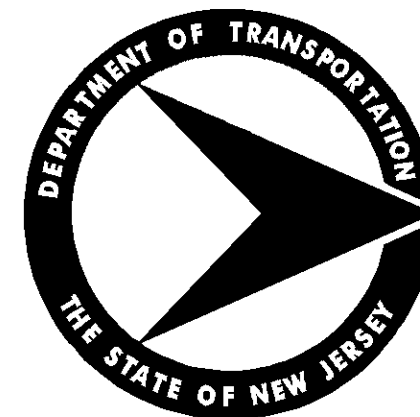


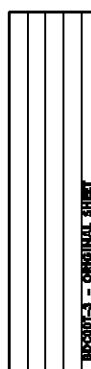
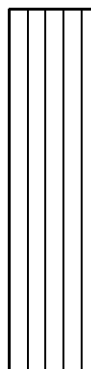
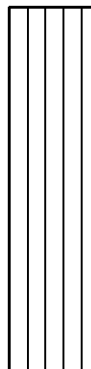
*State of New Jersey*  
*Department of Transportation*



**SAMPLE PLANS**

**2001**

*(U.S. Customary English Units)*



100' = ORIGINAL SHEET

## **SAMPLE PLANS**

**The Sample Plans illustrate presentation format and have been developed with the purpose of instituting uniformity in the presentation of roadway construction plans. It is not the intent of the Sample Plans to reproduce all presentation situations that are already adequately covered by the New Jersey Department of Transportation Design Manuals, Standard Specifications, Procedures Manual and other publications readily available to the Designer.**

**The various plan sheets of the Sample Plans have been compiled from an assortment of projects and should not be used by Designers for design purposes. The presentation and format of the plan sheets should be used as guidance in preparation of contract plans prior to their development. When used in conjunction with good engineering knowledge, the Sample Plans should enable the Designer to submit an acceptable set of contract plans.**

**The Sample Plans do not depict all possible circumstances that may be encountered in the design of the various sheets, nor do they depict all possible types of pay items that may be encountered on a particular 'type' of sheet. It is recognized that situations will occur where good engineering judgement dictates deviations from the presentation shown in the Sample Plans.**

**Though implementation of the presentation format is highly desirable, exemptions from the presentation format may be made by the Project Manager and approved by the Program Manager. However, if the implementation would delay the project schedule or increase the project cost, the Designer shall contact the Department's Project Manager to determine how to proceed.**

**Pay items and standard items are shown for illustrative purposes only. Sheet numbers represent the numbering of the sample sheets and do not correspond to the actual numbers to be used for a project. The following commentary shall be used as a guide in conjunction with the sample plan sheets.**

GENERAL

Plan sheets for contract sets of plans shall be standard 22" x 36" size sheets of 4 mils thick polyester film, such as Mylar or Herculene, which is matted on both sides and drafted in black ink. Plan sheets produced by CADD shall also be submitted on Mylar. Cross Section sheets, however, may be matted on one side and may be 3 mils thick. Electrical drawings shall also be matted on one side and shall be produced by CADD in accordance with Traffic Signal and Safety Standards. Adhesive backed reproduction film of any type (stick-ons) will not be permitted.

Due to the approximate half scale size of the Sample Plans, the standard element sizes shown have been increased for clarity purposes. Plan presentation should conform to the "on line" CADD standards and information available through the NJDOT, Design Services web site. Other sizes will be accepted as long as it is legible at a reduced scale and reasonably matches the standards.

A microfilm mark shall be shown on all plan sheets. This mark shall extend downward, perpendicular, 1/4" from the bottom border line at the center of the sheet. The weight of the line shall be the same as the border.

A split circle for the sheet number shall be shown in the lower right corner on all plan sheets. All plan sheets shall be numbered consecutively in the upper portion of the split circle beginning with Number 1 for the Key Sheet. The total number of sheets shall be indicated in the lower portion of the circle on the first and last sheets. Plan sheet numbers shall not be repeated with letter designations.

CROSS-OUTS ON PLAN SHEETS WILL NOT BE PERMITTED. If a revision requires deletion of information on the plan sheets, the information shall be removed from the drawing rather than crossed out.

A double reference numbering system, as specified under the headings of the various plan sheets, shall be established for each 'type of plan' in the contract set of plans. The following abbreviations and preferred order of plans shall be utilized for the double reference numbering:

- 1. E-DOQ: Estimate and Distribution of Quantities - Roadway
- 2. TS: Typical Sections
- 3. PSI: Plan Sheet Index
- 4. C: Construction Plans
- 5. EP: Environmental Plans
- 6. D: Drainage Plans
- 7. P: Profiles
- 8. T: Ties
- 9. G: Grade
- 10. TC: Traffic Control (and Staging Plans)
- 11. E: Electrical Plans
- 12. TSP: Traffic Signal Plans
- 13. HL: Highway Lighting Plans
- 14. L: Landscape Plans
- 15. SL: Sign Location Plans
- 16. TSS: Traffic Signing and Striping Plans
- 17. STD: Sign Text Detail
- 18. MS: Method of Cross Sections
- 19. X: Cross Sections
- 20. DTL: Construction Details
- 21. EOQB: Estimate of Quantities - Bridge
- 22. B: Bridge Plans

As examples, the first Construction Plan sheet, of 20 total construction plan sheets, shall be labeled C-1 of C-20, the second C-2 of C-20, and the last construction plan sheet shall be labeled C-20 of C-20. Construction Plan sheets between these sheets shall be labeled consecutively, C-3, C-4, etc. The first Electrical Plan sheet, of six total electrical plan sheets, shall be labeled E-1 of E-6. The remaining plan sheets shall be labeled consecutively in the same manner. Each 'type of plan' shall be labeled in accordance with the above listing. The location of the double reference number shall be in a box above the title block and used as part of the match line stationing as shown in this sample plan set.

Variations to the above abbreviations for combined plan sheets are acceptable. The double reference number would then be a combination of the individual plans (Example: D&L - Drainage and Landscaping Plans). The plan that appears first in the plan sheet listing shall be first in the abbreviation.

Federal blocks located in the upper right corner of the plan sheets shall show a Federal Project Number(s) when applicable. On 100% State funded projects, the Federal block shall remain on the plan sheet but shall remain blank.

All sheets, except Estimate-Distribution of Quantities, Estimate of Quantities-Bridge, Tie Sheets, Cross Sections, Construction Details and sheets with charts or text, shall show a graphic scale. The graphic scale shall be placed at the top center of each plan sheet or centered above the title block but the location should remain consistent throughout the construction set. Cross sectional type sheets shall delineate scale either by appropriate numbers on the heavy vertical and horizontal lines or by a graphic scale.

STANDARD ITEM NUMBERS

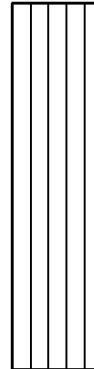
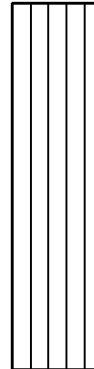
Standard Item Numbers issued by the Department consist of 5-digit alphanumeric characters. The first two digits consist of a number and a letter, representing its numeric equivalent, and indicates the Section in the Standard and/or Special Provisions where that item can be found, while the last three digits consist of two numbers and a letter which distinguish the Standard Items (ie: The 4D of 4D04B - Bituminous Concrete Surface Course Mix I-4 indicates that the item can be found in Section 404).

The Standard Item Numbers also indicate the order that the Items should appear on the Estimate-Distribution of Quantities sheet when the numbers are taken in ascending order. To indicate the items used for construction, Standard Item Numbers shall be used in conjunction with Pay Item Numbers and Item Descriptions and shall be included on all contract plans where appropriate.

Standard Item Numbers shall appear on all plan sheets to indicate proposed work, such as Construction Plans, Drainage Plans, etc. in TO BE CONSTRUCTED BOXES.

When pay items are not included in the Standard Pay Item Identification booklet listing of Standard Items or in subsequent revisions to the booklet, the Items shall be considered non-standard. Non-standard Items shall be assigned a 5-digit alphanumeric number by the Designer preparing the plans.

The first digit of this number shall be an "N" to denote non-standard. The next two digits shall consist of a number and a letter to represent the Section in the Specifications where the item can be found. The last two digits shall be numeric and shall be so established to distinguish multiple non-standard items in a Section (a maximum of 99 non-standard items per Section). These non-standard items shall appear as specified above for Standard Item Numbers. Before assigning an item a Non-Standard Number, the Designer shall make certain that the item needed is not already a Standard Item and that the appropriate Section in the Specifications is specified. An example of this would be pay item number 33 (N7B01) on the sample EQDQ sheet can be found in section 702 of the Special Provisions.



8: roadway\plan\at\_half-scale.tbl

## KEY

The Key sheet shall include a Key Map indicating the location of the project. The Key Map shall be centered on the sheet and shall be drawn to a scale of about 1"=1000' to 1"=4000', except Local Highway projects which may be submitted at a smaller scale. Contours shall not be shown on the Map. The delineation of the proposed project shall be clearly indicated by BEGIN PROJECT and END PROJECT, with a Federal Project Number (Construction) when applicable, and all STOPS and RESUMES shall be noted and marked by stationing on the Key Map. To delineate BEGIN PROJECT and END PROJECT, provide the mainline BEGINNING and ENDING station at the major construction work limits of the project. Mile marker references should also be included. Do not provide the BEGIN PROJECT or END PROJECT location at proposed signage, striping, or traffic control items installed in advance of, or beyond the major construction work of the project. When the project involves more than one State Highway, provide a BEGIN PROJECT and END PROJECT for each State Highway.

A north arrow, station equations, names and locations of corporate lines, municipalities, counties, streets, structures, railroads, and waterways shall be clearly shown on the map.

The Control Section number, when applicable, shall be shown above the right corner of the Key Map. The type of highway as obtained from the Bureau of Transportation Data Development shall be indicated below the left corner of the Map. A graphic scale for the Key Map, and the length of the project and length of the Federal project in linear feet and miles shall appear beneath the Map.

The Project Category abbreviation shall be identified on the key sheet for all projects (located at the left corner over the Key Map). The six categories of projects, followed by the accepted abbreviation, are shown below:

- Interstate New Construction or Reconstruction (I - NEW/RECON)
- Interstate Resurfacing, Restoration, and Rehabilitation (I - 3R)
- National Highway System New Construction or Reconstruction (NHS-NEW/RECON)
- National Highway System Resurfacing, Restoration, and Rehabilitation (NHS - 3R)
- Non National Highway System (Non - NHS)
- Major / Unusual

The following note shall appear below the index of sheets box. Designer shall indicate the year applicable to the project:

*Standard Roadway Construction/Traffic Control/Bridge Construction Details Booklet dated (Month and Year) and Standard Electrical Details dated (Month and Year) are applicable to this project except for those details contained herein.*

## Utilities

All utilities located within the project limits shall be listed in the Utilities box in the upper left corner of the Key sheet regardless of utility involvement. Pole lines, gas mains, transmission lines, rail roads, etc. shall be noted. Electrical installations of the N.J.D.O.T. for Traffic Signals and Lighting, shall also be listed.

## Right of Way

When Right of Way is required for the project, the Route and Right of Way Section shall be shown below the right corner of the Key Map.

## Proposed Structures

Bridges, walls, sign structures, temporary structures, noise barriers, culverts to be constructed and structures to be demolished as part of the project shall be listed in a box on the left hand side of the Key sheet. The listing shall include a description of the type of proposed structure(s) and a legend to denote the structure(s). Structure numbers shall also be included, if available. The location of the proposed structure(s) shall be indicated on the Key Map by use of the legend.

## Design Traffic Data

The Design Traffic Data box shall be shown in the lower left portion of the Key sheet. Information to be included shall be as shown on the sample Key sheet and as described in the N.J.D.O.T. Roadway Design Manual.

The present year to be shown shall be the anticipated date of construction. The future year for new construction and reconstruction projects shall be 20 years beyond the anticipated date of construction, and 10 years beyond the anticipated date of construction for resurfacing, restoration, and rehabilitation projects.

## Index of Sheets

All sheets contained in the contract plans shall be listed in the Index of Sheets box provided in the upper right portion of the Key sheet. The listing of the sheets shall follow the order shown in the section titled "General" on Page 1 of these Sample Plans. When the project includes Bridge Plans, the Estimate of Quantities - Bridge sheet shall be included in the plans as shown on the listing included under General Information. If the number of contract plan sheets is large enough to require the sheets to be divided into multiple parts, the Index of Sheets box shall be modified to indicate the various parts as shown on the sample Key sheet. Generally, each part shall consist of approximately 150 sheets.

## Consultant Signature

The name of the Designer shall appear in the lower left hand border of the sheet. The following statement shall be added to the Key sheet of all projects designed by Consultants:

**"CHANGES MADE TO THESE PLANS SINCE SIGNATURE BY THE CONSULTANT MAY BE DETERMINED BY COMPARISON OF THE PLANS FILED AT THE DEPARTMENT WITH THOSE FILED AT THE OFFICE OF THE CONSULTANT".**

(NAME OF CONSULTANT)  
(ENGINEER'S SIGNATURE) (DATE)  
(ENGINEER'S NAME PRINTED)  
(TYPE OF LICENSE AND NO.)

Each sheet in a Consultant designed set of plans, excluding plan sheets provided by the N.J.D.O.T., shall be signed by a New Jersey licensed Professional Engineer just prior to the Designer's P.S.&E. submission.

## Project Description

The titling of the Key Sheet shall include the following information and adhere to the format in the following example:

- Approved Project Description
- Route and Contract Number (or local street name when applicable)
- Work Description (i.e. Grading, Paving, Sign Structures, etc.)
- Work Limits (i.e. from Riverdale Road to vicinity of South Main St.)



87:roadway\plan\at\_half-scale.dtl

# State of New Jersey Department of Transportation

## PLANS OF ROUTE 287

FROM SOUTH OF ROUTE 23 TO PATERSON-HAMBURG TURNPIKE

AND

## ROUTE 23

FROM RIVERDALE ROAD TO COTLUSS ROAD

CONTRACT NO. 045961901

GRADING, PAVING, & STRUCTURES

BOROUGH OF RIVERDALE

MORRIS COUNTY

TOWNSHIPS OF MONTVILLE, KINNELON AND PEQUANNOCK

SCALES AS INDICATED

JULY 2000  
(Month and Year project  
will be advertised)

Projects will be identified by using a Route and a nine digit Contract Number. The criteria for developing the Contract Number is as follows:

The first three numbers represent the beginning milepost to the nearest mile and the remaining six numbers consist of the Universal Project Code (UPC). The UPC is established by the Bureau of Program Coordination when the project is created. The Program Manager establishes the Contract Number at the beginning of design development. Contract numbers must be developed for all projects.

When the project involves more than one State Highway, the beginning milepost will be determined from the following list:

1. Interstate Highway
2. U.S. Highway
3. State Highway

If the project involves highways with the same priority, the beginning milepost of the lower numbered route will be used. For projects involving statewide improvements, the milepost designation will be replaced with an "SWI" designation (ie. SWIxxxxxx).

The Contract Number for a project on a county or municipal route will be determined as noted above for State Highways. If more than one County Route is involved, the 500 Route Series will have precedence over the 600 Route Series. Should more than one route of the same series be involved, the beginning milepost on the lower numbered route will be used. If the route is not mileposted, the first three letters of the county will be substituted for the milepost designation (ie. Mercer - Merxxxxxx).

Once established, the Contract Number should not be changed, even if the beginning milepost of the project is revised due to a change in project scope.

A Department signature block shall be included in the lower right corner of the Key sheet as shown with the titles, Director Project Management and Assistant Commissioner Capital Program Management.

## TITLE BLOCKS

In the lower right hand corner, a title block shall be provided to include Project description, Consultant information, and Type of sheet as shown below. The title blocks shall be applicable for all sheets except Ket Sheet and the Bridge and E-DOQ sheets. For Bridge Title Blocks, see Plate 3.1-5 of the N.J.D.O.T. Bridges and Structures Design Manual. For E-DOQ Sheets, see Estimate-Distribution of Quantities.

NEW JERSEY DEPARTMENT OF TRANSPORTATION	
TYPICAL SECTIONS	
ROUTE	
CONTRACT NO.	
(NAME OF CONSULTANT)	
(ENGINEER'S SIGNATURE)	(DATE)
(ENGINEER'S NAME PRINTED)	
(TYPE OF LICENSE AND NO.)	

Dimensions: 3.5" (height), .5" (margin), .8" (margin), .5" (margin), 6" (width)

When a project involves work that has been prepared by a Subconsultant, both the Subconsultant and the Consultant must sign the plan sheets that have been developed by the Subconsultant. The Subconsultant title block shall appear adjacent to the Consultant title block as shown below. For Bridge Title Blocks, see Plate 3.1-5 of the N.J.D.O.T. Bridges and Structures Design Manual.

(ITEM DESIGNED BY SUBCONSULTANT)	
(NAME OF SUBCONSULTANT)	
(SUBCONSULTANT'S SIGNATURE)	
(SUBCONSULTANT'S NAME PRINTED)	
(TYPE OF LICENSE AND NO.)	

NEW JERSEY DEPARTMENT OF TRANSPORTATION	
CONSTRUCTION PLAN	
ROUTE	
CONTRACT NO.	
(NAME OF CONSULTANT)	
(ENGINEER'S SIGNATURE)	(DATE)
(ENGINEER'S NAME PRINTED)	
(TYPE OF LICENSE AND NO.)	

Dimensions: .5" (margin), .8" (margin), .5" (margin), .5" (margin), 6" (width)




ESTIMATE-DISTRIBUTION OF QUANTITIES

This sheet shall show a complete listing of the pay items, contract quantities, and the quantity distribution for all roadway items in the project. The nomenclature, unit designation, and order of the items shall be in accordance with current "New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction".

The project description (Route and Contract Number or, local street name if applicable) shall be as shown in this sample set and should match the Key Sheet. The Estimate of Quantities portion is on the left hand side of the E-DOQ sheet. The Distribution of Quantities portion of the sheet is on the right hand side. Each column provided in the Distribution portion has been divided into two subcolumns. The left hand subcolumn is for the plan sheet number as described in the double reference numbering system (e.g. C-1, E-1, L-1, X-1, etc.) on sheet 1 of these Sample Plans while the right hand subcolumn is for the quantities. Standard Item Numbers shall be inserted in the column and row provided in ascending order.

Temporary Pollution Control Quantities shall be included in the column for the If and Where Directed Quantities along with the Soil Erosion Control Items not provided as plan sheet totals. The quantities from cross sections shall be entered as a plan sheet total on the right hand subcolumn as shown on Pay Item No. 6 of the E-DOQ sheet in these Sample Plans.

If the description of the pay item does not fit adequately in the space provided, it shall be continued in the next row and the horizontal line separating these two rows shall be erased as shown on Pay Item No. 41. If part of the description will continue on the next sheet, the entire description shall be written on the next sheet. Also, at least 3-4 rows shall be left blank on the sheet at Final Design Submission in order to accommodate changes.

If the columns provided for the Distribution of Quantities portion of the sheet are not sufficient, the following rows shall be used to enter the information. These rows shall then be separated by a dotted horizontal line as shown on Pay Items No. 22 and 24. If the quantities from one item will continue on the next sheet, the entire description and quantity listing shall be written on the next sheet.

Abbreviations in item nomenclature will not be permitted. Abbreviations of pay units shall be as shown on the sample sheet. Alternate items shall appear on the Estimate-Distribution of Quantities and Estimate of Quantities - Bridge sheets as shown in these Sample Plans. Letter designations "A" through "M" shall be used for alternate groups of Roadway items, letter designations "N" through "Z" with the exception of letter "O" shall be used for alternate groups of Bridge items. At Final Design Submission, two "No Items" shall be added at the end of each roadway Division, for a maximum of 14 "No Items", should additional items be required prior to Bid.

On projects with bridge involvement, separate Estimate of Quantities sheets shall be prepared for bridge items. The Estimate of Quantities - Bridge sheet shall be the first sheet of the Bridge Plans and shall be identified on the Key sheet in the Index of Sheets box. The bridge estimate sheet shall have a "B" sheet number.

The roadway design unit shall provide the bridge design unit with the last roadway pay item number so that the bridge Estimate of Quantities sheet can continue with the next consecutive pay item number for the first bridge pay item. The Estimate of Quantities - Bridge sheet shall not include "Plan Sheet Total" or "If and Where Directed" columns or the "Distribution: Plan Sheet Quantity" columns since the bridge pay items are not distributed. The title of the sheet shall be Estimate of Quantities - Bridge.

Multiple Funded Projects

All of the above comments pertaining to the Estimate-Distribution of Quantities and Estimate of Quantities - Bridge sheets shall remain valid for projects with more than one funding source.

Bridge projects with more than one Federal Project Number or cost sharing shall utilize the format shown on the sample Estimate of Quantities - Bridge sheet. By utilizing this format, as-built quantities will be charged to the appropriate Federal Project Number or funding source.

Projects with more than one Federal funding category (for example I, IR), having the same pro-rata percentages (90% - 10%), must show individual Federal breakout columns. A column shall be provided for each Federal Project Number.

Quantity breakouts for each funding source shall be shown in their respective columns. Each quantity breakout column shall be labeled with a Federal Project Number or cost sharing source. A column labeled State Quantity shall be shown on Federal projects whenever a portion of the project within designated limits does not have Federal funding participation. A separate column is not required when there are relatively few non-participating items.

The amount to be shown in the "Contract Quantity" column shall be the total of all combined funding quantities. Further instruction for the treatment of breakouts will be discussed under the headings Plan Sheet Index and Construction Plans.

For all projects involving earthwork, a quantity for Fertilizing and Seeding, Type F shall be included under the heading "If and Where Directed". This quantity shall be 10% of the total of all fertilizing and seeding for all seed types, including Type F, Turf Repair Strip (converted to Square Yards) and Regrade Berm (Linear Feet) from plan sheet totals, Cross Sections and "If and Where Directed". An equal quantity of Straw Mulching shall be provided wherever any item of Fertilizing and Seeding is specified.

Quantities for the following items shall not be shown as plan sheet quantities but shall be shown in the "If and Where Directed" column:

- Maintenance of Traffic Items (except items which will remain upon completion of construction)
- Prime Coat
- Tack Coat
- Construction Driveway
- Earth Excavation for Test Pits
- Traffic Stripe Items
- Bituminous Concrete Patch
- Sealing of Cracks and Joints in Concrete Surface Course
- Sealing of Cracks in Bituminous Concrete Surface Course
- Sawing and Sealing of Joints in Bituminous Concrete Overlay
- Treatment of Cracks and Joints in Concrete Surface Course
- Pavement Reflectors
- Rumble Strips
- Flexible Delineators

Traffic striping quantities shall be rounded up to the next ten. The quantity for Miscellaneous Concrete shall be carried to tenths and rounded off in the "If and Where Directed" column up to the next whole number. The item Stripping shall be carried to hundredths of an acre and rounded up to the next acre in the "If and Where Directed" column.

Up to 10% shall be added to the quantity for each Bituminous paving item (Bituminous-Stabilized Base Course, and Bituminous Concrete Surface Courses, Dense Graded Friction Courses, and Open-Graded Friction Course) in the "If and Where Directed" column.

All pay item quantities shall be rounded to whole numbers.

TYPICAL SECTION SHEETS

Typical sections need only be shown where roadway conditions are 'typical' or representative of the project. It is not necessary to show a separate typical section to delineate minor variations from the basic typical, however, whenever an area is not covered by a typical section, the pavement materials, thicknesses, and grades should be clearly shown elsewhere on the plans.

The typical sections shall show all the existing and proposed roadway conditions. The proposed resurfacing and/or widening shall be superimposed over the existing conditions.

The proposed typical sections shall agree with the approved pavement recommendation issued or approved by the Geotechnical Engineering Unit.

The following features shall be shown for each typical section:

- 1. Profile control, baseline and survey line
- 2. Limiting stations, or road names, for each typical section
- 3. Type of proposed and existing pavement with thicknesses, subbases, etc.
- 4. Topsoiling, Fertilizing and Seeding, or Turf Repair Strips with their respective limits
- 5. Slopes for various heights of fill and cut
- 6. Lane, shoulder, and sidewalk widths with cross slopes shown
- 7. Pay limits in rock cuts, wet excavation, unsuitable material, or Zone 2 Backfill
- 8. Slope and pay limits defined
- 9. Channels, ditches or surcharge placement
- 10. Vertical curb and barrier curb sizes with curb reveal dimensions
- 11. Proposed Guide Rail location
- 12. Indicate rollover on superelevated sections
- 13. R.O.W. lines (existing and proposed)

UTILITY POLES SHALL NOT BE SHOWN ON THE TYPICAL SECTIONS.

When ramp or auxiliary road profiles are included in the plans, their design speed (V) shall be indicated on their typical sections.

A Legend of Materials Box with the proposed Pay Item Numbers and Standard Item Numbers shall be shown on each Typical Section sheet. The Pay Item Numbers shall be used as construct notes or to denote proposed items and the relative location where the work is to be performed on the typical section.

PLAN SHEET INDEX

This sheet shall show the layout of plan sheets with existing and proposed conditions and shall be drawn to a scale of 1"=200'. A Plan Sheet Index covering the entire length of project shall be included in the plans when interchanges, ramps, and intersections are involved. Soil borings, when applicable, shall be shown on these sheets by use of a legend. When a Plan Sheet Index is not included in the plans, borings shall be shown on the Construction Plans. Plan sheets shall be overlapped 1 inch minimum or match lines may be used for the layout.

For projects with multiple funding sources (more than one Federal Project Number or cost sharing involvement), the location limits for each funding shall be clearly indicated on the Plan Sheet Index with station to station limits. If a Federal Project Number or category is provided exclusively for landscaping items, bridge items, etc., and applicable throughout the project or for a specific portion of the project, a plan sheet by plan sheet breakout shall not be required, except that a note indicating the designated limits and appropriate funding shall be included.

A north arrow and graphic scale shall be provided on all sheets.

The double reference numbering system designated for the project plan sheets shall be included on the Plan Sheet Index. Only sheets with proposed work shall be referenced.

CONSTRUCTION PLAN SHEETS

The sample Construction Plan sheets are provided as a basic standard format for 'typical' construction plan sheets. In almost all cases, this format can be adhered to with proper planning. The scale to be used for roadway construction plans is generally 1"=30'.

General comments pertaining to the Construction Plan sheets are as follows:

- 1. North arrow, graphic scale, municipality and county shall be shown on all sheets.
- 2. The existing topography for 500 feet before the beginning and beyond the end of the project shall be shown. For projects involving local roads, this distance may be reduced, but to no less than 100 feet.
- 3. Stationed BEGIN and END OF PROJECT shall be noted for State and Federal projects. All project STOPS and RESUMES shall be noted and stationed with topography shown 500 feet beyond the STOP and 500 feet before the RESUME. On Federal projects with multiple funding sources, funding limits shall be noted with stations.
- 4. All existing topography shall be shown with thin lines, proposed with thicker lines and lettered as shown in this sample set. Screened drawings may be used when the proposed information on the plan needs to stand out from the other proposed line work. Plans such as Drainage Plans, Landscape Plans, and Signing and Striping Plans are examples of acceptable plan types for screening.
- 5. Baselines, survey lines, etc. shall be labeled with stations at 100 foot intervals. Station equations shall be noted where required. Baselines of side roads and streets must be provided with sufficient information for complete layout.

An equation should be shown, if required, on the first construction plan sheet which shows how the new survey baseline ties into the old survey.

6. When the same stationing appears on more than one baseline, the baselines shall be designated A, B, etc. Westbound, Eastbound, etc. baselines may be designated on dual highways. All stationing shall be shown in the same direction. When practical, it is desired for proposed ramps to be stationed in the direction of travel.
  7. The Standard Legend and General Notes shall be on the first construction plan sheet. If additional symbols are required for the project, they shall be incorporated into the Standard Legend. No topography is to be shown on this sheet.
  8. Topography shall not be shown beyond match lines. Match lines shall be stationed with the full station number. Double reference sheet numbers shall also be shown as discussed under General comments.
  9. Each plan sheet shall include a **TO BE CONSTRUCTED** box. Plan sheets without proposed work shall not be included in the contract set except as required by General comment No. 2.
  10. Type of pavement for all existing roads shall be noted.
  11. Lane widths for all proposed pavements shall be shown at the match line on all plan sheets, and at changes of lane widths.
  12. Existing and proposed easements, R.O.W. lines and limits of **NO ACCESS** lines shall be noted.
  13. Bench marks must be shown at approximate 400 to 600 foot spacing for vertical control. A description and elevation shall appear in the lower left hand corner of the sheet. Bench mark elevations shall be shown to a 0.001 foot accuracy.
  14. Quantity totals from construction notes shall appear in **TO BE CONSTRUCTED** boxes. Individual construct notes and totals require back-up calculations which shall be bound and submitted for review with the plans. The calculations shall be complete to cover all plan quantities.
- ALL PAY ITEM QUANTITIES, EXCEPT MISCELLANEOUS CONCRETE AND PERMANENT SIGNS, SHALL BE ROUNDED UP TO WHOLE NUMBERS.**
15. Projects with more than one funding source shall utilize the format shown on sample construction sheet C-3. Separate columns shall be set for each funding category. Designers shall break-out quantities for pay items which fall within designated funding limits and provide quantity break-outs in the appropriate columns. This format shall be used only when there is more than one funding indicated on the plan sheet.
- If the project has multiple fundings and a specific funding is applicable throughout the project (for example, landscape items), it shall not be necessary to show a breakout of quantities for this funding on the plan sheets. A general note to this effect shall be made on the Plan Sheet Index.
16. Proposed construction shall be denoted with construction notes consisting of the pay item number placed in a circular symbol along with the pay item quantity and unit designation. **TO BE CONSTRUCTED** boxes shall conform to those shown on these sample sheets with pay items appearing in numeric order along with their corresponding standard item number.

17. Presentation of Alternate Items shall be as shown in these Sample Plans. When used as a construct note or to denote proposed items of work, the alternate items shall be placed in connected square symbols. In TO BE CONSTRUCTED boxes, alternate items shall be kept together with headings as indicated under the Estimate-Distribution of Quantities sheet.
18. All existing drainage structures shall be shown. Type and size of existing pipes and structures shall be labeled, flow direction (arrow) and existing invert elevations shall be shown when drainage is affected by proposed work.
19. Proposed drainage may be shown on the Construction Plans except when drainage construction is extensive or there is a need to enhance clarity on Construction Plans. In these instances, separate Drainage Plans shall be considered. In either case, proposed drainage shall be shown with:
  - type of proposed structure noted (Inlet Type E, Inlet Type D-1, Manholes, etc.
  - proposed grate and invert elevations (except as noted below)
  - or depth of proposed structure clearly indicated
  - proposed flow direction with an arrow
  - type of proposed pipe (R.C.C.P., C.I.P., etc)
  - length of proposed pipe
  - proposed high and low points indicated (by arrow symbol)

**The following shall also apply:**

**When Drainage Plans are included in the set of plans, the Construction Plan must show the location and type of the proposed drainage structure along with the proposed pipe. Invert and grate or rim elevations need not be shown on the Construction Plans.**

**When Grade Sheets are included in the set of plans, the proposed grate and rim elevations shall be shown on the Grade Sheets, therefore, grate or rim elevations need not be repeated on the Construction or Drainage Plans.**

- 20. Begin and end station limits of various size proposed curbs (vertical and barrier) and their transition lengths shall be noted.**
- 21. Stations shall be noted for Limits of Paving, Removal of Concrete Base Course and Concrete Surface Course, Milling, Joint Removal, and Removal of Bituminous Concrete Overlay.**
- 22. Where driveways are proposed, the 'type' of existing driveway shall be noted (gravel, bituminous concrete, concrete, etc.) along with the proposed width dimensions and limits of paving. Proposed driveways shall conform to the State Highway Access Management Code. All existing driveways shall be shown.**
- 23. Designers shall include Construction Details for transitioning proposed pavement to existing pavement, details for transitions at bridge decks, details for maintaining existing vertical clearances at overpasses and any additional transition details required for milled areas.**
- 24. Existing monuments within project limits must be shown. Monuments within the traveled way shall be reset or shall be enclosed in a monument box. Proposed Monuments shall be located by station and offset.**

25. If inlets are to be cleaned, the depth of the inlets shall be shown. If pipes are to be cleaned, diameter and the length of pipe to be cleaned shall be noted.
26. Drainage structures which are non-standard shall be so noted on the plans. A detail from the public utility (or municipality) is needed if work is proposed.
27. Baseline station and offset for proposed guide rail locations, including end treatments, shall be provided.
28. Public utilities within the project limits shall be noted and include type, size, and location of all above and below ground existing utility facilities. Aerial pole line facilities shall be limited to the indication of poles. The location of all proposed utility facilities relocated within the project limits shall be shown.
29. When work is to be performed "by others", Designers shall specify who will be performing the work. (For example: by N.J. Bell, by Public Service Electric and Gas, by Sunshine Developers, etc.)
30. At locations showing riprap, the area of the proposed riprap shall be fully dimensioned, the thickness indicated and the calculated d50 stone size noted at each location.
31. Soil Borings, when required, shall be shown on the Construction Plans for small projects that do not require a Plan Sheet Index.
32. On plan sheets where space is limited and enhanced clarity is needed, in place of construct notes, a separate quantity box may be used to denote items of work. The box shall show Pay Item Numbers, stations and offsets of work to be performed, and item quantities. Typical use of this box may be when numerous driveway items are proposed on a sheet or where joint removal is required. The Designer shall also consider separating specific aspects of the design such as drainage or utilities onto separate plan sets to enhance the clarity of the information being presented. The creation of separate plans shall be discussed with the Project Manager prior to the Initial Design Submission.
33. When proposing cross drain replacement by trenching, Designers must indicate the appropriate standard construction detail to be used at its relative location on the construction plans. Specifications provide that payment for pipe items include the cost of excavating the pipe trench. When constructing cross drains in existing concrete pavement, appropriate pay items for excavating concrete pavement and for replacing the existing pavement surface must be indicated separately. Complete information shall be provided to determine the depth of the pipe trench, especially in areas not covered by cross sections.
34. When the pay item Demolition of Buildings is proposed, the following additional information shall be shown:
  - buildings to be demolished clearly designated by heavy solid outlines and shown as per legend symbol.
  - house numbers
  - R.O.W. parcel numbers
  - demolition numbers
  - building type (frame dwelling, brick, etc.)
  - number of floors
  - basement noted where applicable
  - additional buildings on the property (garages, sheds, etc.) to be removed shall be clearly indicated

35. When proposing Portland Cement Concrete pavements, show the location of the transverse expansion joints and irregular slabs at critical locations. The location of the slabs shall be shown at mainline intersections with ramps and crossroads, the approach and exit sides of bridges and other locations where irregular slab shapes or sizes are required.
36. Some Standard Construction Detail Sheets may indicate more than one "treatment" or "type" of construction for an item of work; examples are: Construction Driveway, Curb Ramps, Guide Rail Attachments at Bridges. When proposing such items of work, Designer's must indicate the "type" to be constructed on the Construction Plan sheet. This may be shown by indicating the "type" below the pay item number, or when several "types" are to be constructed on a plan sheet, a box may be provided with Standard Item Number, baseline location and offset and "type" to be constructed.
37. Location of existing and proposed curb ramps must be shown at intersections. Traffic signals, lighting, guide rail in the vicinity of the ramps, must be shown with every effort made to avoid locating the proposed work within limits of curb ramps.

## ENVIRONMENTAL PLANS

The purpose of the Environment Plans is to show the location of soil erosion and sediment control items, and to identify sensitive environmental areas to be avoided or where activities are restricted, such as wetlands, flood plains, regulated streams, parklands, historic sites, conservation lands, endangered species habitats, contaminated sites and any other environmentally sensitive areas which pertain to the project.

The Designer shall contact the Bureau of Environmental Services and the Project Manager to determine whether there is a need to identify environmentally sensitive areas on the project. If there are no sensitive areas or permits to be identified, then the Soil Erosion and Sediment Control items of work may be shown on the Construction Plans. Other plan sheets may be used when necessary, such as Traffic Control and Staging Plans for interim measures. Separate sheets should be used only when absolutely necessary for clarity and continuity.

In general, the plan scale should not be smaller than 1"=60' provided the installation of erosion and sedimentation control devices can be clearly shown. In addition, when there are extensive environmentally sensitive areas on a project, a small scale Environmental Plan (typically 1"=100' or 1"=200') may be included to clearly identify those areas.

If environmentally sensitive areas must be identified, but there is no need for erosion and sediment control measures, a 1"=100' or 1"=200' scale Environmental Plan shall be provided.

The first sheet of the Environmental Plan shall include a list of any environmental commitments, and permits including date of issue, date of expiration and conditions (if any). Also, if symbols are used to identify environmentally sensitive areas, a legend shall be provided identifying the symbols used.

The plans shall be clearly marked in areas where the Contractor is not permitted to perform work, store materials or enter upon with construction equipment. Also, constraints to any construction activities (i.e., town's "Founder's Day" festival or night work that will not be permitted adjacent to a hospital, etc.), or any other specific Department commitments shall be noted.

PROFILE SHEETS

The existing mainline profile line shall be shown for 500 feet before the start and 500 feet beyond the proposed work. On local road projects, this distance may be reduced, but to no less than 100 feet. The existing ground line and the proposed finished grade line shall be plotted with station elevations shown at 50 feet intervals. All elevations shall be shown in feet.

The following items shall be labeled on the profiles:

- Profile Identification (Ramp A, Rt. 295 S.B., etc.)
- Datum
- Scales
- Vertical Curve Limits
- P.V.C., P.V.I., P.V.T.
- L – Length of Vertical Curve
- E – Difference between P.V.I. Elevations and Vertical Curve Elevations at the P.V.I. Stations
- High and Low Points with Stations and Elevations
- Culvert and Invert Elevations
- Limits of Borrow Excavation Bridge Foundation and Porous Fill
- Slope in %
- Minimum Vertical Clearances at Bridges and Structures
- Ramp Design Speeds

The definition of "E" shall be shown on the first Profile Sheet.

TIE SHEETS

ALL CONTROL POINTS MUST BE TIED TO A BASELINE. Ties shall be stationed and offset and may be shown on the Construction Plans if not too congested, but preferably on a separate Tie sheet. The baseline designation shall be clearly labeled and identified. A Legend may be required to explain the designation. Assumed baselines shall be designated 'survey lines' and shall be used only if extensive investigation does not disclose a baseline.

Notes on the first Tie Sheet must state the following:

- Horizontal datum
- Vertical datum
- Field book reference

All projects involving new alignment or major reconstruction shall include coordinates for all control points tied to the New Jersey Plane Coordinate System. Tie sheets shall provide a listing of the Geodetic Control Monuments used for the project. Notes shall also state the date of the recovery of the monument. In addition, any other monuments used to establish the control line shall be listed and shown on the tie sheets. Existing Geodetic Control Points and previous project baseline monuments or control points shall be used where possible and made part of the control network.

Where a field survey line differs from a project baseline, control ties and connections from the survey line to all P.C.'s, P.I.'s, and P.T.'s shall be shown.

A description of the control shall be provided with a detailed sketch showing distances and directions to locations (or reference) points. All control points shall have a minimum of three location (reference) marks.

Tie sheets shall also show bench mark locations from the survey line or baseline. In addition, a note shall be added to indicate whether the bench mark is located in an area that will be affected by construction activity. The note may specify or recommend to relocate the bench mark, prior to construction activity.

A note shall be added to the Tie sheets when affected monuments need to be preserved.

Horizontal and Vertical Datum

The Survey Datum information shall be included as shown on the first sample Tie Sheet of these Sample Plans.

Survey datums should be referenced to the recommended datums as described in the current version of the NJDOT Survey Manual. When elevations are based on other survey datums, the appropriate datum information must be provided.

GRADE SHEETS

Proposed grades and cross slopes shall be shown at 25 feet intervals in areas where finished grades deviate from the typical sections. Grades shall also be shown in areas that require additional clarification. Contours may be shown for infield areas that are not fully covered by cross sections.

Grade Sheets shall include the following:

- proposed high and low points
- type of proposed drainage structure
- proposed grate or rim elevations
- North arrow
- graphic scale

When Grade Sheets are not included in the Plans, the grate and rim elevations shall be shown on the Construction or Drainage Plans. (see item No. 19 under the "Construction Plan Sheet" heading for additional information).

TRAFFIC CONTROL PLAN SHEETS

The purpose of Traffic Control Plans is to provide guidance and establish procedures to assure that adequate consideration of safety is given to motorists, pedestrians, and construction workers during the construction project.

Sufficient data must be provided to the Contractor that will enable the Contractor to construct the project as designated for the full range of worksite situations. The proper and adequate placement of highway signs, pavement markings, barricades, and other traffic control devices shall be in accordance with the current Standard Traffic Control Details, Manual on Uniform Traffic Control Devices (MUTCD), Section 14 of the NJDOT Design Manual, Roadway and Standard Specifications for Road and Bridge Construction.

The first two sheets of the Traffic Control Plans should be Standard Traffic Control Detail sheets TCD-1 and TCD-2 appropriately modified for individual project needs. Designers should delete notes from these sheets which are not applicable to the project. Crossing out of notes is not acceptable. TC-1 in this set of Sample Plans depicts a typical treatment of selecting project specific information to be provided.

Traffic Control Plan Sheet TC-1 shall also contain project specific notes that are not covered by the General Notes on the Traffic Control Details in the Standard Detail Booklet. The notes shall include, but not be limited to: specific restrictions placed on travel lanes, duration of closures, hours when work may be performed, number of lanes of unobstructed traffic to be maintained in each direction, allowable minimum widths of traveled way, number of lanes to be open to traffic, diversionary routes with any restrictions, and traffic lanes or patterns to be maintained during construction for local roads affected by construction.

In order to estimate the required quantity of Construction signs in square feet, Designers should prepare a summary of signs for the project. This summary of construction signs should be shown in a table, and included on the first sheet of the Traffic Control Plans. An example of a completed table listing the Sign Designation, quantity and area in square feet is shown on TC-1 of the Sample Plans. The total quantity of construction signs in square feet should be shown on the Estimate-Distribution of Quantities (E-DOQ) sheet. On E-DOQ sheet, the total quantity of signs in square feet should be indicated as "If and Where Directed" items.

For quantity purposes, the If and Where Directed number of units or linear feet of traffic control devices and signs shall be the maximum quantity required to be in use at any one time. For purposes of indicating speed limits or speed reductions through the construction zone, 35 square feet of additional CONSTRUCTION SIGNS shall be provided.

Additional Traffic Control Plans shall be included to show plan views of project specific work sites when these locations are not adequately covered by the Standard Traffic Control Details or where design features of traffic control devices (such as the type of precast construction barrier) or temporary pavement markings need to be indicated. The scale of the Traffic Control Plans shall be selected so that the optimum amount of information is shown on a minimum number of plan sheets.

Construction Details shall be provided for traffic control devices not adequately covered by Standard Construction Details. Separate details showing placement of Crash Cushions, Inertial Barrier System, \_\_\_\_, Modules shall be provided and designated by location when more than one configuration of modules are required for the project. Also, any construction sign not depicted on the Standard Construction Details shall be shown in detail.

All plan sheets except Traffic Control Details shall show a graphic scale and north arrow.

TRAFFIC CONTROL AND STAGING PLANS

All comments pertaining to Traffic Control Plans shall remain valid for Traffic Control and Staging Plans.

Traffic Control and Staging Plans shall be utilized when a staging or sequence of construction needs to be specified. These plans should not be utilized for projects involving lane closures without sequence of work (such as simple resurfacing or electrical installations).

Notes pertaining to the various stages of construction shall be included on the Traffic Control and Staging Plans. The notes shall thoroughly describe each phase of construction in the sequence to be performed, including the establishment and removal of temporary traffic control items.

The Legend on Traffic Control and Staging Plan Sheet TC-1 shall be modified to differentiate work to be performed during each stage of construction, and work already completed during previous stages.

When temporary pavement areas are required, a Typical Section shall be provided. Temporary pavement to be used for Traffic Control shall be shown with plan sheet quantities. Pay Item Numbers with construct quantities and a TO BE CONSTRUCTED box shall be shown on the Traffic Control and Staging Plans when temporary pavement is to be constructed. Pay items for the removal of temporary pavement must be provided.

ELECTRICAL PLANS

The purpose of the Electrical Plans (E) are to provide guidance as to the preparation of the electrical engineering aspects of a complete traffic signal installation including traffic signal timing and intersection lighting. Each traffic signal design requires Electrical Plans.

The Electrical Plan for the traffic signal is used for presenting the electrical design of the traffic signal, including all underground and above ground elements. The plan is to include the block wiring diagram, loop detector schedule and TO BE CONSTRUCTED items. An additional sheet can be used to show sketches that require more detail in order to facilitate construction. A separate sheet showing the traffic signal timing and operation is required to facilitate its implementation in the field.

The Title block for each Electrical plan (E) should be completed by the designer, as shown in the Sample Plans.

All Electrical Plans are to be prepared according to current Department and Traffic Signal and Safety Engineering CADD standards. These standards can be obtained upon written request to the Manager of Traffic Signal and Safety Engineering.

TRAFFIC SIGNAL PLANS

The purpose of the Traffic Signal Plans (TSP) are to provide guidance as to the preparation of the traffic engineering aspects of a complete traffic signal installation. Each traffic signal design requires Traffic Signal Plans.

The Traffic Signal plan is the traffic engineering plan that includes all the above ground traffic signal equipment, the regulatory, warning and mast arm signing that pertain to the operation of the traffic signal, and the overall areas of detection. The Traffic Signal plan is necessary because upon activation of the traffic signal, it is submitted for final approval and becomes the Departments legal document for the operation of the operation of the signal and its associated signing and striping. Because the final plan must be signed by the Manager of Traffic Signal and Safety Engineering (TSSE) the title block shown on this plan is to be used for all Traffic Signal plans.

The Title block for each Traffic Signal plan should be completed by the designer, as shown in the Sample Plans.

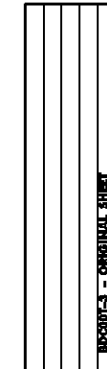
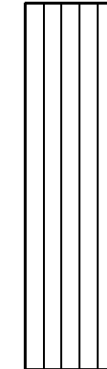
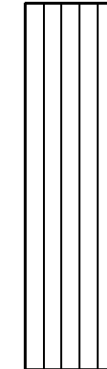
All Traffic Signal plans (TSP) are to be prepared according to current Department and Traffic Signal and Safety Engineering CADD standards. These standards can be obtained upon written request to the Manager of Traffic Signal and Safety Engineering.

HIGHWAY LIGHTING PLANS

The purpose of the Highway Lighting Plans (HL) are to present the lighting design using approved Department lighting design software. The Highway Lighting plans are used to present the underground and above ground electrical elements in the designated nomenclature and the TO BE CONSTRUCTED items and quantities. The Highway Lighting plan format is to be used for both intersections and for highway interchanges.

The Title block for each Highway Lighting Plan should be completed by the designer, as shown in the Sample Plans.

All Highway Lighting plans (HL) are to be prepared according to current Department and Traffic Signal and Safety Engineering CADD standards. These standards can be obtained upon written request to the Manager of Traffic Signal and Safety Engineering.



## LANDSCAPE PLANS

Landscape planting sheets shall include:

- Proposed planting and landscape architectural work
- Existing topography, where applicable
- Drainage
- Guide rail
- Curbs
- Walks
- Signs
- Top and toe of slopes
- R.O.W. lines and No Access Lines
- Bridge Structures
- Proposed and existing fencing
- Easements
- Proposed roadway

Planting sheets should not show additional information unrelated to Landscape unless approved by the Project Manager.

## TRAFFIC SIGNING AND STRIPING PLANS

The number of plan sheets included for Traffic Signing and Striping shall be kept to a minimum by using such drafting techniques as break-lines and out of scale drawings. Traffic Signing and Striping Plans produced by superimposing traffic stripes and signs on other plan view sheets will only be accepted for smaller projects having three or less plan view sheets.

When Permanent Warning or Regulatory Signs are included in the project, a similar sign table as shown on TC-1 of the Sample Plans shall be placed on the first signing and striping plan sheet. The total quantity of Permanent Signs in square feet should be shown on the Estimate-Distribution of Quantities (E-DOQ) sheet. On the E-DOQ sheet, the total quantity of signs in square feet should be indicated as "If and Where" items.

## METHOD OF CROSS SECTIONS

A Method of Cross Sections sheet shall be provided for interchange areas or any area where Cross Sections may vary from the normal method of sections. Stations shall be shown and shall conform to the cross sections. The baseline from which the sections are taken shall be clearly indicated.

## CROSS SECTIONS

Cross Section sheets shall follow the format shown in this sample plan set. Scale shall normally be 1"=10' or 1"=5'. Sections shall be shown in ink on polyester type cross sectional Mylar or CADD generated equivalent. Sections shall show the existing ground line plus the proposed section template and baseline.

Original ground elevation shall be shown at the baseline and proposed elevations shall be shown at the profile line. Designers are reminded that excavation and embankment quantities shown on the Cross Sections shall be measured between the dashed lines representing the surface of the existing ground and the solid lines representing the limits of excavation or embankment. Where Topsoiling is proposed, the solid lines shall indicate the bottom of the proposed Topsoil. Sections shall not show location of vertical or barrier curbs. Retaining walls, crib wall, abutments, piers, and building foundations shall be shown. Equations shall be noted where necessary.

In order to clarify the method used to determine earthwork quantities from cross sections, the standard notes and legend shall be shown on the first Cross Section sheet as indicated on the sample sheet. A Datum shall be indicated for each section (vertical and horizontal). Pay limits for Topsoiling, Stripping, Wet Excavation, and Zone I or Zone II backfill shall be noted on the sections. Items such as Removal of Concrete Base and Surface Courses, Porous Fill, Borrow Excavation Bridge Foundation and any select embankments shall be calculated and shown as plan sheet quantities. Placement limits shall be shown on the cross sections so that no additional quantities of other items are calculated. Sections indicating areas of Wet Excavation and Unusable Material shall show apparent firm bottom with side slope ratios.

Ditch or Channel sections shall be noted with quantities. Quantities shall also be noted for Topsoiling, Stripping, and cuts and fills in the units shown on the legend.

It shall be noted on the Cross Sections, that additional embankment available from the project shall be used to reduce the amount of Borrow Excavation accordingly.

Above the title block, the location (Main Line, Ramp Z, etc.) and station to station of the sheet shall be noted.

Cross Sections are an important element of the Construction Plans. **CROSS SECTIONS SHOULD NOT BE DISREGARDED, EVEN ON RESURFACING PROJECTS.** Resurfacing projects shall include Cross Sections for the following reasons:

- Without Cross Sections, bituminous courses may bury the curb on the high side of superelevation and undercut pavement on the low side. Drainage problems may be created in the areas adjacent to the traveled way or shoulder.
- Without Cross Sections, driveway touch down limits are unknown on the high side of the superelevation.
- The effect of the superelevation on the sidewalk area may require an additional R.O.W. acquisition.
- Design exceptions may be required to vary cross slopes of superelevation to lessen the impact on sidewalks or driveways.
- Without Cross Sections, the Contractor cannot properly bid the item Milling because the depth of Milling is not known.
- Without Cross Sections, the amount of paving material required to meet the proposed cross slopes or grades is not properly estimated.
- If bituminous thickness is not known, the Contractor cannot determine the number of passes required to construct the bottom courses of bituminous paving.



**EXCEPTIONS TO THE REQUIREMENT FOR CROSS SECTIONS ON RESURFACING PROJECTS OR PORTIONS OF RESURFACING PROJECTS MUST BE APPROVED BY THE PROJECT MANAGER. EXCEPTIONS WILL BE ALLOWED IF THE FOLLOWING CRITERIA IS MET:**

- 1. Cross slopes are unchanged with milling and paving the same thickness.
- 2. The proposed and existing Typical Section is an umbrella section roadway and cross slopes will not change significantly.
- 3. The proposed and existing Typical Section is a curb section where cross slopes do not significantly change and the elevation of the curb will not change. Cross Sections may be required in critical areas to determine curb reveal.

**Alternate Retaining Wall System**

For projects with Alternate Retaining Wall Design, Bridge Plans provide the option of constructing alternate types of retaining walls. This work shall include the construction of the walls as shown on the bridge plans, including any required Excavation and Embankment within the "common work limit" of the Structures. The "common work limit" is the limit that defines the maximum amount of Excavation and/or Embankment affected by any one of the alternate retaining walls, as determined for each location shown in the contract plans.

The Cross Sections shall clearly denote, at each site, the common work limit which applies to all the alternate retaining wall designs, as shown on the sample sheet. The payment for Roadway Excavation and for Backfill within the common work limit for Alternate Walls shall be made under the pay item for the Alternate Walls, therefore, the quantity for Roadway Excavation and Backfill shall not be included in the roadway earthwork calculations.

**Earthwork Summary**

**ANY PROJECT WITH CROSS SECTIONS MUST INCLUDE AN EARTHWORK SUMMARY.**

The Earthwork Summary shall appear on the last Cross Section sheet or on the same sheet as the Earthwork Chart. The Earthwork Summary will vary from project to project, but basically, the format provided in this sample set shall be used as a guide.

The following items shall be noted when preparing the summary:

- The quantity for stripping in cuts shall be deducted from the Roadway Excavation from Cross Sections. This total plus the total added to Roadway Excavation from Plan Sheets shall be shown as the pay quantity for Roadway Excavation.
- The total area of stripping times the stripping thickness indicated in the quantity calculations shall equal the total quantity of stripping in cut plus the stripping in fill.
- All earthwork quantities from Cross Sections, Plan Sheets, and If and Where Directed shall be reflected in the earthwork summary.
- If detour roads require temporary embankments, ensure that the removal quantity for the detour road has been included in the excavation total.
- Staging of construction shall be considered in determining the excavation that will be available for embankment or the borrow excavation that will be required for embankment.
- The total quantity for Stripping available will be compared with the quantity required for topsoil.

- The pay item, Borrow Topsoil, is required when the quantity required for Topsoil is greater than the Stripping available.

The three formats shown shall be used as a guide in preparing the suitable Earthwork Summary.

Sample No. 1  
Format to be used when additional Borrow Excavation is required.

Sample No. 2  
Format to be used when total Excavation available for Embankment is more than the amount required for Embankment.

Sample No. 3  
Format to be used for projects with multiple funding sources.

**Earthwork Chart Sheet**

An Earthwork Chart Sheet should be provided only when the project is a large earth moving project and complex enough to warrant a graphic picture of available embankment sites. If the Designer feels that an Earthwork Chart is necessary, the subject shall be discussed with the Project Manager and a determination will be made.

**ROADWAY CONSTRUCTION DETAILS**

Two Standard Construction Detail Booklets are available to Designers and Contractors; one containing Standard Roadway Construction Details, Standard Traffic Control Details and Bridge Standard Details, and the other containing Standard Electrical Details. These booklets are available for purchase through the Engineering Documents Unit (609-530-5587), @ 1035 Parkway Ave., Engineering and Operations Building, Trenton, N.J. 08625.

A note shall be placed on the Key Sheet immediately below the Index of Sheets box, stating the applicable booklet for the project. Standard details will not be included in the plans. **HOWEVER, DETAILS REVISED BY BASELINE DOCUMENT CHANGE (BDC) MEMORANDUM SUBSEQUENT TO THE ISSUANCE OF THE BOOKLETS APPLICABLE FOR THE PROJECT, NON-STANDARD DETAILS, AND SHEETS THAT REQUIRE DESIGN SPECIFIC INFORMATION SHALL BE INCLUDED IN THE PLANS.** Non-Standard details shall be signed by the Designer and inserted in the Contract Plans.

The order to be followed when inserting Construction Details shall be the same order as the items appear in the Special Provisions.

There are 3 Sign Support sheets (CD-619-6, CD-619-12, and CD-619-15), one Landscape sheet (CD-813-1), and two Electrical sheets (L-1094M and L-1794M) that contain the following note in the booklets only.

**"THIS SHEET REQUIRES DESIGN SPECIFIC INFORMATION TO BE ADDED AND INCLUDED IN THE CONTRACT PLANS."**

Therefore, these sheets will always be included in the plans with the design specific information added, if they are to be applicable.

## BRIDGE CONSTRUCTION DETAILS

Any detail that does not represent the proposed bridge construction detail to be used on a given project, shall be modified and placed in the Bridge plans. The Designer shall include notes in the Bridge plans that identifies which Bridge Construction Details have been changed and are no longer valid for the given project. The Designer's attention is directed to the following comments concerning the use of the Bridge Construction Details sheets:

- Sheets numbered BCD-1A, BCD-1B, BCD-1C, and BCD-1D are for bridge deck rehabilitation repair work. The details shown on these sheets shall not be used for deck patching repair work. Details for bridge deck patching shall be developed by the Designer from information provided by Structural Engineering. Bridge deck patching details shall be included in the bridge plans. Deck patching repair work differs from deck rehabilitation work in the type of repairs to be performed and the way in which the repairs are to be done.
- Sheet numbered BCD-2 shows strip seal deck joints as a general guide. Variations in details shall be submitted for Engineer's approval in accordance with working drawing specifications.
- Sheet numbered BCD-3 shows various types of bridge parapets. The Designer shall identify by details or notes on the bridge plans the type of bridge parapet to be used for each bridge in the project. The Designer may need to make changes to the bridge parapets for the addition of metal railings or fencing. All changes to bridge parapets shall be approved by Structural Engineering.
- Sheet numbered BCD-4, view titled, "BRIDGE MEDIAN BARRIER", shows the height of the bridge barrier at 32 inches. The Designer shall verify that the heights of the roadway approach barriers match the height of the bridge barrier to ensure a smooth transition between the barriers.
- Sheet numbered BCD-5 shows details for sawcut grooving on bridge decks.
- Sheet numbered BCD-6, view titled, "TYPICAL PLAN - CULVERT AND HEADWALL", identifies a concrete apron is to be used at the culvert ends when required by hydraulic design. The Designer shall provide a detail on the Bridge plans as to size and location of concrete aprons, if aprons are required to be constructed at the ends of the culvert. See view titled, "TYPICAL PLAN - ABUTMENTS", this detail identifies joints between the abutment wall and retaining walls. The Designer shall show by note(s) on the Bridge plans whether these joints are expansion or contraction joints.
- Sheet numbered BCD-7, view titled, "DRAINAGE BACK OF WALL", the invert elevations for the underdrain pipe shall be shown on the Bridge plans. The Designer shall investigate and identify the location of the nearest roadway inlet for the steel culvert pipe to connect with. This information shall be noted on the Bridge plans.
- Sheets numbered BCD-8A and BCD-8B show details of 6'-3" curved top bridge chain link fence and 6'-3" vertical bridge chain link fence respectively.
- Sheet numbered BCD-9 shows details of stay-in-place bridge deck forms.

The Bridge Construction Detail sheets were developed from various Guide Sheets contained in the NJDOT "Bridges and Structures Design Manual". The Bridge Design Manual also contains Standard Drawings. The Standard Drawings are full size (22" x 36") drawings and are intended to be incorporated into the Bridge plans, if applicable to the project. This practice of including Bridge Standard Drawings in the plans will be maintained and is unaffected by using the Bridge Construction Detail sheets. Section 17.4 of the "NJDOT Procedures Manual" contains more information on the use of Bridge Standard Drawings.

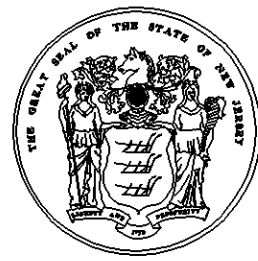
UTILITIES	
PUBLIC SERVICE ELECTRIC & GAS (GAS MAINS)	
JERSEY CENTRAL POWER & LIGHT CO. (POLE LINES, CONDUIT)	
NEW JERSEY BELL (POLE LINES, CONDUIT)	
ALGONQUIN GAS TRANSMISSION (TRANSMISSION MAINS)	
CONRAIL (RAILROAD FACILITIES)	
BOROUGH OF RIVERDALE (WATER MAINS)	
BOROUGH OF POMPTON LAKES M.U.A. (WATER MAINS)	
U.A.COLUMBIA CABLEVISION	
NEW JERSEY DEPARTMENT OF TRANSPORTATION (TRAFFIC SIGNALS AND HIGHWAY LIGHTING)	

BRIDGES IN THIS CONTRACT	
①	BRIDGE NO. 1003-007 RTE. 23 OVER I-287
②	BRIDGE NO. 1003-008 RTE. 23 OVER RAMP C
WALLS IN THIS CONTRACT	
③	WALL NO. 2 BETWEEN RAMPS C & D
④	WALL NO. 3 AT RELOCATED HIGHLAND AVE.
⑤	WALL NO. 4 AT RAMP LM
SIGN SUPPORT STRUCTURES IN THIS CONTRACT	
⑥	CANTILEVER SIGN SUPPORT STRUCTURE NO. 3
⑦	CANTILEVER SIGN SUPPORT STRUCTURE NO. 4
⑧	CANTILEVER SIGN SUPPORT STRUCTURE NO. 5
⑨	OVERHEAD SIGN SUPPORT STRUCTURE NO. 7
⑩	CANTILEVER SIGN SUPPORT STRUCTURE NO. 8
⑪	BRIDGE MOUNTED SIGN SUPPORT STRUCTURE NO. 9
⑫	CANTILEVER SIGN SUPPORT STRUCTURE NO. 10
⑬	OVERHEAD SIGN SUPPORT STRUCTURE NO. 11
⑭	OVERHEAD SIGN SUPPORT STRUCTURE NO. 12
TEMPORARY STRUCTURES IN THIS CONTRACT	
⑮	TEMPORARY STRUCTURE UNDER RTE. 23 DETOUR
CULVERTS IN THIS CONTRACT	
⑯	CULVERT UNDER MAINLINE
⑰	CULVERT UNDER MAINLINE

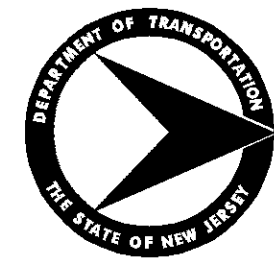
DESIGN TRAFFIC DATA - RTE. 287			
A.D.T. (2000) - 2 WAY	=	48,460	
A.D.T. (2020) - 2 WAY	=	74,680	
D.H.V. (2020) - 2 WAY	=	8,550	
D	=	50%	
T	=	15%	
V	=	60 M.P.H.	
DESIGN TRAFFIC DATA - RTE. 23			
A.D.T. (2000) - 2 WAY	=	32,350	
A.D.T. (2020) - 2 WAY	=	51,740	
D.H.V. (2020) - 2 WAY	=	4,990	
D	=	50%	
T	=	15%	
V	=	60 M.P.H.	

"CHANGES MADE TO THESE PLANS SINCE SIGNATURE BY THE CONSULTANT MAY BE DETERMINED BY COMPARISON OF THE PLANS FILED AT THE DEPARTMENT WITH THOSE FILES AT THE OFFICE OF THE CONSULTANT."

Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999

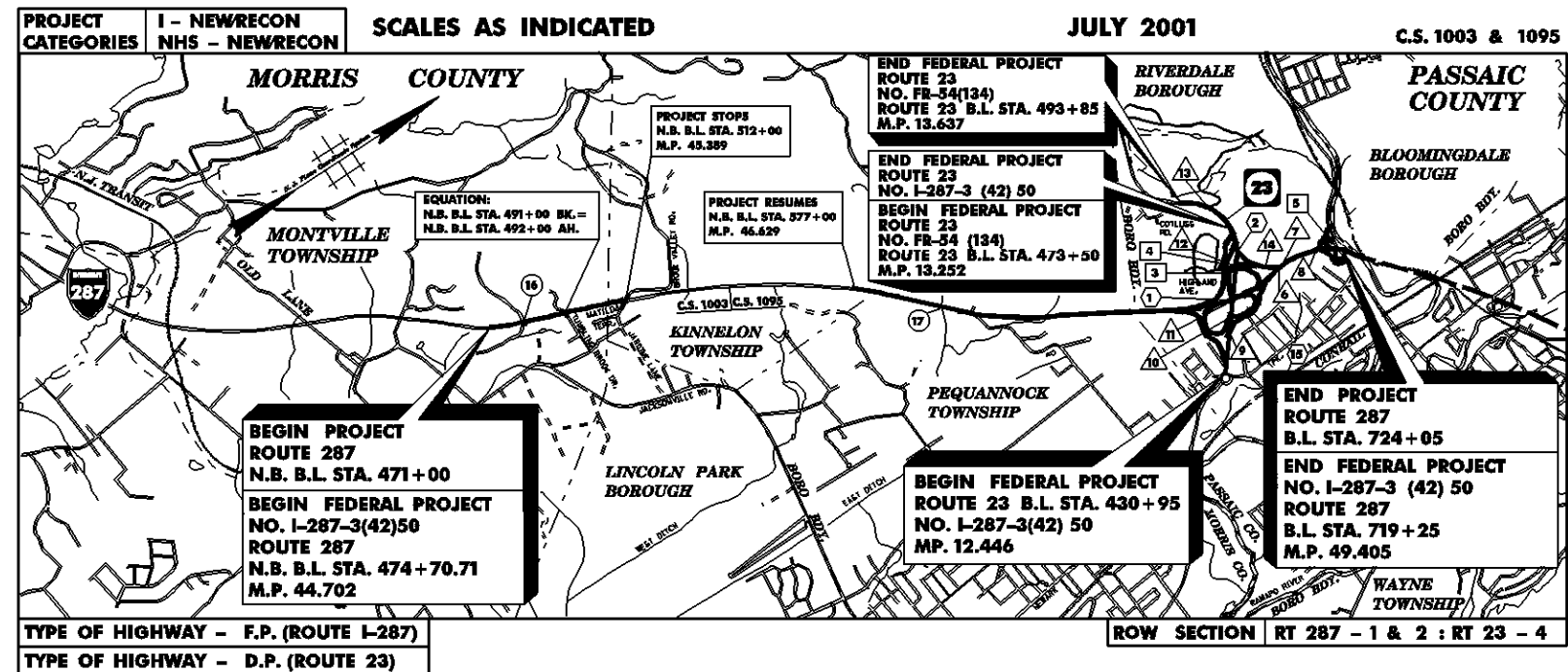


# State of New Jersey Department of Transportation



PLANS OF  
**ROUTE 287**  
FROM SOUTH OF ROUTE 23 TO PATERSON-HAMBURG TURNPIKE  
AND  
**ROUTE 23**  
FROM THE VICINITY OF RIVERDALE ROAD TO THE VICINITY OF COTLUSS ROAD  
**CONTRACT NO. 045961901**  
**GRADING, PAVING & STRUCTURES**  
BOROUGH OF RIVERDALE MORRIS COUNTY  
TOWNSHIPS OF KINNELON, PEQUANNOCK & MONTVILLE

INDEX OF SHEETS		
	SHEET NUMBERS	DESCRIPTION
PART 1	1	KEY
	2-9	ESTIMATE - DISTRIBUTION OF QUANTITIES
	10-15	TYPICAL SECTIONS
	16-17	PLAN SHEET INDEX
	18-36	CONSTRUCTION PLANS
	37-43	ENVIRONMENTAL PLANS
	44-55	PROFILES
	56-61	TIES
	62-87	GRADES
	88-115	TRAFFIC CONTROL AND STAGING PLANS
PART 2	116-121	ELECTRICAL PLANS
	122-128	ELECTRICAL DETAILS
	129-154	LANDSCAPE PLANS
	155-180	TRAFFIC STRIPING AND SIGNING PLANS
	181	METHOD OF CROSS SECTIONS
	182-236	CROSS SECTIONS
	237-245	CONSTRUCTION DETAILS
PART 3	246-247	ESTIMATE OF QUANTITIES - BRIDGE
	248-390	BRIDGE PLANS



LENGTH OF PROJECT ROUTE 287 = 18,705 LIN. FT. OR 3.542 MILES  
LENGTH OF PROJECT ROUTE 23 = 6,290 LIN. FT. OR 1.191 MILES  
TOTAL LENGTH OF PROJECT = 24,995 LIN. FT. OR 4.733 MILES

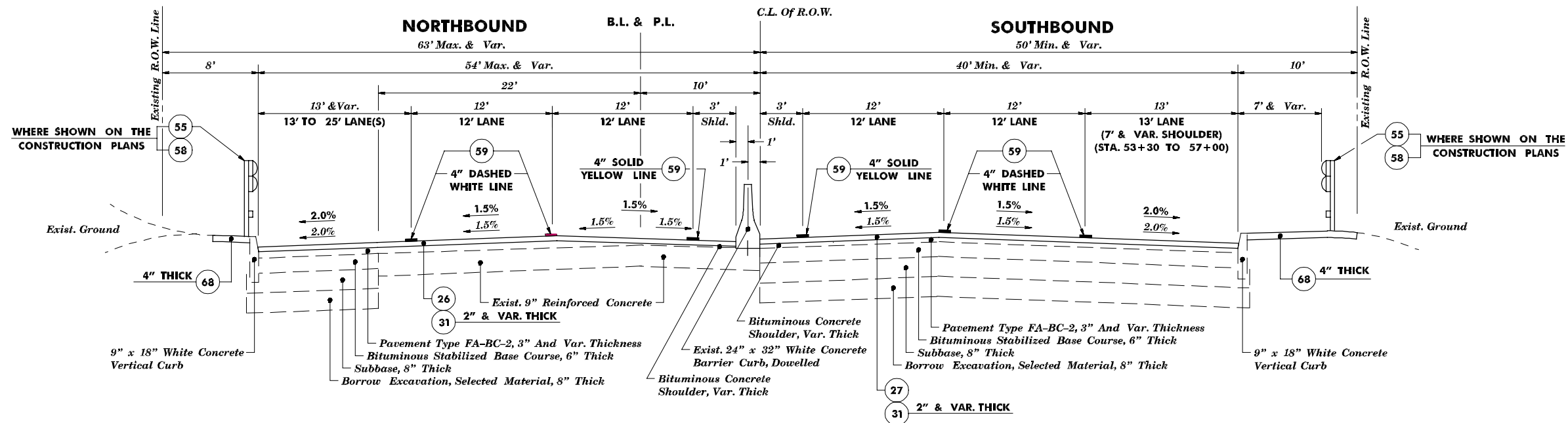
TOTAL LENGTH OF FEDERAL PROJECT NO. I-287-3(42)50 = 22,109 LIN. FT. OR 4.187 MILES  
TOTAL LENGTH OF FEDERAL PROJECT NO. FR-54 (134) = 2,035 LIN. FT. OR 0.385 MILES

2001 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION TO GOVERN

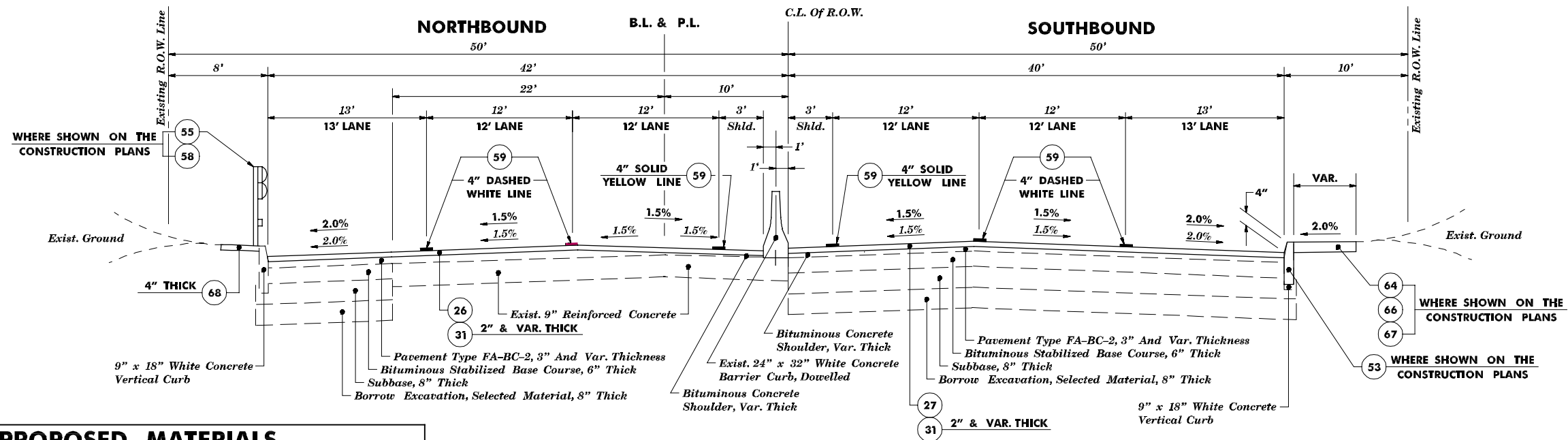
Submitted by \_\_\_\_\_ Date \_\_\_\_\_  
Director, Division Of Project Management  
Approved by \_\_\_\_\_ Date \_\_\_\_\_  
Assistant Commissioner, Capital Program Management

**PROJECT: ROUTE 795  
ROUTE 43  
CONTRACT NO. 010010001**

**Individual, Firm, Partnership, etc.**  
**(signature) (date)**  
**John L. Doe**  
**N.J.P.E. LIC. NO. 99999**



**ROUTE 18**  
**STA. 53+30 TO STA. 60+00**



**ROUTE 18**  
**STA. 60+00 TO STA. 71+50**

PROPOSED MATERIALS		
PAY ITEM NO.	STD. ITEM NO.	DESCRIPTION
26	2B25N	MILLING, 2" VARIABLE DEPTH
27	2B40N	MILLING, 3 1/2" VARIABLE DEPTH
31	4C15D	DENSE-GRADED FRICTION COURSE, MIX I-4
53	6E11D	9" x 16" CONCRETE VERTICAL CURB
55	6L21B	BEAM GUIDE RAIL
58	6L11F	RUB RAIL
59	6R11C	TRAFFIC STRIPES
64	8F04C	TOPSOILING, 4" THICK
66	8H23C	FERTILIZING AND SEEDING, TYPE A3
67	8K31C	STRAW MULCHING
68	8N05B	NONVEGETATIVE SURFACE, BITUMINOUS CONCRETE

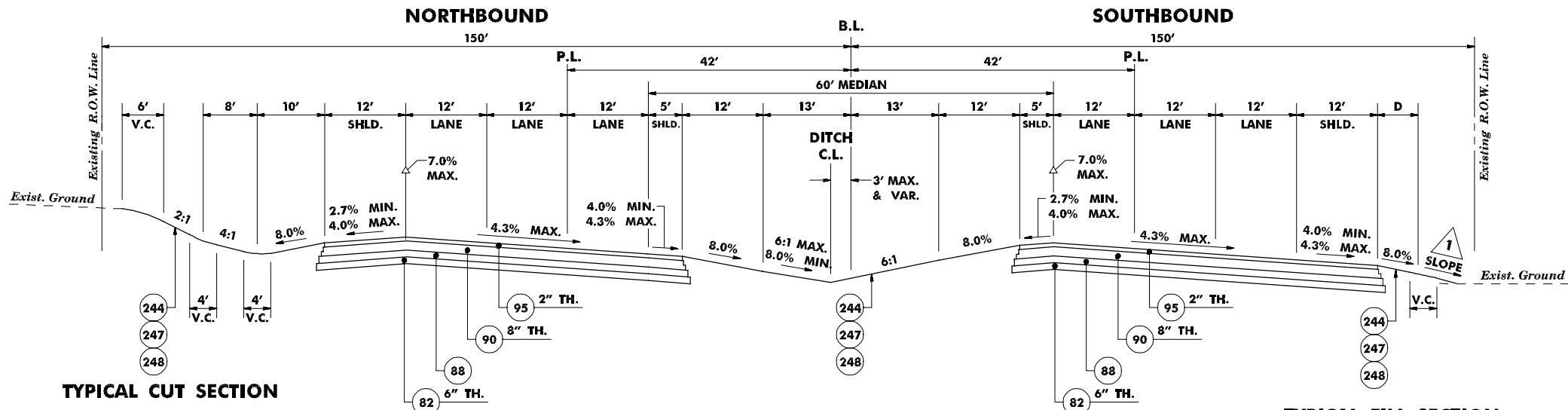
N.T.S.

NEW JERSEY DEPARTMENT OF TRANSPORTATION

**TYPICAL SECTIONS**

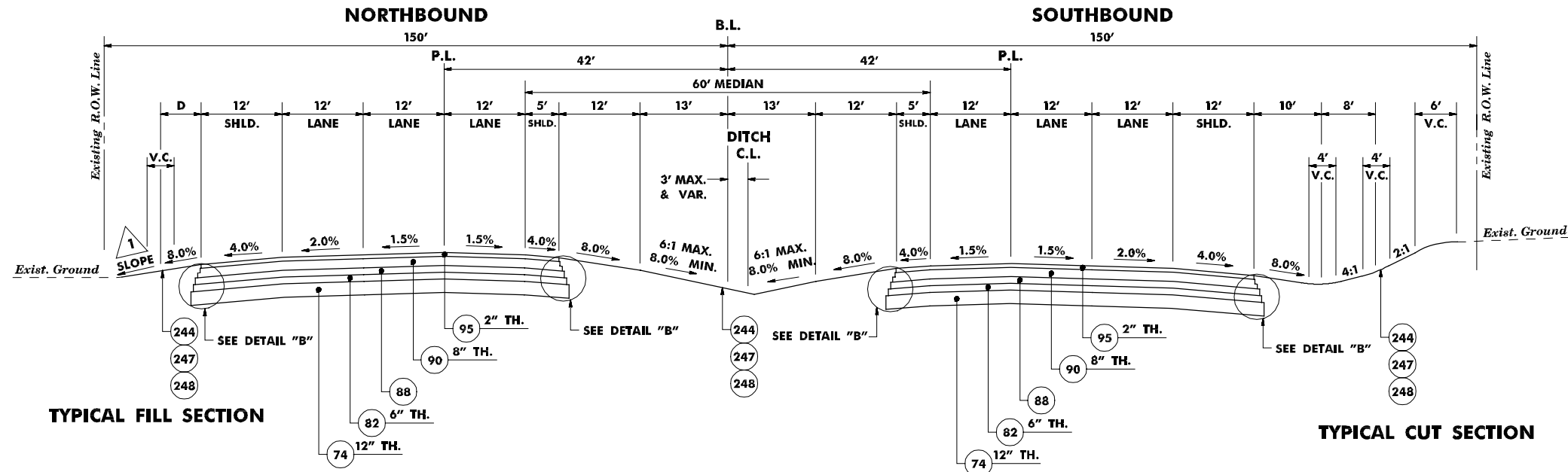
**ROUTE 18**  
**CONTRACT NO. 010010001**

Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999



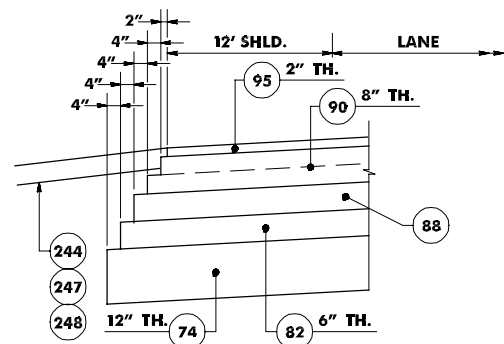
**ROUTE 295  
SUPERELEVATED SECTION (RIGHT)**  
VICINITY OF STA. 960+00

PROPOSED MATERIALS		
PAY ITEM NO.	STD. ITEM NO.	DESCRIPTION
74	2D11C	BORROW EXCAVATION, SELECTED MATERIAL
82	2H21C	SUBBASE, DESIGNATION I-2
88	3A15D	DENSE GRADED AGGREGATE BASE COURSE, 6" THICK
90	3E02B	BITUMINOUS-STABILIZED BASE COURSE, MIX I-2
95	4D14B	BITUMINOUS CONCRETE SURFACE COURSE MIX I-4, HD
113	N6A01	LONGITUDINAL UNDERDRAIN
244	8F04C	TOPSOILING, 4" THICK
247	8H23C	FERTILIZING AND SEEDING, TYPE A3
248	8H60C	FERTILIZING AND SEEDING, TYPE F

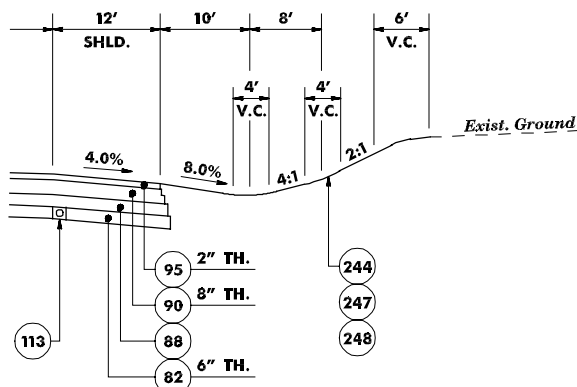


**ROUTE 295 NORMAL SECTION**  
VICINITY OF STA. 1135+00

SLOPE TREATMENT IN FILL			
FILL HEIGHT	D	V.C.	SLOPE
0 TO 5'	2'	4'	6:1
5' TO 10'	3'	6'	4:1
OVER 10'	7'	6'	2:1



**PAVEMENT EDGE DETAIL "B"**



**ROUTE 295**  
STA. 1112+00 TO 1116+50

N.T.S.

NEW JERSEY DEPARTMENT OF TRANSPORTATION

**TYPICAL SECTIONS**

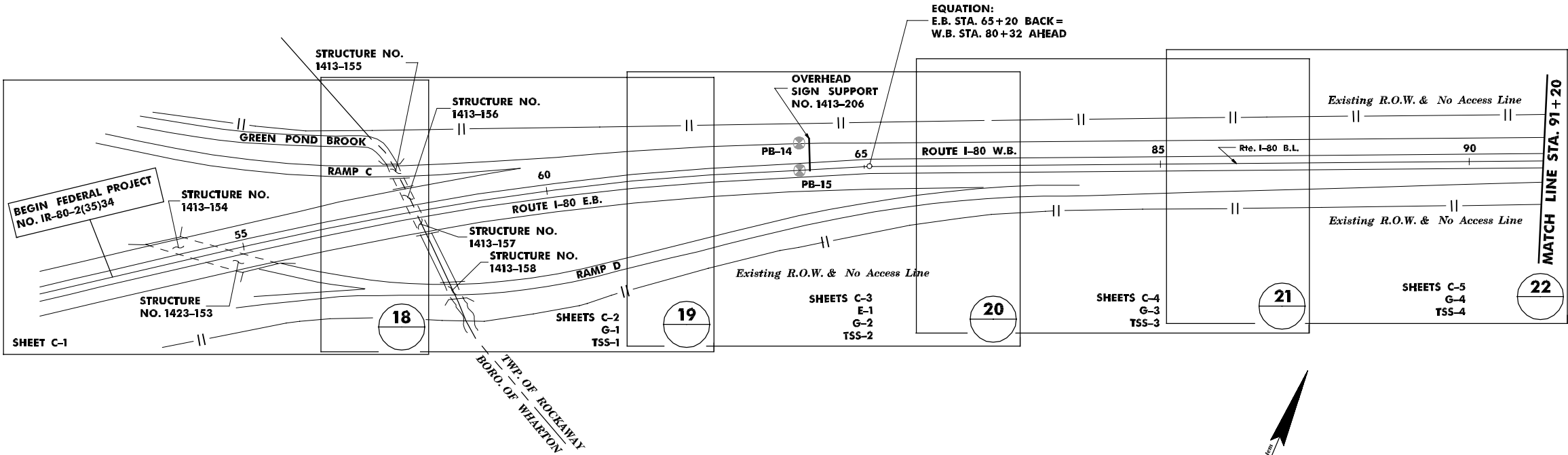
**ROUTE 295**  
**CONTRACT NO. 010010001**

Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999

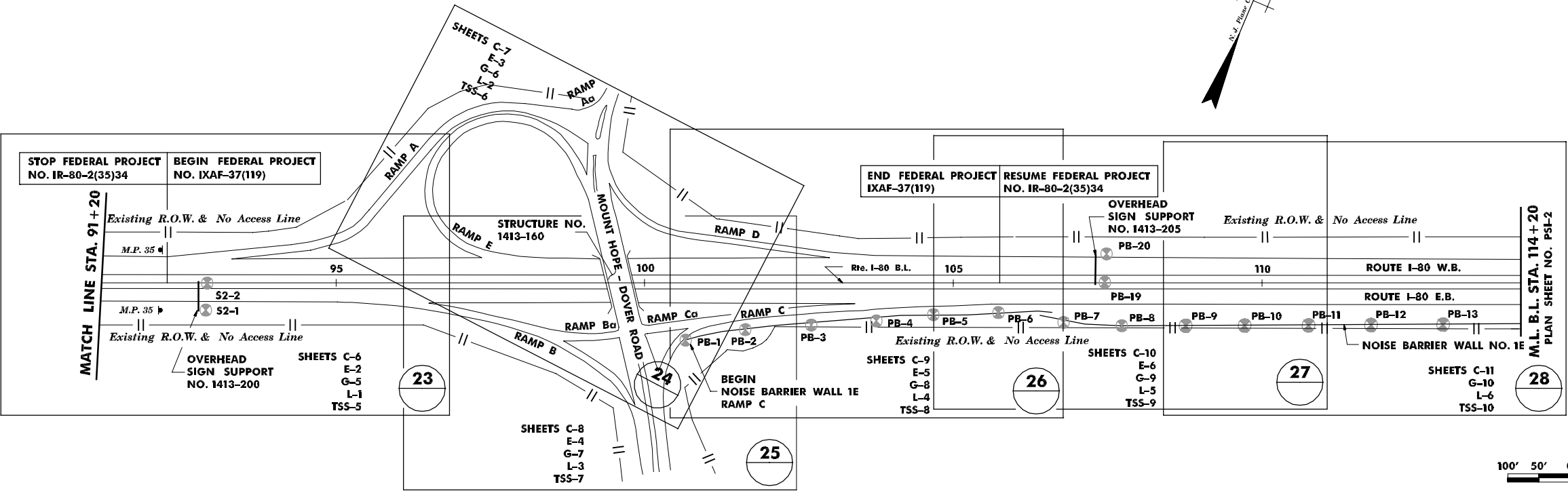
BOROUGH OF WHARTON

TOWNSHIP OF ROCKAWAY

COUNTY OF MORRIS



FEDERAL PARTICIPATION LIMITS



LEGEND

- SHEET C = CONSTRUCTION PLANS
- SHEET E = ELECTRICAL PLANS
- SHEET G = GRADES
- SHEET TSS = TRAFFIC STRIPING PLANS
- SHEET L = LANDSCAPE PLANS
- ⊗ = BORING FOR NOISE BARRIER WALL AND FOR SIGN SUPPORT

FEDERAL PARTICIPATION LIMITS

NEW JERSEY DEPARTMENT OF TRANSPORTATION

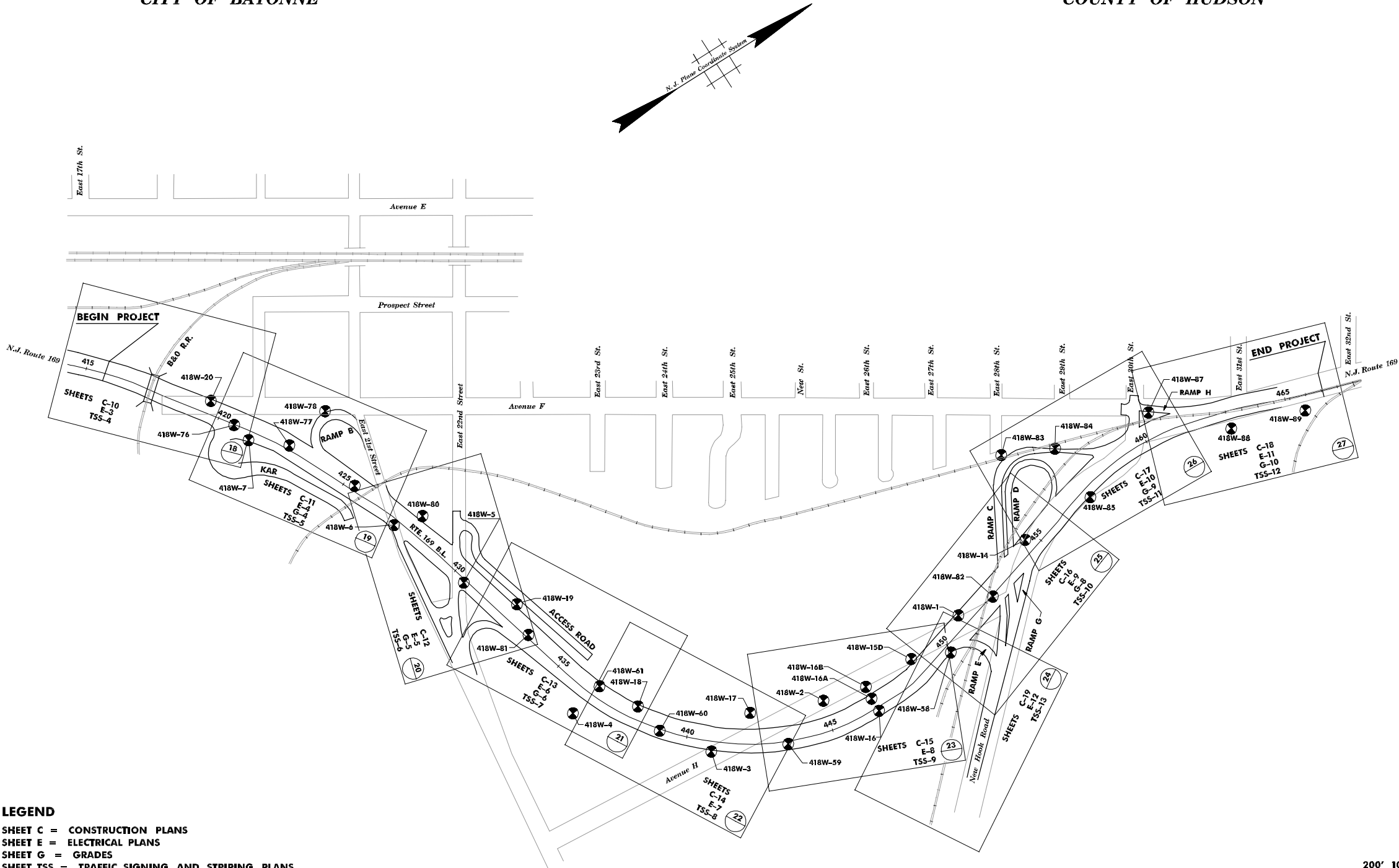
PLAN SHEET INDEX

ROUTE 80  
CONTRACT NO. 010010001

Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999

CITY OF BAYONNE

COUNTY OF HUDSON



**LEGEND**  
SHEET C = CONSTRUCTION PLANS  
SHEET E = ELECTRICAL PLANS  
SHEET G = GRADES  
SHEET TSS = TRAFFIC SIGNING AND STRIPING PLANS  
⊗ = BORING LOCATION



PSI-2  
PSI-2

NEW JERSEY DEPARTMENT OF TRANSPORTATION

**PLAN SHEET INDEX**

**ROUTE 169**  
**CONTRACT NO. 010010001**

Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999













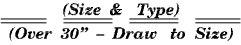











































pr:\transport\scale.tbl





















































NEW JERSEY DEPARTMENT OF TRANSPORTATION STANDARD LEGEND

STATE FEDERAL PROJECT NO.  
N.J. HES-0012(403)



















Linear Features

Existing	PROPOSED	
 W	 W	Water Main (Size)
 G	 G	Gas Main (Size)
 T	 T	Telephone Conduit
 E	 E	Electric Conduit (Highway or Utility)
 CTV	 CTV	Cable TV
 FO	 FO	Fiber Optic
 (Size & Type) (Over 30" - Draw to Size)	 (SIZE & TYPE)	Sanitary Sewers or Storm Drains
		Pavements (Concrete or Bituminous)
		Shoulders
		Curbs
 (F) · (C)	 (C) · (F)	Slopes (Cut & Fill)
 5+00 B.L.	 B.L. 10+00	Base Line
		Twp., City, County Lines
		Right of Way Lines (Access Permitted)
		Right of Way Lines (No Access)
		Easements
		Property Line
 X		Fence (Size & Type)
		Reset Fence
		Beam Guide Rail
		Reset Beam Guide Rail
		Noise Walls
		Wetland Limit Line
		Silt Fence
		Ditches
		Railroad Tracks
		Tree Line

Topographical Features

Existing	PROPOSED	
		Inlets (Label Type)
		Inlets (Type ES)
		Manholes (Label Type or Utility)
		Reset (Inlets or Manholes)
		Reconstructed (Inlets or Manholes)
		Cast Iron Extension (Frame or Ring) (Inlet or Manhole)
		New Manhole Casting, Square Frame, Circular Cover
		R.C. End Section or C.M. Headwall
		Headwalls
		Headwalls & Aprons
		Water Gate Valves
		Reset Water Gate Valves
		Gas Gate Valves
		Reset Gas Gate Valves
		Hydrants
		Reset Hydrants
		Utility Pole (Type & Number)
		TEMP. Temporary Utility Pole
		Traffic Signal
		Junction Box
		Fiber Optic Junction Box
		Junction Box Foundation
		Signs
		Vertical Panels
		Guide Rail End Terminals
		Beam Guide Rail Anchorages


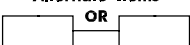
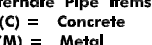



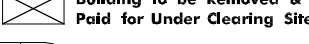
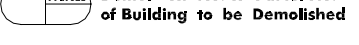
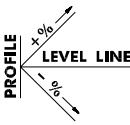
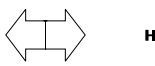


Topographical Features

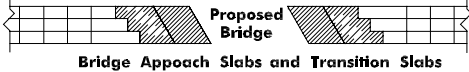
Existing	PROPOSED	
		Monuments
		ROW Monument (ROW Control Points)
		Test Pit
		Borings (Boring Number)
		Deciduous Tree (Size, Kind)
		Evergreens
		Bush
		Hedges
		Swamp

Double Reference Codes

E-DOQ - EST. & DIST. OF QTY - ROADWAY  
TS - TYPICAL SECTIONS  
PSI - PLAN SHEET INDEX  
C - CONSTRUCTION PLANS  
EP - ENVIRONMENTAL PLANS  
D - DRAINAGE PLANS  
P - PROFILES  
T - TIES  
G - GRADES  
TC - TRAFFIC CONTROL (AND STAGING PLANS)  
E - ELECTRICAL PLANS  
TSP - TRAFFIC SIGNAL PLANS  
HL - HIGHWAY LIGHTING PLANS  
L - LANDSCAPE PLANS  
SL - SIGN LOCATION PLANS  
TSS - TRAFFIC SIGNING AND STRIPING PLANS  
STD - SIGN TEXT DETAILS  
MS - METHOD OF CROSS SECTIONS  
X - CROSS SECTIONS  
DTL - CONSTRUCTION DETAILS  
EOQB - ESTIMATE OF QUANTITIES - BRIDGE  
B - BRIDGE PLANS

Miscellaneous Symbols

	Items With No Alternate
	Alternate Items OR
	For Alternate Pipe Items (C) = Concrete (M) = Metal
	Milling
	Building to be Demolished
	Removal of Concrete Base Course & Concrete Surface Courses
	Building to be Removed & Paid for Under Clearing Site
	Demolition No. & Parcel No. of Building to be Demolished
	PROFILE LEVEL LINE
	High Point
	Low Point
	Bench Mark



ABBREVIATIONS USED IN THIS CONTRACT

AH., BK.	AHEAD, BACK	J.B.	JUNCTION BOX
B., B.L.	BASELINE	LT., RT.	LEFT, RIGHT
B.M.	BENCH MARK	L.O.P.	LIMIT OF PAVEMENT (PAVING)
B.T.	BELL TELEPHONE	L.O.M.	LIMIT OF MILLING
BIT., BITUM.	BITUMINOUS	M.B.	MAILBOX
BLDG.	BUILDING	M.P.	MILE POST
C., C.L.	CENTERLINE	MAX.	MAXIMUM
C.I.P.	CAST IRON PIPE	MIN.	MINIMUM
C.M.P.	CORRUGATED METAL PIPE	NO.	NUMBER
CONC.	CONCRETE	N.T.S.	NOT TO SCALE
CULV.	CULVERT	PAV.T.	PAVEMENT
D, DIA.	DIAMETER	PERF.	PERFORATED
D.C.	DROP CURB	P.G.L.	PROFILE GRADE LINE
DE	DITCH EXCAVATION	P.L., P.L.	PROPERTY LINE, PROFILE LINE
DEP., DP	DEPRESSED CURB	PK	PARKER KAYLON MASONRY NAIL
DH	DRILL HOLE	POC, P.O.C.	POINT ON CURVE
DWY	DRIVEWAY	POL, P.O.L.	POINT ON LINE
E.B., W.B., N.B., S.B.	EASTBOUND, WESTBOUND NORTHBOUND, SOUTHBOUND	POT, P.O.T.	POINT ON TANGENT
EL., ELEV.	ELEVATION	PRC, P.R.C.	POINT OF REVERSE CURVE
EXIST.	EXISTING	PROP.	PROPOSED
GR.	GRATE	PT, P.T.	POINT OF TANGENCY
HT.	HEIGHT	PVC, P.V.C.	POLYVINYL CHLORIDE PIPE,
H.W.	HEADWALL	PVI, P.V.I.	POINT OF VERTICAL CURVATURE
HYD.	HYDRANT	PVT, P.V.T.	POINT OF VERTICAL INTERSECTION
INV.	INVERT	R	POINT OF VERTICAL TANGENCY, PAVEMENT
IP	IRON PIN	RCCP, R.C.C.P.	RADIUS
			REINFORCED CONCRETE CULVERT PIPE

RCP, R.C.P.	REINFORCED CONCRETE PIPE
RM.C.	RIGID METALLIC CONDUIT
RNMC, R.N.M.C.	RIGID NON-METALLIC CONDUIT
ROW, R.O.W.	RIGHT OF WAY
R.R.	RAILROAD
RTE., RT.	ROUTE
SAN.	SANITARY
SDWK.	SIDEWALK
S.H.D.	STATE HIGHWAY DEPARTMENT
SHLD.	SHOULDER
S., S.L.	SURVEY LINE
S.O.D.	SUBBASE OUTLET DRAIN
STY.	STORY
T	TANGENT
TBA	TO BE ABANDONED
TBR	TO BE REMOVED
TEL.	TELEPHONE
TEMP.	TEMPORARY
THK., TH.	THICK
TYP.	TYPICAL
U.D.	UNDERDRAIN
UP, U.P.	UTILITY POLE
VAR.	VARIABLE, VARIES
W.C.V.C.	WHITE CONCRETE VERTICAL CURB
WM	WATER METER
X-SECT	CROSS SECTION

GENERAL NOTES:

- ANY TREES NOT SPECIFIED FOR REMOVAL WHICH ARE DAMAGED OR DESTROYED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN KIND AT NO COST TO THE STATE.
- PRESERVE ALL EXISTING VEGETATION WITHIN THE STATES' RIGHT OF WAY ON ROUTE 123.
- THE PROPOSED GAS LINE MUST BE CONSTRUCTED TO CAUSE THE LEAST INTERFERENCE TO ALL RESIDENCES WITHIN THE LIMITS OF THE PROJECT.



North Arrow To Be Used On Standard Construction Sheets  
Where Bearings Refer To N. J. Plane Coordinate System

NEW JERSEY DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLANS

ROUTE 295  
CONTRACT NO. 010010001

Individual, Firm, Partnership, etc.

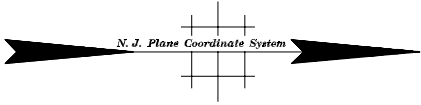
(signature) (date)

John L. Doe

N.J.P.E. LIC. NO. 99999

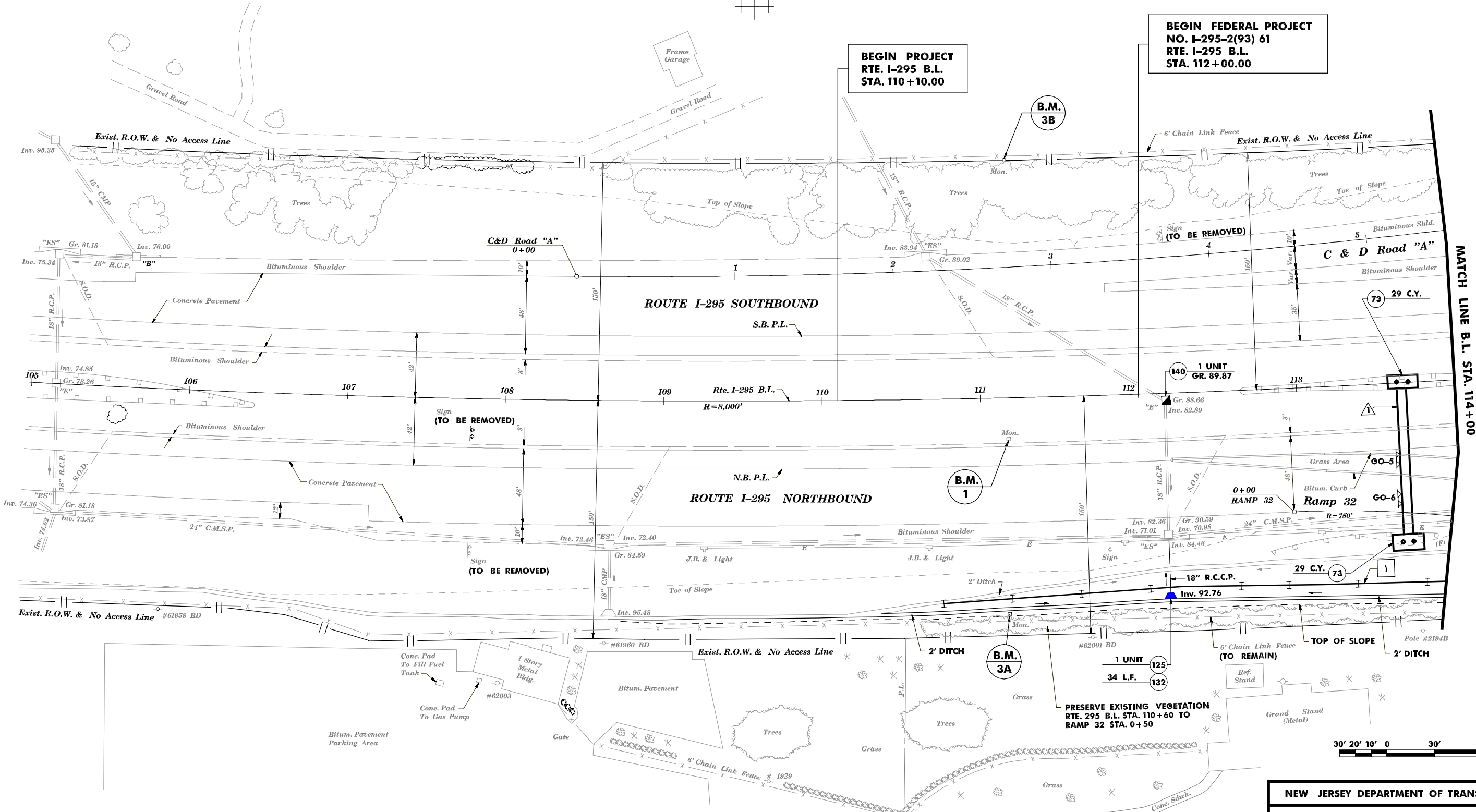
TOWNSHIP OF BORDENTOWN

COUNTY OF BURLINGTON



BEGIN PROJECT  
RTE. I-295 B.L.  
STA. 110+10.00

BEGIN FEDERAL PROJECT  
NO. I-295-2(93) 61  
RTE. I-295 B.L.  
STA. 112+00.00



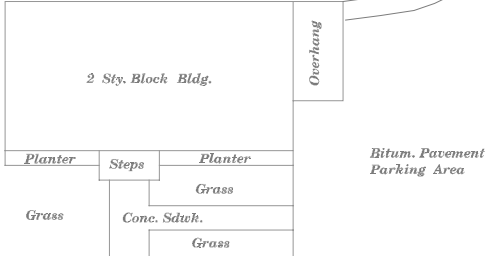
MATCH LINE B.L. STA. 114+00

PLAN SHEET NO. C-3

TO BE CONSTRUCTED			
PAY ITEM NO.	STD. ITEM NO.		CONTRACT QUANTITY
73	2D10B	BORROW EXCAVATION, BRIDGE FOUNDATION	58 C.Y.
125	6B12W	18" REINFORCED CONCRETE END SECTIONS	1 UNIT
132	6B34G	18" REINFORCED CONCRETE CULVERT PIPE	34 L.F.
140	6C22I	RESET CASTINGS	1 UNIT

B.M. 1 - USC & GS MON. ROUTE 295 B.L. STA. 111+28.75, 25.53' Rt. - Elev. 89.513  
B.M. 3A - CONC. MON. ROUTE 295 B.L. STA. 111+27.46, 137.15' Rt. - Elev. 95.448  
B.M. 3B - CONC. MON. ROUTE 295 B.L. STA. 111+30.86, 149.95' Lt. - Elev. 90.508

MISCELLANEOUS STRUCTURES		
NO.	DESCRIPTION	STRUCTURE NO.
1	OVERHEAD SIGN STRUCTURE NO. 1	0308-205
1	NOISE BARRIER BORDENTOWN HIGH SCHOOL	



NEW JERSEY DEPARTMENT OF TRANSPORTATION

# CONSTRUCTION PLAN

## ROUTE 295

### CONTRACT NO. 010010001

Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999

PLAN SHEET NO. C-2  
MATCH LINE B.L. STA. 109 + 00

MATCH LINE B.L. STA. 136 + 50  
PLAN SHEET NO. C-5

TOWNSHIP OF BORDENTOWN

COUNTY OF BURLINGTON

PLAN SHEET NO. C-2

PLAN SHEET NO. C-5

Equation :  
Route I-295 B.L. Sta. 116 + 48.56 Bk. =  
Route I-295 B.L. Sta. 135 + 00.00 Ah.

END FEDERAL PROJECT  
NO. I-295-2(93)61  
ROUTE 130 B.L.  
STA. 11 + 69.29  
  
RESUME FEDERAL PROJECT  
NO. 1XAF-37(119)  
ROUTE 130 B.L.  
STA. 11 + 69.29

PAY ITEM NO.	STD. ITEM NO.	TO BE CONSTRUCTED	I-295-2(93)61 QUANTITY	1XAF-37(119) QUANTITY	CONTRACT QUANTITY
62	2B25B	ROADWAY EXCAVATION, UNCLASSIFIED	49 C.Y.	41 C.Y.	90 C.Y.
73	2D10B	BORROW EXCAVATION, BRIDGE FOUNDATION		50 C.Y.	50 C.Y.
74	2D11C	BORROW EXCAVATION, SELECTED MATERIAL	923 C.Y.		923 C.Y.
82	2H21C	SUBBASE	1,216 C.Y.	18 C.Y.	1,234 C.Y.
83	2I20C	UNDERLAYER PREPARATION	869 S.Y.		869 S.Y.
87	3A10D	DENSE GRADED AGGREGATE BASE COURSE, 4" THICK	1,205 S.Y.		1,205 S.Y.
88	3A15D	DENSE GRADED AGGREGATE BASE COURSE, 6" THICK	4,239 S.Y.		4,239 S.Y.
89	3A20D	DENSE GRADED AGGREGATE BASE COURSE, 8" THICK	556 S.Y.	84 S.Y.	640 S.Y.
90	3G10D	NON-STABILIZED OPEN GRADED DRAINAGE LAYER, 4" THICK	1,205 S.Y.		1,205 S.Y.
92	3E02B	BITUMINOUS-STABILIZED BASE COURSE, MIX 1-2	1,739 TONS	26 TONS	1,765 TONS
95	4D14B	BITUMINOUS CONCRETE SURFACE COURSE MIX 1-4, HD	527 TONS	8 TONS	535 TONS
102	4E22D	CONCRETE SURFACE COURSE, REINFORCED, 9" THICK	1,205 S.Y.		1,205 S.Y.
103	4E31E	BRIDGE APPROACH SLABS, 18" THICK	327 S.Y.		327 S.Y.
105	4E31F	BRIDGE APPROACH TRANSITION SLABS, 13.5" AVG. THICKNESS	517 S.Y.		517 S.Y.
107	4E21G	TRANSVERSE EXPANSION JOINT, TYPE A	53 L.F.		53 L.F.
108	4E06I	SAWCUT GROOVED BRIDGE APPROACH AND TRANSITION SLABS	844 S.Y.		844 S.Y.
138	6E30B	15" x 41" CONCRETE BARRIER CURB		46 L.F.	46 L.F.
139	6E11D	9" x 16" CONCRETE VERTICAL CURB	2,339 L.F.		2,339 L.F.
141	6H25C	CONCRETE ISLAND, 4" THICK	7 S.Y.	6 S.Y.	13 S.Y.

FOR PROPOSED DRAINAGE ITEMS AND  
QUANTITIES, SEE DRAINAGE SHEET D-3

30' 20' 10' 0 30' 60'

C-3  
C-4

NEW JERSEY DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLAN

ROUTE 295  
CONTRACT NO. 010010001

Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999

9

29 C.Y. 82  
6" THICK 163 S.Y. 89  
66 TONS 92  
7" THICK 19 TONS 95  
2" THICK

82 197 C.Y.  
6" THICK 1,180 S.Y.  
87 1,180 S.Y.  
90 1,180 S.Y.  
102 1,180 S.Y.

468 S.Y. 108  
72 L.F. 139

82 114 C.Y.  
6" THICK & VAR. 468 S.Y.  
83 149 S.Y.  
103 319 S.Y.  
105 36 L.F.  
107

82 6 C.Y.  
5" THICK 25 S.Y.  
83 25 S.Y.  
87 25 S.Y.  
90 25 S.Y.  
102 25 S.Y.

74 124 C.Y. 12" THICK  
STA. 117 + 50 TO 118 + 00  
82 344 C.Y.  
6" THICK 2,067 S.Y.  
88 951 TONS  
92 8" THICK 237 TONS  
95 2" THICK

82 83 C.Y.  
6" THICK & VAR. 376 S.Y.  
83 178 S.Y.  
103 198 S.Y.  
105 17 L.F.  
107 376 S.Y.  
108

799 C.Y. 74  
12" THICK 377 C.Y. 82  
6" THICK 2,172 S.Y. 88  
564 TONS 92  
7" THICK 226 TONS 95  
2" THICK

MISCELLANEOUS STRUCTURES		
NO.	DESCRIPTION	STRUCTURE NO.
1	ROUTE 295 N.B. OVER ROUTE 130	0328-169
2	LIGHTING TOWER, ROUTE 295 B.L. STA. 111 + 62, 227' RT.	
4	OVERHEAD SIGN STRUCTURE NO. 4	0328-206
9	BRIDGE MOUNTED SIGN STRUCTURE NO. 3	GOX-1

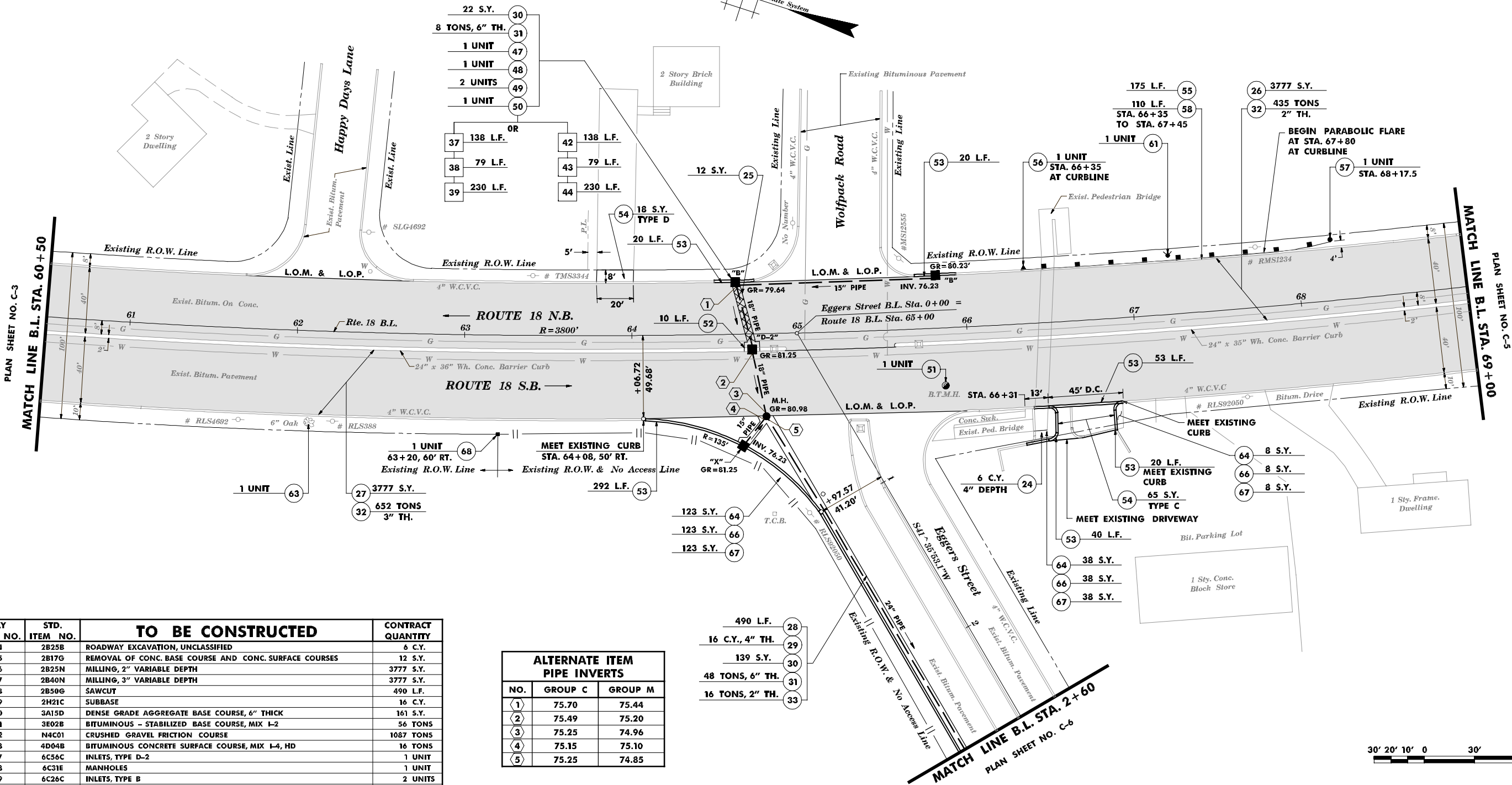
B.M. 4 - CONC. MON. RT. 295 B.L. STA. 110 + 82.58, 0.0', ELEV. 29.401  
B.M. 5B - CONC. MON. RT. 295 B.L. STA. 114 + 71.92, 168.67' RT., ELEV. 28.466

WORK TO BE PERFORMED  
BY P.S.E. & G.



TOWNSHIP OF EAST BRUNSWICK

COUNTY OF MIDDLESEX



PAY ITEM NO.	STD. ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY
24	2B25B	ROADWAY EXCAVATION, UNCLASSIFIED	6 C.Y.
25	2B17G	REMOVAL OF CONC. BASE COURSE AND CONC. SURFACE COURSES	12 S.Y.
26	2B25N	MILLING, 2" VARIABLE DEPTH	3777 S.Y.
27	2B40N	MILLING, 3" VARIABLE DEPTH	3777 S.Y.
28	2B50G	SAWCUT	490 L.F.
29	2H21C	SUBBASE	16 C.Y.
30	3A15D	DENSE GRADE AGGREGATE BASE COURSE, 6" THICK	161 S.Y.
31	3E02B	BITUMINOUS - STABILIZED BASE COURSE, MIX L-2	56 TONS
32	N4C01	CRUSHED GRAVEL FRICTION COURSE	1087 TONS
33	4D04B	BITUMINOUS CONCRETE SURFACE COURSE, MIX L-4, HD	16 TONS
47	6C56C	INLETS, TYPE D-2	1 UNIT
48	6C31E	MANHOLES	1 UNIT
49	6C26C	INLETS, TYPE B	2 UNITS
50	N6C01	INLETS, TYPE X	1 UNIT
51	6C22I	RESET CASTINGS	1 UNIT
52	6E66E	24" X 35" CONCRETE BARRIER CURB, DOWELLED	10 L.F.
53	6E23G	9" X 18" CONCRETE VERTICAL CURB	445 L.F.
54	6G15E	BITUMINOUS CONCRETE DRIVEWAY, 6" THICK	72 S.Y.
55	6L21B	BEAM GUIDE RAIL	175 L.F.
56	6L41C	BEAM GUIDE RAIL ANCHORAGES	1 UNIT
57	6L12C	SLOTTED GUIDE RAIL TERMINALS	1 UNIT
58	6L11F	RUB RAIL	110 L.F.
61	6V20A	FIRE HYDRANT ASSEMBLIES	1 UNIT
63	8D06C	TREE REMOVAL, OVER 6" TO 12" DIAMETER	1 UNIT
64	8F04C	TOPSOILING, 4" THICK	169 S.F.
66	8H23C	FERTILIZING AND SEEDING, TYPE A-3	169 S.F.
67	8K31C	STRAW MULCHING	169 S.F.
68	6K21C	MONUMENTS	1 UNIT

ALTERNATE ITEM PIPE INVERTS		
NO.	GROUP C	GROUP M
1	75.70	75.44
2	75.49	75.20
3	75.25	74.96
4	75.15	75.10
5	75.25	74.85

PAY ITEM NO.	STD. ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY
ALTERNATE GROUP C			
37	6B33G	15" REINFORCED CONCRETE CULVERT PIPE	138 L.F.
38	6B34G	18" REINFORCED CONCRETE CULVERT PIPE	79 L.F.
39	6B36G	24" REINFORCED CONCRETE CULVERT PIPE	230 L.F.
ALTERNATE GROUP M			
42	6B11F	15" CORRUGATED METAL CULVERT PIPE	138 L.F.
43	6B13F	18" CORRUGATED METAL CULVERT PIPE	79 L.F.
44	6B16F	24" CORRUGATED METAL CULVERT PIPE	230 L.F.

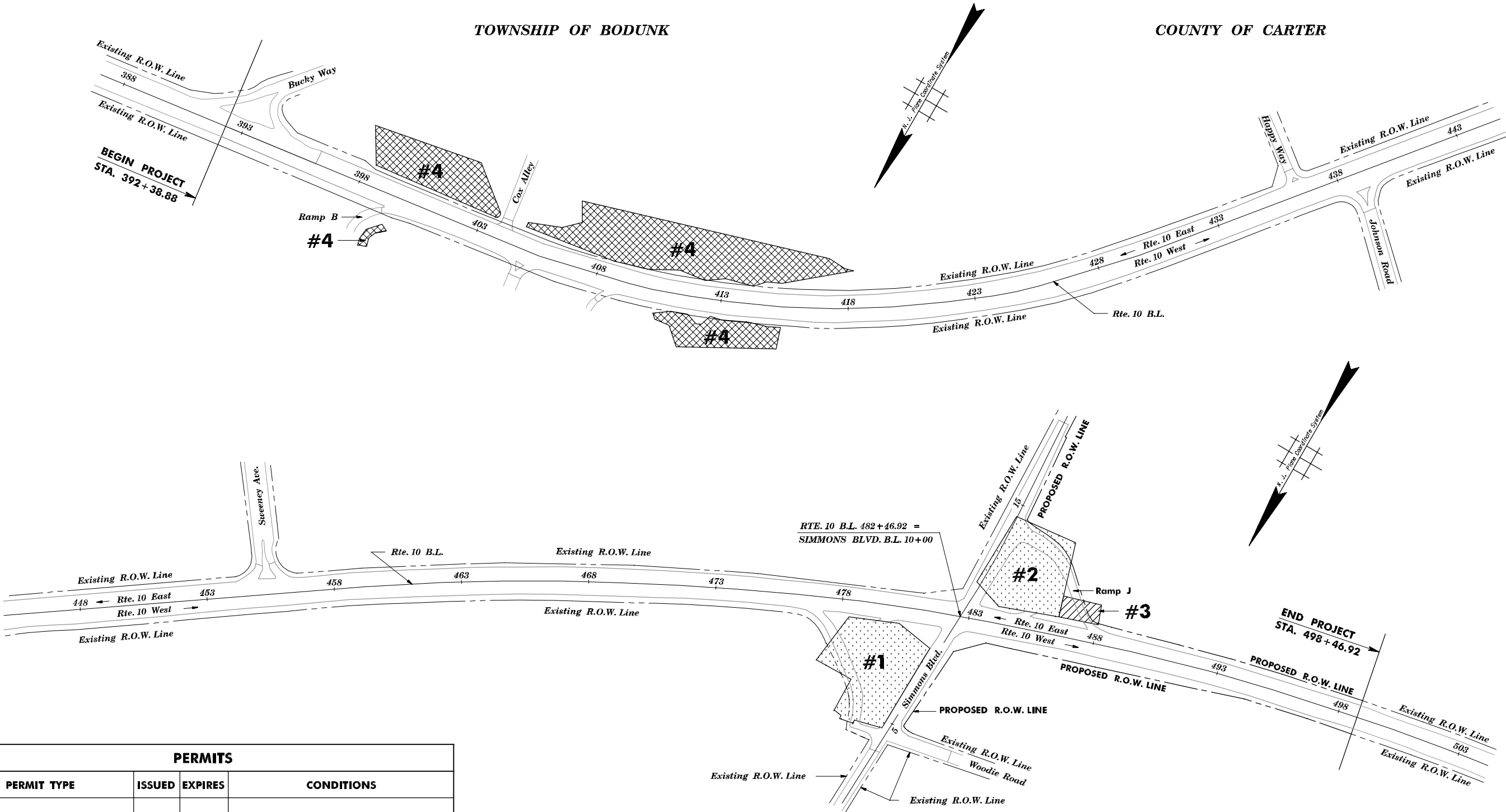
NEW JERSEY DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLAN  
ROUTE 18  
CONTRACT NO. 010010001

Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999

TOWNSHIP OF BODUNK

COUNTY OF CARTER



PERMITS			
PERMIT TYPE	ISSUED	EXPIRES	CONDITIONS
1. NJDEP FRESHWATER WETLANDS GENERAL PERMIT NOS. 10&11 WATER QUALITY CERTIFICATION AND TRANSITION AREA WAIVER, FILE NOS. 1432-91-0014.4 AND 1432-91-0014.5	9/7/01	9/7/06	1. CONSTRUCTION ACTIVITIES WITHIN THE BANKS OF ANY ON SITE STREAM ARE PROHIBITED BETWEEN SEPT. 15TH AND MARCH 15TH OF THE FOLLOWING YEAR.
2. NJDEP STREAM ENCROACHMENT PERMIT NO. 1432-91-0014.3 SEA.	5/18/01	5/18/06	1. CONSTRUCTION ACTIVITIES WITHIN THE BANKS OF ANY ON SITE STREAM ARE PROHIBITED BETWEEN SEPT. 15TH AND MARCH 15TH OF THE FOLLOWING YEAR.

ENVIRONMENTAL COMMITMENTS	
A	SENSITIVE AREAS - ASBESTOS REMOVAL REQUIRED PRIOR TO DEMOLITION. SEE ENVIRONMENTAL PLANS EP-5 AND EP-6
B	SENSITIVE AREA - UNDERGROUND STORAGE TANKS, PRIOR TO DEMOLITION ALL U.S.T.S. MUST BE REMOVED.
C	SENSITIVE AREA - WETLANDS, SEE ENVIRONMENTAL PLANS EP-2 THROUGH EP-4

LEGEND	
	#1 - #2 SENSITIVE AREAS - ASBESTOS, SEE ENVIRONMENTAL COMMITMENT A
	#3 SENSITIVE AREA - UNDERGROUND STORAGE TANKS, SEE ENVIRONMENTAL COMMITMENT B
	#4 SENSITIVE AREA - WETLANDS, SEE ENVIRONMENTAL COMMITMENT C



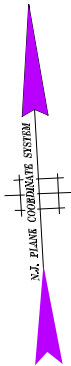
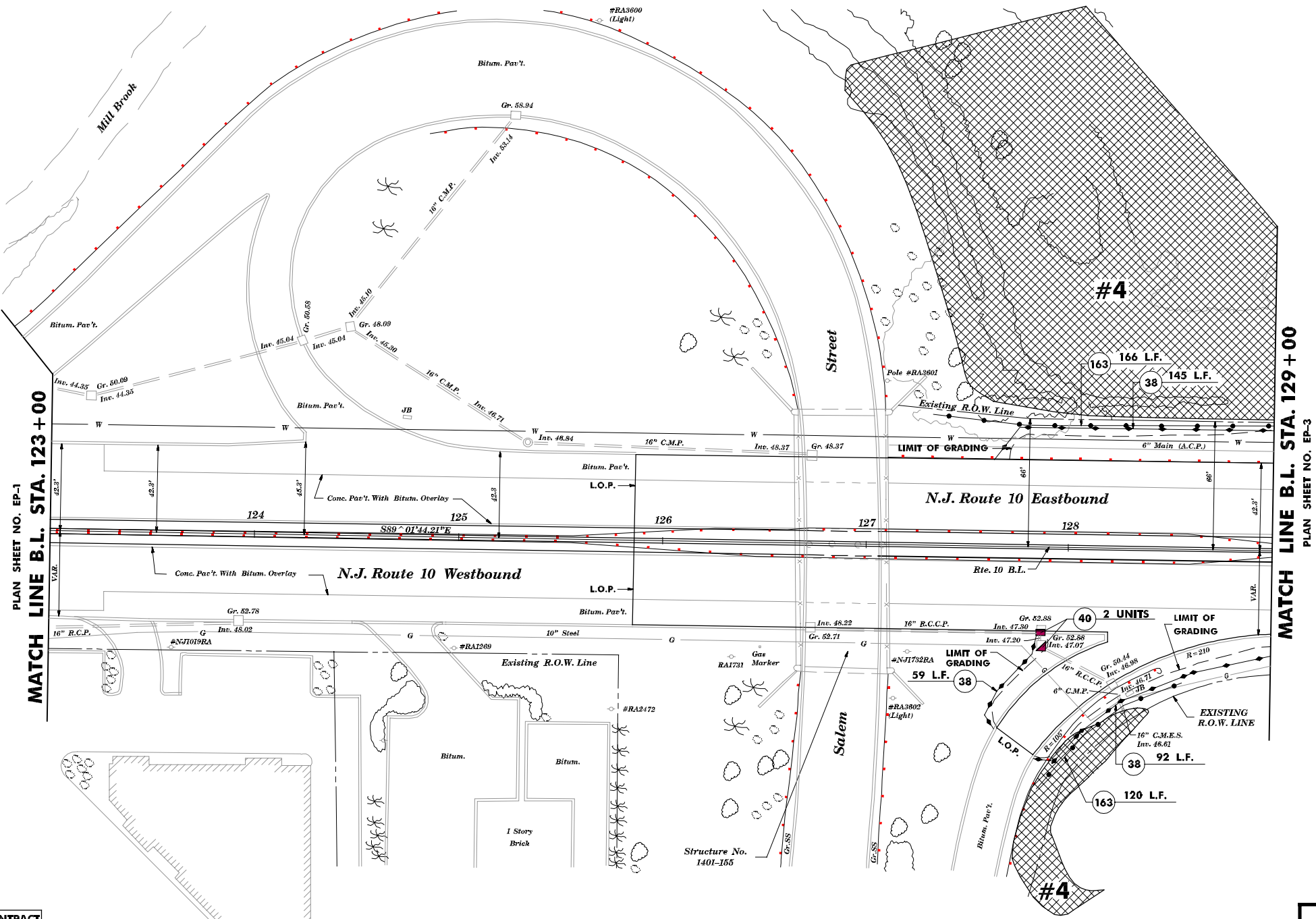
NEW JERSEY DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL PLANS  
ROUTE 10  
CONTRACT NO. 010010001

Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999

TOWNSHIP OF BODUNK

COUNTY OF CARTER

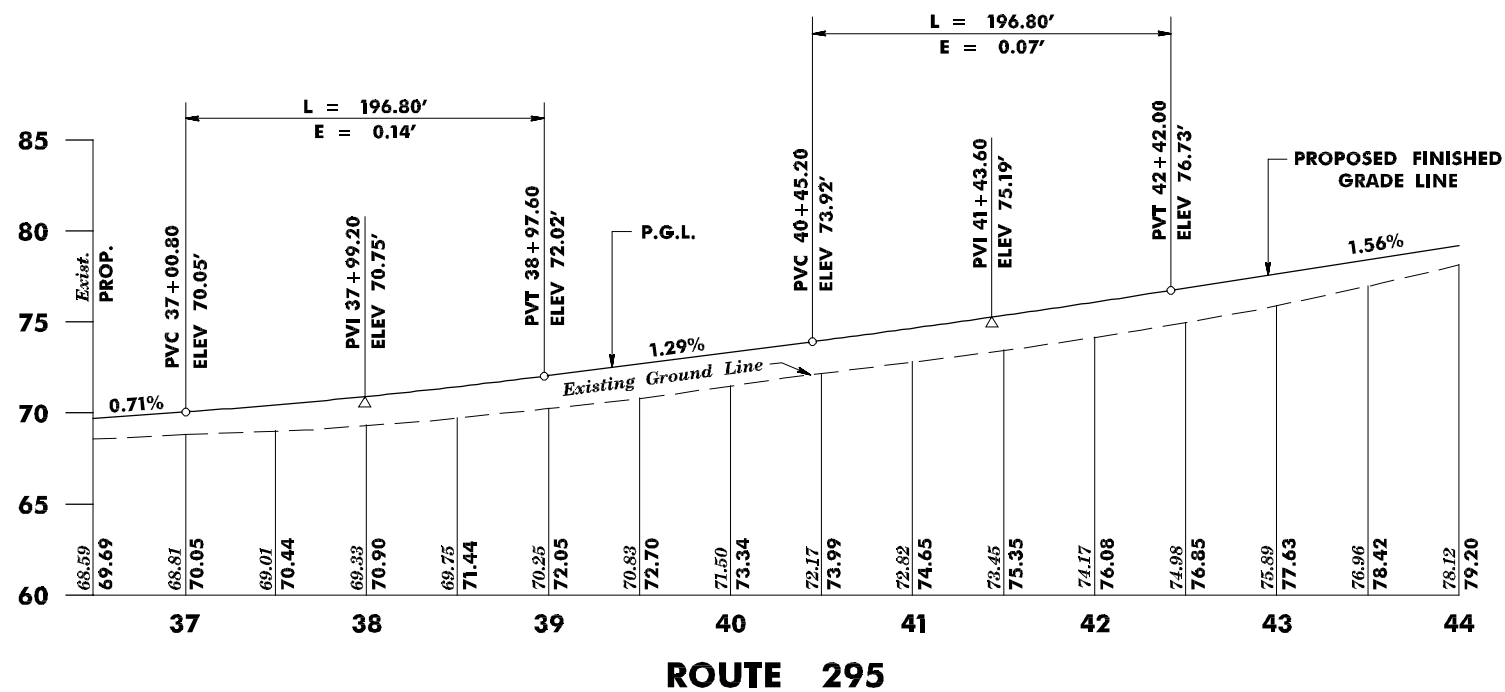
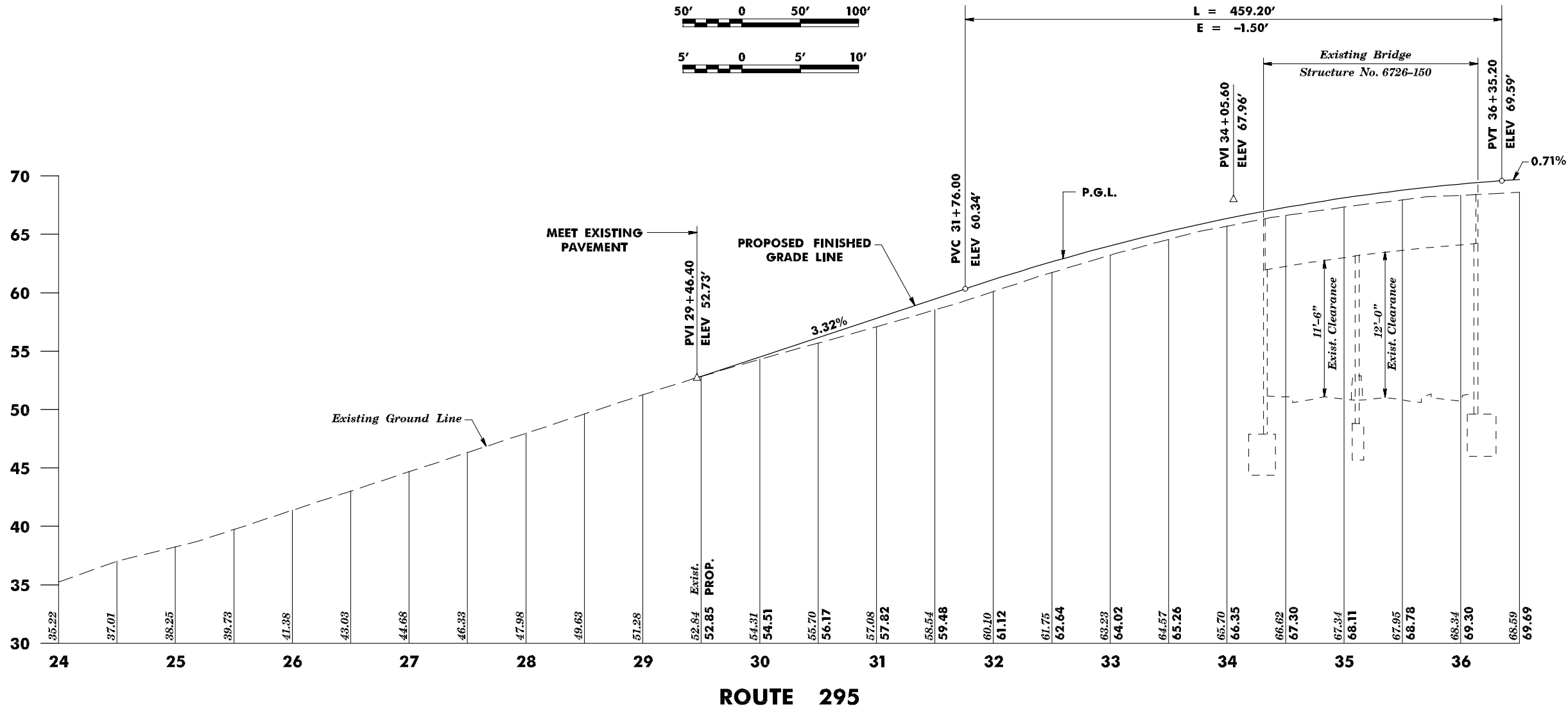


PAY ITEM NO.	STD. ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY
38	2L05A	SILT FENCE	297 L.F.
40	2L22C	INLET FILTERS	2 UNITS
163	6N16S	SNOW FENCE, PLASTIC	286 L.F.

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ENVIRONMENTAL PLAN  
ROUTE 10  
CONTRACT NO. 010010001

Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999



NOTE:  
E = DIFFERENCE BETWEEN THE P.V.I. ELEVATION  
AND THE VERTICAL CURVE ELEVATION AT  
THE P.V.I. STATION.

NEW JERSEY DEPARTMENT OF TRANSPORTATION

PROFILES

ROUTE 295

CONTRACT NO. 010010001

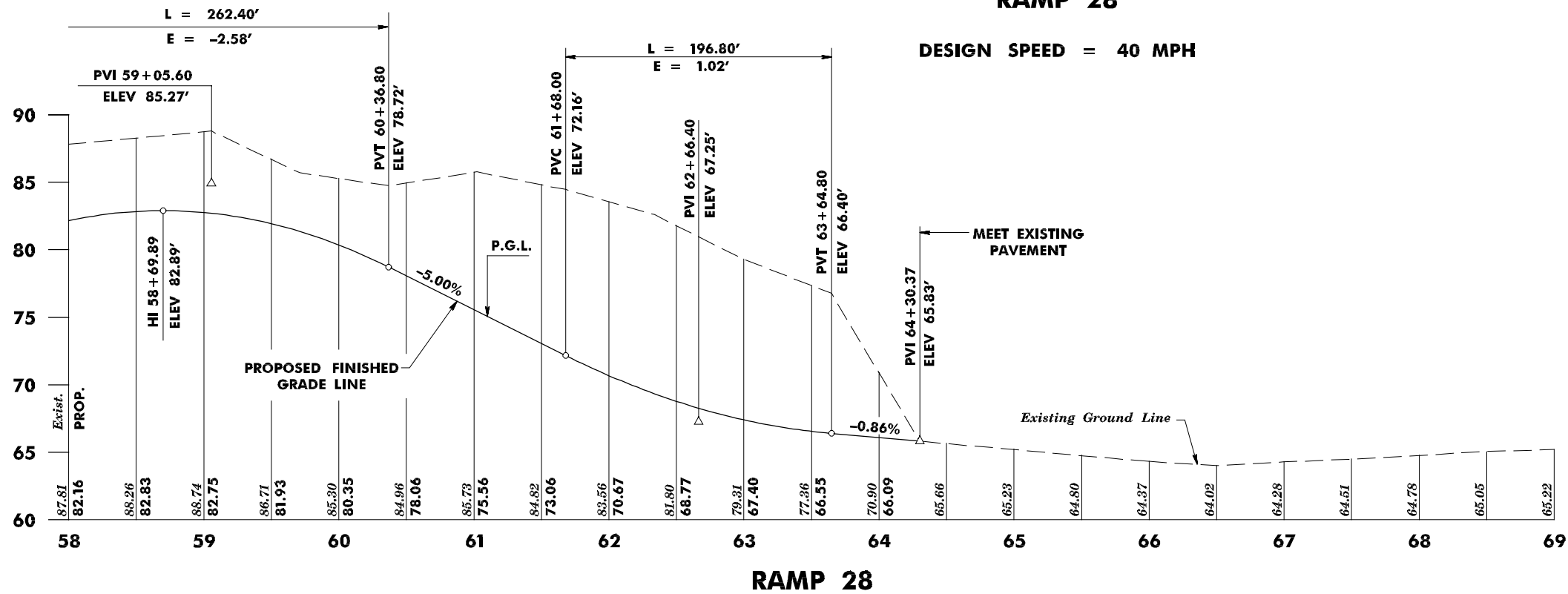
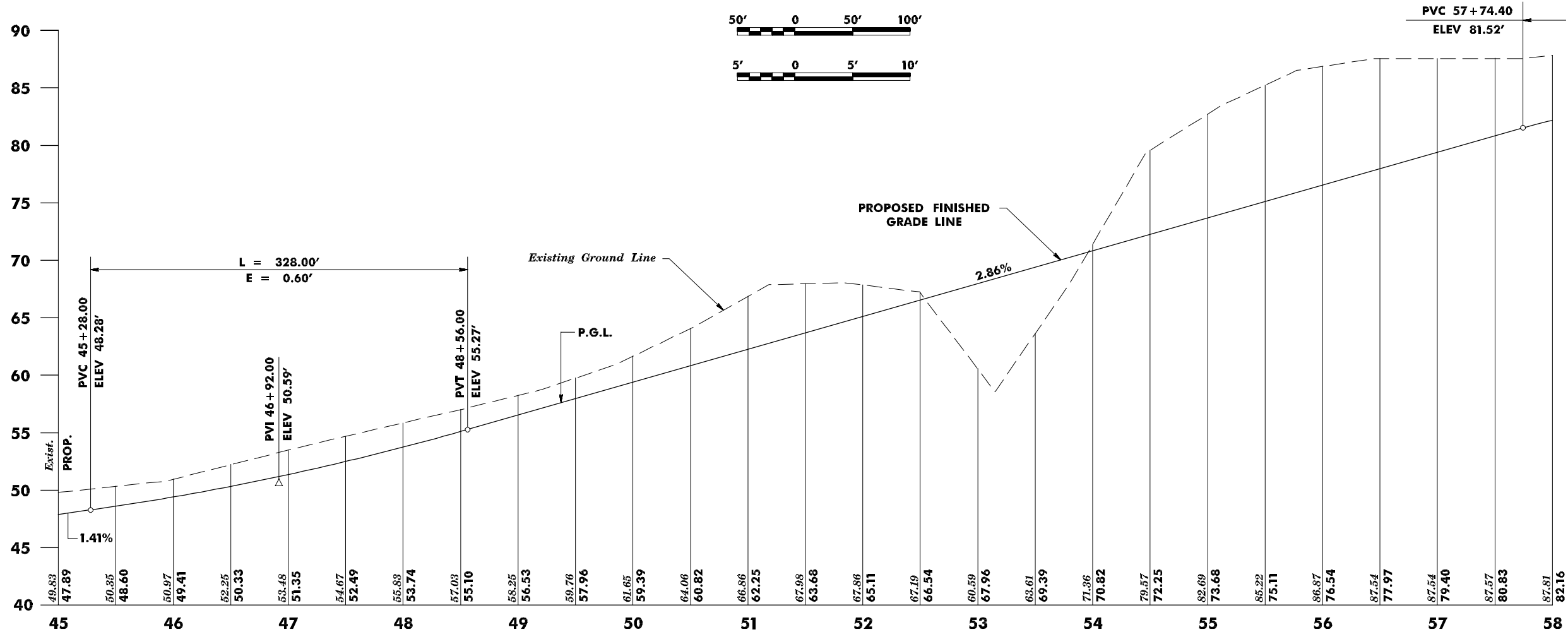
Individual, Firm, Partnership, etc.

(signature) (date)

John L. Doe

N.J.P.E. LIC. NO. 99999

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NEW JERSEY DEPARTMENT OF TRANSPORTATION

PROFILES

ROUTE 295

CONTRACT NO. 010010001

Individual, Firm, Partnership, etc.

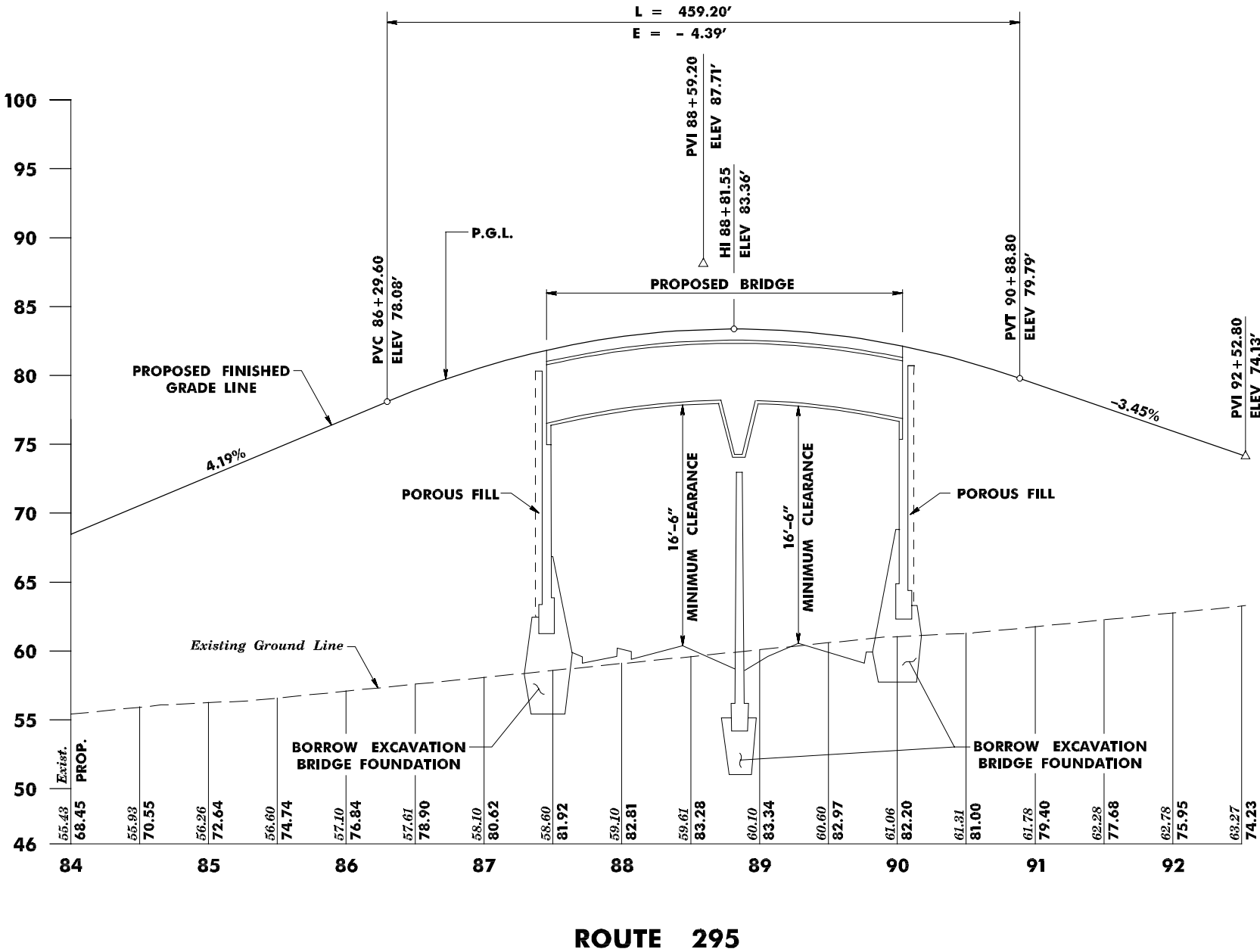
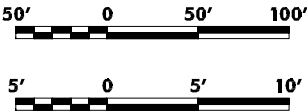
(signature) (date)

John L. Doe

N.J.P.E. LIC. NO. 99999

P-2  
P-3

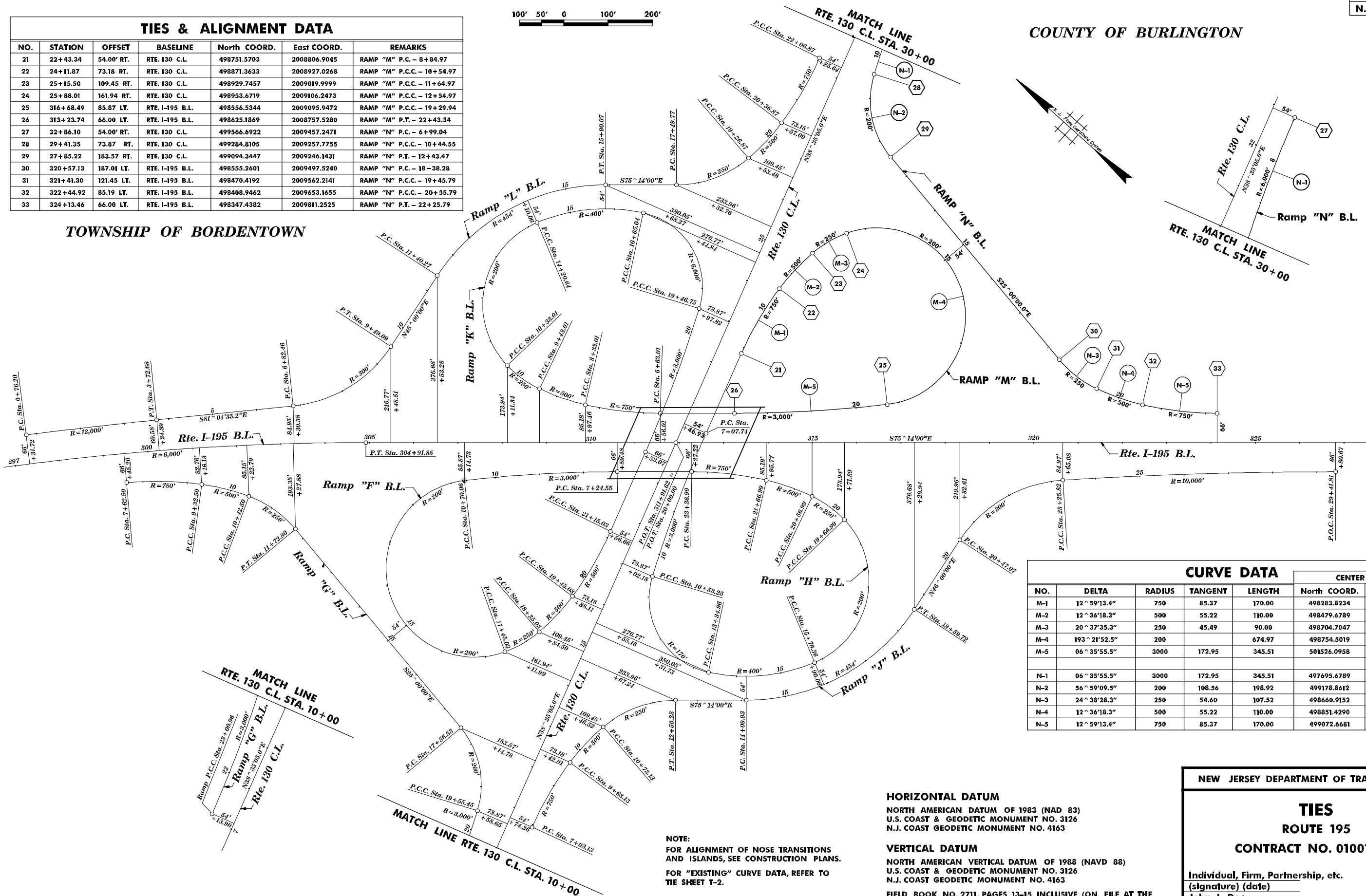




TIES & ALIGNMENT DATA

NO.	STATION	OFFSET	BASELINE	North COORD.	East COORD.	REMARKS
21	22+43.34	54.00' RT.	RTE. 130 C.L.	498751.5703	2008806.9045	RAMP "M" P.C. - 8+84.97
22	24+11.87	73.18 RT.	RTE. 130 C.L.	498871.3633	2008927.0268	RAMP "M" P.C.C. - 10+54.97
23	25+15.50	109.45 RT.	RTE. 130 C.L.	498929.7457	2009019.9999	RAMP "M" P.C.C. - 11+64.97
24	25+88.01	161.94 RT.	RTE. 130 C.L.	498953.6719	2009106.2473	RAMP "M" P.C.C. - 12+54.97
25	316+68.49	85.87 LT.	RTE. I-195 B.L.	498556.5344	2009095.9472	RAMP "M" P.C.C. - 19+29.94
26	313+23.74	66.00 LT.	RTE. I-195 B.L.	498625.1869	2008757.5280	RAMP "M" P.T. - 22+43.34
27	32+86.10	54.00' RT.	RTE. 130 C.L.	499566.6922	2009457.2471	RAMP "N" P.C. - 6+99.04
28	29+41.35	73.87 RT.	RTE. 130 C.L.	499284.8105	2009257.7755	RAMP "N" P.C.C. - 10+44.55
29	27+85.22	183.57 RT.	RTE. 130 C.L.	499094.3447	2009246.1431	RAMP "N" P.T. - 12+43.47
30	320+57.13	187.01 LT.	RTE. I-195 B.L.	498555.2601	2009497.5240	RAMP "N" P.C. - 18+38.28
31	321+41.30	121.45 LT.	RTE. I-195 B.L.	498470.4192	2009562.2141	RAMP "N" P.C.C. - 19+45.79
32	322+44.92	85.19 LT.	RTE. I-195 B.L.	498408.9462	2009653.1655	RAMP "N" P.C.C. - 20+55.79
33	324+13.46	66.00 LT.	RTE. I-195 B.L.	498347.4382	2009811.2525	RAMP "N" P.T. - 22+25.79

TOWNSHIP OF BORDENTOWN



CURVE DATA

NO.	DELTA	RADIUS	TANGENT	LENGTH	CENTER POINT	
					North COORD.	East COORD.
M-1	12° 59' 13.4"	750	85.37	170.00	498283.8234	2009393.1723
M-2	12° 36' 18.3"	500	55.22	110.00	498479.6789	2009237.7855
M-3	20° 37' 35.3"	250	45.49	90.00	498704.7047	2009124.3653
M-4	193° 21' 52.5"	200		674.97	498754.5019	2009124.3698
M-5	06° 35' 55.5"	3000	172.95	345.51	501526.0958	2009522.1785
N-1	06° 35' 55.5"	3000	172.95	345.51	497695.6789	2011802.3009
N-2	56° 59' 09.5"	200	108.56	198.92	499178.8612	2009427.4122
N-3	24° 38' 28.3"	250	54.60	107.52	498660.9152	2009724.1061
N-4	12° 36' 18.3"	500	55.22	110.00	498851.4290	2009885.9979
N-5	12° 59' 13.4"	750	85.37	170.00	499072.6681	2010002.4161

HORIZONTAL DATUM

NORTH AMERICAN DATUM OF 1983 (NAD 83)  
U.S. COAST & GEODETIC MONUMENT NO. 3126  
N.J. COAST GEODETIC MONUMENT NO. 4163

VERTICAL DATUM

NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)  
U.S. COAST & GEODETIC MONUMENT NO. 3126  
N.J. COAST GEODETIC MONUMENT NO. 4163

FIELD BOOK NO. 2711, PAGES 13-15 INCLUSIVE (ON FILE AT THE  
NJDOT REGION 3 FIELD SURVEY OFFICE - "PHONE: 609-388-4692")

NEW JERSEY DEPARTMENT OF TRANSPORTATION

TIES  
ROUTE 195  
CONTRACT NO. 010010001

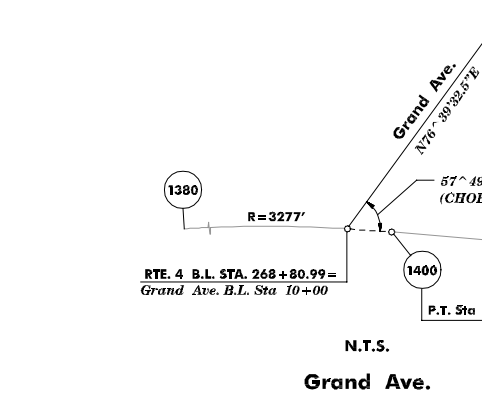
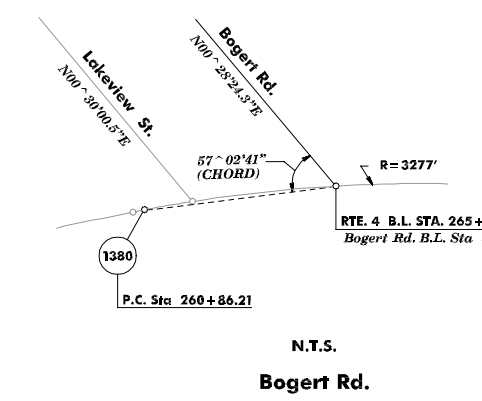
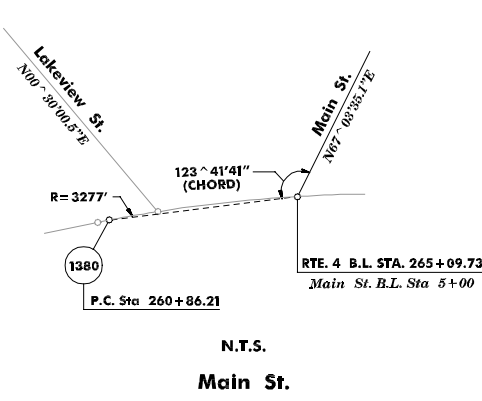
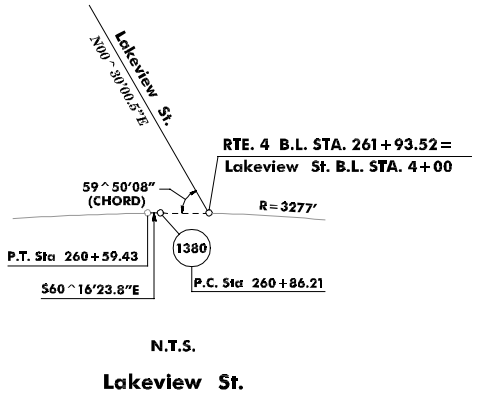
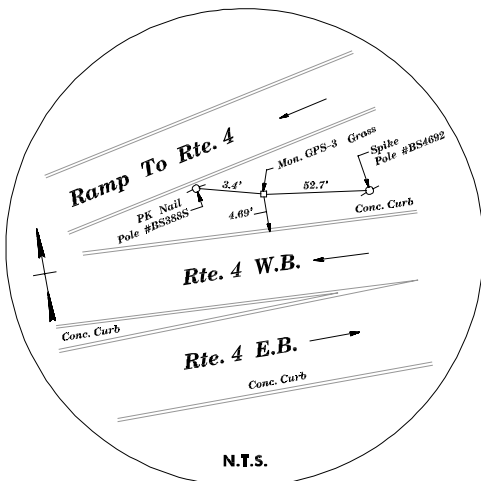
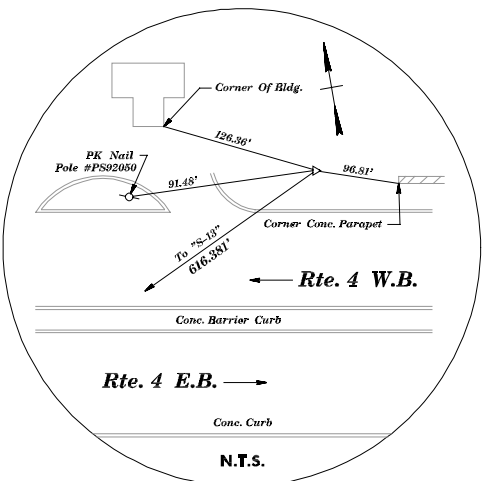
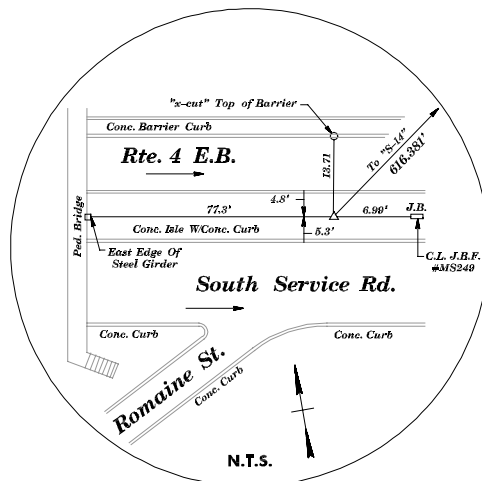
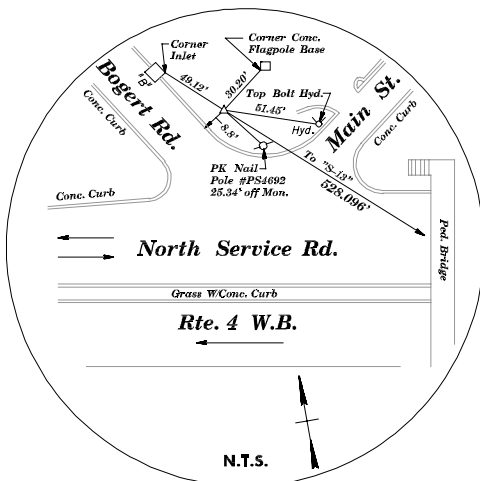
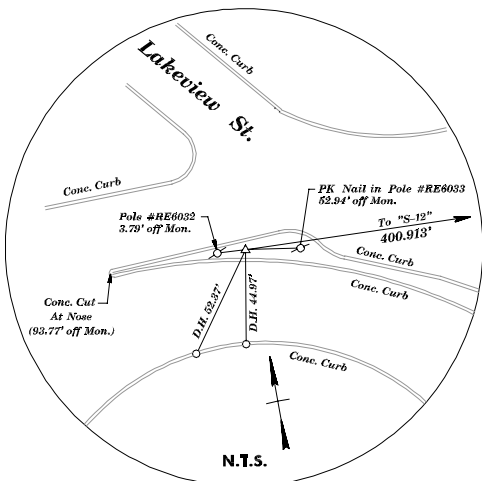
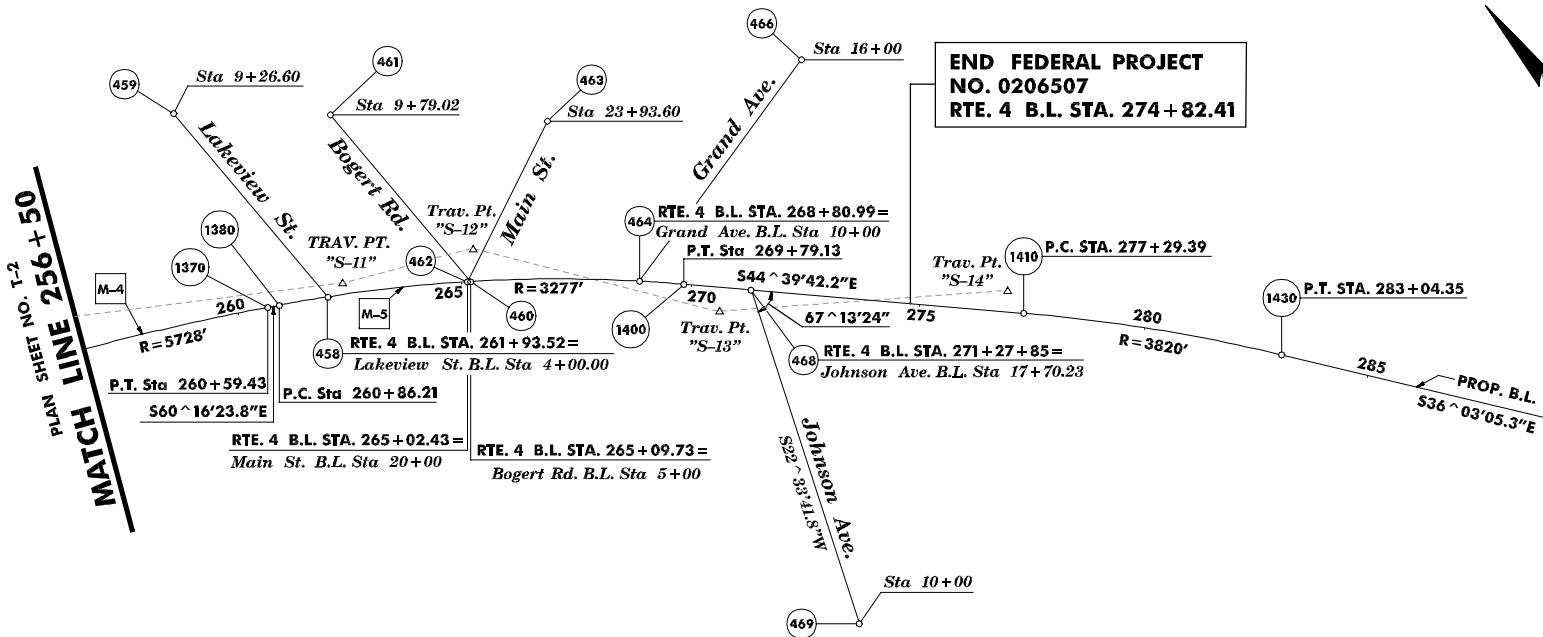
Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999

T-1  
T-3



BOROUGH OF PARAMUS

COUNTY OF BERGEN



NEW JERSEY DEPARTMENT OF TRANSPORTATION

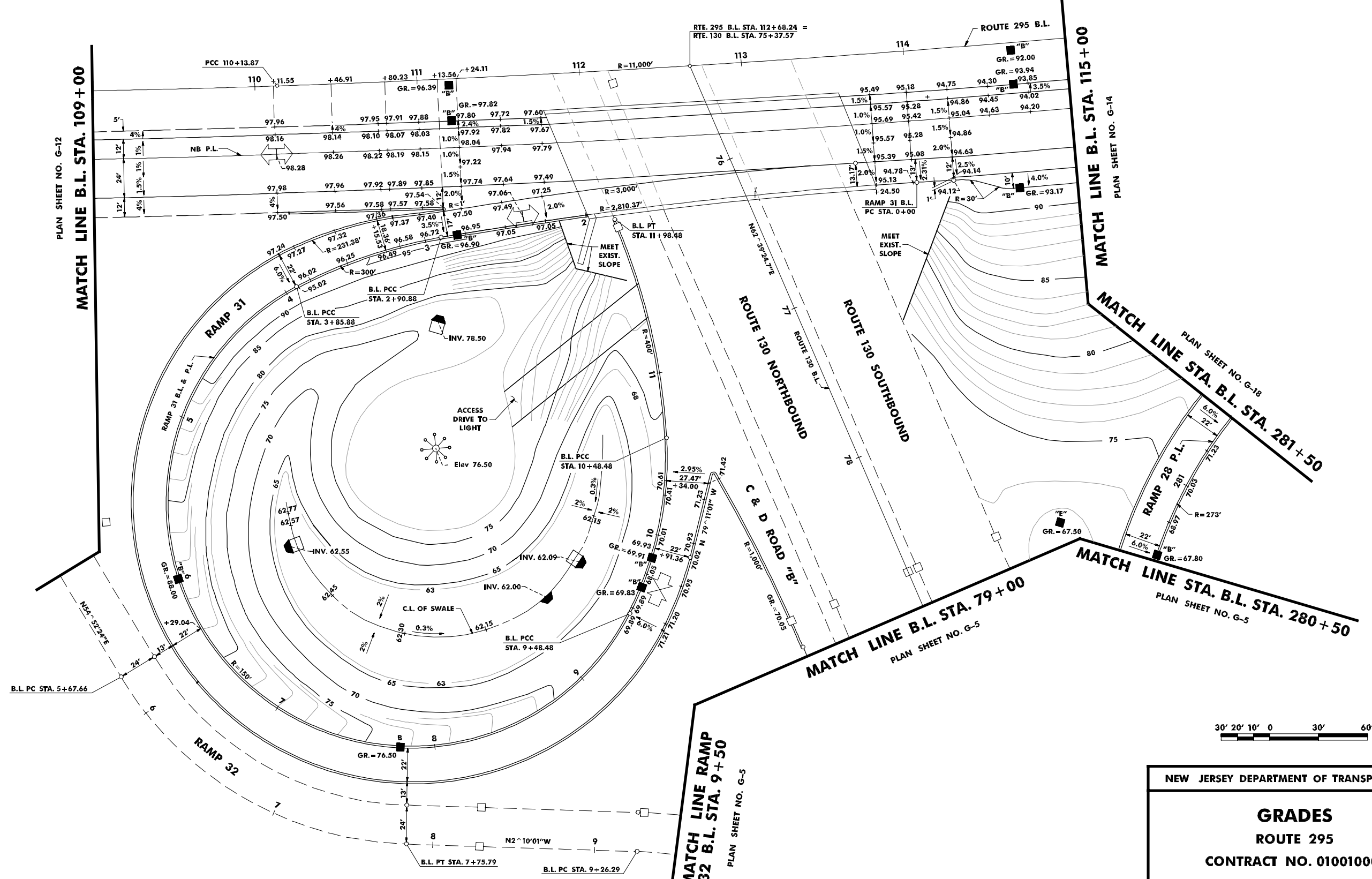
**TIES**  
**ROUTE 4**  
**CONTRACT NO. 010010001**

Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999

18

TOWNSHIP OF BORDENTOWN

COUNTY OF BURLINGTON



NEW JERSEY DEPARTMENT OF TRANSPORTATION

**GRADES**  
**ROUTE 295**  
**CONTRACT NO. 010010001**

Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999

BDC007-3 - ORIGINAL SHEET



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## LEGEND

	BREAKAWAY BARRICADES
	BREAKAWAY BARRICADES WITH SIGN
	CONSTRUCTION SIGNS
	DRUMS
	CONE
	PRECAST CONCRETE CURB CONSTRUCTION BARRIER (TYPE SPECIFIED)
	DIRECTION OF TRAFFIC FLOW
	FLAGGER
	ILLUMINATED FLASHING ARROW MOUNTED ON TOWING VEHICLE SHOWING CAUTION MODE
	ILLUMINATED FLASHING ARROW MOUNTED ON TOWING VEHICLE SHOWING ARROW PATTERN (Left, Right, Both)
	TRAFFIC CONTROL TRUCK WITH MOUNTED CRASH CUSHION AND ARROW BOARD SHOWING CAUTION MODE
	TRAFFIC CONTROL TRUCK WITH MOUNTED CRASH CUSHION AND ARROW BOARD SHOWING ARROW PATTERN (Left, Right, Both)
	TEMPORARY CRASH CUSHION, INERTIAL BARRIER SYSTEM
	TEMPORARY CRASH CUSHION, (all other approved)
	BUFFER ZONE
	WORK AREA
	PAINT STRIPING TRUCK OR OTHER OPERATING VEHICLE

## CONSTRUCTION SIGN TABLE

SIGN DESIGNATION	MESSAGE	SIZE	AREA IN S.F.	REQUIRED QUANTITY IN NUMBER	TOTAL AREA IN S.F.
W20-1D	ROAD WORK 1/2 OR 1 MILE	48" x 48"	16	4	64
W20-5D(M)	LEFT TWO LANES CLOSED 3/4 MILE	48" x 48"	16	2	32
W20-5A	LEFT TWO LANES CLOSED 1500 FT.	48" x 48"	16	2	32
W20-5B	LEFT TWO LANES CLOSED 1000 FT.	48" x 48"	16	2	32
W4-2(S)	—N/A—	48" x 48"	16	4	64
W20-4F(M)	SINGLE LANE AHEAD	48" x 48"	16	2	32
W1-6	—N/A—	48" x 24"	8	6	48
G20-2A	END ROAD WORK	60" x 24"	10	2	20
CONSTRUCTION SIGN TOTAL					324

## GENERAL NOTES:

- ADVANCE WARNING SIGNS, DISTANCES, AND TAPER LENGTHS MAY BE EXTENDED, AT THE DIRECTION OF THE ENGINEER, TO ADJUST FOR REDUCED VISIBILITY DUE TO HORIZONTAL AND VERTICAL CURVATURE OF THE ROADWAY.
- THE APPROXIMATE LOCATIONS OF THE ILLUMINATED FLASHING ARROW BOARDS ARE SHOWN ON THE TRAFFIC CONTROL PLANS. THESE LOCATIONS MAY BE MODIFIED TO ADJUST FOR VISIBILITY DUE TO HORIZONTAL OR VERTICAL CURVATURE OF THE ROADWAY OR TO POSITION AT A SAFER LOCATION. ILLUMINATED FLASHING ARROW BOARDS ARE TO BE USED FOR TEMPORARY LANE CLOSINGS AND AT LOCATIONS SHOWN ON THE TRAFFIC CONTROL PLANS.
- PRIOR TO ANY ROAD CONSTRUCTION, TRAFFIC CONTROL SIGNS AND DEVICES SHALL BE IN PLACE.
- RAMPS AND/OR SIDE STREETS ENTERING THE ROADWAY AFTER THE FIRST ADVANCE WARNING SIGN SHALL BE PROVIDED WITH AT LEAST ONE W20-1F SIGN (ROAD WAORK AHEAD) AS A MINIMUM.
- ALL EXISTING ROAD SIGNS, PAVEMENT MARKINGS AND/OR PLOWABLE PAVEMENT REFLECTORS WHICH CONFLICT WITH THE PROPOSED TRAFFIC CONTROL PLAN SHALL BE COVERED, REMOVED OR RELOCATED AS DIRECTED BY THE ENGINEER.
- CONFLICTING OR NON-OPERATING SIGNAL INDICATIONS ON EITHER THE EXISTING, TEMPORARY, OR PROPOSED TRAFFIC SIGNAL SYSTEMS SHALL BE BAGGED OR COVERED.
- MAINTENANCE AND PROTECTION OF TRAFFIC SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES – PART VI "STANDARDS AND GUIDES FOR TRAFFIC CONTROL FOR STREET AND HIGHWAY CONSTRUCTION, MAINTENANCE, UTILITY, AND INCIDENT MANAGEMENT OPERATIONS", UNLESS OTHERWISE NOTED IN THE PLANS AND SPECIFICATIONS, AND SHALL BE APPROVED BY THE ENGINEER.
- CONSTRUCTION SIGN W99-2 (GIVE US A BRAKE) SHALL BE LOCATED 200 FEET IN ADVANCE OF PROJECT LIMITS.
- A W1-6 (ARROW) SIGN MOUNTED ON A BREAKAWAY BARRICADE AND CENTERED ON THE CLOSED WIDTH SHALL BE LOCATED 100 FEET BEYOND EACH INTERSECTION OR MAIN ACCESS POINT WITHIN THE AREA OF A LANE OR SHOULDER CLOSURE.
- CONSTRUCTION SIGNS R11-4 (ROAD CLOSED TO THRU TRAFFIC) SHALL BE PLACED AT THE INTERSECTING STREETS WHICH ARE CLOSED TO TRAFFIC BECAUSE OF CONSRUCTION.
- CONSTRUCTION SIGNS W8-9A (SYMBOL FOR UNEVEN PAVEMENT) AND W8-14A (GROOVED PAVEMENT) SHALL BE USED WHEN SUCH PAVEMENT CONDITIONS EXIST. THE PLACEMENT OF THESE SIGNS SHALL BE AS DIRECTED BY THE ENGINEER.
- MOVING WORK AREAS IN A PERMANENT LANE CLOSURE REQUIRE A TRAILER MOUNTED ILLUMINATED FLASHING TRUCK MOUNTED CRASH CUSHION THAT SHALL MOVE WITH THE WORK AREAS TO KEEP A 75 FOOT MINIMUM AND 175 FOOT MAXIMUM BUFFER IN ADVANCE OF EACH WORK AREA.
- THE CONTRACTOR SHALL SUBMIT A PLAN FOR THE SAFE ACCESS OF CONSTRUCTION VEHICLES THROUGHOUT THE WORK SITE WHERE SPACE CONSTRAINTS PREVENT THE USE OF LANE CLOSURES. THE PLAN SHALL BE SUBMITTED TO THE ENGINEER IN ACCORDANCE WITH SECTION 617 OF THE STANDARD SPECIFICATIONS.
- TRAFFIC SAFETY SERVICES SHALL BE USED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR TRAFFIC CONTROL, SECTION 617.
- ALL EXCAVATED AREAS WITHIN OR ADJACENT TO THE ROADWAY SHALL BE BACKFILLED AND PLACED ON A MINIMUM 6H:1V SLOPE PRIOR TO THE END OF EACH WORK DAY. OTHER EXCAVATED AREAS WITHIN THE CLEAR ZONE ARE TO BE EITHER BACKFILLED OR A PRECAST CONCRETE CURB CONSTRUCTION BARRIER SET TEMPORARILY IN PLACE TO SHIELD VEHICULAR AND PEDESTRIAN TRAFFIC.

- WHERE REQUIRED, THE CONTRACTOR SHALL MAKE PROVISIONS FOR MAINTAINING PEDESTRIAN CROSSING LOCATIONS AND TYPE AS DIRECTED BY THE ENGINEER.
- BITUMINOUS CONCRETE PLACED DURING THE VARIOUS CONSTRUCTION STAGES SHALL BE TRANSITIONED ON A MINIMUM 20H :1V SLOPE TO MEET THE ADJACENT EXISTING GRADE AT THE LONGITUDINAL AND TRANSVERSE LIMITS OF THE STAGE CONSTRUCTION AREAS UNLESS OTHERWISE NOTED ON THE STAGE CONSTRUCTION PLANS.
- THE PLACEMENT AND OR RELOCATION OF PRECAST CONCRETE CURB, CONSTRUCTION BARRIER SHALL BE DONE DURING APPROVED OFF-PEAK HOURS WHEN TRAFFIC MAY BE REDUCED TO ONE LANE IN EACH DIRECTION.
- CONSTRUCTION ZONE SPEED LIMIT WILL BE DETERMINED BY THE REGIONAL TRAFFIC ENGINEER AT THE TIME OF OR DURING CONSTRUCTION, AS REQUESTED BY THE RESIDENT ENGINEER.

## NOTES – TRAFFIC CONTROL PLANS

- ONE LANE OF 11 FEET WIDE UNOBSTRUCTED TRAVELED WAY SHALL BE MAINTAINED ON ROUTE 38 AT ALL TIMES BETWEEN THE HOURS OF 8:00 P.M. AND 5:30 A.M..
- ROUTE 38 ROADWAY CONSTRUCTION FOR THE VARIOUS STAGES SHALL BE COMPLETED TO THE TOP OF THE BITUMINOUS CONCRETE SURFACE COURSE MIX 1-4 SO THAT THE FINAL SURFACE COURSE CAN BE PLACED IN ONE CONTINUOUS OPERATION DURING THE FINAL STAGE.
- LANE CLOSURES WILL NOT BE PERMITTED AFTER NOON OF THE DAY BEFORE, DURING, AND UNTIL NOON OF THE DAY AFTER THE FOLLOWING HOLIDAY'S OR HOLIDAY WEEKEND PERIODS: NEW YEAR'S DAY, PRESIDENT'S DAY, GOOD FRIDAY, MEMORIAL DAY, INDEPENDENCE DAY, LABOR DAY, COLUMBUS DAY, THANKSGIVING, AND CHRISTMAS. LANE CLOSURES WILL NOT BE PERMITTED ON ELECTION DAY BETWEEN THE HOURS OF 7AM AND 8PM.
- THE CONTRACTOR SHALL PERFORM THE WORK ON ROUTE 38 IN ACCORDANCE WITH THE FOLLOWING SCHEDULES:

	MONDAY THRU THURSDAY	FRIDAY	SATURDAY	SUNDAY
NO CLOSURE	6:00 AM to 11:00 AM and 2:00 PM to 8:00 PM	6:00 AM to 11:00 AM and 2:00 PM to 8:00 PM		
ONE LANE CLOSURE	11:00 AM to 2:00 PM and 8:00 PM to 11:00 PM	11:00 AM to 2:00 PM and 8:00 PM to MIDNIGHT	6:00 AM to 9:00 PM	6:00 AM to 4:00 PM
TWO LANE CLOSURES	11:00 PM to 6:00 AM	MIDNIGHT TO 6:00 AM	MIDNIGHT to 6:00 AM and 9:00 PM to MIDNIGHT	MIDNIGHT to 6:00 AM and 4:00 PM to MIDNIGHT

TC-1  
TC-5

NEW JERSEY DEPARTMENT OF TRANSPORTATION

## TRAFFIC CONTROL AND STAGING PLAN

ROUTE 38

CONTRACT NO. 010010001

Individual, Firm, Partnership, etc.

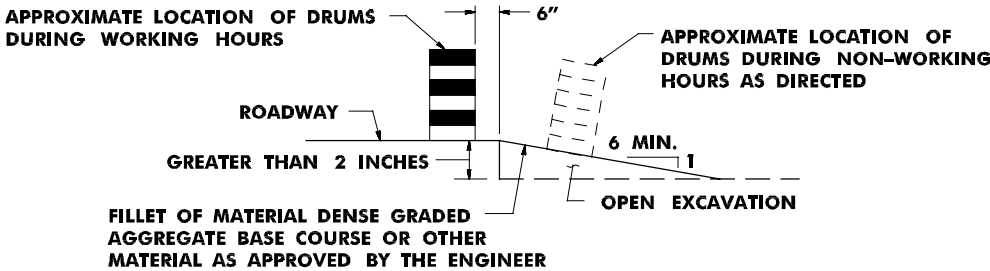
(signature) (date)

John L. Doe

N.J.P.E. LIC. NO. 99999

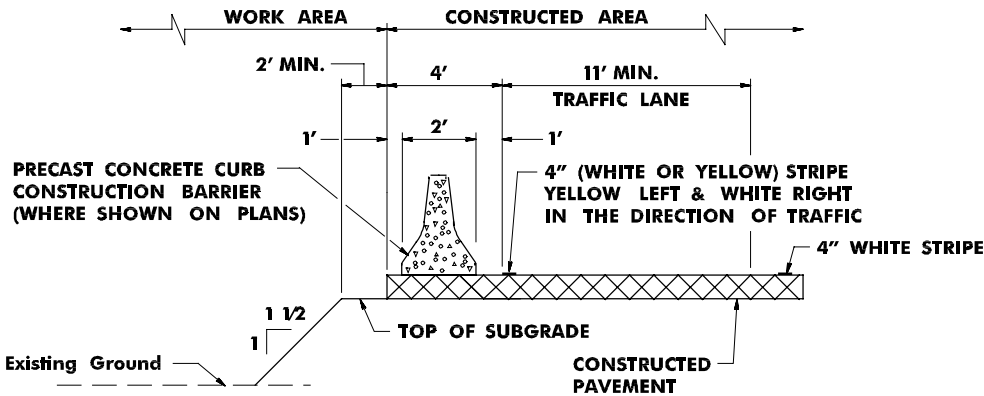
21





NOTE:  
ESCAPE RAMPS MUST BE CONSTRUCTED AND MAINTAINED DURING NON-WORKING HOURS WHERE A VERTICAL DROP GREATER THAN 2 INCHES EXISTS ADJACENT TO TRAVELED LANE.

ESCAPE RAMP DETAIL



TYPICAL SECTION  
PLACEMENT OF PRECAST CONCRETE  
CONSTRUCTION BARRIER

REGULATORY APPROACH SPEED OF TRAFFIC  MILESHOUR	RECOMMENDED SIGHT DISTANCE TO BEGINNING OF CHANNELIZING TAPERS		
	DESIRABLE		MINIMUM
	RURAL FEET	URBAN FEET	RURAL AND URBAN FEET
25	375	525	150
30	450	625	200
35	525	725	250
40	600	825	325
45	675	925	400
50	750	1025	475
55	875	1150	550
60	1000	1275	650
65	1050		725

- NOTES:
- AVOIDANCE MANEUVER IS FOR A SPEED, PATH, AND/OR DIRECTION CHANGE PRIOR TO THE BEGINNING OF CHANNELIZING TAPERS.
  - RECOMMENDED DISTANCES BETWEEN TWO SEPARATE LANE CLOSURES SHALL BE DOUBLE THE VALUES SHOWN ABOVE.
  - RURAL AND URBAN ROAD DESIGNATIONS SHALL BE AS DEFINED IN THE NJDOT STATE HIGHWAY STRAIGHT LINE DIAGRAMS.
  - DESIRABLE VALUES SHALL BE PROVIDED WHEREVER POSSIBLE. IF IT IS NOT FEASIBLE OR PRACTICAL TO PROVIDE DESIRABLE VALUES BECAUSE OF HORIZONTAL OR VERTICAL CURVATURE OR IF RELOCATION OF THE TAPER IS NOT POSSIBLE, THEN MINIMUM VALUES CAN BE APPLIED. WHEN MINIMUM VALUES ARE USED, SPECIAL ATTENTION SHOULD BE GIVEN TO THE USE OF SUITABLE TRAFFIC CONTROL DEVICES FOR PROVIDING ADVANCED WARNING OF THE CONDITIONS THAT ARE LIKELY TO BE ENCOUNTERED.
  - TAPERS SHALL BE LOCATED TO MAXIMIZE THE VISIBILITY OF THEIR TOTAL LENGTH.

RECOMMENDED TAPER LENGTH AND SPACING FOR CHANNELIZING TAPERS					RECOMMENDED SPACING ALONG TANGENTS
REGULATORY APPROACH SPEED OF TRAFFIC  MILESHOUR	MINIMUM TAPER RATIO IN LENGTH PER FOOT OF WIDTH	MINIMUM TAPER LENGTH L - FOR LANE WIDTHS			MAXIMUM DEVICE (D) SPACING ALONG TANGENTS IN FEET
		10'	11'	12'	
25	10.5:1	105	115	125	25
30	15:1	150	165	180	30
35	20.5:1	205	225	245	35
40	27:1	270	300	325	40
45	45:1	450	495	540	45
50	50:1	500	550	600	50
55	55:1	550	605	660	55
60	60:1	600	660	720	60
65	65:1	650	715	780	65

NOTE:  
THE MAXIMUM DEVICE SPACING ALONG CURVES SHALL BE AS DEFINED FOR TAPERS (B) IN THE ABOVE TABLE.

N.T.S.

NEW JERSEY DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND  
STAGING PLAN

ROUTE 38

CONTRACT NO. 010010001

Individual, Firm, Partnership, etc.

(signature) (date)

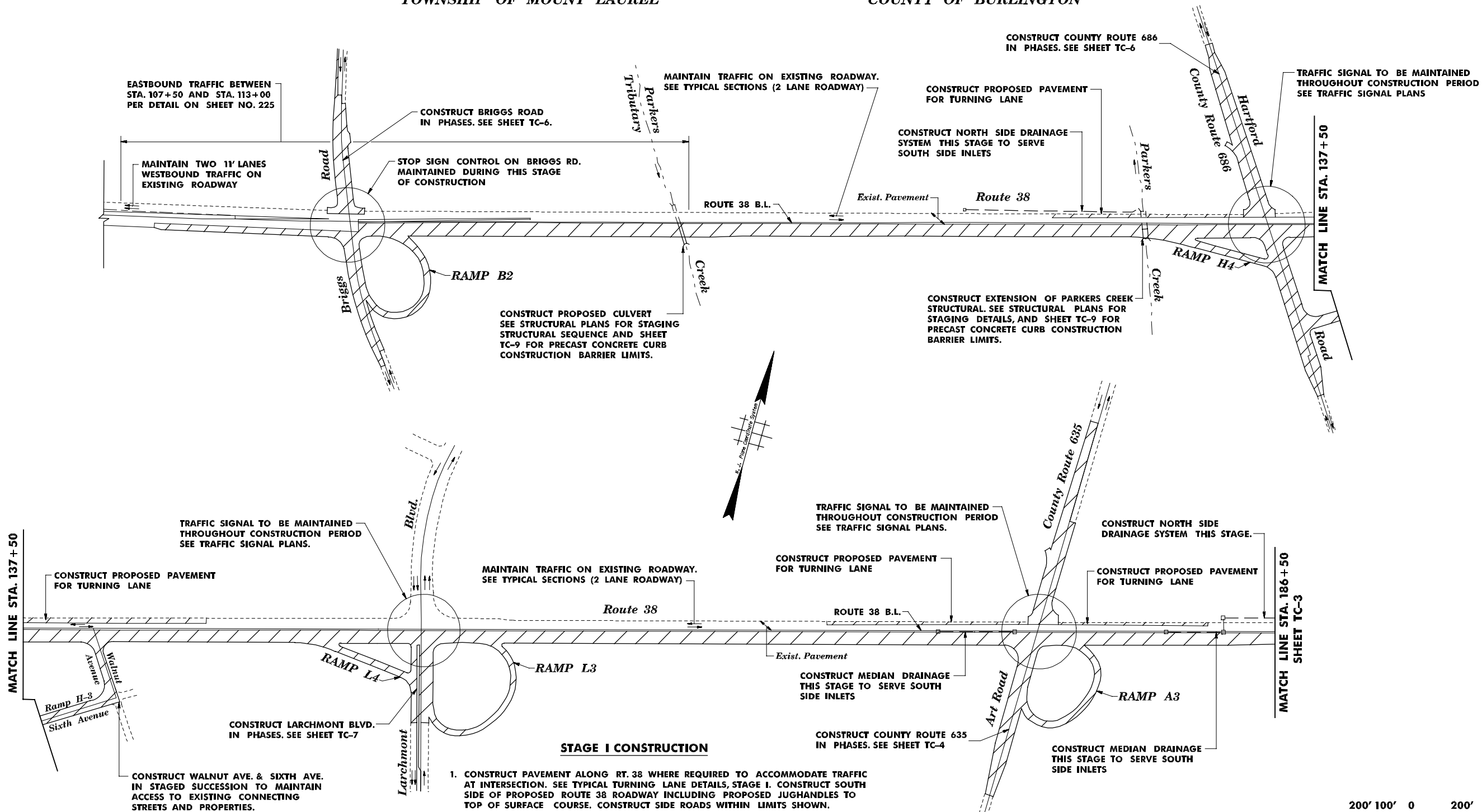
John L. Doe

N.J.P.E. LIC. NO. 99999



TOWNSHIP OF MOUNT LAUREL

COUNTY OF BURLINGTON



STAGE I CONSTRUCTION

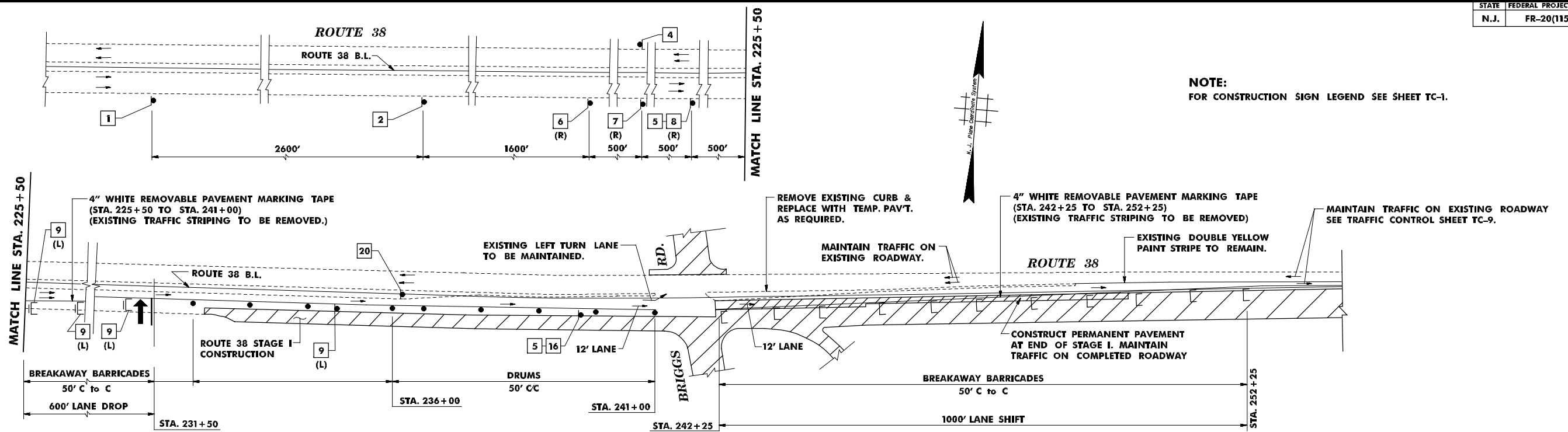
1. CONSTRUCT PAVEMENT ALONG RT. 38 WHERE REQUIRED TO ACCOMMODATE TRAFFIC AT INTERSECTION. SEE TYPICAL TURNING LANE DETAILS, STAGE I. CONSTRUCT SOUTH SIDE OF PROPOSED ROUTE 38 ROADWAY INCLUDING PROPOSED JUGHANDLES TO TOP OF SURFACE COURSE. CONSTRUCT SIDE ROADS WITHIN LIMITS SHOWN.
2. MAINTAIN TRAFFIC ON EXISTING RTE. 38 ROADWAY WITH ONE LANE IN EACH DIRECTION. AT SIGNALIZED INTERSECTIONS (HARTFORD RD., LARCHMONT BLVD. AND ARK RD.) PROVIDE SEPARATE TURNING LANES. (SEE TYPICAL TURNING LANE DETAIL).
3. MAINTAIN TRAFFIC ON SIDE ROADS (ONE LANE IN EACH DIRECTION) WITH CONSTRUCTION PHASED AS PER DETAILS ON SIDE ROAD PHASING PLANS. ALSO SEE TEMPORARY PAVEMENT DETAIL.
4. FOR STRUCTURE STAGING SEE STRUCTURAL PLANS.
5. PROVIDE BITUMINOUS RAMPING BETWEEN EXISTING & NEW PAVEMENT AT INTERSECTIONS AS REQUIRED.
6. CONSTRUCT DRAINAGE ON NORTH SIDE AND MEDIAN AREAS OF RTE. 38 AS SHOWN TO SERVE NEW SOUTH SIDE ROADWAY INLETS.

STAGE I CONSTRUCTION - TRAFFIC MAINTAINED ON EXISTING ROADWAY

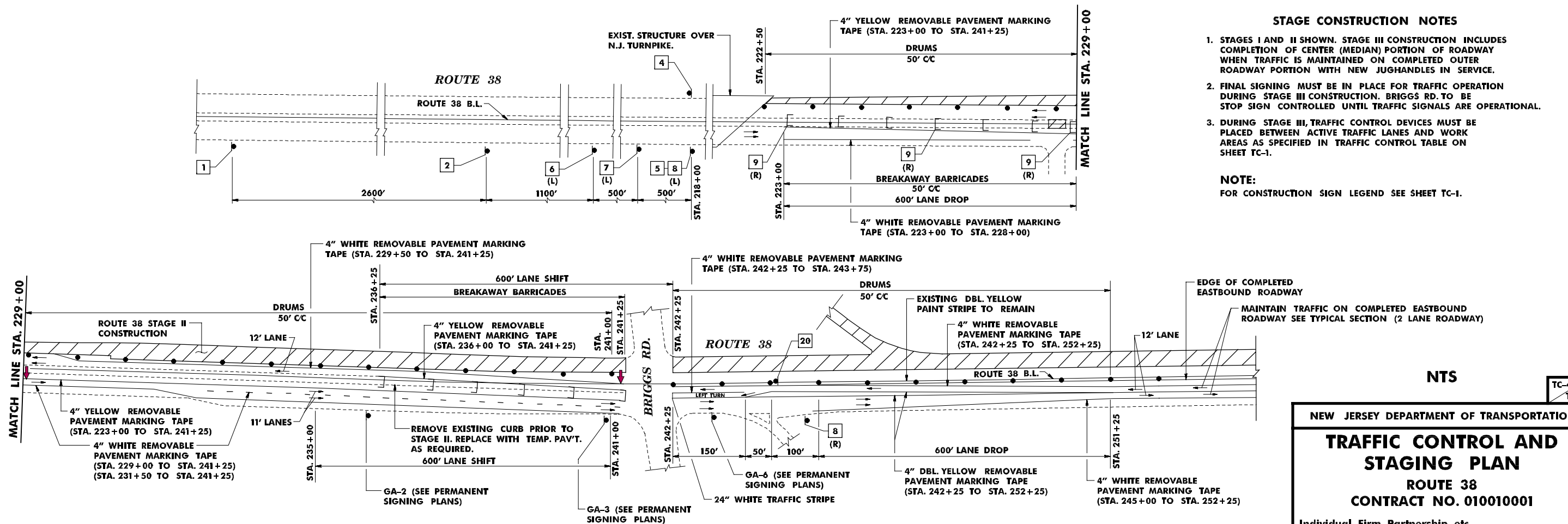
NEW JERSEY DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL AND  
STAGING PLAN  
ROUTE 38  
CONTRACT NO. 010010001

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(signature) (date)  
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N.J.P.E. LIC. NO. 99999



STAGE I CONSTRUCTION - ROUTE 38 STA. 221+85 TO STA. 255+25



STAGE II CONSTRUCTION - ROUTE 38 STA. 221+85 TO STA. 255+25

NOTE:  
FOR CONSTRUCTION SIGN LEGEND SEE SHEET TC-1.

- STAGE CONSTRUCTION NOTES
1. STAGES I AND II SHOWN. STAGE III CONSTRUCTION INCLUDES COMPLETION OF CENTER (MEDIAN) PORTION OF ROADWAY WHEN TRAFFIC IS MAINTAINED ON COMPLETED OUTER ROADWAY PORTION WITH NEW JUGHANDLES IN SERVICE.
  2. FINAL SIGNING MUST BE IN PLACE FOR TRAFFIC OPERATION DURING STAGE III CONSTRUCTION. BRIGGS RD. TO BE STOP SIGN CONTROLLED UNTIL TRAFFIC SIGNALS ARE OPERATIONAL.
  3. DURING STAGE III, TRAFFIC CONTROL DEVICES MUST BE PLACED BETWEEN ACTIVE TRAFFIC LANES AND WORK AREAS AS SPECIFIED IN TRAFFIC CONTROL TABLE ON SHEET TC-1.

NOTE:  
FOR CONSTRUCTION SIGN LEGEND SEE SHEET TC-1.

NTS

NEW JERSEY DEPARTMENT OF TRANSPORTATION

## TRAFFIC CONTROL AND STAGING PLAN

ROUTE 38  
CONTRACT NO. 010010001

Individual, Firm, Partnership, etc.

(signature) (date)

John L. Doe

N.J.P.E. LIC. NO. 99999



\* NUMBER OF TURNS TO BE DETERMINED IN THE FIELD.

NOTE:  
SIGNAL HEAD #6 IS TO BE MOUNTED AT  
A HEIGHT OF 12'.



E-1  
E-3

NEW JERSEY DEPARTMENT OF TRANSPORTATION

## ELECTRICAL PLANS

ROUTE 00 CONTRACT NO.  
MUNICIPALITY COUNTY  
ROUTE 00 & SIDE ROAD

Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999

26

Diagram of a four-way stop intersection with a center turn lane. The intersection is controlled by four stop signs. The northbound approach has a center turn lane with a "SIDE" sign and a "MAST ARM SIGN" sign. The southbound approach has a "NO TURNS" sign. The eastbound approach has a "DELAYED GREEN" sign. The westbound approach has a "SIGN" sign. The intersection is labeled "48' x 18'" for the main lanes and "60' x 12'" for the center turn lane.

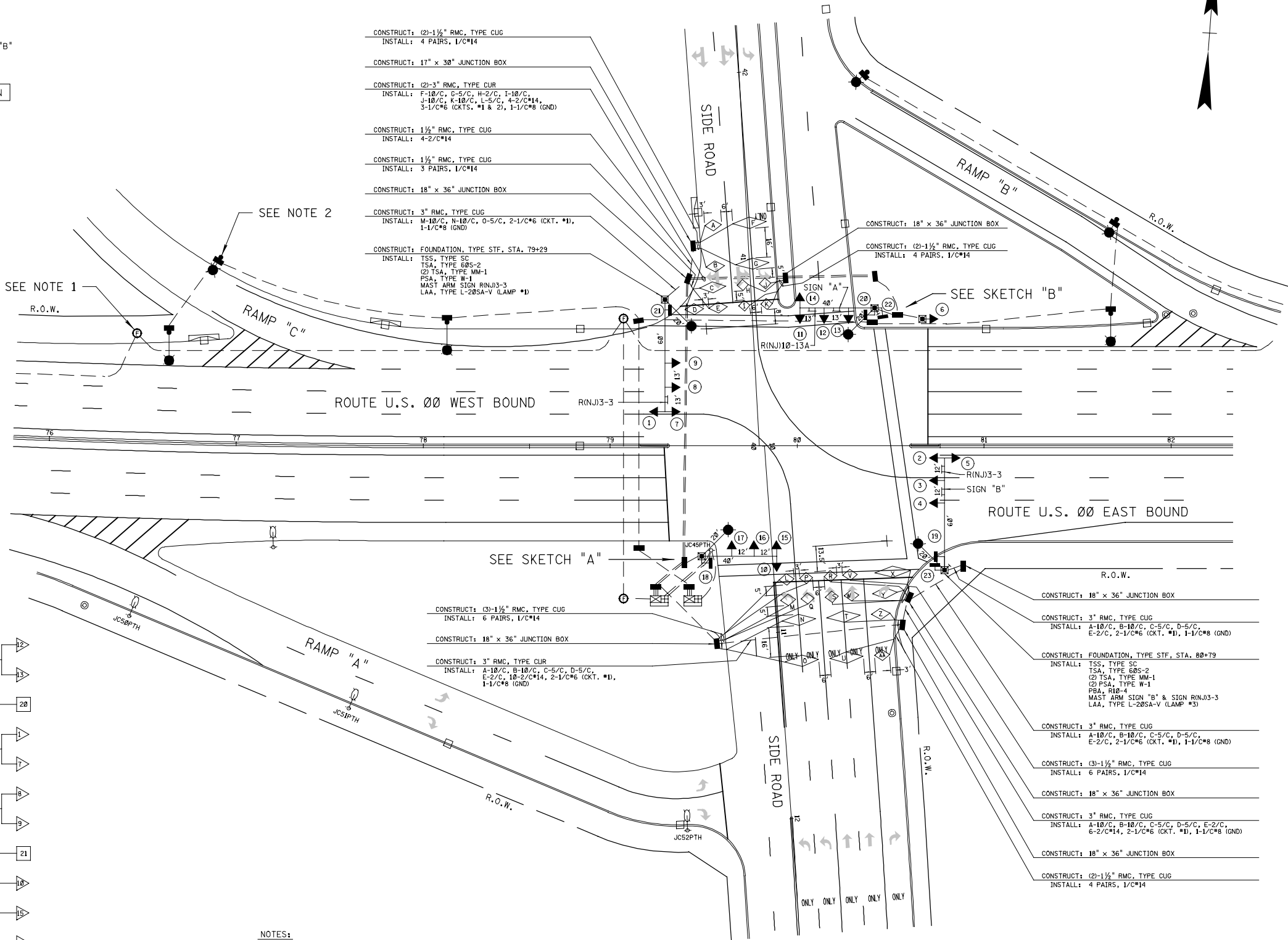


Diagram illustrating a control system for a meter cabinet, showing connections between a central controller and various components.

**Central Controller:** Labeled "CONTROLLER" (vertical text).

**Inputs (Left Side):**

- A-10/C (Line 2)
- B-10/C (Line 3)
- C-5/C (Line 19)
- D-5/C (Line 23)
- E-2/C (Line PB)
- F-10/C (Line 6)
- G-5/C (Line 22)
- H-2/C (Line PB)
- I-10/C (Line 11)
- J-10/C (Line 14)

**Outputs (Right Side):**

- K-10/C (Line 12)
- L-5/C (Line 20)
- M-10/C (Line 1)
- N-10/C (Line 8)
- O-5/C (Line 21)
- P-10/C (Line 10)
- Q-10/C (Line 15)
- R-10/C (Line 16)
- S-5/C (Line 18)

**Detectors:** Labeled "DETECTORS" (bottom center), connected to the controller via line (2T)-2/C\*14.

**Meter Cabinet:** Labeled "METER CABINET" (bottom right), connected to the controller via line 2\*8. It contains four meters labeled 1, 2, 3, and 4, with labels CKT. #1 and CKT. #2 below them.

**Other Labels:** JCS0PTH (top right diagonal line).

NOTES:

1. SEE ITS PLANS.
2. SEE HIGHWAY LIGHTING PLANS.

NOTE:

GROUND WIRE (GND), 1/C#8 AWG, INSULATED (COLOR GREEN) SHALL BE INSTALLED CONTINUOUSLY THROUGHTOUT THE TRAFFIC SIGNAL SYSTEM AND SECURED TO ALL GROUND RODS, CABINETS, TRAFFIC SIGNAL BASES AND LIGHTING BASES AS NOTED.

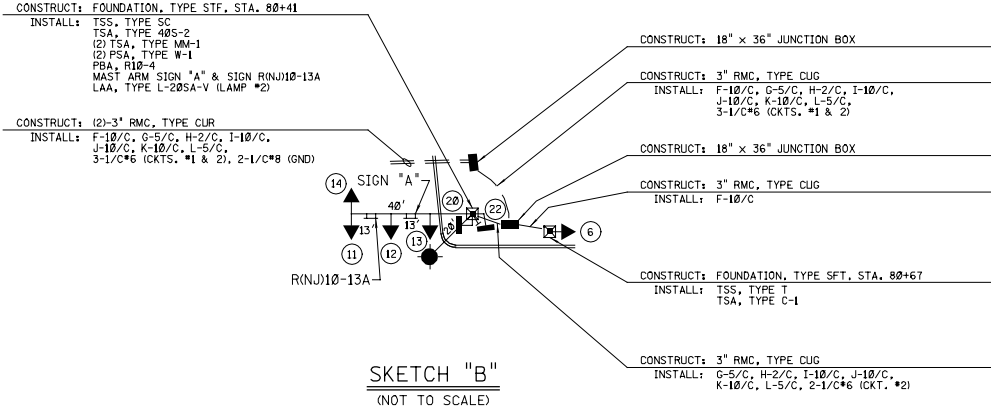
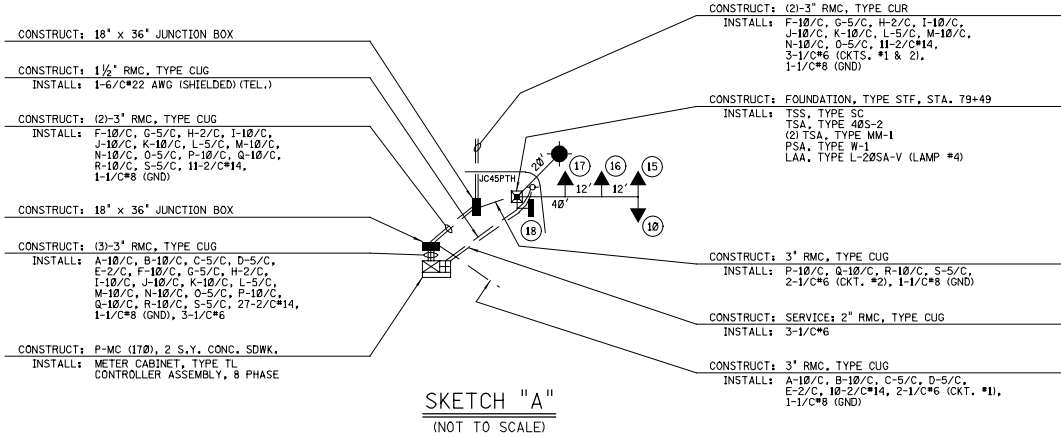
## REFERENCE

NJDOT CADD DATA	
QUINT	ELECTRICAL

QUINT	ELECTRICAL
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PAY ITEM NO.	STD. ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY
	6G4ØD	CONCRETE SIDEWALK, 4" THICK	2 SY
	6S2ØB	SIGNS	13 SY
	7A26C	1 1/2" RIGID METALLIC CONDUIT, TYPE CUG	148 LF
	7A31C	2" RIGID METALLIC CONDUIT, TYPE CUG	33 LF
	7A41C	3" RIGID METALLIC CONDUIT, TYPE CUG	8ØØ LF
	7A66C	3" RIGID METALLIC CONDUIT, TYPE CUR	285 LF
	7AØ3F	SERVICE WIRE, No. 6 AWG	276 LF
	7A21D	GROUND WIRE, No.8 AWG	64Ø LF
	7A21H	FOUNDATIONS, TYPE SFT	1 UNIT
	7A46H	FOUNDATIONS, TYPE STF	4 UNITS
	7A27I	17" x 3Ø" JUNCTION BOXES	1 UNIT
	7A28I	18" x 36" JUNCTION BOXES	7 UNITS
	7B21C	LOOP DETECTOR	2Ø51 LF
	7B31C	LOOP DETECTOR LEAD	4675 LF
	7B21D	CONTROLLER ASSEMBLIES, 8 PHASE	1 UNIT
	7B21E	METER CABINETS, TYPE T	1 UNIT
	7B21H	PEDESTRIAN SIGNAL ASSEMBLIES, TYPE W-1	6 UNITS
	7B21I	PUSH BUTTON ASSEMBLIES	2 UNITS
	7B62J	TRAFFIC SIGNAL ASSEMBLIES, TYPE 4ØS-2	2 UNITS
	7B93K	TRAFFIC SIGNAL ASSEMBLIES, TYPE 6ØS-2	2 UNITS
	7B51N	TRAFFIC SIGNAL ASSEMBLIES, TYPE C-1	1 UNIT
	7B61N	TRAFFIC SIGNAL ASSEMBLIES, TYPE MM-1	8 UNITS
	7B11Ø	TRAFFIC SIGNAL CABLE, 2 CONDUCTOR	787 LF
	7B21Ø	TRAFFIC SIGNAL CABLE, 5 CONDUCTOR	1722 LF
	7B31Ø	TRAFFIC SIGNAL CABLE, 1Ø CONDUCTOR	2789 LF
	7B21P	TRAFFIC SIGNAL STANDARDS, TYPE T	1 UNIT
	7BØ7R	TRAFFIC CONTROLLER ASSEMBLY TURN ON	1 UNIT
	7B21Q	TEMPORARY TRAFFIC SIGNAL SYSTEM	LUMP SUM
	N7AØ2	TELEPHONE CABLE, No. 22 AWG SHIELDED	115 LF
	7A36H	FOUNDATIONS, TYPE P-MC (17Ø)	1 UNIT
	N7BØ1	TRAFFIC SIGNAL STANDARDS, TYPE SC	4 UNITS
	N7BØ2	INTERIM TRAFFIC SIGNAL SYSTEM	1 UNIT
	N7CØ1	LIGHTING ARM ASSEMBLIES, TYPE L-2ØSA-V	4 UNITS



E-2  
E-3

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ELECTRICAL PLANS

ROUTE ØØ

CONTRACT NO.

MUNICIPALITY

COUNTY

ROUTE ØØ & SIDE ROAD

Individual, Firm, Partnership, etc.

(signature) (date)

John L. Doe

N.J.P.E. LIC. NO. 99999

ROUTE 00 & SIDE ROAD

TOWNSHIP OF XXXXXX

COUNTY OF XXXXXX

SIGNAL INDICATIONS

WITHOUT PEDESTRIAN ACTUATION

	1-9,	10,11	12,13	14,15	16,17	18-21	22,23	TIME (sec)	
								I	II
1. Rte. U.S. 00 R.O.W.	G	R	R	R	R	W	DW	30-10	60-35
Ped. Clear	G	R	R	R	R	FDW	DW	25	25
CHANGE	Y	R	R	R	R	DW	DW	5*	5**
CLEARANCE	R	R	R	R	R	DW	DW	2	2
2. Side Rd. S/B R.O.W.	R	R	R	G/<G-	G	DW	DW	7-17	7-22
CHANGE	R	R	R	Y	Y	DW	DW	4	4
CLEARANCE	R	R	R	R	R	DW	DW	3	3
3. Side Rd. N/B R.O.W.	R	G/<G-	G	R	R	DW	DW	7-17	7-17
CHANGE	R	Y	Y	R	R	DW	DW	4	4
CLEARANCE	R	R	R	R	R	DW	DW	3	3

WITH PEDESTRIAN ACTUATION

1. Rte. U.S. 00 R.O.W.	G	R	R	R	R	W	DW	5	35
Ped. Clear	G	R	R	R	R	FDW	DW	25	25
CHANGE	Y	R	R	R	R	DW	DW	5*	5**
CLEARANCE	R	R	R	R	R	DW	DW	2	2
2. Side Rd. S/B R.O.W.	R	R	R	G/<G-	G	DW	DW	7	7
CHANGE	R	R	R	Y	Y	DW	DW	4	4
CLEARANCE	R	R	R	R	R	DW	DW	3	3
3. Side Rd. N/B R.O.W.	R	G/<G-	G	R	R	DW	W	5	5
Ped. Clear	R	G/<G-	G	R	R	DW	FDW	27	27
CHANGE	R	Y	Y	R	R	DW	DW	4	4
CLEARANCE	R	R	R	R	R	DW	DW	3	3
EMERGENCY	Y	R	R	R	R	DARK	DARK		

\* An Offset of 8 seconds is to be measured from the beginning of yellow to Route U.S. 00 at Reference Road to the beginning of yellow to Route U.S. 00 at this intersection.

\*\* An Offset of 0 seconds is to be measured from the beginning of yellow to Route U.S. 00 at this intersection.

Memory-disconnected

Vehicle Extension-2 seconds

Manual Control-disconnected

Timing Schedule II (120 seconds Background Cycle) is to be in effect Monday-Friday, 6:30 a.m.-9:00 a.m.

Timing Schedule I (90 seconds Background Cycle) is to be in effect all other times.

The Side Road N.B. right turn loops are to be equipped with a 10 second delay.

(NOTE: TEXT HAS BEEN ENLARGED FOR VISUAL PRESENTATION IN THE SAMPLE PLAN SET.)

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ELECTRICAL PLANS

ROUTE 00 CONTRACT NO.

MUNICIPALITY COUNTY

ROUTE 00 & SIDE ROAD

Individual, Firm, Partnership, etc.

(signature) (date)

John L. Doe

N.J.P.E. LIC. NO. 99999

E-3  
E-3

REFERENCE

NJDOT CADD DATA  
ACCOUNT ELECTRICAL  
DIRECTOR TFC/CIEM  
DWG. NAME k:\300\detail\ts&smpl\cpl.cpy  
PLOT DATE 15-MAY-2001 13:43:57

SIGN LEGEND

R1-1	STOP	30" x 30"
R1-2	YIELD	36" x 36" x 36"
R3-2	NO LEFT TURN (SYMBOL)	24" x 24"
R3-3	NO TURNS	24" x 24"
R3-5R	RIGHT (ARROW) ONLY	30" x 36"
R4-7	KEEP RIGHT (SYMBOL)	24" x 30"
R5-1	DO NOT ENTER	30" x 30"
R5-1a	WRONG WAY	36" x 24"
R6-1(L)	ONE WAY (LEFT)	36" x 12"
R6-1(R)	ONE WAY (RIGHT)	36" x 12"
R9-3a	NO PEDESTRIAN CROSSING	18" x 18"
R9-3b(L)(R)	USE CROSSWALK (LEFT/RIGHT ARROW)	18" x 12"
R10-4	PUSH BUTTON FOR WALK SIGNAL	9" x 12"

SIGN "A" 48" x 18" 16" x 16" SHIELD DOUBLE SIDED	MAST ARM SIGN "B" 48" x 18" DOUBLE SIDED	DELAYED GREEN R(NJ)10-13B 24" x 24"	DO NOT BLOCK SIDE ROAD R(NJ)10-7 24" x 30"	U AND LEFT TURNS R(NJ)30-4R 60" x 24"	RIGHT TURN ONLY R(NJ)3-5R 24" x 30"
NO TURNS R(NJ)3-3 60" x 12"	DELAYED GREEN R(NJ)10-13A 60" x 12"	ONLY R(NJ)3-8C 48" x 30"	ONLY ONLY ONLY ONLY ONLY R(NJ)3-8J 84" x 30"	NO STOPPING OR STANDING R(NJ)7-4X 18" x 24"	ALL TURNS FROM RIGHT LANE R(NJ)31-1 60" x 36"
ALL TURNS R(NJ)31-2A 72" x 18"	U AND LEFT TURNS R(NJ)30-4X 60" x 24"				

AREAS OF PRESENCE DETECTION

AREAS OF PRESENCE DETECTION

SIGNAL LEGEND

LED 12"	LED 12"	LED 12"
LED 12"	LED 12"	LED 12"
LED 12"	LED 12"	LED 12"
*1-9,12,13,16,17	*10,11,14,15	*18-23

NOTE:  
SIGNAL HEAD #6 IS TO BE MOUNTED AT A HEIGHT OF 12'.



NEW JERSEY DEPARTMENT OF TRANSPORTATION  
BUREAU OF TRAFFIC ENGINEERING AND SAFETY PROGRAMS  
TRAFFIC SIGNAL PLAN

ROUTE 00 & SIDE ROAD  
MUNICIPALITY COUNTY

DESIGN APPROVED - BUREAU OF TRAFFIC SIGNAL & SAFETY ENGINEERING DATE

SUBMITTED	DRAWN	SCALE:
CHECKED	CHECKED	1"=30'
AUTHORIZED	TS-XXXX	29

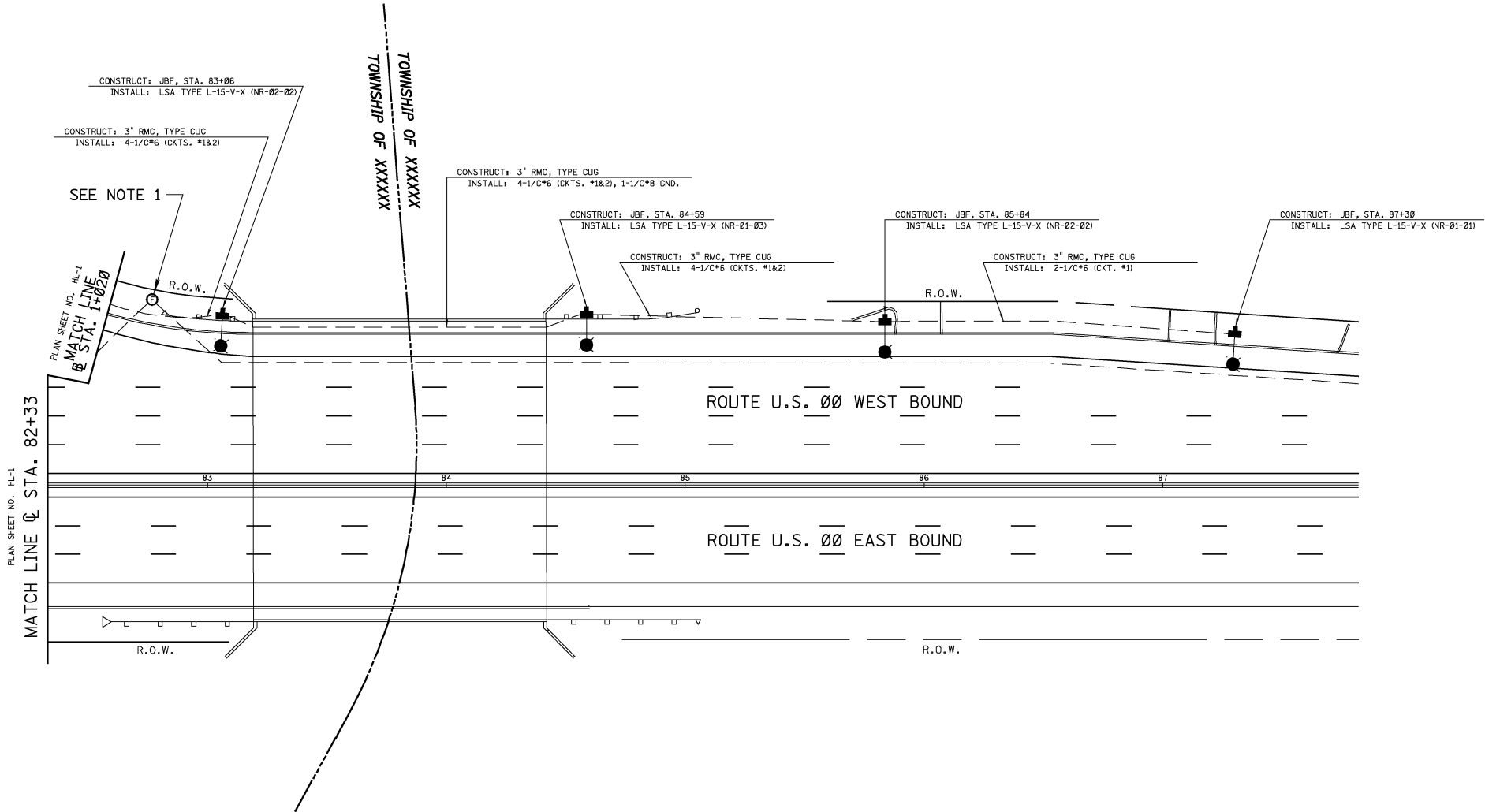
REVISION	DESCRIPTION	BY	C/K'D	DATE





STATE	FEDERAL PROJECT NO.	SHEET	TOTAL SHEETS
N.J.			

PAY ITEM NO.	STD. ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY
	6G40D	CONCRETE SIDEWALK, 4" THICK	2 SY
	7A31C	2" RIGID METALLIC CONDUIT, TYPE CUG	28 LF
	7A41C	3" RIGID METALLIC CONDUIT, TYPE CUG	669 LF
	7A66C	3" RIGID METALLIC CONDUIT, TYPE CUR	272 LF
	7A06E	MULTIPLE LIGHTING WIRE, No. 6 AWG	6562 LF
	7A02F	SERVICE WIRE, No. 2 AWG	246 LF
	7A81H	FOUNDATIONS, TYPE 1M-MC	1 UNIT
	7A21I	JUNCTION BOX FOUNDATIONS	10 UNITS
	7A28I	18" x 36" JUNCTION BOXES	4 UNITS
	7C28E	LIGHTING STANDARD ASSEMBLIES, TYPE L-8-V-X	3 UNITS
	7C48E	LIGHTING STANDARD ASSEMBLIES, TYPE L-15-V-X	7 UNITS
	7C31F	METER CABINETS, TYPE 1M-MC	1 UNIT



- NOTES:
- SEE ITS PLANS.
  - SEE TRAFFIC SIGNAL ELECTRICAL PLANS.

HL-2  
HL-2

NEW JERSEY DEPARTMENT OF TRANSPORTATION

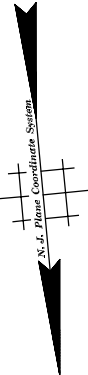
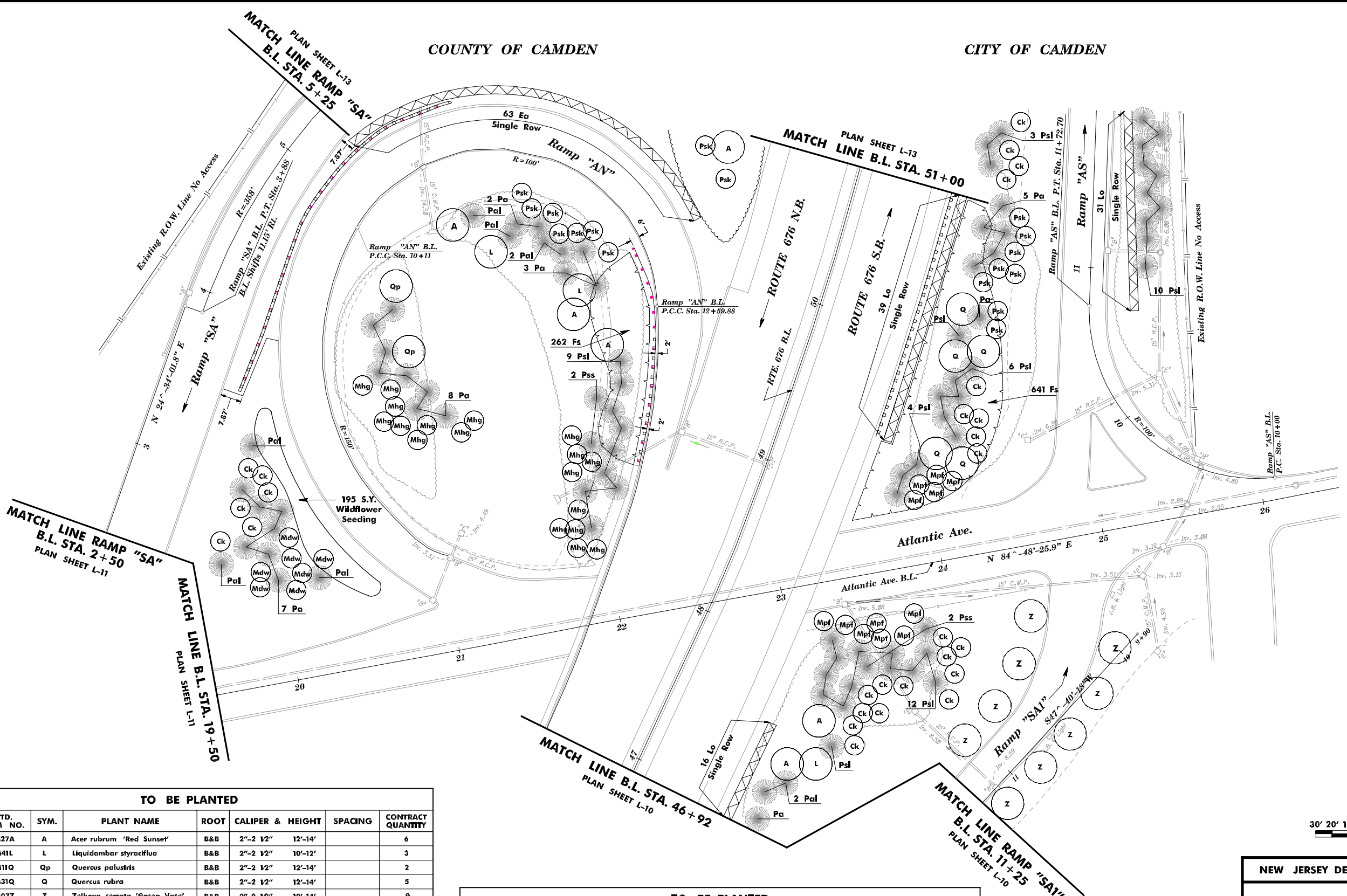
HIGHWAY LIGHTING PLANS

ROUTE 00 CONTRACT  
MUNICIPALITY COUNTY  
ROUTE 00 & SIDE ROAD

Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999

COUNTY OF CAMDEN

CITY OF CAMDEN



TO BE PLANTED							
ITEM NO.	STD. ITEM NO.	SYM.	PLANT NAME	ROOT	CALIPER & HEIGHT	SPACING	CONTRACT QUANTITY
70	8M27A	A	Acer rubrum 'Red Sunset'	B&B	2"-2 1/2" 12'-14'		6
79	8M41L	L	Liquidambar styraciflua	B&B	2"-2 1/2" 10'-12'		3
90	8M11Q	Qp	Quercus palustris	B&B	2"-2 1/2" 12'-14'		2
91	8M31Q	Q	Quercus rubra	B&B	2"-2 1/2" 12'-14'		5
93	8M07Z	Z	Zelkova serrata 'Green Vase'	B&B	2"-2 1/2" 12'-14'		9
84	8M13P	Pa	Picea abies	B&B	5'-6'		27
83	8M11P	Pal	Picea abies	B&B	3'-4'		9
86	8M25P	PsL	Pinus strobus	B&B	5'-6'		46
85	8M23P	Pss	Pinus strobus	B&B	3'-4'		4
74	8M51C	Ck	Cornus Kousa	B&B	5'-6'		27
80	N8M05	Mdw	Malus 'Donald Wyman'	B&B	1 1/2"-1 3/4" 6'-7'		7
81	N8M06	Mhg	Malus 'Harvest Gold'	B&B	1 1/2"-1 3/4" 6'-7'		18

TO BE PLANTED							
ITEM NO.	STD. ITEM NO.	SYM.	PLANT NAME	ROOT	CALIPER & HEIGHT	SPACING	CONTRACT QUANTITY
82	8M15M	Mpf	Malus 'Prairiefire'	B&B	1 1/4"-1 1/2" 5'-6'		12
89	8M38P	Psk	Prunus serrulata 'Kwanzan'	B&B	1 1/4"-1 1/2" 5'-6'		17
75	8M09E	Ea	Euonymus alata 'Compacta'	B&B	2'-3'	4'	63
76	8M02F	Fs	Forsythia intermedia 'Spectabilis'	BR	2'-3'	4'	903
78	8M22L	Lo	Ligustrum obtusifolium 'Regelianum'	BR	2'-3'	4'	55

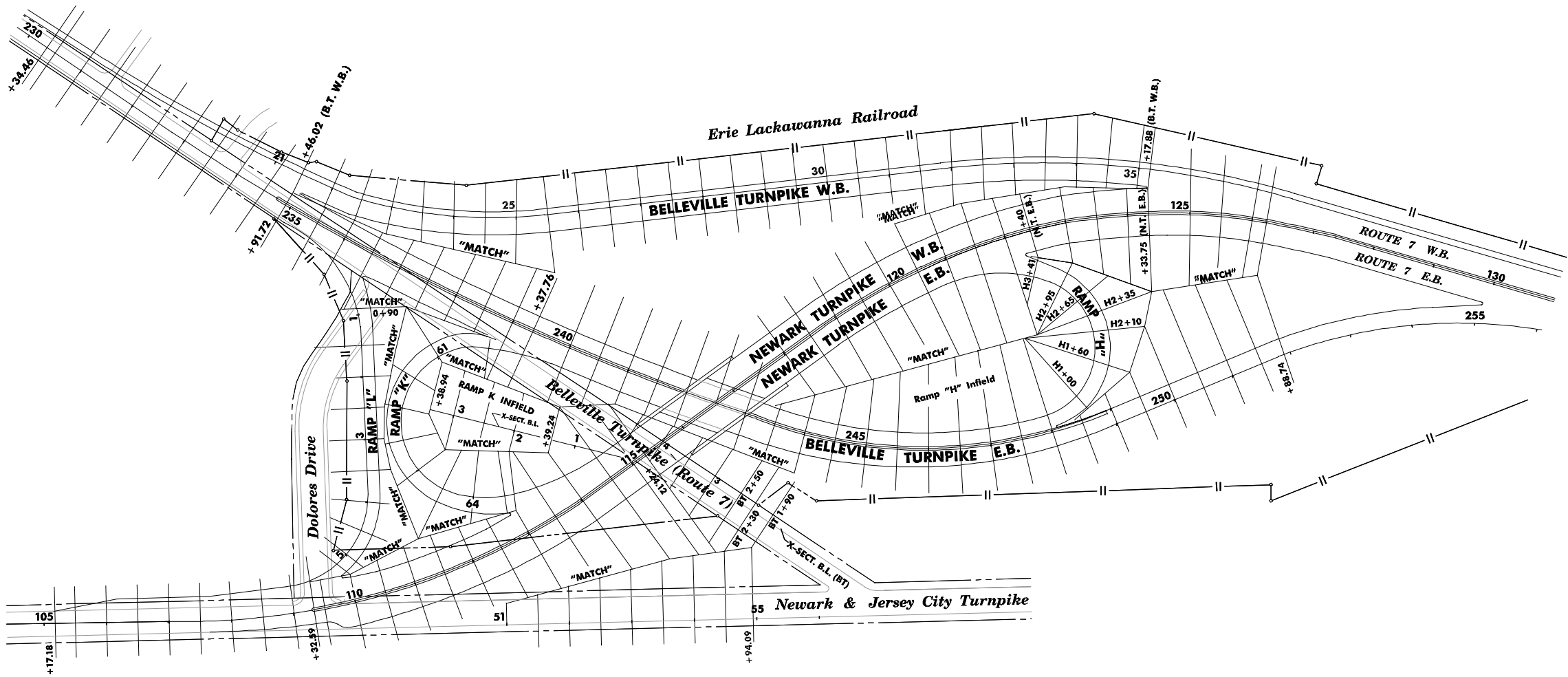
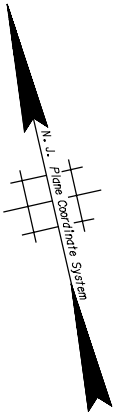
NEW JERSEY DEPARTMENT OF TRANSPORTATION

LANDSCAPE PLANS  
ROUTE 676  
CONTRACT NO. 010010001

Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999

TOWNSHIP OF BORDENTOWN

COUNTY OF BURLINGTON



MS-1  
MS-1

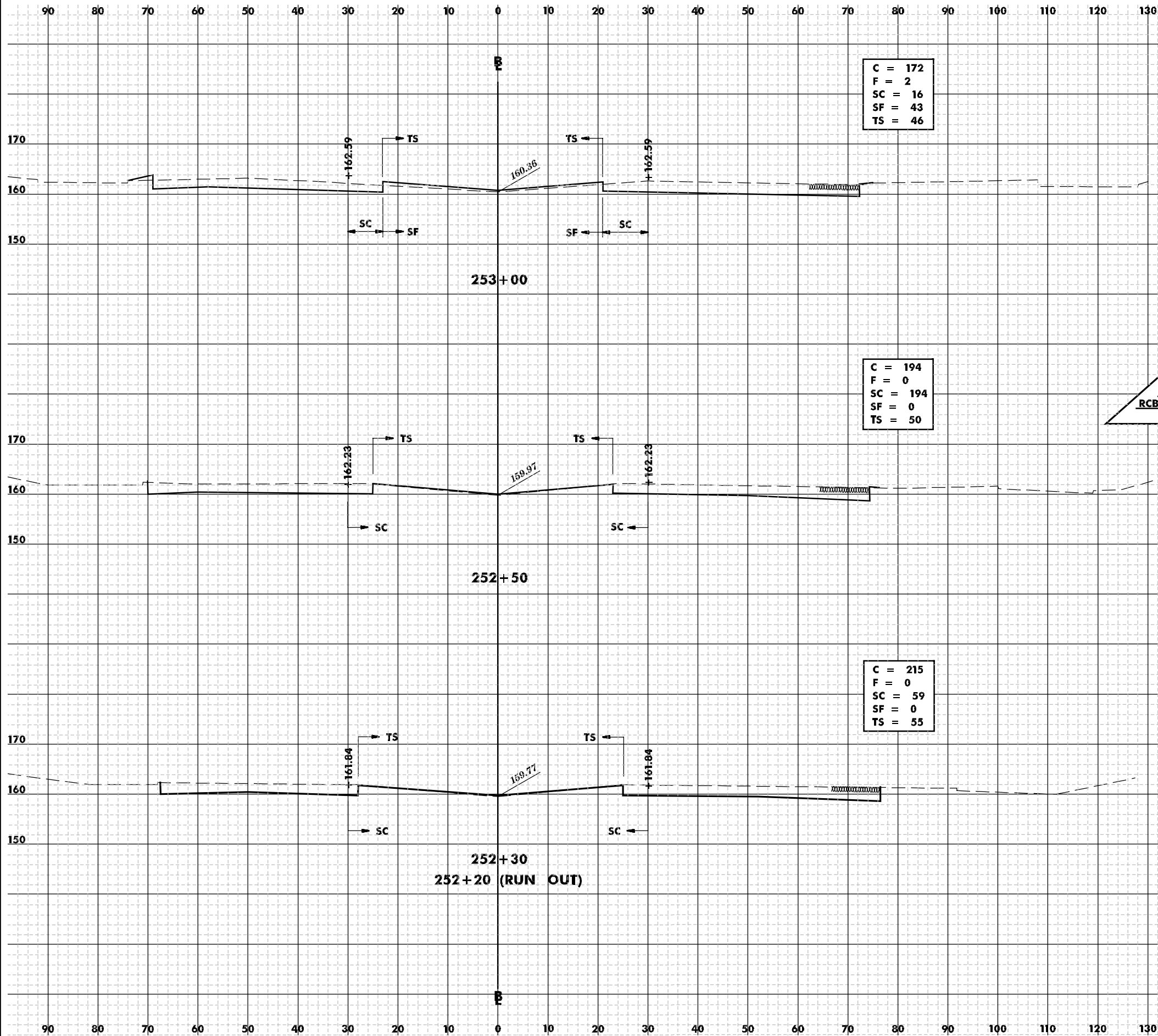
NEW JERSEY DEPARTMENT OF TRANSPORTATION

**METHOD OF CROSS SECTIONS**  
**ROUTE 295**  
**CONTRACT NO. 010010001**

Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999

NOTE:  
ALL CROSS SECTIONS ARE TAKEN RADIAL TO  
A BASE LINE AND AT 50' INTERVALS UNLESS  
OTHERWISE NOTED.

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### LEGEND

<u>Z-1</u> = ZONE 1	S.Q. FT.
<u>C</u> = CUT	S.Q. FT.
<u>F</u> = FILL	S.Q. FT.
<u>DE</u> = DITCH EXCAVATION	S.Q. FT.
<u>WE</u> = WET EXCAVATION	S.Q. FT.
<u>Z-2</u> = ZONE 2	S.Q. FT.
<u>CE</u> = CHANNEL EXCAVATION	S.Q. FT.
<u>UMX</u> = UNSUITABLE MATERIAL (TO BE PAID FOR AS RDWY. EXCAV.)	S.Q. FT.
<u>SM</u> = SELECTED MATERIAL	S.Q. FT.
<u>TS</u> = TOPSOILING, 4 INCH THICK	LIN. FT.
<u>SC</u> = STRIPPING CUT	LIN. FT.
<u>SF</u> = STRIPPING FILL	LIN. FT.
<u>BEBF</u> = BORROW EXCAVATION, BRIDGE FOUNDATION	S.Q. FT.
<u>F&amp;S</u> = FERTILIZING AND SEEDING	LIN. FT.
<u>RCBC</u> = REMOVAL OF CONC. BASE COURSE & CONCRETE SURFACE COURSES (PAID AS A PLAN SHEET QUANTITY)	LIN. FT.

### NOTES

ALL CROSS-SECTIONS ARE RADIAL OR AT RIGHT ANGLES TO THE BASE LINES EXCEPT WHERE OTHER METHODS ARE INDICATED.

EXCAVATION AND EMBANKMENT QUANTITIES SHOWN ON THE CROSS SECTIONS ARE MEASURED BETWEEN THE DASHED LINES REPRESENTING THE SURFACE OF THE EXISTING GROUND AND THE SOLID LINES REPRESENTING THE LIMITS OF EXCAVATION OR EMBANKMENT. WHERE TOPSOIL IS PROPOSED, THE SOLID LINES INDICATE THE BOTTOM OF THE PROPOSED TOPSOIL.

THE PROPOSED GRADES SHOWN ON THE CROSS-SECTIONS ARE FOR ESTIMATING QUANTITIES.

ROUTE 295 B.L. STA. 252+30 - 253+00

NEW JERSEY DEPARTMENT OF TRANSPORTATION

## CROSS SECTIONS

ROUTE 295

CONTRACT NO. 010010001

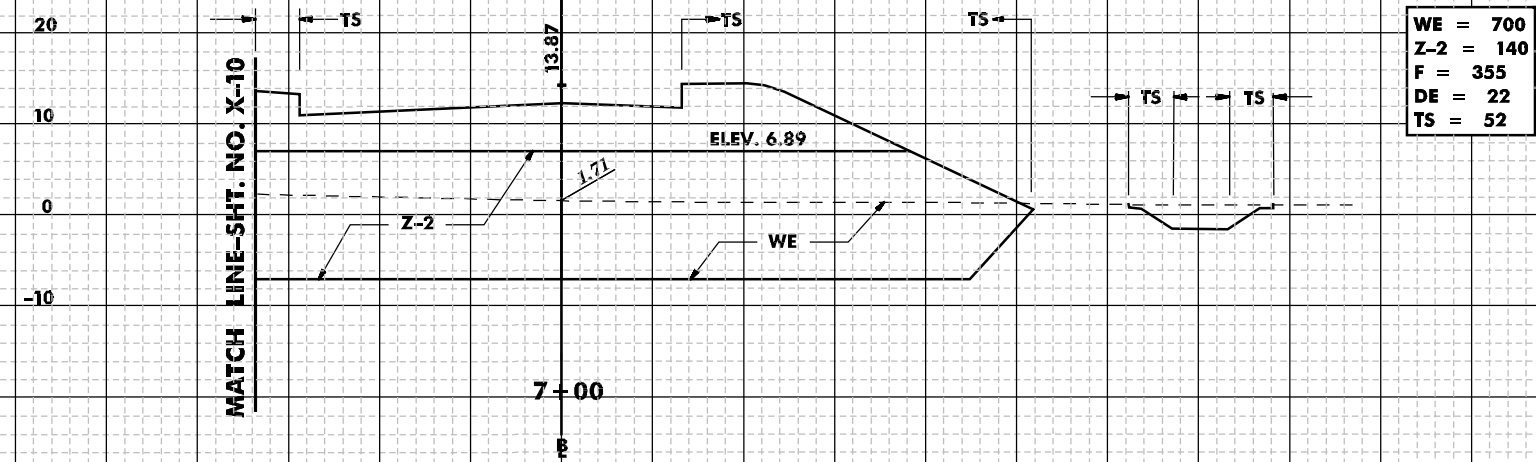
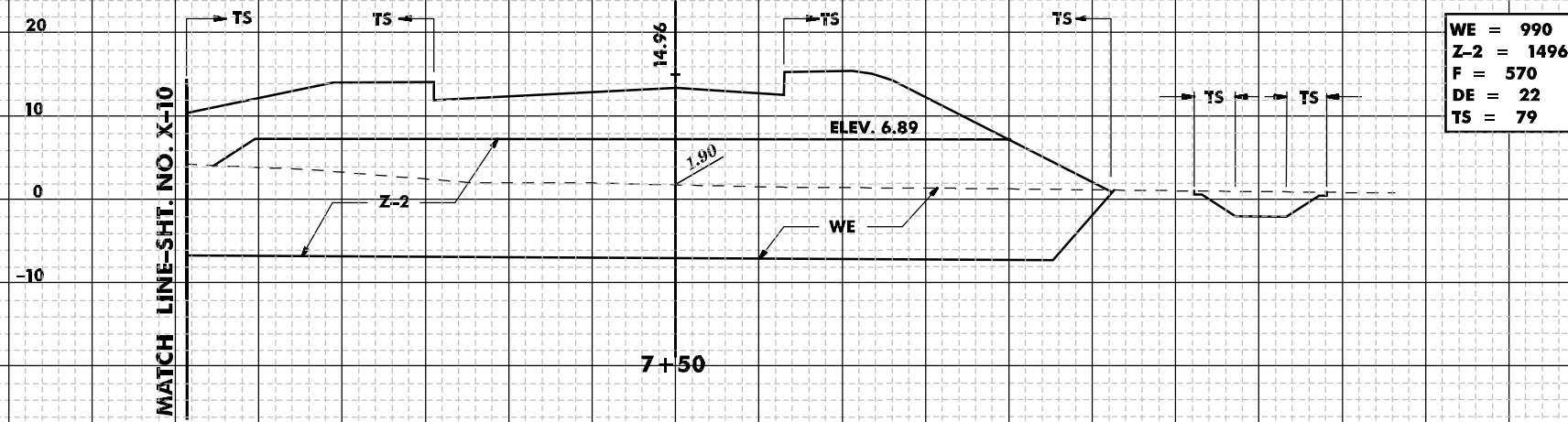
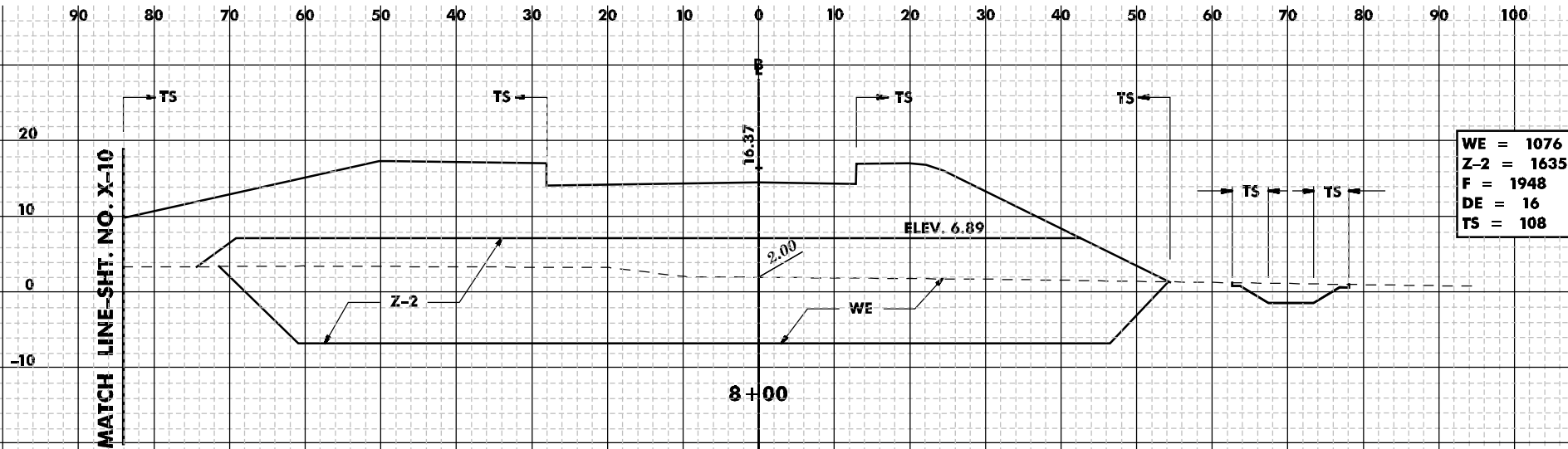
Individual, Firm, Partnership, etc.

(signature) (date)

John L. Doe

N.J.P.E. LIC. NO. 99999

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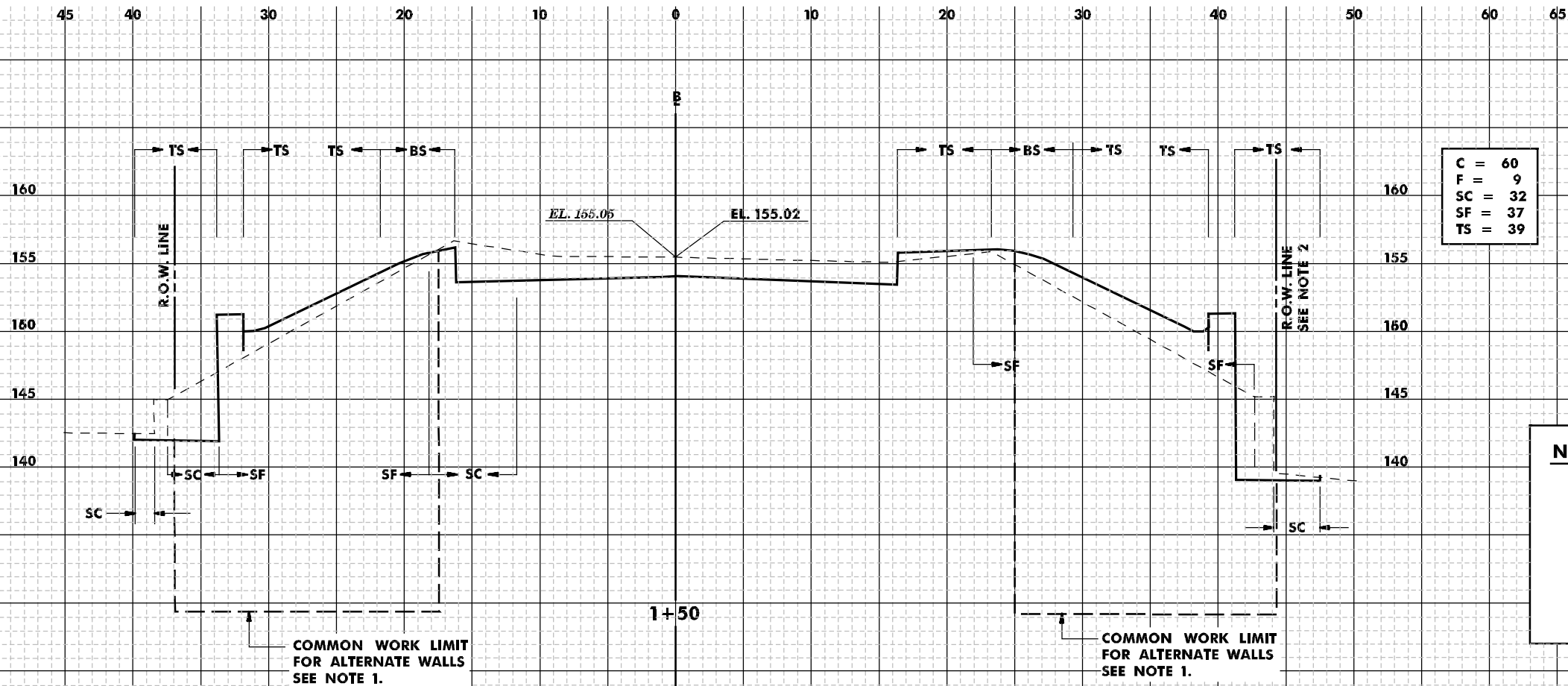
ROUTE 7 B.L. STA. 7+00 - 8+00  
NEW JERSEY DEPARTMENT OF TRANSPORTATION

CROSS SECTIONS  
ROUTE 7  
CONTRACT NO. 010010001

Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999

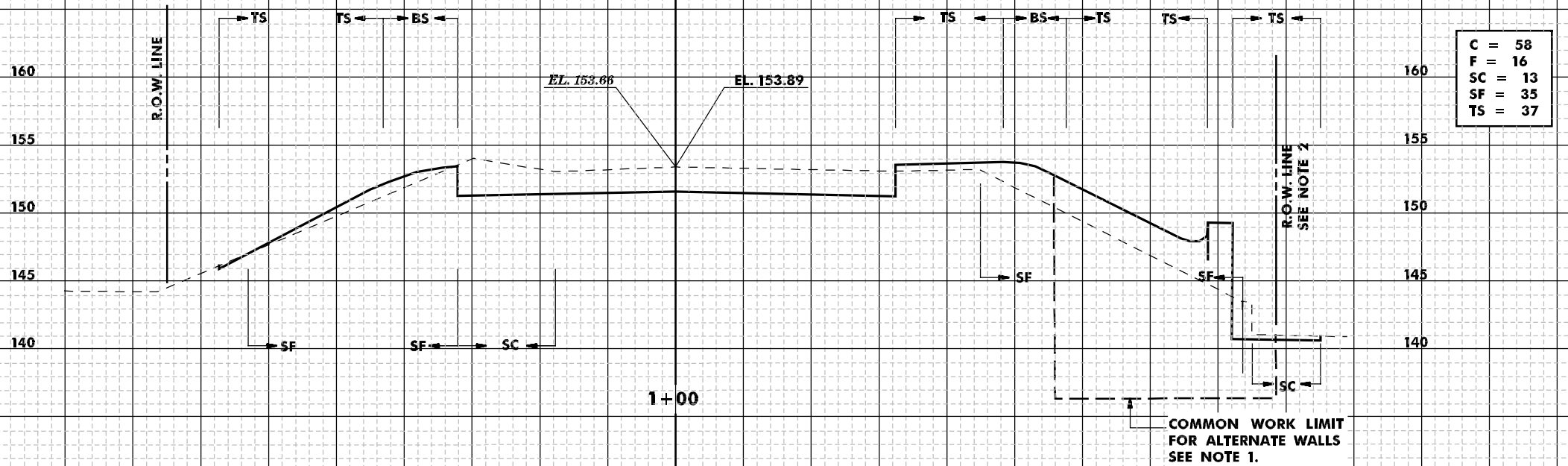
X-2  
X-5





**NOTES**

- 1) PAYMENT FOR ROADWAY EXCAVATION, UNCLASSIFIED AND BACKFILL WITHIN THE COMMON WORK LIMIT FOR ALTERNATE WALLS SHALL BE MADE UNDER THE PAY ITEMS FOR ALTERNATE WALLS.
- 2) SEE CONSTRUCTION PLAN FOR CONSTRUCTION EASEMENT LINES WHEN WORK IS PROPOSED OUTSIDE OF EXISTING R.O.W.



BASELINE STA. 1+00 - 1+50

NEW JERSEY DEPARTMENT OF TRANSPORTATION

**CROSS SECTIONS**

TUTTLE PARKWAY BRIDGE

CONTRACT NO. 010010001

Individual, Firm, Partnership, etc.

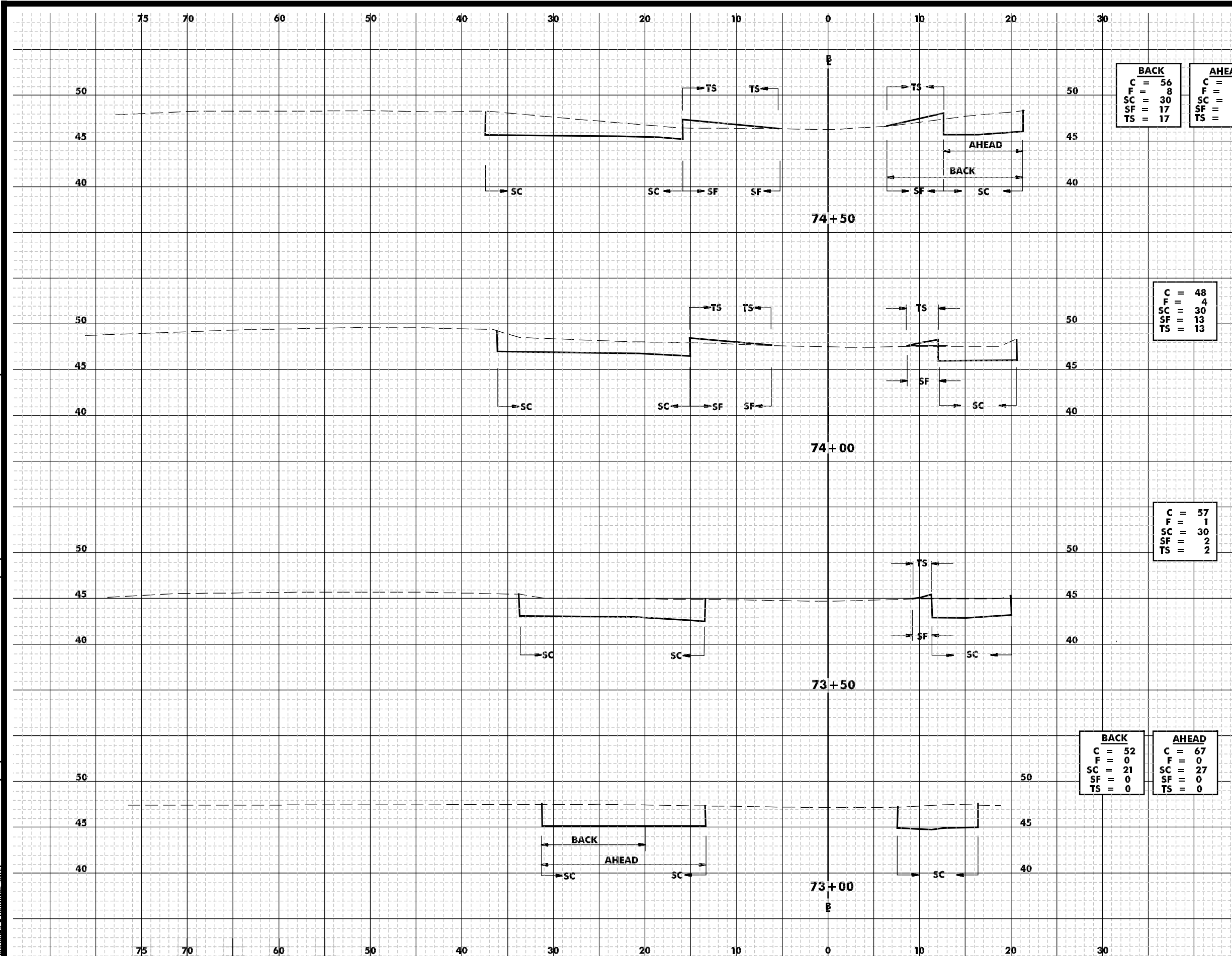
(signature) (date)

John L. Doe

N.J.P.E. LIC. NO. 99999



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BACK	
C	= 56
F	= 8
SC	= 30
SF	= 17
TS	= 17

AHEAD	
C	= 56
F	= 3
SC	= 30
SF	= 11
TS	= 11

C	= 48
F	= 4
SC	= 30
SF	= 13
TS	= 13

C	= 57
F	= 1
SC	= 30
SF	= 2
TS	= 2

BACK	
C	= 52
F	= 0
SC	= 21
SF	= 0
TS	= 0

AHEAD	
C	= 67
F	= 0
SC	= 27
SF	= 0
TS	= 0

ROUTE 295 S.B. B.L. STA. 73+00 - 74+50

NEW JERSEY DEPARTMENT OF TRANSPORTATION

## CROSS SECTIONS

ROUTE 295

CONTRACT NO. 010010001

Individual, Firm, Partnership, etc.

(signature) (date)

John L. Doe

N.J.P.E. LIC. NO. 99999

X-4  
X-5

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## SAMPLE NO. 1

### EARTHWORK SUMMARY

#### EXCAVATION

Roadway Excavation From Cross Sections	=	898,004	C.Y.
Stripping in Cuts	=	- 24,369	C.Y.
Subtotal	=	873,635	C.Y.
Roadway Excavation From Plan Sheets	=	+ 7,871	C.Y.
Total Roadway Excavation	=	881,506	C.Y.
Ditch Excavation	=	+ 4,101	C.Y.
TOTAL	=	885,607	C.Y.
TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT			
With 10% Shrinkage = (885,607 C.Y. x 0.90)	=	797,046	C.Y.

#### EMBANKMENT

Embankment From Cross Sections	=	794,297	C.Y.
Stripping In Fill	=	+ 18,993	C.Y.
Subtotal	=	813,290	C.Y.
Embankment From Plan Sheets	=	+ 2,116	C.Y.
Total Embankment Required	=	815,406	C.Y.
Total Excavation Available For Embankment	=	- 797,046	C.Y.
TOTAL BORROW EXCAVATION, ZONE 3	=	18,360	C.Y.

#### TOPSOIL

Stripping In Cuts	=	24,407	C.Y.
Stripping In Fills	=	+ 19,023	C.Y.
TOTAL STRIPPING AVAILABLE FOR TOPSOIL	=	43,430	C.Y.
Topsoil Required			
Topsoil, 4" Thick From Cross Sections	=	398,148	S.Y.
Topsoil, 4" Thick From Plan Sheets	=	+ 24,040	S.Y.
TOTAL TOPSOIL, 4" THICK	=	422,188	S.Y.
Topsoil, 4" Thick (422,188 S.Y. x 0.111 YD.)			
	=	46,862	C.Y.
Topsoil For Planting	=	+ 650	C.Y.
TOTAL TOPSOIL REQUIRED	=	47,512	C.Y.
Total Stripping Available For Topsoil	=	- 43,430	C.Y.
TOTAL BORROW TOPSOIL	=	4,082	C.Y.

#### WET EXCAVATION

Wet Excavation From Cross Sections	=	34,871	C.Y.
Wet Excavation From Plan Sheets	=	+ 707	C.Y.
TOTAL WET EXCAVATION	=	35,578	C.Y.

#### BORROW EXCAVATION, ZONE 2

Borrow Excavation, Zone 2 From Cross Sections	=	37,205	C.Y.
Borrow Excavation, Zone 2 From Plan Sheets	=	+ 472	C.Y.
TOTAL BORROW EXCAVATION, ZONE 2	=	37,677	C.Y.

#### BORROW EXCAVATION, BRIDGE FOUNDATION

Borrow Ex., Bridge Foundation From Cross Section	=	25,969	C.Y.
Stripping For Borrow Excavation, Bridge Foundation	=	+ 1,016	C.Y.
Subtotal	=	26,985	C.Y.
Borrow Ex., Bridge Foundation From Plan Sheets	=	+ 399	C.Y.
TOTAL Borrow Excavation, Bridge Foundation	=	27,384	C.Y.

#### CHANNEL EXCAVATION

TOTAL CHANNEL EXCAVATION	=	437	C.Y.
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#### DITCH EXCAVATION

Ditch Excavation From Cross Sections	=	4,810	C.Y.
Stripping In Ditch Excavation	=	- 872	C.Y.
Subtotal	=	3,938	C.Y.
Ditch Excavation From Plan Sheets	=	+ 163	C.Y.
TOTAL DITCH EXCAVATION	=	4,101	C.Y.

NOTE:  
IF ADDITIONAL SUITABLE MATERIAL FOR EMBANKMENT IS OBTAINED FROM ANY EXCAVATION, THE QUANTITY OF BORROW WILL BE REDUCED ACCORDINGLY.

## SAMPLE NO. 2

### EARTHWORK SUMMARY

#### EXCAVATION

Roadway Excavation From Cross Sections	=	343,588	C.Y.
Stripping in Cuts	=	- 12,516	C.Y.
Subtotal	=	331,072	C.Y.
Roadway Excavation From Plan Sheets	=	+ 3,289	C.Y.
TOTAL ROADWAY EXCAVATION	=	334,361	C.Y.

#### EXCAVATION AVAILABLE FOR EMBANKMENT

Total Roadway Excavation Unclassified	=	334,361	C.Y.
Removal of Conc. Base Course & Conc. Surface Course	=	+ 27,578	C.Y.
Foundation Excavation	=	+ 2,700	C.Y.
Bridge Excavation	=	+ 3,939	C.Y.
Excavation @ Noise Barriers	=	+ 821	C.Y.
Ditch Excavation, Unclassified	=	+ 3,381	C.Y.
Subtotal	=	372,780	C.Y.
TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT	=	372,780	C.Y.
With 10% Shrinkage = (372,780 C.Y. x 0.90)	=	335,502	C.Y.

#### EMBANKMENT

Embankment From Cross Sections	=	325,512	C.Y.
Stripping In Fill	=	+ 8,670	C.Y.
Embankment From Plan Sheets	=	+ 0	C.Y.
TOTAL EMBANKMENT REQUIRED	=	334,182	C.Y.

#### TOPSOIL

Stripping In Cuts	=	12,535	C.Y.
Stripping In Fills	=	+ 8,684	C.Y.
TOTAL STRIPPING AVAILABLE FOR TOPSOIL	=	21,219	C.Y.
Topsoil Required			
Topsoil, 4" Thick From Cross Sections	=	24,398	S.Y.
Topsoil, 4" Thick From Plan Sheets	=	+ 957	S.Y.
TOTAL TOPSOIL, 4" THICK	=	25,355	S.Y.
Topsoil, 4" Thick (25,355 S.Y. x 0.111 YD.)			
	=	2,814	C.Y.
Topsoil For Planting	=	+ 450	C.Y.
TOTAL TOPSOIL REQUIRED	=	3,264	C.Y.

#### WET EXCAVATION

TOTAL WET EXCAVATION	=	14,024	C.Y.
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#### BORROW EXCAVATION, SELECT MATERIAL

Borrow Excavation, Select Material From Cross Sections	=	7,364	C.Y.
Borrow Excavation, Select Material From Plan Sheets	=	+ 7,968	C.Y.
TOTAL BORROW EXCAVATION, SELECT MATERIAL	=	15,332	C.Y.

#### BORROW EXCAVATION, ZONE 2

Borrow Excavation, Zone 2 From Cross Sections	=	64,341	C.Y.
Borrow Excavation, Zone 2 From Plan Sheets	=	+ 18	C.Y.
TOTAL BORROW EXCAVATION, ZONE 2	=	64,359	C.Y.

#### BORROW EXCAVATION, BRIDGE FOUNDATION

TOTAL BORROW EXCAVATION, BRIDGE FOUNDATION	=	15,894	C.Y.
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#### DITCH EXCAVATION

Ditch Excavation From Cross Sections	=	3,431	C.Y.
Stripping In Ditch Excavation	=	- 93	C.Y.
Ditch Excavation From Plan Sheets	=	+ 143	C.Y.
TOTAL DITCH EXCAVATION	=	3,481	C.Y.

#### POROUS FILL

TOTAL POROUS FILL	=	2,163	C.Y.
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NOTE:  
IF ADDITIONAL SUITABLE MATERIAL FOR EMBANKMENT IS OBTAINED FROM ANY EXCAVATION, THE QUANTITY OF BORROW WILL BE REDUCED ACCORDINGLY.

## SAMPLE NO. 3

### EARTHWORK SUMMARY

#### EXCAVATION

	BHF-29(135) QUANTITY	TOWN CENTER ASSOCIATES QUANTITY	100% STATE QUANTITY	CONTRACT QUANTITY
Roadway Excavation From Cross Sections	= 42,000 C.Y.	0 C.Y.	1,500 C.Y.	43,500 C.Y.
Stripping in Cuts	= - 6,310 C.Y.	- 0 C.Y.	- 413 C.Y.	- 6,723 C.Y.
Subtotal	= 35,690 C.Y.	0 C.Y.	1,087 C.Y.	35,777 C.Y.
Roadway Excavation From Plan Sheets	= + 7,639 C.Y.	+ 14,350 C.Y.	+ 2,500 C.Y.	+ 24,489 C.Y.
Total Roadway Excavation (TRX)	= 43,329 C.Y.	14,350 C.Y.	3,587 C.Y.	60,266 C.Y.
TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT				
With 10% Shrinkage = (TRX C.Y. x 0.90)	= 38,996 C.Y.	12,915 C.Y.	3,228 C.Y.	54,239 C.Y.

#### EMBANKMENT

Embankment From Cross Sections	= 4,297 C.Y.	3,671 C.Y.	689 C.Y.	8,657 C.Y.
Stripping In Fill	= + 839 C.Y.	+ 463 C.Y.	+ 129 C.Y.	+ 1,431 C.Y.
Subtotal	= 5,136 C.Y.	4,134 C.Y.	818 C.Y.	10,088 C.Y.
Embankment From Plan Sheets	= + 2,146 C.Y.	+ 0 C.Y.	+ 3,261 C.Y.	+ 5,407 C.Y.
TOTAL EMBANKMENT REQUIRED	= 7,282 C.Y.	4,134 C.Y.	4,079 C.Y.	15,495 C.Y.

#### WET EXCAVATION

Wet Excavation From Cross Sections	= 4,871 C.Y.	327 C.Y.	0 C.Y.	5,198 C.Y.
Wet Excavation From Plan Sheets	= + 307 C.Y.	+ 4,801 C.Y.	+ 0 C.Y.	+ 5,108 C.Y.
TOTAL WET EXCAVATION	= 5,178 C.Y.	5,128 C.Y.	0 C.Y.	10,306 C.Y.

NOTE:  
IF ADDITIONAL SUITABLE MATERIAL FOR EMBANKMENT IS OBTAINED FROM ANY EXCAVATION, THE QUANTITY OF BORROW WILL BE REDUCED ACCORDINGLY.

NEW JERSEY DEPARTMENT OF TRANSPORTATION

## CROSS SECTIONS

ROUTE 287

CONTRACT NO. 010010001

Individual, Firm, Partnership, etc.

(signature) (date)

John L. Doe

N.J.P.E. LIC. NO. 99999

PROJECT : ROUTE 23 SECTION IE

STATE FEDERAL PROJECT NO.  
N.J. BHF-29 (135)  
DXAF-37 (115)

PAY ITEM NO.	STANDARD ITEM NO.	DESCRIPTION	UNIT	CONTRACT QUANTITY	AS - BUILT QUANTITY	BHF-29(135) QUANTITY	DXAF-37(115) QUANTITY	STATE QUANTITY								
		<b>STRUCTURE NO. 0703-152</b>														
280	2A21D	CLEARING SITE, BRIDGE (STRUCTURE NO. 0703-152)	LUMP SUM	LUMP SUM		60%		40%								
281	2A21B	TEMPORARY SHIELDING	LUMP SUM	LUMP SUM		60%		40%								
282	2F21C	FOUNDATION EXCAVATION	CU. YD.	25720		25720										
283	2F21D	BRIDGE EXCAVATION	CU. YD.	4075		4075										
284	2F21E	COURSE AGGREGATE LAYER	CU. YD.	1125		1125										
285	9Z99Z	NO ITEM														
286	9Z99Z	NO ITEM														
287	5A21C	CONCRETE IN STRUCTURES, FOOTINGS	CU. YD.	18890		15146		3744								
288	5A31C	CONCRETE IN STRUCTURES, RETAINING WALLS	CU. YD.	195		170		25								
289	5A41C	CONCRETE IN SUBSTRUCTURES, ABUTMENT WALLS	CU. YD.	445		262		183								
290	5A51C	CONCRETE IN SUBSTRUCTURES, PIER COLUMNS AND CAPS	CU. YD.	23415		19880		3535								
291	5A71C	CONCRETE IN SUPERSTRUCTURE, DECK SLABS	CU. YD.	14760		13080		1680								
292	5A21E	REINFORCEMENT STEEL IN STRUCTURES	POUND	5514520		4411617		1102903								
293	5A31E	REINFORCEMENT STEEL IN STRUCTURES, EPOXY COATED	POUND	2387270		1909816		477454								
294	5A21H	EPOXY WATERPROOFING SEAL COAT	SQ. YD.	2370		2370										
295	5A51K	STRIP SEAL EXPANSION DAM	LIN.FT.	1618		1618										
296	5A21L	SAWCUT GROOVED DECK SURFACE	SQ. FT.	387943		387943										
297	5C21C	STRUCTURAL STEEL (WT. = 17,118,695 LBS)	LUMP SUM	LUMP SUM		100%										
298	5C21F	STRUCTURAL STEEL DECK JOINTS (WT. = 144,250 LBS)	LUMP SUM	LUMP SUM		100%										
299	5C21H	SHEAR CONNECTORS	UNIT	139700		139700										
300	-----	BRIDGE BEARINGS, TYPE 1	UNIT	629		629										
301	-----	BRIDGE BEARINGS, TYPE 2	UNIT	-												
302	5E21C	PREBORED HOLES	LIN. FT.	1529				1529								
303	5M21C	TEMPORARY SHEETING	SQ. FT.	30935		30935										
304	5Q21E	8 INCH STEEL ALLOY PIPE	LIN. FT.	2655		2297		358								
305	5Q25E	12 INCH STEEL ALLOY PIPE	LIN. FT.	1665		1410		255								
306	5R21E	CONCRETE DECK OVERLAY PROTECTIVE SYSTEM, TYPE LATEX MODIFIED CONCRETE	CU. YD.	1585				1585								
307	9Z99Z	NO ITEM														
308	9Z99Z	NO ITEM														
309	6A08E	8 INCH CORRUGATED STEEL UNDERDRAIN PIPE	LIN. FT.	495		495										
310	9Z99Z	NO ITEM														
311	9Z99Z	NO ITEM														
		<b>OVERHEAD SIGN SUPPORT STRUCTURES</b>														
312	2F21C	FOUNDATION EXCAVATION	CU. YD.	71			71									
313	2F21D	BRIDGE EXCAVATION	CU. YD.	895			895									
314	9Z99Z	NO ITEM														
315	9Z99Z	NO ITEM														
316	5A21C	CONCRETE IN STRUCTURES, FOOTING	CU. YD.	118			118									
317	5A21E	REINFORCEMENT STEEL IN STRUCTURES	POUND	10635			10635									
318	5I21F	OVERHEAD SIGN SUPPORT, STRUCTURE NO. 1	UNIT	1			1									
319	5I23F	OVERHEAD SIGN SUPPORT, STRUCTURE NO. 2	UNIT	1			1									
320	5I25F	OVERHEAD SIGN SUPPORT, STRUCTURE NO. 3	UNIT	1			1									
321	5I27F	OVERHEAD SIGN SUPPORT, STRUCTURE NO. 4	UNIT	1			1									
322	-----	RELOCATION OF SIGN SUPPORT NO. 8	LUMP SUM	LUMP SUM			80%	20%								
323	5M21C	TEMPORARY SHEETING	SQ. FT.	1270			1270									
324	9Z99Z	NO ITEM														
325	9Z99Z	NO ITEM														
		<b>BRIDGE MOUNTED SIGN SUPPORT STRUCTURES</b>														
326	5I21D	BRIDGE MOUNTED SIGN SUPPORT STRUCTURE NO. 1	UNIT	1			1									
327	-----	REMOVAL OF SIGN SUPPORT 7A AND 7B	LUMP SUM	LUMP SUM			80%	20%								
328	9Z99Z	NO ITEM														
329	9Z99Z	NO ITEM														
		<b>RAMP A RETAINING WALL</b>														
330	2F21C	FOUNDATION EXCAVATION	CU. YD.	1355			1177	178								
331	9Z99Z	NO ITEM														
332	9Z99Z	NO ITEM														
333	5A21C	CONCRETE IN STRUCTURES, FOOTINGS	CU. YD.	806			640	166								
334	5A31C	CONCRETE IN STRUCTURES, RETAINING WALLS	CU. YD.	1010			811	199								
335	5A91C	CONCRETE IN SUPERSTRUCTURE, PARAPETS	LIN. FT.	276			164	112								
336	5A21E	REINFORCEMENT STEEL IN STRUCTURES	POUND	1726025			1294511	431514								
337	5A31E	REINFORCEMENT STEEL IN STRUCTURES, EPOXY COATED	POUND	6300			5040	1260								
338	9Z99Z	NO ITEM														
339	9Z99Z	NO ITEM														
		<b>RAMP B RETAINING WALL</b>														
340	5T21C	RETAINING WALL, LOCATION NO. 1	SQ. FT.	5655			4250	1405								
341	9Z99Z	NO ITEM														

ESTIMATE OF QUANTITIES - BRIDGE

Individual, Firm, Partnership, etc.  
(signature) (date)  
John L. Doe  
N.J.P.E. LIC. NO. 99999

# To Plot Multiple Plan Sheets (MultiPlot Button)

Entire plan sets of full sized plan sheets can be plotted in one step by using the MultiPlot Button.

[Click here -->](#)  
to run MultiPlot

## Quick Instructions

- 1: Check your default printer's settings
- 2: Click the MultiPlot Button and enter the page #'s to plot
- 3: Pick up your plot set when done

The MultiPlot Button will allow the plotting of as many consecutive plan sheets as specified in a range without over stressing your plotter's or system's memory, a major cause of system crashes and failed print jobs when plotting multiple large graphics.

## Requirements:

1. A plotter or printer with appropriate paper size capable of making "full sized" plots at 100% scale.
2. Up to date plotter drivers (check your manufactures website)
3. Up to date Adobe Acrobat Reader, 4.05 or better
4. A plotter properly set up as your DEFAULT printer

## Instructions

**Step 1: Multi Plot utilizes the default settings of your system's default printer/plotter.** Be sure to **set the default parameters** (paper size, orientation, etc) of your plotter to the same settings that produce a successful single plot. Although you should consult your system's administrator or help files on how to select a default printer and change it's default settings, this is the general procedure:

1. From the Windows Task Bar, click Start---Settings---Printers
2. Select a printer/plotter; and make it your DEFAULT by choosing File→Set as Default
3. Check the default SETTINGS of the plotter by choosing File→Document Defaults
4. **Check the paper size and the paper's orientation.** These will be the settings used by MultiPlot
5. The paper should be 24"x36" (an Architectural D) or larger for most 'full size' plots.
6. **NOTE: some systems may require users to have administrative privileges to change default plotter settings. System Administrators: See note in "Trouble Shooting" section below.**

**Step 2:** Go to the Multi Plot button page and, using the '**HAND TOOL**', click the Multi Plot button. Enter the **page number\* to start plotting at** and click OK. Enter the **page number to stop plotting at** and click OK.

\* Page numbers are displayed at the bottom of the Acrobat window. A page's number is located next to the page's name. (ex: **[Construction7 (13 of 157)]** would be page 13 ... **[Construction Detail10 (142 of 157)]** would be page 142. Page numbers are also displayed when you click and move the main display windows' scroll bar.

**Step 3:** Choose whether to halt the process after the first sheet is plotted to quality check the first plot before continuing with the rest of the sheets. This is **strongly recommended** because once the printing process begins it is very difficult to interrupt or cancel, and no one wants a large number of bad plots. All of the succeeding plots will have the same quality attributes of the first plot.

**Step 4:** If you chose to check the first plot in step 3, and it passes your inspection, click "No" (do not quit the rest of the plot job) in the pop up box. If your settings are incorrect click "Yes" to cancel the rest of the print job, and make the necessary corrections to your printer's default settings. Note: Due to plotter lag time this box usually pops up before the plot appears. Be patient with your equipment!

## Troubleshooting:

### **1: The print was rotated and/or was on the wrong size paper**

Multi Plot utilizes the default settings of your system's default printer/plotter. Paper size and paper orientation can only be changed by changing the system's default printer's Document Defaults. See Step 1 above, or contact your System Administrator to do this.

### **2: The print was at the wrong scale**

While Multi Plot plots exclusively at scale = 100%, other scaling factors can be achieved by manipulating the settings at the printer's Document Defaults level (see Step 1 above). Many printer/plotter manufacturers (like HP for example) provide printer/plotter drivers that allow for scaling at the hardware level. Check your manufacturers website for a driver update if you do not yet have this capability.

### **3: A Special Note for System Administrators**

I have found it very useful to "Add a Printer" on the server utilizing existing ports, drivers, and hardware. I name it something like "HP8000 11x17Landscape" (which we would use for 'half scales') and then share the printer, and set the default settings as noted above. "Add(ing) a Printer" for 24"x36" paper plots the same way will cover most of your users full and half scale plotting needs. :>)

# **NAVIGATING AROUND PLAN SHEETS**

There are many methods available to move about a plan set or document.

Firstly, **the page you are currently on is displayed at the bottom** of the Acrobat window.

**Clicking on the show/hide navigation pane button**, the screen will be split, showing the navigation pane as well as the display area.

The navigation pane displays 2 tabs ~ Bookmarks and Thumbnails

**Bookmarks** are similar to a table of contents in a book. **By clicking a particular bookmark you will be brought to the first page represented by the bookmark.** You may then use the page up/down keys. The page you are currently on is displayed at the bottom of the Acrobat window. When the sheet you want to view is being displayed, you may **toggle off the navigation pane to increase the display's viewing area.**

**Thumbnails** are small representations of sheets. The navigation pane may be widened to display a greater number of thumbnails. **You will be brought to a particular sheet by clicking on it's thumbnail.** The page you are currently on is displayed at the bottom of the Acrobat window. When the sheet you want to view is being displayed, you may **toggle off the navigation pane to increase the display's viewing area.**

To move about a document you may use your keyboard's **page up, page down, up or down arrow keys, as well as the scroll bars.**

Similar to a web browser, there are **Forward/Backward buttons, first page/last page buttons, as well as a "previous view" button.**

**[Click here to view a video displaying these methods.](#)**

**[Click here for help on VIEWING \(zooming in/out, panning\) of a plan sheet.](#)**

# **VIEWING PLAN SHEETS**

There are a number of tools, often **used in conjunction** with each other, to facilitate the viewing of plan sheets.

**The Magnification Glass(es)**

**The Hand Tool**

**The Page Windowing Buttons**

**Keyboard / Scroll Bars**

**Magnification Glass(es):** They zoom in or out of an image, trying to center the resulting display where the magnification glass was when the mouse was when clicked. By holding the “Ctrl” key down the opposite effect will occur. (ex: zoom out from zoom in) Also, you may find some commonly used viewing options by ‘right clicking’ on the image with the magnification glass.

**The Page Windowing Buttons:** The most commonly used being ‘Fit to Page’

**The Hand Tool:** Similar, but handier than using the scroll bars, it is used to grab and pan an image. Simply click and hold to ‘grab’ the image and move it to the new viewing position, release the mouse button to redraw.

**My Preferred Viewing Method:** I like to use a trick with Thumbnails that is kind of like using a real magnifying glass. First I “tear off” the thumbnail tab using ‘click/hold/drag&drop’ method and put the thumbnail window off to the side. I turn off the Navigation Pane to maximize the viewing area of the sheet. I select a sheet to view from the thumbnail window. Notice the small red square in the lower right hand corner of the current pages’ thumbnail.  
**Now here’s the trick:** Click/hold/drag the red square to change the magnification of the display area. Release the mouse button when the magnification is satisfactory and move the mouse cursor over the border of the red ‘view frame’ until it changes into a ‘hand’. Click/hold/drag the frame around the thumbnail, much as you would use a real magnifying glass. This process can be repeated with any sheet brought up in the thumbnail window.

**[Click here to view a video displaying these methods.](#)**

**[Click here to view a video on my preferred method to view a plan sheet.](#)**

**[Click here for help on navigating about a set of plan or document.](#)**

# PLOTTING PLAN SHEETS

## To Plot a Single Plan Sheet

### Requirements:

A plotter capable of making use of 24"x 36" paper

Up to date plotter drivers (check your manufactures website)

Up to date Adobe Acrobat Reader, 4.05 or better ([available here](#))

**Step 1:** Choose File → Print from the Acrobat **Reader** pull down menu.

**Step 2:** Choose a plotter, making sure the paper size is 24"x36" (paper orientation might need to be landscaped, dependant upon your plotter's individual idiosyncrasies).

**Step 3:** Check the Current page option in the **Print Range** section.

**Step 4:** Click OK to sent the plot to the plotter

\*Checking **Fit to page** will allow the whole plan sheet to fit onto print on any size paper, including 8 ½" x 11" but WILL RESULT IN A NON-STANDARD SCALE.

\*Checking **Print as image** may reduce your print spool size slightly.

\*Although it is not necessary to have the page one wants to plot in the 'display' window, it is usually the norm. Alternatively one may enter the page number (if known) to be plotted in the **Pages from to** in the Print Range section (make sure you check this option and not the **Current page** option if you decide to use it)

### Troubleshooting:

#### 1: Enormous printer spool files AND/OR Printer out of memory

I cannot stress enough the importance of having the most up to date version of Acrobat **READER** (4.05 or better). This usually resolves most of these problems, and is the first and easiest course of action I would try.

If the problem persist, acquire the most current driver for your plotter, usually available from the manufacturer's web site. Not only should this resolve the memory problem, but also there are often additional features (ex: improved speed, scaling modes, memory management, etc) that will become available to the plotter itself when plotting from ANY application.

#### 2: Missing borders / plot not fitting on page

Full size plots require a piece of paper at least 24"x36" (Architectural "D"). ANSI "D" (22"x 34") is too small. Try rotating the orientation (Landscape or Portrait) and/or choosing a larger piece of paper.

**Click here to view a video displaying these methods.**

[Click here for help on plotting Multiple Plan Sheets.](#)

[Click here for help on printing a Chosen Section of a Plan Sheet.](#)



# **PRINT/PLOT a SELECTION FROM a PLAN SHEET**

Any individually selected area from a plan sheet may be plotted as follows:

From the menu bar, left click and hold the ‘Selection tool(s) button, and select the “**Graphics select tool**” (alternatively press ‘v’ on some keyboards).

Left click/drag a box surrounding the area you wish to print. Then choose **F**ile...**P**rint.  
Make sure **S**elect**e**d **G**raphic is chosen in the Print Range section.

Click OK to sent the plot to the printer/plotter.

**[Click here to view a video displaying these methods.](#)**

[Click here for help on plotting a Single Plan Sheet.](#)

[Click here for help on plotting Multiple Plan Sheets.](#)

## To Plot Multiple Plan Sheets

**Multi Plot allows for the plotting of a range of plan sheets without over stressing your plotter's or system's memory, a major cause of system crashes and failed print jobs.**

### **Requirements:**

**A plotter capable of making use of 24"x 36" paper**

**Up to date plotter drivers (check your manufactures website)**

**Up to date Adobe Acrobat Reader, 4.05 or better ([available here](#))**

**A plotter properly set up as your default printer**

**NOTE: some systems may require users to have administrative privileges to change default plotter settings**

**Step 1:** Multi Plot utilizes the default settings of your system's default printer/plotter. Be sure to **set the default parameters** (paper size, orientation, etc) of your plotter to the same settings that produce a successful single plot, **and save them**. Although you should consult your system's administrator or help files on how to select a default printer and change it's default settings, this is the general procedure:

From the Windows Task Bar, click Start---Settings---Printers

Select a plotter; and make it your DEFAULT by choosing File → Set as Default

Check the default SETTINGS of the plotter by choosing File → Document Defaults

Check the paper size and the paper's orientation.

The paper should be 24"x36" (an Architectural D) or larger.

**Step 2:** Go to the Multi Plot button page and click the Multi Plot button. Enter the page **number\*** to **start plotting at** and click OK. Enter the page **number\*\*** to **stop plotting at** and click OK.

\* Page numbers are displayed at the bottom of the Acrobat window. A page's number is located next to the page's name. (ex: [Construction7 (13 of 157)] would be page 13 ... [Construction Detail10 (142 of 157) ] would be page 142

**Step 3:** Choose whether to halt the process after the first sheet is plotted to quality check the plot before continuing with the rest of the sheets (recommended).

**Step 4:** If you chose to check the first plot in step 3, and it passes your inspection, click "No" (do not quit the rest of the plot job) in the pop up box. If your settings are incorrect click "Yes" to cancel the rest of the print job, and make the necessary corrections (see Step 1 and/or **[Plotting a Single Sheet](#)** for help).

Note: Due to plotter lag time this box usually pops up before the plot appears. Be patient with your equipment!

**[Click here to view a HELP VIDEO the Multi Plot Button page.](#)**

**[Click here to go to the Multi Plot Button page.](#)**

**[Click here for help on plotting a Single Plan Sheet.](#)**

**[Click here for help on printing a Chosen Section of a Plan Sheet.](#)**

Click Here To Open

# NJDOT Sample Plans

English 2001~The Entire set

Also Included on Disk--> English 2001 ~ Individual pdfs

Also Included on Disk--> English 2001 ~ Individual tiffs

Also Included on Disk--> English 2001 ~ Individual gifs

**HELP IS HERE!**

VIEW the TEXT (printable) PAGE	VIEW
<a href="#">NAVIGATING THIS PLAN SET</a>	<a href="#">VIDEO</a>
<a href="#">VIEWING PLAN SHEETS (Fundamentals)</a>	<a href="#">VIDEO</a>
<a href="#">VIEWING PLAN SHEETS (my Preferred method)</a>	<a href="#">VIDEO</a>
<a href="#">PLOTING SINGLE PLAN SHEETS</a>	<a href="#">VIDEO</a>
<a href="#">PLOTING MULTIPLE PLAN SHEETS</a>	<a href="#">VIDEO</a>
<a href="#">PRINT a PORTION of a PLAN SHEET</a>	<a href="#">VIDEO</a>

[Click Here To WWW Link to NJDOT](#)