

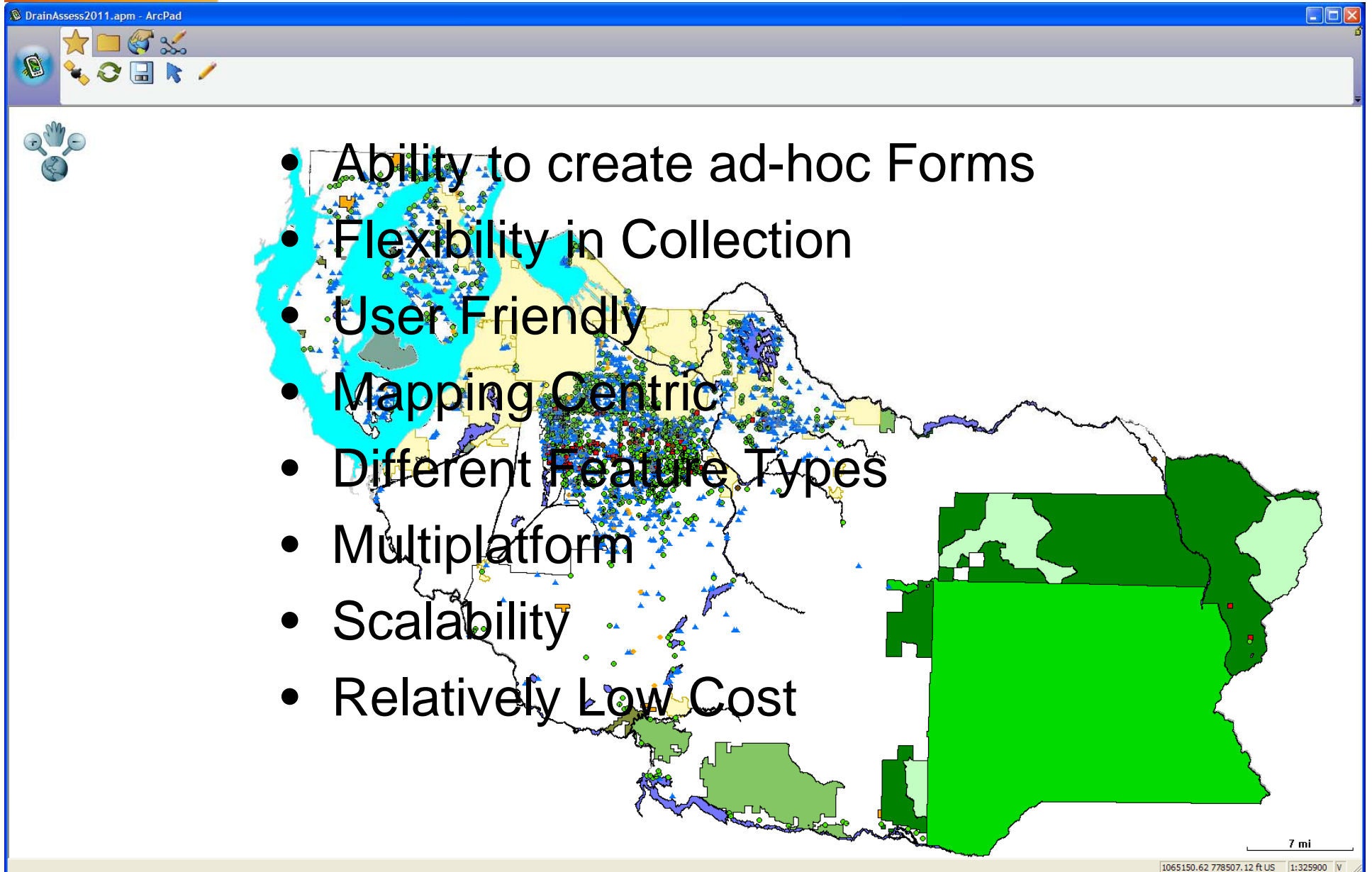
Field Data Collection and GIS Mapping



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Why We Choose ArcPad for Field Collection

- Ability to create ad-hoc Forms
- Flexibility in Collection
- User Friendly
- Mapping Centric
- Different Feature Types
- Multiplatform
- Scalability
- Relatively Low Cost



Types of Uses

- Traffic Islands
- Storm Drainage
- Pavements
- Fences
- Walls
- Gates
- Sidewalk
- Shoulders
- Vegetation
- Outfall
- Reconnaissance Inspection
- Drywell Retrofit – Site Evaluation





MH_CB

Asset Info | Condition | MF | CS

MH/CB ID: CB073108_r-83

Structure Type: CB1

Structure Material: OTHER

Sump Depth: Depth Inches 26

Locking Lid:

Lid Type:

Lid Material: STEEL

Lid Length: 24 Lid Width: 20

Lid Shape: RECTANGLE

Flow Direction:

Discharge Destination:

ok X

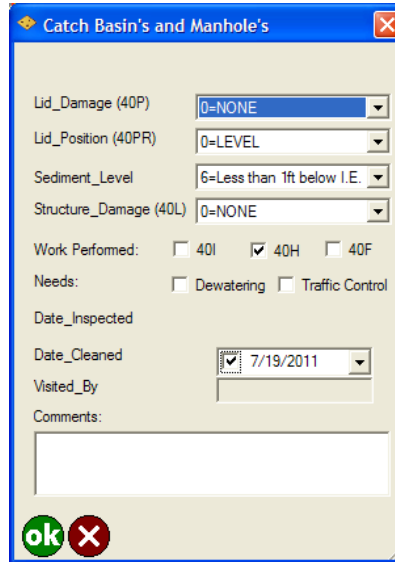
Users

- 2 Different Types of Field Collection
 - **Assessment**
 - More Detailed
 - More Time Spent Training

The image displays five sequential screenshots of a software interface for MH_CB (Manhole Cover) assessment. Each window has a blue title bar and a menu bar with options: Asset Info, Condition, MF, CS, and Comments. The first window shows the 'Asset Info' tab with fields for MH/CB ID (CB073108_r-83), Structure Type (CB1), Structure Material (OTHER), Sump Depth (26 inches), Locking Lid, Lid Type, Lid Material (STEEL), Lid Length (24), Lid Width (20), Lid Shape (RECTANGLE), Flow Direction, and Discharge Destination. The second window shows the 'REPAIR' tab with fields for Structure Damage (NONE), Lid Damage (NONE), Lid Position (LEVEL), and Sediment Level (3-Greater than 1ft below I.E.). The third window shows the 'INFORMATION' tab with fields for Cap Color, # of Cartridges, Filter Height, Scum Line, and Top of Canister. The fourth window shows the 'INFORMATION' tab with fields for Control/WQ Structure Type (NONE), Cleanout Gate, Control/WQ Functioning, Control/WQ Damage, and Oil Presence. The fifth window shows the 'Comments' tab with fields for Assessment Date (9/21/2011), Assessed By (Tyler W.), Description, and Comments (ENG). Each window has 'ok' and 'x' buttons at the bottom left.



Users



The screenshot shows a software window titled "Catch Basin's and Manhole's" with the following fields and options:

- Lid_Damage (40P): 0=NONE
- Lid_Position (40PR): 0=LEVEL
- Sediment_Level: 6=Less than 1ft below I.E.
- Structure_Damage (40L): 0=NONE
- Work Performed: 40I 40H 40F
- Needs: Dewatering Traffic Control
- Date_Inspected: (empty)
- Date_Cleaned: 7/19/2011
- Visited_By: (empty)
- Comments: (empty text area)

Buttons: ok, X

– Maintenance/Repair Performed

- Less Detailed
- Less Time Spent Training



Data Consistency

- **Reduce Typing by User.**
 - Drop Down
 - List Boxes
 - Check Boxes
 - Comment Codes
- **Correct Data Types**
 - Numbers use numeric types
 - Validates Data
- **Implement Business Rules**
 - prevents data entry that isn't possible



Data Consistency

- Utilize consistent repeatable measurements
 - Good, Fair, Poor
 - 0-9 Scale
 - 0-100
 - Physical Measurement (in., survey ft., cm)
 - Identify tools necessary to measure

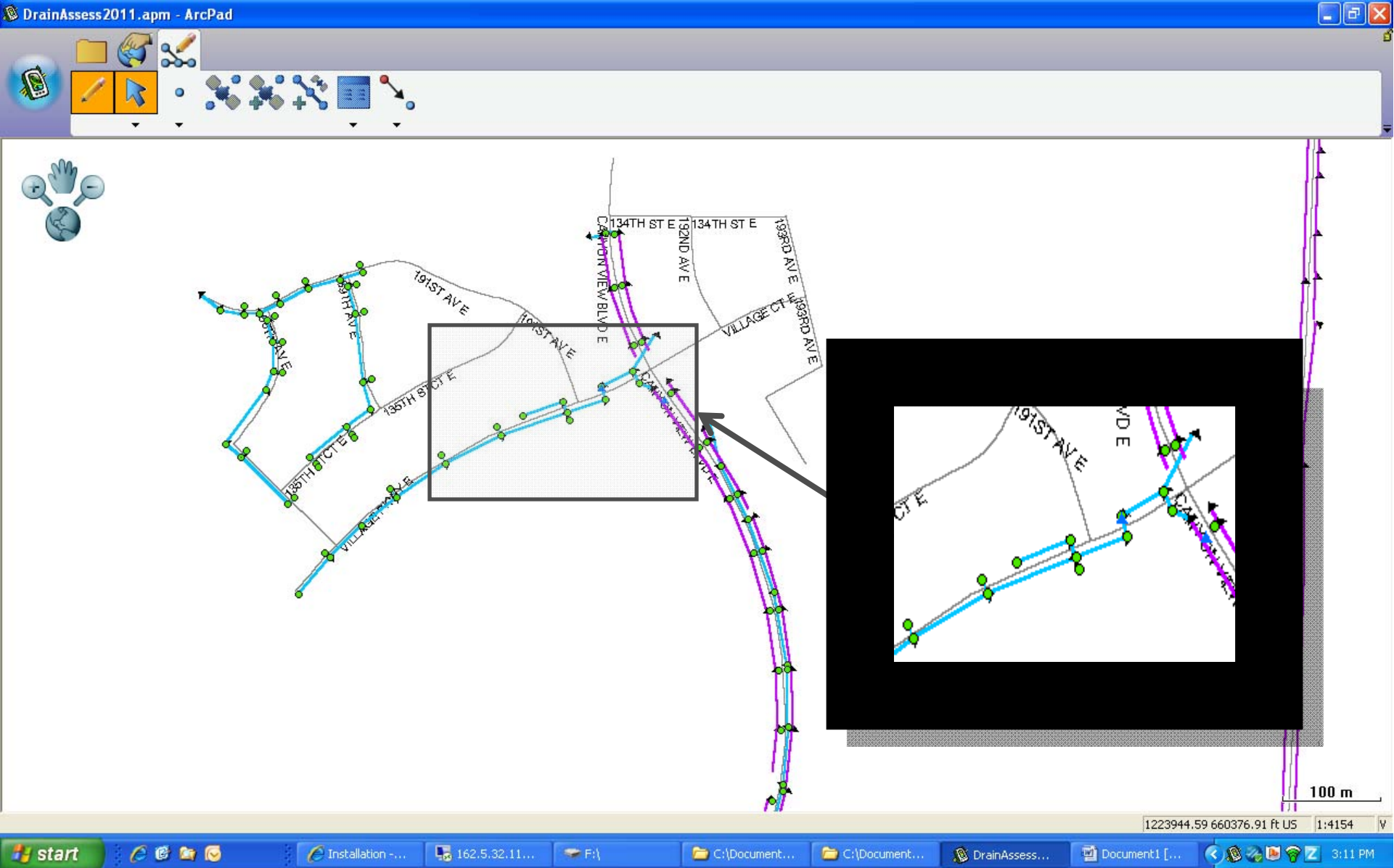


Layout

- Organize fields in logical order
- Tabbing Order
 - Increases the speed of data collection
- Map Display
 - Users want to be able to see where they have been.
 - Provide Relevant Information
 - Cities Boundaries
 - Roads
 - Water bodies



Before inspection



Keep it Simple

- Identify the most important elements
- Determine the correct amount of Detail
- Use Common Vernacular
- Some Information can be inferred



Process Flow of Collected Data

- Field inspections
- Retrieve data from laptops
- Check-in data to database
- Check-out data from database
- Load data to laptops



Benefits

- Targeted Approach
- Dropped the per unit cost \$24.00
- 16,500 amount of inspections to date
- 7,200 amount of cleaning
- Increased productivity.



Other Field Data Collection Options

The image shows a software interface for field data collection. The background is a Microsoft Excel spreadsheet with a worksheet named "Guardrail_Inventory". The spreadsheet has columns A through K and rows 1 through 55. The cell A1 contains the text "012 ST E".

Overlaid on the spreadsheet is a "Guardrail Information" form. The form contains the following fields and values:

- Guardrail_ID: [Empty]
- FMP: 0 TMP: 0
- Side_of_Road: Right
- Hazard Type: [Empty]
- Offset: 0
- Height: 0
- Rail_Type: 12 Gauge "W" Section
- Flaring: [Empty]
- Transition: Transition_Beg: [Empty] Transition_End: [Empty]
- Terminal: Terminal_Beg: [Empty] Terminal_End: [Empty]
- Posts: Post_Type1: 6" x 8" Wood Post_Spacing: 0 Post_Type2: [Empty] Post_Type2_Count: [Empty]
- Anchorage: Anchor_Beg: [Empty] Anchor_End: [Empty]
- Comments: No Guardrail #, New install

In the foreground, there is a "Data" dialog box. The dialog box has a title bar with "Data" and a close button. It contains the following fields and values:

- Update: [Dropdown]
- Options: [Dropdown]
- Log: [Green Play Button]
- 2 Road Sign: [Red Stop Sign Icon] OK Cancel
- Mark as updated: [Checkbox]
- Date Visited: 6/17/03
- Type: Speed Limit
- Condition: Good

At the bottom left of the image, there is a graphic of a winding road with several orange and white traffic cones.