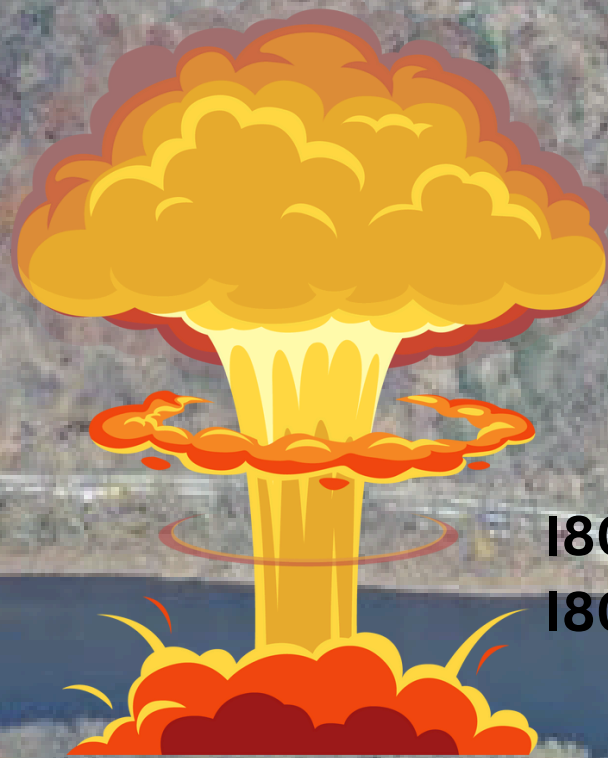


July 2024 Update

7.25.2024

How Local Government Can Help During 2025 Preliminary Engineering for the I80 and 611 Projects



I80 EB Retaining Wall Replacement
I80 WB Rockfall Mitigation

611 Rockfall Mitigation
611 Retaining Wall Rehab
611 Retaining Wall Replacement

Photo by: Local Airplane Pilot Alexander T Davidson

NJDOT I80 & PennDOT 611 Delaware Water Gap Area Municipal Liaison
Knowlton Township (NJ)
Hardwick Township (NJ)

Tara Mezzanotte
tara.mezzanotte@gmail.com
908-656-4603
Facebook: I80DWGCoalition

Upper Mount Bethel Township (PA)
Lower Mount Bethel Township (PA)
Smithfield Township (PA)
Portland Borough (PA) - (NJDOT Only)



I80 / 611 CRISIS

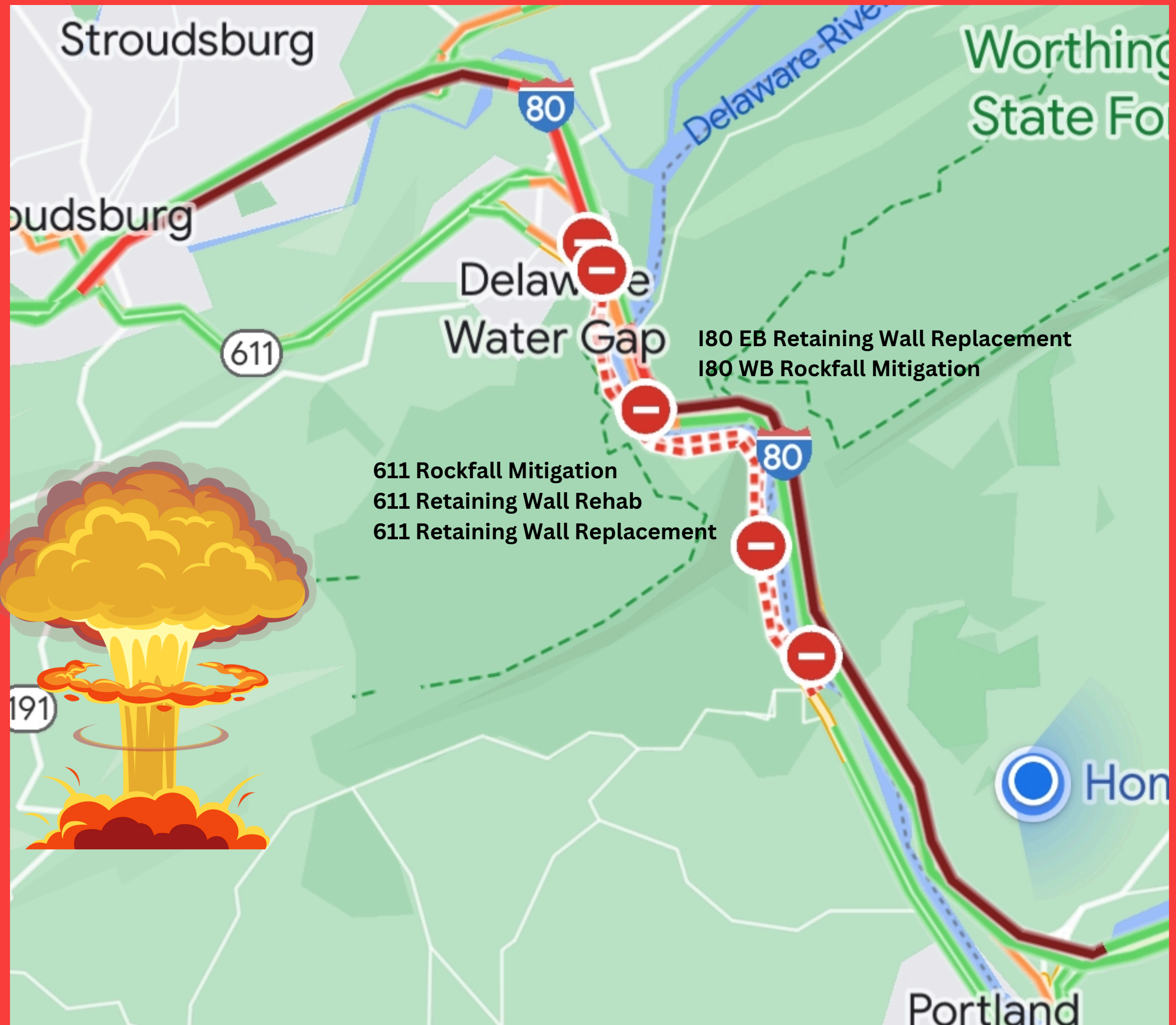
Both have structurally failed

- need retaining wall work
- need slope mitigation

Multiple multi-year
simultaneous projects are
upon us

WITH NO COORDINATED
PLAN

WITH NO LONG-TERM
SOLUTION



Protected Resources

| Resource Name | National Register Level | Category |
|--|-------------------------|--------------------------------|
| Appalachian National Scenic Trail – Goes under I-80 to/from Dunfield Creek in the Delaware Water Gap | Listed | National Scenic Trail |
| Historic Old Mine Road I-80 Exit 1 Delaware Water Gap | Listed | National Historic Property |
| Delaware, Lackawanna, and Western Railroad – Mount Tammany is it the viewshed | Eligible | National Historic Property |
| Sunfish Pond - Located at the top of the mountain. Trailhead at I-80 Dunfield Creek | Listed | National Natural Landmark |
| Delaware Water Gap – Lenape Traditional Cultural Property | Yet To Be Identified | Traditional Cultural Landscape |
| Delaware Water Gap – National Natural- Geological & Biological Wonder | Yet To Be Identified | National Natural Landmark |
| Delaware Water Gap – National Historic Wonder | Yet To Be Identified | National Historic Landmark |
| I-80 WB Rockslide Barrier Delaware Water Gap | Yet To Be Identified | National Historic Property |
| Middle Delaware National Wild and Scenic River | Designated | National Wild and Scenic River |
| Lower Delaware National Wild and Scenic River | Designated | National Wild and Scenic River |

DWG Area

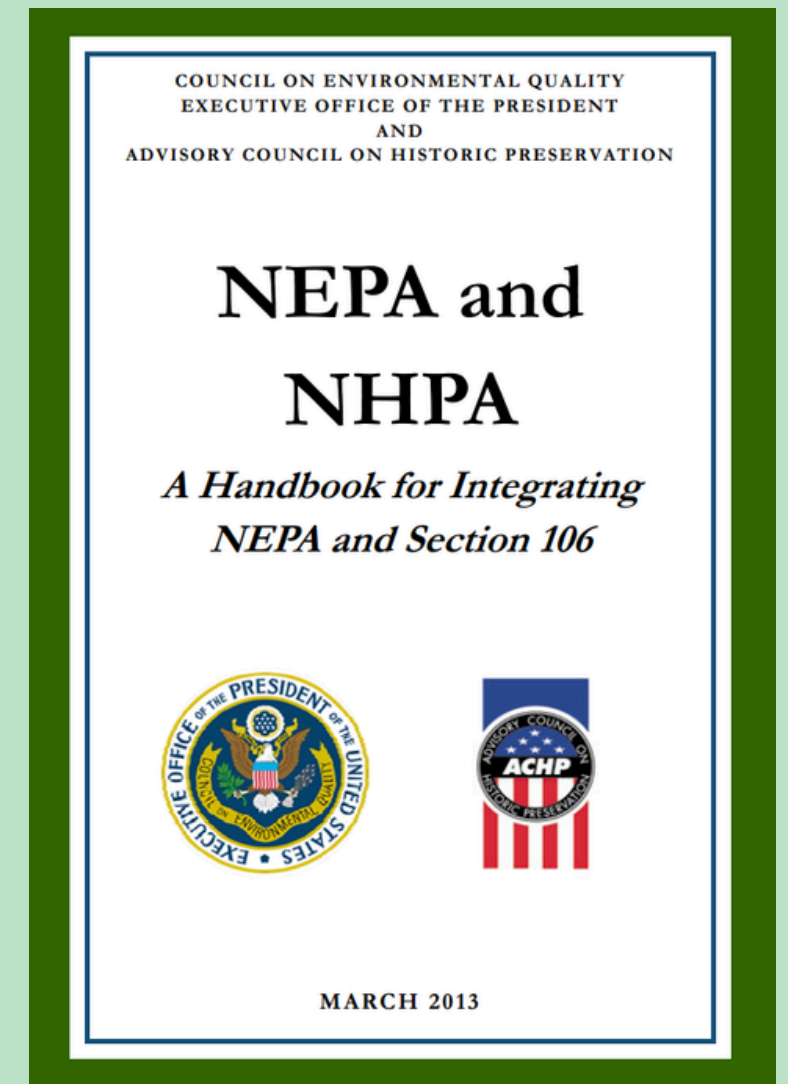
Federal Laws

1. National Environmental Policy Act (NEPA)
2. National Historic Preservation Act (Section 106)
3. Endangered Species Act
4. Wild and Scenic River Act (WSRA)
5. Native American Graves Protection and Repatriation Act (NAGPRA)
6. Archeological Resource Protection Act (ARPA)

This is part of why our DWG can NOT be compared to I-95 Phili or Teton Pass

The Solution

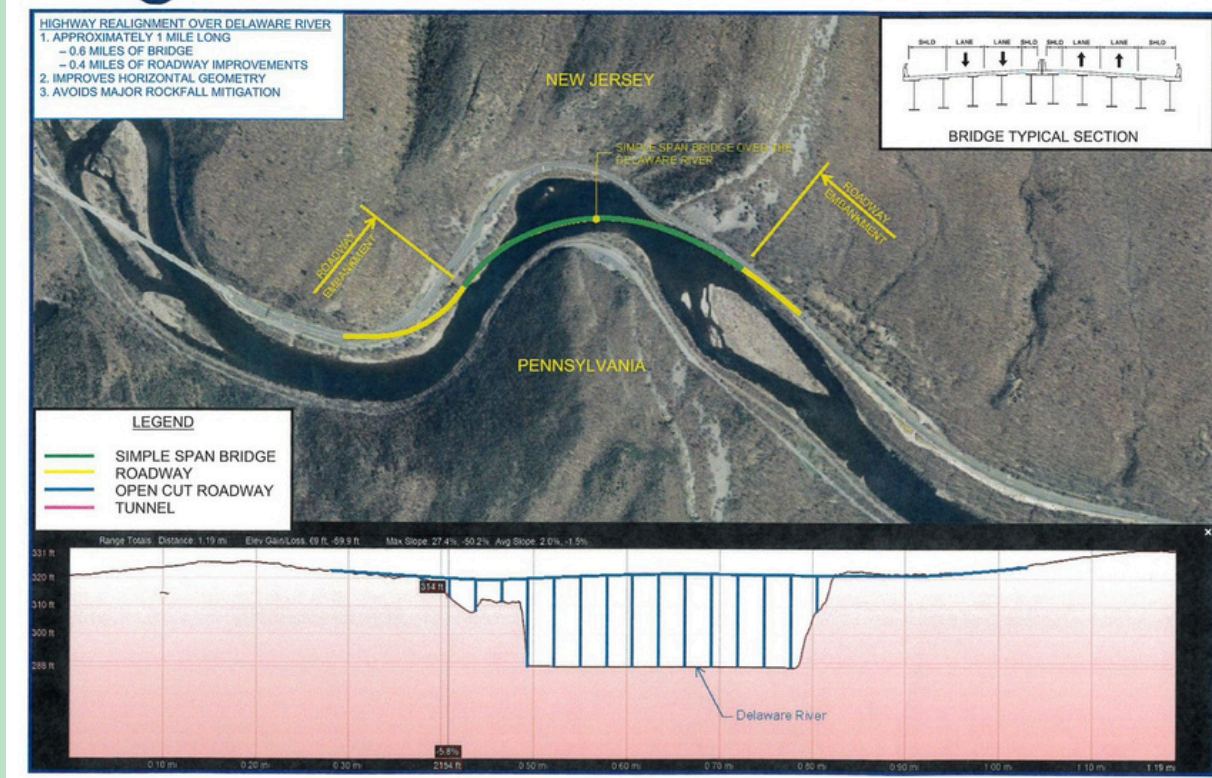
- Independent Lead Agency - NOT NPS or FHWA
- Efficient Coordination
- DWG>NNL>NHL determination NOW
- Public Involvement
- Alternatives - tunnel, bypass, bridge



[Link to the Handbook](#)

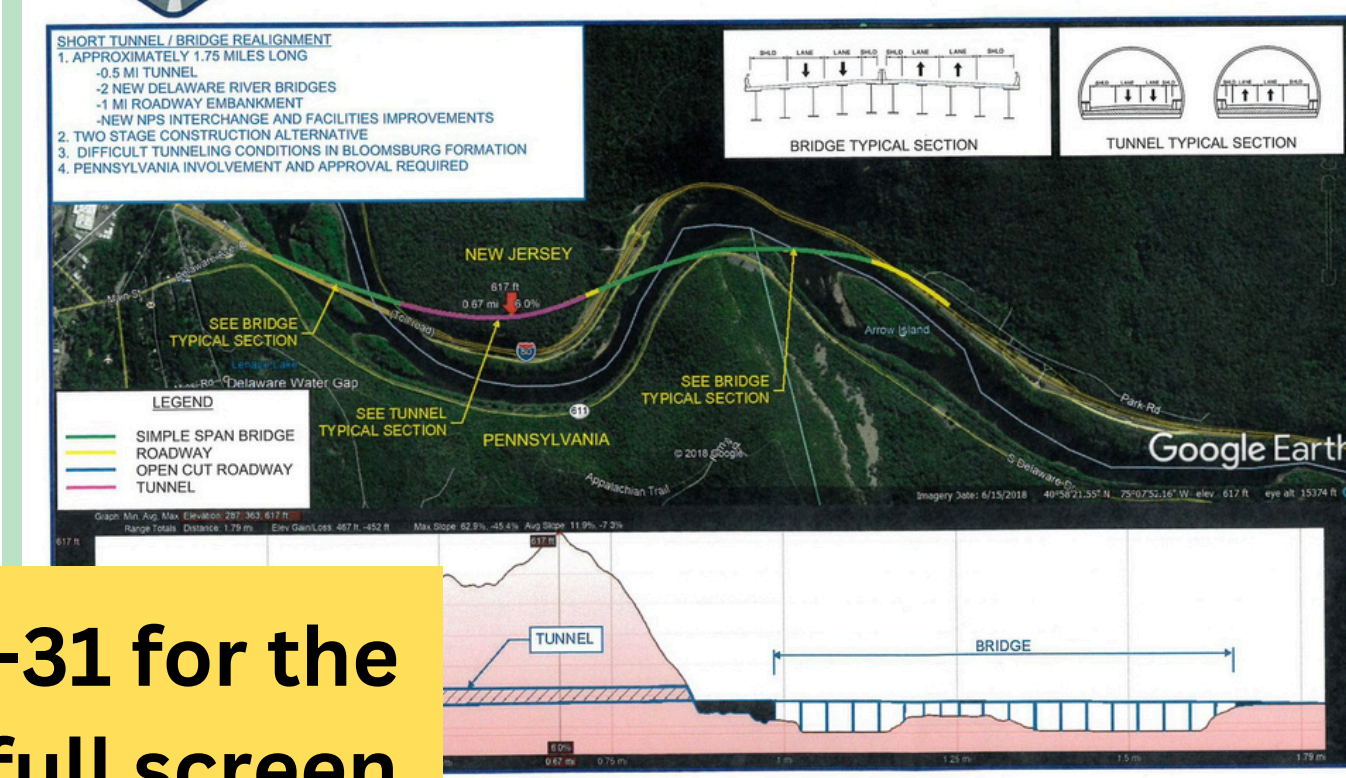
Some Alternatives That Will Be Considered

I-80 ROCKFALL MITIGATION HIGHWAY REALIGNMENT OVER DELAWARE RIVER ALT. 12 CONSTRUCTION COST: \$500 MILLION



| ALT. 12 | |
|--|--|
| SHIFT HIGHWAY ALIGNMENT SOUTH OVER DELAWARE RIVER. | |
| POSITIVE EVALUATION CRITERIA | |
| S-CURVES SOFTENED | |
| ROCKFALL HAZARDS ELIMINATED | |
| - Temporary lane closures only | |
| NEGATIVE EVALUATION CRITERIA | |
| FUNDING ISSUES | |
| - Does not meet purpose & need/scope of project and will not qualify for rockfall mitigation funding | |
| - Cost is 10x higher than Preliminary Preferred Alternative (PPA cost - \$47M) | |
| - Federal funding to come from highways sources from NJ, PA and Delaware River Joint Toll Bridge Commission | |
| - Could require unique funding (Joint Venture, etc) due to extremely high cost | |
| ADDITIONAL ENVIRONMENTAL IMPACTS | |
| - NEPA Environmental Impact Statement (EIS) | |
| - Impacts to Delaware River are subject to Wild & Scenic Rivers Act | |
| - Bridge construction (2/4 mile +/-) - 9+ acres of river disturbance. | |
| - High visual impacts - Bridge through center of Delaware River | |
| - Bridge will impact river species habitat | |
| CONSTRUCTION ISSUES | |
| - Overall project schedule must re-start and will be significantly longer: EIS - 3 to 6 years Design - 3 to 5 years Construction - 3 to 10 years | |
| - Extreme construction issues - new alignment with bridge | |
| - Temporary rockfall mitigation is still required | |
| ECONOMIC IMPACTS | |

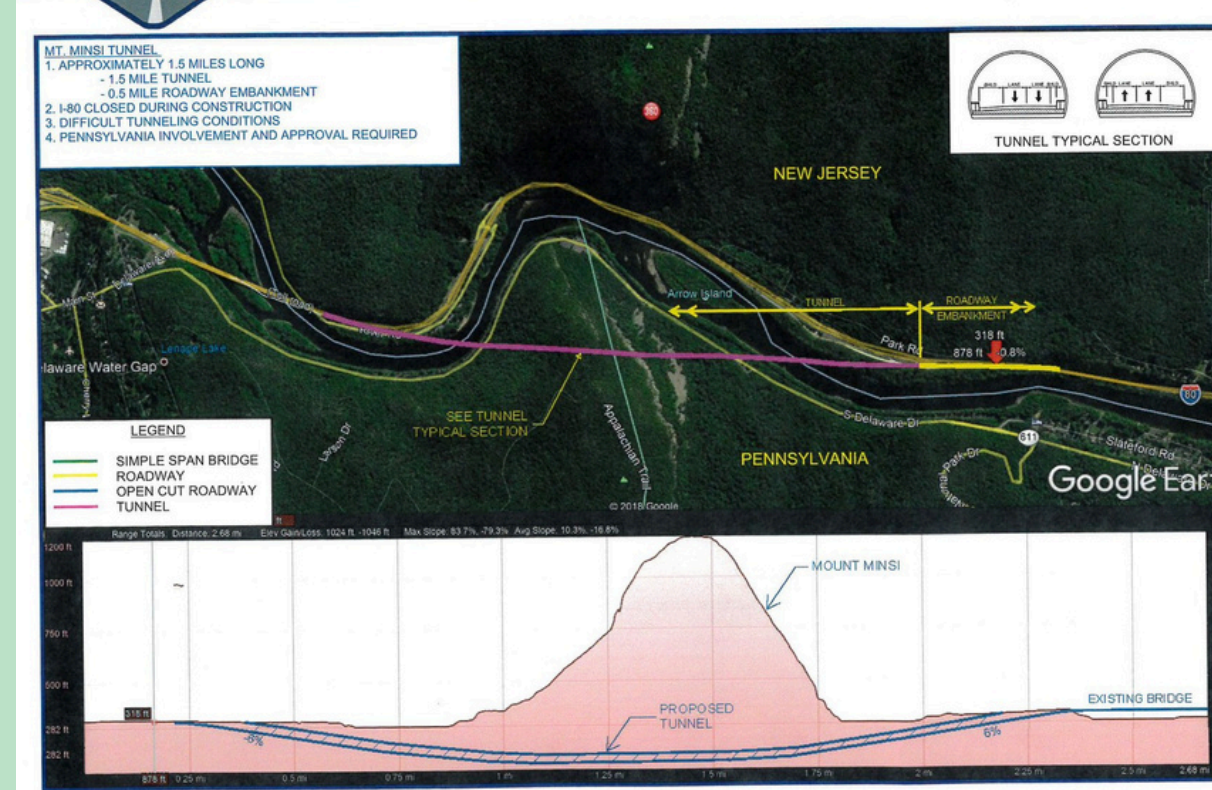
I-80 ROCKFALL MITIGATION SHORT TUNNEL / BRIDGE REALIGNMENT ALT. 10 CONSTRUCTION COST: \$3.2 BILLION



| ALT. 10 | |
|--|--|
| SHIFT HIGHWAY ALIGNMENT APPROXIMATELY 2 MILES THROUGH NPS LANDS WITH TUNNEL BENEATH MT. TAMMANY AND BRIDGES OVER DELAWARE RIVER. | |
| POSITIVE EVALUATION CRITERIA | |
| S-CURVES SOFTENED | |
| ROCKFALL HAZARDS ELIMINATED | |
| - Temporary lane closures only | |
| NEGATIVE EVALUATION CRITERIA | |
| FUNDING ISSUES | |
| - Does not meet purpose & need/scope of project and will not qualify for rockfall mitigation funding | |
| - Cost is 67x higher than Preliminary Preferred Alternative (PPA cost - \$47M) | |
| - Federal funding to come from highways sources from NJ, PA and Delaware River Joint Toll Bridge Commission | |
| - Could require unique funding (Joint Venture, etc) due to extremely high cost | |
| ADDITIONAL ENVIRONMENTAL IMPACTS | |
| - NEPA Environmental Impact Statement (EIS) | |
| - Parkland - Estimated up to 620 acres of parkland to be physically impacted and acquired | |
| - Extreme visual impacts - Removes vista view from roadway | |
| - Tunnel construction (1.72 mile +/-) | |
| - Tunnel will impact groundwater flow and subsurface mitigation of species | |
| - Two new Delaware River bridges - 12+ acres of river disturbance | |
| - Tunnel will impact groundwater flow and subsurface mitigation of species | |
| CONSTRUCTION ISSUES | |
| - Overall project schedule must re-start and will be significantly longer: EIS - 3 to 6 years Design - 3 to 5 years Construction - 10+ years | |
| - Extreme construction issues - new alignment with tunnel and bridges | |
| - Temporary diversionary roadway required to maintain traffic | |
| - Temporary rockfall mitigation is still required | |
| ECONOMIC IMPACTS | |
| - Diverts traffic away from existing recreational area | |
| - Tunnels and bridges require long term maintenance and support | |
| ADDITIONAL JURISDICTIONAL COORDINATION | |
| - Tribal Nations | |
| - USDOI National Park Service | |
| - USDOT FHWA | |
| - USDOT Federal Lands Highway | |
| - US Army Corp of Engineers | |
| - US Coast Guard | |
| - US Fish & Wildlife Service | |
| - State of New Jersey | |
| - Commonwealth of Pennsylvania | |
| - Delaware River Joint Toll Bridge Commission | |

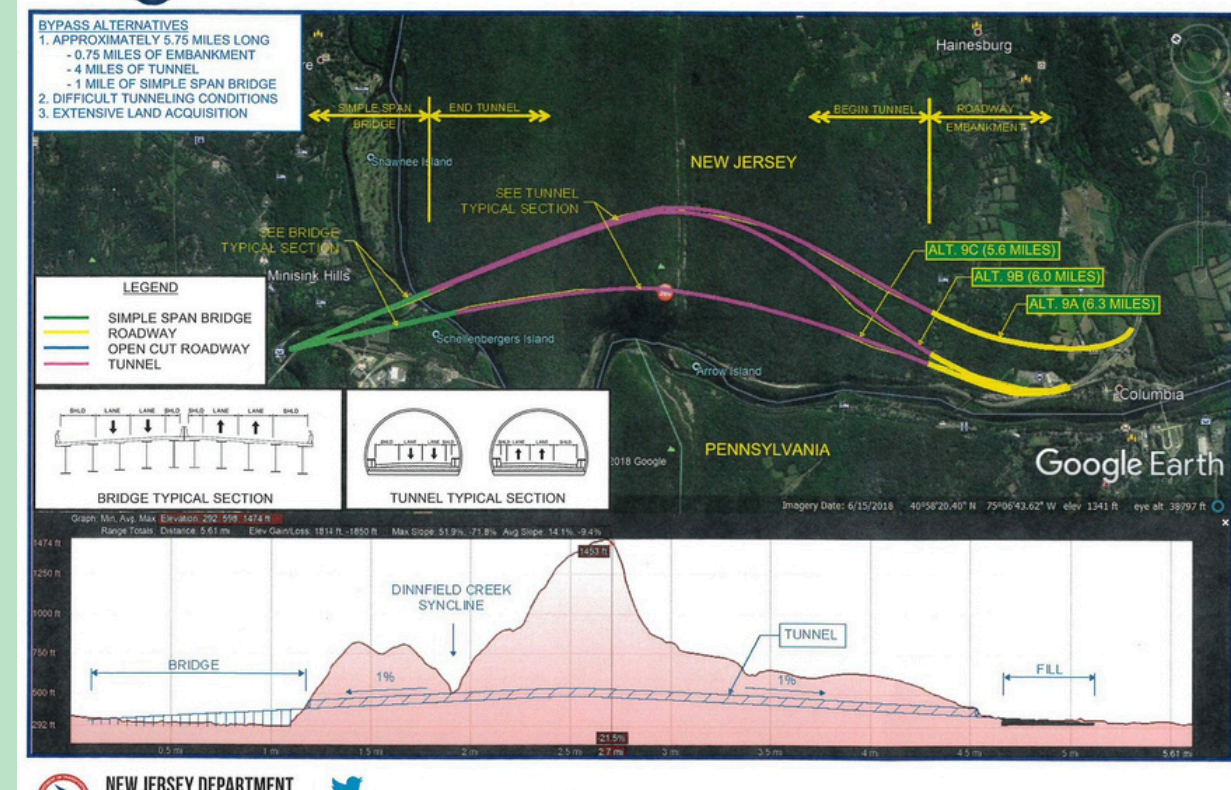
See pgs 11-31 for the complete full screen collection

I-80 ROCKFALL MITIGATION MT. MINSI TUNNEL REALIGNMENT ALT. 11 CONSTRUCTION COST: \$4.5 BILLION



| ALT. 11 | |
|--|--|
| SHIFT HIGHWAY ALIGNMENT APPROXIMATELY 2 MILES THROUGH NPS LANDS WITH TUNNEL BENEATH MT. MINSI (PA) AND BRIDGES OVER DELAWARE RIVER. | |
| POSITIVE EVALUATION CRITERIA | |
| S-CURVES ELIMINATED | |
| ROCKFALL HAZARDS ELIMINATED | |
| - Temporary lane closures only | |
| NEGATIVE EVALUATION CRITERIA | |
| FUNDING ISSUES | |
| - Does not meet purpose & need/scope of project and will not qualify for rockfall mitigation funding | |
| - Cost is 90x higher than Preliminary Preferred Alternative (PPA cost - \$47M) | |
| - Federal funding to come from highways sources from NJ, PA and Delaware River Joint Toll Bridge Commission | |
| - Could require unique funding (Joint Venture, etc) due to extremely high cost | |
| ADDITIONAL ENVIRONMENTAL IMPACTS | |
| - NEPA Environmental Impact Statement (EIS) | |
| - Parkland - Estimated up to 50 acres of parkland to be physically impacted and acquired | |
| - Tunnel construction (1.5 mile +/-) | |
| - Tunnel will impact groundwater flow and subsurface mitigation of species | |
| - Extreme visual impacts - Removes vista view from roadway | |
| CONSTRUCTION ISSUES | |
| - Overall project schedule must re-start and will be significantly longer: EIS - 3 to 6 years Design - 3 to 5 years Construction - 10+ years | |
| - Extreme construction issues - new alignment with tunnel and bridges | |
| - Temporary diversionary roadway required to maintain traffic | |
| - Temporary rockfall mitigation is still required | |
| ECONOMIC IMPACTS | |
| - Directly impacts Pennsylvania lands | |
| - Diverts traffic away from existing recreational area | |
| - Tunnels require long term maintenance and support | |
| ADDITIONAL JURISDICTIONAL COORDINATION | |
| - Tribal Nations | |
| - USDOI National Park Service | |
| - USDOT FHWA | |
| - USDOT Federal Lands Highway | |
| - State of New Jersey | |

I-80 ROCKFALL MITIGATION BYPASS TUNNEL REALIGNMENT ALT. 9A, 9B, 9C CONSTRUCTION COST: \$9.5-10.5 BILLION



| ALT. 9A, 9B, 9C | |
|--|--|
| SHIFT HIGHWAY ALIGNMENT APPROXIMATELY 11 MILES AROUND MT. TAMMANY THROUGH NPS LANDS. | |
| POSITIVE EVALUATION CRITERIA | |
| S-CURVES ELIMINATED | |
| ROCKFALL HAZARDS ELIMINATED | |
| - Temporary lane closures only | |
| NEGATIVE EVALUATION CRITERIA | |
| FUNDING ISSUES | |
| - Does not meet purpose & need/scope of project and will not qualify for rockfall mitigation funding | |
| - Cost is 190x to 210x higher than Preliminary Preferred Alternative (PPA cost - \$47M) | |
| - Federal funding to come from highways sources from NJ, PA and Delaware River Joint Toll Bridge Commission | |
| - Could require unique funding (Joint Venture, etc) due to extremely high cost | |
| ADDITIONAL ENVIRONMENTAL IMPACTS | |
| - NEPA Environmental Impact Statement (EIS) | |
| - Parkland - Estimated up to 620 acres of parkland to be physically impacted and acquired | |
| - Extreme visual impacts - Removes vista view from roadway | |
| - Tunnel construction (4 miles +/-) | |
| - Tunnel will impact groundwater flow and subsurface mitigation of species | |
| - New Delaware River bridge (1 mile) - 12+ acres of river disturbance | |
| CONSTRUCTION ISSUES | |
| - Overall project schedule must re-start and will be significantly longer: EIS - 3 to 6 years Design - 3 to 5 years Construction - 10+ years | |
| - Extreme construction issues - 3 to 6+ miles new alignment with tunnel | |
| - Temporary rockfall mitigation is still required | |
| ECONOMIC IMPACTS | |
| - Diverts traffic away from existing recreational area and Delaware Water Gap, PA | |
| - Tunnels and bridges require long term maintenance and support | |
| ADDITIONAL JURISDICTIONAL COORDINATION | |
| - Tribal Nations | |
| - USDOI National Park Service | |
| - USDOT FHWA | |
| - USDOT Federal Lands Highway | |
| - US Army Corp of Engineers | |
| - US Coast Guard | |
| - US Fish & Wildlife Service | |
| - State of New Jersey | |
| - Commonwealth of Pennsylvania | |
| - Delaware River Joint Toll Bridge Commission | |

Congressman Cartwright's & Congressman Kean's Offices are engaged. Municipal and county resolutions would be helpful.

NOW, THEREFORE, BE IT RESOLVED XXX

1. Continues to support and encourage every possible action to safely open and maintain all lanes of the I-80/611 DWG corridor, including any ongoing emergency projects.
2. Supports Knowlton and Hardwick Township's request for consultation with CEQ and ACHP to help expedite efficient integration of NEPA and Section 106, to ensure public input is considered, impacts are adequately addressed, and reasonable alternatives are considered expeditiously.
3. Expects a full NEPA Environmental Impact Statement/Study (EIS) for any planned DWG project, for which an independent non-FHWA or NPS Lead Agency is appointed, and all DWG projects are coordinated by this independent Lead Agency.
4. Requests FHWA determine the eligibility of the DWG as a National Historic Landmark and National Natural Landmark, so the DWG as a Section 106 Historic resource can be considered EARLY in Preliminary Engineering, to avoid project delays.
5. Expects PennDOT and NJDOT to share all project updates, NEPA and Section 106 public involvement opportunities with the township via email sent to: XXXXXX@yyy.com
6. Acknowledges and appreciates actions by Congressman Gottheimer, Congressman Kean, Congresswoman Wild, and Congressman Cartwright over the years, and requests they, and our U.S. Senators, continue to assist by supporting this request in every way possible.

COUNCIL ON ENVIRONMENTAL QUALITY
EXECUTIVE OFFICE OF THE PRESIDENT
AND
ADVISORY COUNCIL ON HISTORIC PRESERVATION

NEPA and NHPA

*A Handbook for Integrating
NEPA and Section 106*



MARCH 2013

Federal Laws ALL Agencies Must Adhere To

[1966 National Historic Preservation Act \(Section 106\)](#)

By the mid-1960s, federally-funded infrastructure and urban renewal projects had resulted in the rapid destruction of places significant in the nation's history. Congress recognized that the federal government's historic preservation program was inadequate to ensure that future generations could appreciate and enjoy the rich heritage of the nation. NHPA was enacted in recognition that historic places were being lost or altered, and that preservation was in the public's interest.

[1968 Wild and Scenic River Act \(WSRA\)](#)

The National Wild and Scenic Rivers System was created by Congress in 1968 to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Wild & Scenic Rivers Act is notable for safeguarding the special character of these rivers, while also recognizing the potential for their appropriate use and development.

[1969 National Environmental Policy Act \(NEPA\)](#)

Created to encourage harmony between people and their environment, to prevent or eliminate damage to the environment, to stimulate the health and welfare of people, to enrich the understanding of ecological systems and natural resources important to the Nation, and to provide for establishing the Council of Environmental Quality, which oversees the NEPA process. **FACT: The Tocks Island Project was one of, if not the first ever NEPA EIS**

[1973 Endangered Species Act \(ESA\)](#)

Requires federal agencies, in consultation with the U.S. Fish and Wildlife Service and/or the NOAA Fisheries Service, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species.

[1979 Archeological Resource Protection Act \(ARPA\)](#)

Specifies federal ownership of objects excavated from Federal lands, and lays out requirements for permits for archeological investigations that include planning for the disposition and management of collections.

[1990 Native American Graves Protection and Repatriation Act \(NAGPRA\)](#)

Following Native American civil rights movements in the late 1960s, Congress passed the American Indian Religious Freedom Act (AIRFA) in 1978 to protect Native peoples' basic civil liberties, including practice of their religions and sacred ceremonies. NAGPRA provided a next step in recognizing basic civil liberties. It addressed the rights of lineal descendants, Indian tribes, and Native Hawaiian organizations to certain Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony found in Federal agencies and institutions that receive federal funds, and addressed trafficking of these materials by private individuals.

Resolution Next Steps...

Smithfield on agenda - 8/13
Middle Smithfield on agenda - 7/25
Stroud goal - 8/6
Stroudsburg on agenda 8/6
Del. Water Gap - ??
Monroe County - ??
Who else?

[Knowlton passed - 7/8](#)

[Hardwick - passed 7/17](#)

Warren County - on agenda 8/14

Who else?

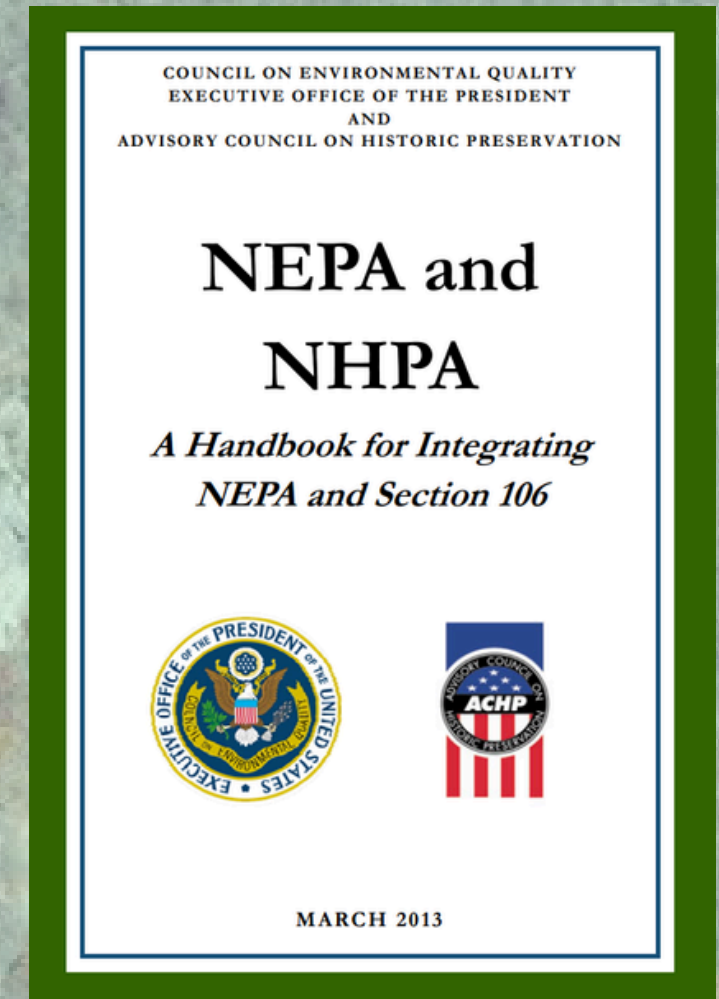
Lower Mount Bethel on agenda - 8/5

Upper Mount Bethel on agenda - 8/12

Portland ??

Northampton County - ??

Who else?



Thoughts and Questions



I80 EB Retaining Wall Replacement
I80 WB Rockfall Mitigation

611 Rockfall Mitigation
611 Retaining Wall Rehab
611 Retaining Wall Replacement

Contact: Tara Mezzanotte
tara.mezzanotte@gmail.com

908-656-4603

Facebook: I80DWGCoalition

NJDOT I80 & PennDOT 611 Delaware Water Gap Area Municipal Liaison
Knowlton Township (NJ)

Hardwick Township (NJ)

Upper Mount Bethel Township (PA)

Lower Mount Bethel Township (PA)

Smithfield Township (PA)

Portland Borough (PA) - (NJDOT Only)

Who else? Let me know if you wish to be added.

Photo by: Local Airplane Pilot Alexander T Davidson

RESOLUTION REQUESTING I-80/611 DELAWARE WATER GAP (DWG) ACTIONS

WHEREAS, in 2025 Preliminary Engineering (PE) will be underway for five simultaneous I-80/611 DWG projects with no bi-state coordination or joint federal oversight: the I-80 Rockfall Mitigation and Retaining Wall Replacement Projects and 611 Rock-Slope Mitigation, Retaining Wall Repairs and Rehab Projects; and

WHEREAS, jurisdiction over the I-80/611 five mile DWG corridor (The DWG Corridor) is hyper complex in part because it traverses six municipalities, three counties, and two states in three different Metropolitan Planning Organization regions, contains two interstate toll bridges, roadways, and a railroad, owned and maintained by different agencies, and is represented by three different Congressional Districts and six different State Legislative Districts; and

WHEREAS, The DWG Corridor is well-documented as highly environmentally, culturally, and historically sensitive as part of the Delaware Water Gap National Recreation Area, The Middle Delaware National Wild and Scenic River, the Appalachian National Scenic Trail, New Jersey Worthington State Forest, which includes Sunfish Pond, a National Register of Historic Places-listed National Natural Landmark, the National Register of Historic Places-eligible Delaware, Lackawanna & Western Railroad, and is in the Natural Heritage Priority Program; and

WHEREAS, with over 55,000 vehicles per day traversing The DWG Corridor, the region and travelers depend on all lanes (3 East Bound (I-80 with 2 and 611 with 1) and 3 West Bound (I-80 with 2 and 611 with 1)) open, safe, and free flowing, so any construction, lane closure or crash results in potentially life-threatening emergency services delays and negative impacts on residential villages, local infrastructure, businesses, employment, freight travel, recreation, and lifestyle; and

WHEREAS, despite over two years of the Pennsylvania Department of Transportation collaboration with the National Park Service (NPS) (December 2022-July 2024), the Special Use Permit for the **closed** PA 611 Point of Gap slope scaling emergency project was NOT approved due to the above-mentioned complexities, multiple federal laws including the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act (NHPA), and other related considerations; and

WHEREAS, since 2017 stakeholders have been active participants in every available NJDOT I-80 projects public involvement activity, have developed the opinion and have supporting records that demonstrate NJDOT did NOT provide early public input opportunity or timely updates, input has not been considered, and NJDOT presentations, materials, letters, and studies contained significant errors, omissions, and questionable representation of facts; and

WHEREAS, the following laws, which require complex processes, are at play for the above resources and others in the dual-state Delaware Water Gap, and it is reasonable to believe, and

experience has demonstrated that PennDOT, FHWA-PA, NJDOT, and FHWA-NJ lack the experience to ensure the efficient application of the following laws:

- [1966 National Historic Preservation Act \(Section 106\)](#)
By the mid-1960s, federally-funded infrastructure and urban renewal projects had resulted in the rapid destruction of places significant in the nation's history. Congress recognized that the federal government's historic preservation program was inadequate to ensure that future generations could appreciate and enjoy the rich heritage of the nation. NHPA was enacted in recognition that historic places were being lost or altered, and that preservation was in the public's interest.
- [1968 Wild and Scenic River Act \(WSRA\)](#)
The National Wild and Scenic Rivers System was created by Congress in 1968 to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Wild & Scenic Rivers Act is notable for safeguarding the special character of these rivers, while also recognizing the potential for their appropriate use and development.
- [1969 National Environmental Policy Act \(NEPA\)](#)
Created to encourage harmony between people and their environment, to prevent or eliminate damage to the environment, to stimulate the health and welfare of people, to enrich the understanding of ecological systems and natural resources important to the Nation, and to provide for establishing the Council of Environmental Quality, which oversees the NEPA process. **NOTE: The Tocks Island Project was one of, if not the first ever NEPA EIS**
- [1973 Endangered Species Act \(ESA\)](#)
Requires federal agencies, in consultation with the U.S. Fish and Wildlife Service and/or the NOAA Fisheries Service, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species.
- [1979 Archeological Resource Protection Act \(ARPA\)](#)
Specifies federal ownership of objects excavated from Federal lands and lays out requirements for permits for archeological investigations that include planning for the disposition and management of collections.
- [1990 Native American Graves Protection and Repatriation Act \(NAGPRA\)](#)
Following Native American civil rights movements in the late 1960s, Congress passed the American Indian Religious Freedom Act (AIRFA) in 1978 to protect Native peoples' basic civil liberties, including practice of their religions and sacred ceremonies. NAGPRA provided a next step in recognizing basic civil liberties. It addressed the rights of lineal descendants, Indian tribes, and Native Hawaiian organizations to certain Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony found in Federal agencies and institutions that receive federal funds and addressed trafficking of these materials by private individuals.

WHEREAS, it appears the urgency and magnitude of the legally required consultation processes necessary for DWG Lenape Tribal archaeological and cultural resources were not realized by PennDOT and FHWA-PA until 2024, two years after Route 611 was closed, and by NJDOT and

FHWA-NJ not until 2021, eight years into Preliminary Engineering for the I-80 Rockfall Mitigation Project; and

WHEREAS, the current Lead Agencies (NJDOT, PennDOT, FHWA-NJ, and FHWA-PA) have demonstrated a lack of the knowledge and experience necessary to follow standard processes for appropriate stakeholder input and to move projects along in a responsible and efficient manner, which are key elements of both NEPA and Section 106; and

WHEREAS, the federally recognized Lenape Tribal Nations have requested The Federal Highway Administration (FHWA) assist with eligibility determination for the Delaware Water Gap to be designated a [Traditional Cultural Property/Landscape](#), yet no such request has been made to determine eligibility as a [National Natural Landmark](#) and/or [National Historic Landmark](#); and

WHEREAS, the [Council on Environmental Quality](#) (CEQ) oversees NEPA implementation, interpretation of regulations for NEPA procedural requirements, and helps to resolve disputes between Federal agencies and with other governmental entities and members of the public; and

WHEREAS, the [Advisory Council on Historic Preservation](#) (ACHP)'s responsibility is to administer the requirements of Section 106 of the National Historic Preservation Act (NHPA), a process that provides for the consideration of alternatives that promote preservation and offers the public and stakeholders the opportunity to influence federal decision-making; and

WHEREAS, [Knowlton and Hardwick Townships](#) have requests consultation with CEQ and ACHP related to the above-mentioned DWG projects, to help **expedite efficient integration of NEPA and Section 106, to ensure public input is considered, impacts adequately addressed, and reasonable alternatives considered expeditiously.**

NOW, THEREFORE, BE IT RESOLVED that XXXX:

1. Continues to support and encourage every possible action to safely open and maintain all lanes of the I-80/611 DWG corridor, including any ongoing emergency projects.
2. Supports Knowlton and Hardwick Township's request for consultation with CEQ and ACHP to help expedite efficient integration of NEPA and Section 106, **to ensure public input is considered, impacts are adequately addressed, and reasonable alternatives are considered expeditiously.**
3. Expects **a full NEPA Environmental Impact Statement/Study (EIS)** for any planned DWG project, for which an **independent non-FHWA or NPS Lead Agency is appointed, and all DWG projects are coordinated by this independent Lead Agency.**
4. Requests FHWA **determine the eligibility of the DWG as a National Historic Landmark and National Natural Landmark, so the DWG as a Section 106 Historic resource can be considered EARLY in Preliminary Engineering, to avoid project delays.**
5. Expects PennDOT and NJDOT to share all project updates, NEPA and Section 106 public involvement opportunities with the township via email sent to: **XXXXXXX@yyy.com**
6. Acknowledges and appreciates actions by Congressman Gottheimer, Congressman Kean, Congresswoman Wild, and Congressman Cartwright over the years, and requests they, and our U.S. Senators, continue to assist by supporting this request in every way possible.



ALTERNATIVES COMPARISON MATRIX

FULL RANGE OF ALTERNATIVES

| ALTERNATIVE NUMBER | Alternative Name | Description | Anticipated Construction Cost | Meets Purpose and Need | Within Scope of Project | Work within NJDOT Right of Way | Required Ongoing Maintenance | Construction Impact | Construction Duration (Years) | Requires Lane Closures | Visual Impact | Ecological Impact | Open Space / Recreation Impact | Status | |
|--|----------------------------|---|--|------------------------|-------------------------|--------------------------------|------------------------------|---------------------|-------------------------------|------------------------|---------------|-------------------|--------------------------------|-------------------------------|-------------------------------|
| FEASIBLE (Presented to Public) | No Build | No change to existing | N/A | No | N/A | N/A | High | Low | N/A | N/A | Low | Low | Low | Not Recommended | |
| | 1 | Mass Excavation | Loose rocks, cobbles and debris collected, boulders broken up and scaled | \$150 Million | Yes | Yes | No | Moderate | High | 5-10 | Permanent | High | High | High | Not Recommended |
| | 2 | Temporary Right-Of-Way Impacts | Rockfall source areas are temporarily mitigated on National Park Service lands without using permanent rock stabilization techniques | \$38 Million | Yes | Yes | No | High | Moderate | 4 | Temporary | High | Moderate | Moderate | Not Recommended |
| | 3 | Permanent Right-Of-Way Impacts | Rockfall source areas are permanently mitigated and safely secured on National Park Service lands | \$60 Million | Yes | Yes | No | Moderate | High | 4 | Temporary | High | Moderate | High | Not Recommended |
| | 4 | Double Fence | Construct double fence along portion of highway | \$37 Million | Yes | Yes | Yes | High | High | 4-5 | Temporary | High | High | Low | Not Recommended |
| | 5 | Rockfall Berm | Construct large rockfall barrier along portion of highway | \$47 Million | Yes | Yes | Yes | Low | Low | 4 | Temporary | Low | Low | Low | Recommended |
| | 6 | Retaining Wall | Construct large wall along portion of highway | \$39 Million | Yes | Yes | Yes | Moderate | High | 4 | Temporary | High | High | Low | Not Recommended |
| 7 | Rockfall Shed over Highway | Construct structural shed over all 4 lanes of Route 80 | \$200 Million+ | Yes | Yes | Yes | Moderate | High | 5-10 | Permanent | High | High | High | Not Recommended | |
| NOT FEASIBLE (Not Presented to Public) | 8 | Major Bypass Realignment | Shift highway alignment approximately 11 miles around Mt. Tammany through National Park Service lands | \$3.1 Billion | Yes | No | No | Low | Extreme | 10+ ** | Temporary | Extreme | Extreme | Extreme | Not Recommended/ Not Feasible |
| | 9A | Long Tunnel Realignment | Shift highway alignment approximately 6.3 miles through National Park Service lands | \$10.5 Billion | Yes | No | No | Low | Extreme | 10+ ** | Temporary | Extreme | Extreme | Extreme | Not Recommended/ Not Feasible |
| | 9B | Long Tunnel Realignment | Shift highway alignment approximately 6.0 miles through National Park Service lands | \$10.0 Billion | Yes | No | No | Low | Extreme | 10+ ** | Temporary | Extreme | Extreme | Extreme | Not Recommended/ Not Feasible |
| | 9C | Long Tunnel Realignment | Shift highway alignment approximately 5.6 miles through National Park Service lands | \$9.5 Billion | Yes | No | No | Low | Extreme | 10+ ** | Temporary | Extreme | Extreme | Extreme | Not Recommended/ Not Feasible |
| | 10 | Short Tunnel / Bridge Realignment | Shift highway alignment approximately 2 miles through National Park Service lands with tunnel and bridges | \$3.2 Billion | Yes | No | No | Low | Extreme | 10+ ** | Temporary | Extreme | Extreme | Extreme | Not Recommended/ Not Feasible |
| | 11 | Mt. Minsi Tunnel Realignment | Shift highway alignment and construct 2-mile tunnel through National Park Service lands | \$4.5 Billion | Yes | No | No | Low | Extreme | 10+ ** | Temporary | Extreme | Extreme | Extreme | Not Recommended/ Not Feasible |
| | 12 | Highway Realignment Over Delaware River | Shift highway alignment south over Delaware River | \$500 Million+ | Yes | No | No | Low | High | 5-10 ** | Temporary | Extreme | High | High | Not Recommended/ Not Feasible |
| 13 | Fence Along Escarpment* | * Alternative developed at the request of Congressman Gottheimer. Construct high strength fence 120 ft. and 60 ft. high | \$175 Million+ | No | No | No | Moderate | High | 5-10 ** | Temporary | High | High | High | Not Recommended/ Not Feasible | |





ALTERNATIVES COMPARISON MATRIX

ALTERNATIVES PRESENTED AT OPEN HOUSE IN 2019

| ALTERNATIVE NUMBER | Alternative Name | Description | Anticipated Construction Cost | Meets Purpose and Need | Within Scope of Project | Work within NJDOT Right of Way | Required Ongoing Maintenance | Construction Impact | Construction Duration (Years) | Requires Lane Closures | Visual Impact | Ecological Impact | Open Space/ Recreation Impact | Status |
|--------------------|--------------------------------|--|-------------------------------|------------------------|-------------------------|--------------------------------|------------------------------|---------------------|-------------------------------|------------------------|---------------|-------------------|-------------------------------|-----------------|
| 1 | Mass Excavation | Loose rocks, cobbles and debris collected, boulders broken up and scaled | \$150 Million | Yes | Yes | No | Moderate | High | 5-10 | Permanent | High | High | High | Not Recommended |
| 2 | Temporary Right-of-Way Impacts | Rockfall source areas are temporarily mitigated on National Park Service lands without using permanent rock stabilization techniques | \$38 Million | Yes | Yes | No | High | Moderate | 4 | Temporary | High | Moderate | Moderate | Not Recommended |
| 3 | Permanent Right-of-Way Impacts | Rockfall source areas are permanently mitigated and safely secured on National Park Service lands | \$60 Million | Yes | Yes | No | Moderate | High | 4 | Temporary | High | Moderate | High | Not Recommended |
| 4 | Double Fence | Construct double fence along portion of highway | \$37 Million | Yes | Yes | Yes | High | High | 4-5 | Temporary | High | High | Low | Not Recommended |
| 5 | Rockfall Berm | Construct large rockfall barrier along portion of highway | \$47 Million | Yes | Yes | Yes | Low | Low | 4 | Temporary | Low | Low | Low | Recommended |
| 6 | Retaining Wall | Construct large wall along portion of highway | \$39 Million | Yes | Yes | Yes | Moderate | High | 4 | Temporary | High | High | Low | Not Recommended |
| 7 | Rockfall Shed over Highway | Construct structural shed over all 4 lanes of Route 80 | \$200 Million+ | Yes | Yes | Yes | Moderate | High | 5-10 | Permanent | High | High | High | Not Recommended |





MASS EXCAVATION

NOT RECOMMENDED

ALT. 1

CONSTRUCTION COST: \$150 MILLION

- MASS EXCAVATION**
1. 40' HIGH ROCK CUTS WITH 12' BENCHES
 2. ROW IMPACTS
 3. DETOUR REQUIRED



| ALT. 1 |
|---|
| CUTTING AND REMOVAL OF ROCK SLOPES THROUGH PROJECT LIMITS |

| POSITIVE EVALUATION CRITERIA |
|------------------------------|
| ROCKFALL HAZARDS ADDRESSED |

| NEGATIVE EVALUATION CRITERIA |
|------------------------------|
|------------------------------|

| FUNDING ISSUES |
|---|
| - Cost is 3x higher than Preliminary Preferred Alternative (PPA cost ~ \$47M) |

| ADDITIONAL ENVIRONMENTAL IMPACTS |
|--|
| - Extensive impacts to Threatened & Endangered species. |
| - Historic & Archeological Impacts [Sec. 106] |
| - Parkland - Estimated up to 1 acre of preserved parkland to be physically impacted & acquired [Sec. 4(f)] |
| - High visual impacts - terraced rock face |

| CONSTRUCTION ISSUES |
|--|
| - Construction - 5 to 10 years |
| - Blasting - increased frequency and time required |
| - Permanent lane closure required for I-80 WB |

| ECONOMIC IMPACTS |
|---|
| - Traffic impacts to I-80 WB from lane reduction for 5+ years |

| ADDITIONAL JURISDICTIONAL COORDINATION |
|--|
| - Tribal Nations |
| - USDOI National Park Service |
| - USDOT FHWA |
| - USDOT Federal Lands Highway |
| - US Army Corp of Engineers |
| - US Coast Guard |
| - US Fish & Wildlife Service |





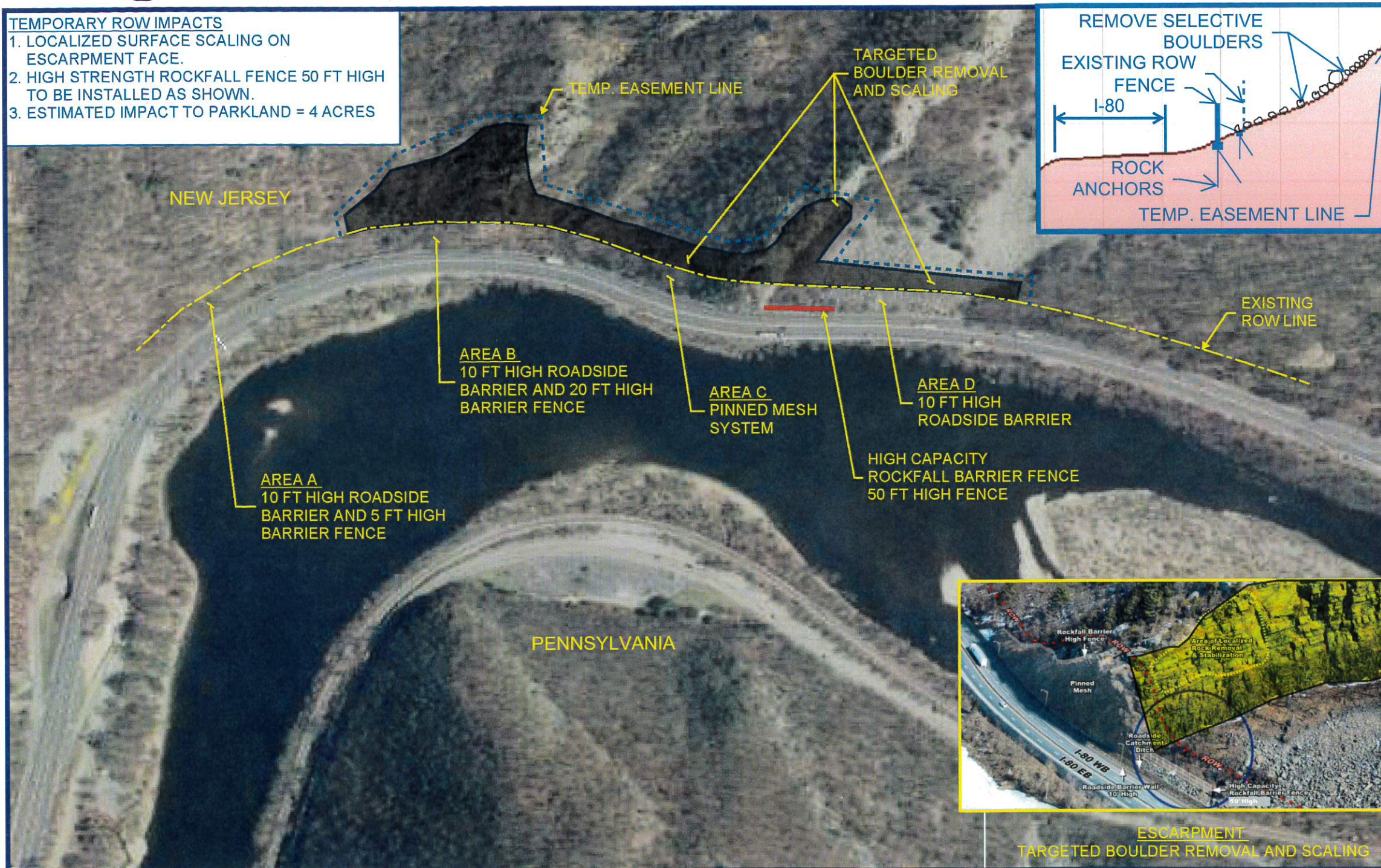
TEMPORARY RIGHT-OF-WAY IMPACTS

NOT RECOMMENDED

ALT. 2

CONSTRUCTION COST: \$38 MILLION

- TEMPORARY ROW IMPACTS**
1. LOCALIZED SURFACE SCALING ON ESCARPMENT FACE.
 2. HIGH STRENGTH ROCKFALL FENCE 50 FT HIGH TO BE INSTALLED AS SHOWN.
 3. ESTIMATED IMPACT TO PARKLAND = 4 ACRES



| ALT. 2 |
|---|
| ROCKFALL SOURCE AREAS ARE TEMPORARILY MITIGATED ON NPS LANDS WITHOUT USING PERMANENT ROCK STABILIZATION TECHNIQUES. PROPOSED ROADSIDE BARRIER, CATCHMENT, MESH AND HIGH-LEVEL FENCE INSTALLED WITHIN STATE ROW. |

| POSITIVE EVALUATION CRITERIA |
|--------------------------------|
| ROCKFALL HAZARDS ADDRESSED |
| - Temporary lane closures only |

| NEGATIVE EVALUATION CRITERIA |
|---|
| FUNDING ISSUES |
| - Cost could increase with environmental mitigation requirements |
| ADDITIONAL ENVIRONMENTAL IMPACTS |
| - Parkland - Estimated up to 4 acres of parkland to be impacted [Sec. 4(f)] |
| - Historic & Archaeological Impacts (Sec. 106) |
| - High visual impacts - 50-ft high capacity barrier fence in talus area |
| - Foundations will impact groundwater flow and subsurface mitigation of species |

| CONSTRUCTION ISSUES |
|---|
| - Construction of deep foundations in talus slopes is difficult |
| - Access to work areas on upper slope is difficult |

| ECONOMIC IMPACTS |
|--|
| - Large rockfall event could require replacement of fence system |
| - Requires periodic removal of source material required |

| ADDITIONAL JURISDICTIONAL COORDINATION |
|--|
| - Tribal Nations |
| - USDOI National Park Service |
| - USDOT FHWA |
| - US Fish & Wildlife Service |



NEW JERSEY DEPARTMENT OF TRANSPORTATION
www.njdot.nj.gov





PERMANENT RIGHT-OF-WAY IMPACTS

NOT RECOMMENDED

ALT. 3

CONSTRUCTION COST: \$60 MILLION

PERMANENT ROW IMPACTS

1. ROCK DOWELS, SHOTCRETE AND/OR PINNED MESH TO BE USED TO SECURE ESCARPMENT FACE.
2. HIGH STRENGTH ROCKFALL FENCE 25 FT HIGH TO BE INSTALLED AS SHOWN.
3. ESTIMATED IMPACT TO PARKLAND = 4 ACRES



| ALT. 3 |
|---|
| ROCKFALL SOURCE AREAS ARE PERMANENTLY MITIGATED AND SECURED ON NPS LANDS WITH SHOTCRETE, DOWELS AND MESH. PROPOSED ROADSIDE BARRIER, CATCHMENT, MESH AND HIGH-LEVEL FENCE INSTALLED WITHIN STATE ROW. |

| POSITIVE EVALUATION CRITERIA |
|--------------------------------|
| ROCKFALL HAZARDS ADDRESSED |
| - Temporary lane closures only |

| NEGATIVE EVALUATION CRITERIA |
|---|
| FUNDING ISSUES |
| - Cost could increase with environmental mitigation requirements |
| ADDITIONAL ENVIRONMENTAL IMPACTS |
| - Parkland - Estimated up to 4 acres of parkland to be impacted [Sec. 4(f)] |
| - Historic & Archeological Impacts [Sec. 106] |
| - High visual impacts - Mesh/Shotcrete on escarpment; 25-ft high capacity barrier fence in talus area |
| - Foundations will impact groundwater flow and subsurface mitigation of species |

| CONSTRUCTION ISSUES |
|---|
| - Construction of deep foundations in talus slopes is difficult |
| - Access to work areas on upper slope and escarpment is difficult |

| ECONOMIC IMPACTS |
|---|
| - Large rockfall event could require replacement fence system |

| ADDITIONAL JURISDICTIONAL COORDINATION |
|--|
| - Tribal Nations |
| - USDOI National Park Service |
| - USDOT FHWA |
| - US Fish & Wildlife Service |





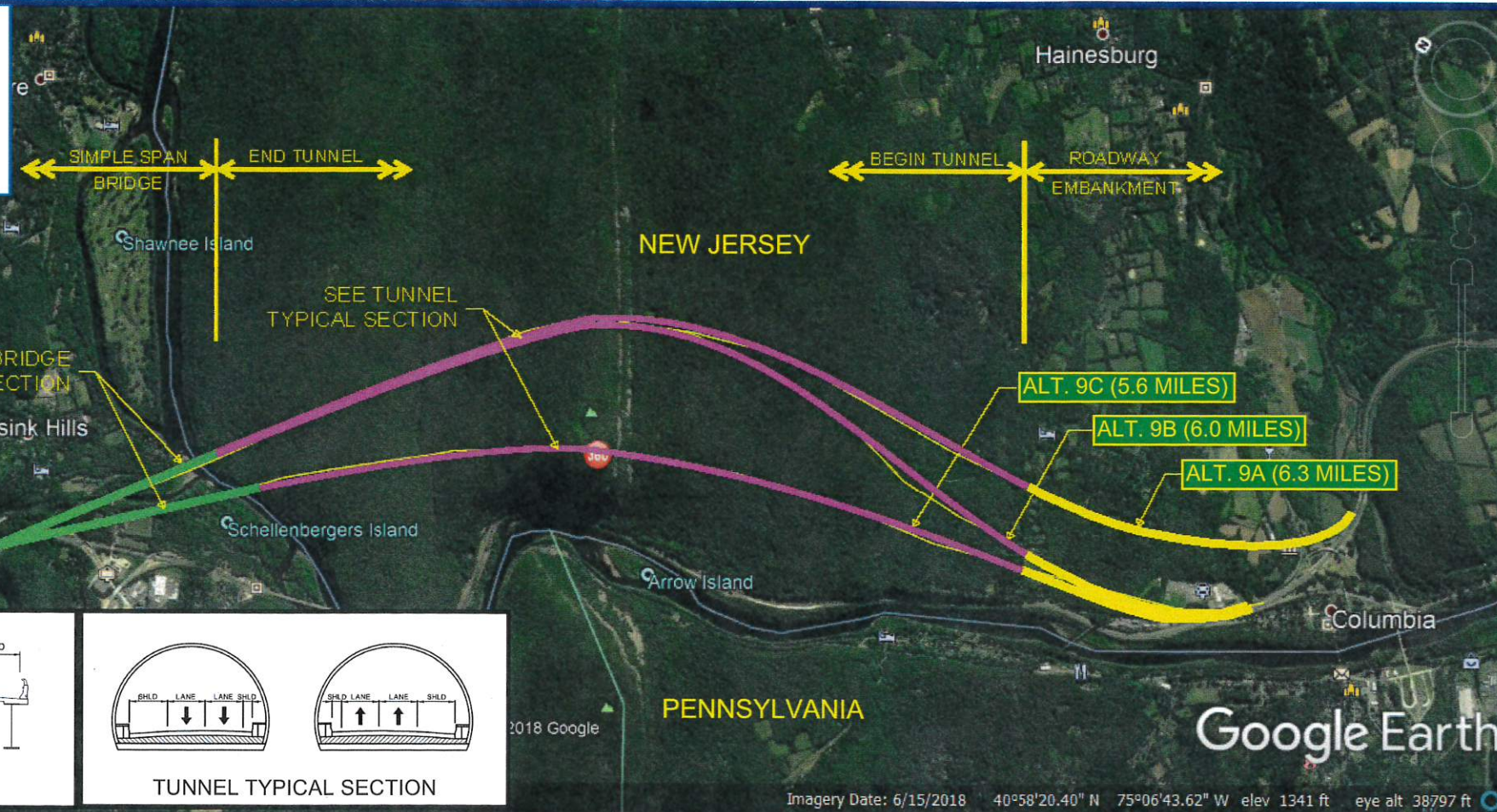
LONG TUNNEL REALIGNMENT

NOT RECOMMENDED - NOT FEASIBLE

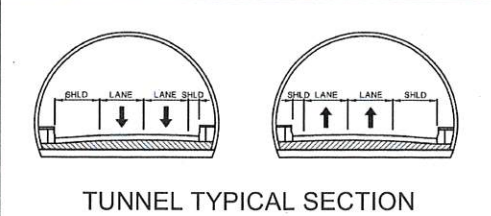
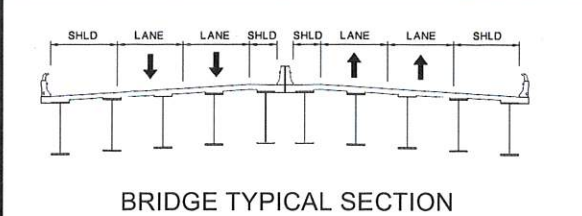
ALT. 9A **ALT. 9B** **ALT. 9C**

CONSTRUCTION COST: **\$9.5-10.5 BILLION**

- BYPASS ALTERNATIVES**
1. APPROXIMATELY 5.75 MILES LONG
 - 0.75 MILES OF EMBANKMENT
 - 4 MILES OF TUNNEL
 - 1 MILE OF SIMPLE SPAN BRIDGE
 2. DIFFICULT TUNNELING CONDITIONS
 3. EXTENSIVE LAND ACQUISITION



- LEGEND**
- SIMPLE SPAN BRIDGE
 - ROADWAY
 - OPEN CUT ROADWAY
 - TUNNEL



ALT. 9A, 9B, 9C
SHIFT HIGHWAY ALIGNMENT APPROXIMATELY 11 MILES AROUND MT. TAMMANY THROUGH NPS LANDS.

| POSITIVE EVALUATION CRITERIA |
|--------------------------------|
| S-CURVES ELIMINATED |
| ROCKFALL HAZARDS ELIMINATED |
| - Temporary lane closures only |

| NEGATIVE EVALUATION CRITERIA |
|---|
| FUNDING ISSUES |
| - Does not meet purpose & need/scope of project and will not qualify for rockfall mitigation funding |
| - Cost is 190x to 210x higher than Preliminary Preferred Alternative (PPA cost ~ \$47M) |
| - Federal funding to come from highways sources from NJ, PA and Delaware River Joint Toll Bridge Commission |
| - Could require unique funding (Joint Venture, etc.) due to extremely high cost |

| ADDITIONAL ENVIRONMENTAL IMPACTS |
|---|
| - NEPA Environmental Impact Statement (EIS) |
| - Parkland - Estimated up to 620 acres of parkland to be physically impacted and acquired |
| - Extreme visual impacts - Removes vista view from roadway |
| - Tunnel construction (4 miles +/-) |
| - Tunnel will impact groundwater flow and subsurface mitigation of species |
| - New Delaware River bridge (1 mile) - 12+ acres of river disturbance |

| CONSTRUCTION ISSUES |
|---|
| - Overall project schedule must re-start and will be significantly longer: EIS - 3 to 6 years |
| Design - 3 to 5 years |
| Construction - 10+ years |
| - Extreme construction issues - 3 to 6+ miles new alignment with tunnel |
| - Temporary rockfall mitigation is still required |

| ECONOMIC IMPACTS |
|---|
| - Diverts traffic away from existing recreational area and Delaware Water Gap, PA |
| - Tunnels and bridges require long term maintenance and support |

| ADDITIONAL JURISDICTIONAL COORDINATION |
|---|
| - Tribal Nations |
| - USDOI National Park Service |
| - USDOT FHWA |
| - USDOT Federal Lands Highway |
| - US Army Corp of Engineers |
| - US Coast Guard |
| - US Fish & Wildlife Service |
| - State of New Jersey |
| - Commonwealth of Pennsylvania |
| - Delaware River Joint Toll Bridge Commission |



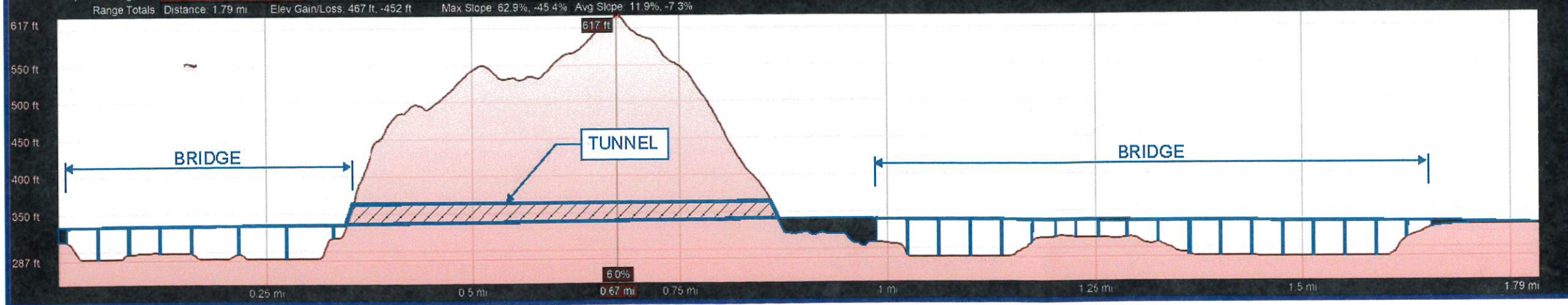
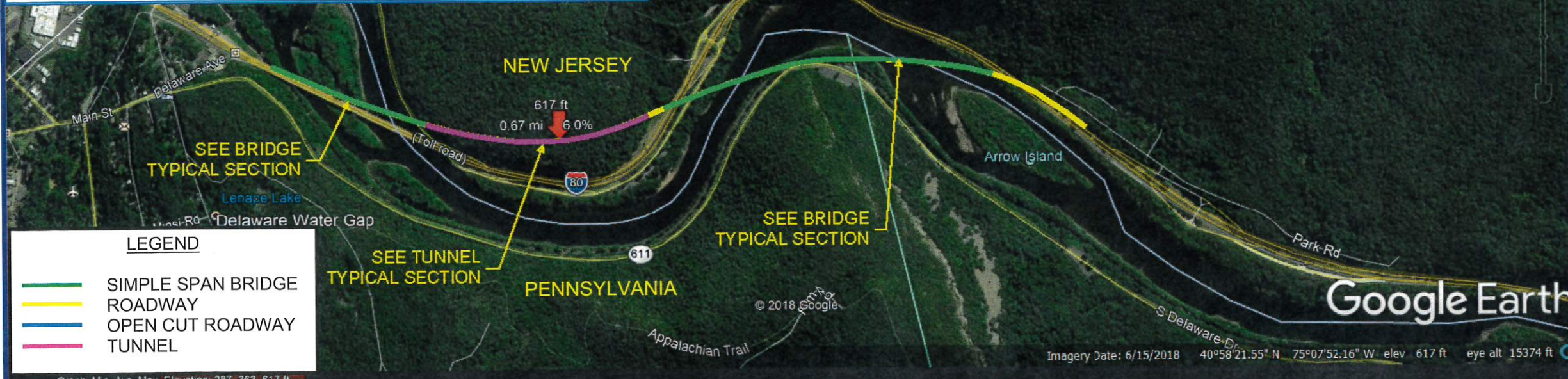
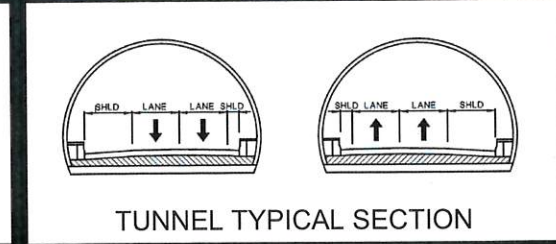
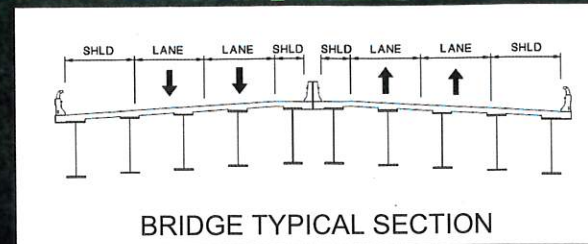
SHORT TUNNEL / BRIDGE REALIGNMENT

NOT RECOMMENDED - NOT FEASIBLE

ALT. 10

CONSTRUCTION COST: \$3.2 BILLION

- SHORT TUNNEL / BRIDGE REALIGNMENT**
- APPROXIMATELY 1.75 MILES LONG
 - 0.5 MI TUNNEL
 - 2 NEW DELAWARE RIVER BRIDGES
 - 1 MI ROADWAY EMBANKMENT
 - NEW NPS INTERCHANGE AND FACILITIES IMPROVEMENTS
 - TWO STAGE CONSTRUCTION ALTERNATIVE
 - DIFFICULT TUNNELING CONDITIONS IN BLOOMSBURG FORMATION
 - PENNSYLVANIA INVOLVEMENT AND APPROVAL REQUIRED



| ALT. 10 | |
|---|--|
| SHIFT HIGHWAY ALIGNMENT APPROXIMATELY 2 MILES THROUGH NPS LANDS WITH TUNNEL BENEATH MT. TAMMANY AND BRIDGES OVER DELAWARE RIVER. | |
| POSITIVE EVALUATION CRITERIA | |
| S-CURVES SOFTENED | |
| ROCKFALL HAZARDS ELIMINATED | |
| NEGATIVE EVALUATION CRITERIA | |
| FUNDING ISSUES | |
| <ul style="list-style-type: none"> - Does not meet purpose & need/scope of project and will not qualify for rockfall mitigation funding - Cost is 67x higher than Preliminary Preferred Alternative (PPA cost ~ \$47M) - Federal funding to come from highways sources from NJ, PA and Delaware River Joint Toll Bridge Commission - Could require unique funding (Joint Venture, etc.) due to extremely high cost | |
| ADDITIONAL ENVIRONMENTAL IMPACTS | |
| <ul style="list-style-type: none"> - NEPA Environmental Impact Statement (EIS) - Parkland - Estimated up to 620 acres of parkland to be physically impacted and acquired - Extreme visual impacts - Removes vista view from roadway - Tunnel construction (1/2 mile +/-) - Tunnel will impact groundwater flow and subsurface mitigation of species - Two new Delaware River bridges - 12+ acres of river disturbance - Tunnel will impact groundwater flow and subsurface mitigation of species | |
| CONSTRUCTION ISSUES | |
| <ul style="list-style-type: none"> - Overall project schedule must re-start and will be significantly longer: EIS - 3 to 6 years, Design - 3 to 5 years, Construction - 10+ years - Extreme construction issues -new alignment with tunnel and bridges - Temporary diversionary roadway required to maintain traffic - Temporary rockfall mitigation is still required | |
| ECONOMIC IMPACTS | |
| <ul style="list-style-type: none"> - Directly impacts Pennsylvania lands - Diverts traffic away from existing recreational area - Tunnels and bridges require long term maintenance and support | |
| ADDITIONAL JURISDICTIONAL COORDINATION | |
| <ul style="list-style-type: none"> - Tribal Nations - USDOI National Park Service - USDOT FHWA - USDOT Federal Lands Highway - US Army Corp of Engineers - US Coast Guard - US Fish & Wildlife Service - State of New Jersey - Commonwealth of Pennsylvania - Delaware River Joint Toll Bridge Commission | |

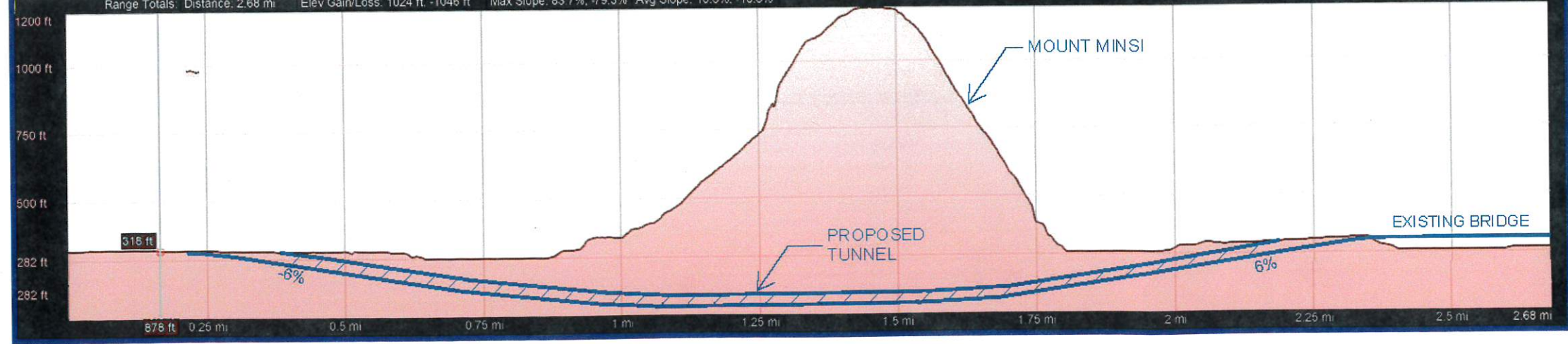
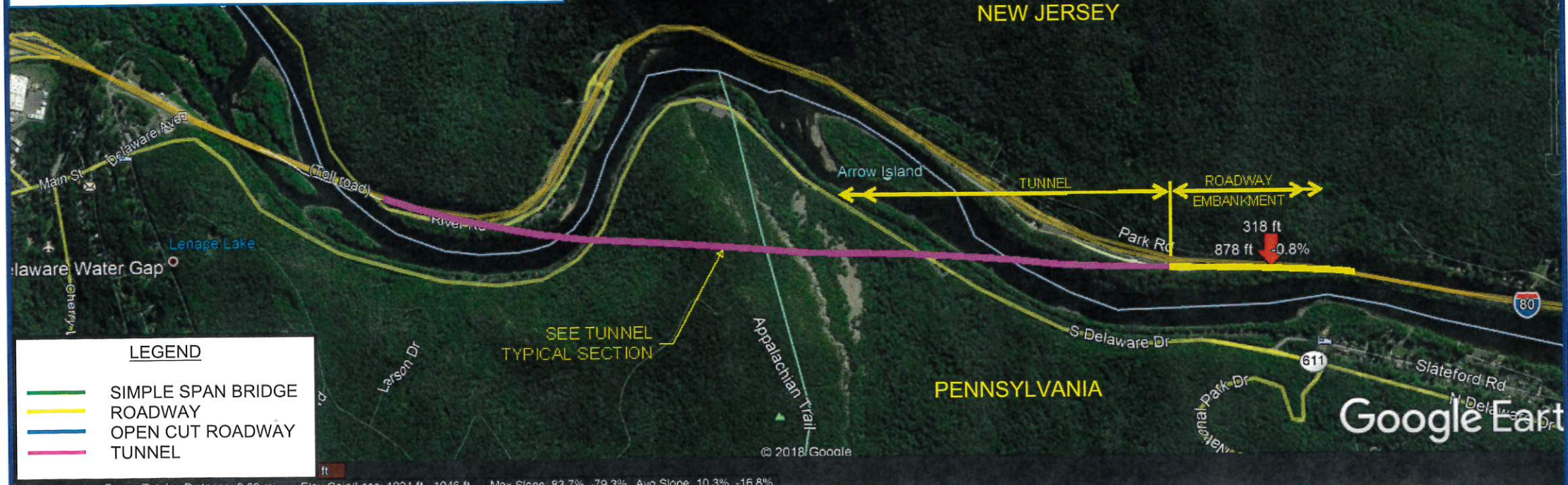
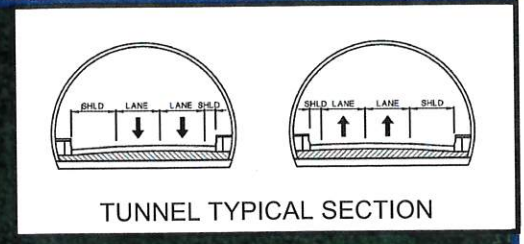


MT. MINSI TUNNEL REALIGNMENT

ALT. 11

CONSTRUCTION COST: \$4.5 BILLION

- MT. MINSI TUNNEL**
1. APPROXIMATELY 1.5 MILES LONG
 - 1.5 MILE TUNNEL
 - 0.5 MILE ROADWAY EMBANKMENT
 2. I-80 CLOSED DURING CONSTRUCTION
 3. DIFFICULT TUNNELING CONDITIONS
 4. PENNSYLVANIA INVOLVEMENT AND APPROVAL REQUIRED



ALT. 11
SHIFT HIGHWAY ALIGNMENT APPROXIMATELY 2 MILES THROUGH NPS LANDS WITH TUNNEL BENEATH MT. MINSI (PA) AND BRIDGES OVER DELAWARE RIVER.

- POSITIVE EVALUATION CRITERIA**
- S-CURVES ELIMINATED
 - ROCKFALL HAZARDS ELIMINATED

- NEGATIVE EVALUATION CRITERIA**
- FUNDING ISSUES**
- Does not meet purpose & need/scope of project and will not qualify for rockfall mitigation funding
 - Cost is 90x higher than Preliminary Preferred Alternative (PPA cost ~ \$47M)
 - Federal funding to come from highways sources from NJ, PA and Delaware River Joint Toll Bridge Commission
 - Could require unique funding (Joint Venture, etc.) due to extremely high cost

- ADDITIONAL ENVIRONMENTAL IMPACTS**
- NEPA Environmental Impact Statement (EIS)
 - Parkland - Estimated up to 50 acres of parkland to be physically impacted and acquired
 - Tunnel construction (1.5 mile +/-)
 - Tunnel will impact groundwater flow and subsurface mitigation of species
 - Extreme visual impacts - Removes vista view from roadway

- CONSTRUCTION ISSUES**
- Overall project schedule must re-start and will be significantly longer:
 - EIS - 3 to 6 years
 - Design - 3 to 5 years
 - Construction - 10+ years
 - Extreme construction issues - new alignment with tunnel and bridges
 - Temporary diversionary roadway required to maintain traffic
 - Temporary rockfall mitigation is still required

- ECONOMIC IMPACTS**
- Directly impacts Pennsylvania lands
 - Diverts traffic away from existing recreational area
 - Tunnels require long term maintenance and support

- ADDITIONAL JURISDICTIONAL COORDINATION**
- Tribal Nations
 - USDOI National Park Service
 - USDOT FHWA
 - USDOT Federal Lands Highway
 - State of New Jersey
 - Commonwealth of Pennsylvania
 - Delaware River Joint Toll Bridge Commission



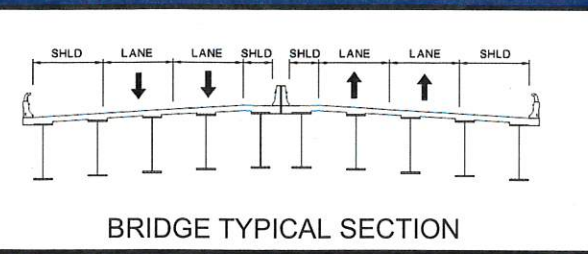
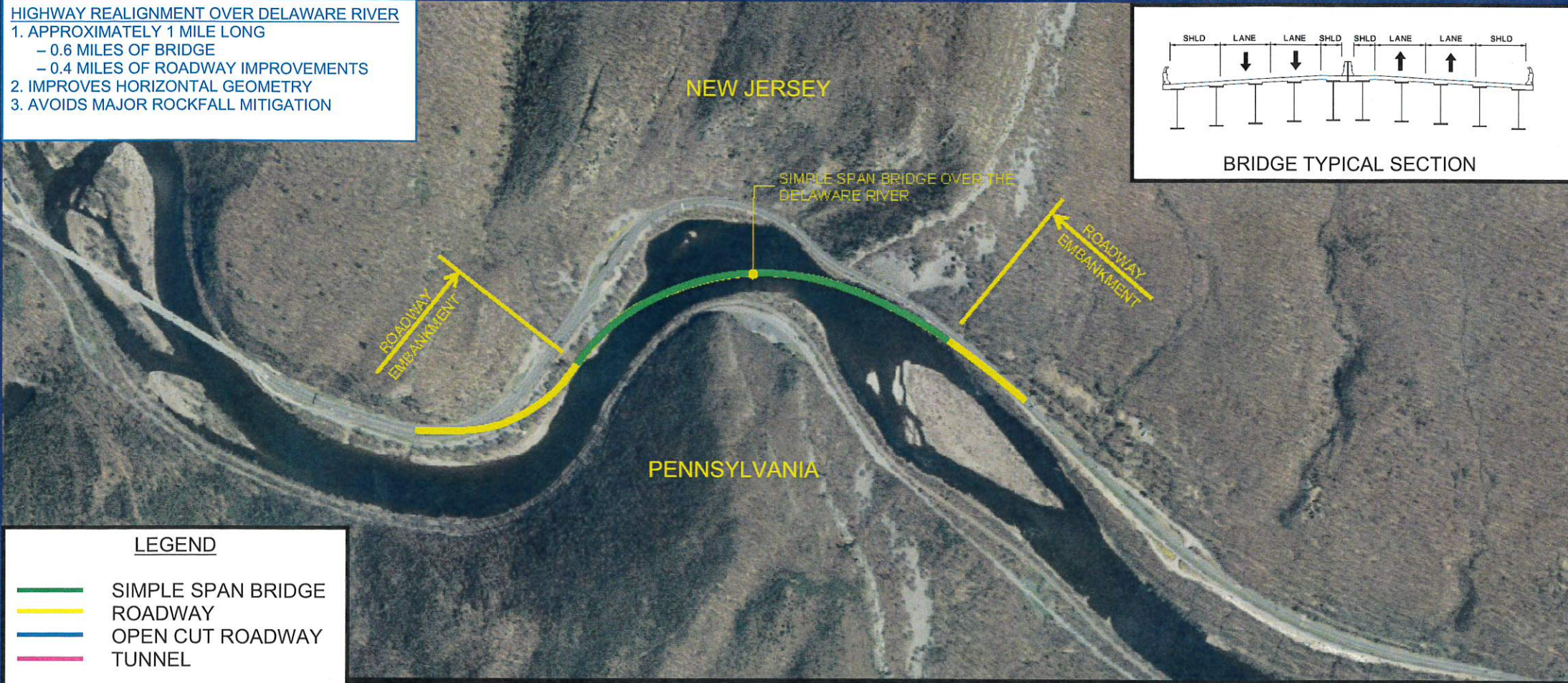
HIGHWAY REALIGNMENT OVER DELAWARE RIVER

NOT RECOMMENDED - NOT FEASIBLE

ALT. 12

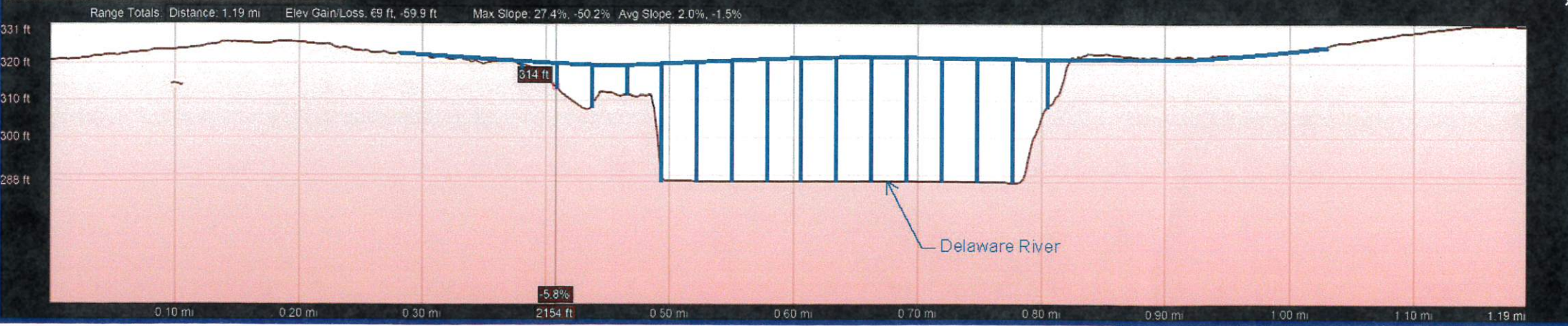
CONSTRUCTION COST: \$500 MILLION

- HIGHWAY REALIGNMENT OVER DELAWARE RIVER**
- APPROXIMATELY 1 MILE LONG
 - 0.6 MILES OF BRIDGE
 - 0.4 MILES OF ROADWAY IMPROVEMENTS
 - IMPROVES HORIZONTAL GEOMETRY
 - AVOIDS MAJOR ROCKFALL MITIGATION



LEGEND

- SIMPLE SPAN BRIDGE
- ROADWAY
- OPEN CUT ROADWAY
- TUNNEL



| ALT. 12 | |
|---|--|
| SHIFT HIGHWAY ALIGNMENT SOUTH OVER DELAWARE RIVER. | |
| POSITIVE EVALUATION CRITERIA | |
| S-CURVES SOFTENED | |
| ROCKFALL HAZARDS ELIMINATED | |
| - Temporary lane closures only | |
| NEGATIVE EVALUATION CRITERIA | |
| FUNDING ISSUES | |
| - Does not meet purpose & need/scope of project and will not qualify for rockfall mitigation funding | |
| - Cost is 10+x higher than Preliminary Preferred Alternative (PPA cost ~ \$47M) | |
| - Federal funding to come from highways sources from NJ, PA and Delaware River Joint Toll Bridge Commission | |
| - Could require unique funding (Joint Venture, etc.) due to extremely high cost | |
| ADDITIONAL ENVIRONMENTAL IMPACTS | |
| - NEPA Environmental Impact Statement (EIS) | |
| - Impacts to Delaware River are subject to Wild & Scenic Rivers Act | |
| - Bridge construction (3/4 mile +/-) - 9+ acres of river disturbance. | |
| - High visual impacts - Bridge through center of Delaware River | |
| - Bridge will impact river species habitat | |
| CONSTRUCTION ISSUES | |
| - Overall project schedule must re-start and will be significantly longer: EIS - 3 to 6 years Design - 3 to 5 years Construction - 5 to 10 years | |
| - Extreme construction issues - new alignment with bridge | |
| - Temporary rockfall mitigation is still required | |
| ECONOMIC IMPACTS | |
| - Directly impacts Pennsylvania lands | |
| - Diverts traffic away from existing recreational area | |
| - Bridge requires long term maintenance and support | |
| ADDITIONAL JURISDICTIONAL COORDINATION | |
| - Tribal Nations | |
| - USDOI National Park Service | |
| - USDOT FHWA | |
| - US Army Corp of Engineers | |
| - US Coast Guard | |
| - US Fish & Wildlife Service | |
| - State of New Jersey | |
| - Commonwealth of Pennsylvania | |
| - Delaware River Joint Toll Bridge Commission | |



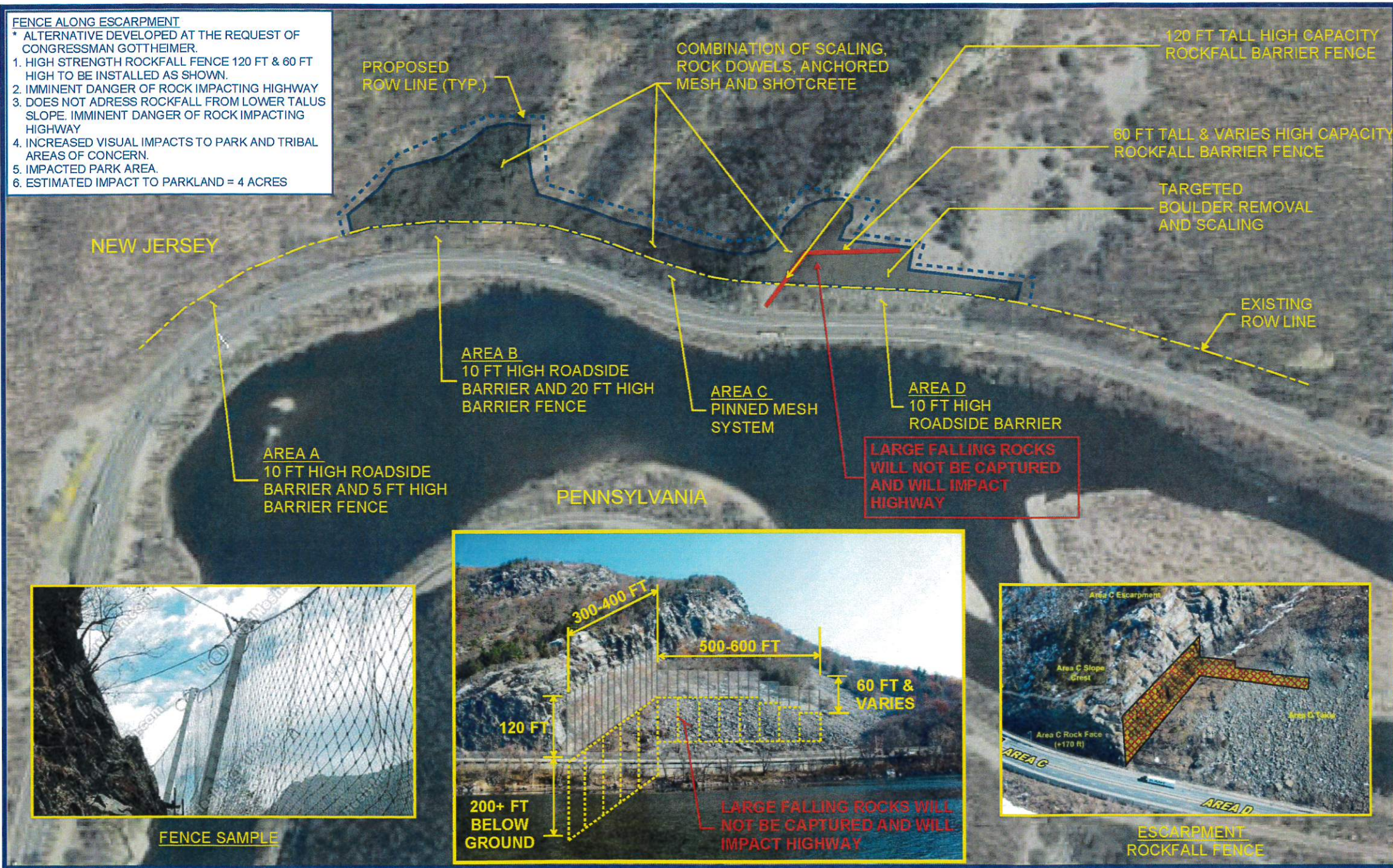
FENCE ALONG ESCARPMENT*

NOT RECOMMENDED - NOT FEASIBLE

ALT. 13

CONSTRUCTION COST: \$175 MILLION

FENCE ALONG ESCARPMENT
 * ALTERNATIVE DEVELOPED AT THE REQUEST OF CONGRESSMAN GOTTHEIMER.
 1. HIGH STRENGTH ROCKFALL FENCE 120 FT & 60 FT HIGH TO BE INSTALLED AS SHOWN.
 2. IMMINENT DANGER OF ROCK IMPACTING HIGHWAY
 3. DOES NOT ADDRESS ROCKFALL FROM LOWER TALUS SLOPE. IMMINENT DANGER OF ROCK IMPACTING HIGHWAY
 4. INCREASED VISUAL IMPACTS TO PARK AND TRIBAL AREAS OF CONCERN.
 5. IMPACTED PARK AREA.
 6. ESTIMATED IMPACT TO PARKLAND = 4 ACRES



ALT. 13
 ALTERNATIVE DEVELOPED AT REQUEST OF US CONGRESSMAN GOTTHEIMER TO CONSTRUCT HIGH STRENGTH FENCE THROUGH UPLAND AREAS.

POSITIVE EVALUATION CRITERIA
 NONE
 - Temporary lane closures only

NEGATIVE EVALUATION CRITERIA
ROCKFALL HAZARDS NOT ADDRESSED
 - ALL governing parties will assume liability for future injuries or damage
FUNDING ISSUES
 - Does not meet purpose & need/scope of project and will not qualify for rockfall mitigation funding
 - Cost is 3.5x higher than Preliminary Preferred Alternative (PPA cost ~ \$47M)

ADDITIONAL ENVIRONMENTAL IMPACTS
 - Parkland - Estimated up to 1 to 2 acres of parkland to be physically impacted and acquired [Sec. 4(f)]
 - Extensive impacts to Threatened & Endangered species
 - Historic & Archeological Impacts [Sec. 106]
 - High visual impacts - High fence (120 ft.) in front of escarpment; High fence (60 ft.) upslope along talus slope fence in talus area
 - Foundations will impact groundwater flow and subsurface mitigation of species

CONSTRUCTION ISSUES
 - Overall project schedule must re-start and will be significantly longer:
 EIS - 3 to 6 years
 Design - 3 to 5 years
 Construction - 5 to 10 years
 - Construction of deep foundations in talus slopes is difficult
 - Access to work areas on upper slope and escarpment is difficult

ECONOMIC IMPACTS
 - ALL governing parties will assume liability for future injuries or damage
 - Large rockfall event could require replacement of fence system

ADDITIONAL JURISDICTIONAL COORDINATION
 - Tribal Nations
 - USDOI National Park Service
 - USDOT FHWA
 - US Fish & Wildlife Service



* Alternative Developed at the request of Congressman Josh Gottheimer

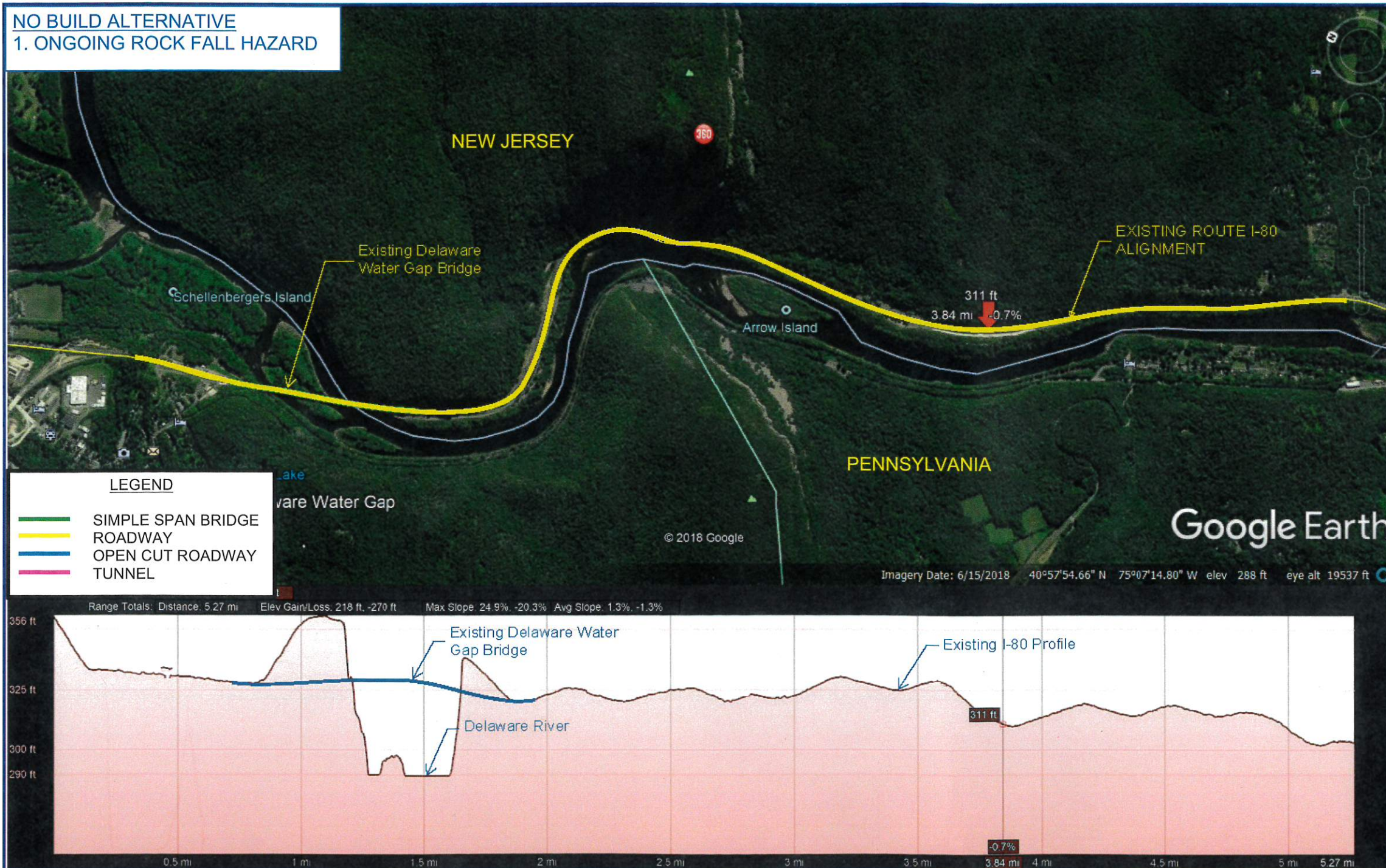


NO BUILD

NOT RECOMMENDED

CONSTRUCTION COST: \$0

NO BUILD ALTERNATIVE
1. ONGOING ROCK FALL HAZARD



NO BUILD
NO ACTION TAKEN TO ADDRESS ROCKFALL HAZARDS.

POSITIVE EVALUATION CRITERIA
ROCK FACE UNTOUCHED

NEGATIVE EVALUATION CRITERIA
ROCKFALL HAZARDS NOT ADDRESSED
- ALL governing parties will assume liability for future injuries or damage

FUNDING ISSUES
- None

ADDITIONAL ENVIRONMENTAL IMPACTS
- None

CONSTRUCTION ISSUES
- Will require regular monitoring and routine maintenance & clean-up of falling material

ECONOMIC IMPACTS
- Potential for traffic shutdowns during unimpeded rockfall events
Small Event: 5 to 8 hrs.
Medium Event: 12 hrs to 18 hrs.
Large Event: 7+ days

ADDITIONAL JURISDICTIONAL COORDINATION
- None





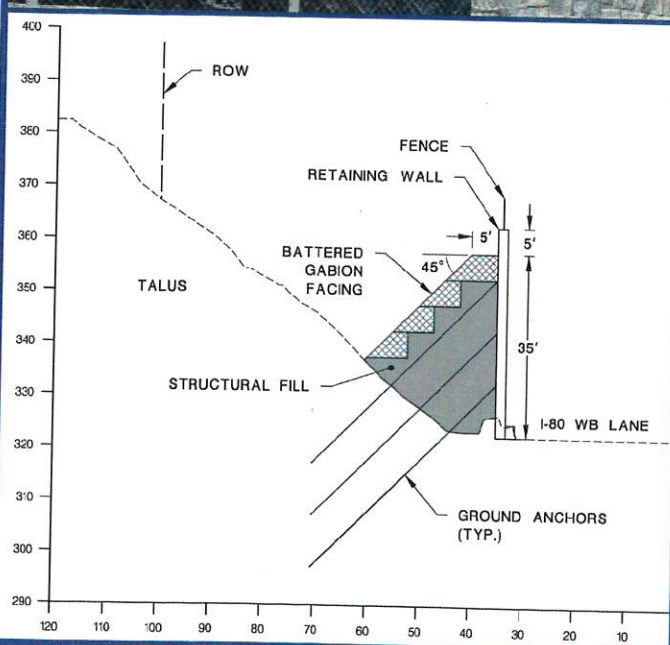
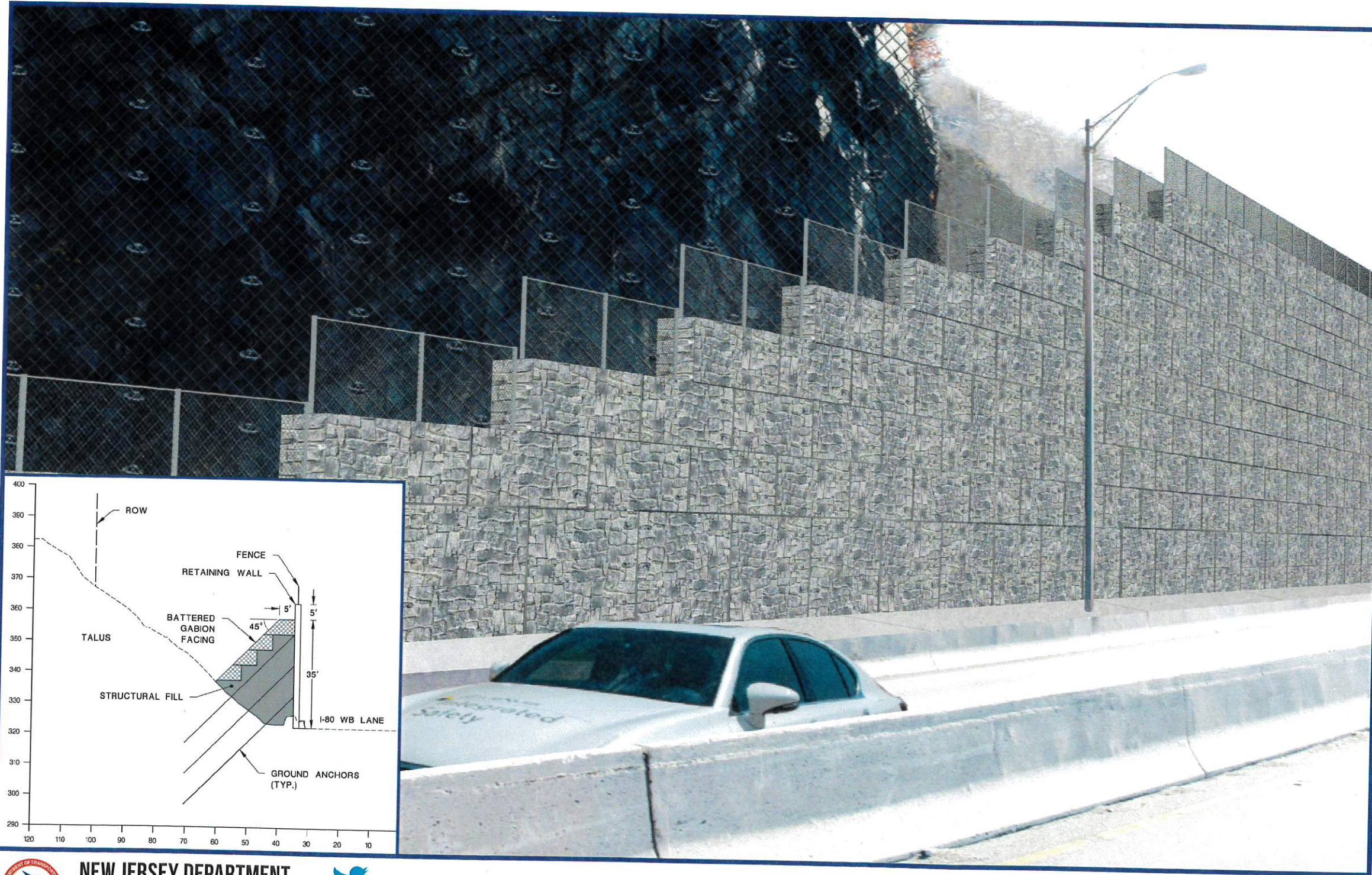
RETAINING WALL

TRANSITION AREA C - D, VIEW FROM ROADWAY

NOT RECOMMENDED

ALT.
6

CONSTRUCTION COST: \$39 MILLION



ALT. 6

CONSTRUCT RETAINING WALL ALONG PORTION OF TALUS AREA. PROPOSED ROADSIDE BARRIER, CATCHMENT, MESH AND LOW-LEVEL FENCE INSTALLED WITHIN STATE ROW.

- POSITIVE EVALUATION CRITERIA**
- ROCKFALL HAZARDS ADDRESSED**
- All work contained with NJDOT Right-of-Way
 - No impacts to preserved parkland
 - Temporary lane closures only

- NEGATIVE EVALUATION CRITERIA**
- FUNDING ISSUES**
- None
- ADDITIONAL ENVIRONMENTAL IMPACTS**
- Historic & Archeological Impacts [Sec. 106]
 - High visual impacts - 40-ft retaining wall in talus area
 - Foundations will impact groundwater flow and subsurface mitigation of species

- CONSTRUCTION ISSUES**
- Construction of deep foundations in talus slopes is difficult

- ECONOMIC IMPACTS**
- None

- ADDITIONAL JURISDICTIONAL COORDINATION**
- Tribal Nations
 - USDOI National Park Service
 - USDOT FHWA
 - US Fish & Wildlife Service



RETAINING WALL

TRANSITION AREA C - D, VIEW FROM PENNSYLVANIA

NOT RECOMMENDED

**ALT.
6**

CONSTRUCTION COST: **\$39 MILLION**



ALT. 6

CONSTRUCT RETAINING WALL ALONG PORTION OF TALUS AREA. PROPOSED ROADSIDE BARRIER, CATCHMENT, MESH AND LOW-LEVEL FENCE INSTALLED WITHIN STATE ROW.

POSITIVE EVALUATION CRITERIA

ROCKFALL HAZARDS ADDRESSED

- All work contained with NJDOT Right-of-Way
- No impacts to preserved parkland
- Temporary lane closures only

NEGATIVE EVALUATION CRITERIA

FUNDING ISSUES

- None

ADDITIONAL ENVIRONMENTAL IMPACTS

- Historic & Archeological Impacts [Sec. 106]
- High visual impacts - 40-ft retaining wall in talus area
- Foundations will impact groundwater flow and subsurface mitigation of species

CONSTRUCTION ISSUES

- Construction of deep foundations in talus slopes is difficult

ECONOMIC IMPACTS

- None

ADDITIONAL JURISDICTIONAL COORDINATION

- Tribal Nations
- USDOI National Park Service
- USDOT FHWA
- US Fish & Wildlife Service



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ROCKFALL SHED OVER HIGHWAY

NOT RECOMMENDED

ALT.
7

CONSTRUCTION COST: \$200 MILLION

ROCK SHED
1. APPROXIMATELY 0.75 MILES
2. MAJOR DETOUR REQUIRED



ALT. 7
CONSTRUCTION OF A STRUCTURALLY ENGINEERED SHED OVER FOUR LANES OF I-80

POSITIVE EVALUATION CRITERIA
ROCKFALL HAZARDS ADDRESSED

- All work contained with NJDOT Right-of-Way
- No impacts to preserved parkland

NEGATIVE EVALUATION CRITERIA
FUNDING ISSUES

- Cost is 4x higher than Preliminary Preferred Alternative (PPA cost ~ \$47M)

ADDITIONAL ENVIRONMENTAL IMPACTS

- Extensive impacts to Threatened & Endangered species.
- Historic & Archeological Impacts [Sec. 106]
- Rockfall material could impact open waters of Delaware River
- High Visual impacts - Rock shed
- Foundations will impact groundwater flow and subsurface mitigation of species

CONSTRUCTION ISSUES

- Construction - 5 to 10 years
- Blasting - increased frequency and time required
- Permanent lane closure required for I-80

ECONOMIC IMPACTS

- Major impacts to traffic with lane reductions and detours
- Construction of deep foundations in talus slopes is difficult
- Captured rockfall material requires periodic removal

ADDITIONAL JURISDICTIONAL COORDINATION

- Tribal Nations
- USDOI National Park Service
- USDOT FHWA
- US Army Corp of Engineers
- US Fish & Wildlife Service



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ALTERNATIVES COMPARISON MATRIX

ALTERNATIVES NOT PRESENTED AT OPEN HOUSE IN 2019

| ALTERNATIVE NUMBER | Alternative Name | Description | Anticipated Construction Cost | Meets Purpose and Need | Within Scope | Work within NJDOT Right of Way | Required Ongoing Maintenance | Construction Impact | Construction Duration (Years) | Requires Lane Closures | Visual Impact | Ecological Impact | Open Space/ Recreation Impact | Status |
|--------------------|---|---|-------------------------------|------------------------|--------------|--------------------------------|------------------------------|---------------------|-------------------------------|------------------------|---------------|-------------------|-------------------------------|-------------------------------|
| 8 | Major Bypass Realignment | Shift highway alignment approximately 11 miles around Mt. Tammany through National Park Service lands | \$3.1 Billion | Yes | No | No | Low | Extreme | 10+** | Temporary | Extreme | Extreme | Extreme | Not Recommended/ Not Feasible |
| 9A | Long Tunnel Realignment | Shift highway alignment approximately 6.3 miles through National Park Service lands | \$10.5 Billion | Yes | No | No | Low | Extreme | 10+** | Temporary | Extreme | Extreme | Extreme | Not Recommended/ Not Feasible |
| 9B | Long Tunnel Realignment | Shift highway alignment approximately 6.0 miles through National Park Service lands | \$10.0 Billion | Yes | No | No | Low | Extreme | 10+** | Temporary | Extreme | Extreme | Extreme | Not Recommended/ Not Feasible |
| 9C | Long Tunnel Realignment | Shift highway alignment approximately 5.6 miles through National Park Service lands | \$9.5 Billion | Yes | No | No | Low | Extreme | 10+** | Temporary | Extreme | Extreme | Extreme | Not Recommended/ Not Feasible |
| 10 | Short Tunnel / Bridge Realignment | Shift highway alignment approximately 2 miles through National Park Service lands with tunnel and bridges | \$3.2 Billion | Yes | No | No | Low | Extreme | 10+** | Temporary | Extreme | Extreme | Extreme | Not Recommended/ Not Feasible |
| 11 | Mt. Minsi Tunnel Realignment | Shift highway alignment and construct 2-mile tunnel through National Park Service lands | \$4.5 Billion | Yes | No | No | Low | Extreme | 10+** | Temporary | Extreme | Extreme | Extreme | Not Recommended/ Not Feasible |
| 12 | Highway Realignment Over Delaware River | Shift highway alignment south over Delaware River | \$500 Million+ | Yes | No | No | Low | High | 5-10** | Temporary | Extreme | High | High | Not Recommended/ Not Feasible |
| 13 | Fence Along Escarpment* | * Alternative developed at the request of Congressman Gottheimer. Construct high strength fence 120 ft. and 60 ft. high | \$175 Million+ | No | No | No | Moderate | High | 5-10** | Temporary | High | High | High | Not Recommended/ Not Feasible |

NOTES: * Alternative Developed at the request of US Congressman Josh Gottheimer
 ** Duration reflects construction timeframe only; additional time required for engineering and environmental studies could be 6 to 11 years longer



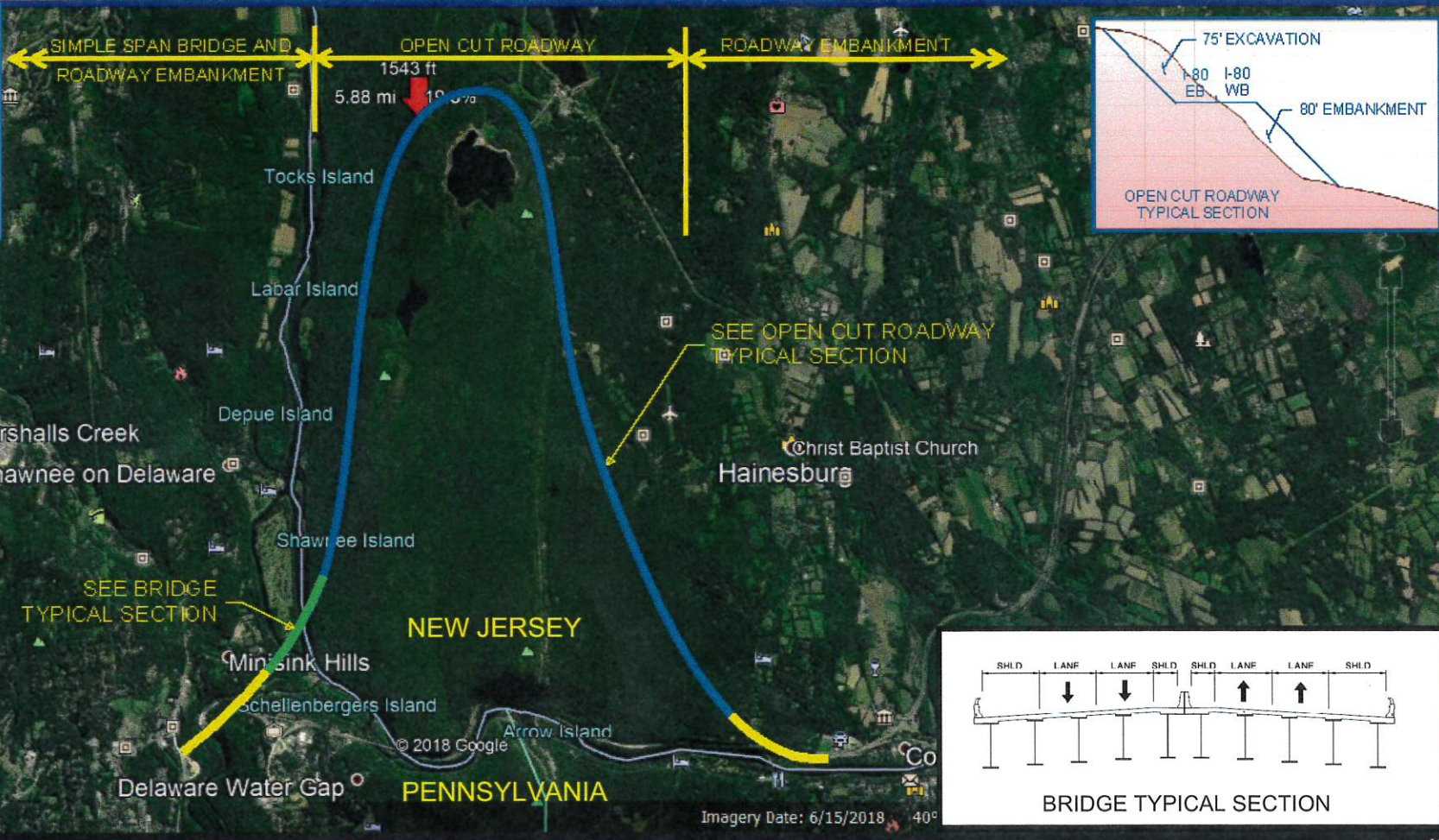


MAJOR BYPASS REALIGNMENT

ALT. 8

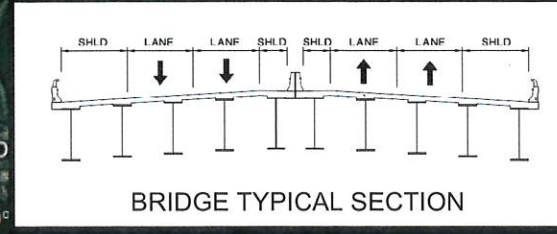
CONSTRUCTION COST: **\$3.1 BILLION**

- MAJOR BYPASS ALTERNATIVE**
- APPROXIMATELY 11.25 MILES LONG
 - 1 MILE OF EMBANKMENT
 - 10 MILES OF OPEN CUT ROADWAY (UP TO 1200 FT. WIDE)
 - 0.25 MILE OF SIMPLE SPAN BRIDGE
 - MAJOR ROCK-CUT REQUIRED
 - EXTENSIVE LAND ACQUISITION



LEGEND

- SIMPLE SPAN BRIDGE
- ROADWAY
- OPEN CUT ROADWAY
- TUNNEL



ALT. 8
SHIFT HIGHWAY ALIGNMENT APPROXIMATELY 11 MILES AROUND MT. TAMMANY THROUGH NPS LANDS.

POSITIVE EVALUATION CRITERIA

- S-CURVES ELIMINATED
- ROCKFALL HAZARDS ELIMINATED
- Temporary lane closures only

NEGATIVE EVALUATION CRITERIA

FUNDING ISSUES

- Does not meet purpose & need/scope of project and will not qualify for rockfall mitigation funding
- Cost is 66x higher than Preliminary Preferred Alternative (PPA cost ~ \$47M)
- Federal funding to come from highways sources from NJ, PA and Delaware River Joint Toll Bridge Commission
- Could require unique funding (Joint Venture, etc.) due to extremely high cost

ADDITIONAL ENVIRONMENTAL IMPACTS

- NEPA Environmental Impact Statement (EIS)
- Parkland - Estimated up to 1650 acres of parkland to be physically impacted and acquired
- Extreme visual impacts - Removes vista view from roadway
- New Delaware River bridge

CONSTRUCTION ISSUES

- Overall project schedule must re-start and will be significantly longer:
EIS - 3 to 6 years
Design - 3 to 5 years
Construction - 10+ years
- Extreme construction issues - 11+ miles open cut new alignment
- Construction - 10+ years

ECONOMIC IMPACTS

- Complete diverts traffic away from existing recreational area and Delaware Water Gap, PA
- Directly impacts Pennsylvania lands

ADDITIONAL JURISDICTIONAL COORDINATION

- Tribal Nations
- USDOI National Park Service
- USDOT FHWA
- USDOT Federal Lands Highway
- US Army Corp of Engineers
- US Coast Guard
- US Fish & Wildlife Service
- State of New Jersey
- Commonwealth of Pennsylvania
- Delaware River Joint Toll Bridge Commission



ALTERNATIVES WITHIN NJDOT RIGHT-OF-WAY

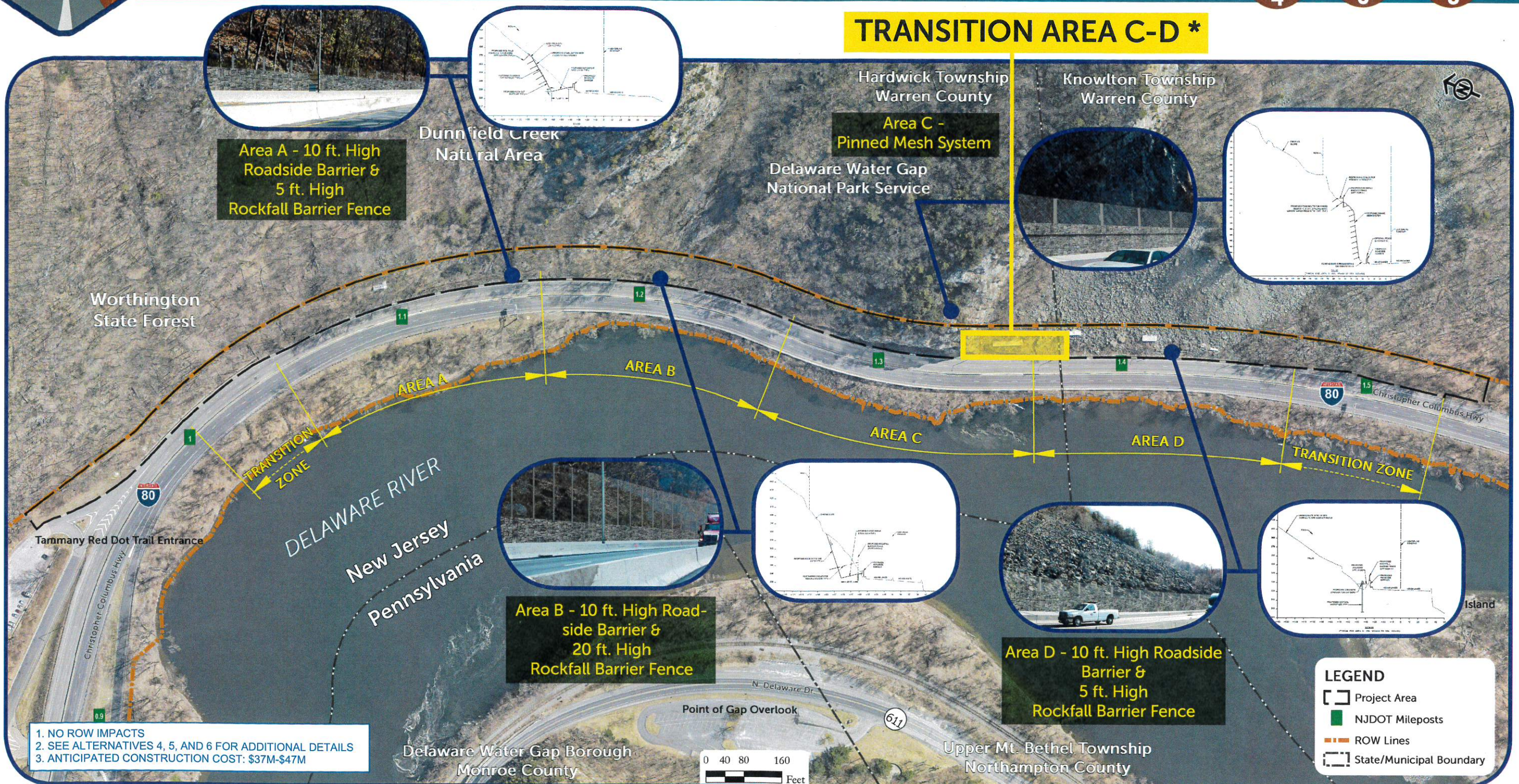
COMMON FEATURES FOR AREAS A, B, C, & D

ALT. 4

ALT. 5

ALT. 6

TRANSITION AREA C-D *



1. NO ROW IMPACTS
2. SEE ALTERNATIVES 4, 5, AND 6 FOR ADDITIONAL DETAILS
3. ANTICIPATED CONSTRUCTION COST: \$37M-\$47M

*For Areas A, B, C, and D, the common features shown are the same for Alternatives 4, 5, and 6. The Transition Area between Areas C and D contain variations between these three Alternatives. Greater detail about each alternative is shown on the individual pages for alternatives 4, 5, and 6, respectively.



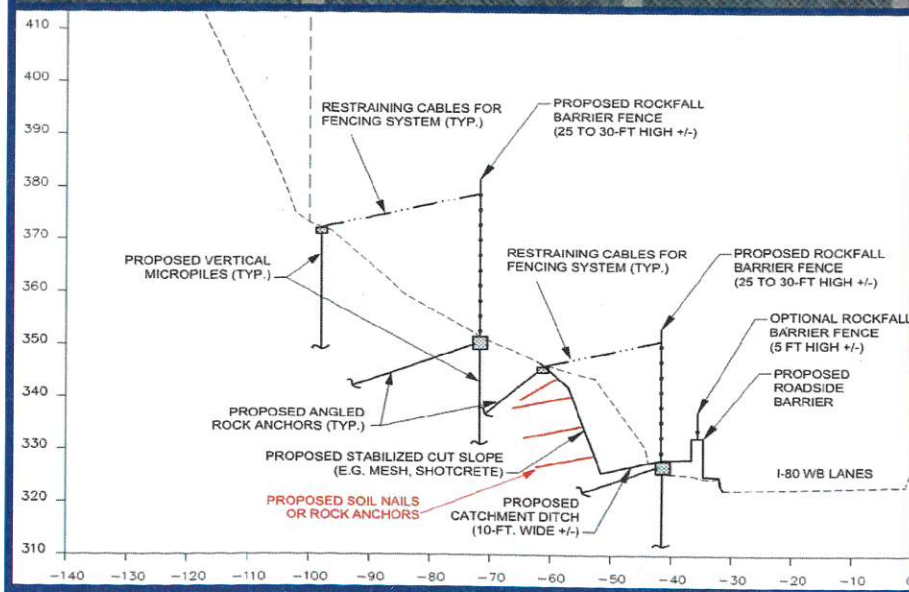
DOUBLE FENCE

TRANSITION AREA C - D, VIEW FROM ROADWAY

NOT RECOMMENDED

ALT.
4

CONSTRUCTION COST: \$37 MILLION



ALT. 4

CONSTRUCT DOUBLE FENCE SYSTEM ALONG PORTION OF TALUS AREA. PROPOSED ROADSIDE BARRIER, CATCHMENT, MESH AND LOW-LEVEL FENCE INSTALLED WITHIN STATE ROW.

- POSITIVE EVALUATION CRITERIA**
- ROCKFALL HAZARDS ADDRESSED**
- All work contained with NJDOT Right-of-Way
 - No impacts to preserved parkland
 - Temporary lane closures only

- NEGATIVE EVALUATION CRITERIA**
- FUNDING ISSUES**
- Higher maintenance costs; lower life-cycle costs
- ADDITIONAL ENVIRONMENTAL IMPACTS**
- Historic & Archeological Impacts [Sec. 106]
 - High visual impacts - Double 25-ft high capacity barrier fence in talus area
 - Foundations will impact groundwater flow and subsurface mitigation of species

- CONSTRUCTION ISSUES**
- Construction of deep foundations in talus slopes is difficult.

- ECONOMIC IMPACTS**
- Large rockfall event could require replacement of fence system

- ADDITIONAL JURISDICTIONAL COORDINATION**
- Tribal Nations
 - USDOI National Park Service
 - USDOT FHWA
 - US Fish & Wildlife Service

NOT RECOMMENDED

ALT. 4



DOUBLE FENCE

TRANSITION AREA C - D, VIEW FROM PENNSYLVANIA

CONSTRUCTION COST: \$37 MILLION



ALT. 4

CONSTRUCT DOUBLE FENCE SYSTEM ALONG PORTION OF TALUS AREA. PROPOSED ROADSIDE BARRIER, CATCHMENT, MESH AND LOW-LEVEL FENCE INSTALLED WITHIN STATE ROW.

- POSITIVE EVALUATION CRITERIA**
- ROCKFALL HAZARDS ADDRESSED**
- All work contained with NJDOT Right-of-Way
 - No impacts to preserved parkland
 - Temporary lane closures only

- NEGATIVE EVALUATION CRITERIA**
- FUNDING ISSUES**
- Higher maintenance costs; lower life-cycle costs
- ADDITIONAL ENVIRONMENTAL IMPACTS**
- Historic & Archeological Impacts [Sec. 106]
 - High visual impacts - Double 25-ft high capacity barrier fence in talus area
 - Foundations will impact groundwater flow and subsurface mitigation of species
- CONSTRUCTION ISSUES**
- Construction of deep foundations in talus slopes is difficult.
- ECONOMIC IMPACTS**
- Large rockfall event could require replacement of fence system
- ADDITIONAL JURISDICTIONAL COORDINATION**
- Tribal Nations
 - USDOI National Park Service
 - USDOT FHWA
 - US Fish & Wildlife Service



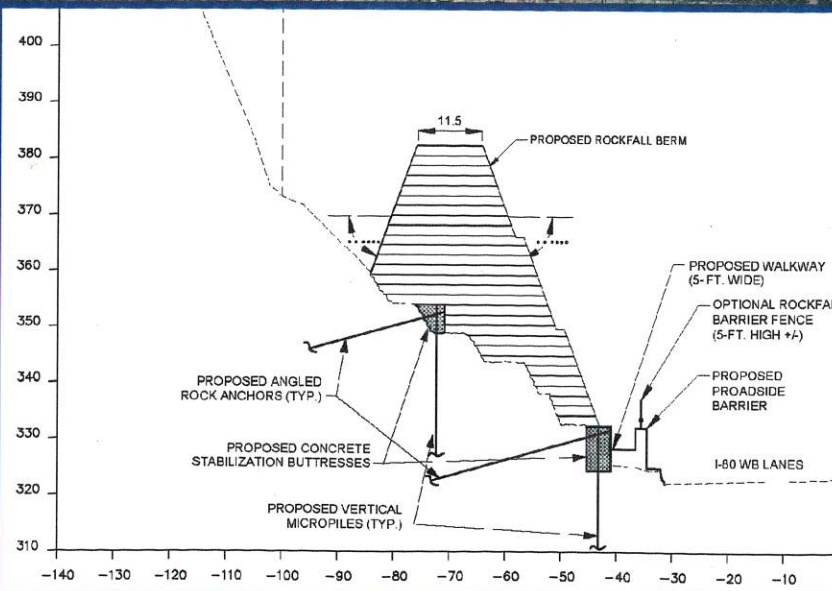
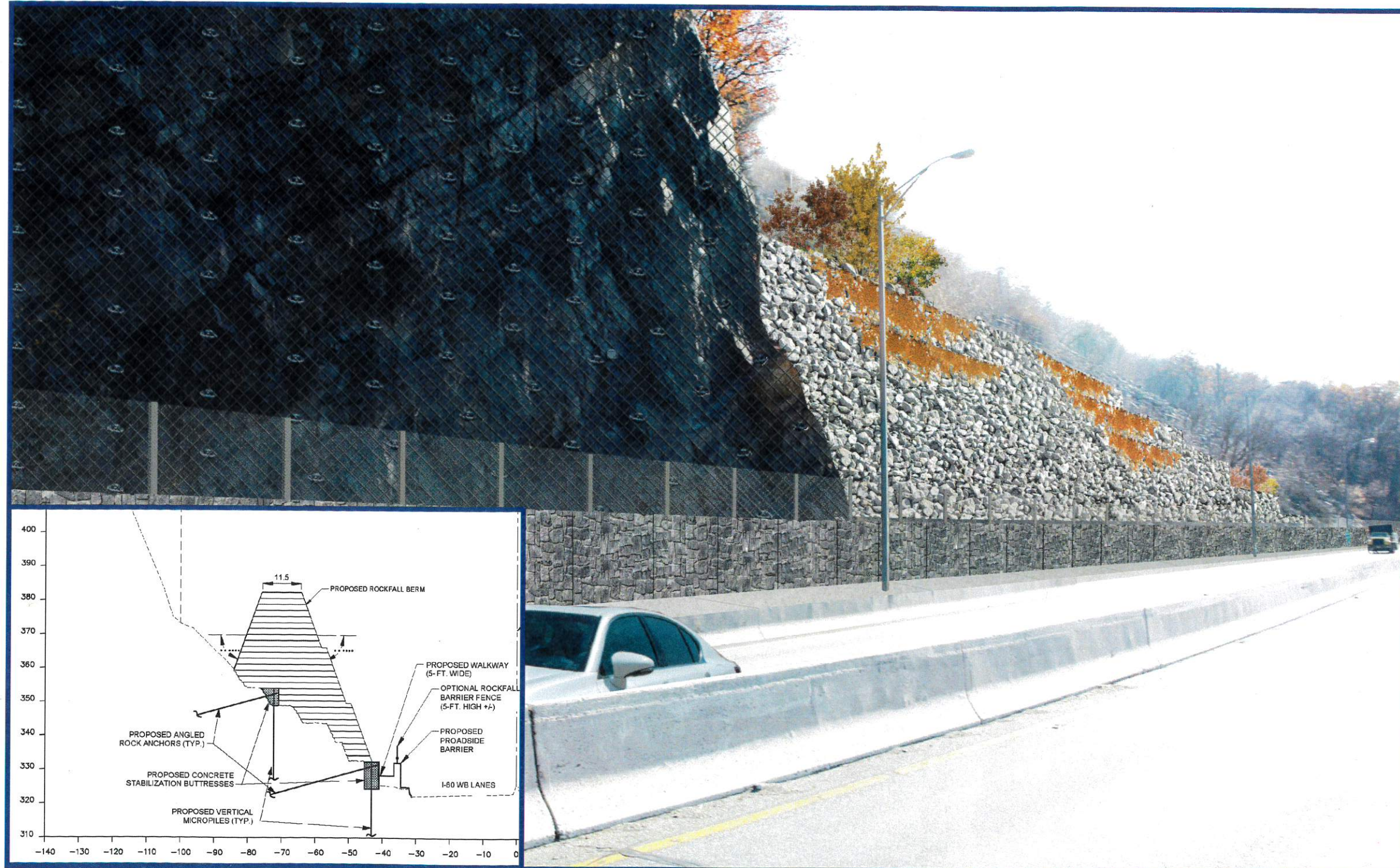
ROCKFALL BERM

TRANSITION AREA C - D, VIEW FROM ROADWAY

RECOMMENDED

ALT. 5

CONSTRUCTION COST: \$47 MILLION



ALT. 5

CONSTRUCT ENGINEERED STONE/EARTH BARRIER (BERM) ALONG PORTION OF TALUS AREA. PROPOSED ROADSIDE BARRIER, CATCHMENT, MESH AND LOW-LEVEL FENCE INSTALLED WITHIN STATE ROW.

- POSITIVE EVALUATION CRITERIA**
- ROCKFALL HAZARDS ADDRESSED**
- All work contained with NJDOT Right-of-Way
 - No impacts to preserved parkland
 - Maintenance-free; Low life-cycle cost
 - Low Visual Impacts; Easily adaptable to aesthetic treatments
 - Temporary lane closures only

- NEGATIVE EVALUATION CRITERIA**
- FUNDING ISSUES**
- None
- ADDITIONAL ENVIRONMENTAL IMPACTS**
- Historic & Archeological Impacts [Sec. 106]
- CONSTRUCTION ISSUES**
- None
- ECONOMIC IMPACTS**
- None
- ADDITIONAL JURISDICTIONAL COORDINATION**
- Tribal Nations
 - USDOI National Park Service
 - USDOT FHWA
 - US Fish & Wildlife Service



ROCKFALL BERM

TRANSITION AREA C - D, VIEW FROM PENNSYLVANIA

RECOMMENDED

ALT.
5

CONSTRUCTION COST: \$47 MILLION



ALT. 5

CONSTRUCT ENGINEERED STONE/EARTH BARRIER (BERM) ALONG PORTION OF TALUS AREA. PROPOSED ROADSIDE BARRIER, CATCHMENT, MESH AND LOW-LEVEL FENCE INSTALLED WITHIN STATE ROW.

POSITIVE EVALUATION CRITERIA

ROCKFALL HAZARDS ADDRESSED

- All work contained with NJDOT Right-of-Way
- No impacts to preserved parkland
- Maintenance-free; Low life-cycle cost
- Low Visual Impacts; Easily adaptable to aesthetic treatments
- Temporary lane closures only

NEGATIVE EVALUATION CRITERIA

FUNDING ISSUES

- None

ADDITIONAL ENVIRONMENTAL IMPACTS

- Historic & Archeological Impacts [Sec. 106]

CONSTRUCTION ISSUES

- None

ECONOMIC IMPACTS

- None

ADDITIONAL JURISDICTIONAL COORDINATION

- Tribal Nations
- USDOI National Park Service
- USDOT FHWA
- US Fish & Wildlife Service



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