

# Project Updates



Town of Beaufort

June 28, 2021

# FY20 Street Rehabilitation and Construction

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## Pavement Markings

- 156 feet of 24" wide crosswalk lines remain

~~Seal Coating~~ *Negotiating* → Asphalt Overlay

- Marsh Street, Broad to Mulberry





# FY20 Street Rehabilitation and Construction

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## Marsh Street, Broad to Mulberry

- Milled & Resurfaced
  - Week of June 21<sup>st</sup>



# FY20 Street Rehabilitation and Construction

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## Orange Street

- Unsatisfactory Infiltration Tests
  - Replace 75 ft length
  - Week of July 12<sup>th</sup>





# Turner Street 100 Block Street Improvements (West Side)

- Front St to FishTowne
  - Substantially Complete
    - Completion & Correction List
  - Remaining
    - Plantings (Fall 2021)



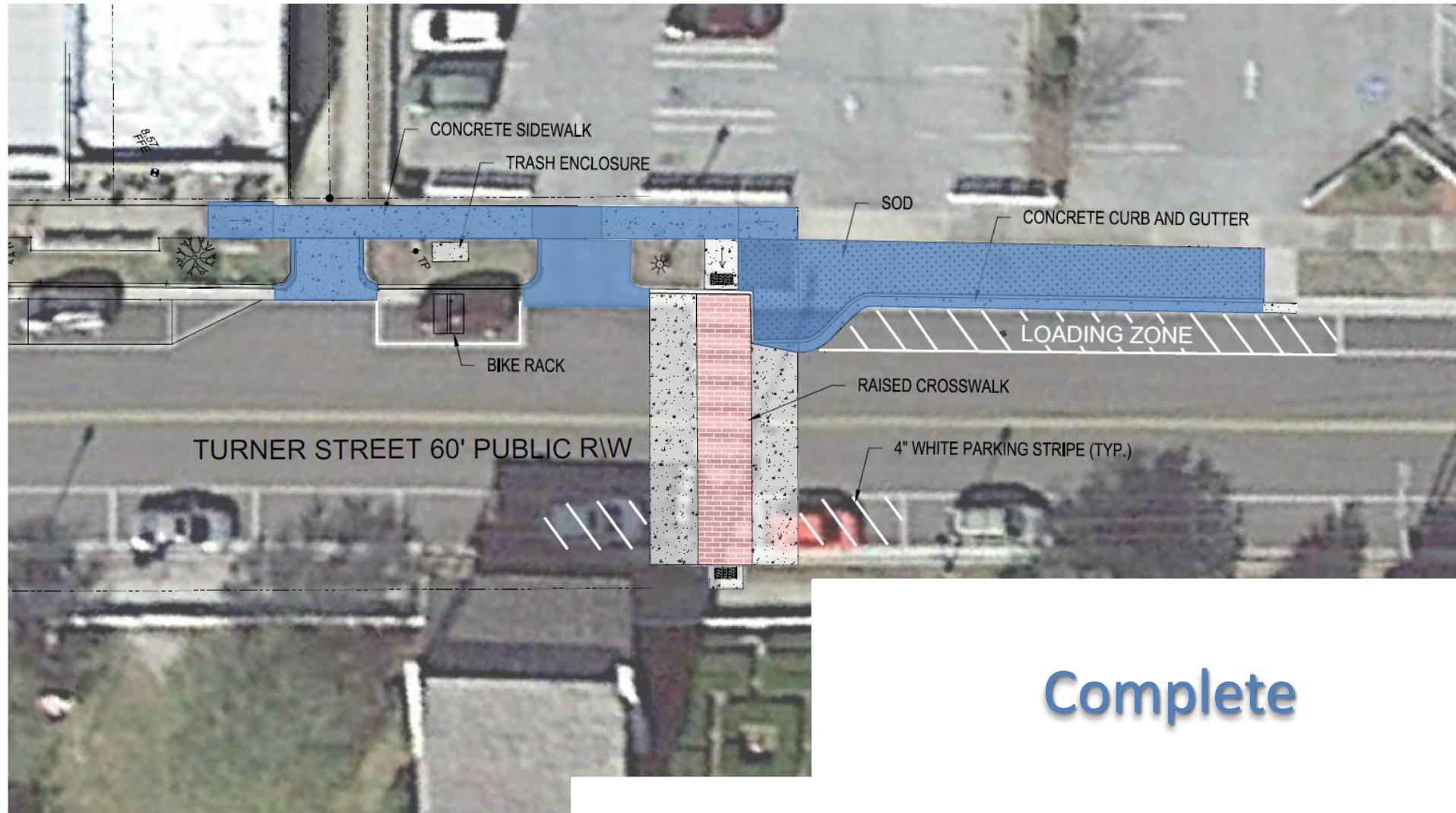
# Turner Street 100 Block Street Improvements (West Side)



\\BEAUFORT-SERVER\Engineering\Private\Town Projects\Turner Street 100 Block Improvements\4 Drawing Files (dwg & pdf)\10-100T08-North Side ADA.dwg, 10/6/2020 1:34:11 PM, DWG To PDF.pc3

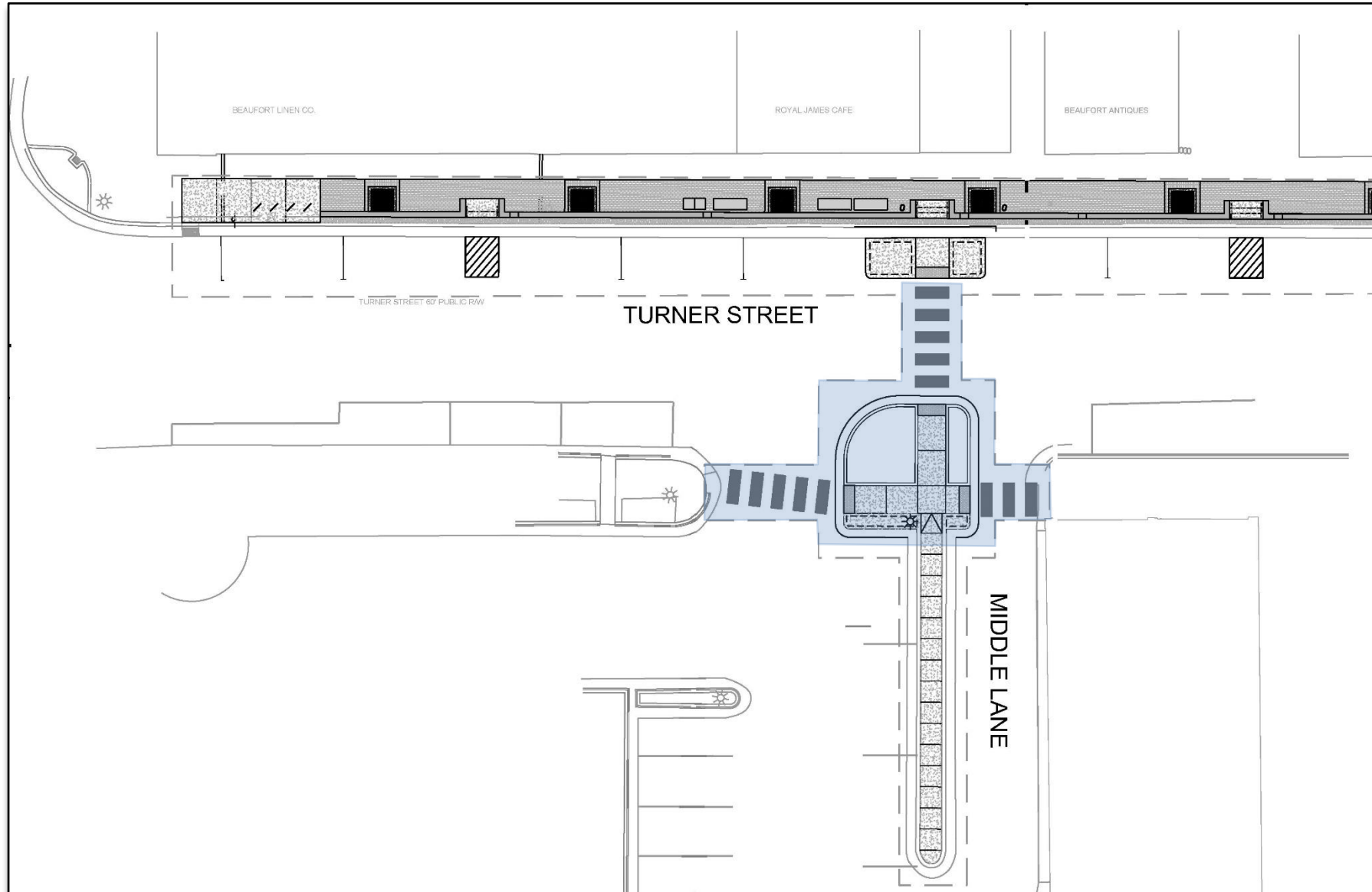


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# Turner Street 100 Block Street Improvements (West Side)





# Cedar Street Utility Rehabilitation & Replacements

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## Town's correction & completion list

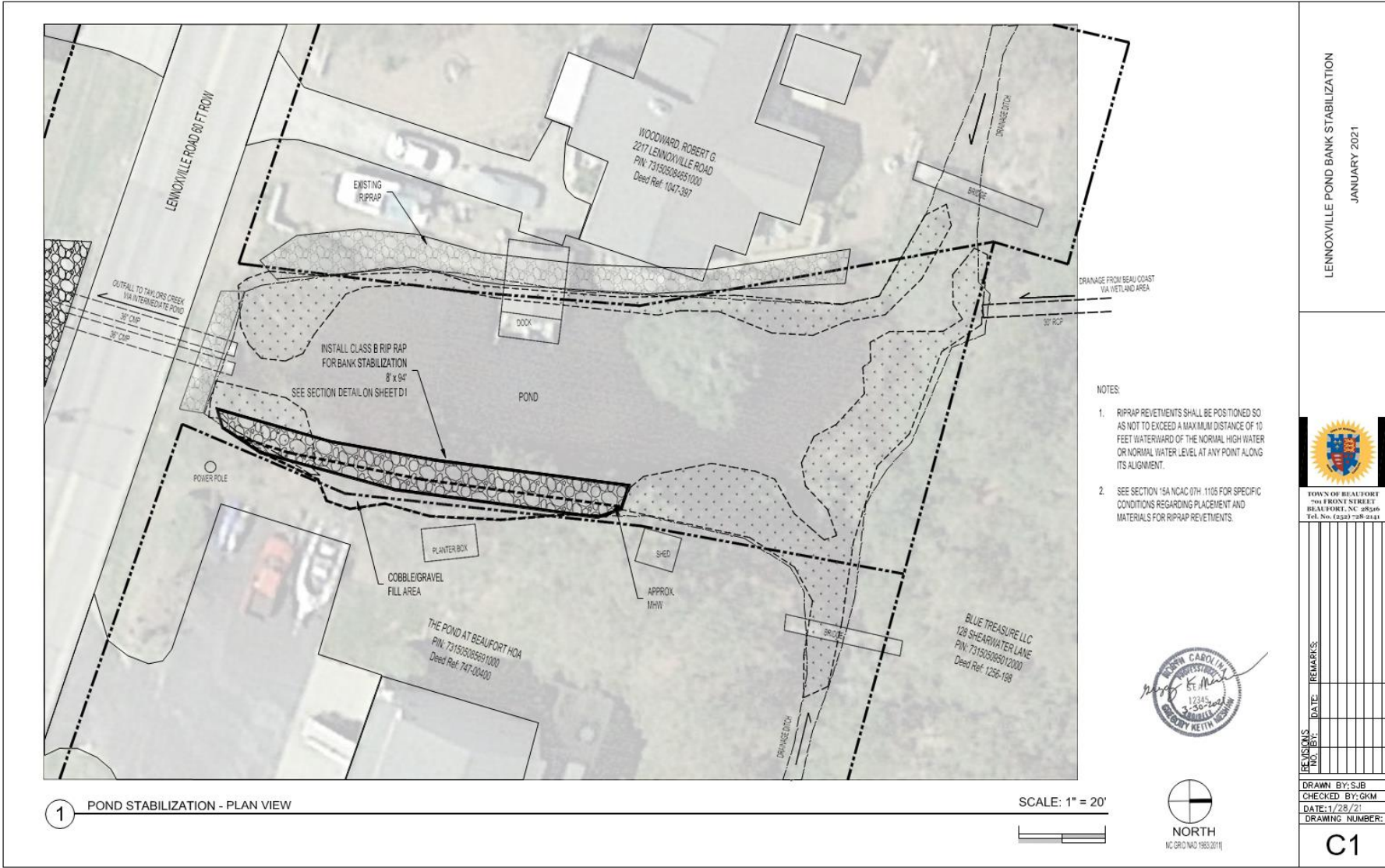
- One item remains
  - Cedar St sewer at Pollock St
  - Corrective work begun today





# Lennoxville Road Pond

- Bank Stabilization
- Culvert Replacement

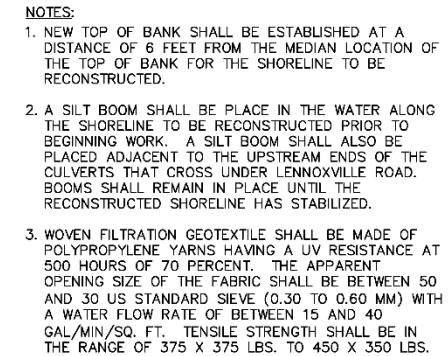




- Bank Stabilization
- Culvert Replacement

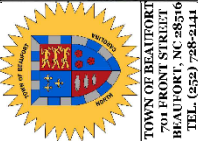


- Bank Stabilization
- Culvert Replacement



### POND BANK RESTORATION DETAIL

LENNOXVILLE ROAD POND  
BANK STABILIZATION  
AND  
CULVERT REPAIR

[illegible]

DRAWING NUMBER

D1



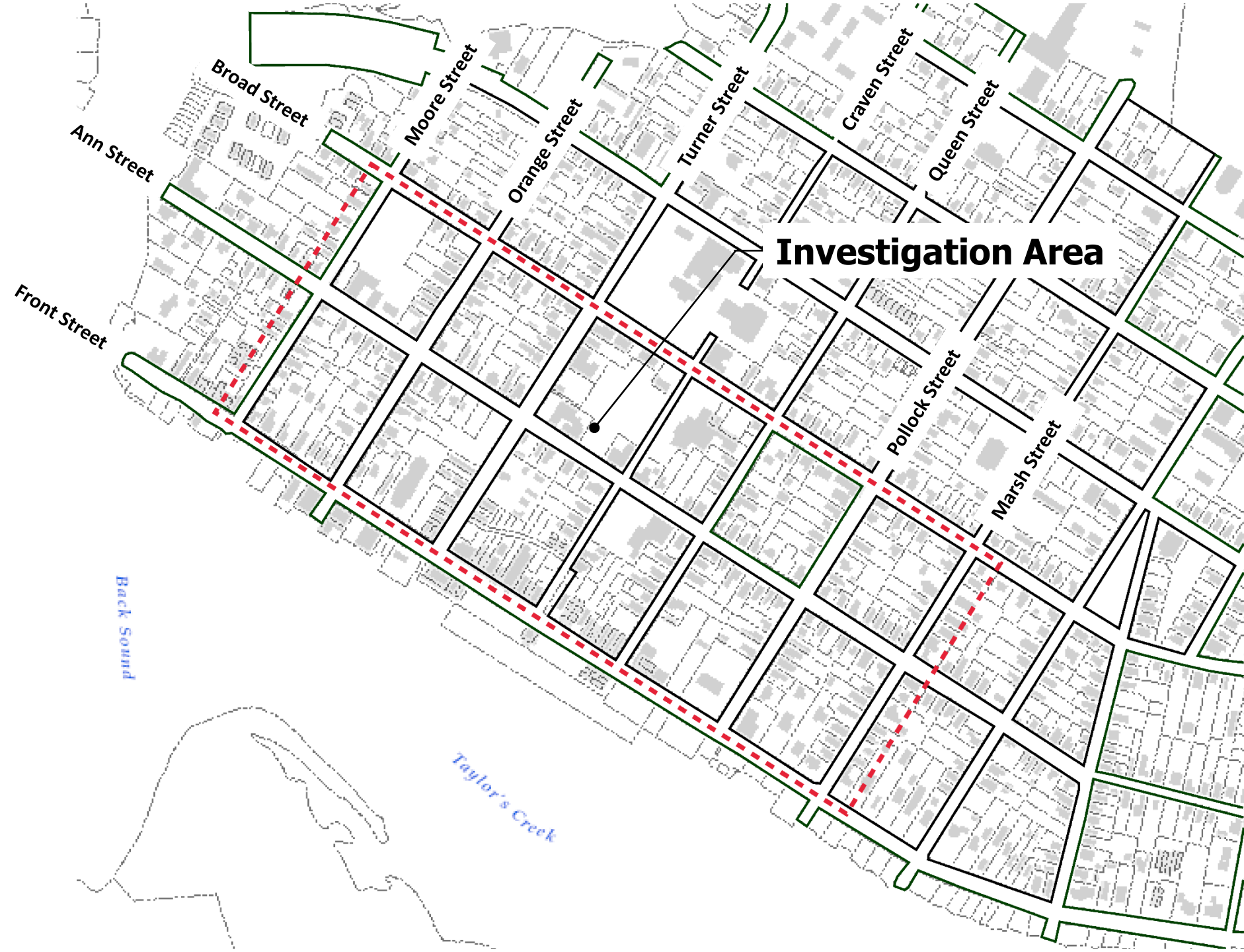
# Lennoxville Road Pond

## Bank Stabilization





# Downtown Area Parking Investigation





# Downtown Area Parking Investigation



# Downtown Area Parking Investigation





# Downtown Area Parking Investigation

## Observations





# Downtown Area Parking Investigation

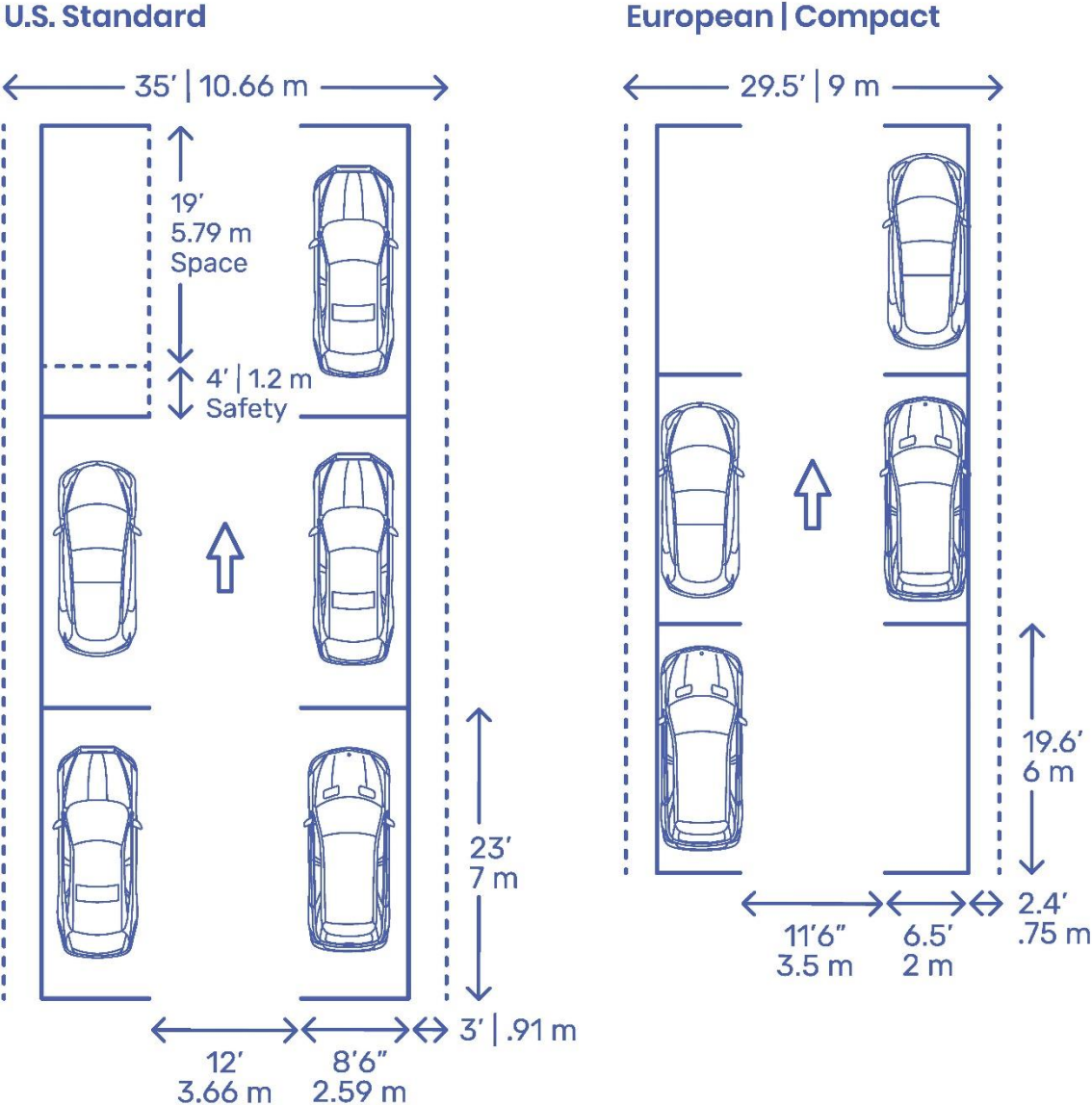
## Observations





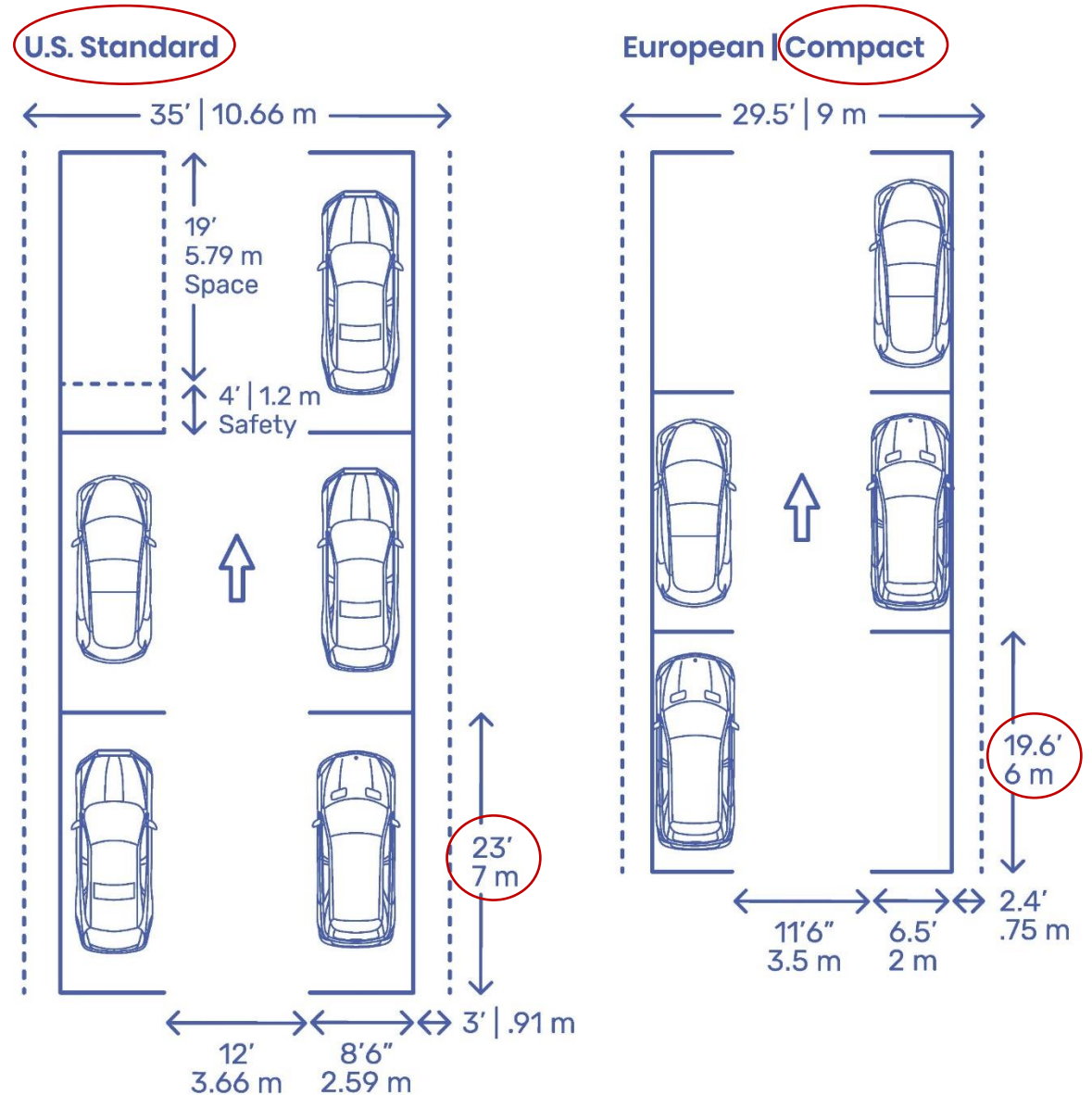
# Parallel Parking Spaces

## Downtown Area Parking Investigation



# Parallel Parking Spaces

## Downtown Area Parking Investigation



Courtesy of Dimensions.com



# Downtown Area Parking Investigation

## Beaufort Land Development Ordinance

### D) *Dimensional Standards for Parking Spaces and Aisles.*

Parking aisle widths shall conform to the following table:

**Table 13-2 Minimum Dimensional Standards for Parking Spaces and Aisles**

<i>A – Parking Angle</i>	<i>B – Stall Width</i>	<i>C – Stall Depth/Length</i>	<i>D – Aisle Width for Two-Way Traffic<sup>1</sup></i>
<sup>2</sup> 0°	8'	8'	22'
45°	9'	18'	22'
60°	9'	18'	22'
90°	9'	18'	24'
Compact spaces <sup>3</sup>	8'	16'	22'
<i>E – Wheel Stop Placement:</i> the face of the wheel stop should be located 2½' away from the front of the space.			
<sup>1</sup> May be reduced by ½ for aisles proposed for one-way traffic except for 90° parking stalls.			
<sup>2</sup> Length of space = 22'.			
<sup>3</sup> In parking areas containing ten or more parking spaces, up to 25% of the spaces provided can be for compact vehicles. Compact spaces shall be conspicuously designated with signage or pavement markings.			

# Downtown Area Parking Investigation

## Existing Parking Space Summary

- 22 Ft. Length → 26
- 21 Ft. Length → 1
- 20 Ft. Length → 4
- 19 Ft. Length → 2
- 18 Ft. Length → 38
- 17 Ft. Length → 4
- 605± Ft. → Unmarked/Unlimited



# Downtown Area Parking Investigation

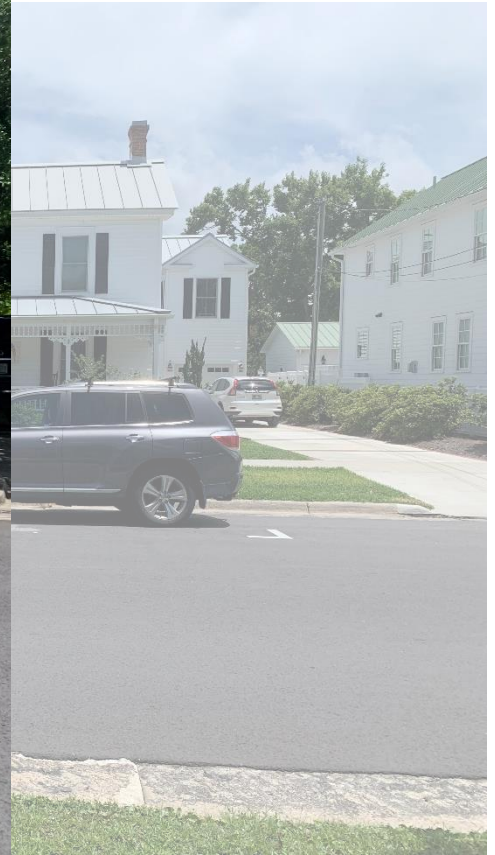
## Observations





# Downtown Area Parking Investigation

## Observations





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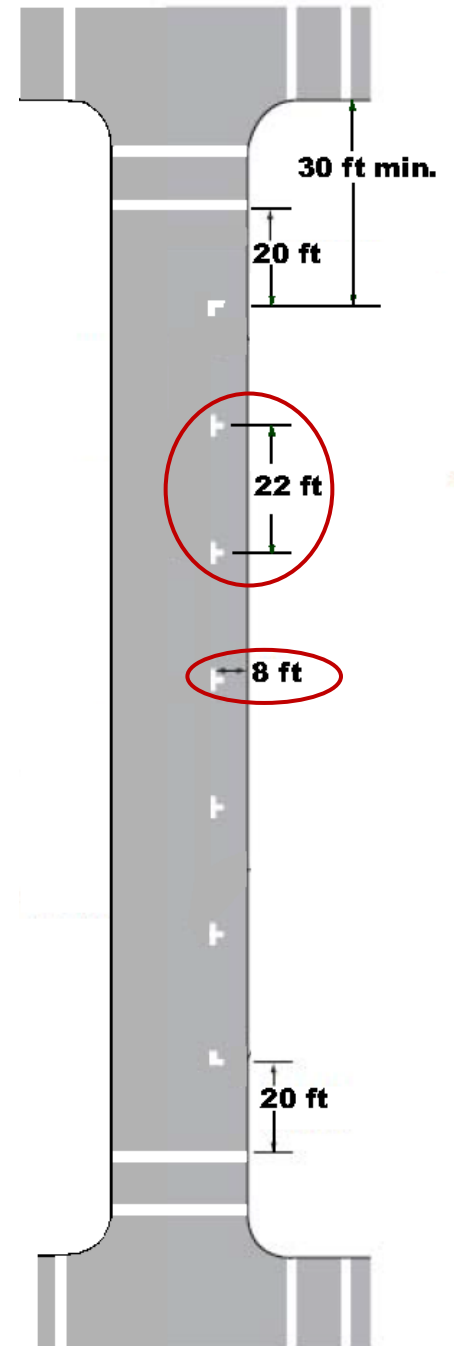
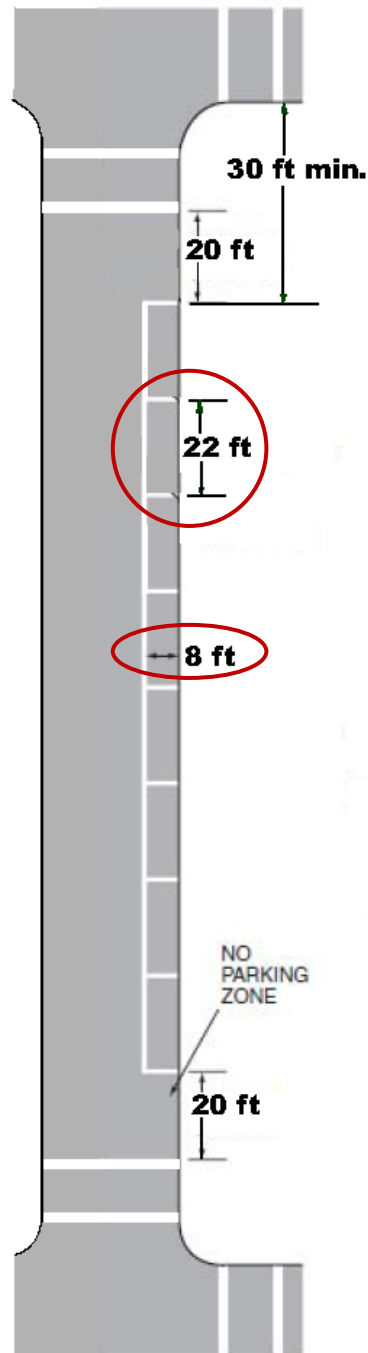
## Observations



# Downtown Area Parking Investigation

## Recommendations

- Parking Space Dimensions

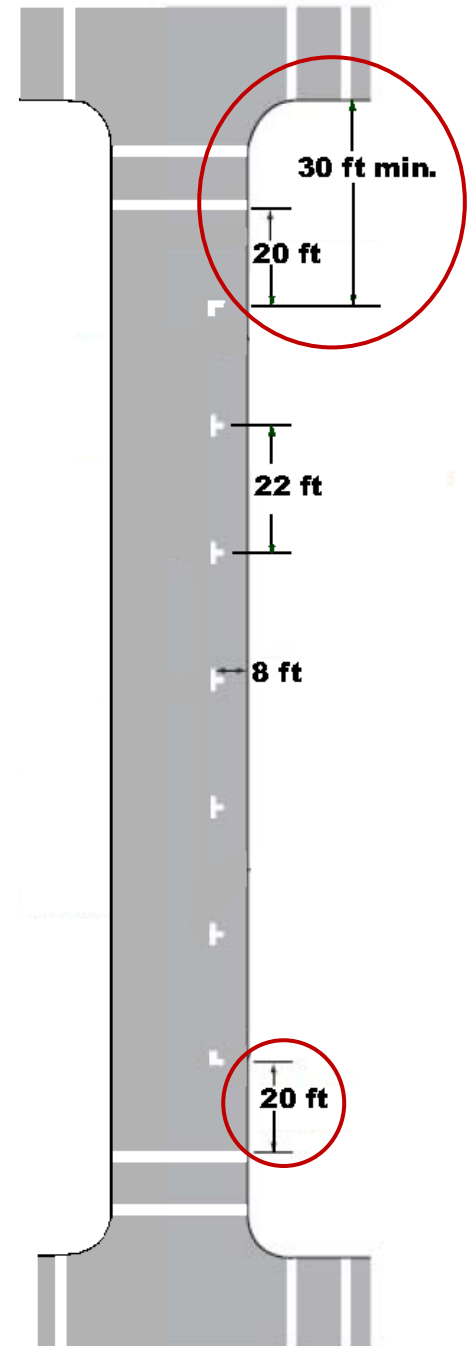
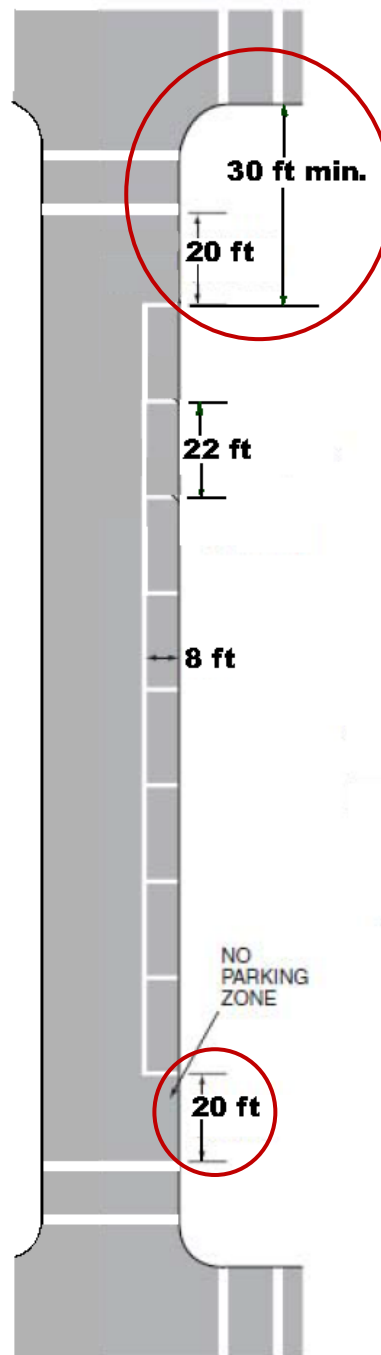




# Downtown Area Parking Investigation

## Recommendations

- Parking Space Dimensions
- Intersection & Crosswalk Setbacks

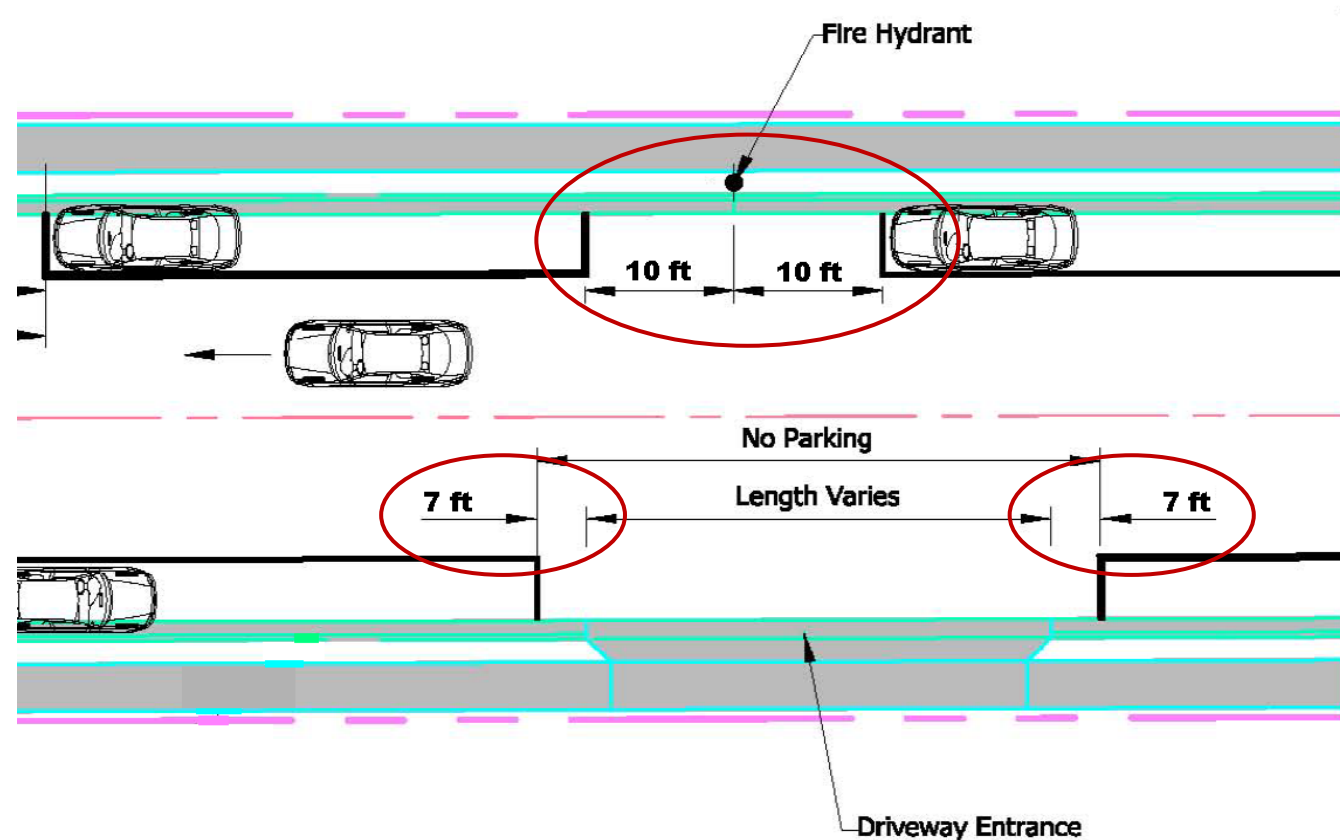




# Downtown Area Parking Investigation

## Recommendations

- Parking Space Dimensions
- Intersection & Crosswalk Setbacks
- Driveway & Fire Hydrant Buffers



# Downtown Area Parking Investigation

## Existing Parking Space Summary

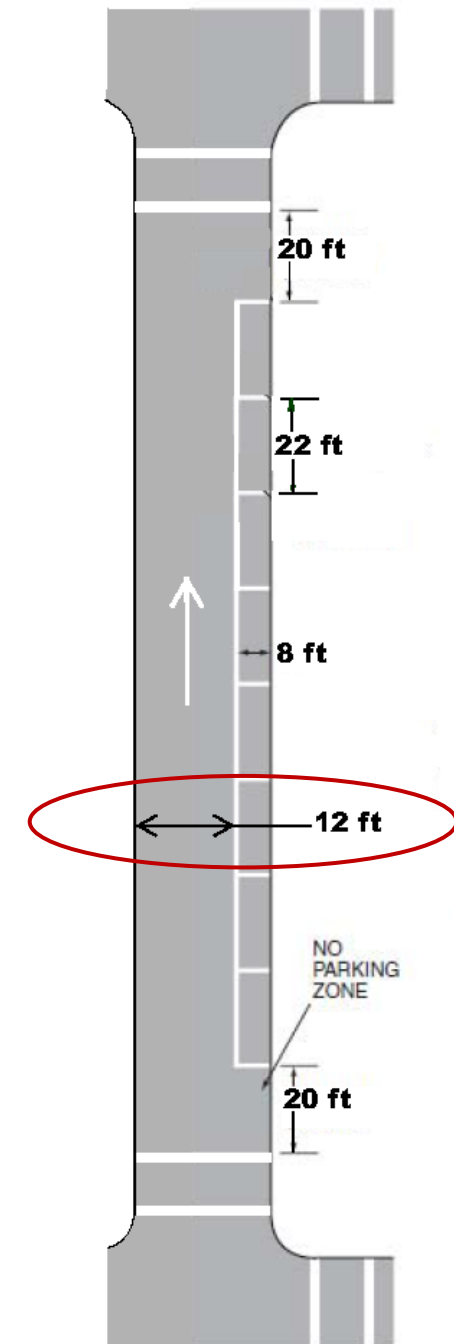
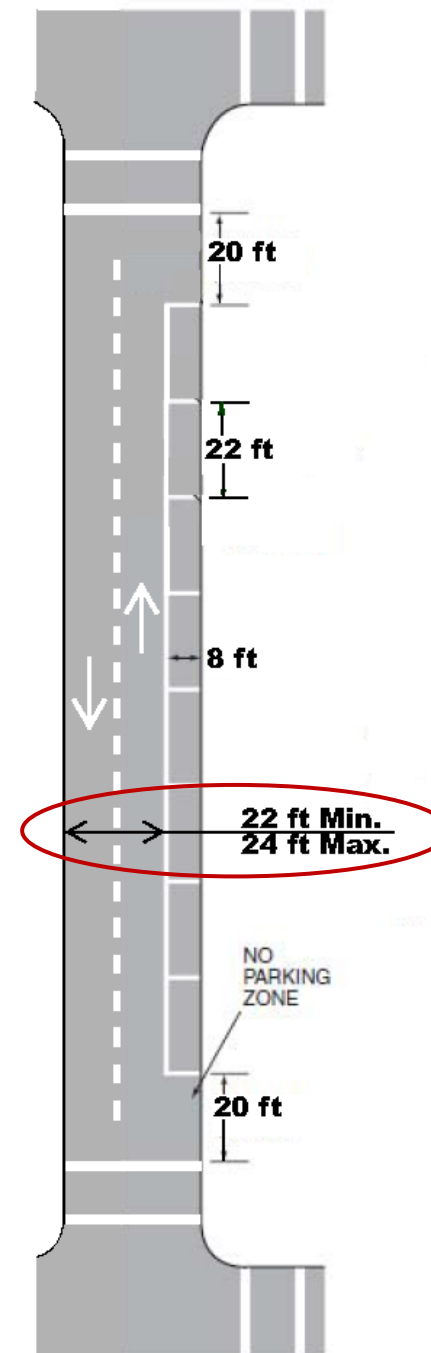
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  - 19 Ft. Length → 2
  - 18 Ft. Length → 38
  - 17 Ft. Length → 4
  - 605± Ft. → Unmarked/Unlimited
- 75 spaces → 68± spaces
- 49± spaces



# Downtown Area Parking Investigation

## Recommendations

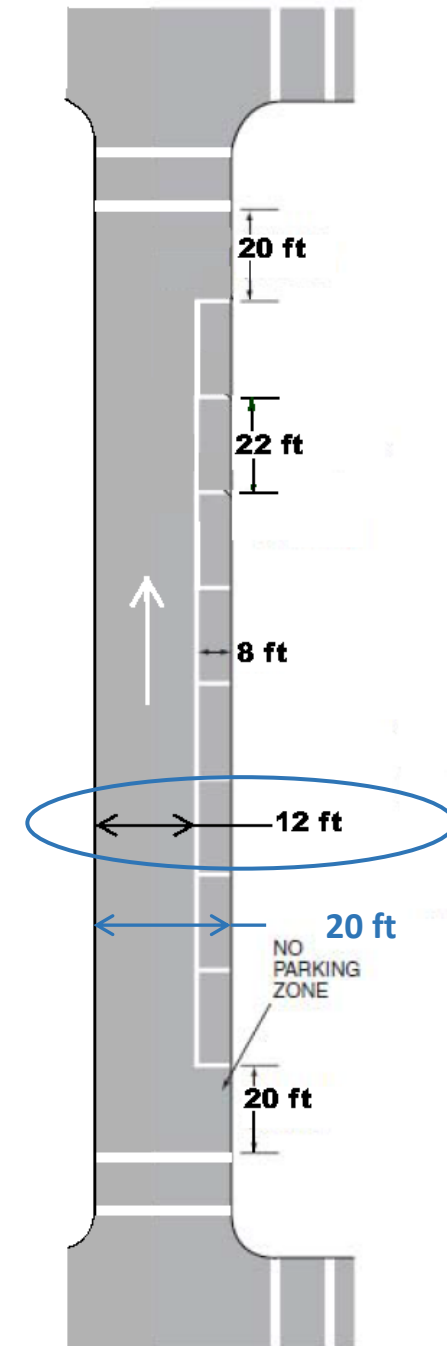
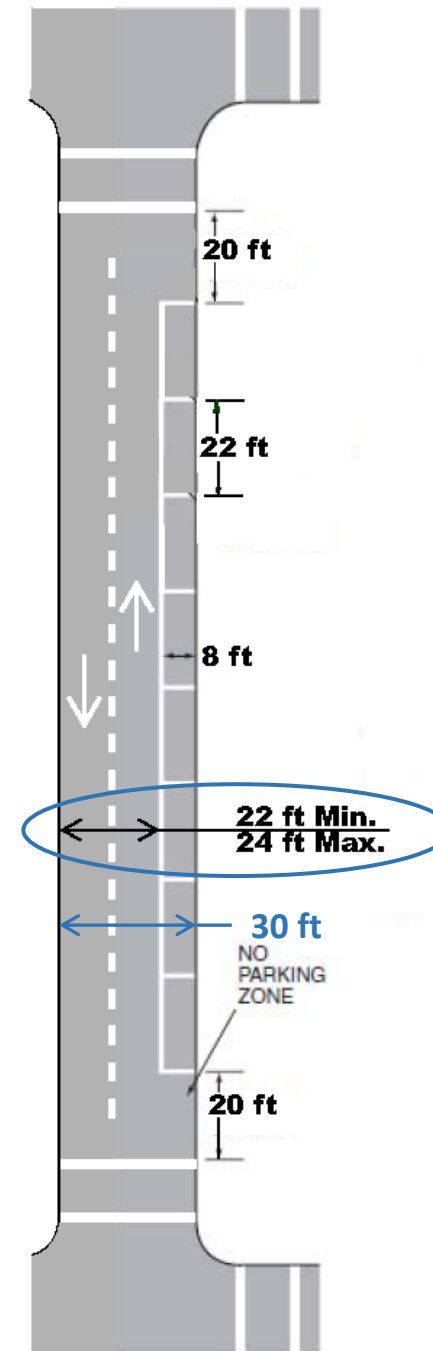
- Parking Space Dimensions
- Intersection & Crosswalk Setbacks
- Driveway & Fire Hydrant Buffers
- Travel Lane Widths
  - 1-way versus 2-way



# Downtown Area Parking Investigation

## Street Widths & Travel

Moore St 100 Block	23.5 ft	1-way
Moore St 200 Block	23.5 ft	2-way
Orange St 100 Block	30 ft	2-way
Orange St 200 Block	26 ft	2-way
Craven St 200 Block	14 & 23 ft	2-way
Queen St 100 Block	22 ft	1-way
Queen St 200 Block	22 ft	2-way
Pollock St 100 Block	30 ft	2-way
Pollock St 200 Block	30 ft	2-way
Marsh St 100 Block	24 ft	2-way
Marsh St 200 Block	24 ft	2-way

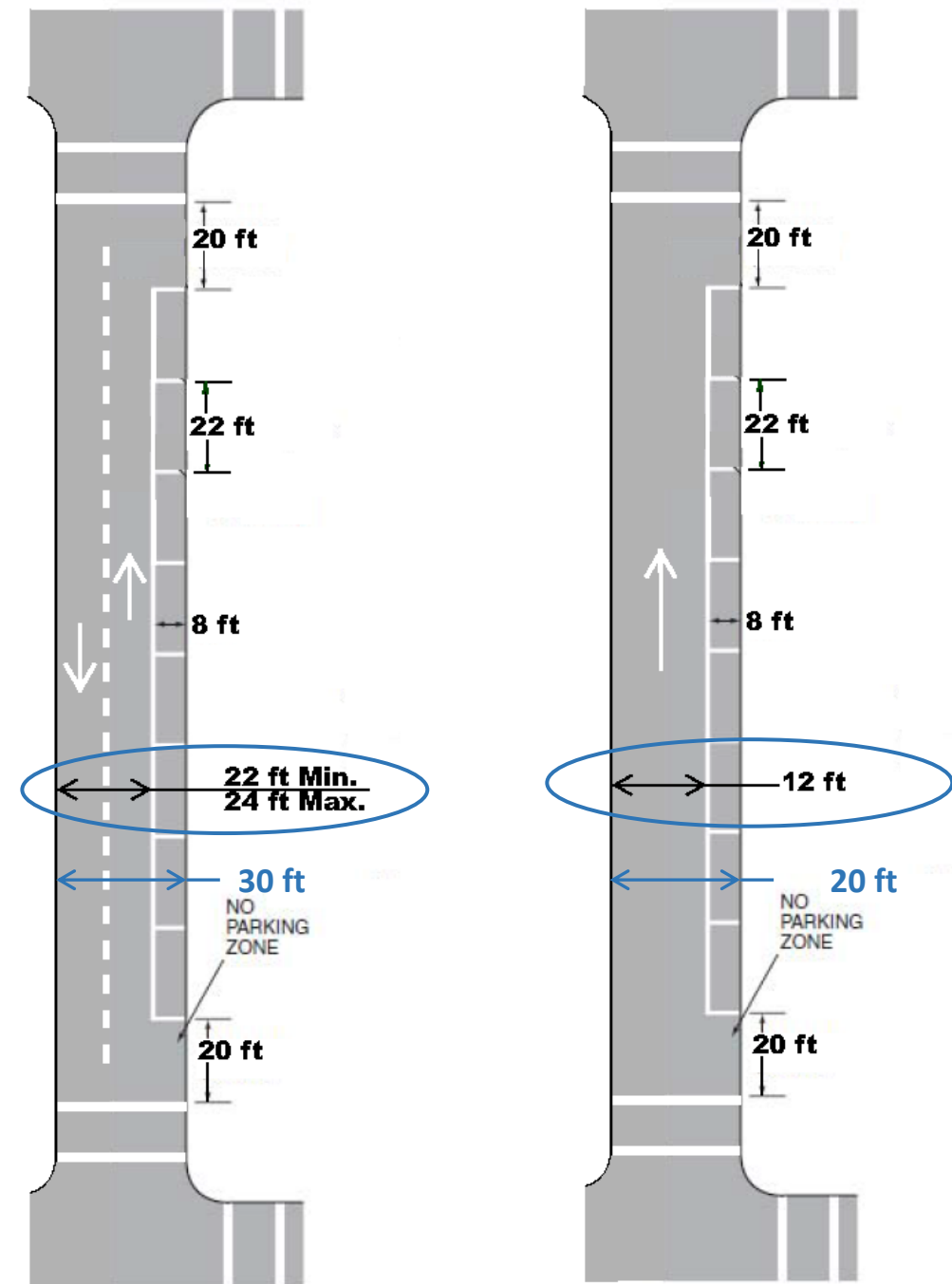




# Downtown Area Parking Investigation

## Street Widths & Travel

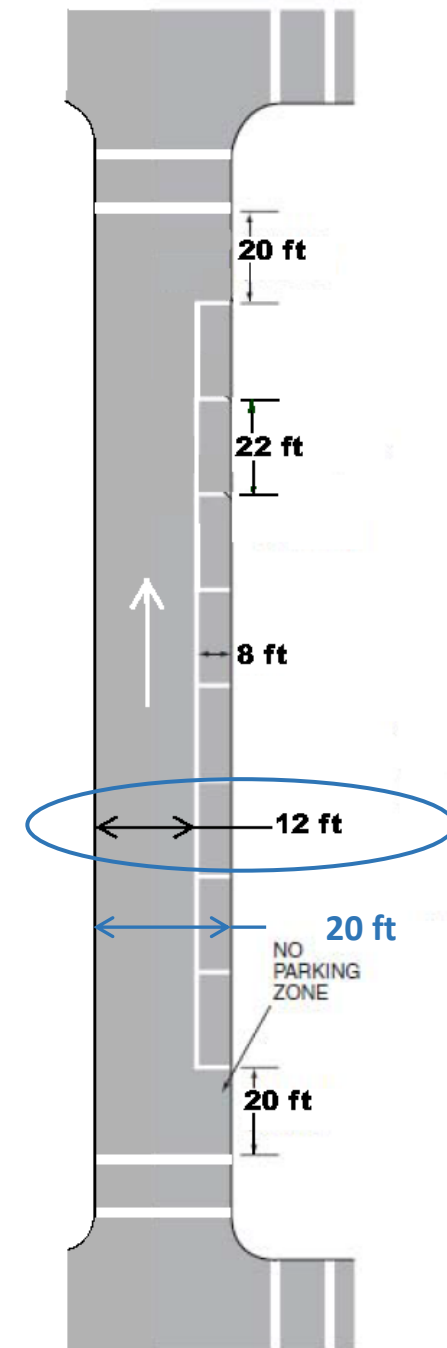
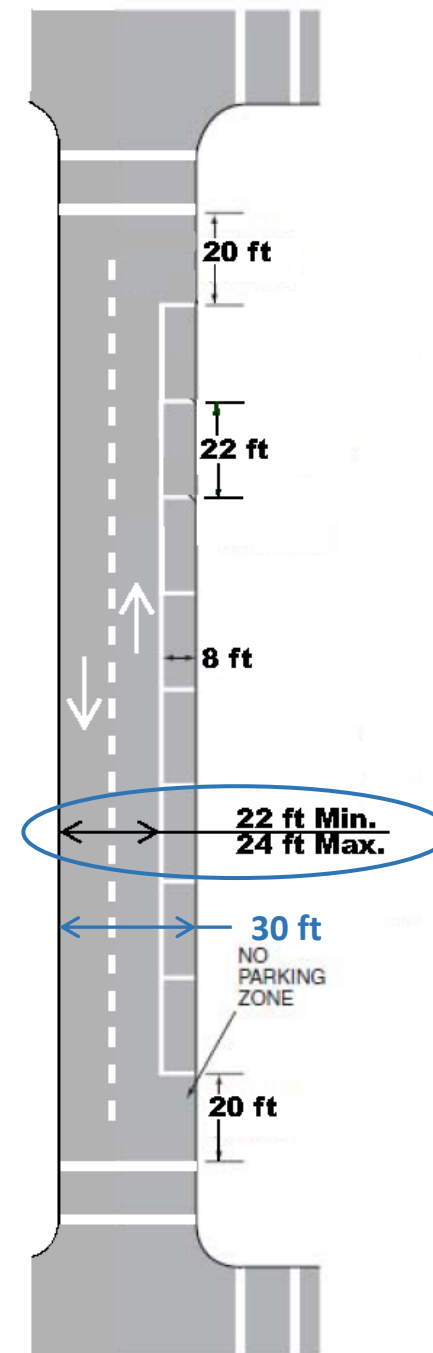
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# Downtown Area Parking Investigation

## Street Widths & Travel

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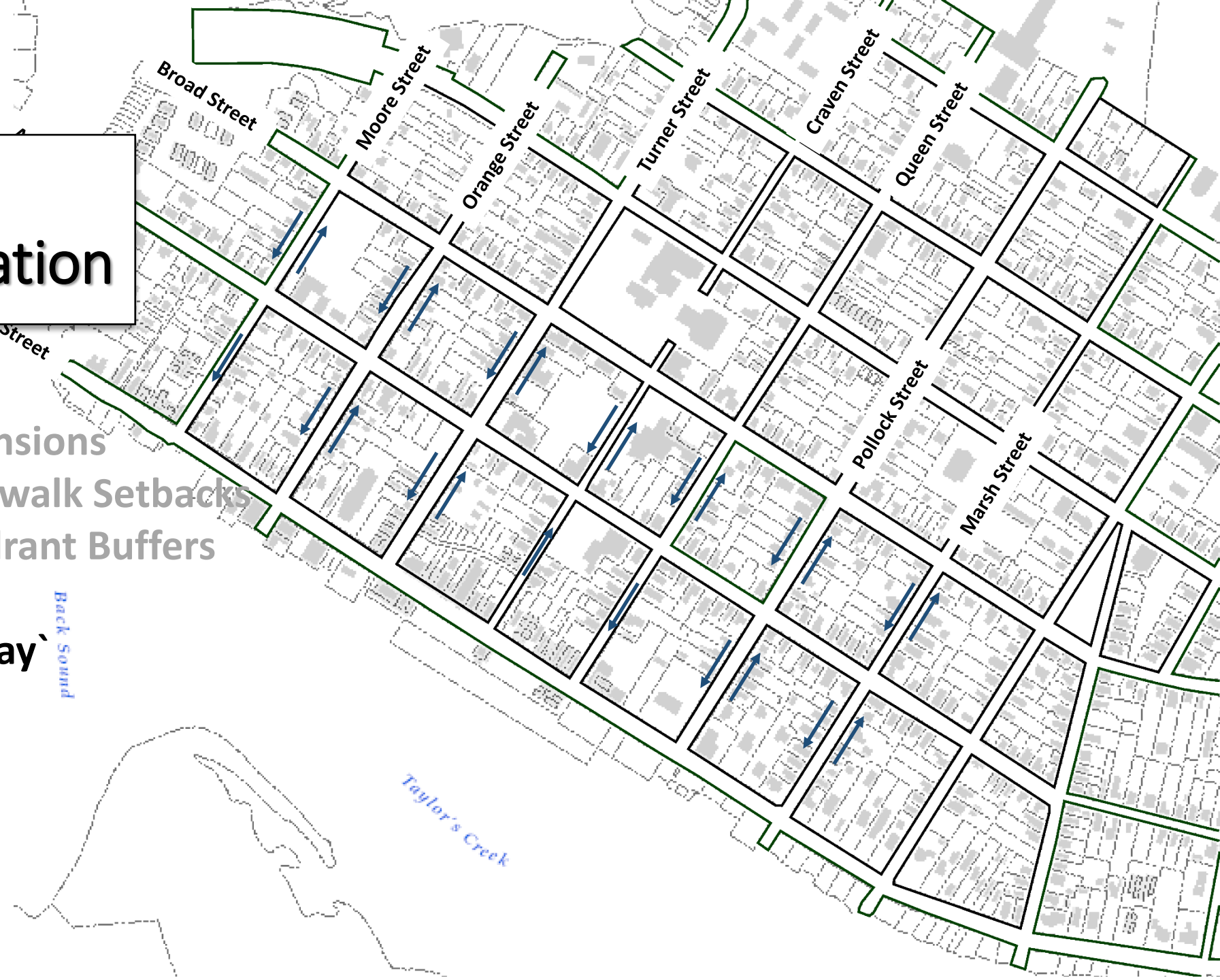
# Downtown Area Parking Investigation

## Recommendations

- Parking Space Dimensions
- Intersection & Crosswalk Setbacks
- Driveway & Fire Hydrant Buffers
- Travel Lane Widths
  - 1-way versus 2-way

Back Sound

Taylor's Creek



# Downtown Area Parking Investigation

## Travel Lane Widths

- 1-way versus 2-way



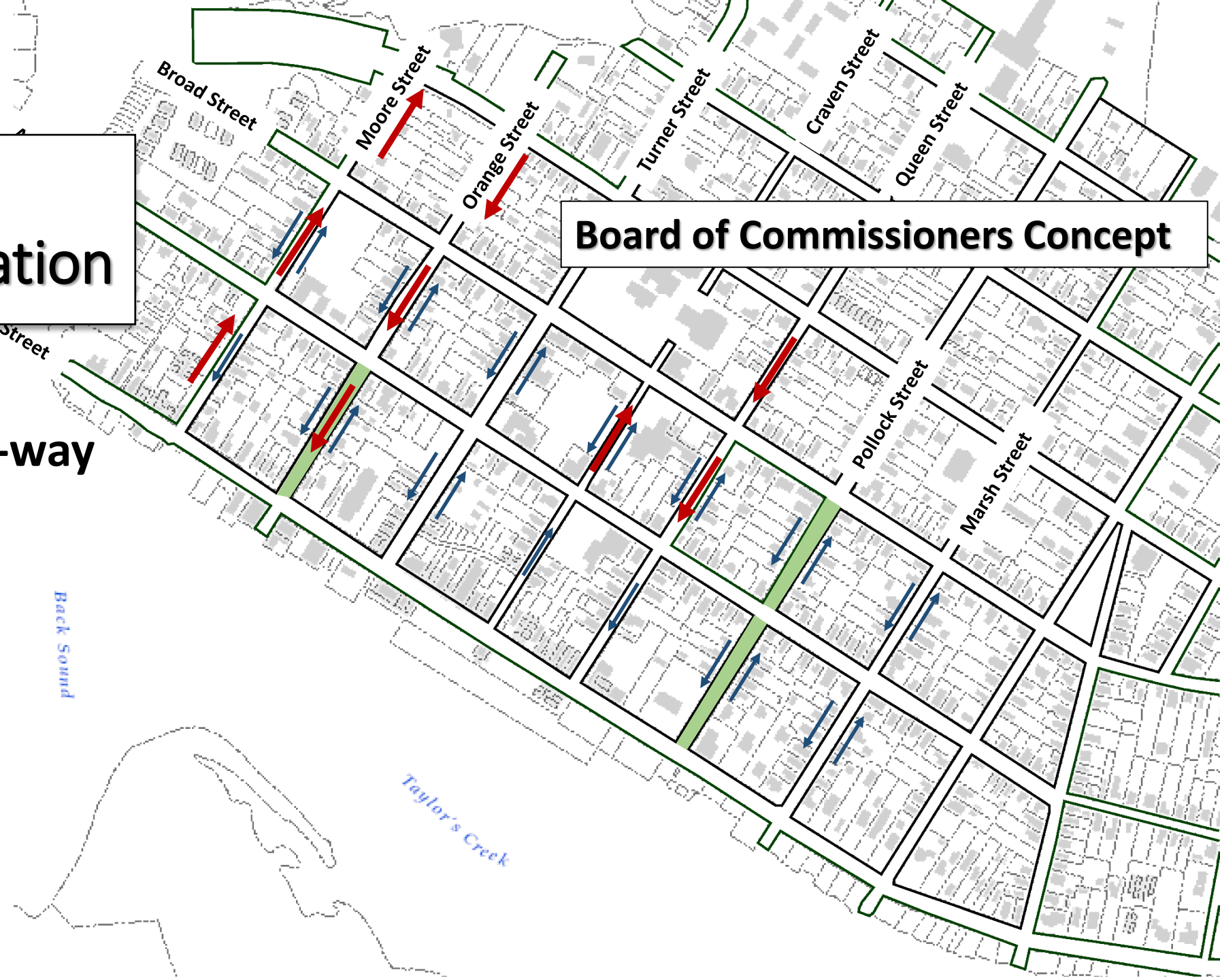


# Downtown Area Parking Investigation

## Travel Lane Widths

- 1-way versus 2-way

**Board of Commissioners Concept**

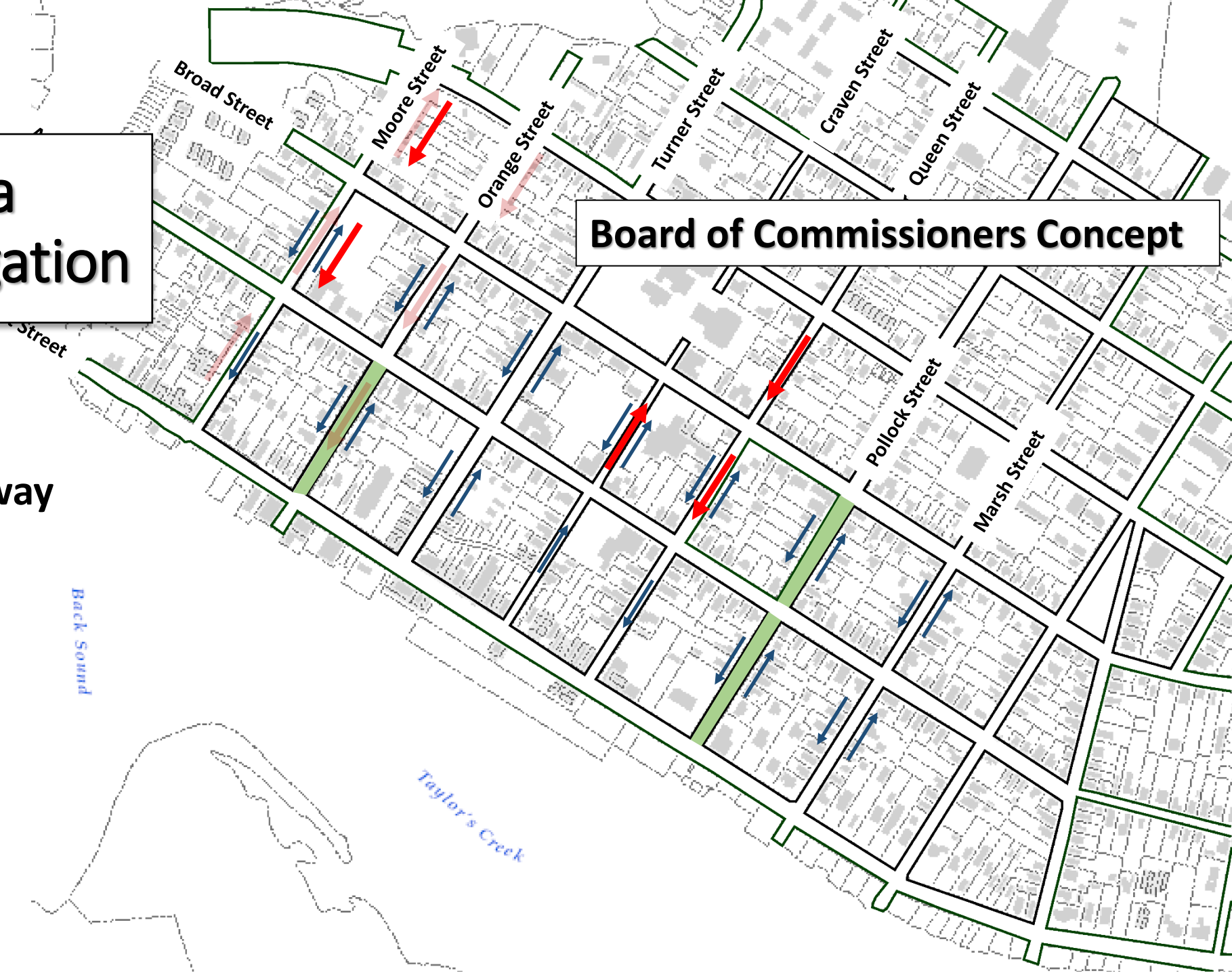


# Downtown Area Parking Investigation

## Recommendations

- Travel Lane Widths
  - 1-way versus 2-way

**Board of Commissioners Concept**





# Meeting Street Drainage Improvements

## June 2020 Action Plan

1. Perform Drainage Maintenance
2. Observe
3. Adjust





## Offsite Area 1

- Remove Blockages
- Trim Vegetation
- Clear Pipes





## Offsite Area 2

- Remove Blockages
- Trim Vegetation
- Clear Pipes



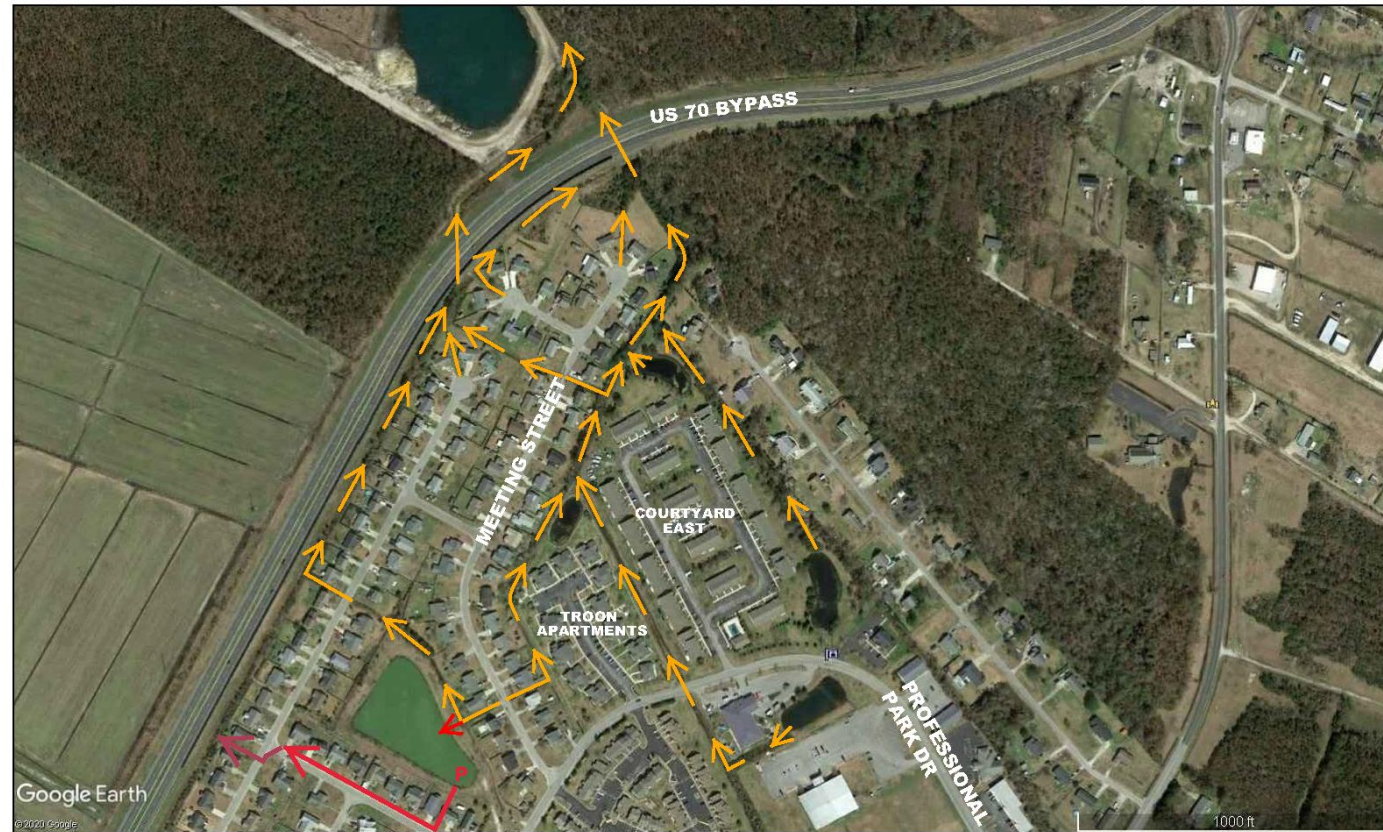


# Meeting Street Drainage Improvements

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## Observe

- Continued Flooding?
  - Severity
  - Duration
  - Downstream
- Management of Existing Pond
  - Water Levels Before, During, and After



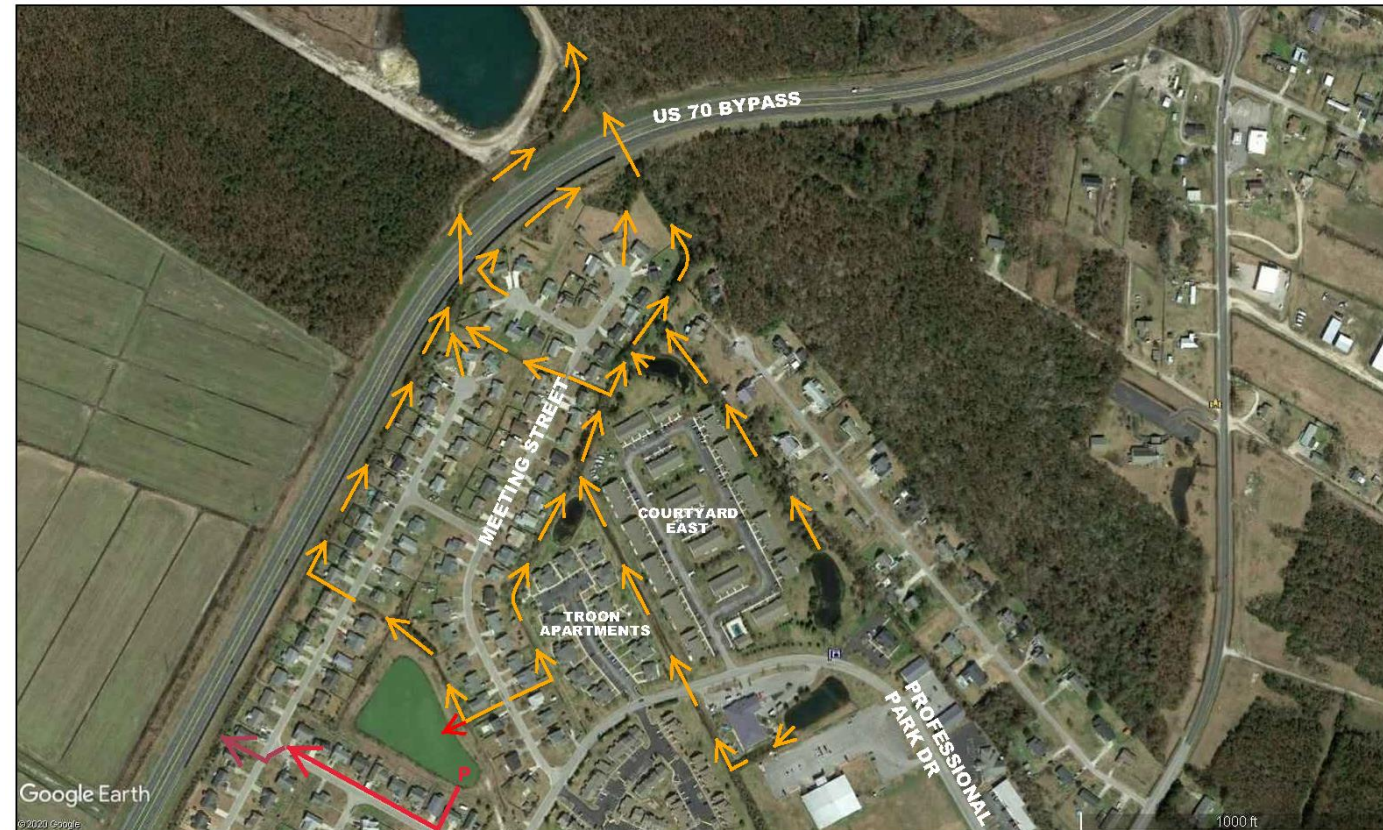


# Meeting Street Drainage Improvements

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## Observe

- Continued Flooding?
  - Yes
  - Severity seems unchanged
  - Duration seems improved



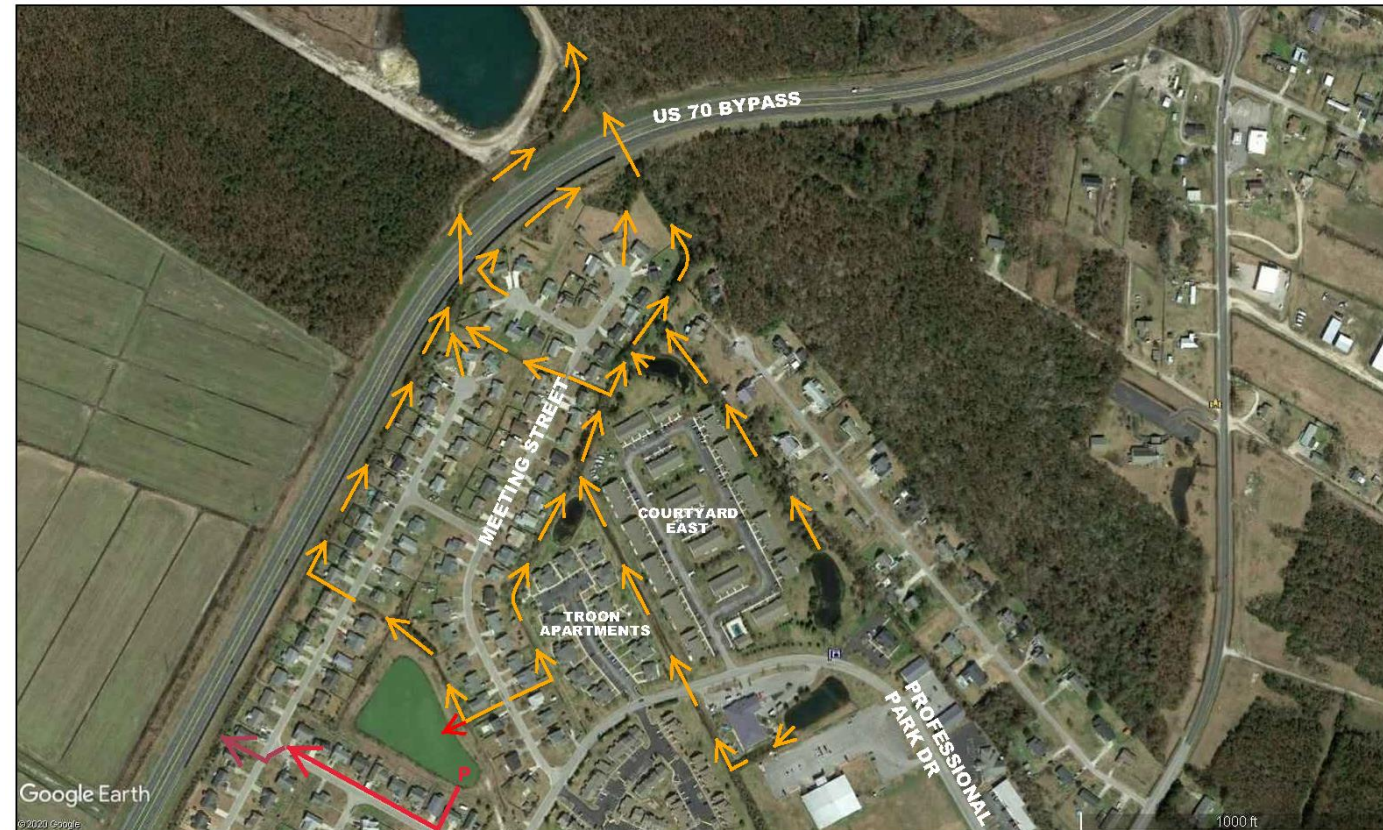


# Meeting Street Drainage Improvements

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## Observe

- Management of Existing Pond
  - Water level not being managed per plan





# Meeting Street Drainage Improvements

## Management of Existing Pond



June 7, 2006

Ms. Terri Parker-Eakes  
Town Manager  
Town of Beaufort  
P. O. Box 390  
Beaufort, NC 28516-0390

Re: Meeting Street Area Drainage Improvements  
Mediation Settlement  
Town of Beaufort, NC  
TWC-No. 2923-H

Dear Terri:

Please find attached the final improvements map recommended by Ron Cullipher of Stroud Engineering representing Mercer Building Company. As requested by the town and stated in the mediation settlement dated January 19, 2006 the developer's engineer and the town's engineer have agreed to the following improvements which shall meet or exceed the requirements set forth in the settlement and are as follows:

- Provide swales to allow stormwater run off from the 10yr storm event from Meeting Street to the southwest and northeast. These swales shall have a minimum bottom width of 4 feet with 5:1 side slopes. The swales are to be graded on a 0.50 % slope.
- Swales shall be designed to prevent water from backing into Meeting Street from offsite drainage ditches. The design uses one way flap gates with storm drainage structures to provide this protection from offsite water. These flap gates are being proposed on both swales to prevent any offsite water from entering the roadway area from the pond and/or the outfall ditch. A one - inch head differential is required to open the flap gate and allow the roadway water to drain offsite. In all cases there is more than one - inch difference between the roadway elevation and the invert of the pipes; therefore ensuring the flap gates will open without flooding the roadway.
- An additional 48" CPP has been added to the existing 24" RCP which drains under an existing driveway to the north of the property. This additional pipe opening allows for better drainage of the offsite ditch to the north.
- Because of the flat grades in the area and the offsite drainage system's capacity to carry the design storm the developer's engineer chose to store the design storm event in an existing pond

301 West 14th Street  
Greenville NC 27834

252.757.1096  
fax 252.757.3221

# Meeting Street Drainage Improvements

## Management of Existing Pond

“The existing pond has a surface area of 70,120 sf at elevation 5.5 MSL. This is the average elevation which the pond maintains during the year.”



within the development. The existing pond has a surface area of 70,120 sf at elevation 5.5 MSL. This is the average elevation which the pond maintains during the year. The improvement plan calls for the pond to have the pond banks reshaped to 5:1 side slopes to an elevation of 9.0MSL. This allows for three and one half feet of storage volume in the pond over the entire surface area. Under the design storm conditions the 10-year 24 hour storm event produces approximately 125,000 cf of stormwater runoff. At an elevation of 7.5MSL the pond provides approximately 152,000 cf of storage volume.

- To prevent offsite water from filling the pond the plan calls for the construction of a control structure to be installed at the end of the swale on the southwest end of the swale from Meeting Street. This structure will include a grated inlet to allow for drainage from Meeting Street to enter into the pond. The water will then be pipe through a berm into the pond. This berm is to be constructed to prevent offsite water from entering the pond from the north and to prevent the pond from draining into the roadway swale. The outlet pipe into the pond shall have a flap gate installed on the outlet end to prevent water from leaving the pond into the roadway swale.
- Since the outlet structure of the swale is dependent on the inlet capacity of the grate and may collect debris over time if not maintained properly the structure has an overflow device at elevation 9.0 MSL. This elevation is lower than the elevation of the roadway and will allow positive runoff away from Meeting Street if needed for overflow.
- Since a pond is being used for capacity storage the developer is required to provide adequate pumping capacity of the stormwater to prevent overflow of the pond. The pump which has been designed for this project shall be on a 24 hour delay. This allows for all the runoff to enter into the pond prior to pumping the system. The delay also allows the runoff from other areas to the site through outlet ditches prior to any additional flow being added to the system. The pumping rate at 48 hours drawdown time is 323 gpm. This pump will pump through a four inch force main into the new storm drainage system for Phase V of Olde Beaufort Village. Since the pump is set on a delay the new system shall have time to drain away from the property prior to the pumps running. The pumping station control panel shall be designed and built to allow for standby power in case of emergency. The developer is to provide a portable generator sized to meet or exceed the needs of this pumping station.



# Meeting Street Drainage Improvements

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## Management of Existing Pond

- Normal pond elevation 5.5 ft MSL
- Storage between 5.5 & 9.0 ft MSL
  - Street elev. @ inlet 9.5± ft
  - Storage for 10-year, 24-hour storm (7± inches in 24 hours)
- Permanent pump station
  - 24-hour delayed pumping
  - 48-hour drawdown @ 323 gpm



June 7, 2006

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Town Manager  
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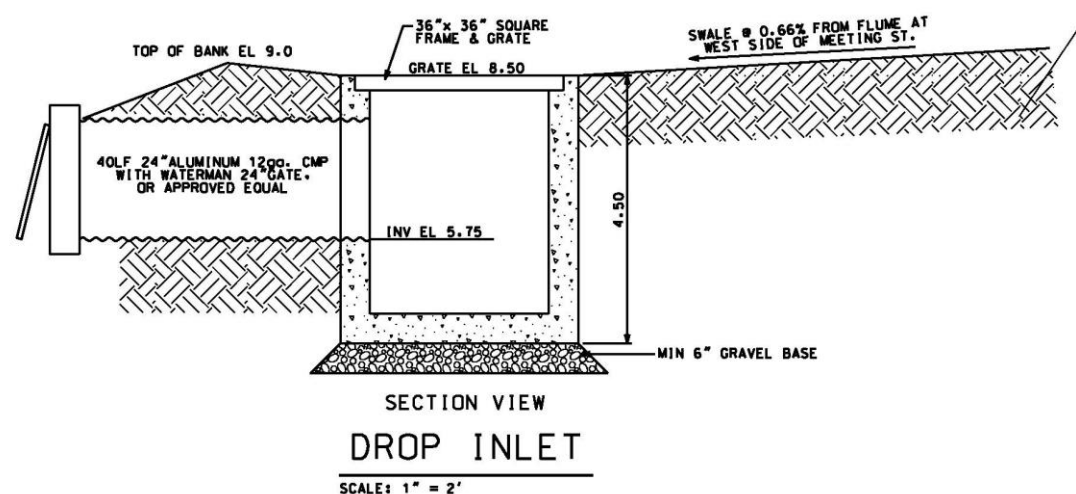
252.757.1096  
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# Meeting Street Drainage Improvements

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## Management of Existing Pond

- Normal pond elevation 5.5 ft MSL - **Not being maintained**
- Storage between 5.5 & 9.0 ft MSL - **Reduced storage**

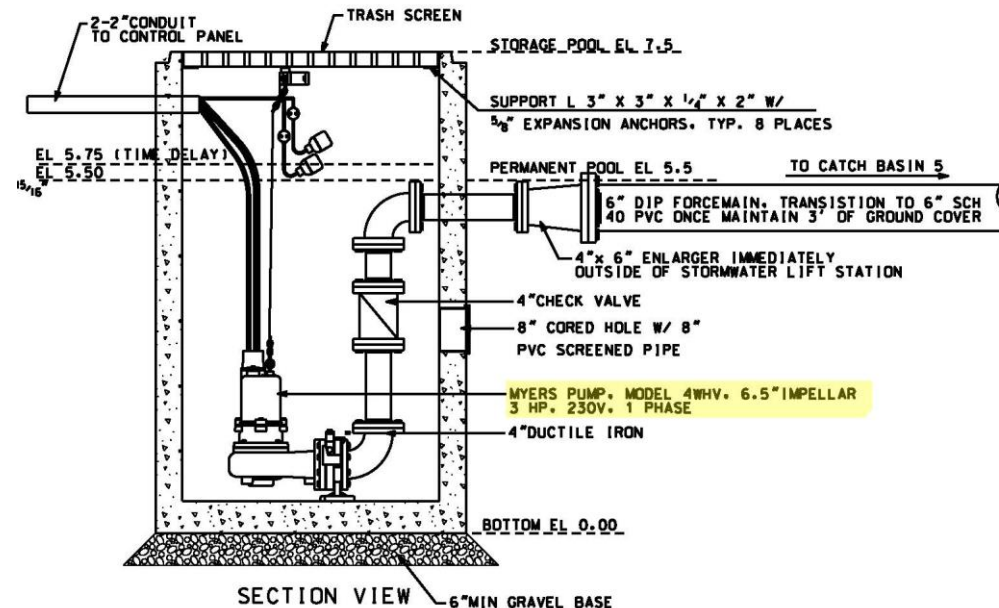




# Meeting Street Drainage Improvements

## Management of Existing Pond

- Permanent pump station - **Appears inactive; portable pump used**

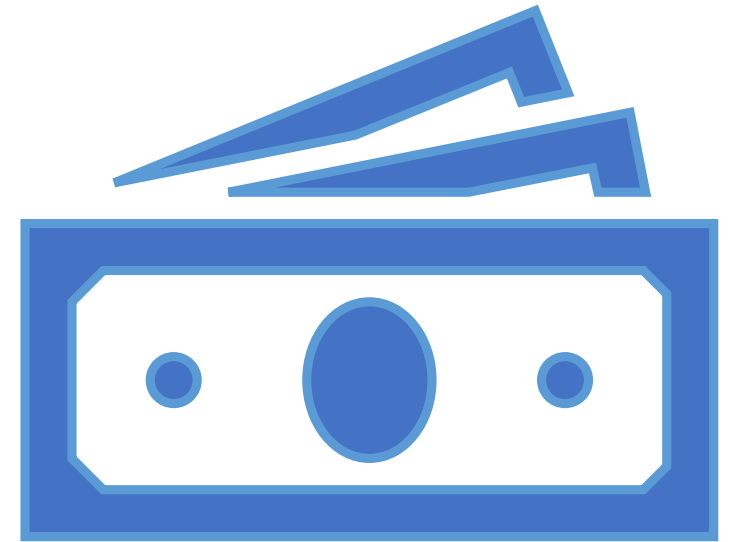


# Meeting Street Drainage Improvements

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## Adjust

- Possible “Structural” Recommendations
  - Stormwater Pumping Station
  - Increasing elevation of Meeting Street (Vertical Realignment)
  - Very expensive
- Possible Management Solution
  - Assume Pond Management responsibility



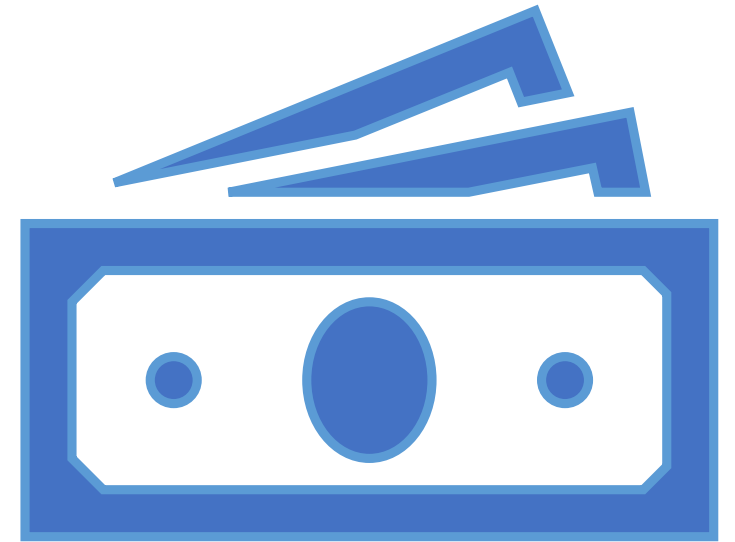


# Meeting Street Drainage Improvements

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Adjust —→ Moving forward with Structural Option

- Topographic & property survey
  - Meeting Street
  - Parts of side streets
  - Portion of Professional Park Drive
- Soils investigation
  - Can infiltration features be added?

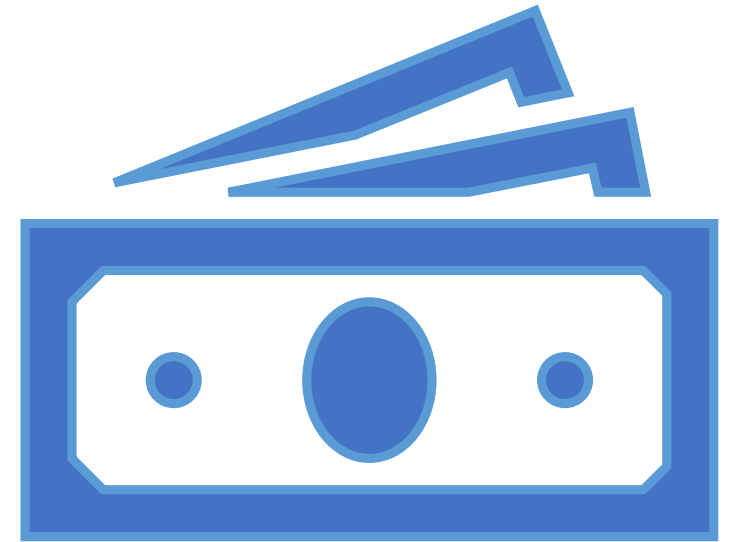


# Meeting Street Drainage Improvements

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Adjust —→ Moving forward with Structural Option

- Hydraulic modeling
  - simulated neighborhood runoff
  - various swales, ditches, pipes and streams in and downstream
- Probable surveying of ditch cross sections





# Project Updates



QUESTIONS?



COMMENTS?