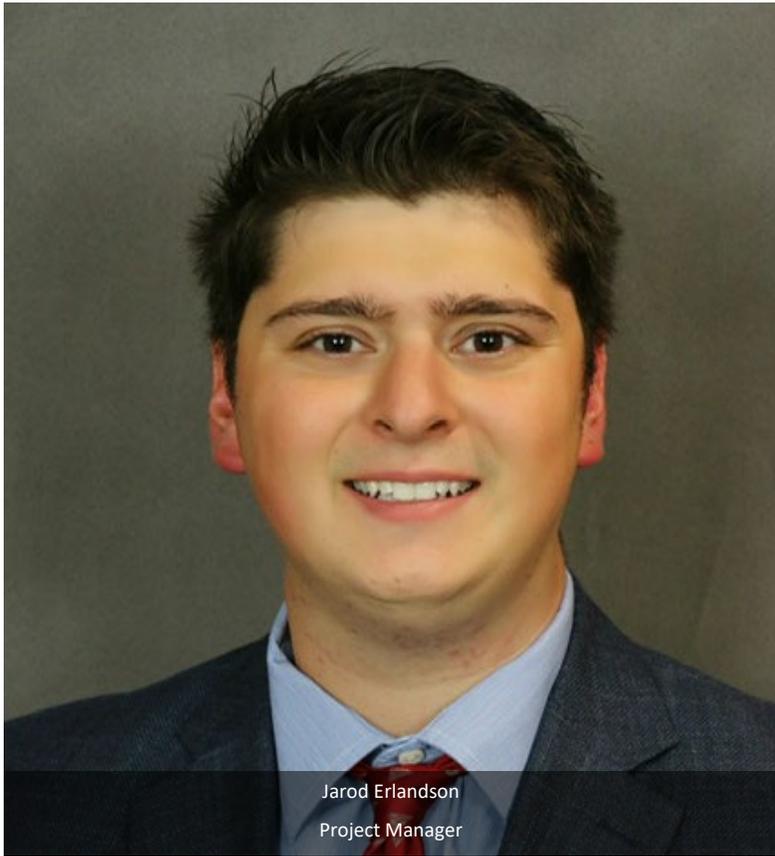


Recreational River Access

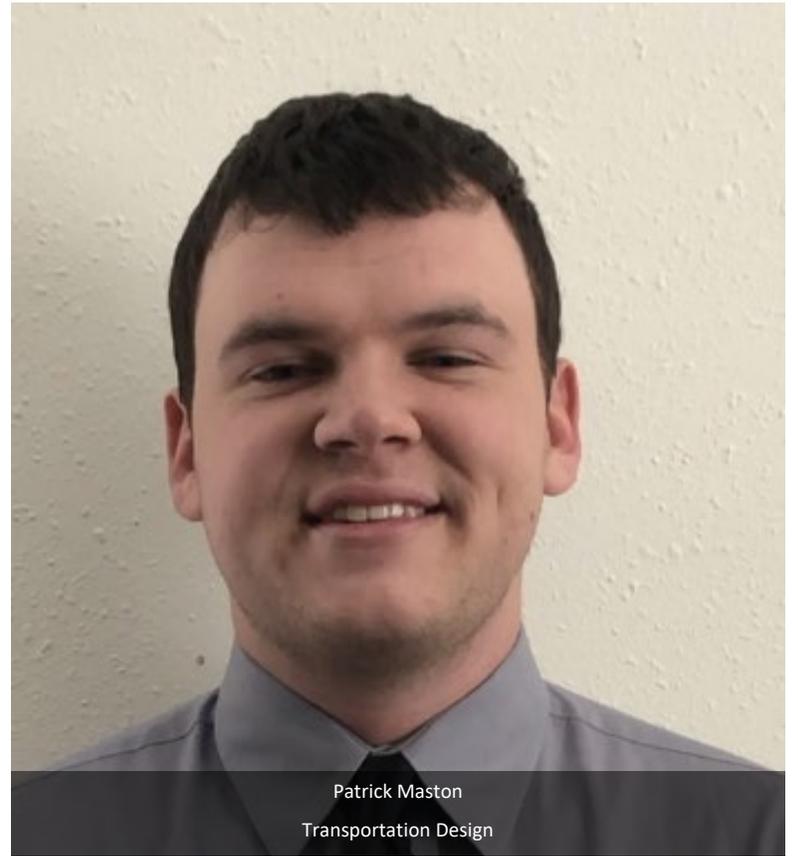
Keokuk, IA



Jarod Erlandson
Project Manager



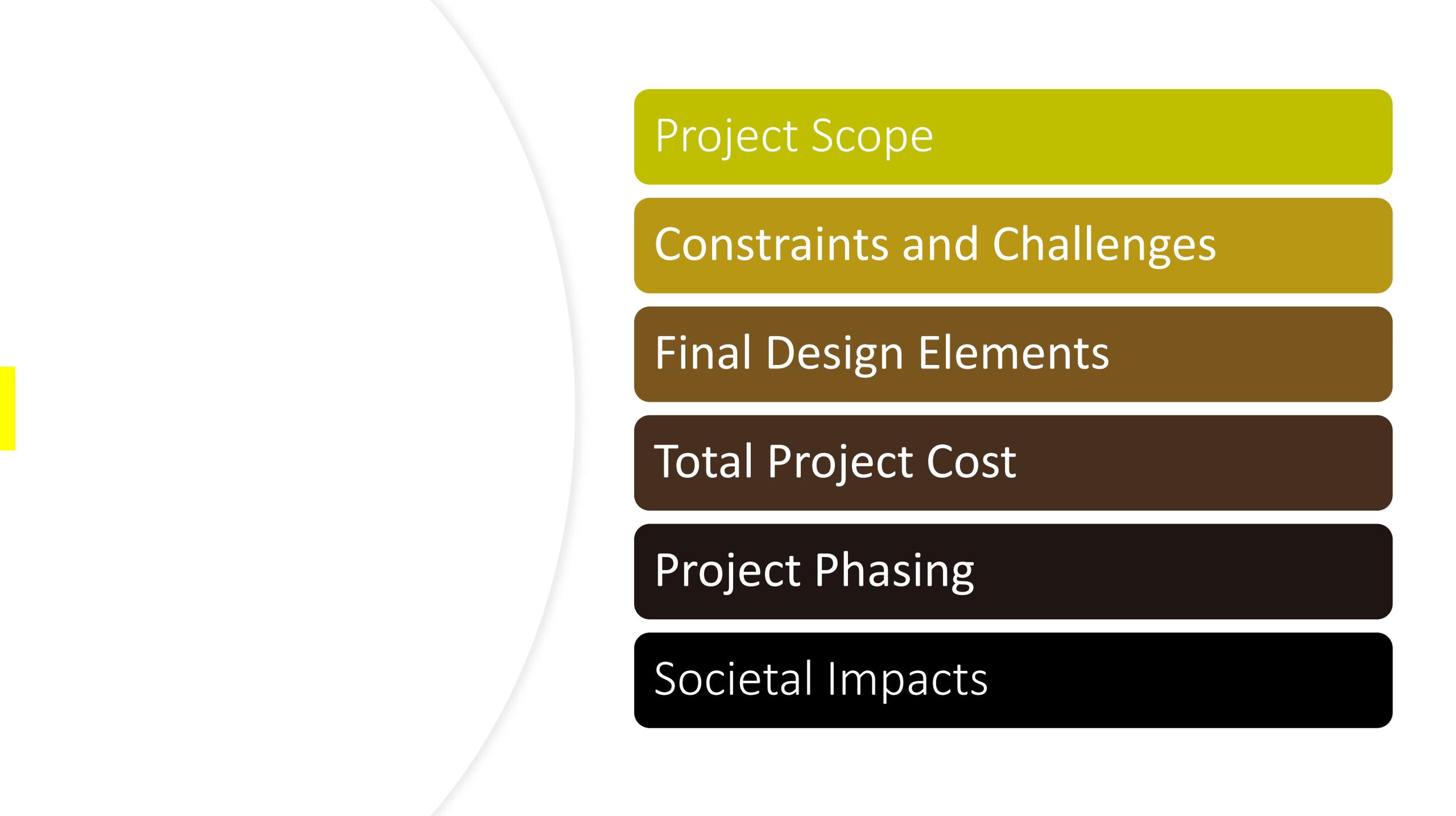
Nick Nelson
Structural Design



Patrick Maston
Transportation Design

JNP Engineering Team





Project Scope

Constraints and Challenges

Final Design Elements

Total Project Cost

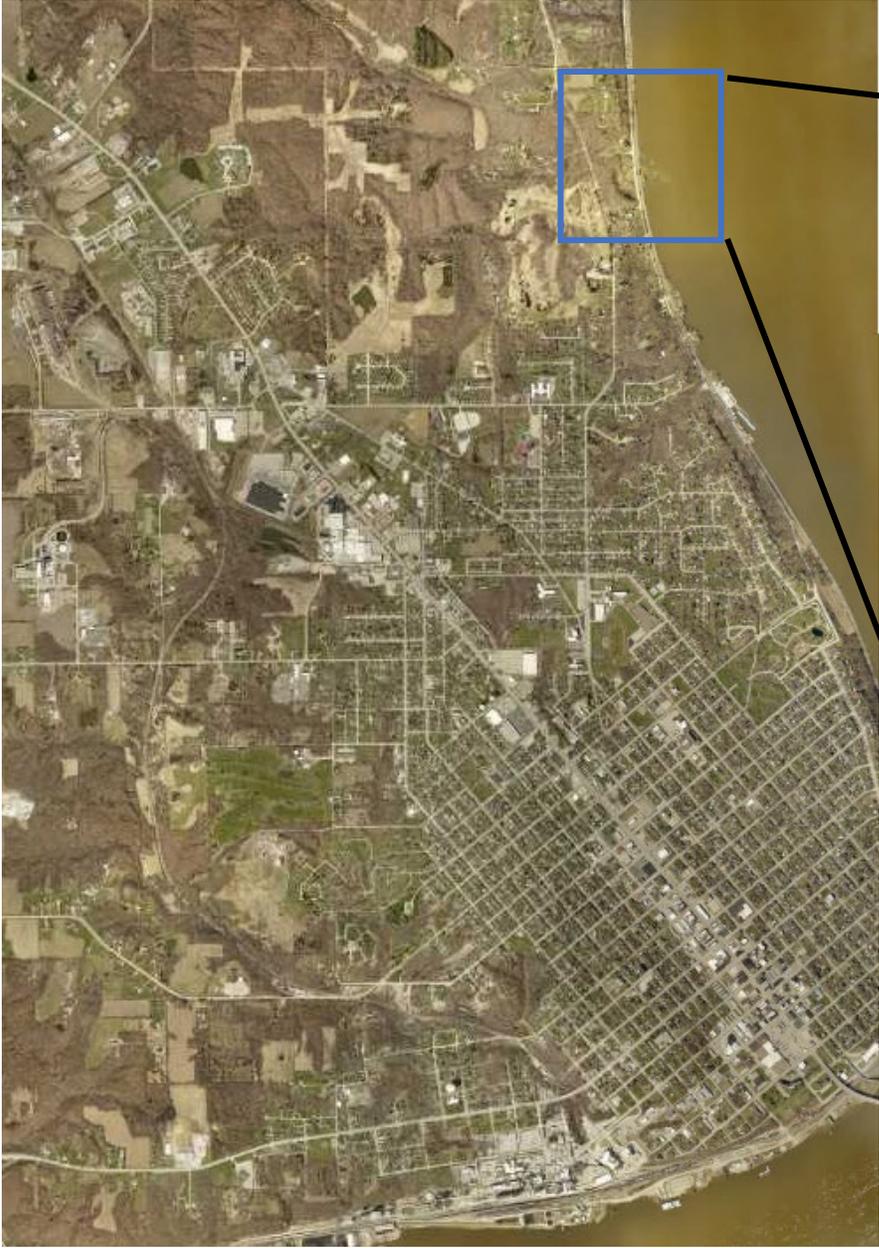
Project Phasing

Societal Impacts



Project Scope

- Boat Launch
- Boat Docks
- Two-Way Directional Traffic Flow
- Parking Lot
- Bathroom Facility







2783



Exit Street View



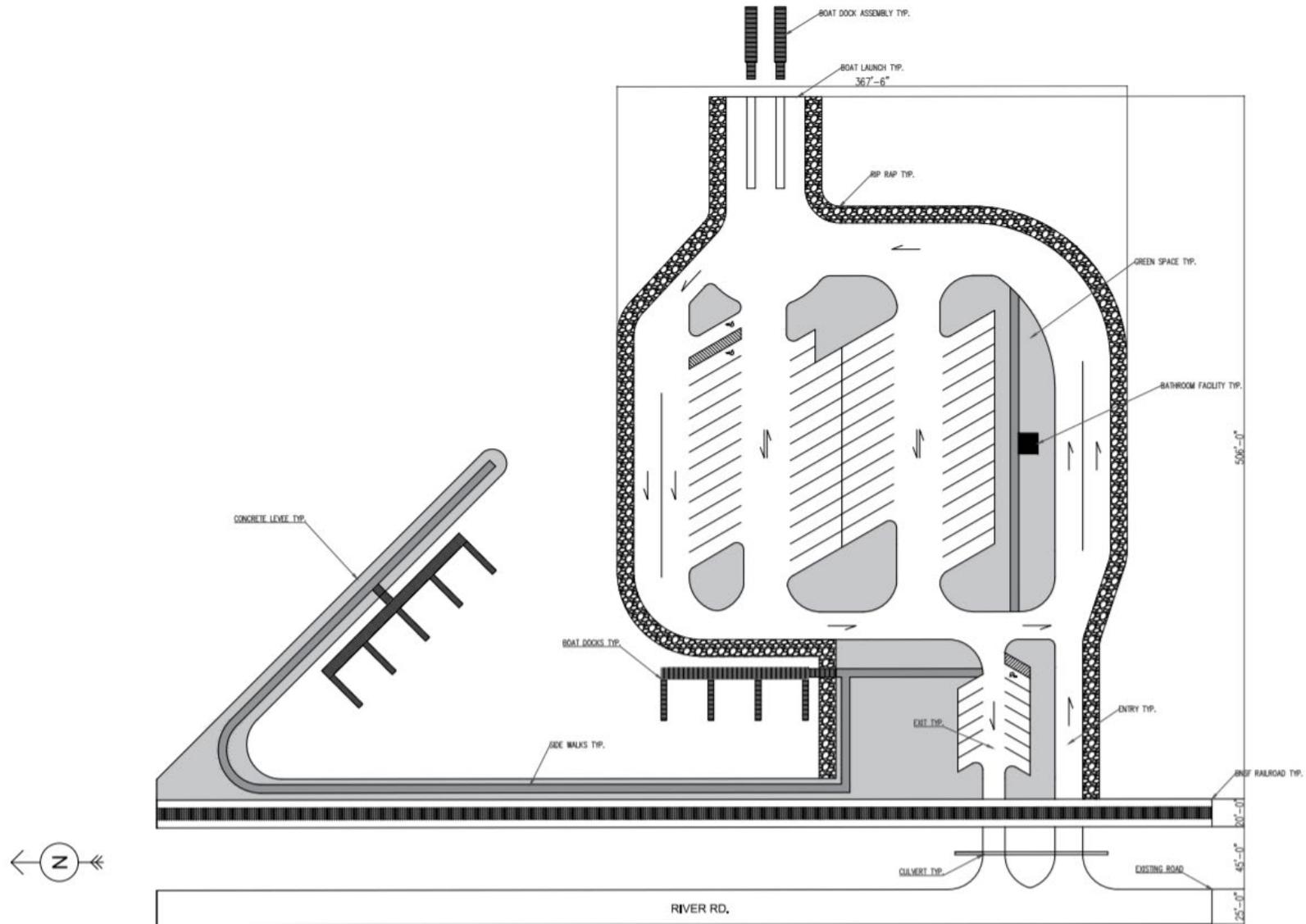




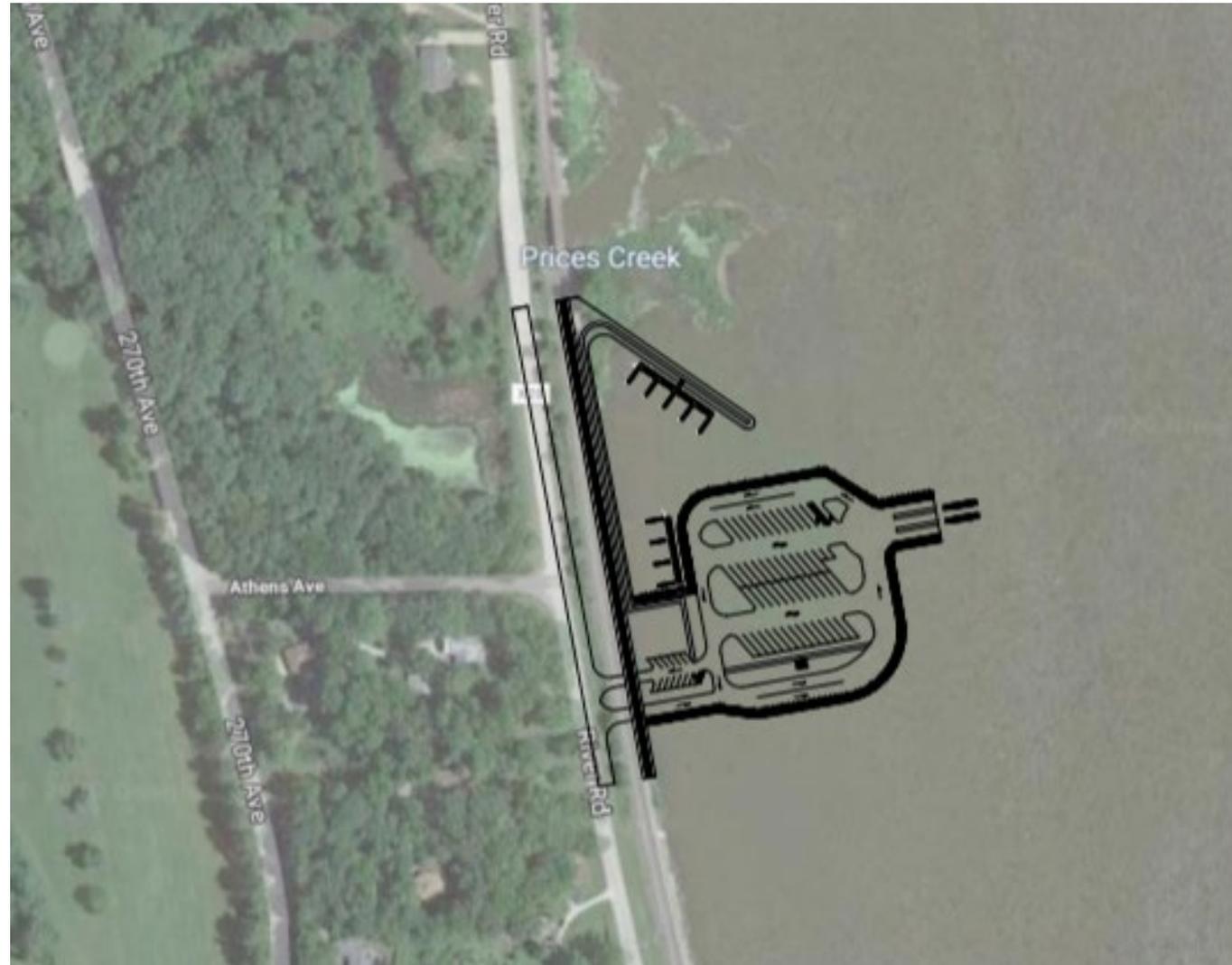
Site Design



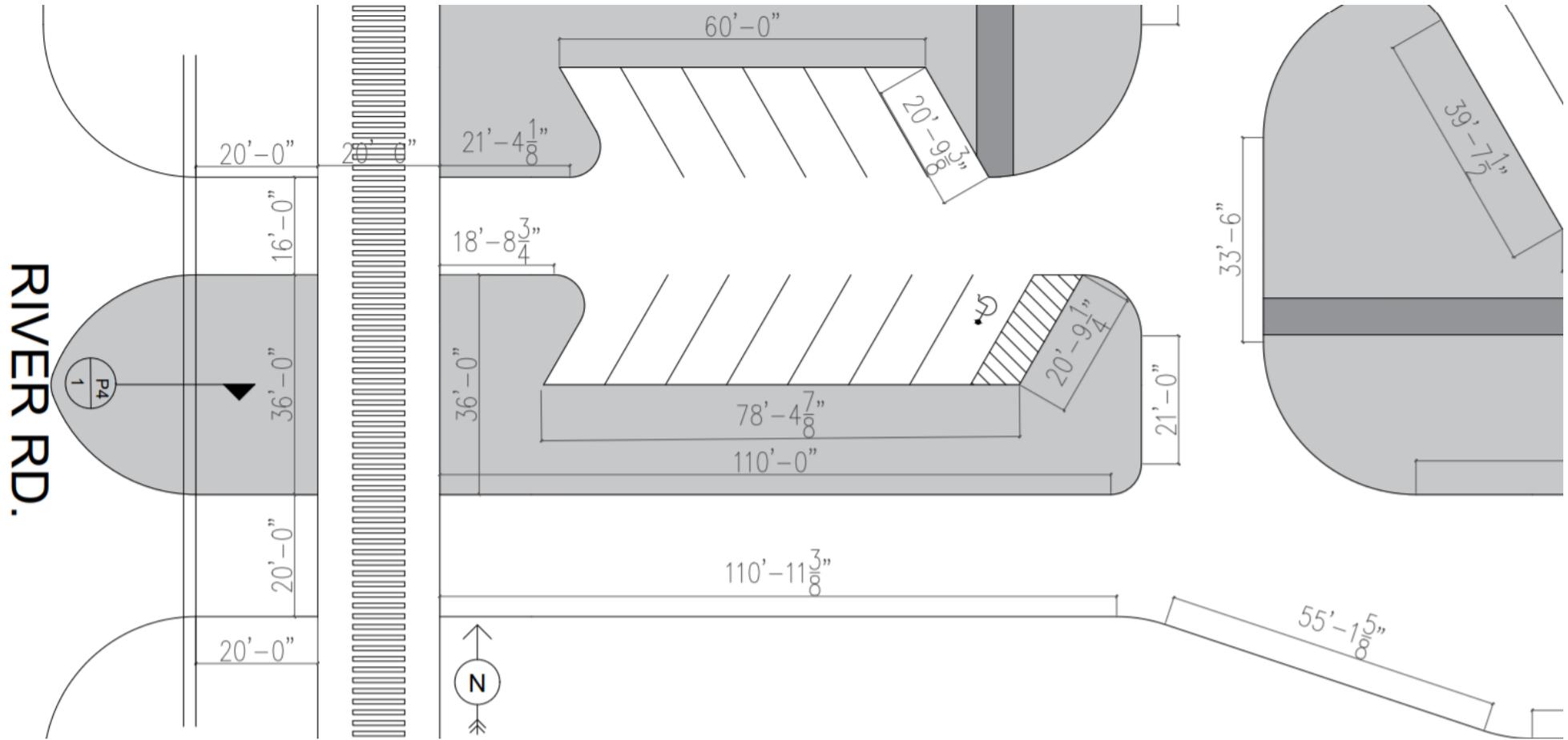
Proposed Site Plan



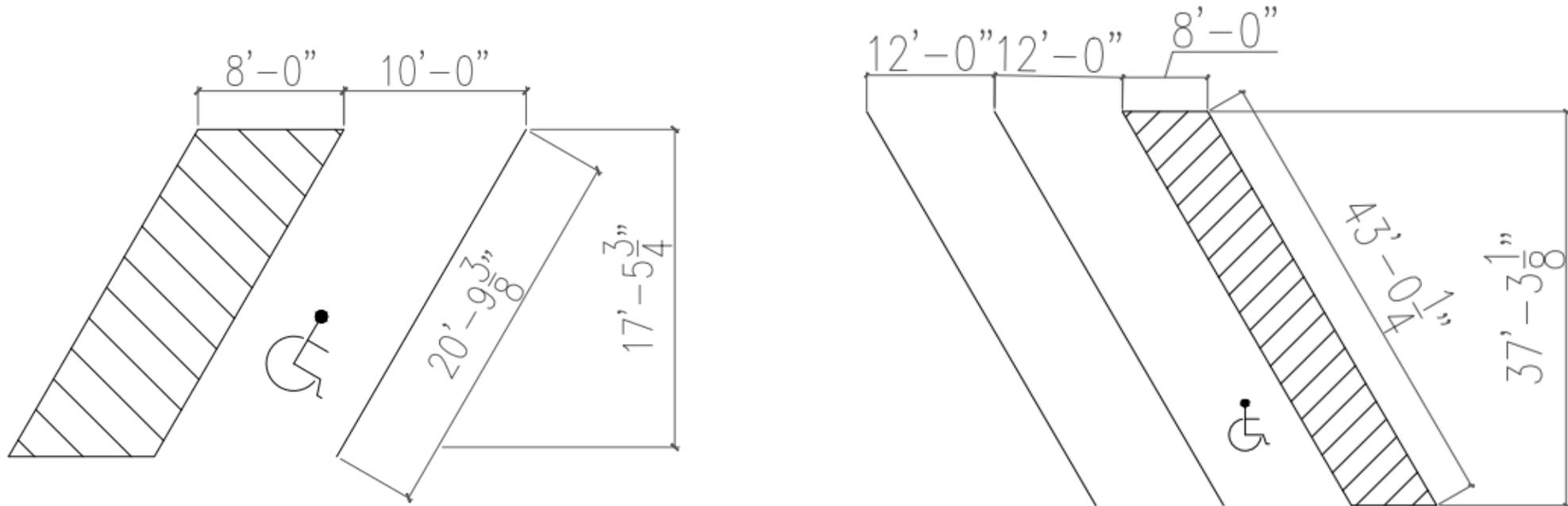
Proposed Site Plan



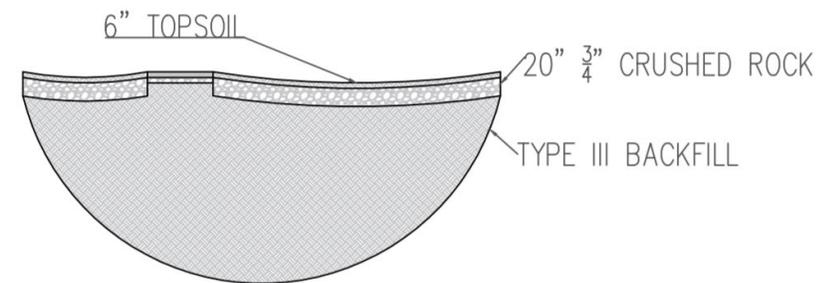
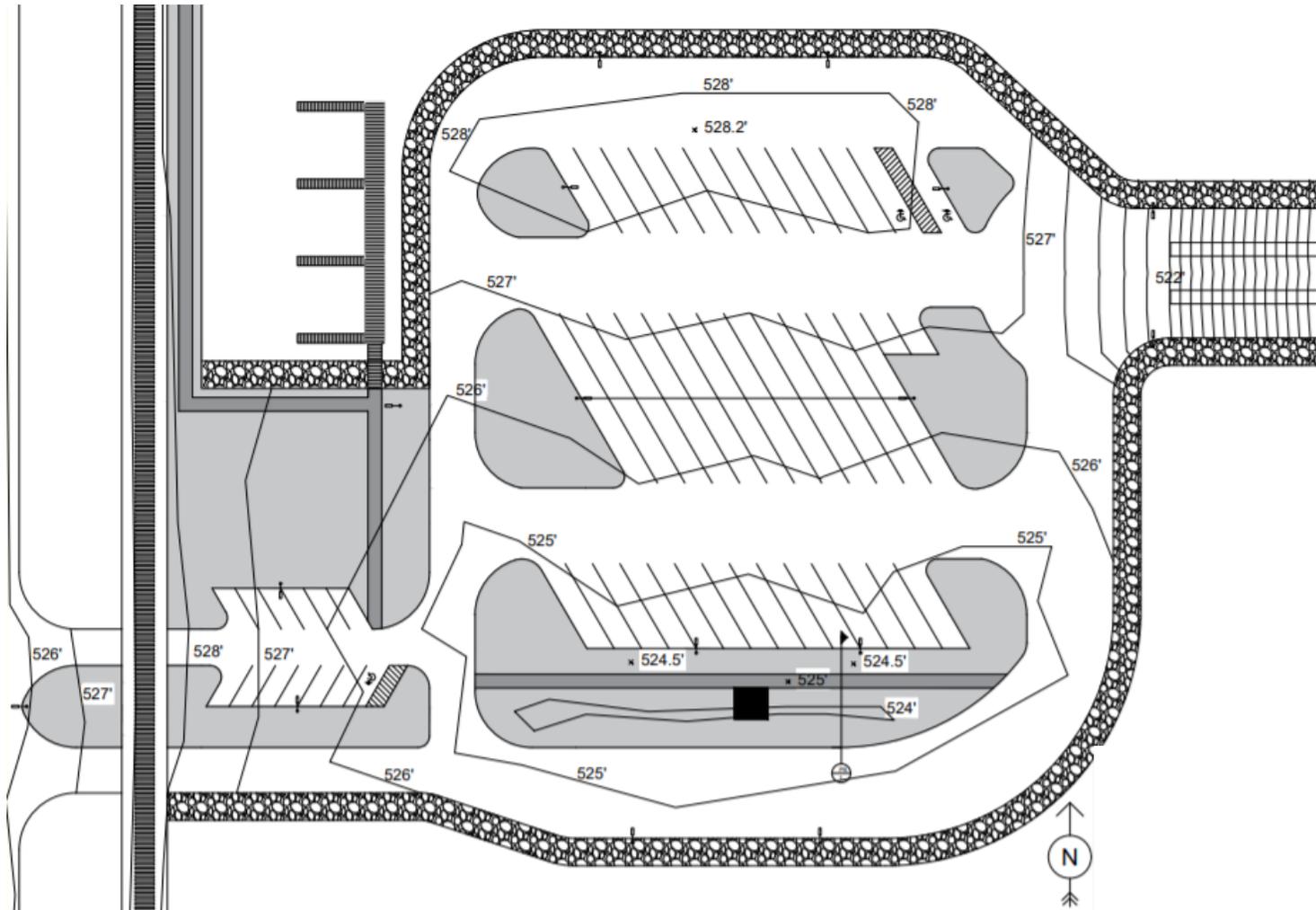
Geometric Plan Access Road



Parking Lot Details

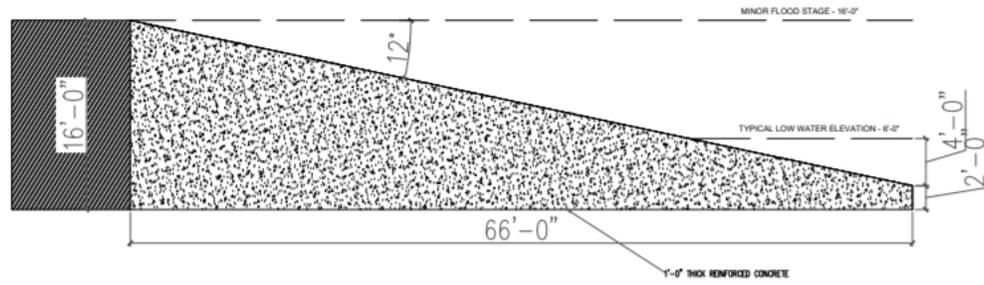


Proposed Site Elevation & Drainage Detail

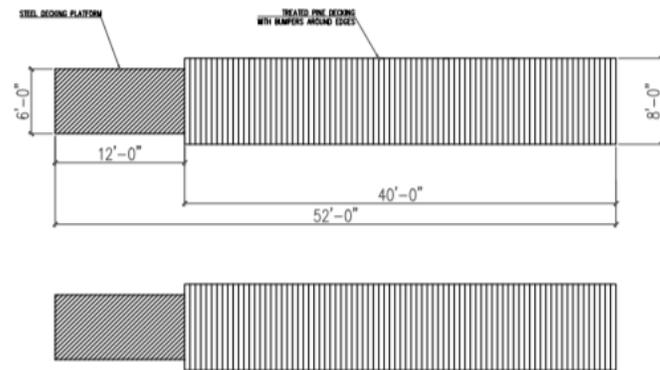


(1) BIOSWALE DETAIL

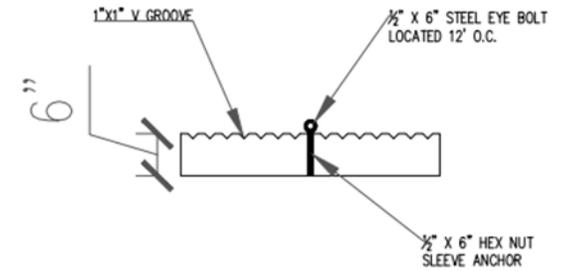
Boat Launch Detail



BOAT LAUNCH ELEVATION PLAN



TYPICAL RETRACTABLE FLOATING BOAT DOCK DETAIL

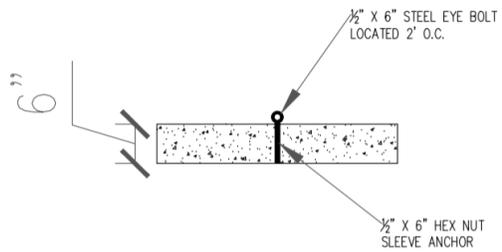


(1) DOCK ANCHOR DETAIL

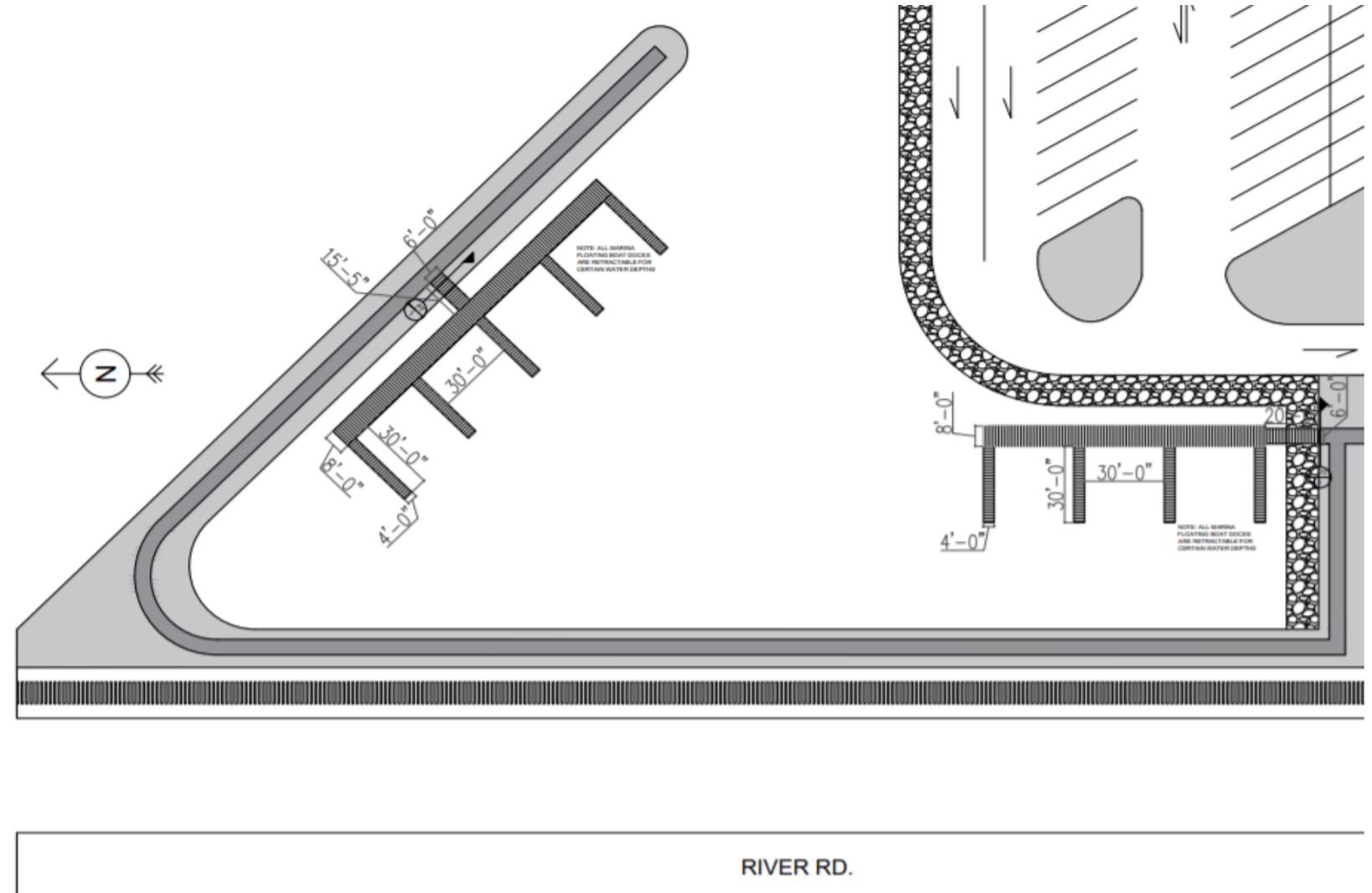
Boat Launch Docks Example



Geometric Plan Levee/Marina Section



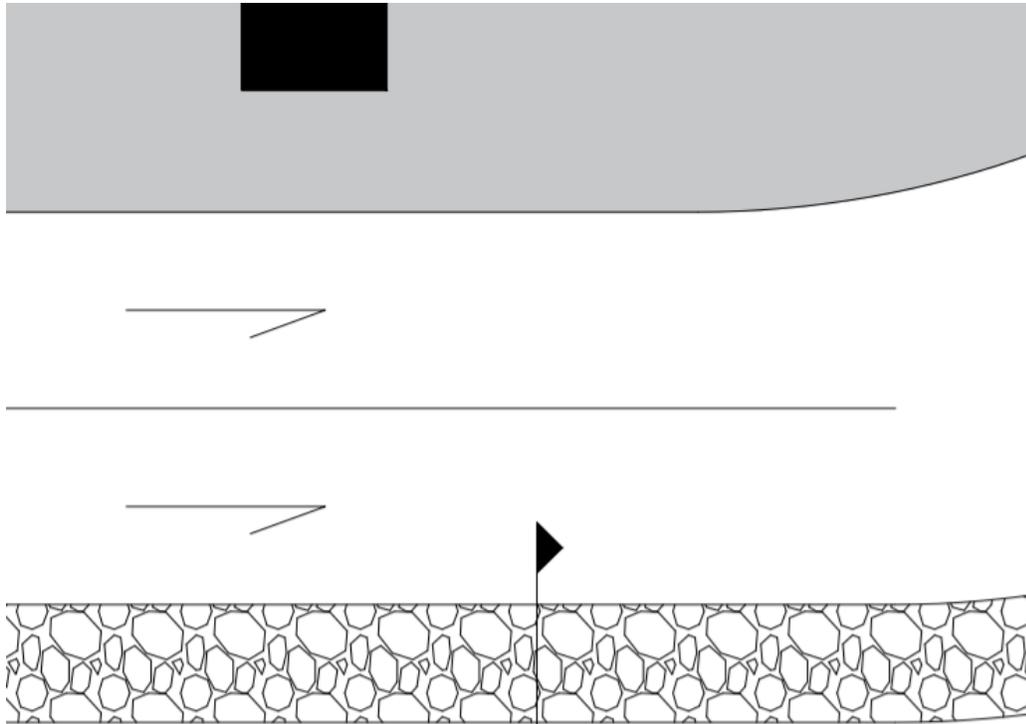
(1) MARINA ANCHOR DETAIL



Marina Boat Docks Example



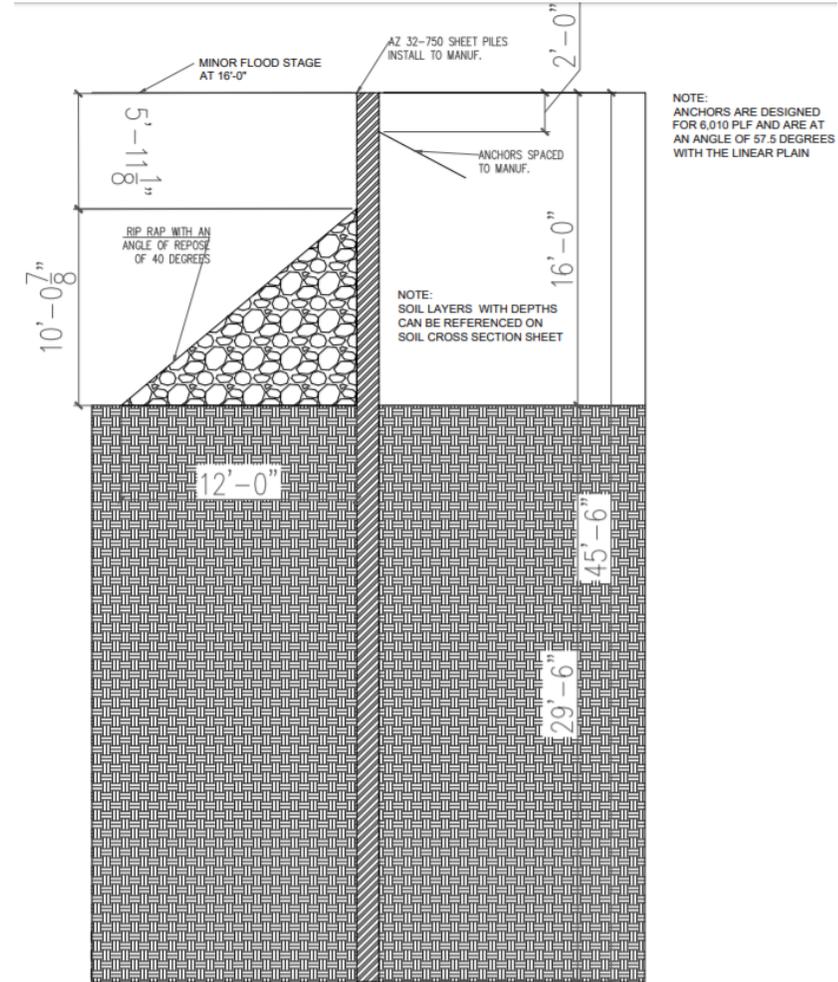
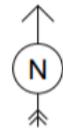
Sheet Pile Cross Section



NOTE:
SHEET PILES OUTLINE THE ENTIRE
SITE PLAN CREATING A COFFER DAM

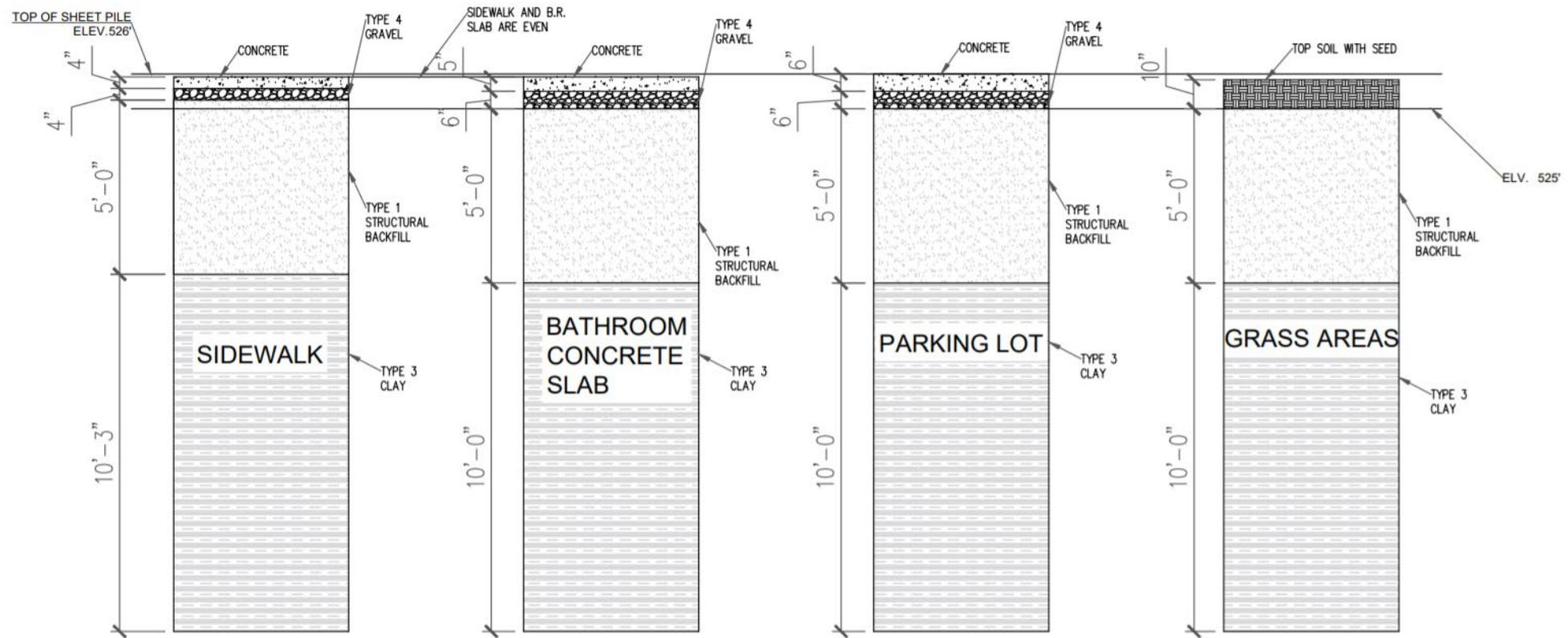
S1
1

SHEET PILE WALL LOCATION DETAIL



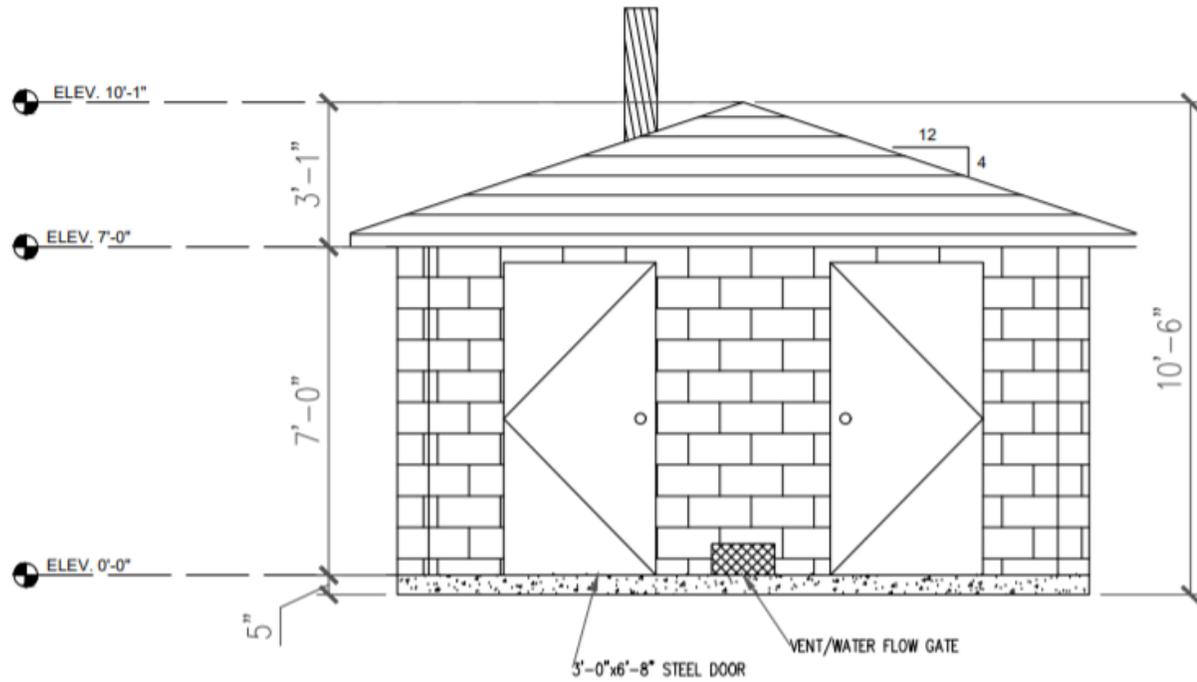
(1) TYPICAL SHEET PILE WALL DETAIL

Soil Cross Section

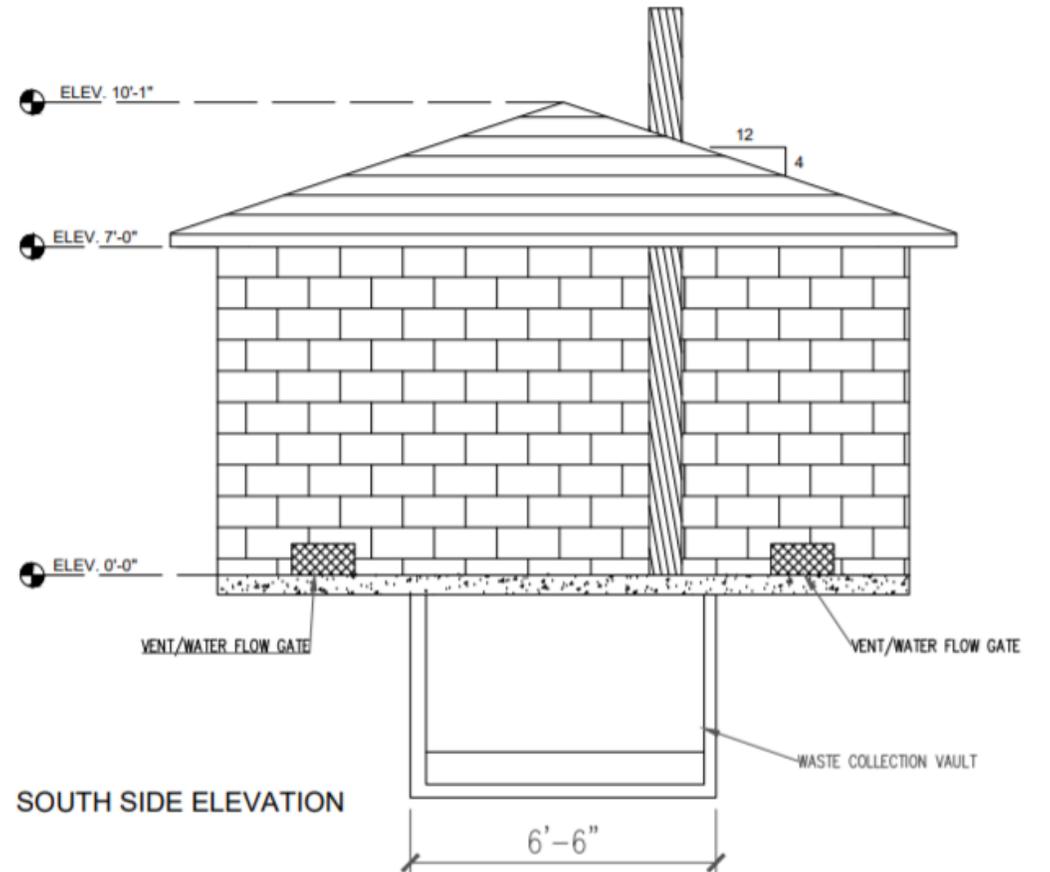


TYPICAL SOIL CROSS SECTION

Bathroom Facility Plan

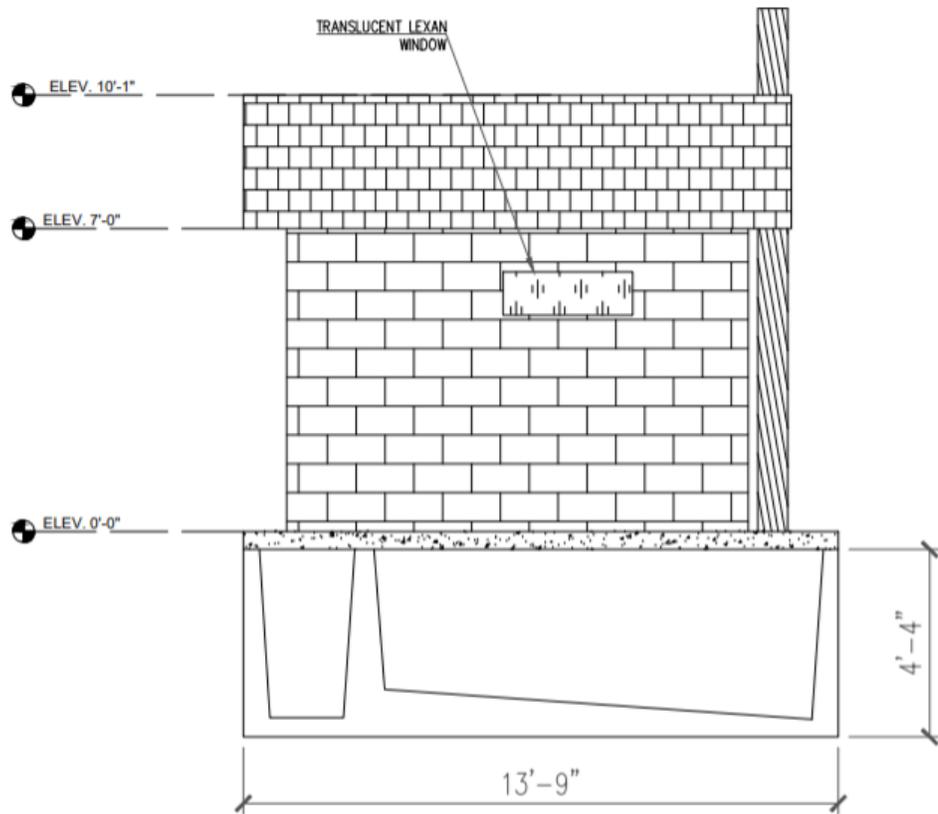


NORTH SIDE ELEVATION

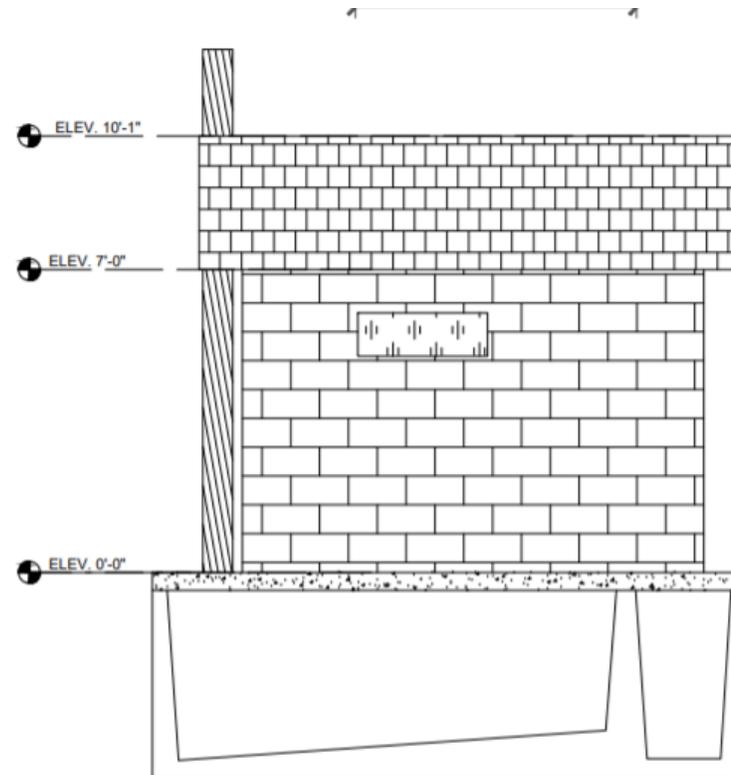


SOUTH SIDE ELEVATION

Bathroom Facility Plan



WEST SIDE ELEVATION

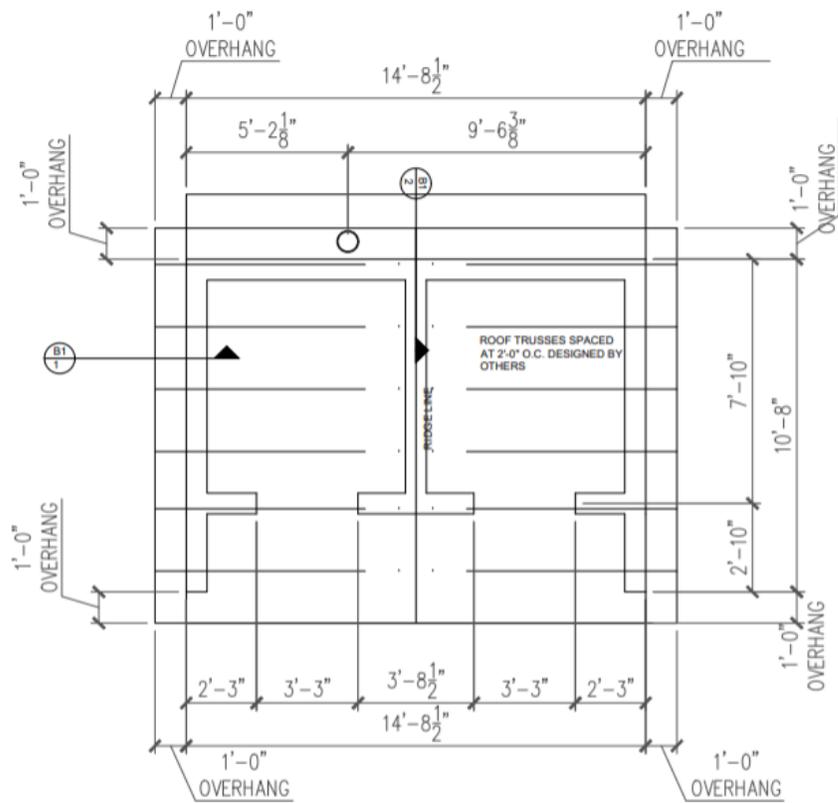


EAST SIDE ELEVATION

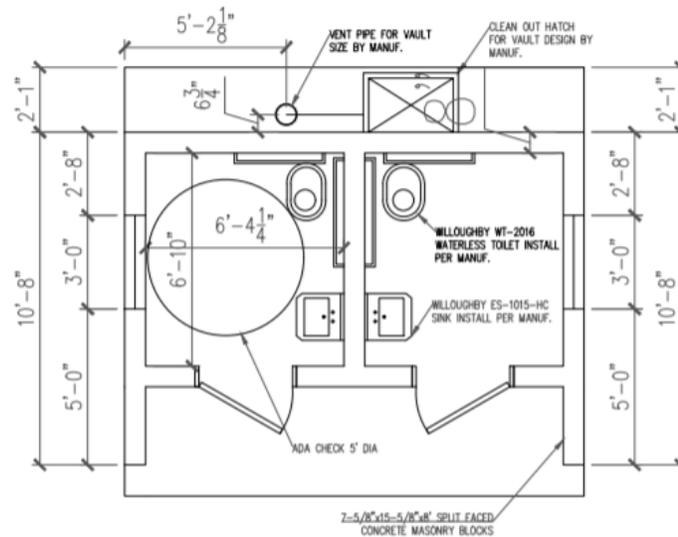
Bathroom Facility Construction



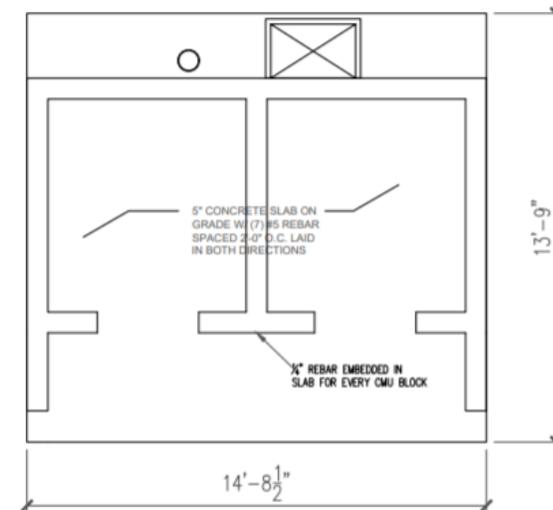
Bathroom Facility Interior Detail



ROOF FRAMING PLAN

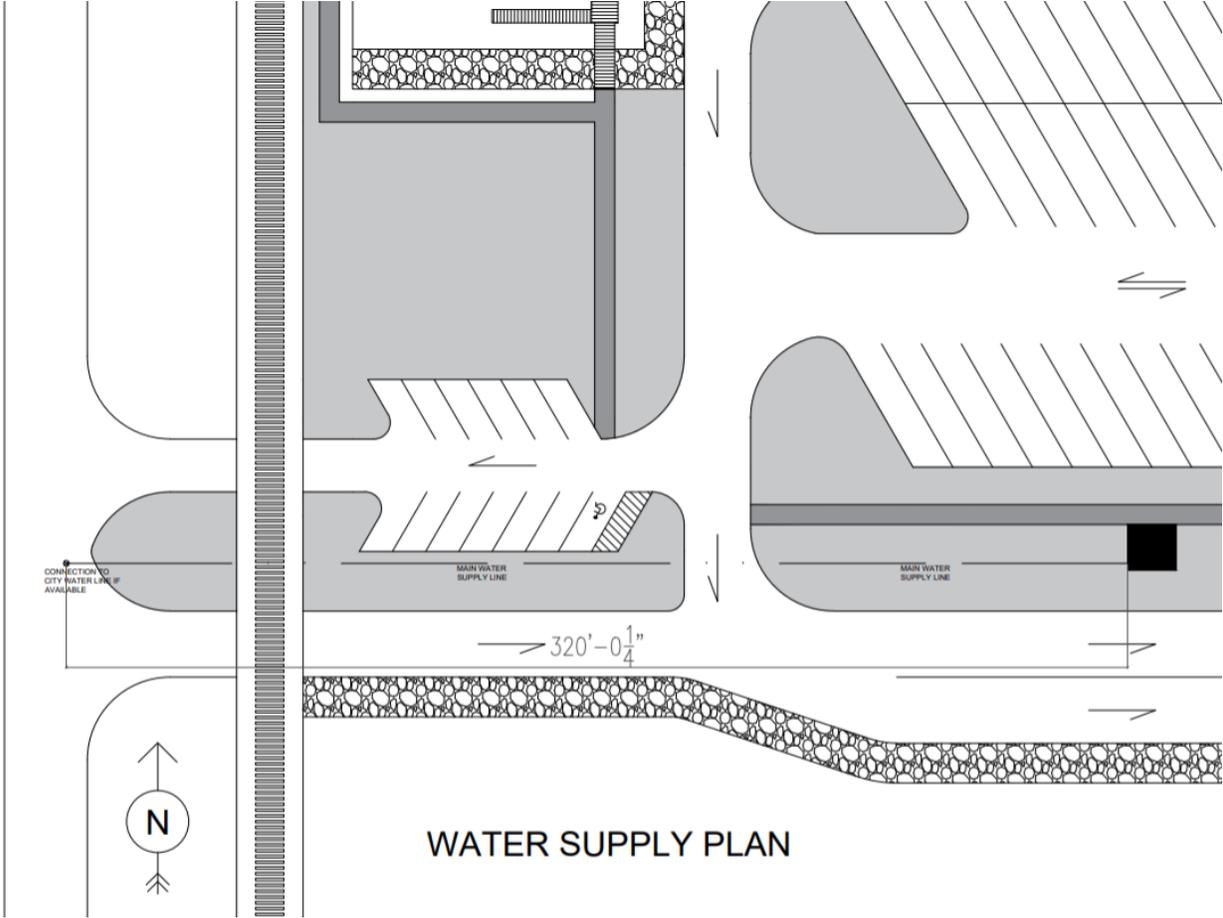


MAIN FRAMING PLAN

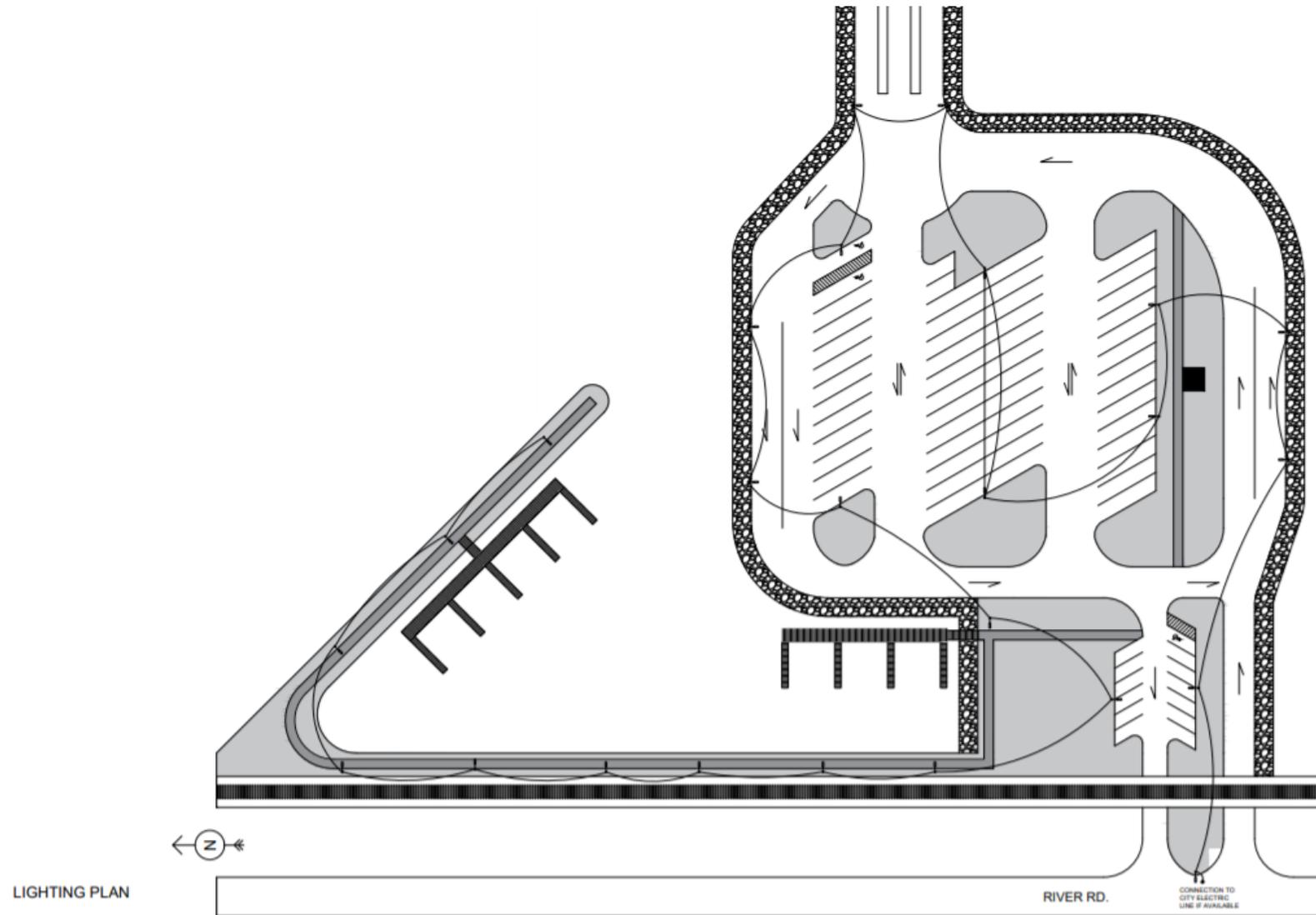


FOUNDATION PLAN

Utility Plan Details: Water



Utility Plan Details: Electric



Total Project Cost

Keokuk, Iowa: Recreational River Access Total Cost

Project Category	Tabulated Cost
Waterway and Marine Construction	\$ 7,379,000
Earthwork Construction	\$ 3,240,000
Roadway & Parking Lot	\$ 3,800
Concrete & Masonry Construction	\$ 6,398,000
Boat Docks	\$ 227,500
Bathroom Facility	\$ 30,000
Exterior Improvements	\$ 23,500
Utilities	\$ 57,500
Landscaping	\$ 102,000
Erosion Control	\$ 259,000
Total Construction Cost	\$ 17,720,500
Contingency	\$ 1,772,050
Engineering & Design Fees	\$ 1,833,000
TOTAL PROJECT COST	\$ 21,325,550

Recommended Project Phases



Phase 1

Mechanical Dredging

Site Material Excavation

TOTAL PHASE COST \$

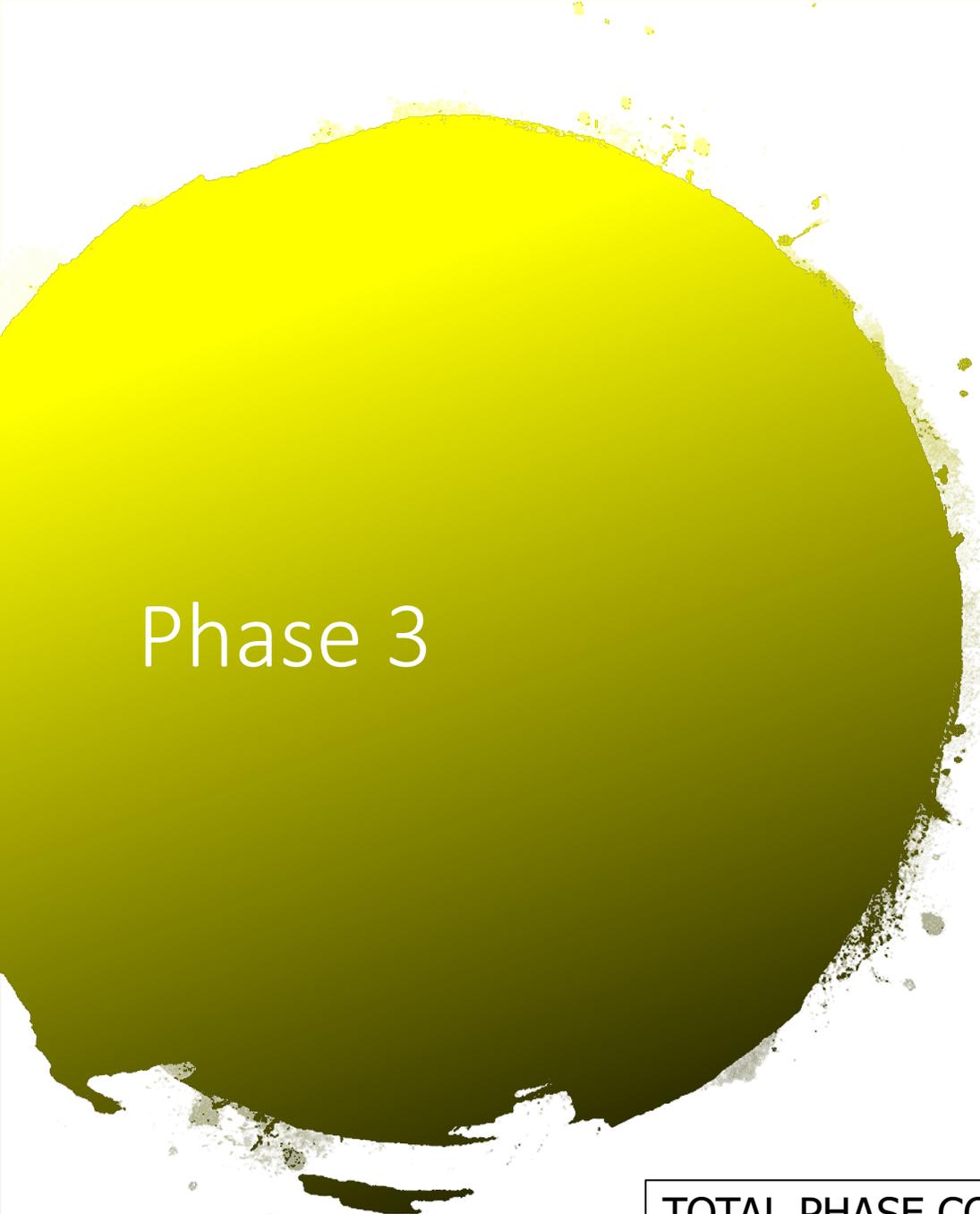
5,930,800

Phase 2

Subgrade for Parking Lot, Access Road, & Boat Ramp

Subgrade for Levee

TOTAL PHASE COST \$	3,091,800
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Phase 3

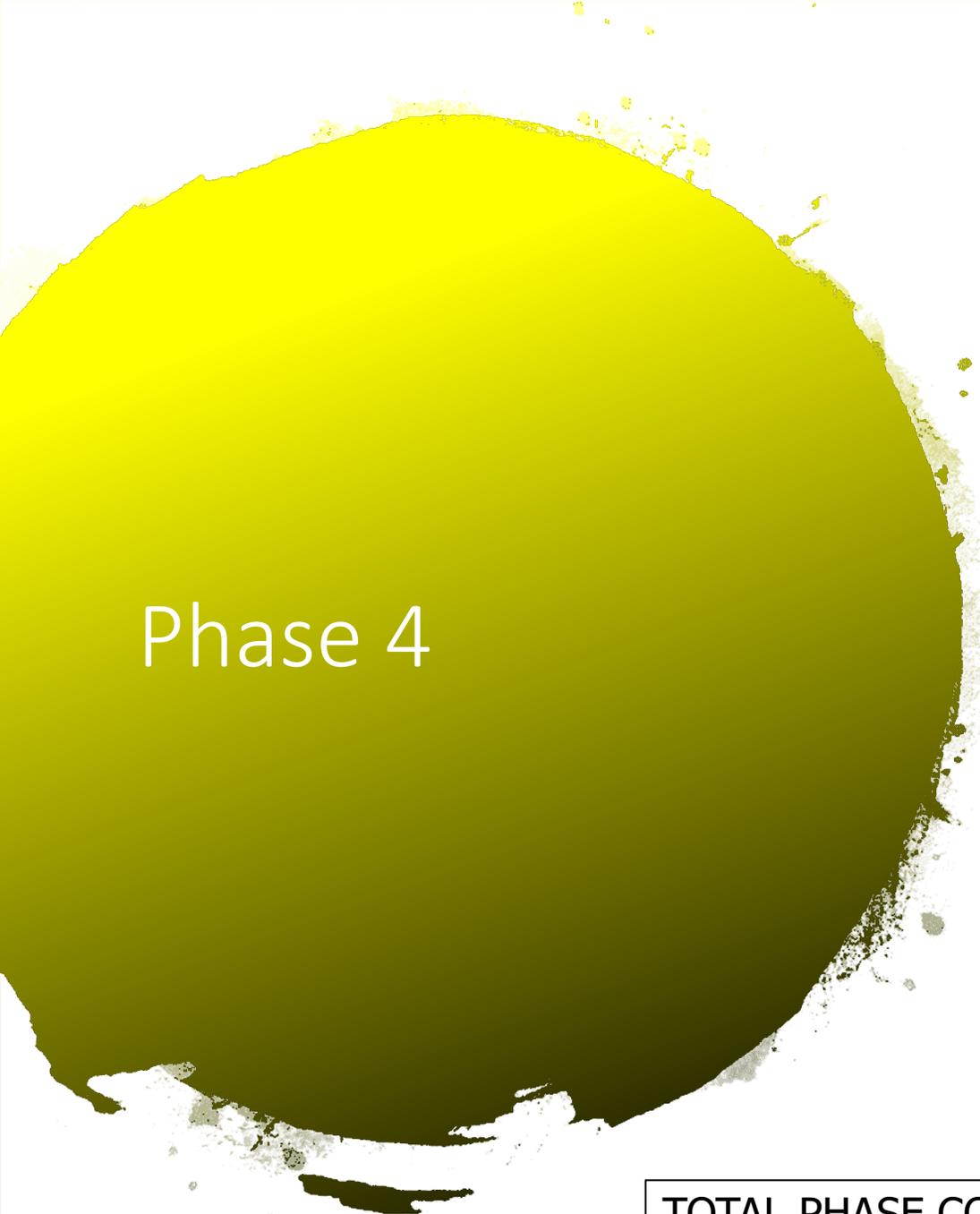
Subbase for Parking Lot, Access Road, & Boat Launch

Subbase for Levee

Foundation of Bathroom Facility

TOTAL PHASE COST \$

1,751,800



Phase 4

Concrete

Bathroom Facility

Boat Launch

Boat Docks

TOTAL PHASE COST \$

6,711,100



Phase 5

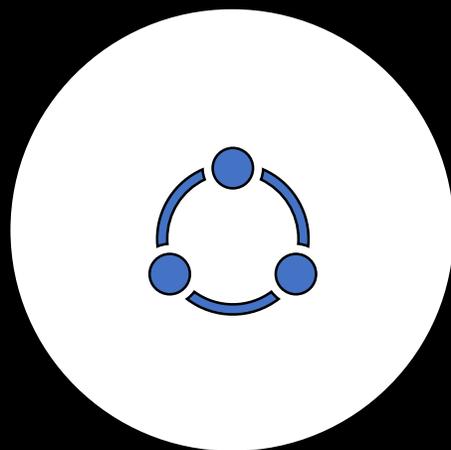
Utility Connections

Landscaping

Exterior Improvements

TOTAL PHASE COST \$

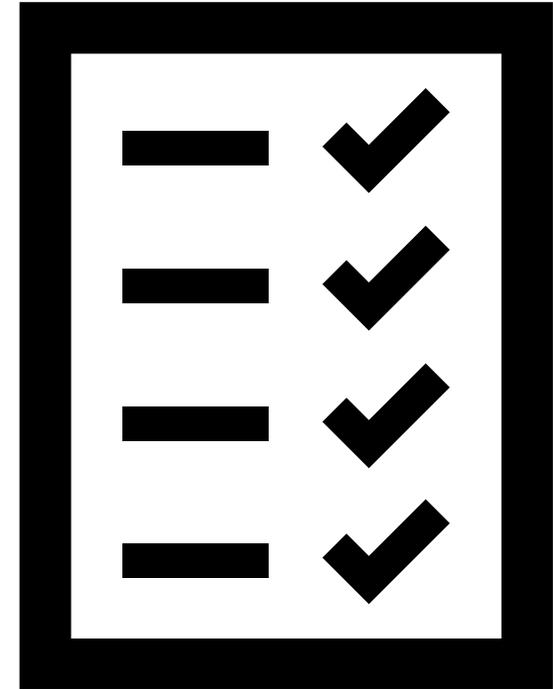
234,800



Implementation?

Objectives Accomplished?

- Boat Launch
- Boat Docks
- Two-Way Directional Traffic Flow
- Parking Lot
- Bathroom Facility
- Green Space
- Landscaping
- Exterior Improvements





Thank you!



Questions?
