

SCOPE OF WORK

Secure Access Improvements

Trenton Psychiatric Hospital
Trenton, Mercer County, NJ

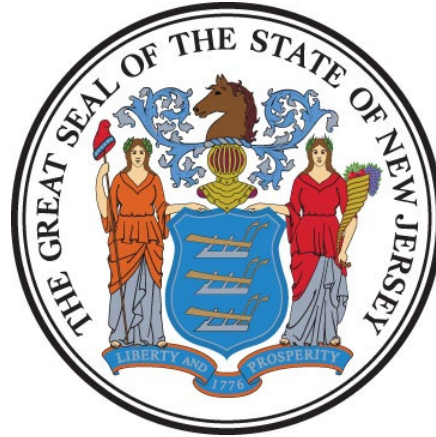
Project No. M1595-00

STATE OF NEW JERSEY

Honorable Philip D. Murphy, Governor
Honorable Sheila Y. Oliver, Lt. Governor

DEPARTMENT OF THE TREASURY

Elizabeth Maher Muoio, Treasurer



DIVISION OF PROPERTY MANAGEMENT AND CONSTRUCTION

Christopher Chianese, Director

Date: July 7, 2023

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PROJECT LOCATION: Trenton Psychiatric Hospital
PROJECT NO: M1595-00
DATE: July 7, 2023

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I. OBJECTIVE

The objective of this project is to make upgrades to each of four (4) access gates at the Trenton Psychiatric Hospital. Gate 1 will be modified for deliveries and staff egress only. Gate 2 will become the main visitor access point and have a visitor center. Gate 3 will be modified for staff and contractor/delivery access only. Gate 4 will be modified for egress only. An additional objective is to repair or replace fencing around the facility perimeter.

II. CONSULTANT QUALIFICATIONS

A. CONSULTANT & SUB-CONSULTANT PRE-QUALIFICATIONS

The Consultant shall be a firm pre-qualified with the Division of Property Management & Construction (DPMC) in the following discipline(s):

- **P001 Architecture**

The Consultant shall also have in-house capabilities or Sub-Consultants pre-qualified with DPMC in:

- **P002 Electrical Engineering**
- **P005 Civil Engineering**
- **P025 Estimating/Cost Analysis**

As well as, **any and all** other Architectural, Engineering and Specialty Disciplines necessary to complete the project as described in this Scope of Work (SOW).

III. PROJECT BUDGET

A. CONSTRUCTION COST ESTIMATE (CCE)

The initial Construction Cost Estimate (CCE) for this project is \$2,554,798.

The Consultant shall review this Scope of Work and provide a narrative evaluation and analysis of the accuracy of the proposed project CCE in its technical proposal based on its professional experience and opinion.

B. CURRENT WORKING ESTIMATE (CWE)

The Current Working Estimate (CWE) for this project is \$3,781,101.

The CWE includes the construction cost estimate and all consulting, permitting and administrative fees.

The CWE is the Client Agency’s financial budget based on this project Scope of Work and shall not be exceeded during the design and construction phases of the project unless DPMC approves the change in Scope of Work through a Contract amendment.

C. CONSULTANT’S FEES

The construction cost estimate for this project *shall not* be used as a basis for the Consultant’s design and construction administration fees. The Consultant’s fees shall be based on the information contained in this Scope of Work document and the observations made and/or the additional information received during the pre-proposal meeting.

IV. PROJECT SCHEDULE

A. SCOPE OF WORK DESIGN & CONSTRUCTION SCHEDULE

The following schedule identifies the estimated design and construction phases for this project and the estimated durations.

<u>PROJECT PHASE</u>	<u>ESTIMATED DURATION (Calendar Days)</u>
1. Site Access Approvals & Schedule Design Kick-off Meeting	14
2. Schematic Design Phase	42
• <i>Project Team & DPMC Plan/Code Unit Review & Comment</i>	14
3. Design Development Phase	42
• <i>Project Team & DPMC Plan/Code Unit Review & Comment</i>	14
4. Final Design Phase	42
• <i>Project Team & DPMC Plan/Code Unit Review & Approval</i>	14
5. Final Design Re-Submission to Address Comments	7
• <i>Project Team & DPMC Plan/Code Unit Review & Approval</i>	14
6. DCA Submission Plan Review	30
7. Permit Application Phase	7
• <i>Issue Plan Release</i>	

8. Bid Phase	42
9. Award Phase	28
10. Construction Phase	180
11. Project Close Out Phase	30

B. CONSULTANT’S PROPOSED DESIGN & CONSTRUCTION SCHEDULE

The Consultant shall submit a project design and construction schedule with its technical proposal that is similar in format and detail to the schedule depicted in **Exhibit ‘A’**. The schedule developed by the Consultant shall reflect its recommended project phases, phase activities, activity durations.

A written narrative shall also be included with the technical proposal explaining the schedule submitted and the reasons why and how it can be completed in the time frame proposed by the Consultant.

This schedule and narrative will be reviewed by the Consultant Selection Committee as part of the evaluation process and will be assigned a score commensurate with clarity and comprehensiveness of the submission.

V. PROJECT SITE LOCATION & TEAM MEMBERS

A. PROJECT SITE ADDRESS

The location of the project site is:

Trenton Psychiatric Hospital
101 Sullivan Way
Trenton, Mercer County, NJ

See **Exhibit ‘B’** for the project site location map.

B. PROJECT TEAM MEMBER DIRECTORY

The following are the names, addresses, and phone numbers of the Project Team members.

1. DPMC Representative:

Name: Michael Ryan, Design Project Manager
Address: Division of Property Management & Construction
20 West State Street, 3rd Floor
Trenton, NJ 08608-1206
Phone No: (609) 984-5062
E-Mail: michael.ryan3@treas.nj.gov

2. Department of Human Services:

Name: Christian Casteel, Director, OPMC
Address: Human Services - Central Office
P.O. Box: PO Box 700
222 South Warren Street
Trenton, NJ 08625
Phone No: (609) 984-5501
E-Mail: Christian.Casteel@dhs.nj.gov

3. Department of Health:

Name: Rishi Shah, CMS 3
Address: Office of Administrative Services
New Jersey Department of Health
Division of Management and Administration
55 North Willow Street, Suite 1-003
P.O. Box 360
Trenton, NJ 08618
Phone No: (609) 376-8679 Cell: (609) 955-8471
E-Mail: rishi.shah@doh.nj.gov

VI. PROJECT DEFINITION

A. BACKGROUND

Trenton Psychiatric Hospital (TPH), managed by the New Jersey Department of Health (DOH), was officially opened on May 15, 1848. It was designed and constructed for treating New Jersey citizens who have been diagnosed with a mental illness. Through the years, additional buildings have been constructed on the hospital grounds. There is a need for increased security at the facility.

B. FUNCTIONAL DESCRIPTION OF THE SITE

Trenton Psychiatric Hospital is currently accessed via four (4) gates. Gates 1 and 2 are located on the south side of the facility along Sullivan Way. Gates 3 and 4 are on the north side along Stuyvesant Ave.

In 2021, the State procured the services of NV5 to study traffic access at the gates and provide recommendations to provide a modern secure access system for TPH for both visitors and employees. NV5 performed a queuing analysis to determine appropriate locations for security gates to prevent vehicle backups onto roadways. In this original study, it was assumed that all gates would be used for ingress and egress. See **Exhibit ‘C’** for the NV5 study.

In a follow up study in 2022, NV5 was asked to study two scenarios. In Scenarios 1, Gates 1 and 3 would be for egress only and Gates 2 and 4 would be for entrance only in a concept called One-Way Pairs. Separate entrance lanes would be provided for employees and visitors. In Scenario 2, Gates 1 and 4 would be closed and all access and egress would be provided by Gates 2 and 3. See **Exhibit ‘D’** for the NV5 follow-up study.

Ultimately, the staff has decided that Gate 1 will be for deliveries and staff egress only since it is near a storeroom. Gate 2 will be configured for employee and visitor access and egress and have a visitor center. Gate 3 will be configured for staff, contractor and delivery access and egress. Gate 4 will be staff egress only.

A security camera upgrade project is underway at TPH under project M1562-00. The project will add cameras at various locations throughout the site. However, due to the importance given to this security measure, each gate will be evaluated to ensure there is adequate gate surveillance coverage as part of this project.

VII. CONSULTANT DESIGN RESPONSIBILITIES

A. DESIGN REQUIREMENTS

1. Gate 1:

The Consultant shall provide design, specification, bid/award and construction administration services to create access for delivery vehicles and staff egress only at Gate 1 (Western Sullivan Way). Provide for curbing modifications, a new gate booth and gate, new fencing, additional surveillance and a proximity card access reader at each gate.

2. Gate 2:

The Consultant shall provide design, specification, bid/award and construction administration services to create visitor and employee ingress and egress gates at Gate 2 (Eastern Sullivan Way). Provide for a new Visitor Center with sufficient site lighting, electric and data for power, HVAC, plumbing for water and sewer, additional surveillance, ADA accessible features, parking lot and curbing modifications, new gate booths and gates, new fencing and proximity card access readers.

3. Gate 3:

The Consultant shall provide design, specification, bid/award and construction administration services to create a staff and contractor/delivery ingress and egress gate at Gate 3 (Eastern Stuyvesant Ave.). Provide for curbing modifications, a new gate booth and gate, new fencing, additional surveillance and a proximity card access reader at each gate.

4. Gate 4:

The Consultant shall provide design, specification, bid/award and construction administration services to create a staff egress only gate at Gate 4 (Western Stuyvesant Ave.). Provide for curbing modifications, a new gate booth and gate, new fencing, additional surveillance and a proximity card access reader at the gate.

5. Fencing:

The Consultant shall evaluate the perimeter fencing around the Trenton Psychiatric Hospital, identify vulnerable areas, and provide for repair or replacement of fencing in those areas.

6. Emergency Access:

Emergency Access Knox Boxes with an Access Card shall be installed at EACH entrance point into TPH. All Knox Boxes shall be keyed for the Local Fire Dept. and State Police.

B. SITE REQUIREMENTS

The following project site requirements shall be included in the design documents as appropriate:

1. Contractor Use of the Premises:

Determine the coordination, policies, and security procedures with the Client Agency and the Contractor with respect to parking, material staging, and storage areas, use of Client Agency utilities, allowable hours of construction, the need and location of portable toilets, the need and location of construction and storage trailers, etc. and include the information in Division 1 of the specification. See **Exhibit ‘E’**.

2. Dumpster:

If a dumpster is required, the location shall be shown on the site plan in an area approved by the Client Agency, and the frequency of debris removal shall be identified in the design specification.

3. Special Sequencing:

The contract documents must incorporate special sequencing of the work, if necessary, to be coordinated with the Client Agency in order to provide for any functional requirement of the facility. Items shall include, but not be limited to: safety/security requirements, patient, pedestrian and vehicle traffic flow, weather and/or seasonal concerns, and shut down of any physical plant functions or services.

4. Material Storage:

Design drawings shall identify the acceptable areas and methods of material storage on the site.

C. EXISTING DOCUMENTATION

Copies of the following documents will be provided to each Consulting firm at the pre-proposal meeting to assist in the bidding process.

- **Project A0697-00: Trenton Psychiatric Hospital Buildings Evaluation and Utility Systems Study**, June 15, 1971, John Diehl and Associates, Architects

Review these documents and any additional information that may be provided at a later date such as reports, studies, surveys, equipment manuals, as-built drawings, etc. The State does not attest to the accuracy of the information provided and accepts no responsibility for the consequences of errors by the use of any information and material contained in the documentation provided. It shall be the responsibility of the Consultant to verify the contents and assume full responsibility for any determination or conclusion drawn from the material used. If the information provided is insufficient, the Consultant shall take the appropriate actions necessary to obtain the additional information required.

All original documentation shall be returned to the provider at the completion of the project.

VIII. PERMITS & APPROVALS

A. NJ UNIFORM CONSTRUCTION CODE PLAN REVIEW AND PERMIT

The project construction documents must comply with the latest adopted edition of the NJ Uniform Construction Code (NJUCC).

The latest NJUCC Adopted Codes and Standards can be found at:

<http://www.state.nj.us/dca/divisions/codes/codreg/>

1. NJ Uniform Construction Code (NJUCC) Plan Review

Consultant shall estimate the cost of the NJUCC Plan Review by DCA and include that amount in their fee proposal line item entitled “**Plan Review and Permit Fee Allowance**”, refer to paragraph XI.A.

Upon approval of the Final Design Phase Submission by DPMC, the Consultant shall submit the construction documents to the Department of Community Affairs (DCA), Bureau of Construction Project Review to secure a complete plan release.

As of July 25, 2022, the Department of Community Affairs (DCA) is only accepting digital signatures and seals issued from a third party certificate authority. The DCA ePlans site can be found at:

<https://www.nj.gov/dca/divisions/codes/offices/ePlans.html>

Procedures for submission to the DCA Plan Review Unit can be found at:

https://www.state.nj.us/dca/divisions/codes/forms/pdf_bcpr/pr_app_guide.pdf

PROJECT NAME: Secure Access Improvements
PROJECT LOCATION: Trenton Psychiatric Hospital
PROJECT NO: M1595-00
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Consultant shall complete the “Project Review Application” and include the following on Block 5 as the “Owner’s Designated Agent Name”:

Joyce Spitale, DPMC
PO Box 235
Trenton, NJ 08625-0235
Joyce.Spitale@treas.nj.gov 609-943-5193

The Consultant shall complete the NJUCC “Plan Review Fee Schedule”, determine the fee due and pay the NJUCC Plan Review fees, refer to Paragraph X.A.
The NJUCC “Plan Review Fee Schedule” can be found at:

http://www.state.nj.us/dca/divisions/codes/forms/pdf_bcpr/pr_fees.pdf

2. NJ Uniform Construction Code Permit

Upon receipt of a complete plan release from the DCA Bureau of Construction Project Review, the Consultant shall complete the NJUCC permit application and all applicable technical sub-code sections. The “Agent Section” of the application and certification section of the building sub-code section shall be signed. These documents, with **six (6) sets of DCA approved, signed and sealed construction documents** shall be forwarded to the DPMC Project Manager.

The Consultant may obtain copies of all NJUCC permit applications at the following website:

<http://www.state.nj.us/dca/divisions/codes/forms/>

All other required project permits shall be obtained and paid for by the Consultant in accordance with the procedures described in Paragraph VIII.B.

3. Prior Approval Certification Letters:

The issuance of a construction permit for this project may be contingent upon acquiring various “prior approvals” as defined by N.J.A.C. 5:23-1.4. It is the Consultant’s responsibility to determine which prior approvals, if any, are required. The Consultant shall submit a general certification letter to the DPMC Plan & Code Review Unit Manager during the Permit Phase of this project that certifies all required prior approvals have been obtained.

In addition to the general certification letter discussed above, the following specific prior approval certification letters, where applicable, shall be submitted by the Consultant to the DPMC Plan & Code Review Unit Manager: Soil Erosion & Sediment Control, Water & Sewer Treatment Works Approval, Coastal Areas Facilities Review, Compliance of Underground Storage Tank Systems with N.J.A.C. 7:14B, Pinelands Commission, Highlands Council, Well Construction and Maintenance; Sealing of Abandoned Wells with N.J.A.C. 7:9D, Certification

that all utilities have been disconnected from structures to be demolished, Board of Health Approval for Potable Water Wells, Health Department Approval for Septic Systems. It shall be noted that in accordance with N.J.A.C. 5:23-2.15(a)5, a permit cannot be issued until the letter(s) of certification is received.

4. Multi-building or Multi-site Permits:

A project that involves many buildings and/or sites requires that a separate permit shall be issued for each building or site. The Consultant must determine the construction cost estimate for *each* building and/or site location and submit that amount where indicated on the permit application.

5. Special Inspections:

In accordance with the requirements of the New Jersey Uniform Construction Code N.J.A.C. 5:23-2.20(b), Bulletin 03-5 and Chapter 17 of the International Building Code, the Consultant shall be responsible for the coordination of all special inspections during the construction phase of the project.

Bulletin 03-5 can be found at:

http://www.state.nj.us/dca/divisions/codes/publications/pdf_bulletins/b_03_5.pdf

a. Definition:

Special inspections are defined as an independent verification by a certified Special Inspector for **Class I buildings and smoke control systems in any class building**. The special inspector is to be independent from the Contractor and responsible to the Consultant so that there is no possible conflict of interest.

Special inspectors shall be certified in accordance with the requirements in the New Jersey Uniform Construction Code.

b. Responsibilities:

The Consultant shall submit with the permit application, a list of special inspections and the agencies or special inspectors that will be responsible to carry out the inspections required for the project. The list shall be a separate document, on letter head, signed and sealed.

B. OTHER REGULATORY AGENCY PERMITS, CERTIFICATES AND APPROVALS

The Consultant shall identify and obtain all other State Regulatory Agency permits, certificates, and approvals that will govern and affect the work described in this Scope of Work. An itemized

list of these permits, certificates, and approvals shall be included with the Consultant’s Technical Proposal and the total amount of the application fees should be entered in the Fee Proposal line item entitled, **“Permit Fee Allowance.”**

The Consultant may refer to the Division of Property Management and Construction “Procedures for Architects and Engineers Manual”, Paragraph **“9. REGULATORY AGENCY APPROVALS”** which presents a compendium of State permits, certificates, and approvals that may be required for this project.

The Consultant shall determine the appropriate phase of the project to submit the permit application(s) in order to meet the approved project milestone dates.

Where reference to an established industry standard is made, it shall be understood to mean the most recent edition of the standard unless otherwise noted. If an industry standard is found to be revoked, or should the standard have undergone substantial change or revision from the time that the Scope of Work was developed, the Consultant shall comply with the most recent edition of the standard.

IX. ENERGY INCENTIVE PROGRAM

The Consultant shall review the programs available on the “New Jersey’s Clean Energy Program” website at: <http://www.njcleanenergy.com> as well as New Jersey electric and gas utility websites to determine if any proposed upgrades to the mechanical and/or electrical equipment and systems for this project qualify for “New Jersey Clean Energy Program” or utility approved rebates and incentives.

Consultant shall identify all rebates and incentives in their technical proposal.

The Consultant shall be responsible to complete the appropriate registration forms and applications, provide any applicable worksheets, manufacturer’s specification sheets, calculations, attend meetings, and participate in all activities with designated representatives of the programs and utility companies to obtain the entitled financial incentives and rebates for this project.

All costs associated with this work shall be estimated by the Consultant and the amount included in the base bid of its fee proposal.

X. ALLOWANCES

A. PLAN REVIEW AND PERMIT FEE ALLOWANCE

The Consultant shall obtain and pay for all of the project permits in accordance with the guidelines identified below.

1. Permits:

The Consultant shall determine the various permits, certificates, and approvals required to complete this project.

2. Permit Costs:

The Consultant shall estimate the application fee costs for all of the required project permits, certificates, and approvals (excluding the NJ Uniform Construction Code permit) and include that amount in its fee proposal line item entitled “**Plan Review and Permit Fee Allowance**”, refer to Paragraph IX.A. A breakdown of each permit and application fee shall be attached to the fee proposal for reference.

NOTE: The NJ Uniform Construction Code permit is excluded since it will be paid for by the State.

3. Applications:

The Consultant shall complete and submit all permit applications to the appropriate permitting authorities and the costs shall be paid from the Consultant’s permit fee allowance. A copy of the application(s) and the original permit(s) obtained by the Consultant shall be given to the DPMC Project Manager for distribution during construction.

4. Consultant Fee:

The Consultant shall determine what is required to complete and submit the permit applications, obtain supporting documentation, attend meetings, etc., and include the total cost in the base bid of its fee proposal under the “Permit Phase” column.

Any funds remaining in the permit allowance will be returned to the State at the close of the project.

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PROJECT LOCATION: Trenton Psychiatric Hospital
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XI. SOW SIGNATURE APPROVAL SHEET

This Scope of Work shall not be considered a valid document unless all signatures appear in each designated area below.

The Client Agency approval signature on this page indicates that they have reviewed the design criteria and construction schedule described in this project Scope of Work (including the subsequent contract deliverables and exhibits) and verifies that the work will not conflict with the existing or future construction activities of other projects at the site.

SOW APPROVED BY: James Wright 7/7/2023
JAMES WRIGHT, MANAGER DATE
DPMC PROJECT PLANNING & INITIATION

SOW APPROVED BY: Christian Casteel 07/10/2023
CHRISTIAN CASTEEL, DIRECTOR, OPMC DATE
DEPARTMENT OF HUMAN SERVICES

SOW APPROVED BY: Rishi Shah 7/11/2023
RISHI SHAH, CMS 3 DATE
DEPARTMENT OF HEALTH

SOW APPROVED BY: Michael Ryan 7/18/23
MICHAEL RYAN, PROJECT MANAGER DATE
DPMC PROJECT MANAGEMENT GROUP

SOW APPROVED BY: Richard S. Flodmand 7/27/23
RICHARD FLODMAND, DEPUTY DIRECTOR DATE
DIV PROPERTY MGT & CONSTRUCTION

XII. CONTRACT DELIVERABLES

The following are checklists listing the Contract Deliverables that are required at the completion of each phase of this project. The Consultant shall refer to the DPMC publication entitled “Procedures for Architects and Engineers,” 3.0 Edition, dated September 2022 available at <https://www.nj.gov/treasury/dPMC/Assets/Files/ProceduresforArchitectsandEngineers.pdf> for a detailed description of the deliverables required for each submission item listed. References to the applicable paragraphs of the “Procedures for Architects and Engineers” are provided.

Note that the Deliverables Checklist may include submission items that are “S.O.W. Specific Requirements”. These requirements will be defined in the project specific scope of work and included on the deliverables checklist.

This project includes the following phases with the deliverables noted as “Required by S.O.W” on the Deliverables Checklist:

- **SCHEMATIC DESIGN PHASE**
- **DESIGN DEVELOPMENT PHASE**
- **FINAL DESIGN PHASE**
- **PERMIT APPLICATION PHASE**
- **BIDDING AND CONTRACT AWARD**
- **CONSTRUCTION PHASE**
- **PROJECT CLOSE-OUT PHASE**

XIII. EXHIBITS

- A. SAMPLE PROJECT SCHEDULE FORMAT
- B. PROJECT SITE LOCATION MAP
- C. NV5 ACCESS TRAFFIC STUDY
- D. NV5 SUPPLEMENTAL ASSESSMENT
- E. TRENTON PSYCHIATRIC HOSPITAL GENERAL CONTRACTOR REGULATIONS

END OF SCOPE OF WORK

Deliverables Checklist Schematic Design Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
13.4.1.	A/E Statement of Site Visit						
13.4.2.	Narrative Description of Project						
13.4.3.	Building Code Information Questionnaire						
13.4.4.	Space Analysis						
13.4.5.	Special Features						
13.4.6.	Catalog Cuts						
13.4.7.	Site Evaluation						
13.4.8.	Subsurface Investigation						
13.4.9.	Surveys						
13.4.10.	Arts Inclusion						
13.4.11.	Design Rendering						
13.4.12.	Regulatory Approvals						
13.4.13.	Utility Availability						
13.4.14.	Drawings (6 Sets)						
13.4.15.	Outline Specifications (6 Sets)						
13.4.16.	Current Working Estimate/Cost Analysis						
13.4.17.	Project Schedule						
13.4.18.	Formal Presentation						
13.4.19.	Scope of Work Compliance Statement						
13.4.20.	Schematic Design Phase Deliverables Checklist						
S.O.W. Reference	S.O.W. Specific Requirements						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC the status of all the deliverables required by the project specific Scope of Work.

Consultant Signature

Date

Deliverables Checklist Design Development Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
14.4.1.	A/E Statement of Site Visit						
14.4.2.	Narrative Description of Project						
14.4.3.	Building Code Information Questionnaire						
14.4.4.	Space Analysis						
14.4.5.	Special Features						
14.4.6.	Catalog Cuts						
14.4.7.	Site Evaluation						
14.4.8.	Subsurface Investigation						
14.4.9.	Surveys						
14.4.10.	Arts Inclusion						
14.4.11.	Design Rendering						
14.4.12.	Regulatory Approvals						
14.4.13.	Utility Availability						
14.4.14.	Drawings (6 Sets)						
14.4.15.	Outline Specifications (6 Sets)						
14.4.16.	Current Working Estimate/Cost Analysis						
14.4.17.	Project Schedule						
14.4.18.	Formal Presentation						
14.4.19.	Plan Review/Scope of Work Compliance Statement						
14.4.20.	Design development Phase Deliverables Checklist						
S.O.W. Reference	S.O.W. Specific Requirements						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC the status of all the deliverables required by the project specific Scope of Work.

Consultant Signature

Date

Deliverables Checklist Final Design Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
15.4.1.	A/E Statement of Site Visit						
15.4.2.	Narrative Description of Project						
15.4.3.	Building Code Information Questionnaire						
15.4.4.	Space Analysis						
15.4.5.	Special Features						
15.4.6.	Catalog Cuts						
15.4.7.	Site Evaluation						
15.4.8.	Subsurface Investigation						
15.4.9.	Surveys						
15.4.10.	Arts Inclusion						
15.4.11.	Design Rendering						
15.4.12.	Regulatory Approvals						
15.4.13.	Utility Availability						
15.4.14.	Drawings (6 Sets)						
15.4.15.	Outline Specifications (6 Sets)						
15.4.16.	Current Working Estimate/Cost Analysis						
15.4.17.	Project Schedule						
15.4.18.	Formal Presentation						
15.4.19.	Plan Review/Scope of Work Compliance Statement						
15.4.20.	Final Design Phase Deliverables Checklist						
S.O.W. Reference	S.O.W. Specific Requirements						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC the status of all the deliverables required by the project specific Scope of Work.

Consultant Signature

Date

**Deliverables Checklist
Permit Application Phase**

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
16.1.	N.J. UCC Permit Application						
16.4.	Drawings, Signed and Sealed (6 Sets)						
16.5.	Specifications, Signed and Sealed (6 Sets)						
16.6.	Current Working Estimate/Cost Analysis						
16.7.	Project Schedule						
16.8.	Plan Review/Scope of Work Compliance Statement						
16.9.	Permit Application Phase Deliverables Checklist						
S.O.W. Reference	S.O.W. Specific Requirements						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC Project Manager the status of all the deliverables required by the project specific Scope of Work.

 Consultant Signature Date

Deliverables Checklist Bidding and Contract Award Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
17.1.1.	Notice of Advertising						
17.1.2.	Bid Proposal Form						
17.1.3.	Bid Clearance Form						
17.1.4.	Drawings (6 Sets)						
17.1.5.	Specifications (6 Sets)						
17.1.6.	Construction Schedule						
17.3	Pre-Bid Conference/Mandatory Site Visit						
17.3.1.	Meeting Minutes						
17.4	Bulletins						
17.5	Post Bid Meeting						
17.6.	Contract Award "Letter of Recommendation"						
17.8.	Bid Protests - Hearings						
17.9.	Bidding and Contract Award Phase Deliverables Checklist						
S.O.W. Reference	S.O.W. Specific Requirements						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC the status of all the deliverables required by the project specific Scope of Work.

Consultant Signature

Date

**Deliverables Checklist
Construction Phase**

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
18.2.	Pre-Construction Meeting						
18.3.	Submittal Log						
18.4.	Construction Schedule						
18.5.	Project Progress Meetings						
18.7.	Contractor's Invoicing and Payment Process						
18.8.	Contractor Submittals						
18.10.	Testing						
18.11.	Shop Drawings (6 Sets)						
18.12.	As-Built & Record Set Drawings (6 Sets)						
18.13.	Change Orders						
18.14.	Construction Photographs						
18.15.	Field Observations						
18.17.	Construction Phase Deliverables Checklist						
S.O.W. Reference	S.O.W. Specific Requirements						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC the status of all the deliverables required by the project specific Scope of Work.

_____ Consultant Signature

_____ Date

Deliverables Checklist Project Close-Out Phase

A/E Name: _____

A/E Manual Reference	Submission Item	Required by S.O.W.		Previously Submitted		Enclosed	
		Yes	No	Yes	No	Yes	No
19.3.	Development of Punch List and Inspection Reports						
19.5.	Determination of Substantial Completion						
19.6.	Correction/Completion of Punch List						
19.7.	Submission of Close-Out Documentation						
19.7.1.	As-Built and Record Sets of Drawing (6 Sets)						
19.8.	Final Payment						
19.9.1.	Contractors Final Payment						
19.9.2.	A/E's Final Payment						
19.10.	Project Close-Out Phase Deliverables Checklist						
S.O.W. Reference	S.O.W. Specific Requirements						

This checklist shall be completed by the Design Consultant and included as the cover sheet of this submission to document to the DPMC the status of all the deliverables required by the project specific Scope of Work.

_____ Consultant Signature

_____ Date

February 7, 1997
Rev.: January 29, 2002

Responsible Group Code Table

The codes below are used in the schedule field "GRP" that identifies the group responsible for the activity. The table consists of groups in the Division of Property Management & Construction (DPMC), as well as groups outside of the DPMC that have responsibility for specific activities on a project that could delay the project if not completed in the time specified. For reporting purposes, the groups within the DPMC have been defined to the supervisory level of management (i.e., third level of management, the level below the Associate Director) to identify the "functional group" responsible for the activity.

<u>CODE</u>	<u>DESCRIPTION</u>	<u>REPORTS TO ASSOCIATE DIRECTOR OF:</u>
CM	Contract Management Group	Contract Management
CA	Client Agency	N/A
CSP	Consultant Selection and Prequalification Group	Technical Services
A/E	Architect/Engineer	N/A
PR	Plan Review Group	Technical Services
CP	Construction Procurement	Planning & Administration
CON	Construction Contractor	N/A
FM	Financial Management Group	Planning & Administration
OEU	Office of Energy and Utility Management	N/A
PD	Project Development Group	Planning & Administration

EXHIBIT 'A'

Activity ID	Description	Respon	Weeks
<PROJ>			
Design			
CV3001	Schedule/Conduct Pre-design/Project Kick-Off Mtg.	CM	
CV3020	Prepare Program Phase Submittal	AE	
CV3021	Distribute Program Submittal for Review	CM	
CV3027	Prepare & Submit Project Cost Analysis (DPMC-38)	CM	
CV3022	Review & Approve Program Submittal	CA	
CV3023	Review & Approve Program Submittal	PR	
CV3024	Review & Approve Program Submittal	CM	
CV3025	Consolidate & Return Program Submittal Comments	CM	
CV3030	Prepare Schematic Phase Submittal	AE	
CV3031	Distribute Schematic Submittal for Review	CM	
CV3037	Prepare & Submit Project Cost Analysis (DPMC-38)	CM	
CV3032	Review & Approve Schematic Submittal	CA	
CV3033	Review & Approve Schematic Submittal	PR	
CV3034	Review & Approve Schematic Submittal	CM	
CV3035	Consolidate & Return Schematic Submittal Comment	CM	
CV3040	Prepare Design Development Phase Submittal	AE	
CV3041	Distribute D. D. Submittal for Review	CM	
CV3047	Prepare & Submit Project Cost Analysis (DPMC-38)	CM	
CV3042	Review & Approve Design Development Submittal	CA	
CV3043	Review & Approve Design Development Submittal	PR	
CV3044	Review & Approve Design Development Submittal	CM	
CV3045	Consolidate & Return D.D. Submittal Comments	CM	
CV3050	Prepare Final Design Phase Submittal	AE	
CV2001	Distribute Final Design Submittal for Review	CM	
CV3052	Review & Approve Final Design Submittal	CA	
CV3053	Review & Approve Final Design Submittal	PR	
CV3054	Review Final Design Submittal for Constructability	OCS	

NOTE:
Refer to section "IV Project Schedule" of the
Scope of Work for contract phase durations.

DBCA - TEST

Bureau of Design & Construction Services

Sheet 1 of 3

EXHIBIT 'A'

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Activity ID	Description	Respn	Weeks																	
CV3055	Review & Approve Final Design Submittal	CM																		
CV3056	Consolidate & Return Final Design Comments	CM																		
CV3060	Prepare & Submit Permit Application Documents	AE																		
CV3068	Prepare & Submit Bidding Cost Analysis (DPMC-38)	CM																		
Plan Review-Permit Acquisition																				
CV4001	Review Constr. Documents & Secure UCC Permit	PR																		
CV4010	Provide Funding for Construction Contracts	CA																		
CV4020	Secure Bid Clearance	CM																		
Advertise-Bid-Award																				
CV5001	Advertise Project & Bid Construction Contracts	CP																		
CV5010	Open Construction Bids	CP																		
CV5011	Evaluate Bids & Prep. Recommendation for Award	CM																		
CV5012	Evaluate Bids & Prep. Recommendation for Award	AE																		
CV5014	Complete Recommendation for Award	CP																		
CV5020	Award Construction Contracts/Issue NTP	CP																		
Construction																				
CV6000	Project Construction Start/Issue NTP	CM																		
CV6001	Contract Start/Contract Work (25%) Complete	CON																		
CV6002	Preconstruction Meeting	CM																		
CV6003	Begin Preconstruction Submittals	CON																		
CV6004	Longest Lead Procurement Item Ordered	CON																		
CV6005	Lead Time for Longest Lead Procurement Item	CON																		
CV6006	Prepare & Submit Shop Drawings	CON																		
CV6007	Complete Construction Submittals	CON																		
CV6011	Roughing Work Start	CON																		
CV6012	Perform Roughing Work	CON																		
CV6010	Contract Work (50%+) Complete	CON																		
CV6013	Longest Lead Procurement Item Delivered	CON																		
CV6020	Contract Work (75%) Complete	CON																		

Bureau of Design & Construction Services

EXHIBIT 'A'

DRCA - TEST

Sheet 2 of 3

NOTE:
Refer to section "IV Project Schedule" of the Scope of Work for contract phase durations.

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Activity ID	Description	Respn	Weeks
CV6014	Roughing Work Complete	CON	
CV6021	Interior Finishes Start	CON	
CV6022	Install Interior Finishes	CON	
CV6030	Contract Work to Substantial Completion	CON	
CV6031	Substantial Completion Declared	CM	
CV6075	Complete Deferred Punch List/Seasonal Activities	CON	
CV6079	Project Construction Complete	CM	
CV6080	Close Out Construction Contracts	CM	
CV6089	Construction Contracts Complete	CM	
CV6090	Close Out A/E Contract	CM	
CV6092	Project Completion Declared	CM	

DBCA - TEST

Sheet 3 of 3

Bureau of Design & Construction Services

EXHIBIT 'A'

NOTE:
Refer to section "IV Project Schedule" of the
Scope of Work for contract phase durations.

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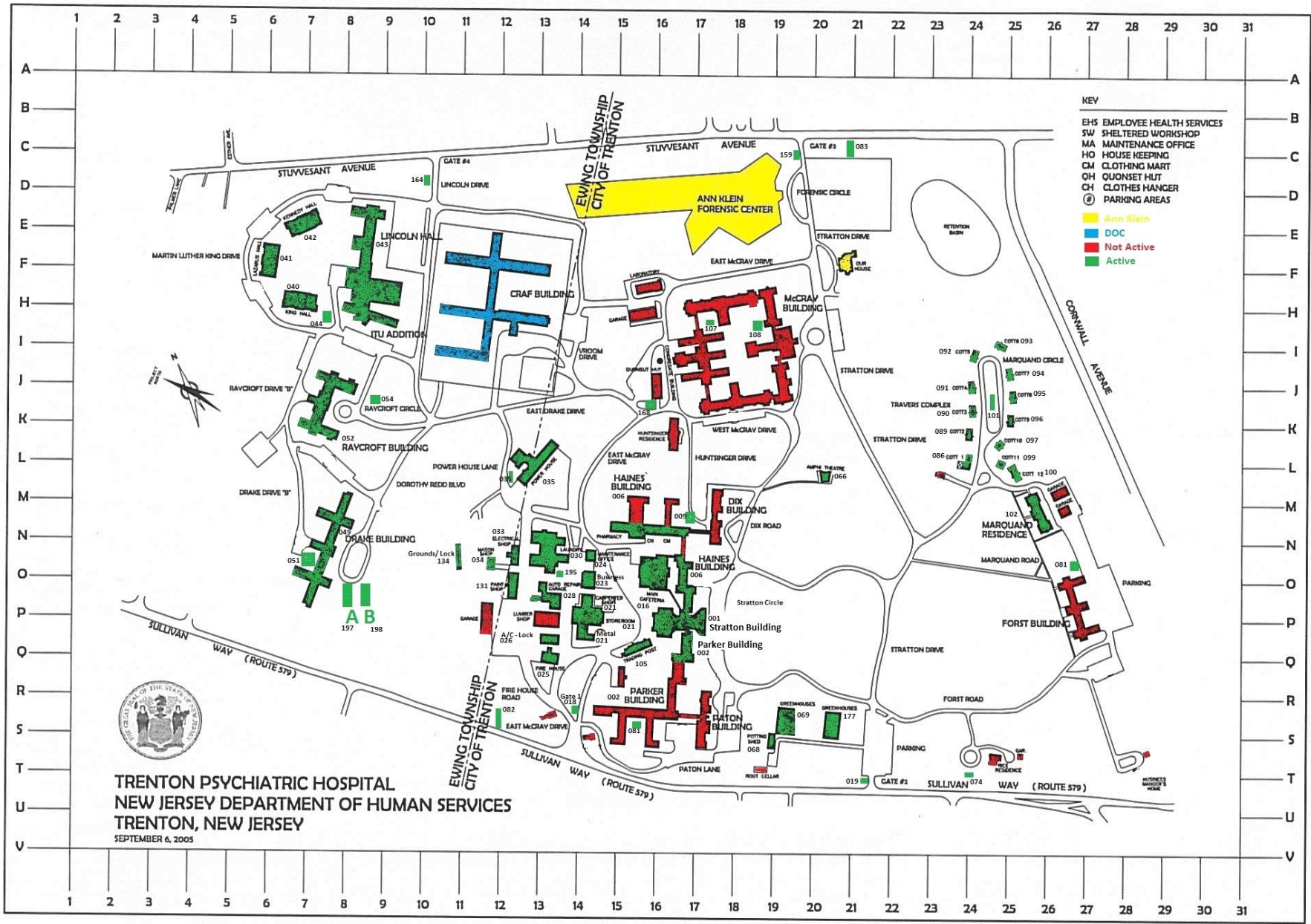


EXHIBIT 'B'

November 23, 2021

Christian Casteel
New Jersey Department of Human Services
Office of Property Management and Construction
Christian.Casteel@dhs.nj.gov
609-475-5622

Re: Trenton Psychiatric Hospital – Access Traffic Study

Dear Mr. Casteel:

As requested, NV5 has completed an assessment of the access points associated with the Trenton Psychiatric Hospital. This letter report represents a summary of our findings.

Project Understanding

The Trenton Psychiatric Hospital currently operates with four, two way access points for vehicles to enter and exit the campus. Each access point includes a guard shack which is manned during daytime hours. The guards provide directions for visitors but do not check credentials for every vehicle entering the site. Based on conversations with facility staff, in addition to visitors and employees of the campus, a moderate amount of cut through traffic utilizes the facility to connect between Sullivan Way and Stuyvesant Avenue. The campus is interested in providing a modern secure access system for the site to include gates at all vehicular access points with employees entering the facility using an automated key card type system and visitors entering the facility through a secure portal whereas they park their car and enter a small building to provide required information before being directed or escorted onto the campus.

Before implementing additional security controls on site, the facility has commissioned NV5 to perform a queuing analysis for each of the access points to determine appropriate locations for the security gates. This analysis is intended to determine the appropriate vehicle storage length at each of the access points so vehicles waiting at security checkpoints do not back up onto adjacent roadways. Using the required queueing distance as a guide, conceptual plans for the locations of the security gates have been prepared, including order of magnitude level cost estimates.

EXHIBIT 'C'

Existing Conditions

Stuyvesant Avenue Western Access

The Stuyvesant Avenue Western Access point to the facility, also known as the intersection of Stuyvesant Avenue and Lincoln Drive, is a 'T' style three leg intersection with 'stop' control on the northbound (Lincoln Drive) approach. All approaches to the intersection consist of a single approach lane to accommodate all movements. Vroom Drive intersects Lincoln Drive approximately 100 feet south of Stuyvesant Avenue. Fencing is provided on both sides of the access point, and manual gates to prevent vehicle access are present.

Stuyvesant Avenue Eastern Access

The Stuyvesant Avenue Eastern Access point to the facility, also known as the intersection of Stuyvesant Avenue and Stratton Drive, is a 'T' style three leg intersection with 'stop' control on the northbound (Stratton Drive) approach. All approaches to the intersection consist of a single approach lane to accommodate all movements.

Sullivan Way Western Access

The Sullivan Way Western Access point to the facility, also known as the intersection of Sullivan Way and Mcrae Drive, is a 'T' style three leg intersection with 'stop' control on the southbound (Mcrae Drive) approach. All approaches to the intersection consist of a single approach lane to accommodate all movements. Wide curb returns are present at the intersection and there is an existing bus stop on Sullivan Way with a sidewalk into the facility. Fencing is provided on both sides of the access point with swing gates that can be manually closed to restrict vehicle access.

Sullivan Way Eastern Access

The Sullivan Way Eastern Access point to the facility, also known as the intersection of Sullivan Way and Stratton Drive, is a 'T' style three leg intersection with 'stop' control on the southbound (Stratton Drive) approach. All approaches to the intersection consist of a single approach lane to accommodate all movements. Stratton Drive opens into an approximately 50 space parking area before continuing into the facility. The Village Charter School is located on the south side of Sullivan Way approximately opposite the access point.

Data Collection – Security Gate Processing Rates

To determine the necessary storage required for the Trenton facility, NV5 reviewed the operation of the security system at the Ancora Psychiatric Hospital at Spring Garden Road in Hammonton, New Jersey. This facility utilizes a gated access system similar to the one desired for Trenton. Since the Ancora facility provides similar services and has similar traffic characteristics to Trenton, this represents a comparable facility to determine the operation of the security gates.

Employees and visitors to the Ancora facility utilize a single primary access point whereas vehicles enter and exit the facility using an electronic key card system with automatic gates. Employees are required to stop a gate, scan an electronic key card, wait for the gate to open, and proceed through the gate. Visitors stop at a manned guard shack prior to entering the facility.

To determine the processing rate of the security gates at the Ancora facility, NV5 installed digital video cameras at the facility on Wednesday, August 25th, 2021 to record vehicle operations. The video was manually reviewed to determine the time vehicles are delayed by the gates. Approximately 400 vehicles were measured for both the entering and exiting movements. Details of the data recorded are presented in the appendix to this report and are summarized in the table below.

TABLE 1
Ancora Psychiatric Hospital – Security Gate Processing Rates
August 25, 2021

	Inbound Processing Rates	Outbound Processing Rates (Lane 1)	Outbound Processing Rates (Lane 2)
Minimum Processing Time	3 Seconds	4 Seconds	6 Seconds
Maximum Processing Time	70 Seconds	60 Seconds	32 Seconds
Average Processing Rate	11 Seconds	20 Seconds	10 Seconds
Average Vehicles Processed per Minute	5.45 Vehicles per Minute	3 Vehicles per Minute	6 Vehicles per Minute

As Table 1 above indicates, the average processing rate for inbound vehicles is 5.45 vehicles per minute. To maintain a conservative analysis, we have elected to use an average processing rate of 5 vehicles per minute for inbound vehicles.

Data Collection – Existing Traffic Characteristics – Trenton Psychiatric Hospital

To determine the arrival and departure patterns for the existing Trenton facility, digital video cameras were installed at each of the four access points to the facility for the seven day period from Friday, September 17, 2021 to Thursday, September 23, 2021. The number of vehicles arriving and departing from each access point were recorded in one minute intervals for the entire seven day period. Table 2 below provides an overall summary of the data collected. Detailed tabulations are provided in the appendix.

**TABLE 2
Trenton Psychiatric Hospital Traffic Data Collection Summary
Daily Traffic Volumes by Access Point**

	Stuyvesant Avenue Western Access		Stuyvesant Avenue Eastern Access		Sullivan Way Western Access		Sullivan Way Eastern Access	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT
Friday, 9/17/21	609	617	709	623	535	595	345	366
Saturday, 9/18/21	358	393	497	467	209	258	128	116
Sunday, 9/19/21	291	329	435	420	157	206	103	105
Monday, 9/20/21	586	621	720	615	535	608	341	382
Tuesday, 9/21/21	628	625	707	611	557	610	369	403
Wednesday, 9/22/21	610	633	719	638	566	620	379	420
Thursday, 9/23/21	574	604	723	643	564	630	377	393

Queueing Analysis

A queueing analysis was then performed utilizing the aforementioned five vehicles per minute processing rate to determine the maximum anticipated vehicle queue at each facility over the course of the week. This was done by assuming five vehicles per minute could be processed at the gate. If more than five vehicles arrived in a given minute, they were added to the queue for the next minute until all vehicles were processed. Table 3 on the following page shows the resultant maximum anticipated queues at each of the four access points. Details of the data collected and resultant queueing analysis are provided in the attached appendix.

TABLE 3
Trenton Psychiatric Hospital Maximum Anticipated Queue by Access Point

	Stuyvesant Avenue Western Access		Stuyvesant Avenue Eastern Access		Sullivan Way Western Access		Sullivan Way Eastern Access	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT
Maximum Anticipated Vehicle Queue	1 veh.	4 veh.	2 veh.	2 veh.	3 veh.	5 veh.	2 veh.	4 veh.

As Table 3 above indicates, the maximum inbound queue anticipated at any of the access points is three vehicles or less. Assuming a typical vehicle length of 20 feet per vehicle yields a minimum required storage capacity of 60'. Outbound queues peak at five vehicles, which will occur on site and not affect the adjacent roadway network. To account for potential expansions or changes to traffic patterns, NV5 recommends a minimum storage capacity of 100 feet where practical.

Recommended Improvements

Using the 100 foot recommended queuing capacity identified above, NV5 prepared conceptual improvement plans on readily available aerial photography to provide an indication of where the required security gates should be located. The concept plans for each of the four access points are attached and discussed below.

Stuyvesant Avenue Western Access

The recommended access treatment for the Stuyvesant Avenue Western Access is shown on the attached Figure 1. The concept includes the installation of median island to separate and control inbound and outbound traffic which includes an area for a guard shack and the required access gates. Minor changes to the pavement area are identified (new pavement is shown in dark gray and removed pavement is shown in green with hatching) to accommodate the required alignment. Approximately 75' of vehicle storage is proposed at this location to minimize impacts to the adjacent internal intersection. Extensions to the existing chain link fence are proposed to meet the proposed access gates. The anticipated cost for the proposed changes at this intersection is \$115,000. A breakdown of the cost estimate is provided in the attached appendix.

Stuyvesant Avenue Eastern Access

The recommended access treatment for the Stuyvesant Avenue Eastern Access is shown on the attached Figure 2. The concept includes the installation of median island to separate and control inbound and outbound traffic which includes an area for a guard shack and the required access gates. Minor changes to the pavement area are identified (new pavement is shown in dark gray and removed pavement is shown in green with hatching) to accommodate the required alignment. Approximately 100' of vehicular storage is provided consistent with the recommended storage capacity. Extensions to the existing chain link fence are proposed to meet the proposed access gates. The anticipated cost for the proposed changes at this intersection is \$106,000. A breakdown of the cost estimate is provided in the attached appendix.

Sullivan Way Western Access

The recommended access treatment for the Sullivan Way Western Access is shown on the attached Figure 3. The concept includes the installation of median island to separate and control inbound and outbound traffic which includes an area for a guard shack and the required access gates. Realignment of the access drive is recommended to provide a traditional 90 degree intersection with Sullivan Way and narrow the driveway opening to facilitate the addition of the gates. New pavement is shown in dark gray and removed pavement is shown in green with hatching. The existing sidewalk to the bus stop on Sullivan Way is proposed to be reconstructed to better align with the new driveway configuration. Approximately 100' of vehicular storage is provided consistent with the recommended storage capacity. The exact configuration of the driveway and the resulting curb radii will need to be determined as part of a formal design. The anticipated cost for the proposed changes at this intersection is \$107,000. A breakdown of the cost estimate is provided in the attached appendix.

Sullivan Way Eastern Access

The recommended access treatment for the Sullivan Way Eastern Access is shown on the attached Figure 4. The concept includes the installation of median island and control gates to be located at the end of the existing parking area. This configuration will provide an area for visitors to park while obtaining the required credentials to enter the facility. New pavement is shown in dark gray and removed pavement is shown in green with hatching. The anticipated cost for the proposed changes at this intersection is \$88,000. A breakdown of the cost estimate is provided in the attached appendix.

Order of Magnitude Cost Estimates

As discussed above, for each of the four access points, order of magnitude cost estimates were prepared to provide approximate construction costs for budgeting purposes. Table 4 below provides the anticipated cost for each access point. As Table 4 indicates, the total anticipated construction cost for all four access points is \$416,000. Details of the cost estimate are provided in the appendix.

TABLE 4
Order of Magnitude Cost Estimates
Trenton Psychiatric Hospital Access Gates

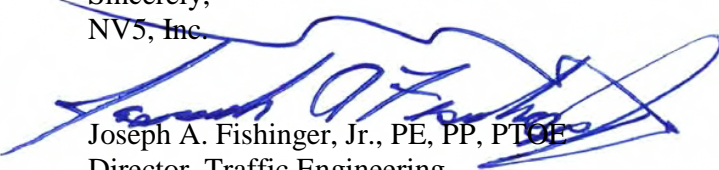
	Stuyvesant Avenue Western Access	Stuyvesant Avenue Eastern Access	Sullivan Way Western Access	Sullivan Way Eastern Access	Total Cost
Anticipated Cost	\$115,00	\$106,000	\$107,000	\$88,000	\$416,000

Conclusions

Based on the analysis contained herewith, NV5 has determined that the access points to the Trenton Psychiatric Hospital will require a 100 foot long queuing area at each of the four access points where possible to provide sufficient space to store vehicles waiting to access the site without impacting the adjacent public streets. To accommodate this configuration, conceptual level improvement plans have been prepared for each access point illustrating the approximately location of the required gates and guard facilities. For the Sullivan Way Eastern Access, the gates are recommended to be placed beyond the existing parking area to provide a location for visitors to park and speak to staff prior to entering the facility.

I trust this information will assist the Department of Human Services as they continue to plan for improvements to the Trenton Psychiatric Hospital. If you have any questions or require any additional information, please feel free to contact me at 973-946-5604 or via email at Joseph.Fishinger@NV5.com.

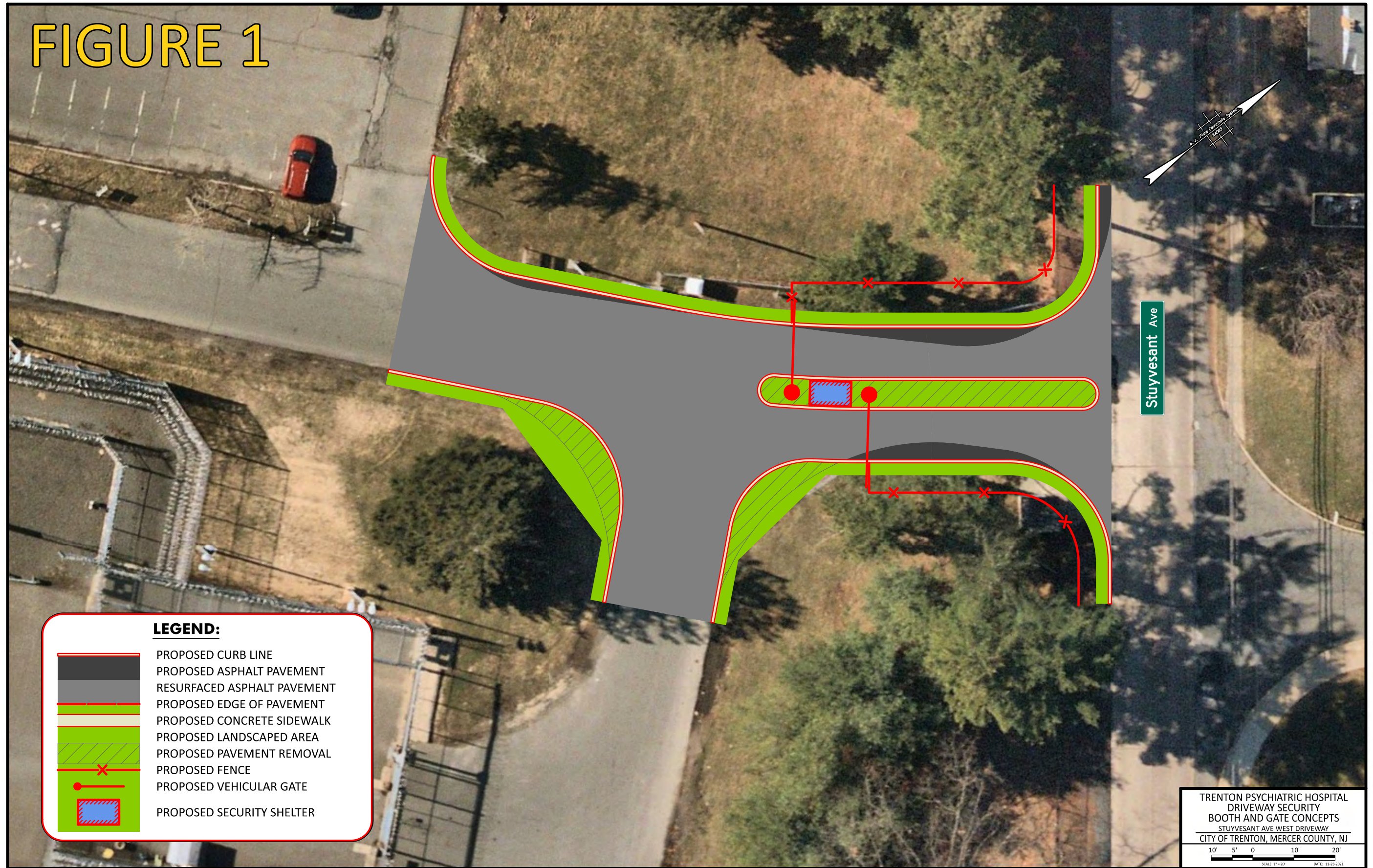
Sincerely,
NV5, Inc.





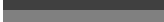







Joseph A. Fishinger, Jr., PE, PP, PTOE
Director, Traffic Engineering
NJ PE Lisc: 24GE04613400

attachments

FIGURE 1



LEGEND:

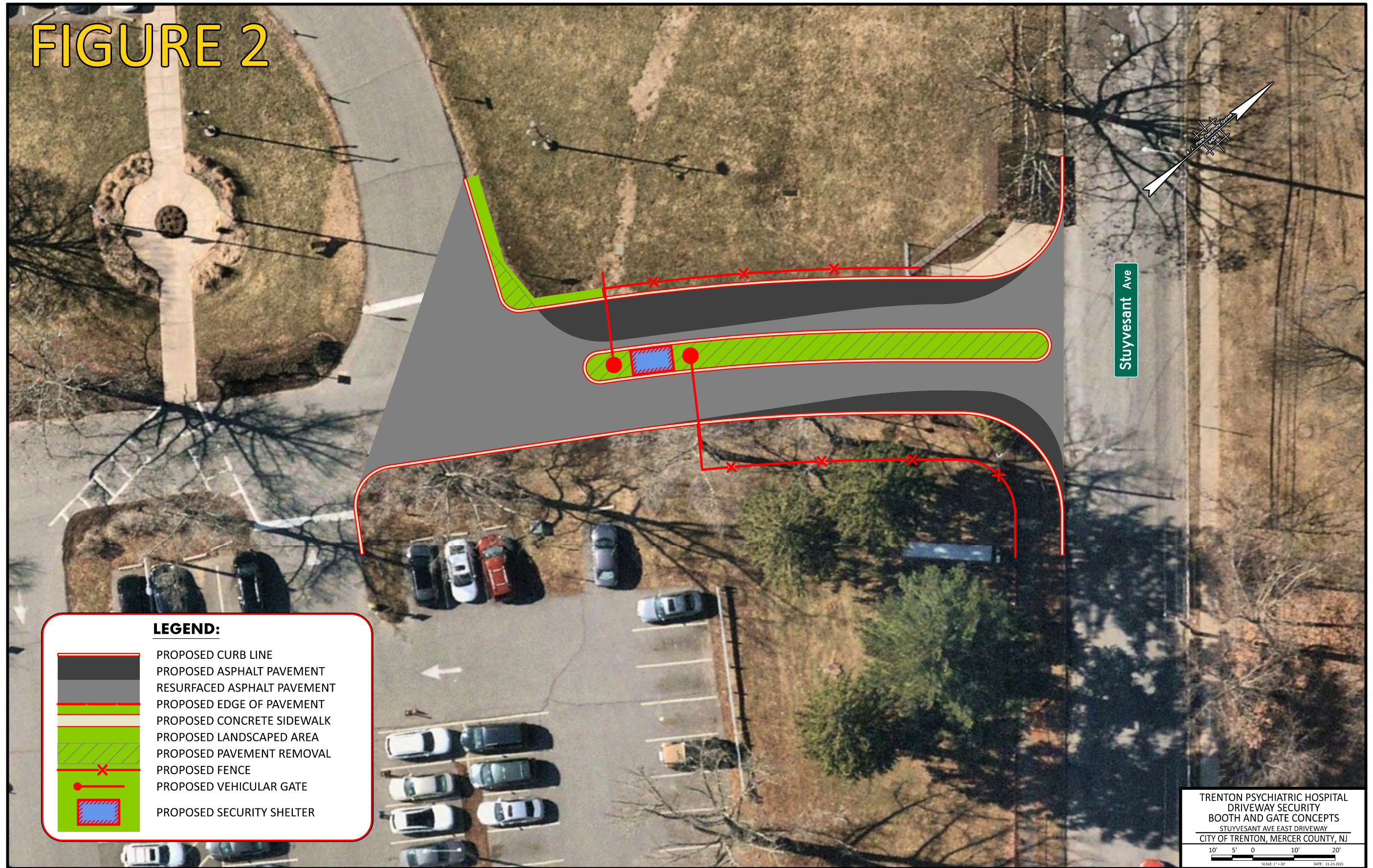
-  PROPOSED CURB LINE
-  PROPOSED ASPHALT PAVEMENT
-  RESURFACED ASPHALT PAVEMENT
-  PROPOSED EDGE OF PAVEMENT
-  PROPOSED CONCRETE SIDEWALK
-  PROPOSED LANDSCAPED AREA
-  PROPOSED PAVEMENT REMOVAL
-  PROPOSED FENCE
-  PROPOSED VEHICULAR GATE
-  PROPOSED SECURITY SHELTER

TRENTON PSYCHIATRIC HOSPITAL
 DRIVEWAY SECURITY
 BOOTH AND GATE CONCEPTS
 STUYVESANT AVE WEST DRIVEWAY
 CITY OF TRENTON, MERCER COUNTY, NJ

10' 5' 0' 10' 20'
 SCALE 1" = 20' DATE 11-23-2011

EXHIBIT 'C'

FIGURE 2



LEGEND:

- PROPOSED CURB LINE
- PROPOSED ASPHALT PAVEMENT
- RESURFACED ASPHALT PAVEMENT
- PROPOSED EDGE OF PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED LANDSCAPED AREA
- PROPOSED PAVEMENT REMOVAL
- PROPOSED FENCE
- PROPOSED VEHICULAR GATE
- PROPOSED SECURITY SHELTER

TRENTON PSYCHIATRIC HOSPITAL
 DRIVEWAY SECURITY
 BOOTH AND GATE CONCEPTS
 STUYVESANT AVE EAST DRIVEWAY
 CITY OF TRENTON, MERCER COUNTY, NJ

10' 5' 0' 10' 20'
 SCALE 1" = 20' DATE 11-23-2021

EXHIBIT 'C'

FIGURE 3

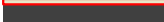











EXHIBIT 'C'

FIGURE 4



LEGEND:

-  PROPOSED CURB LINE
-  PROPOSED ASPHALT PAVEMENT
-  RESURFACED ASPHALT PAVEMENT
-  PROPOSED EDGE OF PAVEMENT
-  PROPOSED CONCRETE SIDEWALK
-  PROPOSED LANDSCAPED AREA
-  PROPOSED PAVEMENT REMOVAL
-  PROPOSED FENCE
-  PROPOSED VEHICULAR GATE
-  PROPOSED SECURITY SHELTER

TRENTON PSYCHIATRIC HOSPITAL
 DRIVEWAY SECURITY
 BOOTH AND GATE CONCEPTS
 SULLIVAN WAY EAST DRIVEWAY
 CITY OF TRENTON, MERCER COUNTY, NJ

10' 5' 0' 10' 20'
 SCALE 1" = 20' DATE 11-23-2011

EXHIBIT 'C'

Stuyvesant West Driveway Order of Magnitude Cost Estimate				
Major Item	Unit	Unit Cost	Quantity	Item Cost
Full Depth Pavement	SY	\$ 50.00	45	\$ 2,250.00
2" Surface Course				
6" Base Course				
8" Dense Aggregate Base Course				
Milling & Resurfacing	SY	\$ 30.00	670	\$ 20,100.00
Milling 3" or Less				
2" HMA Surface Course				
Variable HMA Intermediate Course (assume 2.5")				
9"x16" Concrete Vertical Curb	LF	\$ 40.00	630	\$ 25,200.00
12"x13" Concrete Sloping Curb	LF	\$ 40.00		\$ -
Concrete Sidewalk, 4" Thick	SY	\$ 75.00		\$ -
HMA Driveway	SY	\$ 30.00		\$ -
Concrete Driveway	SY	\$ 110.00		\$ -
Landscape Wall	LF	\$ 250.00		\$ -
Security Structure & Gates	Each	\$ 35,000.00	1	\$ 35,000.00
Chain Link Fence, 7ft High	LF	\$ 65.00	175	\$ 11,375.00
Topsoil/Seeding/Mulching	SY	\$ 40.00	250	\$ 10,000.00
Subtotal Estimated Cost:				\$ 103,925.00
Non-Quantified Construction Costs:	Percent of Subtotal Costs:			
Maintenance and Protection of Traffic	7%			\$ 7,274.75
Lighting, Traffic Striping, Delineators, & Signs	3%			\$ 3,117.75
Utility Relocation (Based on anticipated utility impacts and relocations)				
Total Estimated Cost:				\$ 114,317.50

USE FOR Stuyvesant West: \$ 115,000.00

Net Impervious Coverage:	
New Impervious	390 SF
Impervious Removal	890 SF
Net Change in Impervious Coverage	-500 SF
	-OR- -0.01 Ac

all prices in 2021 US Dollars

EXHIBIT 'C'

Stuyvesant East Driveway Order of Magnitude Cost Estimate				
Major Item	Unit	Unit Cost	Quantity	Item Cost
Full Depth Pavement	SY	\$ 50.00	140	\$ 7,000.00
2" Surface Course				
6" Base Course				
8" Dense Aggregate Base Course				
Milling & Resurfacing	SY	\$ 30.00	420	\$ 12,600.00
Milling 3" or Less				
2" HMA Surface Course				
Variable HMA Intermediate Course (assume 2.5")				
9"x16" Concrete Vertical Curb	LF	\$ 40.00	645	\$ 25,800.00
12"x13" Concrete Sloping Curb	LF	\$ 40.00		\$ -
Concrete Sidewalk, 4" Thick	SY	\$ 75.00		\$ -
HMA Driveway	SY	\$ 30.00		\$ -
Concrete Driveway	SY	\$ 110.00		\$ -
Landscape Wall	LF	\$ 250.00		\$ -
Security Structure & Gates	Each	\$ 35,000.00	1	\$ 35,000.00
Chain Link Fence, 7ft High	LF	\$ 65.00	185	\$ 12,025.00
Topsoil/Seeding/Mulching	SY	\$ 40.00	95	\$ 3,800.00
Subtotal Estimated Cost:				\$ 96,225.00
Non-Quantified Construction Costs:	Percent of Subtotal Costs:			
Maintenance and Protection of Traffic	7%		\$ 6,735.75	
Lighting, Traffic Striping, Delineators, & Signs	3%		\$ 2,886.75	
Utility Relocation (Based on anticipated utility impacts and relocations)				
Total Estimated Cost:				\$ 105,847.50

USE FOR Stuyvesant East: \$ 106,000.00

Net Impervious Coverage:	
New Impervious	1,150 SF
Impervious Removal	720 SF
Net Change in Impervious Coverage	430 SF
	-OR- 0.01 Ac

all prices in 2021 US Dollars

EXHIBIT 'C'

Sullivan West Driveway Order of Magnitude Cost Estimate				
Major Item	Unit	Unit Cost	Quantity	Item Cost
Full Depth Pavement	SY	\$ 50.00	120	\$ 6,000.00
2" Surface Course				
6" Base Course				
8" Dense Aggregate Base Course				
Milling & Resurfacing	SY	\$ 30.00	330	\$ 9,900.00
Milling 3" or Less				
2" HMA Surface Course				
Variable HMA Intermediate Course (assume 2.5")				
9"x16" Concrete Vertical Curb	LF	\$ 40.00	550	\$ 22,000.00
12"x13" Concrete Sloping Curb	LF	\$ 40.00		\$ -
Concrete Sidewalk, 4" Thick	SY	\$ 75.00	115	\$ 8,625.00
HMA Driveway	SY	\$ 30.00		\$ -
Concrete Driveway	SY	\$ 110.00		\$ -
Landscape Wall	LF	\$ 250.00		\$ -
Security Structure & Gates	Each	\$ 35,000.00	1	\$ 35,000.00
Chain Link Fence, 7ft High	LF	\$ 65.00	20	\$ 1,300.00
Topsoil/Seeding/Mulching	SY	\$ 40.00	355	\$ 14,200.00
Subtotal Estimated Cost:				\$ 97,025.00
Non-Quantified Construction Costs:	Percent of Subtotal Costs:			
Maintenance and Protection of Traffic	7%		\$ 6,791.75	
Lighting, Traffic Striping, Delineators, & Signs	3%		\$ 2,910.75	
Utility Relocation (Based on anticipated utility impacts and relocations)				
Total Estimated Cost:				\$ 106,727.50

USE FOR Sullivan West: \$ 107,000.00

Net Impervious Coverage:	
New Impervious	1,200 SF
Impervious Removal	2,570 SF
Net Change in Impervious Coverage	-1,370 SF
	-OR- -0.03 Ac

all prices in 2021 US Dollars

EXHIBIT 'C'

Sullivan East Driveway Order of Magnitude Cost Estimate				
Major Item	Unit	Unit Cost	Quantity	Item Cost
Full Depth Pavement	SY	\$ 50.00	65	\$ 3,250.00
2" Surface Course				
6" Base Course				
8" Dense Aggregate Base Course				
Milling & Resurfacing	SY	\$ 30.00	75	\$ 2,250.00
Milling 3" or Less				
2" HMA Surface Course				
Variable HMA Intermediate Course (assume 2.5")				
9"x16" Concrete Vertical Curb	LF	\$ 40.00	360	\$ 14,400.00
12"x13" Concrete Sloping Curb	LF	\$ 40.00		\$ -
Concrete Sidewalk, 4" Thick	SY	\$ 75.00	45	\$ 3,375.00
HMA Driveway	SY	\$ 30.00		\$ -
Concrete Driveway	SY	\$ 110.00		\$ -
Landscape Wall	LF	\$ 250.00		\$ -
Security Structure & Gates	Each	\$ 35,000.00	1	\$ 35,000.00
Chain Link Fence, 7ft High	LF	\$ 65.00	115	\$ 7,475.00
Topsoil/Seeding/Mulching	SY	\$ 40.00	350	\$ 14,000.00
Subtotal Estimated Cost:				\$ 79,750.00
Non-Quantified Construction Costs:	Percent of Subtotal Costs:			
Maintenance and Protection of Traffic		7%		\$ 5,582.50
Lighting, Traffic Striping, Delineators, & Signs		3%		\$ 2,392.50
Utility Relocation (Based on anticipated utility impacts and relocations)				
Total Estimated Cost:				\$ 87,725.00

USE FOR Sullivan East: \$ 88,000.00

Net Impervious Coverage:	
New Impervious	620 SF
Impervious Removal	2,470 SF
Net Change in Impervious Coverage	-1,850 SF
	-OR- -0.04 Ac

all prices in 2021 US Dollars

EXHIBIT 'C'

August 16, 2022

Christian Casteel
New Jersey Department of Human Services
Office of Property Management and Construction
Christian.Casteel@dhs.nj.gov
609-475-5622

Re: Trenton Psychiatric Hospital – Access Traffic Study
Analysis of Additional Access Configurations

Dear Mr. Casteel:

As requested, NV5 has completed a supplemental assessment of the access points associated with the Trenton Psychiatric Hospital, specifically with regard to converting the existing access points to one-way flow and/or closing certain access points. This letter report represents a summary of our findings.

Project Understanding

This supplemental analysis reviews additional access scenarios with regard to vehicle queuing for the Trenton Psychiatric Hospital campus. As you may recall, consideration is being given to installing access controls for the site to monitor visitors entering/exiting the campus and control cut through traffic to the facility. Specifically the following additional access scenarios were reviewed:

Scenario 1 - One-Way Pairs

For this scenario, we reviewed the impacts on vehicle queuing with the western access (Merae Dr) on Sullivan Way to provide egress movements only and the eastern access (Stratton Dr) on Sullivan Way to provide entrance movements only. Separate entrance lanes would be provided for employees and visitors. Similarly, the western access on Stuyvesant Ave (Lincoln Dr) would be reconfigured to provide entrance movements only with separate entrance lanes for employees and visitors and the eastern access on Stuyvesant Ave (Stratton Dr) would be configured for egress only.

Scenario 2 – Close Western Access Points

For this scenario, we reviewed the impacts on vehicle queuing associated with closing the western access points on both Sullivan Way and Stuyvesant Ave and directing all traffic to the eastern access points. Similar to Scenario 1, separate entrance lanes would be provided for employees and visitors but exit movements would be combined.

EXHIBIT 'D'

Queueing Analysis – Scenario 1

A queueing analysis was performed for the reconfigured driveways to determine the maximum expected queue at each driveway. This was accomplished by combining the entering and exiting vehicle movements observed at each driveway where appropriate. In areas where significant queuing was predicted, additional review of the video data collected at each driveway was completed to identify the direction vehicles entered from and exited to. The volumes for the inbound and outbound traffic for the two driveways on Stuyvesant Avenue were combined, based on the assumption that existing vehicles utilizing Stuyvesant Avenue would remain at the Stuyvesant Avenue access points. A similar analysis was completed for the Sullivan Way access points. Tables 1 and 2 below shows the results of the queueing analysis for Scenario 1.

Table 1
Maximum Vehicle Queues – Stuyvesant Avenue Driveways – Combined In & Out

Scenario	Maximum Queue at Gate	
All Inbound at one gate – single lane	4 vehicles	
All Outbound at one gate – single lane	10 vehicles	
All Outbound at one gate – separate left & right turn lanes	Left Turn Lane 6 Vehicles	Right Turn Lane 1 Vehicle

As Table 1 above indicates, converting the Stuyvesant Avenue driveways to a one-way pair yields a maximum inbound queue of 4 vehicles. This means the security gate for inbound vehicles on Stuyvesant Avenue should be located approximately 100 feet (4 car lengths) in from the roadway to prevent vehicles waiting to enter the site from queuing onto Stuyvesant Avenue.

As Table 1 also indicates, if all outbound vehicles on Stuyvesant Avenue were channeled into a single exit lane, a storage capacity of 250 feet (10 car lengths) would be required. Providing separate left and right turn exit gates would reduce the required storage area to 150 feet (6 car lengths) for the left turn and 25 feet (1 car length) for the right turn. A conceptual layout plan which shows a potential layout for the proposed configuration is attached and described in the following section.

Table 2
Maximum Vehicle Queues – Sullivan Avenue Driveways – Combined In & Out

Scenario	Maximum Queue at Gate	
All Inbound at one gate – single lane	21 vehicles	
All Outbound at one gate – single lane	10 vehicles	
All Inbound at one gate – separate left & right turn lanes	Left Turn Lane 0 Vehicles	Right Turn Lane 6 Vehicle
All Outbound at one gate – separate left & right turn lanes	Left Turn Lane 10 Vehicles	Right Turn Lane 0 Vehicle

As Table 2 indicates, converting the Sullivan Avenue driveways to a one way pair yields a maximum inbound queue of 21 vehicles and a maximum outbound queue of 10 vehicles. Since 21 vehicles waiting to enter the site would likely queue onto Sullivan Avenue, a two-lane entrance drive is recommended, reducing the maximum queue to 150 feet (6 car lengths). For the outbound movements on Sullivan Avenue, 250 feet (10 car lengths) of vehicle storage is required whether a single lane or separate right and left turn lanes are required. A conceptual layout plan which shows a potential layout for the proposed configuration is attached and described in the following section.

Queueing Analysis – Scenario 2

For Scenario 2, the western accesses on both Stuyvesant Avenue and Sullivan Way would be closed and all traffic diverted to the eastern driveways. This would result in the same queue requirements as Scenario 1, with the actual configuration revised so both inbound and outbound movements are accommodated at the same access points. A conceptual layout plan which shows a potential layout for the proposed configuration is attached and described in the following section.

Conceptual Access Plans

Stuyvesant Ave West – Inbound Only (Figure 5)

Figure 5 graphically depicts the proposed access scheme with all vehicles from Stuyvesant Avenue entering the site at the Western Access. Employees would be directed to keep right when entering the site and access the campus via gate. Visitors would enter at the same point and travel to an unsecured parking area where they could obtain security clearance to enter the campus at a small security building. This access includes an uncontrolled egress point to accommodate visiting vehicles that do not obtain access to enter the facility and otherwise permit vehicles denied access to turn around and return to public roadways.

Stuyvesant Ave East – Outbound Only (Figure 6)

Figure 6 graphically depicts all Stuyvesant Ave exiting vehicles exiting at the eastern access. The concept includes widening to provide separate left and right turn lanes to accommodate the required queueing. Separate exit gates are proposed for the right and left turn movements.

Sullivan Way West – Outbound Only (Figure 7)

Figure 7 graphically depicts conversion of the Sullivan Way West access to egress only, providing a single lane to accommodate exiting vehicles. Since exiting at this gate has a maximum queue of 10 vehicles, Fire House Road will likely require reconfiguration to better accommodate the anticipated peak queuing. Since adding a second exiting lane does not change the required queue length, a single lane was chosen for this access.

Sullivan Way East – Inbound Only (Figure 8)

Figure 8 graphically depicts conversion of the Sullivan Way East access to provide entrance to the facility only. Access from Sullivan Way would be provided at a bi-directional driveway similar to existing conditions which will provide access to a parking area. Visitors would park and proceed into a security building to obtain clearance to enter the facility whereas employees would enter the facility directly via an employee entrance. The calculated maximum queue for one entrance lane exceeds the available storage capacity, hence a second access lane was provided. We recommend the system be designed that employees could enter using both gates during times of peak demand. Since the security gates are located past the parking area, any visitors which do not obtain security clearance can exit back to Sullivan Way.

Stuyvesant Way East – Two Way Traffic (Figure 9)

Figure 9 depicts the access configuration with all access via Stuyvesant Way consolidated to a single access point. Employee entrance and exit from the secure areas of the facility are provided via a two-way gate controlled driveway proximate to the existing driveway location. A new unsecured driveway would be constructed east of the existing driveway and the parking lot configured to provide a separate visitors entrance where visitors can obtain security clearance before entering the facility.

Sullivan Way East – Two Way Traffic (Figure 10)

Figure 10 depicts the access configuration with all access via Sullivan Way consolidated to a single access point. All users entering this driveway would proceed through the parking lot. Employees would enter via a security gate and visitors would stop at a security building to obtain clearance to enter the facility. All vehicles would exit the site via the separate left and right turn lanes provided to Sullivan Way.

Anticipated Cost

Based on the layouts provided in the figures discussed above, Table 3 was prepared to provide an order of magnitude cost for each of the access points and configuration scenarios. Details of the cost estimates are also attached.

Table 3 – Order of Magnitude Cost Estimates – Scenario 1 & Scenario 2

Scenario 1		Anticipated Cost
Figure 5	Stuyvesant Ave West – Inbound Only	\$548,000
Figure 6	Stuyvesant Ave East – Outbound Only	\$152,000
Figure 7	Sullivan Way West – Outbound Only	\$101,000
Figure 8	Sullivan Way East – Inbound Only	\$612,000
	Total Cost Scenario 1	\$1,413,000

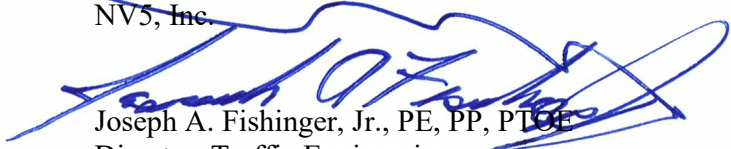
Scenario 2		Anticipated Cost
Figure 9	Stuyvesant Way East – Two Way Traffic	\$1,031,000
Figure 10	Sullivan Way East – Two Way Traffic	\$737,000
Total Cost Scenario 2		\$1,768,000

Conclusions

This supplemental analysis has identified the required queuing lengths and provided conceptual access sketches for the various driveway reconfigurations. While both Scenarios identified result in additional construction, the long-term costs & benefits of these configurations should be considered in addition to the initial construction cost. Once an option is selected, coordination should begin with the City of Trenton and Mercer County since access changes will likely impact roadways under these agencies' jurisdiction.

I trust this information will assist the Department of Human Services as they continue to plan for improvements to the Trenton Psychiatric Hospital. If you have any questions or require any additional information, please feel free to contact me at 973-946-5604 or via email at Joseph.Fishinger@NV5.com.

Sincerely,
NV5, Inc.



Joseph A. Fishinger, Jr., PE, PP, PTOE
Director, Traffic Engineering
NJ PE Lisc: 24GE04613400

attachments

FIGURE 5



LEGEND:

- PROPOSED CURB LINE
- PROPOSED ASPHALT PAVEMENT
- RESURFACED ASPHALT PAVEMENT
- PROPOSED EDGE OF PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED LANDSCAPED AREA
- PROPOSED PAVEMENT REMOVAL
- PROPOSED FENCE
- PROPOSED VEHICULAR GATE
- PROPOSED SECURITY SHELTER

TRENTON PSYCHIATRIC HOSPITAL
 DRIVEWAY SECURITY
 BOOTH AND GATE CONCEPTS
 STUYVESANT AVE WEST DRIVEWAY
 CITY OF TRENTON, MERCER COUNTY, NJ

10' 5' 0 10' 20'
 SCALE: 1" = 20' DATE: 08-31-2022

EXHIBIT 'D'

FIGURE 6

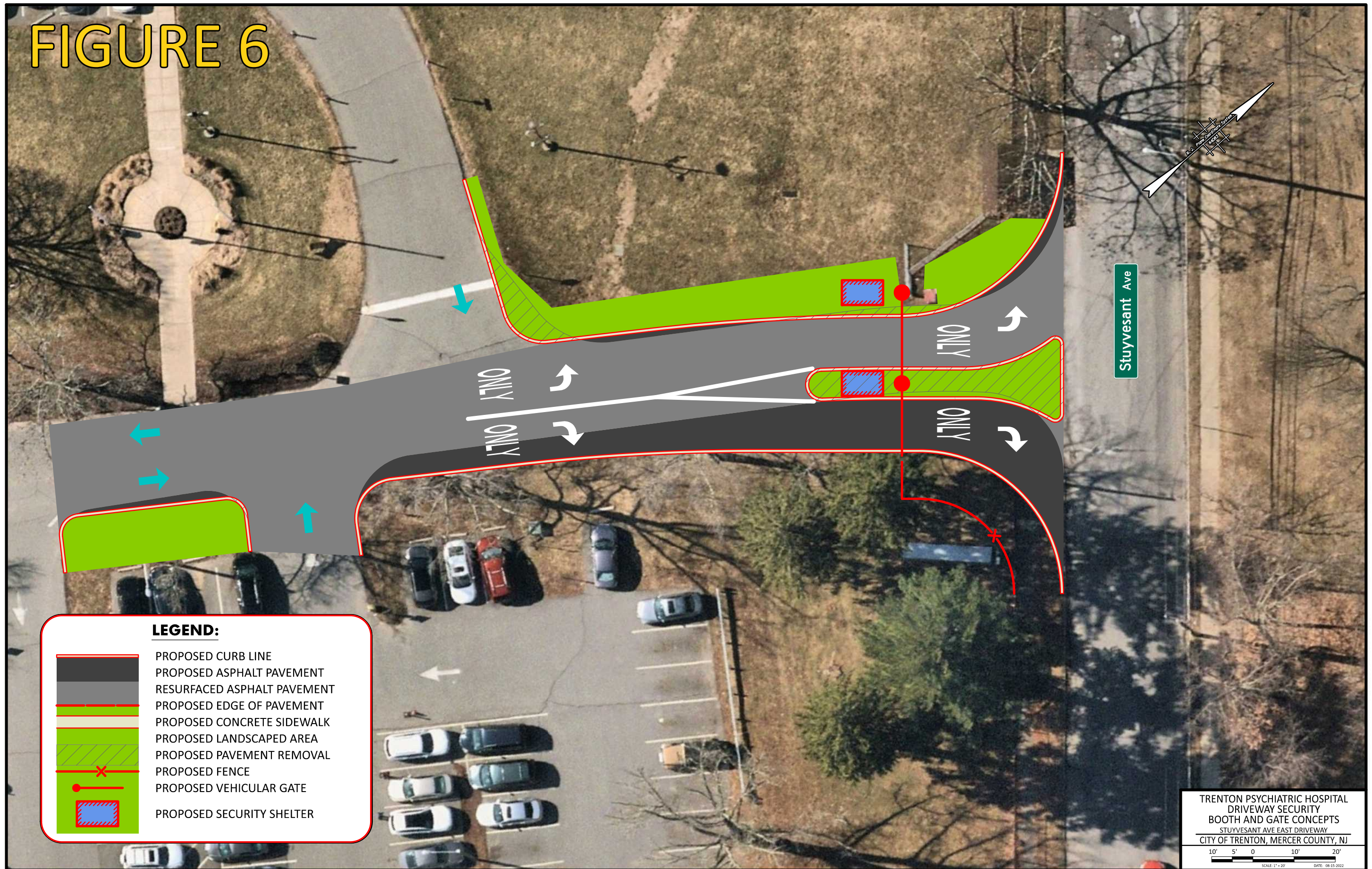


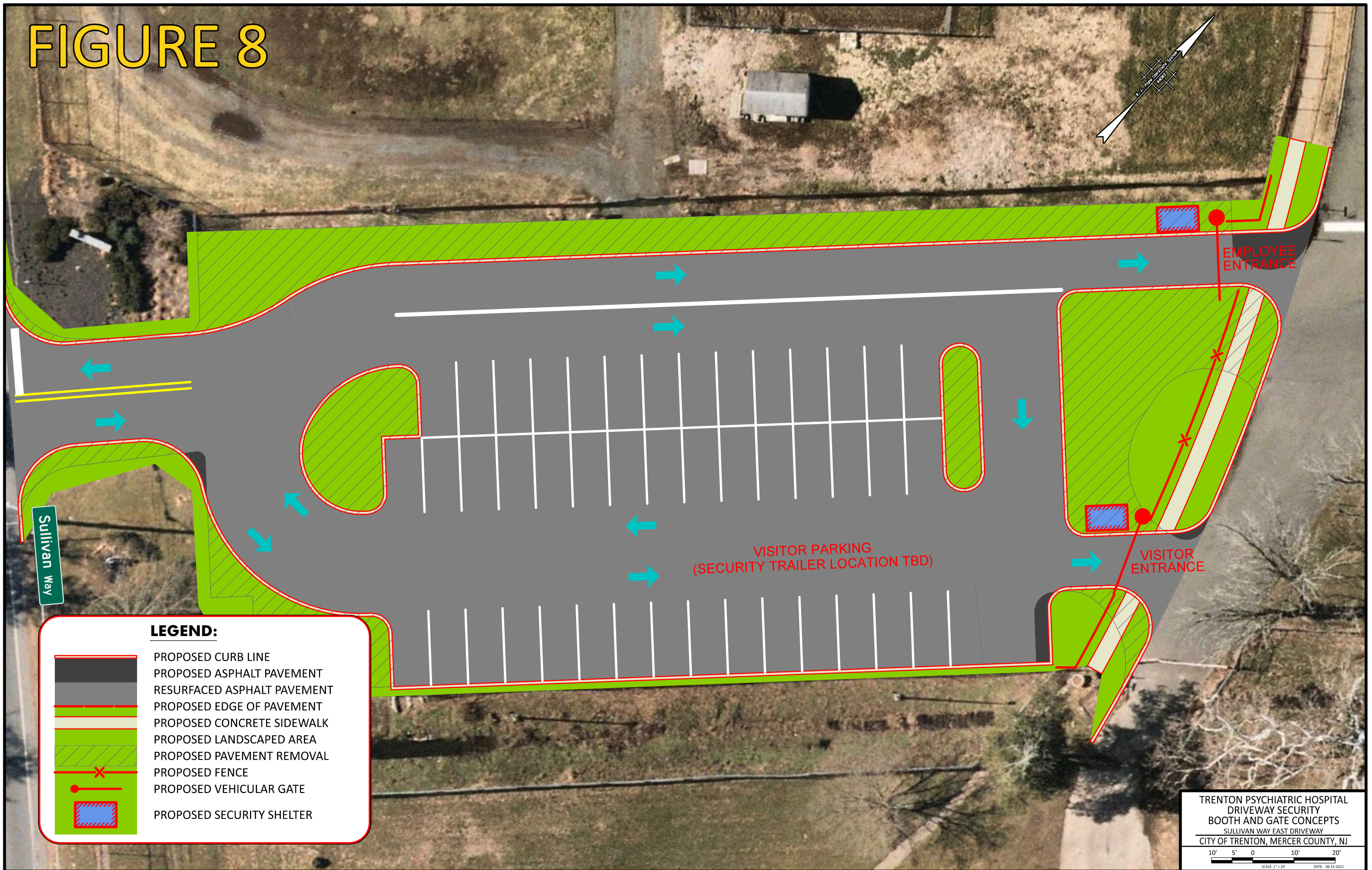
EXHIBIT 'D'

FIGURE 7













EXHIBIT 'D'

FIGURE 8



LEGEND:

-  PROPOSED CURB LINE
-  PROPOSED ASPHALT PAVEMENT
-  RESURFACED ASPHALT PAVEMENT
-  PROPOSED EDGE OF PAVEMENT
-  PROPOSED CONCRETE SIDEWALK
-  PROPOSED LANDSCAPED AREA
-  PROPOSED PAVEMENT REMOVAL
-  PROPOSED FENCE
-  PROPOSED VEHICULAR GATE
-  PROPOSED SECURITY SHELTER

TRENTON PSYCHIATRIC HOSPITAL
 DRIVEWAY SECURITY
 BOOTH AND GATE CONCEPTS
 SULLIVAN WAY EAST DRIVEWAY
 CITY OF TRENTON, MERCER COUNTY, NJ











10' 5' 0 10' 20'
 SCALE: 1" = 20' DATE: 08-31-2022

EXHIBIT 'D'

FIGURE 9



LEGEND:

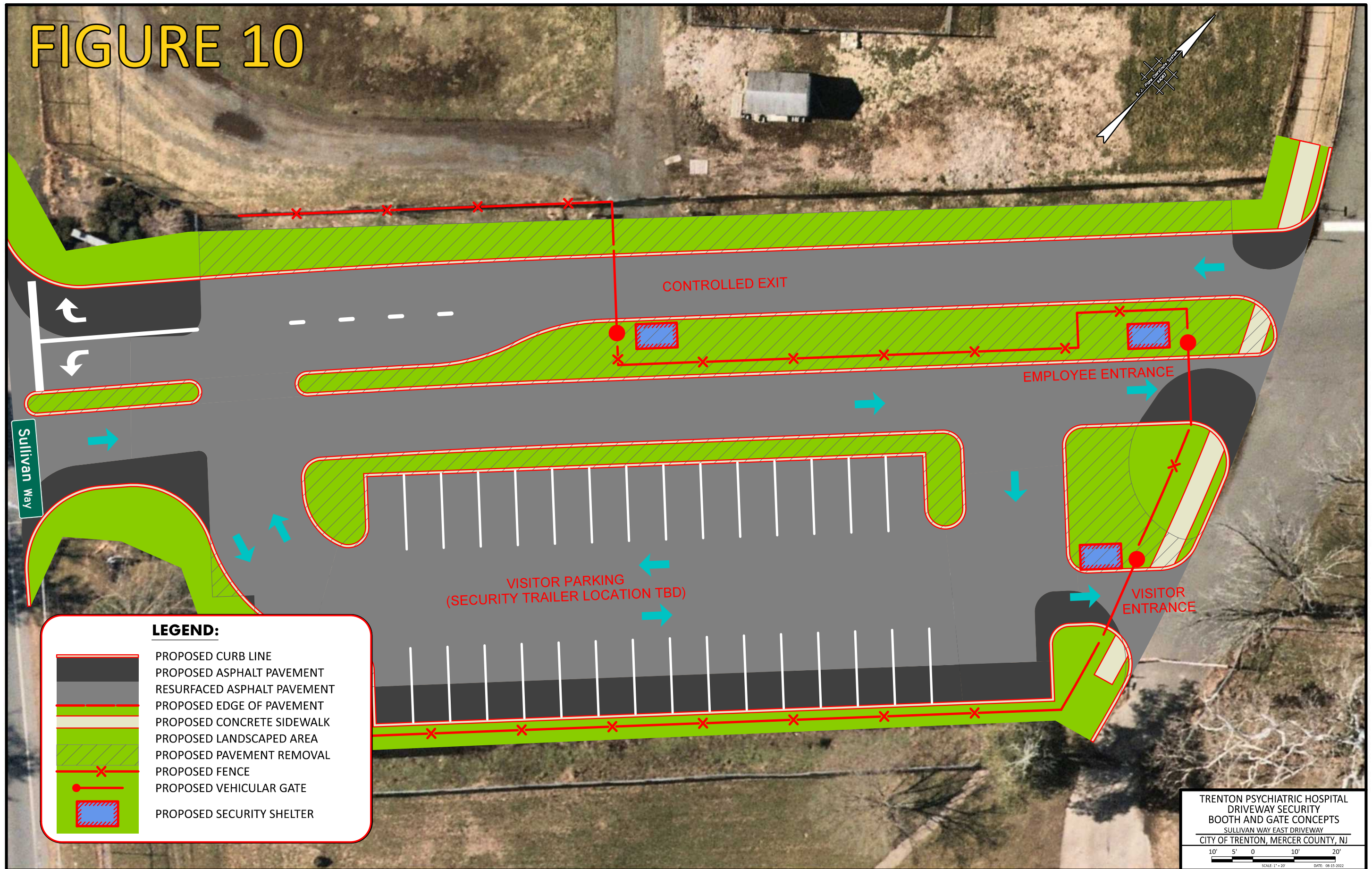
-  PROPOSED CURB LINE
-  PROPOSED ASPHALT PAVEMENT
-  RESURFACED ASPHALT PAVEMENT
-  PROPOSED EDGE OF PAVEMENT
-  PROPOSED CONCRETE SIDEWALK
-  PROPOSED LANDSCAPED AREA
-  PROPOSED PAVEMENT REMOVAL
-  PROPOSED FENCE
-  PROPOSED VEHICULAR GATE
-  PROPOSED SECURITY SHELTER

TRENTON PSYCHIATRIC HOSPITAL
 DRIVEWAY SECURITY
 BOOTH AND GATE CONCEPTS
 STUYVESANT AVE EAST DRIVEWAY
 CITY OF TRENTON, MERCER COUNTY, NJ

15' 7.5' 0 15' 30'
 SCALE: 1" = 30' DATE: 08-31-2022

EXHIBIT 'D'

FIGURE 10



LEGEND:

- PROPOSED CURB LINE
- PROPOSED ASPHALT PAVEMENT
- RESURFACED ASPHALT PAVEMENT
- PROPOSED EDGE OF PAVEMENT
- PROPOSED CONCRETE SIDEWALK
- PROPOSED LANDSCAPED AREA
- PROPOSED PAVEMENT REMOVAL
- PROPOSED FENCE
- PROPOSED VEHICULAR GATE
- PROPOSED SECURITY SHELTER

TRENTON PSYCHIATRIC HOSPITAL
 DRIVEWAY SECURITY
 BOOTH AND GATE CONCEPTS
 SULLIVAN WAY EAST DRIVEWAY
 CITY OF TRENTON, MERCER COUNTY, NJ

10' 5' 0 10' 20'
 SCALE: 1" = 20' DATE: 08-31-2022

EXHIBIT 'D'

Figure 4 Driveway Order of Magnitude Cost Estimate

Major Item	Unit	Unit Cost	Quantity	Item Cost
Full Depth Pavement	SY	\$ 50.00	65	\$ 3,250.00
2" Surface Course				
6" Base Course				
8" Dense Aggregate Base Course				
Milling & Resurfacing	SY	\$ 30.00	75	\$ 2,250.00
Milling 3" or Less				
2" HMA Surface Course				
Variable HMA Intermediate Course (assume 2.5")				
9"x16" Concrete Vertical Curb	LF	\$ 40.00	360	\$ 14,400.00
12"x13" Concrete Sloping Curb	LF	\$ 40.00		\$ -
Concrete Sidewalk, 4" Thick	SY	\$ 75.00	45	\$ 3,375.00
HMA Driveway	SY	\$ 30.00		\$ -
Concrete Driveway	SY	\$ 110.00		\$ -
Landscape Wall	LF	\$ 250.00		\$ -
Visitors Center	Each	\$ 325,000.00		\$ -
Security Structure & Gates	Each	\$ 35,000.00	1	\$ 35,000.00
Chain Link Fence, 7ft High	LF	\$ 65.00	115	\$ 7,475.00
Topsoil/Seeding/Mulching	SY	\$ 40.00	350	\$ 14,000.00
Subtotal Estimated Cost:				\$ 79,750.00
Non-Quantified Construction Costs:	Percent of Subtotal Costs:			
Maintenance and Protection of Traffic	7%			\$ 5,582.50
Lighting, Traffic Striping, Delineators, & Signs	3%			\$ 2,392.50
Utility Relocation (Based on anticipated utility impacts and relocations)				
Total Estimated Cost:				\$ 87,725.00

USE FOR Figure 4: \$ 88,000.00

Net Impervious Coverage:

New Impervious	620 SF
Impervious Removal	2,470 SF
Net Change in Impervious Coverage	-1,850 SF
-OR-	-0.04 Ac

EXHIBIT 'D'

Figure 5 Driveway Order of Magnitude Cost Estimate

Major Item	Unit	Unit Cost	Quantity	Item Cost
Full Depth Pavement	SY	\$ 50.00	90	\$ 4,500.00
2" Surface Course				
6" Base Course				
8" Dense Aggregate Base Course				
Milling & Resurfacing	SY	\$ 30.00	1,170	\$ 35,100.00
Milling 3" or Less				
2" HMA Surface Course				
Variable HMA Intermediate Course (assume 2.5")				
9"x16" Concrete Vertical Curb	LF	\$ 40.00	935	\$ 37,400.00
12"x13" Concrete Sloping Curb	LF	\$ 40.00		\$ -
Concrete Sidewalk, 4" Thick	SY	\$ 75.00		\$ -
HMA Driveway	SY	\$ 30.00		\$ -
Concrete Driveway	SY	\$ 110.00		\$ -
Landscape Wall	LF	\$ 250.00		\$ -
Visitors Center	Each	\$ 325,000.00	1	\$ 325,000.00
Security Structure & Gates	Each	\$ 35,000.00	1	\$ 35,000.00
Chain Link Fence, 7ft High	LF	\$ 65.00	600	\$ 39,000.00
Topsoil/Seeding/Mulching	SY	\$ 40.00	545	\$ 21,800.00
Subtotal Estimated Cost:				\$ 497,800.00
Non-Quantified Construction Costs:	Percent of Subtotal Costs:			
Maintenance and Protection of Traffic		7%		\$ 34,846.00
Lighting, Traffic Striping, Delineators, & Signs		3%		\$ 14,934.00
Utility Relocation (Based on anticipated utility impacts and relocations)				
Total Estimated Cost:				\$ 547,580.00

USE FOR Figure 5: \$ 548,000.00

Net Impervious Coverage:

New Impervious	788 SF
Impervious Removal	2,500 SF
Net Change in Impervious Coverage	-1,712 SF
-OR-	-0.04 Ac

Figure 6 Driveway Order of Magnitude Cost Estimate

Major Item	Unit	Unit Cost	Quantity	Item Cost
Full Depth Pavement	SY	\$ 50.00	200	\$ 10,000.00
2" Surface Course				
6" Base Course				
8" Dense Aggregate Base Course				
Milling & Resurfacing	SY	\$ 30.00	605	\$ 18,150.00
Milling 3" or Less				
2" HMA Surface Course				
Variable HMA Intermediate Course (assume 2.5")				
9"x16" Concrete Vertical Curb	LF	\$ 40.00	625	\$ 25,000.00
12"x13" Concrete Sloping Curb	LF	\$ 40.00		\$ -
Concrete Sidewalk, 4" Thick	SY	\$ 75.00		\$ -
HMA Driveway	SY	\$ 30.00		\$ -
Concrete Driveway	SY	\$ 110.00		\$ -
Landscape Wall	LF	\$ 250.00		\$ -
Visitors Center	Each	\$ 325,000.00		\$ -
Security Structure & Gates	Each	\$ 35,000.00	2	\$ 70,000.00
Chain Link Fence, 7ft High	LF	\$ 65.00	50	\$ 3,250.00
Topsoil/Seeding/Mulching	SY	\$ 40.00	275	\$ 11,000.00
Subtotal Estimated Cost:				\$ 137,400.00
Non-Quantified Construction Costs:	Percent of Subtotal Costs:			
Maintenance and Protection of Traffic	7%			\$ 9,618.00
Lighting, Traffic Striping, Delineators, & Signs	3%			\$ 4,122.00
Utility Relocation (Based on anticipated utility impacts and relocations)				
Total Estimated Cost:				\$ 151,140.00

USE FOR Figure 6: \$ 152,000.00

Net Impervious Coverage:

New Impervious	1,795 SF
Impervious Removal	765 SF
Net Change in Impervious Coverage	1,030 SF
-OR-	0.02 Ac

Figure 7 Driveway Order of Magnitude Cost Estimate

Major Item	Unit	Unit Cost	Quantity	Item Cost
Full Depth Pavement	SY	\$ 50.00		\$ -
2" Surface Course				
6" Base Course				
8" Dense Aggregate Base Course				
Milling & Resurfacing	SY	\$ 30.00	410	\$ 12,300.00
Milling 3" or Less				
2" HMA Surface Course				
Variable HMA Intermediate Course (assume 2.5")				
9"x16" Concrete Vertical Curb	LF	\$ 40.00	585	\$ 23,400.00
12"x13" Concrete Sloping Curb	LF	\$ 40.00		\$ -
Concrete Sidewalk, 4" Thick	SY	\$ 75.00		\$ -
HMA Driveway	SY	\$ 30.00		\$ -
Concrete Driveway	SY	\$ 110.00		\$ -
Landscape Wall	LF	\$ 250.00		\$ -
Visitors Center	Each	\$ 325,000.00		\$ -
Security Structure & Gates	Each	\$ 35,000.00	1	\$ 35,000.00
Chain Link Fence, 7ft High	LF	\$ 65.00		\$ -
Topsoil/Seeding/Mulching	SY	\$ 40.00	520	\$ 20,800.00
Subtotal Estimated Cost:				\$ 91,500.00
Non-Quantified Construction Costs:	Percent of Subtotal Costs:			
Maintenance and Protection of Traffic	7%			\$ 6,405.00
Lighting, Traffic Striping, Delineators, & Signs	3%			\$ 2,745.00
Utility Relocation (Based on anticipated utility impacts and relocations)				
Total Estimated Cost:				\$ 100,650.00

USE FOR Figure 7: \$ 101,000.00

Net Impervious Coverage:

New Impervious	1,795 SF
Impervious Removal	765 SF
Net Change in Impervious Coverage	1,030 SF
-OR-	0.02 Ac

EXHIBIT 'D'

Figure 8 Driveway Order of Magnitude Cost Estimate

Major Item	Unit	Unit Cost	Quantity	Item Cost
Full Depth Pavement	SY	\$ 50.00	30	\$ 1,500.00
2" Surface Course				
6" Base Course				
8" Dense Aggregate Base Course				
Milling & Resurfacing	SY	\$ 30.00	2,325	\$ 69,750.00
Milling 3" or Less				
2" HMA Surface Course				
Variable HMA Intermediate Course (assume 2.5")				
9"x16" Concrete Vertical Curb	LF	\$ 40.00	1,145	\$ 45,800.00
12"x13" Concrete Sloping Curb	LF	\$ 40.00		\$ -
Concrete Sidewalk, 4" Thick	SY	\$ 75.00		\$ -
HMA Driveway	SY	\$ 30.00		\$ -
Concrete Driveway	SY	\$ 110.00		\$ -
Landscape Wall	LF	\$ 250.00		\$ -
Visitors Center	Each	\$ 325,000.00	1	\$ 325,000.00
Security Structure & Gates	Each	\$ 35,000.00	2	\$ 70,000.00
Chain Link Fence, 7ft High	LF	\$ 65.00	105	\$ 6,825.00
Topsoil/Seeding/Mulching	SY	\$ 40.00	925	\$ 37,000.00
Subtotal Estimated Cost:				\$ 555,875.00
Non-Quantified Construction Costs:	Percent of Subtotal Costs:			
Maintenance and Protection of Traffic	7%			\$ 38,911.25
Lighting, Traffic Striping, Delineators, & Signs	3%			\$ 16,676.25
Utility Relocation (Based on anticipated utility impacts and relocations)				
Total Estimated Cost:				\$ 611,462.50

USE FOR Figure 8: \$ 612,000.00

Net Impervious Coverage:

New Impervious	235 SF
Impervious Removal	1,795 SF
Net Change in Impervious Coverage	-1,560 SF
-OR-	-0.04 Ac

Figure 9 Driveway Order of Magnitude Cost Estimate

Major Item	Unit	Unit Cost	Quantity	Item Cost
Full Depth Pavement	SY	\$ 50.00	635	\$ 31,750.00
2" Surface Course				
6" Base Course				
8" Dense Aggregate Base Course				
Milling & Resurfacing	SY	\$ 30.00	5,600	\$ 168,000.00
Milling 3" or Less				
2" HMA Surface Course				
Variable HMA Intermediate Course (assume 2.5")				
9"x16" Concrete Vertical Curb	LF	\$ 40.00	3,015	\$ 120,600.00
12"x13" Concrete Sloping Curb	LF	\$ 40.00		\$ -
Concrete Sidewalk, 4" Thick	SY	\$ 75.00		\$ -
HMA Driveway	SY	\$ 30.00		\$ -
Concrete Driveway	SY	\$ 110.00		\$ -
Landscape Wall	LF	\$ 250.00		\$ -
Visitors Center	Each	\$ 325,000.00	1	\$ 325,000.00
Security Structure & Gates	Each	\$ 35,000.00	3	\$ 105,000.00
Chain Link Fence, 7ft High	LF	\$ 65.00	910	\$ 59,150.00
Topsoil/Seeding/Mulching	SY	\$ 40.00	3,175	\$ 127,000.00
Subtotal Estimated Cost:				\$ 936,500.00
Non-Quantified Construction Costs:	Percent of Subtotal Costs:			
Maintenance and Protection of Traffic	7%			\$ 65,555.00
Lighting, Traffic Striping, Delineators, & Signs	3%			\$ 28,095.00
Utility Relocation (Based on anticipated utility impacts and relocations)				
Total Estimated Cost:				\$ 1,030,150.00

USE FOR Figure 9: \$ 1,031,000.00

Net Impervious Coverage:

New Impervious	5,700 SF
Impervious Removal	9,780 SF
Net Change in Impervious Coverage	-4,080 SF
-OR-	-0.09 Ac

Figure 10 Driveway Order of Magnitude Cost Estimate

Major Item	Unit	Unit Cost	Quantity	Item Cost
Full Depth Pavement	SY	\$ 50.00	345	\$ 17,250.00
2" Surface Course				
6" Base Course				
8" Dense Aggregate Base Course				
Milling & Resurfacing	SY	\$ 30.00	2,185	\$ 65,550.00
Milling 3" or Less				
2" HMA Surface Course				
Variable HMA Intermediate Course (assume 2.5")				
9"x16" Concrete Vertical Curb	LF	\$ 40.00	1,835	\$ 73,400.00
12"x13" Concrete Sloping Curb	LF	\$ 40.00		\$ -
Concrete Sidewalk, 4" Thick	SY	\$ 75.00		\$ -
HMA Driveway	SY	\$ 30.00		\$ -
Concrete Driveway	SY	\$ 110.00		\$ -
Landscape Wall	LF	\$ 250.00		\$ -
Visitors Center	Each	\$ 325,000.00	1	\$ 325,000.00
Security Structure & Gates	Each	\$ 35,000.00	3	\$ 105,000.00
Chain Link Fence, 7ft High	LF	\$ 65.00	560	\$ 36,400.00
Topsoil/Seeding/Mulching	SY	\$ 40.00	1,185	\$ 47,400.00
Subtotal Estimated Cost:				\$ 670,000.00
Non-Quantified Construction Costs:	Percent of Subtotal Costs:			
Maintenance and Protection of Traffic		7%		\$ 46,900.00
Lighting, Traffic Striping, Delineators, & Signs		3%		\$ 20,100.00
Utility Relocation (Based on anticipated utility impacts and relocations)				
Total Estimated Cost:				\$ 737,000.00

USE FOR Figure 10: \$ 737,000.00

Net Impervious Coverage:

New Impervious	3,070 SF
Impervious Removal	8,115 SF
Net Change in Impervious Coverage	-5,045 SF
-OR-	-0.12 Ac

OCTOBER 2010

TRENTON PSYCHIATRIC HOSPITAL GENERAL CONTRACTOR REGULATIONS

1. Normal working hours are 7:30 am to 4:00 pm Monday through Friday.
2. Contractor vehicles or those used by employees of the contractors are subject to the parking and traffic regulations as they apply to Trenton Psychiatric Hospital, and are to be locked when unattended.
3. All employees of the contractors are to wear contractor/key card I.D. Badges issued by the maintenance office at all times. There is a \$25.00 per badge charge for any not returned at the completion of the job.
4. Any keys, needed by the contractor, will be issued by the maintenance office in quantities needed to permit access to the buildings(s). There is a \$25.00 per key charge for any not returned at the completion of the job.
5. All tools, materials and equipment are to be secured at the end of each business day. At no time are any of these items to be left unattended.
6. Each work area is to be cleaned at the end of every business day. All trash and debris will be removed from the site daily.
7. No workman is to fraternize with patients at any time. Do not give patients money, cigarettes, a light, matches, tools, and contraband of any kind. Do not accept anything from patients.
8. Always keep doors locked and always lock any door you use. Do not prop any door open at any time for any reason.
9. No alcoholic beverages or weapons are allowed on the Trenton Psychiatric Hospital grounds at any time.
10. No picture taking of any kind is permitted unless authorized by the Engineer in Charge of Maintenance.
11. All work is to be performed in a professional manner and must be approved by the Engineer in Charge or his designee.
12. Full compliance with the Safety Director at Trenton Psychiatric Hospital will be required during the course of the work, and follow all OSHA regulation.
13. Smoking is prohibited at this facility; Contractors should take measures to see that no one in their employ is smoking anywhere on TPH Grounds, Buildings, in vehicles or within 50 feet of the property.
14. The manner of dress of any employee while working at TPH shall be consistent with the role of a psychiatric hospital. Inappropriate clothing as follows, includes but is not limited to shorts, hemlines for dresses and skirts no more than (3) inches above the knees, sexually provocative clothing, and shirts or sweatshirts with graphic and/or language which is sexually provocative or offensive to any ethnic group.

Revised 10/1/10

EXHIBIT 'E'