

THE TOLEDO ZOOLOGICAL SOCIETY

AMENDED AND RESTATED  
INSTITUTIONAL MASTER PLAN  
(the "Plan")

FOR

THE TOLEDO ZOO

AREAS BOUNDED BY

**HISTORIC CAMPUS AREA:** BOUNDED BY ANTHONY WAYNE TRAIL, WOODSDALE AVENUE, AND SPENCER STREET, AND WEST OF PARCEL NO. 18-07314 (owned by a third party)

**NORTH CAMPUS AREA:** BOUNDED BY ANTHONY WAYNE TRAIL, SHADOWLAWN DRIVE, BROADWAY, AND AMHERST DRIVE, AND EAST OF HARVARD TERRACE LOT 2 (owned by a third party)

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[NOTE: THIS PLAN AMENDS AND RESTATES THE INSTITUTIONAL MASTER PLAN APPROVED BY ORDINANCE NO. 624-06]

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April 26, 2021

I. Project Overview.

A. Rezoning Requested; Existing Zoning. The Toledo Zoological Society (the “Zoo”) is submitting this Plan, in part, for a rezoning of the following property to “IC, Institutional Campus District” as described in TMC §1102.1600 (see parcels highlighted in blue on Exhibit A):

- (1) Parcel No. 07-05891, 327 Amherst Drive, current zoning RD-6
- (2) Parcel No. 18-74182, 1667 Spencer Street, current zoning RS-6 (according to AREIS, however the City of Toledo Zoning Map lists it as IC.)
- (3) Parcel No. 07-16208, 1709 Spencer Street, current zoning RS-6
- (4) Parcel No. 07-16237, 1741 Spencer Street, current zoning RS-6
- (5) Parcel No. 18-74171, 1741 Spencer Street, current zoning RS-6
- (6) Parcel No. 07-16244, 1747 Spencer Street, current zoning RS-6
- (7) Parcel No. 07-16247, 1751 Spencer Street, current zoning RS-6
- (8) Parcel No. 18-74154, 1751 Spencer Street, current zoning RS-6
- (9) Parcel No. 07-16251, 1753 Spencer Street, current zoning RS-6
- (10) Parcel No. 07-16254, 1757 Spencer Street, current zoning RS-6
- (11) Parcel No. 18-74161, 1757 Spencer Street, current zoning RS-6
- (12) Parcel No. 07-16257, 1759 Spencer Street, current zoning RS-6
- (13) Parcel No. 07-16261, 1763 Spencer Street, current zoning RS-6
- (14) Parcel No. 18-74151, 1763 Spencer Street, current zoning RS-6
- (15) Parcel No. 07-16264, 1765 Spencer Street, current zoning RS-6
- (16) Parcel No. 18-74157, 1769 Spencer Street, current zoning IL and RS-6
- (17) Parcel No. 07-16297, 1795 Spencer Street, current zoning IL (Note: Louisville Title Agency of N.W. Ohio, Inc. is the title holding trustee for the benefit of The Toledo Zoological Society)

The current zoning for all other property within the Historic Campus Area and North Campus Area is “IC, Institutional Campus District”.

B. Redevelopment/New Construction. The Zoo is submitting this Part, in part, for approval of a number of new projects contemplated to be completed through 2027 for both the Historic Campus Area and the North Campus Area. The Zoo’s existing Institutional Master Plan was approved in 2006. Since 2006, the Zoo has completed the following projects described in the existing Institutional Master Plan:

- (1) Children’s Zone
- (2) Pachyderm Expansion (Elephant-Hippo-Rhino)
- (3) North Visitor Parking Expansion
- (4) Administrative Village
- (5) Spencer Street Employee Parking Lot – A portion of this project was completed but is now proposed to be redeveloped as part of the Carnivore Area (see Exhibit B-1).

The following projects described in the existing Institutional Master Plan have not yet been completed and do not currently have a time frame for completion:

- (1) Broadway Parking Lot
- (2) Broadway Bus Drop-Aquarium Service Drive
- (3) Aquarium/Education Center

Since 2006, the Zoo has also completed the following projects pursuant to approvals obtained after approval of the existing Institutional Master Plan:

- (1) Solar Walkway Project (Approved 8/5/2009)
- (2) Wind Turbines addition (Case: M-2-06 (A))
- (3) Sturgeon Facility (Approved 9/8/2014, Case: SPR-33-14, MRO-4-14)
- (4) Aerial Course, Giraffe Feeding Deck, Nairobi Pavilion (Approved 7/2/2015, Case: SPR-22-15)
- (5) Off Exhibit Animal Management Facility (Case: SPR-55-15)
- (6) New Education Center (Approved 1/4/2017, Case: SPR-54-16)
- (7) Temp Bio Secure (Approved 2/27/2017, Case: SPR-4-17)
- (8) Greenhouse Additional (Approved 3/28/2017, Case: 3/28/2017)
- (9) New Greenhouse (Approved 3/1/2021, Case: SPR-4-21)

Now, the Zoo has identified a number of new projects to be included in the 6 year look ahead, 2021-2027 that will be further described in this Plan and are identified on Exhibit B (the “New Projects”):

- (1) Carnivore Area Holding and Exhibit
- (2) Plans Exhibit (former Anthony Wayne Trail Parking Lot)
- (3) Off Exhibit Animal Holding
- (4) Production Greenhouse
- (5) Bear Exhibit Redevelopment
- (6) Reptile House Redevelopment
- (7) Amphitheater Renovation
- (8) Conservatory Catering Facility
- (9) Red Panda Breeding Facility
- (10) Pizza/ Grille Food Service Station
- (11) Carnivore Café Redevelopment
- (12) Aviary Greenhouses and Aviary Renovation
- (13) Enclose Amherst
- (14) Merchandise Hut (Bear Essential/ Plaza/ Carousel)

C. Purpose of Rezoning and Redevelopment/New Construction. The rezoning of the Spencer Street parcels listed in Section I.A. above is requested to accommodate the redevelopment of the Spencer Street Employee Parking Lot to the Carnivore Area. The rezoning of the Amherst street parcel listed in Section I.A. above is requested to integrate this property into the Zoo campus but there are currently no plans to construct any structures on the property. The New Projects described in Section 1.B. above are projects that the Zoo has determined are necessary or desirable for the Zoo as the Zoo continues its mission to inspire its guests to join the Zoo in being advocates for wildlife and conserving the natural world by providing fun, awe-inspiring, and educational experiences and fulfils the Zoo Mission: Enjoy. Inspire. Educate. Act. One of the zoo strategic goals is to preserve our historic buildings, including out collection of Works Progress Administration (WPA) buildings.

D. Exhibits to this Narrative. This Narrative includes the following attachments:

1. Exhibit A – Site Plan prepared by the Zoo showing the North Campus and Historic Campus, the existing improvements, and the parcels the Zoo is requesting be rezoned “IC, Institutional Campus District”.

2. Exhibit B – Site Plan prepared by the Zoo showing the North Campus and Historic Campus, the existing improvements, and highlighting the New Projects.
  - (a) Exhibit B-1 – Site Plan and renderings for the Carnivore Area project
  - (b) Exhibit B-2 – Site Plan for the Plans Exhibit
  - (c) Exhibit B-3 – Site Plan and renderings for the Off Exhibit Animal Holding project
  - (d) Exhibit B-4 – Site Plan for the Production Greenhouse project
  - (e) Exhibit B-5 – Site Plan and renderings for the Bear Exhibit Redevelopment project
  - (f) Exhibit B-6 – Site Plan and renderings for the Reptile House Redevelopment project
  - (g) Exhibit B-7 – Site Plan for Amphitheater Renovation
  - (h) Exhibit B-8 – Site Plan and renderings for the Conservatory Catering Facility project
  - (i) Exhibit B-9 – Site Plan for the Red Panda Breeding Facility project
  - (j) Exhibit B-10 – Site Plan for for Pizza/Grille Food Service Station
  - (k) Exhibit B-11 – Site Plan for the Café Redevelopment project
  - (l) Exhibit B-12 – Site Plan and renderings for the Aviary Greenhouse and Aviary Renovation project
  - (m) Exhibit B-13 – Site Plan showing the enclosure of Amherst Drive
  - (n) Exhibit B-14 – Site Plan for Merchandise Hut (Bear Essential/ Plaza/ Carousal)
  - (o) Exhibit B-15 – Depiction of typical landscape buffer to be used in connection with the projects illustrated on Exhibits B-1 (Carnivore Area) and B-13 (Amherst Drive Enclosure).
3. Exhibit C – Site Plan prepared by the Zoo showing its transportation management plan.
4. Exhibit D – Site Plan prepare by the Zoo showing the Neighborhood Protection-Landscape Buffer.
5. Exhibit E – Legal Description of the Historic Campus
6. Exhibit F – Legal Description of the North Campus
7. Exhibit G- Irrigation and Native Plant Gardens

## II. Institutional Master Plan.

The following discussion addresses the pertinent provisions of Toledo Municipal Code §1111.1300 which (along with Toledo Municipal Code §1111.1201) requires approval of an Institutional Master Plan submitted by the Zoo before the Zoo may proceed with the new projects described in the Project Overview. This Plan, the plan approved by Ordinance No. 624-06, the drawings attached as Exhibits A-F, along with any amendments or supplements to these items which are submitted for approval in accordance with the Toledo Zoning Code comprise the Zoo's "Institutional Master Plan".

- A. TMC §1111.1304A – Planning Horizon. This amended and restated plan is for the

planning horizon of 2027. The Zoo currently does not have a time frame for completion of the projects that have not yet been completed from the existing Institutional Master Plan.

- B. TMC §1111.1304B – Mission and Objectives. The Zoo is an Ohio nonprofit corporation, originally incorporated in 1923, and is organized and operated exclusively for charitable, educational, and scientific purposes in accordance with Section 501(c)(3) of the Internal Revenue Code of 1986.

The Zoo's mission is to "Enjoy, Inspire, Educate, Act". The Zoo inspires its guests to join the Zoo in being advocates for wildlife and conserving the natural world by providing fun, awe-inspiring, and educational experiences. By joining the Zoo, others help build a movement that cares for animals and values wildlife's shared place in our world.

The New Projects address a variety of needs and goals summarized as follows:

Exhibits:

- Carnivore Area Exhibit – The goal of the new Carnivore exhibit is to show tigers and other predator's species as the awesome, apex predators they are. By giving these animals their own space, the Zoo hopes to teach visitors about how they are still vital to our ecosystem.
- Bear Exhibit Redevelopment project – The redevelopment will create more room for the brown bears improving their well-being and create more viewing opportunities for the Zoo's visitors from the Tiger Terrace.
- Reptile House project – The reptile house is located in a WPA historic building. The Zoo continues to identify projects to preserve the historic buildings located at the Zoo. This project will include remodeling the entire building and adding a greenhouse structure to the building. The new greenhouse space will allow for more viewing and animal care as well as additional space for visitors to enjoy the Zoo.
- Carnivore Café – The Carnivore Café is located in a historic building. The Zoo will replace the Carnivore Café with an animal exhibit (within the existing building) and add two new greenhouse structures for animal holding and exhibits. By redeveloping this structure the Zoo is hoping to add new life around the main plaza where many Zoo visitors spend their time.
- Aviary Greenhouse additions and Renovation - To bring new life to the Zoo's historic WPA Aviary, the Zoo is proposing adding a new greenhouse structures off of the side of the building. This structure would allow for guests to rent out the space for events and gatherings. This space would also provide a new home for their flamingo's and Galapagos tortoise. This new structure will allow for the Zoo to better display and care for these animals. The renovation will be interior renovation to the existing Aviary.
- Plans Exhibit: The new facility will be an open space plans exhibit part of the Anthony Wayne Trail parking lot. The zoo will be developing the project for guest to be able to travel through the exhibit to view the animals.

Animal Holding:

- Carnivore Area Holding - This new facility will allow for the Toledo Zoo to house the animals required to provide this unique and novel exhibit for their visitors. By giving their animals a better holding space, it will allow for them to better manage their animals.
- Off Exhibit Animal Holding As an ever growing institution, the Toledo Zoo is always in need of safe spaces to hold animals while they are not on exhibit. This Off Exhibit Animal Holding will be constructed similar to the other structure adjacent to this proposed location. These structures allow for better flexibility, and allow for the Toledo Zoo to take in more animals when they are in need of a place to stay.
- Red Panda Breeding Facility- To help conserve part of the natural world, the Toledo Zoo participates in breeding programs with other Zoos around the world. One of the programs that the Toledo Zoo wishes to be a part of is the Red Panda Breeding Program. With the construction of this facility, the Toledo Zoo will be able to participate in the breeding program and better serve their current population of red pandas.

#### Guest Amenities:

- Conservatory Catering Facility The first word of the Zoo's mission statement is Enjoy. The Zoo wants their guests to enjoy the zoo, their animals and the facilities they provide. The current conservatory and production greenhouse space is at the center of the Historic Zoo. To make use of this location the Zoo will be turning this area into a restaurant/catering facility. To make this space more accessible to all, the Zoo is proposing a new pedestrian entrance off of Broadway Street that will allow for anyone to come to the restaurant without having to enter the zoo.
- Merchandise Hut (Bear Essential/ Plaza)- the guest experience is one of the zoo highest priorities, as such as have found a need for more quick access merchandise hut thought out the facility. This merchandise hut will be in the Plaza near the Bear Essentials building.
- Carousal Merchandise Hut- The zoo will be reusing the Carousal site on the Southside of the zoo for a merchandise hut.
- Petting Zoo Merchandise Hut- As the center of the zoo for the Southside the zoo will be adding a merchandise hut near the petting zoo.
- Pizza/ Grille Food Service Station- the Zoo will be developing an open air food service station in the plaza of the Petting Zoo to allow visitors to grab grill and Pizza from the new pizza oven.
- Amphitheater Renovation- As one the historic WPA structures, the Toledo Zoo is looking to renovate the amphitheater to allow for the growing needs with concerts, events, and guest needs.

#### Other Toledo Zoo Amenities:

- Production Greenhouse- As a conservation based institution, the Toledo Zoo is always looking for ways to better serve their needs. A major need of the zoo is for the ability to

grow and manage their plants for all of their horticulture needs. By constructing an additional production greenhouse in the Zoo's warehouse area, it will allow them to better serve all of their needs.

- o Enclose Amherst - The Toledo Zoo currently owns the properties that are on Amherst Drive that are directly across from the zoo along the section of Amherst Drive that the City of Toledo elected to vacate. To secure these properties and the section of Amherst Drive that was given vacated, the Zoo is looking to add a fence across Amherst Drive connecting it to the main part of the Zoo. There are no current plans to construct any structures on these properties.

- C. TMC §1111.1304C – Existing Property and Uses; Proposed Plan/Uses. The Site Plan attached as Exhibit A shows all improvements on the North Campus and Historic Campus as of the date of this Plan. The Site Plan attached as Exhibit B shows all proposed new improvements/projects for the North Campus and Historic Campus.

The only parking that will be affected by the New Projects will be the loss of the Spencer Street employee parking lot for the Carnivore Area project. Currently, a portion of employee parking has already been moved to the Zoo's administrative building located at 2605 Broadway and the adjacent parking lot across the street (not part of the Zoo's Institutional Master Plan). The remaining employees using the Spencer Street parking lot will be relocated to the Zoo's main parking lot and behind the scene staff parking location.

Landscaping will be provided around the perimeter of the North Campus in the area of the Carnivore Area project and around the perimeter of the Historic Campus in the area of the Amherst Drive enclosure (see Exhibit B-11). Otherwise, landscaping will be provided in the area of the New Projects consistent with landscaping throughout the North Campus and Historic Campus.

The Toledo Zoo has been and will continue to support the use of native plantings in an urban setting and the landscapes will be a mix of prairies and manicured beds with natives. Exhibit G expands on the zoo's use of native plantings and limited use of irrigation.

Lighting will be provided in the area of the New Projects as required by the Toledo Zoning Code and consistent with the Toledo Zoo lighting standards.

- D. TMC §1111.1304D – Needs of the Institution. The Zoo continues to look for new and improved ways to use its existing facilities, provide educational opportunities and new experiences for its visitors, and improve the care and well-being of its animals, all with the goal of being the best zoological institution in the country. The New Projects address a number of needs and goals of the Zoo as described in Section II.B. above.
- E. TMC §1111.1304E – Development Envelope. The Site Plan attached as Exhibit A depicts the existing improvements at the North Campus and Historic Campus. The Site Plan attached as Exhibit B, together with the Site Plans and renderings attached as Exhibits B-1 through B-10, depict the areas to be developed in connection with the New Projects. The following information is provided as required by TMC §1111.1304E:

1. Floor Area Ratio (FAR) (assumes maximum build-out without razing any existing structures)	(a) 97,916 sq. ft. (maximum after completion of New Projects)  (b) 3,629,349.504 sq. ft. of land area (based on 83.32 acres)  (c) FAR = (a)/(b) = 0.026										
2. Average daily and peak-hour traffic	We are open currently 6 days week. Biggest times are Memorial day to Labor Day and Lights before Christmas (typically end of November to December). One Average we are busiest Friday-Sunday										
3. Height of Major Improvements	Maximum Heights will not exceed 60'										
4. Setbacks	<table border="0"> <tr> <td colspan="2">Minimum Setbacks (feet) Building &amp; Parking</td> </tr> <tr> <td style="padding-left: 40px;">Front</td> <td style="text-align: right;">25</td> </tr> <tr> <td style="padding-left: 40px;">Side</td> <td style="text-align: right;">10</td> </tr> <tr> <td style="padding-left: 40px;">Rear</td> <td style="text-align: right;">NA</td> </tr> <tr> <td style="padding-left: 40px;">Building Height</td> <td style="text-align: right;">60'</td> </tr> </table>	Minimum Setbacks (feet) Building & Parking		Front	25	Side	10	Rear	NA	Building Height	60'
Minimum Setbacks (feet) Building & Parking											
Front	25										
Side	10										
Rear	NA										
Building Height	60'										
5. Total site area of green space	3,629,349.5 Total SQFT- 1,830,000 impermeable surface = 1,799,344.5 greenspace/ permeable surface										
6. Total parking spaces.	<p><b><u>CURRENT PARKING: 2211 Spaces</u></b></p> <p><b><u>Changes to be made:</u></b></p> <p><b><u>Current- to Remain:</u></b>  Education lot in the AW Trail lot- 119  Administration Building Parking-247  Broadway Upper Parking-147  Broadway lower Parking- 24  TOTAL: 537</p> <p><b><u>Current- To be Removed:</u></b>  AW Trail -1386  Additional unpaved- overflow Grass lot- 100  Employee Parking on Spencer Street -188  TOTAL: 1674</p> <p><b><u>New Toledo Zoo Parking</u></b>  The new offsite parking lot is proposing -2200 spots  TOTAL: 2220</p> <p><b><u>PARKING PER PROPOSED ICP: 2737 Spaces</u></b></p>										



- F. TMC §1111.1304F - Transportation Management Plan. A Transportation Management Plan is depicted on Exhibit C. The plan identifies vehicular access points around the Zoo perimeter both for public/employee off-street parking, as well as service access for Zoo grounds maintenance, service, and supply.

In connection with the Carnivore Area project (see Exhibit B-1), the Spencer Street employee parking lot will be removed which will decrease the impact to the neighborhood on Spencer Street adjacent to the Zoo. The existing service drive will continue to be used by staff and for deliveries. The vehicles using the service drive will continue to be restricted to a left turn only, feeding traffic to Woodsdale and not on to Spencer Street. Per discussion with the Fire department a fire access will be added with the Carnivore Project along Spencer Street.

Employees currently using the Spencer Street parking lot will be directed to park in the Main Parking Lot off of the Anthony Wayne Trail or the lot on Broadway across the street from the Toledo Zoo's Administration Building (not part of the Zoo's Institutional Master Plan). The long term goal of the zoo is to eliminate part of the Anthony Wayne Trail Parking lot for an exhibit, the visitor parking will change with the Plans Exhibit project. The access and parking to the education building will remain, but the main parking lot will be turned into an exhibit. The zoo will be providing other parking for visitors not included in the Institutional Campus Plan.

- G. TMC §1111.1304G - Pedestrian Circulation Plans. Sidewalks and walkways are located throughout the Historic Campus and North Campus and will be provided in the areas of the New Projects consistent with those throughout the Historic Campus and North Campus.

- H. TMC §1111.1304H - Urban Design Guidelines. The general design guidelines for the Historic Campus are to maintain and enhance the character of the works era structures that exist today. The perimeter of the Historic Campus has been enhanced with specimen plantings in pleasing arrangements that will continue to be maintained and nurtured.

The general design guidelines for the North Campus are to enhance the visual continuity of the North Campus with the Historic Campus with continued development of visitor amenities. Design character is a blended mix of contemporary themed exhibits and visitor service structures meant to enhance and blend with the Historic Campus.

Setbacks for existing buildings, fences, and parking will not be changed unless noted otherwise on the setback criteria defined below. New development, as defined in the Exhibits B & 1 shall conform to criteria set forth below.

Dimensional Standards:

The Toledo Zoo-Institutional Campus Zoning

Minimum Lot Area	NA	
Maximum Floor Area Ration	NA	
Minimum Setbacks (feet) Building & Parking		
Front	25	Note 1
Side	10	
Rear	NA	
Building Height	60'	Note 1

Note 1: Front yard setback shall be increased 1 foot for each 2 feet of building height exceeding 60 feet.

- I. TMC §1111.13041 - Neighborhood Protection Strategy. The nucleus of the neighborhood protection plan for the Zoo is the artful use of landscape buffers around the perimeter of the Historic Campus and North Campus to ensure the quality of the surrounding neighborhood is maintained and enhanced. Perimeter fencing, with a minimum height of 8', per USDA regulations, will be utilized to provide protection, combined with landscaping. The locations of both new and existing fencing varies within the 25 foot setback, as development objectives dictate. Cutoff lighting will be utilized on the edges of the Historic Campus and North Campus where needed for grounds security and access to minimize the effects of lighting on the adjacent neighborhoods. New landscape buffers will be provided in limited areas surrounding the North Campus and Historic Campus primarily related to future development. Exhibit B-11 depicts the typical landscape buffer that will be used in connection with the projects illustrated on Exhibits B-1 (Carnivore Area) and B-10 (Amherst Drive Enclosure). The North Campus and Historic Campus are already surrounded with existing landscaping buffers and fencing and will not be changed in connection with the New Projects. This is primarily evident at Amherst Drive, Shadowlawn Drive, Broadway Avenue, Anthony Wayne Trail (North & South), and Woodsdale Ave. In light of this, frontage greenbelt (Section 1108.0202) will not be provided as defined in the Toledo Zoning Code.

CONICAL NOTES

No.	Revision/Issue	Date
1		
2		

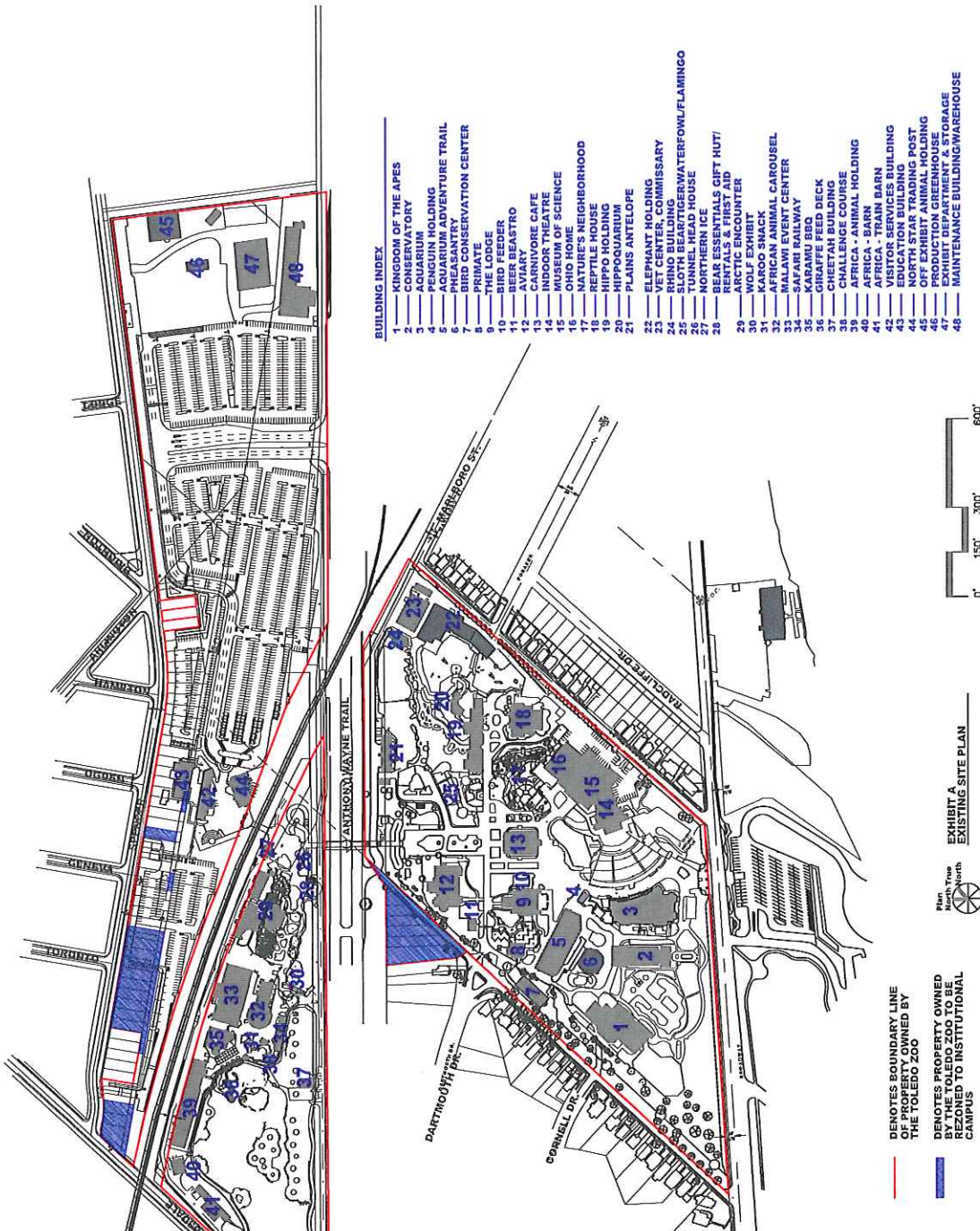


**Toledo Zoo - Construction Department**  
 P.O. Box 140130  
 2700 Broadway  
 Toledo, OH 43614  
 Phone: 419-393-5721  
 Fax: 419-393-5154

PROJECT NAME:  
**INSTITUTIONAL MASTER PLAN**

DATE FOR EXHIBIT:  
**EXISTING\_ZOO\_CAMPUS**

PROJECT NO.:  
**G-000**  
 DRAWN BY:  
 NATHAN D. GARDNER  
 SCALE:  
 VISUAL



**BUILDING INDEX**

- 1 - KINGDOM OF THE APES
- 2 - CONSERVATORY
- 3 - AQUARIUM
- 4 - PENGUIN HOLDING
- 5 - AQUARIUM ADVENTURE TRAIL
- 6 - BIRD CONSERVATION CENTER
- 7 - PRIMATE
- 8 - THE LODGE
- 9 - BIRD FEEDER
- 10 - AVIARY
- 11 - THE ASTRO
- 12 - CARNIVORE CAFE
- 13 - INDOOR THEATRE
- 14 - MUSEUM OF SCIENCE
- 15 - NATURE'S NEIGHBORHOOD
- 16 - REPTILE HOUSE
- 17 - HIPPO HOLDING
- 18 - HIPPOQUARIUM
- 19 - PLAINS ANTELOPE
- 20 - ELEPHANT HOLDING
- 21 - VET CENTER, COMMISSARY
- 22 - SLOTH BEARING
- 23 - SLOTH BEARING/WATERFOWL/FLAMINGO
- 24 - TUNNEL HEAD HOUSE
- 25 - NORTHERN ICE
- 26 - BEAR ESSENTIALS GIFT HUT/ ARCTIC ENCOUNTER
- 27 - WOLF EXHIBIT
- 28 - KAROO SNACK
- 29 - AFRICAN ANIMAL CAROUSEL CENTER
- 30 - SAFARI RAILWAY
- 31 - KARAFU BEQ
- 32 - GIRAFFE FEED DECK
- 33 - CHEETAH BUILDING
- 34 - CHALLENGE COURSE
- 35 - AFRICA - BARN
- 36 - AFRICA - TRAIN BARN
- 37 - VISITOR SERVICES BUILDING
- 38 - EDUCATION BUILDING
- 39 - OFF EXHIBIT ANIMAL HOLDING
- 40 - PRODUCTION GREENHOUSE
- 41 - EXHIBIT DEPARTMENT & STORAGE
- 42 - MAINTENANCE BUILDING/WAREHOUSE

— DENOTES BOUNDARY LINE OF PROPERTY OWNED BY THE TOLEDO ZOO

— DENOTES PROPERTY OWNED BY THE TOLEDO ZOO TO BE REZONED TO INSTITUTIONAL CAMPUS

PLAN North True North

EXHIBIT A  
 EXISTING SITE PLAN

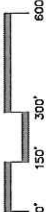


EXHIBIT B-3  
OFF EXHIBIT  
ANIMAL HOLDING

EXHIBIT B-2  
NORTH PARKING LOT  
REDEVELOPMENT

EXHIBIT B-1  
CARNIVORE AREA

EXHIBIT B-4  
PRODUCTION  
GREENHOUSE

EXHIBIT B-5  
BEAR EXHIBIT  
REDEVELOPMENT

EXHIBIT B-13  
ENCLOSE AMHERST

EXHIBIT B-12  
AVIARY GREENHOUSE

EXHIBIT B-11  
CARNIVORE CAFE  
REDEVELOPMENT

EXHIBIT B-10  
CONCESSION STAND

EXHIBIT B-9  
RED PANDA  
BREEDING FACILITY

EXHIBIT B-6  
REPTILE HOUSE  
REDEVELOPMENT

EXHIBIT B-8  
CONSERVATORY  
CATERING FACILITY

EXHIBIT B-7  
AMPHITHEATER  
REDEVELOPMENT

EXHIBIT NOT SHOWN ON MAP  
EXHIBIT B-14 - MERCHANDISE  
HUTS (VARIES LOCATIONS)

**BUILDING INDEX**

- 1 KINGDOM OF THE APES
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- 9 THE LODGE
- 10 BEER BEASTRO
- 11 AVIARY
- 12 CARNIVORE CAFE
- 13 INDOOR THEATRE
- 14 NATURE SCIENCE
- 15 OHIO HOME
- 16 NATURE'S NEIGHBORHOOD
- 17 REPTILE HOUSE
- 18 HIPPO HOLDING
- 19 HIPPO GUARDHOUSE
- 20 PLAINS ANTELOPE
- 21 ELEPHANT HOLDING
- 22 ELEPHANT GUARDHOUSE
- 23 RHINO BUILDING
- 24 SLOTH BEAR/TIGER/WATERFOWL/FLAMINGO
- 25 TUNNEL HEAD HOUSE
- 26 BEAR ESSENTIALS GIFT HUT/RENTALS & FIRST AID
- 27 ARCTIC ENCOUNTER
- 28 WOLF EXHIBIT
- 29 AFRICAN ANIMAL CAROUSEL
- 30 MALAWI EVENT CENTER
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- 41 OFF EXHIBIT ANIMAL HOLDING
- 42 OFF EXHIBIT ANIMAL HOLDING
- 43 EXHIBIT DEPARTMENT & STORAGE
- 44 MAINTENANCE BUILDING/WAREHOUSE
- 45
- 46
- 47
- 48

GENERAL NOTES

No.	Revision/Issue	Date
1		
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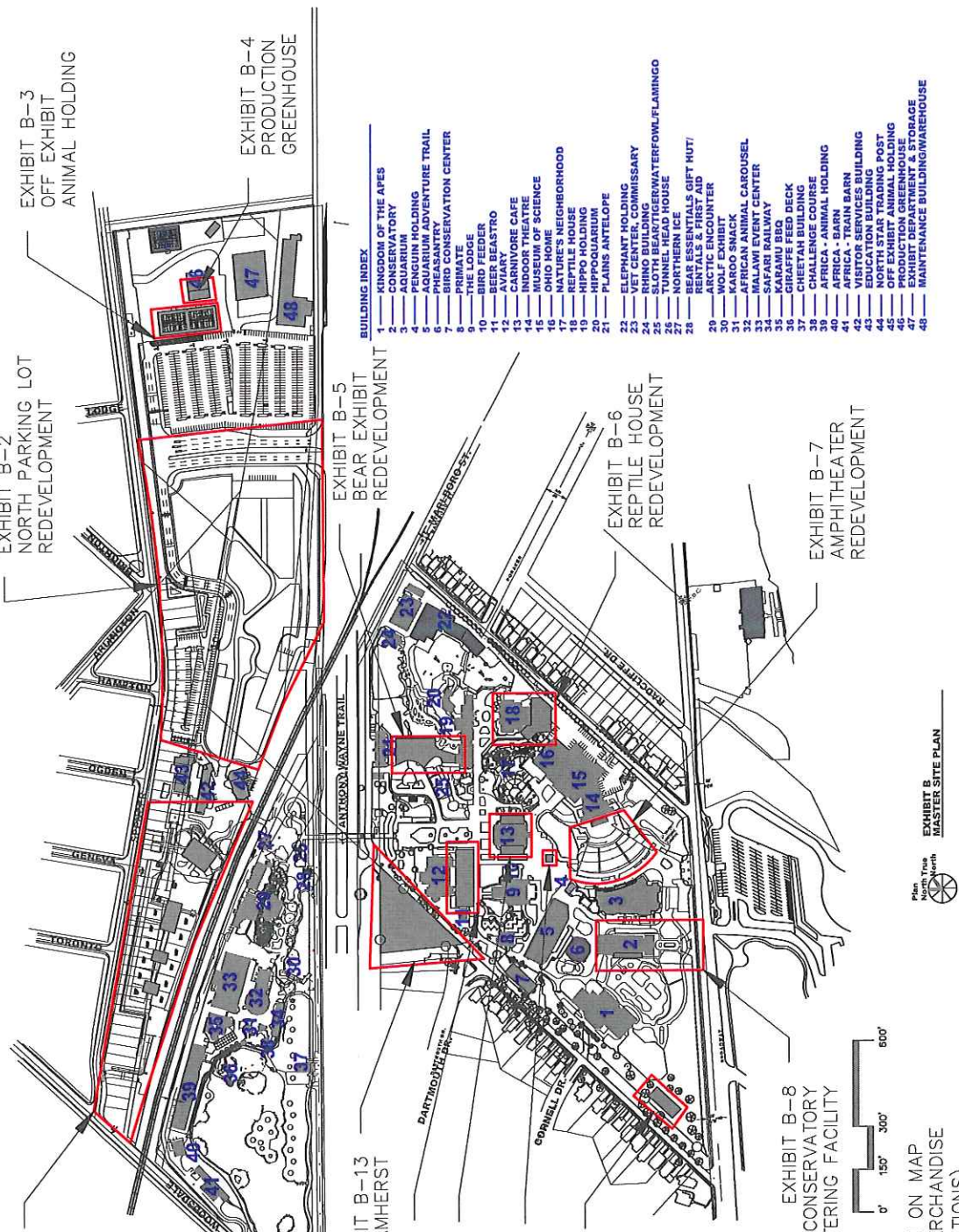
**Toledo Zoo - Construction Department**  
 P.O. Box 140130  
 2700 Broadway  
 Toledo, OH 43624  
 Tel. 419-525-7271  
 Fax. 419-359-3154

**INSTITUTIONAL MASTER PLAN**

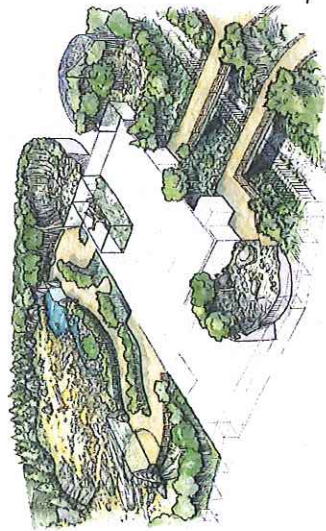
EXHIBIT B  
INSTITUTIONAL MASTER PLAN

DATE: 08/01/21  
 DRAWN BY: VISUAL

**G-001**



Plan North True North  
 EXHIBIT B MASTER SITE PLAN



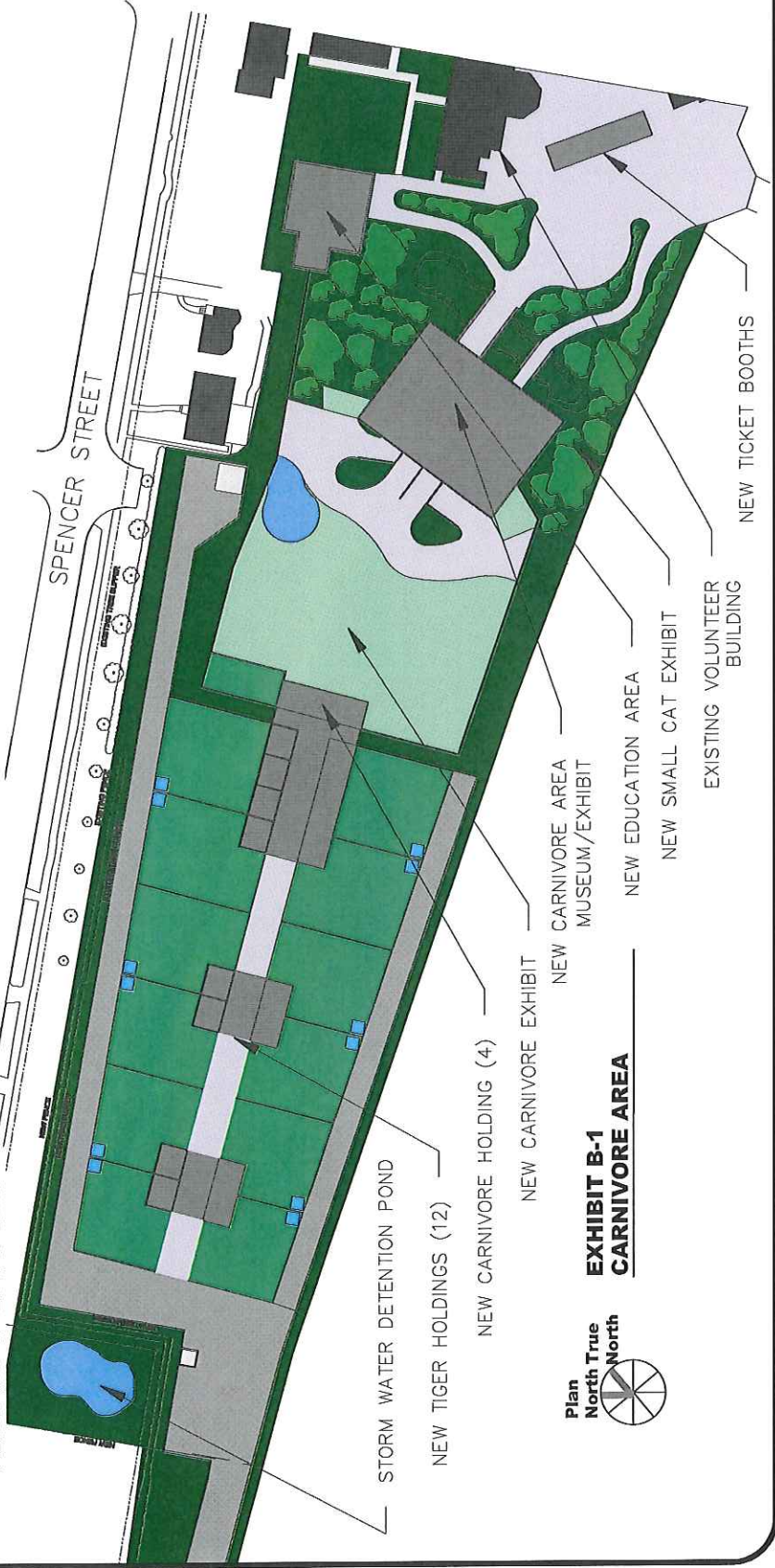
RENDERING OF ENTIRE EXHIBIT.



RENDERING OF MUSEUM ENTRANCE



RENDERING OF CARNIVORE EXHIBIT



**EXHIBIT B-1  
CARNIVORE AREA**

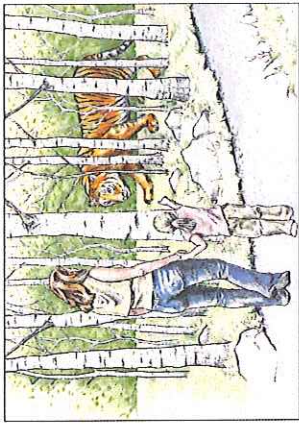
GENERAL NOTES	
No.	Revision/Issue
1	
2	

**TOLEDO ZOO & AQUARIUM**

**Toledo Zoo - Construction Department**  
 P.O. Box 140130  
 2700 Broadway  
 Toledo, OH 43657-0130  
 Phone: 419-393-5721  
 Fax: 419-393-3154

PROJECT NO: INSTITUTIONAL\_MASTER  
 PLAN  
 EXHIBIT\_B-1  
 CARNIVORE\_AREA

APPROVAL D.	<b>G-002</b>
DATE	
1/22" = 1'-0"	



**GDB**  
CONCEPT DESIGN & RENDERING

LANDSCAPE ARCHITECTURE CONCEPTS



TIGER CONCEPT RENDERINGS

TIGER EXHIBIT RENDERINGS



EXHIBIT RENDERINGS



BEAR EXHIBIT RENDERINGS

GENERAL NOTES

No.	Revision/Issue	Date
1		
2		



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Construction Department  
P.O. Box 140130  
2700 Broadway  
Toledo, OH 43614  
Tel: 419-399-3721  
Fax: 419-399-3754

PROJECT NAME:  
**INSTITUTIONAL\_MASTER  
PLAN**

DRAWING NO:  
**EXHIBIT\_B-1A  
CARNIVORE\_AREA**

DATE:  
DRAWN BY:  
CHECKED BY:  
SCALE:  
**G-002A**  
NONE

GENERAL NOTES

No.	Revision/Issue	Date
1		
2		



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 P.O. Box 140130  
 2700 Broadway  
 Toledo, OH 43614  
 Tel: 419-399-3171  
 Fax: 419-399-3157

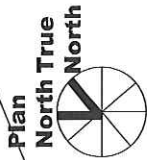
PROJECT NAME: INSTITUTIONAL\_MASTER PLAN  
 EXHIBIT: EXHIBIT\_B-2  
 DRAWING: PARKING\_LOT\_REDEVELOPMENT

DATE: 08/26/2011  
 DRAWN BY: NATHAN D.  
 SCALE: 1/8"=1'-0"  
**G-003**



**ANTHONY WAYNE TRAIL**

NEW TOLEDO ZOO SERVICE DRIVE



**EXHIBIT B-2  
 PARKING LOT REDEVELOPMENT**

GENERAL NOTES

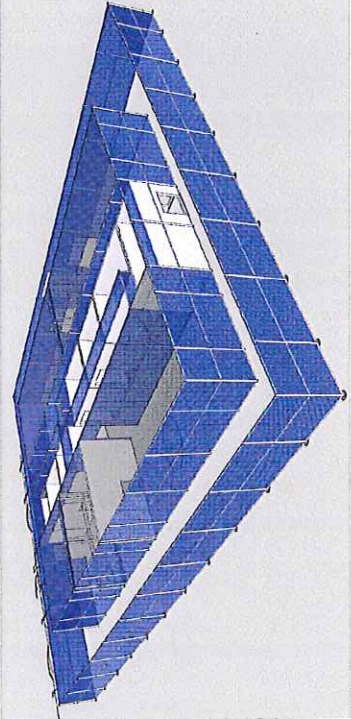
No.	Revision/Issue	Date
1		
2		



**Toledo Zoo - Construction Department**  
 P.O. Box 140130  
 2700 Broadway  
 Toledo, OH 43614  
 Phone: 419-368-3171  
 Fax: 419-368-3157

PROJECT NAME: INSTITUTIONAL\_MASTER PLAN  
 DRAWING TITLE: EXHIBIT B-3 OFF EXHIBIT ANIMAL HOLDING

DATE: 26-FEB-21  
 DRAWN BY: NATHAN D. G-004  
 SCALE: 1/32"=1'-0"

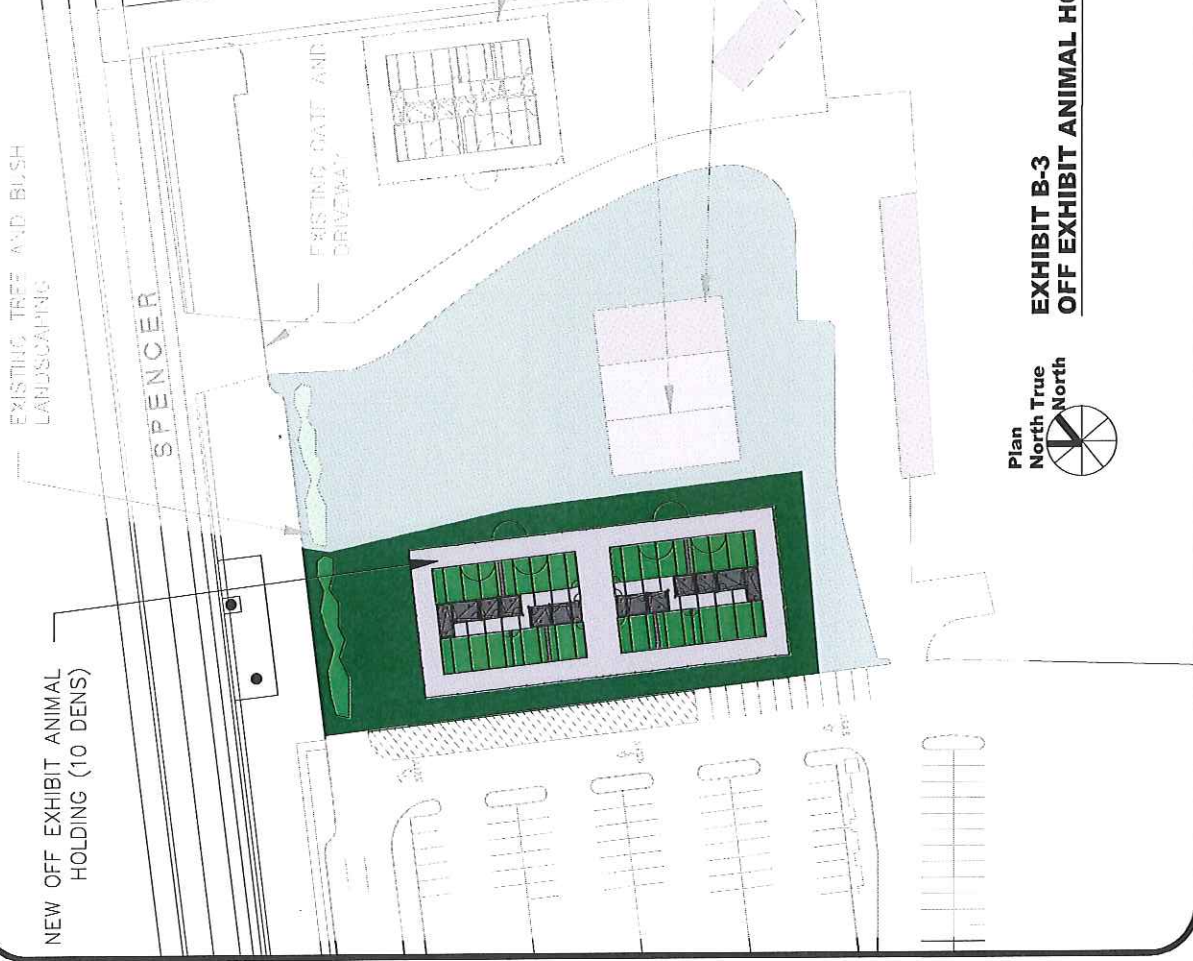


RENDERING OF OFF EXHIBIT ANIMAL HOLDING

EXISTING OFF EXHIBIT ANIMAL HOLDING (SPR 55 15)

TWO NEW PRODUCTION GREENHOUSE (EXHIB B-4)

EXISTING PRODUCTION GREEN HOUSE (SPR-4-2)



NEW OFF EXHIBIT ANIMAL HOLDING (10 DENS)

EXISTING TREE AND BUSH LANDSCAPING

SPENCER

EXISTING GAIT AND DRIVEWAY



**EXHIBIT B-3  
OFF EXHIBIT ANIMAL HOLDING**



EXISTING TREE AND BUSH  
LANDSCAPING

NEW OFF EXHIBIT ANIMAL  
HOLDING (EXHIBIT 5-3)

SPENCER

EXISTING GATE AND  
DRIVEWAY



STOCK IMAGE OF MATTERHORN  
GREENHOUSE STYLE

EXISTING OFF EXHIBIT ANIMAL  
HOLDING (SPR 55 15)

TWO NEW PRODUCTION  
GREENHOUSE

EXISTING PRODUCTION GREENHOUSE  
(SAME STYLE) (SPR-4-21)



**EXHIBIT B-4  
PRODUCTION GREENHOUSE**

GENERAL NOTES

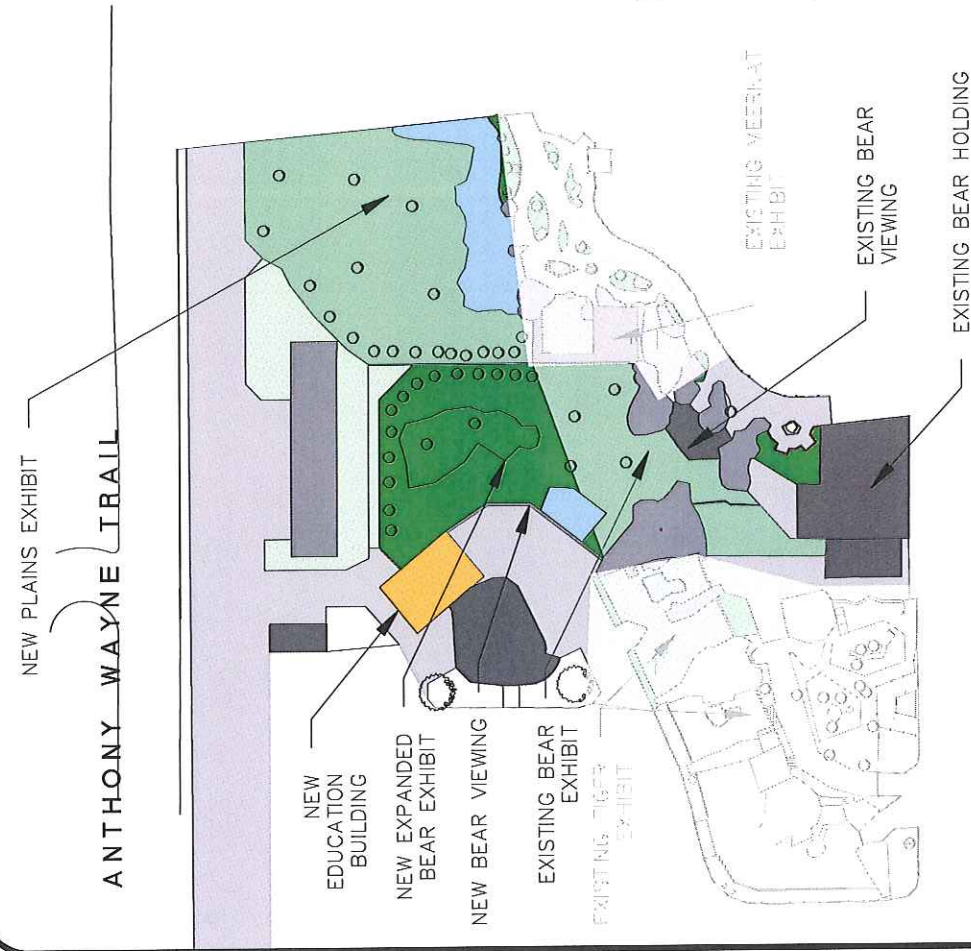
No.	Revision/Issue	Date
1		
2		



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Construction Department  
P.O. Box 140130  
2700 Broadway  
Toledo, OH 43614  
Phone: 419-247-3721  
Fax: 419-368-3757

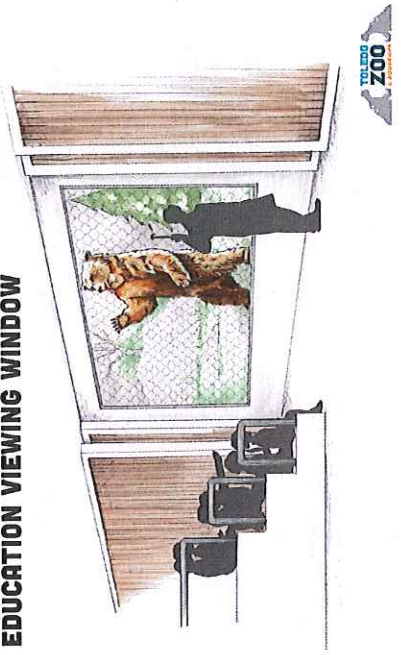
PROJECT NAME:  
INSTITUTIONAL\_MASTER  
PLAN  
EXHIBIT B-4  
PRODUCTION\_GREENHOUSE

DATE:  
26-FEB-21  
DRAWN BY:  
LATHAN D.  
SCALE:  
1/32"=1'-0"  
G-005

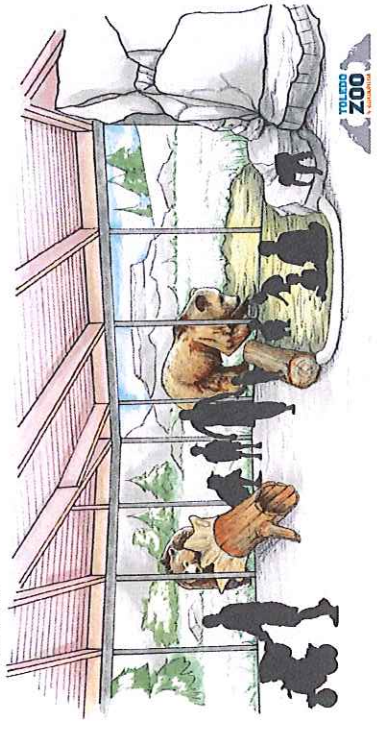


**EXHIBIT B-5  
BEAR EXHIBIT REDEVELOPMENT**

BEAR EXHIBIT  
**EDUCATION VIEWING WINDOW**



BEAR EXHIBIT  
**DIG PIT**



NOTES:

1. ALL FENCING AND CONTAINMENT TO MEET OR EXCEED AZA AND USDA REQUIREMENTS

GENERAL NOTES

No.	Revision/Phase	Date
1		
2		



**Toledo Zoo - Construction Department**  
 P.O. Box 140130  
 2700 Broadway  
 Toledo, OH 43624  
 Fax: 419-389-3754

Project Name: **INSTITUTIONAL\_MASTER PLAN**  
 Drawing Title: **EXHIBIT\_B-5 BEAR\_EXHIBIT\_REDEVELOPMENT**

Sheet No.: **G-006**  
 Date: 28-APR-21  
 Scale: 1/32" = 1'-0"

GENERAL NOTES

No.	Revision/Issue	Date
1		
2		



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 P.O. Box 140130  
 2700 Broadway  
 Toledo, OH 43614  
 Tel: 419-383-3751  
 Fax: 419-383-3754

PROJECT NAME: **INSTITUTIONAL\_MASTER PLAN**  
 DRAWING TITLE: **EXHIBIT\_B-5A BEAR\_EXHIBIT\_RENDERINGS**

DATE: **28FPR21**  
 DRAWN BY: **NATHAN D.**  
 CHECKED BY: **G-006A**  
 SCALE: **NONE**

**BEAR EXHIBIT TRAINING WALL**



**BEAR EXHIBIT SENSORY LOG**



**BEAR EXHIBIT OUTDOOR VIEWING**



EXHIBIT PLAN VIEW RENDERING

GENERAL NOTES

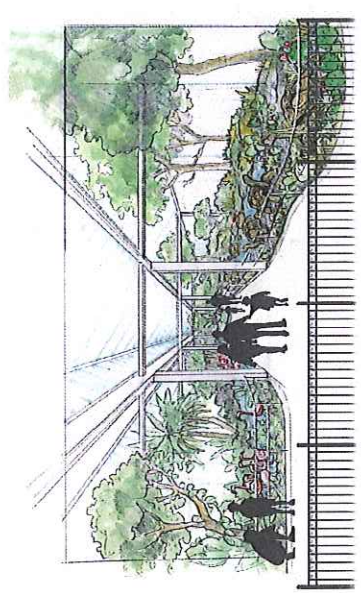
No.	Revisions/Issue	Date
1		
2		



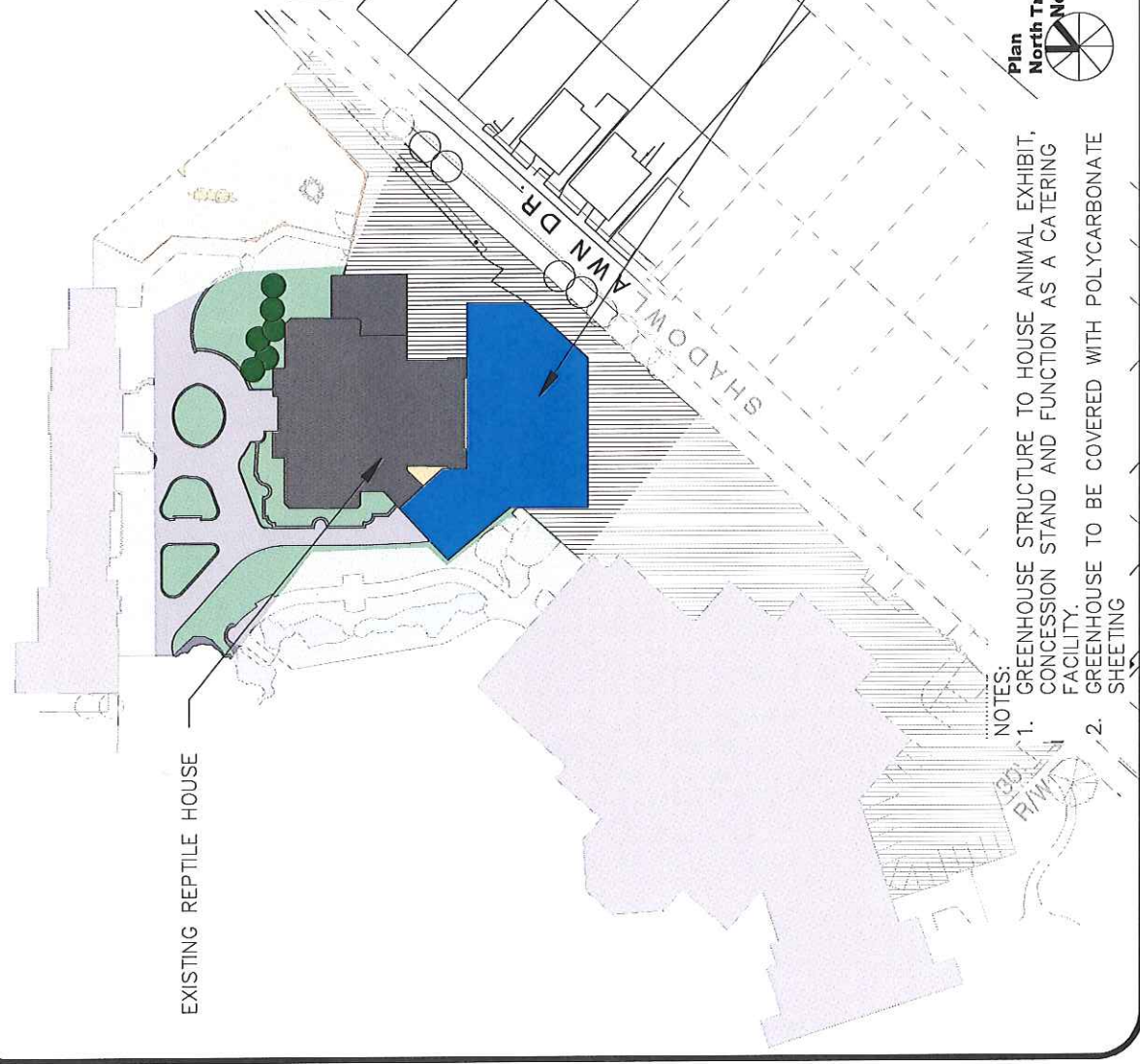
**Toledo Zoo - Construction Department**  
 P.O. Box 140130  
 2700 Broadway  
 Toledo, OH 43657-0130  
 Phone: 419-269-3154  
 Fax: 419-269-3157

PROJECT NAME: INSTITUTIONAL\_MASTER PLAN  
 DRAWING TITLE: EXHIBIT B-6 REPTILE HOUSE REDEVELOPMENT

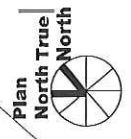
DATE: 11/14/14  
 DRAWN BY: NATHAN D. GARDNER  
 SCALE: 1/32"=1'-0"  
**G-007**



RENDERING OF INTERIOR OF GREENHOUSE ER



NEW GREENHOUSE STRUCTURE ATTACHED TO REPTILE HOUSE.



**EXHIBIT B-6 REPTILE HOUSE REDEVELOPMENT**

- NOTES:
- GREENHOUSE STRUCTURE TO HOUSE ANIMAL EXHIBIT, CONCESSION STAND AND FUNCTION AS A CATERING FACILITY.
  - GREENHOUSE TO BE COVERED WITH POLYCARBONATE SHEETING

EXISTING REPTILE HOUSE

GENERAL NOTES

No.	Revisions/Issues	Date
1		
2		

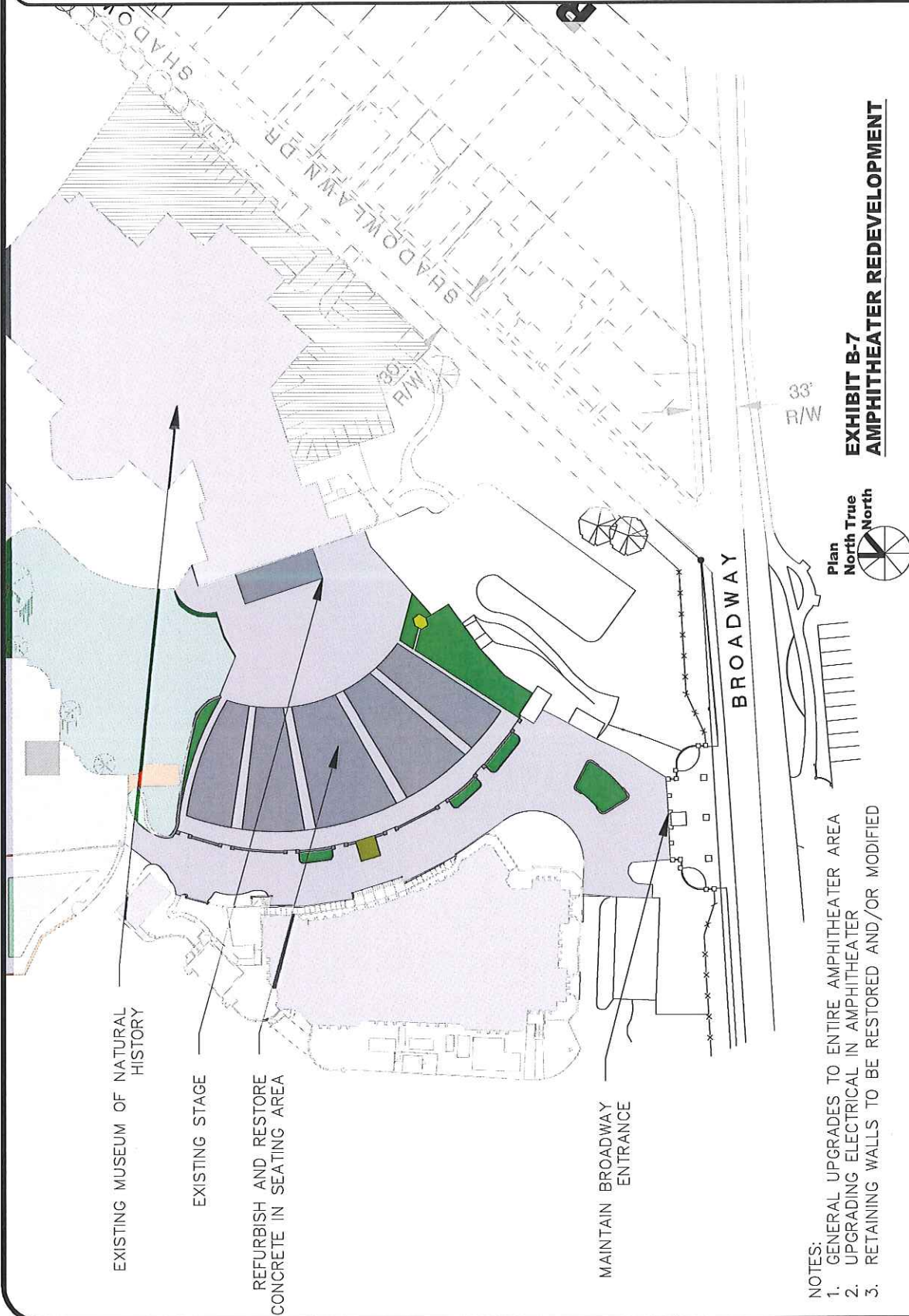


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Construction Department**  
P.O. Box 140130  
2700 Broadway  
Toledo, OH 43614  
Phone: 419-285-5721  
Fax: 419-285-1154

PROJECT NAME  
**INSTITUTIONAL MASTER  
PLAN**

EXHIBIT NO.  
**EXHIBIT B-7  
AMPHITHEATER REDEVELOPMENT**

DATE  
APPROVED BY  
NATHAN D.  
SCALE  
1/32"=1'-0"  
**G-008**



- NOTES:
1. GENERAL UPGRADES TO ENTIRE AMPHITHEATER AREA
  2. UPGRADING ELECTRICAL IN AMPHITHEATER
  3. RETAINING WALLS TO BE RESTORED AND/OR MODIFIED



**EXHIBIT B-7  
AMPHITHEATER REDEVELOPMENT**

BROADWAY

33'  
R/W

30'  
R/W

EXISTING MUSEUM OF NATURAL HISTORY

EXISTING STAGE

REFURBISH AND RESTORE  
CONCRETE IN SEATING AREA

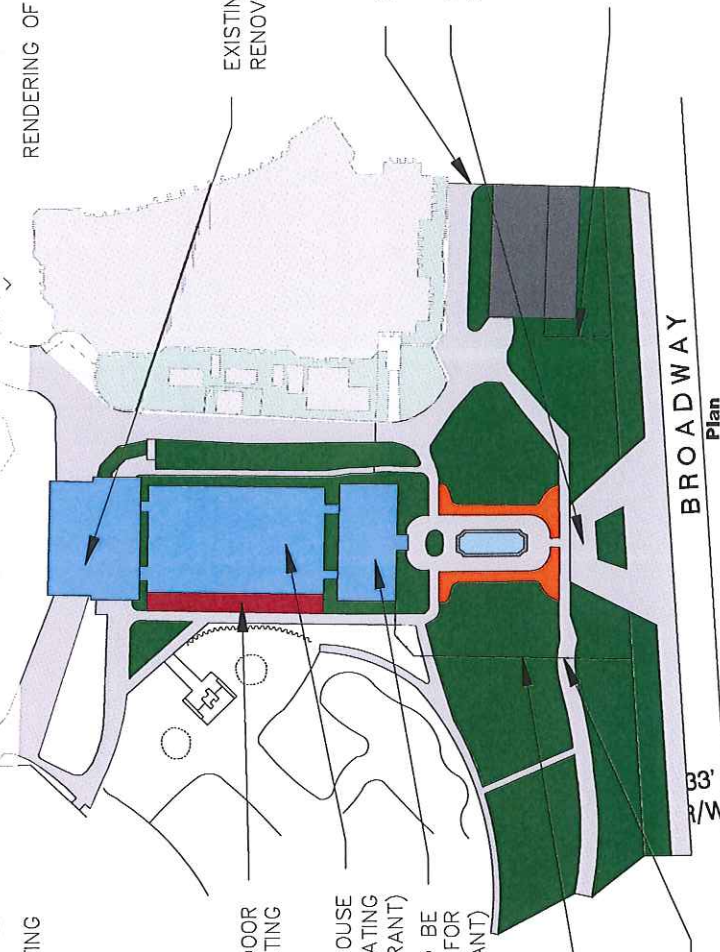
MAINTAIN BROADWAY  
ENTRANCE



RENDERING OF EXTERIOR SEATING



RENDERING OF INTERIOR SEATING



NEW AWNING FOR OUTDOOR SEATING

EXISTING PRODUCTION GREENHOUSE (TO BE RENOVATED IN TO SEATING FOR RESTAURANT)

EXISTING CONSERVATORY (TO BE RENOVATED IN TO ENTRANCE FOR RESTAURANT)

NEW 8' USDA FENCE TO MAINTAIN PERIMETER

NEW GATE

EXISTING POTTING SHED (TO BE RENOVATED IN TO KITCHEN AREA)

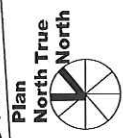
NEW GATE

NEW PEDESTRIAN ENTRANCE OFF OF BROADWAY

NEW 8' USDA FENCE TO MAINTAIN PERIMETER

BROADWAY

33' R/W



**EXHIBIT B-8  
CONSERVATORY CATERING FACILITY**

GENERAL NOTES

No.	Revision/Issue	Date
1		
2		



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Construction Department**  
P.O. Box 140130  
2700 Broadway  
Toledo, OH 43614  
Tel: 419-253-7271  
Fax: 419-253-3757

PROJECT NAME:  
**INSTITUTIONAL\_MASTER  
PLAN**

EXHIBIT:  
**EXHIBIT\_B-8  
CONSERVATORY\_CATERING**

DATE:  
DRAWN BY:  
CHECKED BY:  
SCALE:  
**G-009**  
1/32"=1'-0"

GENERAL NOTES

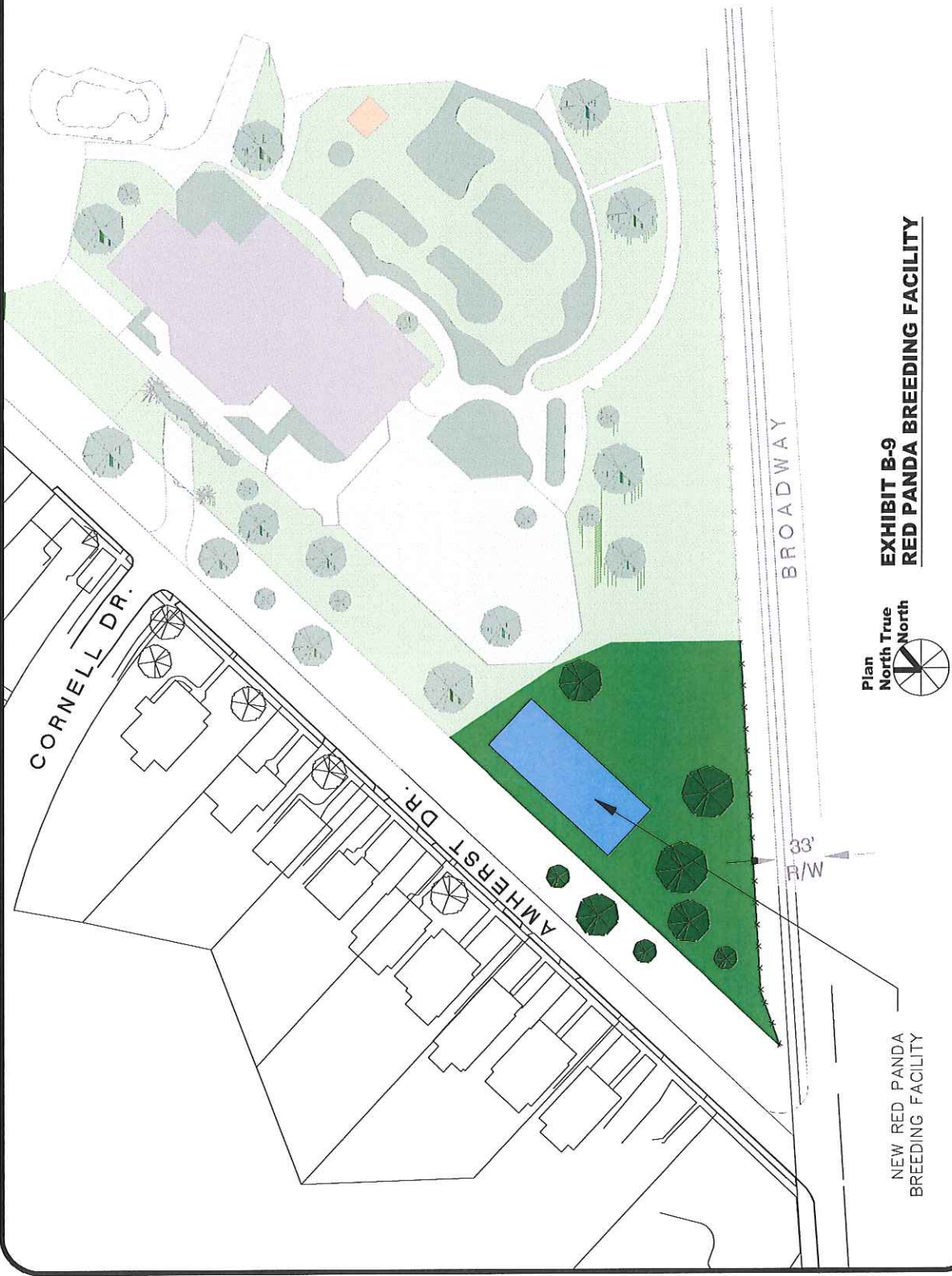
No.	Revision/Issue	Date
1		
2		



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 P.O. Box 140130  
 2700 Broadway  
 Toledo, OH 43614  
 Fax: 419-393-3171  
 Fax: 419-393-3151

PROJECT NAME: INSTITUTIONAL\_MASTER  
 DRAWING NO: EXHIBIT\_B-9  
 RED\_PANDA

DATE: 28APR21  
 DRAWN BY: NATHAN D.  
 SCALE: 1/32"=1'-0"  
**G-010**



GENERAL NOTES

No.	Revision/Issue	Date
1		
2		

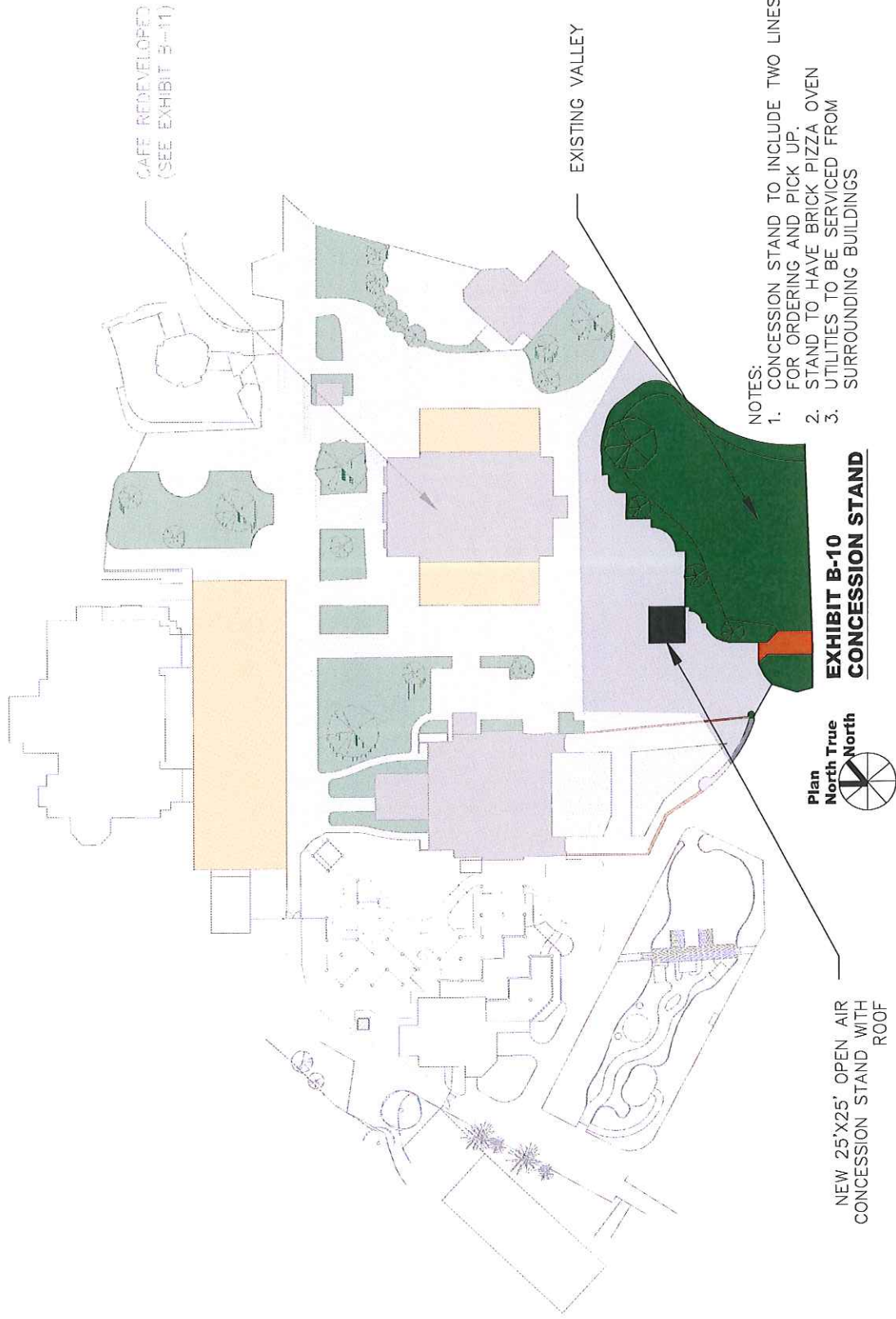


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Construction Department**  
P.O. Box 140130  
2700 Broadway  
Toledo, OH 43614  
Tel: 419-399-3721  
Fax: 419-399-3757

PROJECT NAME:  
**INSTITUTIONAL\_MASTER  
PLAN**

WORKING TITLE:  
**EXHIBIT\_B-10  
CAFE\_REDEVELOPMENT**

DATE:  
1/24/14 D.  
DRAWN BY:  
264PR21  
SCALE:  
1/32"=1'-0"  
**G-011**



- NOTES:
1. CONCESSION STAND TO INCLUDE TWO LINES FOR ORDERING AND PICK UP.
  2. STAND TO HAVE BRICK PIZZA OVEN UTILITIES TO BE SERVICED FROM SURROUNDING BUILDINGS



NEW 25'X25' OPEN AIR  
CONCESSION STAND WITH  
ROOF

**EXHIBIT B-10  
CONCESSION STAND**

EXISTING VALLEY

CAFE REDEVELOPED  
(SEE EXHIBIT B-11)



GENERAL NOTES

No.	Revision/Issue	Date
1		
2		



Toledo Zoo -  
Construction Department  
P.O. Box 140130  
2700 Broadway  
Toledo, OH 43614  
Tel: 419-399-3151  
Fax: 419-399-3154

Project Name:  
INSTITUTIONAL\_MASTER  
PLAN  
Drawing No:  
EXHIBIT\_B-11  
CAFE\_REDEVELOPMENT

Scale:  
NATHAN D.  
26APR21  
1/32"=1'-0"  
G-012

NEW AVIARY GREENHOUSE. SEE  
EXHIBIT B-12 FOR DETAILS

CARNIVORE CAFE  
REDEVELOPED INTO  
ANIMAL EXHIBIT

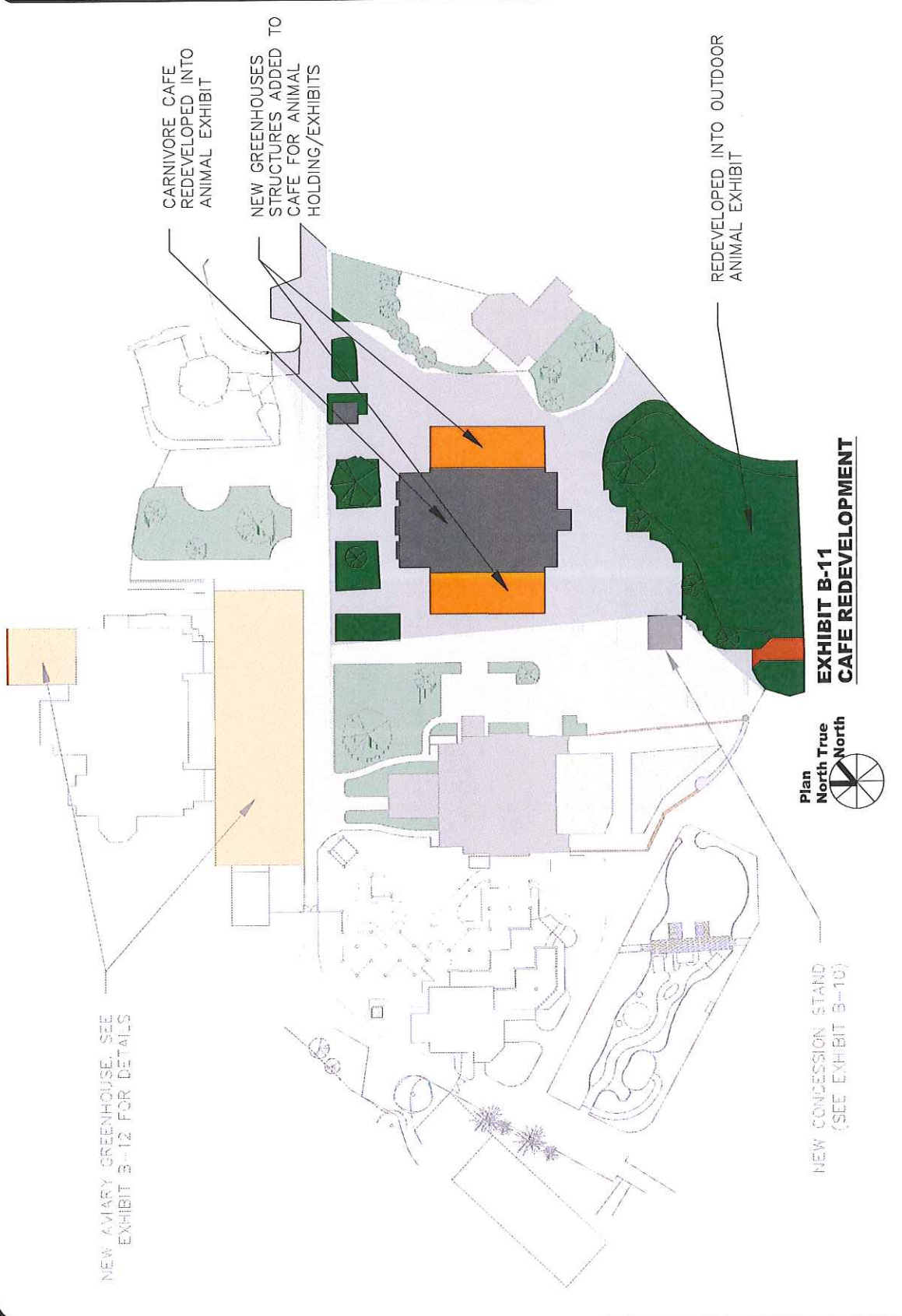
NEW GREENHOUSES  
STRUCTURES ADDED TO  
CAFE FOR ANIMAL  
HOLDING/EXHIBITS

REDEVELOPED INTO OUTDOOR  
ANIMAL EXHIBIT

NEW CONCESSION STAND  
(SEE EXHIBIT B-10)



**EXHIBIT B-11  
CAFE REDEVELOPMENT**



GENERAL NOTES

No.	Revision/Date	Date
1		
2		



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 Toledo, OH 43614  
 Tel: 419-393-3157  
 Fax: 419-393-3157

PROJECT NAME: INSTITUTIONAL\_MASTER  
 PLAN: EXHIBIT\_B-12  
 DRAWING TITLE: AVIARY\_GREENHOUSE

DATE: 28APR21  
 DRAWN BY: NATHAN D.  
 SCALE: 1/32"=1'-0"  
**G-013**



**EXHIBIT B-12  
 AVIARY GREENHOUSE**



EXISTING TOLEDO ZOO EMPLOYEE ENTRANCE OFF OF AMHERST DR.

NEW AVIARY GREENHOUSE

NEW CUSTOM CONNECTION VESTIBULES

NEW AVIARY GREENHOUSE

RENDERING OF INTERIOR OF GREENHOUSE

DARTMOUTH DR.  
 25' R/W  
 AMHERST DR.

EXISTING AVIARY

GENERAL NOTES

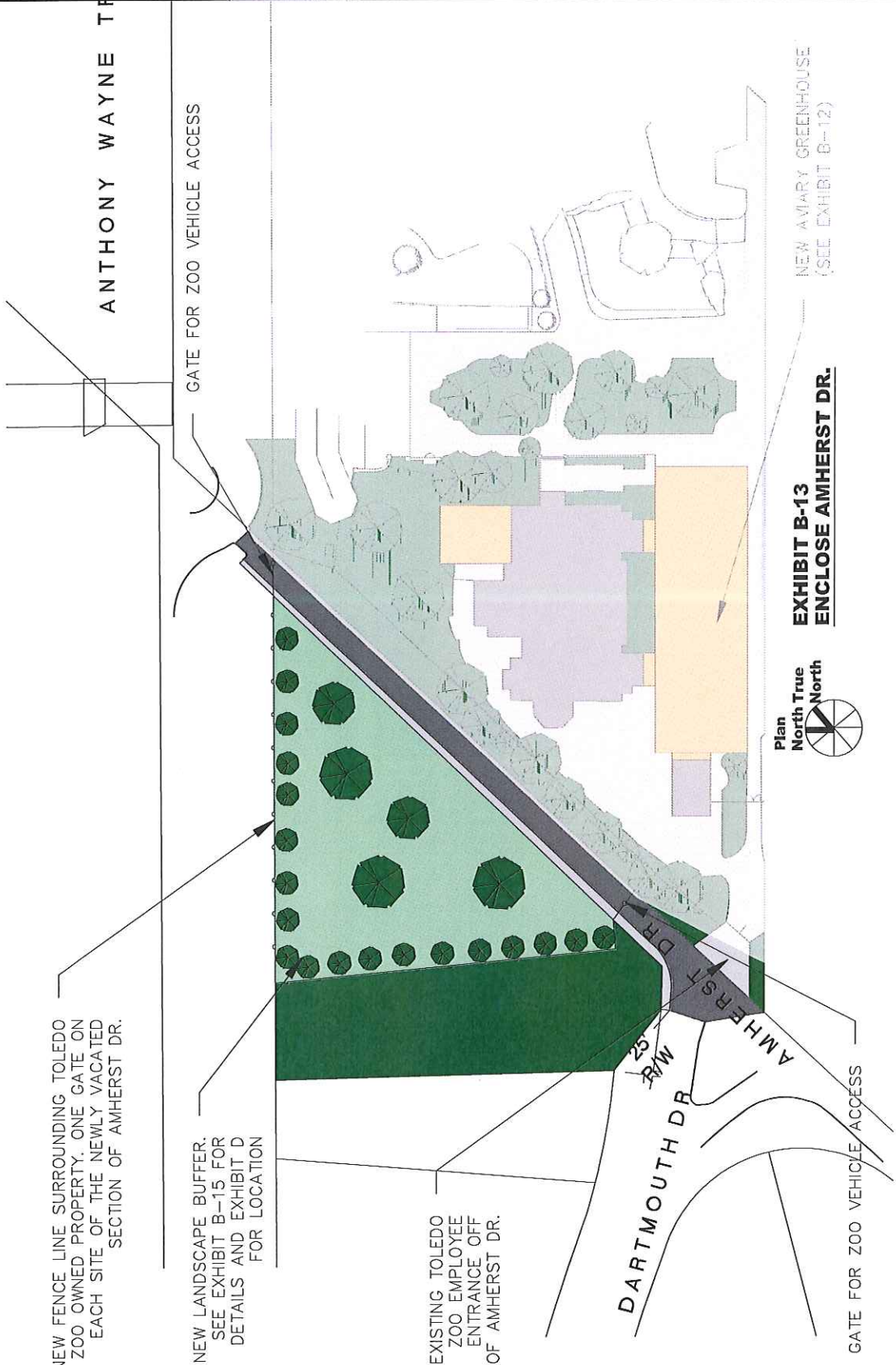
No.	Revision/Issue	Date
1		
2		



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 Toledo, OH 43614  
 Phone: 419-398-5721  
 Fax: 419-398-9154

PROJECT NAME: INSTITUTIONAL\_MASTER PLAN  
 DRAWING NO: EXHIBIT\_B-13 ENCLOSE\_AMHERST

DATE: 26APR21  
 SCALE: 1/32"=1'-0"  
**G-014**



NEW FENCE LINE SURROUNDING TOLEDO ZOO OWNED PROPERTY. ONE GATE ON EACH SIDE OF THE NEWLY VACATED SECTION OF AMHERST DR.

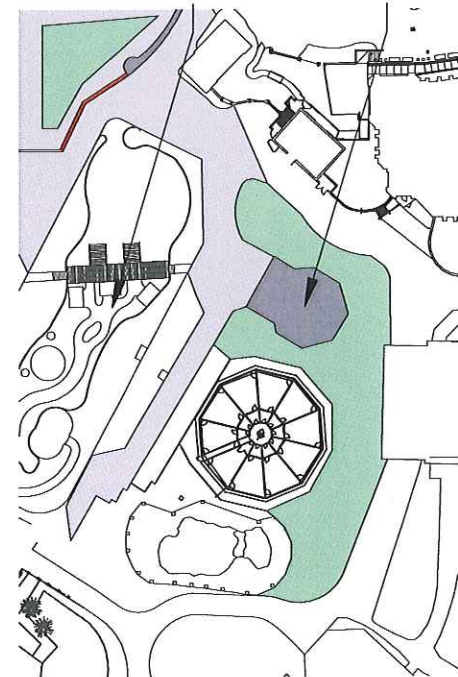
NEW LANDSCAPE BUFFER. SEE EXHIBIT B-15 FOR DETAILS AND EXHIBIT D FOR LOCATION

EXISTING TOLEDO ZOO EMPLOYEE ENTRANCE OFF OF AMHERST DR.

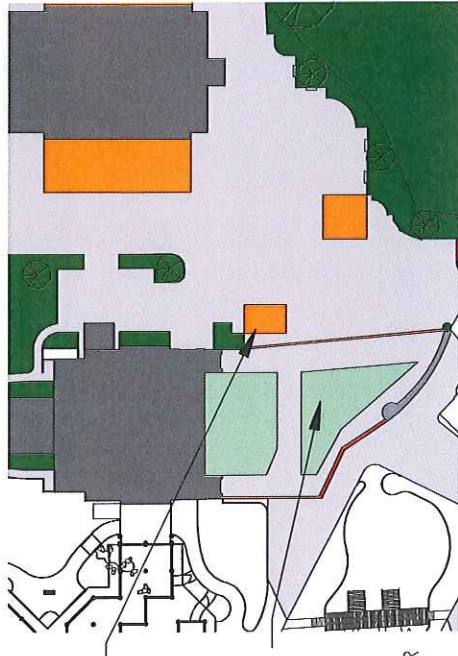
**EXHIBIT B-13 ENCLOSE AMHERST DR.**



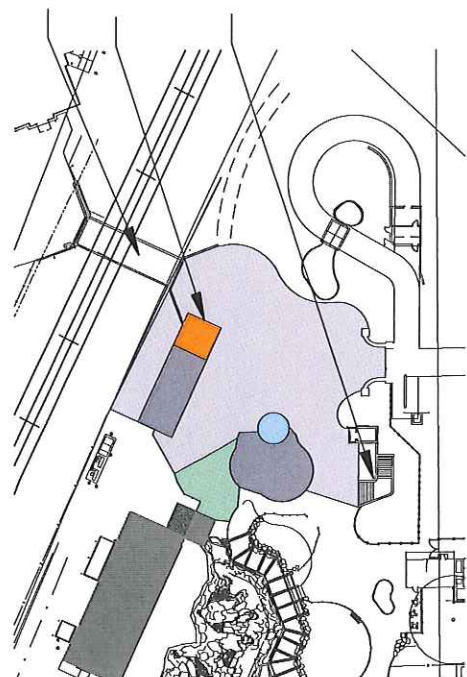
NEW AVIARY GREENHOUSE (SEE EXHIBIT B-12)



1. MERCHANDISE HUT IN CAROUSEL STRUCTURE



2. MERCHANDISE HUT AT BARN YARD EXHIBIT



3. SHADE STRUCTURE ADDITION AT EXISTING MERCHANDISE STRUCTURE

NEW MERCHANDISE HUT

AQUARIUM ADVENTURE TRAIL

BARN YARD EXHIBIT

RENOVATE EXISTING CAROUSEL STRUCTURE FOR MERCHANDISE HUT

EXISTING TOLEDO ZOO TUNNEL UNDER RAILROAD

NEW SHADE STRUCTURE OFF OF EXISTING MERCHANDISE STRUCTURE

EXISTING TUNNEL ENTRANCE UNDER ANTHONY WAYNE TRAIL

NOTES

1. CAROUSEL STRUCTURE CLOSE IN STRUCTURE WITH WIND SCREENS
2. BARN YARD
  - 2.1. NEW BARN STYLE STRUCTURE TO HOLD MERCHANDISE. OPEN AIR STRUCTURE
3. SHADE STRUCTURE
  - 3.1. ATTACH SHADE STRUCTURE TO EXISTING BUILDING



**EXHIBIT B-14  
MERCHANDISE HUTS**

GENERAL NOTES

No.	Revision/Issue	Date
1		
2		



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 Toledo, OH 43614  
 Phone: 419-393-5171  
 Fax: 419-393-5154

Project Name: INSTITUTIONAL\_MASTER PLAN  
 Drawing No: EXHIBIT\_B-14\_MERCHANDISE\_HUTS

Drawn by: NATHAN D. COOK  
 Date: 2/26/21  
 Scale: 1/32"=1'-0"  
**G-015**

GENERAL NOTES

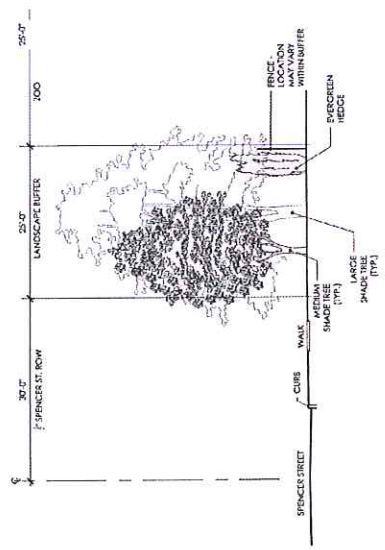
No.	Revised/Issue	Date
1		
2		



**Toledo Zoo - Construction Department**  
 P.O. Box 140130  
 2700 Broadway  
 Toledo, OH 43614  
 Phone: 419-255-5721  
 Fax: 419-255-5151

Project Name: INSTITUTIONAL\_MASTER PLAN  
 Drawing No: EXHIBIT\_B-15  
 Drawing Title: TYPICAL\_LANDSCAPE\_BUFFER

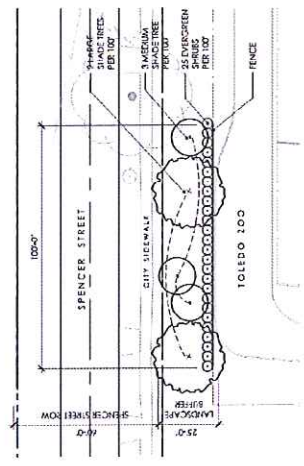
Drawn By: EDGE  
 Date: 26-FEB-21  
 Scale: 1/32"=1'-0"  
**G-016**



2 TYPICAL SECTION THROUGH SPENCER STREET LANDSCAPE BUFFER  
 Scale: 1/8"=1'-0"

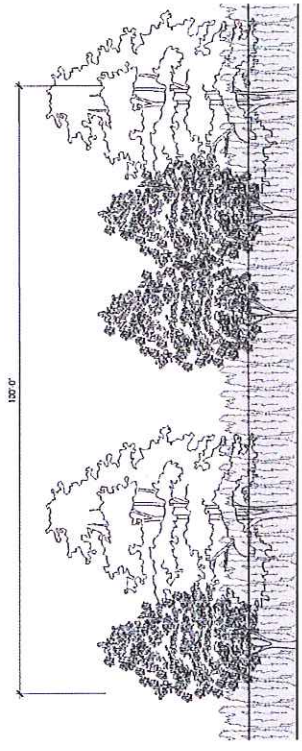


33 South Michigan Street  
 Toledo, Ohio 43604  
 419-255-5335



1 PLAN - 100' SECTION OF TYPICAL LANDSCAPE BUFFER  
 Scale: 1/4"=20'-0"

NOTE:  
 EXISTING TREES IN THE BUFFER ZONE  
 WILL BE SAVED WHEN POSSIBLE



3 ELEVATION - 100' SECTION OF TYPICAL LANDSCAPE BUFFER  
 Scale: 1/8"=1'-0"



**EXHIBIT B-15  
 TYPICAL LANDSCAPE BUFFER**

GENERAL NOTES

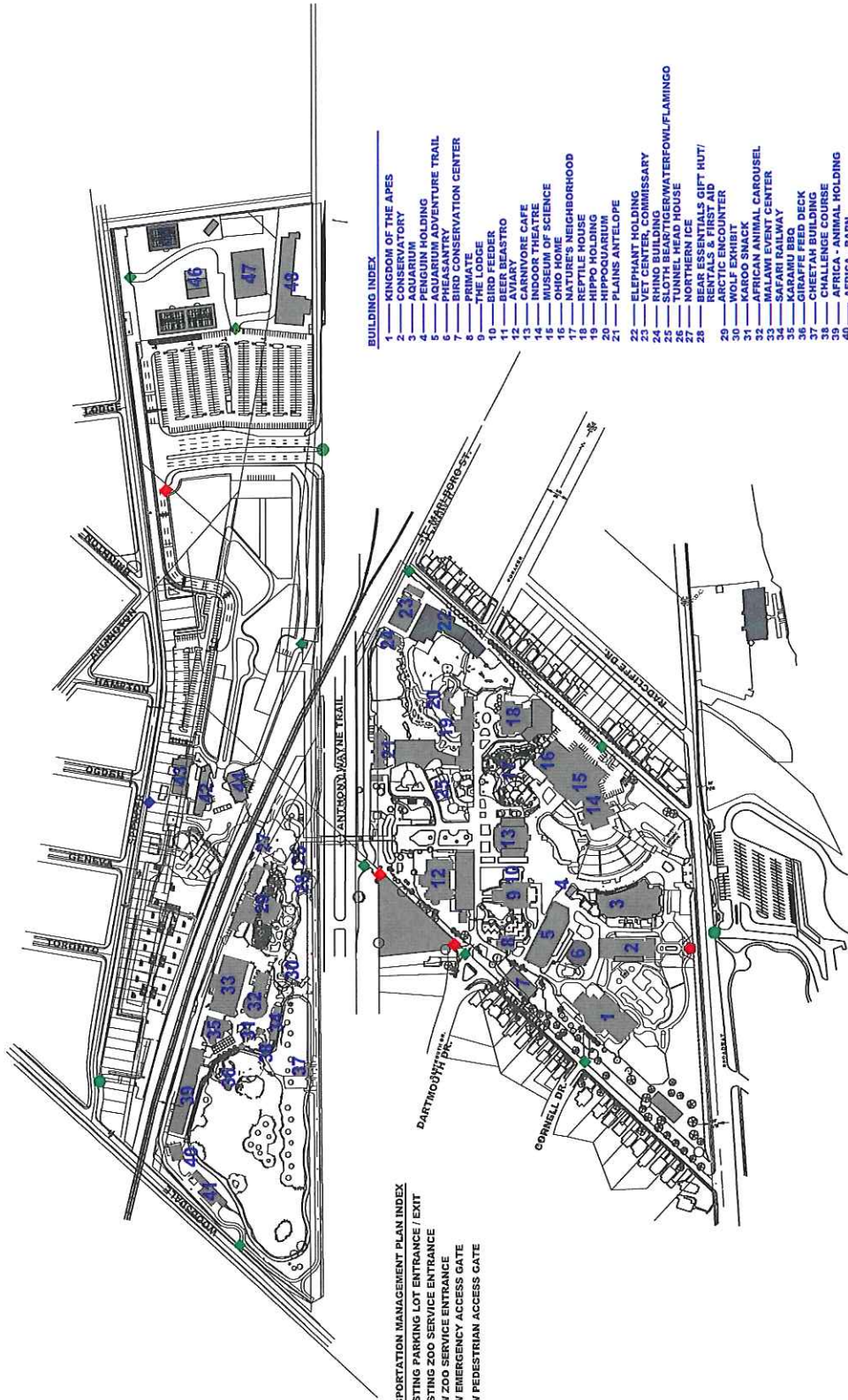
No.	Revision/Issue	Date
1		
2		



**Toledo Zoo -  
Construction Department**  
P.O. Box 140130  
2700 Broadway  
Toledo, OH 43614  
Phone: 419-382-3721  
Fax: 419-382-3751

**INSTITUTIONAL MASTER  
PLAN**  
DRAWING NO.  
**EXHIBIT C**  
TRANSPORTATION MANAGEMENT PLAN

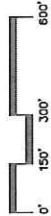
DATE  
2011.02.21  
DRAWN BY  
NATHAN D.  
CHECKED BY  
GARY PRZ  
SCALE  
VISUAL  
**G-017**



- TRANSPORTATION MANAGEMENT PLAN INDEX**
- EXISTING PARKING LOT ENTRANCE / EXIT
  - EXISTING ZOO SERVICE ENTRANCE
  - NEW ZOO SERVICE ENTRANCE
  - NEW EMERGENCY ACCESS GATE
  - NEW PEDESTRIAN ACCESS GATE

- BUILDING INDEX**
- 1 KINGDOM OF THE APES
  - 2 CONSERVATORY
  - 3 AQUARIUM
  - 4 KIDZ WORLD
  - 5 AQUARIUM ADVENTURE TRAIL
  - 6 PHEASANTRY
  - 7 BIRD CONSERVATION CENTER
  - 8 PRIMATE HOUSE
  - 9 BIRD FEEDER
  - 10 BEER BEASTRO
  - 11 AVIARY
  - 12 KAROO CAFE
  - 13 KAROO THEATRE
  - 14 MUSEUM OF SCIENCE
  - 15 OHIO HOME
  - 16 NATURE'S NEIGHBORHOOD
  - 17 REPTILE HOUSE
  - 18 HIPPOQUARIUM
  - 19 PLAINS ANTELOPE
  - 20 ELEPHANT HOLDING
  - 21 VET CENTER, COMMISSARY
  - 22 RHINO BUILDING
  - 23 SLOTH BEAST
  - 24 WATERFOWL/FLAMINGO HOUSE
  - 25 NORTHERN ICE HOUSE
  - 26 BEAR ESSENTIALS GIFT HUT/ RENTALS & FIRST AID
  - 27 ARCTIC ENCOUNTER
  - 28 KAROO SNACK
  - 29 AFRICAN ANIMAL CAROUSEL
  - 30 MALAWI EVENT CENTER
  - 31 SAFARI RAILWAY
  - 32 GIRAFFE FEED DECK
  - 33 CHEETAH BUILDING
  - 34 CHALLENGE COURSE
  - 35 AFRICA - ANIMAL HOLDING
  - 36 AFRICA - TRAIN BARN
  - 37 VISITOR SERVICES BUILDING
  - 38 EDUCATION BUILDING
  - 39 NORTH STAR TRADING POST
  - 40 OFFICE BUILDING
  - 41 PRODUCTION GREENHOUSE
  - 42 EXHIBIT DEPARTMENT & STORAGE
  - 43 MAINTENANCE BUILDING/WAREHOUSE

**EXHIBIT C  
TRANSPORTATION MANAGEMENT PLAN**



GENERAL NOTES

No.	Revision/Issue	Date
1		
2		



**Toledo Zoo - Construction Department**  
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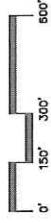
**INSTITUTIONAL MASTER PLAN**  
 EXHIBIT D  
 NEIGHBORHOOD PROTECTION PLAN

DATE: 11/14/18  
 DRAWN BY: J. BHERZI  
 VISUAL G-018



- BUILDING INDEX**
- 1 KINGDOM OF THE APES
  - 2 CONSERVATORY
  - 3 EDUCATION HOLDING
  - 4 AQUARIUM HOLDING
  - 5 AQUARIUM ADVENTURE TRAIL
  - 6 PHEASANTRY
  - 7 BIRD CONSERVATION CENTER
  - 8 THE LODGE
  - 9 BIRD FEEDER
  - 10 BEER BEASTRO
  - 11 AVIARY
  - 12 NATURE'S CAFE
  - 13 INDOOR THEATRE
  - 14 MUSEUM OF SCIENCE
  - 15 OHIO HOME
  - 16 NATURE'S NEIGHBORHOOD
  - 17 REPTILE HOUSE
  - 18 HIPPOQUARIUM
  - 19 PLAINS ANTELOPE
  - 20 ELEPHANT HOLDING
  - 21 VET CENTER, COMMISSARY
  - 22 RHINO BUILDING
  - 23 TUNNEL HEAD HOUSE
  - 24 NORTHERN ICE
  - 25 BEAR ESSENTIALS GIFT HUT/RENTALS & FIRST AID CENTER
  - 26 WOLF EXHIBIT
  - 27 KAROO SNACK
  - 28 AFRICAN ANIMAL CAROUSEL
  - 29 MALAWI EVENT CENTER
  - 30 KARAWU BRAY
  - 31 GIRAFFE FEED DECK
  - 32 CHEETAH BUILDING
  - 33 CHALLENGE COURSE
  - 34 AFRICA - ANIMAL HOLDING
  - 35 AFRICA - TRAIN BARN
  - 36 VISITOR SERVICES BUILDING
  - 37 EDUCATION BUILDING
  - 38 NATURE'S POST
  - 39 OFF EXHIBIT ANIMAL HOLDING
  - 40 PRODUCTION GREENHOUSE
  - 41 EXHIBIT DEPARTMENT & STORAGE
  - 42 NEIGHBORHOOD PROTECTION
  - 43 MAINTENANCE BUILDING/WAREHOUSE

**NOTES:**  
 1. NO NEW LANDSCAPE BUFFERS SHALL BE REQUIRED AT "HISTORIC ZOO" PERIMETER  
 2. SEE DRAWING EXHIBIT B-15 FOR TYPICAL LANDSCAPE BUFFER.



**EXHIBIT D**  
 NEIGHBORHOOD PROTECTION-LANDSCAPE BUFFER PLAN

## EXHIBIT E

### Irrigation and Native Plant Gardens

#### **Native plants in the landscape**

For over 8 years, the Toledo Zoo has been a national pioneer in the use of native plantings in urban settings. We have installed over 50 native prairies across NW Ohio at sites including schools, businesses and municipal properties. In addition to the “wild” prairies, the Toledo Zoo has also pioneered the use of native plants for landscaping in order to get the many benefits of natives in a more manicured setting. The Zoos’ Wild Toledo program has grown from a handful of on-grounds prairie installations to a full-service native plant nursery, offering prairie and landscaping services to the community as well as a nursery where locals can buy over 140 different native plant species for their yards and gardens.

The benefits of native plants are numerous but can be broken down into three main categories. First, native pollinators and animals require native plants for survival. Native animals have adapted over thousands of years to utilize native plants for survival. The loss of butterflies and bees across the country can be directly tied to the loss of native plants in the landscape. Well-known and loved native species such as the Monarch butterfly are on the brink of extinction due to loss of their native host plant, the milkweed. As a conservation organization, the Toledo Zoo feels an obligation to increase native habitat to do our part to save our native animals.

Second, native plants perform numerous environmental services such as filtering rainwater, taking up massive quantities of CO<sup>2</sup> from the air and removing excess water from the environment. These environmental services are able to be performed by native plants in part due to their unique physiology, evolved over millennia living in this environment. Native prairie plants have extraordinary deep root systems, often reaching 15'+ into the soil. These deep root systems break up compacted soil, take up huge quantities of water and nutrients and allow prairie plants to survive the frequent drought and cold periods common in the Mid-West and Great Lakes region. Indeed, the reason the Mid-West is the “bread basket of the world” is because native prairie plant roots have engineered the soil over thousands of years to have high levels of biological material (decomposed roots) and have a texture especially suited to growing plants. The deep root systems allow native plants to survive harsh, cold winters and hot, dry summers by protecting plant tissue and seeking out water beyond that of normal plants.

Third, these physiological characteristics also make native plants incredibly low maintenance. Native plants don’t need to be irrigated, treated for pests, or protected from winter weather. They are adapted to the local environment and are capable of surviving without human intervention. These characteristics allow organizations to save thousands of dollars per year on mowing, plant management and prevent thousands of metrics tons of CO<sup>2</sup> from being exhausted by low-efficiency mowers. Their adaptation to the environment, and local pests, saves organizations from applying environmentally hazardous pesticides that kill native pollinators and fertilizers that run-off into local waterways.



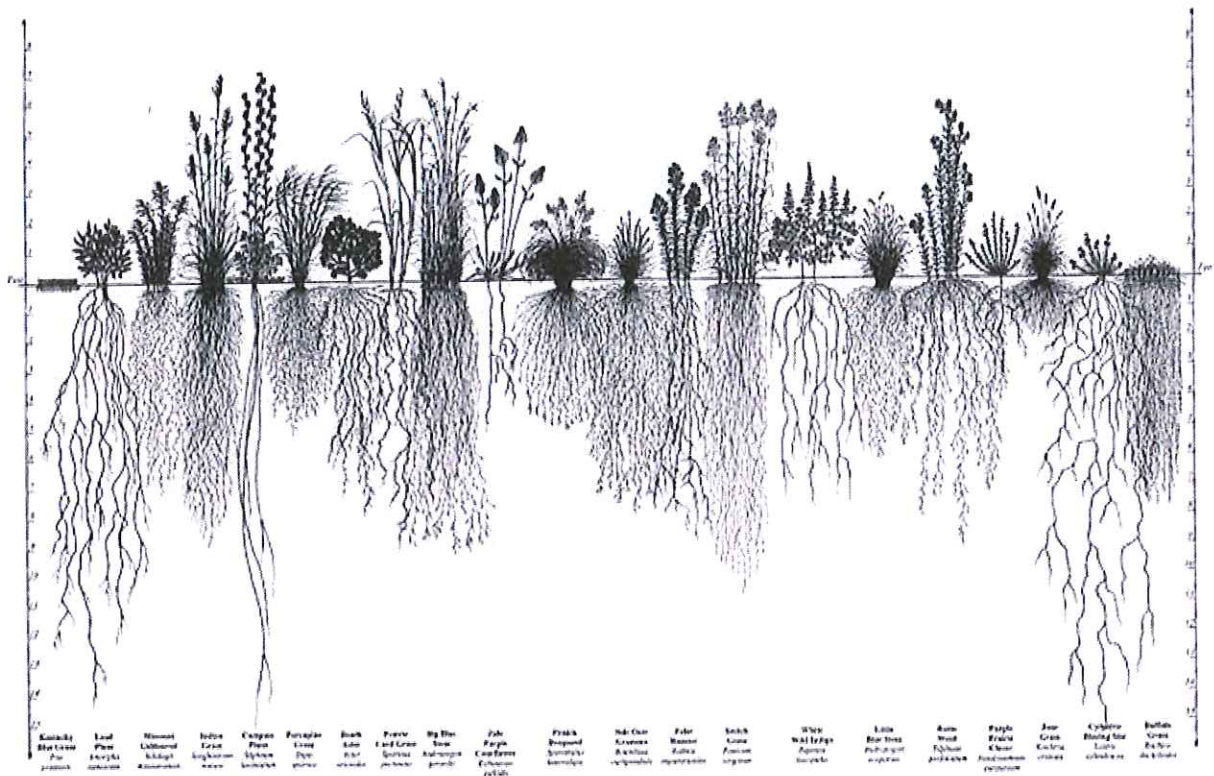


Illustration showing the standard root depths of several native prairie plants. Image from NRCS.USDA.gov

### Function of root systems and effects of irrigation

Plant roots serve three primary functions for the plant. First, roots serve to anchor the plant in the soil. Many tree species have roots extending 20'+ into the soil to adequately anchor the tall plant. The second and third functions are to take up water and nutrients. Plant roots serve as the primary method of water and nutrient uptake from the soil into the plant tissue for use in maintaining biological functions.

The length and depth of an individual plant root system is determined by its' genetic capacity and the environment it finds itself in. Just as with any animal, there is a predestined genetic capacity for individual species to grow roots of a certain length. Oak trees will naturally grow root systems far deeper than a typical turfgrass for example. However, on an individual level, plants grow roots to a depth and width that allow the individual plant to grow and adequately take up enough moisture and nutrients to survive. Providing irrigation to plants will reduce the need for extended root systems and has been shown to result in shallower root systems when compared to non-irrigated individuals of the same species. This is intuitive, the plant does not need to waste energy growing excess root tissue when the shallow root system is more than adequate to take up required water in the well-irrigated environment.

Non-native, ornamental plants are often irrigated to partially compensate for the fact that the plant species is not adapted to the environment it is planted in. All plant species have adapted to their native environment over millennia and grow quite fine in that environment. Plants adapt to the average moisture conditions in their native range, otherwise they would die and fail to reproduce. There are no irrigation

systems in nature. When using irrigation systems, we are providing an artificial system that allows the plants to thrive outside of their original environment. Additionally, man-made hybrids are selected for desirable human characteristics such as color, scent, size etc. typically with little consideration for drought tolerance and hardiness. Artificial human selection of cultivars can often lead, by chance, to weaker plants that require human intervention to thrive. You won't find a beautiful florist rose growing in the wild because they are simply not able to grow in a natural environment.

Irrigating native plants reduces the size root systems, again because the excess water provided by the irrigation system dictates that the plant does not need to waste energy growing a larger root system. Irrigating native plantings, and in turn reducing their root system size, eliminates one of the biggest benefits of natives; namely their drought tolerance and deep root systems capable of surviving in harsh environments and taking up large amounts of CO<sup>2</sup>. It is counter-productive to plant native plants that are irrigated. The Toledo Zoo has extensive experience growing native plants throughout the community, with over 50 non-irrigated prairie sites throughout NW Ohio and non-irrigated prairie gardens around the zoo, at local schools as well as individual home owner sites. Examples of well-grown native plant garden beds can be found in front of the Promedica Museum of Natural History. Those garden beds are thriving in the local soil and have never been irrigated. Due to these biological characteristics and the Toledo Zoo's extensive experience with designing and growing native plantings, we request an exemption from irrigation of our native planting beds in the new parking lot project.

Examples of non-irrigated Toledo Zoo plantings





