FIBER NETWORK CONSTRUCTION

REQUEST FOR PROPOSAL

Issue Date: March 14, 2022
Proposal Due Date: April 5, 2022

Issued by: City of Fort Dodge

Website: https://www.fortdodgeiowa.org/department/index.php?structureid=6

Prepared By:

HRGreen

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1. Request for Proposal (RFP) Overview

1.1 **Project Review**

The City of Fort Dodge (**Owner**) will be deploying a new FTTP (Fiber-to-the Premise) network. The Owner intends to have the successful bidder construct the fiber optic outside plant for the FTTP System. The network consists of a conduit and fiber ring and a cabinet based distribution from the ring. The FTTP network will require installation of fiber, conduit, and typical network components. The design for the fiber segments required for the network are shown in Figure 1 below.

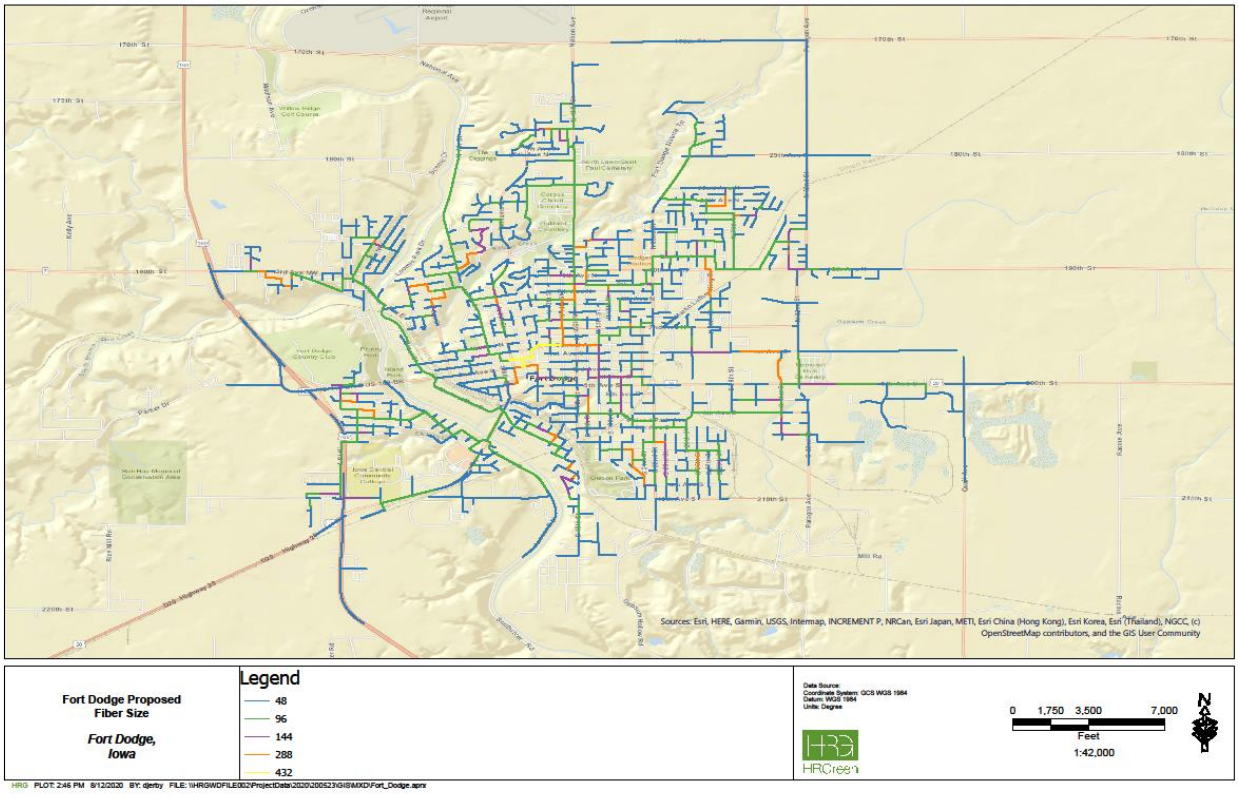


Figure 1: Network Fiber Segments

This network will eventually serve all residential, business and City facility addresses in the City of Fort Dodge. The following Figure 2 demonstrates the serviceable address points within the network.

The construction is primarily underground construction. Aerial will be used only when underground is not possible.

Materials for both the ring and distribution are ordered through Graybar. Delivery dates align with the anticipated construction schedule. For the purposes of responding to this bid, materials do not need to be included, but the construction contractor will need to have a staging area and coordinate with the City for getting materials from City locations and receipt of any materials that have not been delivered at the time of the construction contract award. The materials that have been ordered can be found in Attachment 1.

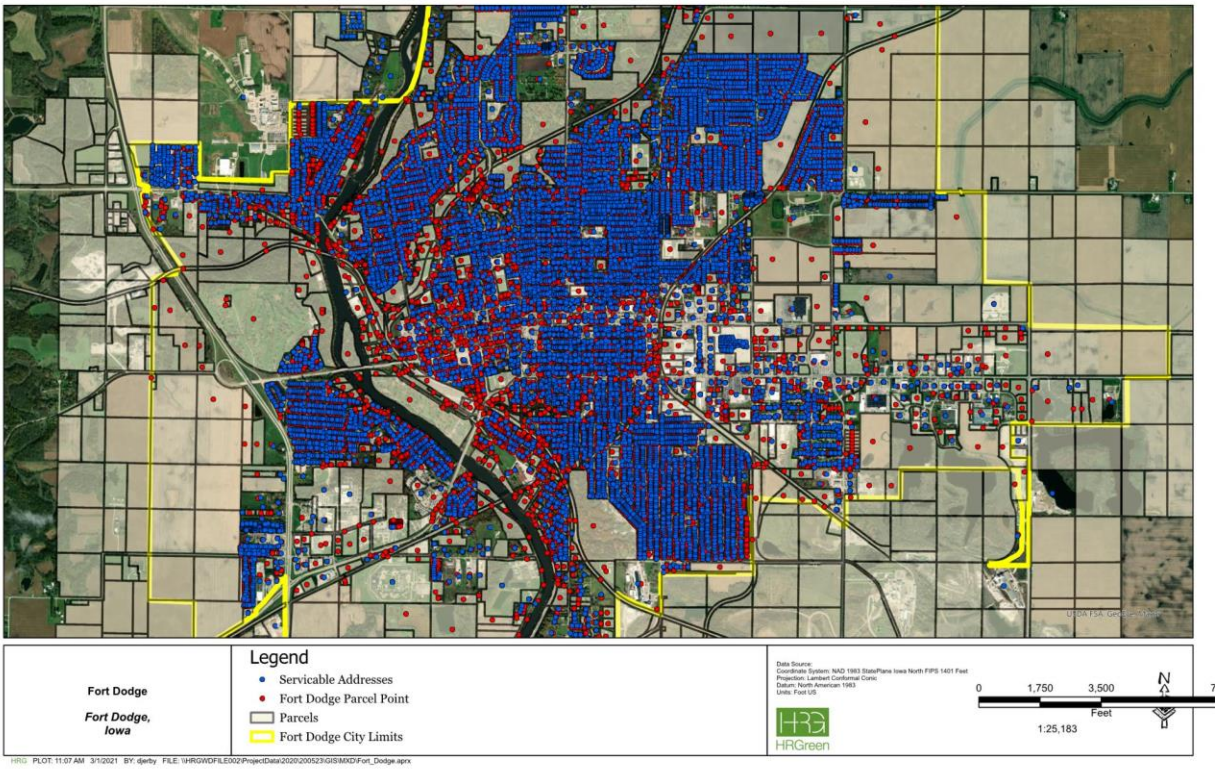


Figure 2: Network Serviceable Addresses

1.2 RFP Description

The project is generally described as the construction of the fiber network that will be constructed throughout the City of Fort Dodge. The RFP is divided into two parts: Part 1 seeks a Bidder for the construction of the fiber and conduit, and Part 2 seeks a Bidder for the network equipment cabinets. It is preferable that the same bidder is selected for both parts, but it is possible that two separate organizations will be chosen.

For **Part 1: Fiber and Conduit Ring**, the Bidder is asked to create a work plan for the installation of the typical components of a conduit and fiber ring. Figure 3 demonstrates the portion of the network that is the Fiber Ring. The Bidder should indicate the schedule and costing plan for the **Fiber Ring** as separate from the rest of the network **Distribution Fiber**. In addition, the Bidder should indicate the timeline for connecting each of the anchor institutions shown in Figure 4.

For **Part 2: Distribution Fiber**, the Bidder should create a work plan for the construction of the distribution fiber in a cabinet format, as shown separately in Figures 3 and 4.

It should be noted that this RFP allows for flexibility in how the Bidder selects to deploy network segments. The Bidder may find it favorable to first deploy the Fiber Ring, followed by the Distribution, or all the necessary fiber and conduit by geographical area. This could be dependent on material delivery schedules, which will be coordinated with the selected construction company.

1.2.1

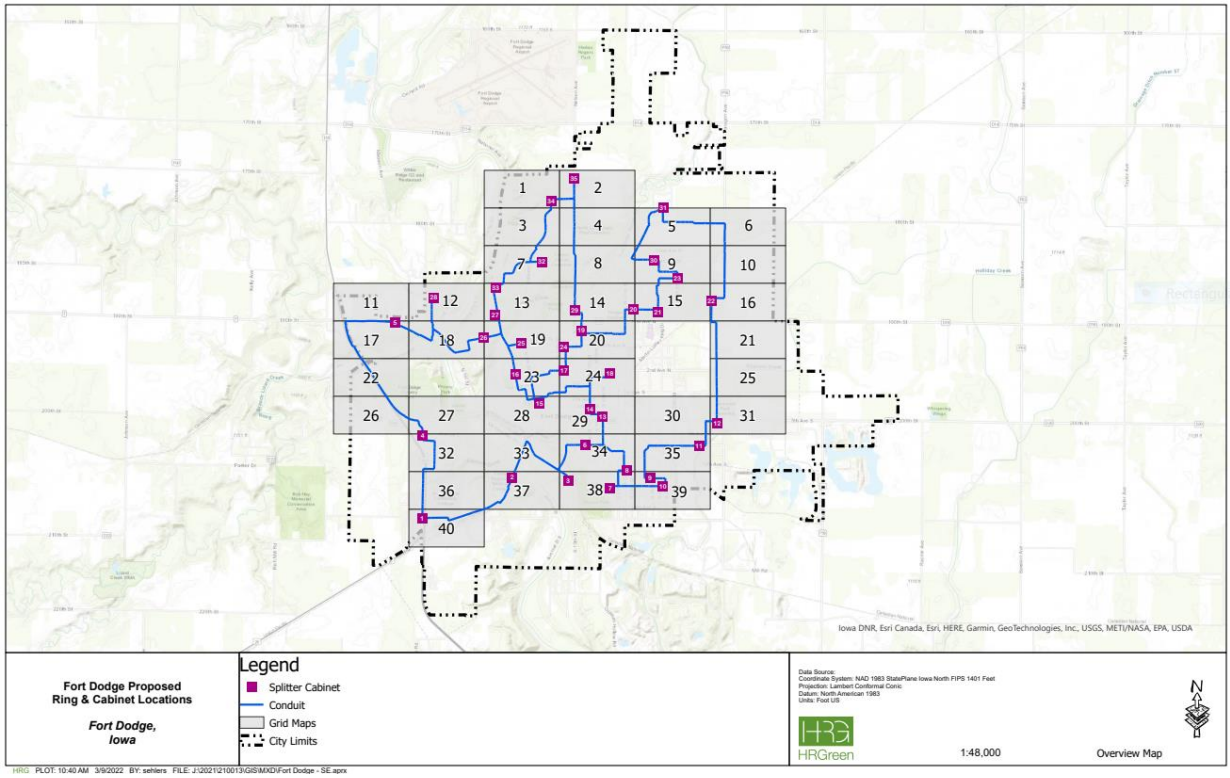


Figure 3: Fiber Ring with Cabinet Locations

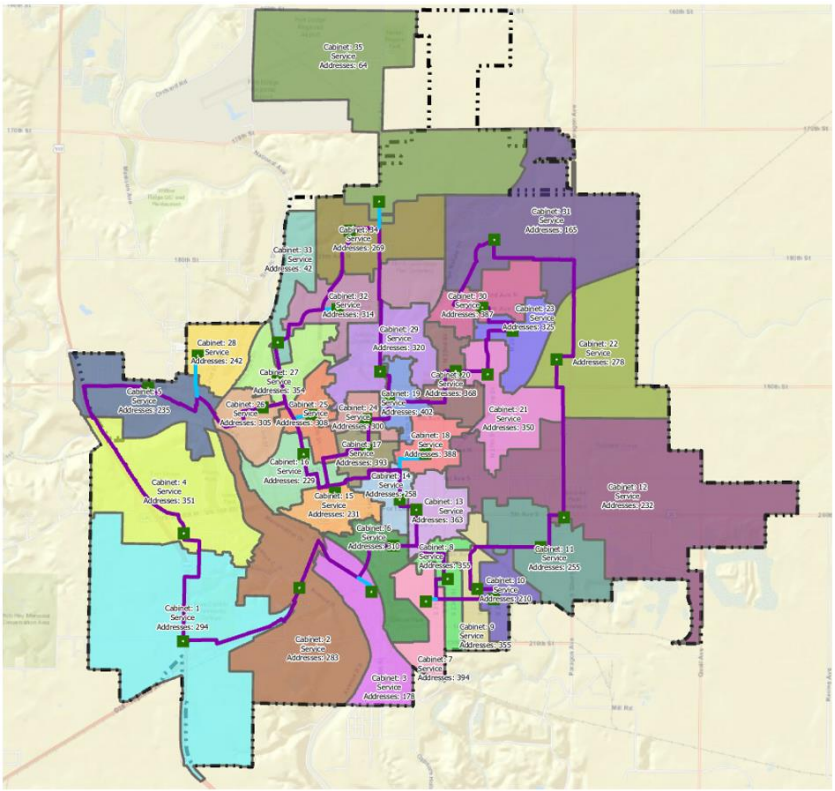


Figure 4: Fiber Ring, Distribution Fiber, and Cabinet Locations

Ring design and a kmz will be available at the website on the cover page.

2. Contract Information

As a one-point-of-contact, please first email Irena Stevens at istevens@hrgreen.com, and your questions will be routed to the relevant contact.

2.1.1 Response Requirements & Coordination

Submit one (1) electronic copy to istevens@hrgreen.com in PDF format and one (1) hard copy shall be received by the Owner at the following address above on the date listed in Section 3 - Project Timeline. Please use the subject line: RFP – FIBER NETWORK CONSTRUCTION.

The City of Fort Dodge
819 1ST S AVE
FORT DODGE IA 50501
Attn: Donna Bice

3. Project Timeline

- Release Information to News Media — March 14, 2022
- Last Day to Submit Questions — March 23, 2022
- Proposal Due Date: — April 5, 2022
- Award of Contract: — April 11, 2022
- Construction Start Part 1 Due Dates: — June, 2022
- Construction Start Part 2 Due Dates: — TBD

4. RFP Submission Requirements

Proposals must be submitted electronically no later than in the Schedule section of this document. Late proposals will not be considered. Each Bidder shall bear all expenses associated with the preparation and submission of their proposal.

4.1 Responses Organization

All responses shall be organized in the following manner:

- Cover Letter
- Company Overview and Qualifications
- Relevant Work Experience and References
- Work Plan – including:
    - Preliminary construction schedule
    - Pro forma Crew counts for how you will meet the proposed schedule
    - Schedule for network turn up, e g splicing
    - Plan for ramping resources
    - Mobilization plan and time frame?
- The work plan needs to be broken out for the primary bid (the ring), then for the cabinet based distribution off of the ring.
- See section 4.5 below for details concerning the Work Plan. Bidders are required to bid according to the tasks and bid units in that section.

The Bidder's proposal must meet the provisions and references specified in Section 5. OSP Construction Underground Path Creation, Section 6. Technical Specifications, and Section 7. Vendor Equipment Details of this RFP.

4.2 Cover Page

Provide a cover page which clearly identifies the RFP, Bidder's name, and primary point of contact. The Bidder should indicate their willingness to work with the Equipment Vendor selected by the City of Fort Dodge, as well as the work plan for all necessary network components. The City will also provide all non-consumable items, including conduits, underground structures, splice closures, fiber cable, strand, pole hardware, jet line, mule tape and tracer wire, fiber caution tape, UG fiber markers. Bidder will need to work with the City for access to material and any deliveries after the construction start date.

4.3 Company Overview and Qualifications

Provide the following information about your company:

- Official registered name, address, website, and relevant contact numbers.
- Name, phone number, and e-mail addresses of any key contacts
- Brief history of your company, including year established and number of years performing related work.

Include a description of qualifications and capabilities. Provide an overview of key people who will be involved in this project including relevant qualifications and experience.

4.4 Relevant Work Experience and References

Provide three to five examples of projects similar in scope and scale completed by the Bidder, especially related to similar network systems that it has constructed, including the project name, description, location, scope, completion date, and technology used. Provide a contact person with an email and telephone number for each project reference. Also indicate whether each system is owned by the Bidder or another entity.

4.5 Work Plan

4.5.1 Part 1: Fiber and Conduit (Fiber Ring)

Provide a description of the approach proposed to accomplish the objectives outlined in the Scope of Services. Include a summary of the steps to be completed. Provide an overview of resource requirements needed of the City of Fort Dodge to complete this project.

In the response, separate the network construction into 1. Fiber Ring and 2. Distribution Fiber.

For each network segment, please describe:

- Capacity of network segment
- Schedule of conduit and fiber construction. Provide details on how the tasks will be organized to complete the work.
- Cost estimate – estimated cost to complete and a "not-to-exceed" cost. Indicate a total cost by each activity. Include an hourly or flat rate price for work exceeding the included work plan.
- Any other relevant factors. Provide a separate breakdown for any proposed additional items not included in the work plan.

4.5.2 Part 2: Network Equipment (FTTH)

Due to the nature of the project and the current supply chain environment, this RFP is asking the Bidder to separate out cabinets and network equipment into a separate category. For each Cabinet Location supplied in

the materials of this RFP, please provide a work plan for the network equipment, as referenced in Section 7. Vendor Equipment Details, including:

- Schedule of installation and the turning on of full operational functionality for each piece of equipment within a cabinet area. Please reference equipment with all relevant model numbers, unit costs, number of units required, and total costs.
- Cost estimate – estimated cost to complete and a "not-to-exceed" cost and any other relevant costing details not included below.
- Additional FTTH bid items:
    - T&M rate sheet
        - DIRECTIONAL BORE (1) 1.25" duct
        - DIRECTIONAL BORE (1) 2" duct
        - DIRECTIONAL BORE (2) 1.25" ducts
        - DIRECTIONAL BORE (2) 2" ducts
        - DIRECTIONAL BORE (1) 1.25" duct & (1) 2" duct
        - DIRECTIONAL BORE (2) 1.25" ducts & (1) 2" duct
        - DIRECTIONAL BORE (2) 2" duct & (1) 1.25" duct
        - DIRECTIONAL BORE (3) 1.25" duct
        - PLOWING DUCT
        - PREP AND SET SPLITTER CABINET
            - SIZE
                - 144
                - 288
                - 432
            - SPLICING
        - SET LARGE HANDHOLE
        - SET MEDIUM HANDHOLE
        - SET SMALL HANDHOLE
        - SET YARD BOX
        - SET LARGE DOGHOUSE PED
        - SET SMALL DOGHOUSE PED
        - SET MARKER POST
        - CABLE JETTING
        - CABLE PULLING (1 cable)
        - CABLE PULLING (2 cables)
        - CABLE PULLING (MSTs)
            - 100 FT
            - 250 FT
            - 500 FT
            - 750 FT
            - 1000 FT
            - 1500 FT
        - CONCRETE REMOVAL / REPLACEMENT ESTIMATE
        - ROAD CORE
        - VAULT CORE
        - BUILDING CORE
        - REMOVE/REPLACE CURB & GUTTER
        - REMOVE/REPLACE SIDEWALK PANEL (4'x5')
        - REMOVE/REPLACE STREET PANEL (10'x14')
        - LANE CLOSURE

- CONTRACTOR LABOR [EXCAVATE DUCT]
- AERIAL DROP CONSTRUCTION
    - SERVICE DROP
    - RISER
- BURIED DROP CONSTRUCTION
    - SERVICE DROP
- OUTSIDE DEMARC CONSTRUCTION
    - HOUSE DEMARCATION BOX
    - SMOKE TUBE
    - GROUND
    - FIBER TERMINATION
- IN HOME ACTIVATION
    - Inside fiber installation (outside wall demarcation box to the inside ONT)
    - Wire up to 2 copper Ethernet drops from ONT.
    - Complete the provisioning of customer SSID/WiFi Access,
    - Activate customer internet and voice service
    - Bid Rates
        - First 250 units
        - 250-500 units
        - 500-1000 units
        - 1000+ units

5. OSP Construction Underground Path Creation

5.1 **Conduit Placement - Horizontal Directional Drilling (min. 24" Cover)**

Pricing shall include all costs incurred for potholes and restoration per the requirements listed in the municipal code. Tracer wire will be placed in each bored section, with tone verification for continuity. If tracer wire breaks during bore pullback process, a tracer wire will need to be placed inside a conduit. Mule tape shall be installed in each new conduit for future fiber installations. Rocky ground is not anticipated, but if it is encountered, a Mandrel shall be pulled through all conduit sections to verify the integrity of inside wall of the conduit. Cobble and Solid Rock Adders are intended to be "incremental" or additional per foot charges to the base unit rate. For example, if the base price is $10.00 per foot and the unit rate with cobble is $11.00, then the unit

5.2 **Conduit Placement Greenspace - Trenching**

Respondents should assume the use of standard trenching practices for a portion of the project. Pricing should include costs for restoration per the requirements listed in the municipal code. Tracer wire will be placed with conduit placement in all trenched sections. Trench line shall be compacted in 1' lifts. Fiber caution tape to be placed at 2' above the conduit. When conduit is trenched in rocky ground, the conduit shall have 12" of shade material without rocks that could cause damage when compacted on top of conduit. Mule tape shall be installed in each new conduit for future fiber installations. After trench is backfilled and compacted, a mandrel shall be pulled through conduit sections to verify the integrity of inside wall of the conduit. Cobble and solid rock adders will not apply to trenching efforts.

5.3 **Conduit Placement Greenspace - Plowing**

Respondents should assume the use of standard plowing practices for a portion of the project. Pricing should include costs for restoration per the requirements listed in the municipal code. During plowing operations, a

tracer wire shall be installed in each plowed section with tone verification for continuity. If it is found to be broken, tracer wire must be placed inside a conduit. Fiber caution tape shall be placed 2' above the conduit depth along plowed route. When rocky ground is encountered, a Mandrel shall be pulled through conduit sections to verify the integrity of inside wall of the conduit. Cobble and solid rock adders will not apply to plowing efforts.

5.4 Hand Hole (HH), Pedestal and Vault Placement, Buried Fiber Markers

These structures are to be installed according to the specifications supplied by the City of Fort Dodge as part of this RFP.

5.5 Out of Scope Work Required by Outside Plant Construction Crew

It should be assumed that some out of scope outside plant construction tasks may be required. Respondents are asked to provide a general hourly rate for a minimum OSP crew to complete basic tasks such as digouts, intercepts and other routine efforts. This hourly rate should include labor, vehicle and equipment costs for the crew.

5.6 OSP Construction Fiber Cable Placement

5.6.1 Aerial Cable Placement

Limited aerial placement is expected. The design calls for the installation of new all-dielectric self-supporting (ADSS) cable on the power company's poles (predominantly MidAmerican Energy. The Owner is seeking a composite labor rate per foot for installing all required downguys w/guy markers, framing and fiber tags. The Owner will also consider a composite unit rate per foot for materials. Cable placement will be paid per sheath foot for the first and each additional fiber cable.

5.6.2 UG Fiber Placement

In relation to the placement of underground fiber, respondents will be asked to indicate their preference for either 1) installing new conduit or 2) using existing conduit (if available) – the majority of fiber placement will be in the conduit placed as part of this project. If existing conduit is available and chosen, construction will require interception of the conduit prior to the manholes and routing it through a new handhole. The design also calls for fiber cable to be installed in a variety of conditions. Pricing should be provided per sheath foot for installing fiber in new or existing non-power conduits. If a suitable pull rope is not available AND it is not possible to install a jet line in the subject duct, then the "Rod and rope existing conduit" rate will apply.

5.7 Technical Services - Closure Prep

5.7.1 Splice Closure Prep – Handhole Placement

This task includes assembling the closure for the required splicing operation, completing the ring cut required for mid sheath access (or cable trimming required for a reel end), packing the closure, affixing cable labels, affixing closure label and mounting the splice case accordingly in the assigned underground structure following the splicing operation.

5.7.2 Splice Closure Prep – Pole Mount

This task includes assembling the closure for the require splicing operation, completing the ring cut required for mid sheath access (or the cable trimming required for a reel end), packing the closure, affixing cable labels, affixing closure label, fiber slack storage and splice cases properly mounted on the assigned pole following the splicing and operation.

5.7.3 Technical Services - Splicing, Testing and Documentation

Single Fusion Splicing

Standard fusion splicing in varying environments based on traffic conditions and complexity of the overall operation.

Unidirectional OTDR Testing - Patch Panel Ports

The selected firm will be required to complete OTDR testing for fiber cables after they have been installed. Unidirectional OTDR testing will be completed from patch panel ports in a field cabinet or the main equipment site. Traces are to be stored electronically and all test results are to be documented in an electronic format specified by the City of Fort Dodge.

Bidirectional OTDR Testing - Patch Panel Ports on Both Ends

The selected firm may be required to complete OTDR testing for fiber cables after they have been installed. Bidirectional OTDR testing will be completed where patch panel ports exist on both ends of the fiber strand being tested. Traces are to be stored electronically and all test results are to be documented in an electronic format specified by the City of Fort Dodge.

Power Meter Testing

The selected firm may be required to collect power readings from one or more terminal ports as part of the network certification process. Readings must be provided to the City of Fort Dodge in a spreadsheet format. No hand written results will be accepted.

OTDR Testing - New Fiber Reels

The selected firm will be required to complete OTDR acceptance testing for all new fiber reels. Testing shall be conducted to verify cable prior to installation. All installed fiber must pass final testing prior to release.

Out of Scope Splicing or Testing Required by Technical Services Crew

Certain ad hoc work will be required of technical services crews. Respondents are required to list the hourly rate for a typical crew with the capability to complete out of technical services related work. This rate should cover labor, vehicle and equipment costs for the crew.

6. Technical Specifications

The Owner will be deploying a new FTTP System(s). This FTTP System(s) shall be capable of meeting the Owner requirements as required in this and the following sections.

This system will be used to deploy traditional and new advanced communications services that are understood to apply to all standards to include but not limited to:

It is the Owner's intent to use the FTTP system(s) for deployment to homes, business and City facilities throughout the community.

The Bidder shall construct a network that is Network Equipment Building System (NEBS) Level 3 compliant.

The Bidder shall detail equipment that meets all Federal, State, and local codes to include but not limited to:

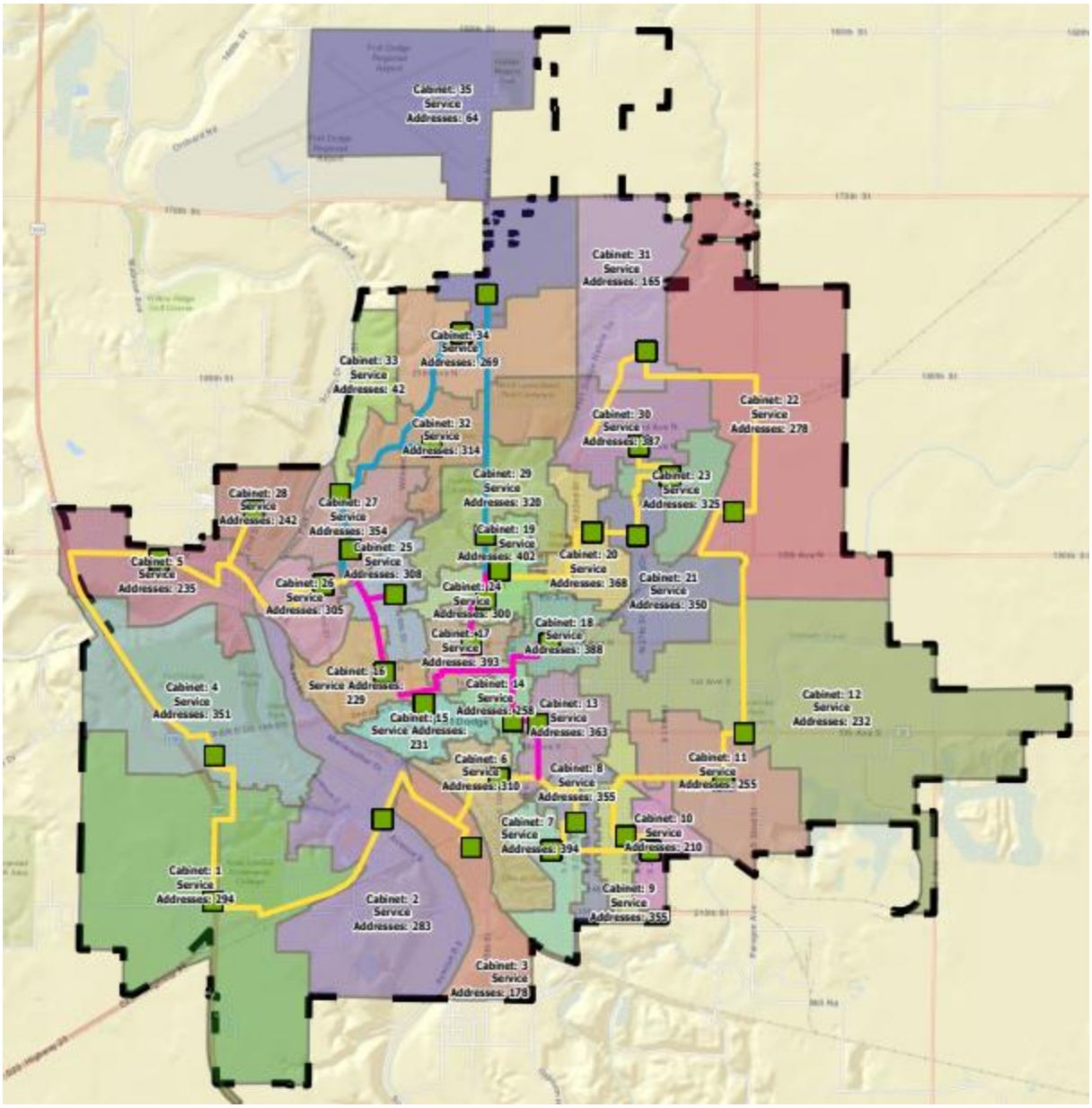
- FCC Regulations
- Building & Fire Codes
- National Electrical & Safety Codes

Compliance with all relevant ITU and IEEE standards.

DESIGN RESPONSIBILITIES

1.1 Fort Dodge approves ring extensions and cabinet placement prior to LLD.

1.2 Cabinet order has been determined by the Owner and is as follows:



1.3 End design at the terminal. Provide line associating DMARC with terminal.

1.4 Permit submittal is handled by HR Green.

1.5 As-Built – Redlines are put directly into GIS by HR Green.

DESIGN PREFERENCE

2.1 Follow power distribution

2.1.1 If power exists in front and rear lot, then serve in lot that provides the service to more homes with fewer MSTs. If there is not a clear difference, then serve front lot.

2.1.2 House demarcation box will be next to telephone demarcation box over power meter if different.

2.2 Preferred construction:

2.2.1 First Choice - Buried Path

2.2.1.1 Aerial is not an option

2.3 Cable sizing

2.3.1 Use minimum size cable to provide 1 strand per single family household.

2.3.2 Townhomes with separate utility entrances are sized as single family.

2.3.3 Multi-unit structures with single entrance are sized 1 strand per 8 units.

2.3.4 Free standing businesses are sized 1 strand per business.

2.3.5 Strip malls and other multi-unit structures are sized:

2.3.5.1 If less than 9 units then 1 to 1

2.3.5.2 If 9 units or more then add 1 fiber for every 8 additional units, For example:

2.3.5.2.1 8units = 1 fiber

2.3.5.2.2 9 units = 2 fibers

2.3.5.2.3 17 units = 3 fibers

2.3.6 Vacant land use judgment if vacant lot that can be developed then provide 1 strand minimum.

2.3.7 Use judgment, along with communication to Fort Dodge for other situations.

2.3.8 For apartment buildings:

2.3.8.1 Place MST at locations where existing utility peds are located

2.3.8.2 Place a MST pedestal for each building within reason, greater than 100 feet separation.

2.4 Buried Construction Types:

2.4.1 Placement method:

2.4.1.1 Design as if it is a Bore

2.4.2 In ground:

2.4.2.1 HDPE duct

2.4.2.1.1 (3) SDR 13.5 - 1.25" for distribution cable

2.4.2.1.2 (3) SDR 11 - 1.25" for ring access and are kept separate from distribution

2.4.2.1.3 1.25" for MST tails

2.4.2.1.3.1 Buried (unarmored):

2.4.2.1.3.1.1 Up to 6 MSTs in a 1.25"

2.4.2.1.3.1.2 Up to 10 MSTs in a 2", 11th will require another 1.25"

2.4.2.1.4

2.4.2.1.4.1 Up to 6 tails in 1.25"

2.4.2.1.4.2 Upsize to 2" for 7-10 tails

2.4.2.1.4.3 Place additional duct if over 10

2.4.3 Buried Cable Types:

2.4.3.1 Traditional Stock Sizes:

2.4.3.1.1 48

2.4.3.1.2 72

2.4.3.1.3 96

2.4.3.1.4 144

2.4.3.1.5 288

2.4.3.1.6 432

2.4.4 Pedestals

2.4.4.1 Location

2.4.4.1.1 Place within close proximity of other utilities whenever possible to minimize construction / cosmetic disturbance of homeowner property.

2.4.4.2 Pedestal Types

2.4.4.2.1 Standard Pedestal

2.4.4.2.1.1 10x10 for MST's

2.4.4.2.1.2 Up to (6) 1.25" ducts

2.4.4.2.1.3 Can be used as a pull-point in rear easement

2.4.5 Cabinets:

2.4.5.1 144 -432 size 95% maximum fill rate

2.4.6 Handholes:

2.4.6.1 Location

2.4.6.1.1 Place within close proximity of other utilities whenever possible to minimize construction / cosmetic disturbance of homeowner property.

2.4.6.2 Large Vault

2.4.6.2.1 (1) 2' away from Splitter Cabinet connected with (2) 4" duct.

2.4.6.2.2 All cable splices sizes 216 cable and larger

2.4.6.2.3 Place standard pedestal next to vault if splice and MST are at same location

2.4.6.2.4 Used for placing MSTs with splice points (Fiber cable 288F and up).

2.4.6.2.5 Place locate marker post for first option second option is popup locator in lid.

2.4.6.3 Medium Vault

2.4.6.3.1 For cable splices sizes 144 and smaller

2.4.6.3.2 Use when splice case smaller than 144ct and no MSTs

2.4.6.3.3 Use for placing buried slack loop when splices are over 800ft apart

2.4.6.3.4 Place locate marker post for first option second option is popup locator in lid.

2.4.6.4 Small Vault

2.4.6.4.1 Use @ 90 degree turns to accommodate pulling

2.4.6.4.2 Do not put splices in these.

2.4.6.4.3 Can be used as pull point to change directions

2.4.6.4.4 Place a service loop in all small vaults

2.4.7 Splicing

2.4.7.1.1 Place splicing locations at roadside for easy maintenance access.

2.4.7.1.2 Strands are identified by hub port and entered into spreadsheet.

2.4.7.1.3 100 ft slack loops. 50ft either side of splice

2.4.7.1.4 If the splice is at the end of a fiber run, it can have up to 20 MSTs in total

2.4.7.1.5 2-way fiber through a splice: up to 16 MSTs

2.4.7.1.6 3-way fiber: up to 12 MSTs

2.4.7.1.7 4-way fiber: up to 8 MSTs

2.4.8 Ribbon Integrity

2.4.8.1 12 Fiber ribbons.

2.4.8.2 1st and last ribbon in a cable can be broken to align ribbons in remainder of cable.

2.4.8.3 MST tails should not overlap ribbons. This may leave vacant fibers at some splices.

2.4.9 Use of multiple long tail terminals to minimize splicing.

2.4.9.1 Dielectric tails used for all MSTs.

2.4.9.2 Tail Sizes (in feet):

2.4.9.2.1 100 (MST @ Splice)

2.4.9.2.2 250

2.4.9.2.3 500

2.4.9.2.4 750

2.4.9.2.5 1000

2.4.9.2.6 1500

2.4.9.3 MST Port sizes:

2.4.9.3.1 2

2.4.9.3.2 4

2.4.9.3.3 6

2.4.9.3.4 8

2.4.9.3.5 12

2.5 Splice Cases

2.5.1 Specify proposed splice case size on splicing spreadsheet

2.5.2 FOSC B case for 144ct cable or smaller (Medium Vault)

2.5.3 FOSC D case for 288ct cable or larger (Large Vault)

2.6 Terminal Sizing:

2.6.1 Cabinet Sizing should maintain a standard 400 ports for a 432 cabinet. Do not go below 384 ports or exceed 416 ports without Fort Dodge approval.

2.6.2 Use minimum size cable to provide 1 strand per single family household.

2.6.3 Townhomes with separate utility entrances are sized as single family.

2.6.4 Multi-unit structures with single entrance are sized 1 strand per 8 units.

2.6.5 Free standing businesses are sized 1 strand per business.

2.6.6 Strip malls and other multi-unit structures are sized:

2.6.6.1 If less than 9 units then 1 to 1
2.6.6.2 If 9 units or more then add 1 fiber for every 8 additional units, For example:
2.6.6.2.1 8units = 1 fiber
2.6.6.2.2 9 units = 2 fibers
2.6.6.2.3 17 units = 3 fibers
2.6.7 Vacant land use judgment, if vacant lot that can be developed then provide 1 strand minimum.
2.6.8 Use judgment, along with communication to Fort Dodge for other situations.
2.7 Additional Slack Loops Needs:
2.7.1 Place 100ft slack for runs 800 ft between splice cases in medium vault
2.7.2 Place at halfway point or where natural pull points
2.8 BOM
2.8.1 Total tracer wire footage should equal the total boring footage, regardless of the duct package size. Do not include slack or riser footage.
2.8.2 Total cable length (including slack and riser footage) should equal total cable pulling and lashing.
2.8.3 Dielectric MSTs are used for all environments.
2.8.4 Distribution cables only use dielectric cable.

DELIVERABLES

3.1 Construction Map
3.1.1 Use Map Grids 1" = 50' size print 11" x 17"
3.1.2 ROW size shall be clearly marked on map with note stating property line to property, center line to property line, etc.
3.1.3
3.1.4 Utility easements shall be dimensioned on map and must include dimension on both sides of the property line.
3.1.5 Add a descriptor for type of vacant land
3.1.5.1 VL for vacant
3.1.5.2 PL for parking lot
3.2 Fiber Cable Map
3.2.1 Use Map Grids 1" = 50' size print 11" x 17"
3.2.2 MST size shall be labeled with a number representing the size at the location of the MST
3.2.2.1 2 – 2 port
3.2.2.2 4 – 4 port
3.2.2.3 6 – 6 port
3.2.2.4 8 – 8 port
3.2.2.5 12 – 12 port
3.3 Fiber Cable Splice Spreadsheet
3.3.1 Open ports on MST can removed if no expansion is possible
3.4 MST Address List
3.5 BOM

7. Vendor Equipment Details

The equipment vendor is current being selected and final selection will be shared with the selected contractor.

8. Proposal Evaluation

The City of Fort Dodge will evaluate proposals based on merit and the criteria listed below. The City of Fort Dodge reserves the right to make an award for reasons other than the lowest price offered.

8.1 Evaluation Criteria

1. Completeness of proposal.
2. Qualifications, experience, and references.

3. Work plan, approach, and schedule timelines.
4. Comparative costs.
5. Compliance with contractual agreements.

Proposals will be evaluated for responsiveness and completeness. The City of Fort Dodge will eliminate any proposals that (a) are non-conforming, (b) do not meet the minimum requirements, (c) are not economically competitive with other proposals, or (d) are submitted by Bidders that lack appropriate qualifications. Please be certain that all required information is included in your proposal, as the City of Fort Dodge will not be required to notify you of incompleteness, seek clarification, or ask for additional information. Failure to provide the information set forth herein may be grounds for elimination of consideration.

8.2 Additional Information

The City of Fort Dodge reserves the right to request additional information from a Bidder to obtain clarification concerning the submitted proposal.

8.3 Ownership

All materials submitted in response to this RFP becomes the property of the City of Fort Dodge. Selection or rejection of a proposal does not affect this right. the City of Fort Dodge shall retain all copyright of materials produced under any contract or subcontract awarded as a result of this RFP. All forms of documents and data generated as a result of this contract are owned by and shall be delivered to the City of Fort Dodge at the direction of the City of Fort Dodge. During the period of performance, the information may not be disclosed by the Bidder to third parties, except as expressly provided in the contract, without the written permission of the City of Fort Dodge.

8.4 Ongoing Costs

The Bidder shall provide a warranty period on any constructed equipment as agreed upon with the City of Fort Dodge and the selected Vendor as an estimate covering five (5) years after the warranty period is over of the yearly costs to ensure operational integrity for any constructed network equipment.

8.5 Project Coordination & Site Visits

Site visits are not required but are encouraged to ensure an accurate installation bid for miscellaneous parts. The Bidder shall coordinate all project related issues with the contacts listed in Section 2.

8.6 Use of Subcontractors

Bidders may use subcontractors to fulfill any obligations in connection with the project. Use of subcontractors shall be subject to all applicable state and federal laws. The Bidder shall remain liable for fulfilling all its obligations on the project, and for any claims or damages arising from the subcontractor's work.

8.7 Minor Irregularities

The City of Fort Dodge reserves the right to waive minor irregularities or minor errors in any proposal, if it appears to the City of Fort Dodge that such irregularities or errors were made through inadvertence. Any such irregularities or errors so waived must be corrected on the proposal in which they occur prior to the acceptance by the City of Fort Dodge.

8.8 Proposal Selection

Fort Dodge reserves the right to reject any or all proposals or portions thereof. Fort Dodge reserves the right to issue RFP updates at any time. Fort Dodge makes no guarantee of any minimum or maximum amount of products/services to be procured; and, Fort Dodge reserves the right to award any contract based on internal business policies and needs rather than the lowest bid. Fort Dodge reserves the right to make an award without

further discussion of the proposals submitted; there may be no best and final offer procedure. Interviews and negotiations may be conducted with one or more of the Sellers. Each initial offer should contain the Bidder's best terms from a cost or price, service, timing, and technical standpoint.

Fort Dodge may consult references familiar with the Bidder regarding its prior operations and projects, financial resources, reputation, performance, or other matters. Submission of a proposal shall constitute permission for Fort Dodge to make inquiries and authorization to third parties to respond to them.

Fort Dodge may elect to initiate contract negotiations with one or more Bidder including negotiation of costs/price(s) and any other issues or terms and conditions, including modifying any requirement in the RFP. The option of whether to initiate contract negotiations rests solely with Fort Dodge. No Bidder shall have any rights against Fort Dodge arising from such negotiations.

As a result of selection of a Bidder to supply products and/or services to Fort Dodge, Fort Dodge is neither endorsing nor suggesting that the Bidder's product or service is the best or only solution. The Bidder agrees to make no reference to Fort Dodge in any literature, promotional material, brochures, sales presentation, or the like without the express written consent of Fort Dodge.

This RFP does not create any obligation on Fort Dodge to make any contract award.

9. Additional Information

If the **Seller** has an optional feature or service that is not required or quoted in response to the base specifications, it shall include a description of that software and/or hardware capability, including availability and pricing for review by the Owner, at its discretion.

9.1 Limitation of Liability

Fort Dodge makes no representations, warranties, or guarantees that the information contained herein is accurate, complete, timely, or that such information accurately represents the conditions that would be encountered in pursuing the work or at the site(s) of work now or in the future. The furnishing of such information by Fort Dodge shall not create or be deemed to create any obligation or liability upon it for any reason whatsoever and each Seller, by submitting its proposal, expressly agrees that it has not relied upon the foregoing information, and that it shall not hold Fort Dodge liable or responsible therefore in any manner whatsoever. Accordingly, nothing contained herein and no representation, statement or promise, of Fort Dodge, its directors, officers, agents, representatives, or employees, oral or in writing, shall impair or limit the effect of the warranties of the Seller required by this RFP and that it shall not hold Fort Dodge liable or responsible therefore in any manner whatsoever.

9.2 Confidentiality

Any portions of the proposal containing confidential or proprietary information should be clearly marked "Proprietary and Confidential". Fort Dodge reserves the right to release any such information to its agents or contractors for the purpose of evaluating the Seller's proposal. Under no circumstances will Fort Dodge be held liable for any damages resulting from any disclosure of Sellers claimed confidential information during or after the RFP process.

9.3 Fort Dodge Confidential Information

Specifications, drawings, sketches, models, samples, tools, computers or other apparatus programs, trade secrets, confidential research, development or commercial information, intellectual property, patents, and /or other technical or business data are hereinafter designated as "Confidential Information." Confidential Information shall not include information that (a) is generally available to the public prior to the date of this Agreement; (b) enters the public domain during the term of this Agreement through no fault of the seller; (c)

the seller can establish, through its own contemporaneous records, was in its possession prior to disclosure of the Confidential Information to the seller; or (d) is independently developed by the seller without reference to or use of the Confidential Information.

The Seller shall: (a) hold and maintain all Confidential Information received in strict confidence; (b) restrict disclosure of Confidential Information only to those employees of the seller or its wholly owned subsidiaries who have been informed of the confidential nature of the information and have agreed to be bound by the restrictions of this Agreement governing disclosure of Confidential Information, and who need to know the Confidential Information for proposals to Fort Dodge for furnishing material, software, documentation, or services hereunder; and (c) not duplicate, reproduce, distribute, store in any electronic information retrieval system, or disseminate Confidential Information in any other manner. All Confidential Information, whether written, oral, or other, furnished to the seller hereunder, or in contemplation hereof, shall remain the property of Fort Dodge. All copies of such Information in written, graphic, or other tangible form shall be returned to Fort Dodge or permanently destroyed at Fort Dodge's request.

Seller obligations with respect to the Confidential Information shall survive termination of this Agreement and remain in full force and effect for a period of five years from the date of receiving of this Agreement.

9.4 **Fort Dodge Proprietary Information**

This RFP and all information related to it are the property of Fort Dodge, and are delivered only for the purpose of enabling each potential seller to prepare and submit a proposal in response hereto.

9.5 **Compliance with Federal, State, and Local Laws**

Seller warrants in submitting a proposal and in the performance of an award as a result of the proposal, that Seller has complied with, or will comply with, all applicable federal, state, and local laws, ordinances and all lawful orders, rules, and regulations hereunder.

9.6 **Due Diligence**

Prior to submitting a proposal, Sellers should carefully examine the sites, plans, specifications, construction drawings, and contracts related to this project. Sellers shall carefully review the route, characteristics of soils and terrains, and the kind of facilities required before and during the construction of the project.

ATTACHMENT 1 – Materials Ordered for the Project

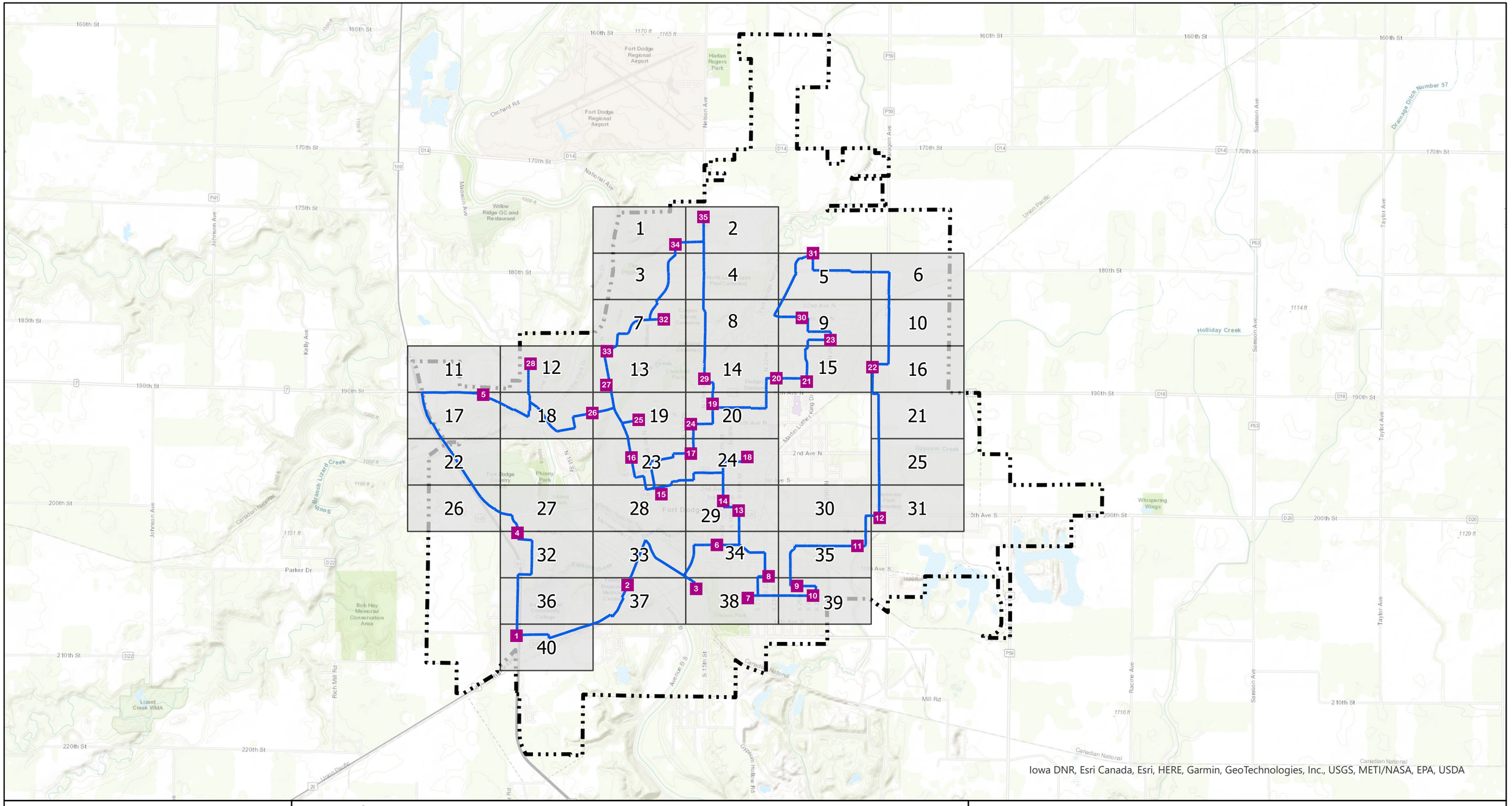
RING			
ID	Description	Unit	Quantity
BULKU2436240062107	HAND HOLE 24X36X24B BULK/SHIELD X LID W/ RACKING ANTI SEIZE PENTA HEAD BOLTS	count	40
BULKU3648360062107	HAND HOLE 36X48X36 BULK/SHIELD X LID W/ RACKING ANTI SEIZE PENTA HEAD BOLTS	count	70

Conduit	1.25" conduit (3) - SDR 11 for Ring Conduit	feet	126,039
Ground Rod	Ground Rod 8’ (5/8’ or ¾’)	count	110
Ground Clamps	Ground Clamp (5/8’ or ¾’)	count	110
FIBER MARKER WITH TEST	FIBER MARKER WITH TEST	Each	110
Locate Wire	Provide and Install Locate Wire 10M	Each	126,039

Distribution			
BULKU1324150062107	HAND HOLE 17X30X24 BULK/SHIELD X LID W/ RACKING ANTI SEIZE PENTA HEAD BOLTS	count	580
BULKU2436240062107	HAND HOLE 24X36X24B BULK/SHIELD X LID W/ RACKING ANTI SEIZE PENTA HEAD BOLTS	count	400
BULKU3648360062107	HAND HOLE 30X48X36 BULK/SHIELD X LID W/ RACKING ANTI SEIZE PENTA HEAD BOLTS	count	70
FEDH1JKT12HB048E3	FIBER 48 COUNT LOOSE TUBE SINGLE JACKET ALL DIELECTRIC GEL FREE 20,000 REEL	feet	511226
Commscope	48 County Fiber		
FEDH1JKT12HB096E3	FIBER 96 COUNT LOOSE TUBE SINGLE JACKET ALL DIELECTRIC GEL FREE 20,000' REEL	feet	167695
FEDH1JKT12HB144E3	FIBER 144 COUNT LOOSE TUBE SINGLE JACKET ALL DIELECTRIC GEL FREE 20,000 REEL	feet	67933
FEDH1JKT12HB288E3	FIBER 288 COUNT LOOSE TUBE SINGLE JACKET ALL DIELECTRIC GEL FREE 20,000' REEL	feet	141123
FEDH1JKT12HB432E3	FIBER 432 COUNT LOOSE TUBE SINGLE JACKET ALL DIELECTRIC GEL FREE 20,000' REEL	feet	19963
	Microduct for 432		
Conduit	1.25" conduit - SDR 13.5 for Distribution	feet	729654
PEDESTAL 12x11 CHARLES INDUSTRIES	(Small Ped)	Each	1960
Mount Stake			
Fiber Distribution Terminal	Multiport Service Terminal or APC-SC Terminal	Each	1960
FOSC450D66NT0N0V	CLOSURE "D"	Each	398
FOSC-ACC-D-TRAY-36	TRAY (D) 36	Each	833

	FIBER MARKER WITH TEST	Each	730
Fiber Distribution Panels - Corning or Commscope 144ct units		Each	9
144 PFP Centralized Split Cabinet		Each	2
432 PFP Centralized Split Cabinet		Each	33
Closure B			
Tray (B) 12			

Drops			
DROP-100	Drops between 0ft and 100ft	count	1438
DROP-200	Drops between 100ft and 200ft	count	4183
DROP-300	Drops between 200ft and 300ft	count	3272
DROP-XL	Drops exceeding 300ft	count	1212



Fort Dodge Proposed Ring & Cabinet Locations

Fort Dodge, Iowa

Legend

- Splitter Cabinet
- Conduit
- Grid Maps
- City Limits

Data Source:
Coordinate System: NAD 1983 StatePlane Iowa North FIPS 1401 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

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Overview Map

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Fort Dodge Proposed
Ring & Cabinet Locations

Fort Dodge,
Iowa

Legend

- Central Office
- Splitter Cabinet
- Large Vault
- Medium Vault
- Small Vault
- 10 x 10 Pedestal
- (3) 1.25" duct
- (4) 1.25" duct
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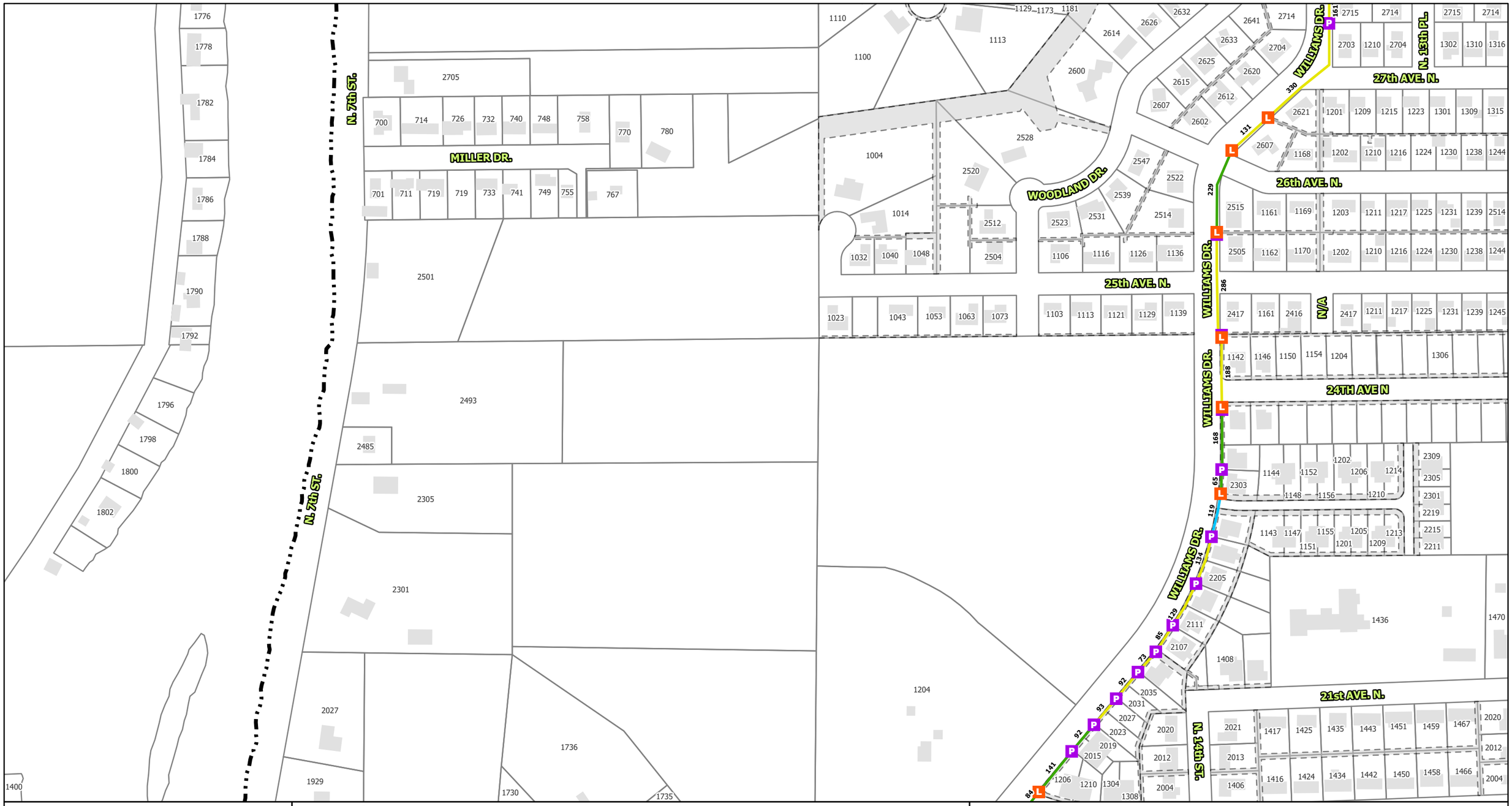

Fort Dodge Proposed
Ring & Cabinet Locations

Fort Dodge,
Iowa

Legend

- Central Office
- Splitter Cabinet
- Large Vault (L)
- Medium Vault (M)
- Small Vault (S)
- 10 x 10 Pedestal (P)
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Fort Dodge Proposed Ring & Cabinet Locations

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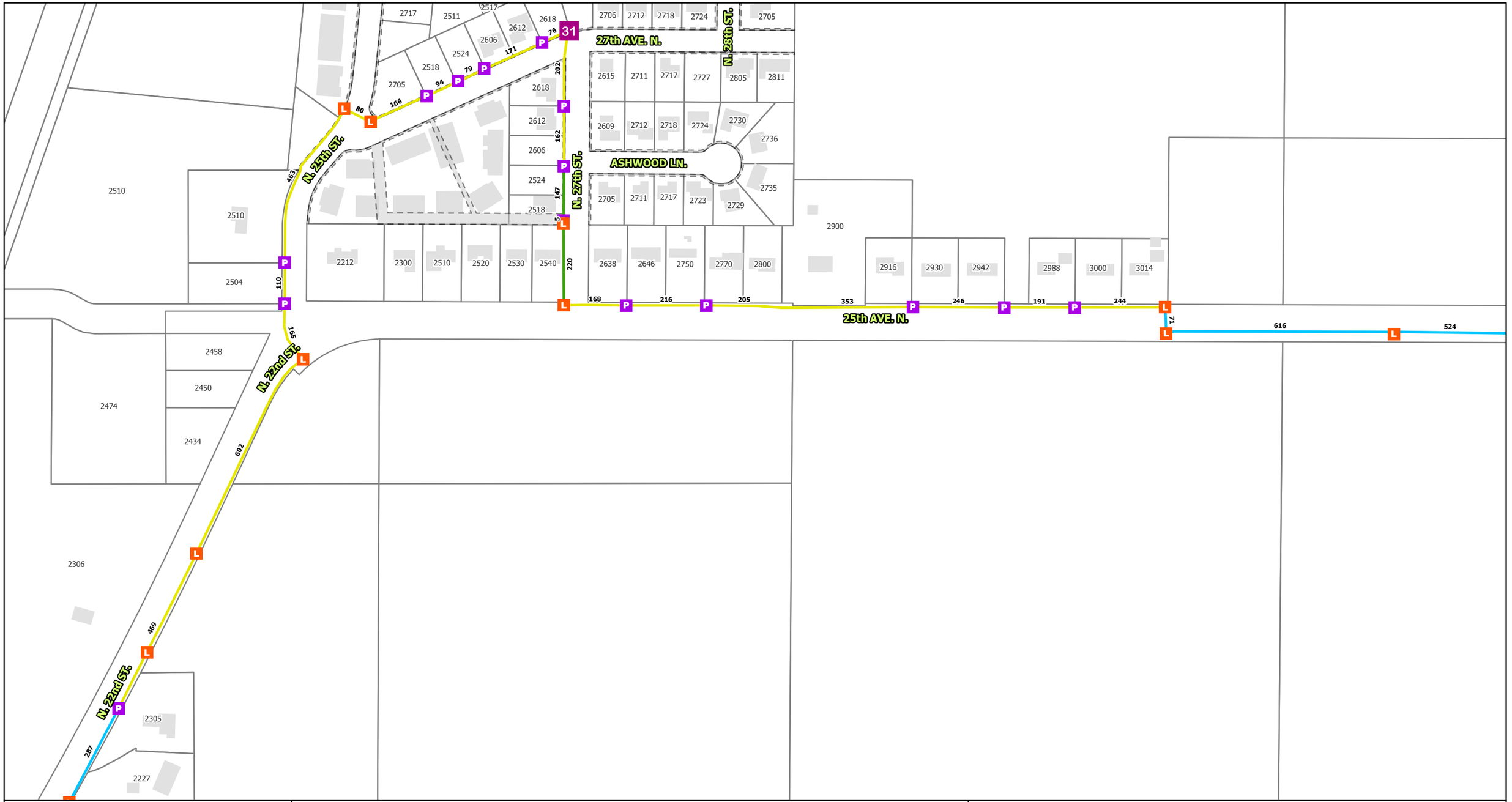

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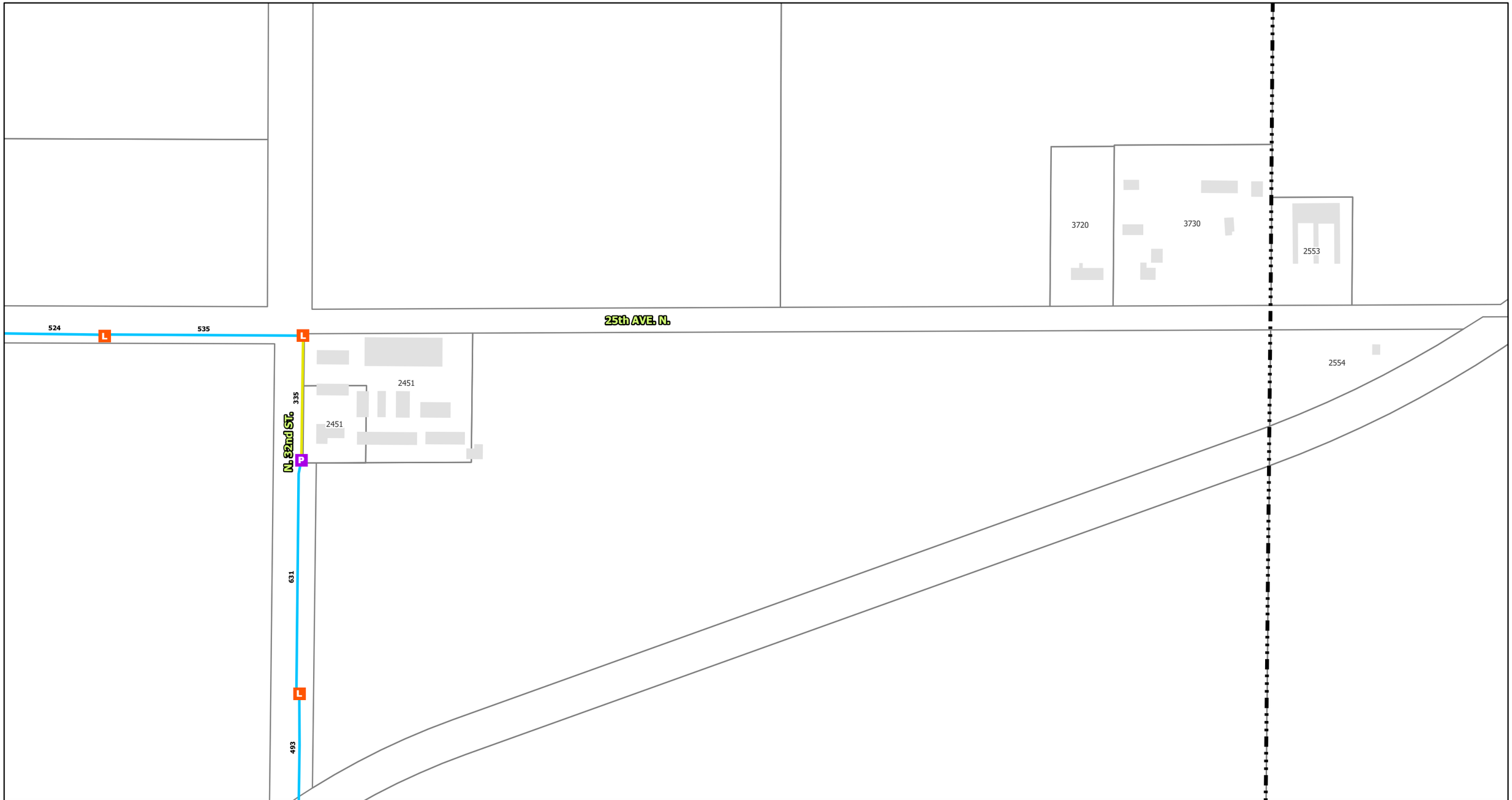

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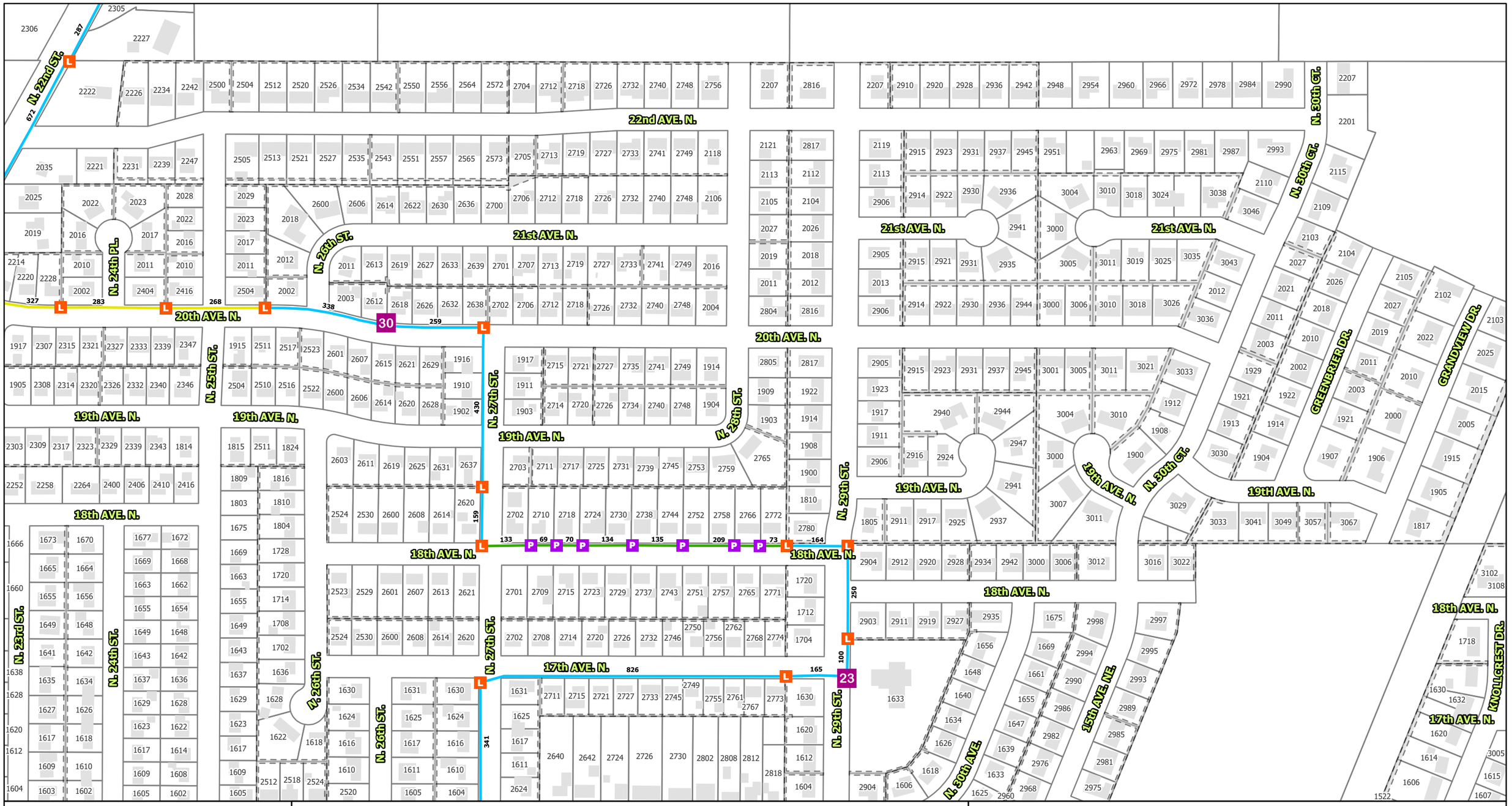

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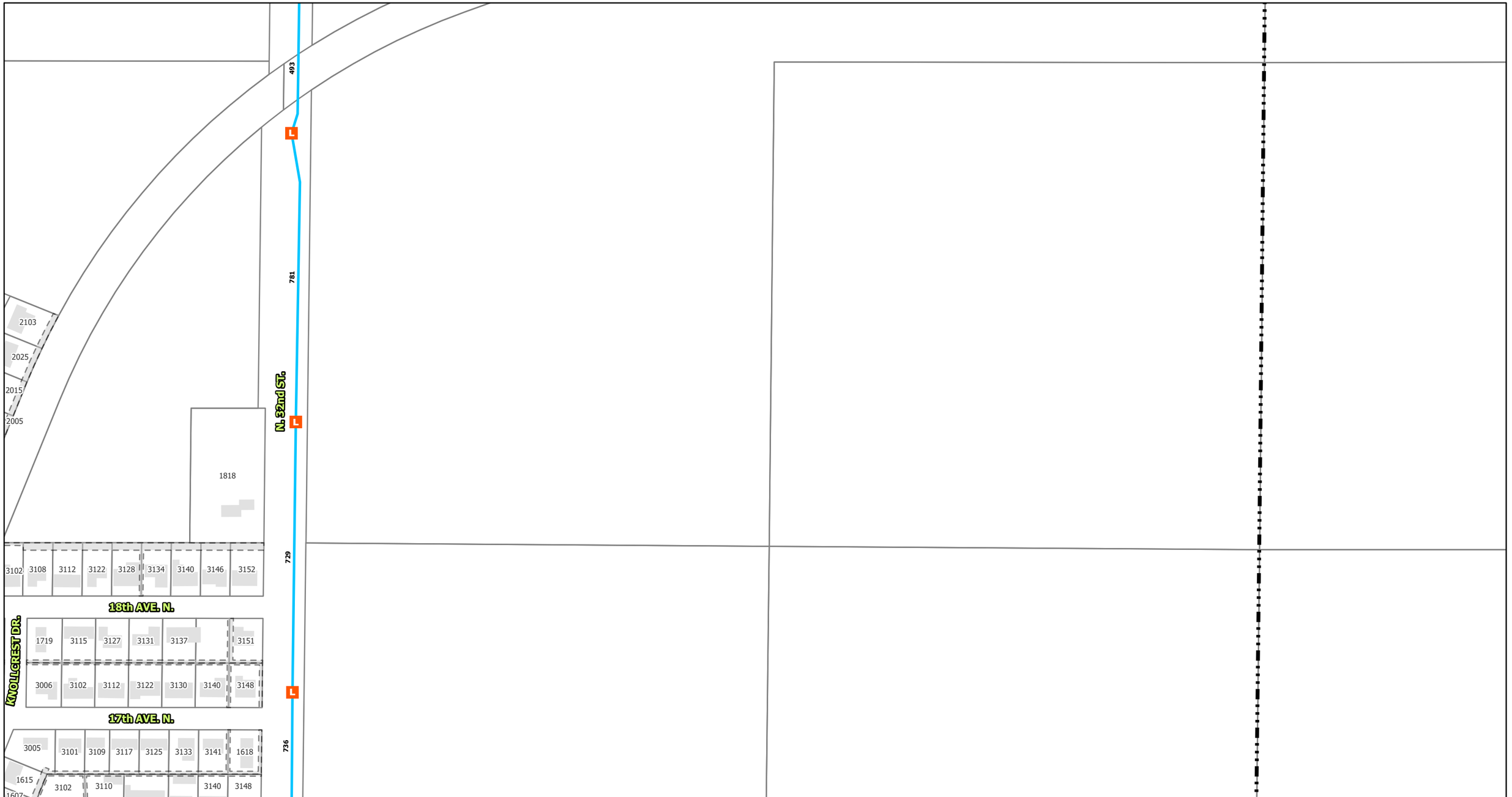

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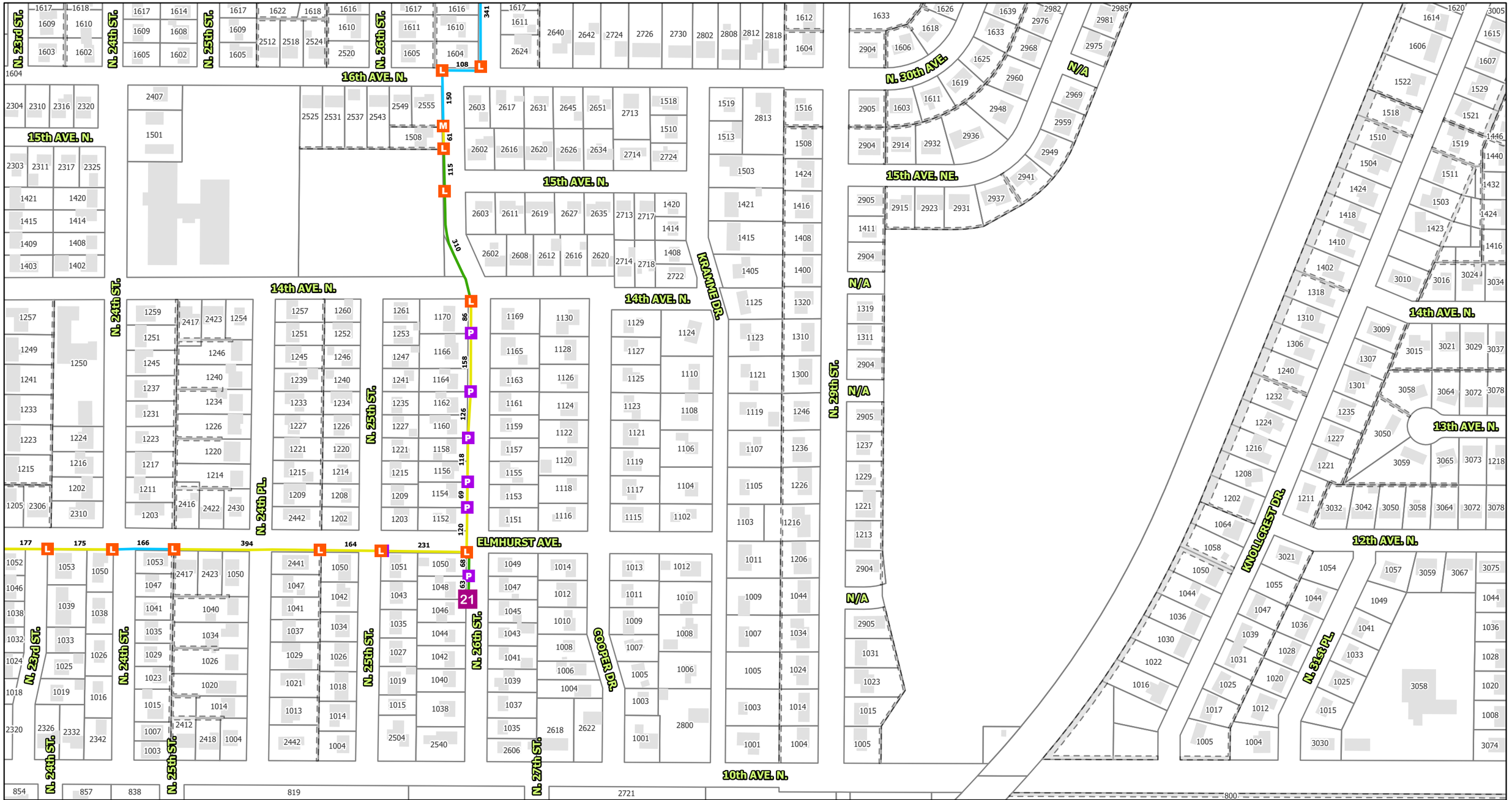

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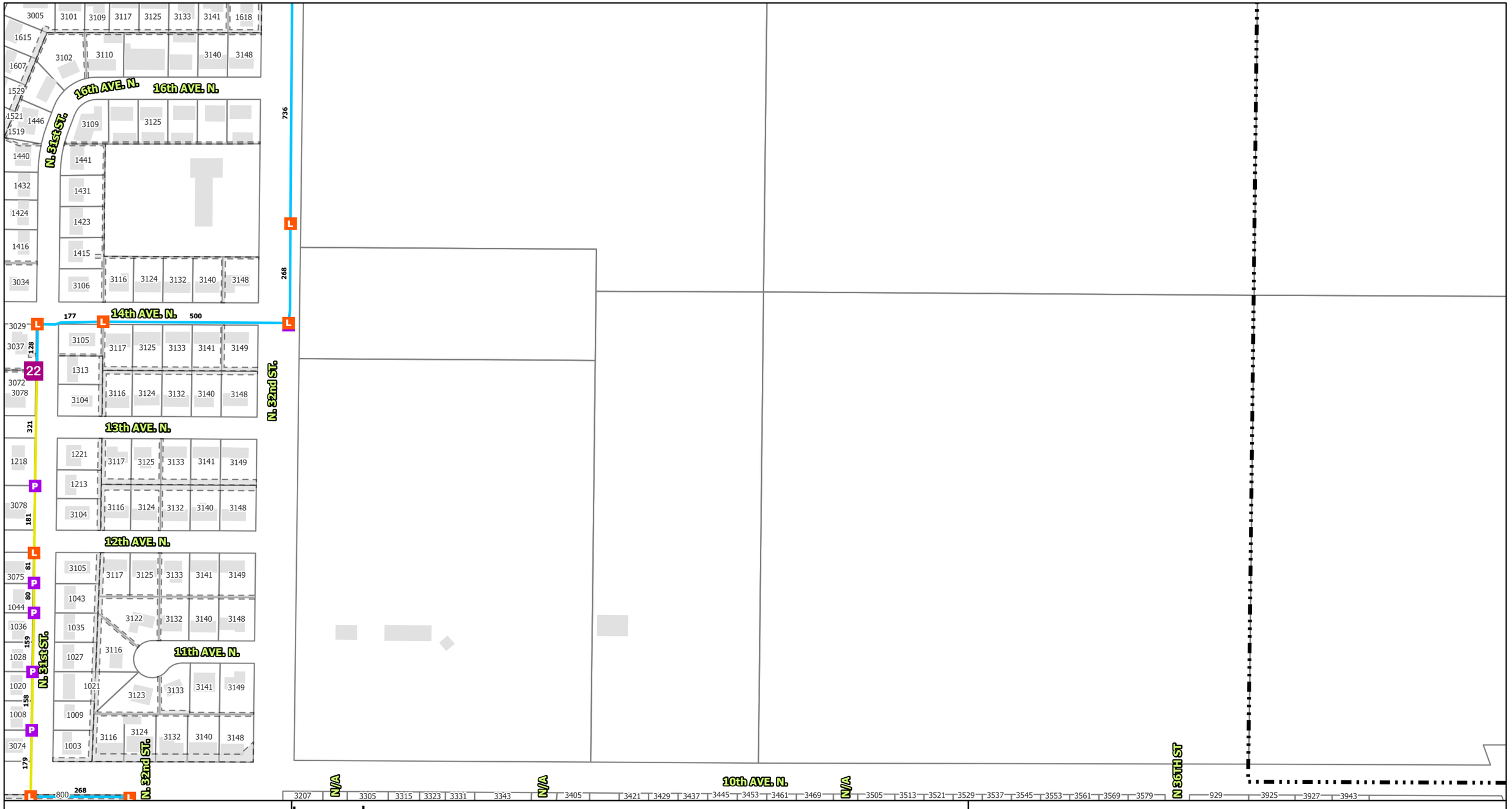

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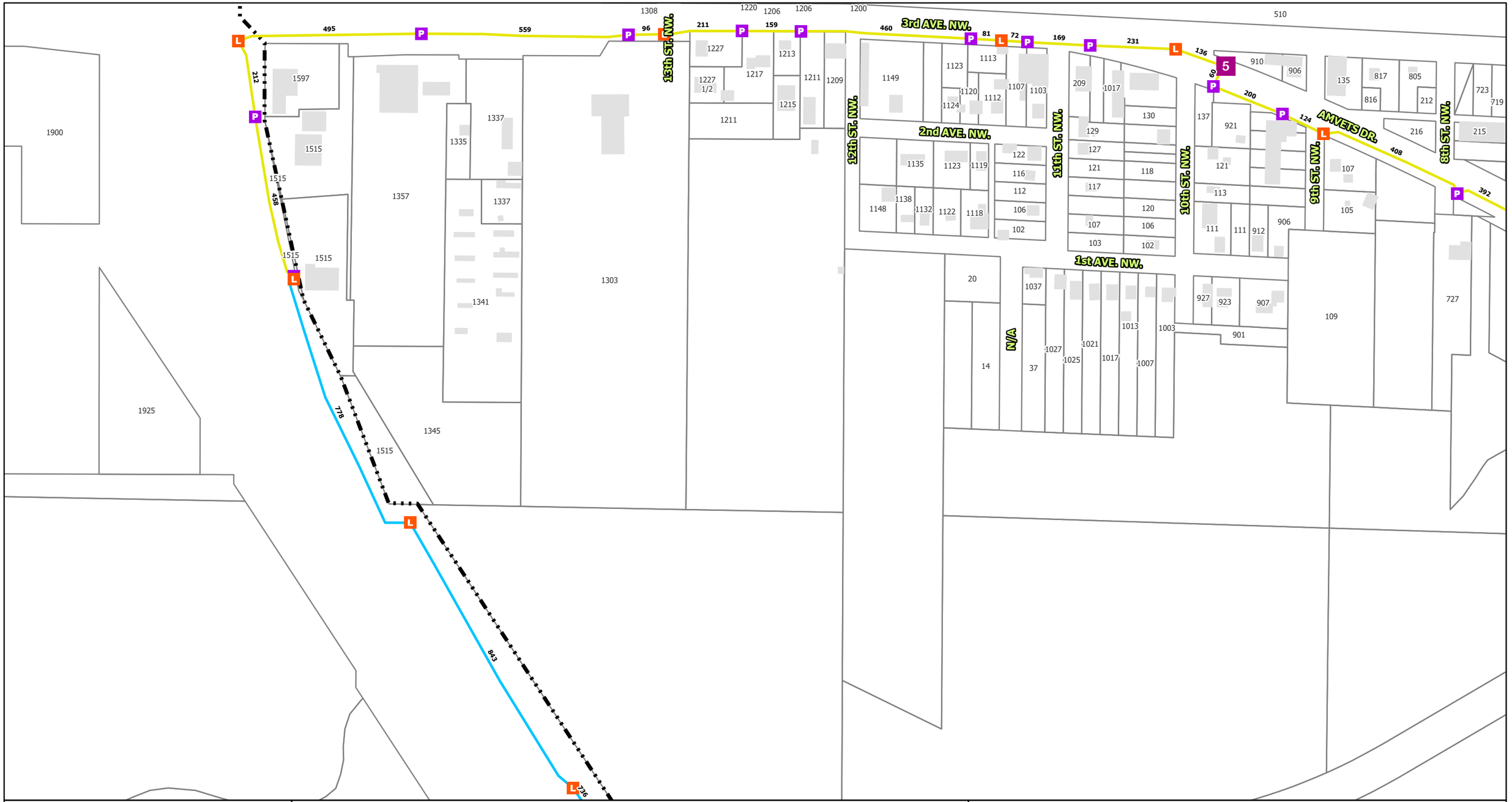

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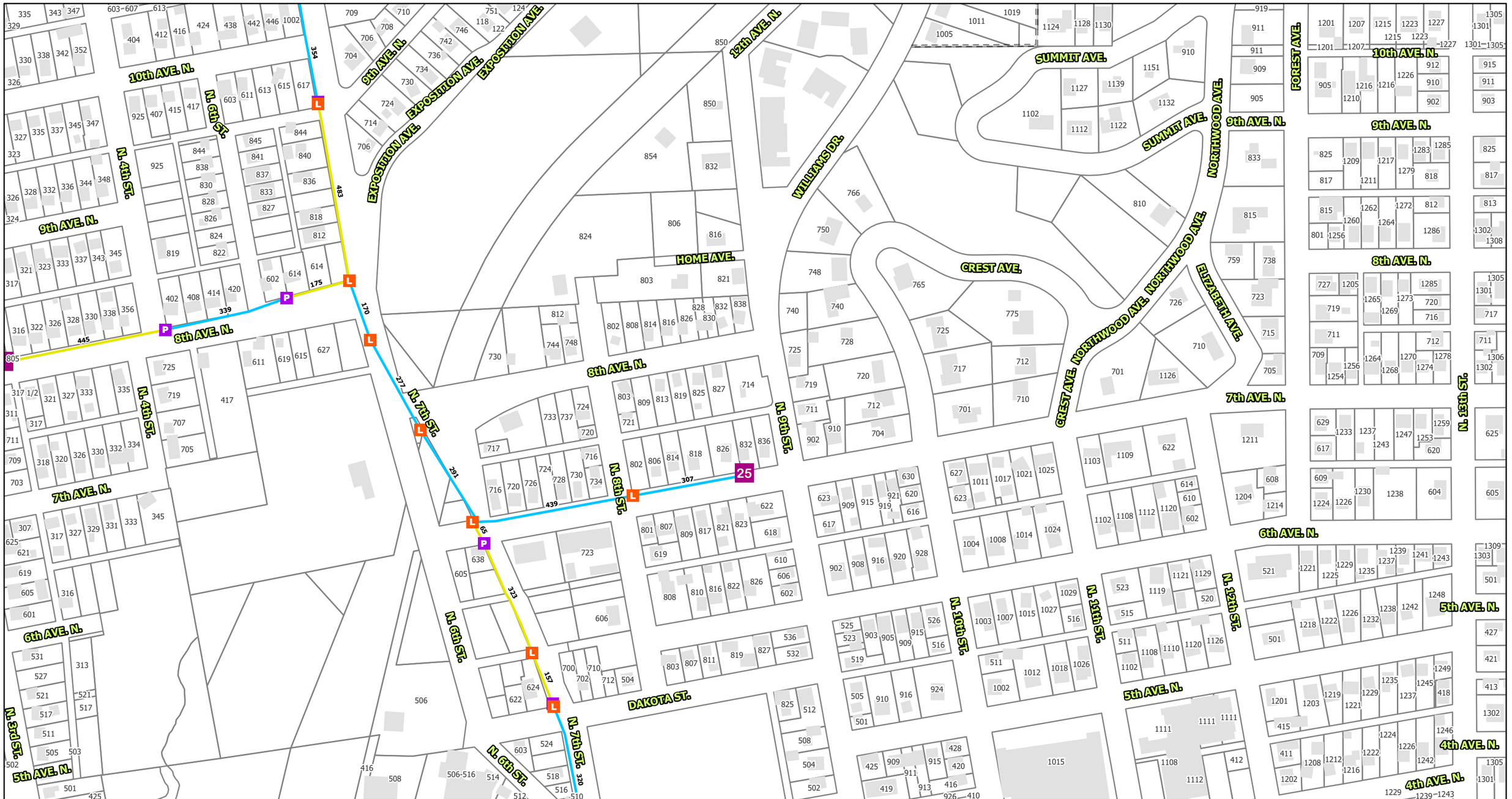

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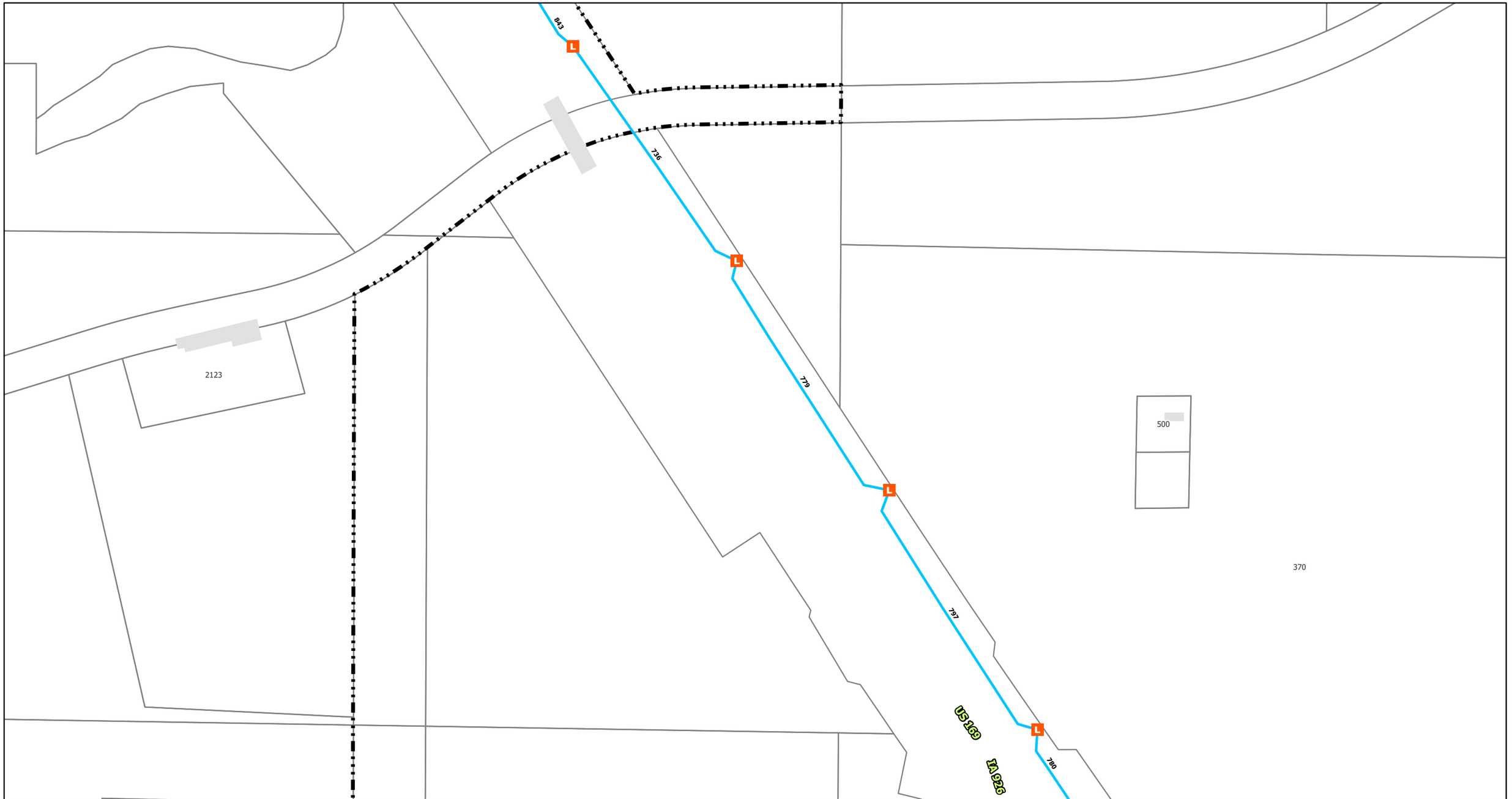

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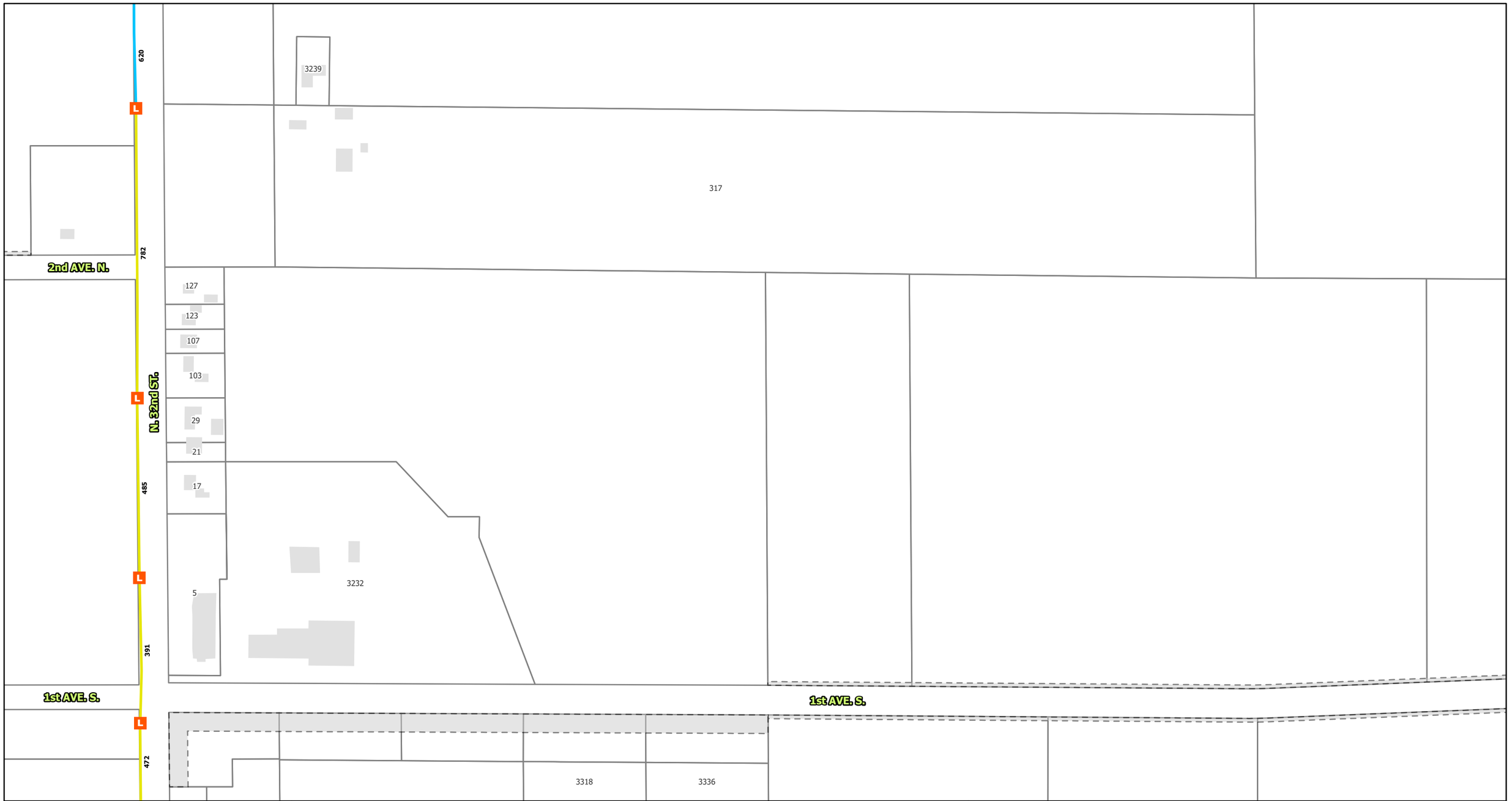

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Fort Dodge,
Iowa

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- Central Office
- Splitter Cabinet
- Large Vault (L)
- Medium Vault (M)
- Small Vault (S)
- 10 x 10 Pedestal (P)
- (3) 1.25" duct
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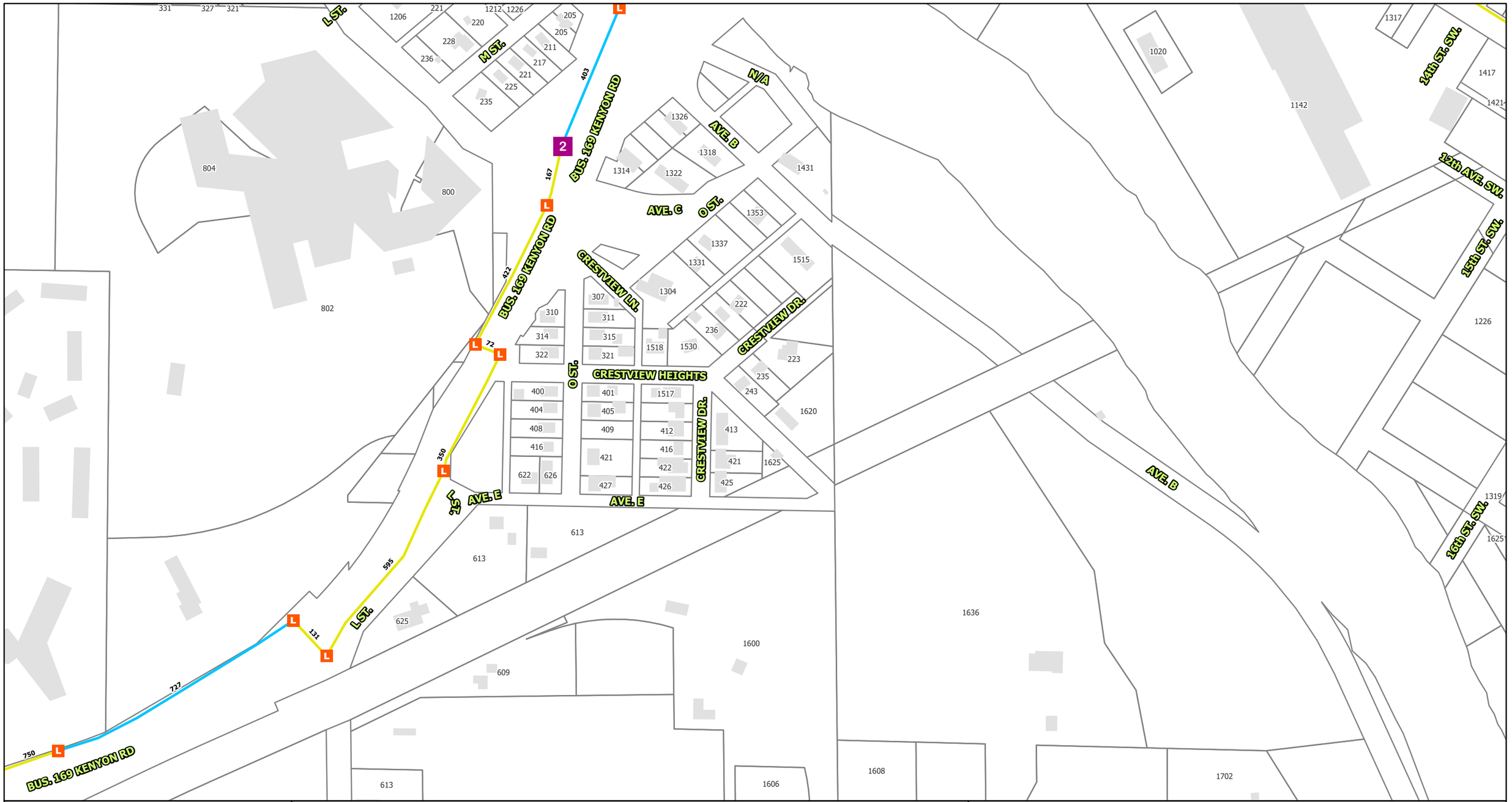

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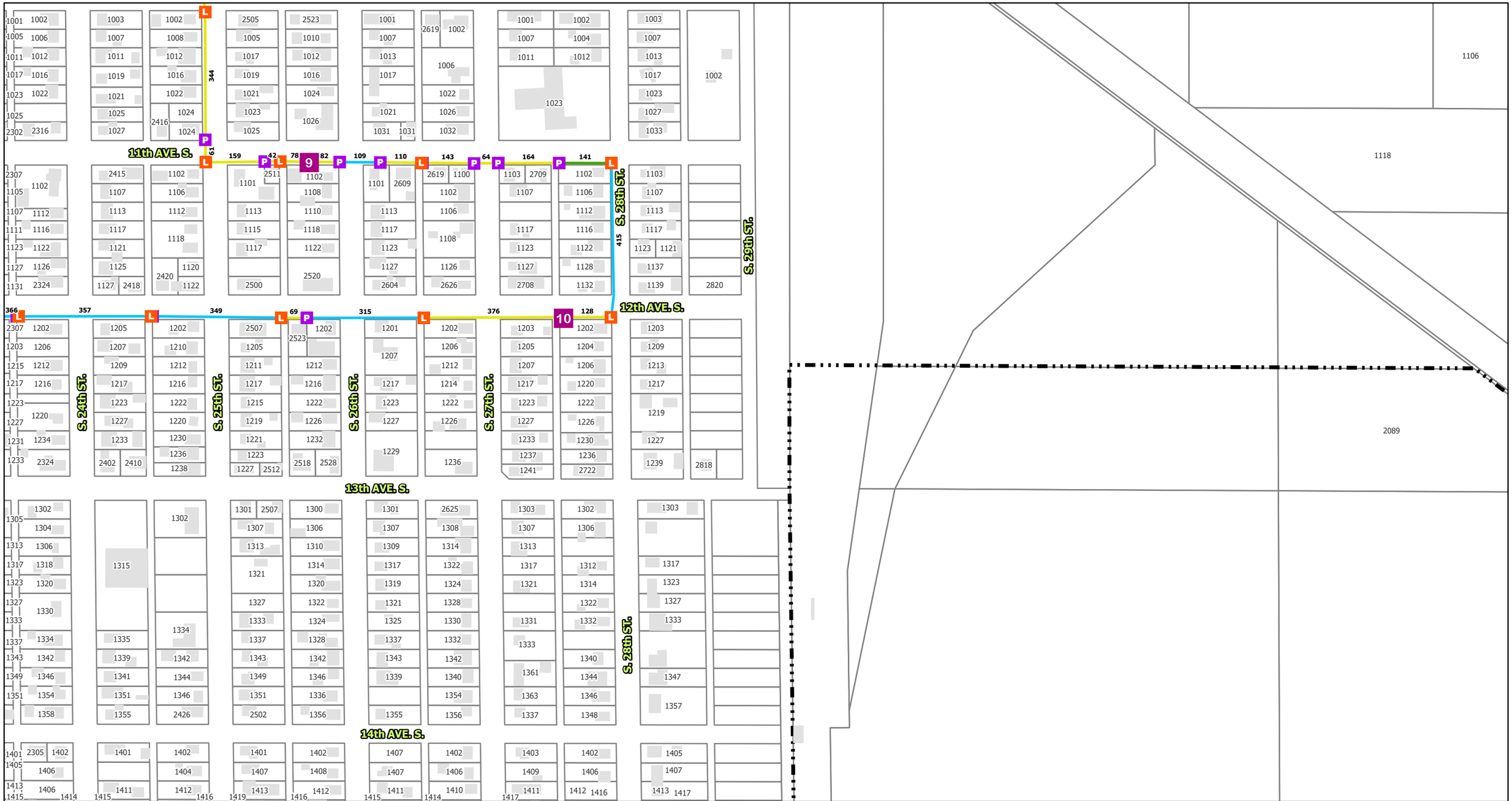

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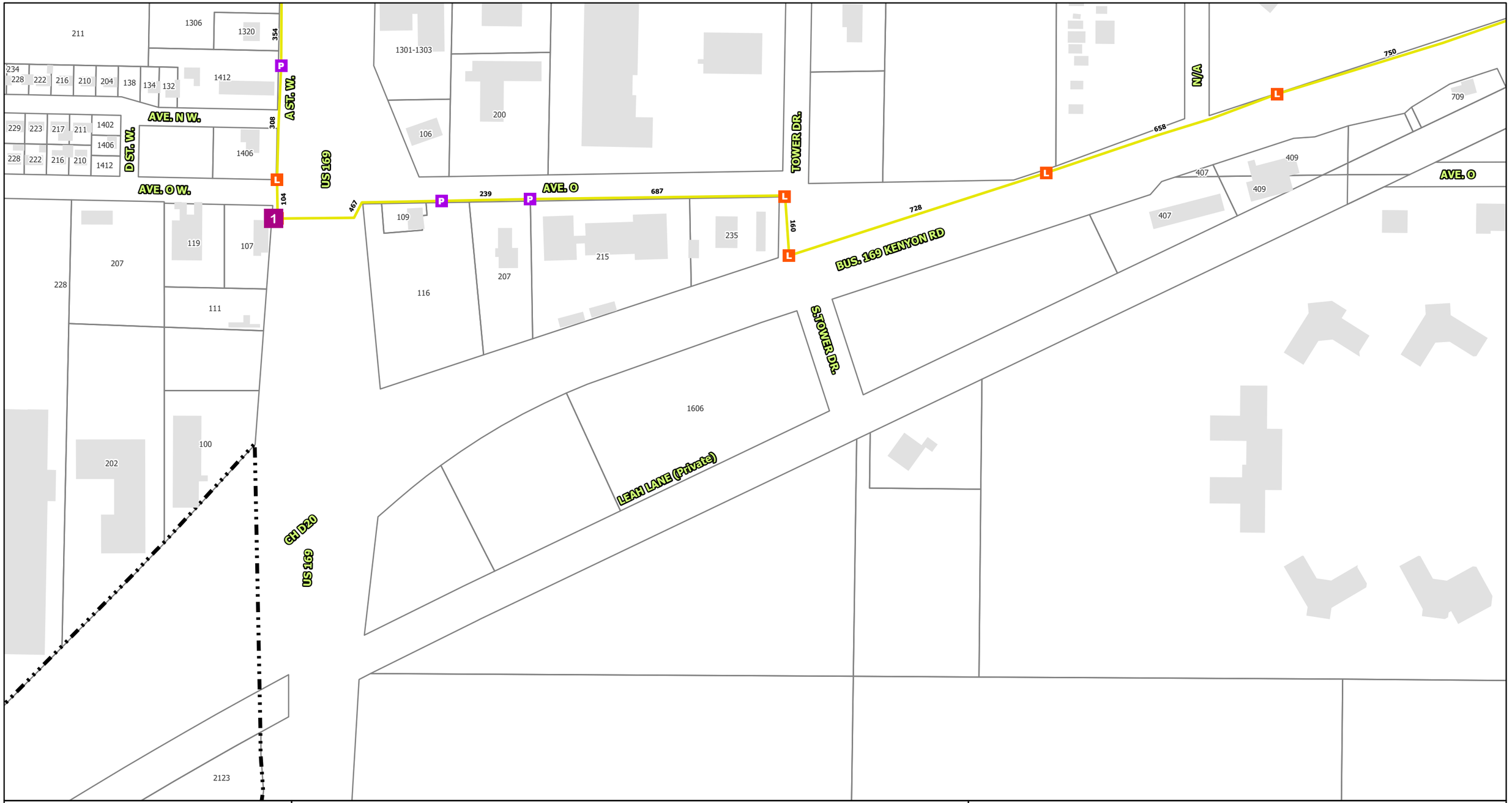

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Fort Dodge Proposed
Ring & Cabinet Locations

Fort Dodge,
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- Splitter Cabinet
- 432ct Fiber Cable
- Cable Count
- City Limits
- 48ct Fiber Cable

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Iowa DNR, Esri, HERE, Garmin, GeoTechnologies, Inc., Intermap, NGA, USGS

Compendium for Fort Dodge Construction RFP Questions

1. Is this a design build project? Is the Construction Contractor responsible to Design and Engineer?
   No – this is being designed by HR Green and the contractor will do the construction. Because of material lead times, the timing in this project has been a little different than typical. The ring design is complete and should be bid from the drawings. The design for the distribution off of the ring (cabinets to the premises) is still being worked on. Because of that timing, there is a complete design of the ring to bid and preliminary units for the distribution. The specific bid for the ring and the units for the distribution will both be taken into account to determine the award. Because the financing for this project is in place, the ring price and negotiated numbers for the distribution will be important to determine the construction contract award and the costs compared to the financed amount.
2. Are we to bid labor for the material quantities that have been ordered per Attachment 1 or will you be sending out a unit sheet for us to submit?
   The unit sheet is part of Addendum 2.
3. Please explain **7.0 Vendor Equipment Details**, If the equipment Vendor has not been selected, how can we reference equipment with all relevant model numbers, unit costs, number of units required, and total costs as requested in section **4.5.2 Part 2: Network Equipment.**
   At the time of the Construction RFP, final negotiations were underway with the Network Access Equipment Vendor. Details of that award are attached.
4. Please explain **8.4 Ongoing Costs, is** this Warranty to be provided by the Equipment Vendor or the Construction Contractor?
   The Warranty should be your typical construction warranty. The City has purchased the materials for this project (again, because of material lead times), so the material warranties are provided to the City. Please specify your usual construction warranty period.
5. How do we give a unit price with no qty's with a not to exceed amount?
   Quantities are provided in the attached worksheet.
6. Is the contractor responsible for installing fiber from outside wall mount Demarc to the inside ONT? If so, how do we price this unit? Per foot? It could range from brick foundations, concrete, or block, and running anywhere from 10ft to 100ft in a finished basement. Some may require EMT or smurf tube.
   Below are the in-home activation bid request. Please provide one bid price that supports the different installation needs that may be needed.

   - **IN HOME ACTIVATION**
     - **Inside fiber installation (outside wall demarcation box to the inside ONT)**
     - **Wire up to 2 copper Ethernet drops from ONT.**
     - **Complete the provisioning of customer SSID/WiFi Access,**
     - **Activate customer internet and voice service**
     - **Bid Rates**
       - **First 250 units**
       - **250-500 units**
       - **500-1000 units**
       - **1000+ units**

7. The specific bid bond form you want us to use will be sent out with an Addendum, correct?
   Please provide the form you typically use
8. Do the bids need to be sealed? And is there a specific time you need them by on the 5th or just EOD?
   Yes – sealed bids will be accepted until 2:00 Central Time.
   NOTE: The bid date is changed to 4/19/22.
9. You have 10M tracer wire on your list of materials, but it states "provide and install" does that mean the contractor is to provide this?
   No. At the time of the Construction RFP, material deliveries were still being determined. The City is receiving materials, so the awarded contractor will install only.
10. Also, can the 10M tracer wire be placed inside duct instead of outside? Based on our experience tracer wire placed outside duct has run into issues like shorting out at connectors, etc. Please call out this and any other suggestions in your response.
    Yes, inside one of the conduits can be done.
11. Which miscellaneous materials are contractor provided? Mule tape, couplers, duct plugs, connectors for grounding locate blocks in HH, pea rock, hardware, etc.
    The list of materials in the Construction RFP is what has been ordered and is being delivered. Other miscellaneous materials can either be provided by the awarded contractor or can be given to the City to order. For the ease of the contractor's scheduling, it might be more efficient for the contractor to provide those miscellaneous materials, but the City is open to either way.
12. Paragraph 2 calls for the Bidder to indicate the timeline for connecting each of the anchor institutions shown in Figure 4. How many anchor institutions are there, and where in Figure 4 are they indicated? Is there a turn-up priority list for the anchor institutions?
    We are only connecting the 35 cabinet and City Hall locations.
13. Can distribution areas be activated if the Ring is in a point-to-point stage or do you require the ring to be completed prior to activations?
    The City desires to have between 100 – 300 customers connected in 2022. Because of the industry challenges with materials, the City will work with the awarded contractor to determine details of how the build will progress.
14. Who will provide/pay for required permits?
    The Engineer will design and submit permits
15. Is there a Contract document to review?
    If possible, the City will provide a sample document in an additional addendum
16. What are the dimensions of the cabinets? Are we pouring a new concrete pad, using a pre-cast pad, or install them on handholes, etc.?
    Below is the Corning Cabinet Specs. We will be installing 432 and 144 cabinets.
    Stubbed Pad-Mount Cabinet; installation guide; 32 extra connector dust caps; grounding kit; paper mounting template; rubber mounting cushion; 4 lock washers, 1/2, SS for pad mounting; 4 flat washers, 1/2, SS for pad mounting; 4 hex nuts, 1/2-13 x 0.75-in, SS for pad mounting; 4 hex bolts, 1/ 2-13 x 1.25-in, SS for pad mounting
    We will 144ct or 432ct connectorized distribution tail and 24ct or 48ct connectorized feeder tail going to adjacent hand hole with splice case for splice management.

https://cf-store.widencdn.net/graybar/7/3/5/7350fcf9-81e4-4b44-bc11-d07076c893d8.pdf?response-content-disposition=inline%3B%20filename%3D%2226242147-spec-sheet.pdf%22&response-content-type=application%2Fpdf&Expires=1649294328&Signature=i0Xz-ILnEJjH0vWjoh6hyMk5Fxdgc3cLwdChqvi7VRdT8EMXxBlip-3Jwzm3x2G2oPshvzLn6EfG7wXnFbN1mcg9mKX3sq2jE4GiQ1OX3rMG1M3IddSXIQz3eJzjNGShWwOr5kB0lw2LT5aiEGCEPjX67meScBy0kQDvUdO81V83cCo3IfYC0tLYhEl9FgwpPuc2EB0AhGaRz5VSe1WwXTZdUO3OYo6Ete7Xte1TFjdtC44yMZVtn7gKFJegM52g2Bj9ce1vI76yE6Vl6~lNwIOkhdww75mBhQHMHWMa4DJ3nZq4LwLSjwhsot5FsohkF-8UYdkRUg0vbcyUnL-qFw__&Key-Pair-Id=APKAJD5XONOBVWWOA65A

17. What are the dimensions of the cabinets? Are we pouring a new concrete pad, using a pre-cast pad, or install them on handholes, etc.?
    See above
18. Is there a LF quantity of MST tails to be pulled through conduit
    We will want install bid item for each MST installation length.
    100', 250', 500', 750', 1000', 1500'
19. Does drop pricing exclude interior work. Does it include the installation of any electronics? Can you provide a detailed SOW for Drops? The UM is count-are you looking for a per foot cost or a per drop cost
    Drop pricing does not include interior work or installation of any electronics. Below is breakout of each bid type.
    - **AERIAL DROP CONSTRUCTION**
      - **SERVICE DROP**
      - **RISER**
    - **BURIED DROP CONSTRUCTION**
      - **SERVICE DROP**
    - **OUTSIDE DEMARC CONSTRUCTION**
      - **HOUSE DEMARCATION BOX**
      - **SMOKE TUBE**
      - **GROUND**
      - **FIBER TERMINATION**

    Please provide a per drop price for each (Aerial drop, Buried Drop, Outside DEMARC).
20. The material list indicates approximately 10,000 drops, will we be installing all these drops right away to every dwelling/residient/busniness, or is it dependent upon the customer signing up for service? If it is the customer signing up for service, what duration is the contractor expected to continue to perform the drop installations?
    The number and location of drops depends on customers selecting service

21. Can you provide the remaining verbiage in Section 5.1, it seems to indicate that rock units would be considered as adder units to the primary installation units?
    See the bid worksheet for details
22. What is the minimum depth of cover for drops? Is the expectation for drops to be direct bury installed or bored?
    18"- 24" - bored or plowed – ¾" conduit
23. Is there any further detail for the post pedestal installation of fiber as from the pedestals on the fiber ring to the home?
    Pedestals are: VERTIV CORPORATION UPCBD4
24. UPCBD4Will power be required to be provided to the cabinets, and is that the responsibility of the contractor?
    No power is required. Passive cabinet design.
25. Based on the pre-bid there will be some addendums coming, can the timeframe for questions be extended to account for review and additional questions based on these addendums?
    If you have follow-up questions, forward those to istevens@hrgreen.com. If there is time to answer them, we will send answers out to everyone
26. Are sewer lateral inspections required if conduit is placed by HDD?
    None at this time
27. Are there specific areas where aerial install may be required?
    Yes. At this point, there will need to be some drops that are done aerial. It is possible that some special crossings will also need to be aerial, but those are not specified yet.
28. What are the listed municipal code requirements for restoration?
    Section 140.31 of the municipal code
29. Can spoils be left on site, or do they need to be hauled off site?
    Usually, the contractors are responsible for hauling off and disposing of the spoils. If that is an issue, please notate that in your response.
30. Can native spoils be utilized as backfill?
    The City would prefer that they are not, but this can be more fully discussed with the selected contractor.
31. What material should the Contractor use to backfill the potholes?
    The City's preference would be compacted ¾ minus crushed aggregate or clean sand, but this can be more fully discussed with the selected contractor.
32. Are there any working time restrictions due to coordination with HR Green and TBD Network Manager (i.e. no work over 40 hours/week, weekends)?
    The ROW ordinance only restricts work between the hours of 10:00 PM and 6:00 AM. On construction projects in residential areas, the City typically asks the contractor to not use large equipment or perform louder work until at least 7:00. For work not requiring City inspection, weekend work is allowed. For traffic related closures, the City typically work with the contractor to avoid congestion timing issues around schools, etc. The City would ask to be provided with at least 48-hour notice prior to any road or lane closures.
33. 8.4 Ongoing Costs
    a. The Bidder shall provide a warranty period on any constructed equipment as agreed upon with the City of Fort Dodge and the selected Vendor as an estimate covering five (5) years after the warranty period is over of the yearly costs to ensure operational integrity for any constructed network equipment.
        i. What is the initial warranty period?

    The initial warranty period will be 1 year

34. 1,960 MSTs ranging from 100’ to 1,500’ are listed on the Bid Sheet. There is a significant cost difference to install a 1,500’ tail compared to a 100 foot tail. Do you have a breakout of the quantity of each length? If not, can a labor line item be added to cover the labor cost per foot to install MST tails?
    Yes, please provide a bid price for each tail length option over a per foot cost.
35. Will all MSTs be mounted in a 12x11 Charles Industries Pedestal? If so, the peds are not listed on the Bid Sheet. Can a line item be added for this labor?
    Yes – a new bid sheet will be distributed 4/8/22
36. There are 3 different sizes of hand holes listed on Attachment A, (materials ordered). There is a significant cost difference to install each size, can you break those out on the Bid Sheet? The quantities ordered do not match the total handholes on the Bid Sheet.
    Yes – a new bid sheet will be distributed 4/8/22

Fort Dodge FTTP - Bid Schedule Summary						
COMPANY:		**DATE:**				
	Activity	**Estimated Segment**	**Quantity**	**Per Unit Price**	**Total Labor - Unitary Pricing**	**Total Labor - Not To Exceed Pricing**
Ring	OSP Construction Underground Path Creation	Design Path 127,019'				
	Conduit PlacementHorizontal Directional Drilling (min. 30" Cover) - 3 Conduits per Bore - SDR 11	Bore (ft) 41,354' w/ 3 conduits (1.25") (ft)	124,062		$0.00	
	Conduit PlacementHorizontal Directional Drilling (min. 30" Cover) - 4 Conduits per Bore - SDR 11(3), SDR 13.5(1)	Bore (ft) 76,674' w/ 4 conduits (1.25") (ft)	306,696		$0.00	
	Conduit PlacementHorizontal Directional Drilling (min. 30" Cover) - 5 Conduits per Bore - SDR 11(3), SDR 13.5(2)	Bore (ft) 8,991' w/ 5 conduits (1.25") (ft)	44,955		$0.00	
	cobble Adder - Boring	(ft) Needs City Approval	1		$0.00	
	Rock Adder - Boring	(ft) Needs City Approval	1		$0.00	
	Conduit Placement - Trenching	Trench (ft)	1		$0.00	
	cobble Adder - Trench	(ft) Needs City Approval	1		$0.00	
	Rock Adder - Trench	(ft) Needs City Approval	1		$0.00	
	Conduit Placement - Plowing	Plow (ft)	1		$0.00	
	Conduit Proofing	(ft)	1		$0.00	
	Hand Hole (HH) and Ground Rod Placement 24X36X24B	Hand Holes with Ground Rod	309		$0.00	
	Hand Hole (HH) and Ground Rod Placement 36X48X36	Hand Holes with Ground Rod	2		$0.00	
	Pedestal 12X11	Pedestals	293		$0.00	
	Marker Post	Marker Posts	311		$0.00	
	Locate Wire	Locate Wire (ft)	127,019		$0.00	
	OSP Construction Fiber Cable Placement					
	FIBER 48 COUNT LOOSE TUBE SINGLE JACKET ALL DIELECTRIC GEL FREE 20,000 REEL	(ft)	8,371		$0.00	
	FIBER 432 COUNT LOOSE TUBE SINGLE JACKET ALL DIELECTRIC GEL FREE 20,000' REEL	(ft)	118,648		$0.00	
	Out of Scope Work Required by Outside Plant Construction Crew	Per Hour				
Distribution - Cabinets	OSP Construction Underground Path Creation					
	Conduit PlacementHorizontal Directional Drilling (min. 30" Cover) - 3 Conduits per trench - SDR 13.5	Bore (ft)	729,654		$0.00	
	cobble Adder - Boring	(ft) Needs City Approval	1		$0.00	
	Rock Adder - Boring	(ft) Needs City Approval	1		$0.00	
	Conduit Placement - Trenching	Trench (ft)	1		$0.00	
	Conduit Placement - Plowing	Plow (ft)	1		$0.00	
	Hand Hole (HH) and Vault Placement 17X30X24	Hand Holes	980		$0.00	
	Hand Hole (HH) and Vault Placement 24X36X24B	Hand Holes	40		$0.00	
	Hand Hole (HH) and Vault Placement 36X48X36	Hand Holes	70		$0.00	
	Pedestal 12X11	Pedestals w/MST mounts	1,960		$0.00	
	Marker Post	Marker Posts	1,090		$0.00	
	Locate Wire	Locate Wire (ft)	729,654		$0.00	
	Out of Scope Work Required by Outside Plant Construction Crew					
	OSP Construction Fiber Cable Placement					
	FIBER 48 COUNT LOOSE TUBE SINGLE JACKET ALL DIELECTRIC GEL FREE 20,000 REEL	(ft)	511,226		$0.00	
	FIBER 96 COUNT LOOSE TUBE SINGLE JACKET ALL DIELECTRIC GEL FREE 20,000' REEL	(ft)	167,695		$0.00	
	FIBER 144 COUNT LOOSE TUBE SINGLE JACKET ALL DIELECTRIC GEL FREE 20,000 REEL	(ft)	67,933		$0.00	
	FIBER 288 COUNT LOOSE TUBE SINGLE JACKET ALL DIELECTRIC GEL FREE 20,000' REEL	(ft)	141,123		$0.00	
	FIBER 432 COUNT LOOSE TUBE SINGLE JACKET ALL DIELECTRIC GEL FREE 20,000' REEL	(ft)	19,963		$0.00	
	Technical Services - Splice Closure Prep					
	MST (100', 250', 500', 750', 1000', 1500')	Each	1,960		$0.00	
	100' Tail	Each	1		$0.00	
	250' Tail	Each	1		$0.00	
	500' Tail	Each	1		$0.00	
	750' Tail	Each	1		$0.00	
	1000' Tail	Each	1		$0.00	
	1500' Tail	Each	1		$0.00	
	Closure D	Each	398		$0.00	
	Tray 36	Each	833		$0.00	
	Fiber Distribution Panel (144ct) (Central Office)	Each	9		$0.00	
	144 PFP Centralized Split Cabinet and PAD MOUNT FRAME, 1x32 FIBER SPLITTER	Each	2		$0.00	
	432 PFP Centralized Split Cabinet and PAD MOUNT FRAME, 1x32 FIBER SPLITTER	Each	33		$0.00	
	Technical Services - Splicing, Fiber Testing and Documentation					
	Ring Splicing	Each	4,464		$0.00	
	Feeder & Distribution Splicing at Cabinet	Each	14,544		$0.00	
	Distribution Splicing & MST Splicing	Each	23,636		$0.00	
	Unidirectional OTDR Testing - CO Patch Panel Ports	Each	1,296		$0.00	
	Bidirectional OTDR Testing - Cabinets	Each	13,992		$0.00	
	Power Meter Testing	Each	1		$0.00	
	Fiber Reel Testing	Each	1		$0.00	
	Out of Scope Splicing or Testing Required by Technical Services Crew	Each	1		$0.00	
	Buried Drops - Bored with 3/4" conduit					
	Drops between 0ft and 100ft	count	1,438		$0.00	
	Drops between 100ft and 200ft	count	4,183		$0.00	
	Drops between 200ft and 300ft	count	3,272		$0.00	
	Drops exceeding 300ft	count	1,212		$0.00	
	Aerial Drops - Extend from Pedestal through Pole Riser					
	Drops between 0ft and 100ft	count	1		$0.00	
	Drops between 100ft and 200ft	count	1		$0.00	
	Drops between 200ft and 300ft	count	1		$0.00	
	Drops exceeding 300ft	count	1		$0.00	
	Total Bid (Ring)				$0.00	$0.00
	Total Bid (Distribution)				$0.00	$0.00
	Total Splicing and OTDR Only				$0.00	$0.00
	Total Drops Only				$0.00	$0.00