cottage Food Mkt 666 Cottage Food Mkt 667 Cottage Food Mkt 668 Cottage Food Mkt 669 Cottage Food Mkt 670 Cottage Food Mkt 671 Cottage Food Mkt 672 Cottage Food Mkt 673 Cottage Food Mkt 674 Cottage Food Mkt 675 Cottage Food Mkt 676 Cottage Food Mkt 677 Cottage Food Mkt 678 Cottage Food Mkt 679 Cottage Food Mkt 680 Cottage Food Mkt 681 Cottage Food Mkt 682 Cottage Food Mkt 683 Cottage Food Mkt 684 Cottage Food Mkt 685 Cottage Food Mkt 686 Cottage Food Mkt 687 Cottage Food Mkt 688 Cottage Food Mkt 689 Cottage Food Mkt 690 Cottage Food Mkt 691 Cottage Food Mkt 692 Cottage Food Mkt 693 Cottage Food Mkt 694 Cottage Food Mkt 695 Cottage Food Mkt 696 Cottage Food Mkt 697 Cottage Food Mkt 698 Cottage Food Mkt 699 Cottage Food Mkt 700 Cottage Food Mkt</p>
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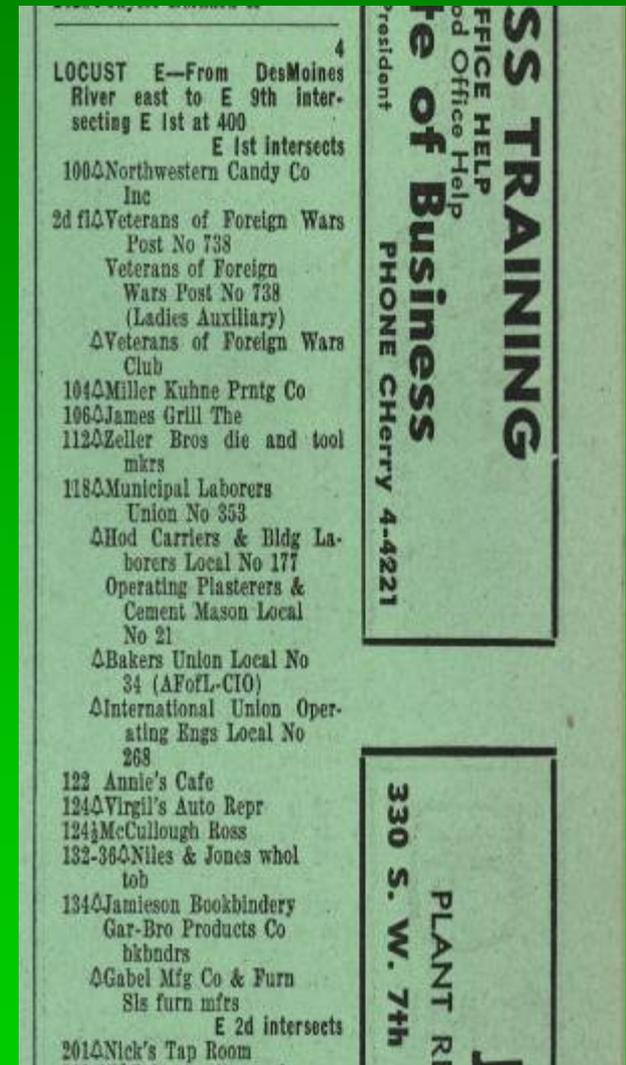
KELLEY BUICK SALES & SERVICE
 3415 N. High Tel. Lawndale 1117

Stationery
Blank Books
Office Supplies
Filing Devices
Paper Specialties
Favors and Novelties
Dennison Goods
Printing
Engraving
Nitschke Bros.
 THE PAPER STORE
 50 E. Gay St.

City Directory Research Tips

Consultant should look for previous site addresses during interviews and review of other historical resources like historical maps and local property record reviews; then require that all historical property addresses be researched.

The EP should define the limits of the research and understand the assumptions made by the researcher; what data is left out?

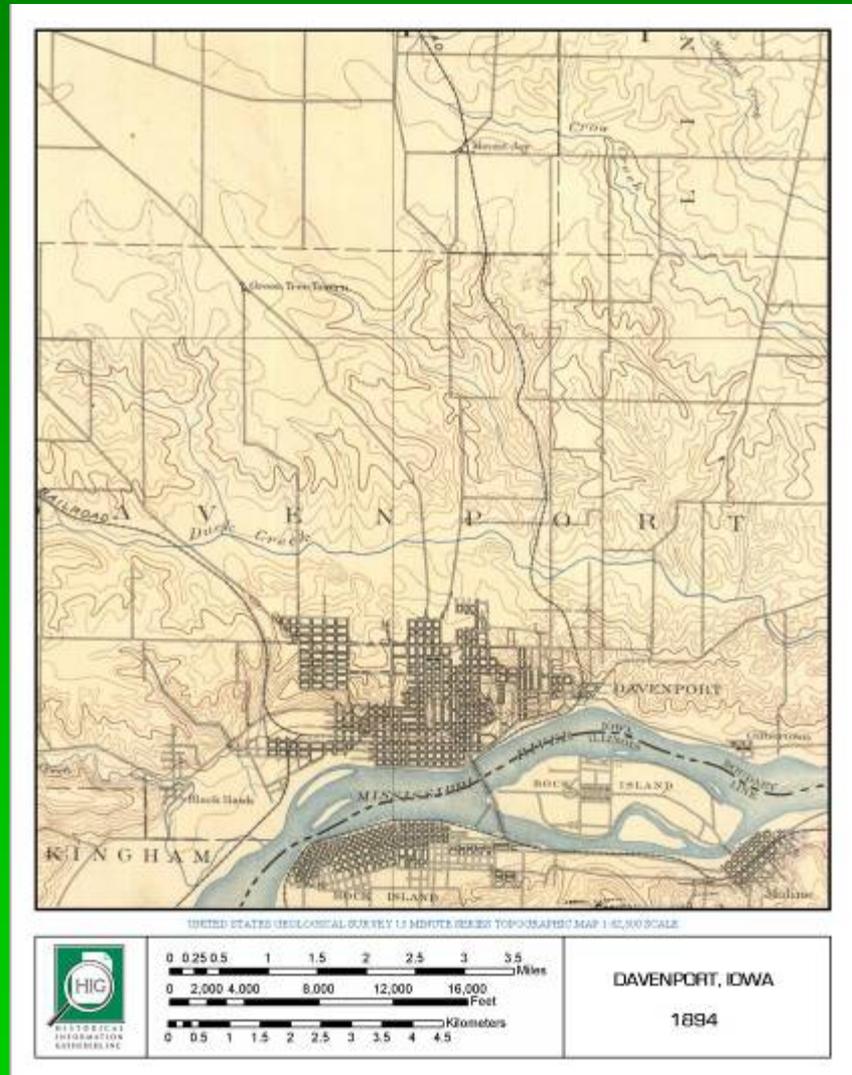


Topographic Maps

Great for ~

Determining topography and the location of surface water bodies.

Finding the general location of wetlands, roads, forested areas, rail lines, buildings and pipelines.



Topographic Maps

Limitations ~

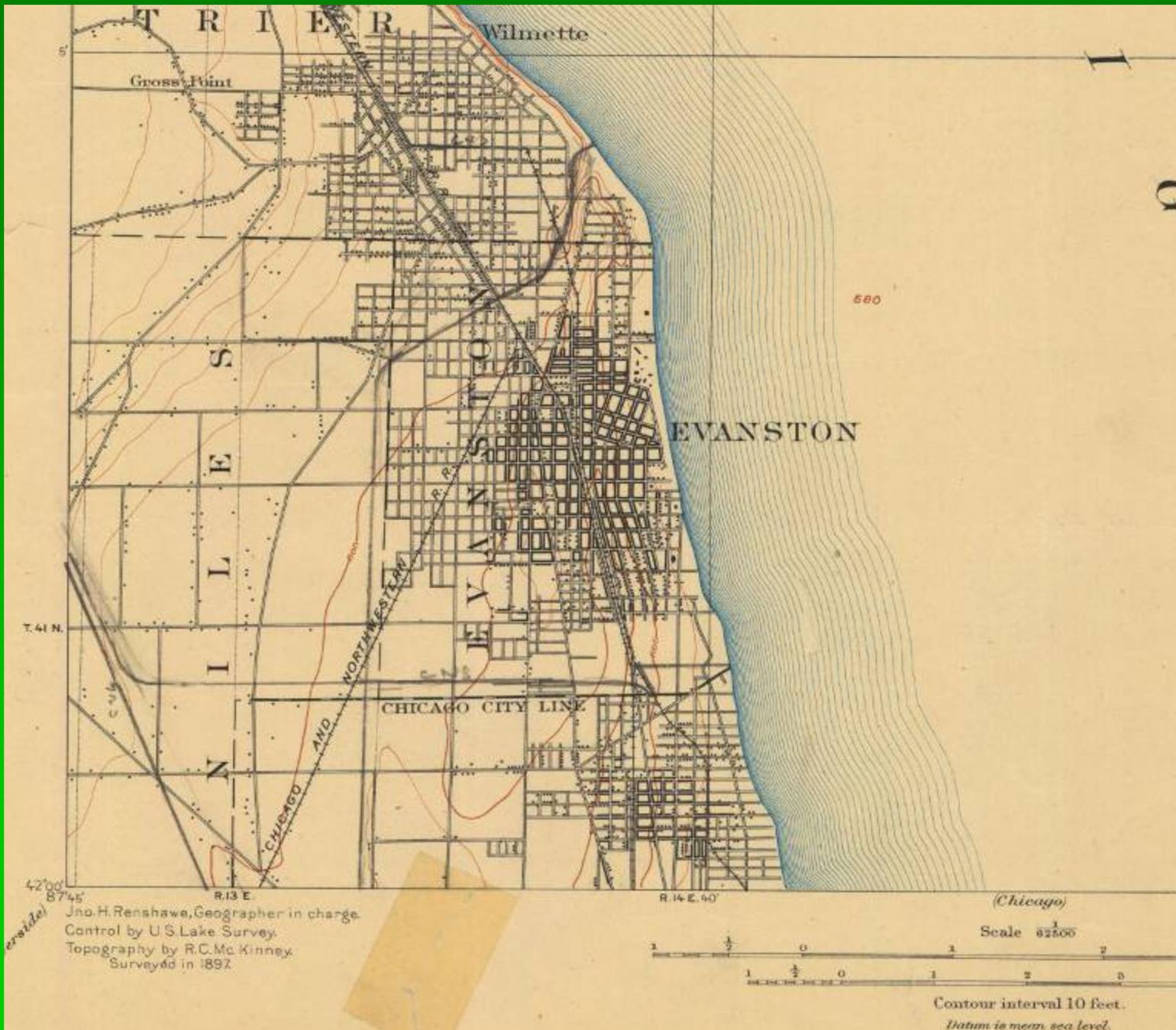
Land use can be assumed but not verified.

Cannot be relied on to determine groundwater flow direction.

Scale of the map can limit its usefulness.

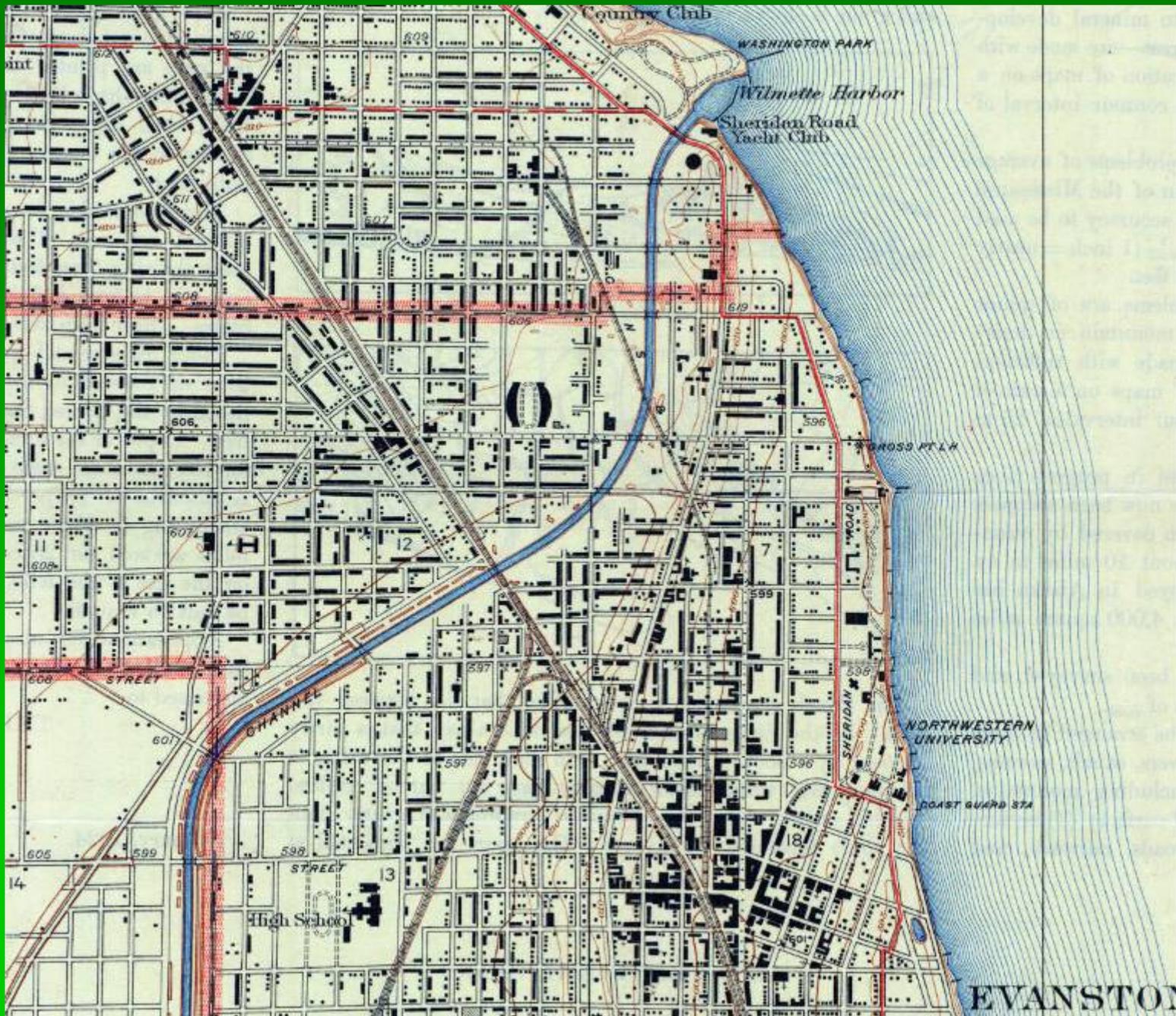


Scale: "I think my site is in Chicago" aka: 100,000



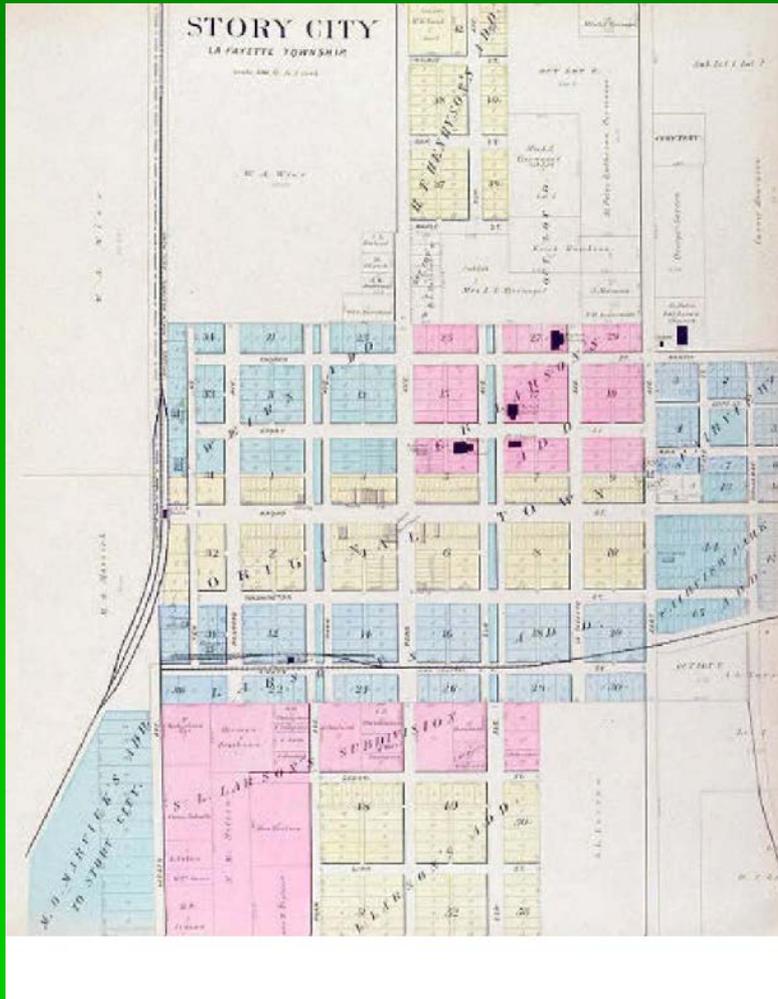
15 minute
topo

(62,840
scale)



7.5
minute
topo
(24,000
scale)

Fire Insurance Maps and Real Estate Atlases



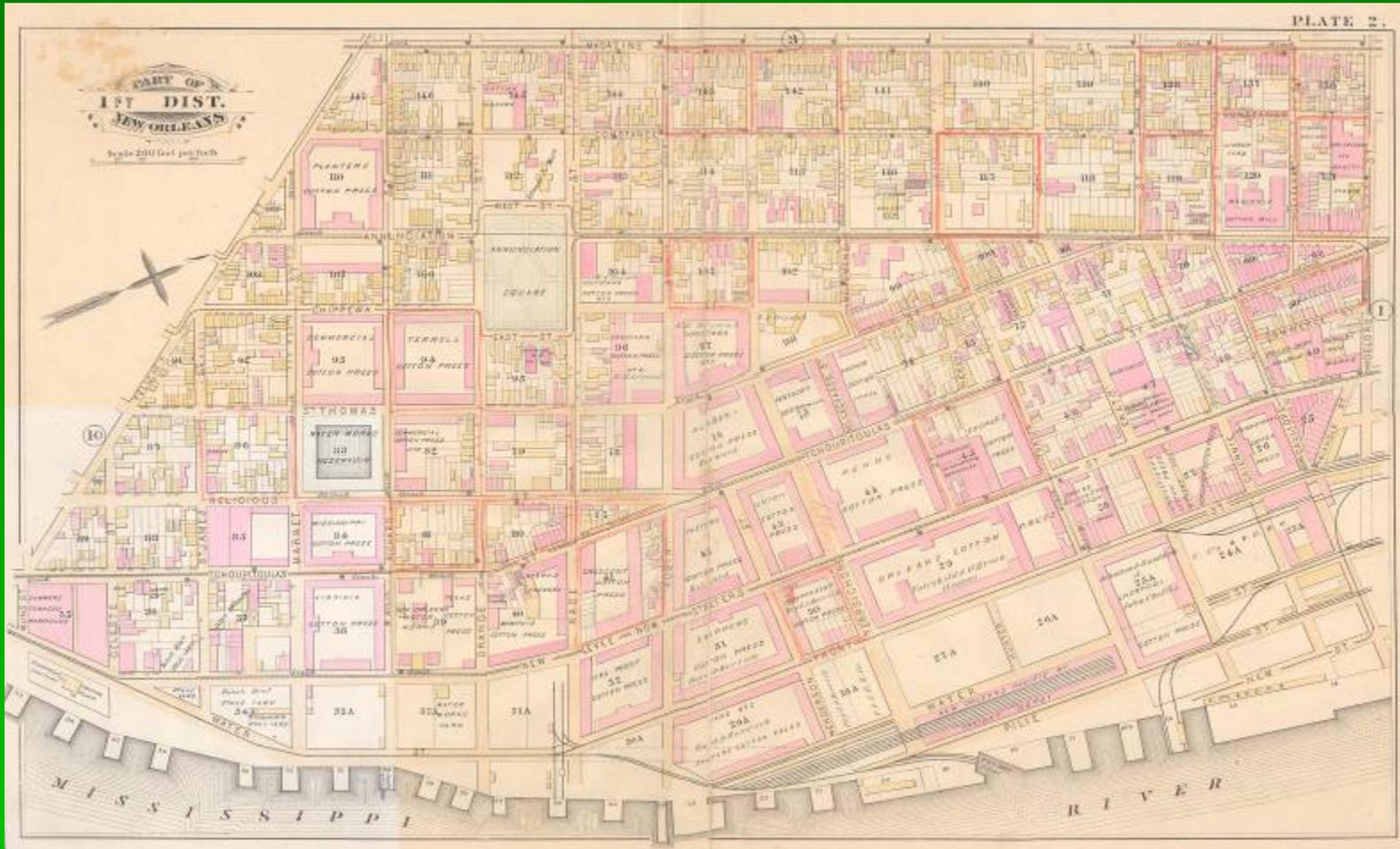
Great for ~

Occupant information, structure locations and specific property uses.

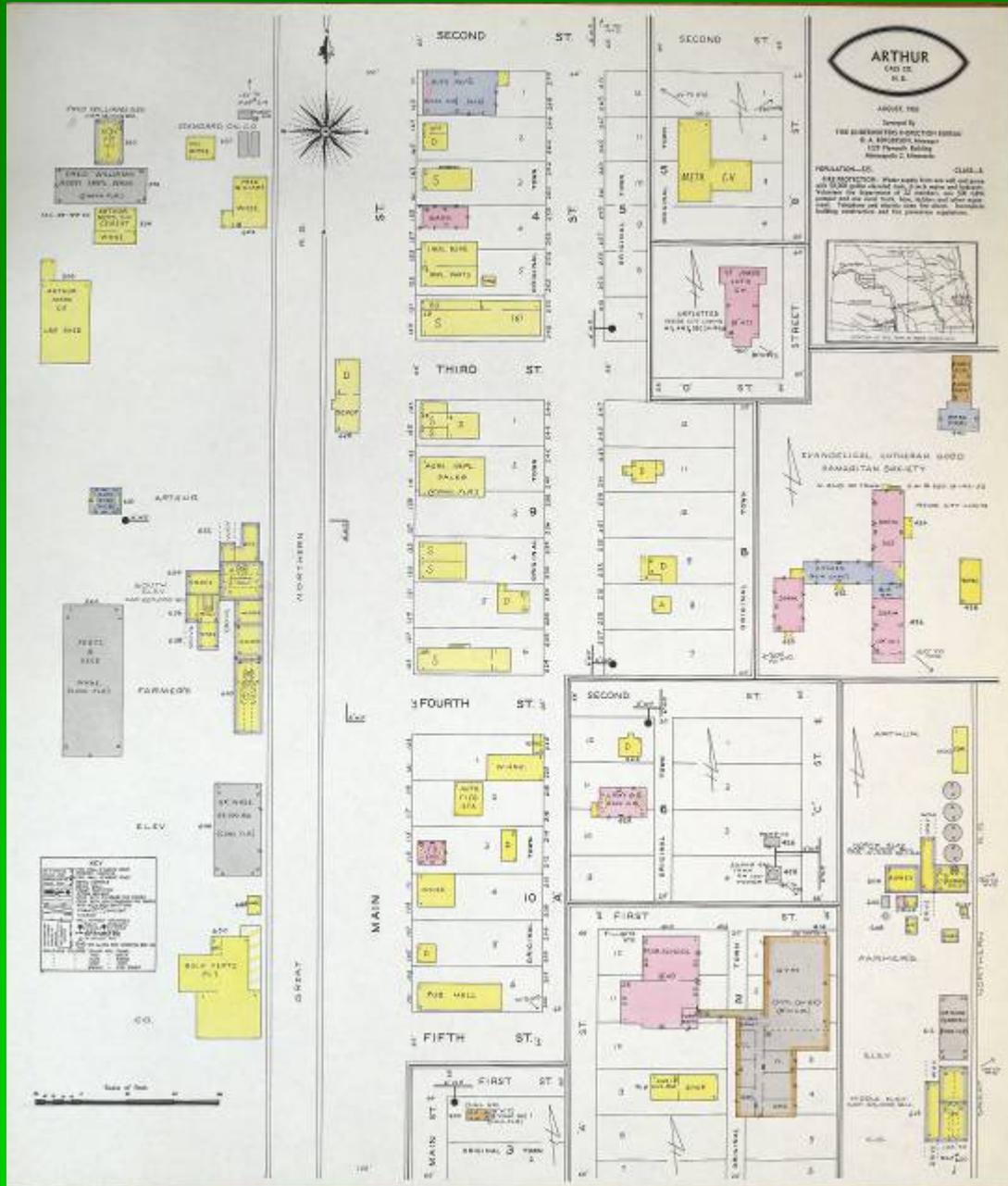
Location of chemicals, petroleum products & raw materials.

Location of wells, utility lines, rail lines, process areas and storage areas, street alignments & potential disposal areas.

Identification of construction materials used in buildings and other structures.



Atlas showing company names, property boundaries, storage areas, location of docks, rail lines and roads.



Great for ~

Occupants

Structure locations
& construction
details.

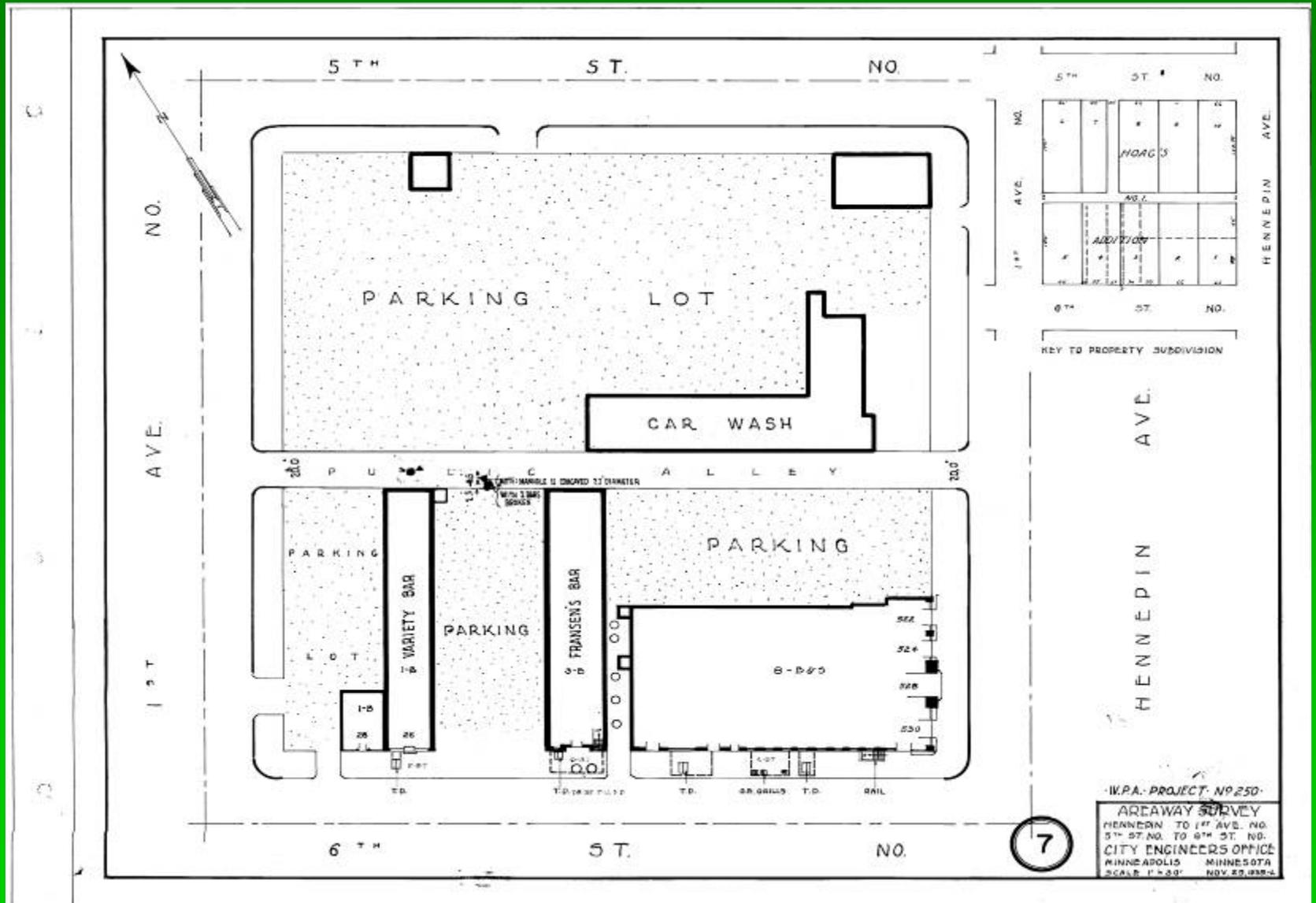
Storage & process
areas

Location of
flammable
chemicals,
petroleum products
& raw materials

Wells, utilities lines
and heating sources

Rail lines & street
alignments

Property Maps and Surveys



Historical Maps

Limitations ~

Only a few years of coverage available.

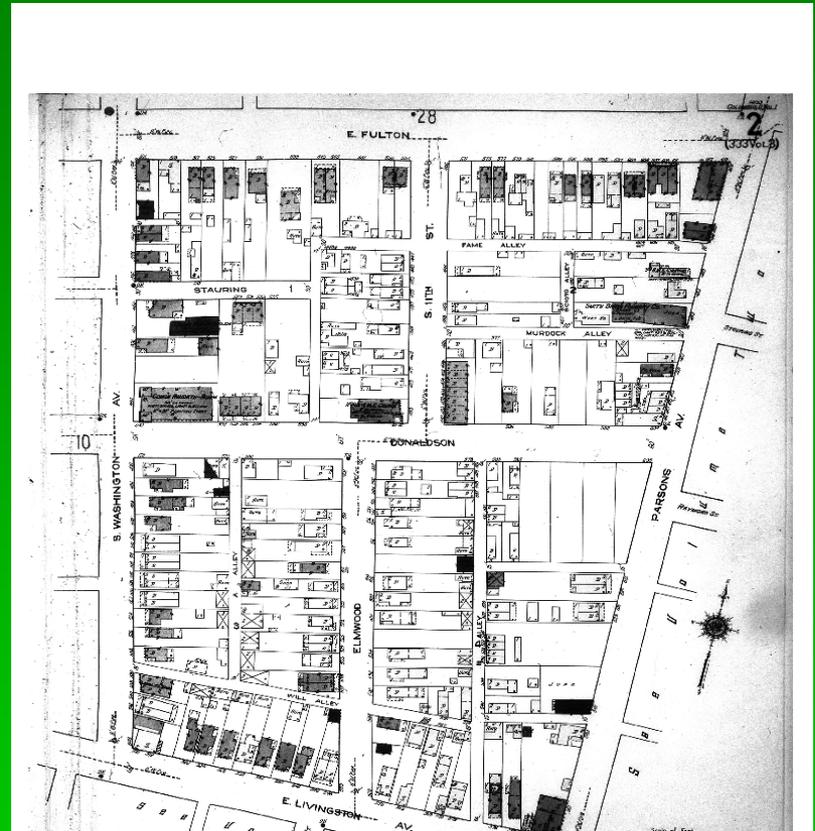
Poor quality microfilm or scans that obscure details.

Black & white scans that eliminate details and text.

Not all items of environment interest are shown.

Many locations have no coverage.

Perception that there is a lack of coverage.



Historical Maps Research Tips

Research a variety of land use maps, including a search for FIMs published by all fire insurance mapping companies. Many cities/towns were mapped by national companies such as Dakin, Fire Underwriters Inspection Bureau, Foote, Hopkins, Manufacturer's Mutual, Rascher and Robinson. There were also regional companies as well that produced atlases and FIMs.

Fun Fact! At least 1,144 cities and towns in Iowa have FIM coverage; only 364 of these were mapped by the Sanborn Fire Insurance Map Company.

Property Records

Building / inspection records

Fire department records

Property tax files

Zoning/Planning Dept records

Land title records

 COMMUNITY DEVELOPMENT

4401 Xylon Avenue North
New Hope, MN 55428
(612) 531-5127

Date: 10-9-97
Time: 1:30
PID# _____

INSPECTION REPORT

Address: 3401 NEVADA AV N
Business Name: ADLHVES
Type: TANK REMOVAL

Source: Construction Complaint Other Annual

Comments: Corrected

<u>TWO FUEL OIL TANKS HAVE BEEN REMOVED AND NO NEW TANKS INSTALLED</u>	
<u>TANK 1 - 4,000 GAL. STEEL TANK. ONE HOLE WAS FOUND ON TANK THAT WAS CREATED BY THE TRACTION WHEN BEING REMOVED. NO GROUND CONTAMINATION NOTICED</u>	
<u>TANK 2 - 8,000 GAL. FIBERGLASS TANK. THE TOP OF TANK WAS DESTROYED BY TRACTION WHEN REMOVED. NO GROUND CONTAMINATION NOTICED</u>	
<u>PHOTOS TAKEN OF TANKS AND HOLES</u>	
<u>ENVIRONMENTAL COMPANY WEST CENTRAL DAN HUNTER 531-9491</u>	

Issued to: _____ Date: _____ Mailed

Representing: BRIGGS 482-0444 Phone: _____

NOTE _____ days to Correct these Conditions

Reinspection Date: 1 1

SBMPFLHZ No 17622

Inspector:  Signature

white : applicant yellow : inspector pink : file

INSP-001

Property Records

Great for ~

Fire or chemical spill/incident responses

Storage tank records

Construction dates & inspection notes

Site/building diagrams

Well and septic system records

Petroleum and chemical storage/use/disposal information.

CARD #2 (OVER) INSPECTOR OF BUILDINGS Also: 100-14 2nd Ave. S.E.
 LOCATION 201-5 Main St. S.E.
 LOT 6 Block 49 App. St. Anthony Falls

PERMIT NO.	CONSTRUCTION	DATE	CONTRACTOR	COST.	O. K.
P-436231	Comp. part of elev. remodeling on present freight elevator	12-14-49	R & O Elevator Co.	5.	
C-3773	Alts. to present freight elevator	12-14-49	do	2,500.	
F 442649	Alts. & Rprs.	5-2-50	Salisbury Co.	500.	
C 3838	Alts to present frt. elev.	6-8-50	R & O Elev. Co.	2,250.	
F 444548	Motor Comp. part of Elev.	6-8-50	R & O. Elev. Co.	200.	
F 453982	8 Trans. Neon Roof Sign	11-30-50	Gen'l. Outdoor	100.	
A39068	8x17.3x6'6" paint storage rm addn to factory	12-18-51	Naugle Leck Co	1300.	
F 478669	Alts. Elec.	4-30-52	O.H. Tente	500.	
F 478756	Motor, Wir., Fixt.	4-30-52	Sterling Elec.	200.	
P 22203	Inst. Mech.w.a.	5-27-52	Fred Vogt & Co.	300.	
F 482509	2 Motors	8-22-52	Wilson Elec.	40.	
F 493962	Maint. & Minor Alts.	5-4-53	The Salisbury Co.	300.	

Property Records

Limitations ~ Many cities/counties have records in multiple locations and in different formats including paper, microfilm, microfiche and scans.

Records may have been lost from fires, floods or shredding.

Potential for human error can be high; inspectors have a bad days too!

W 3866

PERMIT TO SET METER and CONNECT to WATER MAINS

DATE: _____ Permit issued to: _____ License No.: _____

VILLAGE OF NEW HOPE
7701 42nd Ave. No.
Minneapolis, Minn. 55427
533-1521

Address: _____
Telephone No.: _____

In consideration of the privilege allowed, I hereby agree to the following, binding myself, my heirs and assigns forever:
THAT I will pay for said meter, the setting of the same and all repairs which it may be necessary to make on the same.

FURTHER, I agree that the meter shall be accessible to the officers or agents of the Village of New Hope Water Supply at all times, and shall be kept free from debris at all times.

IT IS FURTHER UNDERSTOOD and agreed to by the undersigned that the meter is to remain a fixture in the above described premises.

**ANY ELECTRICAL OR PLUMBING WORK COVERED WITHOUT INSPECTION MUST BE UNCOVERED
INSPECTOR REQUIRES 24 HOUR NOTICE KE 3-8651**

METER NO. 90031049 METER READING 000.000 10-11-68

RECEIVED PAYMENT	INspeCTIONS		Permittee is hereby granted to applicant to have meter set and connection made with the Village water main, and to extend pipes from said water main to supply premises with Village water.
	TYPE	BY WHOM DATE	
\$ _____	1	<i>JK</i> <i>Shim 11/11</i>	Permittee is hereby granted to applicant to have meter set and connection made with the Village water main, and to extend pipes from said water main to supply premises with Village water.
\$ _____	2	<i>Shim 11/11</i>	
\$ _____	3	<i>Shim 11/11</i>	
DOCUMENT NO. _____	INSPECTOR REQUIRES 24 HOUR NOTICE 533-1521		SIGNATURE OF APPLICANT _____ Date _____

VILLAGE OF NEW HOPE

Building Permit

B 6390

Plot: _____
Parcel: 6

IN CONSIDERATION of the statements and representations made by _____, applicant, whose address is _____, Phone No. _____, a _____ application therefore duly issued in this office, which application is hereby made a part hereof, PERMISSION IS HEREBY GRANTED to said _____ as owner, to _____ a building or _____ (REPAIR, RECONSTRUCTION, ADDITION, REPAIR, RENOVATION, ETC.) (CATEGORY)

described as follows: Type of construction _____, to be used as a _____ Building width _____ ft., building depth _____ ft. Number of stories _____ Estimated completion date _____ 19 _____

Said building contains _____ square ft., _____ cubic ft., upon that tract of land described as follows: Lot _____ Addition _____, which tract is of the size and area specified in said application.

This permit is granted upon the express condition that said owner or his agent to whom it is granted, and his contractors, agents, workmen and employees shall comply in all respects with the ordinances of the Village of New Hope, that is (03) 01449 the use of public property, such as streets, sidewalks, alleys, etc., for which permits must be secured; and it DOES NOT COVER the following: plumbing, heating, venting (except residential) or electric wiring for which permits must be secured.

GIVEN under the hand of the Building Inspector of said Village and its corporate seal this _____ day of _____ 000.50 BPP

Estimate cost of construction excluding land \$ 01250

Signed _____
Title _____

Permit fee _____
Service charge _____
Total received _____
No. _____
Document Number _____

VILLAGE
OF
NEW HOPE

Property Records Research Tips

Check with the county, they may have property records dated prior to city incorporation.

“Old-Timers” may have good information you can gather during an interview.

Long time employees may know where files are and how they are organized.

PERMIT TO SET METER and CONNECT to WATER MAINS W 3866

DATE: 10/11/19 Permit issued to: _____ License No. _____
VILLAGE OF NEW HOPE 791 42nd Ave. No. Address: _____
Minneapolis, Minn. 55427 Telephone No. _____
533-1521

In consideration of the privilege allowed, I hereby agree to the following, binding myself, my heirs and assigns forever:
THAT I will pay for said meter, the setting of the same and all repairs which it may be necessary to make on the same.
FURTHER, I agree that the meter shall be accessible to the officers or agents of the Village of New Hope Water Supply at all times, and shall be kept free from debris at all times.

IT IS FURTHER UNDERSTOOD and agreed to by the undersigned that the meter is to remain a fixture in the above described premises.

**ANY ELECTRICAL OR PLUMBING WORK COVERED WITHOUT INSPECTION MUST BE UNCOVERED
INSPECTOR REQUIRES 24 HOUR NOTICE KE 3-8651**

METER NO. 30031049 METER READING 000.000 10/11/19

RECEIVED PAYMENT	INSPECTIONS			Permittee is hereby granted to applicant to have meter set and connection made with the Village water main, and to extend pipes from said water main to supply premises with Village water.
	TYPE	BY WHOM	DATE	
\$ _____	1	<i>JK</i>	<i>10/11/19</i>	SIGNATURE OF APPLICANT _____ Date _____
DOCUMENT NO. _____	2	<i>JK</i>	<i>10/11/19</i>	
	3			

INSPECTOR REQUIRES 24 HOUR NOTICE 533-1521

VILLAGE OF NEW HOPE B 6390
Building Permit Plot _____
Parcel: 6

IN CONSIDERATION of the statements and representations made by _____, applicant, whose address is _____, Phone No. _____, application therefore duly issued in this office, which application is hereby made a part hereof, PERMISSION IS HEREBY GRANTED to said _____ as owner, to _____ a building or _____ described as follows: Type of construction _____, to be used as a _____ Building with _____ ft., building depth _____ ft. Number of stories _____ Estimated completion date _____ 19 _____

Said building contains _____ square ft., _____ cubic ft., upon that tract of land described as follows: Lot _____ Addition _____, which tract is of the size and area specified in said application.

This permit is granted upon the express condition that said owner or his agent to whom it is granted, and his contractors, agents, workmen and employees shall comply in all respects with the ordinances of the Village of New Hope, that is (to be covered) the use of public property, such as streets, sidewalks, alleys, etc., for which permits must be secured; and it DOES NOT COVER the following: plumbing, heating, venting (except residential air) or electric wiring for which permits must be secured.

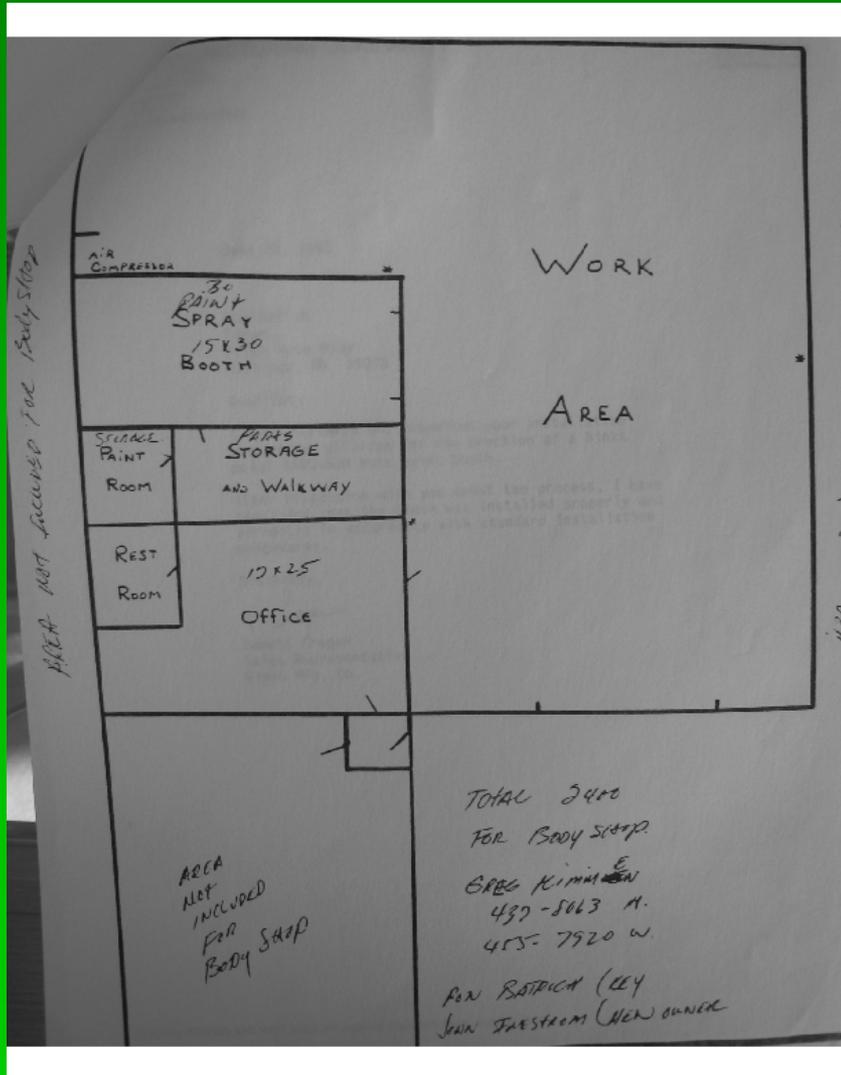
GIVEN under the hand of the Building Inspector of said Village and its corporate seal this _____ day of _____, 20019 BPP: _____
Estimate cost of construction excluding land \$ 01250.00

Permit fee _____
Service charge _____
Total rec'd. _____
No. _____
Document Number _____

Signed _____
Title _____

VILLAGE OF NEW HOPE

Property Records



(OVER) Card #1 **INSPECTOR OF BUILDINGS** Also: 100-14, 2nd Av. S.E.

LOCATION 201-5 Main St. S.E.

LOT 5 BLOCK 49 ADD. St. Anthony Falls
2711 2189 0081 2337

PERMIT NO.	CONSTRUCTION	DATE	CONTRACTOR	COST	O. K.
D 216856	Plbg.-factory	4-8-30	M. Mary & Co.	75.	201
F 243243	Elect.-factory	10-9-30	Sterling Elect. Co.	1000.	11-15-30
F 245620	Elect.-factory	2-5-31	O. H. Ternte	75.	201
F 245621	Elect.-factory	2-5-31	O. H. Ternte	200.	201
F 288700	Elect.-mfg.	10-17-36	Balden-Porter Co.	700.	201
N 4214	1 Oil burner repl.	10-17-36	Balden-Porter Co.	700.	201
D 275787	Plbg.-gen. plant	9-30-37	M. T. Fox	225.	201-05
P-354893	Misc. wrg.	8-10-42	P. W. Lagerquist	200.	
C-3006	Remodel frt. elev.	8-10-42	Gust Lagerquist & Sons	1,500.	
A-25086	Alts. to gar. & loading dock	12-10-42	Haugle Leck Co.	2,000.	
C-29781	Retube boiler	3-12-43	Wm. Bros. Blr. & Mfg. Co.	450.	
F-361291	Alts.	9-26-44	Reliable E. Co.	300.	
F-362351	Alter power wire	11-13-44	do	300.	
P-363086	Alts.	12-15-44	Salisbury Satterlee & Way	500.	
P-363975	Alts.	2-7-45	Reliable E. Co.	100.	
A-26481	Alts. to fact.	12-13-45	Haugle Leck Inc.	13,000.	
F-372485	Mfg., fixes. transf.	1-3-46	Sterling E. Co.	2,500.	

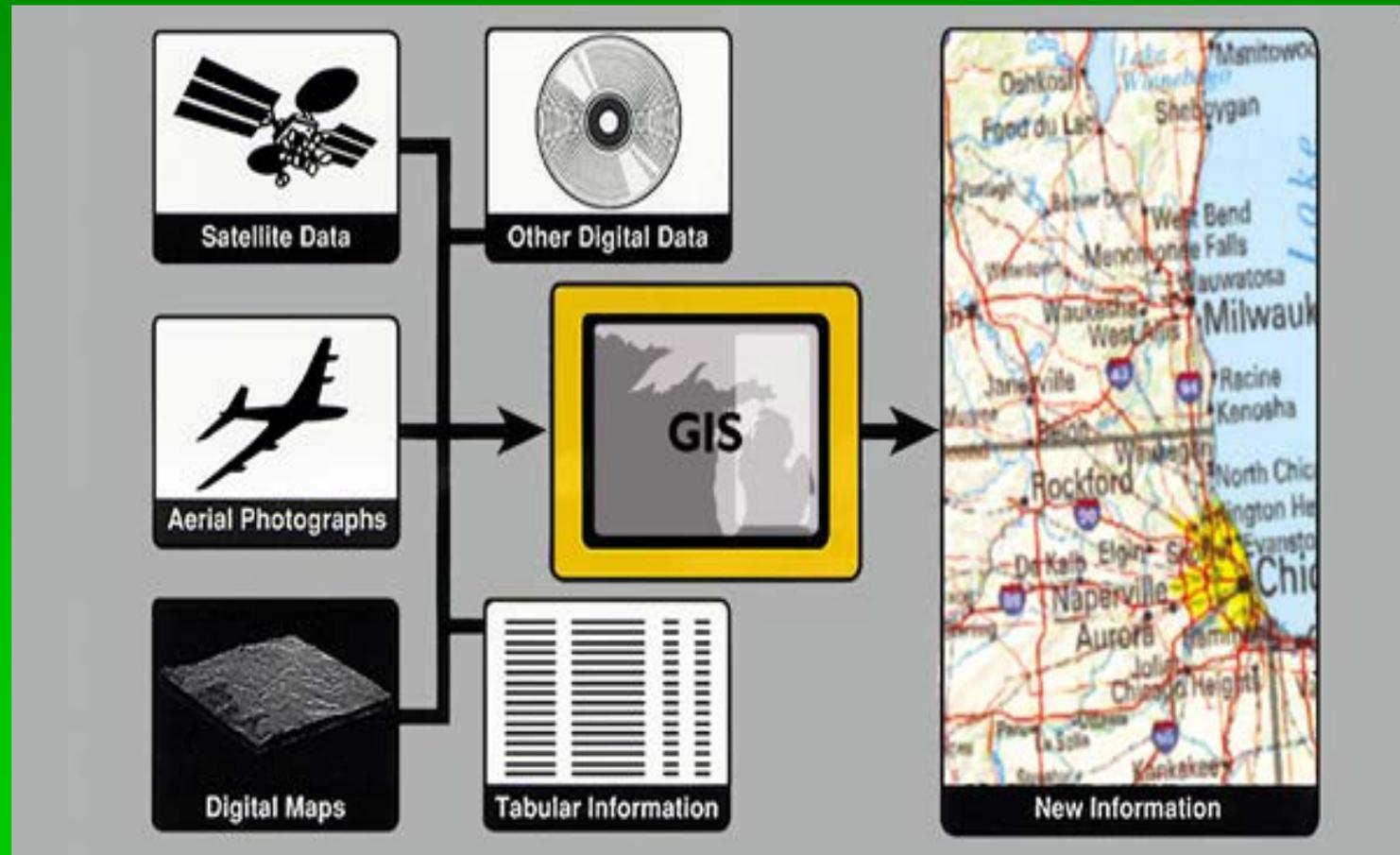
Part 2 – Pulling it all together!

Examples of historical and current data combined with GIS technology that can be used by Environmental Professionals to scope Phase II Investigations, estimate Remediation Costs and create Brownfield Inventories for Area-Wide Assessments.

But first – some definitions!

What is a GIS?

A GIS is a computer system capable of capturing, storing, analyzing, and displaying geographically referenced information; that is, data identified according to location. Practitioners also define a GIS as including the procedures, operating personnel, and spatial data that go into the system.



Georeferenced Aerial Photographs and Maps

To **georeference** something means to define its existence in physical space; to establish its location in terms of map projections or coordinate systems.

Examples include ~

Finding the geographical coordinates of a property location.

Establishing the correct position of an aerial photograph within a map.

This method works well for areas with minimal elevation changes.

Orthorectified Aerial Photographs

Orthorectify: Processing an aerial photograph to geometrically correct it so that the scale of the photograph is uniform and it can be measured as a map is.

Distortions in aerial photos are caused by camera tilt and lens curvature, curvature of the earth's surface and ground relief.

This method provides more accuracy and is best for areas with elevation changes.



The same site
in 1939



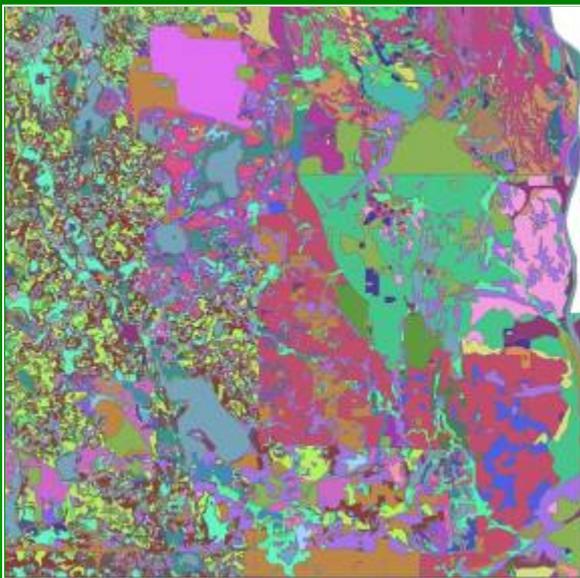
Regular
aerial
photograph
of the same
site in 1956

2009
Orthophoto
with street
map overlay.

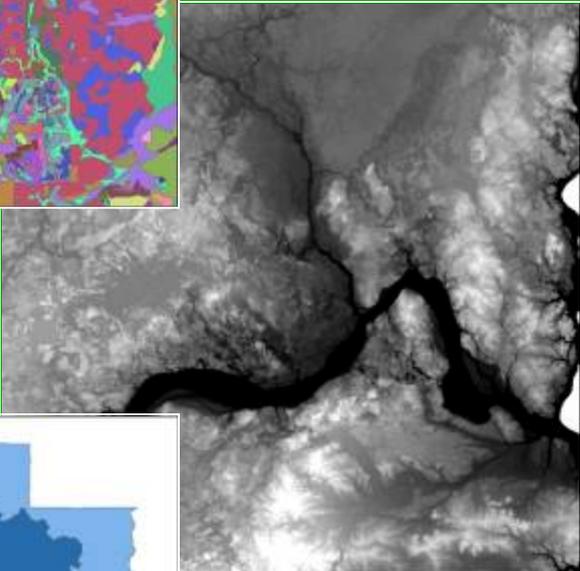


Information available online.

Soils information



Hydrologically corrected 10 meter Digital Elevation Model



Topographical Map





Well Data - well locations and owner names indicated in blue

Soil polygons indicated in white





2009 Aerial Photo of the Guthrie Theatre site and Gold Medal Park on the west bank of the Mississippi River in Minneapolis.