



Scott Mattes, PE, CIH

**Howard R. Green
Company**




Howard R. Green Company



About me

- Grew up on a farm near Clarinda, Iowa. Entered USAFA in 1992
- An engineer with over 12 years of experience in environmental engineering and industrial hygiene positions with organizations in the field, at headquarters (USAF and USEPA), and at a top-10 engineering university
- Education
 - Master of Science in Civil/Construction Engineering, Iowa State University, 1997
 - Bachelor of Science in Environmental Engineering and Bachelor of Science in Civil Engineering, United States Air Force Academy, 1996
- Registration
 - Nebraska Professional Environmental Engineer's license (E-10197)
 - Iowa Professional Environmental Engineer's license (#18035)
 - American Board of Industrial Hygiene Certified Industrial Hygienist (#8408 CP)
 - Hazardous Materials Technician
 - OSHA Hazardous Waste Operations and Emergency Responder

My Skills

- Leadership and Management
 - Geospatial Solutions
 - Environmental Compliance
 - Environmental Site Assessments
 - Industrial Hygiene
- 

Outside Interests

- Family
 - Kim, Holly, and Paige
- Farming
 - 300 acres of timber, CRP, and corn and soybeans
- Hunting
 - Whitetail, turkey
- Woodworking and home improvements



My Career

- Officer - United States Air Force
 - Bioenvironmental Engineer
 - Industrial Hygiene
 - Environmental Engineer
- Group Leader - Howard R. Green Company
 - Geographic Information Systems (GIS)
 - Environmental Engineer
 - Industrial Hygiene



USAF Officer

- Protect environment
- Prevent illness/injury
- Keep the front-line warfighters healthy



Common Military Operations and their Hazards

- Ops/Maintenance
 - Noise



Ops/Maintenance (Cont.)

- Chemicals
- Confined Space



Ops/Maintenance (Cont.)

- Radiofrequency Radiation



Ops/Maintenance (Cont.)

- Radiation--lasers



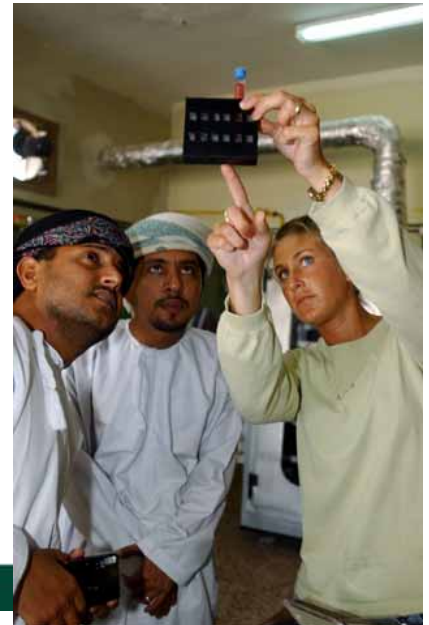
Civil Engineering

- Noise
- Asbestos/Lead Based Paint
- Chemicals
- Confined Space
- Worker Protection



Environmental Protection

- Vehicle/Aircraft Washing Effluent
- Haz and Rad Waste Sampling, Disposal
- Drinking and Waste Water Quality
- NPDES Sampling/Air Monitoring



Emergency Response

- Fuel Spills
- F-16's: Hydrazine
- Composite Materials
- Broken Arrow
- Space Shuttle Em. Landing
- Combustion by-products



Field Hygiene and Sanitation

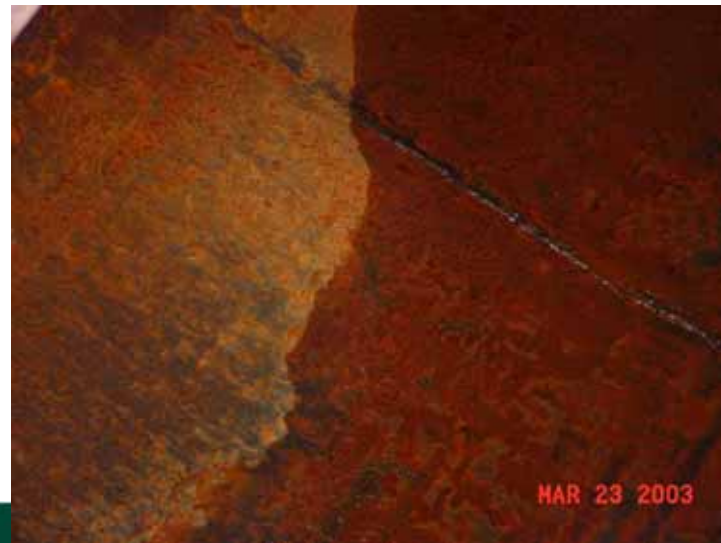
- During Deployments
- During Humanitarian Operations
- “Tent Cities” a big risk
- Food, Water Safety



Drinking Water



Drinking Water



Drinking Water



Waste Water



Waste Water



Hazardous Waste



My Experiences in the AF

- Harrier Jet Crash
- Sewer Lift Station
- Lead Pipes in Daycare Facility



My Experiences in the AF

- Pentagon 9/11



My Experiences in the AF

- Pentagon 9/11



My Experiences in the AF

- Capitol Hill Anthrax



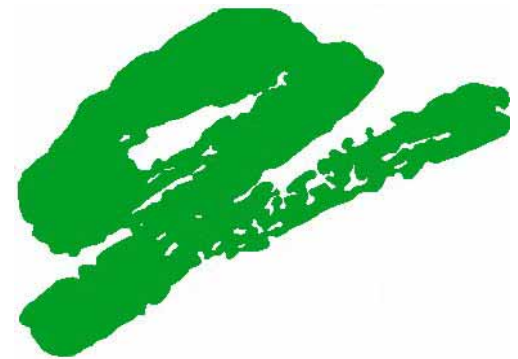
My Experiences in the AF

- USAFA Instructor

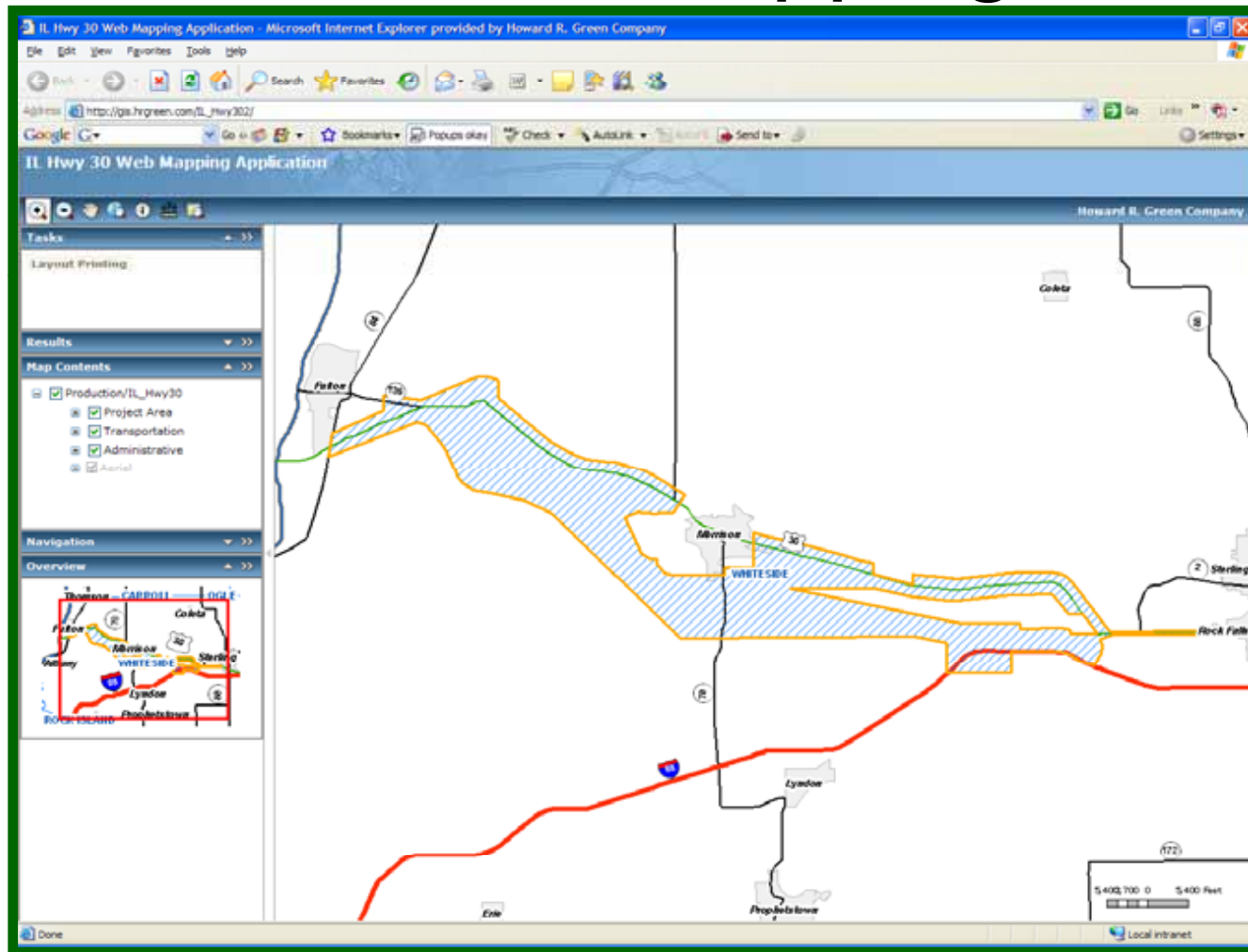


Group Leader – Howard R. Green Company

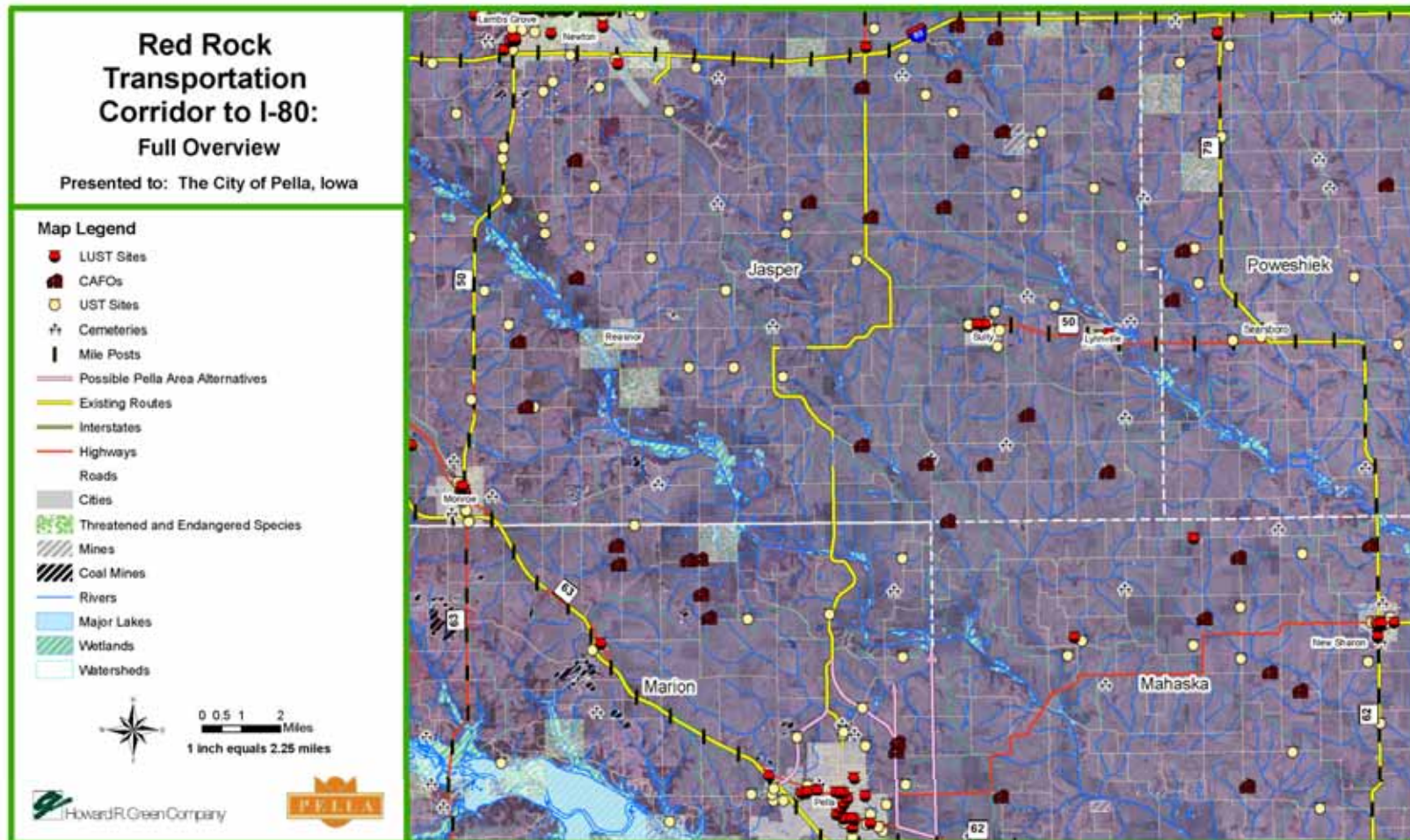
- Deliver Solutions for Clients
 - Leadership
 - Technical Oversight and Guidance
- Communicate!



Solutions – Web Mapping Services



Solutions – Map Development and Cartography



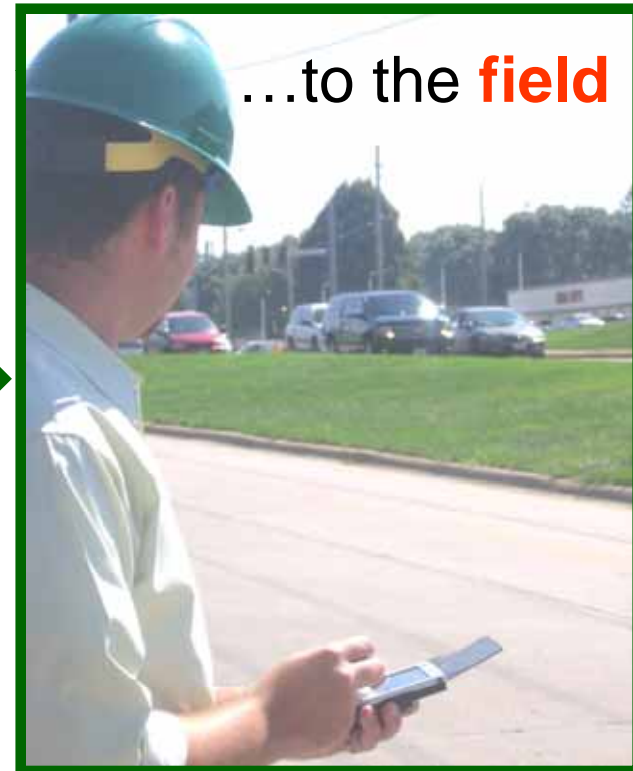
Solutions – Mobile GIS

- The extension of an organization's GIS from

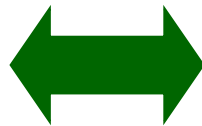
the **office** ...



...to the **field**



Solutions – Mobile GIS Programming



Observation Form [X]

Street Light Sidewalk

For this street light, enter:

Distance behind curb in

Light type

Operational

ok [X]

Observation Form [X]

Sidewalks Approach

For this sidewalk, enter:

Cross slope

If unacceptable, slope = %

Settlement

If yes, actual settlement = in

Cracking

ok [X]

Solutions – Database Reporting

DATA FORM
ROUTINE WETLAND DETERMINATION
 (1987 COE Wetlands Delineation Manual)

Project/Site: <u>A New Site</u>	Date: <u>10/23/05</u>
Applicant/Owner: <u>John Doe</u>	County: <u>Audubon</u>
Investigator: <u>Ted McCaslin</u>	State: <u>IA</u>

Do Normal Circumstances Exist on the site? Community ID: S/S
 Is the site significantly disturbed (Atypical Situation)? Transect ID: 245D
 Is the area a potential Problem Area? Plot ID: 432D
 (If needed, explain on reverse.)

VEGETATION

Dominant Species	Stratum	Indicator	Dominant Species	Stratum	Indicator
1. Aster lateriflorus--calico/starved aster--FACW-	W. Vine	FACW*	9. Polygonum punctatum--dotted smartweed--OBL	W. Vine	OBL*
2. Carex amphipola--narrow-leaf sedge--FAC+	S/S	OBL	10. Rotala ramosa--loosecup--OBL	W. Vine	FACVH*
3. Carex laeustris--lake sedge--OBL	Herb.	FACV-	11. Rubus allegheniensis--common blackberry--FACU+	Herb.	FAC+
4. Carex hirsuticarpa--hairy-fruit sedge--OBL	S/S	FACW	12. Sambucus canadensis--common elderberry--FACW-	Herb.	FACW
5. Ceratophyllum demersum--coontail--OBL	Herb.	OBL	13. Sphaeralcea angusta--yellow false mallow--	S/S	FACW*
6. Eleocharis compressa--flat-stem spikegrass--FACW	S/S	FACVW*	14. Teuocum canadense--am. gemmander/wood sage--FACW-	Tree	FACV*
7. Helianthus annuus--common sunflower--FAC	S/S	FAC	15. Tribolium hybridum--stink clover--FAC	Herb.	FACV*
8. Panicum dichotomiflorum--fat panicum--FACW-	Tree	FAC+	16. Ulmus americana--american elm--FACW-	S/S	FAC*

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 25

Remarks: Fantastic

HYDROLOGY

<input checked="" type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input checked="" type="checkbox"/> Aerial Photographs <input checked="" type="checkbox"/> Other <input checked="" type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: <input checked="" type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input checked="" type="checkbox"/> Water Marks <input checked="" type="checkbox"/> Drift Lines <input checked="" type="checkbox"/> Sediment Deposits <input checked="" type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12" <input checked="" type="checkbox"/> Water-Stained Leaves <input checked="" type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>53</u> (in.) Depth to Free Water in Pit: <u>52</u> (in.) Depth to Saturated Soil: <u>33</u> (in.)	
Remarks: <u>I like it as is.</u>	

Project: Facility Assessment Observations Project Number: 191030J



Photo ID: 10

Photo Comments: Sink basin and p-trap in shop area. Staining identified on sink basin. P-trap was disconnected from the sink basin. Wash both with soapy water solution. Inspect p-trap prior to removal.

Photo Filename: C:\Central City\GIS\Central_City_Dephy\ykyw\W05CN0371.jpg

Observation Details

Date: 9/4/2007

Building: Central City High School

Room: Agricultural shop

Room Use: Technical Classroom

Surface Type: Sink

Hazard Type: Hazard

GPS Collection Data

GPS Sets Used:

GPS:

MOOP:

POOP:



Photo ID: 11

Photo Comments: Paint residue on tables and staining of shelves in hazardous materials cabinet. Approximately 11 jar 1/3 full of unknown solid brown. Assumed to be paint waste. Paint rags on work tables. Disc of solid/rags

Photo Filename: C:\Central City\GIS\Central_City_Dephy\ykyw\W05CN0371.jpg

Observation Details

Date: 9/4/2007

Building: Central City High School

Room: Agricultural shop - paint room on W side

Room Use: Technical Classroom

Surface Type: Countertop

Hazard Type: Hazard

GPS Collection Data

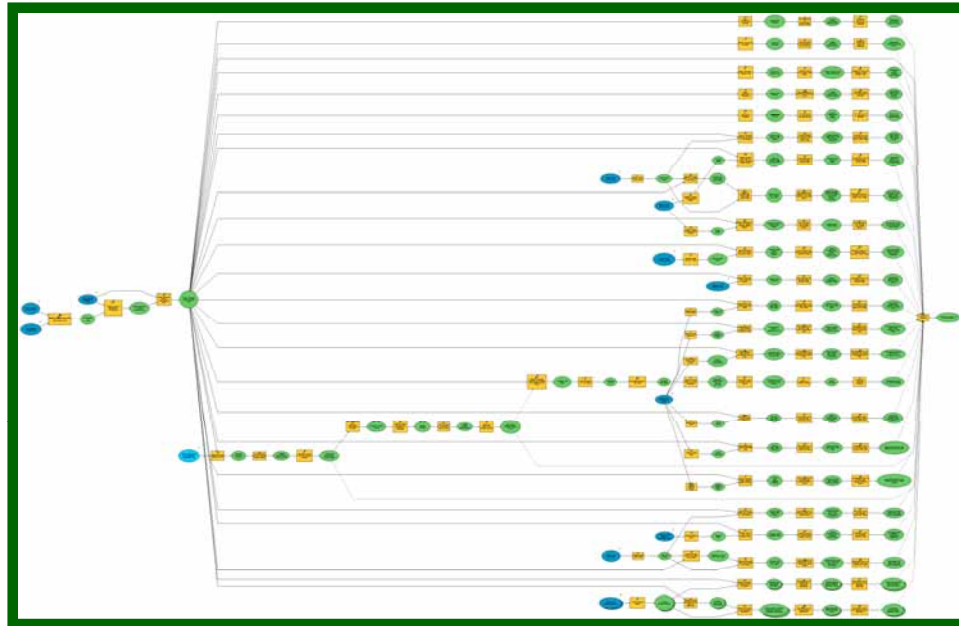
GPS Sets Used:

GPS:

MOOP:

POOP:

Solutions – Spatial Modeling and Analysis



Howard R. Green Company
Anticipated Parcel Eligibility Summary
for Zone A - Hazardous/Both
Summarized and Grouped by Grant Program

Prioritization Summary for Parcel PIN: 0728478013

Property Address:	203 N 18TH ST MARSHALLTOWN T:TREBOK, LLC	IA 50158	Current Landuse:	Residential
Title Holder:			Legal Description:	SUMMIT PARK ADD LOTS 2-5 AND 28-34 1/8 W 1/2 LOT 4 1/4 N OF FREMONT ST EX N 217' & LOTS 1 LYING N OF N LINE FREMONT

Parcel Summary

Anticipated Parcel Eligibility: Both

HRG Parcel Prioritization Score: **32**

Is property owned by a viable business? Yes No

This property is eligible for: EPA Hazardous ICWR Prerequisite

Prioritization Summary for Parcel PIN: 0726201010

Property Address:	MARSHALLTOWN	IA 50158	Current Landuse:	Exempt
Title Holder:	T:MARSHALLTOWN, CITY		Legal Description:	25-64 1/8 S 24' OF LOT 4/31 & LOT 4/31 EX E 202.6' N 43° 5' EX THAT PT OF LOT 6/31/30LD TO MARSHALL CEMETERY

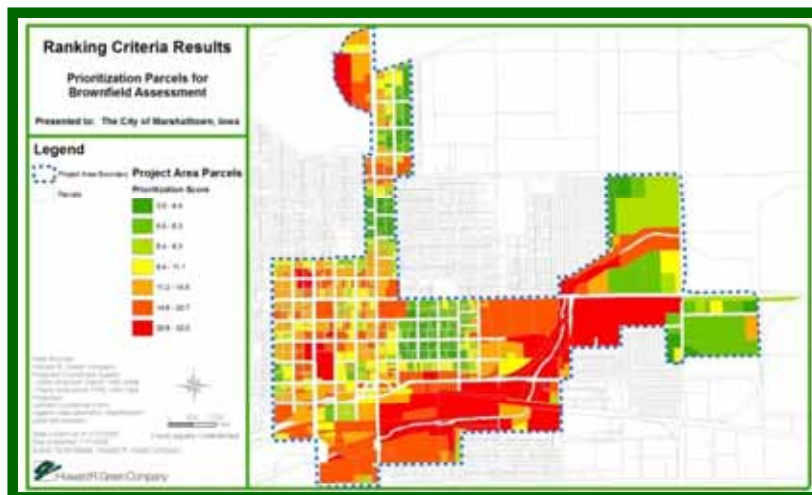
Parcel Summary

Anticipated Parcel Eligibility: Both

HRG Parcel Prioritization Score: **24**

Is property owned by a viable business? Yes No

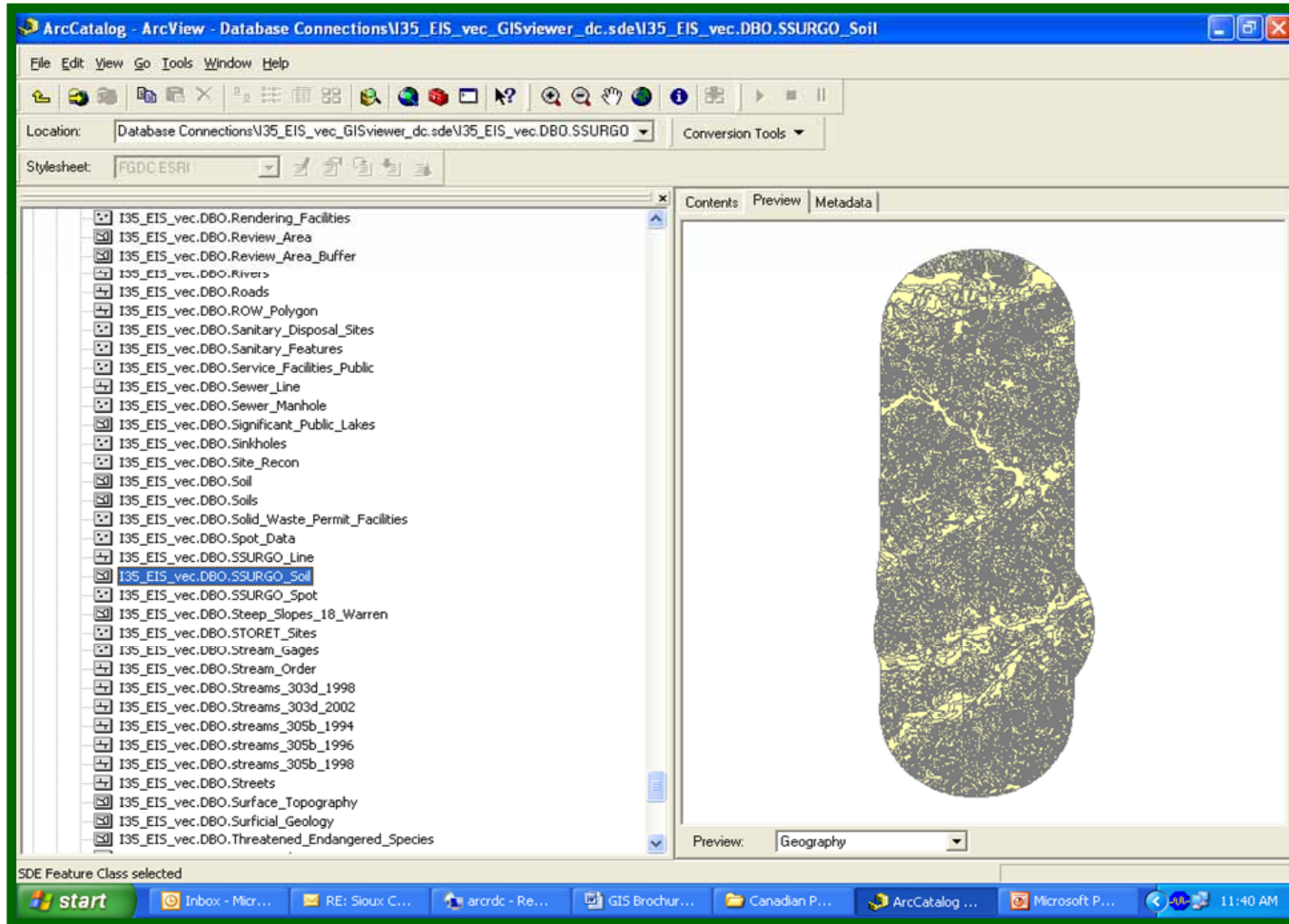
This property is eligible for: EPA Hazardous ICWR Prerequisite



Solutions – Trend Analysis



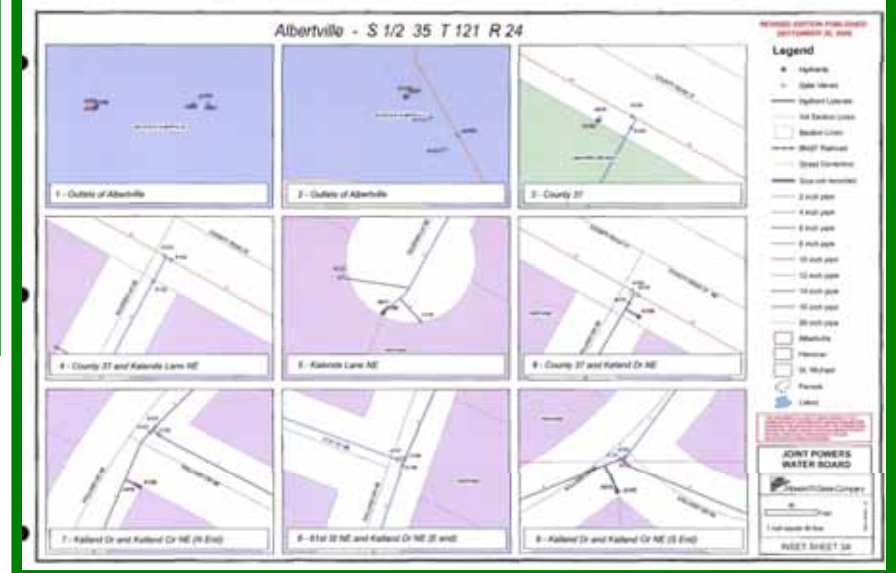
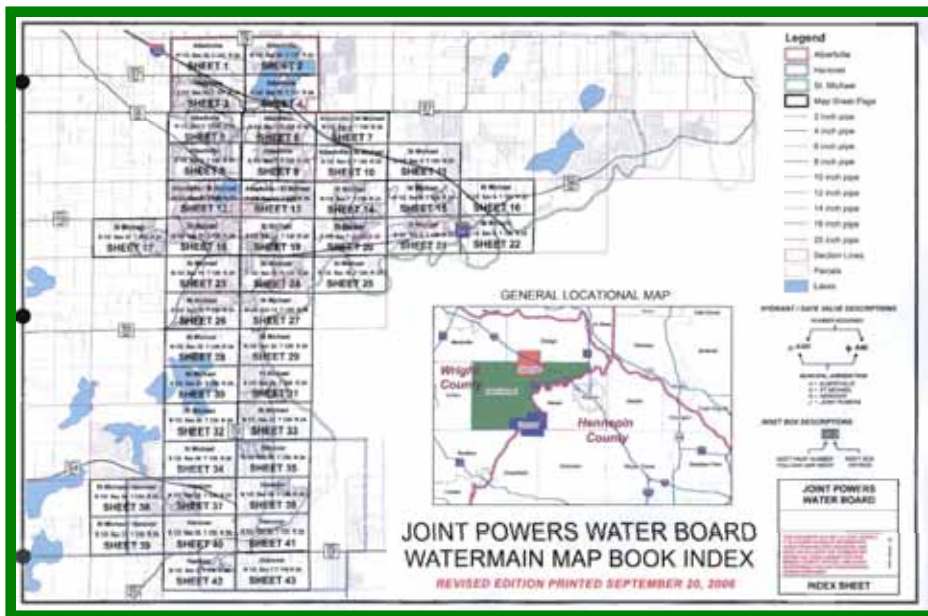
Solutions – Data Acquisition & Maintenance



Solutions – Facility Management



Solutions – Utility Mapping

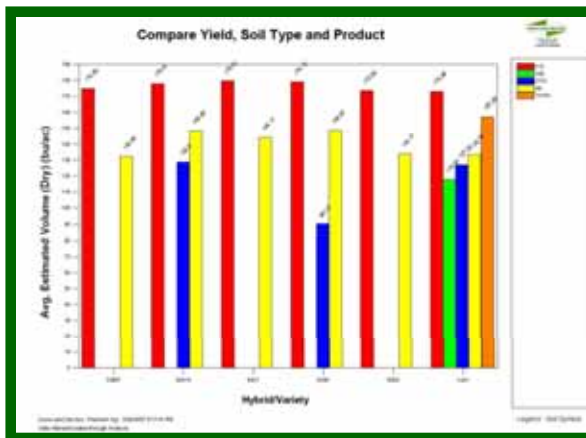
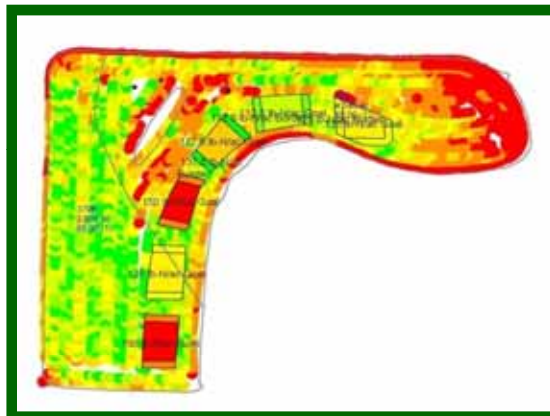


Solutions – Mapping Environmental Impacts

(Wetlands, Hazardous Waste, Brownfields, Sensitive Species, NEPA, etc.)



Solutions – Production Agriculture



Important Life Lessons

- Honesty
- Integrity
- Communication
- 110% Effort
- Golden Rule
- Always Improve Skills!





Questions?

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