DOWNTOWN IOWA CITY. SCHEMATIC DESIGN . DUBUQUE STREET

December 3, 2014

PREPARED FOR CITY OF IOWA CITY

CITY OF IOWA CITY
UNESCO CITY OF LITERATURE

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Dubuque Street at Washington Street looking north.

Corner of Dubuque Street and Iowa Avenue.

PROJECT BACKGROUND

In the core of downtown Iowa City, Dubuque Street serves as a 'first impressions' street for visitors as they approach downtown Iowa City from Interstate-80. Once visitors pass under Siah Armajani's "Bridge for Iowa" at Iowa Avenue and Dubuque Street and view the Old Capitol to the west, the sense of arrival to a memorable and identifiable place has begun. As vehicles continue across Iowa Avenue and traffic slows, visitors get their first glimpse of charming, pedestrian-scale buildings and locally conceived and owned retail and restaurants. Dubuque Street terminates at the nationally recognized Pedestrian Mall at Washington Street.

Building on the Master Plan as adopted in March 2014, the schematic design for Dubuque Street attempts to enhance the walkability and attractiveness of the streetscape and to ensure that Dubuque Street is realizing its potential

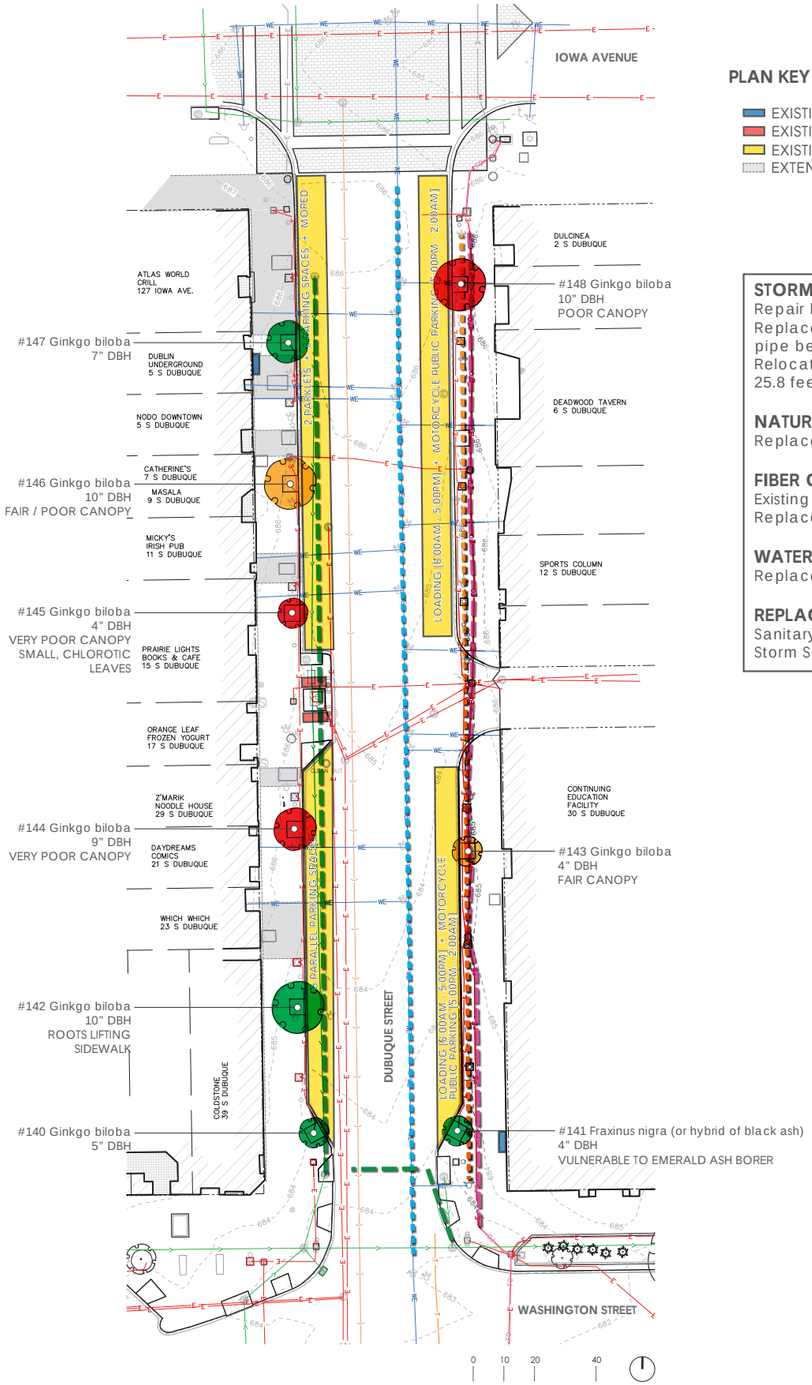
DESIGN PROCESS

The Dubuque Street Schematic Design Plan was prepared by a design team led by Genus Landscape Architects under contract with the City of Iowa City. The design team included ArtHouse Design (wayfinding and identity), Schuler Shook (lighting design), Gary Johnson (certified arborist from University of Minnesota Department of Forest Resources), and MMS Consultants (survey and civil engineering). The work was overseen by a Client Committee comprised of members from the City of Iowa City, and the Iowa City Downtown District (ICDD). The project benefited from public input and review in late October. The project began in May 2014 and is expected to be completed in November.

This booklet documents the schematic design process for Dubuque Street and begins with a summary of the site analyses. During the team's field work, specific attention was given to the existing tree canopy and the vaults. Upon completion of the site analyses, the team prepared a framework for the street which considered parking, travel lane width, and pedestrian zones. Once the framework was identified and approved by the Client Committee, the design team could overlay and consider all of those components that make a street identifiable and memorable: furnishings, shade trees, unique lighting, and paving and crosswalk distinctions. Design options were prepared and reviewed by the Client Committee and incorporated into the final schematic design plan. The booklet concludes with an analysis of the existing utilities and a summary of the recommended utility upgrades for the study area.

CLIENT COMMITTEE

Geoff Fruin	Assistant City Manager
Rick Fosse	Director of Public Works
Ron Knocke	City Engineer, Public Works
Josh Slattery	Civil Engineer, Public Works
Jon Resler	Supt. of Streets, Traffic Eng., Solid Waste
Mike Moran	Director of Parks and Recreation
Zac Hall	Superintendent of Parks and Forestry
Chris O'Brien	Director of Transportation Services
Kris Ackerson	Assistant Transportation Planner
Mark Rummel	Associate Director of Transportation Services
John Yapp	Transportation Planner
Nancy Bird	Executive Director, ICDD
Sheri Thomas	Senior Maintenance Worker
Jeff Davidson	Economic Development Administrator
Shane Schemmel	Assoc. Executive Director, Summer of the Arts



PLAN KEY / NOTES

- EXISTING BENCH, 2 TOTAL
- EXISTING BIKE RACK, 2 LOCATIONS
- EXISTING PARKING, AS LABELED
- EXTENT OF VAULTS BELOW GRADE

- APPROPRIATE FOR PRESERVATON
- APPROPRIATE IN SOME CIRCUMSTANCES BUT WILL REQUIRE MORE CARE
- SHOULD BE REMOVED OR AT MINIMUM, NO FURTHER INVESTMENT OF TIME OR FUNDS

STORM SEWER
Repair broken pipe 54.9 feet south of structure 4030
Replace approximately 12 feet of broken and cracked pipe beginning 80.6 feet south of intake 4030
Relocate water service line bored through storm sewer 25.8 feet south of intake 3452 and repair pipe

NATURAL GAS
Replace lines as part of any improvement project

FIBER OPTIC / IT/ COMMUNICATIONS
Existing conduit reaching the end of its service life
Replacement conduit bank recommended

WATER MAIN
Replace water main line

REPLACEMENT CASTINGS
Sanitary Sewer – 1
Storm Sewer – 6

EXISTING CONDITIONS AND SITE ANALYSIS

Initial analysis of Dubuque Street revealed the existing framework and constraints within which schematic design was to begin. The existing framework allocates approximately 65% of the public ROW to vehicular use. In part, this is due to the wider than average travel lanes at 16' in width.

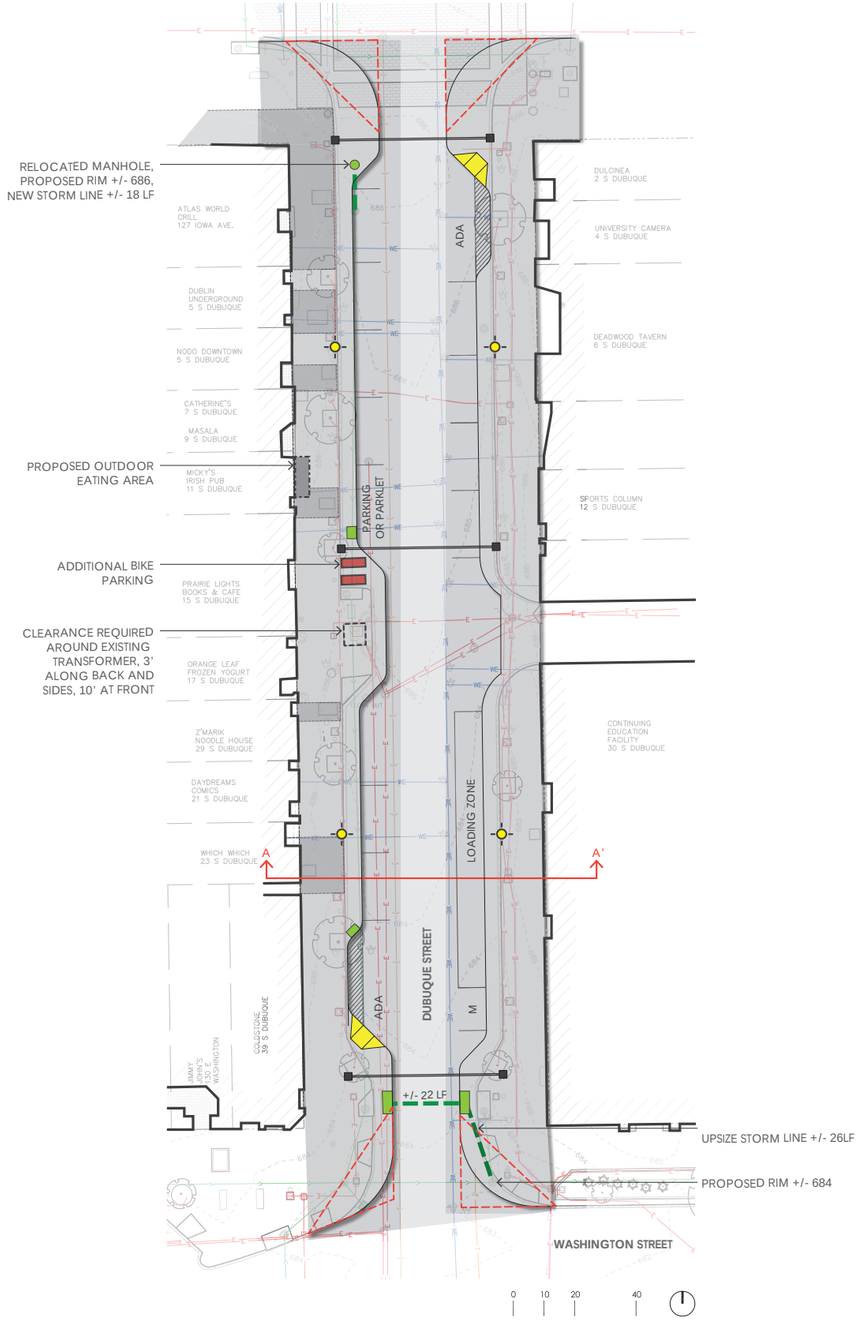
There are six existing vaults along the west sidewalk and they extend approximately 14' into the public right-of-way. Access is afforded via metal access doors at the sidewalk. All six vaults are currently in use and business owners would like them to remain. Their condition and detailing vary and in all six cases, the sidewalk is an integral part of the vault structure.

Existing trees were evaluated by a certified arborist and rated according to their health and chances of surviving future construction. Trees rated green were listed in good health and appropriate for preservation, those coded yellow were rated as appropriate to preserve in some circumstances but will require more care, trees coded with red are either in bad health and should be removed, or not invested in for preservation. Of the existing nine trees, three have been coded red.

Existing site amenities such as benches, bike racks, and trash receptacles were located and quantified and the condition of each was considered. The existing lighting framework was reviewed including range of fixture types, location, and photometrics. A mix of lighting types exists including shoebox and globe.

View of west side of Dubuque Street near Washington Street.

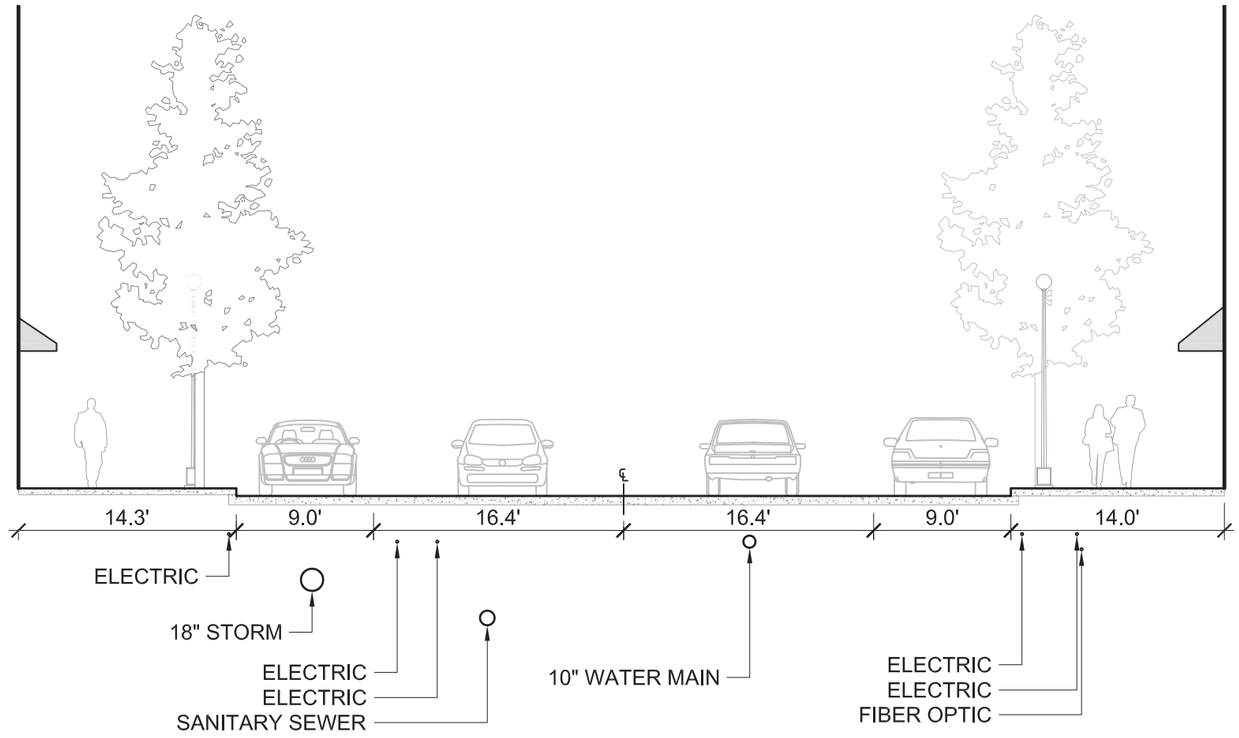
View along east side of Dubuque Street from intersection with Washington Street.



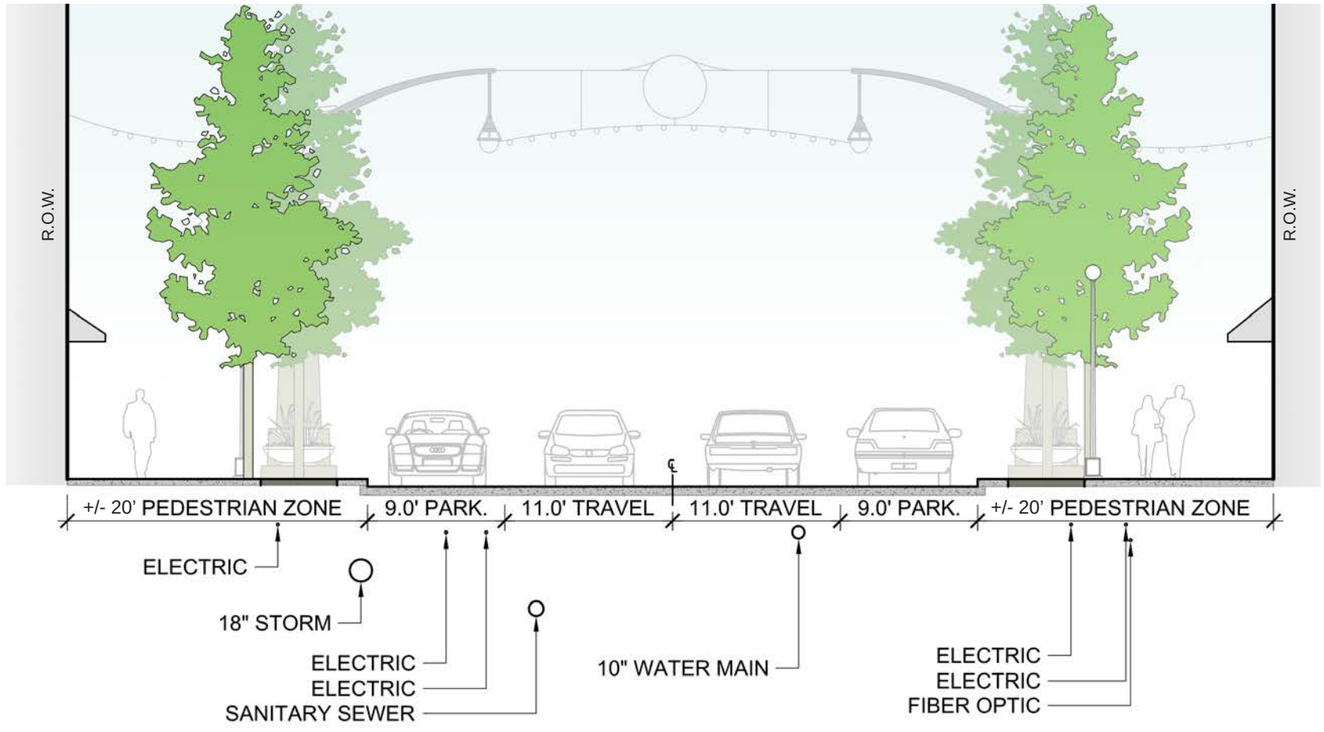
PRELIMINARY FRAMEWORK

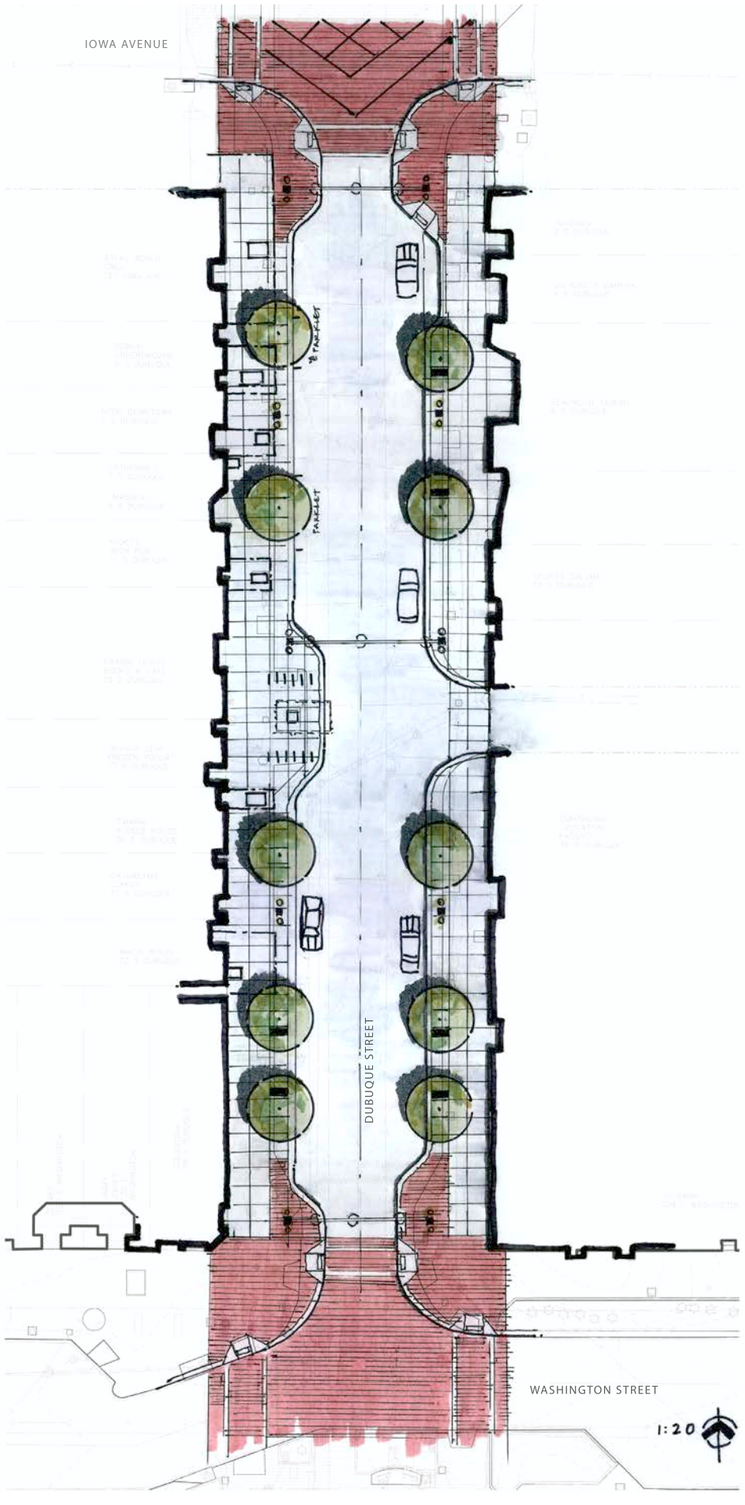
The Dubuque Street right-of-way approximates eighty feet (80') in width with existing travel lanes approximating 16'-6" in width. To maximize the pedestrian zone and provide a travel lane width more typical for an urban core street, the schematic design framework proposes to reduce the width of the travel lane to eleven feet. Parallel parking has been maximized to include fourteen spaces, including one new ADA-compliant parking space, parking specific to motorcycle/moped parking, and four spaces designated as loading spaces.

EXISTING SECTION LOOKING NORTH



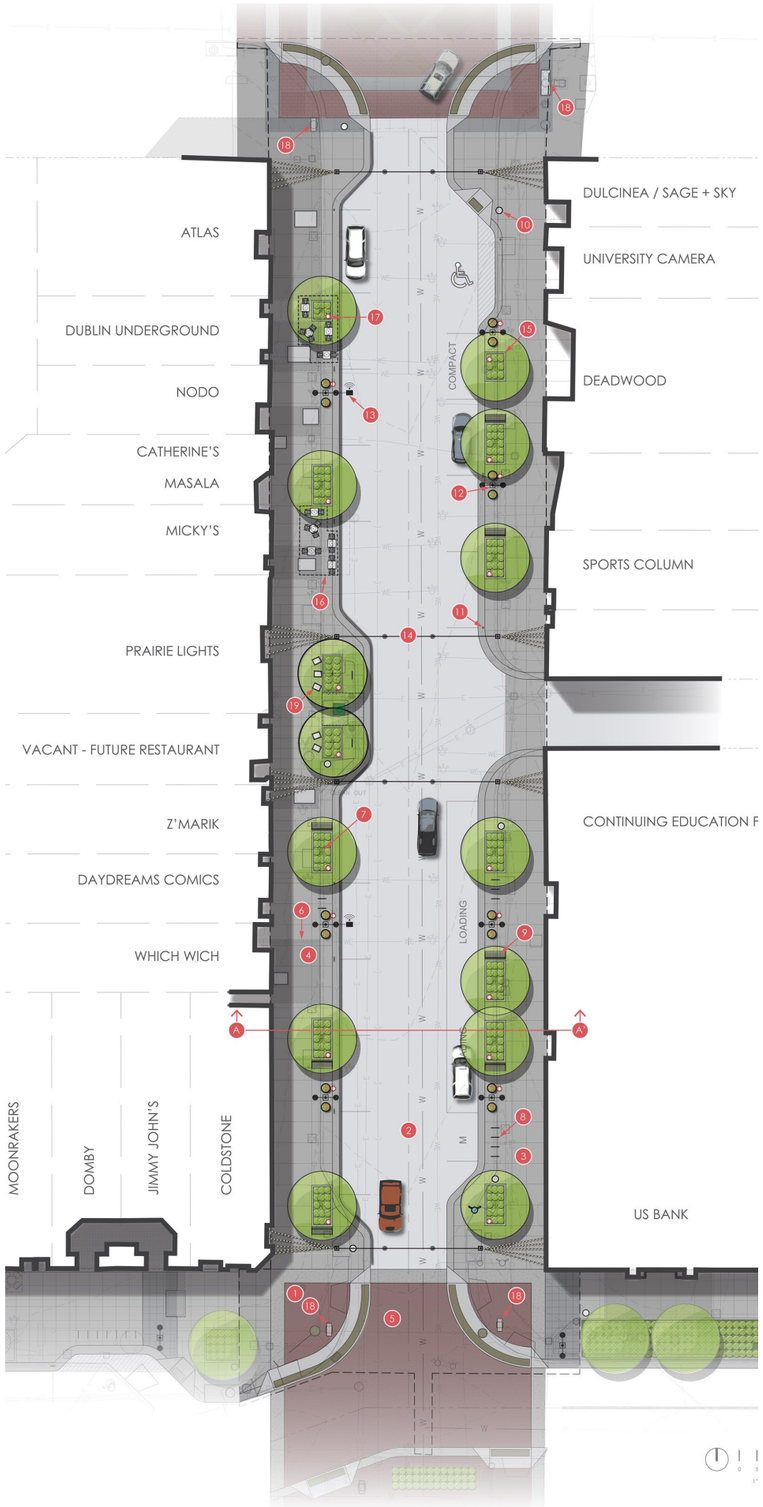
PRELIMINARY SECTION LOOKING NORTH





PRELIMINARY SCHEMATIC DESIGN OPTION ONE . EXPANDED PEDESTRIAN ZONE

With the general framework resolved, the schematic design could advance to consider lighting, pedestrian amenities, and new paving. New pedestrian and roadway lighting is proposed with catenary lighting located mid-block and at the intersections. New trees are proposed between the light poles to establish a rhythm and rigor conducive to a welcoming pedestrian environment. All new concrete paving is proposed for the street and sidewalks due to its durability and ease of maintenance. Unit pavers at the intersections and crosswalks reinforce the existing paver vocabulary seen along Iowa Avenue. At the intersection with Washington Street, the proposed unit paver layout effectively extends the character of the Pedestrian Mall to the north.



FINAL SCHEMATIC DESIGN PLAN

PLAN KEY

1. PRECAST PAVERS AT SIDEWALK
2. CONCRETE STREET
3. CONCRETE WALKWAY
4. CONCRETE WALKWAY AT VAULT
5. PRECAST PAVERS AT STREET
6. EXTENT OF VAULT [TYP.]
7. TREE PLANTING AREA [TYP.]
8. BICYCLE RACK [TYP.]
9. METAL STRAP BENCH, SCARBOROUGH W/ CENTER ARM [TYP.]
10. TRASH RECEPTACLE, SCARBOROUGH [TYP.]
11. PARKING METER [TYP.]
12. PEDESTRIAN LIGHT W/ HANGING BASKETS [TYP.]
13. PEDESTRIAN AND ROADWAY LIGHTING [TYP.], W/ WIFI ANTENNA, AS INDICATED:
14. CATENARY LIGHTING AND ROADWAY AND SIDEWALK [TYP.]
15. PLANTER CURB [4" HEIGHT, TYP.]
16. SIDEWALK CAFE [TYP.]
17. GFCI RECEPTACLE PEDESTAL [TYP.]
18. EXISTING TRAFFIC SIGNAL LOCATION, REPLACE W/ NEW POLE PER CITY STANDARD [TYP.]
19. INDIVIDUAL SEATS, SCARBOROUGH [TYP.]

SUMMARY

EXISTING

PARKING	8 SPACES, 10 LOADING/PUBLIC, MOPED, 2 PARKLETS
BIKE CAPACITY	2 LOCATIONS, 10-12 BIKES
BENCHES	2
TRASH RECEPTACLES	10
TREES	9

PROPOSED

PARKING	1 ADA COMPLIANT, 14 SPACES, 4 LOADING/PUBLIC, MOPED
BIKE CAPACITY	4 LOCATIONS, 11 RACKS, 22 BIKES
BENCHES	7 AND 5 INDIVIDUAL SEATS
TRASH RECEPTACLES	6
TREES	14

FINAL SCHEMATIC DESIGN PLAN

The final plan demonstrates refinement of the unique streetscape components proposed along Dubuque Street. To create a sense of arrival, four pair of catenary roadway lights are proposed and have been expanded to include catenary tie-backs to the storefronts, effectively creating a ceiling of light at select junctures along the sidewalks.

The light poles have been customized with arms to recall the dome and cornice seen on the Old Capitol. Custom concrete light pole bases are proposed with casting details complementing the metal fabric introduced within the wayfinding elements. Colorful hanging baskets planted with seasonal annuals add a pedestrian scale and festive character.

At Prairie Lights, seating and expanding planting areas define a flexible programmable space accommodating spillover during readings or other events. New bicycle racks are also introduced and nearly double available capacity. The existing transformer is maintained in place and screened with wooden fencing.

Planting areas have been expanded to accommodate colorful shrub and groundcover plantings at the base of the trees. Tree pits are designed with planter curbs to protect plantings. Gaps within the curbs enable surface drainage to flow into the planting areas.

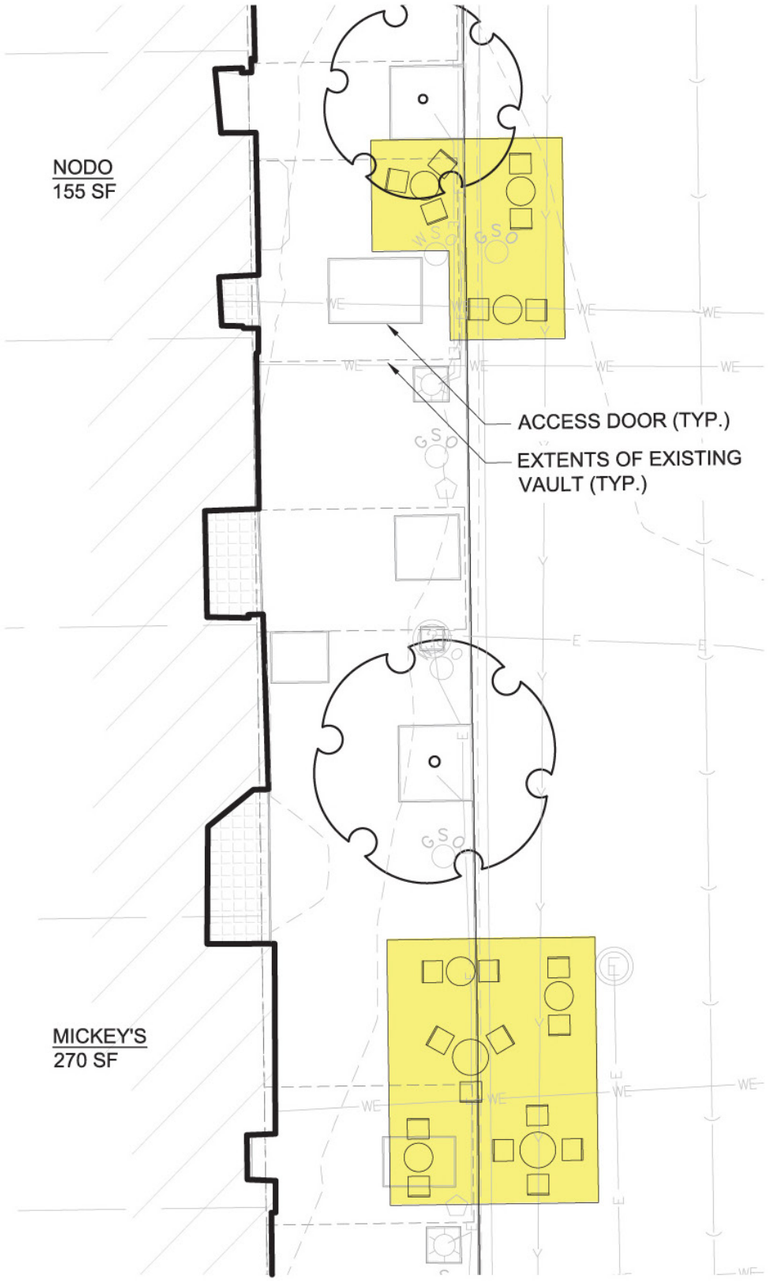
Surfacing improvements include new concrete sidewalks, ADA-accessible curb ramps, and curb extensions. Along the sidewalks, grades will be adjusted to the extent possible to provide ADA-compliant access to the threshold of existing buildings. Unit pavers are proposed at the intersections to prioritize pedestrian crossing safety. Concrete is proposed as the roadway surface to better weather the long-term wear and tear from vehicles.

FINAL SCHEMATIC DESIGN SECTION, typical to Washington Street

Day and night views of Dubuque Street from Iowa Avenue.

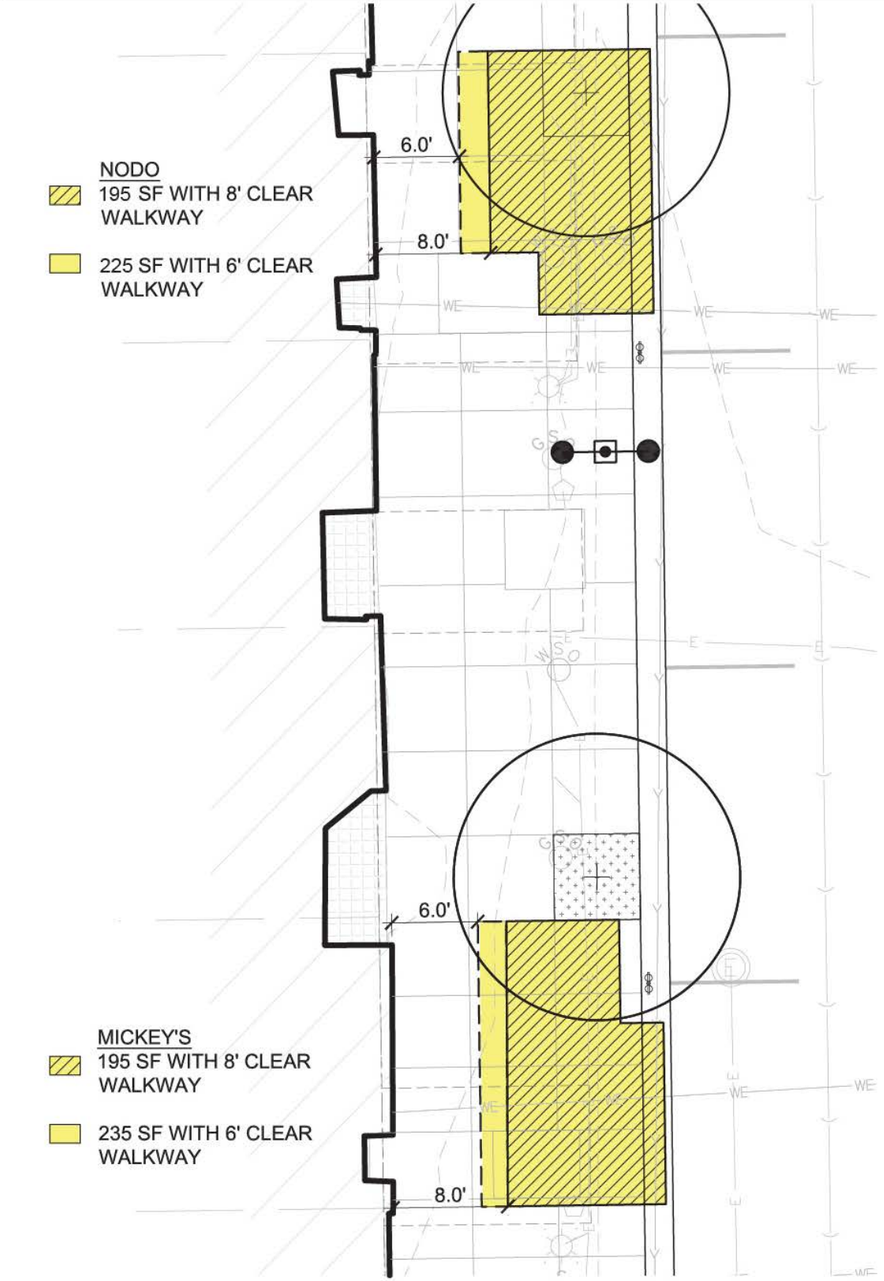
Expanded planting areas and hanging baskets add color to the Dubuque streetscape.

DUBUQUE STREET PARKLET STUDY



EXISTING PARKLETS

DUBUQUE STREET PARKLET STUDY



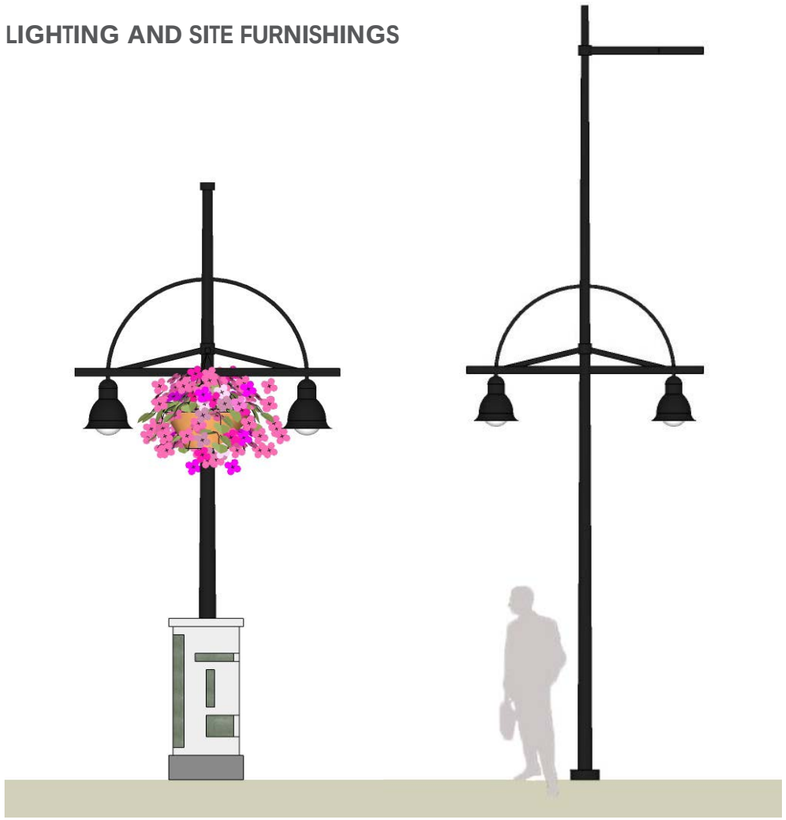
SIDEWALK CAFE CURB SIDE

DUBUQUE STREET SIDEWALK CAFÉ STUDIES

With the additional five- feet allocated to the pedestrian realm, the design team studied sidewalk café options. Sidewalk cafes located curbside are recommended and the exhibit to the right illustrates the sidewalk café area that can be achieved with either six- feet or eight- feet of unobstructed walkway.

Current policy requires minimum 8' of unobstructed walkway on the side of the café that is parallel to the building. During the Master Planning phase, the design team reviewed Policy in other comparable cities. The Master Plan recommended an adjustment to Policy where the eight- feet of unobstructed walkway is maintained along streets with higher pedestrian volumes. The team recommended the width could be reduced to six- feet along streets where the right-of-way is limited, as in Dubuque Street.

LIGHTING AND SITE FURNISHINGS



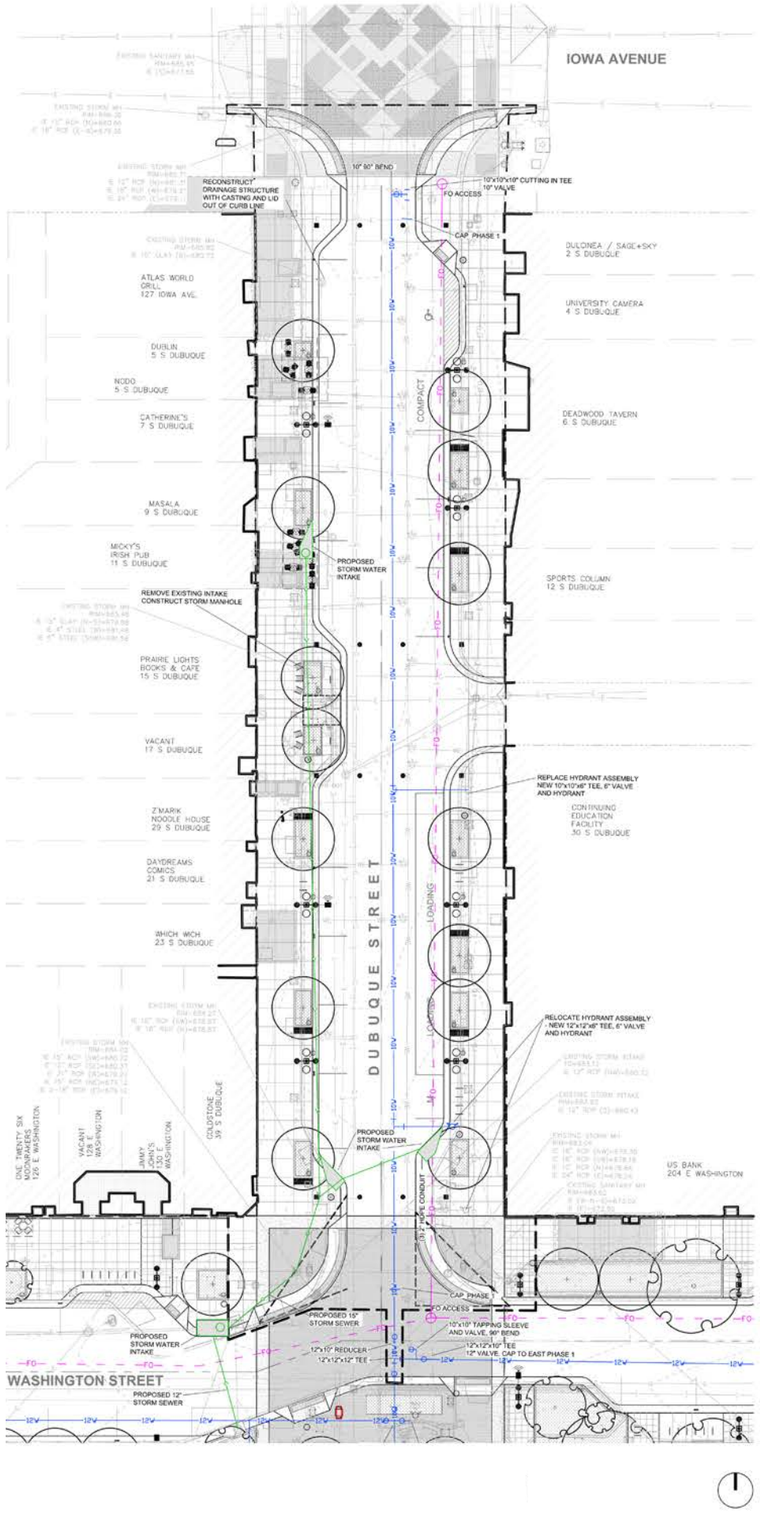
LIGHTING Pedestrian lighting with hanging baskets, and monument lighting with catenary lights will light Dubuque Street.

BIKE RACK
BOLA, LANDSCAPE FORMS

BENCHES - 6' LENGTH W/ CENTER ARM + INDIVIDUAL SEATS
SCARBOROUGH, LANDSCAPE FORMS

TRASH RECEPTACLE
SCARBOROUGH, LANDSCAPE FORMS

RECYCLING SYSTEM
BIG BELLY RECYCLING SYSTEMS



UTILITY ANALYSIS

WATER MAIN RELOCATION/REPLACEMENT
On Dubuque Street between Iowa and Washington an existing 10-inch water main runs approximately 31 feet from the east edge of the right of way. The main was installed in 1924 and is cast iron. While the City has not experienced reliability issues with this main, it is recommended that it be replaced due to its age.

Because the downtown area was originally constructed many years ago, precise records of water services are not available. Available records indicate there is a mix of 2-inch and smaller services, some of which are possibly lead pipe, and several 4-inch and larger services providing fire protection, and in some cases smaller service taps. Based on records and water boxes located in the field, there are approximately 12 services 4-inches or larger with smaller domestic services likely feeding from these on Dubuque north of Washington. An allowance should be made for unknowns related to water services. Where new mains will be installed they will be placed, disinfected and tested while maintaining the existing system in service. Once approved, individual service connections will be installed. Once all customers are connected to the new line, the old main will be abandoned in place. Reconnection of the services to the new main will likely be completed during evening or weekend hours to minimize disruption to customers. Stop boxes are preferred to be set in the sidewalk area but may be placed in the street where necessary. Places such as parking stalls or other areas that might be inaccessible to city workers should be avoided.

Typical city policy provides that for 2-inch services and smaller new saddles, corporations, curb stops/stop boxes, and new copper from the corporation to the stop box will be installed. For services 4-inches and larger, a new valve is installed and the line is reconnected to the existing line at a reasonable distance to the new valve. Service line upgrades outside these limits are the responsibility of the customer, and their plumbing contractor may coordinate replacement with the City during construction. However during the Iowa Avenue Streetscape Project, all services were replaced at project expense from the main to the meter. For schematic design purposes, the replacement of services from main to meter is assumed.

Portions of the project are within a Leaking Underground Storage Tank (LUST) buffer zone. This may require the use of nitrile gaskets and/or other measures to meet regulatory requirements. Soil sampling may be warranted during Design Development to determine the proper measures.

During the reconstruction of Iowa Avenue in the early 2000s, the existing main along Iowa Avenue was replaced with an 8-inch main. It was installed along the approximate centerline of Iowa Avenue and connected to the north-south 10-inch main at Dubuque. Iowa City Engineering and Water Division records indicate the north-south 10-inch main may have been replaced to the southerly extent of the Iowa Avenue streetscape decorative paving although the construction plans and as-built drawings are not definitive. In either case it is proposed that, in order to not disturb the decorative paving, connection will be made to the existing 10 inch pipe at a point just south of the decorative intersection pavers. Water Division records indicate this section of pipe has no service leads and can be isolated by nearby valves. If this is the case a tee may be cut in to connect. Otherwise a tapping sleeve and valve will be utilized. A new 10-inch line would be placed five feet westerly of and generally parallel to the existing main. Because of existing service leads 4-inches and larger in diameter, the proposed main may need to be placed at a lower elevation in some locations in order to maintain service during construction.

With the initial schedule anticipating that Dubuque Street will be Phase 1 with Washington Street construction taking place later, the connection to existing water mains at the Dubuque/Washington intersection is proposed to include the necessary 12-inch tees and valves for connection to the future Washington main. A connection to the existing 10-inch main near the intersection to maintain the looped system is proposed.

The mid-block existing hydrant on Dubuque Street will be replaced in its current location. The hydrant at the northeast corner of Washington and Dubuque will be replaced approximately 15 feet north and three feet west of its current location.

STORM SEWER CAPACITY ANALYSIS
During the initial study phase accurate information about the type, size, material, and horizontal and vertical location of the storm sewer was unavailable. The topographic survey prepared as part of this schematic design phase now provides that information along with more detailed data on the local drainage patterns.

Each sewer reach was analyzed for the five-year recurrence. Video of the sewers was reviewed to identify the many roof drain connections in order to establish the contributing drainage areas. Analysis shows that the existing storm sewer, except where noted below, has sufficient capacity for the five year storm event.

The downstream terminus of the Dubuque Street storm sewer begins at a drainage manhole in the northwest sidewalk area at the Dubuque Washington intersection. The 15-inch diameter sewer runs north parallel with and approximately 19 feet east of the west Dubuque Street right of way.

Existing intakes at the northeast and northwest corners of the intersection will be relocated to accommodate the proposed curb line. A pair of intakes on each side of Dubuque just north of the intersection are contemplated, with exact location to be determined based on final grading design and phasing limits.

There is an existing intake mid-block that will need to be reconstructed as a manhole to accommodate the proposed surface improvements. A replacement intake should be located in the curb line north of the manhole. Location will need to be carefully coordinated during final design and construction document development to accommodate nearby vaults, water services and other potential conflicts. The pipe terminates at a manhole near Iowa Avenue. Based on schematic design, this manhole may be located in the proposed curb line. It should be either adjusted out of the curb line by reconstructing the manhole with an eccentric cone or extending the line north such that the curb return at Iowa Avenue draws the curb to the west.

Two repairs are necessary on this sewer. One is a broken section 52 feet from the north terminus. The second is a water service bored through the pipe approximately 15 feet south of the mid-block intake.

CITY OWNED FIBER, TRAFFIC CONTROL, AND ELECTRICAL
The City wishes to include conduit during construction to provide for fiber optic and traffic control installation. The proposed conduit runs are (3) 2-inch SDR 11 HDPE. A 24-inch access near the intersections of Iowa/Dubuque, Clinton/Washington, Dubuque/Washington, and Linn/Washington will be installed. From the Linn street intersection a directionally drilled extension to the yard area at the senior center was requested by City staff.

The contemplated placement for schematic design is within the roadway and in the northerly (westbound) lane along Washington Street and in the easterly (northbound lane) along Dubuque Street. Runs of single 2-inch conduit would run from the access structures to traffic control panels and to approximately five light poles to provide connection for future wireless antennae. The depth would be 36 to 49 inches. The flexibility in locating conduit allows for adjustments to be made during final design and construction drawing preparation, and be coordinated with gas and electric relocations.

PRIVATE UTILITIES
Discussions regarding replacement and upgrades to private gas, electric and telecommunication utilities have been initiated. Further work with these entities will take place during design development.