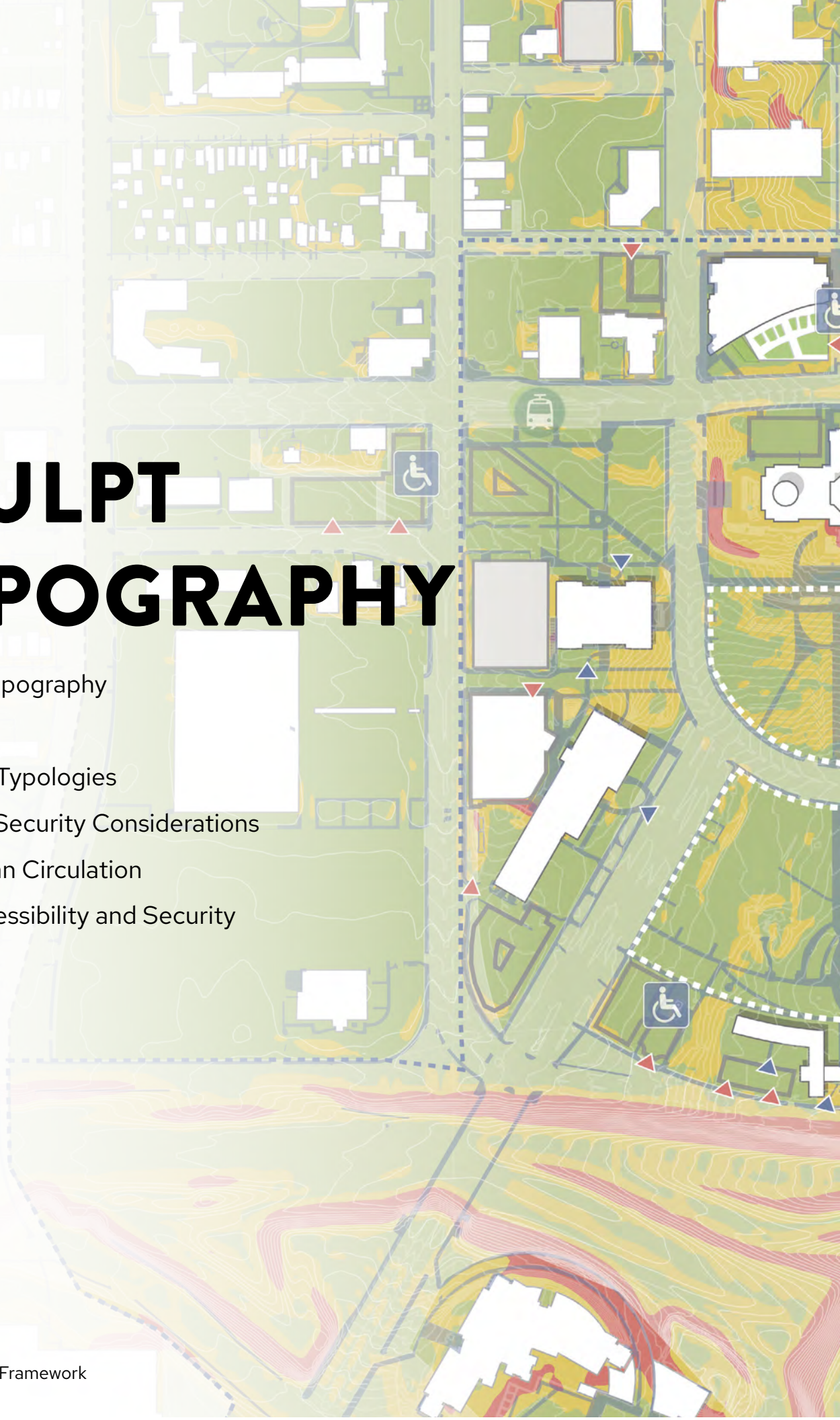
SCULPT TOPOGRAPHY

- Sculpt Topography
- Security
- Security Typologies
- Physical Security Considerations
- Pedestrian Circulation
- ADA Accessibility and Security



Sculpt topography to improve accessibility, seamlessly integrate security and provide a platform for events.

SCULPT TOPOGRAPHY

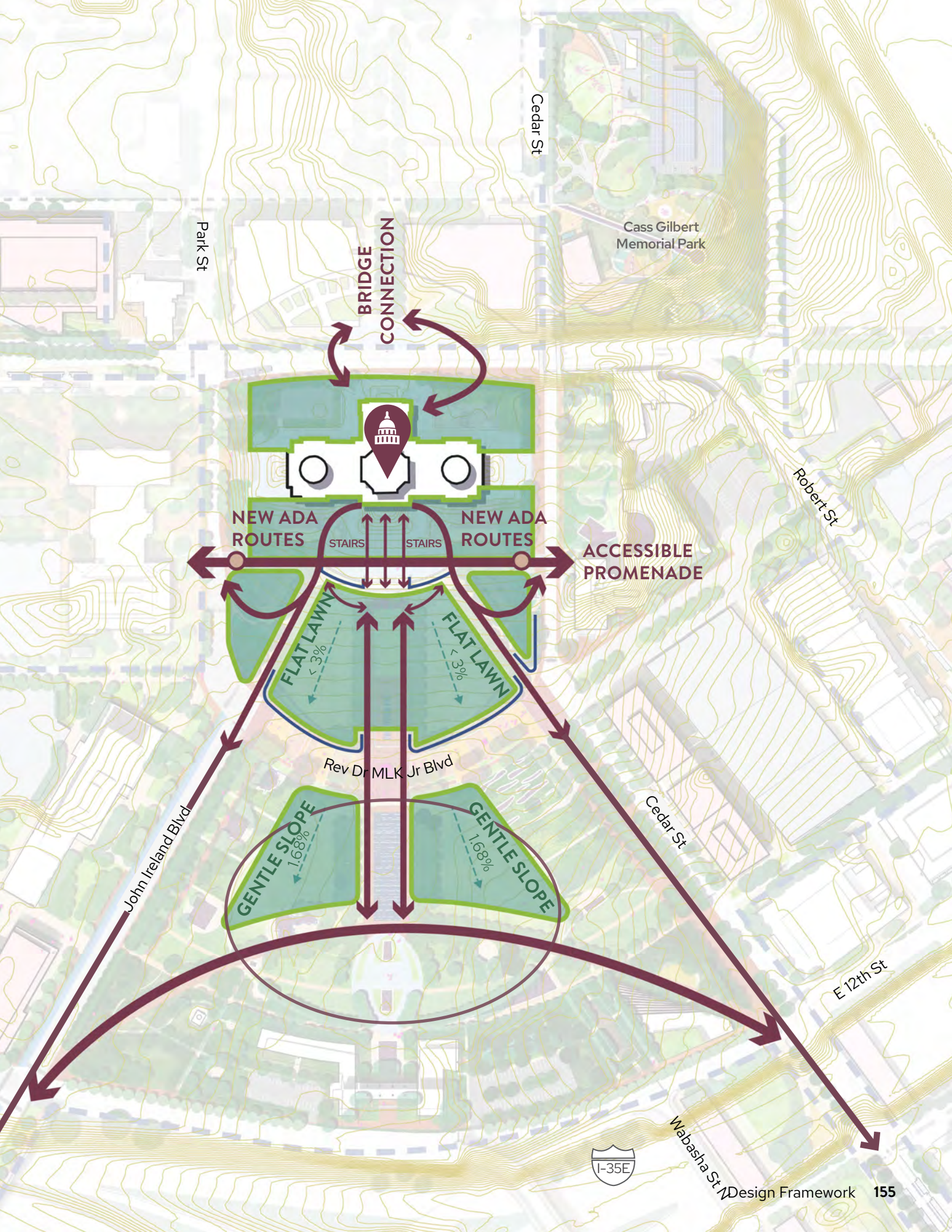
TO IMPROVE ACCESSIBILITY, SEAMLESSLY INTEGRATE SECURITY, AND PROVIDE A PLATFORM FOR EVENTS

The Design Framework revises grading throughout the Capitol Mall to improve accessibility and pedestrian circulation, as well as seamlessly integrate physical security barriers. Existing topography, especially within the Upper Mall, exceeds the recommended slope for ADA accessibility and larger events. Moreover, stakeholder engagement outlined portions of the Upper and Lower Malls touching Rev. Dr. Martin Luther King Jr. Boulevard as lacking proper security infrastructure. By slightly leveling portions of the Upper Mall and integrating a series of low retaining seat walls along Rev. Dr. Martin Luther King Jr. Boulevard, the Upper and Lower Malls become more flexible, easier to traverse, and safer for all those using them. Lastly, new pedestrian connections across University Avenue and throughout the Lower Mall ensure better connectivity to existing neighborhoods and Capitol Campus arrival points. An evaluation process is needed to track all significant regrading, cost, and access improvements on a project by project basis. It should be noted that unless undue hardship or significant alteration of historic features/artifacts can be demonstrated, ADA access will need to be provided.

TAKEAWAYS

- The Upper and Lower Malls have vastly different slope profiles, with the Upper Mall being particularly steep.
- By strategically sculpting the existing topography, the spaces become more flexible, easier to traverse, and safer for those using them.

Figure 98: Sculpt Topography


Cedar St
Park St
Cass Gilbert
Memorial Park
BRIDGE
CONNECTION
Robert St
NEW ADA
ROUTES
STAIRS
STAIRS
NEW ADA
ROUTES
ACCESSIBLE
PROMENADE
FLAT LAWN
< 3%
FLAT LAWN
< 3%
Rev Dr MLK Jr Blvd
John Ireland Blvd
GENTLE SLOPE
1.68%
GENTLE SLOPE
1.68%
Cedar St
E 12th St
I-35E
Wabasha St N

SECURITY CONSIDERATIONS

FRAMEWORK CONSIDERATIONS

The Design Framework incorporates security-related considerations identified in the Minnesota State Capitol Complex – Physical Security Study (June 2014), the Minnesota Capitol Complex Physical Security Predesign Report (October 2017), the Minnesota Capitol Complex Physical Security Predesign Report (2022 Update) (April 2022), and the 2040 Comprehensive Plan for the Minnesota State Capitol Area (June 2021). Security stakeholders will be further engaged as individual projects are undertaken under the framework umbrella to identify specific technical and performance-related requirements applicable to the projects.

The Design Framework integrates the security objectives identified in these security reports with the aesthetic and functional aspirations of the space development. The landscaping and planting development provides trees that can be trimmed and a low and thin vegetation palette that will minimize concealment in the gathering spaces and near the Capitol Mall buildings. Placement of containers, such as receptacles, vendor boxes and bicycle storage, maintain appropriate separation from these spaces. These elements, as well as other street furniture, will incorporate security-related anchorage considerations. Lighting development considers and will incorporate input from the security stakeholders for visibility and technical security considerations.

Figure 99: Retaining Seatwalls, Edith Green Wendell Wyatt Federal Building

Source: https://architectureprize.com/winners/winner.php?id=3966

Figure 100. Bollards, Edith Green Wendell Wyatt Federal Building

Source: https://architectureprize.com/winners/winner.php?id=3966

Figure 101: Retaining Seatwall at US Capitol

Source: Sasaki, *Retaining Seatwall. Sasaki.*

Figure 103. Retaining Wall, OK City Federal Building

Source: Hedrich Blessing Photographers. *Retaining Wall, OK City Federal Building. Archello.*

Figure 105. Impact-rated bollards, Financial District

Source: Rogers Partners. *Impact-rated Bollards, Financial District. Instagram,*

Figure 102. Sloping Retaining Wall at San Diego Federal Courthouse

Source: Spurlock Landscape Architects. *Retaining Wall, San Diego.*

Figure 104. Multifunction Seating as Security, Boston Federal Bank Reserve

Source: Grassl/Esto, Anton. Multifunction Seating as Security, Boston Federal Bank Reserve. Architecture Boston.

Figure 106. Permanent Bollards, Los Angeles Federal Courthouse

Source: Kerhart, Hunter. *Permanent Bollards, Los Angeles Federal Courthouse. Studio MLA,*

SECURITY TYPOLOGIES

DIAGRAMS

SIGHT LINES + SETBACKS

- Implement recommended 33-foot setback from building to maintain clear sightlines
- Maintain clear sightlines with a minimum of nine-foot clear height of trees
- Mount surveillance cameras at a nine-foot minimum height to prevent unmounting
- Set back bollards from sidewalks with planting

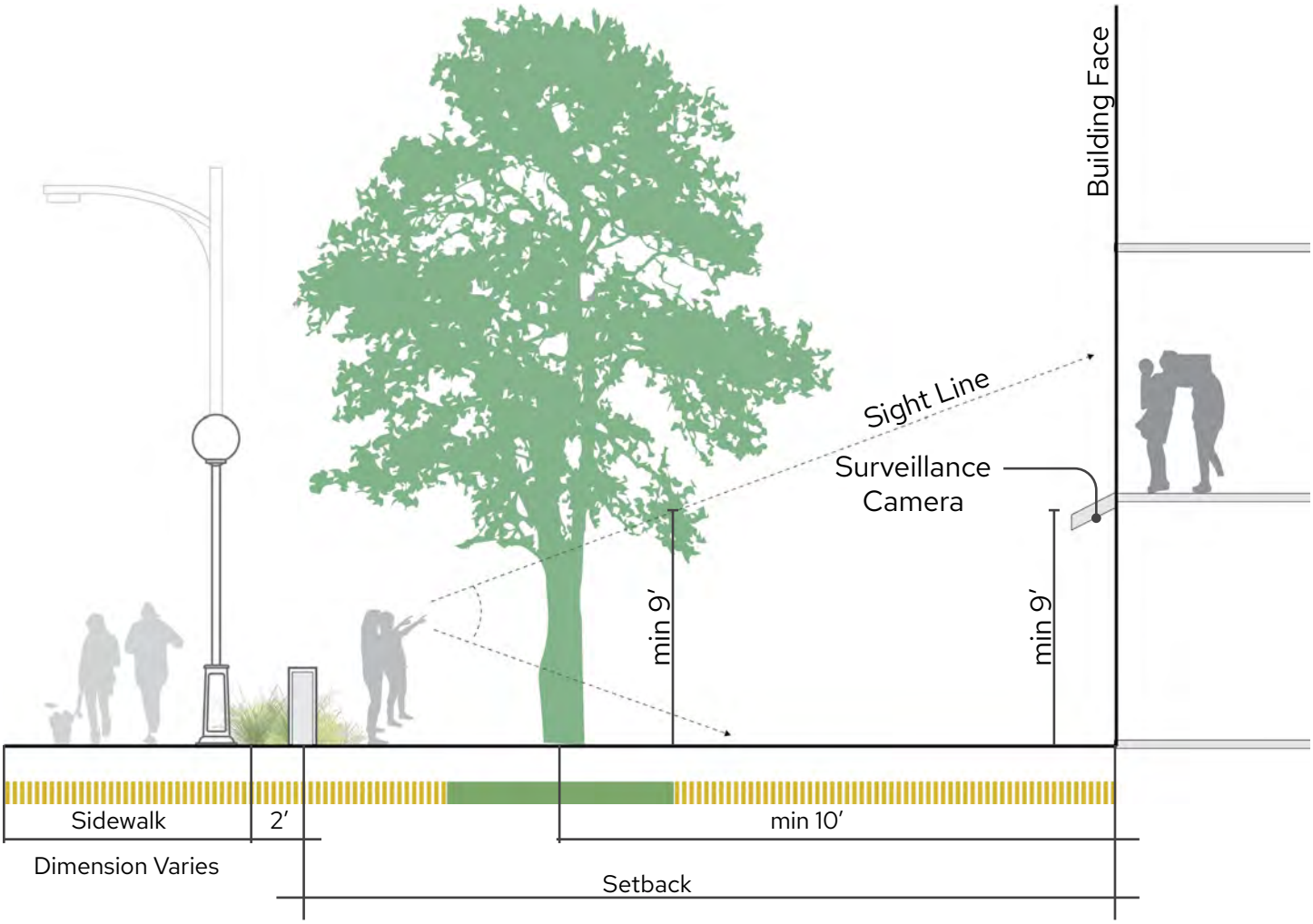


Figure 108: Sight Lines + Setbacks

ANTI-RAMMING RATED WALL

- Ensure three-foot minimum height to be effective in stopping vehicles
- Utilize anti-ramming rated walls in areas where aesthetics are more crucial
- Consider integrating with landscape to create landscape retaining structures

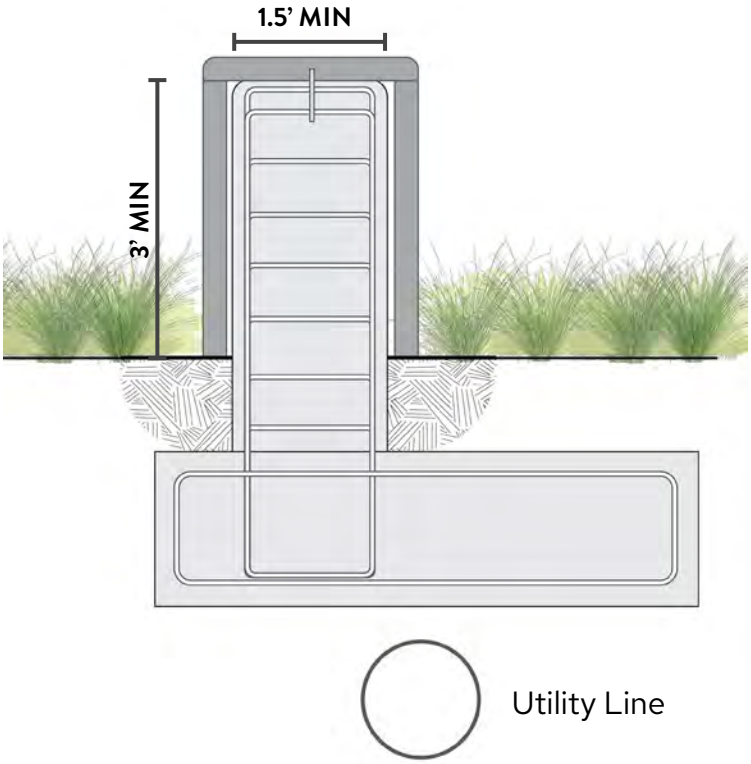


Figure 109: Anti-Ramming Rated Wall with Horizontal Foundation

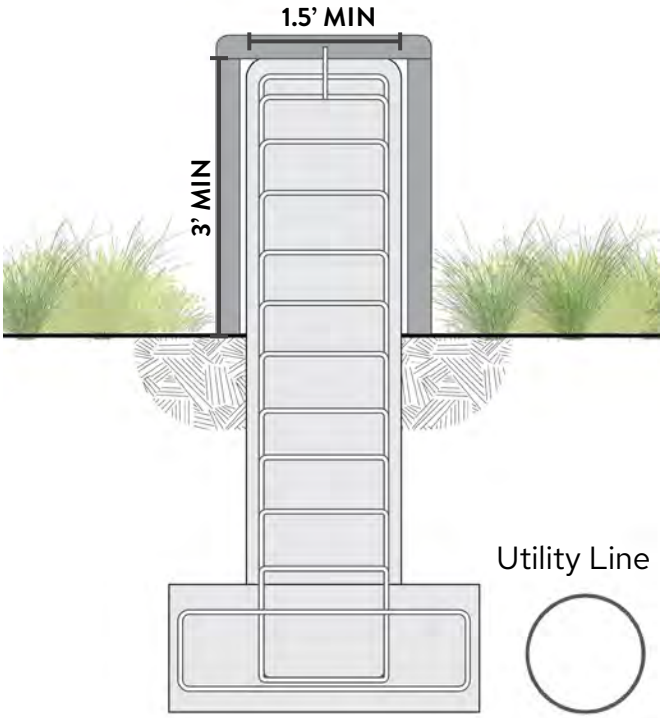


Figure 111: Anti-Ramming Rated Wall with Vertical Foundation

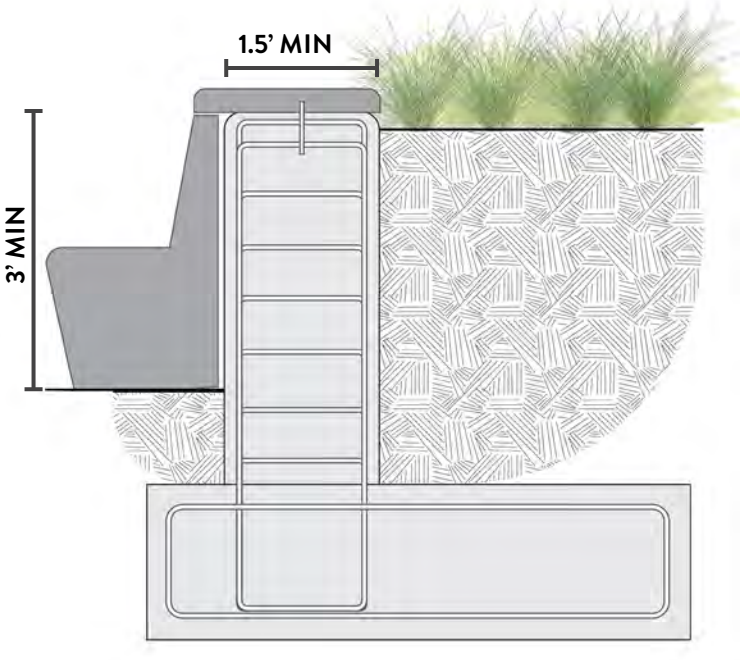


Figure 110: Anti-Ramming Rated Retaining Wall

BOLLARDS

- Place bollards at building or pedestrian entrances
- Space bollards with 4-foot maximum spacing between structural pipes (i.e. excluding cover dimensions)
- Install a minimum of two bollards per foundation
- Install bollards with a decorative stainless steel or powder coated sleeve with custom RAL color

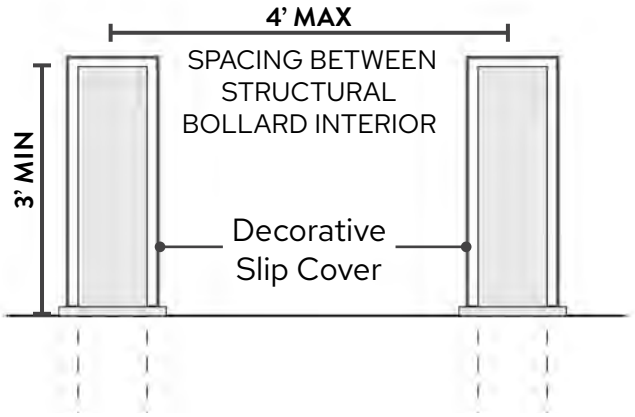
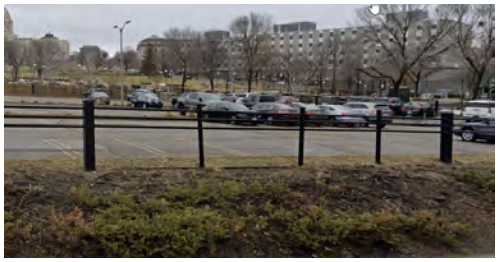


Figure 112: Bollards

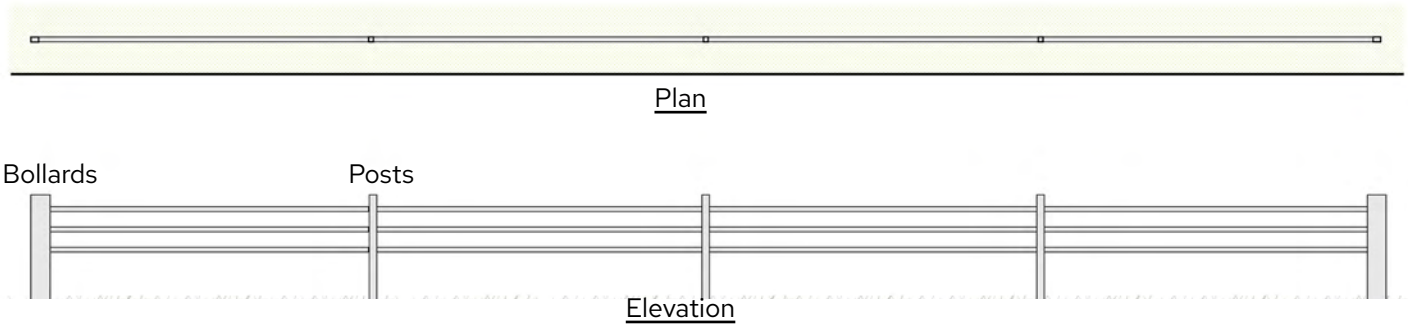
SECURITY TYPOLOGIES

DIAGRAMS

IN POST BURIAL CABLE RAIL SYSTEM



- Recommend cable rail system in private surface parking lots that need reinforcement and along highway systems
- Heavily plant cable rail system with low shrubs and groundcover on a berm typology to provide additional physical barrier
- There is an existing Cable Rail System by the Veteran Building Parking Lot and along Rondo Ave.



AT REV. DR. MARTIN LUTHER KING, JR. BOULEVARD

- Include temporary, retractable or removable bollards along pedestrian pathways
- Reuse existing curb systems along Rev. Dr. Martin Luther King, Jr. Boulevard to separate pedestrians and vehicular traffic
- Provide temporary barriers as needed at vehicular entrances to Rev. Dr. Martin Luther King, Jr. Boulevard, refer to Temporary Barriers for further information

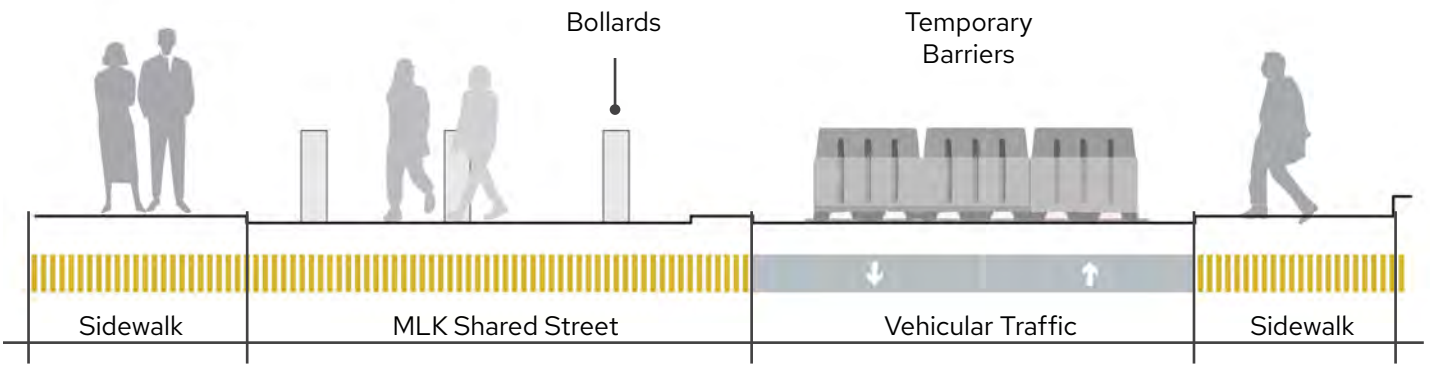


Figure 113: MLK Blvd Security Typology

TEMPORARY BARRIERS

Figure 114: Meridian Archer 1200

Source:https://www.betterbarriers.com/meridian-barriers-contribute-to-the-safety-of-the-rose-parade/

Figure 115: Mobile Surface Barrier

Source:https://www.rssi.com/products/mobile-surface-barrier/

Figure 116: PDI Blocks

Source:https://www.warninglitesmn.com/traffic-control-rental-and-sales

Figure 117: Modular Vehicle Barrier

Source:https://www.securityprousa.com/blogs/news/modular-vehicle-barriers-a-new-light-on-mifram-s-bestseller

Figure 118: Modular Vehicle Barricade

Source:https://www.wcvb.com/article/red-sox-games-could-close-lansdowne-street-by-next-week/9568168

PEDESTRIAN CIRCULATION

ADA ACCESSIBILITY

Vital to the Design Framework is a re-envisioned pedestrian circulation network that better connects Capitol Campus arrival points and other points of interest. The linear north-south circulation stretching from the Capitol Building to the Veterans Service Building is an integral design feature of the Cass Gilbert and Johnston/Nelson/Nichols plans. The Design Framework preserves and reinforces this north-south connection. Additionally, primary circulation along the Aurora Promenade, John Ireland Boulevard and Cedar Street connect pedestrians to and from Downtown and the Cathedral of Saint Paul. Building upon the existing pathway arc within the Lower Mall, additional pedestrian paths capture those arriving from the southern entry points and create a clear and curated experience throughout the many memorials of the Lower Mall. See Introduce New Public Space Strategies for more information. Lastly, proposed pedestrian bridges and enhanced crosswalks across University Avenue connect the Capitol Campus to the neighborhoods in the north as well as the re-envisioned Cass Gilbert Memorial Park.

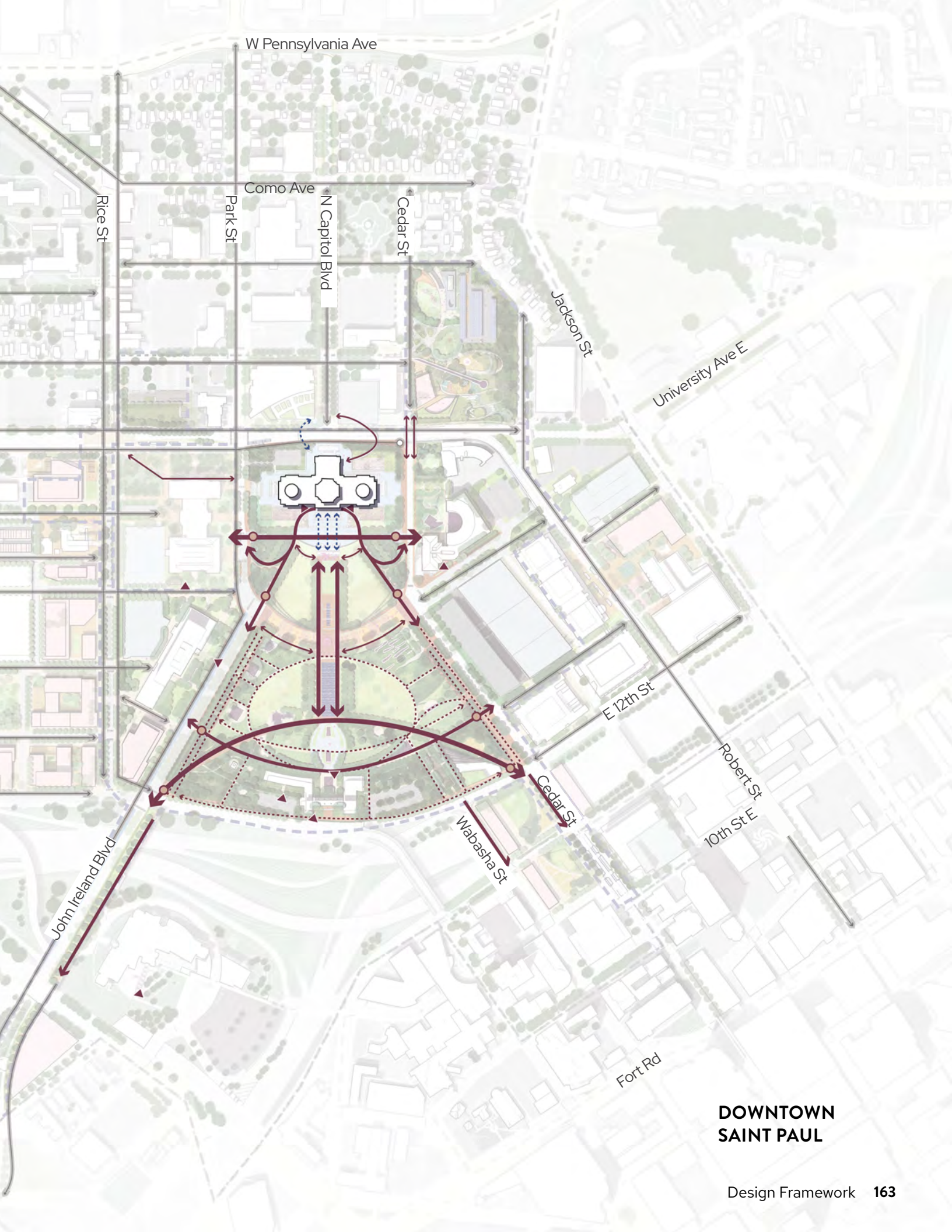
LEGEND

- Major Mall Access Points
- Pedestrian (Capitol Area)
- Stairs

ADA Circulation

- ADA Ramps to Buildings
- Primary Circulation
- Secondary Circulation
- Tertiary Circulation
- Trails

Figure 119: Pedestrian Circulation



DOWNTOWN SAINT PAUL

UPPER CAPITOL MALL

RENDERING

Before

The vision for the Upper Mall holistically addresses several needs expressed in the design process, including increased accessibility, safety, comfort, seating and shade. The design respects the principles of the Cultural Landscape Report, which identifies 1902-1962 as a primary period of historic significance.

UPPER CAPITOL MALL

RENDERING

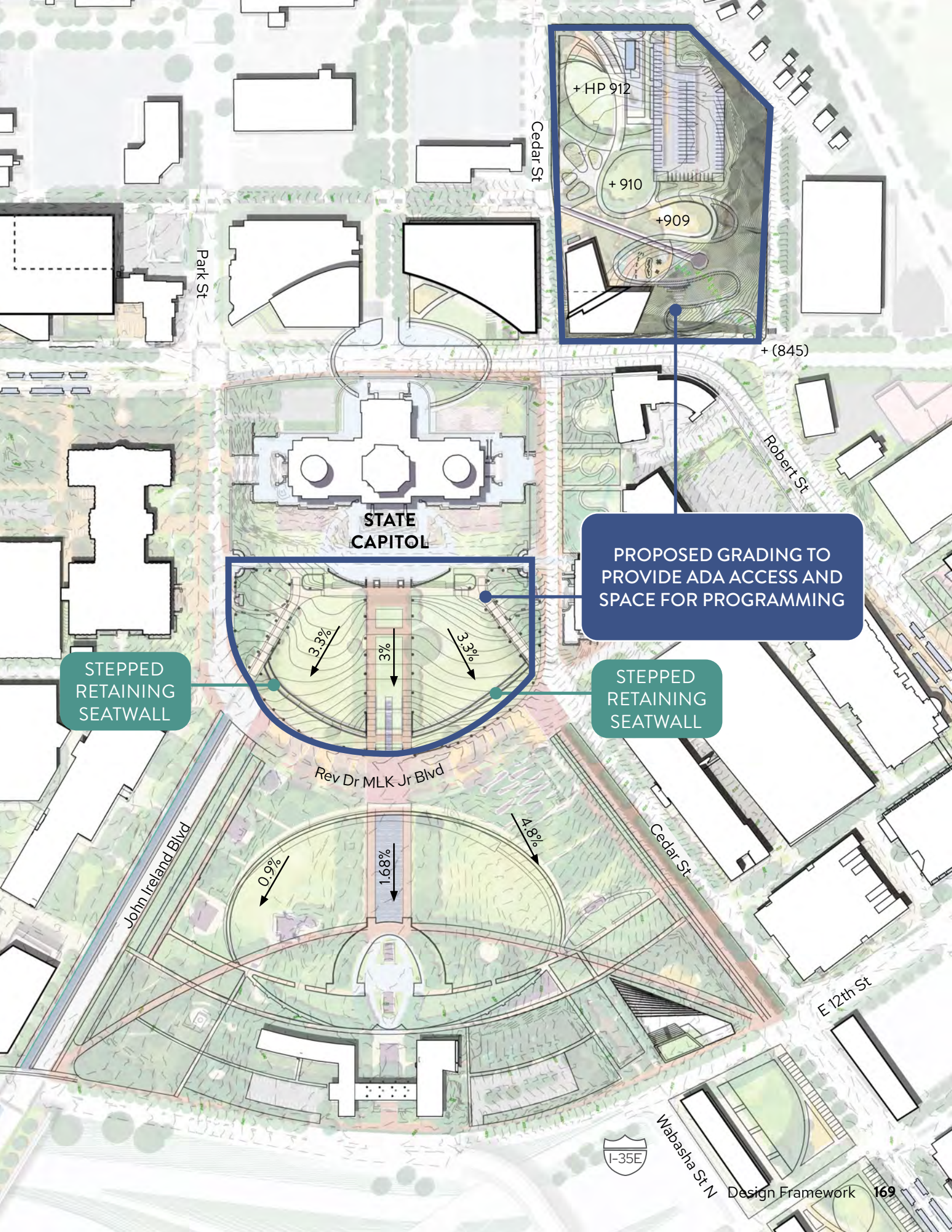

Before

ADA ACCESSIBILITY AND SECURITY

OVERALL

ADA accessibility is essential for equitable access to the Capitol Campus. Community engagement throughout the Capitol Mall Design Framework highlighted the Upper Mall's steep slopes as particularly hard to traverse. Moreover, half of Cass Gilbert Memorial Park is inaccessible to anyone regardless of ability due to its southern cliff-like edge. To resolve these issues, strategic regrading and stepped retaining seat walls level the Upper Mall while providing for necessary security barriers. The impact-rated seat walls prevent vehicles from driving into the Upper Mall, especially during large events. The regraded southern portion of Cass Gilbert Memorial Park and additional pedestrian circulation provide for improved accessibility while also maintaining the natural topography inherent to this area long before the Capitol Campus was built. See Transform Cass Gilbert Memorial Park for more information.

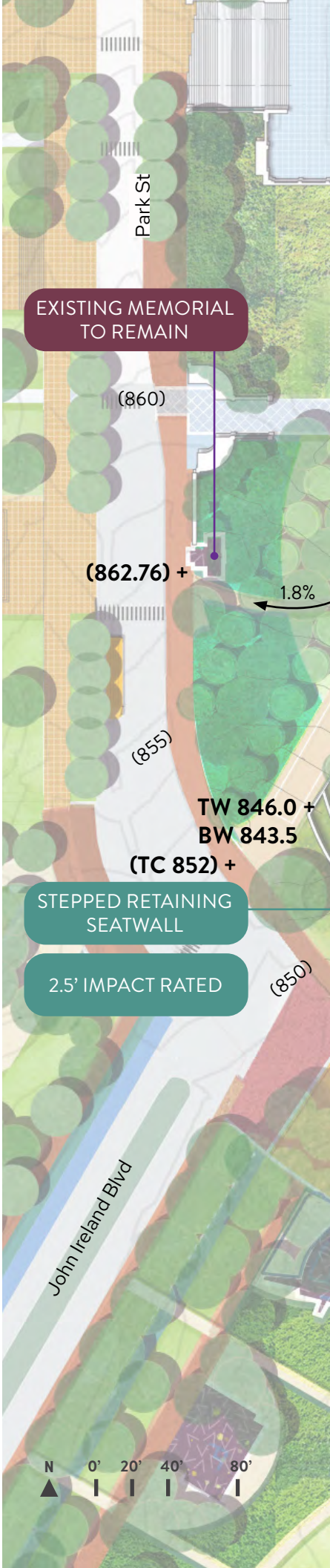
Figure 120: ADA Accessibility and Security (Overall)


+ HP 912
+ 910
+909
+ (845)
Cedar St
Park St
Robert St
STATE CAPITOL
PROPOSED GRADING TO PROVIDE ADA ACCESS AND SPACE FOR PROGRAMMING
STEPPED RETAINING SEATWALL
STEPPED RETAINING SEATWALL
3.3%
3%
3.3%
Rev Dr MLK Jr Blvd
John Ireland Blvd
0.9%
1.68%
4.8%
Cedar St
E 12th St
I-35E
Wabasha St N

ADA ACCESSIBILITY AND SECURITY

UPPER MALL

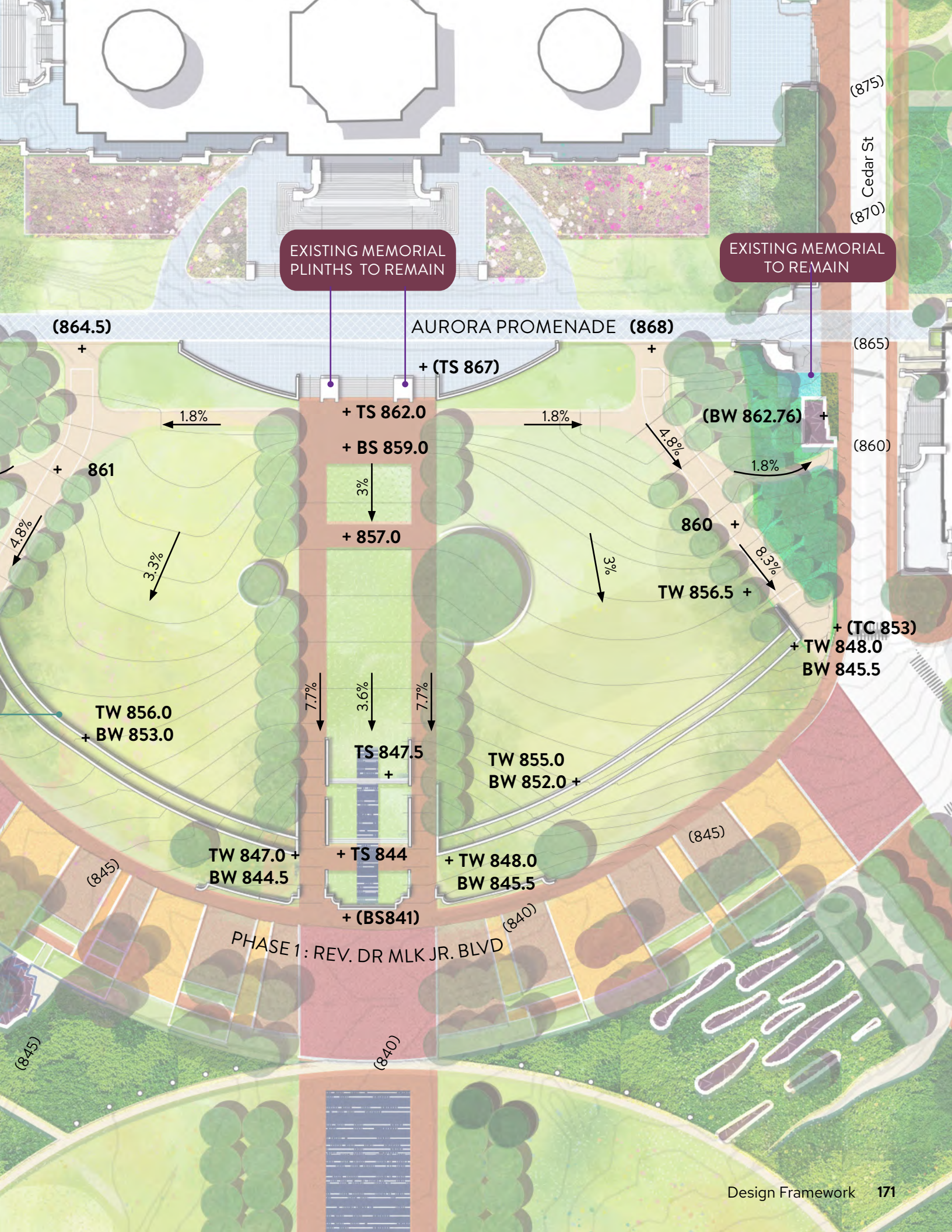
Phase 1 of the Design Framework focuses on Rev. Dr. Martin Luther King, Jr. Boulevard and the Upper Mall. More specifically, it strives to create consistent 3% slopes within the eastern and western flanks of the Upper Mall, as well as the prominent north-south axial connection. To achieve this, stepped 2-foot, 6-inch impact-rated retaining seat walls step down to Rev. Dr. Martin Luther King, Jr. Boulevard; this feature not only provides additional security to those gathering in the Upper Mall, but creates places to sit or moments for branding and signage. Numerous other Capitol complexes (including the United States Capitol in Washington, D.C.) utilize this approach to provide safe pedestrian realms that do not feel opposing or off-limits. ADA accessible pathways enter from the eastern and western edges of the Upper Mall, adjacent to designated drop-off zones.



LEGEND

- Existing
- Proposed
- Proposed Retaining Wall (to be studied further)

Figure 121: ADA Accessibility and Security (Upper Mall)


EXISTING MEMORIAL PLINTHS TO REMAIN
EXISTING MEMORIAL TO REMAIN
AURORA PROMENADE
(875)
Cedar St
(870)
(865)
(860)
(864.5)
(868)
+ (TS 867)
+ TS 862.0
+ BS 859.0
+ 857.0
(BW 862.76) +
861
860 +
TW 856.5 +
+ (TC 853)
+ TW 848.0
BW 845.5
TW 856.0
+ BW 853.0
TS 847.5
+
TW 855.0
BW 852.0 +
TW 847.0 +
BW 844.5
+ TS 844
+ TW 848.0
BW 845.5
+ (BS841)
PHASE 1 : REV. DR MLK JR. BLVD
(845)
(840)
1.8%
4.8%
3.3%
3%
7.7%
3.6%
8.3%