Visitor Access and Security Fencing Project

Combined Preliminary and Final Submission - Phase 1 Perimeter Fencing

Submission to the National Capital Planning Commission

SF #1533110

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Introduction and Purpose

The Smithsonian Institution (SI) is developing plans to implement visitor control and security checkpoints at the National Zoological Park (NZP or Zoo) for its primary pedestrian entrances. SI has performed several studies and reports that have analyzed the existing conditions, defined goals and requirements, proposed strategies, and developed concepts for permanent implementation for visitor security. These security checkpoints would consist of permanent pavilions, each with several controlled guard posts, security screening magnetometers and areas for bag searches comparable to the security provided at Smithsonian museums on the National Mall. Currently, SI utilizes temporary installations at the Zoo to provide security screening during high visitation times.

The security measures outlined in this submission expand upon earlier perimeter containment and animal fencing work approved by both the Commission of Fine Arts (CFA) and the National Capital Planning Commission (NCPC) in 2012. This submission documents the first phase of the Visitor Access and SecurityCheckpoint project, which includes security fencing required to close gaps in the present perimeter fencing in the central visitor area of the Zoo. As a result of increased pedestrian safety concerns, this submission has also incorporated vehicular-rated fencing to mitigate potential ramming events at certain areas of the Zoo deemed vulnerable by SI Office of Protection Services (OPS) and the design-team security consultant (GHD Engineering).
The Smithsonian National Zoological Park is a free-of-charge zoo and local resource that serves many user groups including: zoo enthusiasts and tourists; neighborhood families; recreational joggers and walkers; organized school and tour groups; and special event visitors. Seasonal and special events result in visitation surges that occur around Spring Break, Easter Monday, in the winter with Zoo Lights, and throughout the year with the birth of new animals. However, several incidents and the overall heightened concern for visitor security have prompted the call for these improved visitor security measures.

The 2008 Comprehensive Facilities Master Plan (approved by both CFA and NCPC) identified opportunities for enhanced visitor experience and operations with the consolidation of parking lots and streamlining visitor entries. The Master Plan envisioned three primary visitor entries: Connecticut Avenue, a new Mid-Point Entry, and the Lower Zoo. Building on a key recommendation in the Master Plan, the Mid-Point Entry would be connected via pedestrian bridge to a new Central Parking Facility (CPF) constructed on top of Lot C. Consolidating parking in one location will allow the Zoo to expand space dedicated to exhibits and improve visitor circulation (Figure 2a).

Although enhanced security was not addressed in the 2008 Master Plan, the current consideration of security checkpoints draws upon the Master Plan framework to avoid adverse impacts and prevent the preclusion of future plan elements. The Master Plan has been subdivided into three zones - Upper, Middle, and Lower Olmsted Precincts - to focus on detailed aspects of the Plan. These precincts serve as precedent and help to guide the checkpoint design described in Section 7.
The Upper Olmsted Precinct Plan (Figure 2b) outlines the elimination of Lot A and the realignment of North Road to allow for expanded exhibit areas and a turn around for improved external zoo and bus circulation. The Connecticut Avenue entrance will be revitalized to provide greater pedestrian amenities and services associated with the expansion and improvements to the visitor center with a public plaza for informal gathering spaces. The Bus Lot Drop-off and entry is also shown to remain in its present location.

The Middle Olmsted Precinct Plan (Figure 2c) identifies the construction of a central parking garage on the existing Zoo facilities structure (Lot C). The garage is expected to hold 1,285 spaces, which will allow for the elimination of numerous surface lots throughout the Zoo. The garage would be connected to the Zoo at its mid-point, providing an exciting opportunity for a new focal point and Zoo entry gateway. Removing surface parking lots will provide opportunities for exhibit renewals at the Small Mammal House, Reptile House, and Think Tank.
The Lower Olmsted Precinct Plan (Figure 2d) illustrates a new traffic roundabout to facilitate visitor and bus circulation. This approach would simplify the traffic patterns entering and exiting from Harvard Street and Beach Drive onto North Road and provide needed bus circulation and visitor drop-off to this portion of the Zoo. This plan also indicates the elimination of the Lot D surface parking area to make room for expanded exhibits and the reduction of impervious surfaces. Reducing impervious surfaces would help to improve stormwater management practices for this area of the Rock Creek watershed.
In 2015, a Visitor Access and Security Checkpoint Planning Study generated much of the initial conceptual designs for visitor security. The study determined that long-term projects will not be precluded and that limiting pedestrian entry points will assist in clarifying visitor entry and arrival. This approach also enhances security in the near-term. The study recommended that the existing thirteen (13) public pedestrian entries be reduced to three (3) primary access or checkpoints with the anticipation that a fourth access checkpoint would be provided in the future when the Central Parking Facility (CPF) is built (Figure 3b). The three (3) vehicular entry points - one from the west at Connecticut Avenue and two from the east at Harvard Street and Beach Drive onto North Road - will remain unchanged and continue to link the five (5) parking lots and service points of the Zoo. A private, staff-only area to the south of the public zoo, known as Research Hill, is currently accessible through a secure gate off Adams Mill Road and is not being considered for additional security measures as part of this submission.

The recommended checkpoints will be located at Connecticut Avenue, the Bus Lot Drop-Off, the Lower Zoo, as well as the future CPF. To provide context for this submission, we have included descriptions and images of each security checkpoint in Section 7 for informational purposes only. These gateways, associated perimeter fencing, and landscape modifications will be submitted to the Commission as a separate design proposal at a future date. The Central Parking Facility gateway is not included in this study since the parking garage and bridge design has only recently begun. The intention is that the CPF gateway will be similar to the other three checkpoints.

Figure 3a - Existing Connecticut Avenue Entrance
Existing Entry Points

Proposed Consolidation of Pedestrian Entry Points

Figure 3b - Entry Point Consolidation
National Zoo Statement

The Smithsonian’s National Zoo’s attendance varies greatly throughout the year varying from a few hundred visitors per day in January to more than 25,000 visitors per day in April. To safely and securely handle the crowds, the Zoo coordinates with several security entities including Smithsonian Office of Protective Services, the Metropolitan Police Department, the U.S. Park Police, Metro Transit Police and the security units of D.C. Public Schools and the D.C. juvenile Court System.

Security in any large urban environment today is challenging. The Zoo faces particular problems during high visitation periods, including March and April, when the spring-break period for local school systems overlaps with increased visitation. After several security related incidents in or near the Zoo, the Smithsonian Director of the Office of Protection Services (DPS) and Smithsonian’s National Zoo Director consulted with several groups and the local community to develop solutions.

After months of study, a report by a security consultant and an analysis of the site, the directors of the Zoo and Smithsonian security concluded that the best course of action is to implement temporary “access controls” on high visitation days. Controlled access means the Zoo will conduct bag checks and other forms of visitor screening, as well as restrict the number of people entering the Zoo. These measures, which may vary by day and event, are similar to those procedures employed by Smithsonian museums.

This temporary access control philosophy is similar to that used by U.S. Park Police during large scale special events to include the annual July 4th celebration on the National Mall. The Zoo is preparing to implement this security solution this spring.

The implementation of a fence and new entry points is the most feasible, cost-effective solution, of providing temporary access controls with the intention of eliminating violence, especially from individuals and groups with concealed weapons, in and around the Zoo during high capacity days. Additionally, the new fence provides the ability to secure the Zoo when closed to the public.

Security Goals

All Smithsonian Institution public venues, except for the Zoo, have security screening in place. The National Zoo is distinct from other SI venues with its park and campus setting, which makes it difficult to control visitor access by managing flow and visitation without impacting the visitor experience. The implementation of the proposed security measures requires changes to the operational practices of the National Zoo, as outlined in the official statement issued by NZP/OPS (Figure 4). The following goals are of paramount importance:

- Improve overall security every day and for all visitor volumes,
- Accommodate entry capacity and flow during peak hours of visitation and events without excessive wait times,
- Design security measures and solutions that will not adversely impact visitor experiences or the beauty of the park,
- Incorporate, not preclude, future projects identified in the 2008 Comprehensive Facilities Master Plan,
- Implement security measures that can be installed within the current or immediately available SI funding streams that will improve visitor safety,
Two eras of perimeter fencing currently exist at the National Zoo: fencing that was installed before 2012; and, fencing that was installed as part of the Supplemental Animal Containment Fencing project approved by CFA and NCPC in 2012 (OFEO/SF #0833138). The existing fence conditions diagram (Figure 5a) captures the older perimeter fence that generally secures the outer Zoo property line and the southwest side of Rock Creek, as well as an inner ring of secondary animal containment fencing that was installed after 2012. The non-public area of the Zoo, Research Hill, is also secured when the Zoo is closed. All of the fencing installed prior to 2012 was either black chain link or wood stockade fencing for animal yards, whereas the new fencing approved for use after 2012 is a combination of chain link and 8’ ornamental metal fencing. The ornamental fencing was installed primarily in the lower zone of the Zoo. The shaded area within the center of the Zoo has been designated for securely controlled pedestrian and vehicular access for Zoo visitors.

This submission proposes to augment the fencing approved in 2012 with additional pedestrian and vehicular fencing to enhance security at the Zoo. The existing fencing conditions diagram (Figure 5b) identifies fence types and the locations of existing gates for vehicular access and visitor access control. The phased fencing fill proposed here (Figures 6a-6d) indicates the location of fencing and gates necessary to secure the Zoo in conjunction with anticipated construction projects.
Figure 5b - Existing Fence Conditions
The diagrams in this section illustrate the sequence for current and future security fencing and checkpoints anticipated at the Zoo. Following Phase 1 (Figure 6b) completion, the three (3) checkpoints identified in Phase 2 will be submitted along with their adjacent fencing and landscape designs. It is anticipated that all checkpoints will be constructed at one time during Phase 2 (Figure 6c). Descriptions of the checkpoints have been shown in their initial conceptual designs to provide context for the Phase 1 fencing plans.

Phase 3 will capture work associated with the Mid-Zoo Landing Checkpoint adjacent to the proposed Central Parking Facility (Figure 6d). Following the removal of surface parking lots, Phase 4 anticipates the required fencing changes that will be part of the Zoo exhibit expansion into the former parking lots (Figure 6e). Vehicular-rated fencing will be reused where possible along the relocated North Road and proposed vehicle turnaround. The temporary chain link fencing at Lot B will be removed and likely replaced with animal exhibit fencing and/or railing along Olmsted Walk as required by the future exhibit design. The timing for Phases 3 and 4 depend on future funding and will most likely be implemented post FY 2020.
New Vehicle-Rated Ornamental Fence

LEGEND
- New Chain Link Fence
- New Temporary Chain Link Fence
- New Ornamental Fence
- New Vehicle-Rated Ornamental Fence
- New Pedestrian Gate
- New Vehicular Gate
- Existing Vehicular Gate
- Existing Chain Link Perimeter Fence (installed pre-2012)
- Existing Chain Link Fence (approved 2012)
- Existing Ornamental Fence
- Existing Animal Exhibit Fence

Figure 6b
Visitor Access and Security Fencing Project
PHASE 3 - Mid-Zoo Checkpoint and CPF Plan

Visitor Access and Security Fencing Project
**PHASE 4 - Exhibit Expansion Plan**

- **North Road Relocated with Potential Traffic Circle and Bus Lot Modification**
- **Lot B Converted to Exhibit Space and Temporary Phase 1 Fence Removed**
- **Exhibit Space Expanded to Capture Lot A**
- **Phase 1 Fence Segment Removed**
- **New Vehicle-Rated Fencing**
The future visitor control and security checkpoints are included as part of the Phase 1 fencing submission to provide context and the current thinking of the conceptual designs at each entry. These drawings are therefore provided as works in progress for information purposes only. They are not part of the formal Phase 1 fencing submission, which follows in Section 8. The fencing associated with the pavilions will be part of each checkpoint and not included as part of the Phase 1 fencing submission. The illustrations provided are initial studies of the pavilions and are not intended to show the final site context or proposed landscape treatment at each entry.

Figure 7 - Phase 2 Checkpoint Plan
Connecticut Avenue Checkpoint

LEGEND
- New Chain Link Fence
- New Temporary Chain Link Fence
- New Ornamental Fence
- New Vehicle-Rated Ornamental Fence
- New Pedestrian Gate
- New Vehicular Gate
- Existing Vehicular Gate
- Existing Chain Link Perimeter Fence (installed pre-2012)
- Existing Chain Link Fence (approved 2012)
- Existing Ornamental Fence
- Existing Animal Exhibit Fence
- Checkpoint Highlight
- Photograph View Location

Phase 2 Fencing and Vegetation Associated with Checkpoints to be Reviewed and Approved as Part of Future Submission

Figure 8 - Connecticut Avenue Entrance Plaza Plan
Connecticut Avenue Entrance - Existing Condition

Figure 9 - Preliminary Draft Rendering: Proposed Distant View from Connecticut Avenue Entrance Plaza

Connecticut Avenue Checkpoint

The Connecticut Avenue entrance is the primary access point to the Zoo. Arrival at this entry is important for first impressions for visitors arriving by public transit or by foot from the two Metro stations along Connecticut Avenue. It is also the Zoo’s urban edge and front door to the city. The iconic entrance includes a gathering area, planters, landscaping, gates, and signage. This entrance will maintain its welcoming feel while providing a clear threshold between the public sidewalk and the Zoo’s Olmsted Walk.

The visitor control and security checkpoint pavilion will be located approximately 125 feet from the beginning of Olmsted Walk to allow for an adequate queuing distance during peak arrival periods so that visitors do not spill out onto Connecticut Avenue (Figure 9).

The gateway design requires four (4) security-screening stations with magnetometers, which will be staffed during periods of peak visitation. Incorporating these elements into a pavilion with a 13-foot emergency vehicular access lane requires widening Olmsted Walk at this location. Further studies will determine the final width and configuration of the pavilion and associated security elements (Figure 8).
Bus Lot Drop-Off Checkpoint

LEGEND
- New Chain Link Fence
- New Temporary Chain Link Fence
- New Ornamental Fence
- New Vehicle-Rated Ornamental Fence
- New Pedestrian Gate
- New Vehicular Gate
- Existing Vehicular Gate
- Existing Chain Link Perimeter Fence (installed pre-2012)
- Existing Chain Link Fence (approved 2012)
- Existing Ornamental Fence
- Existing Animal Exhibit Fence
- Checkpoint Highlight
- Photograph View Location

Animal Enclosure Fence to be Reevaluated as part of the Checkpoint Phase

Figure 11 - Bus Lot Drop-Off Entrance Plaza Plan
Bus Lot Drop-Off Checkpoint
The bus lot drop-off checkpoint will consolidate several existing entry points into one. It not only needs to serve large visitor groups from buses, but also accommodate large zoo tractor trailers, service, and emergency vehicles entering the Zoo. This visitor control and security checkpoint requires an open pavilion to protect two screening areas with magnetometers, and booths equipped with electrical and data connections, lighting, fans, and heaters. A school group by-pass lane, will also be incorporated into the width of the pavilion (Figure 11). In order to meet all these requirements, the visitor access and security checkpoint pavilion is positioned away from the existing panda restroom building to allow for vehicular access between the two structures. It also separates and diminishes architectural conflicts between the two structures.

The number of staffed security check lanes can vary from one to two, and are dependent upon visitor arrival volumes, throughput rates, season, time of day, scheduled bus traffic, and event(s). An eight-foot (8) ornamental fence will extend between the restroom building and the information kiosk to secure this area when the park is closed (Figures 12-13).

In addition to the new fencing adjacent to the checkpoint, the existing animal exhibit fencing on the opposite side of the Panda Plaza Restroom building will be reviewed and addressed as part of the design for a holistic visitor experience when arriving at the Zoo via the Bus Lot.
Figure 13 - Preliminary Draft Rendering: View along Restroom Sidewalk
Lower Zoo Checkpoint

LEGEND
- New Chain Link Fence
- New Temporary Chain Link Fence
- New Ornamental Fence
- New Vehicle-Rated Ornamental Fence
- New Pedestrian Gate
- New Vehicular Gate
- Existing Vehicular Gate
- Existing Chain Link Perimeter Fence (installed pre-2012)
- Existing Chain Link Fence (approved 2012)
- Existing Ornamental Fence
- Existing Animal Exhibit Fence
- Checkpoint Highlight
- Photograph View Location

Phase 2 Fencing and Vegetation Associated with Checkpoints to be Reviewed and Approved as Part of Future Submission

Figure 14 - Lower Zoo Entrance Plaza Plan
Lower Zoo Entrance is the primary visitor entrance during events and peak days when Lots D and E are in use. Visitors arriving by foot from the east and the Adams Morgan neighborhood also use this entrance. This entry currently has the lowest pedestrian volume.

In 2016 the Zoo submitted a plan to both the Fine Arts and National Capital Planning Commissions where significant changes to the lower Zoo were reviewed. These changes included a permanent visitor services pavilion, an enlarged band shell, and a vehicular/bus drop-off and turn around (Figure 16).

During the initial analysis of the proposed Lower Zoo checkpoint, it became apparent that the required visitor security measures, vehicular access, and necessary space for visitor queuing could not coexist or fit between the new Visitor Services pavilion and the planned turnaround. Furthermore, the preservation of two heritage willow oaks adjacent to the new band shell creates a barrier to moving the checkpoint up Olmsted Walk (Figure 17).
As a result, it was determined that the turnaround would need to be re-located or eliminated in order to accommodate the security checkpoint. The necessary visitor queuing area in front of the checkpoint - and tractor trailer and fire truck turning movements through it - both conflict with the 2016 turnaround design.

The visitor control and security checkpoint has been located and designed to minimally impact the proposed visitor services kiosk and new band shell approved by the Commissions in 2016 (Figure 14). However, in order to avoid the critical root zones of the two willow oaks that flank Olmsted walk, the checkpoint was shifted towards North Road. Consequently, the new visitor checkpoint will necessitate abandoning the approved bus turnaround that was part of the 2016 plans for the lower Zoo.

Figure 17 - Lower Zoo Site Constraints with 2016 Re-Design Proposal Overlay
The current entrance will be widened slightly to a minimum of 31’ wide and 20’ deep, to accommodate two screening points with magnetometers, as well as a vehicular exit for large zoo tractor trailers, service, and emergency vehicles. The arrival plaza will be completely reconfigured, by reducing its size and moving the existing sliding security gates to either side of the security pavilion (Figures 18-19). Hydraulic bollards and other pedestrian security measures will also be incorporated into the design to minimize the risk to pedestrians waiting in the arrival plaza. The stone seat walls will move into the entry plaza to provide room to plant new canopy trees for shading the arrival plaza.
Figure 19 - Preliminary Draft Rendering: Close up View in Lower Zoo Plaza
Phase 1 - Security Fencing Infill Submission

Perimeter Fencing Requirements
Integral with the future visitor control and security checkpoint project is the expansion of the perimeter and animal containment fencing begun in 2012. The proposed fencing, which also meets Association of Zoos and Aquariums standards, will eventually tie each gateway pavilion to the existing Zoo perimeter fencing in Phase 2 to control visitor movements to and from the existing parking lots. Existing wooden stockade fencing will remain as part of the animal holding and service yards near the Bus Lot.

There are three primary types of fencing proposed for use as part of this submission:
1) an eight-foot (8) black, ornamental pedestrian metal fencing manufactured by Ameristar Fencing, Inc. (AFI),
2) an eight-foot (8) black, ornamental vehicular-rated metal fencing also manufactured by AFI and,
3) a twelve-foot (12), wire-topped, black vinyl-coated chain link fencing.

The pedestrian ornamental fencing and gates are used throughout the Zoo and are considered the Zoo campus standards (Figures 20a-20c). This type was part of the initial fencing upgrades approved by both the CFA and NCPC in 2012. The proposed vehicular-rated fence type is new, since it incorporates increased post sizes along with additional horizontal reinforcing channels and cables to satisfy the ASTM crash rating for vehicular security (Figure 20d). The expanded fence network will also require single and double leaf swing gates (Figures 20e-20f).
Criteria for use of the ornamental fences will be wherever the fencing can be closely observed or comes in contact with Zoo visitors and patrons. The proposed vehicular-rated fence type uses the same picket style and 4” spacing but is considered a new style, as it incorporates increased post sizes every 32’ and includes additional horizontal reinforcing channels and cables to meet the required ASTM vehicular security crash rating (Figure 20d). Overall the two systems should be considered part of the same aesthetic family as they share similar features. This is particularly true along large portions of North Road or the lower Zoo Service Drive. Some sections of existing pedestrian fencing will need to be upgraded to the vehicular-rated type as part of this submission. A comparison of the two fencing types is provided in side-by-side scaled elevations (Figure 21).

Transitions between the pedestrian and vehicular-rated fence types will be mitigated where feasible with plant material or with stone piers similar to those at the Connecticut Ave or Lower Zoo entries (Figure 20a). The black, wire-topped chain link fencing (Figure 20g) will only be used within heavily wooded areas or places hidden from view.

The proposed fencing has been overlaid with the mapped archaeological sensitive areas identified in the Zoo Master Plan (Figure 22). Excavation work required for the new proposed eight-foot (8) black ornamental pedestrian fencing is not expected to exceed 40 inches in depth, while the eight-
foot (8) black ornamental vehicular-rated fencing will require 60 inches deep by 36 inches wide footings at approximately 32 feet intervals. It is at these locations that the high strength cables will be secured for ramming protection. Based on past archaeological reports and findings, the proposed fencing should not affect any historic or archaeological resources. NZP Horticulture staff have conducted a survey along the proposed fencing segments and impact on existing trees or vegetation appears negligible. In the event a tree does need to be removed, NZP will follow their replacement policy of a ‘one for one’ substitution. A majority of the fencing will be concealed by existing vegetation and, where appropriate, new plantings will be added to further integrate the fencing with the landscape.
Figure 20g - Examples of Chain Link Fencing Installed at the Zoo
8 ft. Pedestrian Ornamental Fencing Elevation

8 ft. Vehicular-Rated Ornamental Fencing Elevation

Figure 21 - Proposed 8 ft. Ornamental Fencing Comparison
2018-0327

New Ornamental Vehicle Rated Fencing

New Chain Link Fencing

New Chain Link Fencing, concealed within vegetated areas

New Chain Link Fencing, on top of existing flood walls

Ex. Ornamental Fencing to be Removed and Replaced with Vehicle Rated Fencing, similar in appearance

Overlay of proposed work Security Fencing

Figure 22 - Sensitive Archaeological Areas Map
FENCE LEGEND
- New Chain Link Fence
- New Temporary Chain Link Fence
- New Ornamental Fence
- New Vehicle-Rated Ornamental Fence
- New Pedestrian Gate
- New Vehicular Gate
- Existing Vehicular Gate
- Existing Chain Link Perimeter Fence (installed pre-2012)
- Existing Chain Link Fence (approved 2012)
- Existing Ornamental Fence
- Existing Animal Exhibit Fence

GATE SCHEDULE
1 – 12' Wide Ornamental Double Swing Gate – Staff Only Vehicular Access
2 – 6' Wide Ornamental Swing Gate – Staff Only & Temporary Visitor Screening
3 – 20' Wide Ornamental Double Swing Gate – Staff Only Vehicular Access
4 – 24' Wide Ornamental Sliding Gate – Staff Only Vehicular Access
5 – 14' Wide Ornamental Sliding Gate – Lot B Vehicular Exit
6 – 6' Wide Chain Link Swing Gate – Staff Only
7 – 6' Wide Chain Link Swing Gate – Staff Only
8 – 15' Wide Chain Link Double Swing Gate – Staff Only & Temporary Visitor Screening
9 – 26' Wide Chain Link Double Swing Gate – Staff Only Vehicular Access
10 – 20' Wide Ornamental Sliding Gate – Lot B Vehicular Entry
11 – 4' Wide Chain Link Swing Gate – Staff Only
12 – 4' Wide x 4' Height Chain Link Swing Gate – Staff Only
13 – 10' Wide Solid Ornamental Double Swing Gate – Staff Only (Service)
14 – 4' Wide Solid Ornamental Single Swing Gate – Staff Only (Service)
15 – 6' Wide Chain Link Swing Gate – Staff Only
16 – 38' Wide Ornamental Sliding Gate – Staff Only Vehicular Access
17 – 8' Wide Ornamental Double Swing Gate – Staff Only
18 – 22' Wide Ornamental Sliding Gate – Staff Only Vehicular Access

All gates 8 feet height unless otherwise noted.

Figure 23 - Phase 1 Submission Fencing and Gate Plan
Phase 1 - Fencing Segments

Segment 1 - Connecticut Avenue to Visitor Center
A chain link fence will be placed along the top of the slope and continue to the Visitor Center garage access. The existing chain link section from the stone gateway pier at North Road to the Olmsted Walk entrance at Connecticut Avenue will remain. (Figure 24).

LEGEND
- New Chain Link Fence
- New Temporary Chain Link Fence
- New Ornamental Fence
- New Vehicle-Rated Ornamental Fence
- New Pedestrian Gate
- New Vehicular Gate
- Existing Vehicular Gate
- Existing Chain Link Perimeter Fence (installed pre-2012)
- Existing Chain Link Fence (approved 2012)
- Existing Ornamental Fence
- Existing Animal Exhibit Fence
- Fence Segment Highlight
- Photograph View Location

Proposed Location of Ornamental Fence Looking Southwest Across North Road
Segment 2 - Visitor Center to the Bus Drop-Off

From the Visitor Center, an eight-foot (8) vehicle-rated ornamental metal fencing will follow the existing internal asphalt walkway to separate Zoo visitors from North Road and Parking Lot A. One double leaf swinging service gate will provide Zoo staff access into animal exhibit areas. A second double leaf swing gate will be provided at the crosswalk near the entrance to the Bus Lot. This gate will provide visitor access from Parking Lot A and provide OPS the opportunity to screen visitors as needed. This is considered a temporary condition while the Central Parking Facility is under construction; once the CPF is open, Lot A will be decommissioned. The third gate directly off the Bus Lot will provide access for larger Zoo service trucks. From this point, an existing ten-foot height wood stockade fence secures the Zoo along the length of the Bus Drop-Off Area (Figure 25). The vehicle-rated fence along North Road will be considered an interim condition until the opening of the CPF and the decommissioning of Lot A allows the future animal exhibit expansion and reconfiguration of North Road.
An eight-foot (8) vehicular-rated ornamental metal fence will extend from the Bus Lot around the service buildings that provide food service for the Panda Plaza gift shop and American Prairie. A sliding metal gate, matching the vehicle-rated ornamental fencing, will be required to provide access to the service yard from North Road (Figure 26).
Segment 4 – Parking Lot B

An eight-foot (8) vehicle-rated ornamental metal fence will extend along North Road to secure Parking Lot B. This fencing will serve as the new and long-term permanent containment and security edge for the Zoo, as it is anticipated that Lot B will become animal exhibit space when the Central Parking Facility is completed. Two sliding metal gates, matching the vehicle-rated fencing, will be installed to provide access to and from Parking Lot B from North Road.

In addition to the ornamental fencing along North Road, a temporary chain link fence with swinging gates will provide access for Zoo staff, service vehicles and visitor access while Lot B is still in use. The fencing will be installed between Lot B and Olmsted Walk to provide additional security. The temporary fence will be removed upon completion of the CPF since Lot B will be decommissioned and converted to exhibit space shortly thereafter (Figure 27).
Segment 5- Animal Exhibits to Lot C

From the sliding gate at the Lot B entrance, the eight-foot (8) ornamental vehicle-rated metal fence will continue along North Road until it meets the existing Zoo animal servicing buildings, which form the back of house operations for the Small Mammals. From here, the perimeter containment fencing will change from the ornamental type to chain-link, as this is a heavily vegetated and wooded portion of the Zoo that is not accessible to visitors and would not be visible from North Road. The chain-link will continue within the woods atop the steep embankment until it runs down the slope and ties into the existing chain-link fencing adjacent to the Power Plant (Figure 28).

An 4\' pedestrian gate will be installed in the fence where it crosses the base of the existing walkway opposite Lot C. The gate in this location will be secured with a magnetic card reader for Zoo staff. To prevent visitors from wandering down the path, a short 4\' “Staff Only” gate will be placed at the top of the stairs to restrict access.
Supplemental chain link fencing will be used to secure the Power Plant area. Chain link fencing will follow along or be integrated into the existing flood control walls and gates that surround the Power Plant. The staff parking area will be left as is. Existing chain link fencing is located within the woodland area behind the Power Plant and ties into the existing eight-foot (8) ornamental metal fence that extends to the Lower Zoo entry point, thus securing and isolating the Power Plant from the main Zoo (Figure 29).
Segment 7 - Existing Ornamental Fence Opposite Harvard Street Bridge

The existing ornamental metal fence will be replaced with vehicle-rated ornamental fencing between the Lower Zoo entry plaza and the intersection of North Road and Harvard Street. The new fencing will be the same height and general configuration as the existing fencing to remain (Figure 30).
The existing eight-foot (8) Ornamental metal fence that secures the Zoo along the Lower Service Drive to the Mane Service Yard vehicular gate from the Lower Zoo Entry will remain as is. However, the fencing will need to be extended and a new gate provided to maintain an internal pedestrian path while still controlling vehicular access. The existing black ornamental metal sliding gate will remain with a longer similar sliding gate added on the exterior. The parallel gates will restrict visitor access to the Mane Service Yard area as pedestrians move between Amazonia and the Kids Farm area, while still maintaining controlled vehicular access to this area.

From the new sliding gate the eight-foot (8) Ornamental metal fencing will continue along the existing walkway to the bridge over Rock Creek. Swinging metal gates and a new ornamental sliding gate will be placed for staff pedestrian and vehicular access to Amazonia and the valley portions of the Zoo from Research Hill (Figure 31). Visitor Access from this point will no longer be possible.