BROADBANDUSA
CONNECTING AMERICA'S COMMUNITIES

Broadband Technology Opportunities Program

Effective Grant Monitoring:
Site Visits

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Prepared for:

National Telecommunications and Information Administration

Broadband Technology Opportunities Program
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Made Possible by the Broadband Technology Opportunities Program

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DEPARTMENT OF COMMERCE
UNITED STATES OF AMERICA

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1 Introduction

The American Recovery and Reinvestment Act of 2009 (ARRA) demands an unprecedented level of accountability and oversight for federal grant programs including the Broadband Technology Opportunities Program (BTOP). As the awarding agency, it is important for the National Telecommunications and Information Administration (NTIA) to implement effective and rigorous programmatic monitoring and assessment activities that engage recipients, track programmatic and fiscal performance, ensure compliance with statutory and programmatic requirements, mitigate risks and issues pertaining to the recipients, and demonstrate the ability to be accountable in the administration and management of BTOP awards to protect hard-earned taxpayer dollars.

The benefits and intended outcomes of effective grant monitoring include:

- The project complies with the terms and conditions of the award incorporated in the CD-450, including any special award conditions, amendments, and applicable laws and regulations;
- The project is implemented on a timely basis as outlined in the award;
- Recipients remain on track toward achieving project goals, objectives, and planned outcomes;
- Reporting requirements are met on a timely basis and the information reported is accurate; and
- ARRA funds are expended as authorized and in a timely manner.

BTOP management has instituted a comprehensive and strategic approach to monitoring almost $4 billion in federal grant investments, based on a dynamic and rigorous risk assessment approach. The monitoring strategy, site visit approach and action items stemming from FPO-led site visits will include active engagement and decision making from NTIA/BTOP leadership and coordination with the OIG. The BTOP monitoring function includes activities such as desk reviews, site visits, and program report reviews aimed at safeguarding these large and complex investments. Site visits demonstrate active engagement in the ongoing monitoring of individual BTOP projects. By visiting and inspecting the actual project site(s), BTOP program office staff may evaluate the current status of a project as well as the recipient's ability to meet its goals and to adhere to grant requirements. A benefit of this review is that potential areas of concern can be identified and corrected immediately on-site or through the development of performance improvement or technical assistance plans. To the extent grant recipients fail to comply materially with their obligations under the award, NTIA will take the swiftest action possible to safeguard taxpayer dollars from waste, fraud and abuse.

Program office staff, in coordination with representatives from the Grants Offices, will conduct two types of site visits. NTIA senior leadership may participate in site visits as necessary. The Office of Inspector General has also committed to conducting site visits to observe the performance of BTOP projects. In addition, Grants Office representatives may join the BTOP program office staff on the site visits or recommend specific review items to be included in the visit.

- **Site Visits.** These visits will typically last two days and will be guided by a standardized agenda and comprehensive framework or "checklist" of review items. These visits will provide FPOs with the opportunity to capture first-hand observations of recipient performance along multiple dimensions, from assessing administrative and organizational capacity to inspecting the physical infrastructure funded with grant dollars. Customized agendas and performance data to be validated, confirmed, discussed, and/or observed will be identified in advance and communicated to the recipient to prepare fully for the visit.
- **Advanced Site Visits.** These visits will typically last one to three days and will be in direct response to serious issues or concerns noted by the program staff in consecutive program report reviews or in response to performance data that reveal one or more areas of significant program concern. Advanced Site Visits will primarily be used when performance is trending in a negative direction, when an area of significant concern is identified, or when the program office staff has concerns over the validity of recipient reported quarterly or annual performance data. Customized agendas and performance data to be validated, confirmed, discussed, and/or observed will be identified in advance and communicated to the recipient to prepare fully for the visit.

The criteria to determine when projects will receive a site visit include the following considerations:

- Dollar amount of the Federal grant and amount of drawdowns.
- Complexity of the project, as determined by compliance requirements, number of subrecipients or number of locations.
- Whether a recipient has been designated as "high risk" by the Grants Office.
- Relative experience of the recipient in managing a Federal grant.
- Assigned monitoring level.
- FPO and program management concerns over schedule and performance; many include concerns over one or more unresolved issues that necessitate an in-person meeting.

Once BTOP management has established what site visits will be conducted for the upcoming quarter (generally three to four weeks in advance), a pre-review conference call notifies the recipient regarding whom should participate, what topics will be covered, and when the site visit will take place. Sufficient notice will be given to allow recipients time to prepare and to make available for inspection the files or documents requested by the FPO.

- During the site visit, program office staff will meet with key leaders and stakeholders from the recipient organization and key subrecipients assigned to the project, as appropriate. Evidence of project performance and supplemental documentation will be reviewed and discussed during the visit.
- At the conclusion of the site visit, the program office staff will develop a draft Site Visit Report that documents the findings and conclusions from the visit in consultation with BTOP management. Where site visits identify or confirm significant performance problems, the Program Office may specify corrective actions to be taken by the recipient based on observations and conclusions drawn from the site visit. These corrective actions may take the form of a Performance Improvement Plan, Technical Assistance Plan, Corrective Action Plan, or other action, depending on the specific observations. The Program Office may also adjust monitoring levels based on a site visit.

It is important to note that the framework or "checklist" described below constitutes the overall framework for BTOP site visits and is subject to revision. While it is expected that site visits will cover the major areas that generally constitute the greatest risk to program viability—such as project and financial management, organizational structure, grants management and program performance—it is not necessarily the case over a two-day site visit that each of the questions below will be asked and answered. In addition, questions may be modified to address emerging and evolving issues facing particular recipients. It is also critically important that Federal program staff observe and inspect the activities the grant funds are supporting—including broadband construction, workstation installation, or public education activities surrounding broadband adoption campaigns—so that Federal program staff can validate empirically that Federal funds are being used for their intended purposes.

2 Site Visit Checklist and Areas of Inquiry

2.1 General

In preparation for the site visit, the Federal Program Officer (FPO)[1] should review the recipient's submitted reports (Baseline, PPR, APR, FFR, and ARRA), desk review, any pending award action requests, open inquiries, information requests, or other issues that the recipient has not adequately resolved, notes from prior meetings or telephone calls, prior audit findings, the approved application, available maps, SF-1444 submissions, and the recipient's drawdown history, as well as any other issues or areas of concern that the FPO and BTOP management have identified based on the desk review, recipient reports, or other sources. In addition, the FPO should identify any Special Award Conditions that the recipient has not yet satisfied. This preparatory work should serve to focus the discussion along the lines of the key engagement areas outlined in the site visit framework below.

2.2 Program Management

2.2.1 All Awards

Organizational Structure and Capabilities

Discuss the organizational structure and the responsibilities assigned to each functional area. Determine whether the organization's capabilities in each key area appear adequate to execute the award.

Sample Discussion Questions

- Provide an up-to-date organizational chart. Discuss the responsibilities assigned to each functional area.
- Are all grant-funded positions shown on the chart? How has the organizational structure or staffing levels changed since your application was submitted/grant was awarded? Why? Were these changes described in your application and projected in your budget?
- Are each of your key personnel performing the duties originally described in your award documents? Have any of your key personnel changed since the grant was awarded? If so, have you completed individual background screening, if required, and obtained any necessary Grants Office approval for the change?

Staffing

Discuss the personnel assigned to work on the BTOP project. Determine if staffing levels, resources, training, and expertise appear reasonable and adequate based on the size and complexity of the award. Does the FPO perceive any need for additional personnel, subject matter expertise, training, or other staffing resources to complete the grant?

Sample Discussion Questions

- Discuss your staffing levels, areas of expertise, and training policy.
- Why do you believe that you have sufficient staffing to meet your programmatic requirements and goals?
- In which areas do you believe your organization's staffing and expertise are weakest? What are you doing to improve your capabilities in those areas?

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[1] The Federal Program Officer (FPO) works closely with his or her team, including each program director, to customize the most effective site visit solution for each grant recipient. The directors meet weekly with each other and with the BTOP Director to manage the overall site visit strategy, assess monitoring risks, and to make any necessary adjustments in the monitoring strategy, coordinating with the Office of Inspector General, to safeguard taxpayer dollars.

- If you have any open grant-funded positions, what are they? What recruiting efforts are you pursuing? When do you expect to have the positions filled?
- Are there any implications to the BTOP grant success as a result of personnel turnover?
- Does the recipient have any contractors on-site that support the BTOP Grant?
- Do contractors specifically support the report submission process?

Program Results

Marketing and Outreach. Discuss the status of the recipient's marketing and community outreach plans and activities. Discuss the ways the recipient has chosen to inform the intended beneficiaries of its project of its services. The FPO should form an impression of whether these efforts are appropriate for the size and scope of the project and reasonably calculated effectively to reach the target beneficiaries.

Sample Discussion Questions

- Discuss how you are developing your marketing program.
- If you have developed a media and community outreach plan, please provide a copy, as well as examples of advertising and public relations materials you are using to communicate the specific activities and accomplishments of our project.
- How are you (or how do you plan to) inform potential subscribers/beneficiaries of the services you are offering?
- Provide an update on how you are tracking or measuring the impact of your community outreach activities.
- What SLAs have been established to ensure quality of service delivery?
- For CCI recipients, will you be using established distribution channels or will most be direct sales?

Results to Beneficiaries. Discuss the status of the recipient's delivery of services to intended project beneficiaries. Discuss the number of CAIs, subscribers, workstations, students, or other project metrics in relation to baseline projects. Identify any tangible programmatic results. FPOs should review the recipient's PPR submission and use the information provided to engage in this discussion. (CCI: For existing providers, discuss their current customer base in terms of # of wholesale/carrier, CAI/business & residential customers.)

Sample Discussion Questions

- What results have you seen from your community outreach efforts?
- What has been the result of discussions with providers? Describe the process for securing signed agreements.
- What percentage of the proposed beneficiary population (or CAIs) have been captured as subscribers?
- Does your targeted vulnerable population pose any particular challenges to implementing the project?
- Has the program developed procedures/guidelines for identifying and enrolling the target population of the project?
- Describe the steps you have taken to make all sites and project offerings accessible to persons with disabilities.
- How are you monitoring and tracking uptake of your services by CAIs or other project beneficiaries in reaching project goals and objectives?
- What mechanisms are in place or what plans are being made for sustaining the project beyond the life of the grant?
- (CCI Recipients) If you have started offering services, demonstrate that you posted your nondiscrimination and interconnection policies to your primary web site. If you have not yet initiated services, what plans have you made to do so?
- (CCI Recipients) Produce any standard Master Services Agreements or IRU Agreements that you are using in selling services to your customers.
- (CCI recipients) Will the expected number of CAI connections be met by project end? Discuss your projections for CAI, wholesale/carrier connections you anticipate by Sept 30, 2011, Sept 30, 2012.

Project Execution

Implementation. Discuss the recipient's efforts to implement the project. The FPO should consider scheduling time to observe implementation activities, such as the sites of CCI broadband construction or equipment storage, PCC equipment or operation during opening hours, or SBA training classes. The FPO should form an impression of whether these activities are commensurate with those the recipient reported in its annual and quarterly reports, and consistent with baseline goals.

Sample Discussion Questions

- How do you monitor implementation of the project?
- How is progress against plan reported?
- How are your program activities intended to accomplish the goals and objectives of the project and BTOP?
- Is the project actually at the point where progress reports say it is?
- How feasible is achieving the future goals in the plan?
- What is the status of your proposed Recovery Act and Other Governmental Collaborations?
- Demonstrate that equipment you have purchased is as specified in your budget.
- (CCI Recipients) Produce maps illustrating each segment of your planned network, including IRU segments, rights-of-way agreements, and construction contracts.
- (CCI Recipients) Produce invoices and document payments under any such contracts.

Compliance

Training and Education. Discuss the ways in which the recipient ensures that the project staff understands the programmatic compliance requirements of the award documents. Discuss any training opportunities that the recipient may have put in place.

Sample Discussion Questions

- What steps have you taken to ensure that project personnel understand the compliance requirements associated with your BTOP grant?
- What training have you provided on the Uniform Administrative Requirements or Cost Principles associated with your grant? What level of previous experience do your personnel have with these requirements?

2.2.2 CCI and PCC with Construction Awards

Construction Management

Construction Status. Discuss any construction-related challenges the recipient may be encountering. If the recipient that has indicated in its annual and quarterly reports that it is on schedule, confirm that this is still the case. For a recipient that has indicated its annual or quarterly reports that it is behind schedule, obtain an update on the recipient's status, discuss the reasons for the delays, and identify the actions the recipient is taking to remedy the situation. In preparation for the discussion, the FPO should review the recipient's baseline report and quarterly and annual PPR submissions, as well as notes of any prior discussions of these issues, and determine whether the recipient is 1Q behind schedule or more based on projected start & production.

Sample Discussion Questions

- What challenges have you encountered during construction, e.g., weather, other compliance issues, delays in obtaining rights-of-way or pole attachment rights?
- What steps are you taking to address these challenges and what impact do you expect these steps to have?
- (If weather has been a factor) What steps are you taking to compress the building schedule during fair-weather months? What parts of the project can be shifted to compensate for bad weather?

- Provide an update on the status of the challenges (if any) that you identified in your most recent reports.
- What additional challenges do you anticipate?
- What proactive steps are you taking to mitigate these future challenges?

Construction Results. Discuss whether the recipient's proposed network miles will be completed before end of the project period. In preparation for the discussion, the FPO should review metrics to be completed as of Sept 30 2011, Sept 30, 2012 for miles, CAI connections and wholesale agreements. The discussion should focus on existing areas of concern and identify any additional emerging issues.

Sample Discussion Questions

- Other than any construction delays previously discussed, discuss any other issues that may impact your network build schedule, and the ways in which you are addressing those issues.
- What contingency plans are you developing, such as phasing of construction or other steps to accelerate and maximize results to deploy network miles within the agreed-upon timetable?

Environmental Compliance

Status of Environmental Review. If the recipient has received its FONSI, confirm that the recipient is constructing in accordance with the FONSI requirements. Discuss compliance with any mitigation measures that are required. FPO should consider scheduling time to observe construction sites to confirm use of the stated routes and compliance with any required mitigation measures. If the recipient has not received its FONSI, discuss any challenges the recipient may be encountering in completing environmental review. In preparation for the discussion, the FPO should review the recipient's baseline report and quarterly and annual PPR submissions, the status of its compliance with the environmental SAC deadlines, as well as notes of any prior discussions of these issues.

Sample Discussion Questions

- (For recipients that have obtained FONSI) Are you constructing in all respects in accordance with the requirements of your FONSI, e.g., along the same routes surveyed, in accord with any mitigation measures required, etc.?
- (For recipients that have obtained FONSI) If your FONSI required further consultation with historic preservation or other authorities, explain the steps you are taking to comply with those conditions, and confirm whether you have started construction.
- (For recipients that have not obtained FONSI) Explain the status of your EA process, and provide an update on any delays you are experiencing in completing the EA process.
- (For recipients that have not obtained FONSI) If you have obtained limited pre-EA procurement authority, discuss the status of any procurement activities you have undertaken, including arrangements for storage of any equipment that has been delivered.

Financial Management Processes and Systems

Operations Support Systems. Discuss the recipient's processes and procedures for provisioning facilities, invoicing customers, and other back office functions. The FPO should consider reviewing screen shots from the system(s), or observing a demonstration of the system(s) in operation. The FPO should evaluate the recipient's level of familiarity with these processes, procedures and systems, and financial managers' commitment to compliance.

Sample Discussion Questions

- Discuss your facilities provisioning process. If you are an existing provider, are you using preexisting processes, procedures and systems? If you are a new provider, have you outsourced these functions, or are you deploying new systems? (In the latter case, the FPO should plan to spend some time discussing the process for procuring, implementing, and operating the new system.)

- What is your billing process? Have you established a billing tool? What is it and has it been successfully deployed elsewhere? (The FPO should ask to see screen shots. If appropriate, this can be discussed further and/or demo for the financial management section as this raises questions about handling Program Income.)
- What process has been established for non-payment or slow payment of subscribers?

2.2.3 PCC/SBA Awards

Overview

Discuss general approach in the areas of broadband adoption, increasing employment, and increasing community benefits.

Sample Discussion Questions:

- What are the steps being taken to increase broadband adoption?
- What are the steps being taken to increase employment, training, and workforce development?
- What are the steps being taken to increase the community benefits of your project?
- What steps are you taking to increase digital literacy?

Sustainable Adoption

Discuss how sustainable adoption is being defined and tracked.

Sample Discussion Questions

- How is sustainable adoption being defined by this project?
- What methodologies and mechanisms are being implemented to measure sustainable adoption?
- What tracking systems are in place to document sustainable adoption?

PCC Usage and Benefits

Discuss specific details around PCCs including progress, tracking, and details around results.

Sample Discussion Questions:

- Is there an outreach plan for your project's PCC(s)?
- What progress has been made against outreach plan objectives?
- How are you tracking the delivery and success of the outreach plan?
- How do you track public use of the computers? How are you documenting users?
- You projected generating ________ total users. How on target do you think you are? What challenges have you faced in meeting this projection?
- You estimated ______ persons in the service area. Has this changed? How are you documenting the changes?
- What progress are you making toward meeting the proposed number of workstations?
- What are your methods for tracking persons served during the business week and over the weekend?

Broadband Use

Discuss the details around the broadband metric including how it is being tracked.

Sample Discussion Questions

- How are your tracking broadband usage outside the home, in relation to the projection in your application?
- What are some of the uses of broadband outside the home that are being promoted by this project?
- What types of training and/or education are being provided to your target populations?

- How are you tracking participation in internal or external training and/or education initiatives?

Training and Education

Discuss the details around training and education components, including whether they are sufficient, operational, and fully staffed.

Sample Discussion Questions:

- Was the selection of peripherals and equipment sufficient for the tasks or have they been reconfigured?
- Was the amount budgeted sufficient? Have you experienced any acquisition delays?
- Has the workstation software installed been adequate? Have changes to the software been required?
- Are the training and education programs operational and fully staffed?

2.3 Project and Resource Management

2.3.1 All Awards

Schedule

Discuss areas where the recipient may not be on track to meet its baseline project milestones and indicators. To prepare for the discussion, the FPO should review baseline milestones and indicators to determine which issues to focus on baseline to projections for following quarter (i.e., the quarter we are currently in). The FPO should evaluate the recipient's ability to achieve its baseline milestones and indicators, including whether the recipient has the ability to catch up with any that it has missed.

Sample Discussion Questions

- Is the program being administered in a manner consistent with the project Plan? If not, discuss with recipient how the modification process works.
- What is your strategy for completing your project on time, in accordance with the baseline milestones and indicators you provided to BTOP?
- In each area where you are (or anticipate) experiencing delays or shortfalls, what issues are you facing and what is your strategy for overcoming them?
- Describe any reasons why your project may not be complete within the agreed-upon timeframe.

Performance Tracking

Discuss the methods used by the recipient to track project performance. The FPO should evaluate whether these methods are likely to gather accurate and relevant performance data.

Sample Discussion Questions

- How are you measuring project performance metrics?
- How is this data recorded, analyzed and used to improve your delivery of services?
- Who is responsible for documenting progress? Are project plans routinely reviewed and updated?

Project Management

Discuss the recipient's policies and procedures for overall project management, including the roles and responsibilities of each member of the management team. The FPO should evaluate whether the recipient's project management appears adequate to ensure timely and successful project execution.

Sample Discussion Questions

- Identify any project management tools and approaches that are being utilized to help manage the grant.

- What is your method for monitoring the implementation of the project and how are you tracking progress?
- Do you have a project evaluation plan and could we review it with you?
  - Will the evaluation be internal, external or a combination of the two? Who will conduct the evaluation?
  - What methods are being used for documentation, data collection and tracking project activities, participants, outreach?
  - Would you like to have technical assistance on data collection methods, tracking systems, evaluation plans, or other evaluation resources?
- How are you ensuring that your project activities are in line with the overall BTOP program objectives?
- Do your progress reports accurately reflect the level of work being completed?

Performance Barriers

Discuss any impediments to performance and the recipient's plans for overcoming them.

Sample Discussion Questions

- Discuss any significant barriers or challenges the project has encountered or that you anticipate, as well as any actions you are taking to overcome these barriers or challenges.
- Identify any external factors that create stress/scrutiny of the recipient.
- Are you aware of any stakeholder complaints or negative press coverage concerning your project?
- Have you experienced ongoing vendor or subrecipient issues? Other procurement problems? What have you done to overcome these issues?
- Do you have systems, processes, or procedures in place to mitigate project risk?
- Are there particular barriers and constraints associated with the proposed technological approach (human, organizational, budget, contractual, and operational)? If so, how are these problems being addressed and what steps are being taken to mitigate further problems?
- Are appropriate skill-sets available to manage the required technology solution?
- Is the proposed broadband access speed being met?
- Do you conduct regular project status meetings with all managers to ensure that all issues are identified and resolved? How often?
- Discuss the result of any improvement action previously completed by the recipient and how it has helped to improve project performance.
- How has corrective or improvement action improved your project's performance?
- In what ways have you improved your operating procedures in order to mitigate risk?
- Identify and discuss any area in which you may benefit from NTIA's technical assistance, such as in financial, technology, compliance, grants management, or other areas.

Performance Strengths

Discuss any particular recipient strengths that should aid performance and the ways the recipient is leveraging them.

Sample Discussion Questions

- Identify and discuss the strengths of the project.
- What have been the benefits to your organization or community so far in receiving this award?
- Do you have any lessons learned that might benefit other BTOP projects?

- Identify and discuss any BTOP best practices that can be implemented with the recipient.
- In what ways did you mitigate project risk to ensure project success?
- What are some examples you can share in which a potential issue was successfully corrected?

2.4 Financial Management

(In many cases, it will make sense to cover Financial Management and Grants Management together, because many questions will require input from both areas.)

2.4.1 All Awards

Financial Management Processes and Systems. Discuss the recipient's awareness of the financial management requirements of the Uniform Administrative Requirements. The FPO should consider asking the recipient to demonstrate the use of its financial management systems and outline its processes and procedures in this area, as well as the roles and responsibilities of the relevant employees. Discuss the recipient's processes and procedures for handling invoices, managing drawdowns, and issuing disbursements. The FPO should evaluate the recipient's level of familiarity with the requirements in this area and its commitment to compliance.

Sample Discussion Questions

- Discuss your financial management systems and the ways in which they ensure effective control over and accountability for grant funds.
- How do you perform periodic cost projections to ensure that funds will be adequate to carry out project milestones and objectives?
- Based on the number of financial staff, how do you ensure fiscal duties are segregated?
- How often are balance sheet accounts reconciled to subsidiary ledgers or external statements to substantiate that account balances are correct?
- Discuss the contractual process, the billing process and reconciliation as well as the receipt of funds.
- Discuss your policies and procedures for minimizing the time elapsed between the drawdown of funds and disbursement of those funds. Do you have written processes and procedures to governing this area? If so, provide a copy.
- How do you ensure that all financial information is accurately reported in the PPR, SF-425 and ARRA reporting forms each quarter?
- How do you maintain the details and documentation of all vendor payments and track which materials and equipment have been received?
- For any equipment that you have already procured, please provide invoices and show us where the equipment is being deployed or stored.
- With respect to any contracts that you have executed, but under which you have not made purchases, describe your intended timing for placing orders and show us where the equipment will be deployed or stored.

Match Valuation and Tracking

Match Expenditures. Discuss the methods used by the recipient to track match expenditures and ensure proportional expenditure of matching funds. If the recipient does not anticipate proportionality, determine if it has obtained a SAC so permitting. The FPO should evaluate the recipient's level of familiarity with the requirements in this area and its commitment to compliance.

Sample Discussion Questions

- How do you ensure Federal and match expenditures remain proportional throughout each reporting period?

- How do you ensure match expenditures are properly monitored and documented against your detailed budget?
- Describe how you ensure that non-Federal match through third-party contributions are allowable under the applicable cost principles.
- How do you determine when match has been expended?
- Have all sources of match been approved?

Match Valuation. If the recipient is relying on contributions of its own assets or third-party in-kind contributions to satisfy its matching requirement, discuss the recipient's familiarity with the process for valuing and recording such contributions in the project records. The FPO should evaluate the recipient's level of familiarity with the requirements in this area and its commitment to compliance. If the recipient has not reviewed the fact sheet on this topic, suggest that it obtain a copy from: www2.ntia.doc.gov/files/BTOP_Fact_Sheet_Matching_Contributions_January_2011.pdf.

Sample Discussion Questions

- Describe your policies, processes, procedures and systems for documenting and valuing recipient contributions and third-party in-kind contributions of assets to the project.
- How do you monitor and value contribution of donated expenses (e.g., labor) to the project?

Budget Review

Fiscal Policies and Controls. Discuss the recipient's policies, procedures, and systems for adhering to the project budget, including periodic budgetary review and tracking of expenditures to ensure unrelated expenses are not charged to the grant. The FPO should evaluate the recipient's level of familiarity with the requirements in this area and its commitment to compliance.

Sample Discussion Questions

- How do you ensure all costs are allowable and allocable to the project?
- What training and experience does your fiscal officer and staff have related to accounting and fiscal matters?
- What experience does the fiscal officer and staff have in managing Federal funds, especially when dealing with vendors and subrecipients?
- What is the process for approving expenditures to prevent instances of false claims?
- Discuss the reasons for any submitted budget revision requests. Confirm that such requests received prior approval.
- Do you understand the rules surrounding the request for a budget revision? How do you determine revisions are needed; how do you prevent the need for multiple revisions?
- If there have been several (more than 3) grant amendment requests submitted by the recipient, discuss reasons for frequency of amendments. Are changes due to subrecipients or contractors? What is the associated risk?

2.4.2 Grants Management

All Awards

Fraud Prevention: Policies and Systems. Discuss the recipient's awareness of fraud risks and any policies or systems it has adopted to mitigate these risks. The FPO should evaluate the recipient's level of familiarity with the requirements in this area and its commitment to compliance, as well as the level of fraud risk that the recipient may present.

Sample Discussion Questions

- What policies and procedures have you adopted to detect and deter fraudulent activity? Discuss how you assess the strength and effectiveness of the methods you employ to detect fraud.
- Do you use mandatory vacation periods or job rotation assignments for employees in key finance and accounting control positions?

- Are certain critical aspects of your fraud detection processes not disclosed, in order to maintain the effectiveness of these hidden controls? What steps do you take to ensure that fraud detection processes, procedures, and techniques remain confidential so that ordinary employees — and potential fraud perpetrators — do not become aware of their existence?
- Do you engage in data analysis and continuous auditing efforts based on your assessment of the types of fraud schemes to which organizations like yours (in your industry, or with your lines of business) are susceptible? For example, do you check subcontractors for anticompetitive practices, such as price fixing, conflicts of interest, hidden related-party transactions (bribes, kickbacks), or check invoices for costs unrelated to the project such as unrelated labor charges and disproportionate overhead?
- What type of controls do you have in place to prevent the misuse of inventory, theft of inventory, purchase falsification, etc.?
- Does your information systems/IT process controls include controls specifically designed to detect fraudulent activity, as well as errors, and include reconciliations, independent reviews, physical inspections/counts, analyses, audits, and investigations?

Fraud Prevention: Training and Awareness. Discuss the recipient's actions to ensure adequate training and awareness among its employees for fraud prevention and detection. The FPO should evaluate the adequacy and effectiveness of these actions.

Sample Discussion Questions

- How do you communicate fraud detection policies to employees, vendors, and stakeholders?
- What training opportunities do you offer or require regarding fraud detection and prevention?
- Do your internal auditors participate in the fraud risk assessment process and plan fraud detection activities based on the results of this risk assessment?

Fraud Prevention: Procurement. Discuss the recipient efforts to detect and prevent fraud in goods or services it purchases from vendors or subrecipients. The FPO should evaluate the adequacy and effectiveness of these actions.

Sample Discussion Questions

- Discuss how the recipient prevents the use of product substitution and substandard materials or workmanship in its project.
- How do you ensure quality materials as ordered are used by your construction team(s)?
- How do you ensure that no unauthorized deviations are made from the construction/engineering plans?

Procurement Policies. Discuss the recipient's awareness of the procurement mandates in the Uniform Administrative Requirements, including the need for written procurement procedures and written standards of conduct governing the performance of its employees engaged in the award and administration of contracts. The FPO should evaluate the recipient's level of familiarity with the requirements in this area and its commitment to compliance.

Sample Discussion Questions

- Please provide a copy of your written procurement procedures and written standards of conduct governing the performance of its employees engaged in the award and administration of contracts.
- Are all relevant staff members aware of the provisions of these documents? What training have you provided to ensure compliance?

Procurement Processes. Discuss the recipient's procurement processes, procedures, and activities, including how key subrecipients and vendors are selected. The FPO should consider asking the recipient to walk through a typical procurement transaction. The FPO should evaluate the recipient's level of familiarity and compliance with the procurement requirements of its grant award.

Sample Discussion Questions

- How does the organization ensure that procurement transactions conform to applicable requirements governing the selection of subrecipients and vendors, such as the requirement to provide, to the maximum extent practicable, open and free competition, pursuant to 15 CFR § 14.43?
- Is documentation maintained to establish you obtained price quotations or bids as required by your own policies?
- How do you conduct cost or price analyses on bids received?
- How do you ensure that you do not select vendors or subrecipients that have the potential ability to perform successfully, and do not appear on the federal government's Debarment and Suspension list?
- How do you prevent instances of conflict of interest and any illegal hidden transactions such as bribes, gratuities, or kickback schemes?
- How do you ensure that contractors that assisted in developing draft specifications, requirements, statements of work, invitations for bid, or requests for proposals do not compete in the resulting procurement, under 15 CFR § 14.43?

Davis-Bacon. Discuss the recipient's compliance with the Davis-Bacon Act, including the need for any SF-1444 conformances and the inclusion of Davis-Bacon wage rates and contract terms in applicable contracts. Discuss recipient procedures to ensure all contracts exceeding $2,000 for constructing, renovating, or repairing buildings used by BTOP programs are compliant with the Davis-Bacon Act. The FPO should evaluate the recipient's level of familiarity with the requirements in this area and its commitment to compliance.

Sample Discussion Questions

- Are you finding relevant wage rates for your state, county, city? (be sure to know if they have submitted 1444 as part of pre-visit prep). If not, are you preparing SF-1444 requests for conformance?
- How do you anticipate that Davis-Bacon compliance will affect your budget and/or project schedule?
- How do you ensure that Davis-Bacon wage rates and related contract terms are included in your contracts, as well as those of your subrecipients and vendors?
- How does the financial system assure that laborers and mechanics are paid prevailing rate wages on BTOP-funded construction, renovation or repair contacts exceeding $2,000?
- How are timesheets/payroll data reviewed to ensure accuracy and compliance with Davis-Bacon?

Subrecipient Monitoring Policies. Discuss the recipient's subrecipient monitoring plan, including its process for ensuring compliance with the terms and conditions of its grant award that flow down to subrecipients. The FPO should evaluate the adequacy and likely effectiveness of these plans.

Sample Discussion Questions

- What is your plan for monitoring of grant-related activities of your subrecipient(s)? Do you have a written subrecipient monitoring plan? If so, provide a copy.
- What procedures have you adopted for making the program description, guidelines, and Federal regulations available to subrecipients?
- Do you have written agreements with your subrecipient(s) establishing roles, responsibilities, and obligations in connection with the subaward?

Property Management Policies and Systems. Discuss the recipient's awareness of the property management mandates in the Uniform Administrative Requirements. The FPO should evaluate the recipient's level of familiarity with the requirements in this area and its commitment to compliance, as well as the efficacy of the recipient's property management policies, systems, and procedures.

Sample Discussion Questions

- Describe your property management policies, procedures and systems. Provide the documents, systems and reports used in the implementation of the on-going monitoring of facilities, materials and equipment.

- How do you handle it if you detect problems or weaknesses with the program's property management controls?
- Discuss your property management standards for equipment purchased using BTOP funds. Identify if a physical inventory is conducted every two years.
- How does the financial system ensure that records are maintained for all equipment with a unit cost of $5,000 or greater?
- Has a physical inventory of equipment been conducted within the last two years? Is the inventory document signed by the person or persons who observed the inventory?

Grants File Policies. Discuss the recipient's policies, processes, and procedures for establishing and maintaining its grant files. The FPO should evaluate the level of completeness of these files, and the degree to which they document compliance with the terms and conditions of the grant award and facilitate compliance with audit requirements.

Sample Discussion Questions

- What policies and procedures have you adopted to retain documentation of your grant-related activities? How did you ensure that they contain all required areas of documentation?
- How do you determine what documents are placed in the grants file?
- How do you ensure that your grants files are auditable in an A-133 single audit, a program-specific if required, and by the Office of Inspector General and Government Accountability Office?
- Do specific procedures exist to inform staff how to properly handle Federal funds and document activities?
- Please provide an update on subrecipient and vendor activities. What are your processes, procedures, and systems used to manage subrecipient, third-party contributor, and contractor relations?
- Have you executed appropriate documentation defining the terms of your relationships with each of your subrecipients, third-party contributors, and contractors, e.g., memoranda of understanding or contracts?

ARRA Requirements – Reporting. Discuss any issues surrounding the recipient's completion and filing of Section 1512 ARRA Reports. To prepare for the discussion, the FPO should review the ARRA reports, and discuss with the Grants Office whether the recipient's reports have been correct and timely. The FPO should evaluate the recipient's level of familiarity with the requirements in this area and its commitment to compliance.

Sample Discussion Questions

- Discuss your policies and procedures for preparing ARRA reports, including any difficulties you have experienced and corrective measures you have implemented. How do you ensure that the reporting of jobs created is consistent with the requirements of OMB guidance?
- Discuss your policies and procedures for ensuring the reporting of subrecipient data in ARRA reports.
- How do you ensure accurate ARRA reporting by your subrecipients?

ARRA Requirements – Buy American. FPO should ensure that the recipient is aware of whether it is subject to Buy American requirements and, if it is, should explore the recipient's policies and procedures for ensuring compliance. The FPO should evaluate the recipient's level of familiarity with the requirements in this area and its commitment to compliance.

Sample Discussion Questions

- Is your organization subject to Buy American requirements under the Recovery Act?
- If so, discuss your policies and procedures for ensuring compliance.

ARRA Requirements – Transparency. FPO should discuss the transparency requirements of the Recovery Act and explore the recipient's policies and procedures for ensuring compliance. The FPO should evaluate the recipient's level of familiarity with the requirements in this area and its commitment to compliance.

Sample Discussion Questions

- How are you complying with the requirement of the DOC's ARRA Award Terms to maintain records that identify adequately the source and application of Recovery Act funds?
- For recipients covered by the Single Audit Act and OMB Circular A-133, how will you comply with the requirement to separately identify the expenditures for Federal awards under the Recovery Act on the Schedule of Expenditures of Federal Awards (SEFA) and the Data Collection Form (SF-SAC) required by OMB Circular A-133?
- What is your process for ensuring that you can separately identify each sub-recipient, and document at the time of sub-award and at the time of disbursement of funds, the Federal award number, CFDA number, and amount of Recovery Act funds?
- How are you ensuring that your subrecipients include on their SEFA information to specifically identify Recovery Act funding similar to the requirements for the Recipient SEFA described above?

Unjust Enrichment/Duplication of Federal Funding. FPO should ensure that the recipient is aware of the prohibition on unjust enrichment and duplication of Federal funding and discuss the recipient's policies and procedures for ensuring compliance. The FPO should evaluate the recipient's level of familiarity with the requirements in this area and its commitment to compliance.

Sample Discussion Questions

- How do you ensure compliance with the BTOP prohibitions on unjust enrichment and duplication of federal funding in the execution of your award?
- (CCI Recipients) To the extent you are providing broadband to schools and libraries, what processes, procedures, and systems do you have in place to ensure that there is no duplication of funding with Universal Service (e.g., E-rate) funds?
- (PCC/SBA Recipients) To the extent that you are purchasing broadband services as a school or a library, what processes, procedures, and systems do you have in place to ensure that there is no duplication of funding with Universal Service (E-rate) funds?

Records and Reporting – Recordkeeping. Discuss the recipient's processes for maintaining files related to its grant-related activities. The FPO should inspect the files to ensure that they are orderly, appear comprehensive, and are being maintained according to an established system. DOC requires record retention for three years from the date of submission of the accepted final financial report, so the FPO should inquire as to how the recipient intends to abide by this requirement. The FPO should evaluate the recipient's level of familiarity with the requirements in this area and its commitment to compliance.

Sample Discussion Questions

- Discuss your property management systems and the ways in which they ensure effective control over and accountability for property and other grant-funded assets.
- Discuss how weekly certified payroll records and timesheets are properly prepared and maintained to comply with the Davis-Bacon Act. Provide examples of these records.
- How do you ensure the number of hours worked on grant-related activities is accurately reported in the timesheets?
- How are payroll runs properly charged to the appropriate project account? (This is especially important for recipients with multiple BTOP projects or with major projects they are funding themselves.)
- (CCI and PCC with Construction) How are you planning to comply with the requirements to document and record the Federal Interest in property acquired or improved with federal funds? Has any documentation been recorded in state records as yet?

Records and Reporting – Reporting. Discuss the recipient's processes for preparing and filing BTOP reports, including the annual and quarterly PPR and FFR filings. The FPO should evaluate the recipient's level of familiarity with the requirements in this area and its commitment to compliance, as well as the the efficacy of the recipients' processes and procedures.

Sample Discussion Questions

- Who is responsible for completing and submitting reports? How many other people in the organization need to provide information to complete the reports? Are those people responsive? Do you have executive level support for the importance of preparing timely and complete reports?
- Do your staff members responsible for reporting understand the respective reporting system protocols for report submission?
- Do you have a history of late reporting? If so, discuss issues and challenges you are facing, and whether NTIA may be able to provide technical assistance.
- Discuss any issues that you have had with submitting timely PPRs with sufficient detail, including the underlying causes and corrective steps that you are taking.
- Discuss any other issues that you have had in preparing and submitting timely FFRs.
- Do you have any concerns pertaining to the use of the GOL and PAM systems to file reports?

3 Sample Site Visit Agenda

Session Name	Required Attendees	Session Type
Day One		
1. Kickoff Meeting	BTOP Team, Key Project Staff	Meeting
2. Meeting with AOR and Project Director	BTOP Team, AOR, Project POC	Meeting
3. Program Scope Review	BTOP Team, Project Team	Meeting
4. Project Management Review	BTOP Team, AOR, Project POC	Document Review / Q&A
5. Observations/Tours (weather/access permitting)	BTOP Team, AOR, Project POC	Field Review / Tour
Day Two		
6. Grants Management and Documentation Review	BTOP Team, Project POC/CFO	Document Review / Q&A
7. Financial Management Review	BTOP Team, Project POC / CFO	Document Review / Q&A
8. Wrap-Up Meeting	BTOP Team, Key Project Staff	Meeting

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Estimated Cost Per Foot
$22.40

Summary of Revised Middle-Mile Backbone Fiber Routes

# on UC2B EA Maps	Name of Revised Route	Reason for Route Change	Footage of Original Route	Footage of Revised Route	Increase (Decrease) in Length for Revised Route in Feet	Estimated Increase (Decrease) in Construction Time in Days	Estimated Increase (Decrease) in Costs	Year Scheduled for Construction
1	Centennial HS	Avoiding a Private Easement & Correcting a Mapping Error on the original Environmental Assessment Map	1,735	1,681	(54)	0.0	($1,210)	2011
2	Mullikin Drive	Alternate Route to avoid Private Easements	12,209	6,065	(6,144)	(6.2)	($137,626)	2012
3	Christie Clinic	Getting closer to a new Anchor Institution - Medical Facility	5,280	10,573	5,293	5.3	$118,563	2012
4	Cherry Hills Drive	Alternate Route to avoid Private Easements	3,634	3,732	98	0.1	$2,195	2012
5	Curtis Road / Prospect Avenue	Alternate Route to avoid Private Easements	10,560	10,560	0	0.0	$0	2012
6	South First Street	Avoiding a Private Easement & Avoiding Future Construction	1,964	2,144	180	0.2	$4,032	2011
7	St. Mary's Road	Avoiding Future Construction	5,188	5,184	(4)	0.0	($90)	2011
8	Vine Street	Avoiding Existing Underground Congestion & Consolidation - Utilizing Existing Conduits	2,587	2,631	44	0.0	$986	2011
9	Washington Street	Alternate Route to avoid Private Easements	2,019	5,107	3,088	3.1	$69,171	2012
10	I-74 - North Urbana	Alternate Route to avoid Private Easements	19,358	12,445	(6,913)	(6.9)	($154,851)	2012
11	Lincoln Avenue	Avoiding a Private Easement & Avoiding a Wetland Area	6,826	7,871	1,045	1.0	$23,408	2012
12	North Fourth Street	Avoiding a Private Easement & Get Closer to Anchor Institutions	3,429	2,336	(1,093)	(1.1)	($24,483)	2011
13	Stoughton Street	Correcting a Mapping Error on the original Environmental Assessment Map	1,356	1,726	370	0.4	$8,288	2011
14	John Street RR Crossing	Alternate Route to avoid Private Easements and Existing Underground Utilities	4,988	3,456	(1,532)	(1.5)	($34,317)	2011
15	Peabody Drive	Correcting a mapping error on the original EA Map	1,376	2,603	1,227	1.2	$27,485	2011
16	Gregory Drive	Consolidated Routes - Will not Build	2,984	0	(2,984)	(3.0)	($66,842)	N/A
		Totals in Feet:	**85,493**	**78,114**	**(7,379)**	**(7.4)**	**(165,290)**	
		Totals in Miles:	**16.19**	**14.79**	**-1.40**			

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Summary Statistics on the proposed backbone route changes.

	Footage of Original Route	Footage of Revised Route	Increase (Decrease) in Length for Revised Route in Feet	Estimated Increase (Decrease) in Construction Time in Days	Estimated Increase (Decrease) in Costs
Sub-totals for all "Permanent" route changes.	37,713	40,205	2,492	2.5	55,821
Totals in Miles:	**7.14**	**7.61**	**0.47**		
Totals for all "Conditional" route changes that will only be used if we cannot secure private easements.	47,780	37,909	(9,871)	(9.9)	($221,110)
Totals in Miles:	**9.05**	**7.18**	**-1.87**		

Subtotals of Reasons for revised Routes (some have two reasons, so the percentages exceeed 100%)	Footage of Original Route	Footage of Revised Route	Increase (Decrease) in Length for Revised Route in Feet	% of Original Route Miles Total
Private Easement Issues	66,722	55,397	-11,325	**78.0%**
Totals in Miles:	12.64	10.49	-2.14	
Getting closer to Anchor Institutions	8,709	12,909	4,200	**10.2%**
Totals in Miles:	1.65	2.44	0.80	
Avoiding of Future Construction	7,152	7,328	176	**8.4%**
Totals in Miles:	1.35	1.39	0.03	
Avoiding Wetlands Areas	6,826	7,871	1,045	**8.0%**
Totals in Miles:	1.29	1.49	0.20	
Avoiding Underground Utility Congestion	7,575	6,087	-1,488	**8.9%**
Totals in Miles:	1.43	1.15	-0.28	
Consolidation & Using Existing Infrastructure	5,571	2,631	-2,940	**6.5%**
Totals in Miles:	1.06	0.50	-0.56	
Correcting Original EA Mapping Errors	4,467	6,010	1,543	**5.2%**
miles	0.85	1.14	0.29	

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Understanding UC2B's 16 Proposed Backbone Fiber Route Changes.

1. How many total miles are involved based on the original project?

There are a total of 16.19 original route miles of middle mile conduits involved in these proposed changes and they fall into two broad categories:

The first are 11 "permanent" route changes that we absolutely want and need to make – because they are either based on a) easement issues, b) allowing us to get closer to Anchor Institutions - including a major new medical facility that was announced after our first EA maps were submitted, c) avoiding future planned construction, d) avoiding a wetlands area, e) avoiding existing underground utility congestion, f) consolidation of routes and utilizing existing infrastructure, g) correcting errors on the first Environmental Assessment maps we submitted or h) some combination of these seven reasons. There are 7.14 route miles of original backbone conduits that fall into this category.

The second category includes 5 conditional "back-up" routes that do not require any private easements for access to rights-of-way. For our construction bid documents, we will include each of these five "back-up" routes in the main bid-package and then include an alternate route (which is actually our originally planned route that has already been approved in our original Environmental Assessment) for each of them. The alternate routes each require the successful negotiation of private easements for access to rights-of-way, which will take several months to secure. In the meanwhile we want to get started with the bulk of our middle-mile construction. There are at total of 9.05 route miles of original backbone conduits in these 5 areas.

2. Are all these miles specific to the middle-mile?

All of the 16 proposed changes are specific to the Middle Mile portion of our project, and all are totally contained within our originally proposed middle-mile service area.

3. How many of these paths and miles are specific to:

(Note: some changes have multiple reasons behind them, so the percentage shown total more than 100%)

Easement Issues:

Easement issues necessitate 10 of the 16 proposed route changes. They comprise a total of 12.64 original route miles – 78.0% of all proposed route change miles.

Getting closer to Anchor Institutions:
Getting closer to Anchor Institutions necessitates 2 of the 16 proposed route changes. It comprises a total of 1.65 original route miles – 10.2% of all proposed route change miles.

Avoidance of future Construction:
Avoiding future construction necessitates 2 of the 16 proposed route changes. They comprise a total of 1.35 original route miles – 8.4% of all proposed route change miles.

Avoidance of Wetlands Areas:
Avoiding wetlands areas necessitates 1 of the 16 proposed route changes. It comprises a total of 1.29 original route miles – 8.0% of all proposed route change miles.

Avoidance of Underground Utility Congestion:
Avoiding underground utility congestion necessitates 2 of the 16 proposed route changes. They comprise a total of 1.43 original route miles – 8.9% of all proposed route change miles.

Consolidation and Using Existing Infrastructure:
Consolidation and using existing infrastructure necessitates 1 of the 16 proposed route changes. It comprises a total of 1.06 original route miles – 6.5% of all proposed route change miles.

Correcting Previous Mapping Errors:
Correcting previous mapping errors necessitates 3 of the 16 proposed route changes. It comprises a total of 0.85 original route miles – 5.2% of all proposed route change miles.

4. To better digest the myriad of changes, please include a table that shows each path, number of original miles, number of new miles, and reasons for change.
A table with summary statistics is attached that provides these details.

5. Please provide further details regarding the basis for your view regarding the futures disruptions that could occur from future construction.

The original path for # 7 is now planned to become part of a golf course, which will require significant re-grading of the terrain. The existing roadway we had planned to use will be removed, and there is a good possibility that any UC2B underground infrastructure along that roadway would be damaged during the golf course construction. We have no need to have conduits or fiber in the middle of a golf course, and moving the route slightly to the north does not affect any aspect of the project. We could have just as easily picked this path to begin with.

The original path for #6 would have required a private easement through an open field and would have would also be in an area that may be developed. Moving the conduits a little farther east to the right-of-way on First Street will be a minimal expense, and will avoid both the easement and the future construction issues.

6. Please provide further details regarding the specific challenges you are facing that could lengthen the negotiation process for easement obtainment.

Our issues with negotiating private easements are all time based. Neither the City of Urbana nor the City of Champaign are willing to go out for construction bids until a base bid package is complete with all easements and permits received. We should be in good shape on the permits, but because of a very formal process that is required by both Illinois state law and Federal policies to acquire private easements, they could take several additional months, and there is no guarantee that all the private property owners will ever agree to an easement. There is nothing that forces them to allow an easement.

The five "conditional" routes allow us to proceed with construction bidding this month, and continue to work on the assessments and easement negotiations in parallel with the hiring of our contractors. While there is nothing certain about these five "conditional" routes, my gut feeling is that we will be able to obtain the easements we need to build the original paths for routes #2, #4, #5, and #9; where we only need a couple of private easements for each path. Building the original path for #10 will require dozens of private easements, so statistically that is less likely to happen.

7. What impact will these changes have on the last-mile network?
There is no direct impact on our last-mile network in any of these proposed middle-mile route changes.

8. Why did you not include the laterals in the original EA? The laterals for our Anchor Institutions had not yet been designed in detail when we submitted our original Environmental Assessment. We could not hire our fiber-engineering firm until after the EA was completed and we received our FONSI. That engineering firm is doing the detailed design work for the laterals.

9. Please include a higher-level map of your PFSA, and the locations of these changes.
The revised EA maps will now include a blue shade area, which indicates our originally proposed Middle-Mile Service Area. All of the revised routes are within the original Middle-Mile PFSA. This is easiest to see in map REA-2.

10. Are you asking for more laterals to serve CAI's beyond the original targeted 143?
We are only planning to build 137 laterals at this time. There are "additional" laterals shown on these maps and they are for "additional" Anchor Institutions that we hope to have enough money to build to in 2012 after consultation with, and permission from NTIA. Rather than go through yet a third EA process in 2012, we are asking for EA clearance for these "additional" sites now as part of this process. We will not build to any of the "additional" sites until after written permission has

been received from NTIA in 2012. Some of the "additional" sites are literally on a backbone fiber ring or on a lateral that is being built to one of the original sites, so the cost to extend fiber to them will be minimal, but we have agreed to not have those discussions with NTIA until after we have our first construction season under our belt, and everyone has a better sense of where we are in terms of our budget.

11. How much time do you estimate it will take to obtain SHPO concurrence and other relevant agency approvals?

We believe we will have SHPO and other agency approvals long before NTIA's staff will have time to consider our revised EA in June or July. There is nothing environmentally different about these 16 revised routes from the routes that have already been approved.

12. What was the targeted build-out date for these paths? What is the now the targeted date? Please include info in the aforementioned table.

The attached table has the construction season for each of these routes. The five "conditional" routes are all scheduled for 2012. The 11 "permanent" routes are all scheduled for the 2011 construction season.

Summary of Proposed Changes

The combined effect of these changes is modest. None of the 16 proposed backbone route changes would negatively impact our ability to serve our proposed CAIs or our Last-Mile project. Nor will any of the 16 proposed backbone route changes negatively impact any of the four areas of environmental concern (i.e. Protected Sites, Brownfields, Floodplains and Wetlands.) None of the 16 proposed backbone route changes will overlap any other federally funded project. All of the 16 proposed backbone route changes are totally within our original middle-mile proposed service area. In total, the 16 proposed backbone route changes would not significantly impact the project budget or the construction timetable.

Timeline Impact

Some project construction will necessarily be done in 2012. We intend to schedule the construction of the five conditional routes for 2012, thereby allowing almost another year to acquire the easements needed for the original routes. We are seeking consideration and approval of the easement-free alternative routes, however, as a way to manage project timelines and risks in the event that we are unable to secure the necessary easements for any of the original routes. The original routes have, of course, already been approved. This request is therefore a prudent mitigation strategy in order to preserve the project timeline.

Change in Miles, CAIs, and Budget

The proposed changes will not lead to any significant change in project miles. If we make all 16 of the route changes, our total route mileage actually goes down 1.4 miles. Our estimates all range very close to the original number of miles as some of the reroutes are slightly longer, some are shorter, and some reroutes incorporate route optimizations. The proposed reroutes will not remove any CAIs, although two additional CAIs are made more possible by the Christie Clinic Addition route - #4. The relatively small changes and reroutes will not significantly impact the overall budget of the project. All fiber construction methods will remain unchanged. All fiber cables will continue to be located below ground.

Impact to Project Benefits

The proposed route changes allow us to stay on schedule and on budget as well as allow for two additional CAIs, creating a modest positive impact. They will also allow for a more direct project design in several places. There are no negative impacts associated with the proposed changes. The overall project benefits, including services to underserved populations and CAIs, remain the same.

Description of Proposed Changes

Below are brief descriptions of each of the five "conditional" routes and the eleven "permanent" route improvements. The area numbers 1-16 (below) refer to the labeling on the attached (PDF) maps. The previously approved backbone routes are depicted in blue on those maps and new backbone routes are depicted in red. Wherever there is a blue line with a red line overlaid, no change is proposed. Wherever there is just a red line, it indicates a new route. Wherever there is a yellow line over a blue line, it indicates one of the five conditional paths that will require one or more private easements. Wherever there is just a blue line, that route is being dropped from the design.

Lateral Connections

The original maps submitted for the Environmental Assessment did not detail the lateral fiber builds needed to connect to CAIs. These maps do. Those lateral fiber connections are also all indicated in red. Since submitting our application in 2009, we have identified additional potential CAIs that in many cases are very near other CAI's or are located near the fiber backbone rings or original lateral fiber builds.

While we will not be building laterals to these "additional" locations at this time, these maps do indicate all of the lateral fiber builds necessary to connect them. Hopefully at some point in the future, if we obtain administrative and budgetary approval to add these additional locations, we will already have environmental approval to do so. The "additional" CAI locations are included on some of the maps.

The Attached Maps

This document includes 23 PDF maps. The Fiber-to-the Premise (FTTP) areas are shaded yellow, while the entire Middle-Mile Proposed Funded Service Area is shaded blue (and includes all the yellow FTTP areas.) In the letter-sized scale in which these maps have been designed (as requested by NTIA) the overall map of the entire Middle-Mile service area (REA-1) is very busy, making it hard to "read" when the individual CAI locations are included.

Map REA-2 is the same as REA-1, but it removes the CAI sites, which makes it easier to see the backbone routes and the laterals to the Community Anchor Institutions.

Map REA-3 is the same as REA-2, but also indicates the 16 reroute areas, where new backbone routes are proposed or old ones are being eliminated.

Map REA-4 is also the same as REA-3, but it also indicates all four environmental layers on the one map.

Map REA-5 is the same as REA-3, but also indicates just the “Protected Sites”.

Map REA-6 is the same as REA-3, but also indicates just the “Brownfield Sites”.

Map REA-7 is the same as REA-3, but also indicates just the “Floodplains”.

Map REA-8 is the same as REA-3, but also indicates just the “Wetlands”.

Maps REA-9 through REA-23 are individual enlargements of just the new reroute areas and include Anchor Institution sites as well as all four environmental layers. There are two new route areas shown on map REA-22.

We believe these last 15 detailed maps make it very easy to see that none of the proposed new routes have any impact on any of the possible environmental concerns.

Descriptions of Reroute areas

Area #1 – The Centennial High School correction

This reroute corrects a problem with the original design. The original design would have built a fiber pathway through an athletic field and a high school building (#44). This correction moves the pathway to the nearest public right-of-way on John Street and actually moves the ring closer to a Champaign Fire Station (#25) and a Champaign Park District facility (#81). There was also a mapping error on the originally submitted maps, with the north-south pathway by the high school shown on Hollycrest instead of Crescent, where it was always intended to be. That too has been corrected.

The original total path was 1,735 feet, while the corrected total path is 1,681 feet. There will be a small decrease in costs associated with this new route. There should be no significant difference in the amount of time needed to build either path. No CAIs will be dropped if we correct these pathways, and this reroute will not overlap any other federally funded project.

Area #2 - The Mullikin Drive shortcut

We would much prefer to go west all the way to Rising Road on both Kirby Avenue and Windsor Road (as contemplated in the original project design). Nonetheless, we would like to secure approval for the easement-free alternate route to allow the project to remain on schedule in the event that we are unable to secure the necessary easements. There is a Sanitary District plant on the southeast corner of Rising Road and Windsor Road (S2) that is one of our core sites, and this is a growing area of the community. The 6,065-foot easement-free path down Mullikin Drive is shorter than the original 12,209-foot path, but Mullikin is a high-end residential street that is anything but straight.

The cost of restoration and moving the boring equipment a lot to deal with the curves in the street could well outweigh the fact that the route itself is 6,144 feet shorter. If we take Mullikin Drive, the lateral fiber we will need to build back to the Sanitary District plant will be much longer. From an environmental perspective, the ground along Mullikin Drive is far more disturbed than the ground on Kirby Avenue, Rising Road and Windsor Road; which were all previously approved. We do not see any environmental issues should we fail to get the private easements and need to build on Mullikin. We estimate that the revised route would take 6 fewer days to construct. No CAIs will be dropped if we take the Mullikin Drive path, and this easement-free reroute will not overlap any other federally funded project.

Area #3 – The Christie Clinic Addition

This proposed route change is the result of one of our major medical organizations – Christie Clinic – announcing that it will be building a regional clinic at the northeast corner of Staley and Curtis Roads (#509). Moving the route south by one mile before crossing the Interstate will result in a net increase of about one mile of backbone duct and conduit, but it will put the new Christie facility close to the ring for redundancy purposes. This reroute also makes it easier to consider connecting the church on the southwest corner of Staley and Curtis (#337) as an "additional" CAI in 2012, as discussed earlier.

This reroute will also bring the ring fiber closer to the new Interstate 57 exchange with Curtis. That area is targeted for commercial growth and as a result of this reroute, we will be well positioned to provide services to the area in the future, which will help the sustainability of our project. There should be a 5-day increase in the amount of time needed to build the longer path, but this will not impact project feasibility. Two additional CAIs can more easily be added due to this reroute and none will be dropped. This reroute will not overlap any other federally funded project.

Area #4 – The Cherry Hills Drive shortcut

This is an identical situation to #2. If we cannot acquire easements to build on Duncan Road, we will take a bypass through a residential area primarily on Cherry Hills Drive. The original path is 3,634 feet long. The easement-free path is 3,732 feet long. The approved original path is a straight rural road, while the easement-free path goes through a fairly new subdivision on a winding road. We do not see any environmental issues should we fail to get the private easements and need to build the easement-free pathway on Cherry Hills Drive. There should be no significant difference in the amount of time needed to build either path. No CAIs will be dropped if we take the easement-free Cherry Hills Drive path, and this reroute will not overlap any other federally funded project.

Area #5 – The Curtis Road/Prospect Avenue option

These two options are identical in length and the type of roads involved. They are each two miles long and cover similar routes; however, the original route on Mattis Avenue and Old Church requires easements, while the Curtis Road and Prospect Avenue route does not. There will be new subdivisions and commercial areas developed along Mattis, so the original route would be better positioned to meet those future needs and improve our sustainability. Nonetheless, we do not see any environmental issues should we fail to get the private easements and need to build on Curtis Road instead of Old Church Road. There should be no significant difference in the amount of time needed to build either path. No CAIs will be dropped if we take this easement-free route, and this reroute will not overlap any other federally funded project.

Area #6 – Moving the path to First Street

The previously approved path cut through some private property en route to UIUC Node 8. On closer inspection, the private property is not an ideal location for the conduit and fiber. That area may be developed in the future, putting the infrastructure in peril, or requiring a costly move. The new route simply extends the path along Windsor Road east all the way to First Street before heading north in the First Street right-of-way. The original pathway was 1,964 feet, while the rerouted pathway is 2,144 feet. There should be no significant difference in the amount of time needed to build either path. No CAIs will be dropped if we take the improved path, and this reroute will not overlap any other federally funded project.

Area #7 – The St. Mary's Road reroute

The originally approved path goes through an agricultural area that is now slated to become a golf course. By moving the east-west path a quarter mile north to St. Mary's Road, we avoid the future golf course construction and the possibility of damage to the fiber cables. The length of the original path and the reroute are identical, so this should have no impact on either the construction schedule or project costs. No CAIs will be dropped if we take the improved path, and this reroute will not overlap any other federally funded project.

Area #8 – The Vine Street alternative

We discovered some potentially problematic underground utilities while walking the originally approved pathway through downtown Urbana. We also found a way to take better advantage of some existing fiber infrastructure. The reroute path follows less congested rights-of-way, while still connecting to all of the same CAIs. The original path was 2,587 feet long; the rerouted path is 2,631 feet long. There should be no significant difference in the amount of time needed to build either path. No CAIs will be dropped if we take the improved path, and this reroute will not overlap any other federally funded project.

Area #9 – The Washington Street bypass

Should we not be able to acquire the private easements on Washington Street, this alternate path takes a winding course through a residential subdivision to bypass the easement-challenged area. The original path is 2,019 feet long, while the easement-free path is 5,107 feet long. As with #2 and #4, the easement-free path is less straight and in a residential area so it is more expensive area to restore than a rural road. The easement-free path will be more expensive to build, for it is longer and on less straight streets. The pathways on High Cross Road and Washington Street already have been approved and, if anything, the ground on the easement-free pathway is already more disturbed than the previously approved path. We do not see any environmental issues should we fail to get the private easements needed to build on Washington Street. There should be no significant difference in the amount of time needed to build either path. No CAIs will be dropped if we take the easement-free path, and this reroute will not overlap any other federally funded project.

Area #10 – The I-74 bypass

There are a number of private easements that will be required on Airport Road and High Cross Road that could make this reroute a necessary option. We have worked closely with the Illinois Department of Transportation to secure permission to install duct on the north side of I-74 from Cunningham Avenue to High Cross Road in the controlled-access portion of the Interstate-74 right-of-way. We will be providing ring fiber to IDOT for their Intelligent Traffic System in our area. The original path was 19,358 feet, while the easement–free path is 12,445 feet. As with the previous four easement-free paths, we would prefer to build the original path, as it has greater long-term economic development potential. The original path also gets us much closer to the proposed location of a future Urbana Fire Station (#188)

Nonetheless, the easement-free Interstate path should take less time to construct because it is shorter, even with the complications of working in the controlled-access highway area. No CAIs will be dropped if we take the easement-free path. We will need to build on at least a small section of I-74 to connect to CAIs #19, #36 and #208, even with the original path. This reroute will not overlap any other federally funded project.

Area #11 – The Lincoln Avenue bypass

We identified this reroute after walking the proposed routes and finding a less complicated way of putting a backbone ring into this area. The original route would have run adjacent to a road that separated a wetlands area from a cemetery. The reroute moves the conduit far away from both. We also have since discovered that the original roadway traverses private property and would have required a private easement.

So rather than going east on Bradley Avenue/Country Club Road, we are now going straight south on Lincoln Avenue, all the way to University Avenue. This actually gets a ring closer to an Urbana Fire Station (#27), which is good for redundancy. The original route was 6,826 feet, while the reroute is 7,871 feet. There should be no significant difference in the amount of time needed to build the new path. No CAIs will be dropped if we take the improved Lincoln Avenue path, and this reroute will not overlap any other federally funded project.

Area #12 – North Fourth Street reroute

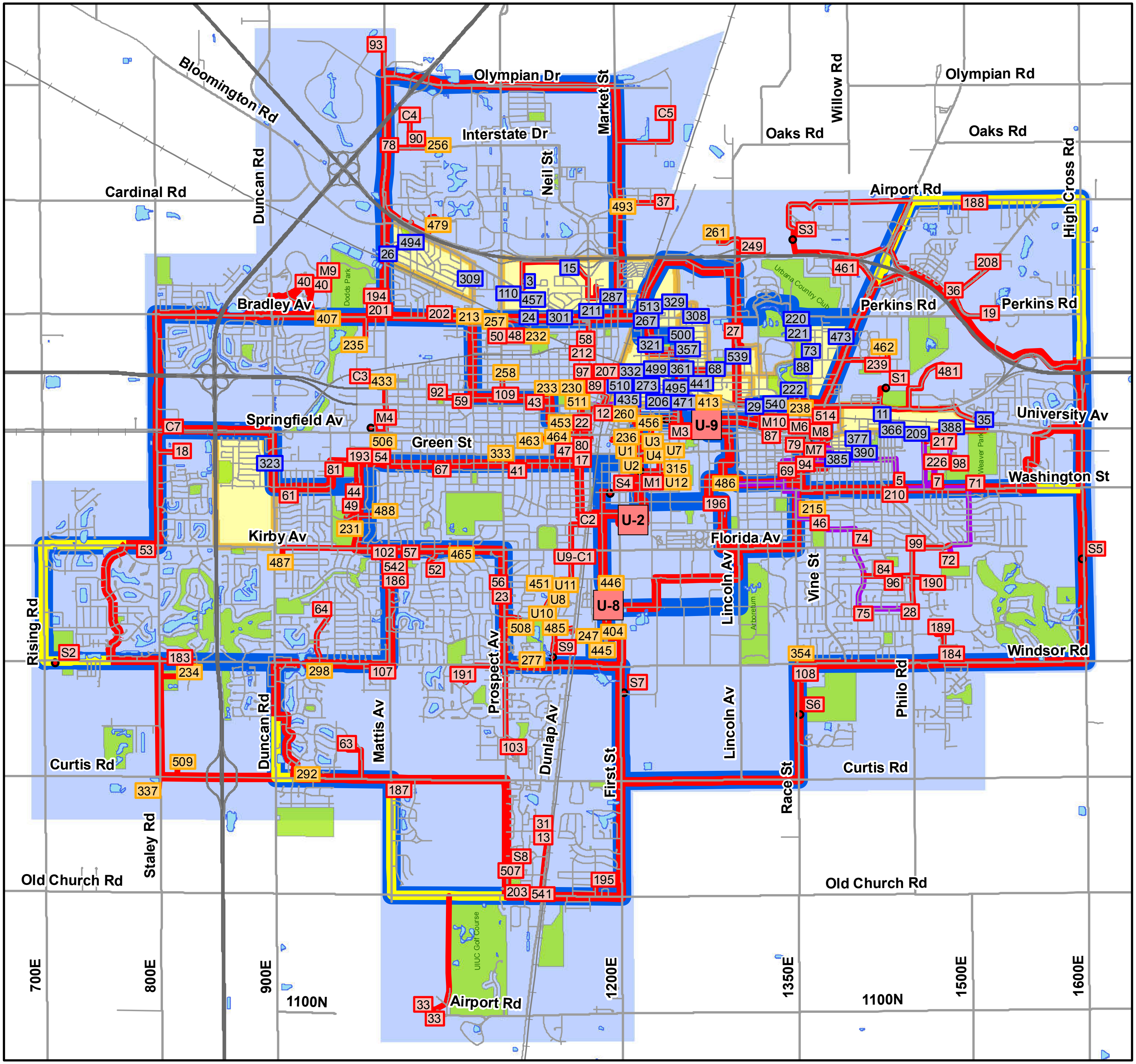
This avoids the need for a private easement through Park District property. It also locates the backbone ring closer to several CAI's, which is good for redundancy purposes. The revised route is 1,093 feet shorter than the original route. There should be no significant difference in the amount of time needed to build the new path. No CAIs will be dropped if we take the Grove Street path, and this reroute will not overlap any other federally funded project.

Area #13 – The Stoughton Street correction
This is more of a mapping correction than a path change. We had always planned to have the conduits leaving UIUC Node 9 proceed west on Stoughton Street. On our original map they were drawn slightly north of that. There should be no significant difference in cost or the amount of time needed to build the corrected path. No CAIs will be dropped if we take the Stoughton Street path, and this reroute will not overlap any other federally funded project.

Area #14 – The John Street correction
We had originally proposed to cross the railroad tracks at John Street. Closer inspection revealed a lot of underground congestion there as well as a need for private easements, so the fiber paths were re-routed to cross the railroad tracks farther south at Hessel Boulevard/Stadium Drive. The original route was 4,988 feet, while the re-route is 3,456 feet. There should be a slight decrease in the time needed to build the new path. No CAIs will be dropped if we take the Hessel Boulevard/Stadium Drive path, and this reroute will not overlap any other federally funded project.

Area #15 – Peabody Drive correction
This is also more of a mapping correction than it is a path change. We had always planned to have the conduits leaving UIUC Node 2 on Peabody Drive. On our original map, they were drawn slightly north of that on Stadium Drive. The adjacent north segment on Third Street has also been relocated one block east to Euclid Street, completely in the right-of-way. While the corrected route is 1,227 feet longer than the original, there should be no significant difference in cost or the amount of time needed to build the corrected path. No CAIs will be dropped if we take the Stoughton Street path, and this reroute will not overlap any other federally funded project.

Area # 16 – Elimination of the Gregory Drive route
By re-thinking how we redundantly connect our two core network nodes to each other, we were able to totally eliminate this 2,984 feet of duct and fiber. This change had been missed in previous narratives, as there was no new route replacing it. It is included here as a separate item for completeness purposes.



UC2B

REA-1

5/10/11

- 🟥 U-2 UC2B node
- 🟨 Last Mile FTTP Funded Service Area (labeled as Census Block Group)
- 🟦 Middle Mile Funded Service Area
- 🟦 Backbone Conduit - ORIGINAL ROUTE
- 🟨 Backbone Conduit - easement required (included in AMENDED ROUTE)
- 🟥 Backbone Conduit - AMENDED ROUTE
- 🟥 Proposed lateral
- 🟪 Existing municipal conduit
- 🟥 Original Anchor Institution or IRU customer (Outside of FTTP PFSA)
- 🟧 Additional Anchor Institution (Outside of FTTP PFSA)
- 🟦 FTTP grant-funded Anchor Institution or IRU customer
- 🟦 Water
- 🟩 Park / Open Space / Golf Course

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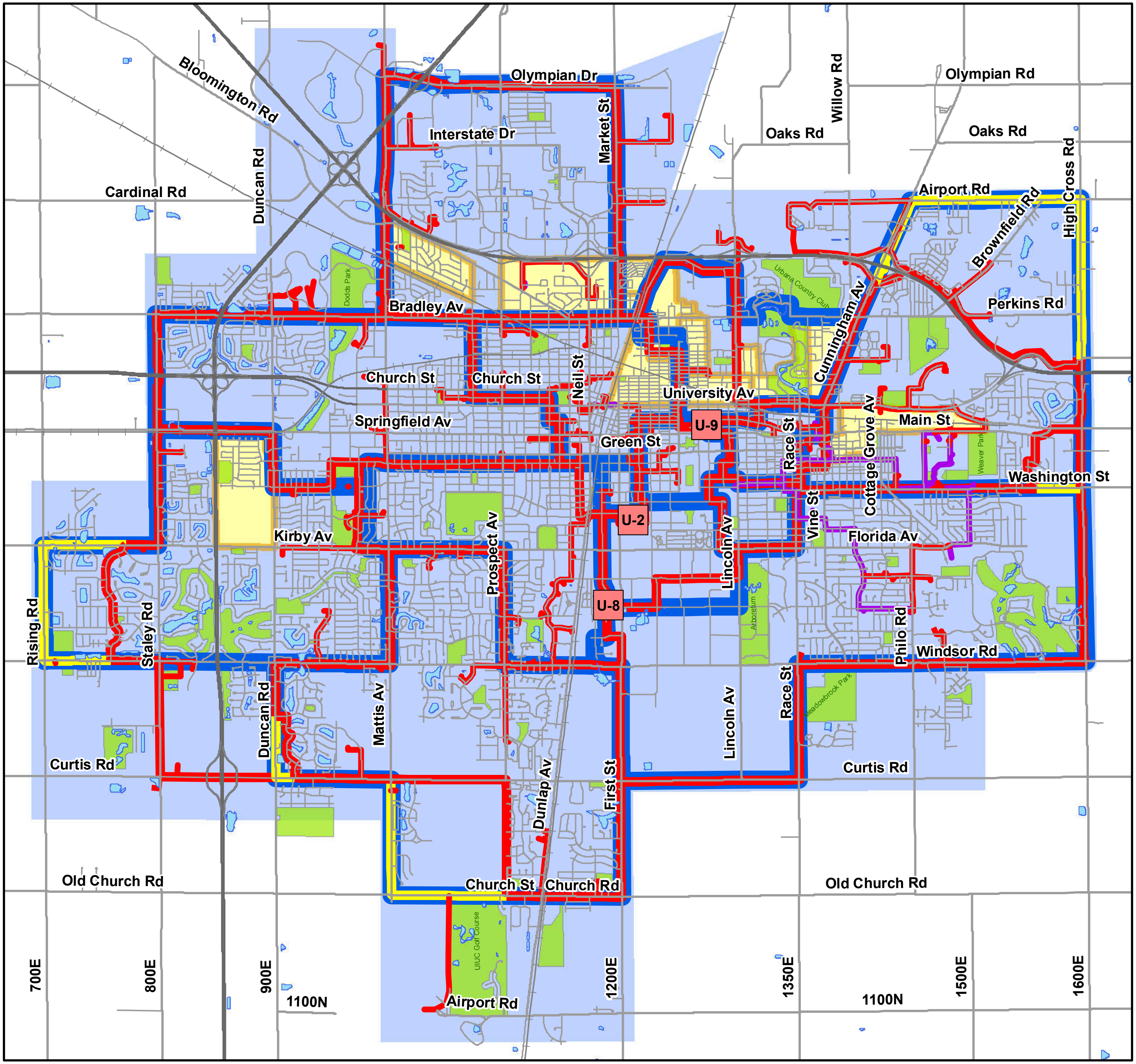

UC2B

REA-2

5/10/11

- U-2 UC2B node
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- 🟦 Middle Mile Funded Service Area
- 🟦 Backbone Conduit - ORIGINAL ROUTE
- Backbone Conduit - easement required (included in AMENDED ROUTE)
- 🟥 Backbone Conduit - AMENDED ROUTE
- Proposed lateral
- Existing municipal conduit
- Water
- 🟩 Park / Open Space / Golf Course

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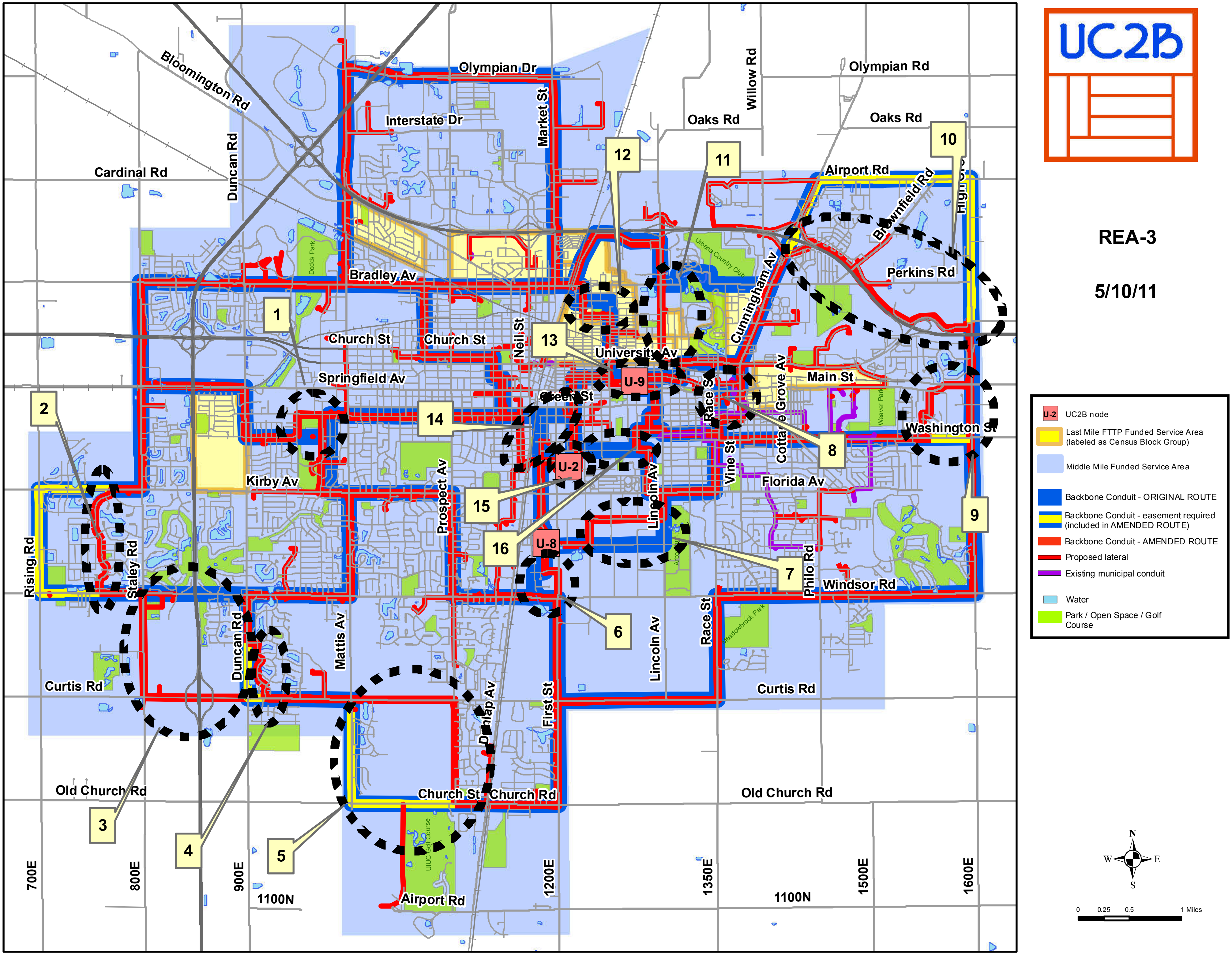
UC2B

REA-3

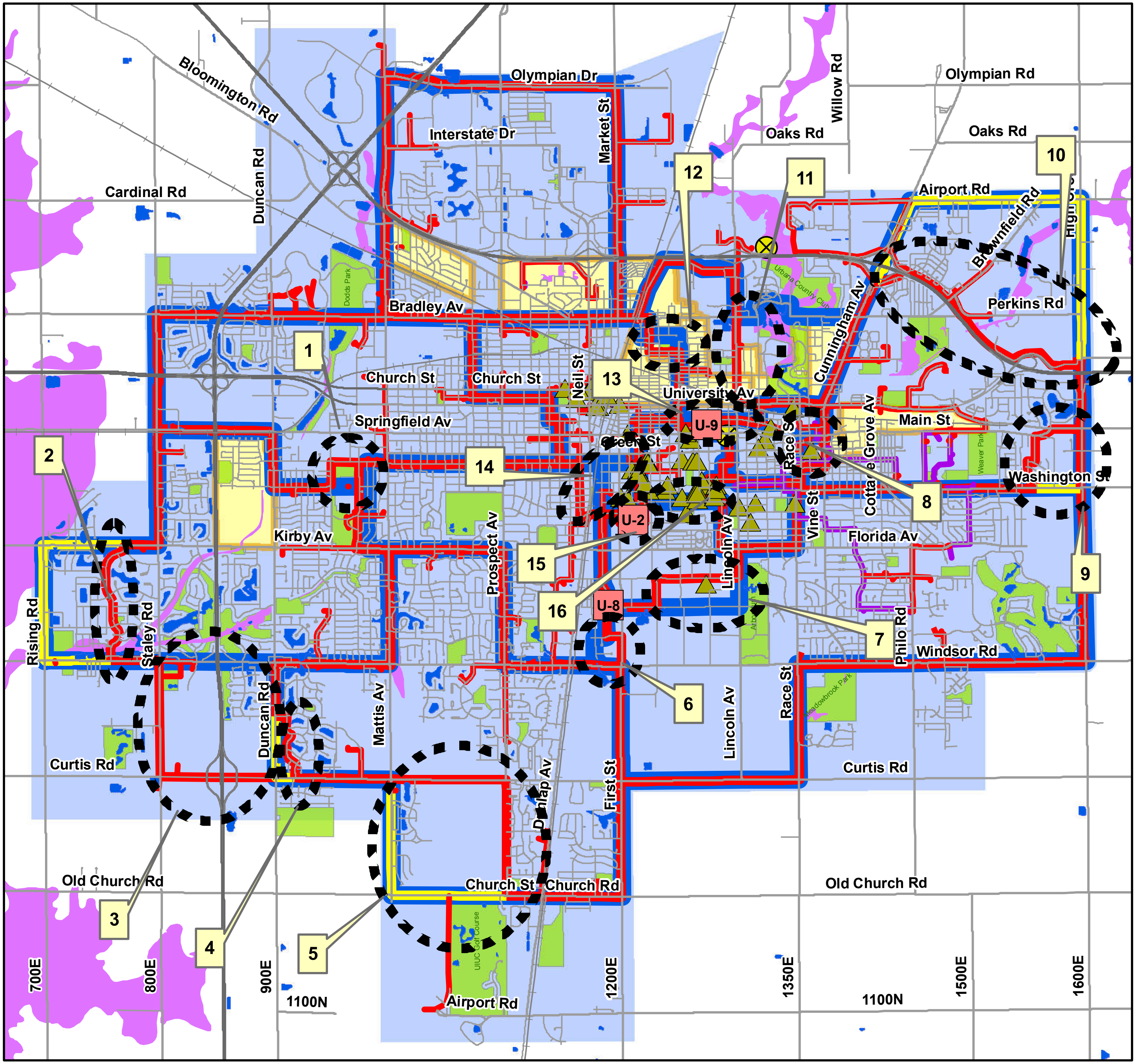
5/10/11



UC2B

REA-4 Environmental Resources

5/10/11



- 🟥 U-2 UC2B node
- 🟨 Last Mile FTTP Funded Service Area (labeled as Census Block Group)
- 🟦 Middle Mile Funded Service Area
- 🟦 Backbone Conduit - ORIGINAL ROUTE
- 🟨 Backbone Conduit - easement required (included in AMENDED ROUTE)
- 🟥 Backbone Conduit - AMENDED ROUTE
- 🟥 Proposed lateral
- 🟪 Existing municipal conduit
- ▲ Historic site
- ⊗ Brownfield site
- 🟪 100 Year Floodplain
- 🟦 Wetland
- 🟩 Park / Open Space / Golf Course

N W E S

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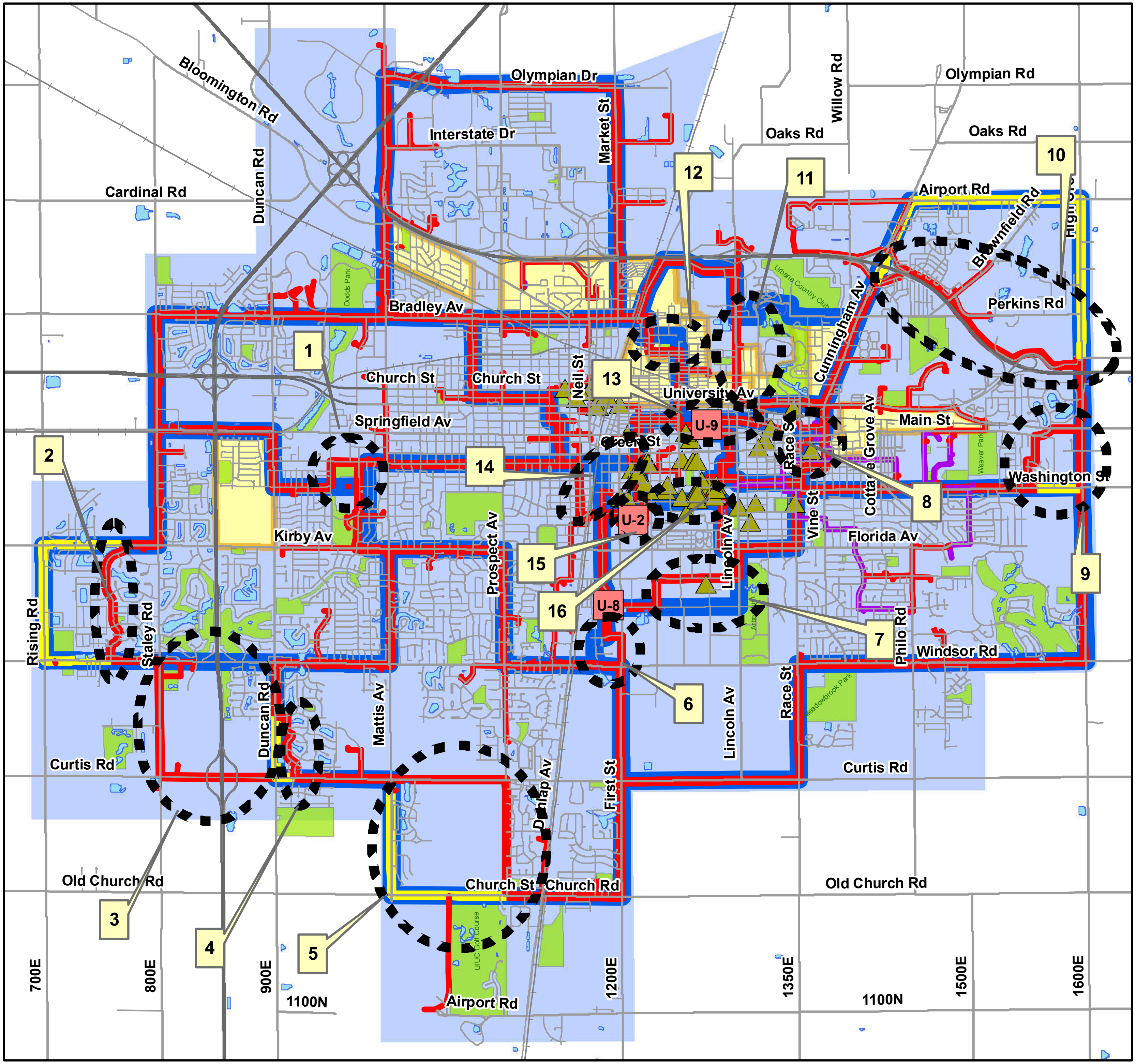
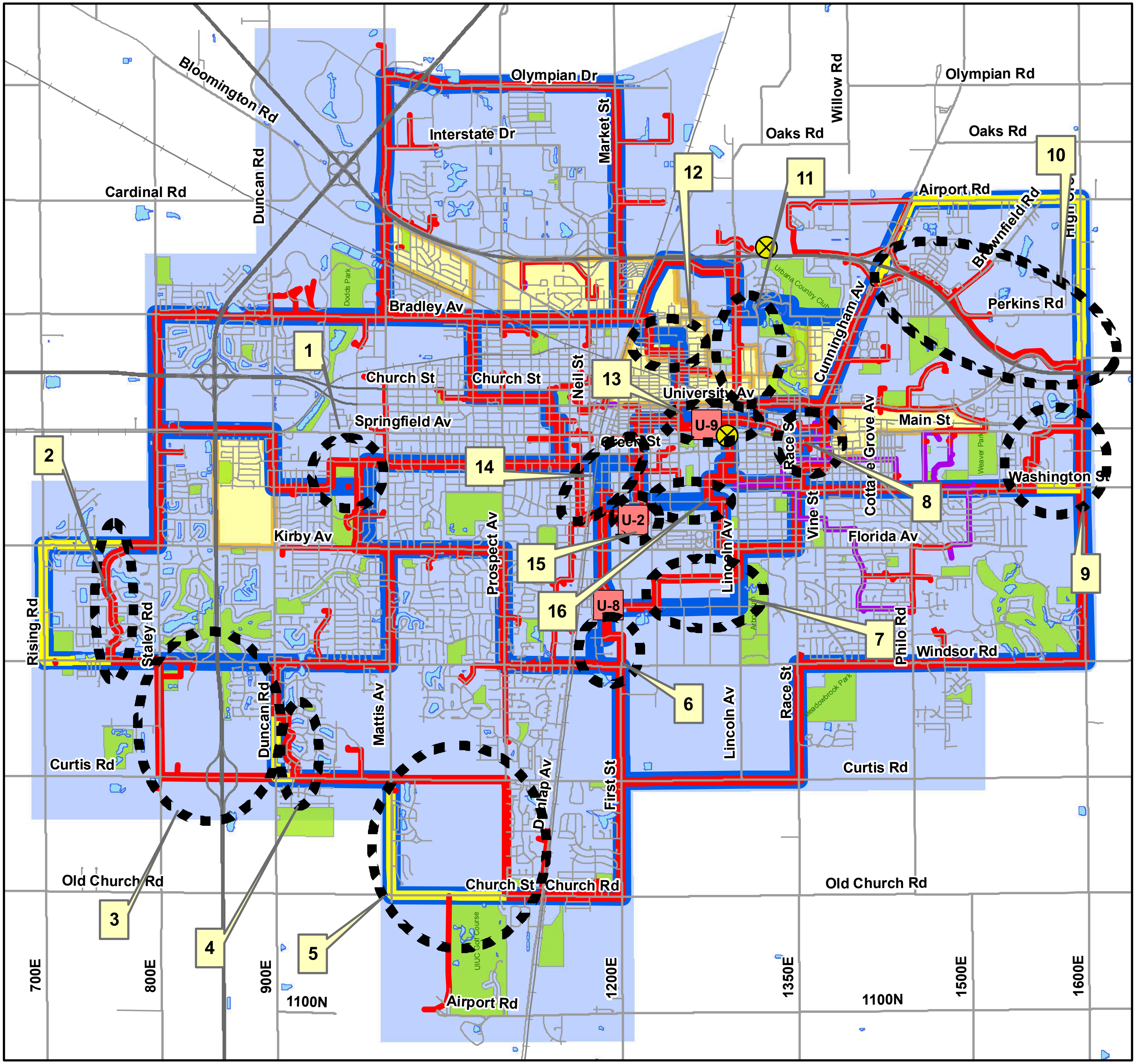


UC2B

REA-5
Protected Sites

5/10/11



REA-6
Brownfield Sites

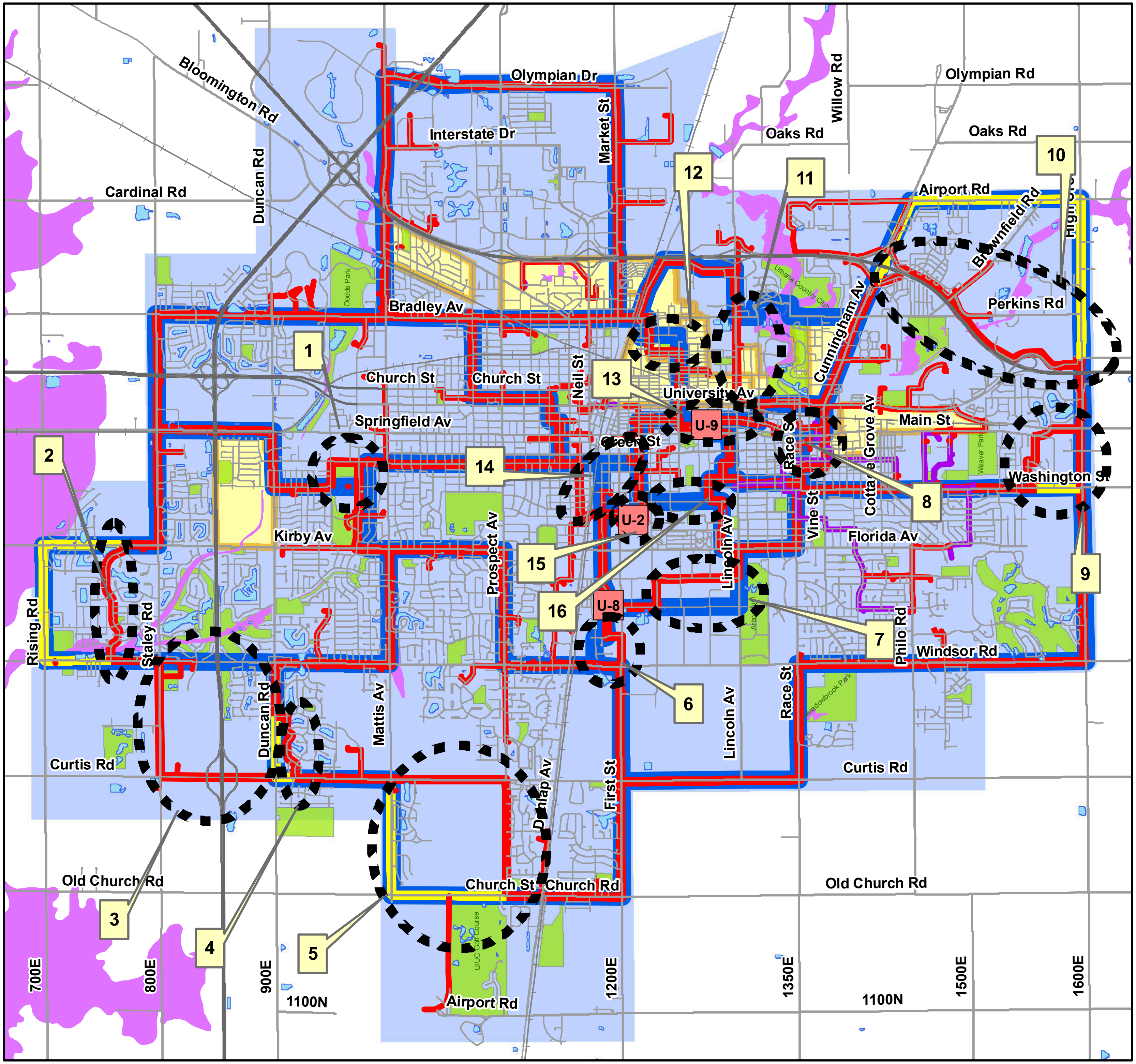
5/10/11

U-2	UC2B node
🟨	Last Mile FTTP Funded Service Area (labeled as Census Block Group)
🟦	Middle Mile Funded Service Area
🟦	Backbone Conduit - ORIGINAL ROUTE
🟨	Backbone Conduit - easement required (included in AMENDED ROUTE)
🟥	Backbone Conduit - AMENDED ROUTE
🟥	Proposed lateral
🟪	Existing municipal conduit
⊗	Brownfield site
🟦	Water
🟩	Park / Open Space / Golf Course

UC2B

REA-7 Floodplains

5/10/11



U-2 UC2B node

🟨 Last Mile FTTP Funded Service Area (labeled as Census Block Group)

🟦 Middle Mile Funded Service Area

🟦 Backbone Conduit - ORIGINAL ROUTE

🟨 Backbone Conduit - easement required (included in AMENDED ROUTE)

🟥 Backbone Conduit - AMENDED ROUTE

🟥 Proposed lateral

🟪 Existing municipal conduit

🟪 100 Year Floodplain

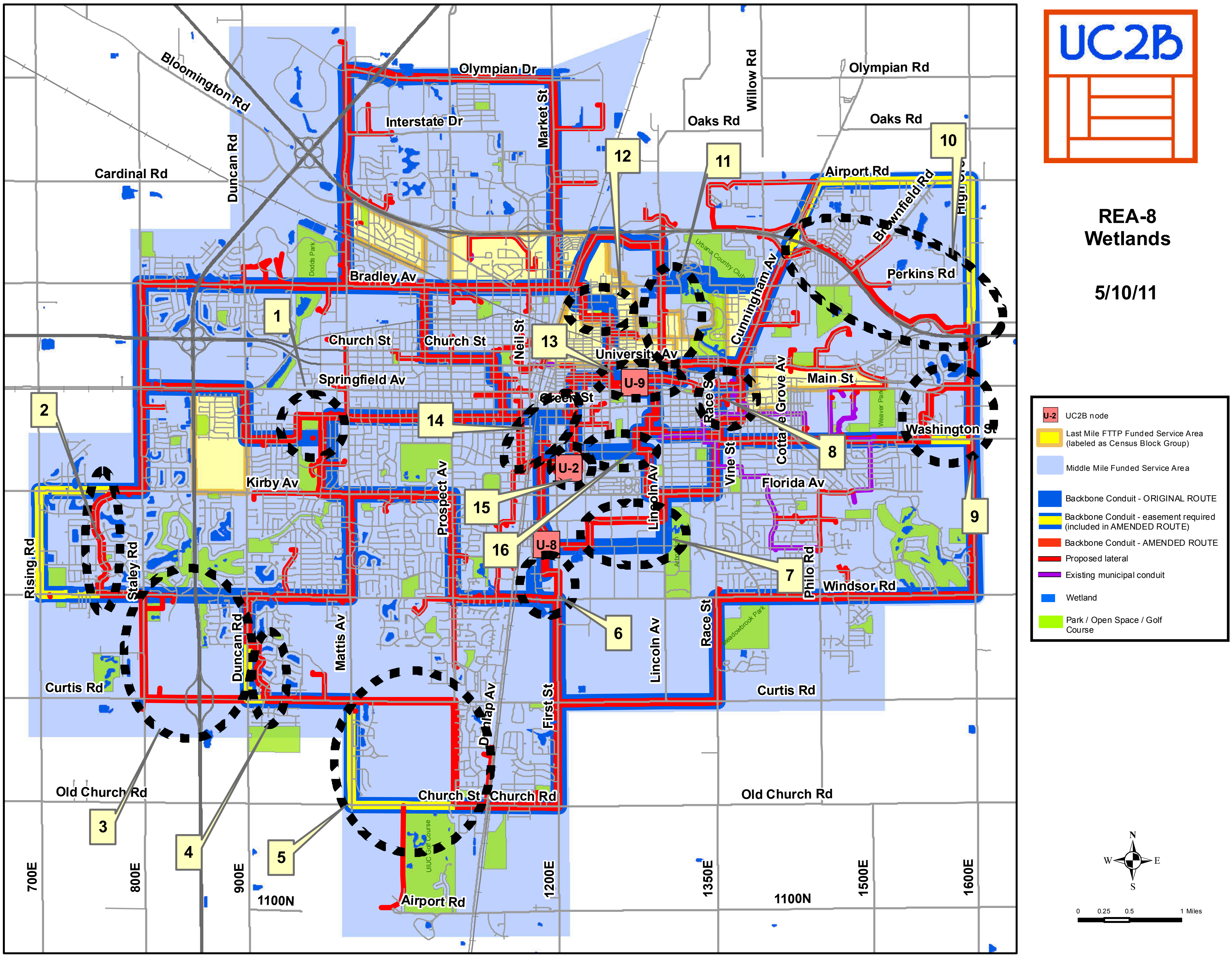
🟦 Water

🟩 Park / Open Space / Golf Course

UC2B

REA-8
Wetlands

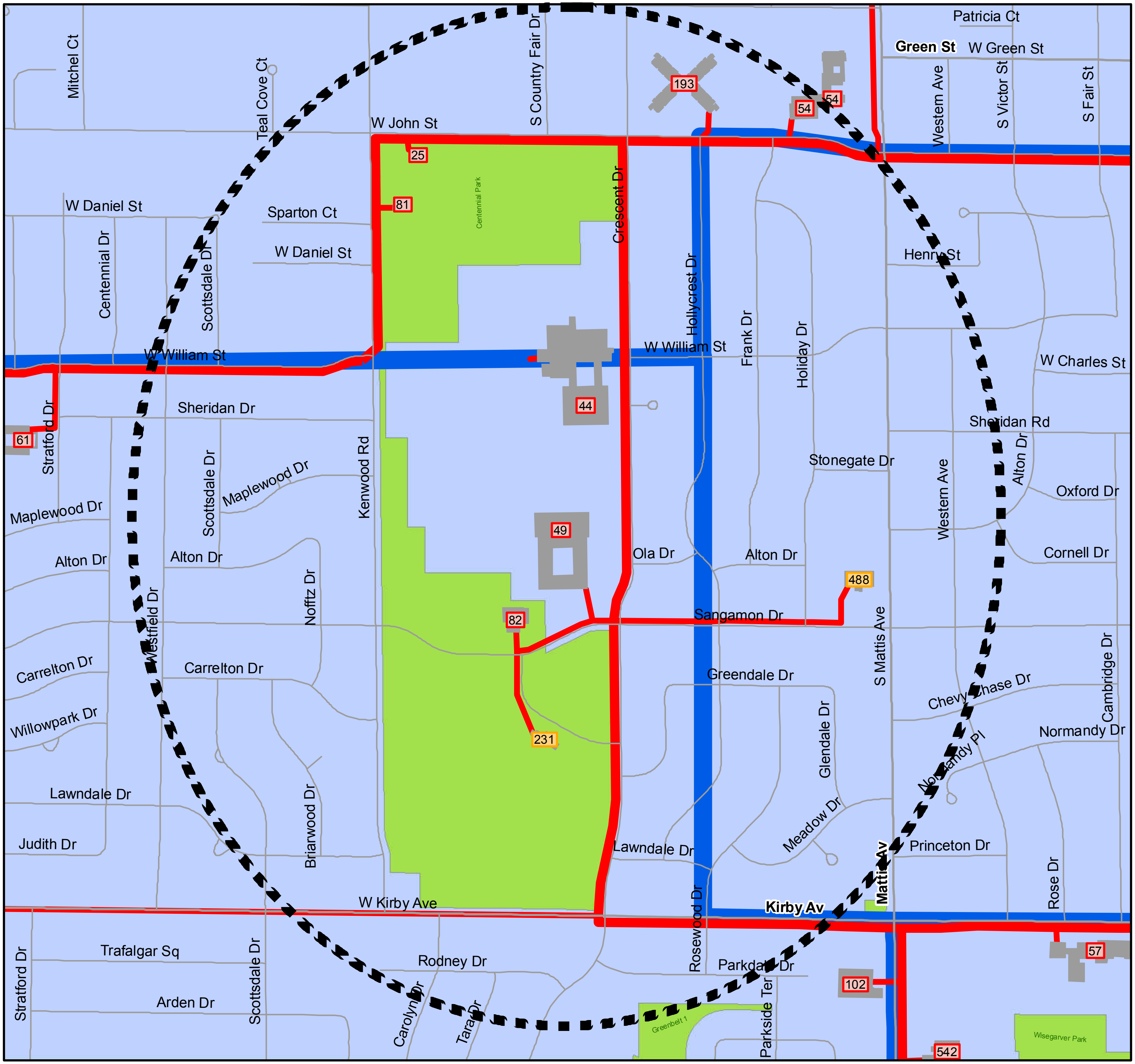
5/10/11



UC2B

REA-9
Revised Route
Area 1

5/10/11



🟥 U-2 UC2B node

🟨 Last Mile FTTP Funded Service Area (labeled as Census Block Group)

🟦 Middle Mile Funded Service Area

🟦 Backbone Conduit - ORIGINAL ROUTE

🟨 Backbone Conduit - easement required (included in AMENDED ROUTE)

🟥 Backbone Conduit - AMENDED ROUTE

🟥 Proposed lateral

🟪 Existing municipal conduit

🟥 Original Anchor Institution or IRU customer (Outside of FTTP PFSA)

🟧 Additional Anchor Institution (Outside of FTTP PFSA)

🟦 FTTP grant-funded Anchor Institution or IRU customer

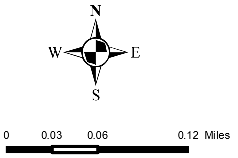
▲ Historic site

⊗ Brownfield site

🟪 100 Year Floodplain

🟦 Wetland

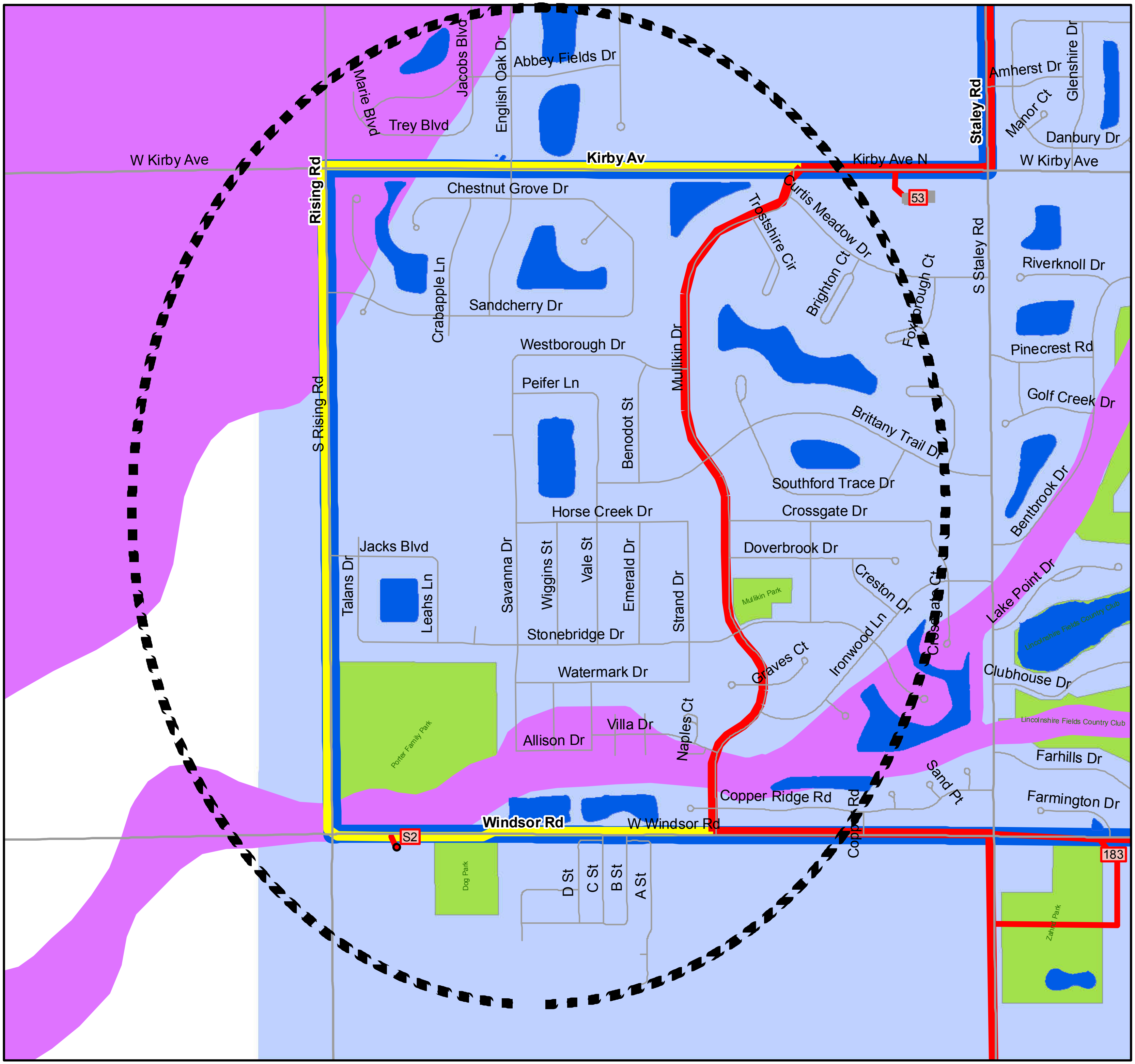
🟩 Park / Open Space / Golf Course



UC2B

REA-10
Revised Route
Area 2

5/10/11



🟥 U-2 UC2B node

🟨 Last Mile FTTP Funded Service Area (labeled as Census Block Group)

🟦 Middle Mile Funded Service Area

🟦 Backbone Conduit - ORIGINAL ROUTE

🟨 Backbone Conduit - easement required (included in AMENDED ROUTE)

🟥 Backbone Conduit - AMENDED ROUTE

🟥 Proposed lateral

🟪 Existing municipal conduit

🟥 Original Anchor Institution or IRU customer (Outside of FTTP PFSA)

🟧 Additional Anchor Institution (Outside of FTTP PFSA)

🟦 FTTP grant-funded Anchor Institution or IRU customer

▲ Historic site

⊗ Brownfield site

🟪 100 Year Floodplain

🟦 Wetland

🟩 Park / Open Space / Golf Course

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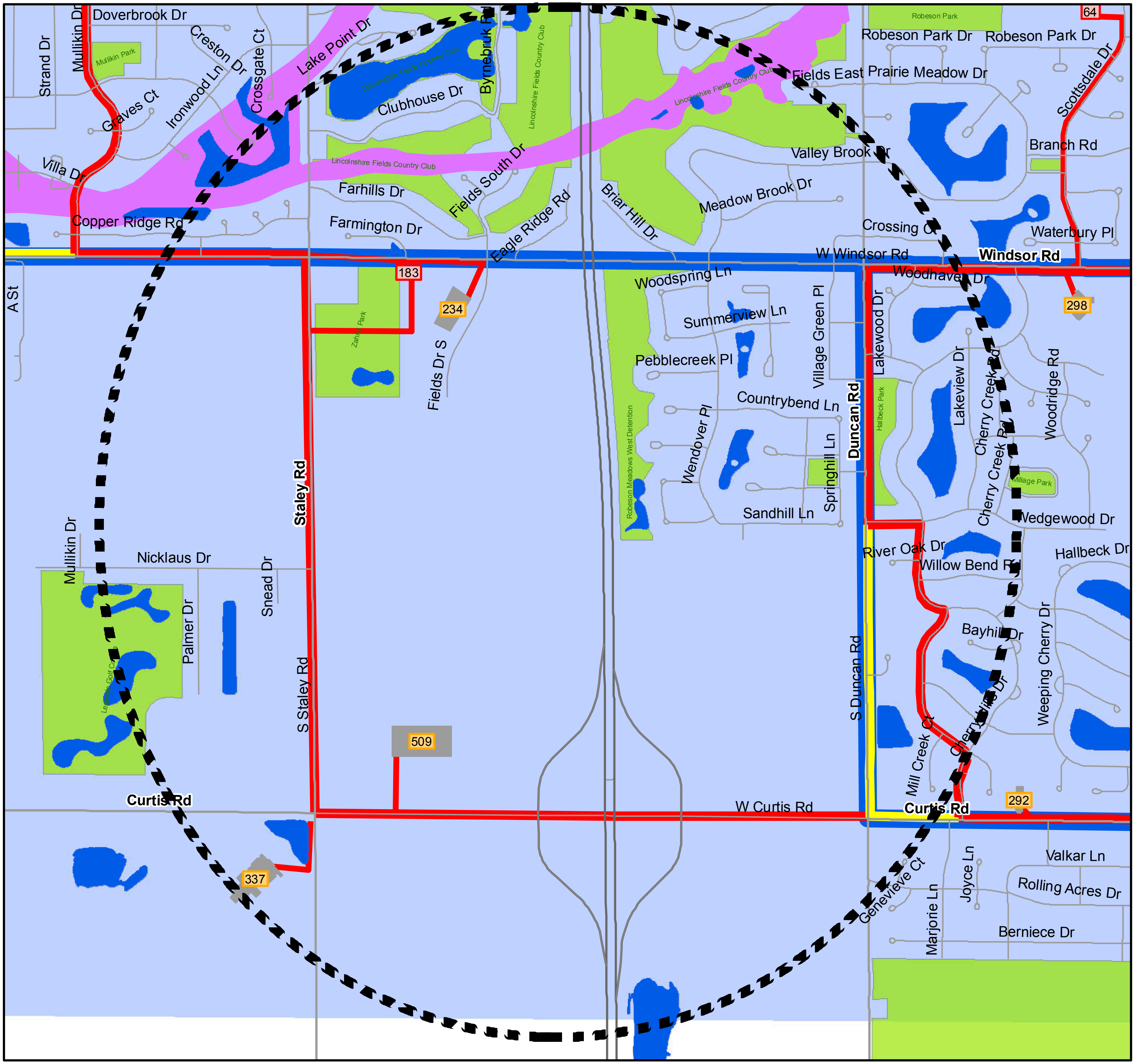

UC2B

REA-11
Revised Route
Area 3

5/10/11

- U-2 UC2B node
- 🟨 Last Mile FTTP Funded Service Area (labeled as Census Block Group)
- Middle Mile Funded Service Area
- 🟦 Backbone Conduit - ORIGINAL ROUTE
- Backbone Conduit - easement required (included in AMENDED ROUTE)
- 🟥 Backbone Conduit - AMENDED ROUTE
- Proposed lateral
- Existing municipal conduit
- Original Anchor Institution or IRU customer (Outside of FTTP PFSA)
- Additional Anchor Institution (Outside of FTTP PFSA)
- FTTP grant-funded Anchor Institution or IRU customer
- ▲ Historic site
- ⊗ Brownfield site
- 100 Year Floodplain
- Wetland
- 🟩 Park / Open Space / Golf Course

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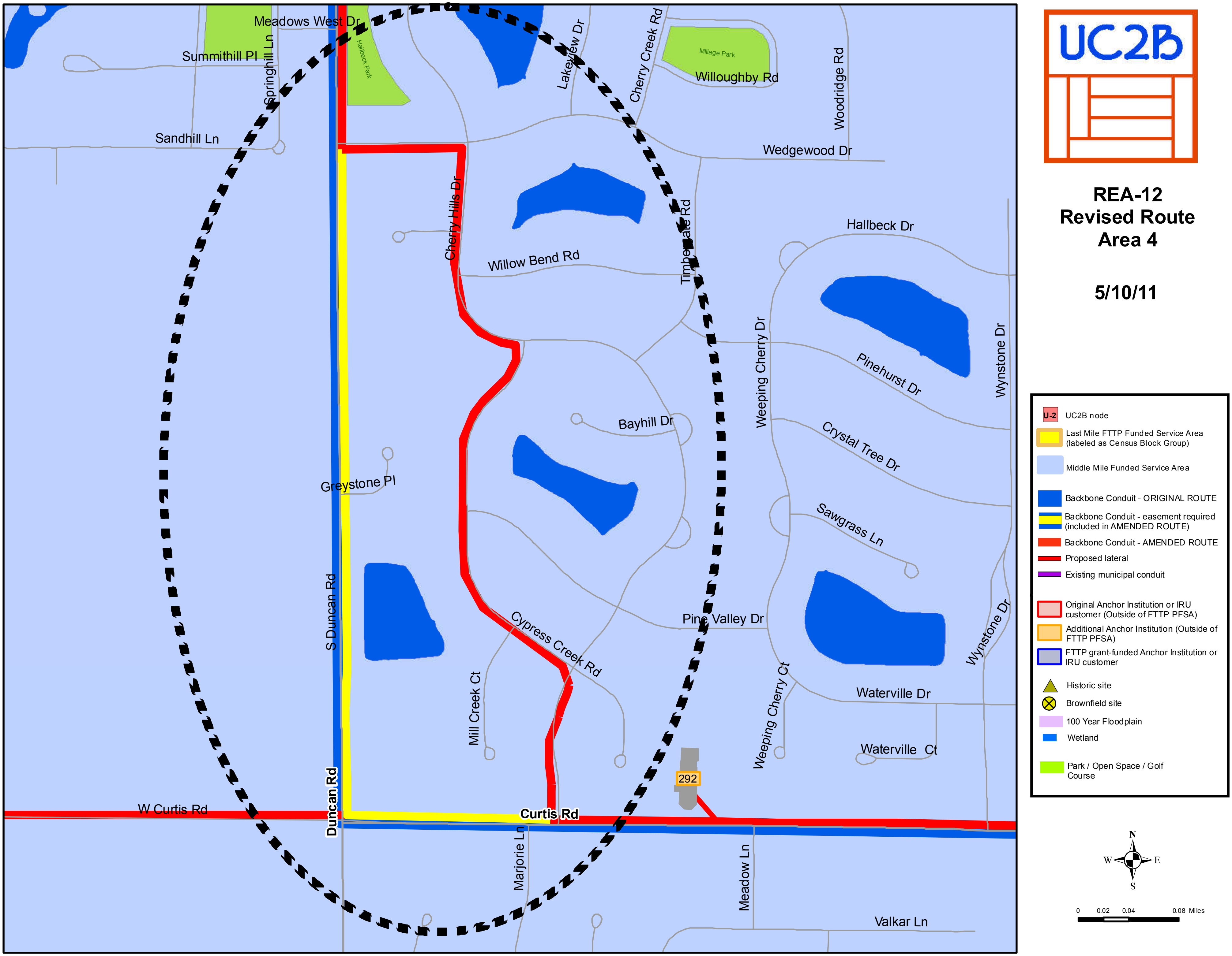
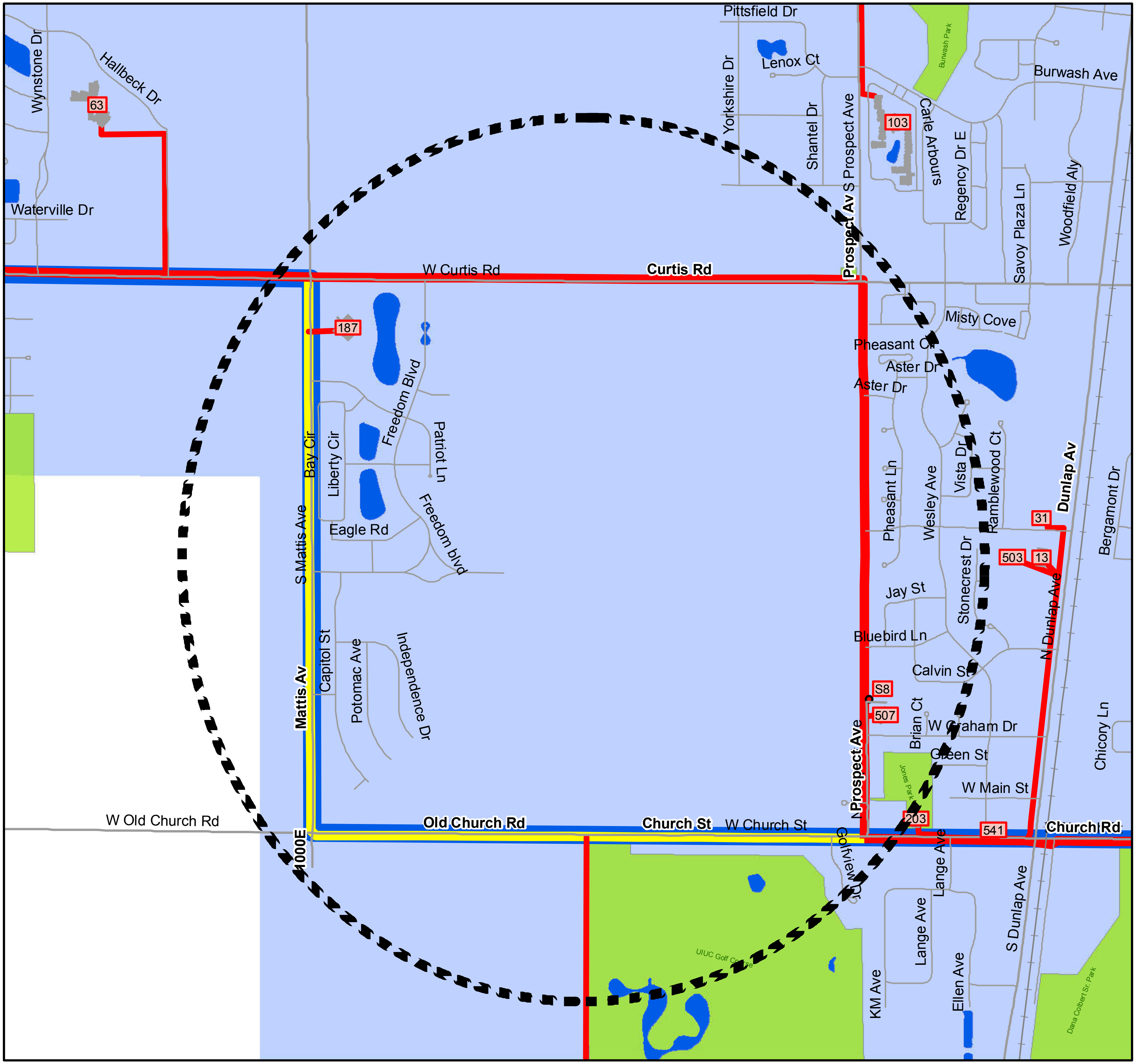
0 0.05 0.1 0.2 Miles

UC2B

REA-12
Revised Route
Area 4

5/10/11





UC2B

REA-13
Revised Route
Area 5

5/10/11

- U-2 UC2B node
- 🟨 Last Mile FTTP Funded Service Area (labeled as Census Block Group)
- 🟦 Middle Mile Funded Service Area
- 🟦 Backbone Conduit - ORIGINAL ROUTE
- 🟨 Backbone Conduit - easement required (included in AMENDED ROUTE)
- 🟥 Backbone Conduit - AMENDED ROUTE
- 🟥 Proposed lateral
- 🟪 Existing municipal conduit
- 🟥 Original Anchor Institution or IRU customer (Outside of FTTP PFSA)
- 🟧 Additional Anchor Institution (Outside of FTTP PFSA)
- 🟦 FTTP grant-funded Anchor Institution or IRU customer
- ▲ Historic site
- ⊗ Brownfield site
- 🟪 100 Year Floodplain
- 🟦 Wetland
- 🟩 Park / Open Space / Golf Course

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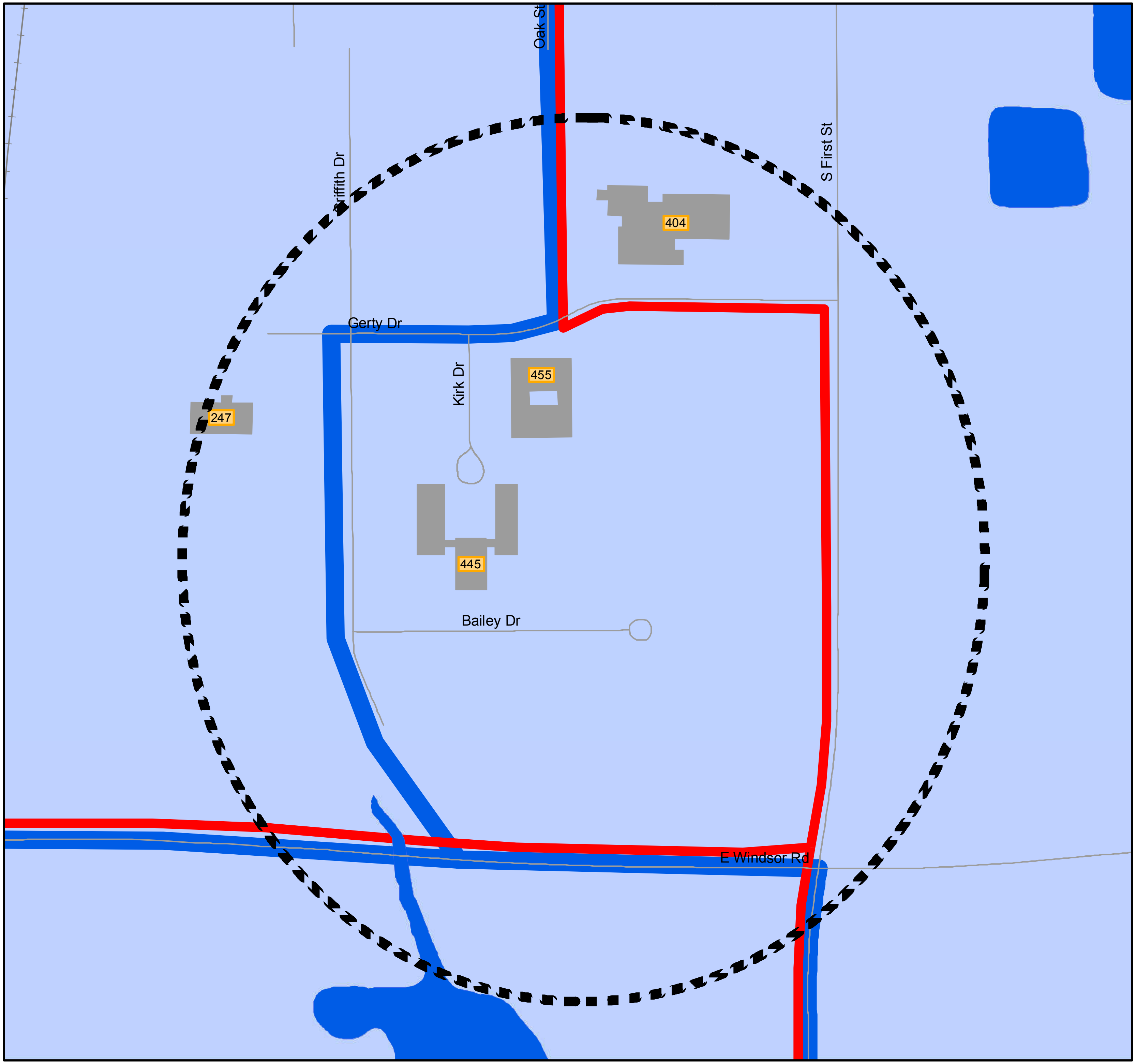

REA-14
Revised Route
Area 6

5/10/11

U-2	UC2B node
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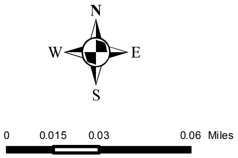
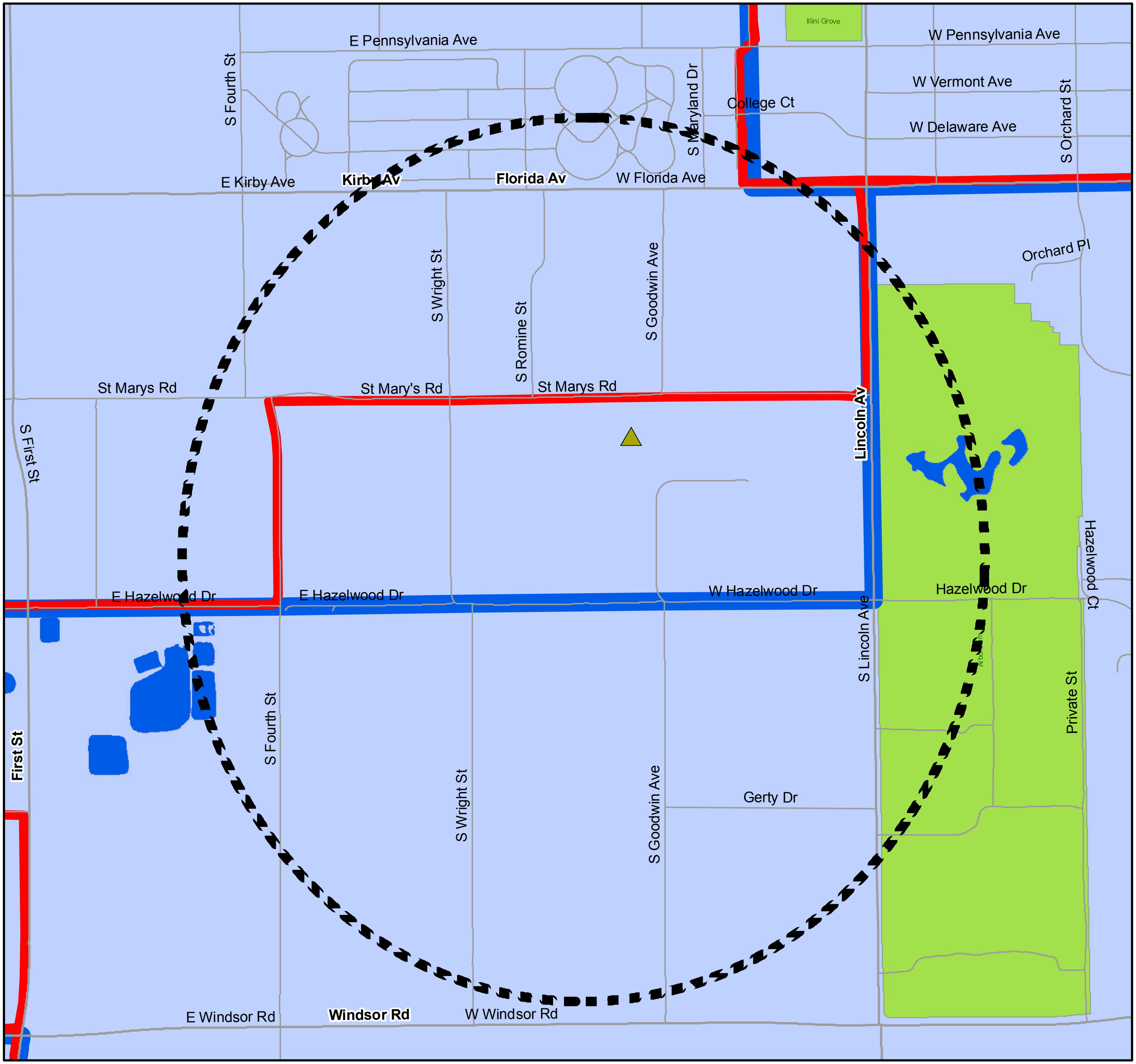
▭	Middle Mile Funded Service Area
🟦	Backbone Conduit - ORIGINAL ROUTE
🟨	Backbone Conduit - easement required (included in AMENDED ROUTE)
🟥	Backbone Conduit - AMENDED ROUTE
—	Proposed lateral
—	Existing municipal conduit
🟥	Original Anchor Institution or IRU customer (Outside of FTTP PFSA)
🟧	Additional Anchor Institution (Outside of FTTP PFSA)
🟦	FTTP grant-funded Anchor Institution or IRU customer
△	Historic site
⊗	Brownfield site
▭	100 Year Floodplain
🟦	Wetland
🟩	Park / Open Space / Golf Course



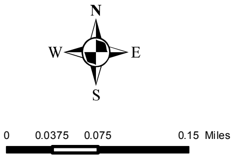
UC2B

REA-15
Revised Route
Area 7

5/10/11



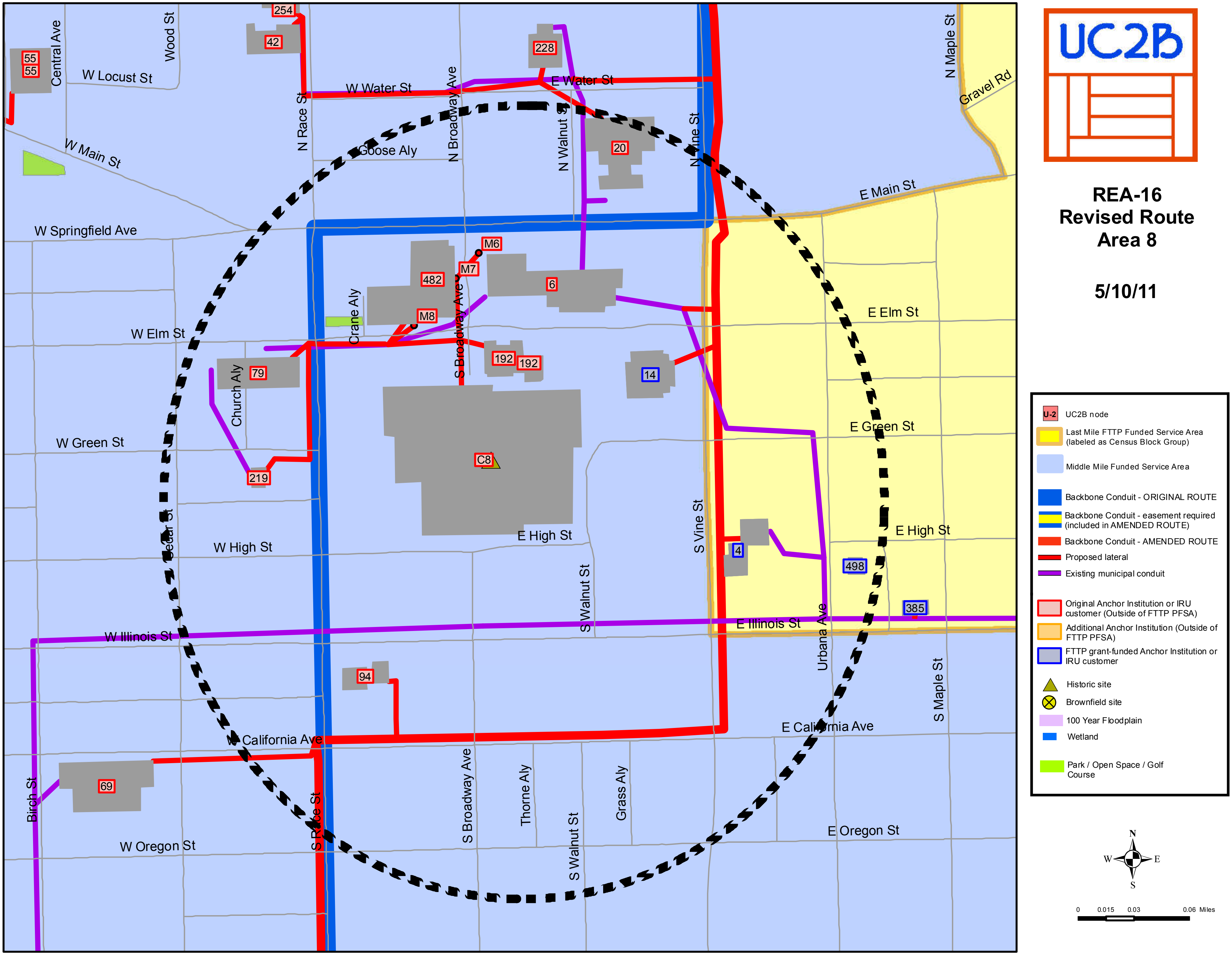
- 🟥 U-2 UC2B node
- 🟨 Last Mile FTTP Funded Service Area (labeled as Census Block Group)
- ▨ Middle Mile Funded Service Area
- 🟦 Backbone Conduit - ORIGINAL ROUTE
- ▨ Backbone Conduit - easement required (included in AMENDED ROUTE)
- 🟥 Backbone Conduit - AMENDED ROUTE
- ▬ Proposed lateral
- ▬ Existing municipal conduit
- 🟥 Original Anchor Institution or IRU customer (Outside of FTTP PFSA)
- 🟧 Additional Anchor Institution (Outside of FTTP PFSA)
- 🟦 FTTP grant-funded Anchor Institution or IRU customer
- ▲ Historic site
- ⊗ Brownfield site
- 🟪 100 Year Floodplain
- 🟦 Wetland
- 🟩 Park / Open Space / Golf Course



UC2B

REA-16
Revised Route
Area 8

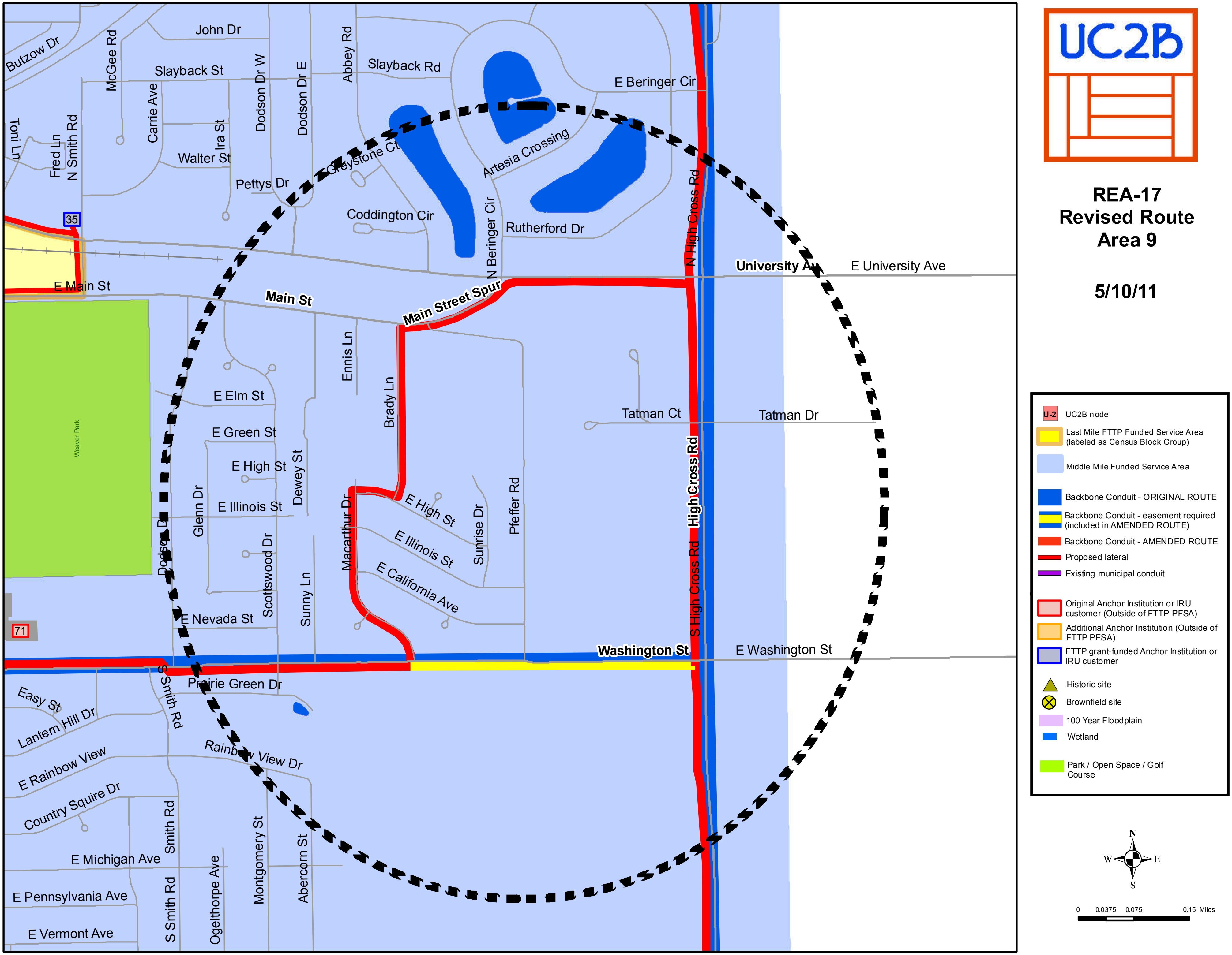
5/10/11

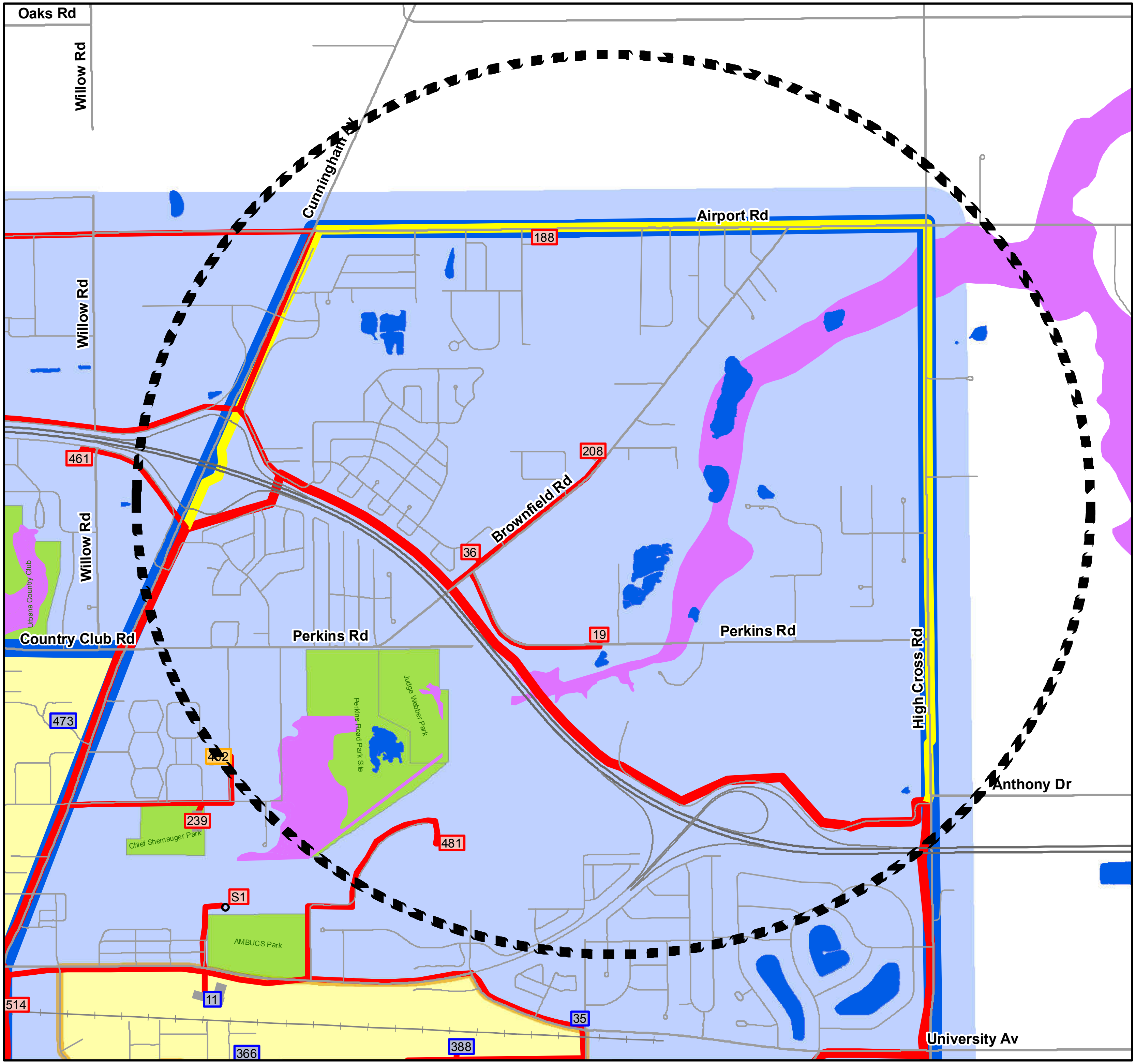


UC2B

REA-17
Revised Route
Area 9

5/10/11





UC2B

REA-18
Revised Route
Area 10

5/10/11

- U-2 UC2B node
- 🟨 Last Mile FTTP Funded Service Area (labeled as Census Block Group)
- ▨ Middle Mile Funded Service Area
- 🟦 Backbone Conduit - ORIGINAL ROUTE
- 🟨 Backbone Conduit - easement required (included in AMENDED ROUTE)
- 🟥 Backbone Conduit - AMENDED ROUTE
- 🟥 Proposed lateral
- 🟪 Existing municipal conduit
- 🟥 Original Anchor Institution or IRU customer (Outside of FTTP PFSA)
- 🟧 Additional Anchor Institution (Outside of FTTP PFSA)
- 🟦 FTTP grant-funded Anchor Institution or IRU customer
- ▲ Historic site
- ⊗ Brownfield site
- 🟪 100 Year Floodplain
- 🟦 Wetland
- 🟩 Park / Open Space / Golf Course

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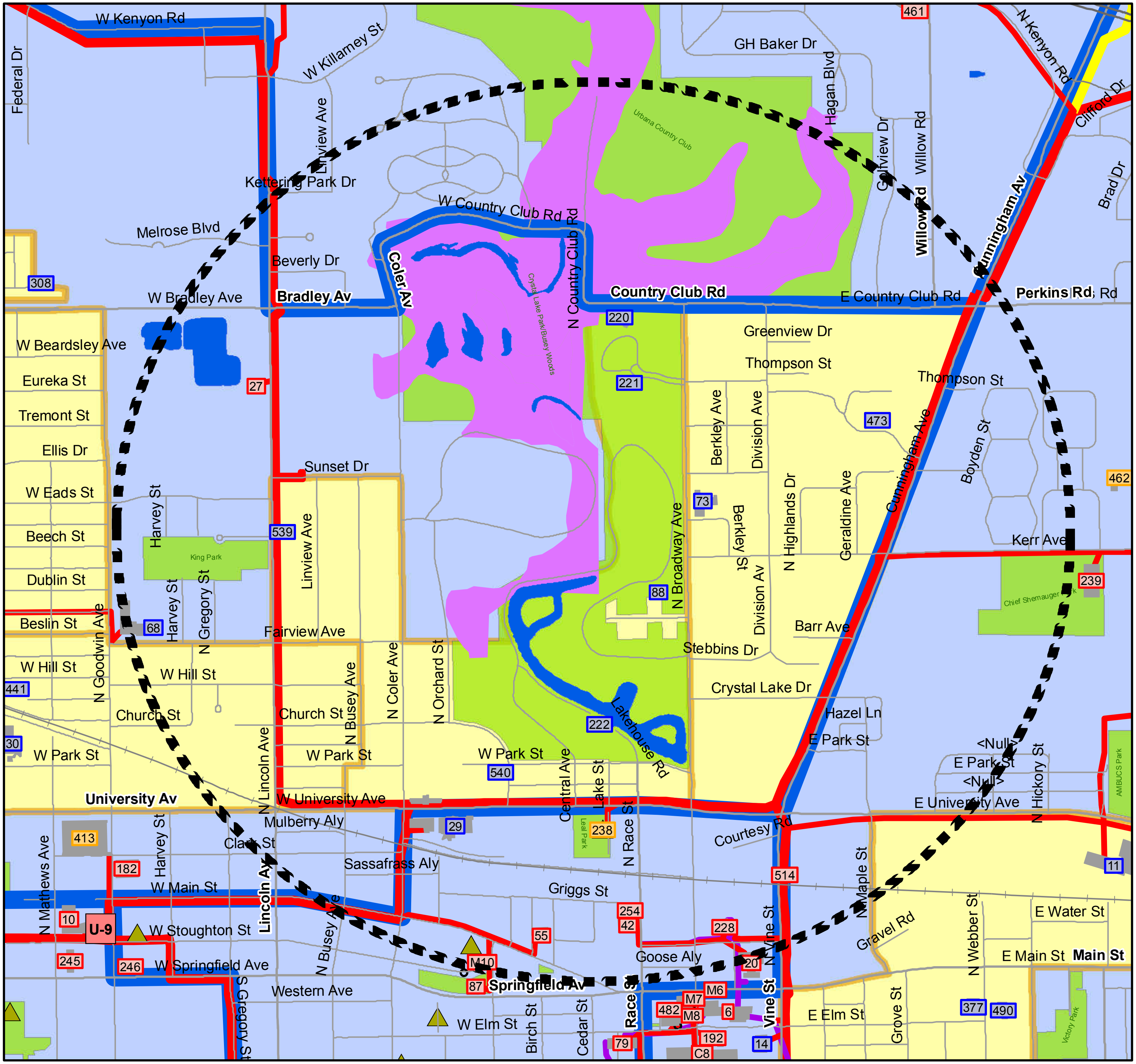

UC2B

REA-19
Revised Route
Area 11

5/10/11

U-2	UC2B node
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🟦	Middle Mile Funded Service Area
🟦	Backbone Conduit - ORIGINAL ROUTE
🟦🟨	Backbone Conduit - easement required (included in AMENDED ROUTE)
🟥	Backbone Conduit - AMENDED ROUTE
🟥	Proposed lateral
🟪	Existing municipal conduit
▢	Original Anchor Institution or IRU customer (Outside of FTTP PFSA)
▢	Additional Anchor Institution (Outside of FTTP PFSA)
▢	FTTP grant-funded Anchor Institution or IRU customer
▲	Historic site
⊗	Brownfield site
🟪	100 Year Floodplain
🟦	Wetland
🟩	Park / Open Space / Golf Course

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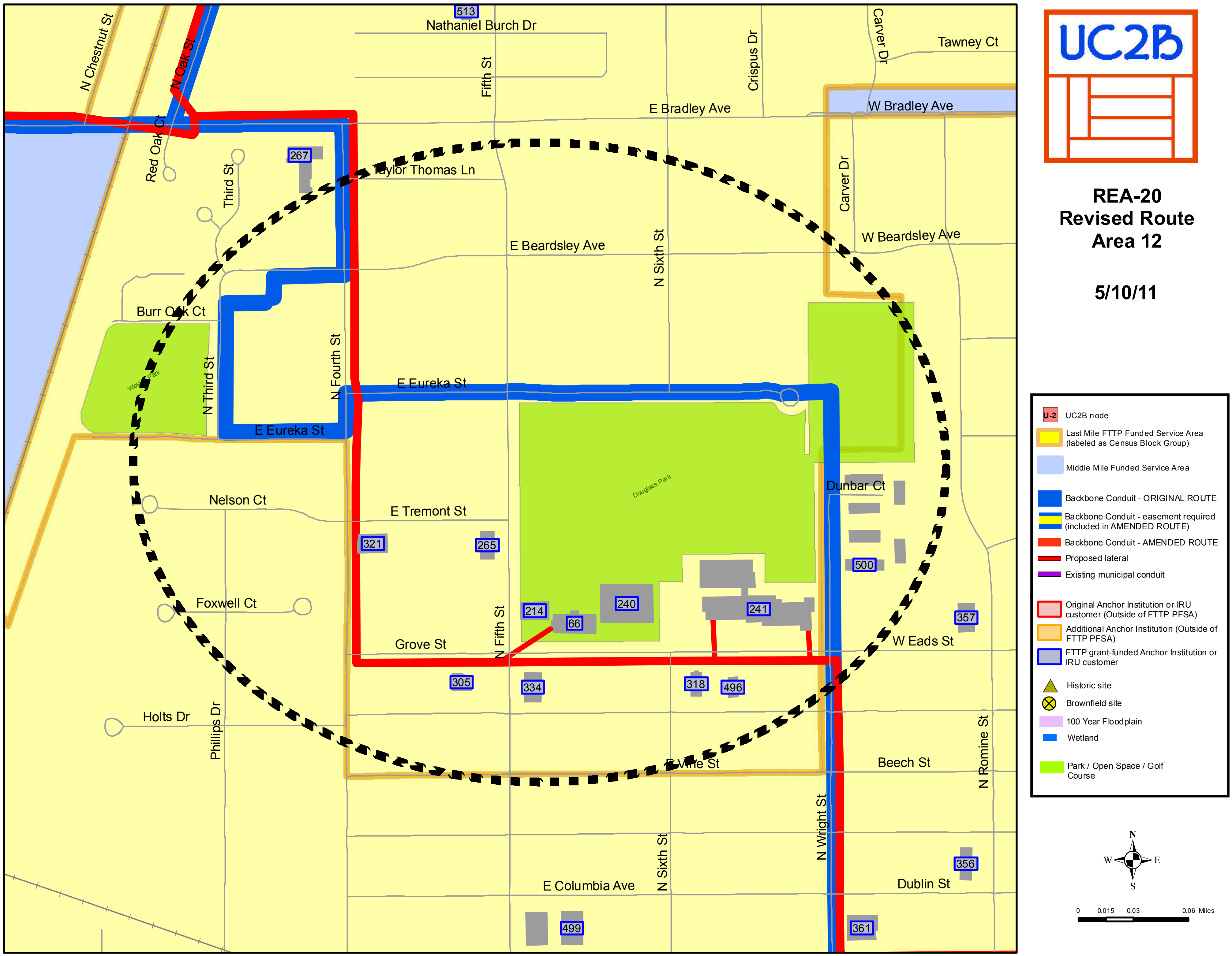
0 0.05 0.1 0.2 Miles

UC2B

REA-20
Revised Route
Area 12

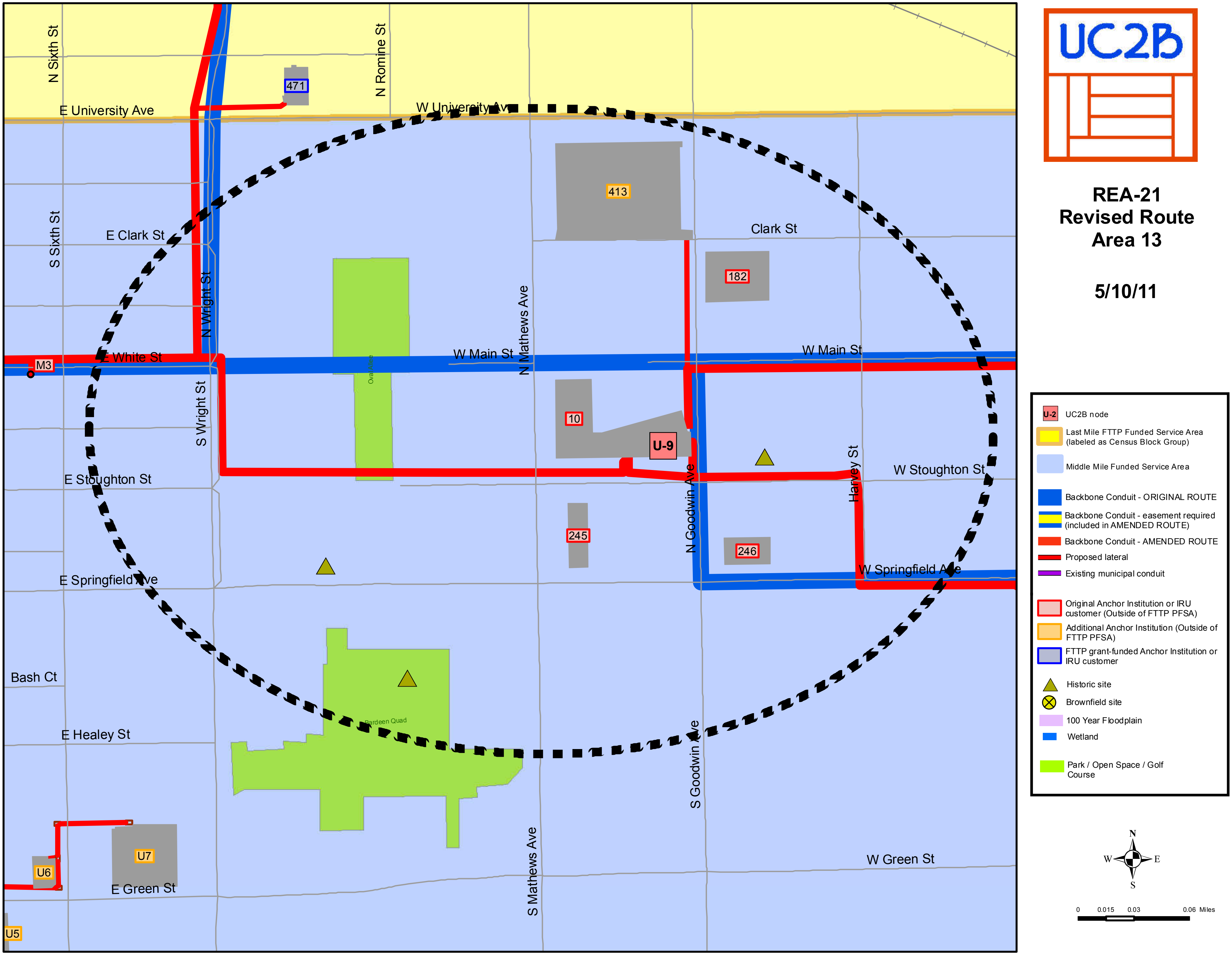
5/10/11



UC2B

REA-21 Revised Route Area 13

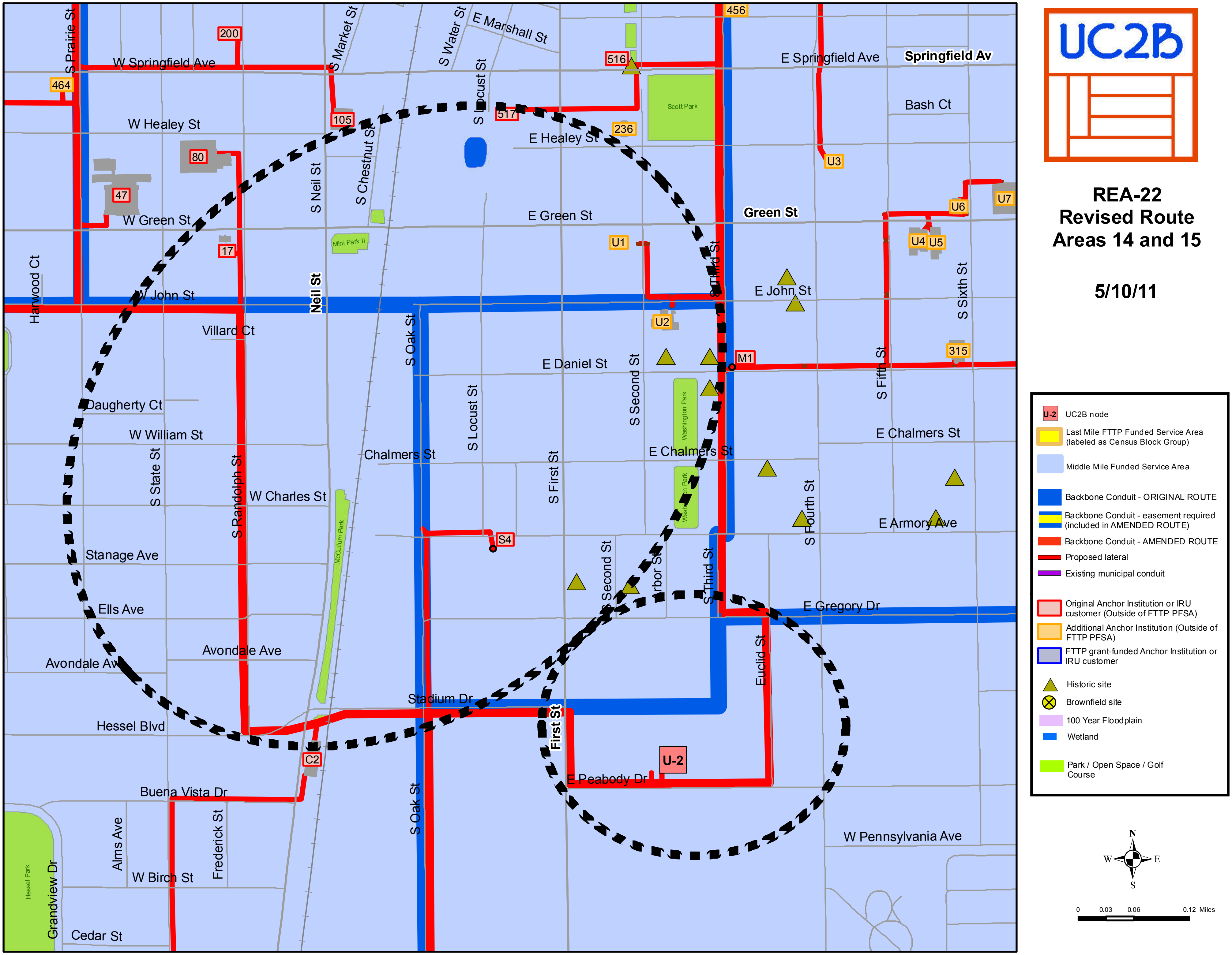
5/10/11



UC2B

REA-22 Revised Route Areas 14 and 15

5/10/11



UC2B

REA-23
Revised Route
Area 16

5/10/11