

Minutes

ENTERPRISE GEOGRAPHIC INFORMATION SYSTEMS STEERING COMMITTEE

Monday, February 26, 2018

Administrative Services III, Room 101

10:30AM – 11:30 AM

1. Welcome and introductions

Members present: Lisa Johnson, Allen Boyette, Dave Rainer, Wade Davis, Andy Snead [*Jeff Bandini and Doug Morton were traveling on a site visit this morning*]. Hosts: Sally Rau, Andy Belcher, Dave Wynne, Sara Hopkins. Guest: Heath Huovinen.

S. Rau, Facilities Information Systems Manager, Office of the University Architect, opened the fourth meeting of this committee; introduced first time attendee, Sara Hopkins, GIS Technician, Office of the University Architect. Then the others introduced themselves.

2. Action item:

Enterprise GIS – Utilities: Pilot project – Stormwater model

D. Wynne, GIS Project Manager, Office of the University Architect, began the presentation with an update on the pilot project that was selected at the last committee meeting in August, 2017. The project is collecting all stormwater related spatial data that we have and the model design did include tracking abandoned features. There was a discussion as to the data sources being used for the project. The resulting authoritative data model is well positioned to collect historical institutional knowledge, such as the status of temporary devices that were built for construction purposes and never removed. Early in the project, a decision was made to pursue completion of a smaller, representative Pre-pilot area on Centennial Campus. Then, a browser-based data model viewer application was internally developed by OUA staff to facilitate stakeholder review of the Pre-pilot area in December. The committee asked if we are identifying the Wetlands as opposed to the other devices? [*The data model dictionary does include Constructed Wetlands as a device type for Stormwater Control Measure (SCM) devices, so they can be incorporated in the future, but delineations for those are not within the current project scope for import into the GIS model as they have not been tracked or inspected via spatial data before.*]

The vendor is using lessons learned through the pre-pilot phase to complete the model for all of campus. At the same time, another internally developed browser-based application was deployed to test collecting data in the field. This application provides a glimpse of how missing stormwater attribute data could be validated, populated, and then incorporated into AiM. H. Huovinen described the test scenario and commented that the application was easy to use. The draft of the comprehensive model for all of campus is expected by the end of March for review in April.

Suggested order of next Utilities systems for GIS model development [see Attachment A following these minutes]

D. Wynne presented that we asked the consultant leading the Update of GIS Needs Assessment project, eGIS Associates, to go ahead and recommend the order of next Utilities as part of their overall enterprise review, the draft of which is also due at the end of March. [*This recommended order was also previously reviewed by the Enterprise GIS Technical Working Group, which serves to inform this committee. There were no objections to the recommended order. Working group member Andrew Futrell, GIS/AutoCAD Technician, Utilities & Engineering Services, discussed the*

recommended order with Alan Daeke, Director, Utilities & Engineering Services, and they both concurred.]

Referring to Attachment A, the committee debated the pros and cons of the recommended order. After discussion as to which system should come next, it was decided that Water Distribution has the biggest positive impact and should take priority; try to get started on Sanitary Sewer, also, to maintain momentum. More detailed scope and cost estimates are needed for both to confirm.

Steam and Chilled Water would be separate models, but could be developed concurrently because similar staff works with those systems. Steam is the older of those two and should take priority.

3. Review Fiscal Year 2017-2018 Enterprise GIS implementation projects based on goals: Parcel data progress

H. Huovinen, University Surveyor, Office of the University Architect, presented next, explaining that the Wolf Tracts application that shows the parcel data information and attached documents currently has 19 users and that he has completed adding Lake Wheeler and Reedy Creek parcels. New features to be added soon include: floodplain and floodways; the most current orthophotos captured by the state (2016 from City of Raleigh); historic photos dating back to 1981. Ideas for features to add to Wolf Tracts in the future include: conservation areas, land use, and area granted to certain colleges. Currently reconciling Wake County Parcels with AERES parcel entries and this is anticipated to be completed in March. Next step is reconciling Wake County Easements with AERES Easement entries (182 entries) and that is anticipated by the end of calendar year 2018. It was mentioned that University Real Estate and Development have been using this application and are pleased with it.

The committee discussed the Clery Act and clarifying the geography for compliance. Elisa Lopez, Clery Compliance Officer, NC State University Police, is a Wolf Tracts user; communicating new property to her and campus police is important. H. Huovinen stated that the new property notification protocol needs to be clarified and he will coordinate with URED staff, Officer Lopez, and Chief Moorman to identify their notification needs relative to jurisdiction.

Online Campus Map

A. Belcher, GIS Manager, Office of the University Architect, continued the presentation and mentioned that University controlled parcels are dissolved to make the contiguous outer boundary of each campus precinct. That data is updated every month and is available to download; also used for the online campus map. There is currently a project underway focusing on migrating the online campus map from iTECs administration to OUA. When completed, this will give OUA the ability to make changes very quickly and in-house. Any of the data that we currently have can be overlaid on the campus map (e.g. ADA, campus blue lights, construction zone impacts, etc.). It will contain a standardized, contiguous base map, meaning the map symbology will look the same no matter what part of the state, country, or the world you are viewing. In the future, we can use Shibboleth [*the university authentication protocol*] to display sensitive data to appropriate users via account permissions.

The committee asked if there are plans for integrating this map to the space use program? Will people be able to display their location on map? Example - vendor from off campus be able to find employees. This new map environment will put us in the position to be able to do this in the future.

Campus Existing Basemap CAD/GIS integration

A. Belcher continued presenting, mentioned that the Needs Update consultant, eGIS, was also asked to weigh in on CAD/GIS integration, using information gathered through peer institution research, campus partner meetings, and internal testing. *[The specific recommendation language is included in the presentation]*. L. Johnson mentioned that item #4 needs a discussion because everyone uses their own standards; how hard is it to do what we are asking them? May be a good idea to get a few of our designers in here and ask them; further suggested we talk to Bill Davis and Lisa Maune, as well. D. Wynne and A. Belcher mentioned that there are programs available that can identify/track the differences in documents, check for variances in standards, and provide a report.

4. Other Business

H. Huovinen will set up a coordinating meeting with OUA GIS staff, NC State Police, and URED regarding new property notifications and Clery Act compliance.

5. Next Meeting: August 2018

Attachment A

Written by: Joshua Knight, Senior Geospatial Consultant, eGIS Associates - February 16, 2018

Recommended order of Utilities integration into the Enterprise GIS

- 1) Stormwater – previously selected to be the first utility to be integrated, Stormwater had the highest “Feasibility” and “Priority” ranking in the Functional Requirements project. Pilot project in progress by ESP Associates has already resulted in a comprehensive GIS data model for all of campus.
- 2) Sanitary Sewer– ranked second highest in “Feasibility” and “Priority” scoring. Primary reason for integrating after Stormwater is the similarities between the two systems. Both have many of the same features, geometry, and reporting/permitting requirements. Lessons learned from Stormwater will logically carry over.
- 3) Water Distribution – “Feasibility” and “Priority” for this and following utilities are close enough to make recommendations discretionary. Selected third based on potentially critical infrastructure related to safety and opportunity to demonstrate how large amounts of tabular data not currently in an enterprise database, such as test data in spreadsheets, could be loaded into AIM and linked with the Enterprise GIS.
- 4) Chilled Water and Steam – recommended fourth based on potentially critical infrastructure related to safety; opportunity to explore integrating GIS and BIM (Building Information Management) technology to provide cutting edge facilities maintenance.
- 5) Electric Distribution – presents the most difficult integration project of all utilities reviewed due to native complexity. Recommended fifth based on the following considerations:
 - a. Centralizing spatial data and integrating into SCADA, Synergy, EDNA, etc., would provide a powerful tool for solving current issues and planning for the future.
 - b. Greater operational effectiveness through data visualization, integration into AIM, and improving efficiency of work crews and fields inspections.
 - c. May not be possible to determine a single system of record (Enterprise GIS or AutoCAD based maps). With proprietary systems that are critical to business functions, it’s possible a hybrid type design would work best.
- 6) Telecommunications - recommended sixth because of the department’s preference of managing spatial data with AutoCAD and no external enterprise data sources available. Consolidating AutoCAD drawings into a centralized environment with other utilities and linking to AIM would provide a common asset management tool. Adopting CAD Standards would allow data maintained by the department to be consumed into the Enterprise GIS and utilized by other departments.
- 7) Natural Gas - recommended seventh because a large portion of utility assets are owned by PSNC. However, there is important infrastructure related to safety and emergency response. Spreadsheets for tracking, maintenance, and inspections could be loaded into AIM and linked with the Enterprise GIS.