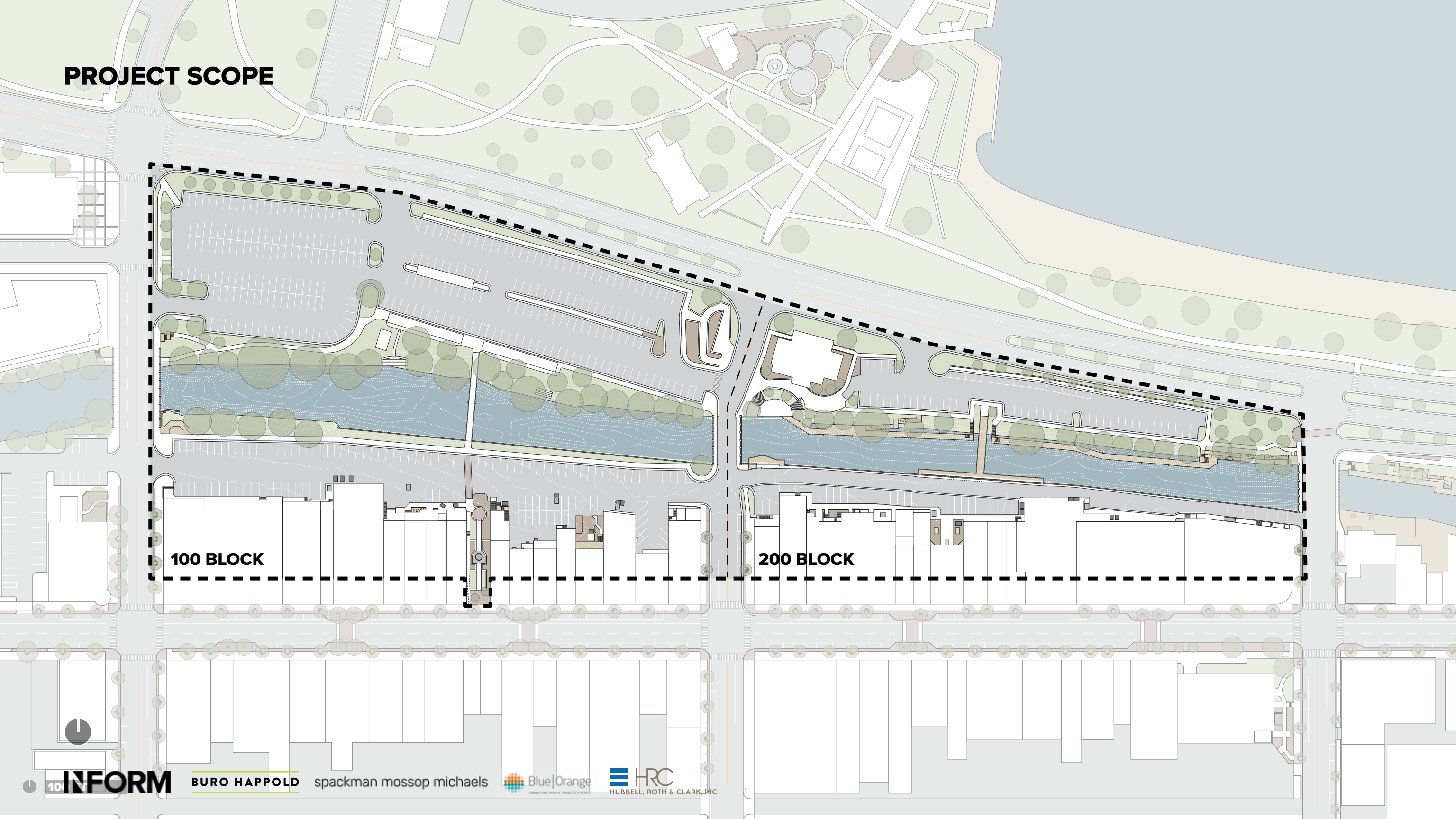


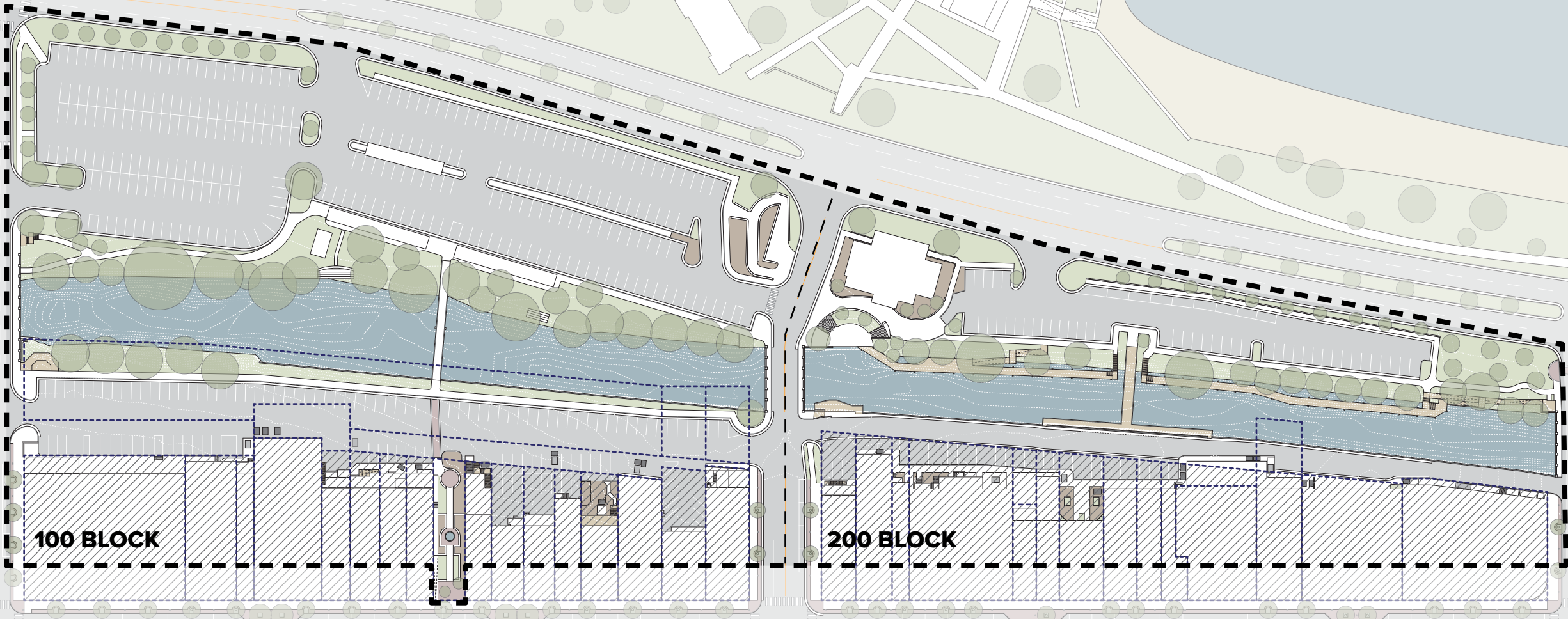
APPENDIX

**ANALYSIS,
RESEARCH,
& IDEAS**

PROJECT SCOPE



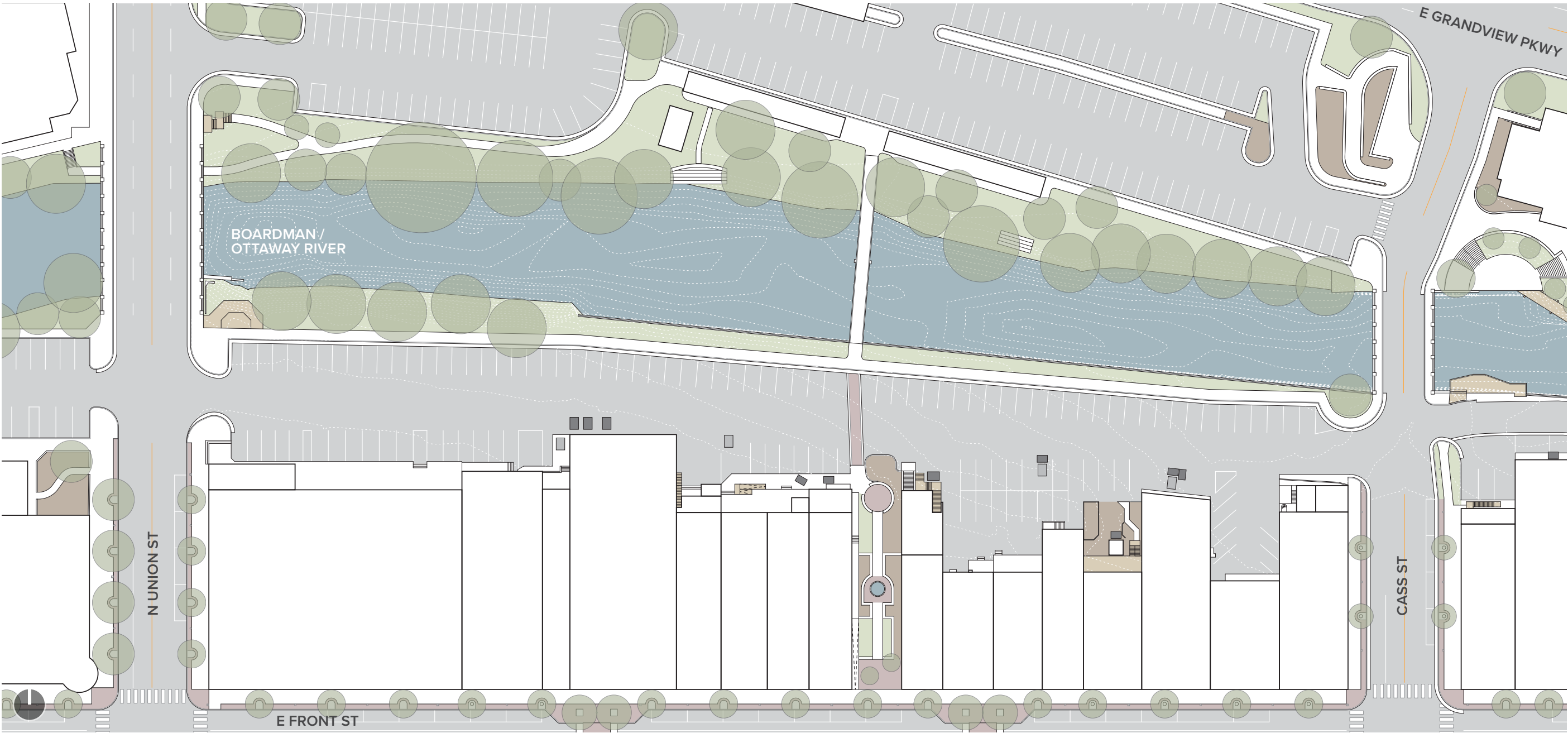
PROPERTY OWNERSHIP



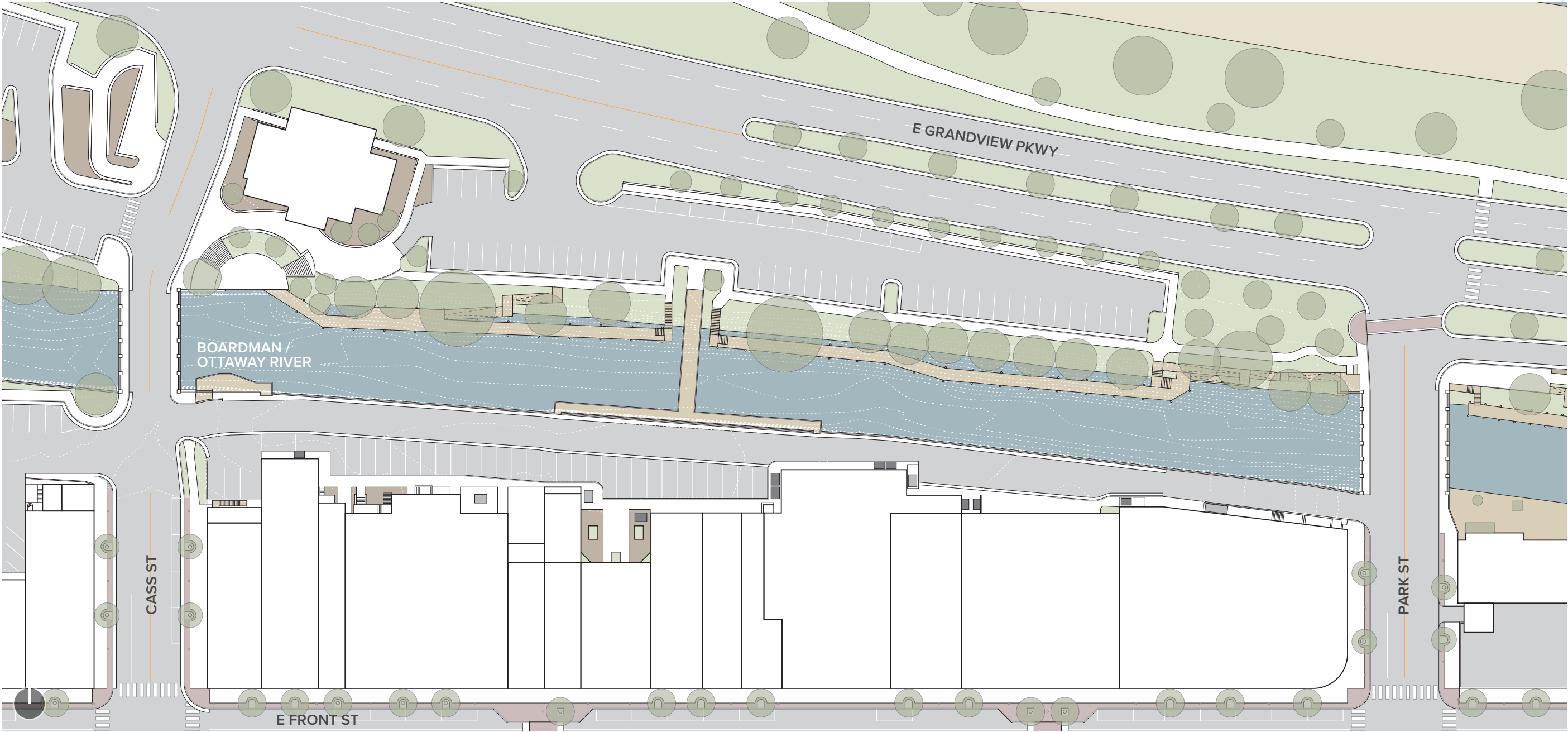
100 BLOCK

200 BLOCK

SITE PLAN - 100 BLOCK



SITE PLAN - 200 BLOCK



MOBILITY

OFF-STREET PUBLIC PARKING

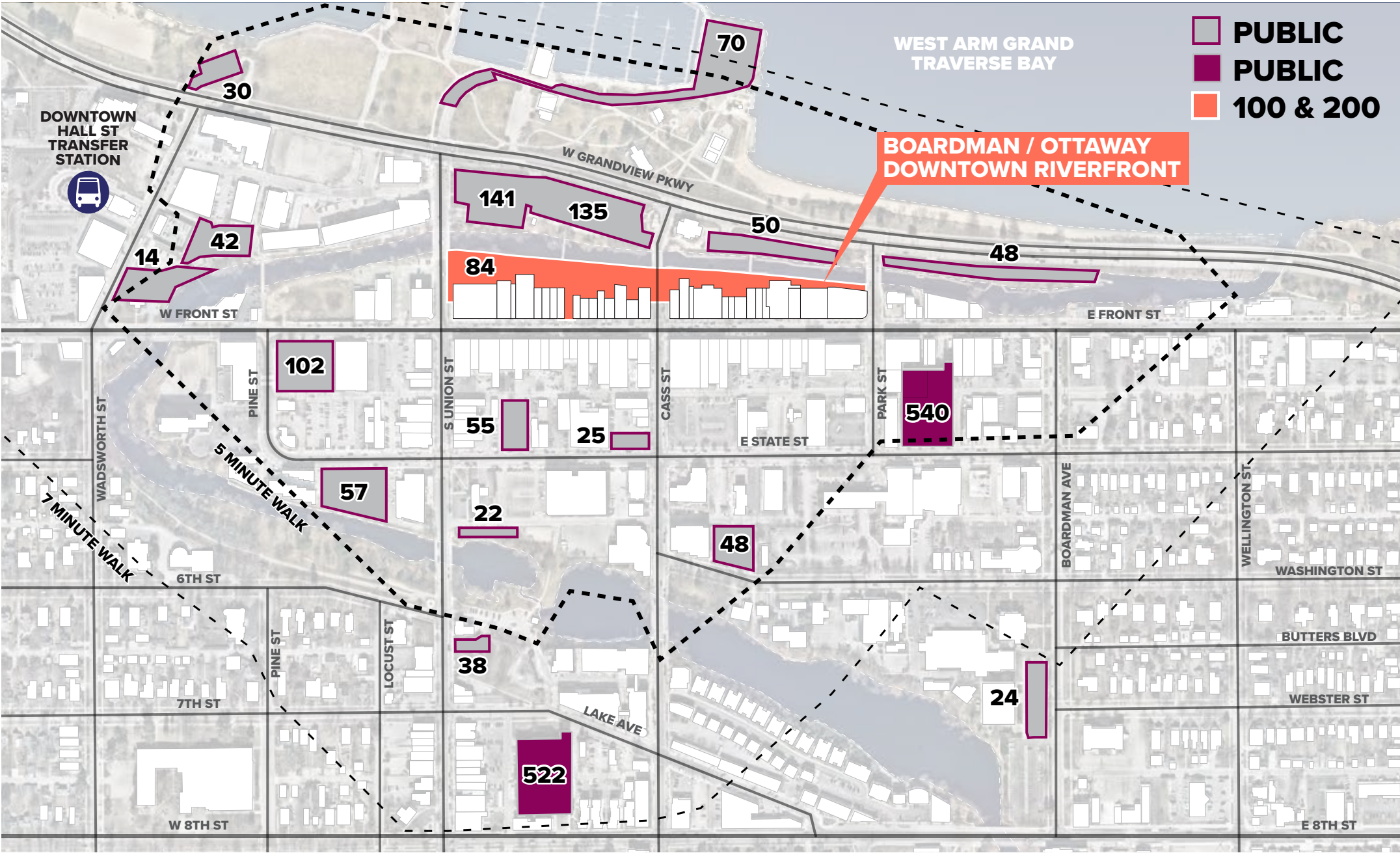
84
PUBLIC SPACES IN THE ALLEYS

1,379
PUBLIC SPACES WITHIN A 5-MINUTE WALK

560
ADDITIONAL SPACES WITHIN A 7-MINUTE WALK

2,023
TOTAL PUBLIC SPACES WITHIN A 7-MINUTE WALK

***FUTURE WEST END GARAGE**
300 +/-
PUBLIC SPACES TO BE ADDED WITHIN A 5-MINUTE WALK

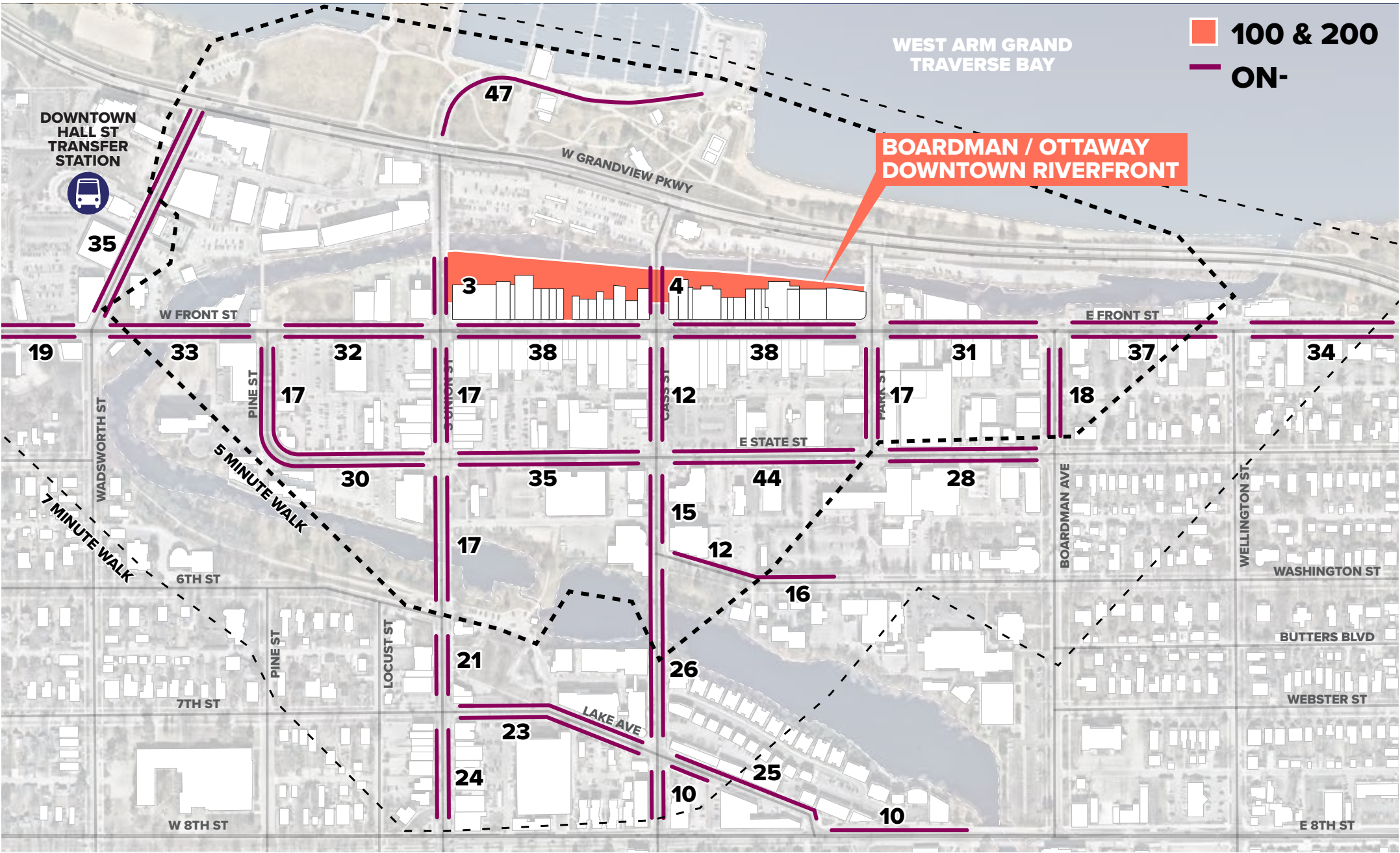


ON-STREET PUBLIC PARKING

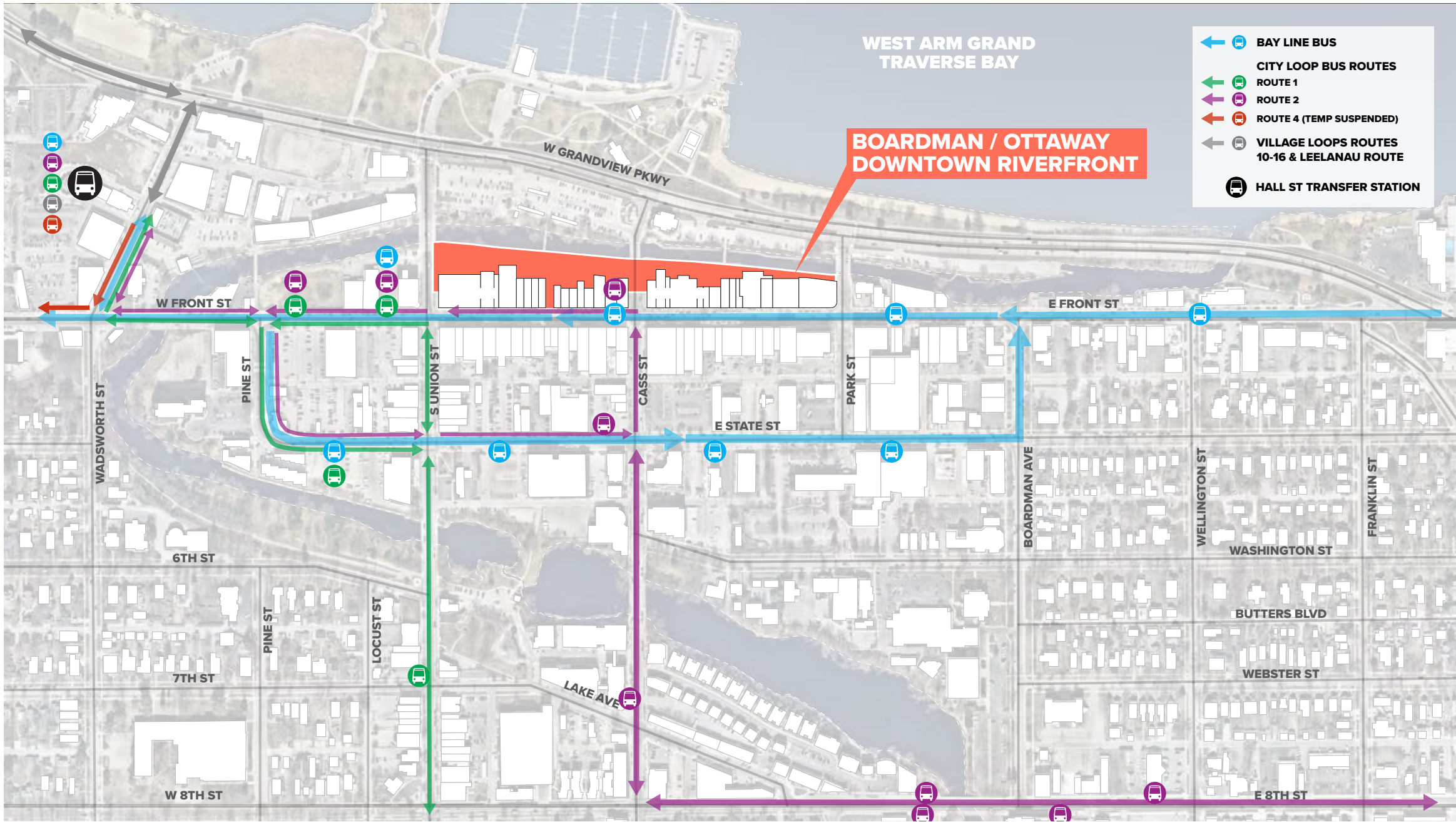
493
PUBLIC SPACES WITHIN A 5-MINUTE WALK

163
ADDITIONAL SPACES WITHIN A 7-MINUTE WALK

656
TOTAL PUBLIC SPACES WITHIN A 7-MINUTE WALK

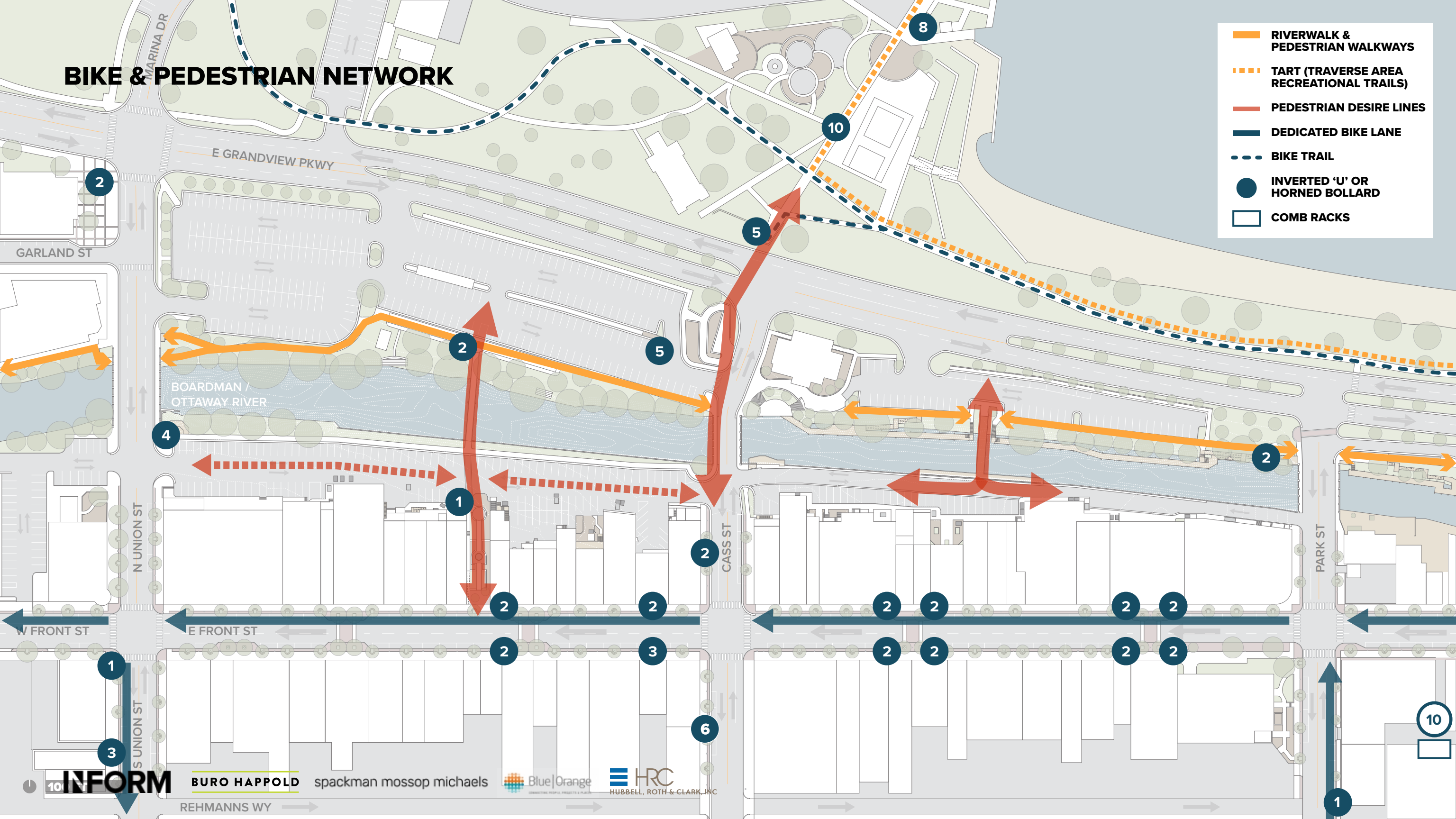


TRANSIT NETWORK



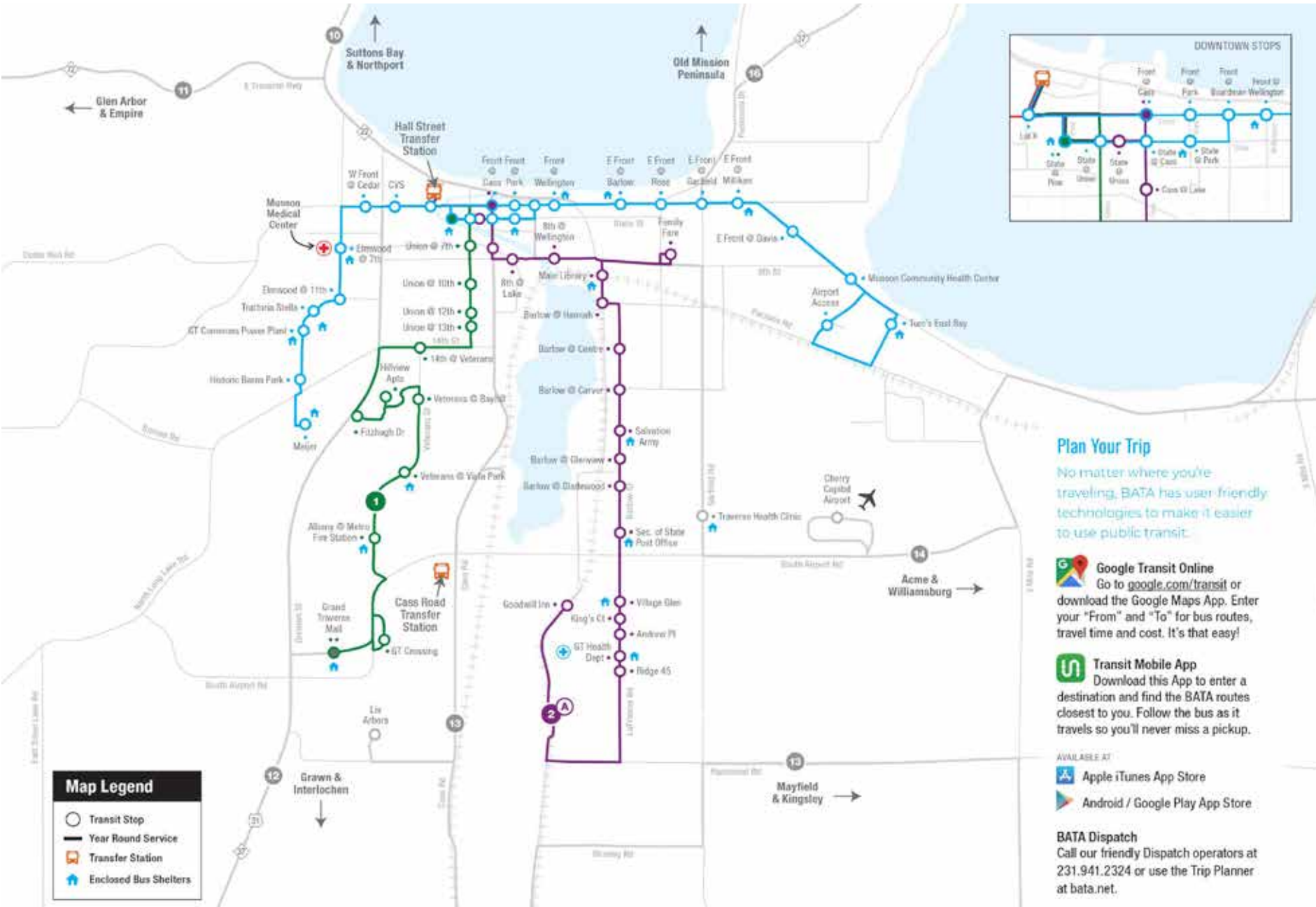
BIKE & PEDESTRIAN NETWORK

-  RIVERWALK & PEDESTRIAN WALKWAYS
-  TART (TRAVERSE AREA RECREATIONAL TRAILS)
-  PEDESTRIAN DESIRE LINES
-  DEDICATED BIKE LANE
-  BIKE TRAIL
-  INVERTED 'U' OR HORNED BOLLARD
-  COMB RACKS



TRANSIT NETWORK

DUE TO FUNDING AND STAFF SHORTAGES AS A RESULT OF THE PANDEMIC, MANY BUS LINES ARE TEMPORARILY SUSPENDED



PHYSICALLY DEFINED / SEPARATED



CHANGE IN MATERIAL



PHYSICAL BARRIER SEPARATION



FURNITURE PROTECTION



PAINT & MARKINGS



LIGHTING SIGNIFIES SEPARATION



CHANGE IN MATERIAL

MIXED / NEGOTIATED



FORMER HIGHWAY



WOONERF "LIVING STREET"



BRIDGE



BAYWALK

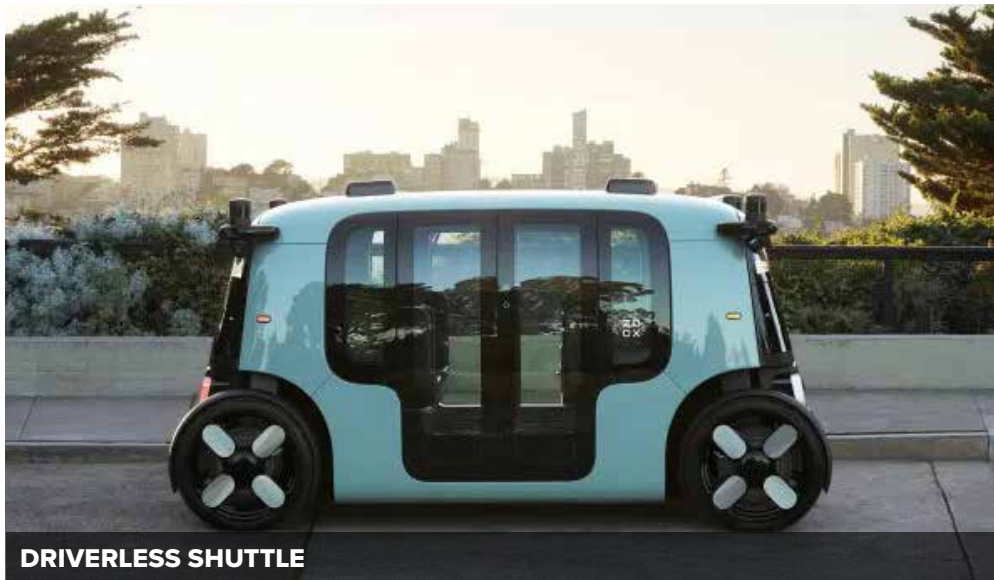
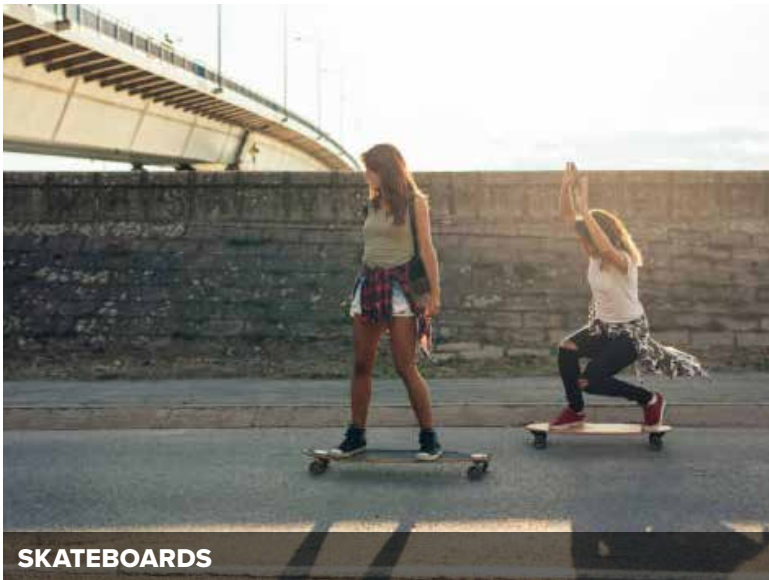


SHARED STREET



SHARED STREET

LAND TRAVEL



WATER TRAVEL



PADDLE BOARD



PEDAL BOAT



WATER BIKE



SMALL MOTORIZED BOAT

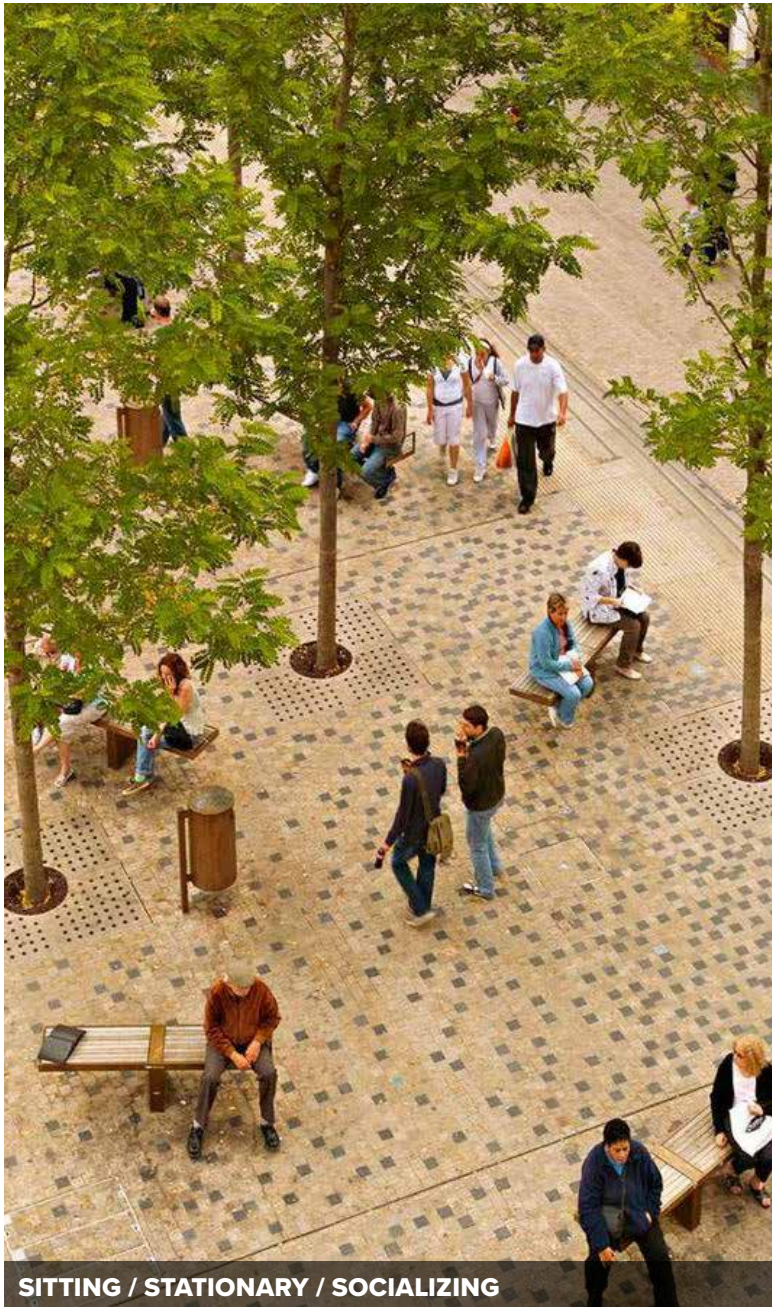


KAYAK

PEDESTRIAN TRAVEL



STROLLER PUSHING



SITTING / STATIONARY / SOCIALIZING



DOG-WALKING



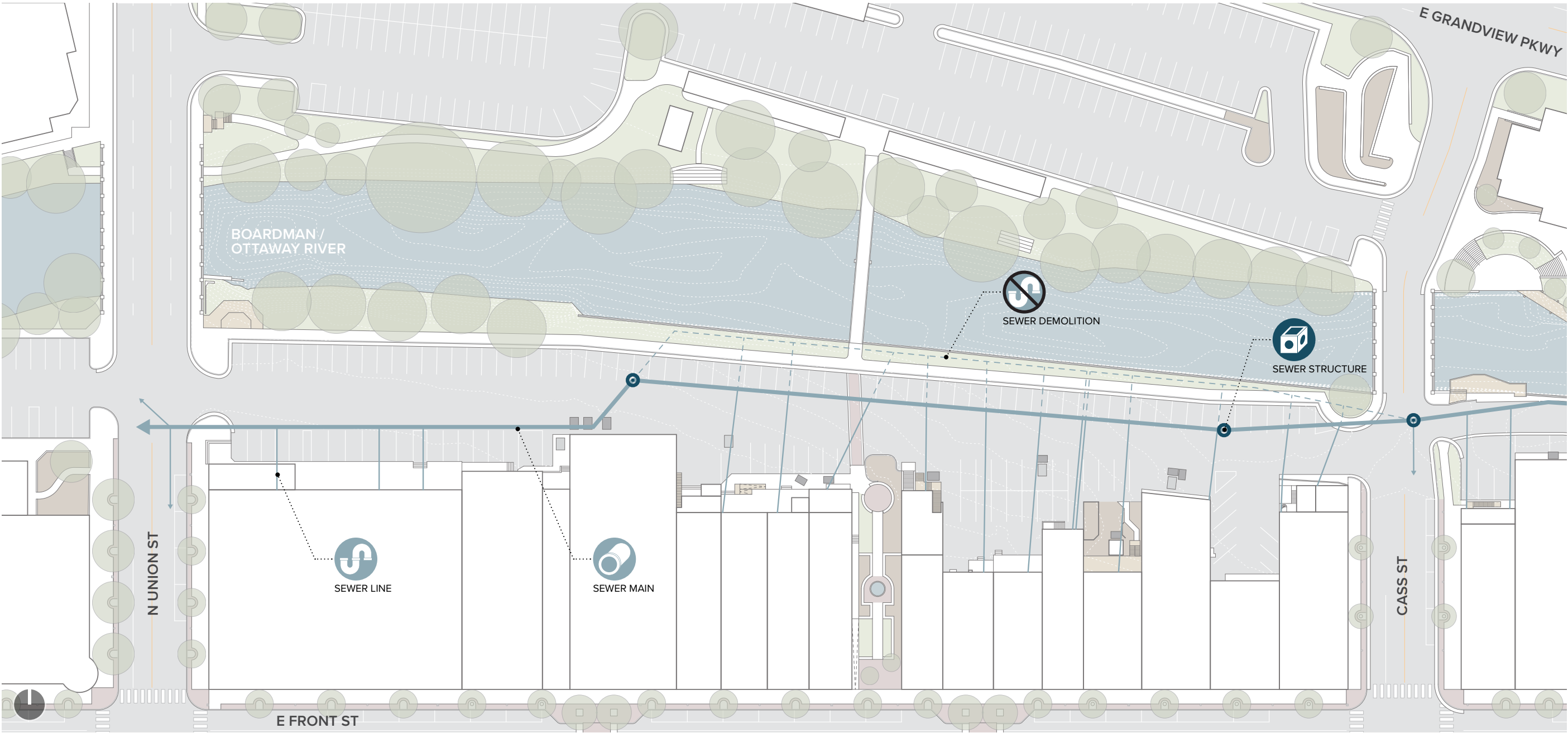
WHEELCHAIR + MOBILITY AID



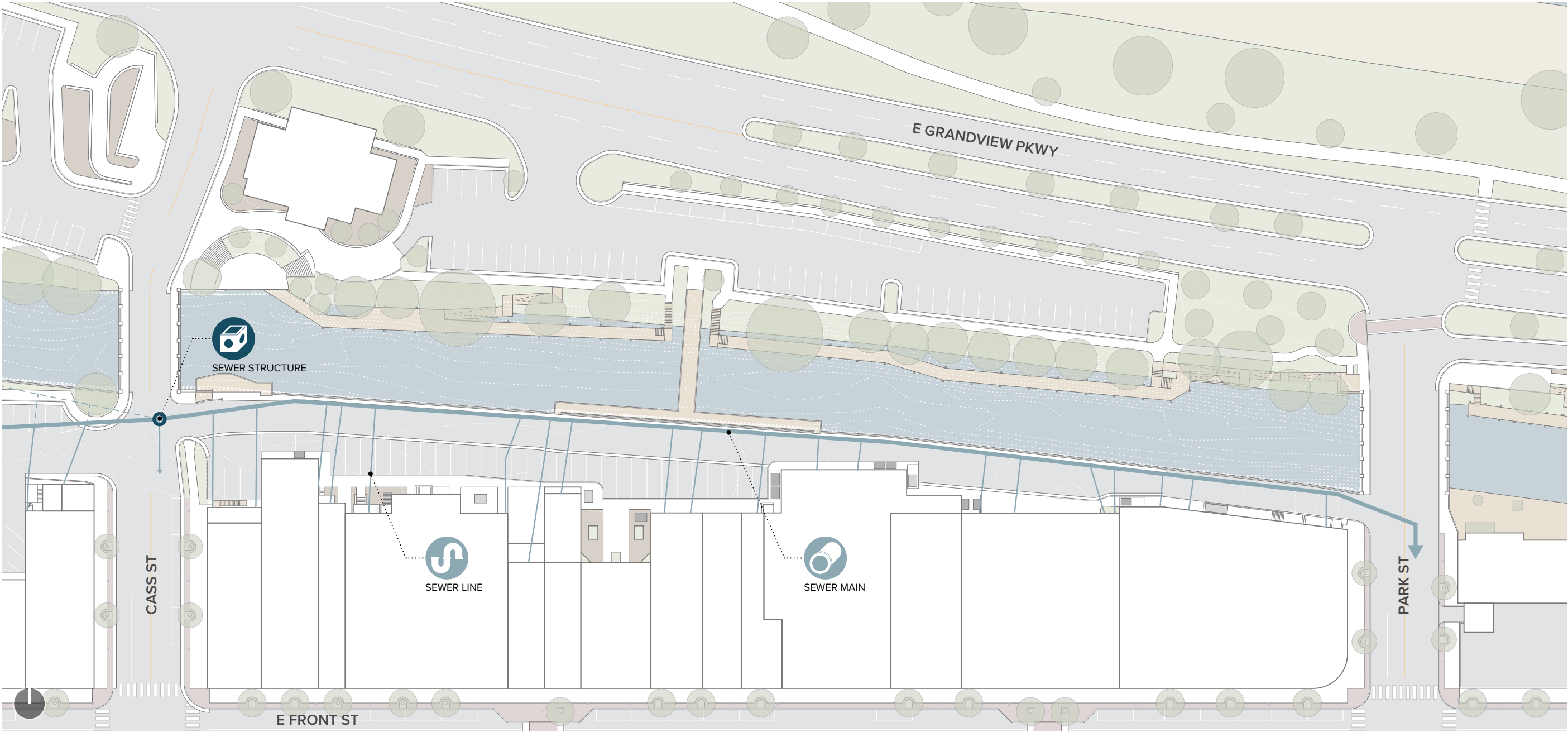
RUNNING

INFRASTRUCTURE

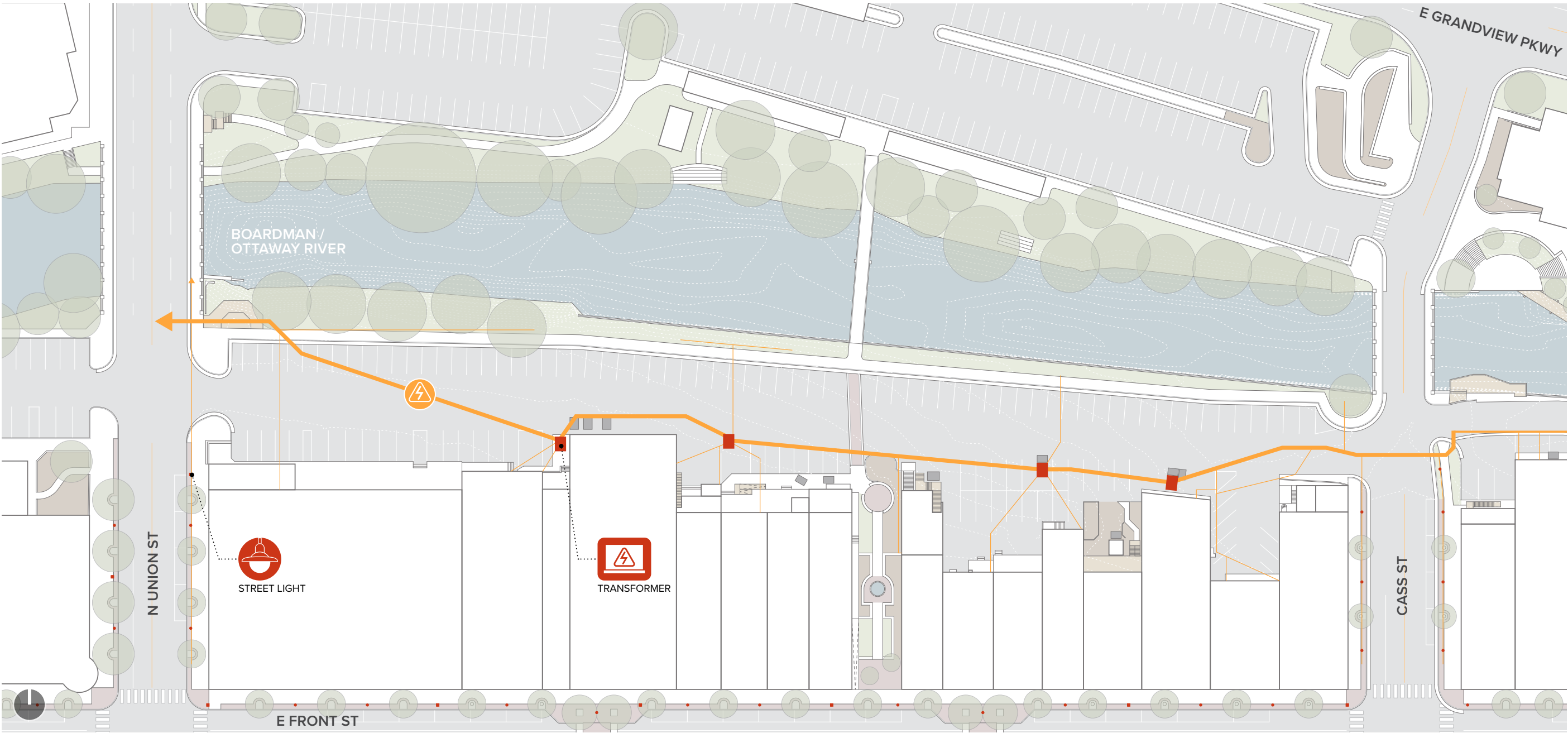
SEWER UTILITIES - 100 BLOCK



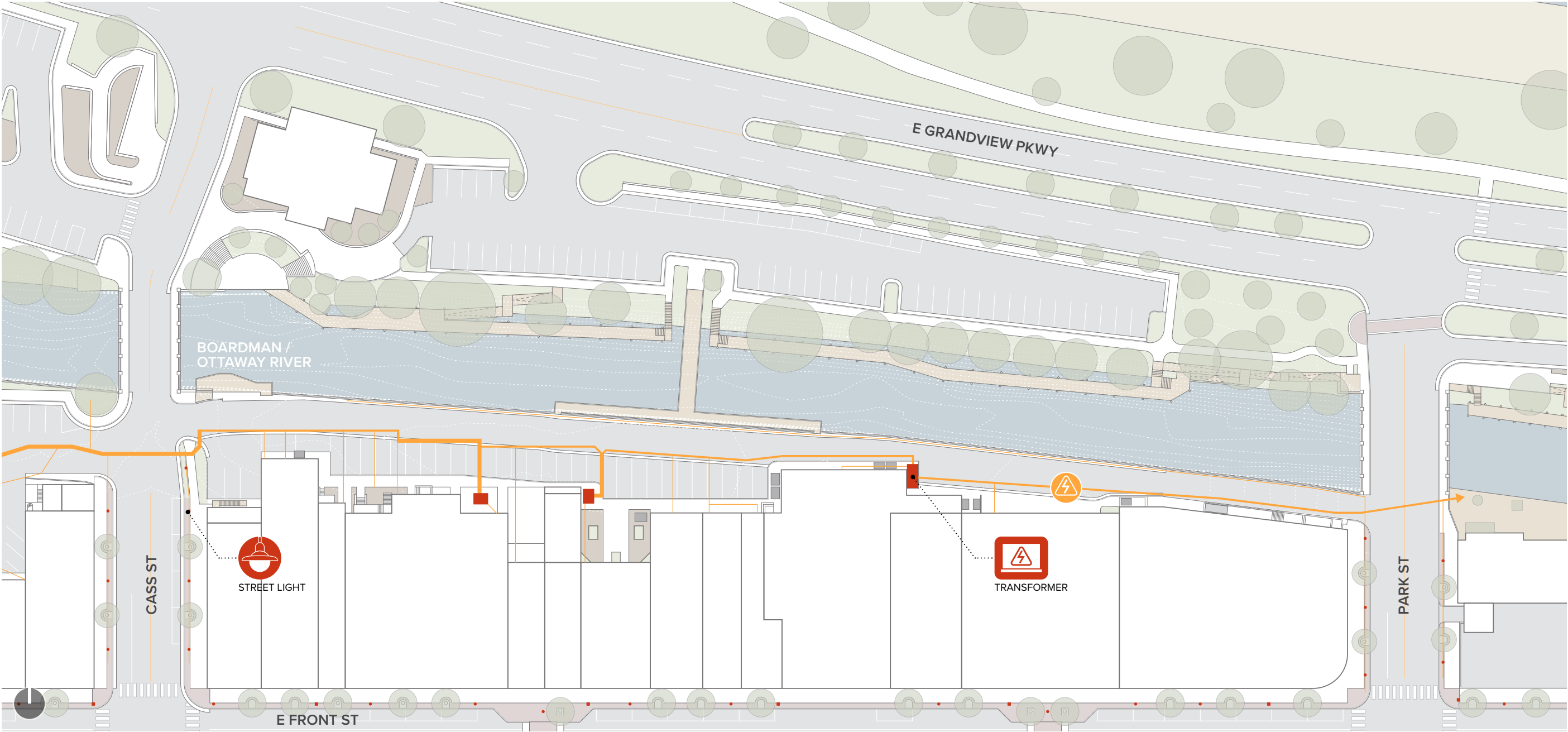
SEWER UTILITIES - 200 BLOCK



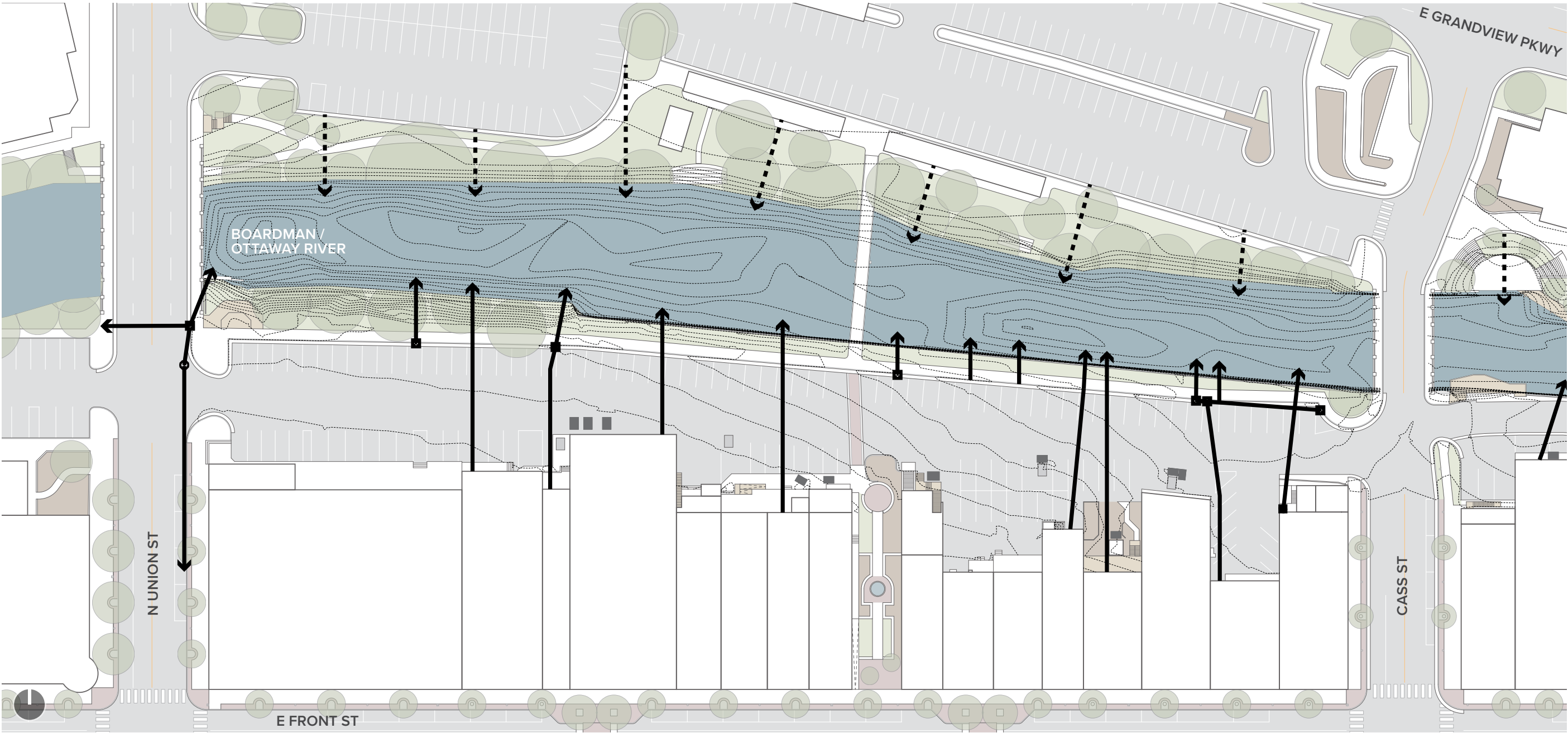
ELECTRICAL UTILITIES - 100 BLOCK



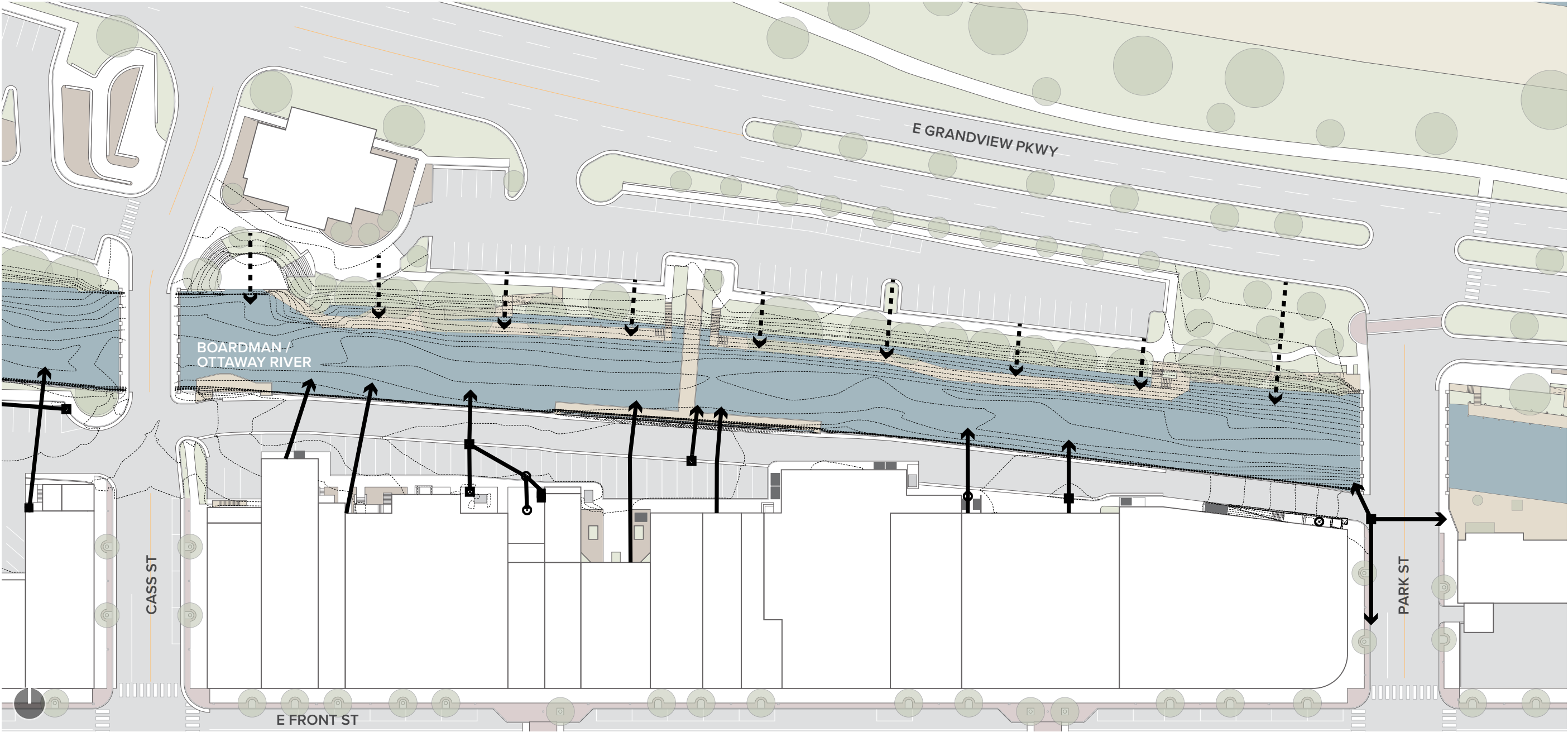
ELECTRICAL UTILITIES - 200 BLOCK



STORMWATER DRAINAGE - 100 BLOCK



STORMWATER DRAINAGE - 200 BLOCK



ENTRIES & WASTE COLLECTION - 100 BLOCK



■ TRASH



■ ENTRY

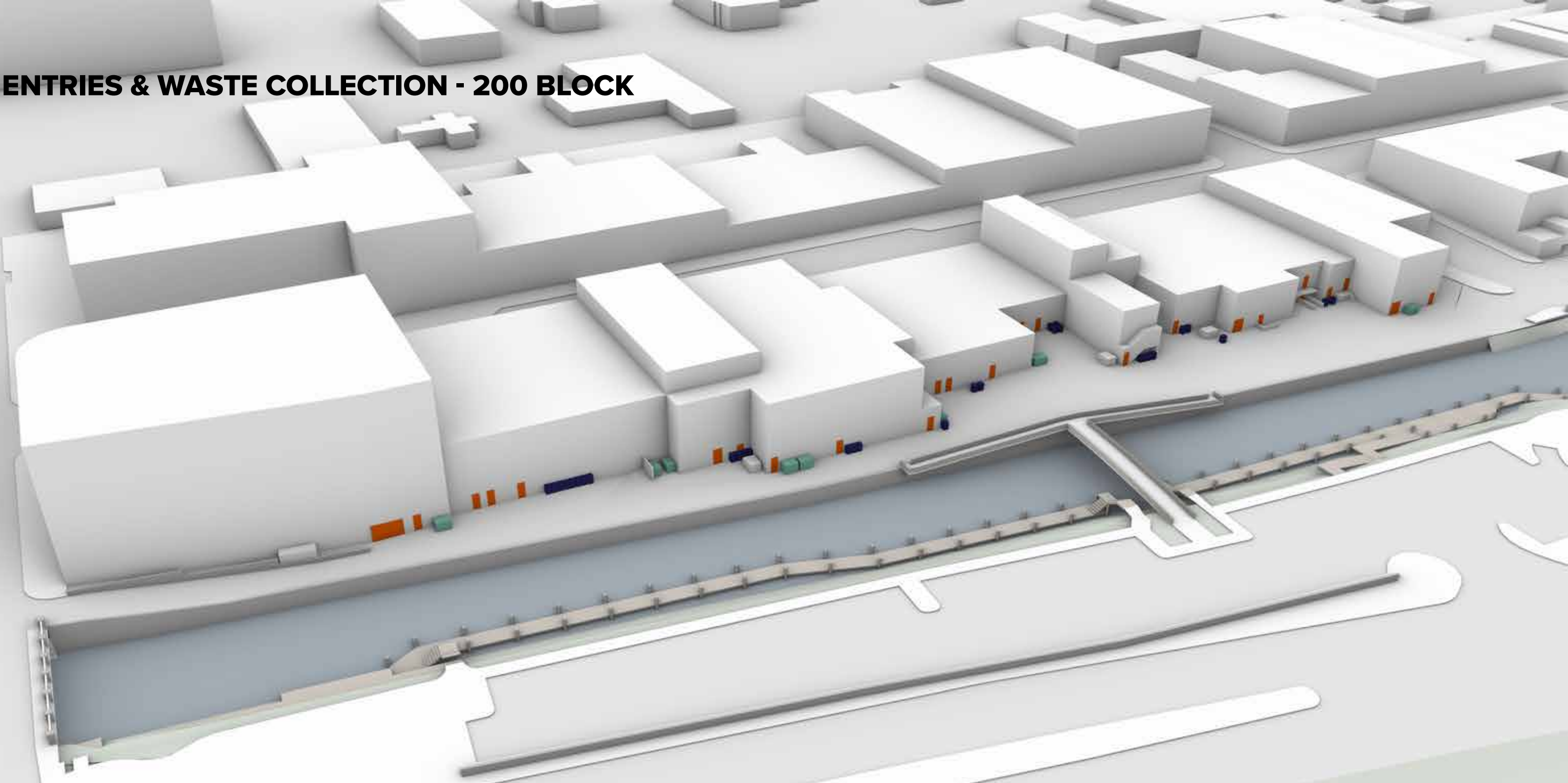
INFORM

BURO HAPPOLD

spackman mossop michaelis



ENTRIES & WASTE COLLECTION - 200 BLOCK



■ TRASH



■ ENTRY

INFORM

BURO HAPPOLD

spackman mossop michaelis

 **Blue|Orange**
CONNECTING PEOPLE, PROJECTS & PLACES

 **HRC**
HUBBELL, ROTH & CLARK, INC

PUBLIC SPACE & COMMERCE ZONES



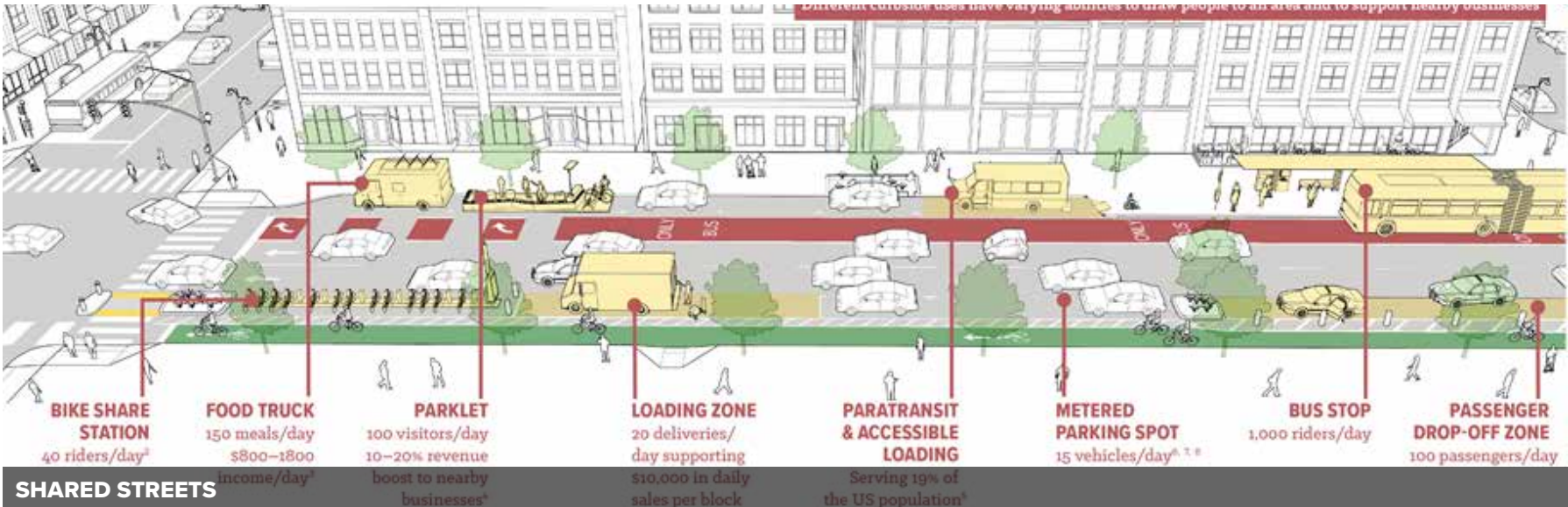
SHARED LOADING BAY



RIDE-SHARE DROP-OFF



SHARED ALLEY



SHARED STREETS



SHARED RIVER

WASTE COLLECTION

BEST PRACTICE (SHARED) COLLECTION CONSIDERATIONS

Surface containers

- Least costly and most flexible
- Storage capacity is limited
- Increasing collection frequency
- Truck access is required

Submerged containers

- More costly and require coordination with below surface conditions
- Free up space at surface
- Truck access is required

Pneumatic networks

- Most costly
- Requires coordination with below surface conditions along entire tube path as well as construction of a collection station
- Capacity is highest because inlets may be emptied multiple times in a day
- No truck access needed, except at collection station

1. Consider a loading area at the base of a building with shared containers collected by roll off truck 3.81
2. Consider providing a central facility with containers collected by roll off truck 3.81, 3.85
3. Resident or staff input from chute or central point within property or from public realm 3.85
4. Consider sending material to central facility via pneumatic tube 3.85
5. Design streetscapes that allow curbside access to containers 3.85
6. Use design to incorporate community in collection operations 3.85
7. Consider 1-8 cu yd submerged or surface container in public realm collected by truck (roll off) 3.81, 3.85

ZERO WASTE DESIGN GUIDELINES



PUBLIC FACILITIES



TOILET + DRINKING FOUNTAIN + INFRASTRUCTURE



TOILET + DRINKING FOUNTAIN



BOTTLE FILLERS + FOUNTAINS



TOILET + SHOWER + DRINKING FOUNTAIN



TOILET + LIGHTING + BIKE RACK



WARMING HUTS

DISTRICT SIGNAGE & WAY FINDING



KIOSK + FACILITIES



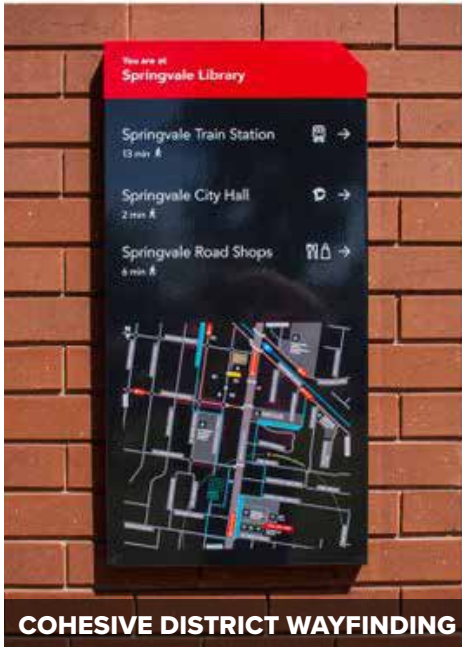
INTEGRATED WAYFINDING



EDUCATIONAL SIGNS



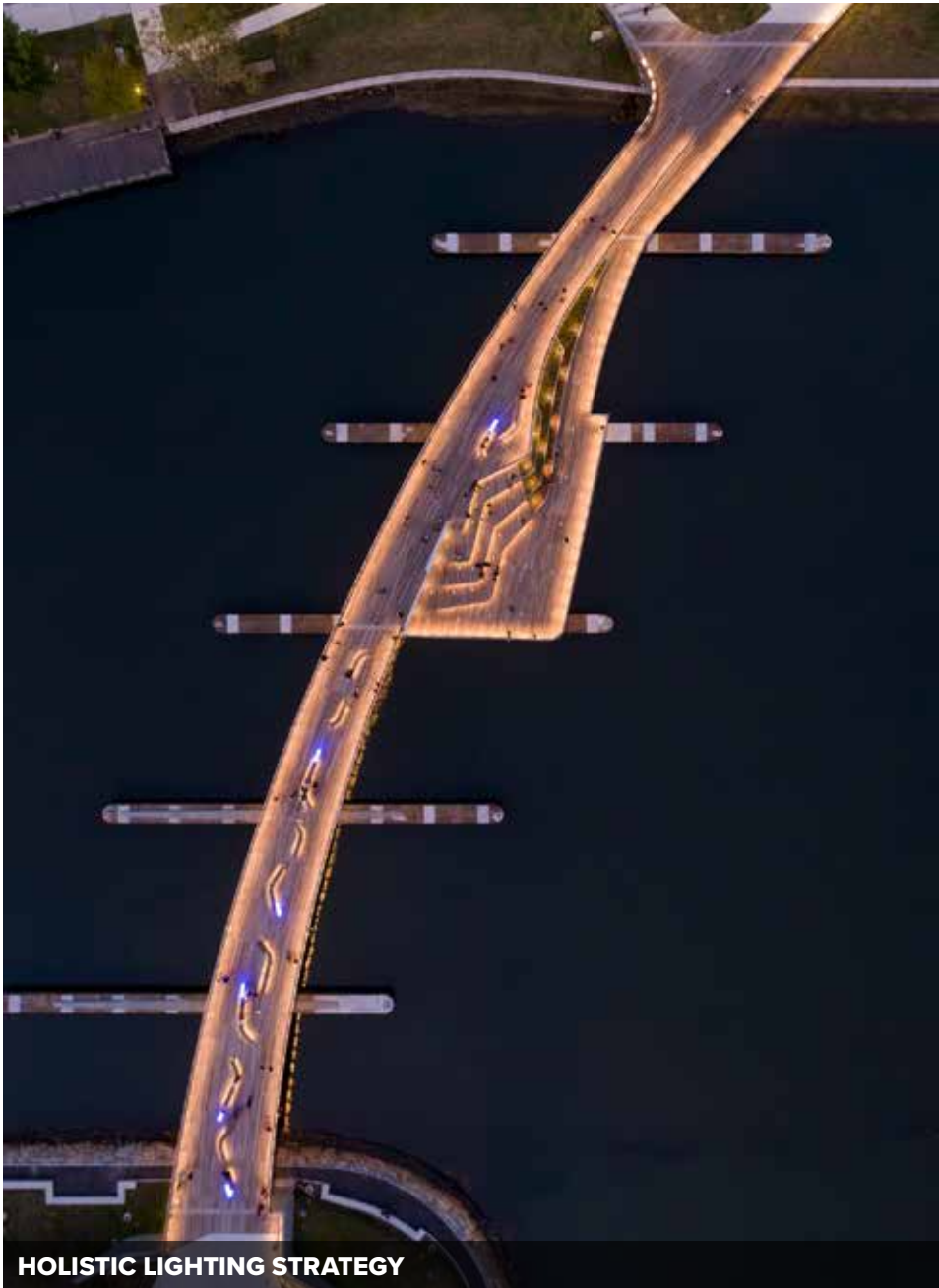
LIGHTING + WAYFINDING



COHESIVE DISTRICT WAYFINDING



LIGHTING BEST PRACTICES



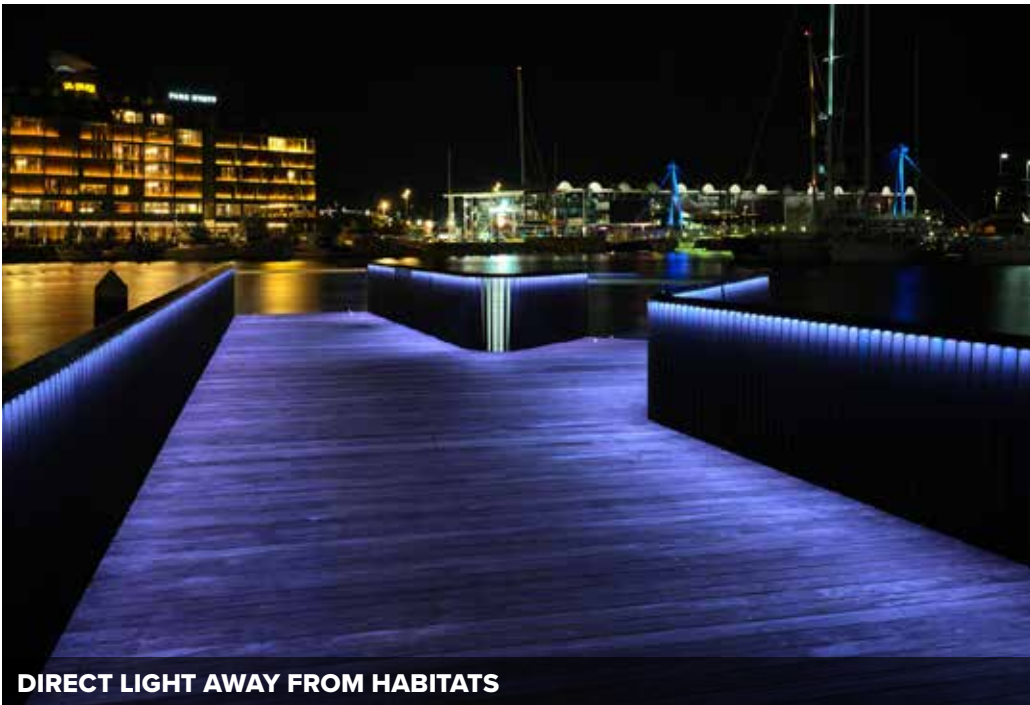
HOLISTIC LIGHTING STRATEGY



WILDLIFE SENSITIVITY



DIVERSITY OF LIGHTING TYPES



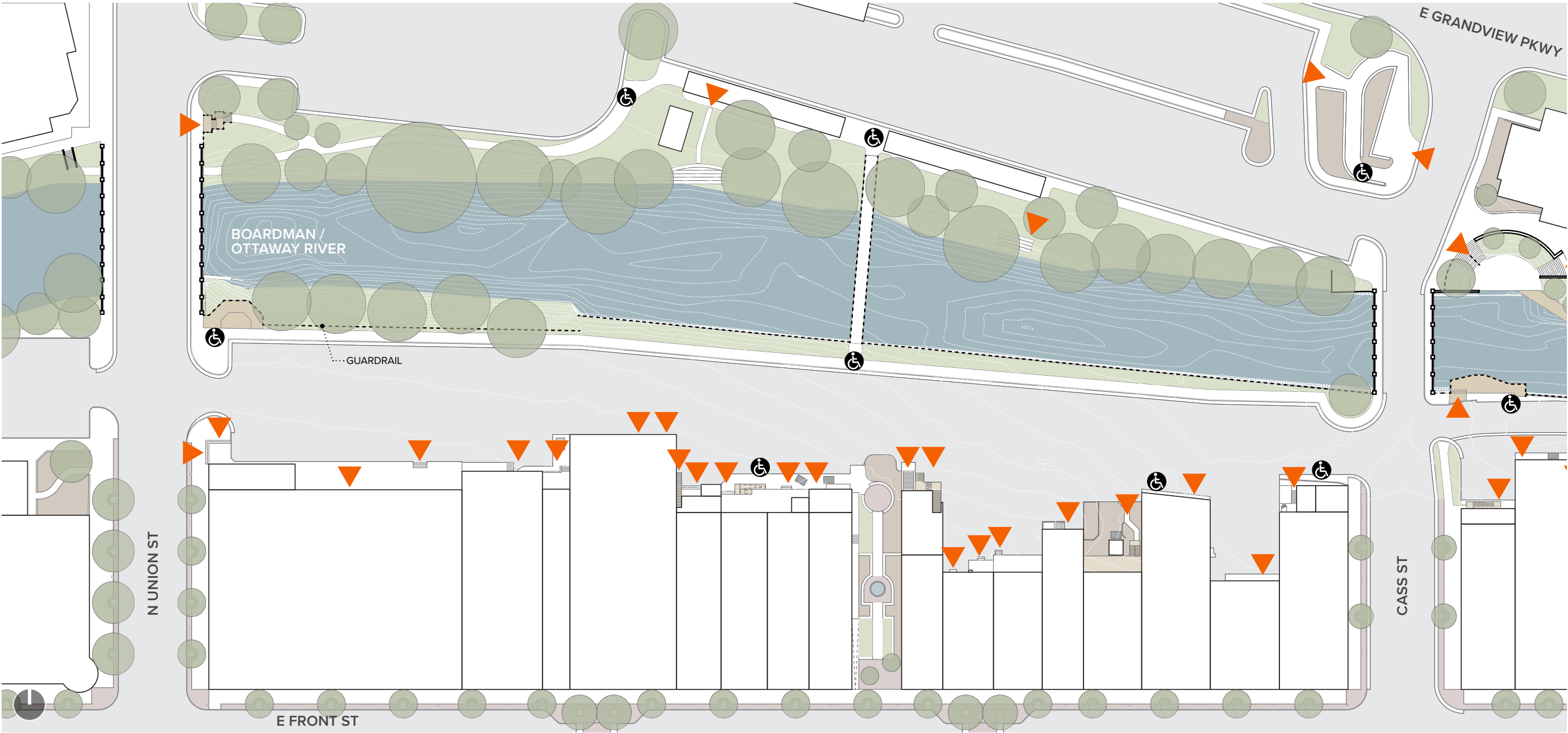
DIRECT LIGHT AWAY FROM HABITATS



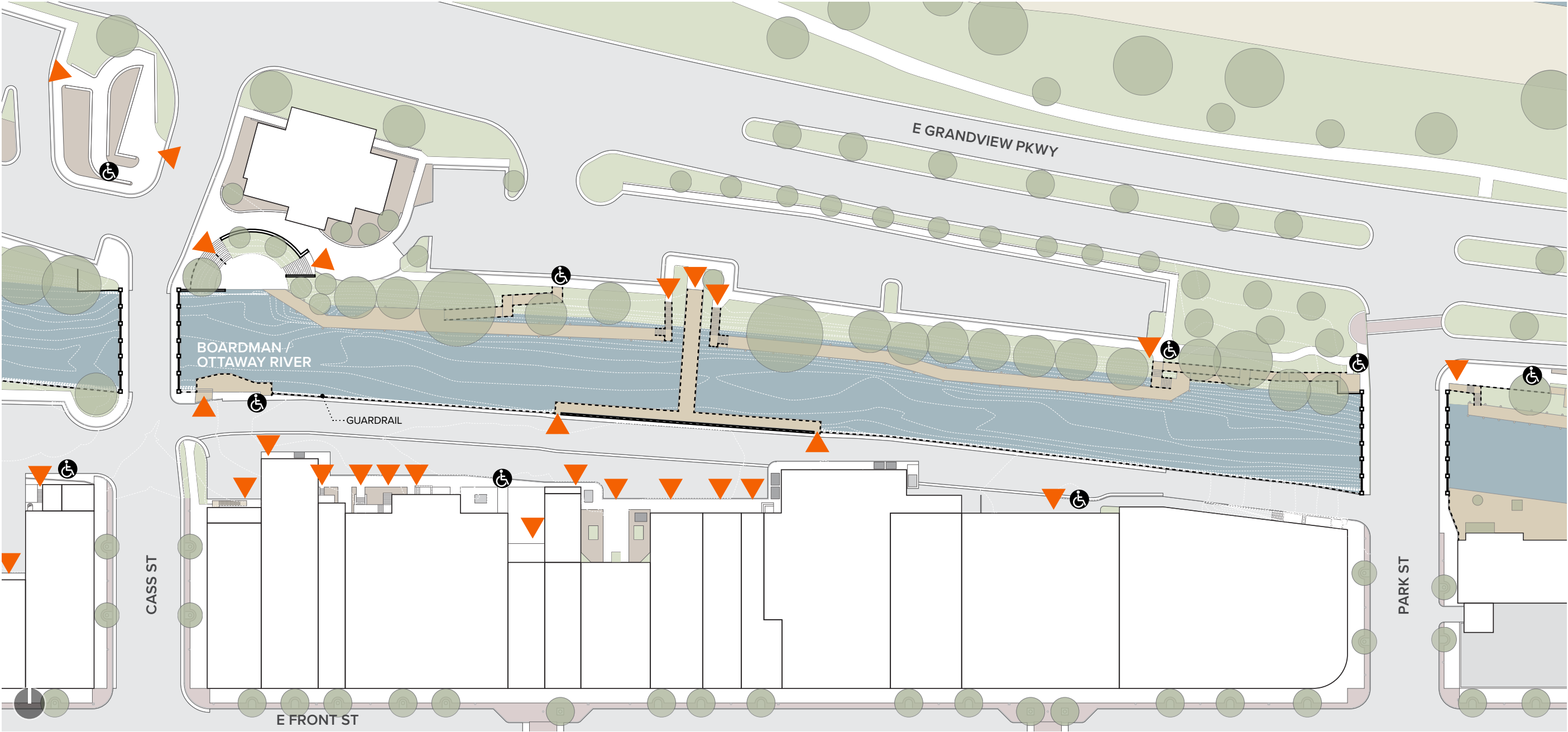
WELL-LIT TRAVEL SURFACES

**BUILT
ENVIRONMENT**

UNIVERSAL ACCESS OPPORTUNITIES - 100 BLOCK



UNIVERSAL ACCESS OPPORTUNITIES - 200 BLOCK



HARDSCAPES & SOFTSCAPES



SEATING



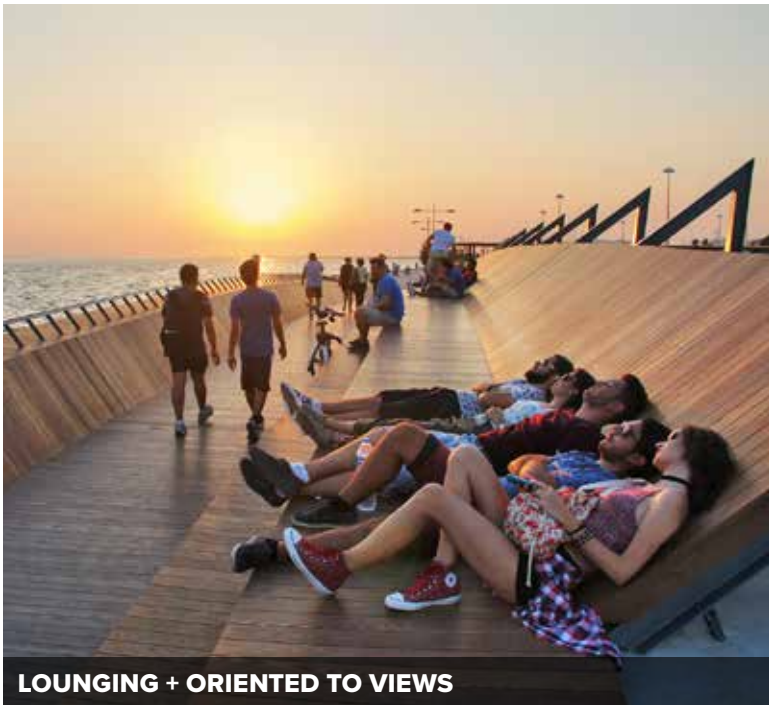
MOVABLE TABLES + CHAIRS



SEASONAL SHELTER



MULTI-USE BENCHES

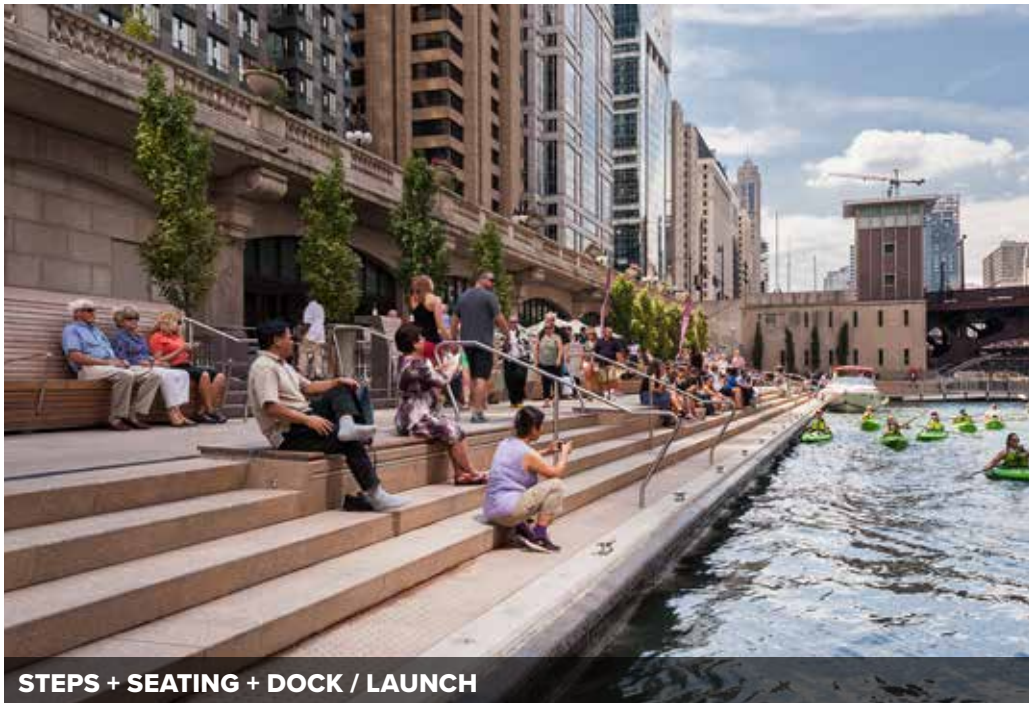


LOUNGING + ORIENTED TO VIEWS



SWINGS / PLAYGROUND

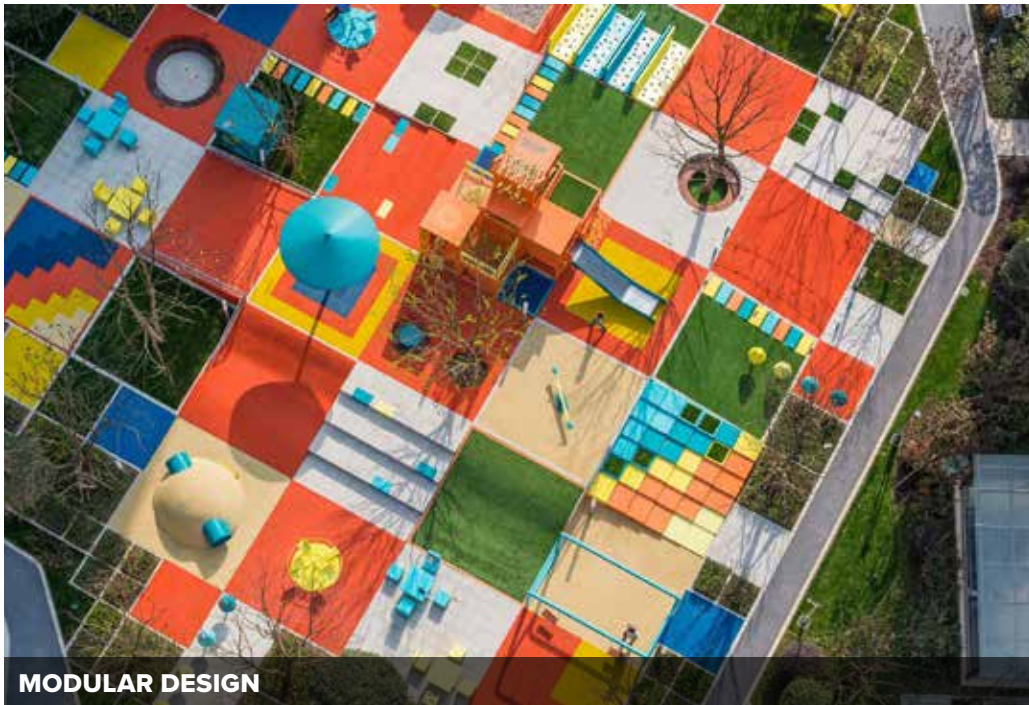
WATER ACCESS



FLOATING STRUCTURES & RESILIENCY



ADAPTABILITY



ADVANCED PRE-FABRICATION



3D PRINTED WILDLIFE HABITAT RESTORATION



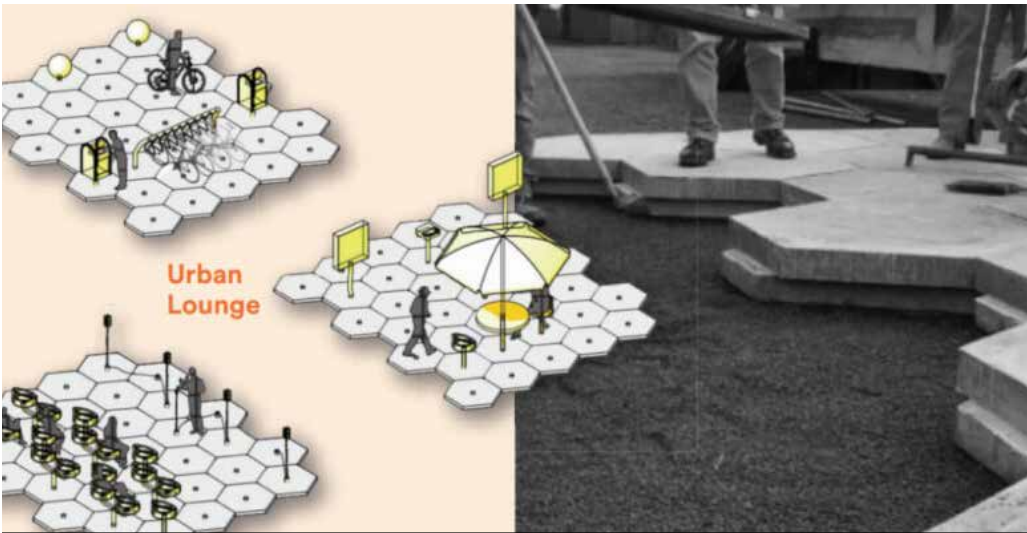
ROBOTIC PRE-FABRICATED BRIDGE



PRE-FABRICATED PEDESTRIAN BRIDGE COMPONENTS



3D PRINTED WILDLIFE HABITAT RESTORATION



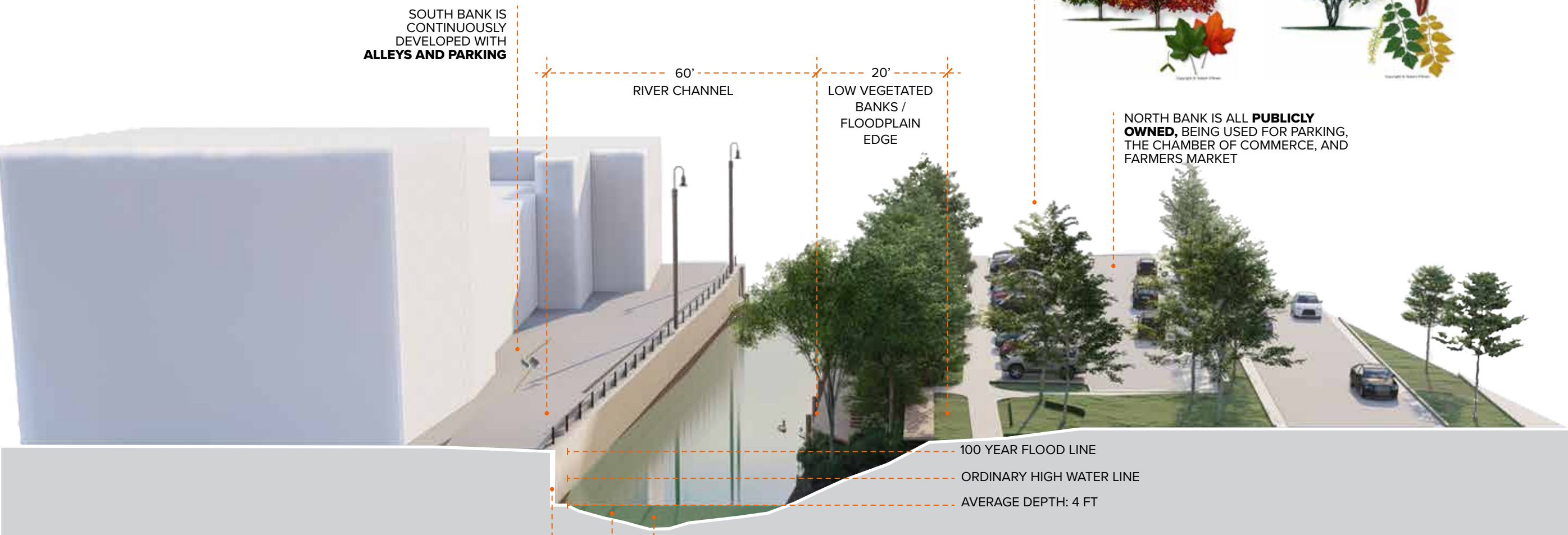
ADAPTABLE DYNAMIC STREET PAVERS



ADAPTABLE DYNAMIC STREET PAVERS

ECOLOGY

ECOLOGY



URBAN FOREST:
47% MAPLE TREES
(ACER SPP.)

OTHER SPECIES:
GOLDEN RAINTREE
MAGNIFICA HACKBERRY

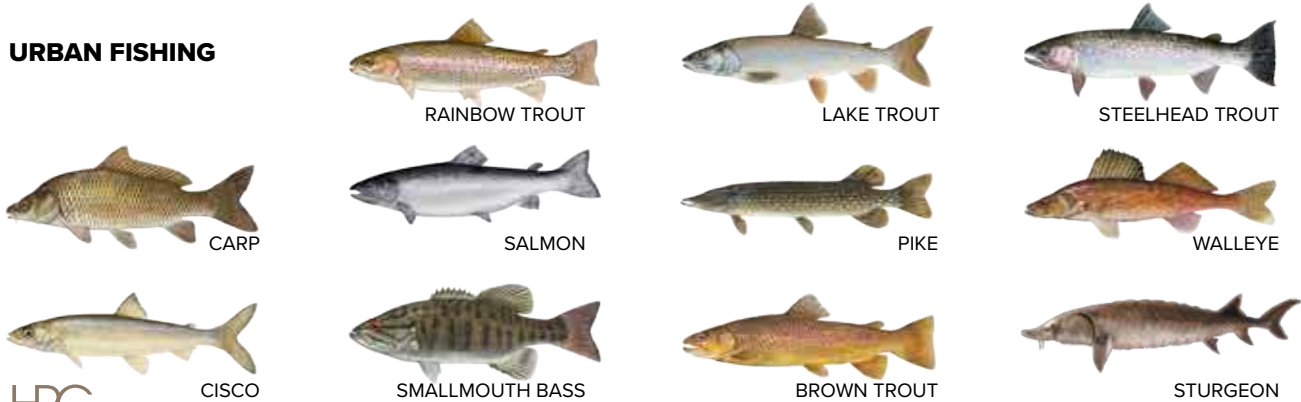


NORTH BANK IS ALL **PUBLICLY OWNED**, BEING USED FOR PARKING, THE CHAMBER OF COMMERCE, AND FARMERS MARKET

BETWEEN N UNION ST AND N PARK ST, 55% OF THE BANKS ARE **VERTICAL WALLS**

VELOCITY: 1.13 FT/S

URBAN FISHING



INTEGRATED PATHWAYS



SHORELINE



RIPARIAN ZONE



ECONCRETE MAT



ECONCRETE HABITAT



HABITAT SHELVES



LIVING SHORELINE



MARSH AND TIDAL POOL BUFFER

PROGRAMMING

FESTIVALS & EVENTS



TRAVERSE CITY FILM FESTIVAL



DOWNTOWN ART FAIR



CLASSIC BOATS ON THE BOARDWALK



SARA HARDY FARMER'S MARKET



CHERRY T BALL DROP



NATIONAL CHERRY FESTIVAL

FISHING



DIRECT WATER ACCESS



FISHING WEIR



FISHING ACCESSIBILITY



RIPARIAN ZONE FISHING



FISHING OUTLOOK

HIKING



SLEEPING BEAR DUNES



LEELANAU TRAIL



BOARDMAN LAKE TRAIL



KEYSTONE RAPIDS + BOARDMAN POND TRAILS

WILDLIFE WATCHING



FISH WATCHING



FISH MIGRATION



BIRDERS



WILDLIFE PHOTOGRAPHY + FILMING

ART - PLACEMAKING + INTERACTIVITY



ART - EXPERIENTIAL LIGHTING



INTERACTIVE SENSORS



TOURIST ATTRACTION



HIGHLIGHT RETAIL + BUILDINGS



SAFE PLACES TO WALK



ATTRACT WILDLIFE



PLAY SPACES

INTERPRETIVE EDUCATION



GRAND TRAVERSE BAND OF OTTAWA & CHIPPEWA INDIANS



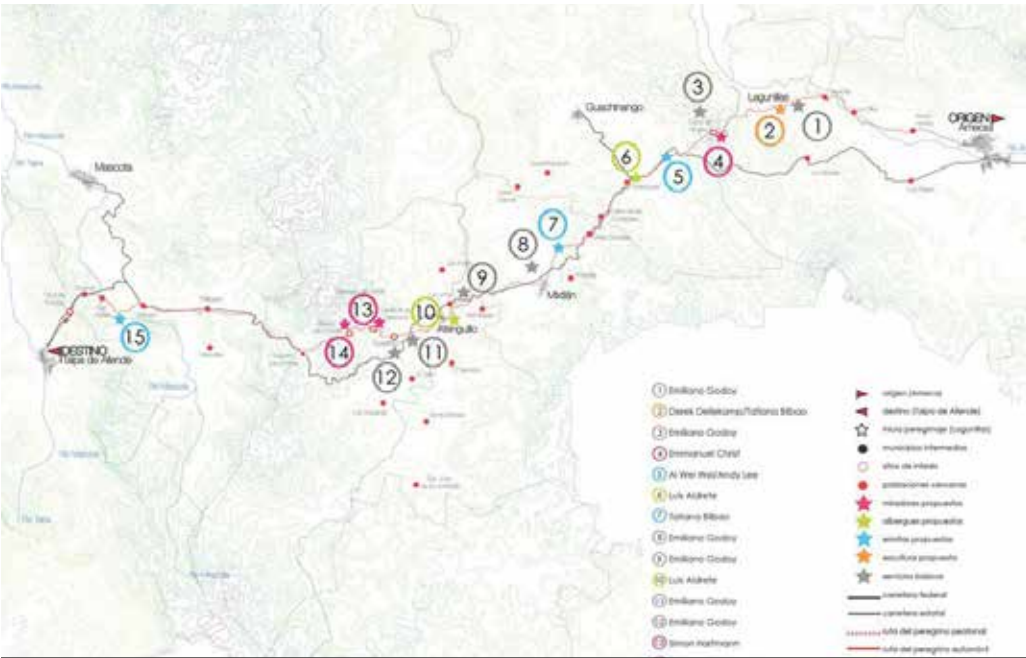
DENNOS MUSEUM CENTER



RECYCLED WASTE - FLOATING PARK



PILGRIM'S ROUTE MARKER



PILGRIM'S ROUTE IN MEXICO



OLD INDIAN TRAIL - CULTURAL SIGNIFICANCE