

Hahn Michael (DeIDOT)

From: Delesline Nathaniel (DeIDOT)
Sent: Monday, April 11, 2005 2:38 PM
To: Hahn Michael (DeIDOT)
Subject: RE: Bridge 1B project modification

Thanks for the info Mike.
Nathaniel

-----Original Message-----

From: Hahn Michael (DeIDOT)
Sent: Monday, April 11, 2005 8:39 AM
To: Soneji Jiten (DeIDOT)
Cc: Delesline Nathaniel (DeIDOT)
Subject: FW: Bridge 1B project modification

FYI

-----Original Message-----

From: Davis Gwen (DOS)
Sent: Friday, April 08, 2005 4:09 PM
To: Kleinburd Robert (FHWA)
Cc: Fulmer Terry (DeIDOT); Hahn Michael (DeIDOT); Bodo Robin (DOS)
Subject: Bridge 1B project modification

Bob Kleinburd,

We have reviewed the documentation DeIDOT submitted, on your agency's behalf, describing the proposed modifications to the Bridge 1B project on Kennett Pike. You will recall that the previous revision of this project resulted in a finding of No Adverse Effect, with which we concurred in December 2003. The current proposed modifications include constructing a metal relieving arch under the existing bridge deck, realignment of the stream channel, and partial removal of a stone and concrete retaining wall. DeIDOT concluded that the wall is not eligible for listing in the National Register of Historic Places, either individually or contributing to the Henry Clay Village and Westover Hills historic districts. We concur with this finding. Further, from our review of the project plans, it does not appear that the changes to the bridge design will introduce adverse visual effects to the adjacent historic districts.

Therefore, we concur that the proposed changes to the project are consistent with the previous finding of No Adverse Effect. Our formal letter of concurrence will follow shortly. In the meantime, please do not hesitate to contact me if you have any questions. Thank you.

-- Gwen Davis, Archaeologist
Delaware State Historic Preservation Office



STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION

800 BAY ROAD
P.O. Box 778
DOVER, DELAWARE 19903

NATHAN HAYWARD III
SECRETARY

March 8, 2005

Mr. Daniel Griffith, Director
Division of Historic and Cultural Affairs
State Historic Preservation Office
The Green, Suite 21A
Dover, DE 19901

Dear Mr. Griffith:

Enclosed is the architectural resource survey prepared for Bridge 1B and Kennett Pike Improvements. The undertaking is state contract #99-071-08 and anticipates the use of federal funds through the Federal Highway Administration under Federal Aid Number EBRN-N009(2). As part of our Section 106 process, we have further identified (in this case confirming and updating) the presence or absence of historic properties under 36 CFR 800.4.

As you are aware, this project was initiated with your office and compliance had been successfully completed under a Finding of No Adverse Effect. In fact several modifications to the plan and construction sequence with another contract has taken place and coordinated through your office. We feel this last sequence of the project is still consistent with its original Finding of No Adverse Effect

Since the original proposal was approved, there have been some minor changes in the Bridge 1B and Kennett Pike Improvements. A retaining wall under the bridge that reflects the former rail line right of way will now be removed. The wall has been constructed in sequences along with widening of the bridge over time. The wall will be removed due to the type of supporting arched bridge that will now be placed within the existing bridge. Hydrologic reasons also support removal. Attached plans illustrate this plan modification.

The architectural resource identification and evaluation survey evaluated and re-assessed all properties within the plan modifications. Results indicate that the right of way wall is not considered eligible for the National Register of Historic Places, either individually or as part of a larger historic district nomination amendment. This

Letter to D. Griffith

3/8/2005

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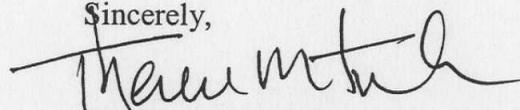
assessment is based on a lack of integrity and recent modern alterations (or a combination of the two).

In addition, based on the proposed scope and previous Section 106 consultation and Finding of No Adverse Effect, it appears that no new archaeological fieldwork and background research is necessary. This conclusion still holds true as no new footprint changes (geographically) or access needs are expected.

We feel that the proposed changes in construction methodology is consistent with the Finding of No Adverse Effect previously coordinated with your office and FHWA.

Please read over our evaluation and assessment to ensure adequate standards. Any technical comments should be directly coordinated with Mr. Michael Hahn of my staff. Within the report, DelDOT is concluding with all non-eligibility recommendations consistency with a Finding of No Adverse Effect.

Sincerely,



Therese M. Fulmer

Manager, Environmental Studies

TMH/mh
(attachment)

cc: Robert Kleinburd, FHWA Reality Officer
Robert Taylor, Assistant Director, Engineering Support
Mark Tudor, Group Engineer, North II
Jiten Soneji, Bridge Design Engineer
Michael Hahn, Environmental Studies
Kevin Cunningham, Environmental Studies
Patrick Carpenter, Environmental Studies
File

Delesline Nathaniel (DeIDOT)

From: Delesline Nathaniel (DeIDOT)
Sent: Thursday, February 24, 2005 10:20 AM
To: Griffith Daniel R (DOS); Kleinburd Robert F; Davis Gwen (DOS)
Subject: Bridge 1B New Castle County, Delaware

Dan, Bob, and Gwen,

As you know, the Delaware Department of Transportation (DeIDOT) proposes to extensively rehabilitate Bridge 1B over the former Reading Railroad right-of-way [Hahn Michael (DeIDOT)] and tributary in New Castle County, Delaware (State Contract 99-071-08; Federal Aid # EBRN-N009 (2)).

As part of the bridge construction, the deteriorated steel beam deck will be functionally replaced with an aluminum arch. The aluminum arch will serve the same functions as beams. However, the use of aluminum will further reduce the construction time while also benefiting the overall costs of the project. The arch will be placed within the existing bridge to relieve live loads within the existing deck.

As mentioned, the arch system will be set within the existing bridge under clearance (see plan diagrams), but will require adjustments to the existing stream to provide adequate hydrology.

As such, the eastern portion of that new culvert system will lie in regulated waters of the U.S. Army Corps of Engineers, DNREC sub-aqueous lands, and county flood plain.

This will impede stream flows and require stream diversion during construction. To offset or mitigate this loss, a portion of the under clearance where a stone and concrete retaining wall lies will be removed. This will achieve and maintain original channel width and proper hydrology flows.

The Delaware Department of Transportation's cultural resources staff, evaluated the stone retaining wall and recommends the wall and rail line not individually eligible as a part of individual evaluation or as part of an extended district or contributing element component.

As you might recall, in 1988 Bridge 1B was evaluated for the National Register of Historic places and determined not eligible. Also, the former right-of-way rail line is a contributing element to Henry Clay, but stops adjacent to the bridge. However, in either evaluation or write-up, no reference is made to the wall or rail line continuing in this section. One would assume that everything within a footprint of 1B would not be eligible, but the retaining wall system is really is not part of a bridge.

Regardless, we are including our evaluation write-up for the Stone Retaining Wall And Rail Right Of Way Under Bridge 1B so there is no question or project compliance doubts.

Additionally, the new bridge concept has not altered the essential footprint in terms of construction and access. Unfortunately, during the time of the write-up and photographs, boring samples were being taken. This machine and drilling method basically stripped the bedding ground and placed a number of large Swiss cheese holes under the bridge. As such, based on the historic background, nature of the property type, past bridge and wall extensions & with the known level of disturbance, it is probable that no archaeological concerns should arise.

We will send over our write up as a draft cover letter.

**NATIONAL REGISTER EVALUATION FOR A
STONE RETAINING WALL and RAIL RIGHT OF WAY UNDER BRIDGE 1B**

BACKGROUND:

The Delaware Department of Transportation (DelDOT) proposes to extensively rehabilitate Bridge 1B over the former Reading Railroad right-of-way in New Castle County, Delaware (State Contract 99-071-08; Federal Aid # EBRN-N009 (2)). Bridge 1B located on Kennett Pike (SR 52), which is one of the earliest roadways originally established as an operating Turnpike (Wilmington and Kennett) in 1813. Bridge 1B is proposed for repairs due to its deteriorated structural condition. A Finding of No Adverse Effect has already been determined for purposes of Section 106 compliance. However, if modifications result in changes in the plans, DelDOT through the Federal Highway Administration will update and consult the SHPO on those changes and determine what needs might be necessary. DelDOT has undertaken this architectural assessment as a result of those proposed changes. In sum, the essential footprint has not changed in terms of construction area, but elements not necessarily reflected in the bridge will. No additional historic properties are present and no new impacts to adjacent historic properties will occur. Additionally, the limit of the construction area has essentially not changed to warrant any new archaeological concerns.

Therefore as a secondary purpose, the following write up, evaluation, and conclusions serve as a measure that proposed changes do no alter the current finding of No Adverse Effect as a project undertaking.

As part of the additional bridge construction, steel arch will be placed within the existing bridge to relieve live loads within the existing deck. This will allow quicker construction time while also benefiting the overall costs of the project. The arched system shall be set within the existing bridge underclearance (see plan diagrams) and will require adjustments to the existing stream to provide adequate hydrology that it spans. The eastern portion of that new culvert system will lie in regulated waters of the U.S. Army Corps of Engineers, DNREC subaqueous lands, and county floodplain. This will impede stream flows and require stream diversion during construction. To offset or mitigate this loss, a portion of the under clearance where a stone retaining wall lies will be shifted over approximately two feet to the west and then reconstructed. This will achieve and maintain original channel width and proper hydrology flows.

For purposes of this evaluation, Bridge 1B has already been determined not eligible, but part of the additional federal action is to also relocate the stone retaining wall system under the bridge as part of the overall bridge repairs. The stone retaining wall is not necessarily part of the bridge system and is being look at individually as part of a National Register object or structure consideration.

CURRENT CONDITIONS:

Although the exact date of the bridge construction is unconfirmed, DelDOT records document that Bridge 1B was likely re-built in just prior to 1919 with private funds provided by

the early DuPont Company (Pierre S. duPont). Pierre duPont privately rebuilt the entire road, allowed free access, while turning over maintenance responsibility to the New Castle County. Other bridges crossings at this location occurred since the Wilmington and Kennett Turnpike Company first constructed and opened this roadway in 1813 (Delaware Historic Bridges Survey and Evaluation of Historic Bridges with Historic Context for Highways and Railroads, 2000).

Widening, shoulder and sidewalk projects to the existing bridge have occurred over time, which has altered the original bridge by providing new extended decking, parapets, abutment and wing wall systems, and drainage systems. Originally a bridge approximately 21'-6" in width, the encased steel girders and a portion of the stone abutments remain. In 1932 widening occurred to the north under contract number 239. In 1939 DelDOT approved contract 644 authorizing further widening of Kennett Pike from Barley Mill Road to Rising Sun Lane. This resulted in Bridge 1B widening to the south. Deck widening, abutment, and wing wall widening projects consist of pre-stressed concrete sections not matching or consistent with the original bridge section, structural design, and materials. Currently, the bridge carries four lanes of vehicular traffic, one full shoulder and one partial shoulder and sidewalks at both ends. Bridge 1B has been evaluated in 1988 for the National Register of Historic Places and was determined not eligible due to lack of significance defined in a bridge type and degree of alterations.

Bridge 1B not only spans headwaters of Pancake Run, a small tributary of the Brandywine Creek, but provides span clearance for the abandoned railroad right-of-way (approximately 12' in width) of the former Reading Rail Road. The rail line is not operation. All track, ties, and typical ballast do not remain and are not evident at the Bridge 1B location. The surface level under the bridge has been recently stripped due to borings needed as part of the bridge rehabilitation project.

Both Bridge 1B and the extension of the wall dividing the stream and rail right of way lie immediately adjacent to the listed National Register of Historic Places Henry Clay Village Historic District. According to the nomination, the rail track right of way is a contributing structure within the district. Neither bridge 1B nor the concrete wall extensions evident of the bridge and railroad right-of-way are features within the district.

Southeast of Bridge 1B and stonewall, the Westover Hills National Register Historic District lies in close proximity. Although no federal nomination has been prepared on a National Register Nomination form, the early 20th century subdivision is considered as an eligible district for this array of early 20th century architecture housing styles, subdivision design, and its suburban relationship with the Wilmington urban core towards changing social, ethnic, and demography of the area. Neither the bridge's necessary re-construction activity, rail line, and stonewall separating the abandoned rail line with that of the stream have an impact upon the district. They are not a reflection to the historic elements of this nearby community.

CONDITIONS and ASSESSMENT – see photos and attached maps

Historically, the rail line served as a spur through Henry Clay Village (now Henry Clay Village Historic District) to textile and cotton mills known as the Bancroft Mill Corporation and E.I. DuPont de Nemours (DuPont) powder yards and mills. Without more extensive research on

exact date, the spur line, known as the Kentmere Branch was constructed sometime between 1868 and 1893 and was labeled at the turn of the century as the Kentmere Branch of the Wilmington and Western Rail Road (Baist, 1893). A former rail station, Kentmere Station, and Tollgate serving the Turnpike until 1919 were also located *near* the current bridge location. The Tollgate is believed to moved to a nearby property due to past roadway widening projects. The rail station no longer exists and is believed to be location on grounds of the A.I. DuPont Middle School or on private lands along Rising Sun Lane.

The Kentmere Branch spur line ultimately traveled in a southwest direction joining the main lines of the Baltimore and Ohio Railroad and Reading Rail Road. Today, the rail right of way is abandoned property that has been incorporated into DelDOT right-of-way.

The stone block for the wall design is believed to be originally built by the railroad company (or commissioned by the Bancroft or DuPont Companies) since smaller culvers and drainage channel systems down stream and within the former railroad right-of-way consistently match that of the same stones and block pattern. The stonewall begins under Bridge 1B where the original circa 1919 section exists and extends west along the stream bank. Stone consists of rectangular blocks cut and set in regular dry laid ashlar sections with an outer quarry faced finish. Blocks are stretched two to three courses high and vary in dimensions, but the largest blocks are approximately 24" by 36" with a 24" thickness.

As whole, the stone retaining wall underneath Bridge 1B separating the tributary with the rail line has been altered. It was added/extended onto by DelDOT forces during bridge widening projects of the early 1930's. The altered northern section consists of a reinforced concrete wall extension, which also characterizes and serves as the unnatural stream channel bottom under the bridge.

With the necessary background information and site analysis, DelDOT cultural resources staff, recognized as meeting the Secretary of the Interior's Professional Qualification Standards in the field of history and architectural history, completed the following in summary evaluation.

PROPERTY:

Stone block and concrete retaining wall system underneath State Bridge 1B.

LOCATION:

Kennett Pike (SR 52), under the abutment of Bridge 1B and along the former Reading Railroad Line, south of Brecks Lane, New Castle County, Delaware

AGE:

Speculative at best. Likely built 1) during construction of the rail line between 1868 and 1893; or 2) during the original State Bridge Number 1B contact number (circa 1919) since linear systems of stones align between what remains as part of the original bridge and original wall system. Concrete alteration of 1932 for extensions.

DESCRIPTION:

The stone consists of rectangular blocks cut and set in regular dry laid ashlar sections with an outer quarry faced finish. Blocks are stretched two to three courses high and are approximately 24" by 36" in dimension with a 24" thickness. Stone section has a flare or deflection angle at the south end due to direction in grades and in the stream channel direction. Total stonewall section is approximately 60 linear feet while the continued concrete wall extension (which is part of the bridge widening effort) is approximately 40 feet and. The concrete section angles inward for stream canalization.

***COMPREHENSIVE
PLANNING INFO:***

Geographic Zone: Piedmont
Time Period: 1830-1880 +/- Industrialization and Early Urbanization
1880-1940 +/- Urbanization and Early Suburbanization
Historic Themes: Transportation and Communications; Engineering
Property Types: Railroad right-of-ways; Stone and concrete wall

***SITE
DESCRIPTION:***

The wall is located at the base of Bridge 1B which carries Kennett Pike, (SR 52) over the Reading Railroad and a small stream, south of Brecks Lane. Wall also evident and adjacent to Henry Clay Village Historic District to the north and also near the community of Westover Hills Historic District to the south. Although located in an urbanized location, wall is relatively secluded with surrounding wooded and landscaped vegetation. The wall's stone section appears in good condition, but concrete additions are poor with a significant degree in deterioration. Rail line right-of-way heavily disturbed and striped along the surface and throughout its corridor under the bridge.

***PROPOSED
UNDERTAKING:***

Under the need to maintain the same width of the stream channel, DelDOT proposes to remove a portion of the existing stonewall to streambed elevation, thus maintaining the same width of the stream channel. A new box or steel arched culvert will be placed in sections within the existing bridge. New sections will be re-constructed with stone to closely match or concrete sections cast in place.

RELEVANT

MAPS & CONTACTS:

Beers Atlas (1868), Baist Atlas (1893), USGS West Chester Quadrangle, 15 Minute Series, southeast quad (1904 and surveyed 1901); Delaware Historic Bridges Survey and Evaluation of Historic Bridges with Historic Context for Highways and Railroads (2000); Henry Clay Village Historic District Nomination (1986); State Highway Contract Numbers 66, 239, 239A, 644 and 1271

HISTORY

INTEGRITY:

Lost of and obscuration of historic materials; moderate to heavy. Part of the wall has been widened or extended out with conventional reinforced concrete with no ornate detail in design.

ELIGIBILITY EVALUATION

No portion or portions of the wall that lie underneath Bridge 1B are recommended eligible for the National Register of Historic Places. As an object or structure, it does not contribute to an individual historic property, landscape, or district.

Additionally, due to their independent structural or design function, the extent of alterations, the bridge, wall, and rail line should not be included or be considered as part of an extended historic boundary or even be considered to have individual historic merit as part of a continued structure, linear property, or object.

Applying the National Register Of Historic Places criteria consideration, under Criterion A, the stone and concrete wall under Bridge 1B is not associated with events that have made a significant contribution to the broad pattern of our history. Due to the bridge's widening the original design and materials of the wall are altered. The wall itself, serves as a function that is not significant in design as a structure, or as a man-made object. Notwithstanding this analysis, given the fact that the wall has been altered and is not original in design or materials throughout, the wall lacks integrity.

The widening and concrete wall extensions could in theory hold significance, indicating a significant historic event and/or trends that cause the improvements. However, there is no known specific impetus in understanding or defining the significance in bridge widening projects that reflect inconsistent wall widening. The road and wall was widened for extra vehicular capacity on a bridge already determined not eligible. The wall extension and alterations are also attributed to general roadway improvements, not directly relating to traceable shifts in settlement patterns, development, and land trends.

Although some significance lies in the rail line itself by location and its association to the historic districts of Bancroft Mills, Henry Clay Village, and Elutherian Mills (NHL), integrity factors of design, materials, craftsmanship, setting, and feeling have severely compromised the

rail's and wall importance to convey its significance and meaning at this location. Additionally, the absence of the line's rail features compromises the ability to convey the stone and concrete wall and/or rail line's significance. Although the rail right-of-way was identified as a contributing element in the Henry Clay Village Historic District, this analysis was determined in 1986 and was not specific in how the rail line ever interrelated with the industrial village or was part of the built landscape within the district. It was merely a rail route traversing through the district that functioned for other properties.

In consideration of Criterion B, the wall or even the abandoned rail line right-of-way for which the wall was originally built for at this location is not associated with persons significant in local, State or National history. According to DelDOT's Bridge Inspection Record the bridge may have been built with DuPont family funds, however the wall likely predates construction of the bridge.

In consideration of Criterion C, the wall does not embody the distinctive characteristic of a type, period or method of construction or represents the work of a master, or possesses high artistic value or representing a significant and distinguishable entity whose components may lack individual distinction. The original portion of the wall is visible under the deck. It is a common and utilitarian design not attributable to a particular designer, architect or building traditions or materials. The stone consists of rectangular blocks cut and set in regular dry laid ashlar sections with an outer quarry faced finish. Late 1930's extensions to the wall north consist of reinforced concrete sections of simple geometric and bulk design. Further, as an example this wall type is not known to contribute to a greater understanding of building technology or design.

In consideration of Criterion D, the wall has not yielded and is not likely to yield information important in prehistory or history. No evidence exists to suggest that the wall site was the site of or connected to a historic activity. Past disturbance and removal of soils and materials along the rail line right-of-way is not likely to yield any information. The rail right-of-way is built on an elevated layer of stone and rubble that has been altered and disturbed. Furthermore, during the 1939 widening of the bridge, a three-foot concrete fill was added to extend the wall, redirect flow of the stream, and reconstruct areas along the rail line right-of-way.

CONCLUSION:

The wall is not recommended eligible as an object or structure for the National Register of Historic Places due to a lack of any significant association with National Register Criteria A, B, C and D. The wall is of a common design that does not have a significant association with a designer, architect, or local building traditions or materials. Due to alterations, it also lacks integrity.

Furthermore, the wall does not contribute to a historic district. Equally, the rail line abandoned right-of-way supporting the wall system is not eligible individually, or as part of an extended historic district. Due to past years of bridge construction and the lack of rail activities with disturbance at this location, its construction methods would not add the general knowledge of design or construction techniques. Archaeology or potential presence for historic or pre-historic artifacts does not exist due to past and more recent disturbances.

Bridge No: 1001B009

Sufficiency Rating: 44.7

Deficiency Rank: 20

Last NBI Inspection: 5/14/2004

IDENTIFICATION

Bridge ID: 1001B009
2) District: 01
3) County: 3
5) Inventory Route
(A) On/Under: 1
(B) Highway Type: 3
(D) Route No: 00052
(E) Direction: 0
(C) Service Lvl: 1
6) Feature Intersected: WATERWAY
7) Facility Carried: KENNETT PIKE
9) Location: WESTOVER HILLS
16) Latitude: 39d 46' 04"
17) Longitude: 075d 35' 08"
11) Mile Pnt: 5.120 mi
98) Border Bridge Code: NA
99) Border Br. Str. No.: NA

STRUCTURE TYPE AND MATERIALS

43 A & B) Main Span Mtrl/Design: 1 04 Tee Beam
45) Main Spans: 1
46) Approach Spans: 0
108A) Wearing Surface: 6
108B) Membrane: 0
107) Deck Type: 1
108C) Deck Prot: 0
Pier 1: NA Pier 2: NA Pier Ftg. 1: NA Pier Ftg. 2: NA
Abut 1: 4 Abut 2: NA Abut Ftg. 1: A Abut Ftg. 2: NA

NAVIGATION DATA

38) Navigation Control: 0
111) Pier Protection: 1
39) Vert. Clearance: 0.0 ft
40) Hor. Clr: 0.0 ft
116) Lift Bridge Vert. Clearance: 0.0 ft

AGE AND SERVICE

19) Detour Length: 2.0 mi
27) Year Built: 1919
28) No. of Lanes
A) On Bridge: 4 B) Under Br: 0
29) ADT: 19,260
30) Year of ADT: 2002
42) Type of Service
A) On Bridge: 5 B) Under Br: 5
106) Year Reconst.: 1939
109) % Truck ADT: 10 %

CLASSIFICATION

12) Base Hwy. Network: 0
13A) LRS Inv. Rte: 0000000090
13B) LRS SubRte No: NA
20) Toll Facility: 3
21) Maintenance: 1
22) Owner: 1
26) Functional Class: 02
37) Historical: 5
100) Defense Hwy: 0
101) Parallel Str.: N
102) Direction: 2
103) Temp. Str.:
104) Hwy System: 0
112) NBIS Length: Y

LOAD RATING AND POSTING

31) Design Load: 0
41) Posting status: A
63) Oper. Rating Method: 1
64) Operating Rating: 40.0
65) Inventory Rating Method: 1
Date of Resolution: -1
Reason of Posting: -
S335: 0
S437: 0
T435: 0
T540: 0
66) Inv. Rating: 20.0
Rating Analysis Req'd: -
T330: 0
70) Br Posting: 5

PROPOSED IMPROVEMENTS

75) Type of Work: 35
76) Length of Imp.: NA
94) Bridge Cost: \$ 479,000
95) Rdwy Cost: NA
96) Total Cost: \$ 479,000
97) Yr of Cost Est: 2000
114) Future ADT: 18,469
115) Yr of Fut. ADT: 2017

CONTRACT INFORMATION

Contract 1: NA
Contract 2: 239A
Contract 3: 644
Contract 4: 9907108
Contract 5: NA
Contract 6: NA

Delaware Department of Transportation

Page 2 of 3

Printed: 5/27/2004
 Report By:
 Checked By:

INSPECTION

90) Inspection Date: 5/14/2004
 92A) FC Frequency: NA
 92B) UW Frequency: NA
 92C) SI Frequency: NA
 Element Frequency: 12 months
 UBIV Required: N
 UBIV Freq: NA
 Boat: N

91) Frequency: 12 months
 93A) FC Insp. Date: NA
 93B) UW Insp. Date: NA
 SI Date 93C: NA
 Elem. Insp. Date: 05/14/2004
 UBIV Days: -1
 UBIV Insp Date: 1/1/1901
 Tidal: N

Next Insp.: 05/14/2005
 Next FC Insp: NA
 Next UW Insp.: NA
 Next SI: NA
 Next El. Insp.: 05/14/2005
 Inspection Zone: 02
 GPS: Y

CONDITION

58) Deck: 4
 61) Channel: 6
 62) Culvert: NA

59) Superstructure: 4

60) Sub Str: 5

APPRAISAL

(36) Traffic Safety Features

A) Bridge Rail: 0
 D) Approach Rail Ends: 0
 67) Str. Evaluation: 4
 71) Waterway Adequacy: 8
 113) Scour Critical: 8

B) Transition: 0
 D) Deck Geometry: 5
 72) Approach Alignment: 8

C) Appr. Rail: 1
 69) Under Clr: N

GEOMETRIC DATA

32) Appr. Rdwy Width (w/ Shldrs): 60.0 ft
 34) Skew: 15.00 °
 48) Length Max Span: 23.0 ft
 (50) Curb or Sidewalk
 51) Width Curb to Curb: 58.4 ft
 53) Minimum Vertical Clearance Over Bridge: 99.9 ft
 54) Vertical Underclearance
 55) Lateral Underclearance
 56) Minimum Lateral Underclearance - Minimum Left: 0.0 ft

33) Median: 0
 A) Left: 6.2 ft
 B) Right: 4.6 ft
 B) Minimum: 0.0 ft
 B) Minimum: 0.0 ft

PONTIS DATA

Elm/Env	Description	Units	Total	CS 1	CS 2	CS 3	CS 4	CS 5	Comments
13/2	Unp Conc Deck/AC Ovl	(SF)	2,013	0	0	0	2,013	0	CS4-1EA THE DECK APPEARS TO BE UNEVEN ALONG EAST SIDE OF ROAD. RANDOM AREAS OF LIGHT RUST STAINS, SPALLING, AND DETERIORATION OF UNDERSIDE OF DECK WITH NUMEROUS DISPLAY OF SUPERFICIAL & MINOR CRACKS W/ MODERATE AMOUNTS OF EFFLO. (NC-04...PHOTO #7)
56/2	RC Sidewalks	(LF)	60	23	37	0	0	0	CS2-37L.F; WEST SIDEWALK HAS MINOR-MODERATE CONCRETE DETERIORATION W/ DELAM AND SUPERFICIAL SPALLS. EAST SIDEWALK HAS TWO SECTIONS NEAR THE SOUTH SIDE THAT HAVE DELAM & MINOR DETERIORATION. (NC-04)
110/2	R/Conc Open Girder	(LF)	315	0	0	315	0	0	CS3-315L.F; ALL BEAMS EXHIBIT EXPOSED STIRRUP STEEL WITH MODERATE CORROSION & MINIMAL L.O.S. TYPICAL THROUGHOUT.
213/2	Concrete Encased	(LF)	131	0	0	25	92	14	CS5-14L.F; 10-15% LOS TO NORTH END OF BEAMS #2 & 5 AND SOUTH END OF BEAM #2 CS4-92L.F; MODERATE-MAJOR CONCRETE DETERIORATION THROUGHOUT THE MAJORITY OF THE ENCASED BEAMS INCLUDING: SPALLING, DELAM, CRACKING, EFFLO, AND RUST STAINING CAUSING ACTIVE CORR OF WIDE FLANGE CS3-25L.F; BEAMS #3 & 4; MINOR-MODERATE CONCRETE DETERIORATION W/ MINOR CORROSION (NC-04...PHOTO #8 OF BEAM #2)

Elm/Env	Description	Units	Total	CS 1	CS 2	CS 3	CS 4	CS 5	Comments
215/2	R/Conc Abutment	(LF)	92	42	0	50	0	0	CS3-50L.F; The SW end exhibits a full height vertical crack > 1/8". There is also a full height vertical crack at the NW end +/- 1/8". There is concrete erosion at the top of the SE wall with large areas of delamination. The NE portion of the wall is also delaminated. (NC-04...PHOTO #9 OF VERT. CRK @ S/W)
217/2	Other Mtl Abutment	(LF)	52	52	0	0	0	0	CS1-52L.F; NDN (NC-04)
331/2	Conc Bridge Railing	(LF)	56	28	0	28	0	0	CS3-28L.F; EAST RAIL; DELAM & MINOR SPALLING ALONG BOTTOM OF EAST RAIL FACE IN ADDITION TO RANDOM SPALLS ALONG WEST FACE OF RAIL AT RANDOM LOCATIONS. CS1-28L.F; WEST RAIL -- N.D.N. (NC-04...PHOTO #6 OF BASE OF EAST RAIL)
359/1	Soffit Smart Flag	(EA)	1	0	0	0	1	0	CS4-1EA SUPERFICIAL AND MINOR CRACKS W/ MODERATE EFFLO MOSTLY IN THE BAYS OF THE CONCRETE ENCASED GIRDERS (NC-04)
390/2	Reinf Conc Wingwalls	(LF)	106	52	0	54	0	0	CS3-53L.F; BOTH N/E AND S/E WINGS EXHIBIT HORIZONTAL CRACKS +/- 1/8" WIDE MODERATE DELAMINATIONS AND LEACHING. THE S/E WING HAS VERTICAL CRACKING WITH DELAMINATION NEAR THE BASE @ THE ABUTMENT CORNER. CS3-1L.F; : MINOR SPALL WITH EXPOSED REBAR DUE TO L.O.C. @ ABUTMENT CORNER OF N/W WING. (NC-04)

INSPECTION

Inspection Date: 05/14/2004 Type: 1 Regular NBI

Inspector: RMOORE

Scope:

NBI: Other: Element:
Underwater: Fracture Critical:

INSPECTION NOTES

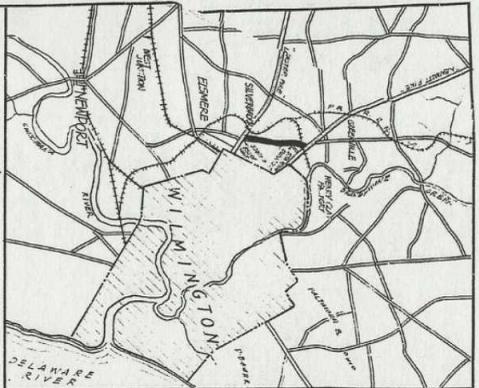
INSPECTED BY: G.MILLER(R) / R.MOORE(C) / C.STEVENS

ITEM #61: CHANNEL = 6
Waterway POOR MAJOR ANGLE OF ATTACK UPSTREAM
Streambed Good STABLE
Embankment Fair MODERATE FAILURES UP & DOWNSTREAM

MAINTENANCE

Maintenance: On replacement list.

Page 1.B-9
1927



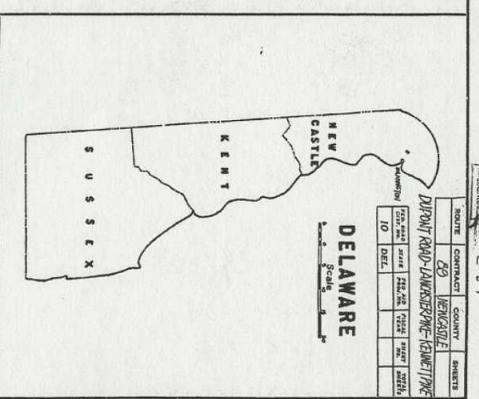
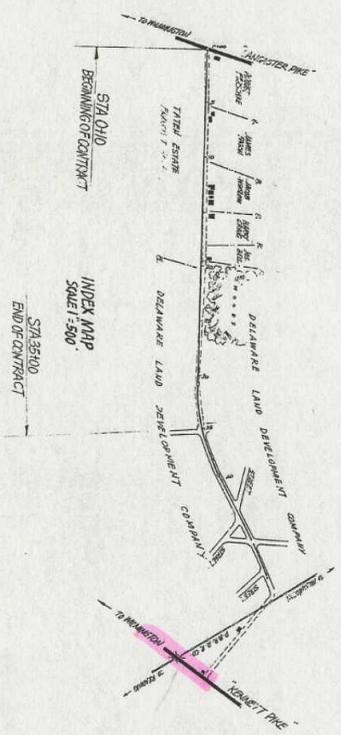
Scale 1/4" = 1 MILE

THE STATE OF DELAWARE



STATE HIGHWAY DEPARTMENT

PLAN FOR CONSTRUCTION OF CONTRACT NO 89
 ROUTE NO STA. 0+10 TO STA. 35+00
 3,490 FEET; 0.66 MILES
 SCALES: PLAN: 1" = 250 FT.
 PROFILE: VERT. 1" = 20 FT.



ROUTE	CONTRACT	COUNTY	SHEET
89	89	KENT	1

CONVENTIONAL SIGNS

CONVENTIONAL SIGN	PROFILE SIGN
PROPERTY RIGHT OF WAY LINE	PRESENT CULVERT
CENTRE LINE, PROPOSED ROAD	PROPOSED CULVERT
MACADAM, OR TRAVELLED ROAD	TELEGRAPH POLE
TROTTER, OR BALDWIN	RAILWAY, OR BASE LINE

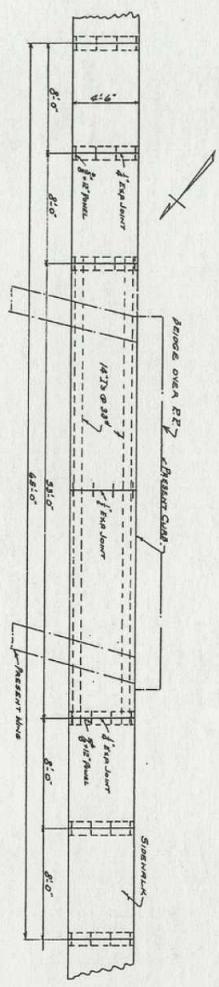


EXAMINED: 1/16/27
 APPROVED: 1/18/27
 APPROVED: 1/18/27
 APPROVED: 1/18/27

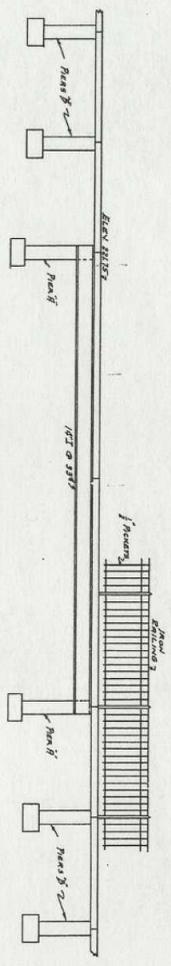
d c b a

COUNTY	CONTRACT NO.	DATE	SCALE	DATE	DATE	DATE	DATE	DATE	DATE
WENDELLE	239A		1/2" = 10'						

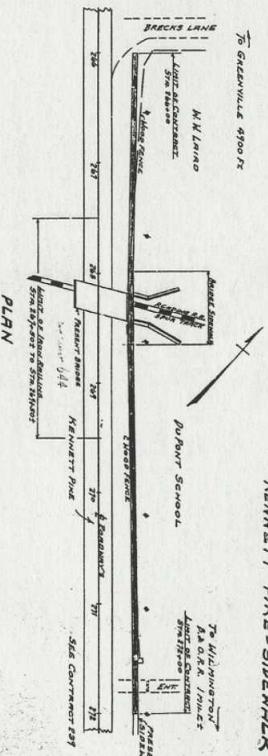
KENNETT PIKE - SIDEWALK



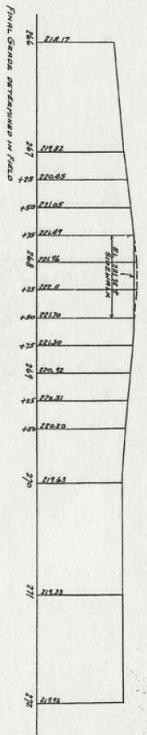
PLAN
SCALE 1/2" = 10'



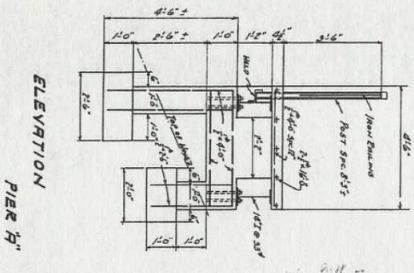
ELEVATION
SCALE 1/2" = 10'



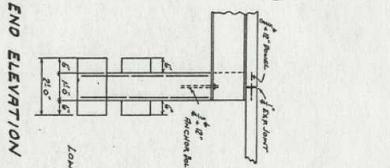
PLAN



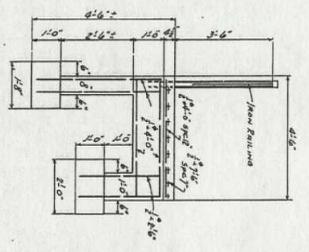
PROFILE of \pm of ROADWAY
HORIZ. SCALE 1" = 50 FT
VERT. SCALE 1" = 10 FT



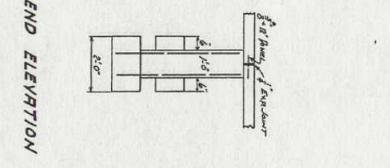
ELEVATION PIER "H"



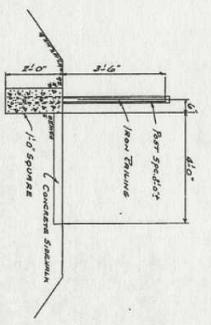
END ELEVATION



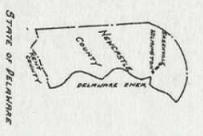
ELEVATION PIER "B"



END ELEVATION



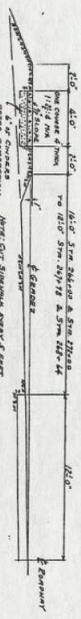
DETAIL RAILING SUPPORT



SINK OF BLENKINE

ITEM NO.	QUANTITY	UNIT	ITEM
4	1.00	CU YDS	CONCRETE
5	1.00	CU YDS	GRAVEL
11	2.00	SQ. FT	REINFORCED CONCRETE SIDEWALK
12	5.00	CU YDS	CONCRETE
13	5.00	CU YDS	CONCRETE
14	2.00	CU YDS	CONCRETE
15	2.00	CU YDS	CONCRETE
16	2.00	CU YDS	CONCRETE
17	2.00	CU YDS	CONCRETE
18	2.00	CU YDS	CONCRETE
19	2.00	CU YDS	CONCRETE
20	2.00	CU YDS	CONCRETE
21	2.00	CU YDS	CONCRETE
22	2.00	CU YDS	CONCRETE
23	2.00	CU YDS	CONCRETE
24	2.00	CU YDS	CONCRETE
25	2.00	CU YDS	CONCRETE
26	2.00	CU YDS	CONCRETE
27	2.00	CU YDS	CONCRETE
28	2.00	CU YDS	CONCRETE
29	2.00	CU YDS	CONCRETE
30	2.00	CU YDS	CONCRETE
31	2.00	CU YDS	CONCRETE
32	2.00	CU YDS	CONCRETE
33	2.00	CU YDS	CONCRETE
34	2.00	CU YDS	CONCRETE
35	2.00	CU YDS	CONCRETE
36	2.00	CU YDS	CONCRETE
37	2.00	CU YDS	CONCRETE
38	2.00	CU YDS	CONCRETE
39	2.00	CU YDS	CONCRETE
40	2.00	CU YDS	CONCRETE
41	2.00	CU YDS	CONCRETE
42	2.00	CU YDS	CONCRETE
43	2.00	CU YDS	CONCRETE
44	2.00	CU YDS	CONCRETE
45	2.00	CU YDS	CONCRETE
46	2.00	CU YDS	CONCRETE
47	2.00	CU YDS	CONCRETE
48	2.00	CU YDS	CONCRETE
49	2.00	CU YDS	CONCRETE
50	2.00	CU YDS	CONCRETE

NOTE BOOK



TYPICAL SECTION OF SIDEWALK

APPROVED: *[Signature]*
CHIEF ENGINEER

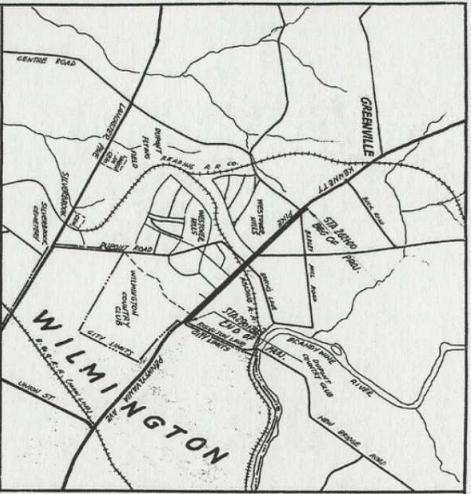
PARRR
KENNETT PIKE

HIGHWAY DEPARTMENT
DELMARE
CONTRACT 239A
SIDEWALK
SCALE 1/2" = 10'

MARCH 1933

BEARINGS	
THE POINT	
BENCH MARK	
RAILROAD	
DRAINAGE	

D C B A . . . A B C D



THE STATE OF DELAWARE

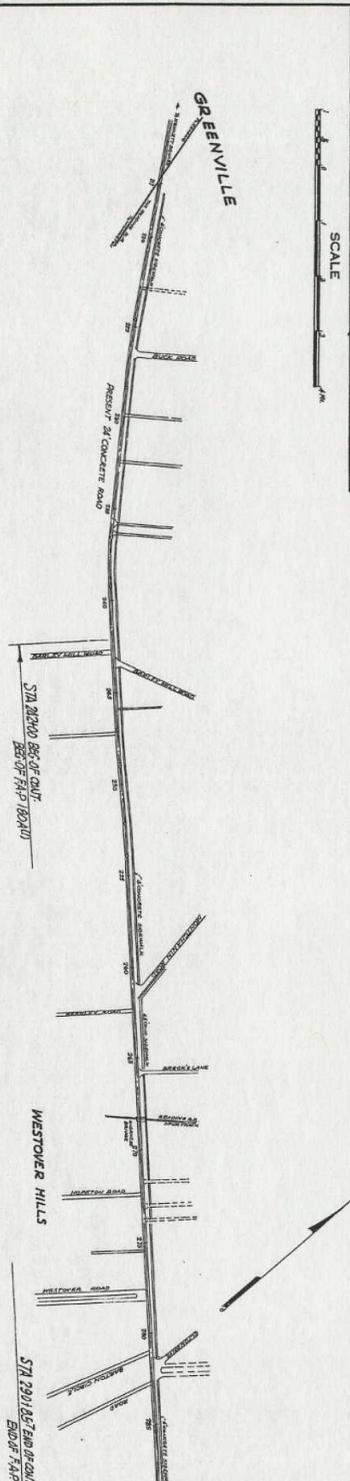
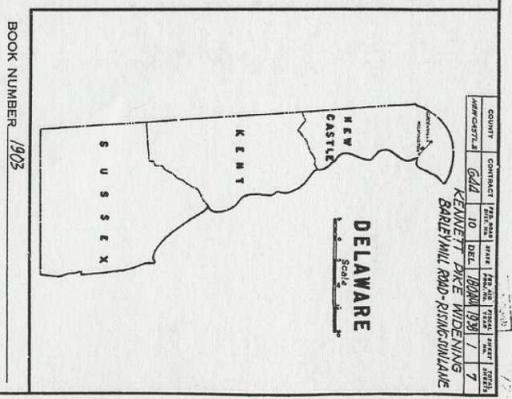


STATE HIGHWAY DEPARTMENT

PLAN

CONSTRUCTION OF CONTRACT NO 644

STA. 222+00 TO STA. 290+85.70
 6.857 FEET 0.925 MILES
 SCALES: PLAN: 1 IN.=50 FT.
 PROFILE: HOR. 1 IN.=50 FT.
 VERT. 1 IN.=10 FT.
 FEDERAL AID PROJECT NO 180A(1)



INDEX MAP
 SCALE 1"=300'

CONVENTIONAL SIGNS

TYPE	DESCRIPTION
1	PLATE
2	POST
3	POST WITH PLATE
4	POST WITH PLATE AND LIGHT
5	POST WITH PLATE AND LIGHT (FLUORESCENT)
6	POST WITH PLATE AND LIGHT (FLUORESCENT) WITH REFLECTOR
7	POST WITH PLATE AND LIGHT (FLUORESCENT) WITH REFLECTOR AND LIGHT
8	POST WITH PLATE AND LIGHT (FLUORESCENT) WITH REFLECTOR AND LIGHT (FLUORESCENT)
9	POST WITH PLATE AND LIGHT (FLUORESCENT) WITH REFLECTOR AND LIGHT (FLUORESCENT) AND LIGHT
10	POST WITH PLATE AND LIGHT (FLUORESCENT) WITH REFLECTOR AND LIGHT (FLUORESCENT) AND LIGHT (FLUORESCENT)

INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET
2	TYPICAL SECTION OF IMPROVEMENT
3-5	PLAN AND PROFILE
6	BRIDGES

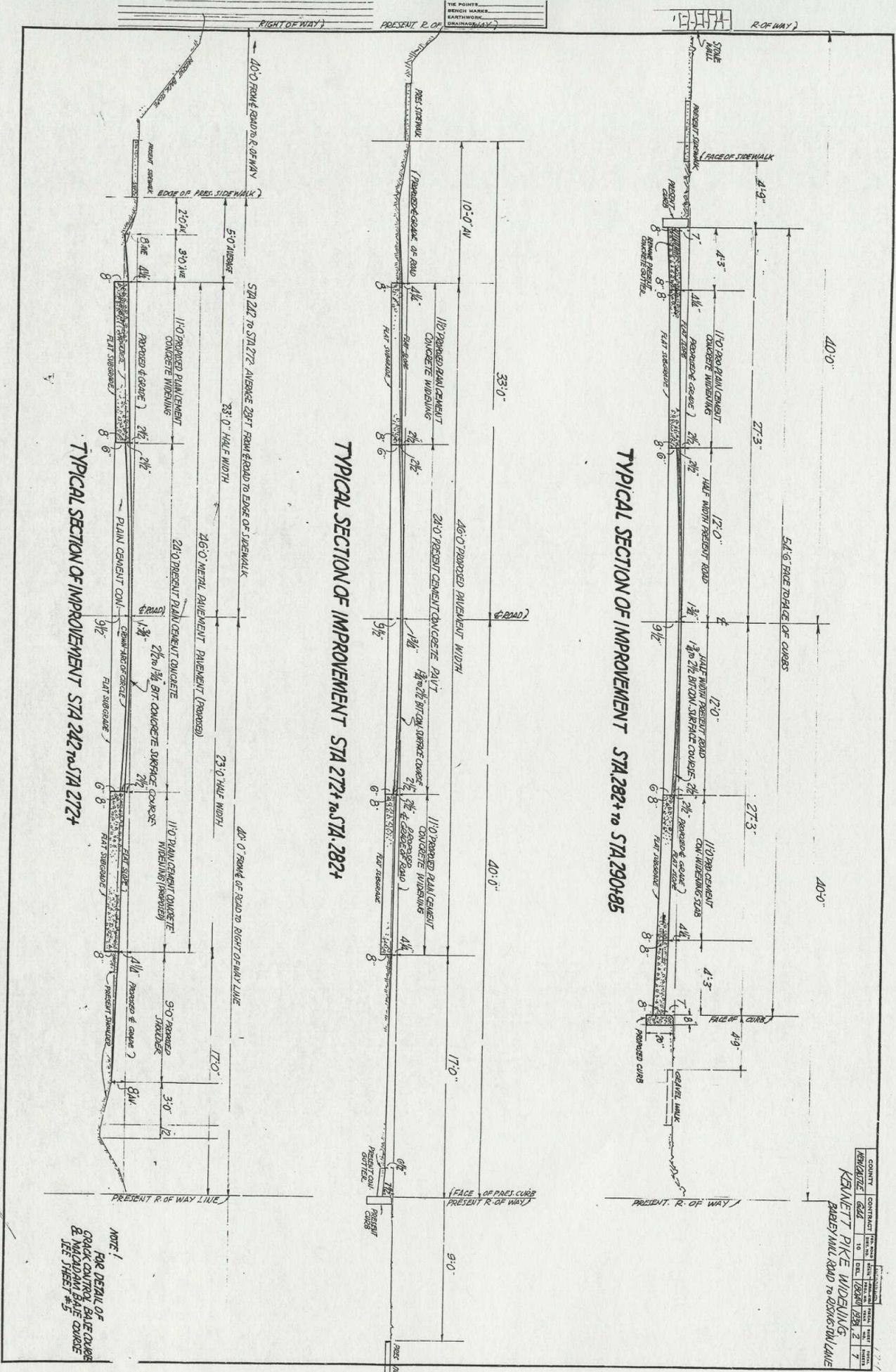
RECOMMENDED FOR APPROVAL

NO.	DESCRIPTION
1	DESIGNED BY
2	RECOMMENDED FOR APPROVAL
3	CHIEF ENGINEER
4	APPROVED
5	DIRECTOR GENERAL OF PUBLIC WORKS

EXAMINED
 1936
 APPROVED
 Mar. 14 1937
 CHIEF ENGINEER

d c b a a b c

d
c
b
a
a
b
c



TYPICAL SECTION OF IMPROVEMENT STA 242 TO STA 272+

TYPICAL SECTION OF IMPROVEMENT STA 272+ TO STA 282+

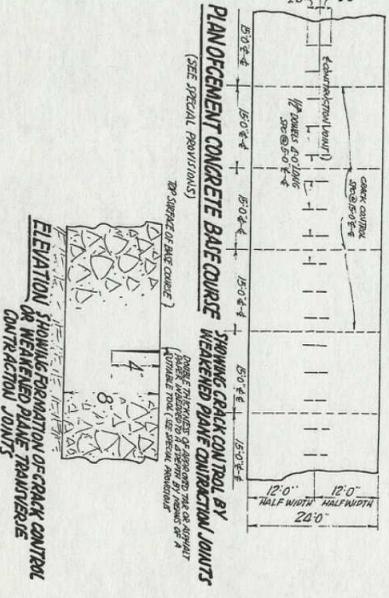
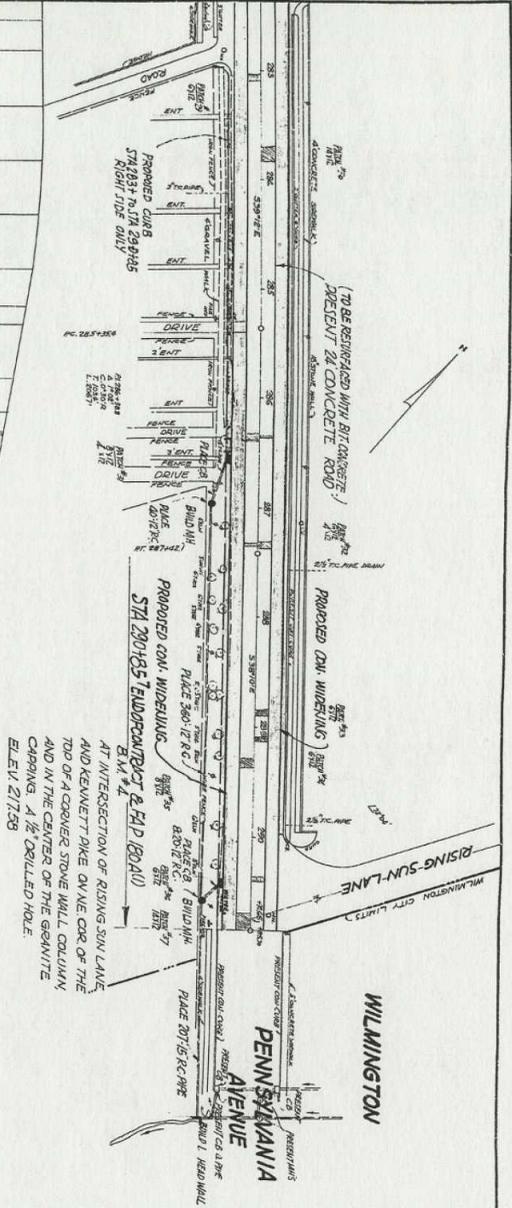
TYPICAL SECTION OF IMPROVEMENT STA 282+ TO STA 290+85

NOTE 1
FOR DETAIL OF
CRACK CONTROL BAR COUERS
& REINFORCING BARS
SEE SHEET 105

COUNTY	CONTRACT	POST NO.	DATE	SCALE
KANE	10	10	10/10/10	1" = 10'
REVISION	NO.	DATE	BY	CHK
1	1	10/10/10	10	10
2	2	10/10/10	10	10
7	7	10/10/10	10	10

KANE COUNTY
BARNETT PIKE WIDENING
BARNETT PIKE ROAD TO DISCOUNT LAINE

BENCH MARK L.W.M. 5-21-39
 EARTHWORK
 DRAINAGE

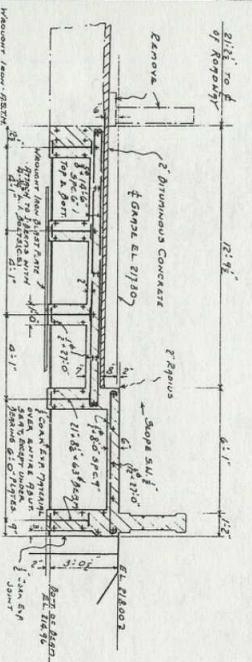
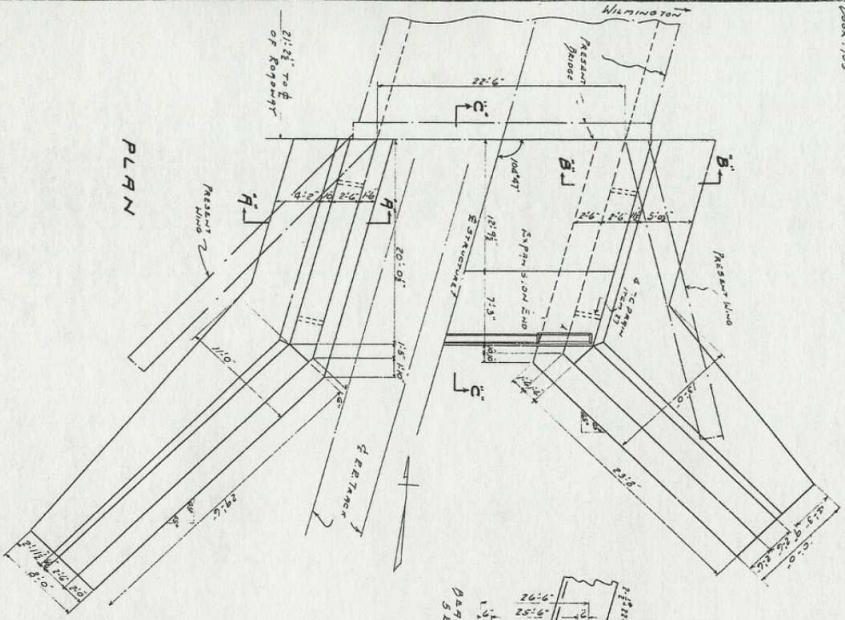


COUNTY	CONTRACT	DATE	NO.	DATE	NO.	DATE	NO.
DELAWARE	642	1931	5	1931	7		

KENNETT PIKE WIDENING
 BAKER HILL ROAD - RISING-SUN LANE

b c b A . d a b c n

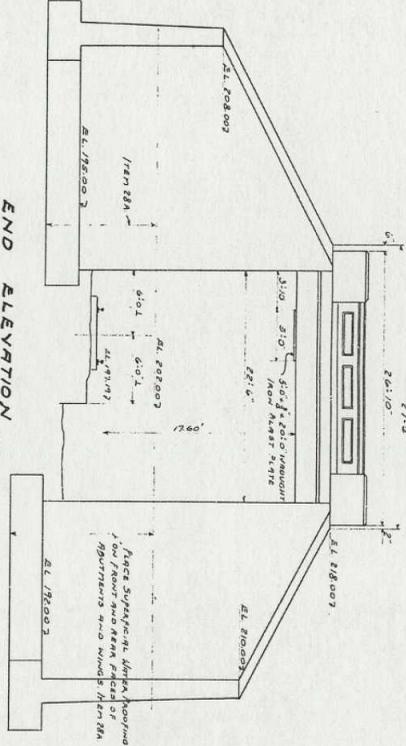
BENCH MARK
EARTHWORK
STAKE



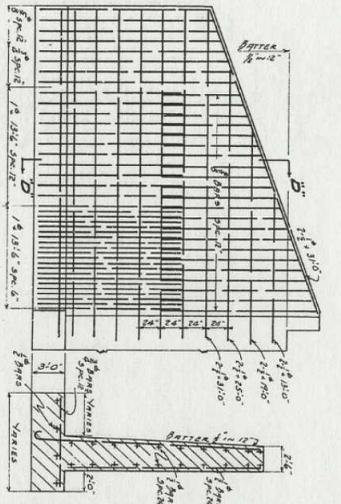
SECTION C-C'

Scale 3/8" = 1'-0"

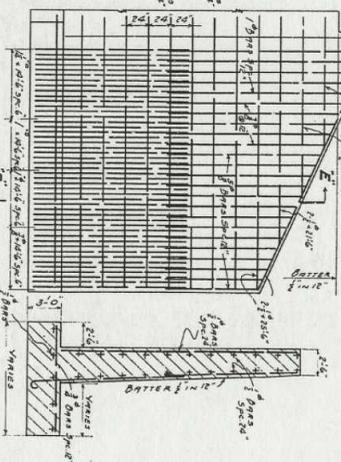
D.P.E. Design Office
C.E.T. Chief Engineer
1/1/38



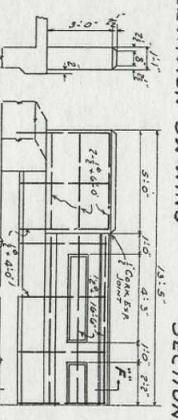
END ELEVATION



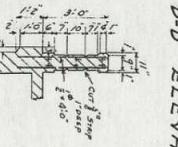
ELEVATION SW WING



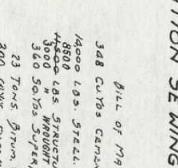
ELEVATION SE WING



POST ELEVATION OUTSIDE ELEVATION



SECTION D-D'



SECTION E-E'

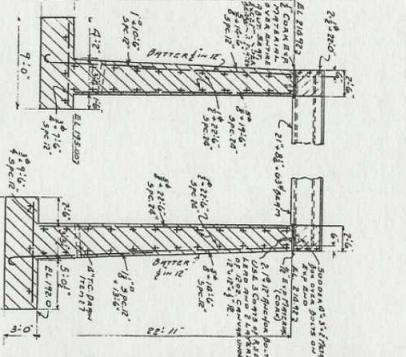
BRIDGE DETAILS

Scale 3/8" = 1'-0"

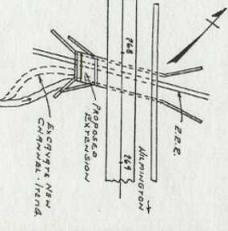
Approved: *[Signature]*
Chief Engineer

Approved: *[Signature]*
Chief Engineer

COUNTY: COLUMBIA
 STATE: NC
 PROJECT: KENNETH PIKE WIDENING
 ADDITION - R.R.R.
 SHEET NO.: 67
 DATE: 7/1/38



SECTION B-B'

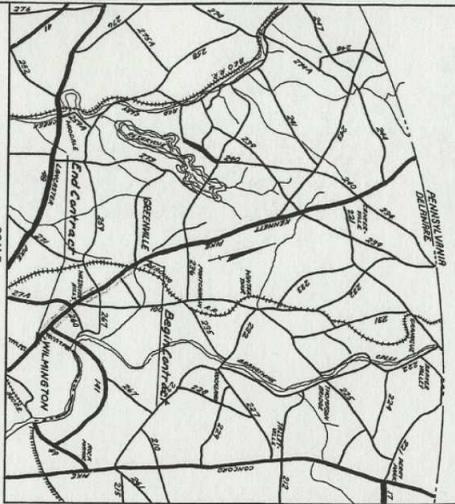


CONTRACT MAP

SCALE 3/8" = 1'-0"

CONTRACT 644
HIGHWAY DEPARTMENT
DELAWARE
R.R. BRIDGE
FEDERAL AID PROJECT
JULY 1938

D C B A . A B C



THE STATE OF DELAWARE



STATE HIGHWAY DEPARTMENT

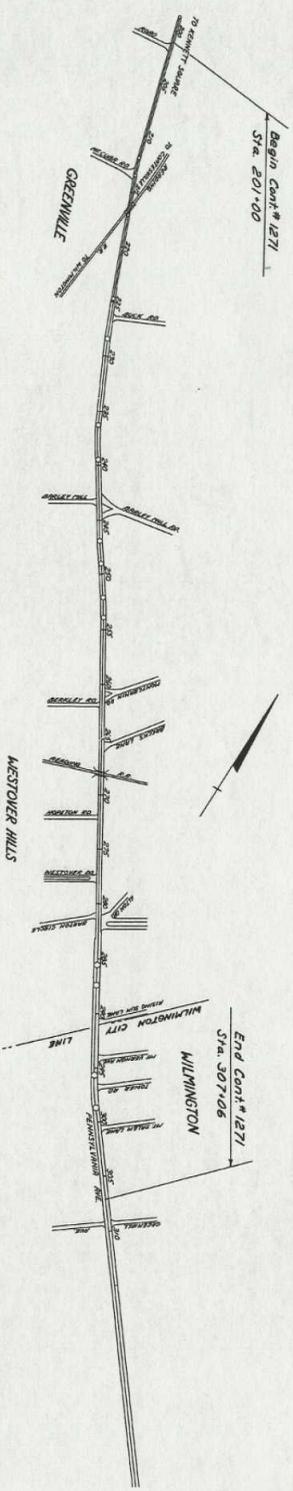
PLAN

CONSTRUCTION OF CONTRACT NO 1271

STA. 201+00 TO STA. 307+06
10.634.8 FEET: 2.014 MILES

SCALE: PLAN: 1" = 50' FT.
PROFILES: HORIZONTAL: 1" = 100' FT.
VERTICAL: 1" = 10' FT.

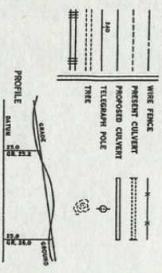
FEDERAL AID PROJECT NO



SCALE: 1" = 500'

COUNTY LINE
CITY OR TOWN LINE
RIGHT OF WAY LINE
CENTER LINE, IMPROVED ROAD
MICHIGAN TRAVELLED ROAD
TRILLYT OR BALDWIN

CONVENTIONAL SIGNS



INDEX OF SHEETS

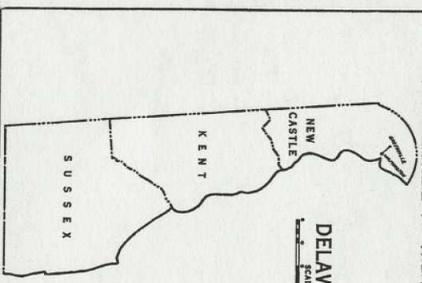
- 1 TITLE SHEET
- 2 TYPICAL SECTION
- 3-5 PLAN SECTIONS
- BRIDGES
- QUANTITIES
- SPANNING

EXAMINED July 10 1953
[Signature]

APPROVED [Signature] 1953
[Signature]
CITY ENGINEER

CONTRACT	NO. 1271	DATE	APPROVED	DATE
CONTRACT	NO. 1271	DATE	APPROVED	DATE
CONTRACT	NO. 1271	DATE	APPROVED	DATE

KENNETT PIKE
(GREENVILLE TO WILMINGTON)



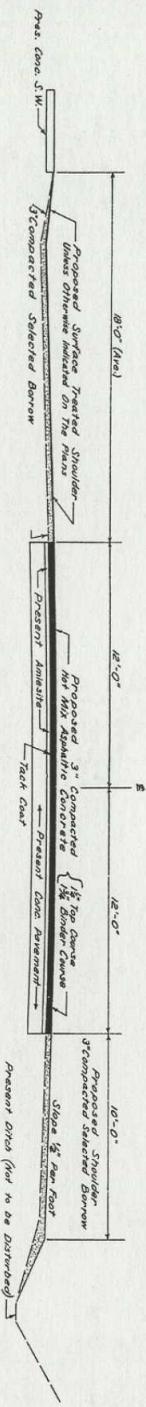
BOOK NUMBER

DEPARTMENT OF CONGRESS
BUREAU OF PUBLIC ROADS
RECOMMENDED FOR APPROVAL:

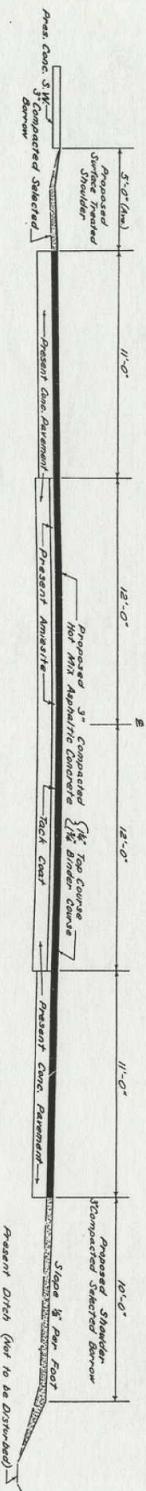
DISTRICT ENGINEER DATE
APPROVED: DATE
DIVISION ENGINEER DATE

COUNTY	CONTRACT	SHEET	TOTAL SHEETS
M. C.	1271	2	5

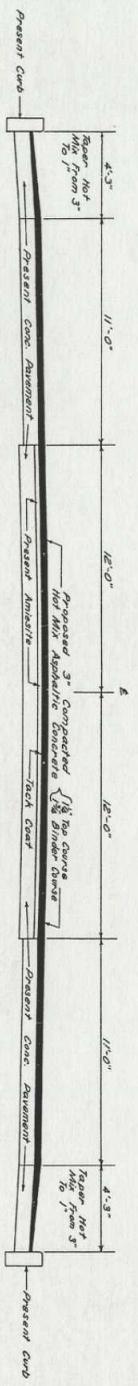
**Kennett Pike
(Greenville To Wilmington)**



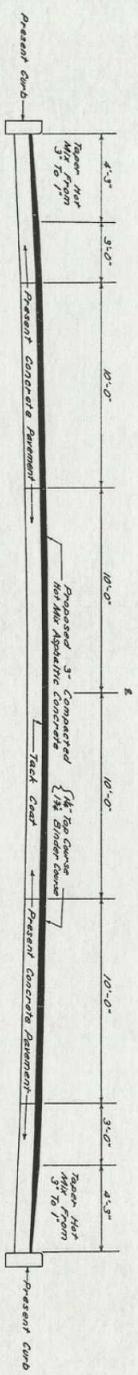
Typical Section of Improvement
Sta. 201+00 to Sta. 223+00



Typical Section of Improvement
Sta. 228+38 to Sta. 283+00



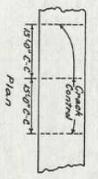
Typical Section of Improvement
Sta. 283+00 to Sta. 290+85



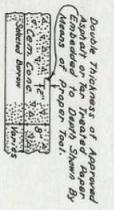
Typical Section of Improvement
Sta. 290+85 to Sta. 307+08



Patching



Crack Control

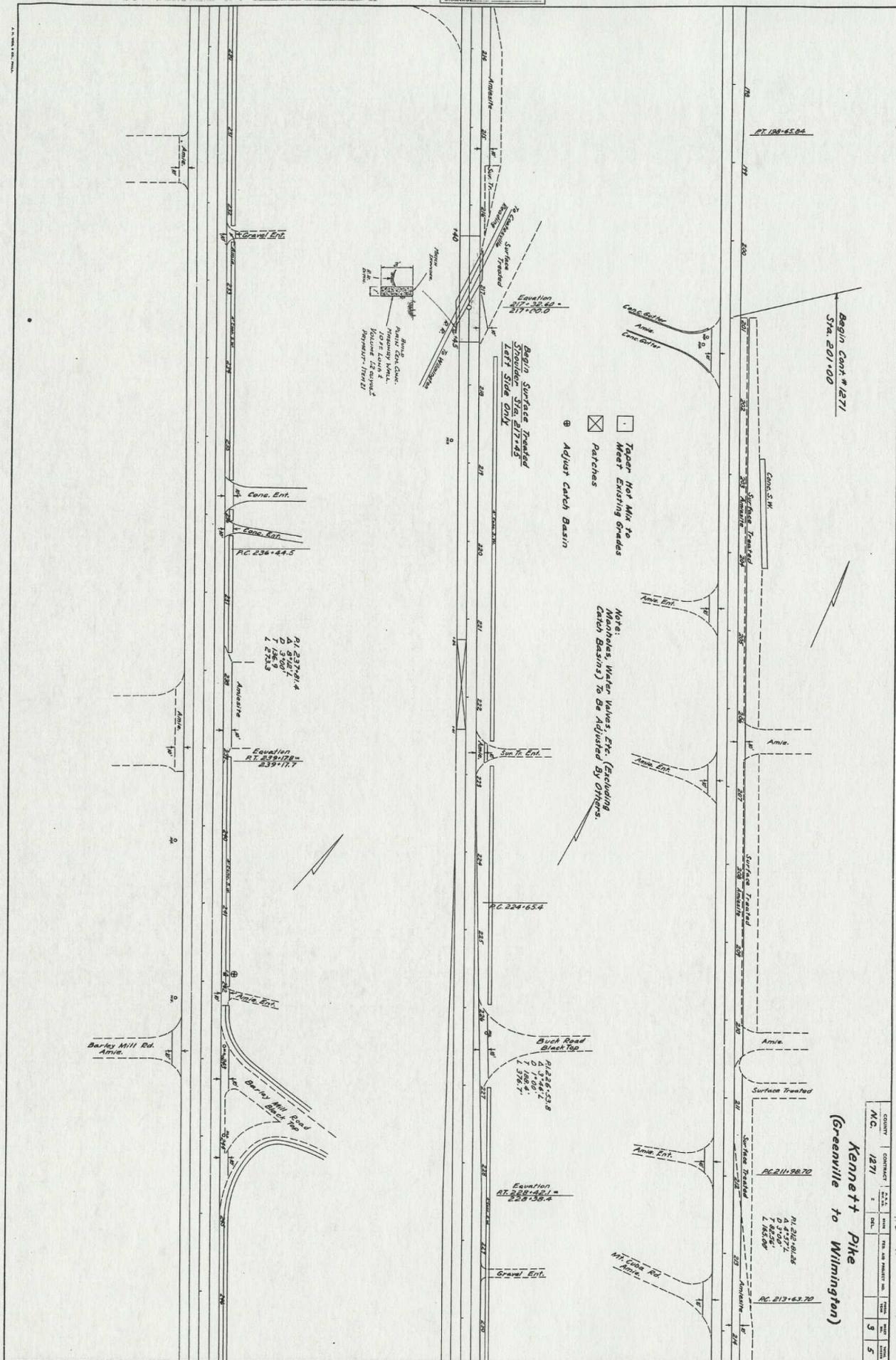


Section

Patches Shall Be Placed To A Uniform Thickness of 8". They Shall Be Placed One Lane At A Time, And Shall Extend Entirely Across The Lane. All Patches Over 50' in Length Shall Be Placed With Crack Control. The Composition Of The Mix For Patches Shall Be As Specified In The Specifications Under Such Patches And To Be Approved As They Are Designated By The Engineer As Having Been Approved For Use. The Removal Of Patches Shall Be Done In Accordance With The Specifications For The Removal Of Patches.

TOP POINTS	REMARKS
BENCH MARKS	
EARTHWORK	
DRAINAGE	

TIE POINTS
BENCH MARKS
EARTHWORK
DRAINAGE



Kennett Pike
(Greenville to Wilmington)

CONTRACT	NO. 1271
DATE	5/1/51
SCALE	1" = 40'
PROJECT NO.	3
SHEET NO.	5

PI 213+00.28
A 4477.1
D 9700.0
L 8550.0

Equation	213+00.00 = 213+00.0
----------	----------------------

PI 207+00.58
A 3748.1
D 7188.4
L 378.7

PI 237+01.4
A 9141.1
D 1869.9
L 272.3

Equation	238+128 = 238+12.7
----------	--------------------

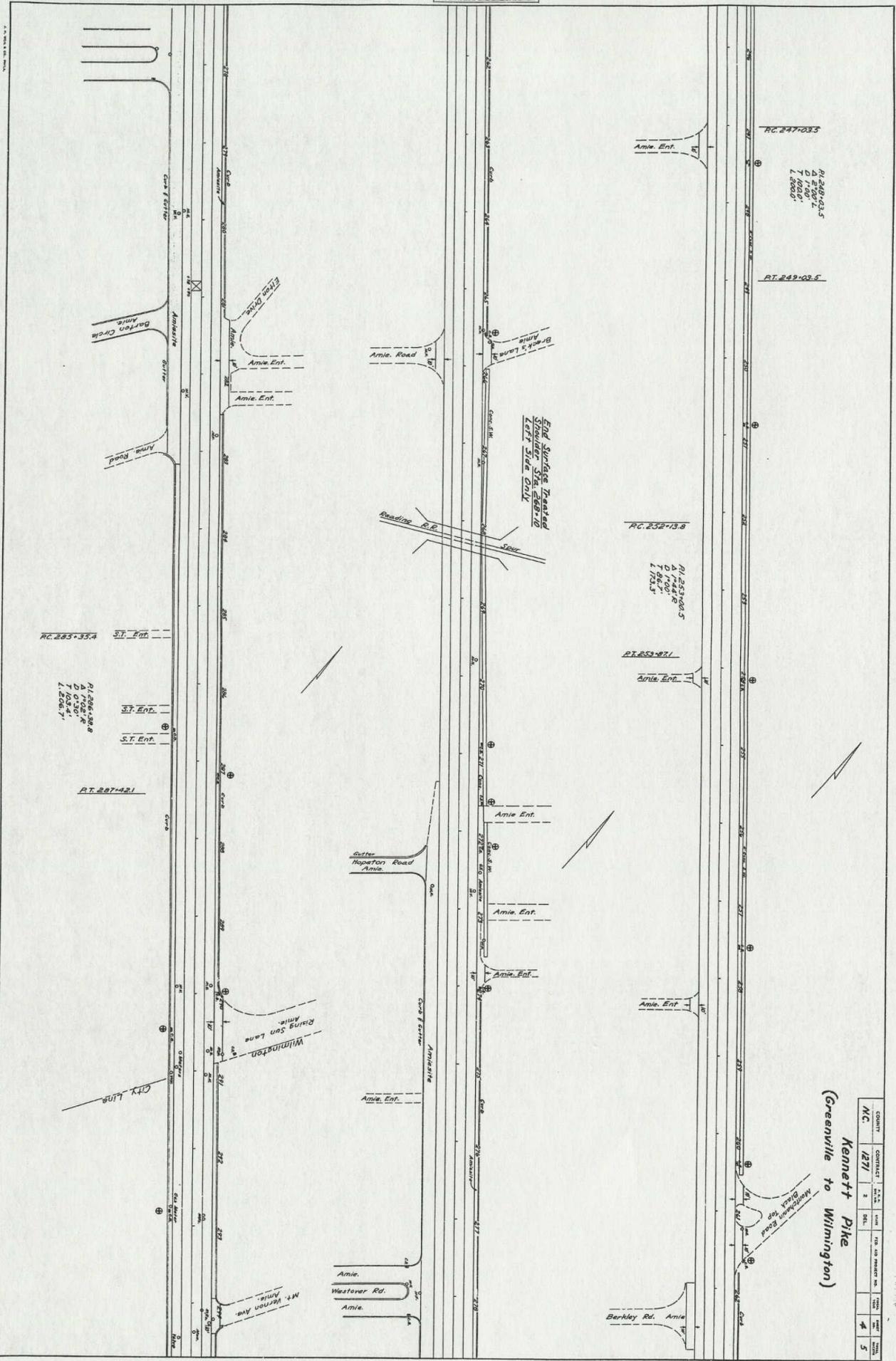
PI 236+44.5

PI 201+00.0

BENCH MARK
EARTHWORK
DRAINAGE

Kennett Pike
(Greenville to Wilmington)

COUNTY	CONTRACT	SHEET	DATE	NO. OF SHEETS	TOTAL SHEETS
NC	1271	2		4	5



RT. 247+03.3
 PI 248+03.5
 D 1.000'
 L 7.000'
 L 2.000'

RT. 249+03.5

RC. 232+13.8
 PI 233+00.5
 D 1.000'
 L 7.000'
 L 1.733'

PI 253+87.1
 Amie Ent.

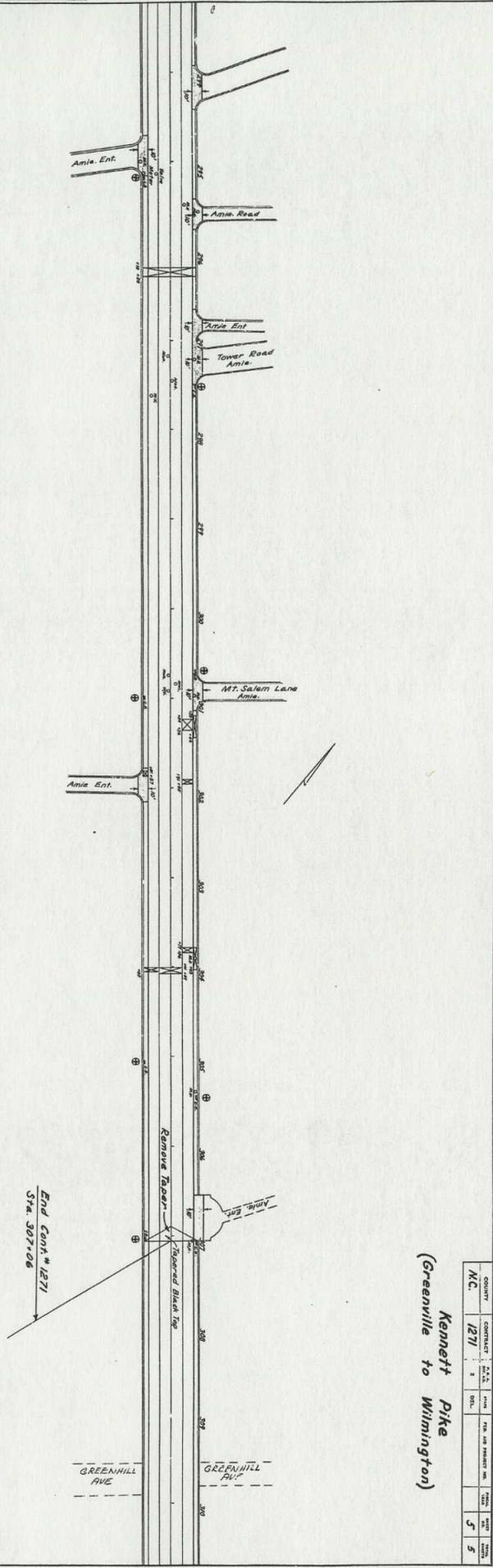
RC. 285+33.4
 S.T. Ent.
 PI 286+98.8
 D 0.500'
 L 1.500'
 L 1.500'

RT. 287+42.1

BENCH MARK
 EARTHWORK
 DRAINAGE

Quantities

Proposed	Hot Mix Asphaltic Concrete	Patching Conc. Pavement	Tack Coat (gal.)	Selected Borrow	Sand (Sub-Base)	Surface			Treatment	Maintenance Of Traffic	Removing Sod & Shaping Shoulders	Adjust Catch Basins	Gen. Conc. Masonry
						R.C. 1	R.C. 3	Slag Chips					
14200 Tons	299 Cu Yds.	600 Sq. Yds.	6000 Gal.	1484 Cu Yds.	121 Tons	1792 Gal.	1792 Gal.	72 Tons	80 Tons	Lump Sum	Lump Sum	24 Ea.	1.5 Cu Yds.

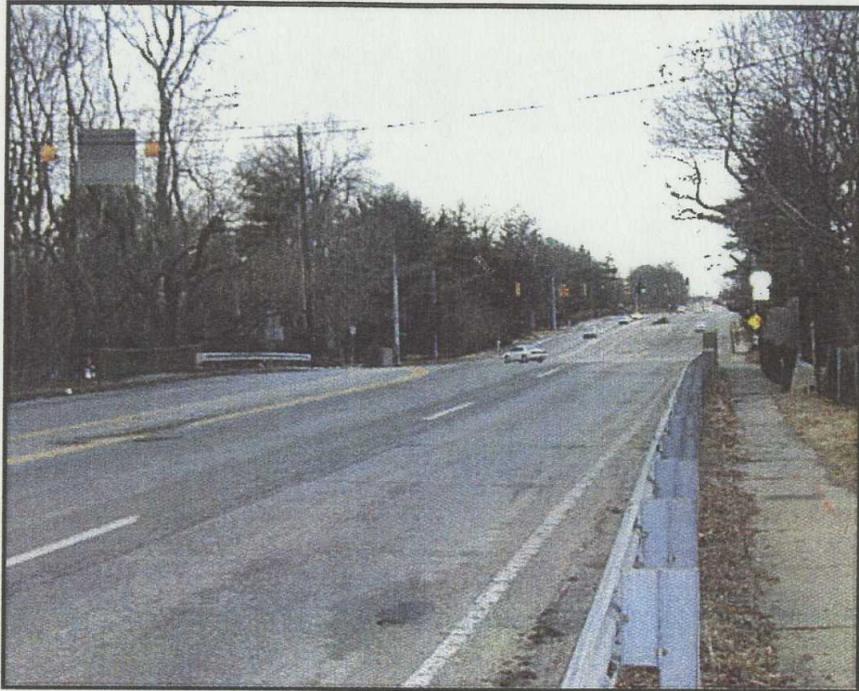


Kennett Pike
 (Greenville to Wilmington)

CONTRACT NO.	1271	DATE	5-1-58
CONTRACT NO.	1271	DATE	5-1-58
CONTRACT NO.	1271	DATE	5-1-58

b c b a

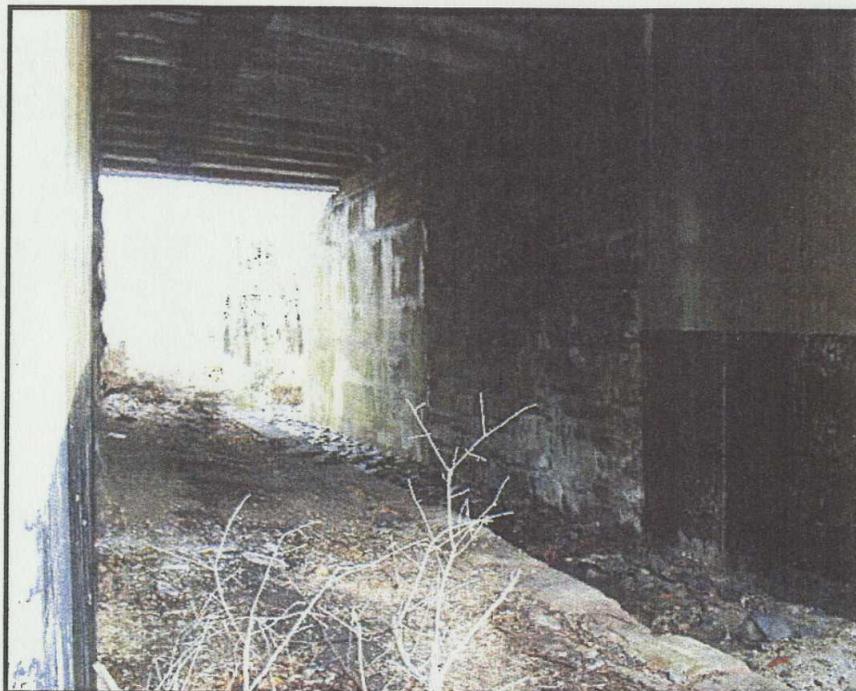




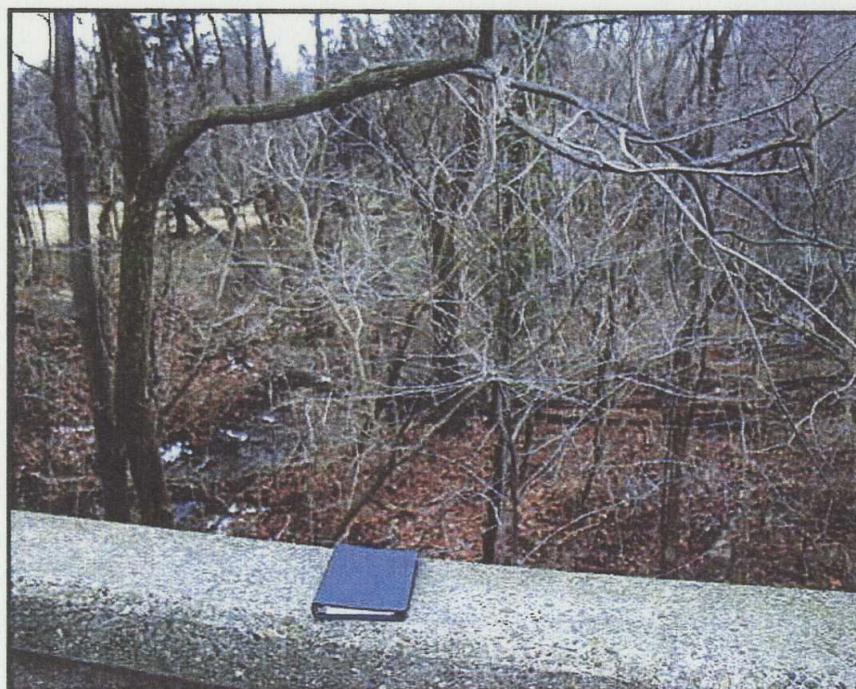
1. SOUTH APPROACH



2. WEST ELEVATION



3. GENERAL VIEW LOOKING S/E



4. UPSTREAM CHANNEL LOOKING WEST

stonewall, Bridge 1B looking SE





Stone Wall, Bridge 1B
Looking
SE

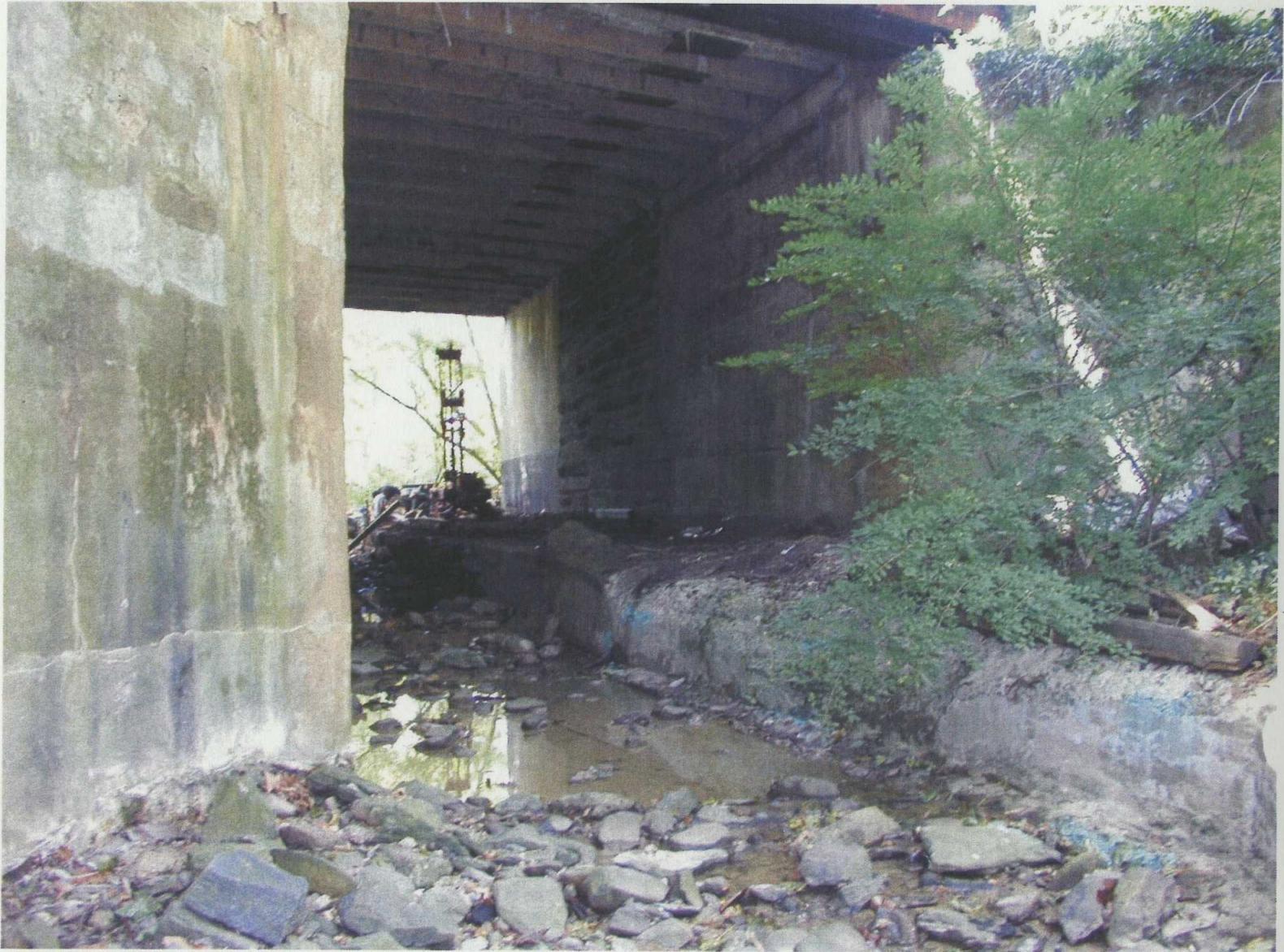


Stone wall, Bridge 1B
Looking NW



Stone Wall Bridge 1B

Looking NW



Stone wall Bridge 1B
Looking SE







