

**“RE-IMAGINING THE FORMER BLANDIN PAPER MILL THROUGH
SUSTAINABLE DESIGN PRACTICES AND PUBLIC AMENITY
PLANNING IN GRAND RAPIDS, MINNESOTA.”**

IN THE MID 1800s, LOGGING FORMED THE CITY
THAT IS PRESENTLY KNOWN AS GRAND RAPIDS,
MINNESOTA.

AT THE TURN OF THE CENTURY IN THE EARLY
1900s, GRAND RAPIDS OPENED THEIR FIRST MILL
NAMING IT THE GRAND RAPIDS PAPER MILL.

THE MILL WENT THROUGH A SERIES OF OWNERS AS
IT WAS THEN THE ITASCA PAPER COMPANY, AND
NOW THE BLANDIN PAPER COMPANY.

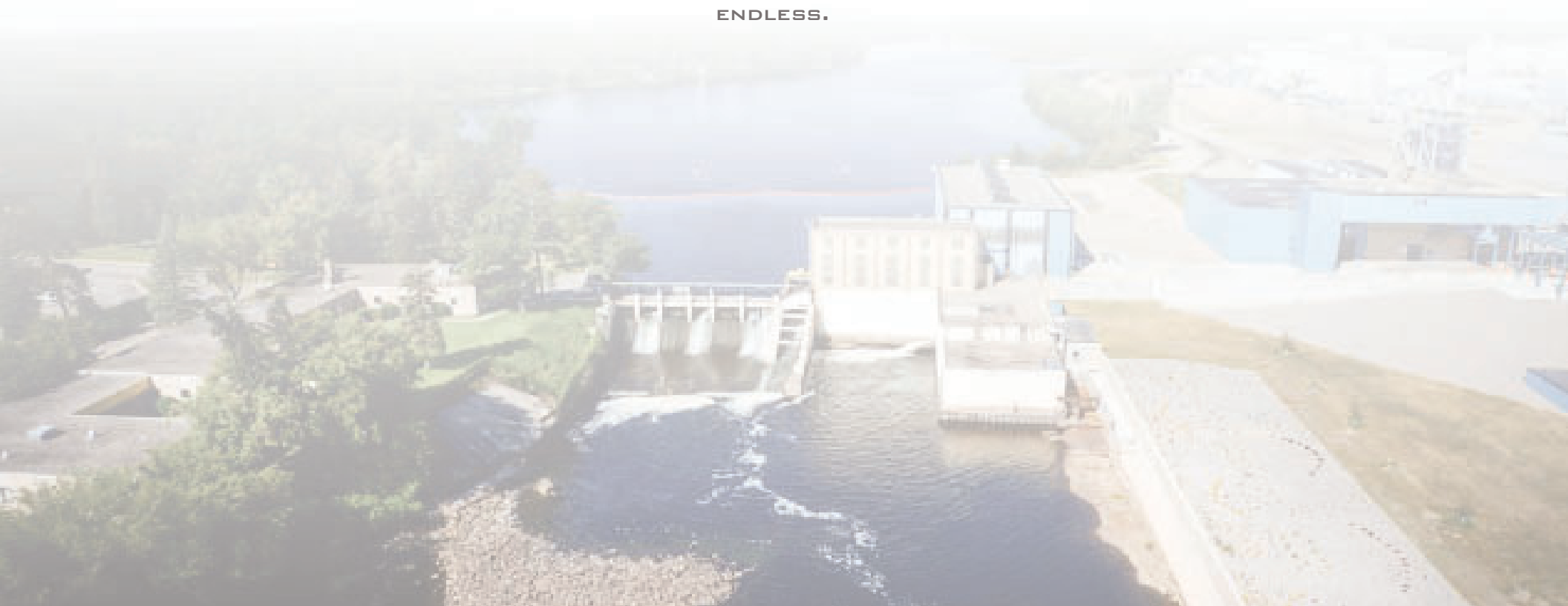
THE COMPANY QUICKLY BECAME ONE OF THE
BIGGEST EMPLOYERS IN THE AREA AND HELPED
THE CITY OF GRAND RAPIDS BOOM IN THE PAPER
INDUSTRY.



**BUSINESS WENT STEADY UNTIL THE 2000S
CAME AROUND AND MORE MEDIA STARTED
APPEARING ON THE INTERNET RATHER THAN IN
PHYSICAL FORM.**

**DUE TO THE REDUCED NEED OF PHYSICAL NEWS,
COMPANIES STARTED BUYING LESS PAPER AND
PRODUCTION DROPPED FOR THE COMPANY.**

**AS OF LAST YEAR, THERE IS NOW ONE
FUNCTIONING MACHINE LEFT ON THE SITE AND
THE REST HAVE BEEN SHUT DOWN MAKING THE
AREA LESS ECONOMICAL. THE FUTURE OF THE
SITE RIGHT NOW IS CURRENTLY UNSURE, BUT
THE OPPORTUNITIES FOR REDEVELOPMENT ARE
ENDLESS.**



THESIS QUESTION

HOW CAN THE PERFORMANCE OF A FORMER INDUSTRIAL SITE BE
MAXIMIZED THROUGH SUSTAINABLE DESIGN AND BE TRANSFORMED
INTO A POSITIVE AMENITY FOR ITS COMMUNITY?



INTRODUCTION

RESEARCH



SITE SELECTION AND INVENTORY



THESIS VISION AND ANALYSIS



PROJECT PROPOSAL

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RESEARCH

A solid brown horizontal line that spans the width of the page, positioned directly below the word "RESEARCH".

RESEARCH

WHAT IS SUSTAINABLE LANDSCAPE DESIGN?

“SUSTAINABLE LANDSCAPES ARE RESPONSIVE TO THE ENVIRONMENT, RE-GENERATIVE, AND CAN ACTIVELY CONTRIBUTE TO THE DEVELOPMENT OF HEALTHY COMMUNITIES. SUSTAINABLE LANDSCAPES SEQUESTER CARBON, CLEAN THE AIR AND WATER, INCREASE ENERGY EFFICIENCY, RESTORE HABITATS, AND CREATE VALUE THROUGH SIGNIFICANT ECONOMIC, SOCIAL AND, ENVIRONMENTAL BENEFITS.”

-AMERICAN SOCIETY OF LANDSCAPE ARCHITECTURE

RESEARCH- SITES v2 SCORECARD

TES v2 Scorecard Summary							
?	NO			YES	?	NO	
0	0	1: SITE CONTEXT	Possible Points: 13	0	0	0	6: SITE DESIGN - HUMAN HEALTH + WELL-BEING
		CONTEXT P1.1	Limit development on farmland				HHWB C6.1
		CONTEXT P1.2	Protect floodplain functions				HHWB C6.2
		CONTEXT P1.3	Conserve aquatic ecosystems				HHWB C6.3
		CONTEXT P1.4	Conserve habitats for threatened and endangered species				HHWB C6.4
		CONTEXT C1.5	Redevelop degraded sites				HHWB C6.5
		CONTEXT C1.6	Locate projects within existing developed areas				HHWB C6.6
		CONTEXT C1.7	Connect to multi-modal transit networks				HHWB C6.7
							HHWB C6.8
							HHWB C6.9
							HHWB C6.10
							HHWB C6.11
0	0	2: PRE-DESIGN ASSESSMENT + PLANNING	Possible Points: 3	0	0	0	7: CONSTRUCTION
		PRE-DESIGN P2.1	Use an integrative design process	Y			CONSTRUCTION P7.1
		PRE-DESIGN P2.2	Conduct a pre-design site assessment	Y			CONSTRUCTION P7.2
		PRE-DESIGN P2.3	Designate and communicate VSPZs	Y			CONSTRUCTION P7.3
		PRE-DESIGN C2.4	Engage users and stakeholders				CONSTRUCTION C7.4
0	0	3: SITE DESIGN - WATER	Possible Points: 23				CONSTRUCTION C7.5
		WATER P3.1	Manage precipitation on site				CONSTRUCTION C7.6
		WATER P3.2	Reduce water use for landscape irrigation				CONSTRUCTION C7.7
		WATER C3.3	Manage precipitation beyond baseline				
		WATER C3.4	Reduce outdoor water use				
		WATER C3.5	Design functional stormwater features as amenities				
		WATER C3.6	Restore aquatic ecosystems				
0	0	4: SITE DESIGN - SOIL + VEGETATION	Possible Points: 40	0	0	0	8. OPERATIONS + MAINTENANCE
		SOIL+VEG P4.1	Create and communicate a soil management plan	Y			O+M P8.1
		SOIL+VEG P4.2	Control and manage invasive plants	Y			O+M P8.2
		SOIL+VEG P4.3	Use appropriate plants				O+M C8.3
		SOIL+VEG C4.4	Conserve healthy soils and appropriate vegetation				O+M C8.4
		SOIL+VEG C4.5	Conserve special status vegetation				O+M C8.5
		SOIL+VEG C4.6	Conserve and use native plants				O+M C8.6
		SOIL+VEG C4.7	Conserve and restore native plant communities				O+M C8.7
		SOIL+VEG C4.8	Optimize biomass				
		SOIL+VEG C4.9	Reduce urban heat island effects				
		SOIL+VEG C4.10	Use vegetation to minimize building energy use				
		SOIL+VEG C4.11	Reduce the risk of catastrophic wildfire				
0	0	5: SITE DESIGN - MATERIALS SELECTION	Possible Points: 41	0	0	0	9. EDUCATION + PERFORMANCE MONITORING
		MATERIALS P5.1	Eliminate the use of wood from threatened tree species				EDUCATION C9.1
		MATERIALS C5.2	Maintain on-site structures and paving				EDUCATION C9.2
		MATERIALS C5.3	Design for adaptability and disassembly				EDUCATION C9.3
		MATERIALS C5.4	Use salvaged materials and plants				
		MATERIALS C5.5	Use recycled content materials				
		MATERIALS C5.6	Use regional materials				
		MATERIALS C5.7	Support responsible extraction of raw materials				
		MATERIALS C5.8	Support transparency and safer chemistry				
		MATERIALS C5.9	Support sustainability in materials manufacturing				
		MATERIALS C5.10	Support sustainability in plant production				
0	0	10. INNOVATION OR EXEMPLARY PERFORMANCE	Bonus Points: 9	0	0	0	10. INNOVATION OR EXEMPLARY PERFORMANCE
		INNOVATION C10.1	Innovation or exemplary performance				INNOVATION C10.1
0	0	TOTAL ESTIMATED POINTS	Total Possible Points: 200	0	0	0	
KEY				SITES Certification levels			
YES Project confident points are achievable				CERTIFIED 70			
? Project striving to achieve points, not 100% confident				SILVER 85			
NO Project is unable to achieve these credit points				GOLD 100			
				PLATINUM 135			

RESEARCH

SITE CONTEXT:

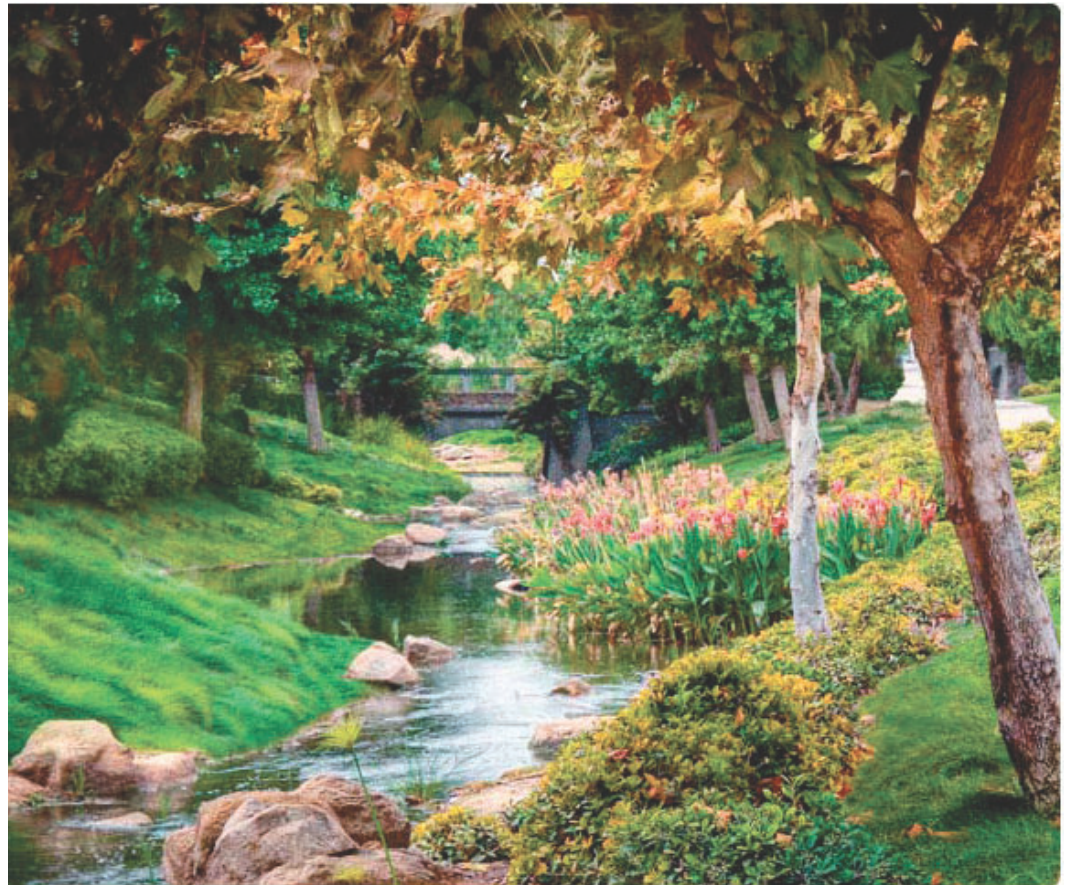
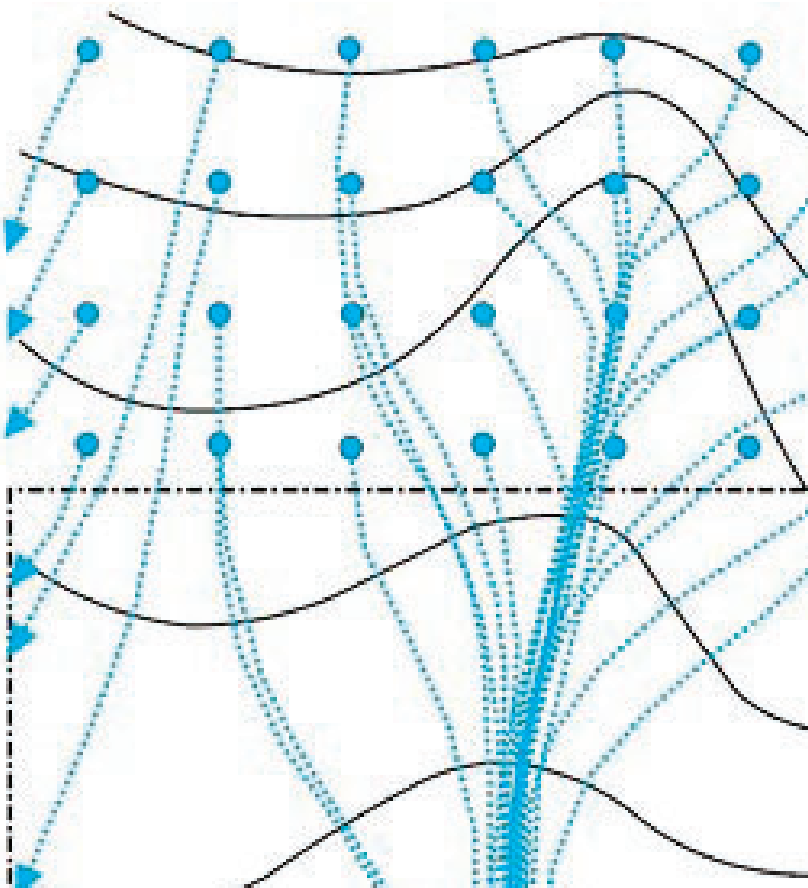
CATEGORY DEALS WITH CONSERVING HABITATS AND ECOSYSTEMS, REDEVELOPING DEGRADED SITES, AND CONNECTING TO MULTI-MODAL TRANSIT NETWORKS



RESEARCH

SITE DESIGN- WATER:

CATEGORY COVERS MANAGING PRECIPITATION ON AND OFF THE SITE, REDUCING WATER USE, AND DESIGNING FUNCTIONAL STORMWATER FEATURES.



RESEARCH

SITE DESIGN- SOIL AND VEGETATION:

CATEGORY COVERS USING APPROPRIATE PLANTS SUCH AS NATIVE AND SPECIAL STATUS PLANTS. IT ALSO COVERS REDUCING HEAT ISLAND EFFECTS AND USING PLANTS TO MINIMIZE ENERGY USES.



RESEARCH

SITE DESIGN- MATERIALS SELECTION:

CATEGORY COVERS USING REGIONAL AND RECYCLED MATERIALS FROM THE SITE.
MAINTAINING EXISTING SITE STRUCTURES AND SUPPORTING SUSTAINABILITY IN MATERIAL SELECTION.



RESEARCH

SITE DESIGN- HUMAN HEALTH AND WELL BEING:

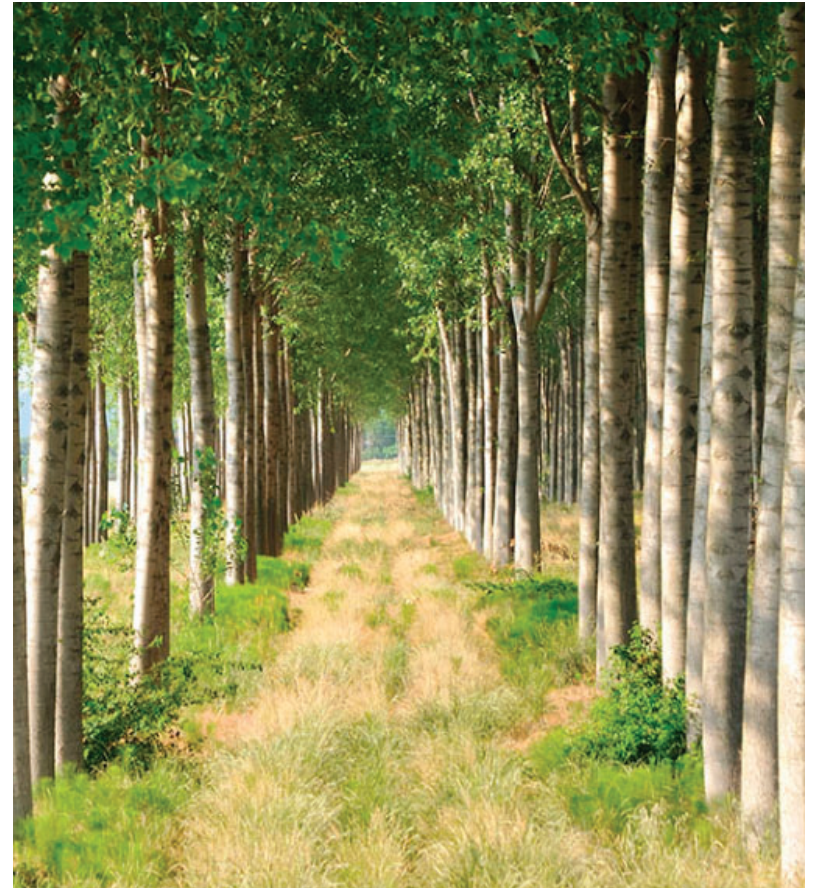
CATEGORY COVERS EVERYTHING YOU NEED TO MAKE A HEALTHY ENVIRONMENT. SOME SUBCATEGORIES INCLUDE SUPPORTING PHYSICAL ACTIVITY, SITE ACCESSIBILITY, AND MAINTAINING CULTURAL AND HISTORIC PLACES.



RESEARCH

SITE DESIGN- CONSTRUCTION:

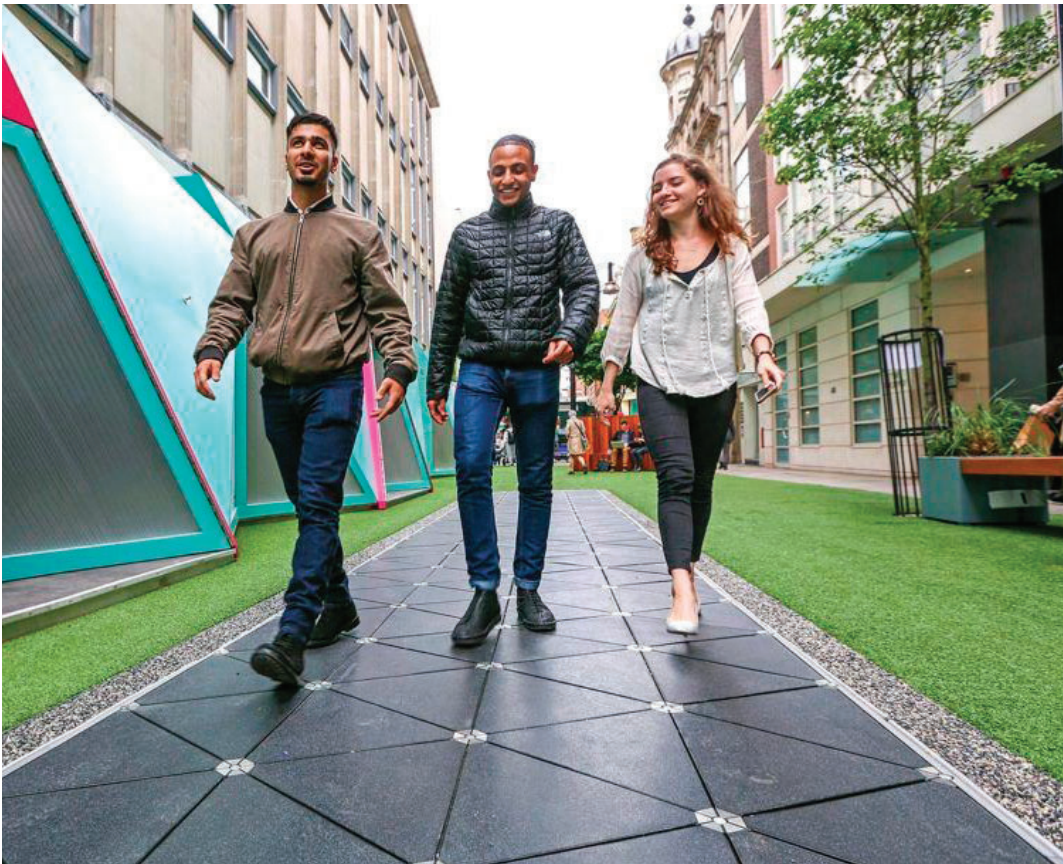
CATEGORY COVERS RESTORING DISTURBED SOILS, DIVERTING THE DISPOSAL OF MATERIALS, ROCKS, SOIL, AND VEGETATION, AND PROTECTING THE AIR QUALITY.



RESEARCH

SITE DESIGN- OPERATIONS AND MAINTENANCE:

CATEGORY COVERS RECYCLING WASTE AND ORGANIC MATTER, USING RENEWABLE RESOURCES FOR ELECTRICITY, AND REDUCING OUTDOOR ENERGY CONSUMPTION.



RESEARCH

SITE DESIGN- EDUCATION AND PERFORMANCE MONITORING:

CATEGORY COVERS PROMOTING SUSTAINABILITY AND AWARENESS TOWARDS THE SUBJECT AS WELL AS MONITORING THE PERFORMANCE OF THE SITE.



RESEARCH

CASE STUDY

BURBANK WATER AND POWER ECO CAMPUS





SITE CONTEXT

SITE CONTEXT



EXISTING SITE



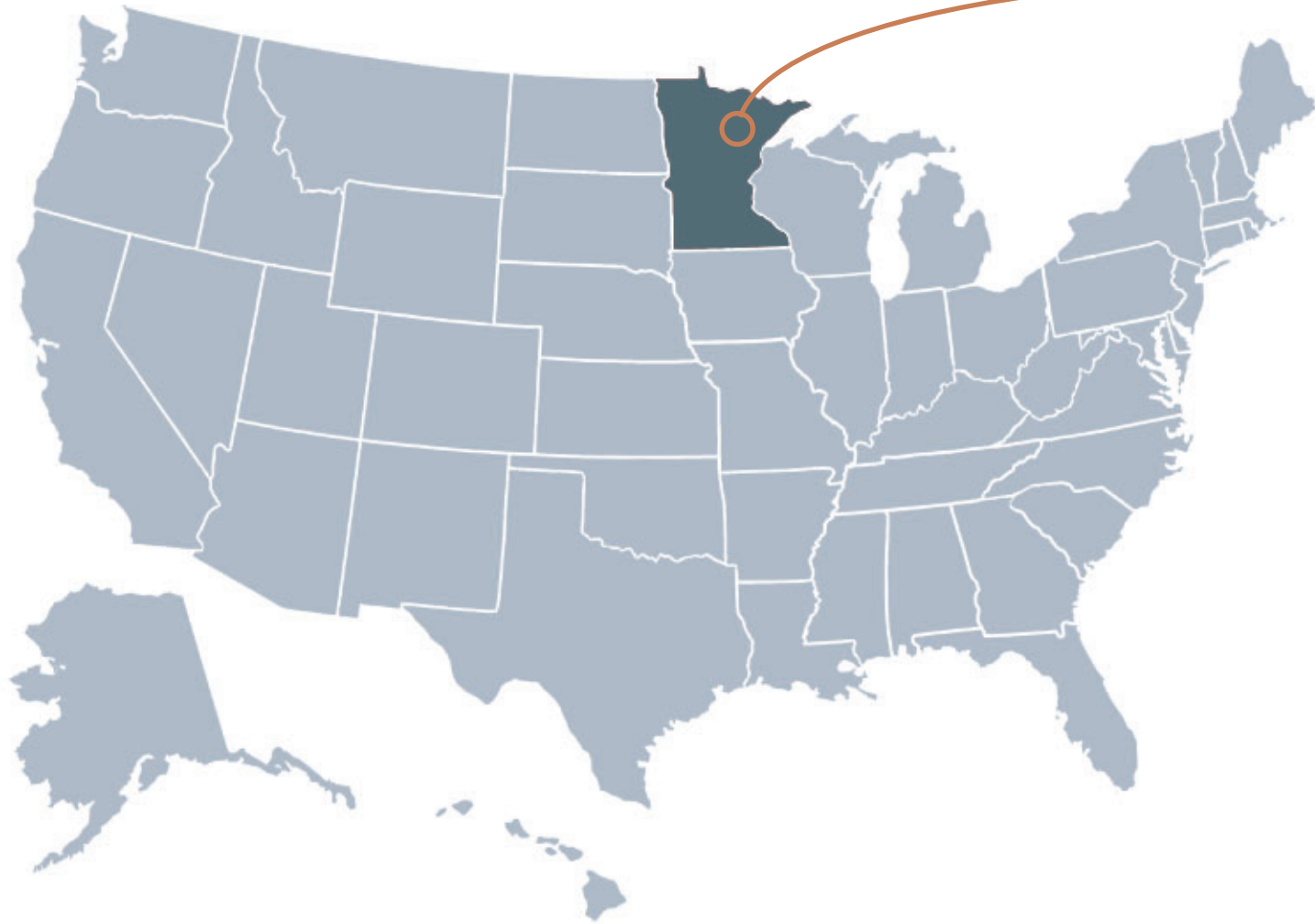
EXISTING SITE



SITE CONTEXT

SITE LOCATION

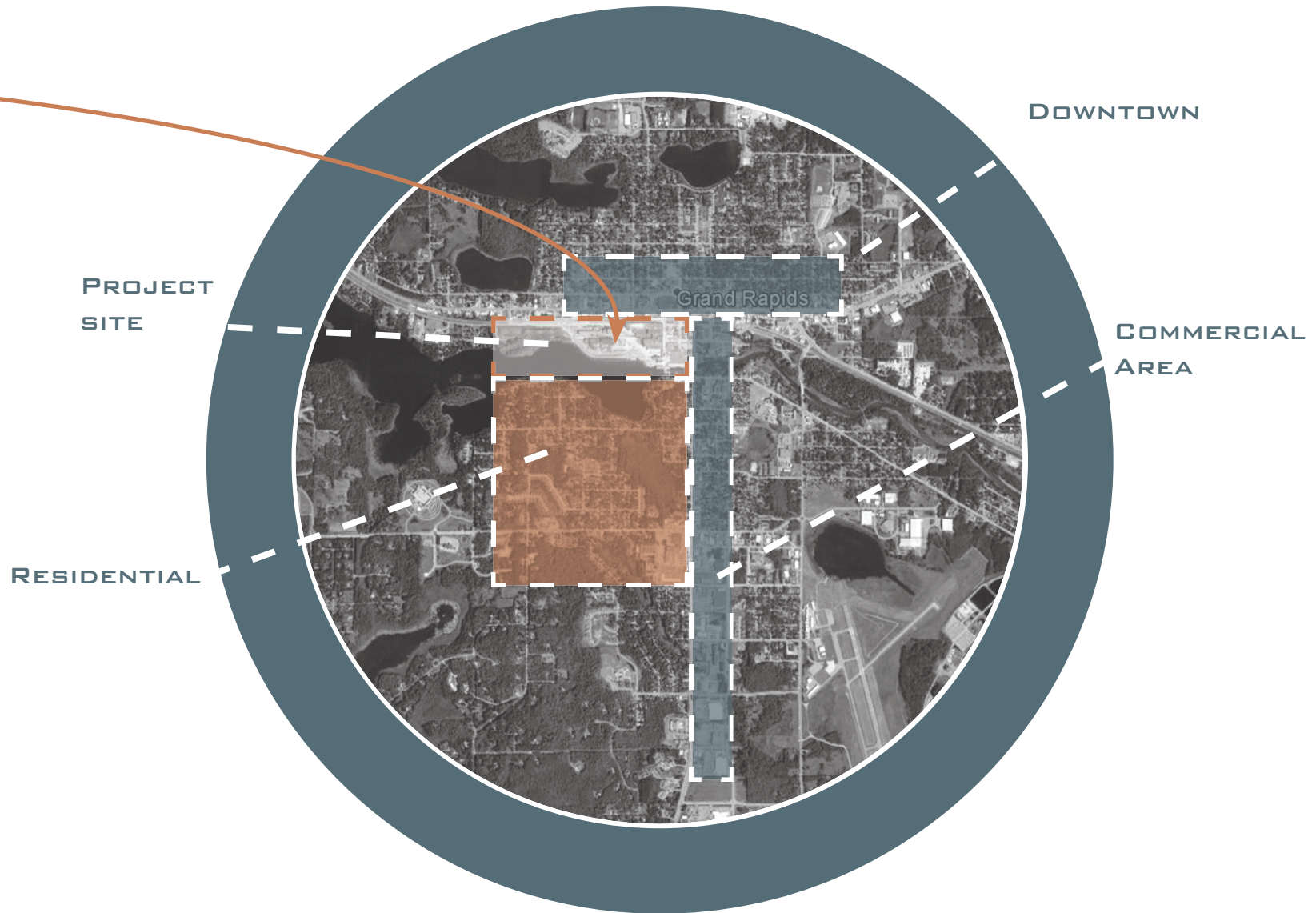
PROJECT SITE IS LOCATED IN GRAND RAPIDS, MINNESOTA



SITE CONTEXT

SITE LOCATION

SITE BORDERS THE MISSISSIPPI RIVER AND THE DOWNTOWN DISTRICT OF GRAND RAPIDS



SITE CONTEXT

AERIAL MAP



PROJECT SITE

DOWNTOWN

RESIDENTIAL
AREA

WHY THIS SITE?

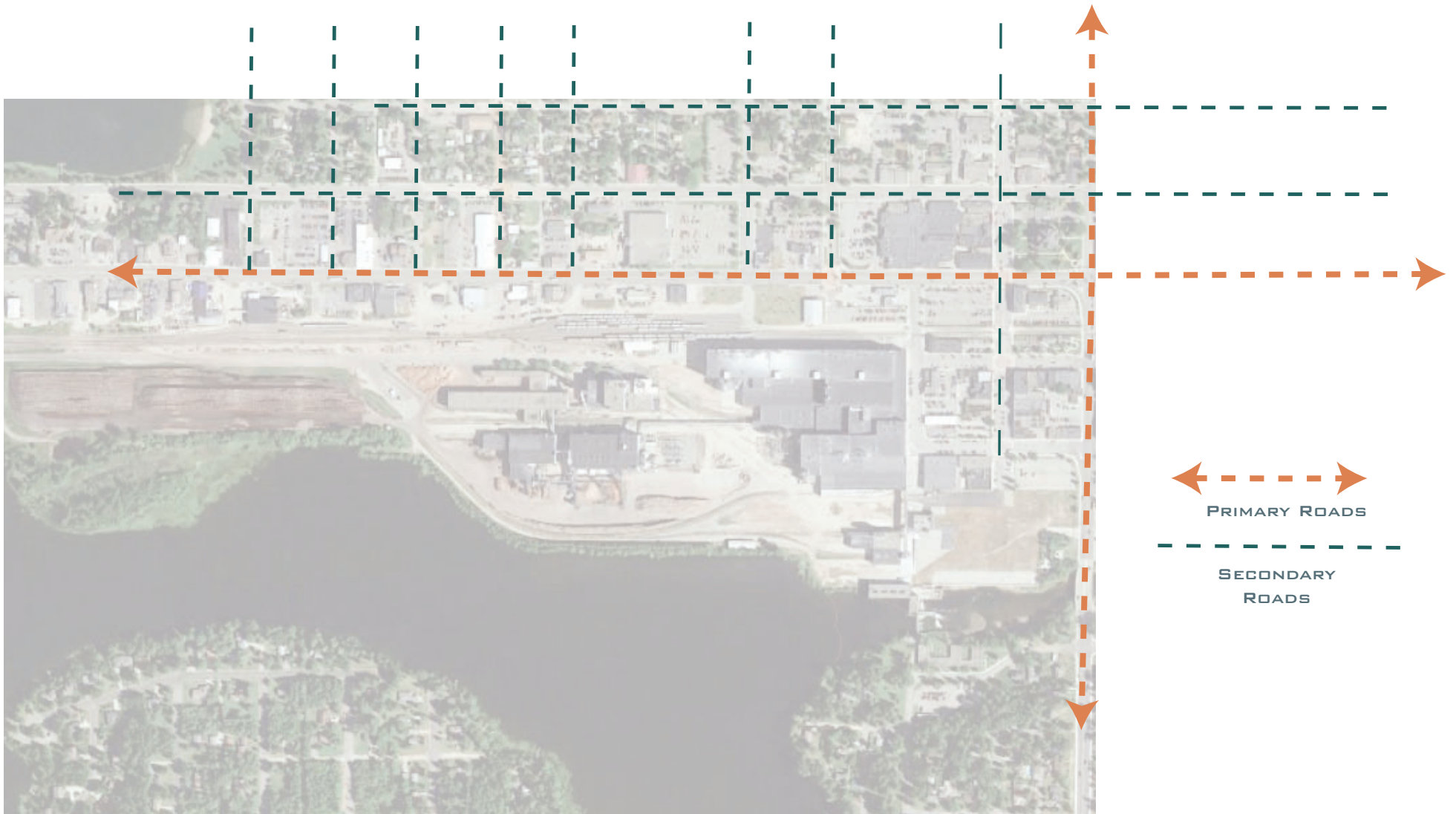
- FAMILIAR WITH THE CITY
- SITE SIGNIFICANCE TO THE CITY
- LOCATION OF THE SITE

SITE INVENTORY

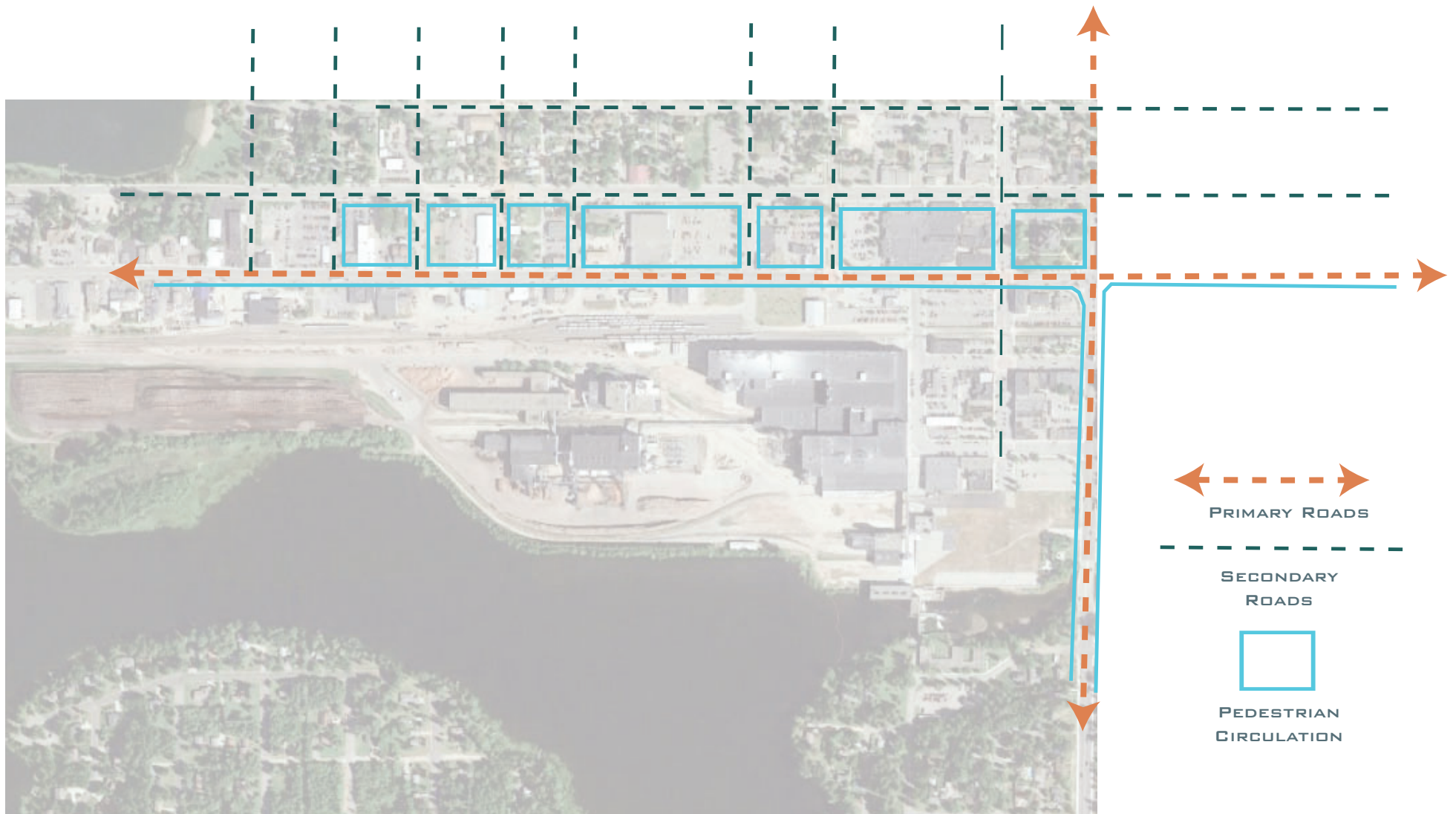
INVENTORY: CIRCULATION



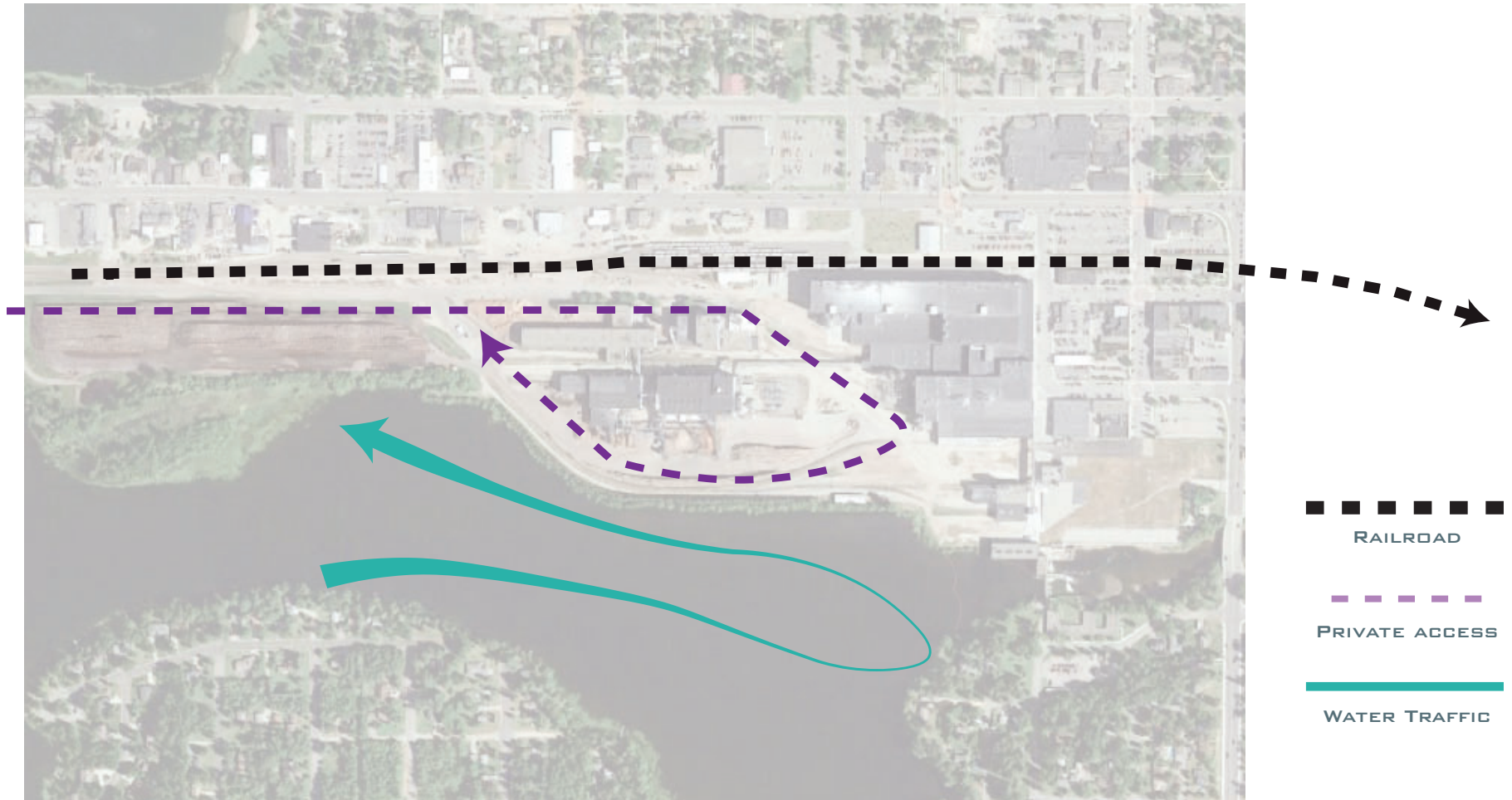
INVENTORY: CIRCULATION



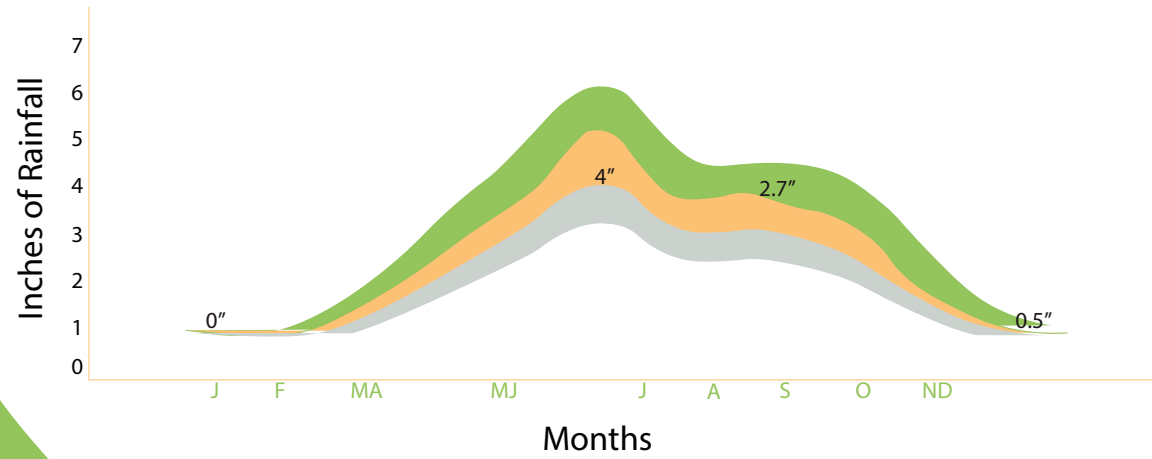
INVENTORY: CIRCULATION



INVENTORY: CIRCULATION



INVENTORY: CLIMATE



WIND DIRECTION



SUN PATH

RIVER FLOW

INVENTORY: SITE MATERIALS



PROJECT GOALS

- INCREASE THE SUSTAINABILITY OF THE SITE
- CREATE OPPORTUNITIES FOR THE PUBLIC
- ALLOW ACCESS AND CIRCULATION FROM MULTIPLE POINTS

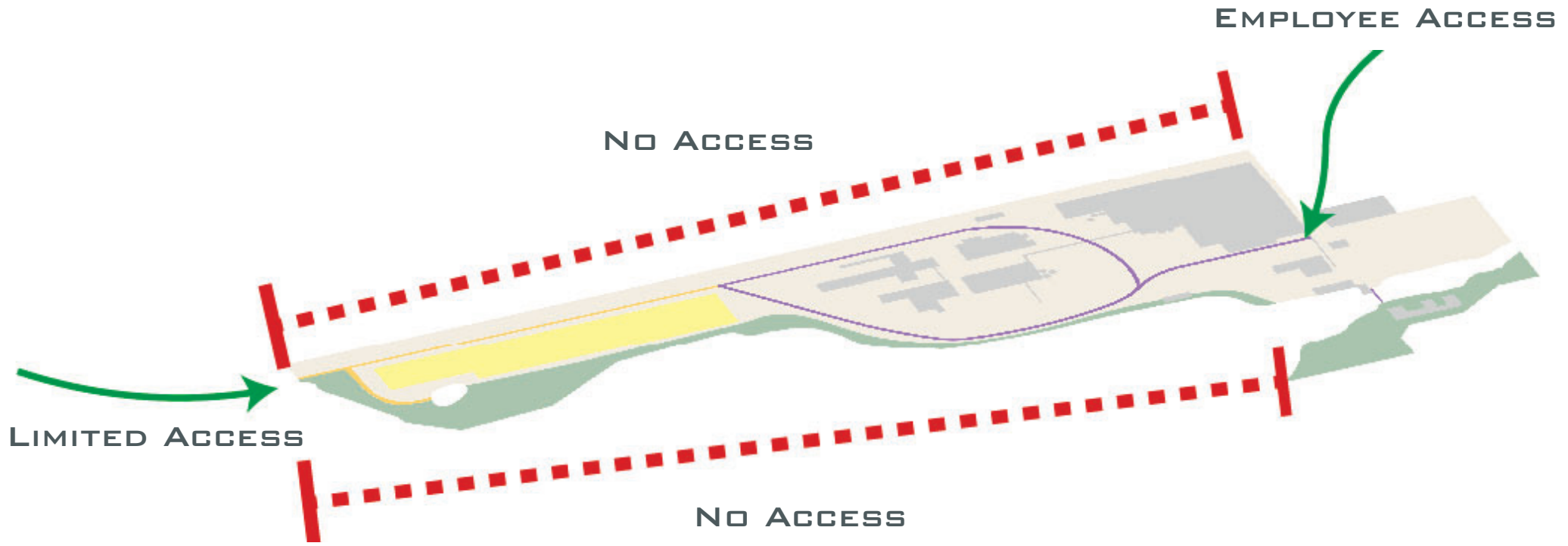
PROJECT VISION

VISION IS TO TRANSFORM THE BLANDIN SITE INTO A MULTI-USE SUSTAINABLE DEVELOPMENT THAT CELEBRATES THE PAST OF THE SITE WHILE GIVING THE CITY A GREENER FUTURE.



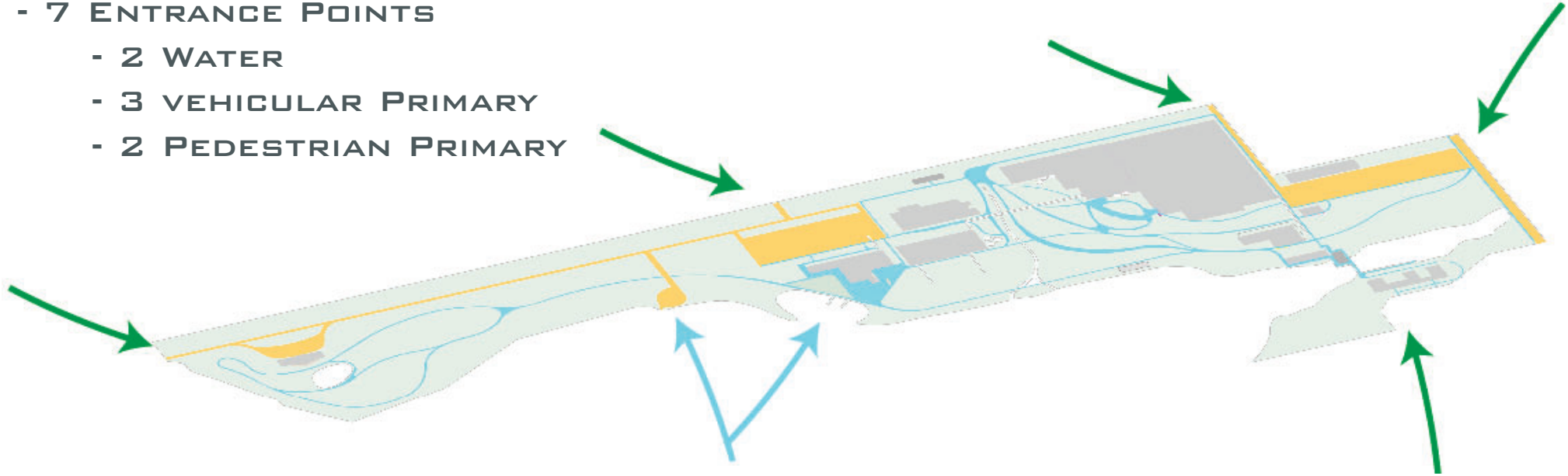
ANALYSIS

ANALYSIS:
CIRCULATION
CURRENT STATUS

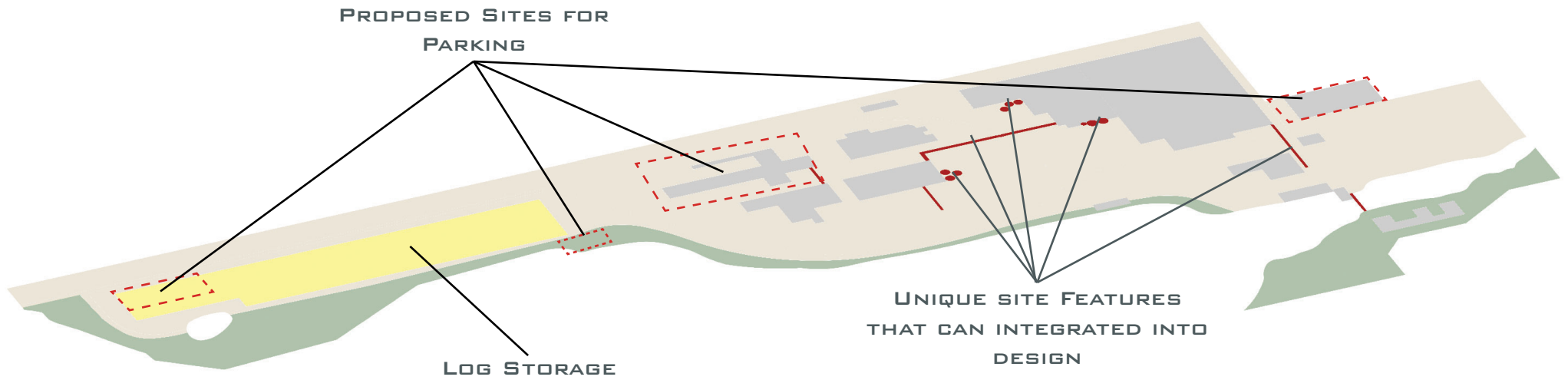


ANALYSIS: CIRCULATION PROPOSED

- 7 ENTRANCE POINTS
 - 2 WATER
 - 3 VEHICULAR PRIMARY
 - 2 PEDESTRIAN PRIMARY



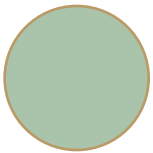
ANALYSIS: SUSTAINABILITY CURRENT STATUS



IMPERVIOUS
SURFACE



PREVIOUS
SURFACE



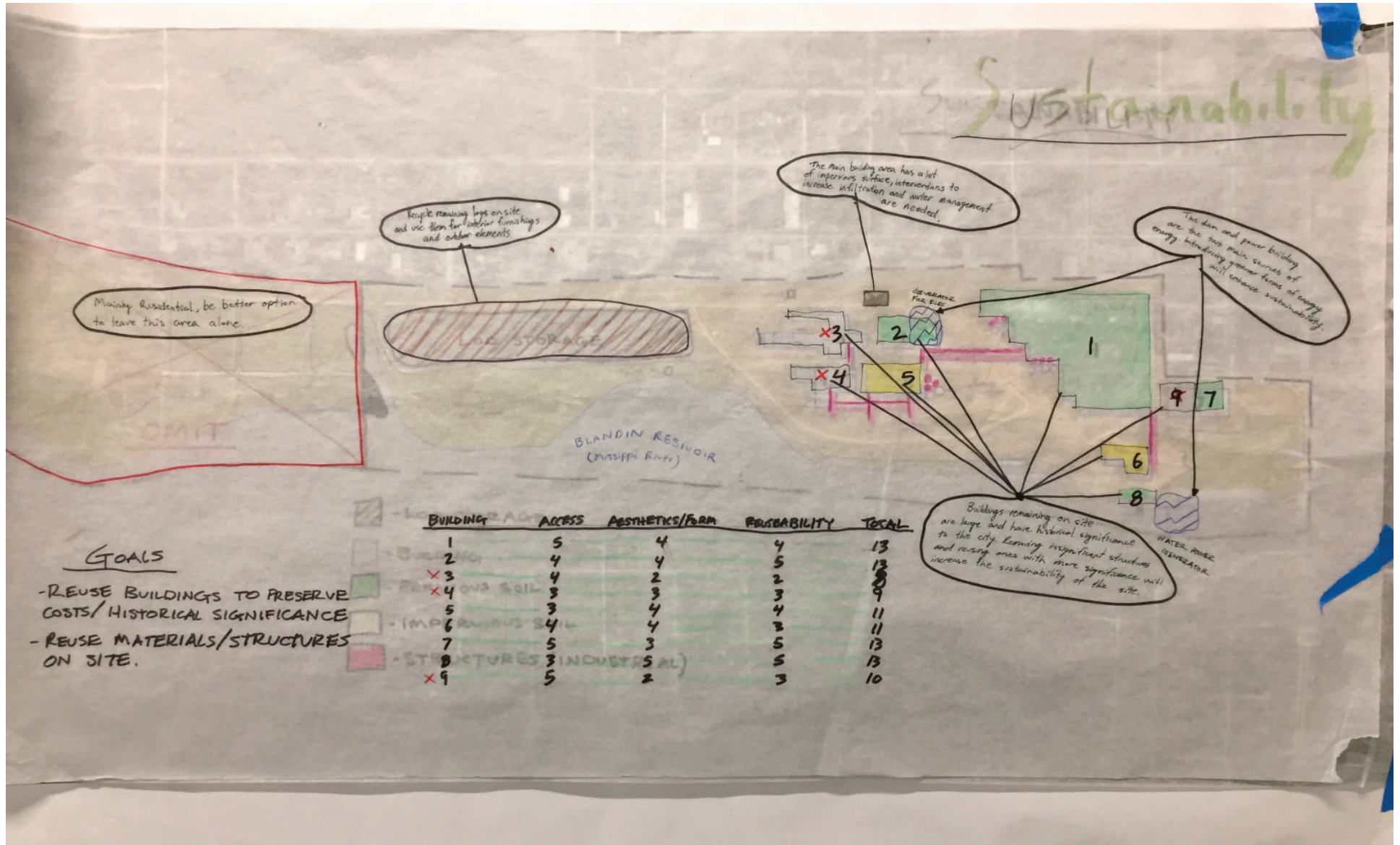
INDUSTRIAL
BUILDINGS



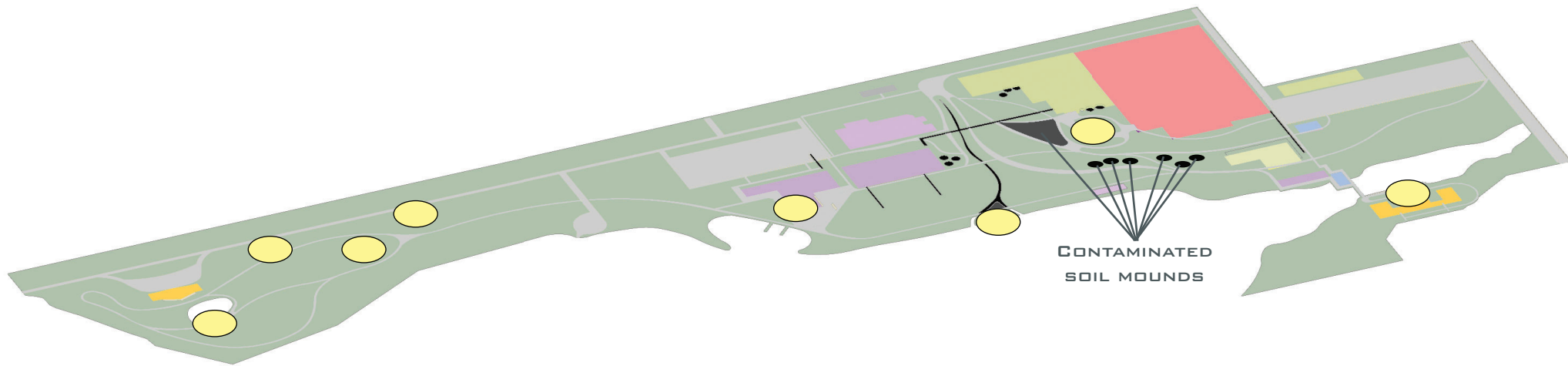
ANALYSIS:

SUSTAINABILITY

CURRENT STATUS



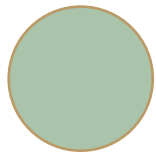
ANALYSIS: SUSTAINABILITY PROPOSED



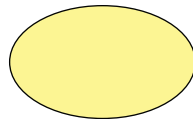
IMPERVIOUS
SURFACE



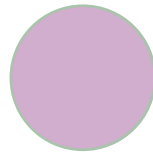
PREVIOUS
SURFACE



LOG DISPERSAL
SITES



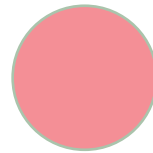
MIXED USE
BUILDING



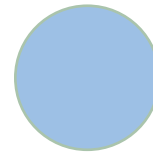
OFFICE
BUILDING



EVENT
BUILDING



INDUSTRIAL
BUILDING

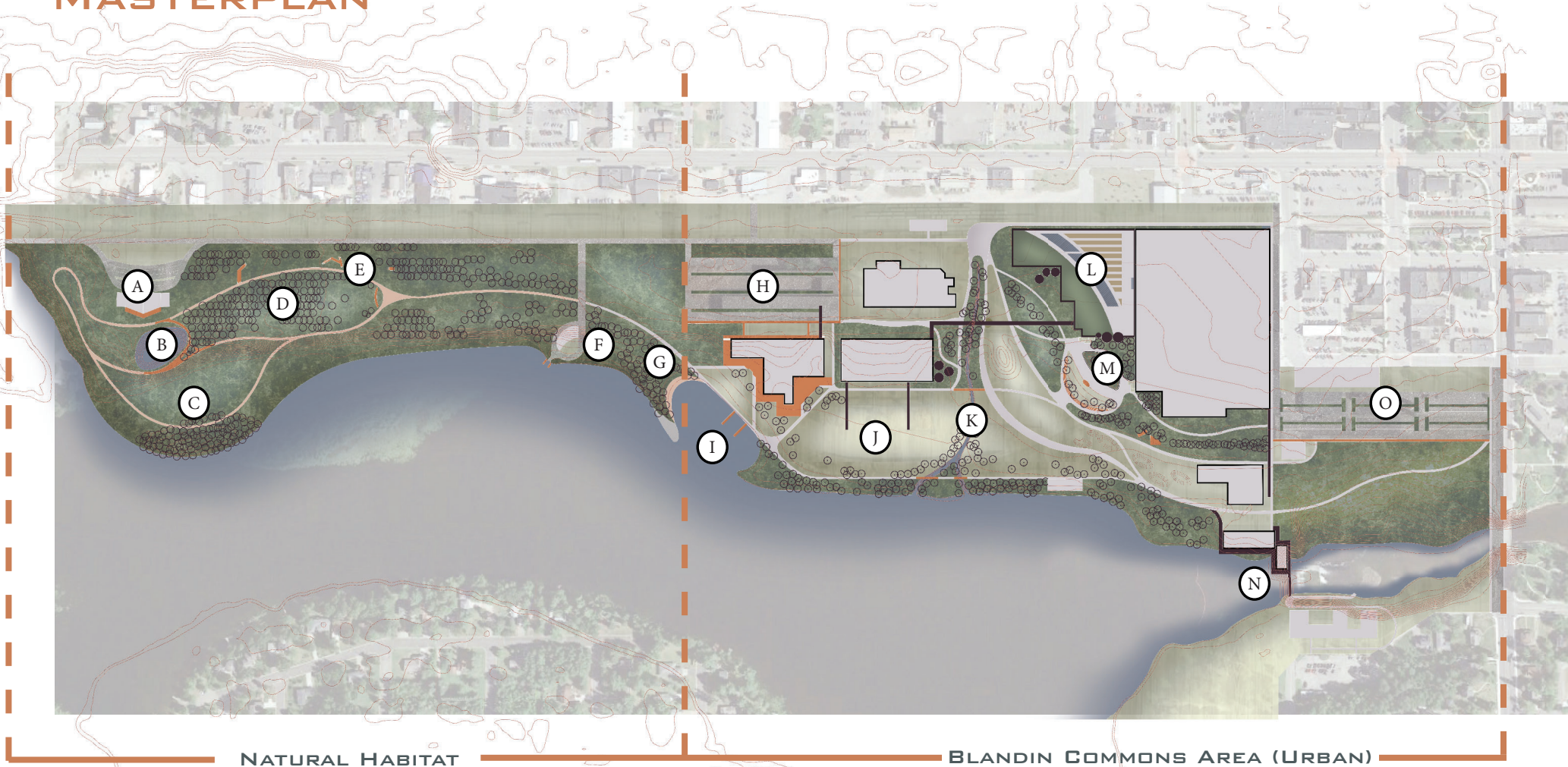




PROJECT

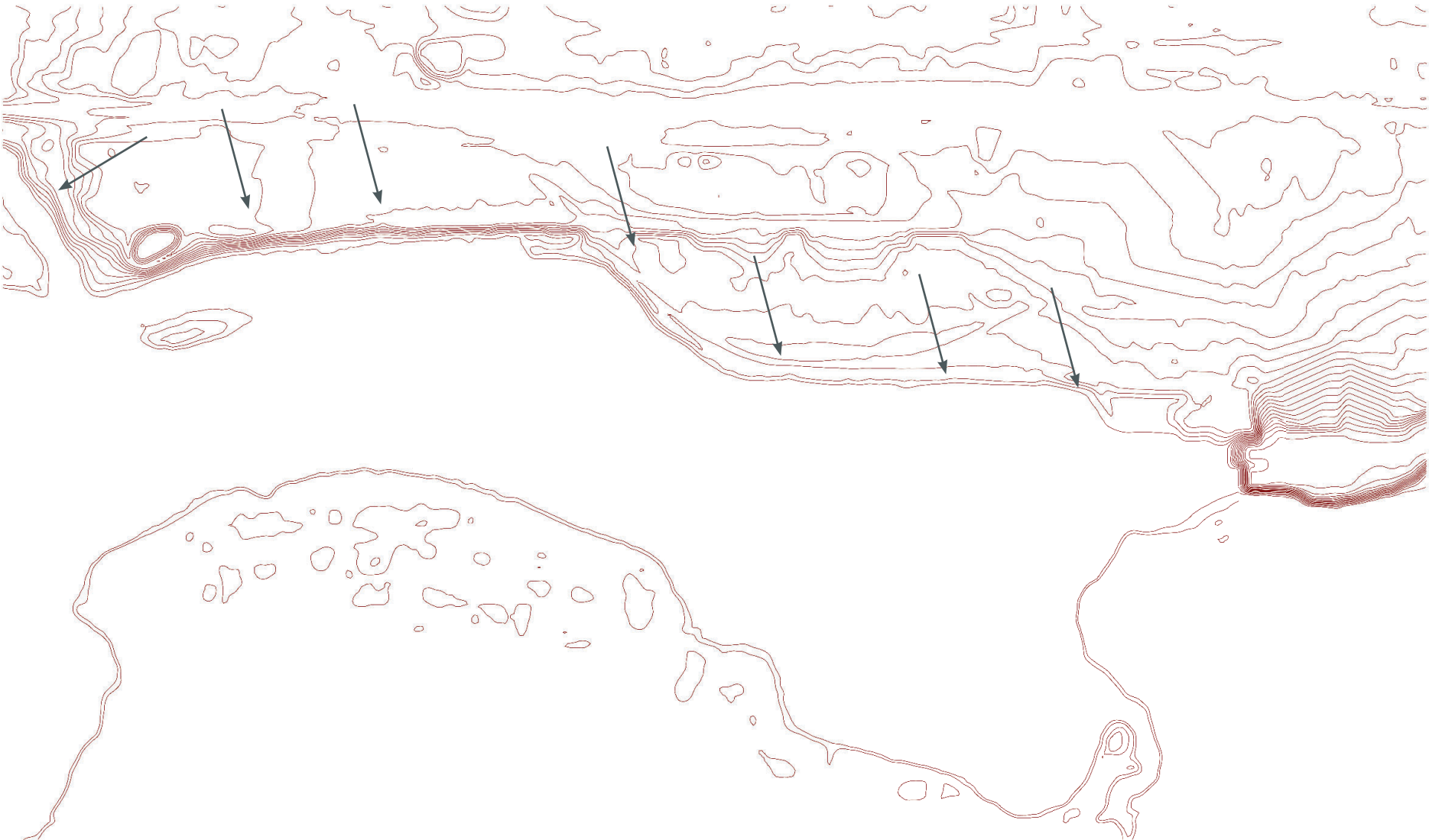
PROPOSAL

SITE DESIGN: MASTERPLAN

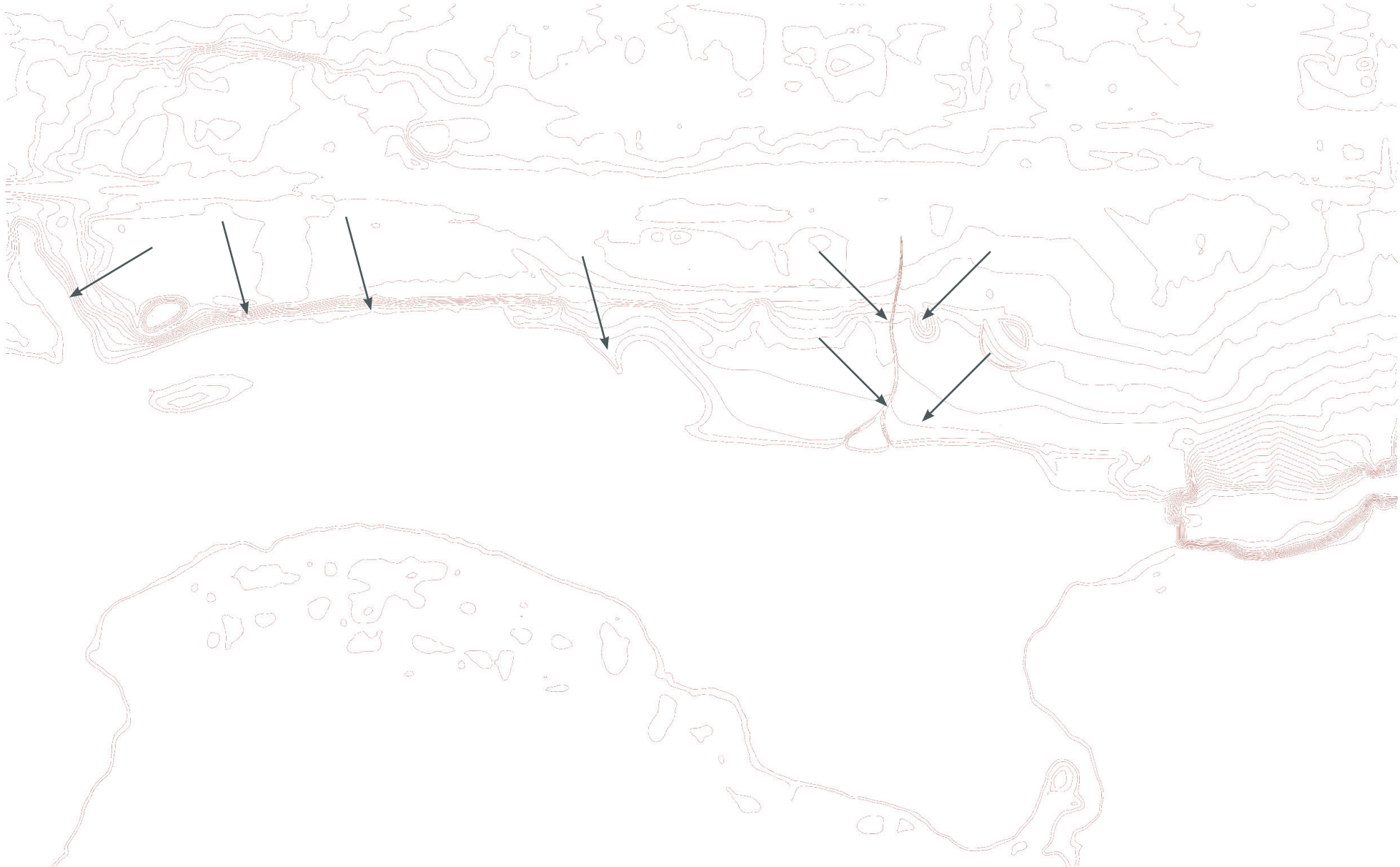


- | | | |
|-----------------------|----------------------|-----------------------|
| (A) Museum of Science | (F) Boat Launch | (K) Stormwater Stream |
| (B) Retention Pond | (G) Public Beach | (L) Green Roof |
| (C) Wetland | (H) New Parking | (M) Amphitheater |
| (D) Aspen Plantings | (I) Pier | (N) Pedestrian Bridge |
| (E) Log structures | (J) Open Green Space | (O) New East Parking |

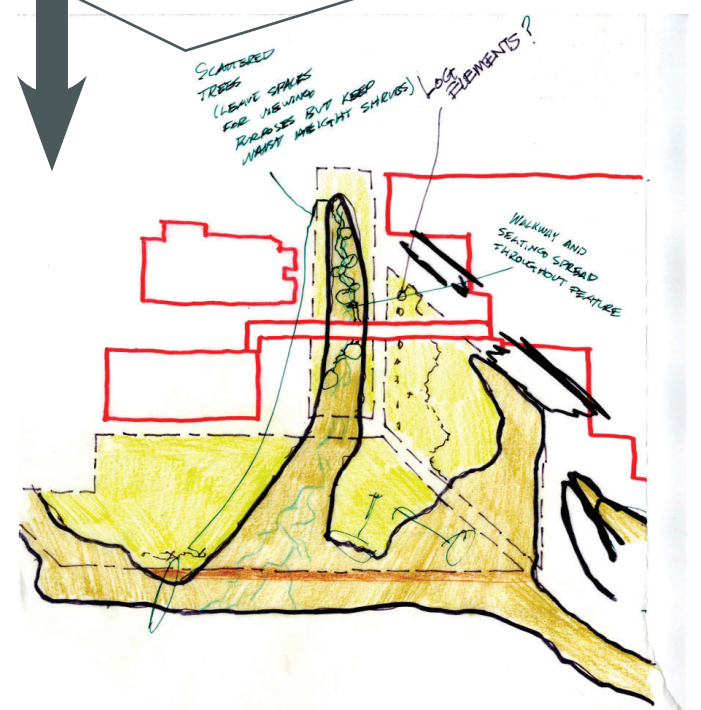
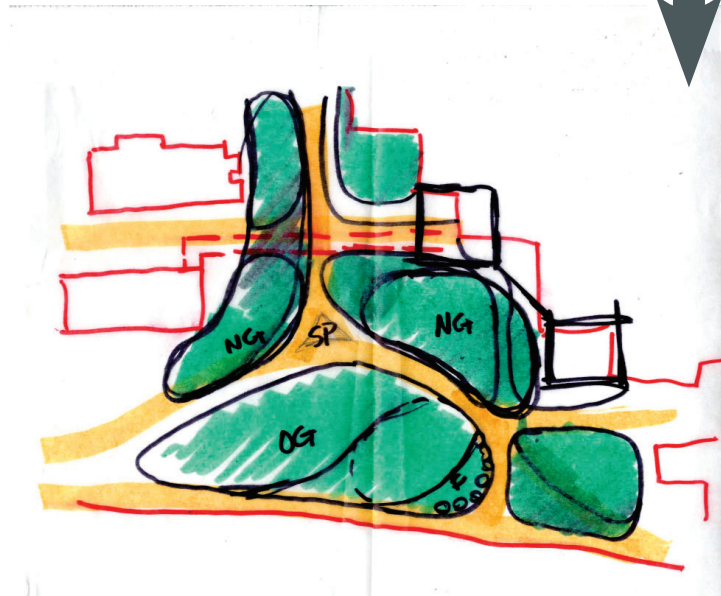
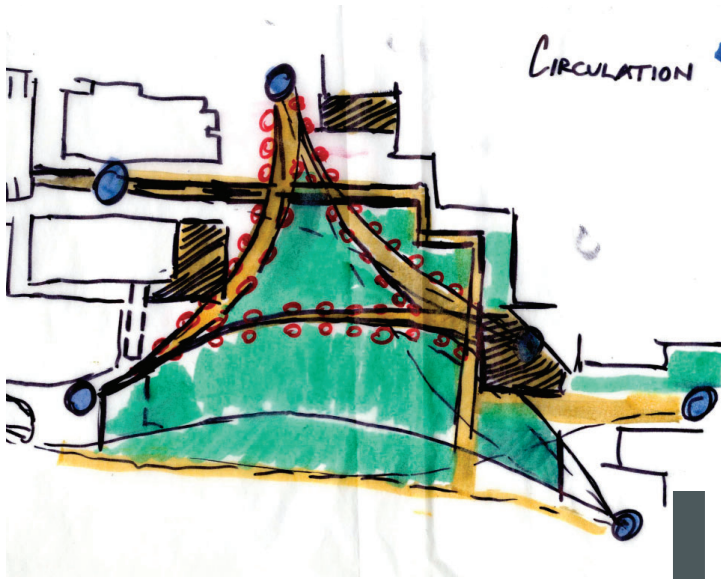
SITE DESIGN:
ORIGINAL CONTOURS



SITE DESIGN:
PROPOSED CONTOURS

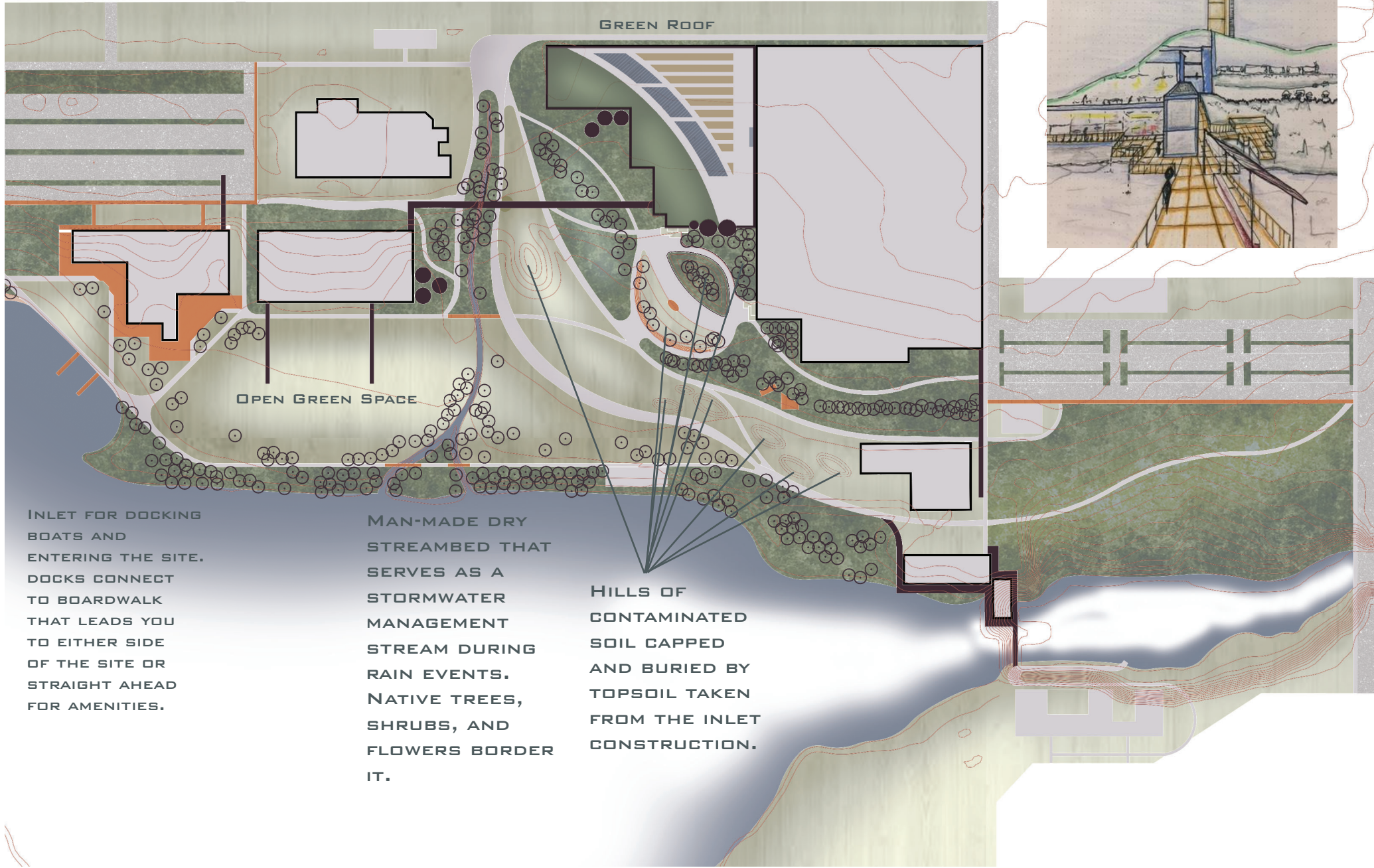
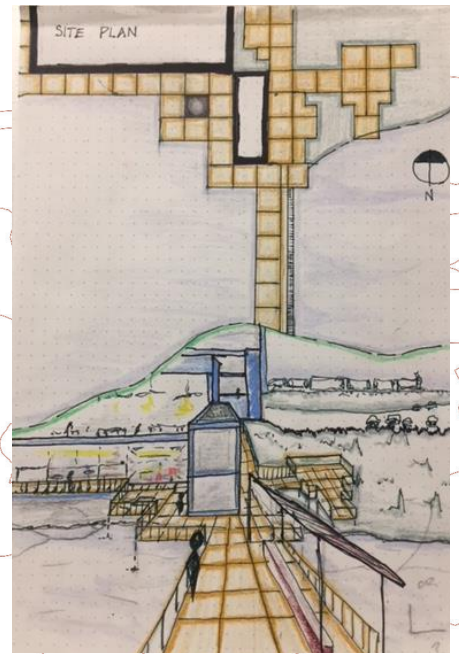


SITE DESIGN: BLANDIN COMMONS AREA DESIGN DEVELOPMENT



← HYBRID OF TWO CONCEPTS →

SITE DESIGN: BLANDIN COMMONS AREA



INLET FOR DOCKING BOATS AND ENTERING THE SITE. DOCKS CONNECT TO BOARDWALK THAT LEADS YOU TO EITHER SIDE OF THE SITE OR STRAIGHT AHEAD FOR AMENITIES.

MAN-MADE DRY STREAMBED THAT SERVES AS A STORMWATER MANAGEMENT STREAM DURING RAIN EVENTS. NATIVE TREES, SHRUBS, AND FLOWERS BORDER IT.

HILLS OF CONTAMINATED SOIL CAPPED AND BURIED BY TOPSOIL TAKEN FROM THE INLET CONSTRUCTION.

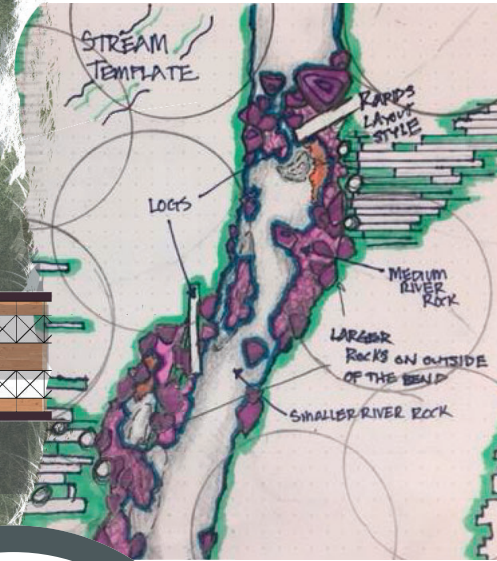
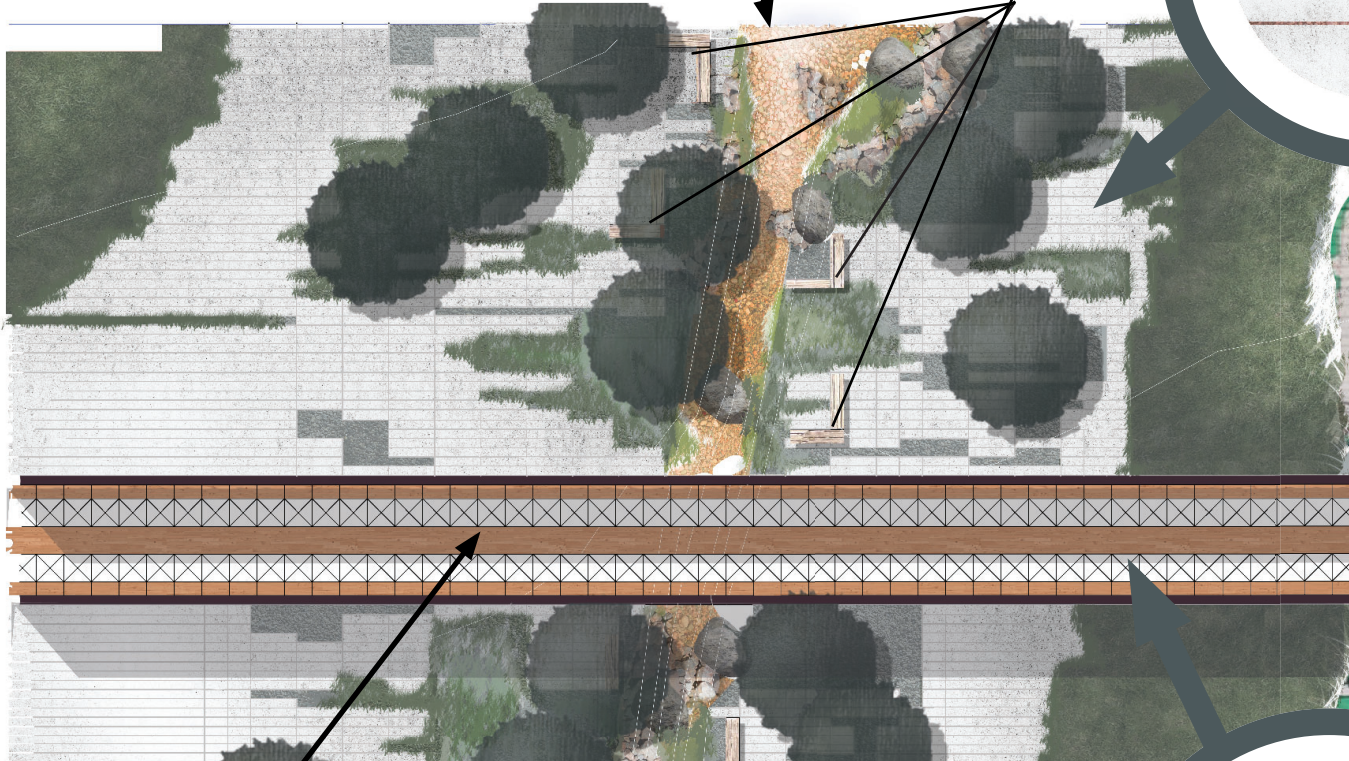
SITE DESIGN: BLANDIN COMMONS STREAM SITE PLAN

STONE PAVING WITH
PERMEABLE GRAVEL
BETWEEN FOR
INFILTRATION



STORMWATER CREEK

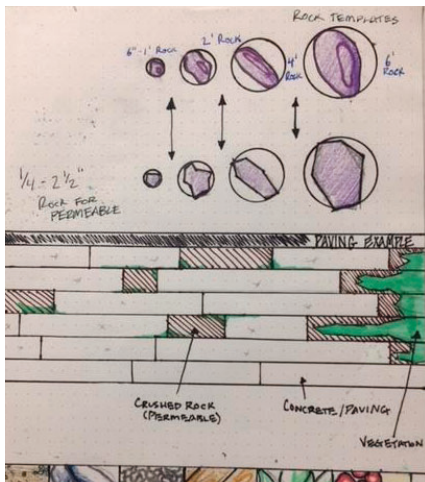
SEATING



OVERHEAD WALKWAY



PAVEGEN TILES
THAT COLLECT
KINETIC ENERGY FOR
ELECTRICITY



SITE DESIGN:

BLANDIN COMMONS AREA

PLAZA SECTIONS



EXISTING TRANSPORT STRUCTURE IS CONNECTING TWO BUILDINGS SO IT WILL BE TRANSFORMED INTO A SKY-WALK CUTTING ACROSS THE PLAZA AND STREAM.

NORTH FACING STREAM SECTION

EAST FACING STREAM SECTION



FORMER STORAGE CYLINDERS WILL BE REPURPOSED INTO VIEWING TOWERS AND CIRCULATE PEOPLE TO AND FROM THE GREEN ROOF

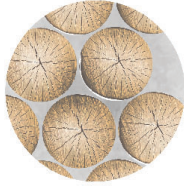
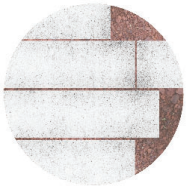


ENCLOSED ELEVATED WALK

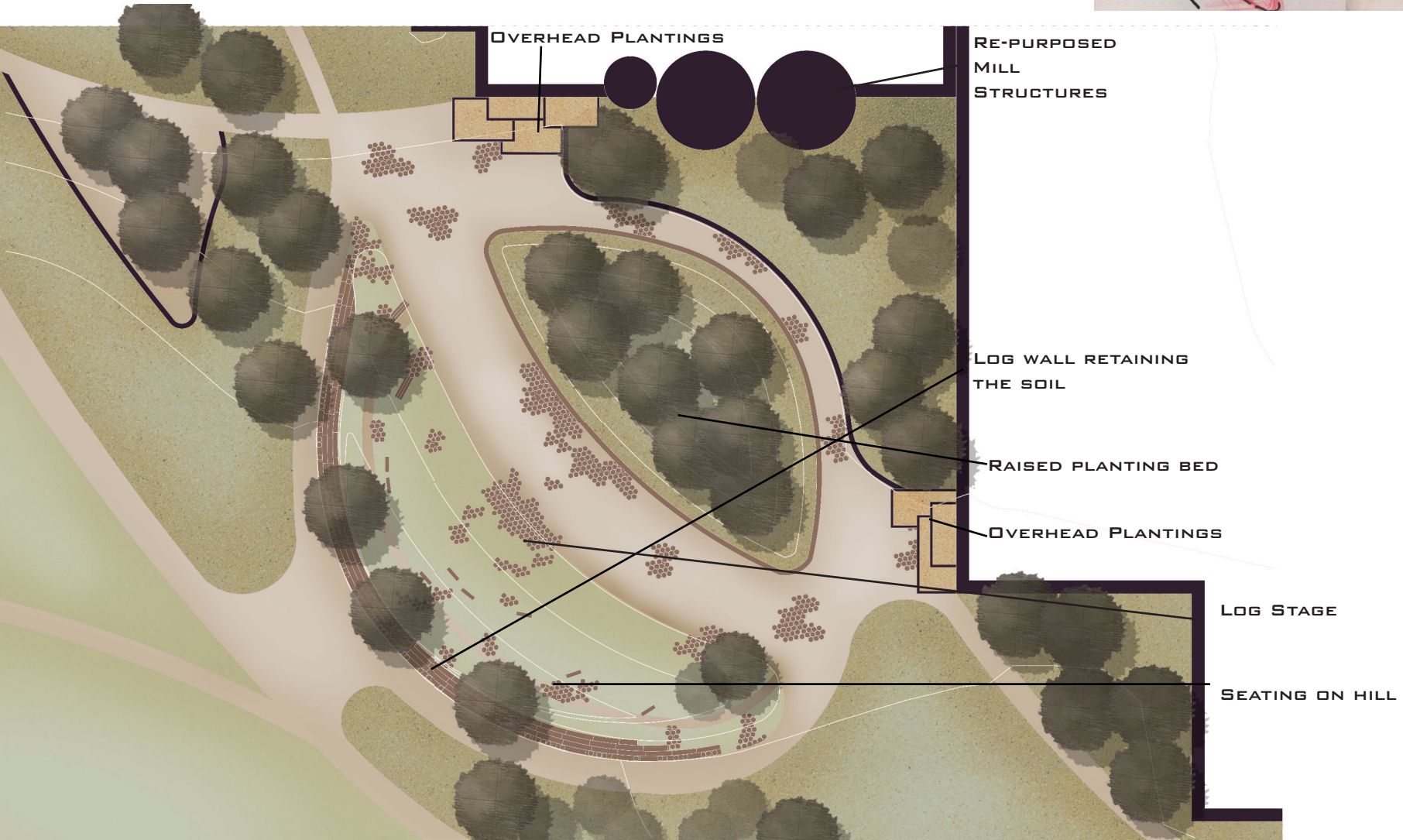
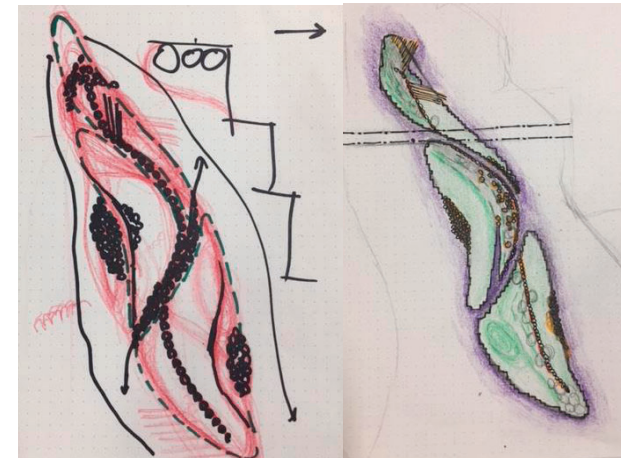
REPURPOSED MILL STRUCTURES

NATIVE PLANTINGS

SITE DESIGN: BLANDIN COMMONS AREA AMPHITHEATER SITE PLAN



STONE PAVING CONCRETE CAST LOG CONCRETE
PAVING



SITE DESIGN:
BLANDIN COMMONS AREA
AMPHITHEATER PERSPECTIVE



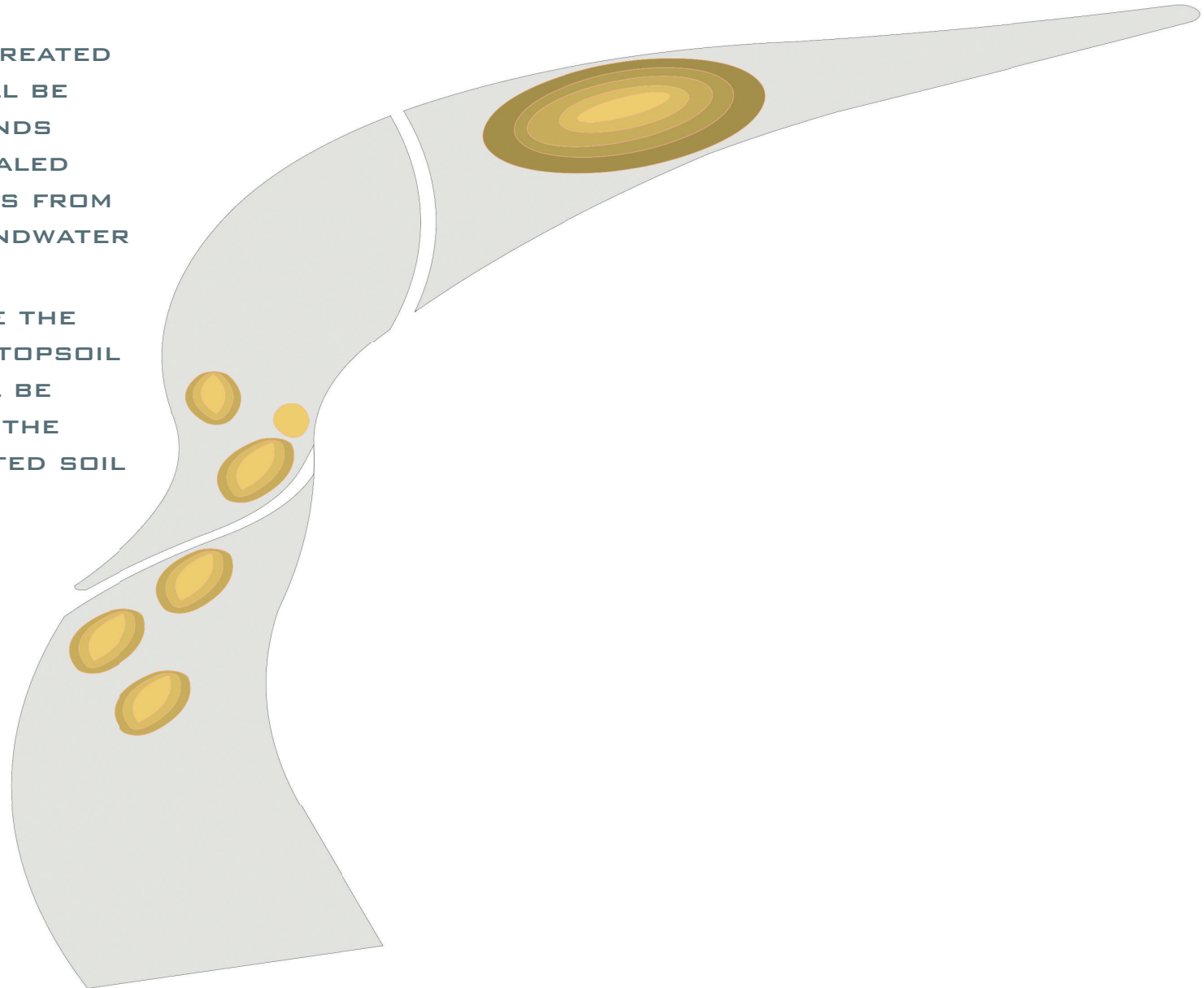
SITE DESIGN:

BLANDIN COMMONS AREA

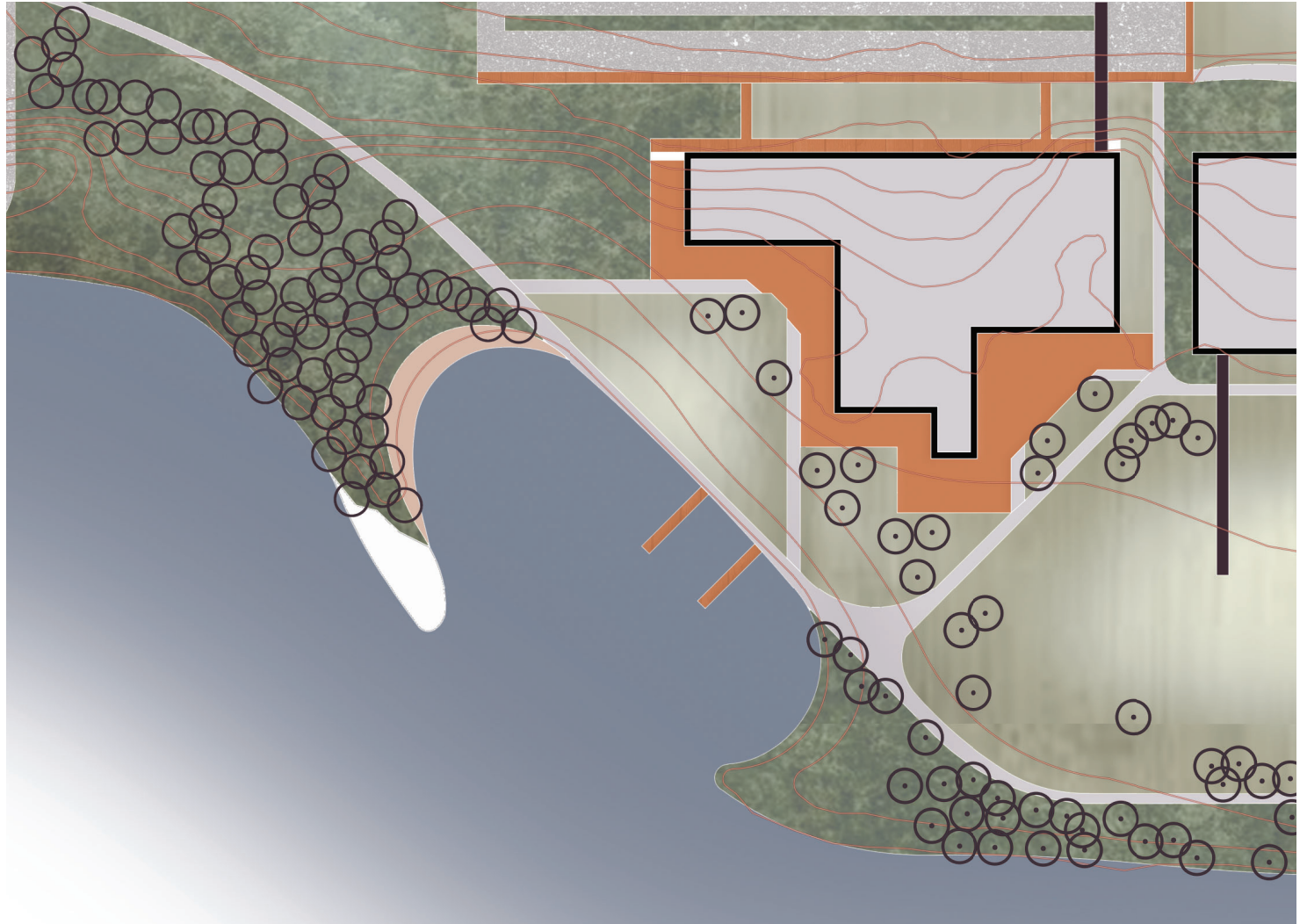
MOUND FEATURES

-SOILS THAT CANNOT BE TREATED BY PHYTOREMEDIATION WILL BE CONCENTRATED INTO MOUNDS THAT ARE CAPPED AND SEALED TO PREVENT CONTAMINATES FROM LEECHING INTO THE GROUNDWATER

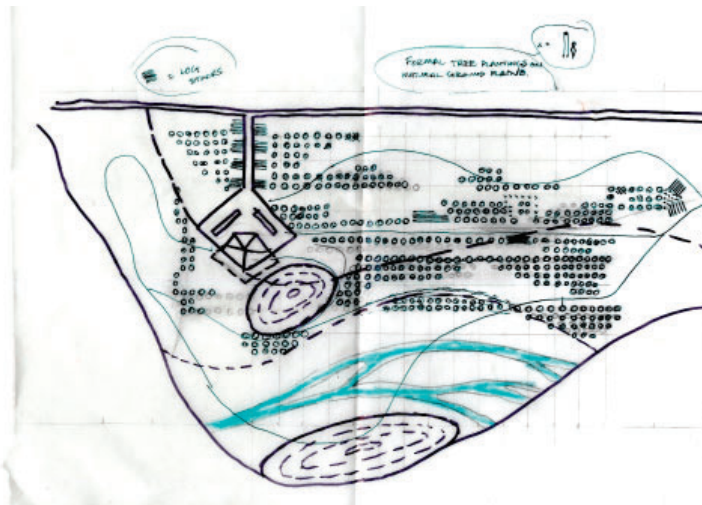
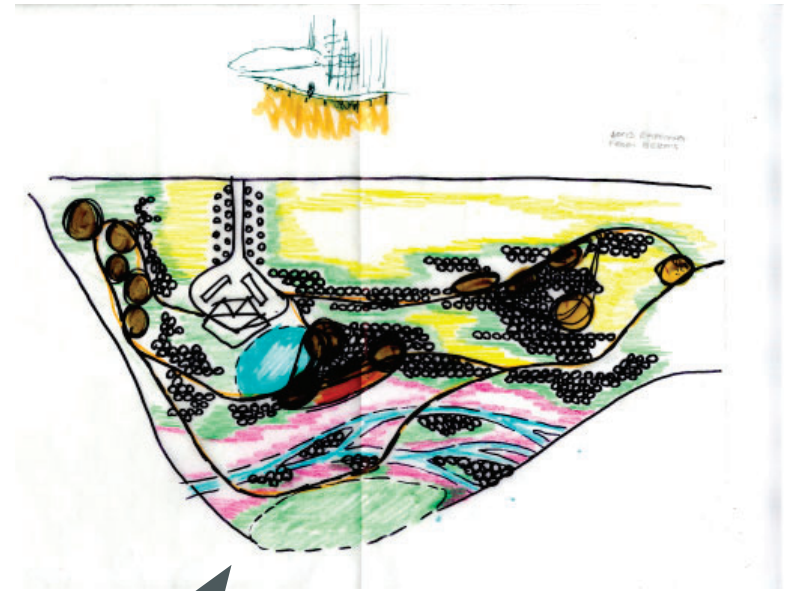
-SOIL REMOVED TO CREATE THE INLET WILL BE USED AS A TOPSOIL ON THE MOUNDS AND WILL BE DISTRIBUTED TO RESTORE THE AREAS WHERE CONTAMINATED SOIL WAS COLLECTED.



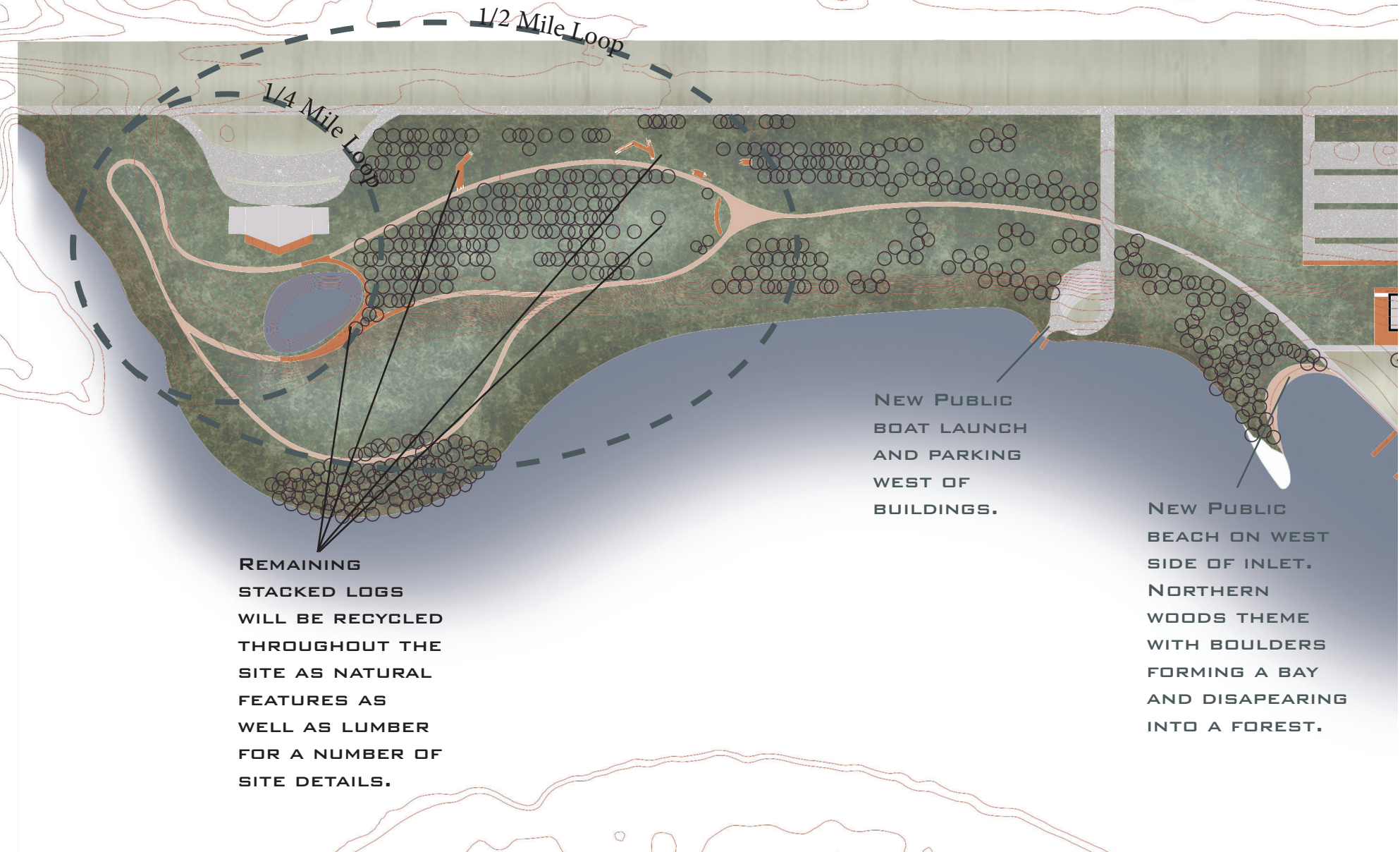
SITE DESIGN: BLANDIN COMMONS AREA INLET AND BEACH



SITE DESIGN: NATURAL HABITAT DESIGN DEVELOPMENT

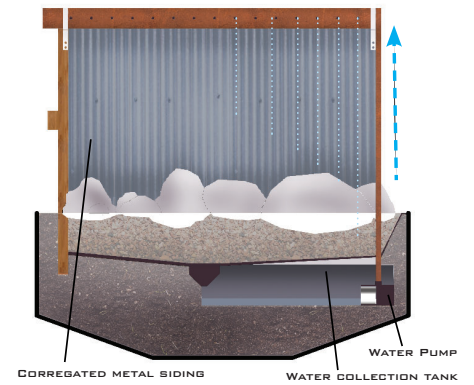
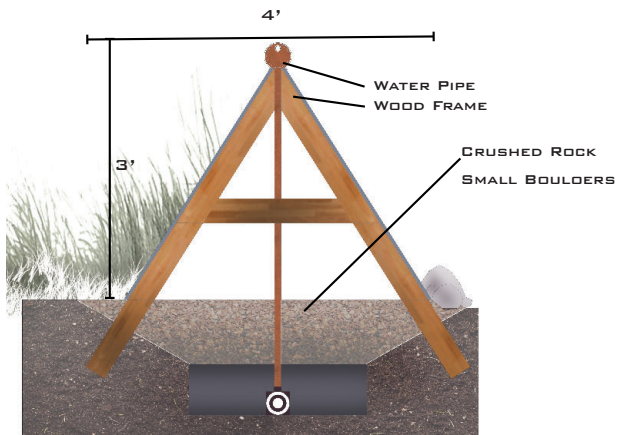
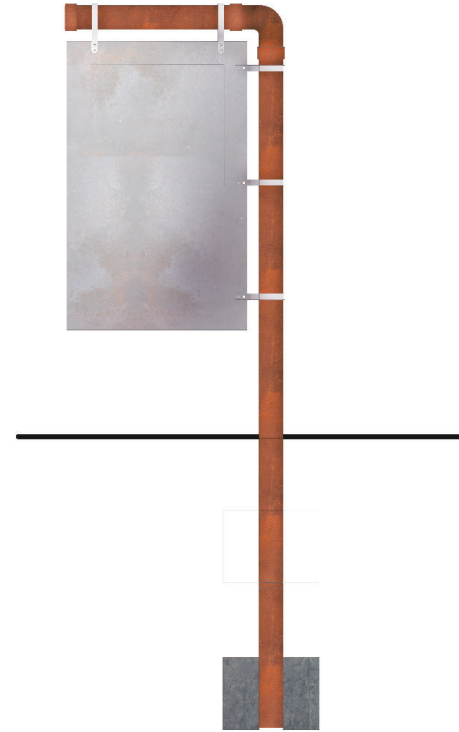
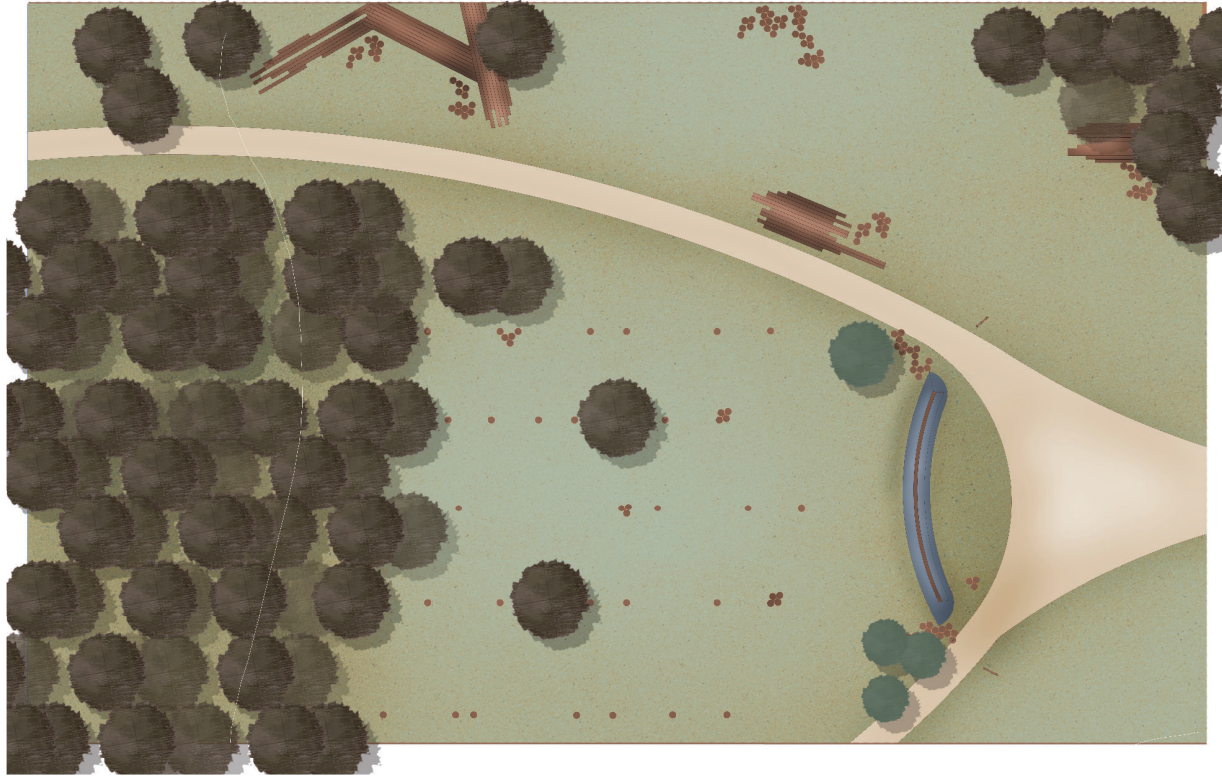


SITE DESIGN: NATURAL HABITAT

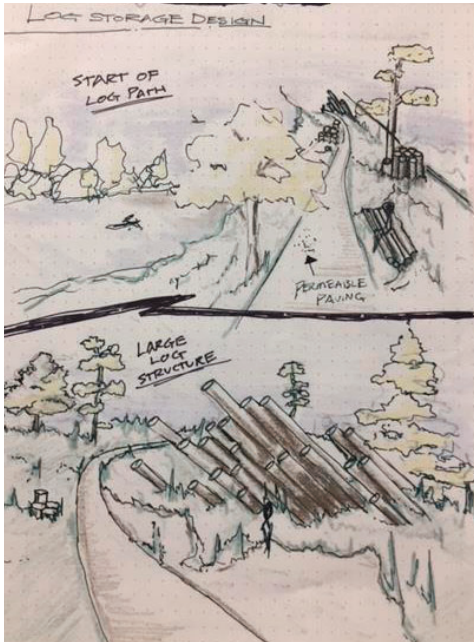


SITE DESIGN: NATURAL HABITAT

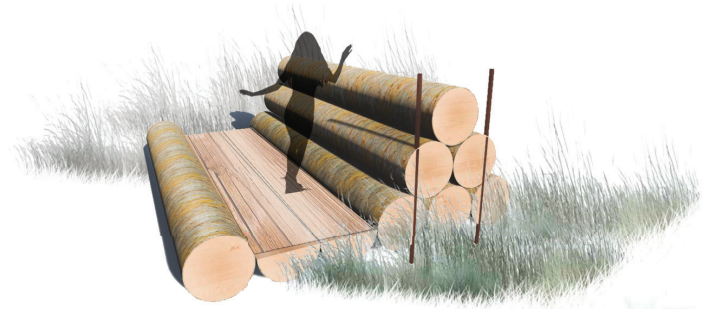
SITE ENTRANCE SITE PLAN



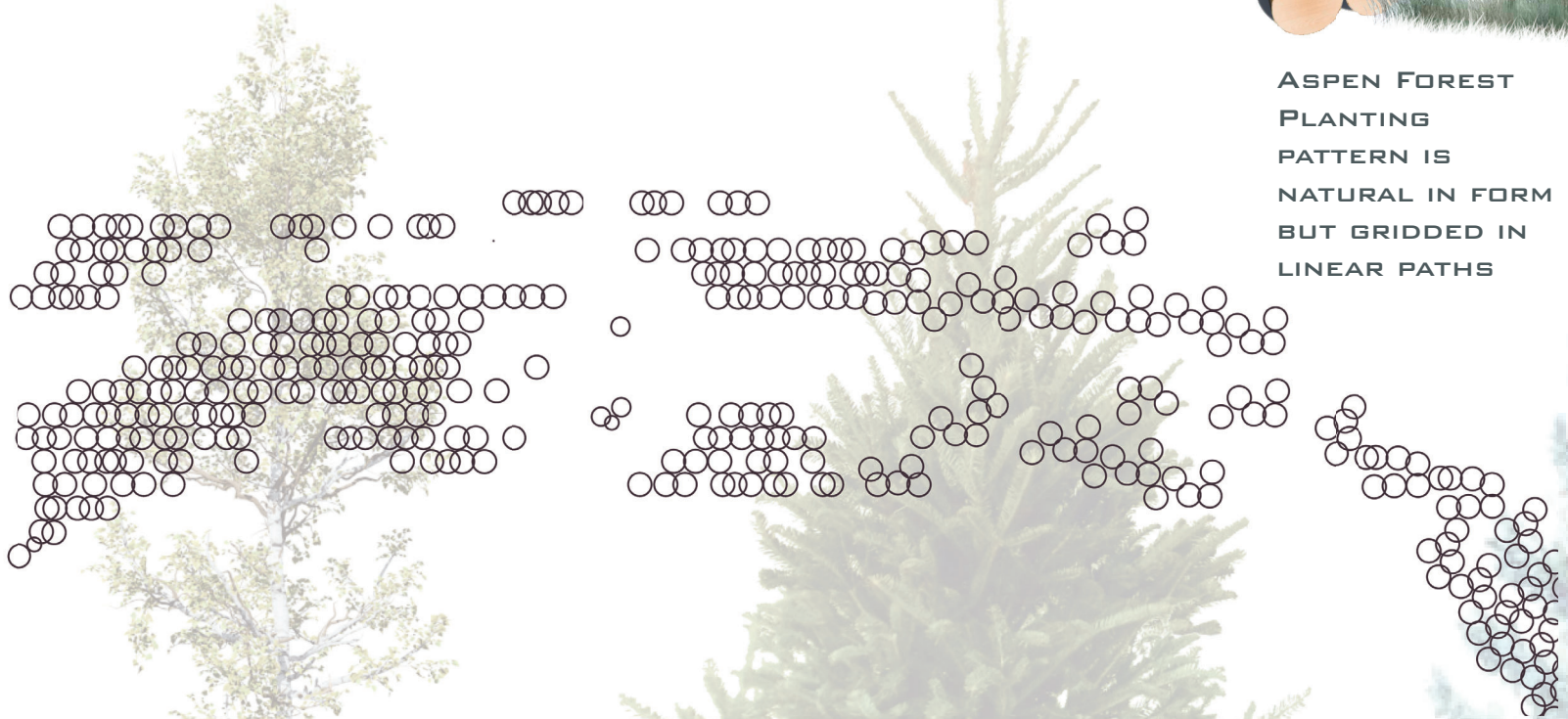
SITE DESIGN: NATURAL HABITAT SITE ENTRANCE PERSPECTIVE



SITE DESIGN: NATURAL HABITAT TREE PLANTINGS



ASPEN FOREST
PLANTING
PATTERN IS
NATURAL IN FORM
BUT GRIDDED IN
LINEAR PATHS



YEAR 1 DECAY



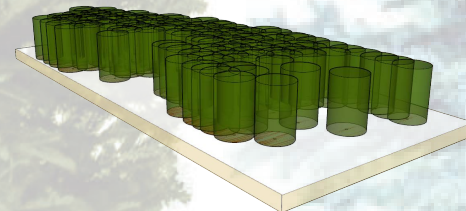
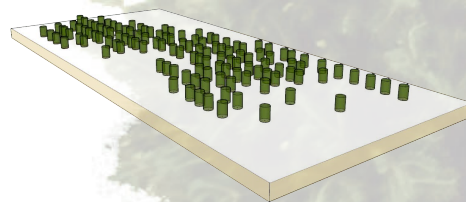
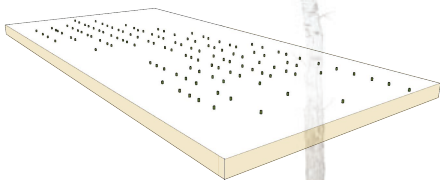
SIGNS OF ANIMAL INFLUENCE

YEAR 20 DECAY



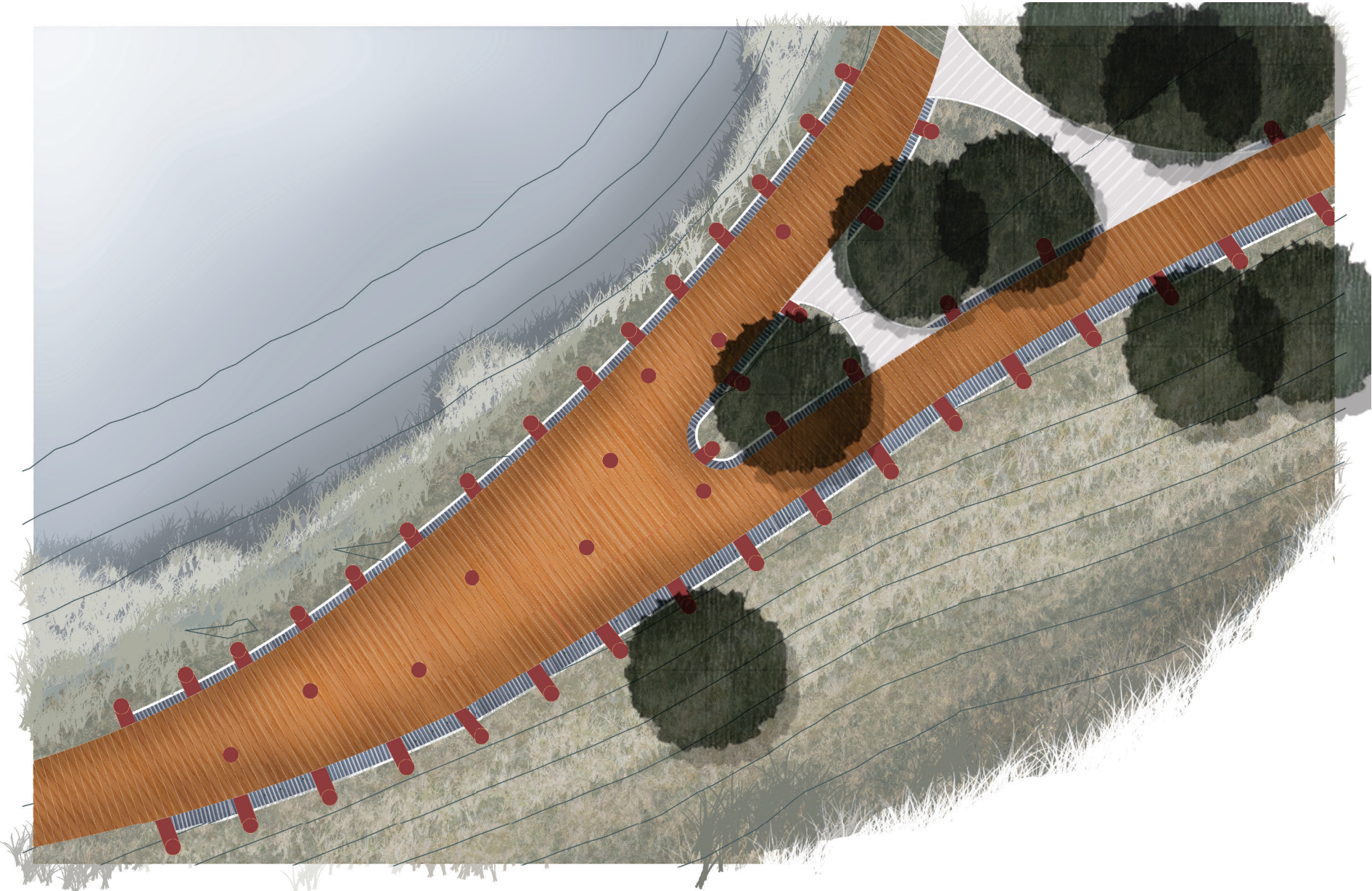
WOOD DEGRADES
AND FUNGUS
MOVES IN

YEAR 50 DECAY



SITE DESIGN: NATURAL HABITAT

POND SITE PLAN



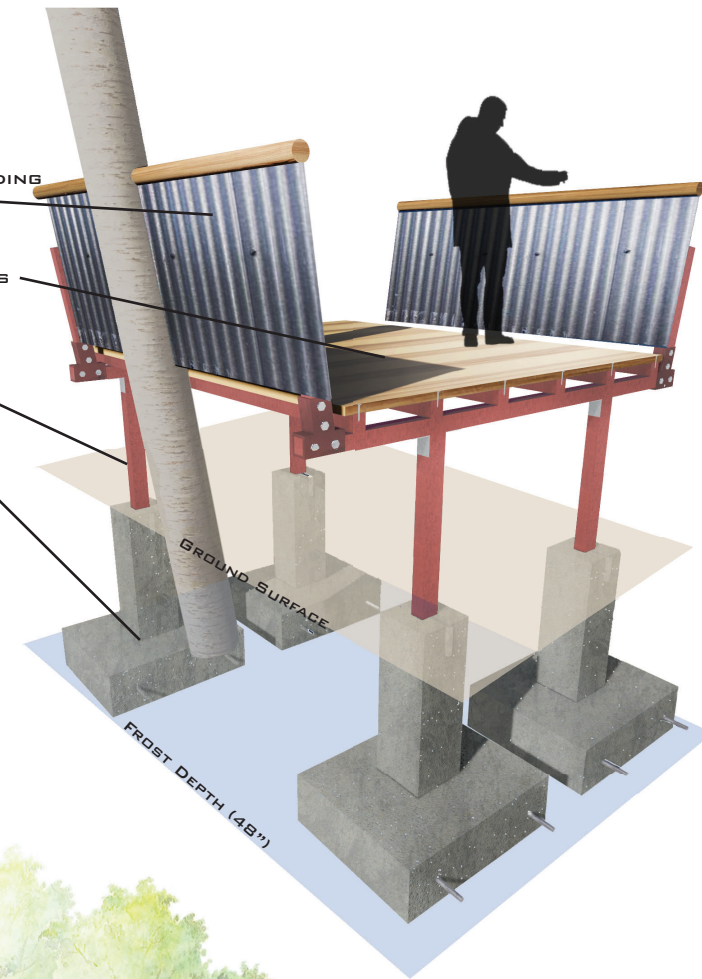
SITE DESIGN: NATURAL HABITAT BOARDWALK DETAILS

3' TALL CORRUGATED ALUMINUM SIDING
WITH WOODEN RAILING

8' WIDE RECYCLED WOODEN BOARDS

METAL SUPPORT BEAMS

3' X 3' CONCRETE FOOTING



SITE DESIGN:
NATURAL HABITAT
WETLAND PERSPECTIVE



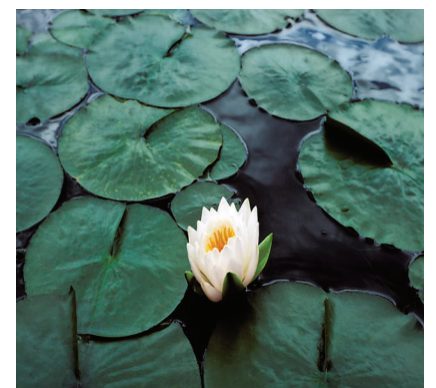
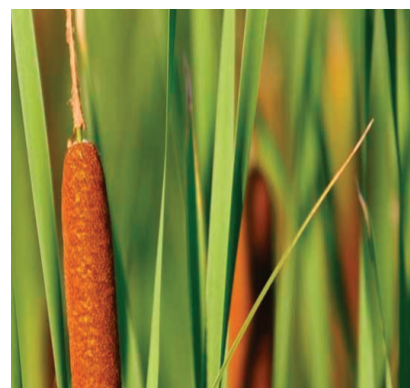
SITE DESIGN: PLANT SELECTION



PERENNIALS



FRUITING PLANTS



AQUATIC PLANTS

SITE DESIGN: PLANT SELECTION



GRASSES



SHRUBS



TREES



SITES RESULTS

SITES RESULTS:

SITE CONTEXT AND WATER

SITE CONTEXT- 13 PTS

CATEGORY

CONSERVE AQUATIC ECOSYSTEMS

REDEVELOP DEGRADED SITES

LOCATE PROJECTS WITHIN EXISTING DEVELOPED AREAS

CONNECT TO MULTI-MODAL TRANSIT NETWORKS

WATER- 17 PTS

CATEGORY

MANAGE PRECIPITATION ON SITE

REDUCE WATER USE FOR LANDSCAPE IRRIGATION

REDUCE OUTDOOR WATER USE

DESIGN FUNCTIONAL STORMWATER FEATURES AS AMENITIES

RESTORE AQUATIC ECOSYSTEMS

DESIGN IMPLEMENTATION

KEPT WEST END HABITAT INTACT

POLLUTED INDUSTRIAL SITE RE-PURPOSED

SITE IS LOCATED IN KEY PART OF THE CITY

BORDERS THE RAILROAD, NEW BIKE PATHS, AND WATER-FRONT ENTRANCE

DESIGN IMPLEMENTATION

GRADING PLAN DIRECTS WATER TO STREAM

MINIMAL WATER USE FOR TURF AND NATURAL PLANTINGS PERFORM WELL WITHOUT EXCESSIVE CARE

WATER IS COLLECTED IN CISTERNS ON SITE AND UTILIZED WHEN NEEDED

STREAM PROPOSED MANAGES STORMWATER AND ADDS A UNIQUE FOCAL POINT ON THE SITE

ADDING VEGETATION TO RETENTION POND ON SITE TO NATURALIZE THE SPACE

SITES RESULTS: SOIL AND VEGETATION

SOIL AND VEGETATION- 30 PTS

CATEGORY

DESIGN IMPLEMENTATION

USE APPROPRIATE PLANTS

IMPLEMENTING NATIVE PLANTS AND USING TREE SPECIES USED FOR PAPER MAKING

CONSERVE HEALTHY SOILS AND APPROPRIATE VEGETATION

MINIMIZE SOIL DISRUPTION AND RESTORE MULTIPLE AREAS OF SITE TO NATURAL HABITAT

CONSERVE SPECIAL STATUS VEGETATION

PRESERVING AREAS OF THE SITE THAT HAVE EXISTING VEGETATION

CONSERVE AND USE NATIVE PLANTS

ONLY NATIVE PLANTS UTILIZED IN THE DESIGN

CONSERVE AND RESTORE NATIVE PLANT COMMUNITIES

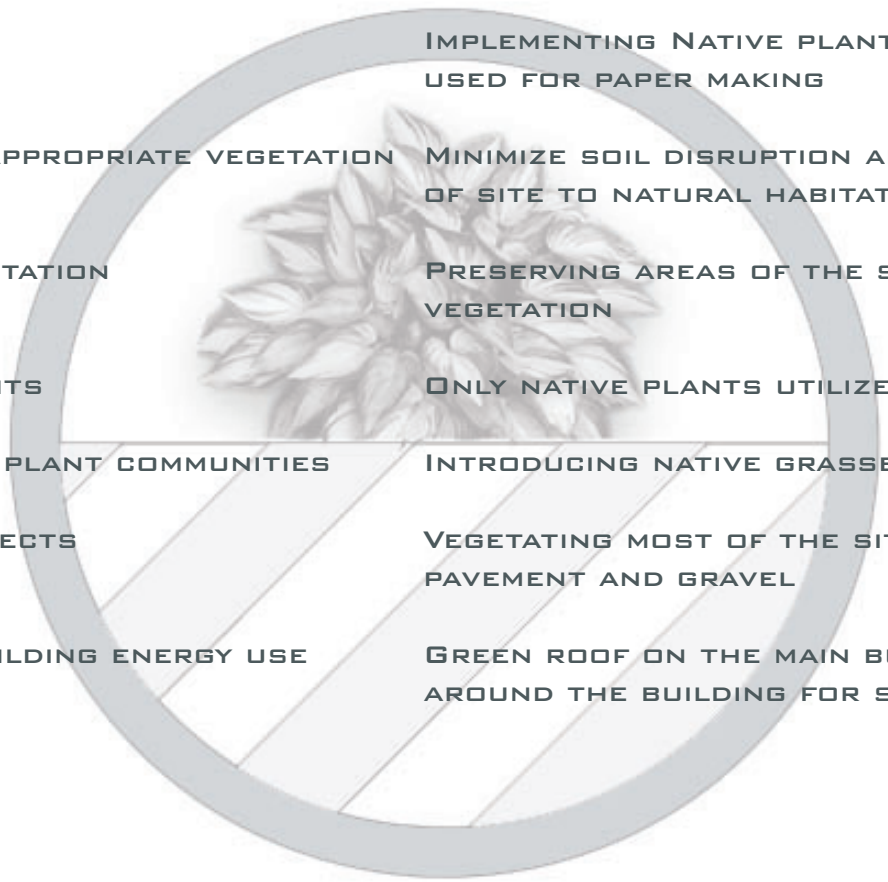
INTRODUCING NATIVE GRASSES AND AN ASPEN FOREST

REDUCE URBAN HEAT ISLAND EFFECTS

VEGETATING MOST OF THE SITE AND REDUCED AMOUNTS OF PAVEMENT AND GRAVEL

USE VEGETATION TO MINIMIZE BUILDING ENERGY USE

GREEN ROOF ON THE MAIN BUILDING AND TREES PLANTED AROUND THE BUILDING FOR SHADE



SITES RESULTS: MATERIALS

MATERIALS-17 PTS CATEGORY

MAINTAIN ON-SITE STRUCTURES AND PAVING

USE SALVAGED MATERIALS AND PLANTS

USE REGIONAL MATERIALS

SUPPORT SUSTAINABLE IN PLANT PRODUCTION

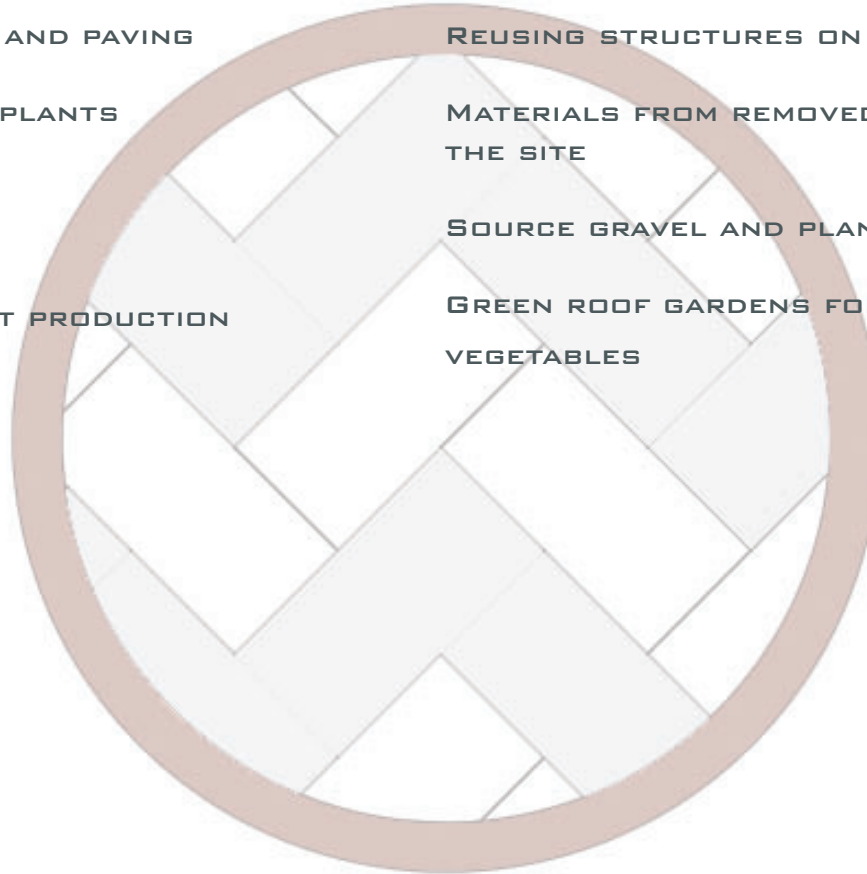
DESIGN IMPLEMENTATION

REUSING STRUCTURES ON THE SITE

MATERIALS FROM REMOVED BUILDING USED THROUGHOUT THE SITE

SOURCE GRAVEL AND PLANTS FROM LOCAL BUSINESSES

GREEN ROOF GARDENS FOR PRODUCING FRUITS AND VEGETABLES



SITES RESULTS:

HUMAN HEALTH AND WELL BEING

HUMAN HEALTH AND WELL BEING- 20 PTS

CATEGORY

DESIGN IMPLEMENTATION

PROTECT AND MAINTAIN CULTURAL AND HISTORIC PLACES

PRESERVING BUILDING AND ASPECTS OF SITES PAST USE

PROVIDE OPTIMUM SITE ACCESSIBILITY, AND WAY-FINDING

SIGNS THROUGHOUT THE SITE AND MULTIPLE ENTRANCES

PROMOTE EQUITABLE SITE USE

ENVIRONMENTAL HAZARDS ARE CLEANED UP AND LIVING OPTIONS ARE INCORPORATED INTO SOME SITE BUILDINGS

SUPPORT MENTAL RESTORATION

VEGETATION AND HABITATS ON SITE WILL ENHANCE CONNECTION TO NATURE

SUPPORT PHYSICAL ACTIVITY

TRAILS FOR BIKING AND RUNNING INCORPORATED, AND RENEWABLE ENERGY METHOD SUCH AS PAVEGEN ENCOURAGES PHYSICAL ACTIVITY FOR POWER

SUPPORT SOCIAL CONNECTION

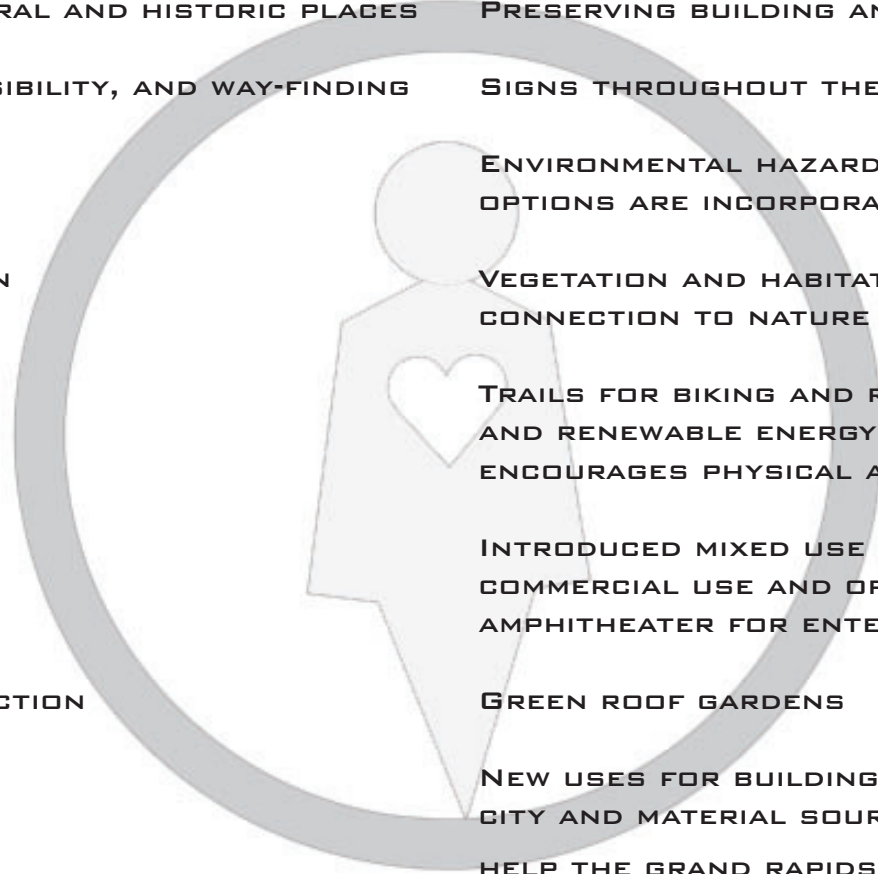
INTRODUCED MIXED USE SPACES FOR DINING AND COMMERCIAL USE AND OPEN TURF SPACES AND AMPHITHEATER FOR ENTERTAINMENT

PROVIDE ON SITE FOOD PRODUCTION

GREEN ROOF GARDENS

SUPPORT LOCAL ECONOMY

NEW USES FOR BUILDINGS WILL PROVIDE MORE JOBS FOR CITY AND MATERIAL SOURCES FROM LOCAL AREA WILL HELP THE GRAND RAPIDS ECONOMY



SITES RESULTS:

CONSTRUCTION AND MAINTENANCE

CONSTRUCTION- 9 PTS

CATEGORY

CONTROL AND RETAIN CONSTRUCTION POLLUTANTS

RESTORE SOILS DISTURBED BY PREVIOUS DEVELOPMENT

DIVERT REUSABLE VEGETATION, ROCKS, AND SOIL FROM DISPOSAL

MAINTENANCE 13 PTS

CATEGORY

REDUCE OUTDOOR ENERGY CONSUMPTION

USE RENEWABLE SOURCES FOR LANDSCAPE ELECTRICITY

RECYCLE ORGANIC MATTER

DESIGN IMPLEMENTATION

CAP AND SEALED CONTAMINANT MOUNDS

PHYTOREMEDIATION

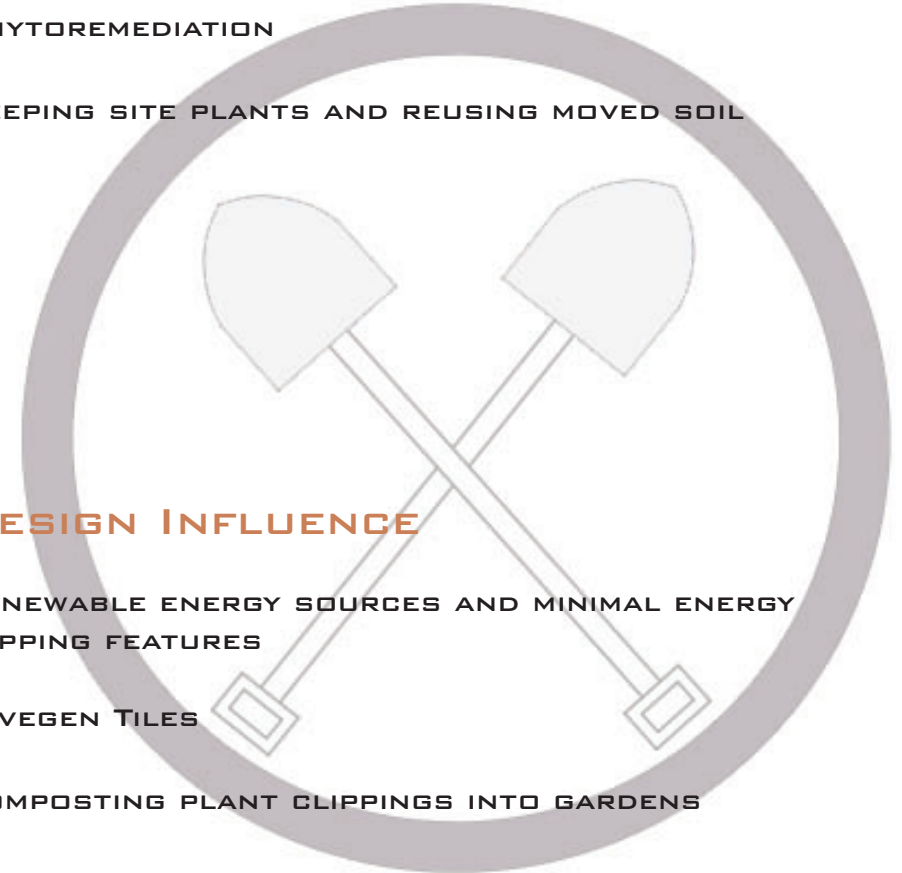
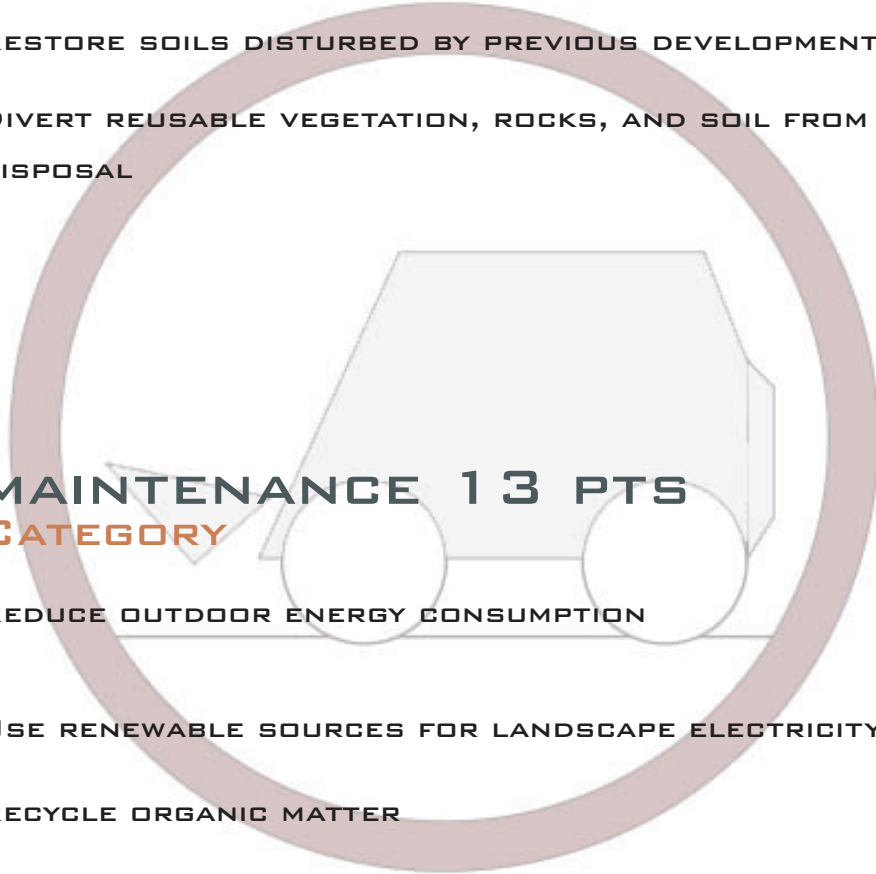
KEEPING SITE PLANTS AND REUSING MOVED SOIL

DESIGN INFLUENCE

RENEWABLE ENERGY SOURCES AND MINIMAL ENERGY SAPPING FEATURES

PAVEGEN TILES

COMPOSTING PLANT CLIPPINGS INTO GARDENS



SITES RESULTS:

PERFORMANCE MONITORING AND INNOVATION

PERFORMANCE MONITORING-8 PTS

CATEGORY

DESIGN IMPLEMENTATION

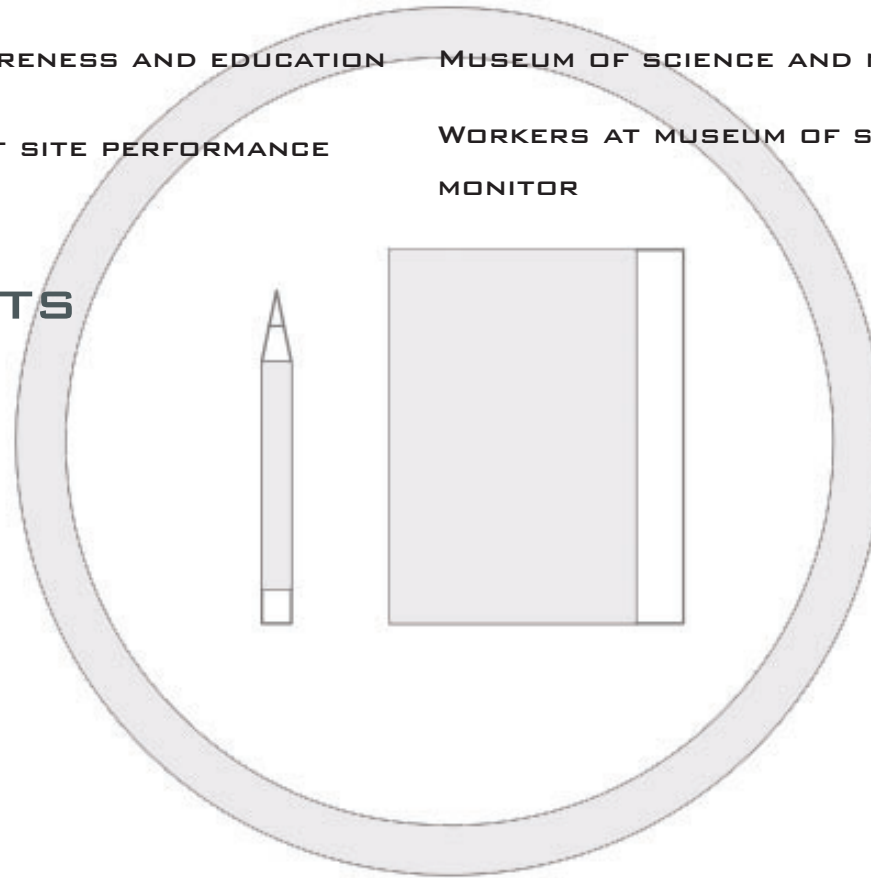
PROMOTE SUSTAINABILITY AWARENESS AND EDUCATION

MUSEUM OF SCIENCE AND NATURE

PLAN TO MONITOR AND REPORT SITE PERFORMANCE

WORKERS AT MUSEUM OF SCIENCE AND NATURE WILL
MONITOR

INNOVATION-9PTS



SITES RESULTS:

SITES SUBTOTAL

SITE CONTEXT- 13 PTS

WATER- 17 PTS

SOIL AND VEGETATION- 30 PTS

MATERIALS-17 PTS

HUMAN HEALTH AND WELL BEING- 20 PTS

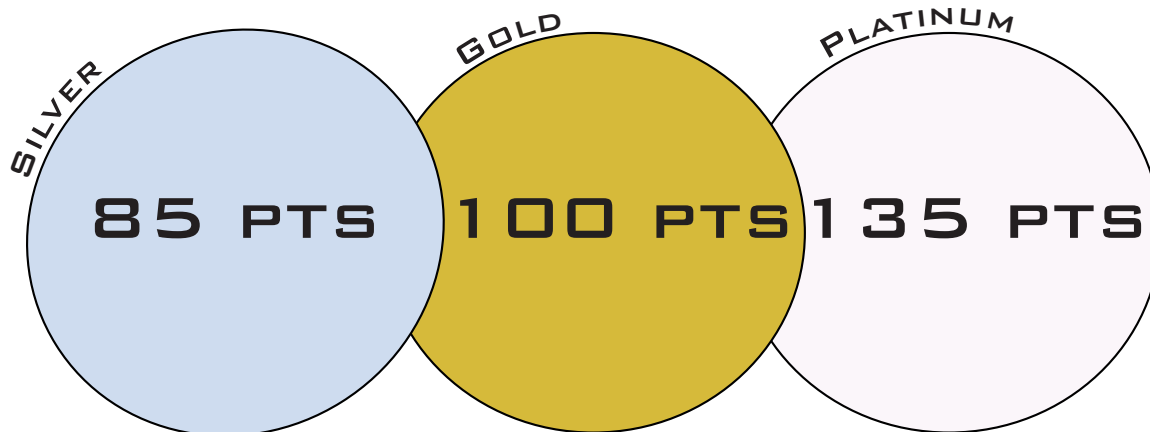
CONSTRUCTION- 9 PTS

MAINTENANCE 13 PTS

PERFORMANCE MONITORING-8 PTS

INNOVATION-9PTS

136 POSSIBLE POINTS



QUESTIONS AND COMMENTS