

**DOWNTOWN DEVELOPMENT AUTHORITY  
LOWER BOARDMAN RIVER LEADERSHIP TEAM  
ZONING SUBCOMMITTEE**

Tuesday, February 9, 2021  
1:00 p.m.

The Lower Boardman River Leadership Team Zoning Subcommittee Meeting will not be held at the Governmental Center. The Lower Boardman River Leadership Team Zoning Subcommittee will be conducted remotely via Zoom Webinar.

The Lower Boardman River Leadership Team Zoning Subcommittee Meeting can be viewed at:

<https://us02web.zoom.us/j/89676547919>

Anyone wishing to listen and give public comment will need to call in and wait in a “virtual waiting room” where their microphones will be muted until they are called upon:

**Dial: 312 626 6799**

**Meeting ID: 896 7654 7919**

**Participant ID: # (yes just #)**

Posted and Published

The DDA recognizes the importance of not bringing people together unnecessarily in an effort to stop the spread of the coronavirus. The Governmental Center has been closed to walk-in traffic and will be closed for all DDA, Lower Boardman River Leadership Team and Lower Boardman River Leadership Team Subcommittee meetings for the foreseeable future. Members of the Lower Boardman River Leadership Team Zoning Subcommittee will not be present in the Governmental Center for official Lower Boardman River Leadership Team Zoning Subcommittee meetings.

This meeting is being conducted remotely to assist in stopping the spread of the coronavirus. Individuals with disabilities may participate in the meeting by calling-in to the number as though they were going to be giving public comment as outlined below or by calling the TDD#.

For members of the Lower Boardman River Leadership Team Zoning Subcommittee members and key DDA staff, their name will appear on screen when they are speaking. For individuals who may wish to give public comment, the method for providing public comment during these remote-participation meetings is to call the number outlined in the header as well as enter the Meeting ID and Participant ID as outlined in the header.

Callers wishing to give public comment may call in before the meeting starts and wait in a “virtual waiting room.” These instructions will be included in every official published agenda of the Lower Boardman River Leadership Team Zoning Subcommittee. Those calling in will be able to hear the audio of the Lower Boardman River Leadership Team Zoning Subcommittee meeting, yet their microphone will be muted.

When the Lower Boardman River Leadership Team Zoning Subcommittee accepts public comment, in the order calls were received, the meeting facilitator will identify the caller by the last four digits of their telephone number and ask them if they would like to make a comment.

While not required, but so we do not have to go through an unnecessarily long list of callers, we ask, if possible, that those who do not wish to give public comment refrain from calling in and instead listen to the meeting.

The DDA CEO has been designated to coordinate compliance with the non-discrimination requirements contained in Section 35.107 of the Department of Justice regulations. Information concerning the provisions of the Americans with Disabilities Act, and the rights provided thereunder, are available from the DDA office.

If you are planning to attend and you have a disability requiring any special assistance at the meeting and/or if you have any concerns, please immediately notify the DDA CEO

The DDA and Lower Boardman River Leadership Team is committed to a dialog that is constructive, respectful and civil. We ask that all individuals interacting verbally or in writing with the Lower Boardman River Leadership Team honor these values.

DDA:

c/o Jean Derenzy, CEO

(231) 922-2050

Email: [jean@downtowntc.com](mailto:jean@downtowntc.com)

Web: [www.downtowntc.com](http://www.downtowntc.com)

303 East State Street, Suite C.

Traverse City, MI 49684

## **Lower Boardman Leadership Team Zoning Subcommittee Meeting Agenda**

1. Opening Public Comment
2. Discussion of Zoning Recommendations
3. Next Steps and Reporting Out To The Full Leadership Team
4. Public Comment
5. Adjournment

Any interested person or group may address the Leadership Team Zoning Subcommittee on any agenda item when recognized by the presiding officer or upon request of any Leadership Team Subcommittee member. Also, any interested person or group may address the Leadership Team Zoning Subcommittee on any matter of concerning the Lower Boardman River not on the Agenda during the agenda item designated Public Comment. The comment of any member of the public or any special interest group may be limited in time. Such limitation shall not be less than five minutes unless otherwise explained by the presiding officer, subject to appeal by the Leadership Team Zoning Subcommittee .



Downtown Development Authority  
303 E. State Street  
Traverse City, MI 49684  
harry@downtowntc.com  
231-922-2050

## MEMORANDUM

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**To:** Lower Boardman Leadership Team, Zoning Subcommittee

**From:** Harry Burkholder, DDA COO

**For Meeting Date:** February 9, 2021

**SUBJECT:** Review and Status of the Zoning Recommendations

For this meeting, we will be reviewing the foundation and reasoning for the subcommittee's recommendations regarding the draft Riparian Buffer Zone Ordinance. I think this will help us better frame the discussion regarding some of the particular elements of the ordinance. As you recall from the last meeting of the full Leadership Team, there are still a handful of questions related to the goal, intent and extent of the buffer ordinance. If we are able to reach consensus in the subcommittee, this will be the primary agenda item for the entire Leadership Team meeting next week.

It is very important that you review the materials ahead of the meeting to ensure that we have an insightful and productive discussion.

While the Zoning Subcommittee is made up of a subset of the Leadership Team, any Lower Boardman Leadership Team member is welcome to attend and provide input.



# LOWER BOARDMAN RIVER

LEADERSHIP TEAM: ZONING COMMITTEE WORK SESSION

FEBRUARY 9, 2021

LimnoTech 

SMITHGROUP

# VALUE AND FUNCTION OF AN URBAN RIPARIAN BUFFER

## HABITAT RESTORATION OF THE BANK

BUFFER Width is a factor of your goals-

- Sediment reduction
- Erosion control/bank stabilization
- Storm water infiltration
- Reducing Nitrogen and Phosphorous
- Target species for habitat improvement
- Reducing the visual presence of development
- Providing for recreation

BUFFER width is measured for adequacy by four factors-

- Slope-the steeper the wider buffer required
- Soils, the less permeable the wider the buffer required
- Vegetation-the less diverse the wider the buffer required
- Location in Watershed-the further upstream the more effective the buffer

IN GENERAL-

- Continuous corridors are better than fragmented corridors.
- Wider corridors are better than narrow corridors.
- Several corridor connections are better than a single connection.
- Structurally diverse corridors are better than structurally simple corridors.
- Native vegetation in corridors is better than non-native vegetation.

# YOUR LEADERSHIP TEAM VALUES

- Reflect the City's commitment to the River as a public resource and asset to be passed to residents and visitors in perpetuity.
- Contain public goals for the River and City, in keeping with the community's visions about what the River is and can become as a centerpiece for downtown identity and ethos.
- Use the natural and cultural values of the River as a guide for decisions about the commercial, economic, or utilitarian values to be leveraged for the public good.
- Be explicit to the commitment to improve, restore and protect the health and integrity of the Riparian ecosystem of the lower River.
- Provide that the recommended initiatives contained in the Plan will account for the impact of those initiatives on residents, habitats, and the ecological status of the River.
- Serve to foster and sustain partnerships with shared responsibilities among public and private stakeholders who share the value that the Boardman is a "common resource" that connects everyone.
- Identify/prioritize opportunities for multi-modal access to the River.
- Enhance ecological and aesthetic River conditions, take advantage of, and integrate iconic structures and identify new sites and structures that serve as destination or centers of programming to attract year-round access.
- Integrate existing river walks and pathways with new connections between sites and destinations that link the River to the city in ways that are physical, visual, aesthetic, and psychological.
- Be consistent with best riparian and aquatic science, best water and land management practices and must be harmonious with the River.
- Make nature-based stormwater best management practices (BMP's) a priority.
- Help ensure that new or rehabilitated developments along the River are compatible with the City's renewable energy goals.
- **Establish that development sites, destinations and structures must protect the health, aesthetics, accessibility, and health of the relationship between the river and residents/visitors.**
- Manage invasive vegetation and protect and retain existing native vegetation and add native vegetation where possible.
- **Prohibit further hardening of the shorelines that are inconsistent with the Plan.**
- Ensure that the natural flow of the River is enhanced and not curtailed or impeded by any element of the Plan.

# PUBLIC ENGAGEMENT RESULTS

## Community Workshop and Focus Groups

- Providing public access (e.g., boardwalks) along the river; assume the need for universal access
- Soften shore treatment/restore natural edge
- Limit/manage additional development along the river corridor
- Remove/Limit parking from riverbanks
- Increase building setbacks
- Utilize best practices to manage stormwater and other means of improving water quality.
- Shift the balance towards habitat and nature over human recreation and economic development
- Keep river corridor natural and passive

## Community Survey

*QUESTION #6: What do you think are the top priorities to improve the built environment along the Lower Boardman River?*

Top priorities noted (in order of priority cited) include **manage/restrict new development**, ensure access along private land, provide more/better access, facilities, places, connections, protect/enhance natural environment and character (find balance), and make the waterfront universally accessible.

*QUESTION #7: What is the most important thing to keep in mind as we develop a Unified Plan for the Lower Boardman River?*

Top priorities noted (in order of priority cited) include protect and enhance natural environment, water quality, health, implement a realistic plan with transparency, accountability/oversight, **Limit development and influence of economic interests**, and use values-based plan to influence government policy.

# WHERE IS THE RIPARIAN BUFFER APPLICABLE?

PUBLIC LANDS

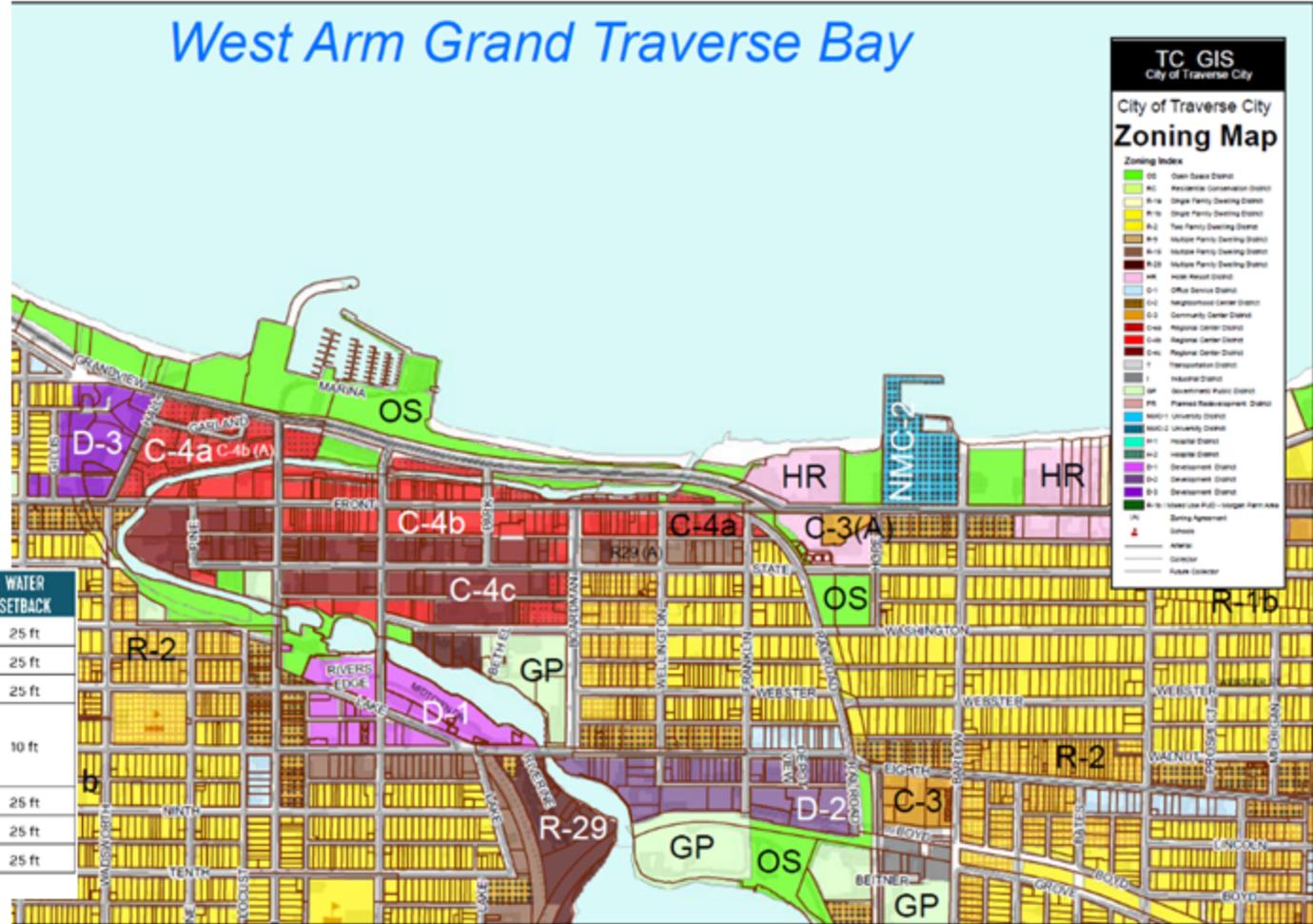


# EXISTING ZONING

## West Arm Grand Traverse Bay

ZONING DISTRICT	MAX HEIGHT	DENSITY	MAX IMPERVIOUS SURFACE	WATER SETBACK
OS - Open Space	45 ft	N/A	20%	25 ft
R-29 - Multi-Family	40 ft	29 units/acre	50%	25 ft
C-3 - Community Center	45 ft	N/A	80%	25 ft
C-4a - Regional Center	45 ft	N/A	100%	10 ft
C-4b - Regional Center	68 ft*			
C-4c - Regional Center	100 ft*			
D-1 - Ironworks Development	45 ft, 60 ft	N/A	70%	25 ft
D-2 - Depot Development	45 ft, 60 ft	N/A	60%	25 ft
GP - Government/Public	25-90 ft	N/A	70%	25 ft

NOTE: Buildings over 60 ft will require Special Land Use Permit.

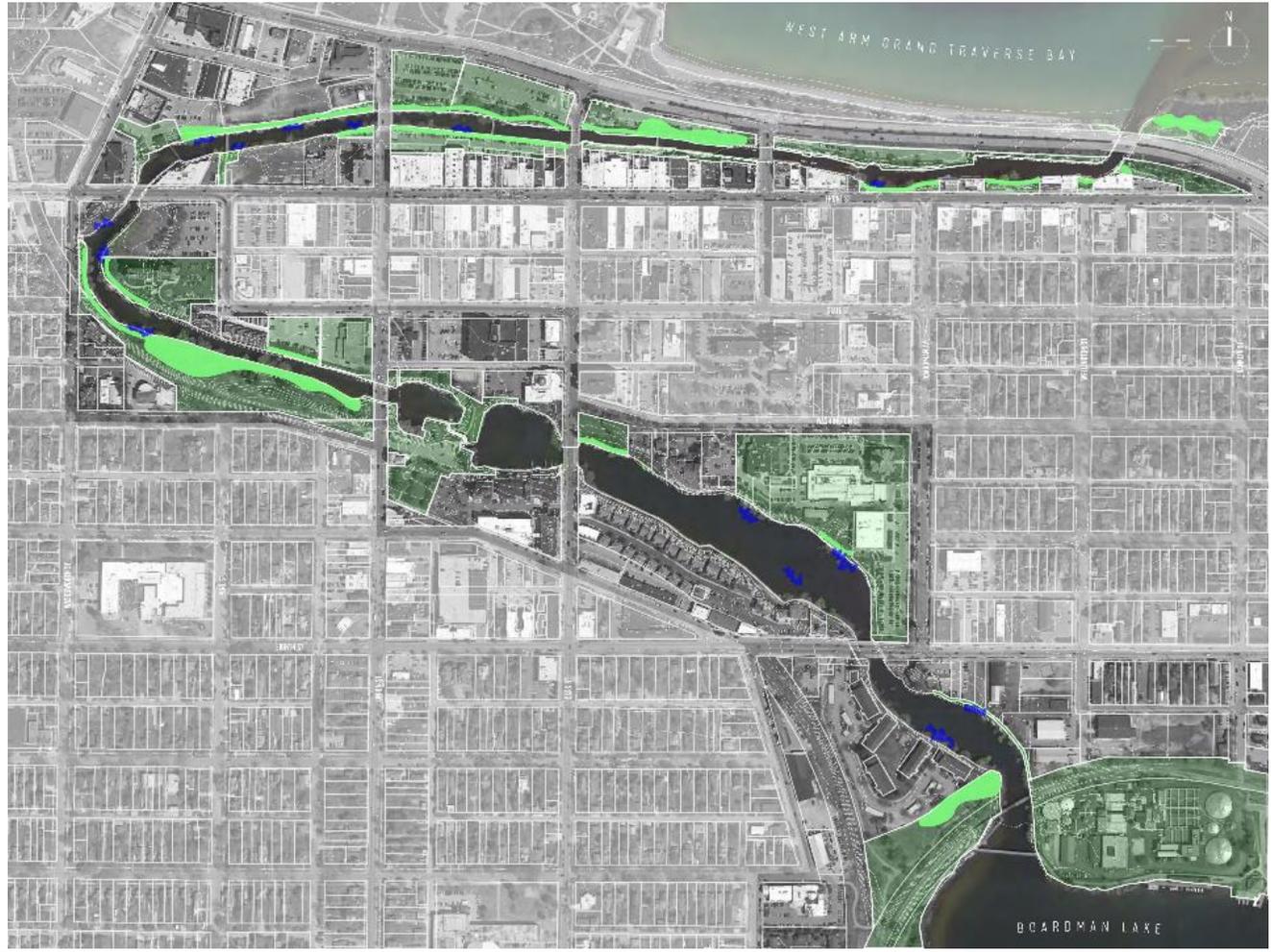






# OTHER CONSIDERATIONS

## HABITAT GOALS



# EROSION CONTROL AND BANK STABILIZATION

## STABILIZING A HIGH BANK

- Holds soils in place with roots
- Stabilizes toe of slope to reduce scours and undercutting

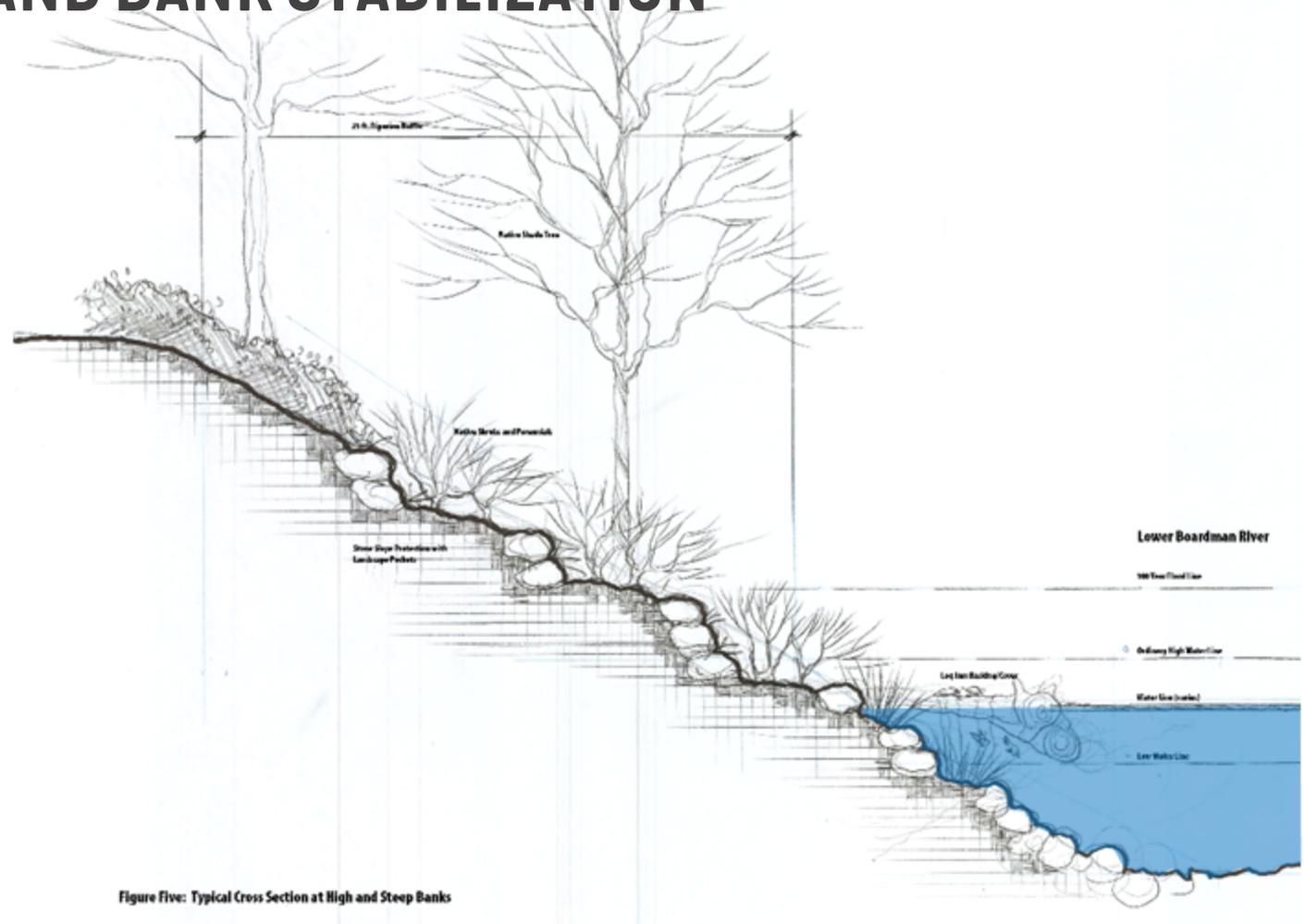
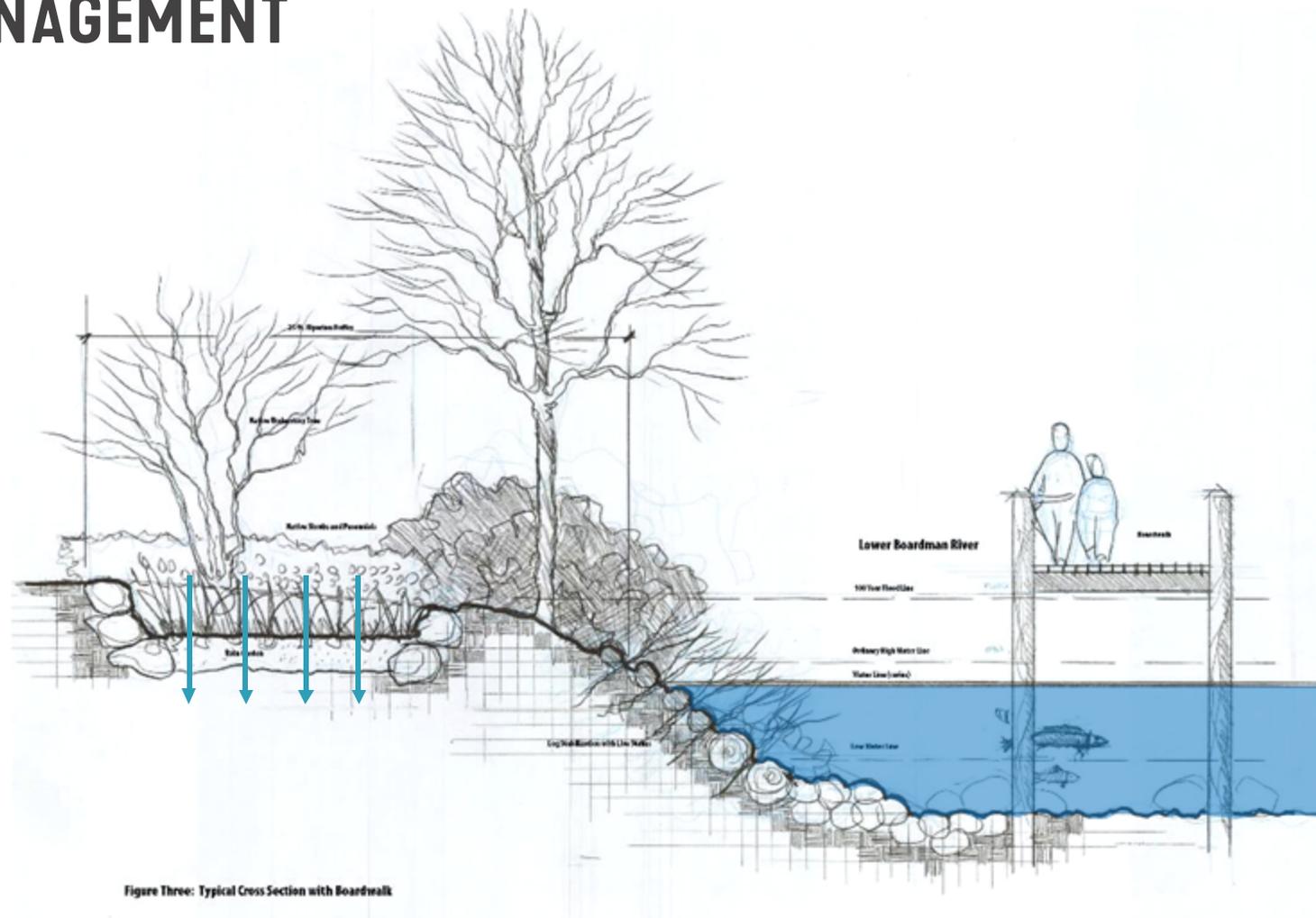


Figure Five: Typical Cross Section at High and Steep Banks

# STORM WATER MANAGEMENT

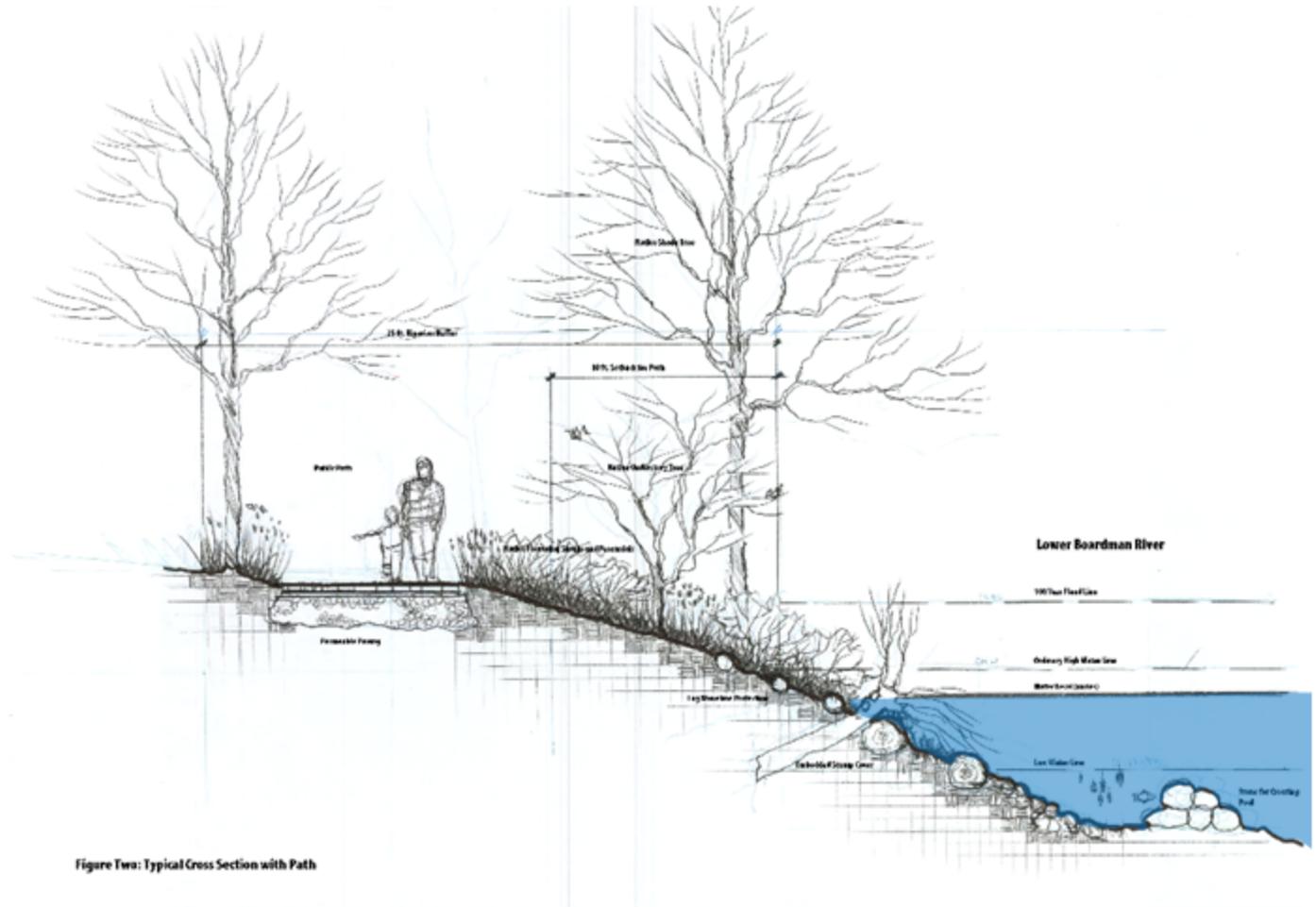
- Provides space for infiltration gardens, filtering runoff and reducing sediments
- Filters nitrogen and phosphorous from runoff
- Vegetation slows velocity of flood waters





# HABITAT CREATION

- Provides shade for water, reducing temperature and elevates dissolved oxygen
- Woody debris provides fish cover, basking for turtles, access path to bank
- Understory trees provide habitat and food for song birds





**EXPANDED FLOODPLAIN/OXBOW**



# HABITAT CREATION

RESTORING OLD FILL RIVERBANKS



# HABITAT CREATION

## RESTORING OLD FILL RIVERBANKS

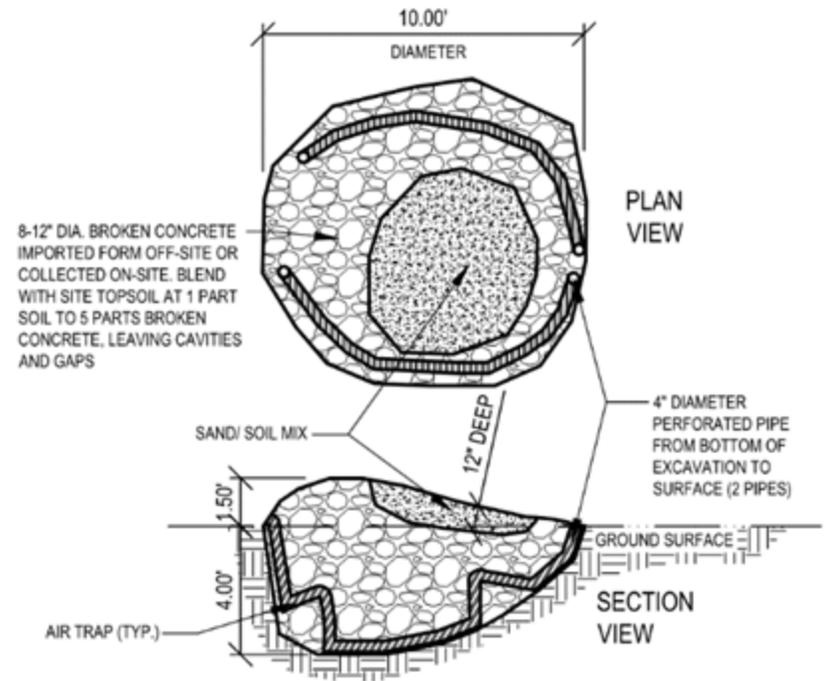
EXISTING BANK RUBBLE OR HEAVY RIPRAP -  
USE SITE MATERIAL TO SUPPORT AND LOCK  
TOGETHER FLAT SLABS. SEE PLANS FOR  
APPROXIMATE LOCATIONS

FLAT LEDGE

CAVITY IN ROCKS  
12" - 18" DEEP X  
12" - 18" WIDE X  
6" HIGH

SUBGRADE

SECTION VIEW



1 ROCK PIT DETAIL (SNAKE HIBERNACULA)  
PLAN & SECTION

1" = 4'-0"

# HABITAT CREATION

## RESTORING OLD FILL RIVERBANKS

### Build a Duck Nest Box

Wood ducks, buffleheads, barrow's goldeneyes, common goldeneyes, hooded mergansers and common mergansers are all cavity nesting ducks. They build nests in abandoned woodpecker holes or natural tree cavities caused by disease, fire or lightning. These ducks will also use a constructed nesting box. Here are plans for a nest box that you can build, install and maintain. The design, which is used by the Ducks Unlimited Greenwing program, may even attract other cavity nesting birds such as kestrels, tree swallows, great crested flycatchers or screech owls.



Constructing and placing a nest box is a fun project that brings years of enjoyment. Always use this pole-mounted nest box features a conical metal predator guard. Below: wood duck drake.

**CEDAR IS IDEAL**  
Cedar lumber is recommended because it is naturally resistant to weather and insects. You can also use other lumber such as pine or plywood. Remove studs of plastic or metal use non-painted. Avoid second lumber. The box pictured uses 0.58 inches fire of 1" x 10" (5/4" thick by 9 1/4" wide) lumber that is rough on one side (for the inside of the box).

**FINISHING TOUCHES**  
Ducks Unlimited does not recommend applying a finish to cedar boxes. A finish might help to extend the life of a plywood box.

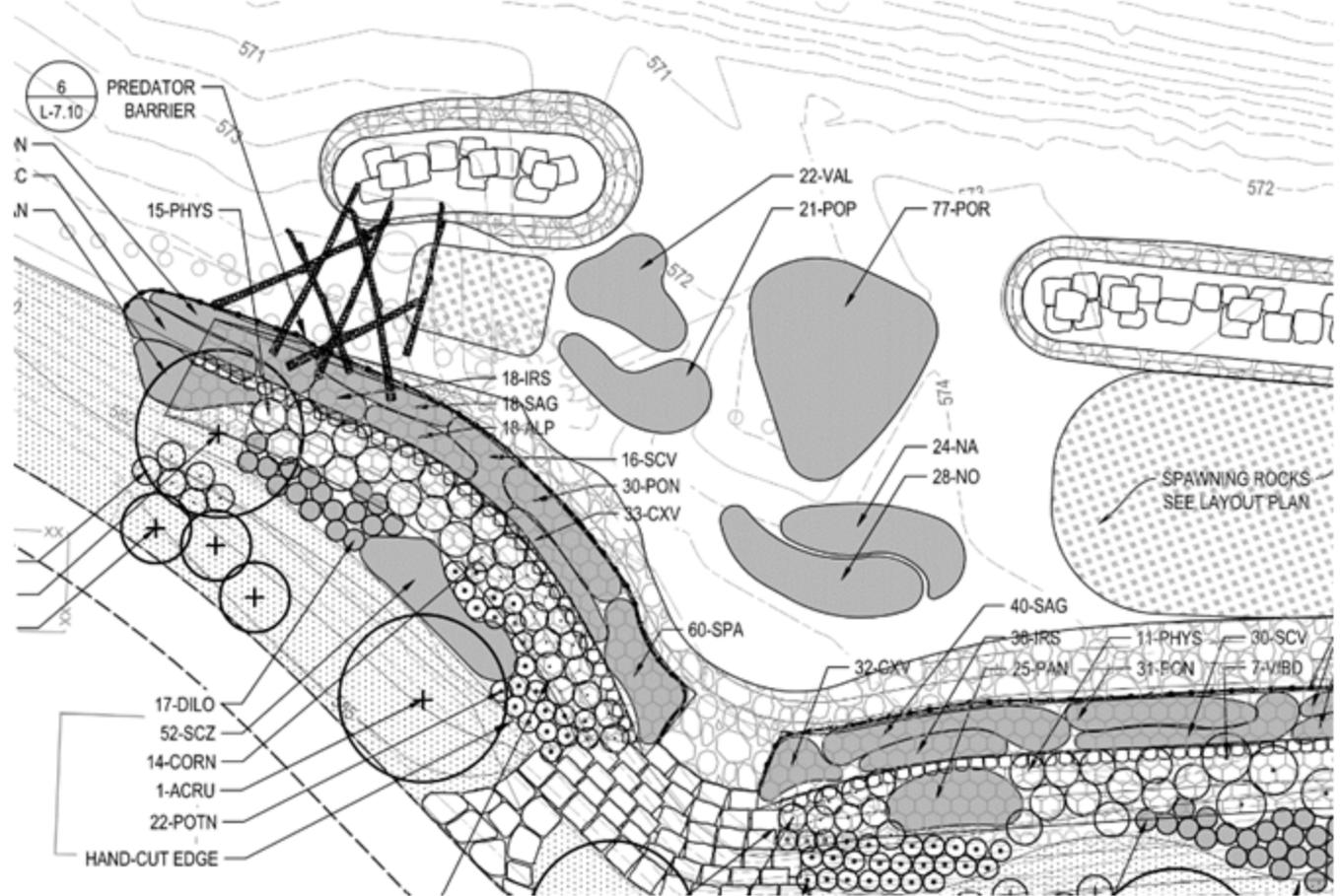
If you decide to apply a finish to your nest box, use a non-toxic wood preservative on a light shade of an early time point.

The ducks will find your box by seeing the contrast in color caused by the entry hole. Do not apply finish inside the box.

Cavity nesting ducks do not carry nesting material. It's important to help them out by placing four to six inches of wood shavings in the bottom of the box. You can find wood shavings at your local pet or farm supply store. Do not use sawdust, frozen ducklings and birds manure.

Every year in the fall, after the nesting season has concluded,

or in the winter, clean out old nesting material from the box and replace it with a fresh layer of wood shavings. This annual cleaning needs to be a part of your long term maintenance commitment once you place your nest box. Avoid the urge to look into the box during spring and summer.



# RESULTS FROM BIOLOGICAL SURVEYS

## Results of Habitat Creation

- 140% increase in bird species richness
- 700% increase in macroinvertebrate taxa richness
- Substantial increase in distribution and population of reptiles and amphibians
- Reduced presence of non-native and target invasive plant species by half, with very limited distribution

### Pre-Restoration Utilization Index

- Habitat** – access to protective cover, shade and nocturnal resting
- Life Cycle** – support for adult staging to nursery habitat
- Food** – availability

- \*C - Cover
- \*G - Grasses
- \*J - Juveniles only
- \*NA - Nesting Adults
- \*NF - Nocturnal Foraging
- \*NJ - Nursery for Juveniles
- \*NR - Nocturnal Resting
- \*SP - Spawning
- \*ST - Staging prior to spawning
- \*Red indicates documented outcomes

Species in the Project Area	Habitat	Life Cycle	Food
Amphipods (scuds)			
Bass – Rock	•NR		
White Smallmouth			•
Carp			•
Catfish – Channel Northern Madtom (endangered)		•NA	
Chub – Horny Head			
Crayfish	•C		
Freshwater Drum (Sheephead)			•
Gar – Longnose	•G		
Goby – Round (invasive)	•NR	•NA	•
Logperch			
Mudpuppy		•NF	
Muskellunge	•G		•
Perch – Yellow White	•G		•
Shad – Gizzard		•ST	
Shiners – Emerald, Sand, Spottail	•C,G		
Smelt – rainbow			
Stickleback			
Sturgeon – Lake			
Suckers – River Redhorse, Spotted	•NR		•
Sunfish – Bluegill, Pumpkinseed			
Trout – Brown, Rainbow, Steelhead		•ST	
Walleye		•ST	
Whitefish		•ST	

### Post Restoration Utilization Index

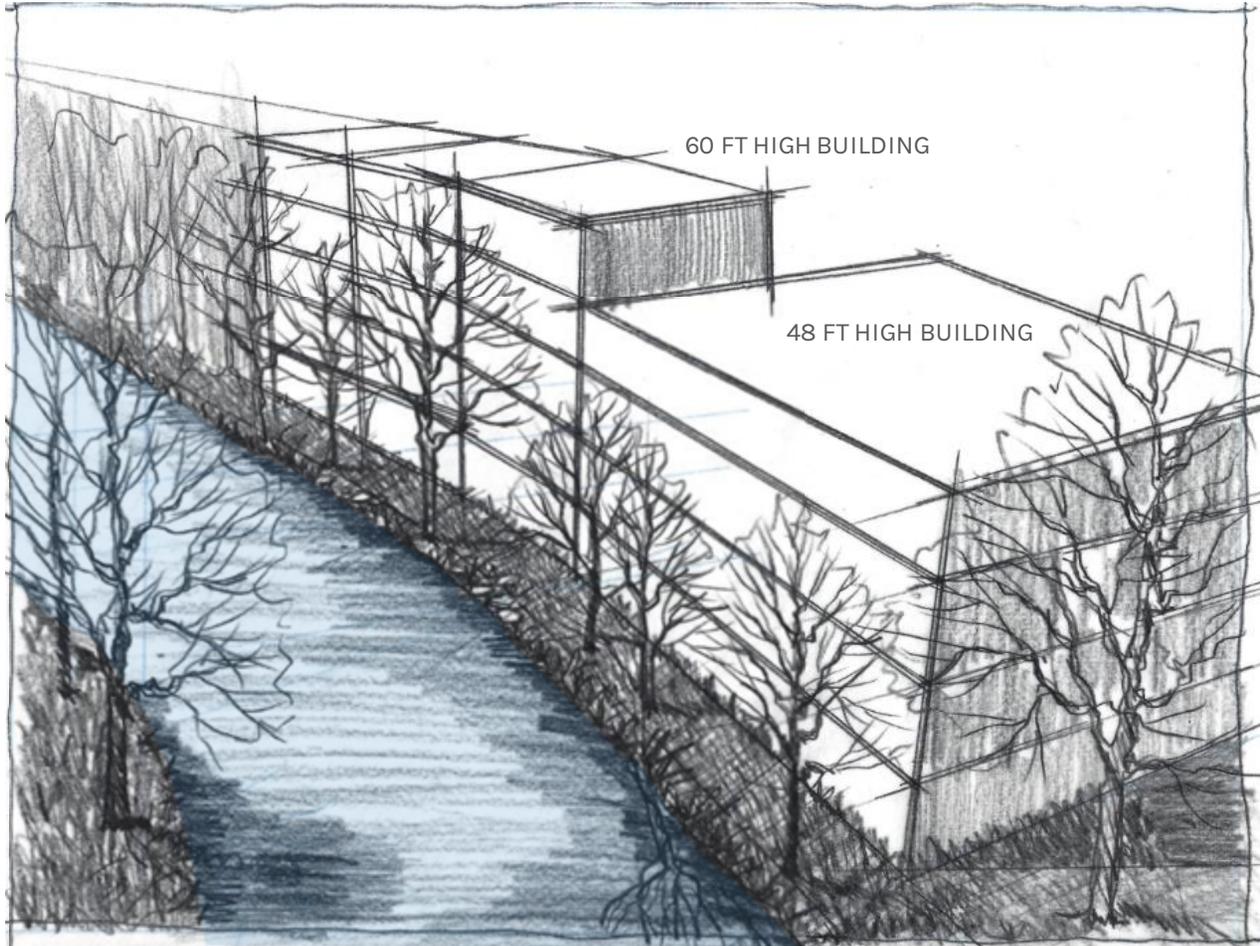
- Habitat** – increased access to protective cover, shade and nocturnal resting
- Life Cycle** – increased support for adult staging to nursery habitat.
- Food** – increased availability

- \*C - Cover
- \*J - Juveniles only
- \*NA - Nesting Adults
- \*NF - Nocturnal Foraging
- \*NJ - Nursery for Juveniles
- \*NR - Nocturnal Resting
- \*SH - Shade
- \*SP - Spawning
- \*ST - Staging prior to spawning
- \*Red indicates documented outcomes

Species in the Project Area	Habitat	Life Cycle	Food
Amphipods (Scuds)	•C		
Bass – Rock	•C,NR,SH	•NJ	•
Silver Smallmouth	•C		•
Smallmouth	•C,NR,SH	•NA,NJ	•
Carp		•SP	•
Catfish – Channel Northern Madtom (endangered)	•C,SH	•J	•
Northern Madtom (endangered)	•C	•NA,NF	
Chub – Horny Headed	•NR,SH		•
Crayfish	•C	•NA,NF,NJ	
Freshwater Drum (Sheephead)			•
Gar – Long Nosed	•C		•
Goby – Round (invasive)	•C,NR	•NA,NJ	•
Logperch	•C,NR		
Mudpuppy	•C	•NA,NF,NJ	•
Muskellunge	•NR		•
Perch – Yellow White	•C,NR	•J	•
White	•C	•SP,NJ	•
Shad – Gizzard			•
Shiners – Emerald, Sand, Spottail	•C,NR		
Smelt – Rainbow	•C,J,NR		
Steelhead	•C	•ST	•
Stickleback	•C		
Sturgeon – Lake	•J,C	•NJ	•
Suckers – Redhorse, Spotted	•NR,J,NR		•
Sunfish – Bluegill, Longear, Pumpkinseed	•C	•NA,NJ	
Trout – Brown, Rainbow	•C	•ST	•
Walleye	•C	•ST,NJ	•
Lake whitefish		•ST	•

# AESTHETIC CONSIDERATIONS

## 10 FT. RIPARIAN BUFFER

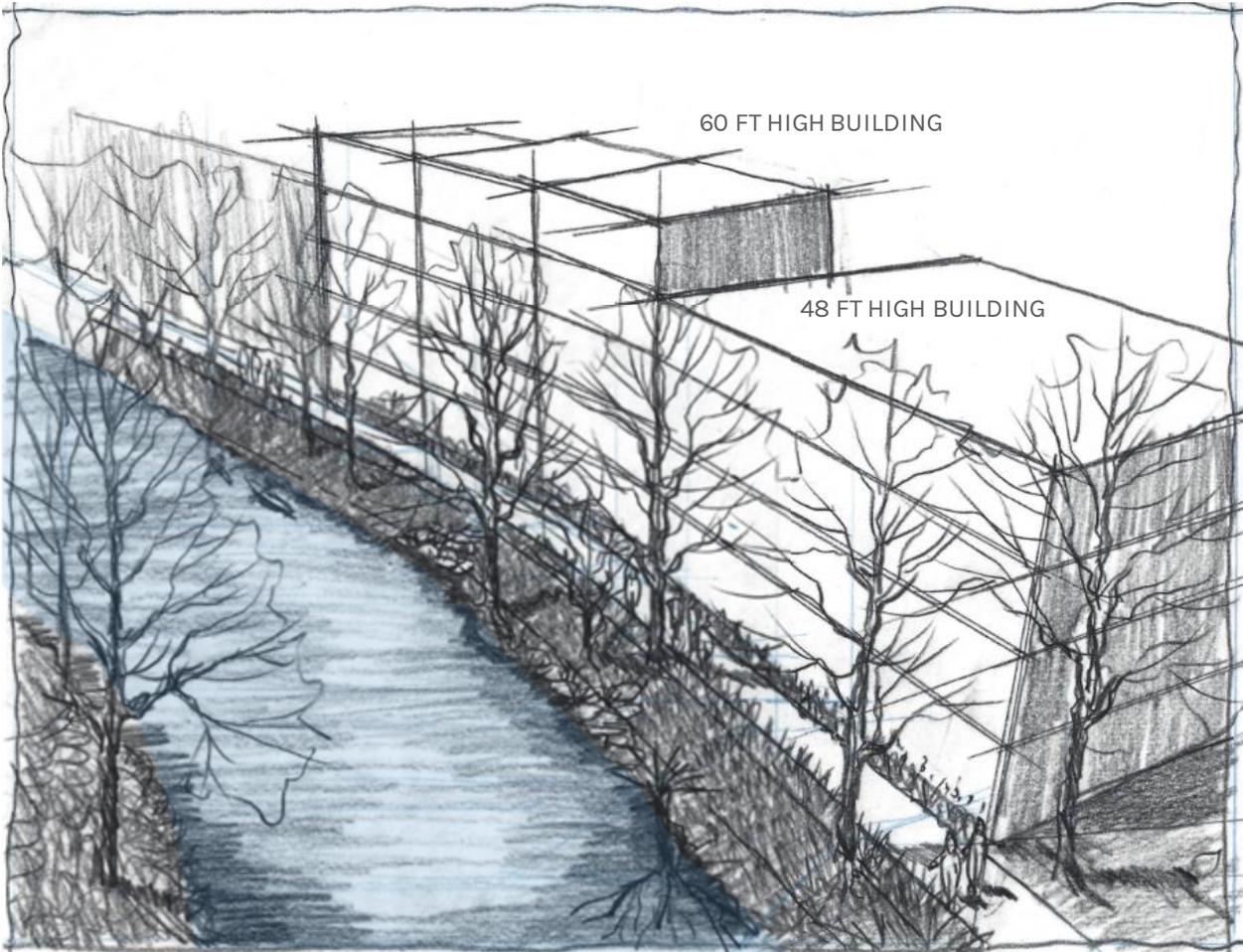


# CONSTRUCTION LOGISTICS

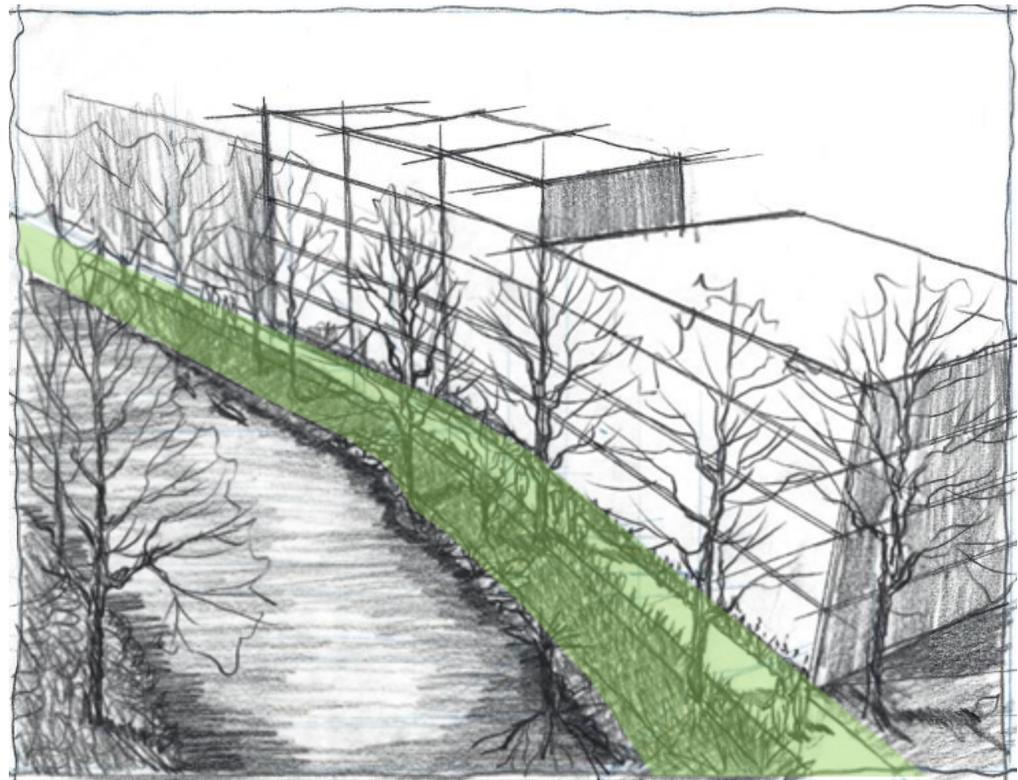
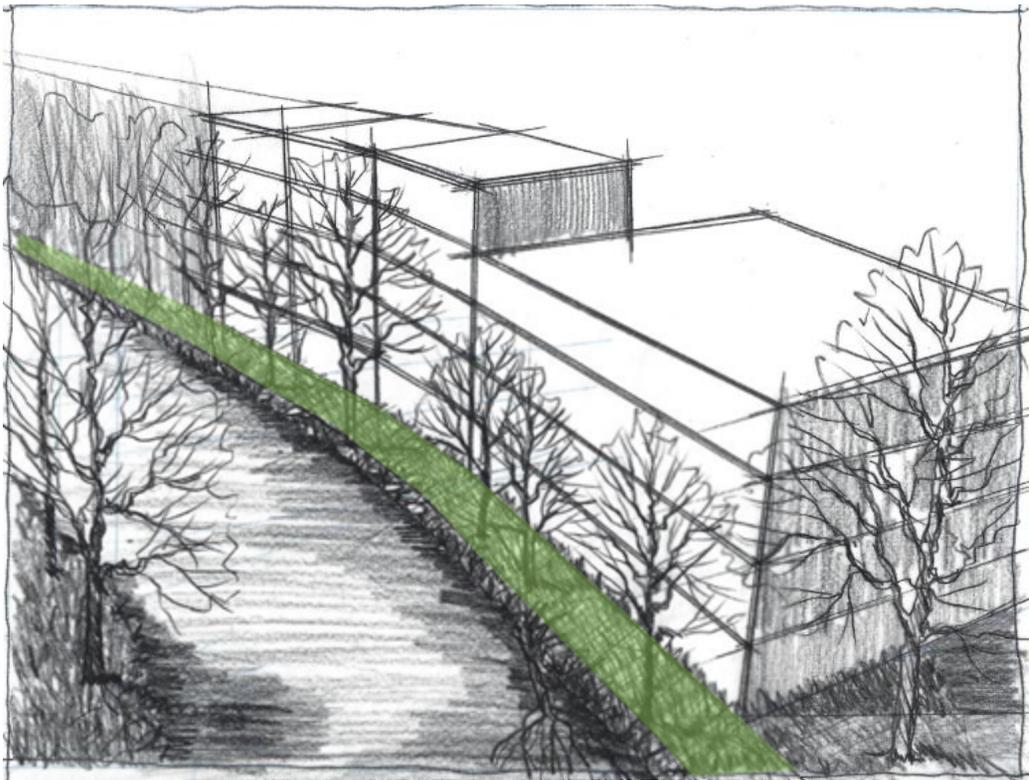


# AESTHETIC CONSIDERATIONS

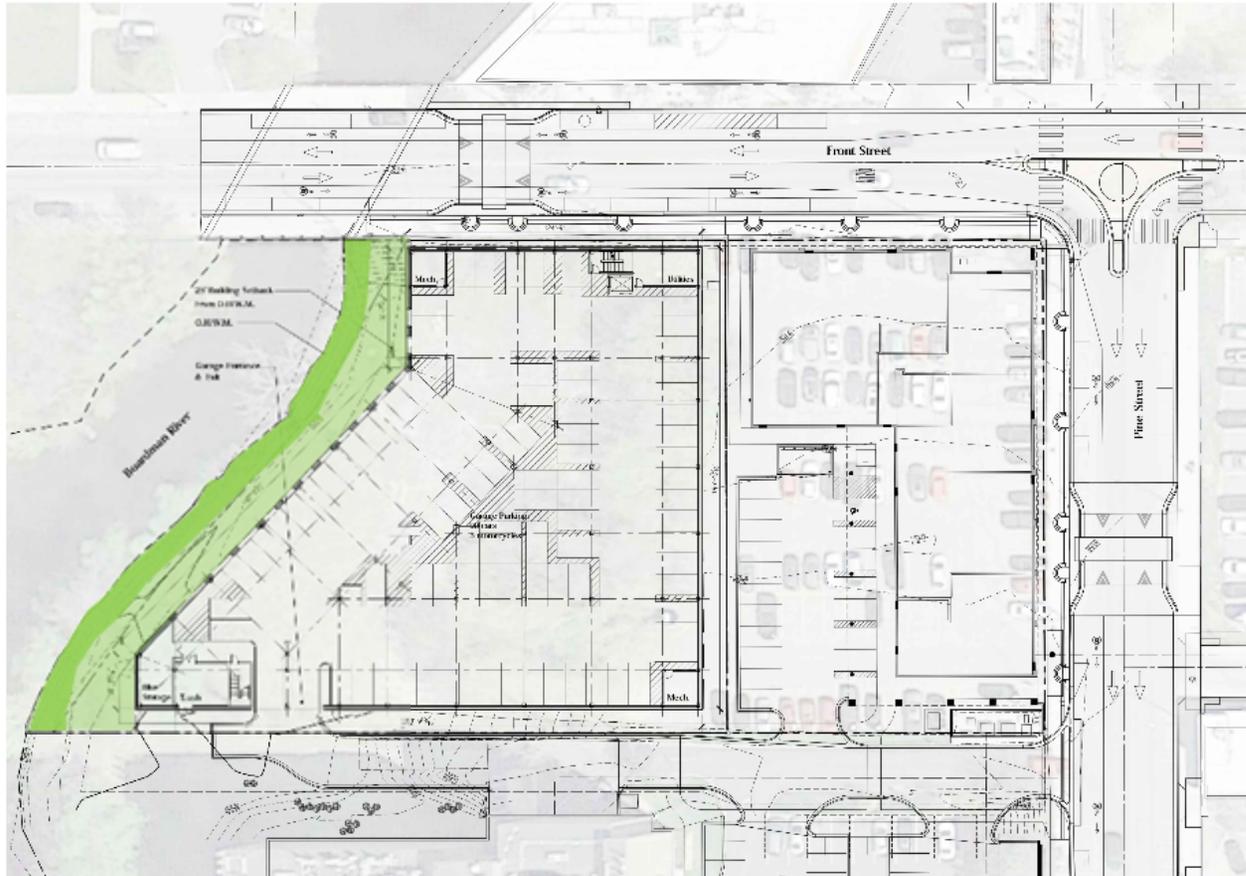
## 25 FT. RIPARIAN BUFFER



# SIDE BY SIDE



# ONE EXAMPLE-309 W. FRONT ST.



**BUILDING DATA:**

Floor	Escalator	Rebate	Area	Net Area	Net Area
Lower	0	0	1,824	10	6
1	-	-	-	15	13
2	-	-	-	15	13
3	-	-	-	15	13
4	-	-	-	15	13
total	0	0	1,824	50	45
Percent				5%	45%



# OTHER ISSUES

- Tree protection- OFFER EXCEPTIONS ? DOES THIS CHANGE WITH WIDER BUFFER?
- Trigger for re-landscaping-REQUIRE WHENEVER RIPARIAN BUFFER IS DISTURBED? WHEN SITE REDEVELOPMENT TRIGGERS SITE PLAN APPROVAL?
- Aligning set back and Riparian Buffer-
- Parking Lot Buffer- BE CONSISTENT WITH RIPARIAN BUFFER OR EXCEED FOR PUBLIC PARKING?

# NEXT STEPS?