STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

February 12, 2008

U. S. Army Corps of Engineers
Regulatory Field Office
Post Office Box 1000
Washington, NC 27889-1000

Attention: Mr. William Wescott
NCDOT Coordinator

Dear Sir:

Subject: **Individual Section 404 and 401 Permit Application and Tar-Pamlico Riparian Buffer Authorization Request** for the proposed replacement of Bridge Nos. 127 over the Tar River Overflow and 129 over the Tar River on SR 1565 in Pitt County. TIP No. B-3684; Federal Aid Project No. BRSTP-1565(4); State Project No. 8.2221101. Debit $570 from WBS No. 33225.1.1

The North Carolina Department of Transportation (NCDOT) proposes to replace existing Bridge No. 129 (359 feet long) over the Tar River Overflow and Bridge No. 127 (512 feet long) over the Tar River on SR 1565 in Pitt County with a single structure approximately 1,963 feet in length. The proposed approach roadway will consist of a 24-foot travel-way providing for two 12-foot travel lanes with eight-foot shoulders including two-foot paved. The proposed navigational clearances are 45-foot vertically and 75-foot horizontally. The proposed structure will provide a 30-foot clear roadway width, allowing for two 12-foot travel lanes with three-foot shoulders.

The purpose of this application is to submit this final design for approval and to request a Section 404 Individual Permit, a Section 401 Water Quality Certification, and a Tar-Pamlico Riparian Buffer Authorization. This application consists of the cover letter, permit drawings, utility drawings, plan sheets, property owner address labels, ENG form 4345, EEP Acceptance Letter, and a wetland mitigation plan.

Purpose and Need: The NCDOT Bridge Maintenance Unit records indicate that both Bridge Nos. 127 and 129 have sufficiency ratings of 28.2 and 42.3 respectively, out of a possible 100 for a new structure. The bridges are considered functionally obsolete and structurally deficient. The replacement of the inadequate structures will result in safer and more efficient traffic operations.

Summary of Impacts: Construction of the proposed project will necessitate impacts to jurisdictional waters. There will be a total of 1.29 acres of permanent wetland impacts and 181 linear feet (0.04 acre) of permanent surface water impacts. There will be a total of 12,717 ft^2 of impacts to riparian buffers.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS
1598 MAIL SERVICE CENTER
RALEIGH NC 27699-1598

TELEPHONE: 919-715-1500
FAX: 919-715-1501

WEBSITE: WWW.NCDOT.ORG

LOCATION:
PARKER LINCOLN BUILDING
2728 CAPITAL BOULEVARD
RALEIGH NC

Summary of Mitigation: The proposed construction of B-3684 will impact 1.29 acres of jurisdictional wetlands and 181 linear feet of stream, that will require mitigation within the Tar-Pamlico River Basin. The proposed wetland mitigation will consist of restoring 3.05 acres of riverine wetland onsite. The North Carolina Department of Environment and Natural Resources Ecosystem Enhancement Program (EEP) will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the unavoidable impacts to the 181 linear feet of stream.

NEPA Document Status

A Categorical Exclusion (CE) was prepared for the NCDOT and approved on July 30, 2004. The CE was provided to regulatory review agencies involved in the approval process after their approval. Additional copies will be provided upon request.

Resource Status

Waters of the United States: Impacts to surface waters occur within HUC 03020103 of the Tar River Basin. The jurisdictional areas associated with the replacement of Bridge Nos. 127 and 129 are the Tar River, the Tar River Overflow, and Reedy Branch. The North Carolina Division of Water Quality (DWQ) best usage classification for the reach of the Tar River [DWQ Index # 28-(99.5)] within the project area is "B NSW". Reedy Branch [DWQ Index # 28-96-2] is "C NSW". No waters classified as High Quality Waters (HQW), Water Supplies (WS-I: undeveloped watersheds or WS-II: predominately undeveloped watersheds), or Outstanding Resource Waters (ORW) occur within 1.0 mile of project study area. The Tar River and its tributaries are not designated as a North Carolina Natural or Scenic River, or as a National Wild and Scenic River. Additionally, the Tar River and Tar River Overflow are not listed on the Final 2006 303(d) list of impaired waters due to sedimentation for the Tar-Pamilico River Basin, nor does it drain into any Section 303(d) waters within 1.0 mile of the project study area.

Delineation: Wetland delineations were conducted in February 2001 using the criteria specified in the 1987 Corps of Engineers Wetland Delineation Manual and verified by the U.S. Army Corps of Engineers (USACE) September 18, 2002. By copy of this application, NCDOT requests an update to the Jurisdictional Determination. Approved Jurisdictional Forms are attached.

Wetland Impacts: B-3684 will have 1.29 acres of permanent riverine wetland impacts. Permanent impacts to jurisdictional wetland resources include the approach fill for the new bridge, excavation, and mechanized clearing. Wetland impacts will require mitigation. Mitigation is to be provided onsite.

Stream Impacts: B-3684 will have 181 linear feet (0.04 acre) of permanent surface water impacts due to the 48-inch and one 60-inch pipe installation at Reedy Branch (Sites 1 & 2).

Bridge Demolition

Following construction of the bridge, all components of the existing structure will be removed. With the exception of the temporary work bridges (see permit drawings) no additional impacts are anticipated from the removal of the existing structure. The existing approach fill will be removed to natural grade and the area will be re-vegetated according to NCDOT guidelines (see attached mitigation plan). Pre-project elevations will be restored. The contractor will be required to submit a reclamation plan for the removal of and disposal of all materials off-site at an upland location. Best Management Practices for Bridge Demolition and Removal will be followed to avoid any temporary fill from entering Waters of the United States.

Utilities

The following utilities have been identified as being in conflict with this project and the conflicts will be handled as follows:

1) There are no water and sewer lines within the limits of the project.

2) Telephone Cables - Embarq and Sprint have buried cables along the left side of the existing SR 1565 and along the left side of -Y1-. All of these facilities will be relocated. The Telephone Companies will use the directional bore method to bore the proposed telephone cables to the right side of the road along the existing Right-of-Way (R/W) line from the beginning of the project to Sta. 22+50 -L-; then will bore the cables under the existing pavement from the intersection of existing -Y1- line and existing -L- line to the beginning of the existing bridge. They will then continue boring on to the left of the existing bridge and all the way to the other end of the bridge, tying to the existing cable line near the end of the project. The existing cable along -Y1- will be relocated under the existing pavement. Due to the use of directional bore, the Tar-Pamlico Riparian Buffers will be avoided.

3) Power line - Progress Energy and Edgecombe-Martin EMC has existing aerial lines along SR 1565 from the beginning of the project to the end of the project. The power company will relocate the power poles around Reedy Branch by using two new poles placed to the north of the creek close to proposed R/W line. The power company will relocate the power line by using the directional bore method at the intersection of -Y- line and -L- line and remove the pole around Zone 1.

Independent Utility
B-3684 complies with 23 CFR Section 771.111(f), which lists the Federal Highway Administration (FHWA) characteristics of independent utility of a project:

1) The project connects logical termini and is of sufficient length to address environmental matters on a broad scope;

2) The project is usable and a reasonable expenditure, even if no additional transportation improvements are made in the area; and

3) The project does not restrict consideration of alternatives for other reasonable foreseeable transportation improvements.

Indirect and Cumulative Effects Analysis
Existing rules for the 401 Water Quality Certification Program (15A NCAC 2H .0506(b)(4) require that the DWQ determine that a project "does not result in cumulative impacts, based on past or reasonably anticipated future impacts, that cause or will cause a violation of downstream water quality standards."

This project consists of replacing two deficient structures. Capacity, traffic patterns and access improvements are not a part of the project's scope of work. Thus, changes in the patterns of development and/or land uses in the vicinity of the bridge project would not be anticipated as stemming from the bridge's replacement. This type of project is not anticipated to alter the existing land uses or increase accessibility to adjacent parcels. Thus, a detailed cumulative impacts study is not necessary.

There are no impaired (303d) streams listed in the project area.

Cultural Resources
Historical Architecture: Pitt County Bridge No. 129 is eligible for the National Register of Historic Places under Criterion C for engineering technology as one of four Warren Through truss bridges functioning as swing spans in North Carolina. The replacement of the 1931 bridge was determined to have an adverse effect on an eligible resource because the truss will be removed. Therefore, NCDOT, FHWA, and the North Carolina State Historic Preservation Office (HPO) executed a Memorandum of Agreement (MOA) in 2001 to resolve the adverse effects as per Section 106 of the National Historic Preservation Act. Commitments stipulated in the MOA have been fulfilled; the structure has been documented in photographs and the offered for reuse in accordance with NCDOT's Historic Bridge Relocation & Reuse Program. However, over two years have elapsed and their have been no applicants for the historic bridge, therefore NCDOT may dispose of the

bridge when it is removed (as per the MOA). Copies of the eligibility determination, adverse effect forms, and MOA are included in Appendix A of the CE.

Archaeology: The State Historic Preservation Office (NC-HPO), in a memorandum dated 3 Jul 2003, "recommended that a comprehensive survey be conducted by an experienced archaeologist to identify and evaluate the significance of any archaeological remains that may be damaged or destroyed by the proposed project." An archaeological survey and evaluation for the proposed project was completed in March 2004 in compliance with Section 106 of the National Historic Preservation Act (1966, as amended) and the guidelines issued by the Advisory Council on Historic Preservation (Council).

As a result of that survey, one (1) previously unrecorded archaeological site (31PT542) was located within the project APE. Modern disturbances and the absence of cultural features suggested that this site lacked integrity and the potential for additional data to increase our knowledge of prehistory. Therefore, Site 31PT542 was not recommended as eligible for the National Register of Historic Places (NRHP) per Criterion D; no further archaeological work was recommended for Site 31PT542. The location of one (1) previously recorded archaeological site (31PT6/6**) was reestablished within the project APE. Based on the presence of an intact Early to Middle Woodland component, Site 31PT6/6** contained sufficient information to be recommended as eligible for the NRHP per Criterion D. Based on the proposed bridge design at that time, this project would have had an adverse effect on Site 31PT6/6**; therefore, mitigation efforts were recommended. In a memorandum dated 11 May 2004, the SHPO concurred with these recommendations. A Notification of Adverse Effect packet was then submitted on 21 Sep 2005, and in order to mitigate the adverse effects to Site 31PT6/6**, a Memorandum of Agreement (MOA) was signed by the Federal Highway Administration (FHWA), NC-HPO, and NCDOT, effective 19 Oct 2005.

However, in a report dated 23 May 2006, field personnel under contract with NCDOT noted "that a significant amount of clearing and mechanical excavation had recently occurred in the site area. In addition, within the APE, a large pile of uprooted tree stumps was smoldering ca. 250 m north of Concentration 1." An interview with the landowner (Mr. Jake Adams) indicated that he had excavated the area in October 2005 for construction purposes, therefore essentially destroying all remnants of Site 31PT6/6**. This was corroborated by a neighboring property owner who also indicated that the removed fill material was relocated to another part of the Adams parcel. In a memo to the SHPO dated 1 Jun 2006, a timeline of events shows that destruction of Site 31PT6/6** occurred when Mr. Adams was still in ownership of the property on which the archaeological site was located. Even though ROW stakes were in position at the time of destruction, the property was still his to use as he saw fit. Based on these findings, all data recovery operations at Site 31PT6/6** were halted. All efforts up to this point were immediately documented to serve as the final field report for this project; no additional archaeological investigations are required given the site's destruction.

Wild and Scenic River System

The project will not affect any designated Wild and Scenic Rivers or any rivers included in the list of study rivers (Public Law 90-542, as amended).

Tar-Pamlico Basin Riparian Buffer Rules

This project is located in the Tar-Pamlico River Basin (subbasin 03-03-05, TAR4 03020103), therefore the regulations pertaining to the Tar-Pamlico River Buffer Rules (15A NCAC 2B.0259) apply. There will be a total of 12,717 ft^2 of impacts to riparian buffers. This includes 916 ft^2 (304 ft^2 in Zone 1 and 99 ft^2 in Zone 2) due to the bridge crossing. According to the buffer rules, bridges are *Allowable*. Uses designated as *Allowable* may proceed within the riparian buffer provided that there are no practical alternatives to the requested use pursuant to Item (8) of this Rule. In addition, 11,801 ft^2 (8,160 ft^2 in Zone 1 and 3,641 ft^2 in Zone 2) of impacts will occur from approach fill and mechanized clearing activities. These sites (nos. 7 & 8 on Buffer Drawings) are completely within impacted wetlands and will be mitigated through wetland mitigation (see attached mitigation plan). According to the buffer rules, road crossings greater than 150 feet are

Allowable with Mitigation. Uses designated as *Allowable with Mitigation* may proceed within the riparian buffer provided that there are no practical alternatives to the requested use pursuant to Item (8) of this Rule and an appropriate mitigation strategy has been approved pursuant to Item (10) of this Rule. All practicable measures to minimize impacts within buffer zones were followed.

According to the Tar-Pamlico Riparian Buffer Rules, overhead electric utility line perpendicular crossings of streams and other surface waters that disturb equal to or less than 150 linear feet or one-third of an acre of riparian buffer are *Exempt*. Uses designated as *Exempt* are allowed within the riparian buffer. *Exempt* uses shall be designed, constructed, and maintained to minimize soil disturbance and to provide the maximum water quality protection practicable. This project meets this threshold and is therefore *Exempt* from the buffer Rules. Consequently, a Buffer Certification from the Division of Water Quality for utility work is not required.

Federally-Protected Species

As of January 31, 2007, the Fish and Wildlife Service (FWS) list three federally protected species (Table 1) for Pitt County. Biological conclusions of "No Effect" were rendered for red-cockaded woodpecker and Tar spinymussel due to lack of suitable habitat within the project area.

Habitat for the West Indian Manatee is present; therefore, the Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters will be utilized to the maximum extent practicable.

The Bald eagle was removed from the Endangered Species List on August 8, 2007. It is however, protected under the Bald and Golden Eagle Protection Act. Surveys conducted on October 29, 2007 found no nests within 660 feet of the project limits; however, nesting and foraging habitat is present.

Table 1. Federally protected species of Pitt County

Scientific Name	Common Name	Federal Status	Biological Conclusion
Trichechus manatus	West Indian Manatee	Endangered	May Affect, Not Likely to Adversely Affect
Picoides borealis	Red-cockaded woodpecker	Endangered	No Effect
Elliptio steinstansana	Tar spinymussel	Endangered	No Effect

FHWA Compliance

All compensatory mitigation must be in compliance with 23 CFR Part 777.9, "Mitigation of Impacts" that describes the actions that should be followed to qualify for Federal-aid highway funding. This process is known as the FHWA "Step Down" procedures:

1) Consideration must be given to mitigation within the R/W and should include the enhancement of existing wetlands and the creation of new wetlands in the highway median, borrow pit areas, interchange areas and along the roadside.

2) Where mitigation within the R/W does not fully offset wetland losses, compensatory mitigation may be conducted outside the R/W including enhancement, creation, and preservation.

Avoidance and Minimization

The NCDOT is committed to incorporating all reasonable and practicable design features to avoid and minimize jurisdictional impacts, and to provide full compensatory mitigation of all remaining, unavoidable jurisdictional impacts. Avoidance measures were taken during the planning and NEPA compliance stages; minimization measures were incorporated as part of the project design. All wetland areas not affected by the project will be protected from unnecessary encroachment. No staging of construction equipment or storage of construction supplies will be allowed in wetlands or near surface waters.

For avoidance and minimization, the following measures were/will be accomplished:

1) The existing bridges of 512 feet and 359 feet will be replaced with a 1,963-foot single structure on new alignment west of the existing bridges.

2) The portion of SR 1566 (Seine Beach Road) maintained by NCDOT will be removed and restored to wetlands. All portions of the existing embankment for SR 1565 adjacent to wetlands (north side of the Tar River) and not utilized in the new facility will be removed and the area restored to wetlands or buffer as appropriate. The buffer area on the south side of the Tar River will be restored by plantings after removal of the existing bridge.
3) Work bridges will be utilized in the construction of the new structure across wetlands. To the extent practicable, work bridges will be located between the new bridge and the existing roadway embankment to minimize disturbance of the adjacent wetlands. Construction in open water will be from work bridges or barges.

4) The project will be designed and constructed in accordance with the Riparian Buffer Protection Rules for the Tar-Pamlico River Basin. The new bridge will completely span the riparian buffers on either side of the Tar River.

5) To avoid and/or minimize impacts to anadromous fish, the "Stream Crossing Guidelines for Anadromous Fish Passage" will be followed including an in-stream construction moratorium to from February 15 to September 30.

6) The Guidelines for Avoiding Impacts to the West Indian Manatee: Precautionary Measures for Construction Activities in North Carolina Waters will be utilized to the maximum extent practicable.

7) Design Standards in Sensitive Watersheds will be implemented.

8) NCDOT's guidelines for Best Management Practices for the Protection of Surface Waters will be enforced throughout the duration of the project construction.

Mitigation
The construction of B-3684 will result in 1.29 acres of jurisdictional riverine wetlands that will require mitigation within the Tar-Pamlico River Basin. The Department has avoided and minimized impacts to jurisdictional resources to the greatest extent possible as described above. NCDOT will restore 3.05 acres of riverine swamp forest wetland as onsite mitigation for B-3684. The onsite mitigation will result in 1.76 acres of wetland mitigation assets onsite. Therefore, no offsite mitigation will be necessary. Specific strategies are detailed in the attached wetland mitigation plan.

The EEP will assume responsibility for satisfying the federal Clean Water Act compensatory mitigation requirements for the unavoidable impacts to 181 linear feet to Reedy Branch. A copy of the EEP Acceptance Letter dated December 10, 2007 is attached.

Project Schedule
This project has a let date of July 15, 2008 with a review date of May 27, 2008.

Regulatory Approvals
Section 404: Application is hereby made for a USACE Individual 404 Permit as required for the above-described activities.

Section 401: We are hereby requesting a 401 Water Quality Certification from the N. C. Division of Water Quality. In compliance with Section 143 215.3D(e) of the NCAC, we will provide $570.00 to act as payment for processing the Section 401 permit application previously noted in this application (see Subject line). We are providing five (5) copies of this application to the NCDWQ, for their review and approval.

Tar-Pamlico Riparian Buffer Authorization: NCDOT requests that the NC Division of Water Quality review this application and issue a written approval for a Neuse Riparian Buffer Authorization.

A copy of this permit application will be posted on the DOT website at:
http://www.ncdot.org/doh/preconstruct/pe/neu/permit.html.

If you have any questions or need additional information, please contact Tyler Stanton at tstanton@dot.state.nc.us or (919) 715-1439.

Sincerely,

for Gregory J. Thorpe, Ph.D. Environmental Management Director,
Project Development and Environmental Analysis Branch

Cc:
W/attachment:
Mr. Mr. Brian Wrenn, NCDWQ (5 Copies)
Mr. Travis Wilson, NCWRC
Ms. Kathy Matthews, USEPA
Mr. Ronald Mikulak, USEPA – Atlanta, GA
Mr. Clarence W. Coleman, PE, FHWA
Mr. Gary Jordan, USFWS
Mr. Ron Sechler, NMFS
Mr. Michael Street, NCDMF

W/o attachment, (see website for attachments):
Dr. David Chang, PE, Hydraulics
Mr. Greg Perfetti, PE, Structure Design
Mr. Victor Barbour, PE, Project Services Unit
Mr. Mark Staley, Roadside Environmental
Mr. C. E. Lassiter, PE, Division 2 Engineer
Mr. Jay Johnson, Division 2 Environmental Officer
Mr. Scott McLendon, USACE, Wilmington
Mr. Jay Bennett, PE, Roadway Design
Mr. Majed Alghandour, PE, Programming and TIP
Mr. Art McMillan, PE, Highway Design
Ms. Beth Harmon, EEP
Mr. Todd Jones, NCDOT External Audit Branch
Ms. Stacy Oberhausen, PE, PDEA
Mr. Carl Goode, PE, Human Environment Unit Head
Ms. LeiLani Paugh, NEU
Mr. Randy Griffin, NEU

Ecosystem Enhancement PROGRAM

December 10, 2007

Mr. William Wescott
U. S. Army Corps of Engineers
Washington Regulatory Field Office
Post Office Box 1000
Washington, North Carolina 27889-1000

Dear Mr. Wescott:

Subject: EEP Mitigation Acceptance Letter:

B-3684, Replace Bridge Numbers 127 and 129 on SR 1565 over the Tar River, Pitt County; Tar-Pamlico River Basin (Cataloging Unit 03020103); Northern Inner Coastal Plain (NICP) Eco-Region

The purpose of this letter is to notify you that the Ecosystem Enhancement Program (EEP) will provide the compensatory stream mitigation for the unavoidable impact associated with the above referenced project. As indicated in the NCDOT's mitigation request dated December 4, 2007, stream mitigation from EEP is required for approximately 181 feet of warm stream impact.

Stream mitigation associated with this project will be provided in accordance with Section X of the Amendment No. 2 to the Memorandum of Agreement between the N. C. Department of Environment and Natural Resources, the N. C. Department of Transportation, and the U. S. Army Corps of Engineers fully executed on March 8, 2007 (Tri-Party MOA). EEP commits to implement sufficient warm stream mitigation up to 362 stream credits to offset the impacts associated with this project by the end of the MOA year in which this project is permitted. If the above referenced impact amounts are revised, then this mitigation acceptance letter will no longer be valid and a new mitigation acceptance letter will be required from EEP.

If you have any questions or need additional information, please contact Ms. Beth Harmon at 919-715-1929.

Sincerely,

James B. Stanfill for

William D. Gilmore, P.E.
EEP Director

cc: Mr. Mr. Gregory J. Thorpe, Ph.D., NCDOT – PDEA
Mr. Brian Wrenn, Division of Water Quality, Wetlands/401 Unit
File: B-3684

Grimesland Bridge Road Site Wetland Mitigation Plan
At Bridge No. 129 over the Tar River and
Bridge No. 127 over the Tar River Overflow
Pitt County

TIP B-3684
WBS 33225.1.1

November 6, 2007

The North Carolina Department of Transportation (NCDOT) will perform on-site mitigation for unavoidable riverine wetland impacts due to replacement of Bridge No. 129 and Bridge No. 127 on Grimesland Bridge Road (SR 1565) in Pitt County. This mitigation site occurs within Transportation Improvement Program (TIP) B-3684. The TIP project begins approximately 1500 feet south of Bridge No. 129 and continues approximately 1200 feet to the north of Bridge No. 127. Seine Beach Road (SR 1566) intersects Grimesland Bridge Road from the west between the two bridges.

NCDOT will restore approximately 3.05 acres of riverine swamp forest wetland. The roadway project will impact 1.29 acres of unavoidable wetlands, leaving approximately 1.76 acres of wetland restoration assets on-site. Also, approximately 3500 sq. ft. of buffer will be restored along the south bank of the Tar River, all of which will be used to partially offset the unavoidable buffer impacts.

EXISTING CONDITIONS

The project is located in Pitt County north of Grimesland along Grimesland Bridge Road (SR 1565). The project study area land use is mainly forested floodplain and occasional residential homesites. The Grimesland Wetland Mitigation Site, constructed in 2004, is located in the northeast quadrant of the project.

The existing causeway of Grimesland Bridge Road and Seine Beach Road is located in the floodplain of Tar River. The dominant community in this floodplain area is riverine swamp forest wetland. Canopy vegetation in the wetland areas includes bald cypress (*Taxodium distichum*), and water tupelo (*Nyssa aquatica*), with scattered understory species of green ash (*Fraxinus pennsylvanica*) sweet gum (*Liquidambar styraciflua*), and red maple (*Acer rubrum*).

The Categorical Exclusion for TIP B-3684, dated July 2004, provides further details concerning existing roadway and project study area conditions.

PROPOSED CONDITIONS
DESIGN

The proposed wetland mitigation will consist of restoring 3.05 acres of riverine wetland. Restoration will involve removing the existing causeway fill and two bridges on the -L-

line, Grimesland Bridge Road, as shown on plan sheets 5 and 6. Restoration will also include removal of the existing causeway fill on the -Y- line, Seine Beach Road. Elevations were taken in existing wetlands adjacent to both restoration areas. Elevations along the -L- line ranged from 2.2 to 2.8 feet msl. Elevations along the -Y- line ranged from 1.7 to 2.5 feet msl. Restoration areas should be graded to a target range of 2.0 to 2.2 feet msl. Care should be taken to match existing topography within the wetlands adjacent to the causeway. Clearing may be needed along the toe of the existing slope to achieve the target elevation range.

The proposed buffer mitigation will consist of removing of Bridge No. 129 and obliteration of the roadway, as shown on plan sheet 4, within the buffer zone along the south side of the Tar River, providing approximately 3500 sq. ft. of buffer restoration.

Excavated areas will be ripped and disked prior to planting of the site if neccessary. The restoration areas will be planted with a mix of appropriate species as shown on the attached reforestation sheet.

The Natural Environment Unit shall be contacted to provide construction oversight to ensure that the mitigation area is constructed appropriately.

MONITORING:

Upon successful completion of construction, the following monitoring strategy is proposed for the mitigation site. NCDOT will document monitoring activities on the site in an annual report distributed to the regulatory agencies.

HYDROLOGIC MONITORING

No specific hydrological monitoring is proposed for this mitigation site. The target elevation will be based on the adjacent wetland and verified during construction. Constructing the site at the adjacent wetland elevation will ensure the hydrology and connectivity of the restored areas are similar to the hydrology in the reference areas.

VEGETATION SUCCESS CRITERIA

NCDOT shall monitor the mitigation site by visual observation and photo points for survival and aerial cover of vegetation. NCDOT shall monitor the site for a minimum of three years or until the site is deemed successful. Monitoring will be initiated upon completion of the site planting.

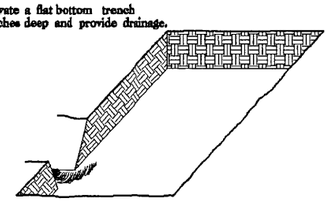
PROJECT REFERENCE NO.	SHEET NO.
B-3684	RF-1
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PLANTING DETAILS

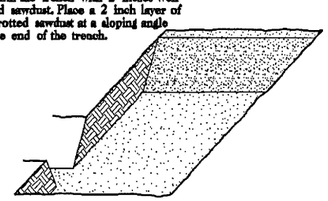
SEEDLING / LINER BAREROOT PLANTING DETAIL

HEALING IN

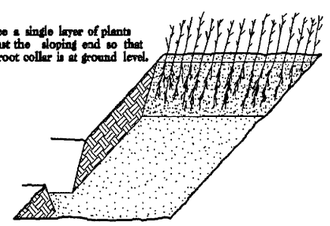
1. Locate a healing-in site in a shady, well protected area.
2. Excavate a flat bottom trench 12 inches deep and provide drainage.



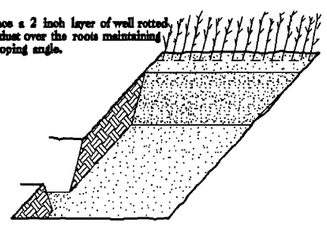
3. Backfill the trench with 2 inches well rotted sawdust. Place a 2 inch layer of well rotted sawdust at a sloping angle at one end of the trench.



4. Place a single layer of plants against the sloping end so that the root collar is at ground level.

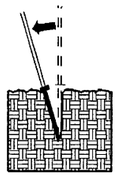


5. Place a 2 inch layer of well rotted sawdust over the roots maintaining a sloping angle.

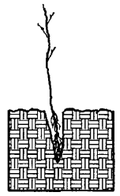


6. Repeat layers of plants and sawdust as necessary and water thoroughly.

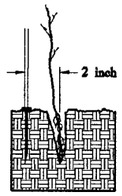
DIBBLE PLANTING METHOD
USING THE KBC PLANTING BAR



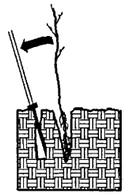
1. Insert planting bar as shown and pull handle toward planter.



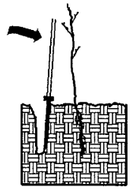
2. Remove planting bar and place seedling at correct depth.



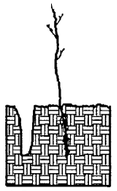
3. Insert planting bar 2 inches toward planter from seedling.



4. Pull handle of bar toward planter, firming soil at bottom.



5. Push handle forward firming soil at top.



6. Leave compaction hole open. Water thoroughly.

PLANTING NOTES:

PLANTING BAG
During planting, seedlings shall be kept in a moist canvas bag or similar container to prevent the root systems from drying.

KBC PLANTING BAR
Planting bar shall have a blade with a triangular cross section, and shall be 12 inches long, 4 inches wide and 1 inch thick at center.

ROOT PRUNING
All seedlings shall be root pruned, if necessary, so that no roots extend more than 10 inches below the root collar.

WETLAND REFORESTATION

WETLAND REFORESTATION SHALL BE PLANTED 6 FT. TO 10 FT. ON CENTER, RANDOM SPACING, AVERAGING 8 FT. ON CENTER, APPROXIMATELY 680 PLANTS PER ACRE.

WETLAND REFORESTATION

MIXTURE, TYPE, SIZE, AND FURNISH SHALL CONFORM TO THE FOLLOWING:

34% NYSSA AQUATICA	WATER TUPELO	12 in - 18 in BR
33% TAXODIUM DISTICHUM	BALD CYPRESS	12 in - 18 in BR
33% FRAXINUS PENNSYLVANICA	GREEN ASH	12 in - 18 in BR

SEE PLAN SHEETS FOR AREAS TO BE PLANTED

WETLAND REFORESTATION DETAIL SHEET

N.C.D.O.T. - ROADSIDE ENVIRONMENTAL UNIT

Pitt County
Bridge No. 129 over the Tar River and
Bridge No. 127 over the Tar River Overflow
On SR 1565 (Grimesland Bridge Road)
Federal Aid Project No. BRSTP-1565(4)
State Project No. 8.2221101
WBS No. 33225.1.1
TIP Project No. B-3684

CATEGORICAL EXCLUSION
AND
PROGRAMMATIC SECTION 4(F) EVALUATION AND APPROVAL

UNITED STATES DEPARTMENT OF TRANSPORTATION

FEDERAL HIGHWAY ADMINISTRATION

AND

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

APPROVED:

07/20/04
DATE

for Gregory J. Thorpe, Ph.D., Environmental Management Director
Project Development and Environmental Analysis Branch, NCDOT

07/30/04
DATE

for John F. Sullivan, III, PE
Division Administrator
Federal Highway Administration

Pitt County
Bridge No. 129 over the Tar River and
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CATEGORICAL EXCLUSION
AND
PROGRAMMATIC SECTION 4(F) EVALUATION AND APPROVAL

July 2004

Document Prepared by:
Mulkey Engineers and Consultants

7/8/04
Date

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7/8/04
Date

Pamela R. Williams
Project Manager

Document Prepared For:
North Carolina Department of Transportation

7-20-04
Date

John Wadsworth, P.E.
Project Manager

PROJECT COMMITMENTS

Pitt County
Bridge No. 129 over the Tar River and
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In addition to the standard Nationwide Permit No. 23 Conditions, the General Nationwide Permit Conditions, Section 404 Only Conditions, Regional Conditions, State Consistency Conditions, NCDOT's Guidelines for Best Management Practices for the Protection of Surface Waters, Design Standards for Sensitive Watersheds, Erosion and Sediment Control Guidelines for Contract Construction, Pre-Construction Guidelines for Bridge Demolition and Removal, Policy: Bridge Demolition and Removal in Waters of the United States, Best Management Practices for Bridge Demolition and Removal, General Certification Conditions, and Section 401 Conditions of Certification, the following special commitments have been agreed to by NCDOT:

Project Development and Environmental Analysis

A Memorandum of Agreement and data recovery plan will be prepared and implemented, as necessary for archaeology.

Division Engineer

An in-water construction moratorium will be in effect from February 15 to September 30. The Stream Crossing Guidelines for Anadromous Fish Passage will be implemented, as applicable.

Temporary work bridges will be utilized in the construction of the new structure across wetlands. To the extent practicable, work bridges will be located between the new bridge and the existing roadway embankment to minimize disturbance of the adjacent wetlands. Construction in open water will be from work bridges or barges, as applicable.

Construction activities will adhere to the guidelines outlined in Precautions For Construction In Areas Which May Be Used By The West Indian Manatee In North Carolina (2003 USFWS).

The existing swing bridge will be disassembled and moved to a storage area as designated by NCDOT. The bridge will be stored for up to 2 years and made available for an alternative use.

The existing portions of SR 1565 and SR 1566 that are to be removed will be restored to wetlands or buffer area as appropriate.

The project area will be surveyed just prior to construction for eagles in the area of potential impact.

PROJECT COMMITMENTS

Pitt County
Bridge No. 129 over the Tar River and
Bridge No. 127 over the Tar River Overflow
On SR 1565 (Grimesland Bridge Road)
Federal Aid Project No. BRSTP-1565(4)
State Project No. 8.2221101
WBS No. 33225.1.1
TIP Project No. B-3684

Hydraulic Design

The project will be designed and constructed in accordance with the Riparian Buffer Protection Rules for the Tar-Pamlico River Basin. The new bridge will completely span the riparian buffers [50 feet (15 meters)] on either side of the Tar River.

Bridge deck drains will not discharge directly into the Tar River or Zone 1.

Pitt County
SR 1565 (Grimesland Bridge Road)
Bridge No. 129 over the Tar River and
Bridge No. 127 over the Tar River Overflow
Federal Aid Project No. BRSTP-1565(4)
State Project No. 8.2221101
WBS No. 33225.1.1
TIP Project No. B-3684

INTRODUCTION: The replacement of Bridge Nos. 127 and 129 is included in the North Carolina Department of Transportation (NCDOT) 2004-2010 Transportation Improvement Program (T.I.P.) and in the Federal-Aid Bridge Replacement Program. The location of the bridge is shown in Figure 1. No substantial environmental impacts are anticipated. The project is classified as a Federal "Categorical Exclusion".

I. PURPOSE AND NEED

The NCDOT Bridge Maintenance Unit records indicated that Bridge No. 129 and Bridge No. 127 have sufficiency ratings of 42.3 and 28.2 respectively, out of a possible 100 for a new structure. The bridges are considered functionally obsolete and structurally deficient. The replacement of the inadequate structures will result in safer and more efficient traffic operations.

II. EXISTING CONDITIONS

The proposed action is located in Pitt County, North Carolina, at the SR 1565 (Grimesland Bridge Road) crossing of the Tar River. SR 1565 is classified as a rural major collector by the statewide functional classification system. SR 1566 (Seine Beach Road) intersects SR 1565 approximately 480 feet (146 meters) north of Bridge No. 129 and 470 feet (143 feet) south of Bridge No. 127.

Land use in the project vicinity is predominantly woodlands and wetlands north of the Tar River and light residential south of the Tar River. There is one business located in the northwest quadrant of Bridge No. 129.

The Grimesland Wetland Mitigation Site is located north of the intersection of SR 1566 and SR 1565 in the project area, Figure 2. Over a span of several years, NCDOT will convert the entire 550-acre (223 hectares) Grimesland site to a regional mitigation site. In the project area, the mitigation site is for wetland preservation of the existing riparian ecosystem and cypress-gum swamp.

The Corps of Engineers-Operations Branch maintains a navigational channel at the project site, Figure 3. The Corps yearly snagging operation requires a 40 foot (12 meter) vertical clearance for the snagging vessel.

Bridge No. 129, Figure 4A, is 359 feet (109.4 meters) in length, consisting of seven spans with the maximum span at approximately 80 feet (25 meters). The main span is a steel deck on a swing thru-truss. The steel truss vertical clearance over SR 1565 is 15 feet (4.5 meters). The clear roadway width is 20.1 feet (6.1 meters), providing two 9-foot (2.7 meter) travel lanes with 1-foot (0.3-meter) shoulders. The superstructure consists of a reinforced concrete floor on steel I-beams.

The substructure is a timber abutment design. The posted weight limit is 28 tons (28.4 metric tons) for single vehicles (SV) and 34 tons (34.5 metric tons) for truck-tractors semi-trailers (TTST). NCDOT Bridge Maintenance opens the swing bridge with a 24-hour notice as necessary. When the swing bridge is closed, the navigational clearances are 14 feet (4.2 meter) vertically and 60 feet (18.3 meter) horizontally. Crown height to streambed is approximately 38 feet (11.5 meter).

Bridge No. 127, Figure 4B, is 512 feet (156 meters) in length, which consist of 30 spans with the maximum span at approximately 18 feet (5.5 meters). The clear roadway width is 20.1 feet (6.1 meters) providing two 9-foot (2.7 meter) travel lanes with 1-foot (0.3 meter) shoulders. The superstructure consists of reinforced concrete floor on timber joists. The substructure is a timber abutment design. The posted weight limit is 18 tons (18.3 metric tons) for SV and 26 tons (26.4 metric tons) for TTST. Crown height to streambed is approximately 12 feet (3.6 meter).

Bridge No. 129 and approaches on SR 1565 are tangent with a 1445 feet (440 meter) radius curve approximately 120 feet (36.6 meters) from the south end of the structure. SR 1565 consists of two 9-foot (2.7 meters) travel lanes with 8-foot (2.4 meters) grass shoulders. Bridge No. 127 and approaches on SR 1565 are tangent.

The current estimated 2004 average daily traffic volume is 4600 vehicles per day (vpd). The projected traffic volume is expected to increase to 7300 vpd by the design year 2030. The volumes include one percent TTST and two percent Duals.

The posted speed limit is 55 miles per hour (mph) [90 kilometers per hour (kmh)].

Approximately 1300 feet (396 meters) south of Bridge No. 129, there are three 48-inch (1200 millimeter) concrete cross drain pipes in approximately 20 feet (6 meters) of embankment.

There were nine accidents reported in the vicinity of the bridge during the three-year period of January 1, 2000 to December 31, 2002. One was fatal located south of Bridge No. 129 in the curve, high speeds were involved.

SR 1565 is not part of a designated bicycle route and there are no indications that an unusual number of bicyclists are using this route.

There are aerial power lines on the north and south sides of SR 1565 but do not cross the Tar River. Utility impacts are anticipated to be low.

Two Pitt County school buses cross these bridges twice daily.

III. ALTERNATIVES

A. Project Description

The proposed approach roadway will consist of a 24-foot (7.2 meter) travel-way providing for two 12-foot (3.6 meters) travel lanes with eight-foot (2.4 meter) shoulders including two-foot (0.6 meter) paved, Figure 5. The design speed will be 60 mph (100 km/h).

The proposed navigational clearances are 40-foot (12 meters) vertically and 60-foot (18-meter) horizontally.

The proposed structure will provide a 30-foot (9.0 meters) clear roadway width, allowing for two 12-foot (3.6 meters) travel lanes with three-foot (1.0 meter) shoulders, Figure 5.

B. Build Alternatives

Two (2) build alternatives for replacing the existing bridges are described below.

Alternative 2 (preferred) replaces both bridges on new alignment west of the existing bridges with a single structure approximately 1940 feet (591 meters) in length, Figure 6A. During construction, traffic will be maintained on the existing structures. After traffic is routed onto the new structure, the existing bridges and approach roadway will be removed and restored to wetlands. SR 1566 (Seine Beach Road) will be removed and restored to wetlands. One (1) resident and one (1) business will require relocating.

Alternative 3 replaces both bridges on new alignment east of the existing bridges with a single structure approximately 1900 feet (579 meters) in length, Figure 6B. During construction, traffic will be maintained on the existing structures. After traffic is routed onto the new structure, the existing bridges and approach roadway will be removed and restored to wetlands. SR 1566 (Seine Beach Road) will be removed and restored to wetlands. One (1) resident and one (1) business will require relocating. Alternative 3 was not selected as the preferred alternative because of constructability challenges that Alternative 2 did not have.

C. Alternatives Eliminated From Further Study

Alternative 1 replaces the bridges at the existing location with a single structure approximately 1950 feet in length. During construction, traffic will be routed off-site. SR 1566 (Seine Beach Road) will be removed and restored to wetlands. One business will require relocating.

The proposed off-site detour will route traffic through Washington along NC 33, US 17, and US 264 approximately 18 miles (28.8 kilometers). A road user analysis was performed based on 4700 vehicles per day for construction year 2005 and an average of 18 miles (28.8 kilometers) of indirect travel. The cost of additional travel is approximately $11 million dollars annually. The construction period is anticipated to be approximately two years.

Alternative 1 was eliminated due to the high road user cost associated with the proposed detour for two years and public opposition.

Alternative 4 replaces both bridges on new alignment with a single structure approximately 2320 feet (707 meters) in length. The new alignment will begin approximately 3000 feet (914 meters) south of Bridge No. 129 and routed along SR 1589 (Pokerhouse Road), it will cross the Tar River at a 106 degree skew and tie back into SR 1565 approximately 475 feet (145 meters) north of Bridge No. 127. During construction, traffic will be maintained on the existing structures. SR 1566 (Seine Beach Road) will be removed and restored to wetlands. After traffic is routed onto the new structure and roadway, the existing bridges and approach roadway will be removed and restored to wetlands. Two (2) residents and one (1) business will require relocating. Alternative 4 was eliminated from consideration because of the fragmentation it will create in the Grimesland Mitigation Site and was less economical than Alternative 2 and Alternative 3.

The "do-nothing" alternative will eventually necessitate closure of the bridges. Closure of either bridge would render SR 1565 impassable. This is not desirable due to the traffic service and community connectivity provided by SR 1565 and Bridge Nos. 129 and 127.

Investigation of the existing structure by the Bridge Maintenance Unit indicates that "rehabilitation" of these bridges is not feasible due to their age and deteriorated condition.

D. Preferred Alternative

Alternative 2, replacing the bridge upstream of the existing bridge, was selected as the preferred alternative because it maintains traffic onsite, minimizes wetland impacts, restores high quality wetlands and provides continuity of the ecosystem. The proposed bridge will be constructed utilizing a temporary work bridge and/or barge.

The NEPA/404 Merger Team concurred with Alternative 2 as the preferred alternative and as the least environmentally damaging practicable alternative (Appendix C).

For avoidance and minimization, the following measures will be accomplished:

1. The existing bridges of 512 feet (156 meters) and 359 feet (109 meters) will be replaced with a single structure on new alignment west of the existing bridges approximately 1,940 feet (591 meters) in length.

2. The portion of SR 1566 (Seine Beach Road) maintained by NCDOT will be removed and restored to wetlands. All portions of the existing embankment for SR 1565 adjacent to wetlands (north side of Tar River) and not utilized in the new facility will be removed and the area restored to wetlands or buffer as appropriate. The buffer area on the south side of the Tar River will be restored by plantings after removal of the existing river bridge.

3. Work bridges will be utilized in the construction of the new structure across wetlands. To the extent practicable, work bridges will be located between the new bridge and the existing roadway embankment to minimize disturbance of the adjacent wetlands. Construction in open water will be from work bridges or barges.

4. The project will be designed and constructed in accordance with the Riparian Buffer Protection Rules for the Tar-Pamlico River Basin. The new bridge will completely span the riparian buffers [50 feet (15 meters)] on either side of the Tar River.

5. To avoid and/or minimize impacts to anadromous fish, the "Stream Crossing Guidelines for Anadromous Fish Passage" will be followed including an in-stream construction moratorium of February 15 to September 30.

6. The 2003 USFWS Manatee Guidelines for construction activities in aquatic areas will be utilized to the maximum extent practicable.

IV. ESTIMATED COST

The estimated costs, based on current prices are as follows:

	Alternative 2	**Alternative 3**
Structure Removal (Existing)	$ 189,900	$ 189,900
Structure Proposed	8,287,500	8,355,000
Roadway Approaches	835,500	761,600
Miscellaneous and Mobilization	3,297,000	3,303,000
Engineering Contingencies	1,890,100	1,890,500
ROW/Const. Easements/Utilities	804,000	814,500
TOTAL	$ 15,304,000	$ 15,314,500

The estimated cost of the project as shown in the 2004-2010 Transportation Improvement Program is $4,950,000 including $800,000 for right-of-way, $3,850,000 for construction, and $300,000 in prior years.

V. NATURAL RESOURCES

A. Methodology

Information sources used to prepare this report include but are not limited to: USGS Grimesland, NC 7.5 minute series topographic map (1979); United States Department of Agriculture, Soil Conservation Service [now the Natural Resources Conservation Service (NRCS)] Soil Survey of Pitt County, NC (1974); United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) map (Grimesland, NC, 1994); USFWS Pitt County Endangered Species, Threatened Species, and Federal Species of Concern (search performed 7/8/04, list date February 25, 2003); North Carolina Natural Heritage Program (NCNHP) computer database, via the Internet, of rare species and unique habitats (accessed June 9, 2003, list updated May 2003); and NCDOT aerial photography of the study area. Research using these resources was conducted prior to the field investigation. Information on hydric soils was obtained from the Pitt County hydric soils list, and the NRCS National Hydric Soils List. Field surveys were conducted along the proposed project corridor on August 28-31, 2001, and September 13, 2001.

A previous Natural Resources Technical Report was submitted for these bridge replacement projects by other investigators in April 2001. Since the previous report was completed several months prior to the natural resources investigation for this report, information has been used and built upon where appropriate from the previous report in order to save time and prevent duplication. Credit is given when information is used extensively from the previous report. In addition, most of the study area north of the Tar River is included in the NCDOT Grimesland Wetland Mitigation Site. Information from the mitigation study was utilized for this report and credit is given where applicable.

Impacts were calculated to the proposed right-of-way, or 10 feet (3 meters) outside slope stakes for all alternatives. This varied depending upon whether slope stake lines were inside or outside the right-of-way. The 10-foot (3-meter) allowance was used for possible impacts due to mechanized clearing. The actual impacts may be less.

B. Physiography and Soils

The proposed project lies within the Coastal Plain Physiographic Province, which includes all parts of North Carolina east of the fall line. This province generally consists of unconsolidated sands, silts, clays, and peats. The topography of the project vicinity can be characterized as flat to gently sloping. Elevations in the project vicinity and project area range from approximately 0 to 30 feet (0 to 9.1 meters) above mean sea level (msl). Current land use in the project vicinity consists of rural undeveloped land with some scattered residential and agricultural properties.

Soil series within the project area are described below. Potential productivity of the soils is determined by site index for a given species of tree. The site index is the average of the measured total height, in feet of the dominant and co-dominant trees in an even-aged stand when the trees attain the age of 50 years. By using published results of research, site index can be converted to expected yields. In the descriptions below, potential productivity is expressed by site class. The site class values were obtained by rounding the site index for each species of tree to the nearest 10-foot (3-meter) interval. Site class for some broad-leaved trees was determined through comparison with similar trees growing in the same type of soil.

Chipley sand is a moderately well drained soil on broad flats and on smooth side slopes of uplands and stream terraces. Slopes range from 0 to 4 percent. Permeability is rapid, and shrink-swell potential is low. In areas that have not received lime, reaction is strongly acid or very strongly acid. The seasonal high water table is within approximately 2.5 feet (0.8 meters) of the surface, and this soil is subject to infrequent flooding. Site indices for Chipley sand include 90 for loblolly pine, 90 for slash pine, and 70 for longleaf pine. Chipley sand is listed as having inclusions of Osier soil on the Pitt County Hydric Soils List. Osier soil is a hydric soil series which is poorly drained and nearly level on uplands and stream terraces. Permeability is rapid, and shrink-swell potential is low. In areas that have not received lime, reaction is strongly acid or very strongly acid. The seasonal high water table is at or near the surface, and this soil is subject to frequent flooding for brief periods. Site indices for Osier soil include 80 for loblolly pine, 80 for slash pine, and 70 for longleaf pine. This soil is not suitable for broad-leaved trees, but is considered to have moderate potential for needle-leaved tree species.

Swamp is a poorly drained or very poorly drained miscellaneous land type on floodplains, where it occurs in slight depressions. It has slopes of less than 1 percent. Flooding for long periods of time occurs very frequently, with water covering this land type throughout most of the year. This land type is not placed in a woodland suitability group, and no site indices have been calculated. Swamp is listed as a hydric soil on the Pitt County Hydric Soils List.

Portsmouth loam is a very poorly drained soil on broad, smooth flats in slight depressions. Slopes are 0 to 1 percent. Permeability is moderate, and shrink-swell potential is low. In areas that have not received lime, reaction is strongly acid or very strongly acid. The seasonal high water table is at or near the surface, and this soil is subject to frequent flooding for brief periods. Site indices for Portsmouth loam include 100 for loblolly pine, 100 for slash pine, 100 for sweetgum, 110 for yellow-poplar, 90 to100 for water oak, 100 for willow oak, and 100 for cottonwood. This soil is considered to have high potential for broad-leaved and needle-leaved tree species. Portsmouth loam is listed as a hydric soil on both the Pitt County hydric soils list, as well as the NRCS National Hydric Soils List.

Rains fine sandy loam is a poorly drained soil on broad flats and in slight depressions in the uplands. Slopes are 0 to 1 percent. Permeability is moderate, and shrink-swell potential is low. In areas that have not received lime, reaction is strongly acid or very strongly acid. The seasonal high water table is at or near the surface, and this soil is subject to frequent ponding for brief periods. Site indices for Rains fine sandy loam include 90 for loblolly pine, 90 for slash pine, 70 for pond pine, and 90 for sweetgum. This soil is not suitable for broad-leaved tree species, and is considered to have low potential for needle-leaved species. Rains fine sandy loam is listed as a hydric soil on both the Pitt County hydric soils list and the NRCS National Hydric Soils List.

Pactolus loamy sand is a moderately well drained and somewhat poorly drained soil found on broad flats, in depressions, and on smooth, low ridges on uplands and stream terraces. Permeability is rapid, and shrink-swell potential is low. This soil is strongly acid or very strongly acid. The seasonal high water table is 1.5 to 2.5 feet (0.5 to 0.8 meters) below the surface. Site indices for Pactolus loamy sand include 80 for loblolly pine, 80 for slash pine, and 70 for longleaf pine. This soil is not suitable for broad-leaved tree species, and is considered to have moderate potential for needle-leaved species. Pactolus loamy sand is listed as having inclusions of Osier on the Pitt County Hydric Soils List.

Altavista sandy loam, 0 to 4 percent slopes is a moderately well drained soil that occupies broad divides on stream terraces. Permeability is moderate, and shrink-swell potential is low. In areas that have not received lime, reaction is strongly acid or very strongly acid. The seasonal high water table is at a depth of approximately 2.5 feet (0.8 meters) below the surface. Site indices for Altavista sandy loam include 90 for loblolly pine, 90 for slash pine, 70 for longleaf pine, 90 for sweetgum, 100 for yellow-poplar, and 90 for water oak. This soil is considered to have high potential for broad-leaved tree species, and moderate potential for needle-leaved species. Altavista sandy loam, 0 to 4 percent slopes is listed as having inclusions of Tuckerman on the Pitt County Hydric Soils List. Tuckerman is a hydric soil series which consists of poorly drained, nearly level soils on stream terraces. Slopes are 0 to 1 percent. Permeability and shrink-swell potential are moderate. In areas that have not received lime, reaction is slightly acid to medium acid. The seasonal high water table is at or near the surface. Site indices for Tuckerman include 90 for loblolly pine, 90 for slash pine, 70 for longleaf pine, and 90 for sweetgum. This soil is considered to have high potential for broad-leaved and needle-leaved tree species.

Ocilla loamy fine sand, 0 to 4 percent slopes is a somewhat poorly drained soil on broad flats and smooth side slopes in the uplands and on stream terraces. Permeability is moderate, and shrink-swell potential is low. In areas that have not received lime, reaction is strongly acid or very strongly acid. The seasonal high water table is at a depth of approximately 2.5 feet (0.8 meters) below the surface. Site indices for Ocilla loamy fine sand, 0 to 4 percent slopes include 80 for loblolly pine, 80 for slash pine, and 70 for longleaf pine. This soil is not suitable for broad-leaved tree species, and is considered to have moderate potential for needle-leaved species. Ocilla loamy fine sand, 0 to 4 percent slopes is listed as having inclusions of Rains on the Pitt County Hydric Soils List.

Lakeland sand, 0 to 6 percent slopes is an excessively drained, sandy soil in broad, undulating areas and on rounded divides in uplands and on stream terraces. Permeability is rapid, and shrink-swell potential is low. In areas that have not received lime, reaction is medium acid to strongly acid. The seasonal high water table is below a depth of 5 feet (1.5 meters). Site indices for Lakeland sand, 0 to 6 percent slopes include 70 for slash pine, 60 for longleaf pine, and 70 for loblolly pine. This soil is not suitable for broadleaved tree species, and is considered to have a low potential for needle-leaved tree species.

Alaga loamy sand, banded substratum, 0 to 6 percent slopes is a somewhat excessively drained, sandy soil on broad, high divides on uplands and stream terraces. Permeability is rapid, and shrink-swell potential is low. In areas that have not received lime, reaction is medium acid to very strongly acid. The seasonal high water table is below a depth of 5 feet (1.5 meters). Site indices for Alaga loamy sand, banded substratum, 0 to 6 percent slopes include 80 for loblolly pine, 80 for slash pine, and 60 to70 for longleaf pine. This soil is not suitable for broad-leaved tree species, and is considered to have a moderate potential for needle-leaved tree species.

Craven fine sandy loam, 1 to 6 percent slopes is a moderately well drained soil on smooth side slopes in uplands. Permeability is slow, and shrink-swell potential is high. In areas that have not received lime, reaction is strongly acid to extremely acid. The seasonal high water table is at a depth of approximately 2.5 feet (0.8 meters) below the surface. Site indices for Craven fine sandy loam, 1 to 6 percent slopes include 80 for loblolly pine, 80 for slash pine, and 70 for longleaf pine.

This soil is not suitable for broad-leaved tree species, and is considered to have moderate potential for needle-leaved species.

Craven fine sandy loam, 6 to 10 percent slopes is a moderately well drained soil on narrow side slopes in uplands. Permeability is slow, and shrink-swell potential is high. In areas that have not received lime, reaction is strongly acid to extremely acid. The seasonal high water table is at a depth of approximately 2.5 feet (0.8 meters) below the surface. Site indices for Craven fine sandy loam, 6 to 10 percent slopes include 80 for loblolly pine, 80 for slash pine, and 70 for longleaf pine. This soil is not suitable for broad-leaved tree species, and is considered to have moderate potential for needle-leaved species.

Wagram loamy sand, 0 to 6 percent slopes is a well-drained soil on slightly convex, smooth, broad divides on uplands and stream terraces. Permeability is moderately rapid, and shrink-swell potential is low. In areas that have not received lime, reaction is strongly acid to extremely acid. The seasonal high water table is below a depth of 5 feet (1.5 meters). Site indices for Wagram loamy sand, 0 to 6 percent slopes include 80 for loblolly pine, 80 for slash pine, and 60 to70 for longleaf pine. This soil is not suitable for broad-leaved tree species, and is considered to have moderate potential for needle-leaved species.

C. Water Resources

1. Waters Impacted

The proposed project falls within the Tar-Pamlico River Basin, and has a North Carolina Division of Water Quality (NCDWQ) sub-basin designation of 03-03-05 and a federal hydrologic unit designation of 03020103. Characteristics of impacted waters and possible sources of pollution are discussed below.

2. Water Resource Characteristics

The Tar River flows southeast within the study area and is estimated to be about 270 feet (82.4 meters) wide from edge of water to edge of water, and about 25 feet (7.6 meters) deep, although depth was undetermined during field investigations. On the day of the investigation, the flow was moderate and the clarity was medium. Substrate consists of coarse sand and some silt. River banks are variable. South of the bridge, the banks are approximately 30 feet (9.1 meters) high and steeply sloping. North of the bridge, the banks are approximately 1 foot (0.3 meters) high and gradually sloping.

An unnamed tributary of the Tar River is located south of the river, extending north, and crossing under Grimesland Bridge Road via three 48-inch (122-centimeter) reinforced concrete pipes. The tributary is a perennial stream with a top of bank to water surface depth of approximately 2 to3 feet (0.6 to 0.9 meters), a top of bank to top of bank width of approximately 6 to 10 feet (1.8 to 3.0 meters), and a water's edge to water's edge width of approximately 4 to 8 feet (1.2 to 2.4 meters). On the day of the field investigation, flow was slow, clarity was medium to high, and water depth was approximately 12 to 24 inches (30.5 to 61 centimeters). Substrate consists of medium sand with a thin layer of silt. Stream banks are unstable due to erosion, and exposed soil and roots are evident. The stream exhibits moderate sinuosity, and there is no apparent riffle-pool sequence. The majority of the area where the stream is located is considerably shaded.

A large pond is at the northern edge of the study area. It was not studied in detail since ponds in the project vicinity were discussed in detail in the Grimesland Mitigation Site report. Further information on the pond is located in Section D.3, Aquatic Communities.

A Best Usage Classification of "B NSW" (date 1/1/90) has been assigned to the reach of the Tar River that falls within the study area by the North Carolina Department of Environment and Natural Resources, Division of Water Quality (NCDWQ). Class "B" indicates fresh waters protected for aquatic life propagation and survival, fishing, wildlife, primary recreation, and agriculture. Primary recreational activities include swimming, skin diving, water skiing, and similar uses involving human contact with water where such activities take place in an organized manner or on a frequent basis. The supplemental classification "NSW" indicates nutrient sensitive waters which require limitations on nutrient inputs. The unnamed tributary within the study area is assumed to have the same classification as the river. No designated High Quality Waters (HQW), Outstanding Resource Waters (ORW), Water Supply I (WS-I), or Water Supply II (WSII) waters occur within a 1.0-mile (1.6-kilometer) radius of the study corridor.

Point-source discharges throughout North Carolina are permitted through the National Pollutant Discharge Elimination System (NPDES) program. There are three minor permitted dischargers and one major permitted discharger within sub-basin 03-03-05. The nearest major discharger, Greenville WWTP, is located approximately 7.8 miles (12.6 kilometers) upstream (west) of the study corridor and discharges 17.5 million gallons per day (66.2 million liters per day). The nearest minor discharger is located approximately 5.0 miles (8.0 kilometers) upstream of the study corridor. Specific types of dischargers in sub-basin 03-03-05 are listed below.

	Sub-basin MGD (MLD)
Facility Categories	*05*
Total Facilities	*4*
Total Permitted Flow (MGD)	*18.5 (70.0)*
Major Discharges	*1*
Total Permitted Flow (MGD)	*17.5 (66.2)*
Minor Discharges	*3*
Total Permitted Flow (MGD)	*1.0 (3.8)*
100% Domestic Waste	*1*
Total Permitted Flow (MGD)	*1.0 (3.8)*
Municipal Facilities	*1*
Total Permitted Flow (MGD)	*17.5 (66.2)*
Industrial Facilities	*0*
Total Permitted Flow (MGD)	*0.0 (0.0)*
Other Facilities	*3*
Total Permitted Flow (MGD)	*1.0 (3.8)*

Major non-point sources of pollution for the Tar River include runoff from cropping and pasturage. Sedimentation and nutrient inputs are major problems associated with non-point source discharges

and often result in elevated levels of fecal coliform bacteria. Non-point source refers to runoff that enters surface waters through storm water flow or no defined point of discharge.

Benthic macroinvertebrates, or benthos, are organisms that live in and on the bottom substrates of rivers and streams. The NCDWQ uses benthos data as a tool to monitor water quality since benthic macroinvertebrates are sensitive to subtle changes in water quality. Formerly, the NCDWQ used the Benthic Macroinvertebrate Ambient Network (BMAN) as a primary tool for water quality assessment, but phased this method out several years ago. The NCDWQ has converted to a basinwide assessment sampling protocol. Each river basin in the state is sampled once every five years and the number of sampling stations has been increased within each basin. Each basin is sampled for biological, chemical and physical data.

Bioclassification criteria have been developed that are based upon the number of benthic macroinvertebrate taxa present and the relevant pollution tolerance of the taxa. The bioclassifications are used to assess the impacts of both point source discharges and non-point source runoff.

The Tar River has been assigned a bioclassification of "Excellent" based on benthic macroinvertebrate monitoring.

3. Anticipated Impacts to Water Resources

a. General Impacts

In the short term, construction and approach work could increase sediment loads in the river. The NCDOT, in cooperation with the NCDWQ, has developed a sedimentation control program for highway projects which adopts formal best management practices (BMPs) for the protection of surface waters. The following are some of the standard methods to reduce sedimentation and water quality impacts:

- Strict adherence to BMPs for the protection of surface waters during the life of the project.
- Reduction and elimination of direct and non-point discharge into water bodies and minimization of activities conducted in the water.
- Placement of temporary ground cover or re-seeding of disturbed sites to reduce runoff and decrease sediment loadings (tall fescue is not suitable for erosion control along stream banks).
- Reduction of clearing and grubbing along stream banks.

b. Impacts Related to Bridge Demolition and Removal

In order to protect the water quality and aquatic life in the area affected by this project, the NCDOT and all potential contractors will follow appropriate guidelines for bridge demolition and removal. These guidelines are presented in three NCDOT documents entitled "Pre-Construction Guidelines for Bridge Demolition and Removal", "Policy: Bridge Demolition and Removal in Waters of the United States", and "Best Management Practices for Bridge Demolition and Removal". Guidelines followed for bridge demolition and removal are in addition to those implemented for Best Management Practices for the Protection of Surface Waters.

Bridge No. 127 is located approximately 900 feet (274.5 meters) north of Bridge No. 129 and spans an inundated section of Cypress-Gum Swamp.

Dropping any portion of the structures into waters of the United States will be avoided unless there is no other practical method of removal. In the event that no other practical method is feasible, a worst-case scenario is assumed for calculations of fill entering waters of the United States. The maximum estimated potential fill calculated for the bridges is 630 cubic yards (459.3 cubic meters) for Bridge No. 129 and 202 cubic yards (147.3 cubic meters) for Bridge No. 127. The river substrate in the project area consists of fine silts and sands. The overflow area is underlain by hydric soils associated with the Cypress-Gum Swamp wetlands. Due to potential sedimentation concerns resulting from demolition of the bridges, where it is possible to do so, a turbidity curtain will be used, as applicable, to contain and minimize sedimentation in the water. The resident engineer will coordinate with appropriate agencies prior to structure demolition and removal.

Under the guidelines presented in the documents noted in the first paragraph of this section, work done in the water for this project will fall under Case 2, which states that no work shall be performed in the water during moratorium periods associated with fish migration, spawning, and larval recruitment into nursery areas. This conclusion is based upon the classification of the waters within the project area and vicinity, and agency comments received from the North Carolina Division of Marine Fisheries, United States Army Corps of Engineers, and North Carolina Wildlife Resources Commission.

D. Biotic Resources

1. Plant Communities

Classification of plant communities is based on the system used by the NCNHP (Schafale and Weakley 1990). If a community is modified or otherwise disturbed such that it does not fit into an NCNHP classification, it is given a name that best describes current characteristics. Scientific names and common names (when applicable) are used for the plants noted, however subsequent references to the same species include the common name only. Vascular plant names follow nomenclature found in Radford et al. (1968) unless more current information is available. Terrestrial communities found at this site are described below.

Some natural communities in the study area are described as Brownwater Subtypes of their classification. The Grimesland Mitigation Site report describes these communities as Blackwater Subtypes of their classifications. Schafale and Weakley (1990) note that brownwater rivers have their headwaters in the Piedmont or Blueridge, and blackwater rivers have their headwaters in the Coastal Plain. The Tar River headwaters are located in the Piedmont, although many blackwater streams flow into the river as it progresses east through the Coastal Plain. It appears to have some blackwater characteristics within the study area and due to the fact that the headwaters are located in the Piedmont, communities in the study area will be considered Brownwater Subtypes in this report if they are associated with the Tar River.

a. Cypress-Gum Swamp (Brownwater Subtype)

This community is located east and west of SR 1565 north of the Tar River. The canopy is closed in most places and overall plant diversity is fairly low. A small section between Seine Beach Road and the Tar River has been logged recently. Baldcypress (*Taxodium distichum*) and water tupelo (*Nyssa aquatica*) are the dominant canopy species. Scattered species in the understory and shrub layers include red maple (*Acer rubrum*), Carolina ash (*Fraxinus caroliniana*), and sweetbay (*Magnolia virginiana*). Herbaceous layer species are more abundant around the edges of this community, although some are dispersed throughout in small quantities. These species include cardinal flower (*Lobelia cardinalis*), Jack-in-the-pulpit (*Arisaema triphyllum*), false-nettle (*Boehmeria cylindrica*), spotted touch-me-not (*Impatiens capensis*), netted chain fern (*Woodwardia areolata*), lizard's tail (*Saururus cernuus*), arrow arum (*Peltandra virginica*), marsh hibiscus (*Hibiscus moscheutos*), climbing hempweed (*Mikania scandens*), rush (*Juncus* sp.), and sedge (*Carex* sp).

A Wetland Rating Worksheet for this community in included in Appendix D. The Cypress-Gum Swamp received a total score of 84 out of 100. The community scored highest in the categories of water storage, pollutant removal, and aquatic life value. It scored low to medium in wildlife habitat, bank/shoreline stabilization, and recreation/education. This community is jurisdictional wetland within the study area. It is classified on NWI mapping as palustrine, forested, broad-leaved deciduous/needle-leaved deciduous, semipermanently flooded. The April 2001 Wetland Rating Worksheet are included in Appendix D.

b. Coastal Plain Bottomland Hardwoods (Brownwater Subtype)

This community is located adjacent to the Cypress-Gum Swamp community in the northern sections of the study area, east and west of SR 1565. It is a mixture of low ridges intermingled with wetter areas, which are in general oriented perpendicular to SR 1565. Vegetation is somewhat variable, depending upon topography.

The lowest areas are more characteristic of Cypress-Gum Swamp species, and some of these areas were indundated at the time of the field investigation. Common species on the slightly higher ridges include swamp chestnut oak (*Quercus michauxii*), willow oak (*Quercus phellos*), water oak (*Quercus nigra*), American beech (*Fagus grandifolia*), sweetgum (*Liquidambar styraciflua*), American holly (*Ilex opaca*), red maple, loblolly pine (*Pinus taeda*), and ironwood (*Carpinus carolinana*). Most areas of this community have a fairly open understory/shrub layer. Some portions contain younger trees of those already mentioned, as well as grape (*Vitis rotundifolia*), netted chain fern, Jack-in-the-pulpit, greenbriar (*Smilax rotundifolia*), royal fern (*Osmunda regalis*), poison ivy (*Toxicodendron radicans*), cinnamon fern (*Osmunda cinnamomea*), and a few specimens of dwarf palmetto (*Sabal minor*).

Wetland Rating Worksheets for this community were included within the Grimesland Mitigation Site report. A score of 52 out of 100 was calculated for this community in areas greater than 300 feet (91 meters) from surface water, and a score of 76 was calculated for areas within 300 feet (91 meters) of surface water. Wetland Rating Worksheet for this community is located in Appendix D.

c. Coastal Plain Small Stream Swamp (Blackwater Subtype)

This community is located south of the Tar River adjacent to the unnamed tributary previously discussed. It has a well-developed canopy and understory. The shrub layer is fairly open in most areas and the herb layer is variable. Herbaceous vegetation is much more abundant south of SR 1565.

Canopy species include green ash (*Fraxinus pennsylvanica*), sweetgum, water oak and swamp chestnut oak. Understory and shrub species consist of red maple, American beech and sweetgum. The herbaceous layer, which is particularly thick in places south of the road includes giant cane (*Arundinaria gigantea*), false-nettle, Cardinal flower, netted chain fern, arrow arum, Jack-in-the-pulpit, and spotted touch-me-not.

The Coastal Plain Small Stream Swamp community scored 47 out of 100 on the Wetland Rating Worksheet. Some categories scored fairly low due either to steep topography within ½ mile (0.8 kilometers) of the swamp or small size of the community and floodplain. The rating worksheet and Wetland Rating Worksheet for this community are located in Appendix D.

d. Mesic Mixed Hardwood Forest (Coastal Plain Subtype)

The Mesic Mixed Hardwood Forest community is found on sloping areas adjacent to the Coastal Plain Small Stream Swamp.

Canopy species include white oak (*Quercus alba*), mockernut hickory (*Carya tomentosa*), bitternut hickory (*Carya cordiformis*), water oak, sweetgum, American beech, yellow-poplar (*Liriodendron tulipifera*), sycamore (*Platanus occidentalis*), and loblolly pine. Understory trees are a mixture of those noted above as well as red maple, American holly, and dogwood (*Cornus florida*). The shrub layer consists of beauty berry (*Calicarpa americana*), sassafras (*Sassafras albidum*), witch hazel (*Hamamelis virginiana*), strawberry bush (*Euonymus americanus*), devil's walking stick (*Aralia spinosa*), and blueberry (*Vaccinium* spp.). Vines include greenbrier, bullbrier (*Smilax bona-nox*), grape, Japanese honeysuckle (*Lonicera japonica*), poison ivy, trumpet creeper (*Campsis radicans*), and Virginia creeper (*Parthenocissus quinquefolia*).

e. Planted Pine Stand

A small section of a planted pine stand is located within the study area south of the Tar River and adjacent to the Mesic Mixed Hardwood Forest. It is comprised of loblolly pine, and has a short, shrubby layer of smaller pines and vines such as bullbrier. Average diameter of the pines is approximately 7 to 10 inches (18 to 25 centimeters).

f. Man-Dominated Community

The remaining portions of the study area fall under this community type. Typical areas include disturbed roadsides, the Seine Beach recreational area north of the Tar River, and maintained lawns of private residences.

Planted grasses and ornamental landscape species are typical around private residences and the Seine Beach recreational area. Roadside disturbed areas include scattered trees found in other

communities within the study area, spotted-touch-me-not, goldenrod (*Solidago* sp.), morning glory (*Ipomoea* sp.), poinsettia (*Euphorbia heterophylla*), dogfennel (*Eupatorium capillifolium*), trumpet creeper, foxtail (*Setaria* sp.), grape, blackberry (*Rubus* sp.), Chinese privet (*Ligustrum sinense*), poke (*Phytolacca americana*), Virginia creeper, kudzu (*Pueraria lobata*), plantain (*Plantago* sp.), Carolina falsedandelion (*Pyrrhopappus carolinianus*), and white clover (*Trifolium repens*).

2. Wildlife

Wildlife species identified in the field are based upon sight, sound, or other characteristic signs. Field guides are also utilized to determine additional species that may find suitable habitat in the project area, but that were not identified during the site investigation. The diverse array of wildlife species noted below includes the Grimesland Mitigation Site report observations and investigations for this report. In particular, the swamp and bottomland hardwood communities provide large areas of forested habitat that are valuable to many types of wildlife.

Mammal species reported to occur within communities at the project site or noted during this investigation include white-tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), gray squirrel (*Sciurus carolinensis*), cotton mouse (*Peromyscus gossypinus*), beaver (*Castor canadensis*), muskrat (*Ondatra zibethicus*), gray fox (*Urocyon cinereoargenteus*), and eastern cottontail (*Sylvilagus floridanus*). A local resident within the study area noted a recent sighting of black bear (*Ursus americanus*) in the Coastal Plain Small Stream Swamp area.

Bird species previously reported and/or noted during this investigation include turkey vulture (*Cathartes aura*), downy woodpecker (*Picoides pubescens*), red-bellied woodpecker (*Melanerpes carolinus*), tufted titmouse (*Baeolophus bicolor*), Carolina chickadee (*Poecile carolinensis*), American robin (*Turdus migratorius*), hermit thrush (*Catharus guttatus*), red-shouldered hawk (*Buteo lineatus*), Carolina wren (*Thryothorus ludovicianus*), common yellowthroat (*Geothypis trichas*), Acadian flycatcher (*Empidonax virescens*), barred owl (*Strix varia*), summer tanager (*Piranga rubra*), killdeer (*Charadrius vociferus*), eastern bluebird (*Sialia sialis*), American crow (*Corvus brachyrhynchos*), and blue jay (*Cyanocitta cristata*).

Several species of waterfowl were also noted. These include wood duck (*Aix sponsa*), Canada goose (*Branta canadensis*), lesser scaup (*Aytha affinis*), mallard (*Anas platyrhynchos*), American black duck (*Anas rubripes*), and pie-billed grebe (*Podilymbus podiceps*).

No reptiles were observed during this investigation. Those noted from the Grimesland Mitigation Site report consist of brown snake (*Storeria dekeyi*), black rat snake (*Elaphe obsoleta*), six-lined racerunner (*Cnemidophorus sexlineatus*), painted turtle (*Chrysemys picta*), mud turtle (*Kinosternon subrubrum*), eastern box turtle (*Terrapene carolina*), eastern garter snake (*Thamnophis sirtalis*), eastern hognose snake (*Heterodon platyrhinos*), and northern copperhead (*Agkistrodon contortrix*).

Several frogs were noted during this investigation, although not long enough to obtain a species identification. Southern leopard frog (*Rana palustris*), southern green frog (*Rana clamitans melanota*), and pickerel frog (*Rana palustris*) were noted in the Grimesland Mitigation Site report.

Additional species that could utilize swamp and bottomland hardwood communities in the study area include rough green snake (*Opheodrys aestivus*), eastern ribbon snake (*Thamnophis sauritus*),

golden mouse (*Ochrotomys nuttalli*), pileated woodpecker (*Dryocopus pileatus*), yellow-throated warbler (*Dendroica dominica*), marsh rabbit (*Sylvilagus palustris*), dwarf salamander (*Eurycea quadridigitata*), eastern narrowmouth toad (*Gastrophryne carolinensis*), spotted turtle (*Clemmys guttata*), and mud snake (*Farancia abacura*).

Additional species that may be represented in the upland and disturbed areas include morning dove (*Zenaida macroura*), starling (*Sturnus vulgaris*), mockingbird (*Mimus polyglottos*), barn swallow (*Hirundo rustica*), Carolina anole (*Anolis carolinensis*), and Norway rat (*Rattus norvegicus*).

3. Aquatic Communities

A cursory search of the Tar River shoreline was conducted for evidence of mussels. Asiatic clam (*Corbicula fluminia*) shells were found, as well as a few larger unidentified shells. The Grimesland Mitigation Site report indicates that river mussels (Unionidae) were observed in the study area. Signs of crayfish were observed during the investigation. Other aquatic species noted to occur within the study area include redbreast sunfish (*Lepomis auritus*), bowfin (*Amia calva*), and eastern mudminnow (*Umbra pygmaea*).

Organisms found in the unnamed tributary to the Tar River included water striders (Hemiptera), water pennies (Coleoptera), and evidence of crayfish (Cambaridae).

The pond located at the northern edge of the study area fits the descriptions given of ponds within the Grimesland Mitigation Site report. The report states that ponds on the mitigation site are a result of sand mining operations. The ponds are said to have been excavated from historic uplands, and do not have a connection to streams, however, several aquatic species were observed in them. Examples include slider (*Pseudemys scripta*), snapping turtle (*Chelydra serpintina*), lesser siren (*Siren intermedia*), bull frog (*Rana catesbeiana*), largemouth bass (*Micropterus salmoides*), bluegill (*Lepomis macrochirus*), warmouth (*Lepomis gulosus*), flier (*Centrarchus macropterus*), pumpkinseed (*Lepomis gibbosus*), yellow perch (*Perca flavascens*), crappie (*Proxomis* sp.), mosquitofish (*Gambusia affinis*), shiners (*Notropis* spp.), and carp (*Cyprinus carpio*). The Grimesland Mitigation Report concludes that since the ponds have no connection to area streams and are not stocked, the fish species likely have been introduced through major flood events associated with the Tar River.

Agency representatives from the Division of Marine Fisheries (DMF), National Marine Fisheries Service (NMFS) and the NCWRC were contacted for comments related to project construction and requested moratoriums on in-water work. The project should comply with the NCDOT policy entitled "Stream Crossing Guidelines for Anadromous Fish Passage". All agency representatives requested a moratorium on in-water construction and demolition beginning on February 15. The NMFS extended the moratorium to June 1, the NCWRC to June 15, and the DMF to June 30 (Appendix D).

4. Anticipated Impacts to Biotic Communities

a. Terrestrial Communities and Wetlands

Table 1.1 shows impacts to terrestrial communities and wetlands. The amount of wetlands that are impacted within each terrestrial community is indicated in bold letters.

The Man-Dominated Community has the largest amount of impacts for each alternative; however, this community is already highly altered from human disturbance. For this reason, the impacts are not considered substantial in terms of degrading habitat quality in the project area or in terms of types of vegetation that will be impacted.

On-site wetland restoration is available for all alternatives. Estimated amounts are provided in Table 1.1. All alternatives involve removal of the existing road and fill located between the two current bridges. A single bridge will replace the current bridges and road. The existing road and fill will be restored to wetlands for on-site mitigation. SR 1566 (Seine Beach Road) will also be removed and restored.

TABLE 1.1
ANTICIPATED IMPACTS TO TERRESTRIAL COMMUNITIES AND WETLANDS

Bridge Nos. 127 & 129	Alternative 2 (Preferred) acres (hectares)	Alternative 3 acres (hectares)
Man-Dominated Community (Total) **(Wet)**	4.670 (1.89) **0.00 (0.00)**	4.620 (1.87) **0.00 (0.00)**
Mesic Mixed Hardwood Forest (Coastal Plain Subtype) (Total) **(Wet)**	0.70 (0.28) **0.00 (0.00)**	0.38 (0.15) **0.00 (0.00)**
Coastal Plain Bottomland Hardwoods (Brownwater Subtype) (Total) **(Wet)**	0.66 (0.27) **0.30 (0.12)**	0.84 (0.34) **0.44 (0.18)**
Cypress-Gum Swamp (Brownwater Subtype) (Total) **(Wet)**	0.443 (0.18) **0.433 (0.18)**	0.313 (0.13) **0.193 (0.08)**
Planted Pine Stand (Total) **(Wet)**	0.00 (0.00) **0.00 (0.00)**	0.45 (0.18) **0.00 (0.00)**
Coastal Plain Small Stream Swamp (Blackwater Subtype) (Total) **(Wet)**	0.40 (0.16) **0.40 (0.16)**	0.41 (0.17) **0.40 (0.16)**
Total Wetland Impacts	**1.133 (0.46)**	**1.033 (0.42)**
Impacts to Mitigation Site Wetlands	**0.73 (0.30)**	**0.63 (0.26)**
Total Wetlands Available for Restoration	**3.14 (1.27)**	**3.10 (1.26)**

NOTES:

- Terrestrial community and wetland impacts were calculated to 10 feet (3 meters) outside slope stakes, or to the proposed right-of-way. Wetland figures include the footprint of the support structures of the replacement bridge. Assumptions are for 6 14-H piles per pier on land.
- Instances where decimal points were taken to the 3rd or 4th place include calculations associated with the bridge piers. This was necessary due to the small amount of area associated with the piers. Calculations not including piers were not taken to the 3rd place to ensure the level of accuracy was not misrepresented.
- Actual impacts may be less than those indicated. Calculations were based on the worst-case scenario.
- **Bold Black** denotes wetland impacts within that community.

b. Aquatic Communities

Table 1.2 shows impacts to surface waters, both in terms of area and linear impacts for each Alternative. Both the Tar River, and the unnamed tributary located south of the Tar River will be impacted by the Alternatives. The figures shown for the Tar River are derived by estimating the footprint of the replacement bridge piers in the water. The impacts shown for the unnamed tributary are associated with extension of the existing pipes. Linear impacts were calculated by finding the width of the replacement structure over the river, or by considering fill associated with the unnamed tributary.

TABLE 1.2
ANTICIPATED IMPACTS TO SURFACE WATERS

Bridge Nos. 127 & 129	**Alternative 2** (Preferred)	**Alternative 3**
Tar River acres (hectares)	0.0006 (0.0002)	0.0006(0.0002)
Tar River linear feet (meters)	30 (9.14)	30 (9.14)
Unnamed Tributary acres (hectares)	0.06 (0.02)	0.06 (0.02)
Unnamed Tributary linear feet (meters)	170 (51.8)	170 (51.8)

NOTES:

- Surface water impacts for the Tar River were calculated by estimating the footprint of the replacement bridge piers in the water. Assumptions include 3 drilled piles per pier in water with spans 100 feet (30 meters) Surface water impacts for the tributary represent the extension of the existing pipes.
- Actual impacts may be less than those indicated. Calculations were based on the worst-case scenario.

E. SPECIAL TOPICS

1. "Waters of the United States": Jurisdictional Issues

Wetlands and surface waters fall under the broad category of "waters of the United States" as defined in 33 CFR §328.3 and in accordance with provisions of Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344). Waters within the banks of Tar River and the unnamed tributary south of the river are considered jurisdictional as waters of the United States and are regulated by the USACE. The Grimesland Mitigation Site report states that since ponds on the site were excavated from historic uplands and do not connect to streams, the Wilmington District Corps of Engineers has determined that they are nonjurisdictional resources with respect to Section 404 of the CWA and Section 10 of the Rivers and Harbors Act of 1899.

Investigation into wetland occurrence in the project study area was conducted using methods of the 1987 USACE Wetlands Delineation Manual. Wetlands were found within the study corridor east and west of SR 1565 north of the Tar River, and adjacent to the unnamed tributary east and west of SR 1565. The wetland boundaries were flagged and GPS surveyed, and data forms and maps were sent to the USACE to request a jurisdictional determination. A Notification of Jurisdictional

Determination dated September 18, 2002, was received from the USACE, which approved the delineated boundaries (Appendix D).

2. Permits

In accordance with Section 404 of the Clean Water Act (CWA) (33 U.S.C. 1344.), a permit is required from the USACE for projects of this type for the discharge of dredged or fill material into waters of the United States. The USACE issues two types of permits for these activities. A general permit may be issued on a nationwide or regional basis for a category or categories of activities when: those activities are substantially similar in nature and cause only minimal individual and cumulative environmental impacts, or when the general permit would result in avoiding unnecessary duplication or regulatory control exercised by another federal, state, or local agency. This is provided that the environmental consequences of the action are individually and cumulatively minimal. If a general permit is not appropriate for a particular activity, then an individual permit must be utilized. Individual permits are authorized on a case-by-case evaluation of a specific project involving the proposed discharges.

This project is being processed as a Categorical Exclusion (CE) under Federal Highway Administration (FHWA) guidelines. The COE has made available Nationwide Permit (NWP) No. 23 (67 FR 2020-2095, January 15, 2002) for CEs due to minimal impacts expected with bridge construction. DWQ has made available a General 401 Water Quality Certification for NWP No. 23. However, authorization for jurisdictional area impacts through use of this permit will require written notice to DWQ. In the event that NWP No. 23 will not suffice, minor impacts attributed to bridging and associated approach improvements are expected to qualify under General Bridge Permit 031 issued by the Wilmington COE District.

A Section 401 Water Quality Certification from the state is necessary for projects that require Section 404 Permits. The state has General Certifications which will match the permit type authorized by the USACE. Although a single form is utilized to request both the 404 Permit and the 401 Certification, the state must issue the 401 Certification before the USACE will issue the 404 Permit. Written concurrence/notification is not always required by the state, and varies depending upon the General Certification.

The United States Coast Guard (USCG) is responsible for authorizing bridges pursuant to Section 9 of the Rivers and Harbors Act of 1899 and the General Bridge Act of 1946. The purpose of these Acts is to preserve the public right of navigation and to prevent interference with interstate and foreign commerce. Bridge construction or replacement over navigable waters may require USCG authorization pursuant to 33 CFR 114-115. The United States Coast Guard has noted that Bridge No. 129 will require a Coast Guard Permit (Appendix D).

If no practical alternative exists to remove the current bridges other than to drop them into the water prior to removal of debris off-site, fill related to demolition procedures will need to be considered during the permitting process. A worst-case scenario will be assumed with the understanding that if there is any other practical method available, the bridges will not be dropped into the water. Any permit needed for bridge construction will address issues related to bridge demolition.

3. Riparian Buffer Protection Rules for the Tar-Pamlico River Basin

Since this project is within the Tar-Pamlico River Basin, it is subject to NCDENR riparian buffer rules (15A NCAC 2B.0259). These rules were developed to protect and preserve existing riparian buffers and are part of larger nutrient reduction strategies for the basin.

The buffer rules require that up to 50 feet (15 meters) in width of riparian area be protected and maintained on the banks of waterways in the basin. The rules do not apply to portions of the riparian buffer where a use is existing and ongoing as of January 1, 2000. Existing uses include transportation facilities. It should be noted that only the portion of the buffer that contains the footprint of the existing use is exempt.

Activities in the buffer area beyond the footprint of the existing use are classified as either "exempt", "allowable", "allowable with mitigation", or "prohibited". The following chart of activities that may be subject to buffer rules within the study area is provided along with activity classifications. Depending upon project alternatives, not all of the uses listed may apply, and other uses not listed here, such as utility crossings and roadside drainage ditches, among others, may be regulated under the buffer rules. Guidelines should be consulted in entirety to review all project related uses subject to the buffer rules.

USE	Exempt	Allowable	Allowable With Mitigation	Prohibited
Bridges		X		
Road crossings that impact less than or equal to 12 linear meters (40 linear ft.)	X			
Road crossings that impact greater than 12 linear meters (40 linear ft.) but less than or equal to 46 linear meters (150 linear ft.) or 0.13 hectares (0.33 acres) of riparian area		X		
Road crossings that impact greater than 46 linear meters (150 linear ft.) or greater than 0.13 hectares (0.33 acres) of riparian buffer			X	
Temporary roads used for bridge construction or replacement provided that restoration activities such as soil stabilization and revegetation occur immediately after construction		X		

Chart Notes: Activities deemed "exempt" should be designed, constructed, and maintained to minimize soil disturbance and to provide the maximum water quality protection practicable. "Allowable" activities may proceed within the riparian buffer provided that there are no practical alternatives to the requested use. Written authorization from the DWQ or delegated local authority is required. Activities deemed "allowable with mitigation" may proceed within the riparian buffer if there are no practical alternatives to the requested use and an appropriate mitigation strategy has been approved. Written authorization from the DWQ or delegated local authority is required. "Prohibited" activities, none of which are listed above, may not proceed within the riparian buffer unless a variance is granted from the DWQ or delegated local authority.

Anticipated buffer impacts for this project are provided below. Buffer impacts have been minimized to the greatest extent practicable by bridging the entire buffer zone on both sides of the Tar River. The buffer impacts for the Tar River represent the estimated footprint of the replacement bridge piers within the buffer zone. Buffer impacts related to the unnamed tributary south of the river were calculated to 10 feet (3 meters) past slope stakes, or to the proposed right-of-way.

The buffer impacts are broken out in this section for clarity, however, note that these impacts are included within the community impacts presented in Tables 1.1 and 1.2. The entire buffer impacts associated with the unnamed tributary occurs in the Coastal Plain Small Stream Swamp wetland community. Buffer impacts related to the Tar River occur in wetlands and non-wetlands. In

Alternatives 2 and 3, approximately ½ of the Tar River buffer impacts occur in Cypress-Gum Swamp wetlands, and ½ occur in the Man-Dominated community, which is non-wetland.

Table 1.3 Estimated Buffer Impacts, Tar River		
	Alternative 2 (Preferred) acres (hectares)	**Alternative 3 acres (hectares)**
Zone A	0.0004 (0.0002)	0.0004 (0.0002)
Zone B	0.00 (0.00)	0.00 (0.00)
Total	0.0004 (0.0002)	0.0004 (0.0002)

Table 1.4 Estimated Buffer Impacts, Unnamed Tributary		
	Alternative 2 (Preferred) acres (hectares)	**Alternative 3 acres (hectares)**
Zone A	0.123 (0.050)	0.123 (0.050)
Zone B	0.092 (0.037)	0.092 (0.037)
Total	0.215 (0.087)	0.215 (0.087)

4. Avoidance and Minimization

Avoidance and minimization was performed on this project as a means to further reduce damage to the environment and local communities. Direct impacts have been avoided to the maximum extent possible during the preliminary design stage. For avoidance and minimization, the following measures will be accomplished:

1. The existing bridges of 512 feet (156 meters) and 359 feet (109 meters) will be replaced with a single structure on new alignment west of the existing bridges approximately 1,940 feet (591 meters) in length.

2. The portion of SR 1566 (Seine Beach Road) maintained by NCDOT will be removed and restored to wetlands. All portions of the existing embankment for SR 1565 adjacent to wetlands (north side of Tar River) and not utilized in the new facility will be removed and the area restored to wetlands or buffer as appropriate. The buffer area on the south side of the Tar River will be restored by plantings after removal of the existing river bridge.

3. Work bridges will be utilized in the construction of the new structure across wetlands. To the extent practicable, work bridges will be located between the new bridge and the existing roadway embankment to minimize disturbance of the adjacent wetlands. Construction in open water will be from work bridges or barges.

4. The project will be designed and constructed in accordance with the Riparian Buffer Protection Rules for the Tar-Pamlico River Basin. The new bridge will completely span the riparian buffers [50 feet (15 meters)] on either side of the Tar River.

5. To avoid and/or minimize impacts to anadromous fish, the "Stream Crossing Guidelines for Anadromous Fish Passage" will be followed including an in-stream construction moratorium of February 15 to September 30.

6. The 2003 USFWS Manatee Guidelines for construction activities in aquatic areas will be utilized to the maximum extent practicable.

5. Mitigation

The USACE has adopted through the Council on Environmental Quality (CEQ) a wetland mitigation policy which embraces the concept of "no net loss of wetlands". The purpose of this policy is to restore and maintain the chemical, biological, and physical integrity of waters of the United States, specifically wetlands. Mitigation of wetland impacts has been defined by the CEQ to include: avoiding impacts to wetlands, minimizing impacts, and rectifying impacts (40 CFR 1508.20). Each of these three aspects (avoidance, minimization, and compensatory mitigation) must be considered sequentially.

The USACE usually requires compensatory mitigation for activities authorized under Section 404 of the Clean Water Act if unavoidable impacts to waters of the United States total more than 0.10 acre (0.04 hectare).

The DWQ may require compensatory mitigation for activities if unavoidable impacts to waters of the United States total more than 1/3 acre (0.13 hectares) of wetlands or buffers and/or 150 linear feet (45.7 linear meters) of stream.

According to estimates, impacts to waters of the United States do not exceed 0.10 acre (0.04 hectare) for all Alternatives. Surface water impacts on an area basis will not exceed USACE or DWQ thresholds for mitigation. Linear stream impacts to the Tar River are also beneath the thresholds stated above. Linear impacts exceed 150 feet (45.7 meters) on the unnamed tributary for Alternatives 2 (preferred) and 3.

All Alternatives involve closing SR 1566. It may be possible to obtain on-site mitigation for linear impacts and buffer impacts by restoring the riparian area along the Seine Beach recreational property.

F. Rare and Protected Species

Some populations of plants and animals have been or are in the process of decline due either to natural forces or many other factors such as habitat destruction and introduced species competition. Federally protected species and Federal Species of Concern listed for Pitt County, and any likely impacts to these species as a result of the proposed project construction are discussed in the following sections. Previous investigations have been relied upon for some information and conclusions.

1. Federally Protected Species

Plants and animals with federal classifications of Endangered (E), Threatened (T), Proposed Endangered (PE), and Proposed Threatened (PT) are protected under provisions of Section 7 and

Section 9 of the Endangered Species Act of 1973, as amended. The USFWS reports four federally protected species for Pitt County as of February 25, 2003 (search performed 7/8/04 at http://nc-es.fws.gov/es/cntylist/pitt.html) (Table 2).

TABLE 2
FEDERALLY PROTECTED SPECIES IN PITT COUNTY

Scientific Name Common Name	**Status**
Trichechus manatus (West Indian Manatee)	**E**
Picoides borealis (Red-cockaded woodpecker)	**E**
Haliaeetus leucocephalus (Bald eagle)	**T (PDL)**
Elliptio steinstansana (Tar spinymussel)	**E**

TABLE 2 NOTES:

E Endangered. A species that is in danger of extinction throughout all or a significant portion of its range.

T Threatened. A species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.

PDL Proposed for Delisting.

Species: West Indian manatee
Family: Trichechidae
Date Listed: March 11, 1967, June 2, 1970

The manatee is a large gray or brown aquatic mammal averaging 10 feet (3 meters) in length and 1,000 pounds (453.6 kilograms) in weight. The body is flattened horizontally and rounded, and is covered sparsely with hairs.

Manatees inhabit salt and fresh water areas throughout their range. They may be found in habitats such as canals, rivers, estuarine areas, and saltwater bays. Manatees feed upon aquatic vegetation and occasionally fish.

BIOLOGICAL CONCLUSION: MAY AFFECT - NOT LIKELY TO ADVERSELY AFFECT

It is possible that manatees could occur within the project area. No occurrences have been recorded in the area by the NCNHP. The USFWS has developed recommendations for construction activities in aquatic areas where the manatee is likely to occur. Recommendations include advising construction personnel of requirements if a manatee is sighted within the project area, contacting appropriate agencies if the animal is found to be present and posting in all

vessels warnings and contacts. Although it cannot be concluded that the manatee will not occur in the project area, if construction guidelines pertaining to the above recommendations are followed, this project is not likely to adversely affect the species.

Species: Red-cockaded woodpecker
Family: Picidae
Date Listed: 10/13/70

The red-cockaded woodpecker is a small bird, 7 to 8 inches (18 to 20 centimeters) in length, with black and white horizontal stripes on its back, a black cap and large white cheek patch. The male has a small red spot or "cockade" behind the eye.

The preferred nesting habitat of this woodpecker is open stands of pines with a minimum age of 60 to 120 years. Longleaf pines (*Pinus palustris*) are preferred for nesting, however other mature pines such as loblolly (*Pinus taeda*) may be used. Typical nesting areas, or territories, are pine stands of approximately 200 acres (81 hectares), however, nesting has been reported in stands as small as 60 acres (24 hectares). Preferred foraging habitat is pine and pine-hardwood stands of 80 to 125 acres (32 to 50 hectares) with a minimum age of 30 years and a minimum diameter of 10 inches (25 centimeters). The red-cockaded woodpecker utilizes these areas to forage for food sources such as ants, beetles, wood-boring insects, and caterpillars, as well as seasonal wild fruit.

BIOLOGICAL CONCLUSION: NO EFFECT

There is one pine stand within the study area. The trees are not old enough to provide adequate nesting habitat for the woodpecker, and the stand is much smaller than the ranges noted above for nesting and foraging preferences. NCNHP shows no recorded occurrence of this species within one mile of the project area. This project will not affect red-cockaded woodpecker.

Species: Bald eagle
Family: Accipitridae
Date Listed: 3/11/67 (E), 7/12/95 (T)

The bald eagle is a large bird, 32 to 43 inches (80 to 109 centimeters) in length, with a wingspan of more than 6 feet (2 meters). Adults are dark brown with a white head and tail, and immatures are brown and irregularly marked with white until their fourth year.

Bald eagles typically nest in the top of the tallest living tree in an area with a clear view of open water. Nest size may measure 6 feet (2 meters) across and up to 6 feet (2 meters) in depth. The species may be seen around lakes and rivers throughout the inland portions of North Carolina, as well as along the coast. A large portion of the eagle's diet often consists of fish, but it also feeds on small mammals, reptiles, and other birds.

BIOLOGICAL CONCLUSION: MAY AFFECT - NOT LIKELY TO ADVERSVELY AFFECT

Investigators feel that the Tar River and nearby ponds will provide adequate foraging habitat for this species, and that there are mature trees present that could provide nesting sites. In addition, the Grimesland Mitigation Site report notes one sighting of an eagle foraging along the Tar River in the study area. Investigators surveyed for eagle nests in areas of potential impact during field investigations for the report, and did not note any occurrences. All portions of the study area were walked and visually surveyed to look for nests. Although foraging and nesting habitat is present in the project area for this species, the project is not expected to eliminate or degrade habitat in the general area such that the species would be negatively affected. It is recommended that the area be surveyed again prior to construction, to make sure that no eagles have begun to nest in an area of potential impact.

Species: Tar spinymussel
Family: Unionidae
Date Listed: 7/29/85

The Tar spinymussel measures approximately 2.5 inches (6.4 centimeters) in length. The outer shell surface of young specimens is orange-brown with greenish rays. Adults are darker colored with inconspicuous rays. The inner shell color is yellow or pinkish at one end and bluish-white at the other. Juveniles may have up to 12 spines, which they tend to lose as they mature.

This species lives in relatively silt-free uncompacted gravel or coarse sand in fast-flowing, well oxygenated stream reaches. It feeds by siphoning and filtering small food particles that are suspended in the water. The Tar spinymussel is found in association with other mussels but it is never very numerous. The known population of this species is estimated to contain 100 to 500 individuals. The Tar spinymussel is often located in the central channel of the river.

BIOLOGICAL CONCLUSION: NO EFFECT

Preferred habitat for this species does not exist within the study area, and there are no recorded occurrences of this species within the study area or vicinity. A certified biologist visited the project site on September 12, 2001, and found no habitat present for this species. This stretch of the river was surveyed by NCWRC in the late 1980s, and no freshwater mussels were found. Given the site assessment and previous survey results it is apparent that the Tar Spinymussel does not occur in the project area. It can be concluded that project construction will not impact this species.

2. Federal Species of Concern

Federal Species of Concern (FSC) are not legally protected under the Endangered Species Act and are not subject to any of its provisions, including Section 7, until they are formally proposed or listed as Threatened or Endangered. Species designated as FSC are defined as taxa which may or may not be listed in the future. These species were formerly Candidate 2 (C2) species or species under consideration for listing for which there is insufficient information to support listing.

Some of these species are listed as Endangered, Threatened, or Special Concern by the NCNHP list of Rare Plant and Animal Species and are afforded state protection under the State Endangered Species Act and the North Carolina Plant Protection and Conservation Act of 1979. Table 3 provides the Federal Species of Concern in Pitt County and their state classifications (search performed 6/9/03, list updated May 2003, http://www.ncsparks.net/nhp/element.html).

On occasion, NCNHP records differ from USFWS records. Sometimes a species may be listed by one agency and not the other, or there may be discrepancies in whether the species record is considered Historic or Obscure. The USFWS listing is deferred to in this report for species spellings and listing as FSCs. Both agency records are noted in the table regarding Historic and Obscure status.

TABLE 3
NORTH CAROLINA STATUS OF FEDERAL SPECIES OF CONCERN IN PITT COUNTY

Scientific Name (Common Name)	North Carolina Status	Habitat Present
Ammodramus henslowii (Henslow's sparrow)	SR	No
Heterodon simus*+ (Southern hognose snake)	SC	No
Lasmigona subviridis (Green Floater)	E	Yes
Lythrurus matutinus+ (Pinewoods shiner)	SR	Yes
Fusconaia masoni✦ (Atlantic pigtoe)	E	No
Lampsilis cariosa✦ (Yellow lampmussel)	E	Yes
Noturus furiosus ("Neuse" madtom)	SC (PT)	Yes
Procambarus medialis* (Tar River crayfish)	NL	Yes
Tofieldia glabra (Carolina asphodel)	NL	No

TABLE 3 NOTES:

*	Historic record at USFWS. Last observed in the county more than 50 years ago.
+	Obscure record at NCNHP. Date last observed in the county is uncertain.
✦	Historic record at NCNHP. Last observed in the county more than 20 years ago.
SR	Significantly Rare. A species in need of population monitoring and conservation action.
SC	Special Concern. Requires monitoring but may be collected/taken and sold under certain regulations.
E	Endangered. A species whose continued existence as a viable component of the state's flora or fauna is determined to be in jeopardy.
NL	Not Listed by the State.
PT	Proposed Threatened.

3. Summary of Anticipated Impacts

Wetlands will be impacted by all of the proposed alternatives. Effort has been made to minimize these impacts by bridging wetlands and riparian buffers where possible. On-site wetland restoration is available for all alternatives through removal of the existing roadbed and embankment.

Although a bald eagle was noted foraging in the project area by previous investigators, no eagle nests have been found within areas of potential impact. This project is not expected to adversely affect any federally protected species.

VI. CULTURAL RESOURCES

A. Compliance Guidelines

This project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implemented by the Advisory Council on Historic Preservation's Regulations for Compliance Section 106, codified at 36 CFR Part 800. Section 106 requires Federal agencies to take into account the effect of their undertakings (federally funded, licensed, or permitted) on properties included in or eligible for inclusion in the National Register of Historic Places, and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings.

B. Historic Architecture

A field survey of the Area of Potential Effects (APE) was conducted on July 2, 1999. All structures within the APE were photographed, and later reviewed by the North Carolina State Historic Preservation Office (HPO).

In a concurrence form dated August 16, 2001 the State Historic Preservation Officer (SHPO) concurred in the eligibility of Bridge No. 129 for the National Register and that the replacement of Bridge No. 129 over the Tar River will have an adverse effect on the National Register eligible property since the existing bridge will be removed. Mitigation for the adverse effects to Bridge No. 129 is discussed in Section VII and XI, Programmatic 4(f) Evaluation. A copy of the concurrence form is in Appendix A.

In accordance with Section 106 of the National Preservation Act, since the alternatives will have an adverse effect on Bridge No. 129, the HPO, NCDOT, and FHWA entered into a Memorandum of Agreement (MOA), Appendix A.

C. Archaeology

The SHPO, in a letter dated July 3, 2003, the HPO "recommended that a comprehensive survey be conducted by an experience archaeologist to identify and evaluate the significance of any archaeological remains that may be damaged or destroyed by the proposed project." An archaeological survey and evaluation for the proposed project was completed in March 2004 in compliance with Section 106 of the National Historic Preservation Act and the guidelines issued by the Advisory Council of Historic Preservation.

Previously recorded site 31PT6&6** was revisited and subjected to evaluative testing. It revealed a possible intact Early to Middle Woodland component that may expand our knowledge and understanding of the specific cultural phenomena in the coastal plain region of North Carolina and was recommended as eligible to the National Register of Historic Places. The SHPO concurred that site 31PT6&6** as eligible to the National Register of Historic Places under Criterion D. A

Memorandum of Agreement and data recovery plan will be prepared and implemented, as necessary for archaeology.

VII. SECTION 4(F) RESOURCES

Bridge No. 129 was determined eligible for listing on the National Register under Criterion C for engineering technology as one of only four Warren thru trusses functioning as swing-spans in North Carolina. The bridge demonstrates the innovation associated with NCDOT's truss bridge reuse in the early 1950s.

Bridge No. 129 is one of six swing-span trusses remaining in the NCDOT's bridge system. Bridge No. 129 was built in 1931 by the Roanoke Iron and Bridge Works. It originally spanned the Neuse River between New Bern and Bridgeton. In 1951 Bridge No. 129 was dismantled and stored for use as the swing-span of the new bridge on SR 1565 over the Tar River near Grimesland. The new bridge was completed in 1954. The swing-span is manually operated and opened upon twenty-four hour notice.

Since this project necessitates the use of a historic bridge and meets the criteria set forthin the Federal Register (July 5, 1983), a programmatic Section 4(f) evaluation satisfies the requirements of Section 4(f).

The following alternatives, which avoid use of the historic bridge, have been fully evaluated: (1) do nothing; (2) build a new structure at a different location without affecting the historic integrity of the structure, as determined by procedures implementing the National Historic Preservation Act; and (3) rehabilitate the historic bridge without affecting the historic integrity of the structure, as determined by procedures implementing the National Historic Preservation Act. These alternatives were not found to be feasible and prudent.

All possible planning to minimize harm to the historic bridge have been incorporated into this project. Measures to minimize harm include:

1. Photodocumentation
2. Reuse in New Location
3. Advertisement

This project has been coordinated with the SHPO whose correspondence is included in Appendix A. Section 106 has been resolved and documented in the form of a MOA between FHWA, NCDOT, and HPO. The SHPO concurs with the proposed mitigation.

Approval of the Programmatic Section 4(f) Evaluation by the Federal Highway Division Administrator is included in Section XI of this document.

VIII. ENVIRONMENTAL EFFECTS

The project is expected to have an overall positive impact. Replacement of inadequate bridges will result in safer traffic operations.

The project is a Federal "Categorical Exclusion" due to its limited scope and lack of significant environmental consequences.

The bridge replacement will not have an adverse effect on the quality of the human or natural environment with the use of current NCDOT standards and specifications.

The project is not in conflict with any plan, existing land use, or zoning regulation. No significant change in land use is expected to result from construction of the project.

No adverse impact on communities is anticipated. Right of way acquisition will be limited. Two relocations of residents or businesses are expected with implementation of the proposed alternative.
It is the policy of the NCDOT to ensure that comparable replacement housing will be available prior to the construction of state and federally assisted projects. Furthermore, the North Carolina Board of Transportation has the following three programs to minimize the inconvenience of relocation:

- Relocation Assistance,
- Relocation Moving Expenses Payment, and
- Relocation Replacement Housing Payments or Rent Supplement.

With the Relocation Assistance Program, experienced NCDOT staff will be available to assist displaces with information such as availability and prices of homes, apartments, or businesses for sale or rent and financing or other housing programs. The Relocation Moving Payments Program, in general, provides for payment of actual moving expenses encountered in relocations. Where displacement will force an owner or tenant to purchase or rent property of higher cost or to lose a favorable financing arrangement (In cases of ownership), the Relocation Replacement Housing Payments or Rent Supplement Program will compensate up to $22,500 to owners who are eligible and qualify and up to $5,250 to tenants who are eligible and qualify.

The Relocation Assistance Program for the proposed action will be conducted in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Act of 1970 (Public Law 91-646), and the North Carolina Relocation Assistance Act (GS-133-5 through 133-17). The program is designed to provide assistance to displaced persons in relocation to a replacement site in which to live or do business. At least one relocation officer is assigned to each highway project for this purpose.

The relocation officer will determine the needs of the displaced families, individuals, businesses, non-profit organizations, and farm operations for relocation assistance advisory services without regard to race, color, religion, sex, or national origin. The NCDOT will schedule its work to allow ample time, prior to displacement, for negotiations and possession of replacement housing that meets decent, safe, and sanitary standards. The displacees are given at least a 90-day written notice after NCDOT purchases the property. Relocation of displaced persons will be offered in areas not generally less desirable in regard to public utilities and commercial facilities. Rent and sale prices of replacement property will be within the financial means of the families and individuals

displaced, and will be reasonable accessible to their places of employment. The relocation officer will also assist owners of displaced businesses, non-profit organizations, and farm operations in searching for and moving to replacement property.

All tenant and owner residential occupants who may be displaced would receive and explanation regarding all available options, such as (1) purchase of replacement housing, (2) rental of replacement housing, either private or public, or (3) moving existing owner-occupant housing to another site (if possible). The relocation officer will also supply information concerning other state or federal programs offering assistance to displaced persons and will provide other advisory services as needed in order to minimize hardships to displaced persons in adjusting to a new location.

The Moving Expenses Payment Program is designed to compensate the displace for the costs of moving personal property form homes, businesses, non-profit organizations, and farm operations acquired for a highway project. Under the Replacement Program for Owners, NCDOT will participate in reasonable incidental purchase payments for replacement dwellings, such as attorney's fees, surveys, appraisals, and other closing costs and, if applicable, make a payment for any increased interest expenses for replacement dwellings. Reimbursement ot owner–occupants for replacement housing payments, increased interest payments, and incidental purchase expenses may not exceed $22,500 (combined total), except under the Last Resort Housing provision.

A displaced tenant may be eligible to receive payment, not to exceed $5,250, to rent a replacement dwelling or to make a down payment, including incidental expenses, on the purchase of a replacement dwelling. The down payment is based upon what the state determines is required when the rent supplement exceeds $5,250.

It is a policy of the state that no person will be displaced by NCDOT's state or federally-assisted construction projects unless and until comparable replacement housing has been offered or provided each displacee with in a reasonable period of time prior to displacement. No relocation payment received will be considered as income for the purposes of the Internal Revenue Code of 1954 or for the purposes of determining eligibility or the extent of eligibility of any person for assistance under the Social Security Act or any other federal law.

Last Resort Housing is a program used when comparable replacement housing is not available, or when it is unavailable with in the displacee's financial means, and the replacement payment exceeds the federal/state legal limitation. The purpose of the program is to allow broad latitudes in methods of implementation by the state so that decent, safe, and sanitary replacement housing can be provided. This program would be implemented, if necessary, as mandated by state law.

In compliance with Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations) a review was conducted to determine whether minority or low-income populations were receiving disproportionately high and adverse human health or environmental impacts as a result of this project. The investigation determined the project would not disproportionately impact any minority or low-income populations.

No adverse effect on public facilities or services is anticipated. The project is not expected to adversely affect social, economic, or religious opportunities in the area.

There are no publicly owned recreational facilities, or wildlife and waterfowl refuges of national, state, or local significance in the vicinity of the project.

The Farmland Protection Policy Act requires all federal agencies or their representatives to consider the potential impacts to prime and important farmland soils by all land acquisition and construction projects. Prime and important farmland soils are defined by the Natural Resources Conservation Service (NRCS). Since the proposed bridge will be replaced at the existing location the Farmland Protection Policy does not apply.

The project is located in Pitt County, which has been determined to be in compliance with the National Ambient Air Quality Standards. 40 CFR Parts 51 and 93 are not applicable, because the proposed project is located in an attainment area. This project is not anticipated to create any adverse effects on the air quality of this attainment area.

This project is an air quality "neutral" project, so it is not required to be included the regional emission analysis (if applicable) and a project level CO analysis is not required.

The traffic volumes will not increase or decrease because of this project. The project's impact on noise and air quality will not be substantial.

Noise levels could increase during construction but will be temporary. If vegetation is disposed of by burning, all burning shall be done in accordance with applicable local laws and regulations of the North Carolina SIP for air quality in compliance with 15 NCAC 2D.0520. This evaluation completes the assessment requirements for highway traffic noise (23 CFR Part 772) and for air quality (1990 CAAA and NEPA) and no additional reports are required.

A field reconnaissance survey was conducted in the vicinity of the existing bridges for hazardous waste sites. In addition to a field survey, a file search of appropriate environmental agencies was conducted to identify any know problem sites along the proposed project alignment. No facilities with the possibility of underground storage tanks, regulated or unregulated landfills or dumpsites were identified in the vicinity of the project.

Pitt County is participating in the National Flood Insurance Regular Program. This project site on the Tar River is within a detailed study area with an established floodway. However, it is not anticipated that a floodway modification will be required since the bridge will be an "in kind" replacement. Since the proposed bridge will lengthen the waterway opening and the existing 100 year flood overtops the existing roadway, it is not anticipated that this project will have any substantial impact on the existing floodplain or floodway. Attached is a copy of the Flood Insurance Rate Map, Figure 7, on which are shown the approximate limits of the 100-year flood plain in the vicinity of the project.

On the basis of the above discussion, it is concluded that no substantial adverse environmental effects will result from implementation of the project.

IX. PUBLIC INVOLVEMENT

Efforts were undertaken early in the planning process to contact local officials and residents to involve them in the project development. Two Local Officials Meetings and two Citizens Informational Workshops were held at the G. R. Whitfield Elementary School on May 14, 2002 and April 8, 2003 where preliminary alternatives were reviewed and discussed with local officials and concerned citizens.

At the first Citizen's Informational Workshop approximately 35 citizens attended the workshop and six comment sheets were received at the workshop.

At the second Citizens Informational Workshop approximately 34 citizens attended the workshop. An aerial showing the functional design of the preferred Alternative 2 was displayed, along with the aerial of the three alternatives shown at the May 14, 2002 workshop. One comment sheet was received at the workshop supporting the preferred alternative. Most people at the workshop supported the preferred alternative.

X. AGENCY COORDINATION

Coordination with federal, state, and environmental resource agencies started early in the project development to insure quality decision-making. These agencies reviewed, evaluated, and concurred with the FHWA and NCDOT on all major project decisions (Appendix C). The following four "concurrence" points have been achieved.

Concurrence Point 1: The purpose of and need for the project is approved by the environmental resource agencies before the project can proceed.

Concurrence Point 2: The identification of alternatives for detailed study is based on potential effects on cultural resources, the human environment and the natural environment.

Concurrence Point 3: Selection of the Least Environmentally Damaging Practicable Alternative (LEDPA) or preferred alternative.

Concurrence Point 4A: The avoidance and minimization techniques that are incorporated in the design of the LEPDA.

XI. PROGRAMMATIC SECTION 4(F) EVALUATION

NORTH CAROLINA DIVISION
FINAL NATIONWIDE SECTION 4(f) EVALUATION AND APPROVAL
FOR FEDERALLY-AIDED HIGHWAY PROJECTS
THAT NECESSITATE THE USE OF HISTORIC BRIDGES

F. A. Project BRSTP-1564(4)

State Project 8.2221101

T. I. P. No . B-3684

Description:

Replacement of Bridge No. 129 over the Tar River and Bridge No. 127 over the Tar River Overflow on SR 1565 in Pitt County. Bridge No. 129 is eligible for listing in the National Register of Historic Places.

		Yes	No
1.	Is the bridge to be replaced or rehabilitated with Federal Funds?	X	
2.	Does the project require the use of a historic bridge structure which is on or eligible for listing on the National Register of Historic Places?	X	
3.	Is the bridge a National Historic Landmark ?		X
4.	Has agreement been reached among the FHWA, the State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP) through procedures pursuant to Section 106 of the National Historic Preservation Act (NHPA)?	X	

ALTERNATIVES CONSIDERED AND FOUND NOT TO BE FEASIBLE AND PRUDENT

The following alternatives were evaluated and found not to be feasible and prudent:

		Yes	No
1.	Do nothing		
	Does the "do nothing" alternative:		
	a. correct the problem situation that caused the bridge to be considered deficient?		X
	b. pose serious and unacceptable safety hazards?	X	

	Yes	No
2. Build a new structure at a different location without affecting the historic integrity of the structure.	X	

a. The following reasons were reviewed:
(circle, as appropriate)

(i) The present bridge has already been located at the only feasible and prudent site

and/or (ii) Adverse social, environmental, or economic impacts were noted

and/or (iii) Cost and engineering difficulties reach extraordinary magnitude

and/or (iv) The existing bridge cannot be preserved due to the extent of rehabilitation, because no responsible party will maintain and preserve the historic bridge, or the permitting authority requires removal or demolition.

3. Rehabilitate the historic bridge without affecting the historic integrity of the structure.	X	

a. The following reasons were reviewed:
(circle, as appropriate)

(i) The bridge is so structurally deficient that it cannot be rehabilitated to meet the acceptable load requirements and meet National Register criteria

and/or (ii) The bridge is seriously deficient geometrically and cannot be widened to meet the required capacity and meet National Register criteria

MINIMIZATION OF HARM

	Yes	No
1. The project includes all possible planning to minimize harm.	X	

2. Measures to minimize harm include the following:
(circle, as appropriate)

a. For bridges that are to be rehabilitated, the historic integrity of the bridge is preserved to the greatest extent possible, consistent with unavoidable transportation needs, safety, and load requirements.

b. For bridges that are to be rehabilitated to the point that the historic integrity is affected or that are to be removed or demolished, the FHWA ensures that, in accordance with the Historic American Engineering Record (HAER) standards, or other suitable means developed through consultation, fully adequate records are made of the bridge.

c. For bridges that are to be replaced, the existing bridge is made available for an alternative use, provided a responsible party agrees to maintain and preserve the bridge.

d. For bridges that are adversely affected, agreement among the SHPO, ACHP, and FHWA is reached through the Section 106 process of the NHPA on measures to minimize harm and those measures are incorporated into the project.

2. Specific measures to minimize harm are discussed below:

1. **Prior to removal, NCDOT will record the bridge in accordance with the Memorandum of Agreement Historic Structures and Landscape Recordation Plan (Appendix A).**

2. **The existing swing bridge will be disassembled and moved to a storage area as designated by NCDOT. The bridge will be stored for up to 2 year and made available for an alternative use.**

3. **The bridge will be advertise on the World Wide Web for a least two years or until a new owner is identified and accepts the bridge in accordance with NCDOT's Historic Bridge Relocation and Reuse Program.**

Note: Any response in a box requires additional information prior to approval. Consult Nationwide 4(f) evaluation.

COORDINATION

The proposed project has been coordinated with the following (attach correspondence):

a.	State Historic Preservation Officer	X
b.	Advisory Council on Historic Preservation	X
c.	Local/State/Federal Agencies	X
d.	US Coast Guard (for bridges requiring bridge permits)	X

SUMMARY AND APPROVAL

The project meets all criteria included in the programmatic 4(f) evaluation approved on July 5, 1983.

All required alternatives have been evaluated and the findings made are clearly applicable to this project.

There are no feasible and prudent alternatives to the use of the historic bridge. The project includes all possible planning to minimize harm, and there are assurances that the measures to minimize harm will be incorporated in the project.

All appropriate coordination has been successfully completed.

Approved:

07/20/04 — Stacy Baldwin
Date — for Environmental Management Director,
Project Development and Environmental Analysis Branch
NCDOT

7/30/04 — Reid Vaughn
Date — Division Administrator
FHWA

APPENDIX A

MEMORANDUM OF AGREEMENT

U.S. DEPARTMENT OF TRANSPORTATION
Federal Highway Administration
310 New Bern Avenue, Suite 410
Raleigh, NC 27601

DEC 20 2001

December 19, 2001

IN REPLY REFER TO:
HPP-NC

Mr. Don Klima, Director
Eastern Office of Project Review
Advisory Council on Historic Preservation
The Old Post Office Building
1100 Pennsylvania Ave., N.W. No. 809
Washington, D.C. 20004

Subject: Memorandum of Agreement for the replacement of Bridge Number 129 on SR 1565 over the Tar River, Pitt County, North Carolina, B-33684, ER 02-8106

Dear Mr. Klima:

As required by 36 CFR 800.6(b)(iv), we are filing the Memorandum of Agreement (MOA) that was developed in consultation with the North Carolina State Historic Preservation Officer for the subject project. It is our understanding that the filing of the enclosed MOA with the Council completes our compliance responsibilities under Section 106 of the National Historic Preservation Act. Questions concerning this submittal may be directed to Michael Dawson of this office at (919) 856-4330, extension 116.

Sincerely,

Michael C. Dawson

For Nicholas L. Graf, P.E.
Division Administrator

Enclosure

cc:
William Gilmore, NCDOT, PDEA
Renee Gledhill-Earley, NC SHPO

MEMORANDUM OF AGREEMENT
AMONG
THE FEDERAL HIGHWAY ADMINISTRATION
AND
NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER
FOR
THE REPLACEMENT OF BRIDGE NO. 129 ON SR 1565
OVER THE TAR RIVER,
PITT COUNTY, NORTH CAROLINA

WHEREAS, the Federal Highway Administration (FHWA) has determined that the replacement of Bridge No. 129 on SR 1565 over the Tar River in Pitt County, North Carolina (the undertaking) will have an effect upon the bridge, a property determined eligible for listing in the National Register of Historic Places, and has consulted with the North Carolina State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. 470f); and

WHEREAS, the North Carolina Department of Transportation (NCDOT) participated in the consultation and has been invited to concur in this Memorandum of Agreement;

NOW, THEREFORE, the FHWA, NCDOT, and the North Carolina SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take in to account the effect of the undertaking on the historic property.

STIPULATIONS

FHWA will ensure that the following measures are carried out:

I. Photodocumentation: Prior to the removal of Pitt County Bridge No. 129, NCDOT shall record the bridge in accordance with the attached Historic Structures and Landscape Recordation Plan (Appendix A).

II. Reuse in New Location: NCDOT will offer the bridge for reuse at a new location in accordance with NCDOT's Historic Bridge Relocation & Reuse Program. If no responsible party accepts the bridge prior to removal, Bridge No. 129 will be disassembled and stored at a NCDOT bridge maintenance yard until a new owner accepts the bridge. If no owner is found for the bridge within two years then NCDOT may dispose of the bridge.

III. Advertisement: Within ninety (90) days of the Council's filing this MOA, NCDOT shall advertise the bridge on the World Wide Web through its home page. The advertisement will remain on NCDOT's home page for a period of at least two (2) years or until a new owner is identified and accepts the bridge in accordance with NCDOT's Historic Bridge Relocation & Reuse Program.

IV. Dispute Resolution: Should the North Carolina SHPO object within thirty (30) days to any plans or documentation provided for review pursuant to this agreement, FHWA shall consult with the North Carolina SHPO to resolve the objection. If FHWA or the North Carolina SHPO determines that the objection cannot be resolved, FHWA shall forward all documentation relevant to the dispute to the Council. Within thirty (30) days after receipt of all pertinent documentation, the Council will either:

A. Provide FHWA with recommendations which FHWA will take into account in reaching a final decision regarding the dispute, or

B. Notify FHWA that it will comment pursuant to 36 CFR Section 800.7(c)) and proceed to comment. Any Council comment provided in response to such a request will be taken into account by FHWA in accordance with 36 CFR Section 800.7(c)(4) with reference to the subject of the dispute.

Any recommendation or comment provided by the Council will be understood to pertain only to the subject of the dispute; FHWA's responsibility to carry out all the actions under this agreement that are not the subject of the dispute will remain unchanged.

Execution of this MOA by FHWA, NCDOT, and the North Carolina SHPO, its subsequent filing with the Advisory Council on Historic Preservation, and implementation of its terms evidence that FHWA has afforded the Council an opportunity to comment on the replacement of Bridge No. 129 on SR 1565 over the Tar River and its effects on the bridge, and that FHWA has taken into account the effects of the undertaking on the historic property.

AGREE:

Michael C Dewson 12/18/01

FEDERAL HIGHWAY ADMINISTRATION DATE

Jeffrey J Crow 11/21/01

NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICER DATE

CONCUR:

William D. Gilmore 10/31/01

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION DATE

FILED BY:

ADVISORY COUNCIL ON HISTORIC PRESERVATION DATE

APPENDIX A

Historic Structures and Landscape Recordation Plan
For the Replacement of Bridge No. 129 on SR 1565
Over the Tar River
Pitt County, North Carolina
TIP No. B-3684, State Project No. 8.2221101
Federal Aid No. BRSTP-1565(4)

Photographic Requirements

Selected photographic views of Bridge No. 129, as a whole, and views of the structure and its setting, including:

- Overall views of the structure (elevations and oblique views)
- Overall views of the project area, showing the relationship of the structure to its setting

Photographic Format

- Color slides (all views)
- 35 mm or larger black and white negatives (all views)
- Two (2) Black and white contact sheets (all views)
- All processing to be done to archival standards
- All photographs and negatives to be labeled according to Division of Archives and History standards

Copies and Curation

One (1) set of all photographic documentation will be deposited with the North Carolina Division of Archives and History/State Historic Preservation Office to be made a permanent part of the statewide survey and iconographic collection. One (1) copy of the black and white contact sheet shall be placed in the project file located in the Project Development and Environmental Analysis Branch of NCDOT.

Federal Aid # **BRSTP-1565(4)** *TIP #* **B-3684** *County*: **Pitt**

CONCURRENCE FORM FOR ASSESSMENT OF EFFECTS

Project Description: Replace Bridge No. 129 on SR 1565 over Tar River

On 8/16/01, representatives of the

- [x] North Carolina Department of Transportation (NCDOT)
- [x] Federal Highway Administration (FHWA)
- [x] North Carolina State Historic Preservation Office (HPO)
- [ ] Other

Reviewed the subject project and agreed

- [ ] There are no effects on the National Register-listed property/properties located within the project's area of potential effect and listed on the reverse.
- [ ] There are no effects on the National Register-eligible property/properties located within the project's area of potential effect and listed on the reverse.
- [ ] There is an effect on the National Register-listed property/properties located within the project's area of potential effect. The property/properties and the effect(s) are listed on the reverse.
- [x] There is an effect on the National Register-eligible property/properties located within the project's area of potential effect. The property/properties and effect(s) are listed on the reverse.

Signed:

Representative, NCDOT — Date: 8/16/01

FHWA, for the Division Administrator, or other Federal Agency — Date: 8/16/01

Representative, HPO — Date: 8/16/01

State Historic Preservation Officer — Date: 8/17/01

Federal Aid # **BRSTP-1565(4)** *TIP #* **B-3684** *County*: **Pitt**

Properties within the area of potential effect for which there is no effect. Indicate if property is National Register-listed (NR) or determined eligible (DE).

Properties within the area of potential effect for which there is an effect. Indicate property status (NR or DE) and describe the effect.

(DE) Bridge #129 - Adverse effect

Reason(s) why the effect is not adverse (if applicable).

Initialed: NCDOT HF FHWA MCD HPO PGG

Harris

B-3684

North Carolina Department of Cultural Resources
State Historic Preservation Office
David L. S. Brook, Administrator

ichael F. Easley, Governor
sbeth C. Evans, Secretary

Division of Archives and History
Jeffrey J. Crow, Director

DEC - 3 2001

RECEIVED
DEC 3 2001
ENVIRONMENT AND ANALYSIS BRANCH

November 19, 2001

Nicholas L. Graf, P.E.
USDOT FHwA
310 New Bern Avenue Suite 410
Raleigh, NC 27601

Re: MOA for the replacement of Bridge #129 on SR 1565 over the Tar River, Pitt County, B-33684, ER 02-8106

Dear Mr. Graf:

Thank you for your letter of November 8, 2001, transmitting the Memorandum of Agreement for the above referenced undertaking. I have signed the agreement and return it to you for the remainder of the signatures.

Please contact Renee Gledhill-Earley at 733-4763, if you have any questions concerning this matter. Thank you.

Sincerely,

Jeffrey J. Crow

Jeffrey J. Crow
State Historic Preservation Officer

cc: William Gilmore, NCDOT

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT
SECRETARY

September 10, 2001

Mr. Nicholas L. Graf, P.E.
Division Administrator
Federal Highway Administration
Department of Transportation
310 New Bern Avenue
Raleigh, North Carolina 27601

Dear Mr. Graf:

RE: Notification of Adverse Effect Finding, Replace Bridge No. 129 on SR 1565 over the Tar River, Pitt County, North Carolina, TIP No. B-~~3864~~, State Project No. 8.2221101, Federal Aid No. BRSTP-1565(4) B-3684

The above-referenced project is subject to compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, and implemented by the Advisory Council on Historic Preservation's regulations for compliance codified as 36 CFR Part 800. Enclosed is the notification of the adverse effect finding required by the Council in Part 800.6(a)(1) of the 2000 revisions to 36 CFR Part 800. According to the new regulations, the Agency Official must notify the Council when adverse effects are found and should invite the Council to participate in the consultation when the circumstances specified in part 800.6(a)(1)(I)(A)-(C) exist.

After consultation with the North Carolina State Historic Preservation Office, it was determined that the subject project would have an adverse effect on Pitt County Bridge No. 129, a property eligible for listing in the National Register of Historic Places. Subsequently, the North Carolina Department of Transportation has prepared the accompanying supplementary documentation specified by the Council in Part 800.11(e). This documentation does not proffer a formal invitation to the Council for their participation in the consultation because none of the circumstances specified in Part 800.6(a)(1)(I)(A)-(C) exist for this project.

Please submit this documentation to the Advisory Council and request their review pursuant to 36 CFR Part 800.6(a)(1). If you have any questions concerning the accompanying information, please contact Mary Pope Furr, Historic Architecture Section, at (919) 733-7844, extension 300.

Sincerely,

William D. Gilmore, P.E.,
Branch Manager

WDG/mpf
Attachments
cc: Lubin Prevatt, P.E., Assistant Branch Manager
Carl B. Goode, P.E., Assistant Branch Manager

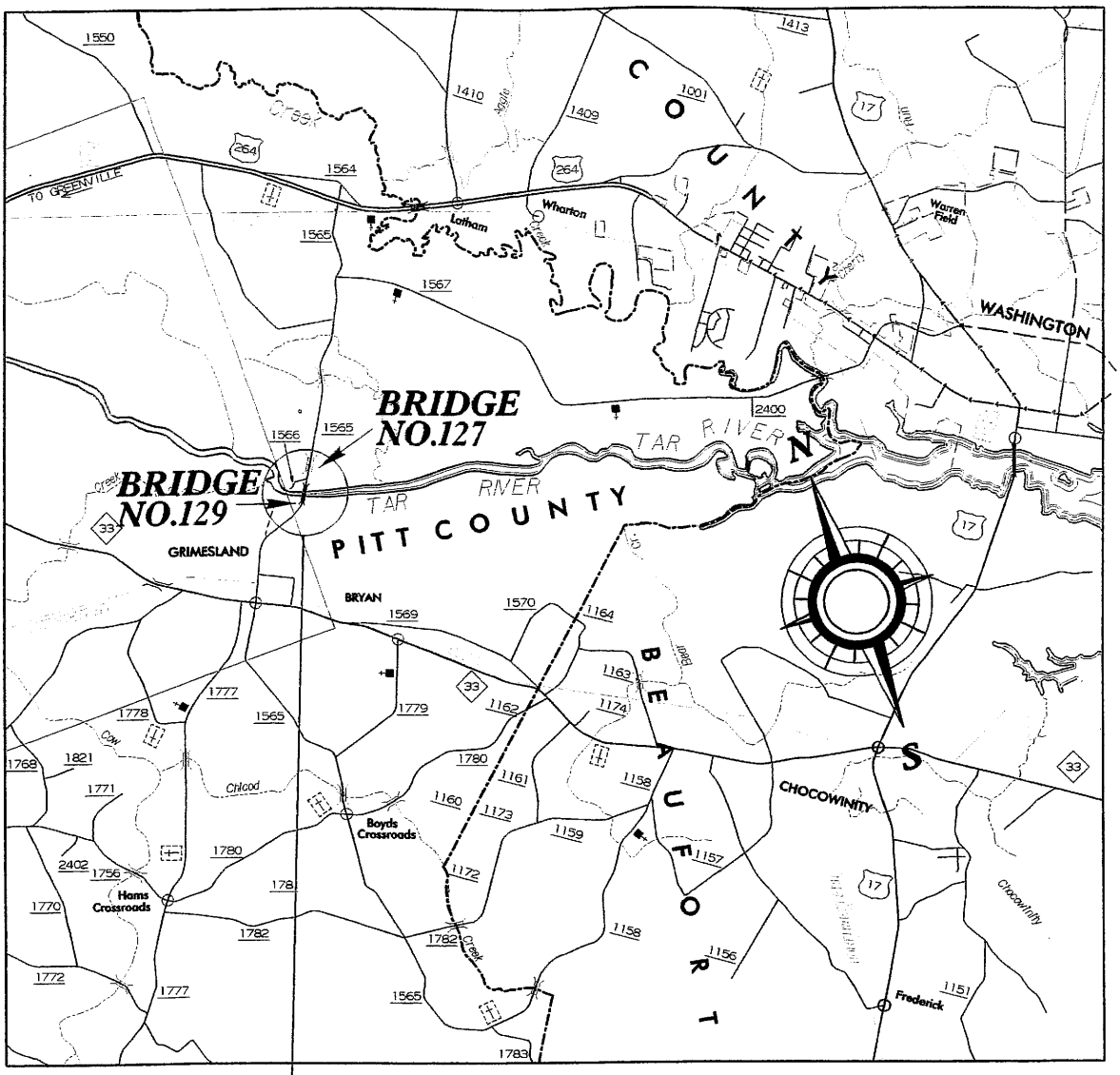
MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS

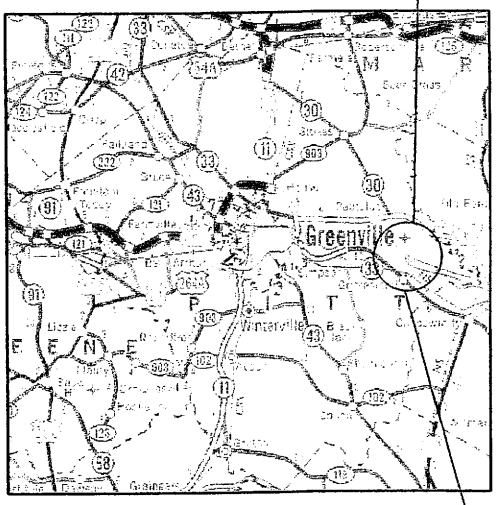
TELEPHONE: 919-733-3141
FAX: 919-733-9794

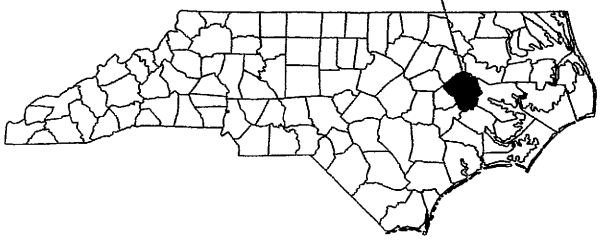
LOCATION:
TRANSPORTATION BUILDING
1 SOUTH WILMINGTON STREET

APPENDIX B

FIGURES







1 0 1 2 3 4 MILES

SCALE

NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
PROJECT DEVELOPMENT &
ENVIRONMENTAL ANALYSIS BRANCH

PITT COUNTY

BRIDGE NO. 129 OVER THE TAR RIVER AND NO. 127 ON SR 1565 OVER THE TAR RIVER OVERFLOW

TIP NO. B-3684

FIGURE 1

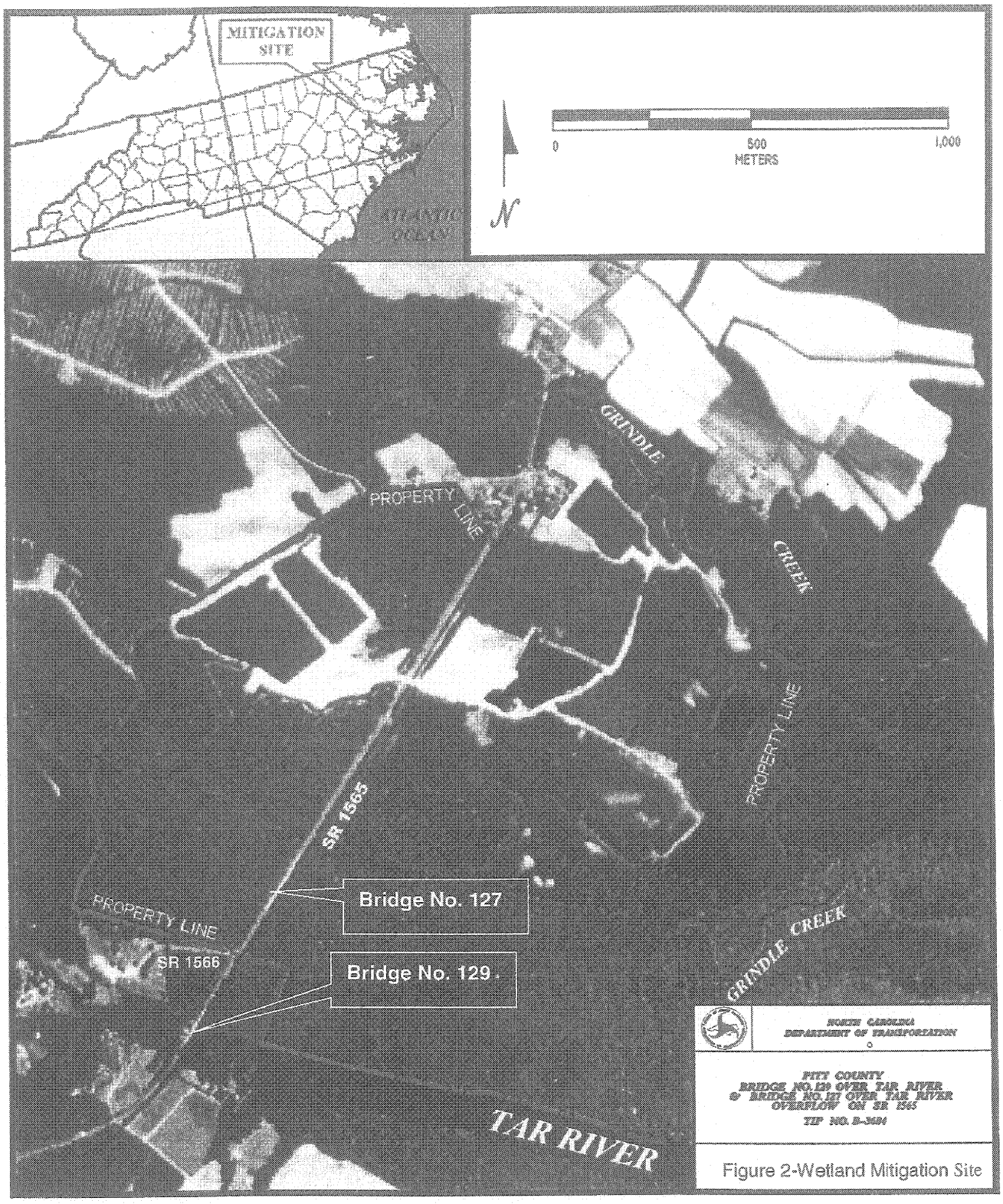


Figure 2-Wetland Mitigation Site

CORPS OF ENGINEERS U. S. ARMY

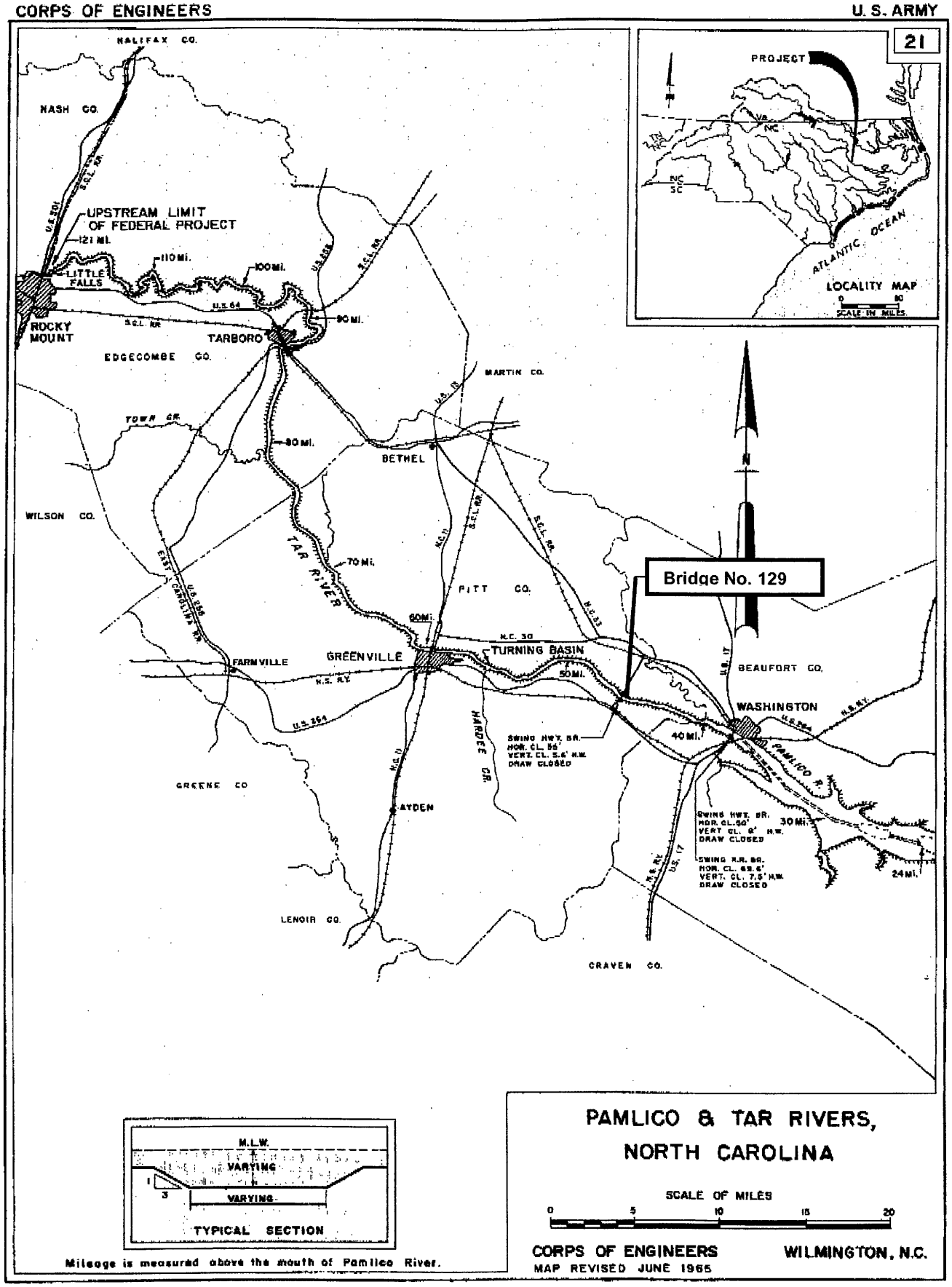
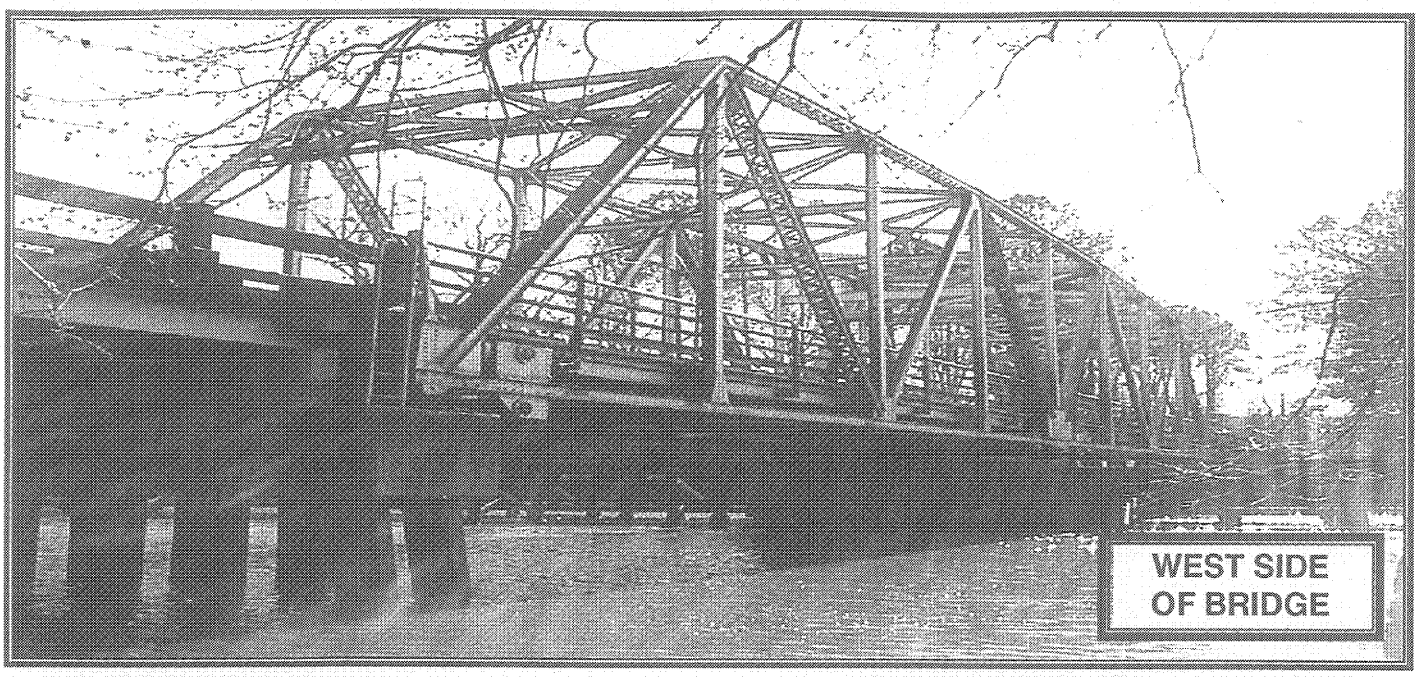
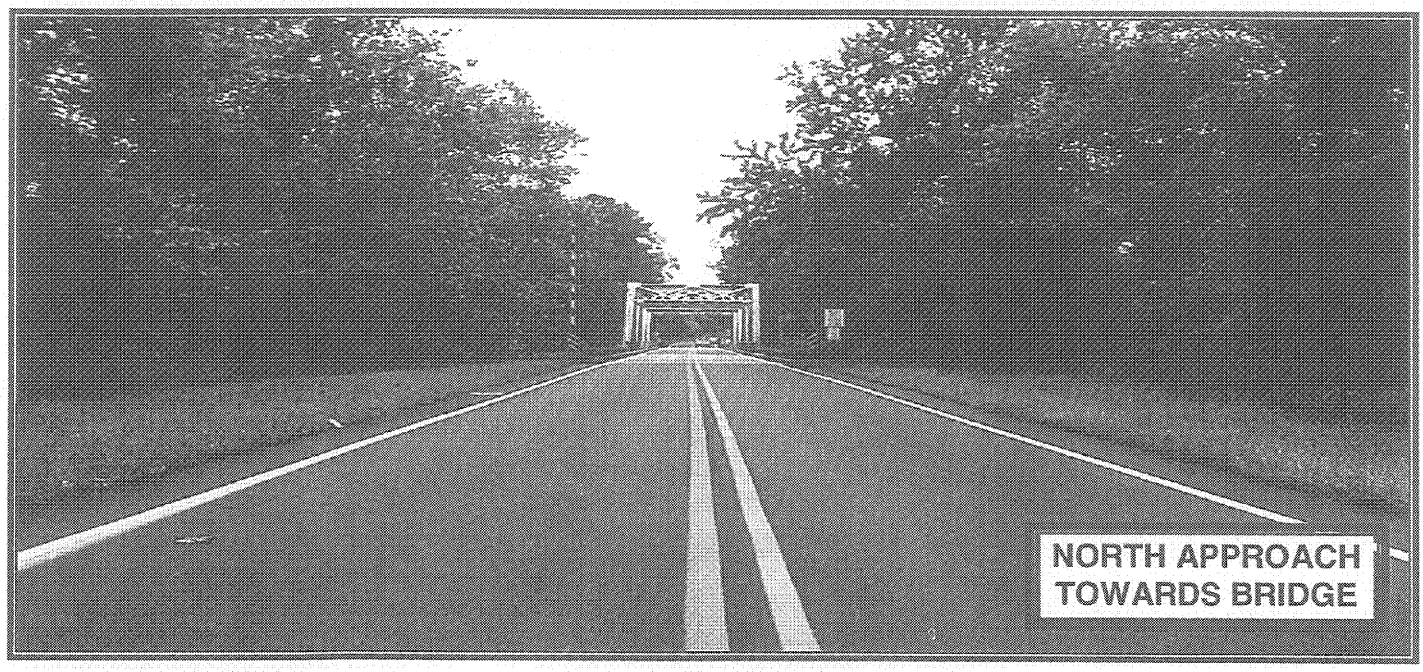


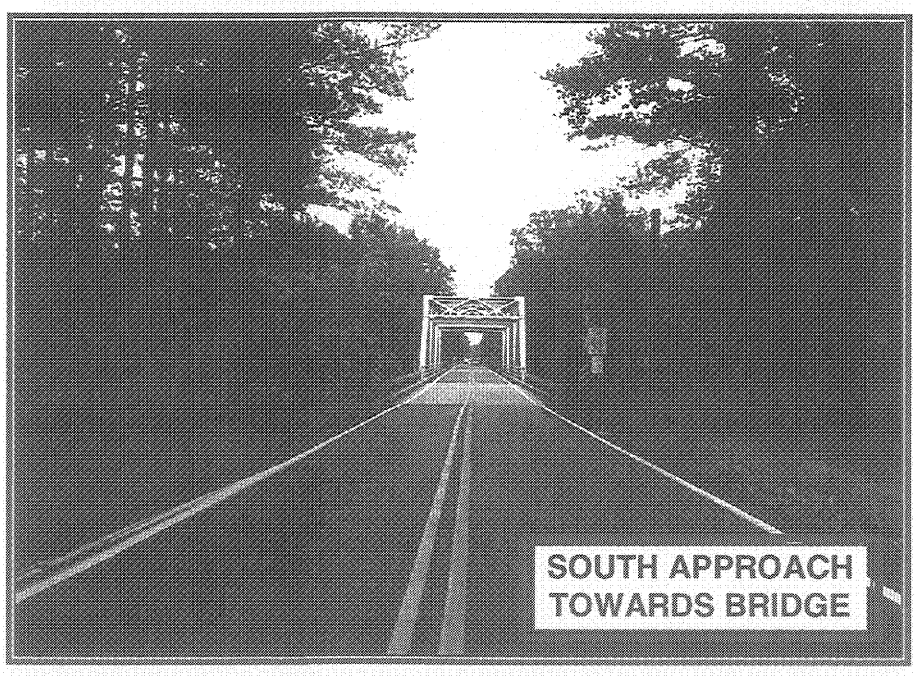
FIGURE 3



WEST SIDE OF BRIDGE



NORTH APPROACH TOWARDS BRIDGE

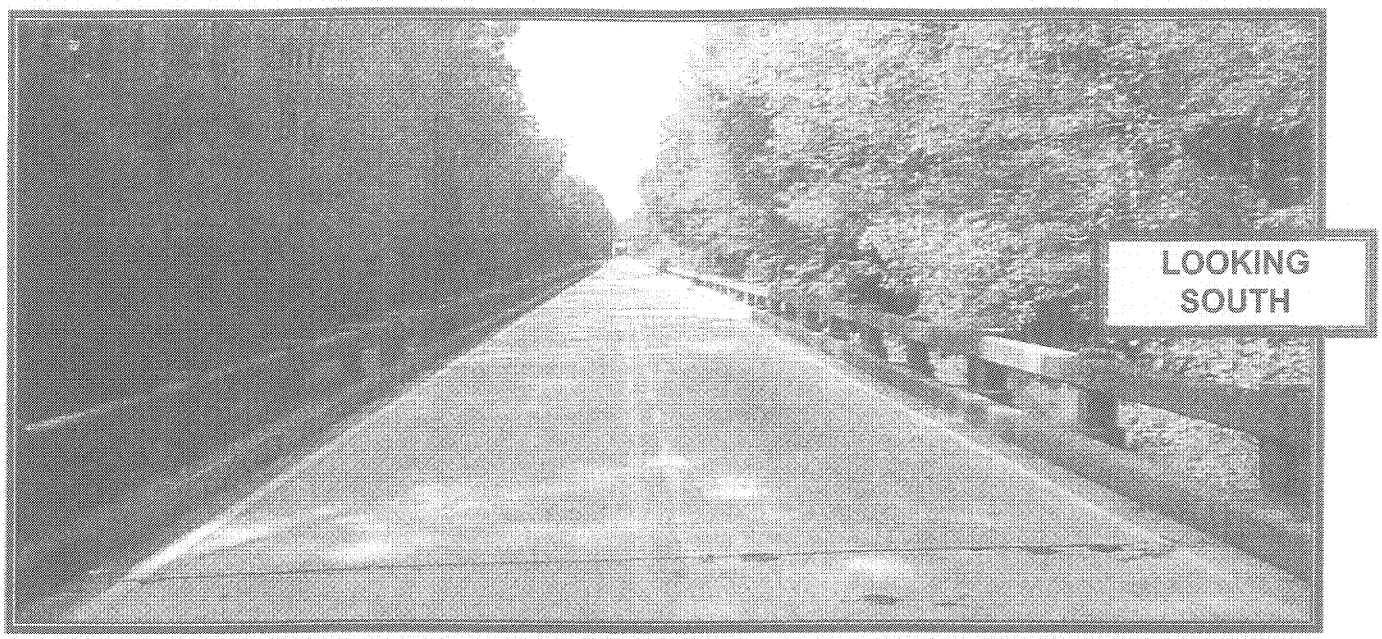


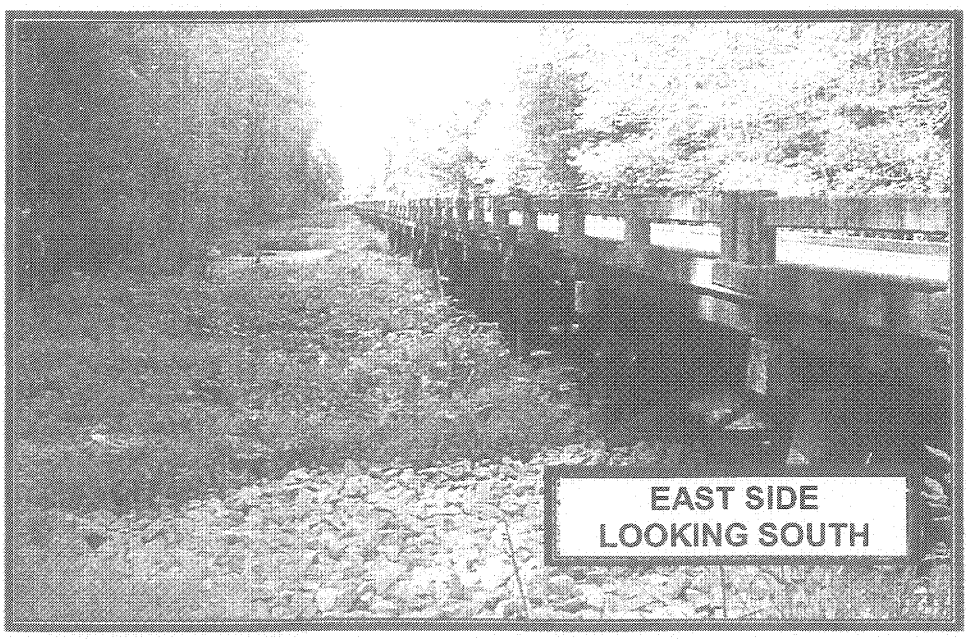
SOUTH APPROACH TOWARDS BRIDGE

B-3684
Replacement of Bridge No. 129 on SR 1565 Over Tar River
Pitt County

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

FIGURE 4A

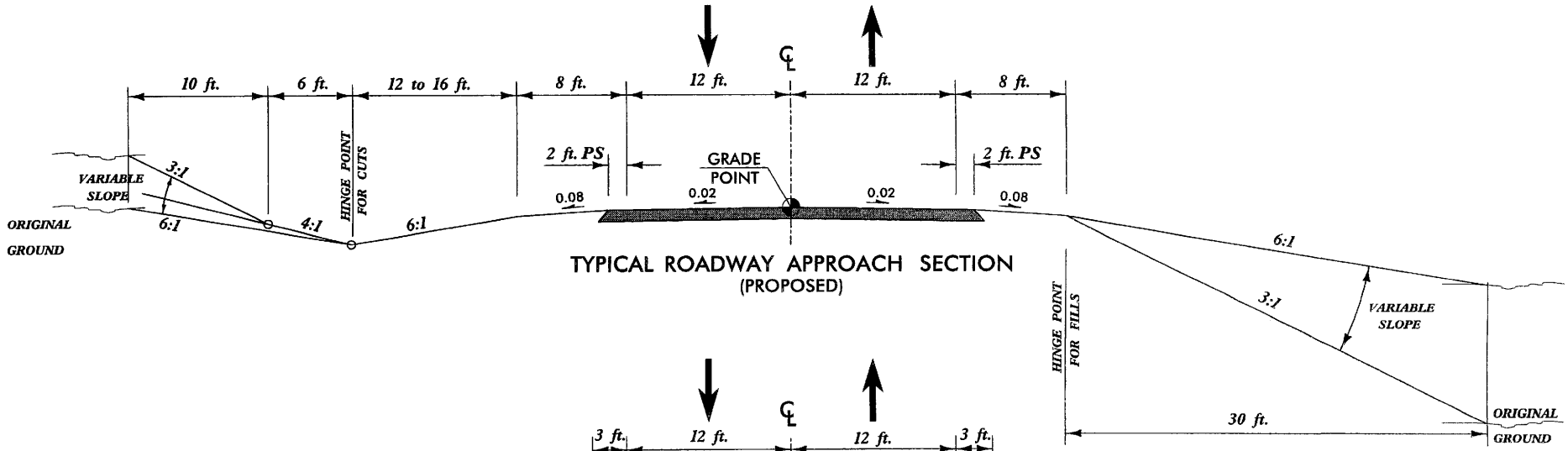




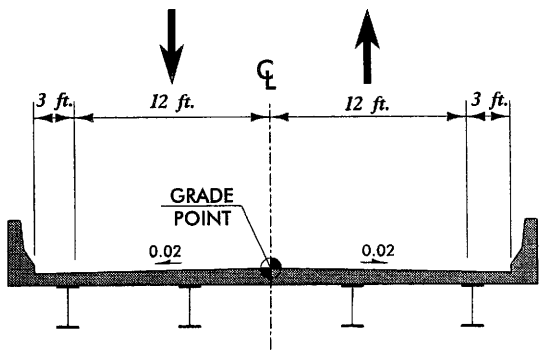
B-3684
Replacement of Bridge
No. 127 on SR 1565
Over the Tar River Overflow
Pitt County

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

FIGURE 4B



TYPICAL ROADWAY APPROACH SECTION
(PROPOSED)



TYPICAL SECTION ON STRUCTURE
(PROPOSED)

TRAFFIC DATA

ADT 2004	4,600
ADT 2030	7,300
DUAL	2%
TTST	1%

FUNCTIONAL CLASSIFICATION:
RURAL MAJOR COLLECTOR

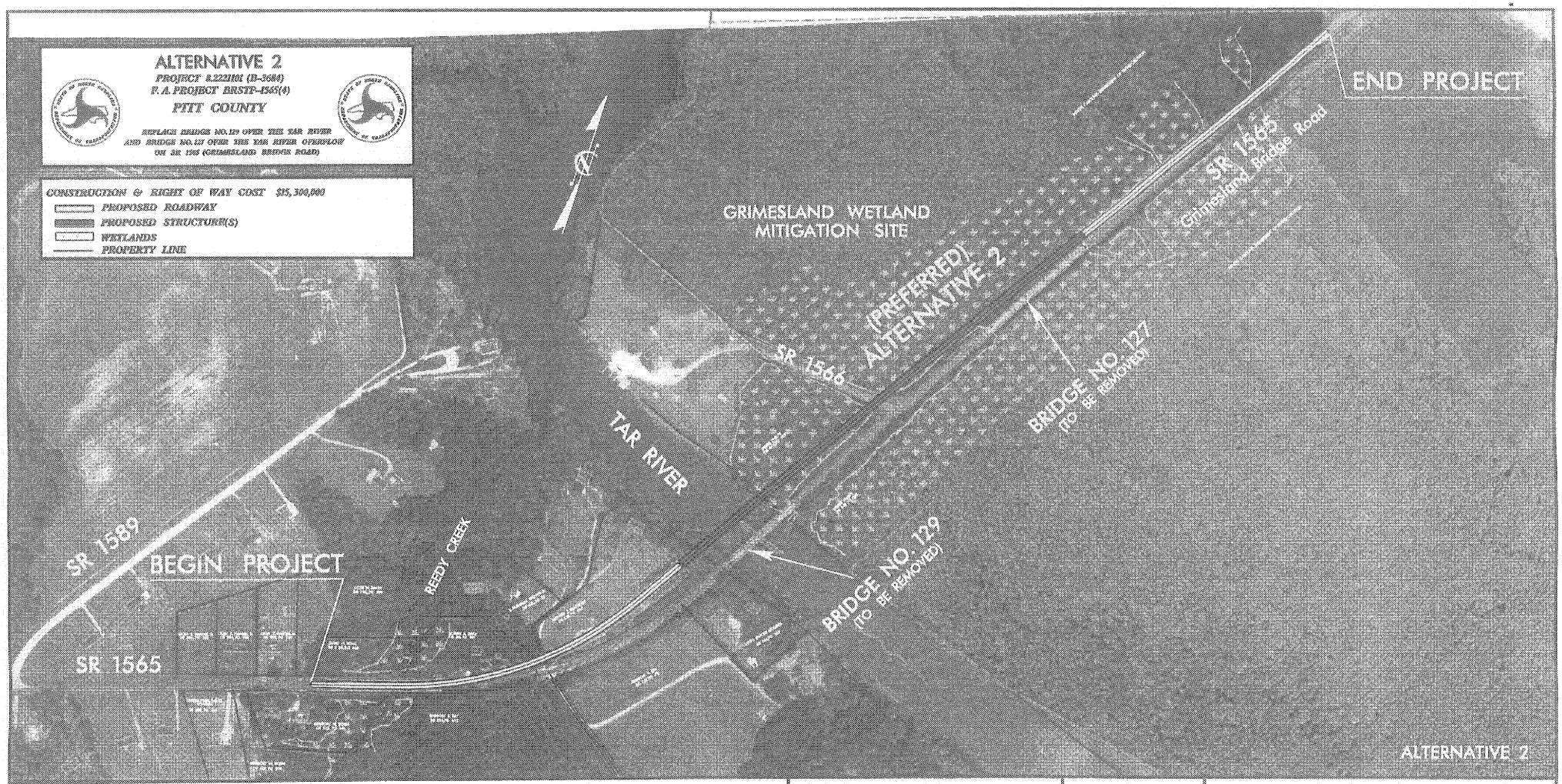
North Carolina Department Of Transportation
Project Development &
Environmental Analysis Branch

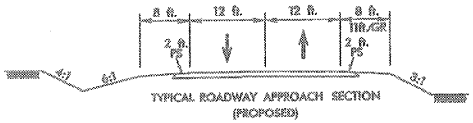
PITT COUNTY

BRIDGE NO. 129 OVER THE TAR RIVER
AND BRIDGE NO. 127 OVER THE TAR RIVER OVERFLOW
ON SR 1565 (GRIMESLAND BRIDGE ROAD)

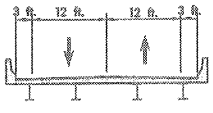
B-3684

FIGURE 5





TYPICAL ROADWAY APPROACH SECTION (PROPOSED)



TYPICAL SECTION ON STRUCTURE (PROPOSED)

TRAFFIC DATA

ADT 2003	4,500
ADT 2030	7,300
DUAL	2%
TTST	1%

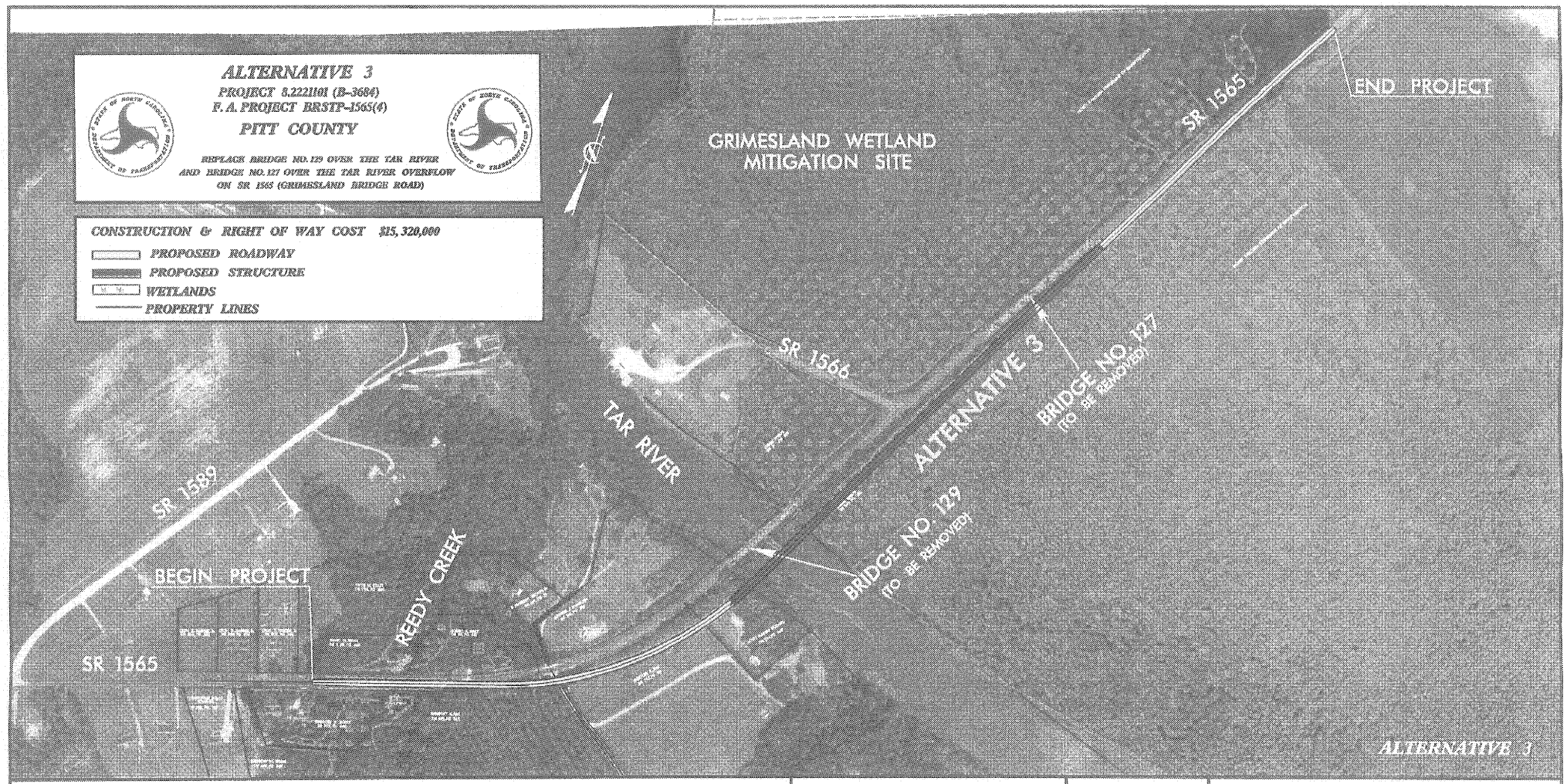
FUNCTIONAL CLASSIFICATION:
RURAL MAJOR COLLECTOR

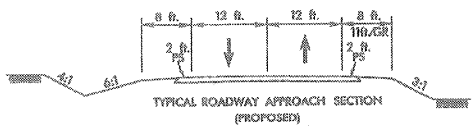
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH

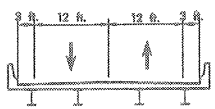
150' 0 300'

FIGURE 6A





TYPICAL ROADWAY APPROACH SECTION
(PROPOSED)



TYPICAL SECTION ON STRUCTURE
(PROPOSED)

TRAFFIC DATA

ADT 2003	4,500
ADT 2030	7,300
DUAL	2%
TTST	1%

FUNCTIONAL CLASSIFICATION:
RURAL MAJOR COLLECTOR

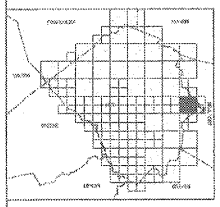
NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PROJECT DEVELOPMENT AND
ENVIRONMENTAL ANALYSIS BRANCH

150' 0 300'

FIGURE 6B

STATE OF NORTH CAROLINA FIRM PANEL LOCATOR DIAGRAM



DATUM INFORMATION

The **projection** used in the preparation of this map was the North Carolina State Plane (FIPSZONE 3200). The **horizontal datum** was the North American Datum of 1983, (NAD83 datum). Differences in datum, ellipsoid, projection, or Universal Transverse Mercator zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdictional boundaries. These differences do not affect the accuracy of this FIRM. All coordinates on this map are in U.S. Survey Feet, where 1 U.S. Survey Foot = 1200/3937 Meters.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988 (NAVD 88). These flood elevations must be converted to structure and ground elevations referenced to the same **vertical datum**. An average offset between NAVD 88 and the National Geodetic Vertical Datum of 1929 (NGVD 29) has been computed for each North Carolina county. This offset was then applied to the NGVD 29 flood elevations that were not revised during the creation of this statewide format FIRM. The offsets for each county shown on this FIRM panel are shown in the vertical datum offset table below. Where a county boundary and a flooding source with unrevised NGVD 29 flood elevations are coincident, an individual offset has been calculated and applied during the creation of this statewide format FIRM. See Section 8.1 of the accompanying Flood Insurance Study report to obtain further information on the conversion of elevations between NAVD 88 and NGVD 29. To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the North Carolina Geodetic Survey at the address shown below. You may also contact the Information Services branch of the National Geodetic Survey at (301) 713-3242, or visit their website at www.ngs.noaa.gov.

North Carolina Geodetic Survey
121 West Jones Street
Raleigh, NC 27603
(919) 733-3836
www.ncgeodetic.com

County Average Vertical Datum Offset Table	
County	Vertical Datum Offset (ft)
Beaufort	- 1.07
Pitt	- 1.05

FLOODED AREAS IN ZONE AE

All elevations listed in the **Flood Hazard Data Table** below were created by detailed methods using field survey. Other flood hazard data shown on this map may have been derived using either a coastal analysis or limited detailed riverine analysis. More information on the flooding sources studied by these analyses is contained in the Flood Insurance Study report.

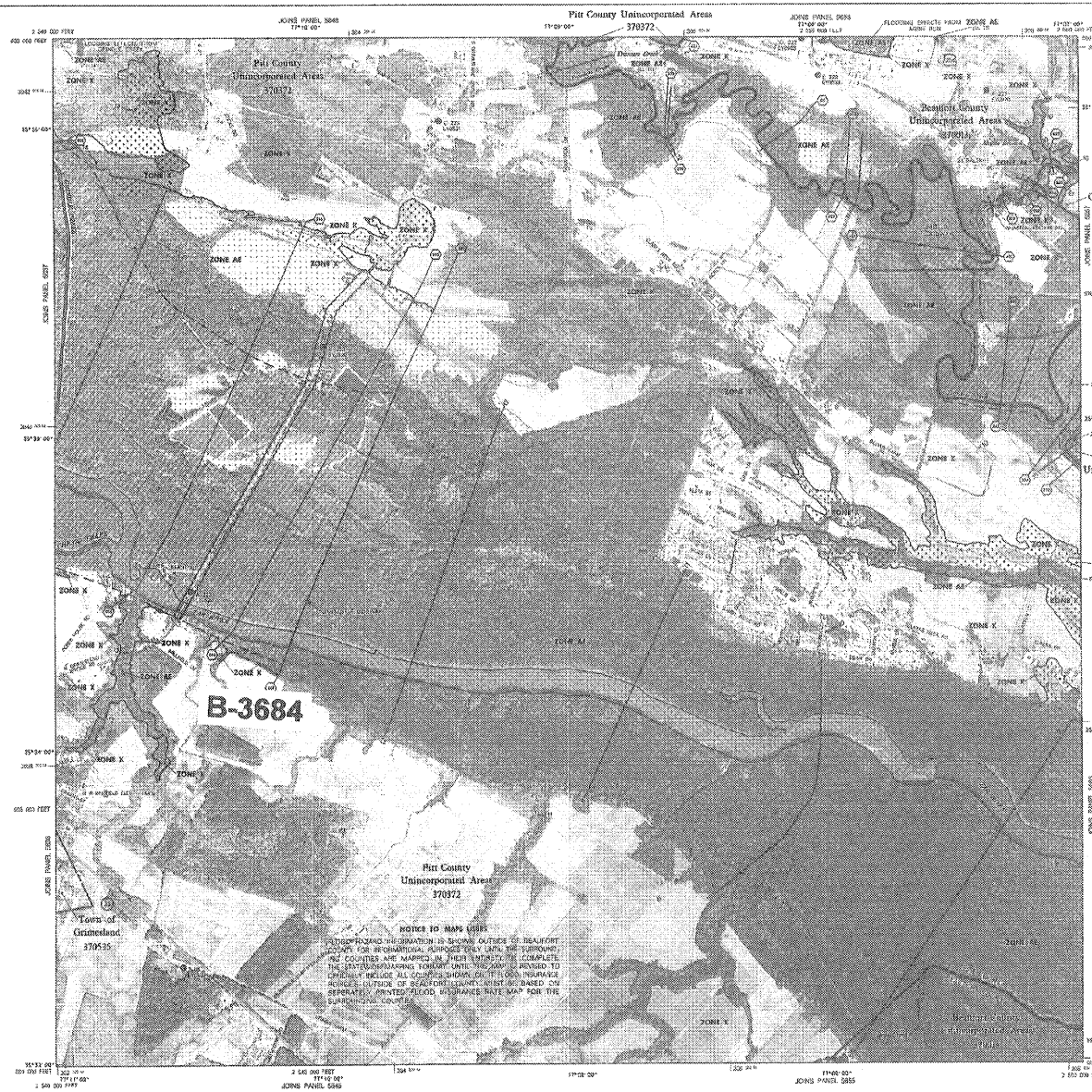
FLOOD HAZARD DATA TABLE

Flooding Source	Stream Station	Flood Elevation (feet)	1% Annual Chance Flood Elevation (feet NAVD 88)	Floodway Width (feet): Cross Section Distance (feet) / Total Floodway Width
MAPLE BRANCH				
010	1,050[1]	1,590	10.0[2]	26 / 27
033	3,800	1,590	10.0[2]	27 / 27
055	5,600	1,590	10.0	27 / 27
075	6,740	1,590	10.0[2]	64 / 27
098	8,985	1,590	10.0[2]	27 / 27
TAR RIVER				
231	29,140[3]	64.896	12.3	5,203 / 800
242	33,231[3]	64.896	12.4	6,490 / 800
314	51,350[3]	64.896	12.1	8,093 / 800
THAMES CREEK				
370	37,047[3]	NA	8.0[2]	1,074
394	39,384[3]	NA	9.0[2]	772
548	54,394[3]	NA	9.0[2]	1,408
601	60,194[3]	NA	10.0[2]	1,831

[1] Feet above confluence with Tranters Creek [2] Feet above Pitt County/Beaufort County line

[3] Feet above confluence with Panther Branch [4] Elevation including backwater from Tranters Creek

[5] Elevation backwater from Tranters Creek



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHA) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, V, A1-A30, AE, AH, AO, AR, A99, V1-V30, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are generally bounded within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- (EL 987) Base Flood Elevation line and value; elevation in feet*
- (EL 987) Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- (23) Cross section line
- (23)———(23) Transect line
- 97°07'30", 32°22'30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 4275000 m 2000-meter Universal Transverse Mercator grid ticks, zone 18
- 1 477 000 FEET 5000-foot grid ticks: North Carolina State Plane coordinate system (FIPSZONE 3200, State Plane NAD 83 feet)
- 5515000 m North Carolina Geodetic Survey bench mark (see explanation in the Datum Information section of this FIRM panel)
- 5515000 m National Geodetic Survey bench mark (see explanation in the Datum Information section of this FIRM panel)
- 97°07'15" River mile

GRID NORTH

MAP SCALE 1" = 1000' (1 : 12,000)

400 0 400 800 FEET

100 0 100 200 METERS

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 5640 J

FIRM
FLOOD INSURANCE RATE MAP
NORTH CAROLINA

PANEL 5640

SEE LOCATOR DIAGRAM OR MAP INDEX FOR FIRM PANEL LAYOUT.

CONTAINS:

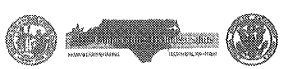
COMMUNITY	NUMBER	PANEL	SUFFIX
BEAUFORT COUNTY	370013	5640	J
WASHINGTON, TOWN OF	370035	5640	J
PITT COUNTY	370372	5640	J
WASHINGTON, CITY OF	370017	5640	J

Notice to User: The map number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

EFFECTIVE DATE
NOV 15, 2003

MAP NUMBER
37072564 0 0

State of North Carolina
Federal Emergency Management Agency



This digital Flood Insurance Rate Map (FIRM) was produced through a unique cooperative partnership between the State of North Carolina and the Federal Emergency Management Agency (FEMA). The State of North Carolina has implemented a long term approach to floodplain management to decrease the costs associated with flooding. This is demonstrated by the State's commitment to map floodprone areas at the local level. As a part of this effort, the State of North Carolina has joined in a Cooperating Technical State agreement with FEMA to produce and maintain this digital FIRM.

www.ncfloodmaps.com

NOTES TO USERS

This map is for use in administering the **National Flood Insurance Program**. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles, Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be used in conjunction with the FIRM for purposes of construction and/or floodplain management.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for the jurisdictions.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 4.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in the jurisdiction.

Base map information and geospatial data used to develop this FIRM were obtained from various organizations, including the participating local communities, state and federal agencies, and/or other sources. The primary base for this FIRM is orthoimagery acquired as part of the National Digital Orthophoto Program. The time period of collection for the imagery is 1994-1999. Information and geospatial data supplied by the local communities that was FEMA base map specifications were considered the preferred source for development of the base map. See geospatial metadata for the associated digital FIRM for additional information about base map preparation.

Base map features shown on this map, such as **corporate limits**, are based on the most up-to-date data available at the time of publication. **Changes to the corporate limits may have occurred since this map was published**. User areas should consult the appropriate community official or website to verify current conditions of jurisdictional boundaries and base map features.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contain authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels in which each community is located.

If you have **questions about this map**, or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA MAP (1-877-336-2627) or visit the FEMA website at www.fema.gov.

An accompanying Flood Insurance Study report, Letter of Map Revision (LOMR) or Letter of Map Amendment (LOMA) revising portions of this panel and digital versions of this FIRM may be available. Visit the **North Carolina Floodplain Mapping Program** website at www.ncfloodmaps.com, or contact the **FEMA Map Service Center** at 1-800-358-9616 for information on effective products associated with this FIRM. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and their website at www.msc.fema.gov.

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index or visit www.ncfloodmaps.com.

EFFECTIVE DATE OF FLOOD INSURANCE RATE MAP PANEL
NOV 15, 2003
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to statewide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent, the North Carolina Division of Emergency Management or the National Flood Insurance Program at the following phone numbers or locations:

NC Division of Emergency Management
(919) 715-8000
www.nccrimecontrol.org

National Flood Insurance Program
1-800-638-6620
www.fema.gov/nfip

Figure 7

APPENDIX C

MERGER PROCESS CONCURRENCE POINTS

Section 404/NEPA Merger Team Meeting Agreement
Concurrence Point No. 1 – Purpose and Need

Project No. /TIP No. /Name/Description:

Federal Aid Project Number:	BRSTP-1565(4)
State Project Number:	8.2221101
TIP Number:	B-3684
Name:	Grimesland Bridge
TIP Description:	Replace Bridge No. 129 over the Tar River and Bridge No. 127 over the Tar River Overflow on SR 1565 in Pitt County

Purpose of and Need for the Proposed Project:

The purpose of and need for this project is to replace functionally obsolete and structurally deficient bridges with safer and improved structures and approaches. NCDOT Bridge Maintenance Unit records indicated that Bridge No. 129 and Bridge No. 127 have sufficiency ratings of 47.6 and 28.2 respectively, out of a possible 100 for a new structure.

The existing swing bridge (Bridge No. 129) over the Tar River and the overflow bridge (Bridge No. 127) were built in 1954. Structural failure of either bridge would render SR 1565 (Grimesland Bridge Road) impassable. In the event that either existing bridge is closed, local traffic desiring to cross the Tar River would have to use the existing swing bridge in Washington, an approximate 18 mile (28.8 kilometer) detour or US 264A bridge in Greenville, an approximately 20 mile (32.2 kilometer) detour.

The NEPA Merger Team concurred on this date of March 27, 2002, with the purpose of and need for the proposed project.

Federal Highway Administration	Clarence W. Coleman
U. S. Army Corps of Engineers	[illegible]
U. S. Environmental Protection Agency	[illegible]
U. S. Fish and Wildlife Services	Howard F. Hall
N. C. Wildlife Resources Commission	David R. [illegible]
N. C. Department of Cultural Resources	Renee Gledhill-Earley
N. C. DENR - DWQ	John E. Hennessy
National Marine Fisheries Service	Ronald S. Sechler
N. C. DENR - DMF	Sean McKenna
N. C. Department of Transportation	Stacy Harris
NCDOT Division 2	B. C. Eatmon Jr.

Section 404/NEPA Merger Team Meeting Agreement
Concurrence Point No. 2 –Preliminary Build Alternatives

Project No. /TIP No./Name /Description:

Federal Aid Project Number:	BRSTP-1565(4)
State Project Number:	8.2221101
TIP Number:	B-3684
Name:	Grimesland Bridge
TIP Description:	Replace Bridge No. 129 over the Tar River and Bridge No. 127 over the Tar River Overflow on SR 1565 in Pitt County

Preliminary Build Alternatives:

~~**Alternative 1** replaces the bridges in their existing location with a single structure approximately 1950 feet in length. A 40-foot navigational clearance will be provided over the Tar River. During construction, traffic will be maintained off-site. SR 1566 (Seine Beach Road) and the roadbed between the two existing bridges will be removed and restored to wetlands. One business will be relocated.~~

Alternative 2 replaces both bridges on new alignment west of the existing bridges with a single structure approximately 1940 feet in length. A 40-foot navigational clearance will be provided over the main channel of the Tar River. During construction, traffic will be maintained on the existing structures. SR 1566 (Seine Beach Road) will be removed and restored to wetlands. After traffic is routed onto the new structure, the existing bridges and approach roadway will be removed and restored to wetlands. One business will be relocated.

Alternative 3 replaces both bridges on new alignment east of the existing bridges with a single structure approximately 1900 feet in length. A 40-foot navigational clearance will be provided over the main channel of the Tar River. During construction, traffic will be maintained on the existing structures. After traffic is routed onto the new structure, the existing bridges and approach roadway will be removed and restored to wetlands. One (1) resident and one (1) business will be relocated.

Alternative 4 replaces both bridges on new location with a single structure approximately 2320 feet in length. A 40-foot navigational clearance will be provided over the main channel of the Tar River. The new location will begin approximately 3000 feet south of Bridge No. 129 and routed along SR 1589 (Poker House Road), and tie into SR 1565 approximately 475 feet north of Bridge No. 127. During construction, traffic will be maintained on the existing structures. After traffic is routed onto the new structure and roadway, the existing bridges and approach roadway will be removed and restored to wetlands. SR 1566 (Seine Beach Road) will be removed and restored to wetlands. Two (2) residents and one (1) business will be relocated.

Work bridges will be required for all alternatives

The NEPA Merger Team concurred on this date of March 27, 2002, with the preliminary build alternatives to be studied in detail as described above.

U. S. Army Corps of Engineers	Michael Bell
Federal Highway Administration	Clarence W. Coleman Jr.
U. S. Environmental Protection Agency	Ata A. for JB
U. S. Fish and Wildlife Services	Howard F. Hall
N. C. Wildlife Resources Commission	David R. Cox
N. C. Department of Cultural Resources	
N. C. DENR - DWQ	John G. Hennessy
National Marine Fisheries Service	Ron Sechler
N. C. DENR - DMF	
N. C. Department of Transportation	Stacey Harris
N.C. Department of Transportation Division 2	B. E. Eatmon Jr.

Section 404/NEPA Merger Project Team Meeting Agreement Concurrence Point No. 3 – Alternative Selection

Project No./TIP No./ Name/Description:

Federal Aid Project Number:	BRSTP-1565(4)
State Project Number:	8.2221101
TIP Number:	B-3684
TIP Description:	Replace Bridge No. 129 on SR 1565 Over the Tar River and Bridge No. 127 on SR 1565 Over the Tar River Overflow
County:	Pitt

Alternative recommended:

Alternative 2 replaces both bridges on a new alignment west of the existing bridge with a single structure approximately 1, 940 feet (591 meters) in length. The proposed structure will provide a 30 foot (9.0 meters) clear roadway width allowing for 2-12 foot (3.6 meters) with a three foot (0.9 meter) horizontal clearance on each side. The approach roadway will consist of a 24-foot (7.2 meters) travel way with eight-foot shoulders including two-foot paved. Navigational clearances over the Tar River will be 40-foot (12 meters) vertically and 60 foot (18 meters) horizontally. Design speed for Alternative 2 will be 60 mph (100 km/h). During construction, traffic will be maintained on the existing roadway and structures. After traffic is placed on the new facility, the existing bridges and approaches will be removed and restored to wetlands. SR 1566 (Seine Beach Road) will be removed and restored to wetlands. Alternative 2 is shown in Figure 2 of the Merger Team meeting handout dated December 20, 2002 and is incorporated into this Concurrence Form by reference.

The Project Team has concurred on this date of January 22, 2003 with the selection of Alternative 2, as noted above, as the Least Environmentally Damaging Practicable Alternative (LEDPA) for TIP No. B-3684.

U. S. Army Corps of Engineers _____

U. S. Environmental Protection Agency _____

U. S. Fish and Wildlife Services _____

N. C. Wildlife Resources Commission _____

N. C. Department of Cultural Resources _____

N. C. DENR – DWQ _____

Federal Highway Administration _____

National Marine Fisheries Service _____

N. C. DENR – DMF _____

N. C. Department of Transportation, Division 2 _____

N. C. Department of Transportation _____

Section 404/NEPA Merger Project Team Meeting Agreement Concurrence Point No. 4A – Avoidance and Minimization

Project No./TIP No./ Name/Description:

Federal Aid Project Number:	BRSTP-1565(4)
State Project Number:	8.2221101
TIP Number:	B-3684
TIP Description:	Replace Bridge No. 129 on SR 1565 Over the Tar River and Bridge No. 127 on SR 1565 Over the Tar River Overflow in Pitt County

Recommended Alternate: Alternative 2 replaces both bridges on a new alignment west of the existing bridge with a single structure approximately 1, 940 feet (591 meters) in length. The proposed structure will provide a 30 foot (9.0 meters) clear roadway width allowing for 2-12 foot (3.6 meters) with a three foot (0.9 meter) horizontal clearance on each side. The approach roadway will consist of a 24-foot (7.2 meters) travel way with eight-foot shoulders including two-foot paved. Navigational clearances over the Tar River will be 40-foot (12 meters) vertically and 60 foot (18 meters) horizontally. Design speed for Alternative 2 will be 60 mph (100 km/h). During construction, traffic will be maintained on the existing roadway and structures. After traffic is placed on the new facility, the existing bridges and approaches will be removed and restored to wetlands. SR 1566 (Seine Beach Road) will be removed and restored to wetlands.

Avoidance and Minimization:

1. The existing bridges of 512 feet (156 meters) and 359 feet (109 meters) will be replaced with a single structure on new alignment west of the existing bridges approximately 1,940 feet (591.3 meters) in length.

2. The portion of SR 1566 (Seine Beach Road) maintained by NCDOT will be removed and restored to wetlands. All portions of the existing embankment for SR 1565 adjacent to wetlands (north side of Tar River) and not utilized in the new facility will be removed and the area restored to wetlands or buffer as appropriate. The buffer area on the south side of the Tar River will be restored by plantings after removal of the existing river bridge.

3. Work bridges will be utilized in the construction of the new structure across wetlands. To the extent practicable, work bridges will be located between the new bridge and the existing roadway embankment to minimize disturbance of the adjacent wetlands. Construction in open water will be from work bridges or barges.

4. The project will be designed and constructed in accordance with the Riparian Buffer Protection Rules for the Tar-Pamlico River Basin. The new bridge will completely span the riparian buffers [50 feet (15 meters)] on either side of the Tar River.

5. To avoid and/or minimize impacts to anadromous fish, the "Stream Crossing Guidelines for Anadromous Fish Passage" will be followed including an in-stream construction moratorium of February 15 to September 30.

6. The 1996 USFWS Manatee Guidelines for construction activities in aquatic areas will be utilized to the maximum extent practicable.

The Project Team has concurred on this date of January 22, 2003 with the "avoidance and minimization of the alternative recommended in the NEPA document" as stated above.

U. S. Army Corps of Engineers	
U. S. Environmental Protection Agency	
U. S. Fish and Wildlife Services	
N. C. Wildlife Resources Commission	
N. C. Department of Cultural Resources	
N. C. DENR – DWQ	John E. Hennessy
Federal Highway Administration	
National Marine Fisheries Service	Ron Sechler
N. C. DENR – DMF	Sean McKenna
N. C. Department of Transportation	John Wadsworth
N. C. Department of Transportation (Div. 2)	

APPENDIX D

CORRESPONDENCE

U.S. ARMY CORPS OF ENGINEERS
Wilmington District

Action ID: 200011316 County: Pitt

Notification of Jurisdictional Determination

Property owner/Authorized Agent Lisa Werlic/Barbara H. Mulkey Eng.

Address 6750 Tryon Road
Cary, NC 27511

Telephone Number 919-851-1912

Size and Location of Property (waterbody, Highway name/number, town, etc.)
TIP No. B-3684, wetlands adjacent to Bridge 127 and Bridge 129 over the Tar River

Indicate which of the following apply:

- There are wetlands on the above described property which we strongly suggest should be delineated and surveyed. The surveyed wetland lines must be verified by our staff before the Corps will make a final jurisdictional determination on your property.
- Because of the size of your property and our present workload, our identification and delineation of your wetlands cannot be accomplished in a timely manner. You may wish to employ a consultant to obtain a more timely delineation of the wetlands. Once your consultant has flagged a wetland line on the property, Corps staff will review it, and if it is accurate, we strongly recommend that you have the line surveyed for final approval by the Corps. The Corps will not make a final jurisdictional determination on your property without an approved survey.
- MB (•) The wetlands on your lot have been delineated, and the limits of Corps jurisdiction have been explained to you. Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed ~~three~~ five years from the date of this notification.
- There are no wetlands present on the above described property which are subject to the permit requirements of Section 404 of the Clean Water Act (33 USC 1344). Unless there is a change in the law or our published regulations, this determination may be relied upon for a period not to exceed three years from the date of this notification.
- The project is located in one of the 20 Coastal Counties. You should contact the nearest State Office of Coastal Management to determine their requirements.

Placement of dredged or fill material in wetlands on this property without a Department of the Army permit is in most cases a violation of Section 301 of the Clean Water Act (33 USC 1311). A permit is not required for work on the property restricted entirely to existing high ground. If you have any questions regarding the Corps of Engineers regulatory program, please contact

Michael Bell at 252-975-1616 x26

Property owner/Authorized Agent Signature

Project Manager Signature Michael Bell

Date 9-12-02 Expiration Date 9-18-07

SURVEY PLAT OR FIELD SKETCH OF DESCRIBED PROPERTY AND THE WETLAND DELINEATION FORM MUST BE ATTACHED TO THE YELLOW (FILE) COPY OF THIS FORM.

CESAW Form 566
1 OCT 92

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant:		File Number:	Date:
Attached is:			See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)		A
	PROFFERED PERMIT (Standard Permit or Letter of permission)		B
	PERMIT DENIAL		C
	APPROVED JURISDICTIONAL DETERMINATION		D
	PRELIMINARY JURISDICTIONAL DETERMINATION		E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact: Mr. Bill Biddlecome, Regulatory Specialist Washington Regulatory Field Office Post Office Box 1000 Washington, North Carolina 27889 (252) 975-1616, ext. 27	If you only have questions regarding the appeal process you may also contact: Mr. Arthur Middleton, Administrative Appeal Review Officer CESAD-ET-CO-R U.S. Army Corps of Engineers, South Atlantic Division 60 Forsyth Street, Room 9M15 Atlanta, Georgia 30303-8801

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

_____ Signature of appellant or agent.	Date:	Telephone number:

DIVISION ENGINEER:
Commander
U.S. Army Engineer Division, South Atlantic
60 Forsyth Street, Room 9M15
Atlanta, Georgia 30303-3490

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1890
WILMINGTON, NORTH CAROLINA 28402-1890

RECEIVED
OCT 15 2001
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH

IN REPLY REFER TO October 9, 2001

Project Management Branch

OCT 15 2001

Mr. William D. Gilmore, PE, Manager
Project Development and Environmental Analysis
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Goodwin
B-3016 = No. 127

Dear Mr. Gilmore:

This is response to your September 25, 2001, scoping letter requesting our input on vertical clearances for replacement Bridge No. 129 over the Tar River, and Bridge No. 127 over the overflow on SR 15654, Pitt County. → B-3684 Harris

To continue snagging operations above the reaches of these two bridges using our snagboat SNELL, we will need vertical clearances of 40-feet on both bridges in order to clear the vessel's vertical structure. Any clearances less than this will eliminate our access above either bridge.

Please call me at (910) 251-4730, if you have any questions regarding our requirements.

Sincerely,

Daniel Small
Navigation Project Manager

U.S. Department of Transportation
United States Coast Guard

Commander
United States Coast Guard
Atlantic Area

431 Crawford Street
Portsmouth, Va. 23704-5004
Staff Symbol: (Aowb)
Phone: (757)398-6422

16590
15 FEB 01

RECEIVED
FEB 20 2001

Mr. William D. Gilmore, P.E.
Manager, Project Development and Environmental
Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

Dear Mr. Gilmore:

Our Bridge Staff has reviewed your plans and specifications dated July 3, 2000, for the replacement of 14 bridges in 10 different counties of North Carolina. In your letter you requested scoping comments concerning any beneficial or adverse impacts related to this project.

The original package lacked sufficient information for our office to make these determinations. Following a request, we received additional information from Wang Engineering (Engineering Consultant to this project) on January 2, 2001. Following that review, we determined that a field investigation was necessary to further evaluate the scope of these projects for Coast Guard permitting requirements.

Thirteen of the fourteen bridges involved in this project fall into the Advance Approval category. However, bridge #129, state project B-3684, on SR 1565 over the Tar River will require a Coast Guard Permit. It is a swing bridge that will be replaced with a fixed structure and navigational and environmental impacts will require further Coast Guard review.

The fact that Coast Guard permits will not be required for the advance approval bridges does not relieve you of the responsibility for compliance with the requirements of any other Federal, State, or local agency who may have jurisdiction over any aspect of these projects.

If additional information is required, please contact Mr. Bill H. Brazier at (757) 398-6422.

Sincerely,

ANN B. DEATON
Chief, Bridge Administration Section
By direction of the Commander
Fifth Coast Guard District

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

July 25, 2000

Mr. William D. Gilmore, P.E., Manager
NCDOT
Project Development and Environmental Analysis Branch
1548 Mail Service Center
Raleigh, NC 27699-1548

Dear Mr. Gilmore:

Thank you for your July 3, 2000 request for information from the U.S. Fish and Wildlife Service (Service) on the potential environmental impacts of fourteen proposed bridge replacements in various counties in eastern North Carolina. This report provides scoping information and is provided in accordance with provisions of the Fish and Wildlife Coordination Act (FWCA) (16 U.S.C. 661-667d) and Section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531-1543). This report also serves as initial scoping comments to federal and state resource agencies for use in their permitting and/or certification processes for this project.

The North Carolina Department of Transportation (NCDOT) proposes to replace the following bridge structures:

1. B-3449, Bridge No. 204 on SR 1827 over the Northeast Cape Fear River, Duplin County;

2. B-3612, Bridge No. 143 on SR 1123 over Branch of Indian Creek, Bertie County;

3. B-3626, Bridge No. 26 on SR 1154 over Branch of Newport River, Carteret County;

4. B-3640, Bridge No. 16 on SR 1400 over Merchants Mill Pond, Gates County;

5. B-3684, Bridge No. 129 on SR 1565 over the Tar River, Pitt County;

6. B-3685, Bridge No. 30 on SR 1703 over Green Mill Run, Greenville, Pitt County;

7. B-3708, Bridge No. 66 on SR 1325/SR 1583 over Welch Creek, Washington/Martin Counties;

8. B-3711, Bridge No. 42 on NC 111 over the Neuse River Outflow, Wayne County;

9. B-3712, Bridge No. 88 over SR 1006, Falling Creek, Wayne County;

10. B-3809, Bridge No. 64 on NC 99 over Pungo Creek, Beaufort County;

11. B-3810, Bridge No. 272 on SR 1514 over Big Swamp, Beaufort County;

12. B-3871, Bridge No. 64 on SR 1001 over Dog Branch, Martin County;

13. B-3884, Bridge No. 40 on SR 1308 over Squires Run, Onslow County; and,

14. B-3887, Bridge No. 116 on SR 1520 over Shaken Creek, Pender County.

The following recommendations are provided to assist you in your planning process and to facilitate a thorough and timely review of the project.

Generally, the Service recommends that wetland impacts be avoided and minimized to the maximum extent practical as outlined in Section 404 (b)(1) of the Clean Water Act Amendments of 1977. In regard to avoidance and minimization of impacts, we recommend that proposed highway projects be aligned along or adjacent to existing roadways, utility corridors, or previously developed areas in order to minimize habitat fragmentation and encroachment. Areas exhibiting high biodiversity or ecological value important to the watershed and region should be avoided. Crossings of streams and associated wetland systems should use existing crossings and/or occur on a structure wherever feasible. Where bridging is not feasible, culvert structures that maintain natural water flows and hydraulic regimes without scouring, or impeding fish and wildlife passage, should be employed. Highway shoulder and median widths should be reduced through wetland areas. Roadway embankments and fill areas should be stabilized by using appropriate erosion control devices and techniques. Wherever appropriate, construction in sensitive areas should occur outside fish spawning and migratory bird nesting seasons.

The National Wetlands Inventory (NWI) maps of the Chinquapin, Grantham,Greenville SW, Grimesland, Merchants Mill Pond, Newport, Old Ford, Ransomville, Richlands, SE Goldsboro, Stag Park, Washington, Williamston, and Woodville 7.5 Minute Quadrangles show wetland resources in the specific work areas. However, while the NWI maps are useful for providing an overview of a given area, they should not be relied upon in lieu of a detailed wetland delineation by trained personnel using an acceptable wetland classification methodology. Therefore, in addition to the above guidance, we recommend that the environmental documentation for this project include the following in sufficient detail to facilitate a thorough review of the action.

1. The extent and acreage of waters of the U.S., including wetlands, that are to be impacted by filling, dredging, clearing, ditching, or draining. Acres of wetland impact should be differentiated by habitat type based on the wetland classification scheme of the National Wetlands Inventory. Wetland boundaries should be determined by using the 1987 Corps of Wetlands Delineation Manual and verified by the U.S. Army Corps of Engineers (Corps).

2. If unavoidable wetland impacts are proposed, we recommend that every effort be made to

identify compensatory mitigation sites in advance. Project planning should include a detailed compensatory mitigation plan for offsetting unavoidable wetland impacts. Opportunities to protect mitigation areas in perpetuity, preferably via conservation easement, should be explored at the outset.

The enclosed lists identify the federally-listed endangered and threatened species, and Federal Species of Concern (FSC) that are known to occur in Beaufort, Bertie, Carteret, Duplin, Gates, Martin, Onslow, Pender, Pitt, Washington, and Wayne Counties. The Service recommends that habitat requirements for the listed species be compared with the available habitats at the respective project sites. If suitable habitat is present within the action area of the project, biological surveys for the listed species should be performed. Environmental documentation that includes survey methodologies, results, and NCDOT's recommendations based on those results, should be provided to this office for review and comment.

FSC's are those plant and animal species for which the Service remains concerned, but further biological research and field study are needed to resolve the conservation status of these taxa. Although FSC's receive no statutory protection under the ESA, we would encourage the NCDOT to be alert to their potential presence, and to make every reasonable effort to conserve them if found. The North Carolina Natural Heritage Program should be contacted for information on species under state protection.

The Service appreciates the opportunity to comment on this project. Please continue to advise us during the progression of the planning process, including your official determination of the impacts of this project. If you have any questions regarding these comments, please contact Tom McCartney at 919-856-4520, ext. 32.

Sincerely,

Garland B. Pardue

Dr. Garland B. Pardue
Ecological Services Supervisor

Enclosures

cc:
COE, Washington, NC (Michael Bell)
COE, Wilmington, NC (David Timpy)
NCDWQ, Raleigh, NC (John Hennessey)
NCDNR, Northside, NC (David Cox)
FHWA, Raleigh, NC (Nicholas Graf)
EPA, Atlanta, GA (Ted Bisterfield)

FWS/R4:TMcCartney:TM:07/24/00:919/856-4520 extension 32:\14brdgs.var

North Carolina Wildlife Resources Commission

Charles R. Fullwood, Executive Director

TO: Stacy Harris, PE
Project Engineer, NCDOT

FROM: David Cox, Highway Project Coordinator
Habitat Conservation Program

DATE: June 8, 2001

SUBJECT: NCDOT Bridge Replacements in Duplin, Bertie, Carteret, Gates, Pitt, Wayne, Beaufort, Martin, Onslow, and Pender counties of North Carolina. TIP Nos. B-3449, B-3612, B-3626, B-3640, B-3684, B-3685, B-3711, B-3712, B-3809, B-3810, B-3871, B-3884, and B-3887.

Biologists with the N. C. Wildlife Resources Commission (NCWRC) have reviewed the information provided and have the following preliminary comments on the subject project. Our comments are provided in accordance with provisions of the National Environmental Policy Act (42 U.S.C. 4332(2)(c)) and the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661-667d).

On bridge replacement projects of this scope our standard recommendations are as follows:

1. We generally prefer spanning structures. Spanning structures usually do not require work within the stream and do not require stream channel realignment. The horizontal and vertical clearances provided by bridges allows for human and wildlife passage beneath the structure, does not block fish passage, and does not block navigation by canoeists and boaters.

2. Bridge deck drains should not discharge directly into the stream.

3. Live concrete should not be allowed to contact the water in or entering into the stream.

4. If possible, bridge supports (bents) should not be placed in the stream.

5. If temporary access roads or detours are constructed, they should be removed back to original ground elevations immediately upon the completion of the project. Disturbed areas should be seeded or mulched to stabilize the soil and native tree species should be planted with a spacing of not more than 10'x10'. If possible, when using temporary

Mailing Address: Division of Inland Fisheries • 1721 Mail Service Center • Raleigh, NC 27699-1721
Telephone: (919) 733-3633 ext. 281 • Fax: (919) 715-7643

structures the area should be cleared but not grubbed. Clearing the area with chain saws, mowers, bush-hogs, or other mechanized equipment and leaving the stumps and root mat intact, allows the area to revegetate naturally and minimizes disturbed soil.

6. A clear bank (riprap free) area of at least 10 feet should remain on each side of the stream underneath the bridge.

7. In trout waters, the N.C. Wildlife Resources Commission reviews all U.S. Army Corps of Engineers nationwide and general '404' permits. We have the option of requesting additional measures to protect trout and trout habitat and we can recommend that the project require an individual '404' permit.

8. In streams that contain threatened or endangered species, NCDOT biologist Mr. Tim Savidge should be notified. Special measures to protect these sensitive species may be required. NCDOT should also contact the U.S. Fish and Wildlife Service for information on requirements of the Endangered Species Act as it relates to the project.

9. In streams that are used by anadromous fish, the NCDOT official policy entitled "Stream Crossing Guidelines for Anadromous Fish Passage (May 12, 1997)" should be followed.

10. In areas with significant fisheries for sunfish, seasonal exclusions may also be recommended.

11. Sedimentation and erosion control measures sufficient to protect aquatic resources must be implemented prior to any ground disturbing activities. Structures should be maintained regularly, especially following rainfall events.

12. Temporary or permanent herbaceous vegetation should be planted on all bare soil within 15 days of ground disturbing activities to provide long-term erosion control.

13. All work in or adjacent to stream waters should be conducted in a dry work area. Sandbags, rock berms, cofferdams, or other diversion structures should be used where possible to prevent excavation in flowing water.

14. Heavy equipment should be operated from the bank rather than in stream channels in order to minimize sedimentation and reduce the likelihood of introducing other pollutants into streams.

15. Only clean, sediment-free rock should be used as temporary fill (causeways), and should be removed without excessive disturbance of the natural stream bottom when construction is completed.

16. During subsurface investigations, equipment should be inspected daily and maintained to prevent contamination of surface waters from leaking fuels, lubricants, hydraulic fluids, or other toxic materials.

If corrugated metal pipe arches, reinforced concrete pipes, or concrete box culverts are used:

1. The culvert must be designed to allow for fish passage. Generally, this means that the culvert or pipe invert is buried at least 1 foot below the natural stream bed. If multiple cells are required the second and/or third cells should be placed so that their

bottoms are at stream bankful stage (similar to Lyonsfield design). This could be accomplished by constructing a low sill on the upstream end of the other cells that will divert low flows to another cell. This will allow sufficient water depth in the culvert or pipe during normal flows to accommodate fish movements. If culverts are long, notched baffles should be placed in reinforced concrete box culverts at 15 foot intervals to allow for the collection of sediments in the culvert, to reduce flow velocities, and to provide resting places for fish and other aquatic organisms moving through the structure.

2. If multiple pipes or cells are used, at least one pipe or box should be designed to remain dry during normal flows to allow for wildlife passage.

3. Culverts or pipes should be situated so that no channel realignment or widening is required. Widening of the stream channel at the inlet or outlet of structures usually causes a decrease in water velocity causing sediment deposition that will require future maintenance.

4. Riprap should not be placed on the stream bed.

In most cases, we prefer the replacement of the existing structure at the same location with road closure. If road closure is not feasible, a temporary detour should be designed and located to avoid wetland impacts, minimize the need for clearing and to avoid destabilizing stream banks. If the structure will be on a new alignment, the old structure should be removed and the approach fills removed from the 100-year floodplain. Approach fills should be removed down to the natural ground elevation. The area should be stabilized with grass and planted with native tree species. If the area that is reclaimed was previously wetlands, NCDOT should restore the area to wetlands. If successful, the site may be used as wetland mitigation for the subject project or other projects in the watershed.

Project specific comments:

1. B-3449 – Duplin County – Bridge No. 204 over Northeast Cape Fear River. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes an in-water work moratorium from February 1 to June 15 for areas where there is the potential for Shortnose sturgeon, an endangered species. We request that High Quality Sedimentation and Erosion Control Measures be used due to the presence of HQW waters.

2. B-3612 – Bertie County – Bridge No. 143 over a branch of Indian Creek. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes an in-water work moratorium from February 15 to June 15. We are not aware of any threatened of endangered species in the project vicinity. NCDOT should be aware that NCWRC has designated NCWRC gamelands in the vicinity of this bridge. Impacts to gameland properties should be avoided.

3. B-3626 – Carteret County – Bridge No. 26 over a branch of the New Port River. Standard comments apply. We are not aware of any threatened of endangered species in the project vicinity.

4. B-3640 – Gates County – Bridge No. 16 over Merchant's Mill Pond. Standard comments apply. We are not aware of any threatened of endangered species in the project vicinity.

5. B-3684 – Pitt County - Bridge No. 129 over Tar River. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes an in-water work moratorium from February 15 to June 15. We are not aware of any threatened of endangered species in the project vicinity. Standard comments apply.

6. B-3685 – Pitt County – Bridge No. 30 over Green Mill Run. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes an in-water work moratorium from February 15 to June 15. We are not aware of any threatened of endangered species in the project vicinity. Standard comments apply.

7. B-3711 – Wayne County – Bridge No. 42 over the Neuse River Overflow. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes an in-water work moratorium from February 15 to June 15. We are not aware of any threatened of endangered species in the project vicinity. Standard comments apply.

8. B-3712 – Wayne County – Bridge No 88 over Falling Creek. Standard comments apply. We are not aware of any threatened of endangered species in the project vicinity.

9. B-3809 – Beaufort County – Bridge No. 64 over Pungo Creek. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes an in-water work moratorium from February 15 to June 15. We are not aware of any threatened of endangered species in the project vicinity. Standard comments apply.

10. B-3810 - Beaufort County – Bridge No. 272 over Big Swamp. Standard comments apply. We are not aware of any threatened of endangered species in the project vicinity.

11. B-3871 – Martin County – Bridge No. 64 over Dog Branch. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes an in-water work moratorium from February 15 to June 15. We are not aware of any threatened of endangered species in the project vicinity. Standard comments apply.

12. B-3884 – Onslow County - Bridge No. 40 over Squires Run. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes an in-water work moratorium from February 15 to June 15. We are not aware of any threatened of endangered species in the project vicinity. Standard comments apply.

13. B-3887 – Pender County – Bridge No. 116 over Shaken Creek. Due to the potential for anadromous fish at this location, NCDOT should closely follow the "Stream Crossing Guidelines for Anadromous Fish Passage". This includes an in-water work moratorium from February 15 to June 15. We are not aware of any threatened of endangered species in the project vicinity. Standard comments apply.

We request that NCDOT routinely minimize adverse impacts to fish and wildlife resources in the vicinity of bridge replacements. The NCDOT should install and maintain sedimentation control measures throughout the life of the project and prevent wet concrete from contacting water in or entering into these streams. Replacement of bridges with spanning structures of some type, as opposed to pipe or box culverts, is recommended in most cases.

Spanning structures allow wildlife passage along streambanks, reducing habitat fragmentation and vehicle related mortality at highway crossings.

If you need further assistance or information on NCWRC concerns regarding bridge replacements, please contact me at (919) 528-9886. Thank you for the opportunity to review and comment on these projects.

Jay Wadkins
Ex 1

North Carolina Department of Cultural Resources
State Historic Preservation Office

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary
Office of Archives and History

Division of Historical Resources
David L. S. Brook, Director

RECEIVED
MAY 21 2004
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH

May 11, 2004

MEMORANDUM

TO: Gregory J. Thorpe, Ph.D., Director
Project Development and Environmental Analysis Branch
NCDOT Division of Highways

FROM: David Brook RBS for David Brook

SUBJECT: Archaeological survey and Evaluation: Proposed Replacement of Bridge No. 129, SR 1565 over the Tar River, Grimesland, B-3684, Pitt County, ER01-7088

Thank you for your letter of March 3, 2004, transmitting the archaeological survey and evaluation report by Coastal Carolina Research, Inc., for the above project.

During the course of the archaeological investigation previously recorded site 31PT6&6** was revisited and subjected to evaluative testing, and one newly recorded site, 31PT542 was identified. Both of these sites were examined to determine if they are likely to yield significant new information pertaining to the prehistory of North Carolina.

According to the report's authors testing at site 31PT6&6** revealed a possible intact Early to Middle Woodland component that may expand our knowledge and understanding of that specific cultural phenomena in the coastal plain region of North Carolina. They state that the Early to Middle Woodland component "appears to contain sufficient information potential to recommend 31PT6&6** as eligible to the National Register of Historic Places under Criterion D." We concur with this recommendation and add that if that portion of site 31PT6&6** cannot be avoided during construction, data recovery mitigation may be necessary to mitigate the adverse effect. If data recover mitigation becomes necessary, we look forward to reviewing and commenting on the data recovery plan.

The report authors also state "site 31PT542 would appear to contain some information potential. However, the site has been disturbed by the relatively recent construction of a house." They further state "due to lack of integrity, site 31PT542 is recommended as not eligible to the NRHP." We concur that site 31PT542 is not eligible for listing in the National Register of Historic Places and that it does not retain the level of integrity nor posses the potential to yield significant new information to the prehistory of North Carolina.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above-referenced tracking number.

cc: Matt Wilkerson, NCDOT
Paul Mohler, NCDOT

John: Wadsworth

RECEIVED
JUL 9 2003
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT AND ENVIRONMENTAL ANALYSIS BRANCH

North Carolina Department of Cultural Resources
State Historic Preservation Office
David L. S. Brook, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary

Division of Historical Resources
David J. Olson, Director

July 3, 2003

Gregory J. Thorpe, Ph.D.
Environmental Management Director
Project Development and Environmental Analysis Branch
Division of Highways
North Carolina Department of Transportation

Re: Bridge No. 129 on SR 1565 over the Tar River; B-3684, Pitt County, ER01-7088

Dear Dr. Thorpe:

Thank you for your letter of January 30, 2003, concerning the above project. We recommend that a comprehensive survey be conducted by an experienced archaeologist to identify and evaluate the significance of any archaeological remains that may be damaged or destroyed by the proposed project. In particular archaeological sites 31PT6 and 31PT26 are located with the proposed area of potential effect (APE). In addition archaeological sites 31PT3, 31PT19, 31PT20, and 31PT21 area all located with several hundred meters of the APE. According to the archaeological site files maintained by the Office of State Archaeology none of the sites have been adequately assessed to determine their eligibility for listing on the National Register of Historic Places

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and considerations. If you have any questions concerning the above comment, please contact Renee Gledhill-Earley, environmental review coordinator, at 919/733-4763. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,
Renee Gledhill-Earley
for David Brook

Hastiv

State of North Carolina
Department of Environment
and Natural Resources
Division of Marine Fisheries

James B. Hunt, Jr., Governor
Bill Holman, Secretary
Preston P. Pate, Jr., Director

NCDENR
NORTH CAROLINA DEPARTMENT OF
ENVIRONMENT AND NATURAL RESOURCES

RECEIVED
JUL 17 2000
DIVISION OF HIGHWAYS
PROJECT DEVELOPMENT & ENVIRONMENTAL ANALYSIS

MEMORANDUM:

TO: William D. Gilmore, NCDOT Manager Project Development and Environmental Branch

FROM: Sara E. Winslow, Biologist Supervisor

SUBJECT: Bridge Replacement Projects – TIP 2000-2006

DATE: July 13, 2000

The North Carolina Division of Marine Fisheries has reviewed the information provided relative to upcoming bridge replacement projects and submits the following comments. All of the bridges to be replaced cross documented anadromous spawning areas. These bridges are:

B-3612	Bertie County – Replace No. 143
B-3640	Gates County – Replace No. 16
B-3684	Pitt County – Replace No. 129
B-3685	Pitt County – Replace No. 30
B-3708	Washington/Martin Counties – Replace No. 66
B-3871	Martin County – Replace No. 64

The Division assumes all of the replacements will be with another bridge.

Since all of these areas are spawning areas for anadromous fish, the Division requests an in-water work moratorium. This would include removal and new construction. The requested moratorium timeframe is February 15 through June 30. This will ensure the environmental integrity is protected during critical times of usage by these species.

The Division also expresses concern relative to wetland impacts associated with removal and construction. The importance of wetlands as spawning and nursery areas, providing food directly and indirectly for aquatic resources and being vital to water quality in the receiving waters has been well documented.

This agency appreciates the opportunity to comment on the proposal. If you have any questions relative to the Divisions comments please contact me at (252) 264-3911.

P.O. Box 769, Morehead City, North Carolina 28557-0769 Telephone 252-726-7021 FAX 252-726-0254
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Subject: Grimesland Boating Access Site / Tar River & Sunset Beach
Date: Thu, 29 Jun 2000 10:54:41 -0400
From: "Myers, Gordon S." <MYERSGS@MAIL.WILDLIFE.STATE.NC.US>
To: "Gail Grimes (E-mail)" <ggrimes@dot.state.nc.us>
CC: "Cabe, Daniel E." <CABEDE@MAIL.WILDLIFE.STATE.NC.US>

MEMORANDUM VIA E-MAIL

TO: Gail Grimes

FROM: Gordon Myers

DATE: June 29, 2000

RE: Potential Boating Access Sites

Tar River at Grimesland

Subsequent to receipt of information from your office concerning proposed bridge replacements on the Tar River near Grimesland, NCWRC Division of Engineering Services staff have evaluated the feasibility for the provision of public boat access afforded by purchasing riparian property that will remain inaccessible during the construction phase. The site is very well suited for a public access facility. Additionally, staff recommends that in order to realize the full potential of the site, a partnership with a parks and recreation entity should be established. Should NCDOT elect to acquire this property and invite the NCWRC to develop a public boating access facility, I will strongly recommend this project to our governing board.

For your information, I have attached files sent to me by one our engineers, Mr. Daniel Cabe. Please let me know if you have any questions or need additional information.

Sunset Beach

After we adjourned form our last onsite meeting, we investigated additional sites in the vicinity. The best location that we found is located near the two-story pink restaurant near the Sunset Beach bridge. I have attached a vicinity map. The lon / lat are as follows:
lon 78 30.606W
lat 33 52.933N

<<potensite1.jpg>>

> *-----Original Message-----*
> *From: Cabe, Daniel E.*
> *Sent: Thursday, June 15, 2000 5:41 PM*
> *To: Myers, Gordon S.*
> *Subject: DOT proposed area on the tar*
>
> *A hard copy is in your box.*
>
> *Attatched is the memo, new baa form, and pictures.*
>
>
> *<<tarDOT.doc>> <<tarform.doc>> <<P0001000.JPG>> <<P0000999.JPG>>*
> *<<P0000998.JPG>>*

Pitt County Schools

Department of Transportation
901 Mall Drive
Greenville, North Carolina 27834

Office: (252) 756-1424
Fax: (252) 756-8243

May 15, 2002

Stacy B. Harris, P.E.
NC Department of Transportation
1548 Mail Service Center
Raleigh, NC 27699-1548

Reference: Replace Bridge No. 129 over the Tar River

Dear Stacy Harris:

In November 2001 the Pitt County Board of Education approved a high assignment plan which assigns students along the Clark Neck Road to D. H. Conley High School. This assignment plan will be phased in over the next three years.

Upon full implementation in the 2004–2005 school year students in grades 9 – 12 from along the Clarks Neck Road will attend D. H. Conley. At that time our projections are that we will have two school buses a day making two trips a day across Bridge No. 129.

If you have any questions about this correspondence, please give me a call at (252) 756-1424.

Cordially,

Joey Weathington

Joey Weathington
Transportation Director
Pitt County Schools

Cc: Dr. John McKnight

Town of Grimesland

P. O. Box 147
GRIMESLAND, NORTH CAROLINA 27837-0147
(252) 752-6337 -:- Fax (252) 752-7433

OCTOBER 11, 2001

Stacy Harris, P.E.
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, North Carolina 27699-1548

FAX: 919-733-9794

RE:: PROPOSED REPLACEMENT OF BRIDGE NO. 129, SR 1565
OVER THE TAR RIVER, GRIMESLAND, NC

Dear Mr. Harris:

In reference to the NOTICE OF INTENT TO PREPARE A MEMORANDUM OF AGREEMENT FOR THE PROPOSED REPLACEMENT OF BRIDGE # 129 ON SR 1565 OVER THE TAR RIVER, we would like to make you aware of the following concerns:

1. If the bridge is closed down for a period of two years, or two weeks, it would present a potential hazard for our residents living on both sides of the Tar River.
2. There is a public school, G.R. Whitfield School, in that area that would be isolated if there was an accident involving the train, especially a chemical spill. The children and teachers would not have a way to evacuate that area.
3. It would hinder our law enforcement and rescue service from reaching citizens of Pitt County on the North side of the river.
4. Would hinder both Pitt and Beaufort County residents from going to and from work.
5. Economically, it would be a tremendous hardship on the town and the surrounding area.

In light of the recent events involving terrorism, the threat of chemical war fare, and the items mentioned above, we believe there should be an access to allow crossing the Tar River at this point.

Thank you for any consideration you can give us in helping us have a safe way to cross the river at this point during this replacement of the bridge.

Sincerely,

Evelyn Littles

THE TOWN OF GRIMESLAND BOARD OF ALDERMEN

Mayor Evelyn Littles

Mayor Pro-tem Edward Earl Aldridge

Alderman Thyra Hinson

Alderman Thomas Dixon

Alderman Gerald Whitley

cc: Collice Moore
John McKnight

Town of Grimesland

P. O. Box 147
GRIMESLAND, NORTH CAROLINA 27837-0147
(252) 752-6337 -:- Fax (252) 752-7433

April 11, 2003

Ms. Stacy Harris, P.E.,
Project Development & Environmental Analysis Branch
North Carolina Department of Transportation
1548 Mail Service Center
Raleigh, NC 27699-1548

Dear Ms. Harris:

As you may be aware, there is currently an existing swing bridge. NC Department of launch facility. The existing launch is easily accessible and can accommodate boats up to 35 feet in length.

However, current plans forecast construction of a new high-rise fixed type span to begin in 2005. This plan will eliminate the existing bridge, NC State Road 1566 and the access it provides to the boat landing. It also will require the removal of a significant portion of the existing NC State Road 1565 south of the Tar River. We are formally requesting the installation of a NCWRC boat launch facility near the vicinity of the proposed bridge.

The reasons for our request are as follows:

- The proposed boat ramp elimination would have an adverse economic impact on area businesses. Two tackle shops are located within 2 miles of the existing landing. Under the proposed construction plan, the nearest landing access would be approximately 10 miles east and 10 miles west of the proposed bridge. The existing landing, and the access it provides to the Tar River, helps in large part to sustain the economic status of several families and service oriented businesses in our community.
- The recreational impact will also greatly affect our citizenry. The sting of creating wetlands where the former NC DOT state ponds were located (immediately north of the existing bridge) has already affected area fishermen. For years these ponds provided a great number of anglers who enjoyed bank fishing with a viable fishery. No landing access will also eliminate the revenue generated from recreational boaters visiting our community.

- The proposed construction plan will leave The Town of Grimesland, which was founded on the banks of the Tar River, will not have an access point to the River. This access has for years helped sustain and enrich the lives of citizens in the Town of Grimesland and surrounding community.
- Development may be hindered. This can be attributed to a Town without access to its' greatest asset.
- The existing boat ramp and facility has served all of Eastern Pitt County as a launching facility for area emergency rescue attempts and training. Again, with boat launching access 10 miles upstream or downstream, valuable time or lives could be lost.
- The existing road that approaches the south bank of the river could be wholly or partially used as an access point to a new landing. This could potentially save the Bridge Project time and money since removal of the existing road would be unnecessary.
- A new landing could be incorporated into the proposed bridge construction project. Doing this could lead to a cost savings on the ramp construction since construction crews would already be mobilized.

I look forward to working with you or any other interested parties on this worthwhile endeavor. Please contact me at your earliest convenience to discuss these matters.

Sincerely,

E. Earl Aldridge

Mayor E. Earl Aldridge
Town of Grimesland

WETLAND RATING WORKSHEET Fourth Version

Project Name B-3684 Bridge No. 129 over Tar River Nearest Road SR 1565
County Pitt Wetland Area _____ acres Wetland Width _____ feet
Name of evaluator L. Warlick / C. McKenzie Date Sept. 13, 2001

Wetland Location

___ on pond or lake
X on perennial stream
___ on intermittent stream
___ within interstream divide
___ other _____

Soil series Portsmouth loam

___ predominantly organic - humus, muck, or peat
X predominantly mineral - non-sandy
___ predominantly sandy

Hydraulic factors

___ steep topography
___ ditched or channelized
X total wetland width ≥100 feet

Adjacent land use
(within 1/2 mile upstream, upslope, or radius)

___ forested/natural vegetation 35 %
___ agriculture, urban/suburban 60 %
___ impervious surface 5 %

Dominant vegetation

(1) Taxodium distichum
(2) Nyssa aquatica
(3) Liquidambar styraciflua

Flooding and wetness

___ semipermanently to permanently flooded or inundated
X seasonally flooded or inundated
___ intermittanly flooded or temporary surface water
___ no evidence of flooding or surface water

Wetland type (select one)* Coastal Plain Bottomland Hardwoods > 300' Feet From Surface Water

X Bottomland hardwood forest
___ Headwater forest
___ Swamp forest
___ Wet flat
___ Pocosin
___ Bog forest
___ Pine savanna
___ Freshwater marsh
___ Bog/fen
___ Ephemeral wetland
___ Carolina Bay
___ Other _____

*the rating system cannot be applied to salt or brackish marshes or stream channels

			weight	
R	Water storage	3	x 4.00 =	12
A	Bank/Shoreline stabilization	1	x 4.00 =	4
T	Pollutant removal	4 *	x 5.00 =	20
I	Wildlife habitat	5	x 2.00 =	10
N	Aquatic life value	1	x 4.00 =	4
G	Recreation/Education	3	x 1.00 =	3

Wetland Rating: 53

*Add 1 point if in sensitive watershed and >10% nonpoint disturbance within 1/2 mile upstream, upslope, or radius

WETLAND RATING WORKSHEET Fourth Version

Project Name B-3684 Bridge No. 129 Nearest Road SR 1565
County Pitt Wetland Area _____ acres Wetland Width _____ feet
Name of evaluator L. Warlick / C. McKenzie Date Sept. 13, 2001

Wetland Location

___ on pond or lake
X on perennial stream
___ on intermittent stream
___ within interstream divide
___ other _____

Soil series Swamp

___ predominantly organic - humus, muck, or peat
X predominantly mineral - non-sandy
___ predominantly sandy

Hydraulic factors

___ steep topography
___ ditched or channelized
X total wetland width ≥100 feet

Adjacent land use
(within 1/2 mile upstream, upslope, or radius)

___ forested/natural vegetation 30 %
___ agriculture, urban/suburban 65 %
___ impervious surface 5 %

Dominant vegetation

(1) Fraxinus pennsylvanica
(2) Impatiens capensis
(3) Liquidambar styraciflua

Flooding and wetness

___ semipermanently to permanently flooded or inundated
X seasonally flooded or inundated
___ intermittanly flooded or temporary surface water
___ no evidence of flooding or surface water

Wetland type (select one)* (Coastal Plain Small Stream Swamp)

X Bottomland hardwood forest
___ Headwater forest
___ Swamp forest
___ Wet flat
___ Pocosin
___ Bog forest
___ Pine savanna
___ Freshwater marsh
___ Bog/fen
___ Ephemeral wetland
___ Carolina Bay
___ Other _____

*the rating system cannot be applied to salt or brackish marshes or stream channels

RATING			weight	
R	Water storage	2	x 4.00 =	8
A	Bank/Shoreline stabilization	4	x 4.00 =	16
T	Pollutant removal	2	* x 5.00 =	10
I	Wildlife habitat	1	x 2.00 =	2
N	Aquatic life value	2	x 4.00 =	8
G	Recreation/Education	3	x 1.00 =	3

Wetland Rating: 47

*Add 1 point if in sensitive watershed and >10% nonpoint disturbance within 1/2 mile upstream, upslope, or radius

Wetland Rating Worksheet

Project name B-3684; Bridge #129, SR1565 over TAR RIVER Nearest road SR 1566
County Pitt Name of Evaluator S. GARRIOCK Date 2/14/01

Wetland location

- _ on pond or lake
- ✓ on perennial stream
- _ on intermittent stream
- _ within interstream divide
- _ other

Adjacent land use (within 1/2 mile upstream)

forested/natural vegetation ____ %
agriculture, urban/suburban ____ %
impervious surface ____ %

Soil Series SWAMP

- ✓ predominantly organic-humus, muck, or peat
- _ predominantly mineral- non-sandy
- _ predominantly sandy

Dominant Vegetation

(1) Bald Cypress
(2) Water tupelo
(3) Lizard's tail

Flooding and Wetness

- ✓ semipermanently to permanently flooded or inundated
- _ seasonally flooded or inundated
- _ intermittently flooded or temporary surface water
- _ no evidence of flooding or surface water

Hydraulic Factors

- _ steep topography
- _ ditched or channelized
- ✓ wetland width >/= 50 feet

Wetland Type (select one)

- _ Bottomland hardwood forest
- _ Headwater forest
- ✓ Swamp forest
- _ Wet flat
- _ Pocosin
- _ Pine savanna
- _ Freshwater marsh
- _ Bog/fen
- _ Ephemeral wetland
- _ Other

*The rating system cannot be applied to salt or brackish marshes

Water storage	5	*	4	=	20	
Bank/Shoreline stabilization	3	*	4	=	12	Total score
Pollutant removal	5	*	5	=	25	84
Wildlife habitat	2	*	2	=	4	
Aquatic life value	5	*	4	=	20	
Recreation/Education	3	*	1	=	3	

Add 1 point if in sensitive watershed and >10% nonpoint disturbance within 1/2 mile upstream

WETLAND RATING WORKSHEET Fourth Version

BOTTOMLAND HARDWOODS ≥ 300' FROM SURFACE WATER

Project Name GRIMESLAND MITIGATION PLAN Nearest Road SR 1565
County PITT Wetland Area >10 acres Wetland Width >300 feet
Name of evaluator MLM- HSMM INC. Date 4/24/00

Wetland Location	Adjacent land use (within 1/2 mile upstream, upslope, or radius)
___ on pond or lake	X forested/natural vegetation 60 %
___ on perennial stream	X agriculture, urban/suburban 40 %
X on intermittent stream	___ impervious surface ___ %
___ within interstream divide	
___ other ___	**Dominant vegetation**
Soil series Portsmouth loam	(1) Quercus phellos
___ predominantly organic - humus, muck, or peat	(2) Acer rubrum
X predominantly mineral - non-sandy	(3) Arundinaria gigantea
___ predominantly sandy	**Flooding and wetness**
Hydraulic factors	___ semipermanently to permanently flooded or inundated
___ steep topography	X seasonally flooded or inundated
___ ditched or channelized	___ intermittanly flooded or temporary surface water
X total wetland width ≥100 feet	___ no evidence of flooding or surface water

Wetland type (select one)*

X Bottomland hardwood forest	___ Pine savanna
___ Headwater forest	___ Freshwater marsh
___ Swamp forest	___ Bog/fen
___ Wet flat	___ Ephemeral wetland
___ Pocosin	___ Carolina Bay
___ Bog forest	___ Other ___

*the rating system cannot be applied to salt or brackish marshes or stream channels

			weight	
R	Water storage	3	x 4.00 =	12
A	Bank/Shoreline stabilization	2	x 4.00 =	8
T	Pollutant removal	3 *	x 5.00 =	15
I	Wildlife habitat	5	x 2.00 =	10
N	Aquatic life value	1	x 4.00 =	4
G	Recreation/Education	3	x 1.00 =	3

Wetland Rating: 52

*Add 1 point if in sensitive watershed and >10% nonpoint disturbance within 1/2 mile upstream, upslope, or radius

WETLAND RATING WORKSHEET Fourth Version

BOTTOMLAND HARDWOODS ≤ 300' FROM SURFACE WATER

Project Name GRIMESLAND MITIGATION PLAN Nearest Road SR 1565
County PITT Wetland Area >10 acres Wetland Width >300 feet
Name of evaluator MLM - HSMM INC. Date 4/24/00

Wetland Location

___ on pond or lake
X on perennial stream
___ on intermittent stream
___ within interstream divide
___ other _____

Soil series Swamp deposits, Portsmouth loam

X predominantly organic - humus, muck, or peat
X predominantly mineral - non-sandy
___ predominantly sandy

Hydraulic factors

___ steep topography
___ ditched or channelized
X total wetland width ≥100 feet

Adjacent land use
(within 1/2 mile upstream, upslope, or radius)

X forested/natural vegetation 60 %
X agriculture, urban/suburban 40 %
___ impervious surface ___ %

Dominant vegetation

(1) Quercus phellos
(2) Acer rubrum
(3) Arundinaria gigantea

Flooding and wetness

___ semipermanently to permanently flooded or inundated
X seasonally flooded or inundated
___ intermittanly flooded or temporary surface water
___ no evidence of flooding or surface water

Wetland type (select one)*

X Bottomland hardwood forest
___ Headwater forest
___ Swamp forest
___ Wet flat
___ Pocosin
___ Bog forest
___ Pine savanna
___ Freshwater marsh
___ Bog/fen
___ Ephemeral wetland
___ Carolina Bay
___ Other _____

*the rating system cannot be applied to salt or brackish marshes or stream channels

			weight		
R	Water storage	4	x 4.00 =	16	
A	Bank/Shoreline stabilization	3	x 4.00 =	12	
T	Pollutant removal	4	* x 5.00 =	20	
I	Wildlife habitat	4	x 2.00 =	8	
N	Aquatic life value	4	x 4.00 =	16	
G	Recreation/Education	4	x 1.00 =	4	

Wetland Rating: 76

*Add 1 point if in sensitive watershed and >10% nonpoint disturbance within 1/2 mile upstream, upslope, or radius

RELOCATION REPORT

North Carolina Department of Transportation
AREA RELOCATION OFFICE

[X] E.I.S. [ ] CORRIDOR [ ] DESIGN

PROJECT:	8.2221101	COUNTY	Pitt	Alternate 3 (F) of 4 Alternate
I.D. NO.:	B-3684	F.A. PROJECT	N/A	
DESCRIPTION OF PROJECT:	Replace Bridge No. 129 and No. 127 on SR 1565 over Tar River			

ESTIMATED DISPLACEES

Type of Displacees	Owners	Tenants	Total	Minorities
Residential				
Businesses				
Farms				
Non-Profit				

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP

VALUE OF DWELLING				DSS DWELLING AVAILABLE			
Owners		Tenants		For Sale		For Rent	
0-20M	--	$ 0-150	--	0-20M	--	$ 0-150	--
20-40M	--	150-250	--	20-40M	--	150-250	--
40-70M	--	250-400	--	40-70M	--	250-400	--
70-100M	--	400-600	--	70-100M	46	400-600	--
100 UP	--	600 UP	--	100 UP	16	600 UP	--
TOTAL	--		--		62		--

ANSWER ALL QUESTIONS

Yes	No	*Explain all "YES" answers.*
		1. Will special relocation services be necessary?
		2. Will schools or churches be affect by displacement?
		3. Will business services still be available after project?
		4. Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
		5. Will relocation cause a housing shortage?
		6. Source for available housing (list).
		7. Will additional housing programs be needed?
		8. Should Last Resort Housing be considered?
		9. Are there large, disabled, elderly, etc. families?
		10. Will public housing be needed for project?
		11. Is public housing available?
		12. Is it felt there will be adequate DSS housing housing available during relocation period?
		13. Will there be a problem of housing within financial means?
		14. Are suitable business sites available (list source).
		15. Number months estimated to complete RELOCATION?

REMARKS (Respond by Number)

All residential displacees are counted as families.

THIS IS A NEGATIVE REPORT
NO RELOCATION INVOLVED

G. Alton Glover *GAG*	06/26/01	*[illegible signature]*	*6/27/01*
Relocation Agent	Date	Approved by	Date

Form 15.4 Revised 02/95 d

Original & 1 Copy: State Relocation Agent
2 Copy Area Relocation Office

[redacted]LOCATION REPORT

North Carolina Department of Transportation
AREA RELOCATION OFFICE

[X] E.I.S. [ ] CORRIDOR [ ] DESIGN

PROJECT:	8.2221101	COUNTY	Pitt	Alternate 2 (E) of 4 Alternate
I.D. NO.:	B-3684	F.A. PROJECT	N/A	
DESCRIPTION OF PROJECT:	Replace Bridge No. 129 and No. 127 on SR 1565 over Tar River			

ESTIMATED DISPLACEES

Type of Displacees	Owners	Tenants	Total	Minorities
Residential	1	0	1	0
Businesses				
Farms				
Non-Profit				

INCOME LEVEL

0-15M	15-25M	25-35M	35-50M	50 UP
--	--	--	--	1

VALUE OF DWELLING				DSS DWELLING AVAILABLE			
Owners		Tenants		For Sale		For Rent	
0-20M	--	$ 0-150	--	0-20M	--	$ 0-150	--
20-40M	--	150-250	--	20-40M	--	150-250	--
40-70M	--	250-400	--	40-70M	--	250-400	--
70-100M	--	400-600	--	70-100M	46	400-600	--
100 UP	1	600 UP	--	100 UP	16	600 UP	--
TOTAL	1		--		62		--

ANSWER ALL QUESTIONS

Yes	No	*Explain all "YES" answers.*
	X	1. Will special relocation services be necessary?
	X	2. Will schools or churches be affect by displacement?
X		3. Will business services still be available after project?
	X	4. Will any business be displaced? If so, indicate size, type, estimated number of employees, minorities, etc.
	X	5. Will relocation cause a housing shortage?
X		6. Source for available housing (list).
	X	7. Will additional housing programs be needed?
X		8. Should Last Resort Housing be considered?
	X	9. Are there large, disabled, elderly, etc. families?
	X	10. Will public housing be needed for project?
X		11. Is public housing available?
X		12. Is it felt there will be adequate DSS housing housing available during relocation period?
	X	13. Will there be a problem of housing within financial means?
X		14. Are suitable business sites available (list source).
		15. Number months estimated to complete RELOCATION? **15 Months**

REMARKS (Respond by Number)

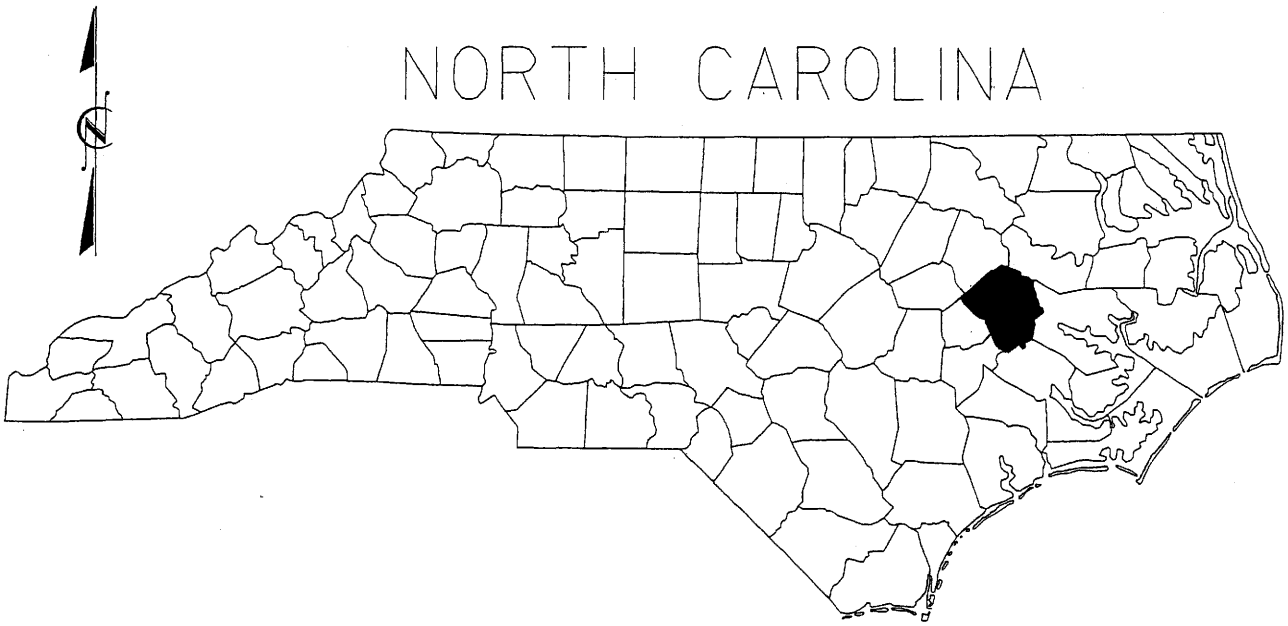
All residential displacees are counted as families.

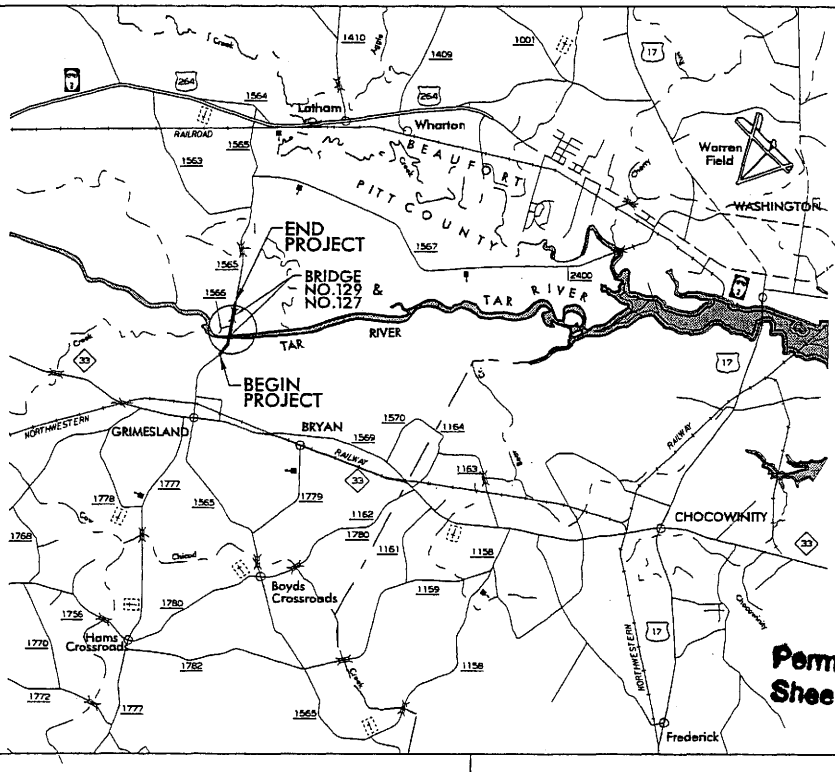
3. There are no businesses affected by this project.
6 & 14. MLS, newspaper, individuals, realtors
8. As Mandated by State Law
11. Pitt County
12. Or built if necessary

G. Alton Glover	06/26/01		6/27/01
Relocation Agent	Date	Approved by	Date

Form 15.4 Revised 02/95 d

Original & 1 Copy: State Relocation Agent
2 Copy Area Relocation Office





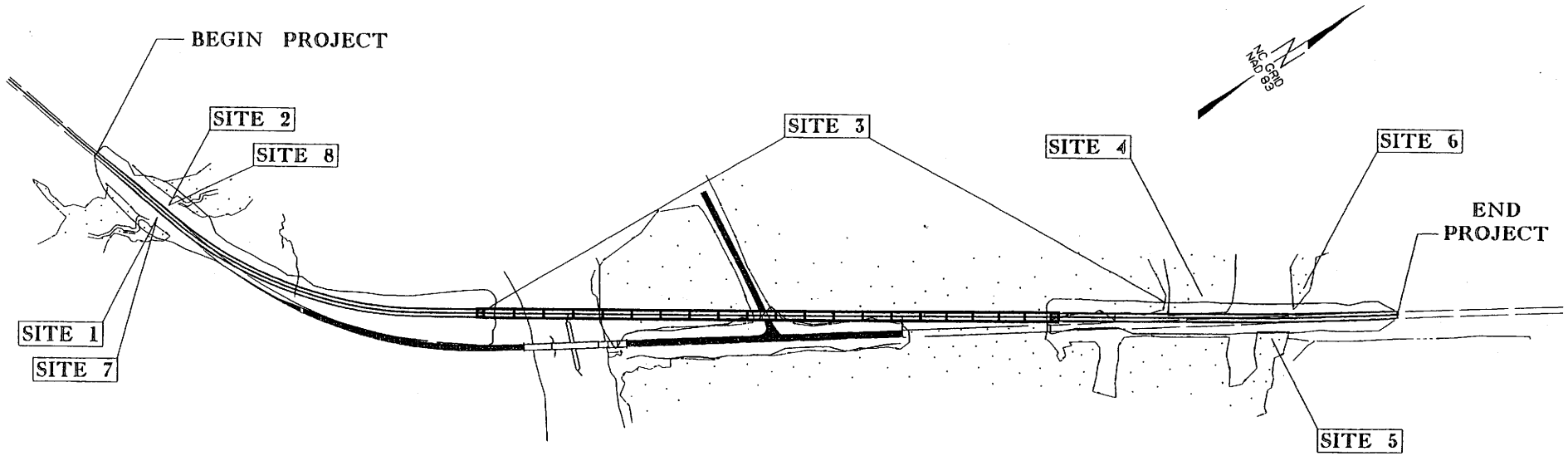
Permit Drawing
Sheet 1 of 35

VICINITY MAPS

NCDOT

DIVISION OF HIGHWAYS
PITT COUNTY
PROJECT: 33225.1.1 (B-3684)
BRIDGE NO. 129 OVER TAR RIVER AND BRIDGE NO. 127 OVER TAR RIVER OVERFLOW ON SR 1565

SHEET OF 5/7/07



SITE MAP

NOT TO SCALE

NCDOT

DIVISION OF HIGHWAYS

PITT COUNTY

PROJECT: 33225.1.1 (B-3684)

BRIDGE NO. 129 OVER TAR RIVER AND BRIDGE NO. 127 OVER TAR RIVER OVERFLOW ON SR 1565

SHEET OF 5/7/07

Permit Drawing
Sheet 2 of 35

PROPERTY OWNERS

NAMES AND ADDRESSES

PARCEL NO.	NAMES	ADDRESSES
1	DAVID H. SMALL	310 7TH STREET BUTNER, NC 27509
2	GREGORY W. SIDERS	253 S. GRIMESLAND BRIDGE RD. GRIMESLAND, NC 27837
3	ROBERT ALONZA GRAY	PO BOX 312 GRIMESLAND, NC 27837
4	GREGORY K. RAY	4823 MILLFIELD LN. GRIMESLAND, NC 27837
	LOUIS ELMORE HODGES	PO BOX 535 GRIMESLAND, NC 27837
6	EDWARD J. McMULLEN	PO BOX 123 GRIMESLAND, NC 27837
7	DEBBIE PHELPS	3129 PINE BARK RD. GREENVILLE, NC 27858
8	NCDOT	1500 MAIL SERVICE CENTER RALEIGH, NC 27699

Permit Drawing
Sheet 3 of 35

NCDOT

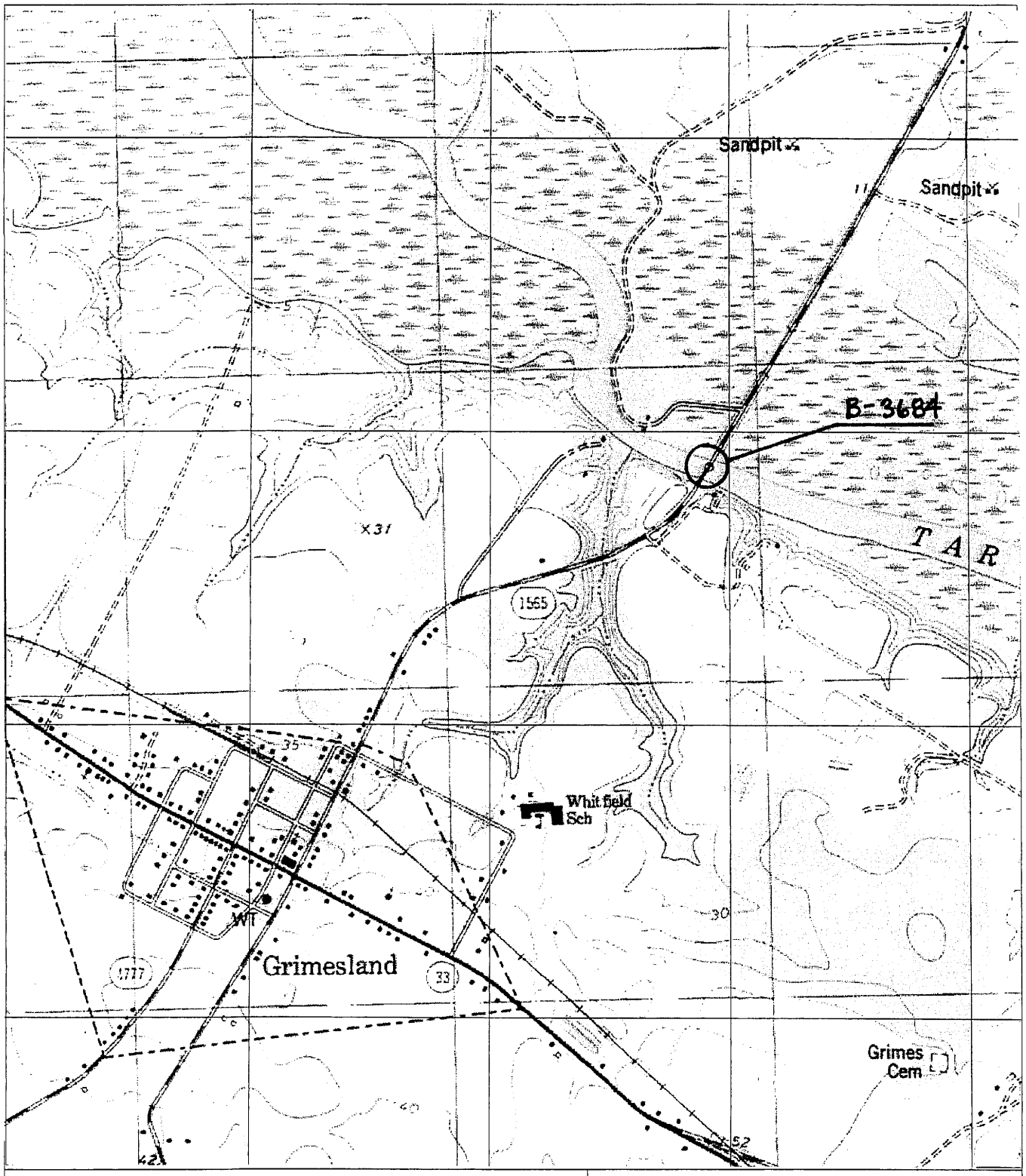
DIVISION OF HIGHWAYS

PITT COUNTY

PROJECT: 33225.1.1 (B-3684)

BRIDGE NO. 129 OVER TAR RIVER AND BRIDGE NO. 127 OVER TAR RIVER OVERFLOW ON SR 1565

SHEET OF 5/7/07



TOPO MAP

SCALE: 1" = 1500'

NCDOT

DIVISION OF HIGHWAYS
PITT COUNTY
PROJECT: 33225.1.1 (B-3684)
BRIDGE NO. 129 OVER TAR RIVER AND BRIDGE NO. 127 OVER TAR RIVER OVERFLOW ON SR 1565

SHEET OF 5/7/07

Permit Drawing
Sheet 4 of 35

WETLAND PERMIT IMPACT SUMMARY

			WETLAND IMPACTS					SURFACE WATER IMPACTS				
Site No.	Station (From/To)	Structure Size / Type	Permanent Fill In Wetlands (ac)	Temp. Fill In Wetlands (ac)	Excavation in Wetlands (ac)	Mechanized Clearing in Wetlands (ac)	Hand Clearing in Wetlands (ac)	Permanent SW impacts (ac)	Temp. SW impacts (ac)	Existing Channel Impacts Permanent (ft)	Existing Channel Impacts Temp. (ft)	Natural Stream Design (ft)
1	15+00 to 17+80 Rt.	3@48" & 1@ 60"	0.18		0.00	0.05		0.02		100.00		
2	15+00 to 17+80 Lt.	3@48" & 1@ 60"	0.18		0.00	0.02		0.02		81.00		
3	33+00 to 52+65	1@103'-11", 3@102'9", 11@100', 4@90', 1@91'-2"	0.44			0.12	3.36					
4	54+00 Lt.		0.19			0.05						
5	56+30 Rt.		0.01			0.03						
6	57+15 Lt.		0.01			0.01						
TOTALS:			1.01		0.01	0.27		0.04		181.00		

NC DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PITT COUNTY
WBS - 33225.1.1 (B-3684)

ATN Revised 3/31/05

SHEET 1 of 39206.00

Permit Drawing
Sheet 5 of 35

8/17/99

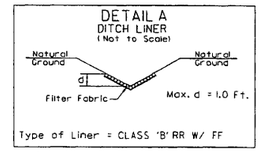
REVISIONS

DENOTES FILL IN WETLAND

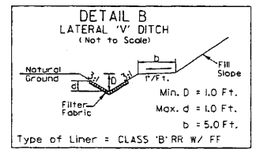
DENOTES EXCAVATION IN WETLAND

DENOTES FILL IN SURFACE WATER

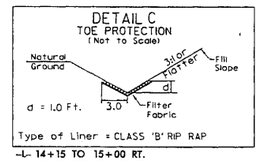
DENOTES MECHANIZED CLEARING



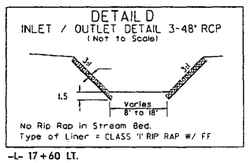
-L- STA. 14+75 TO 15+84 LT.



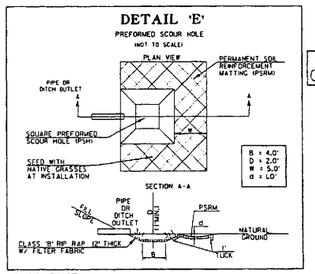
-L- 15+84 TO 16+50 LT.



-L- 14+15 TO 15+00 RT.
-L- 17+50 TO 19+00 RT.
-L- 18+50 TO 19+25 LT.



-L- 17+60 LT.
-L- 16+88 RT.



-L- 16+58 LT.

ENGLISH

USE METHOD 3 FOR CLEARING AND GRUBBING

PITT COUNTY
SR 1565
5/7/2007

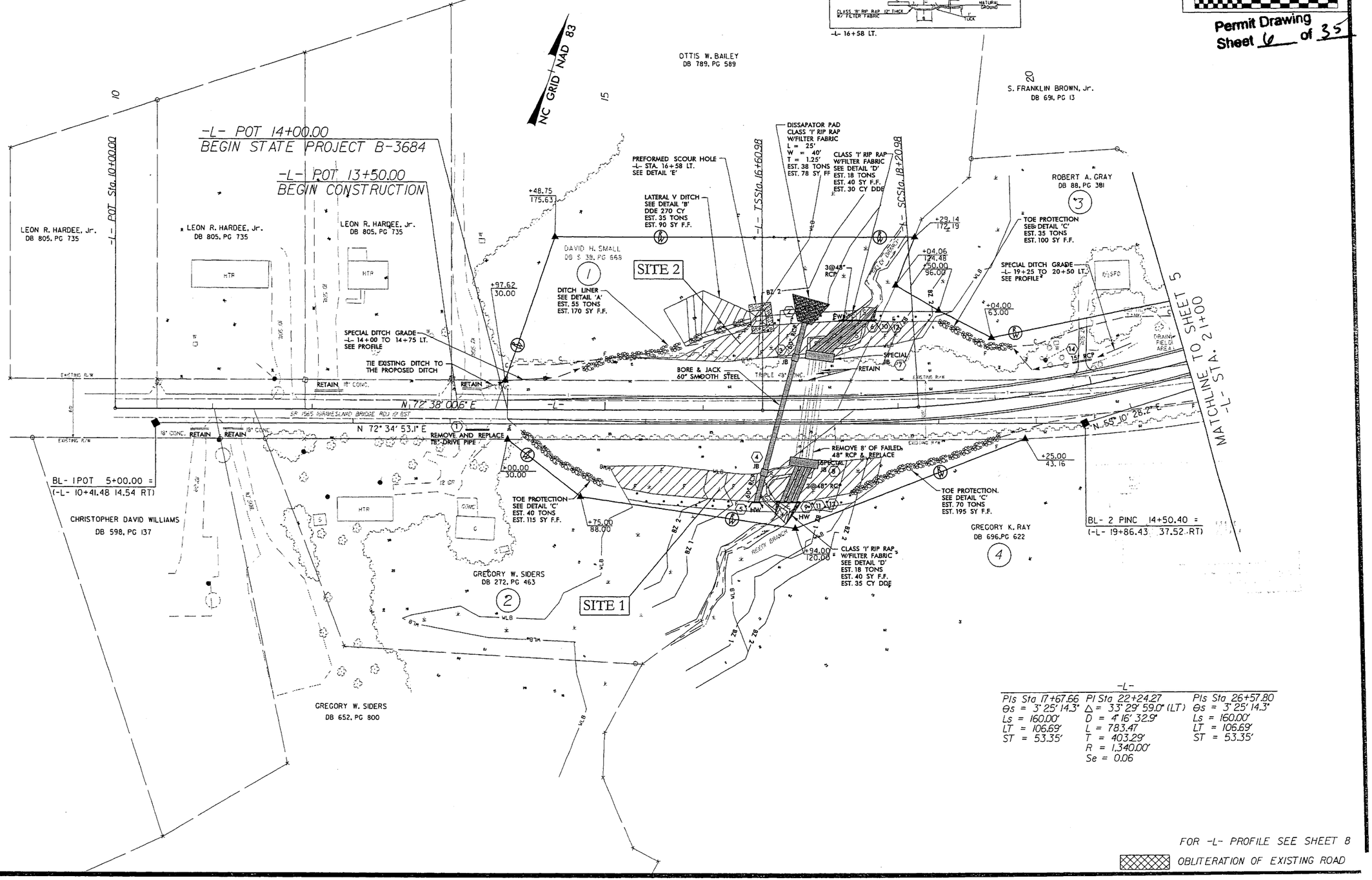
PROJECT REFERENCE NO.	SHEET
B-3684	
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

50 0 100

Permit Drawing
Sheet 6 of 35



-L-

PIs Sta 17+67.66	PI Sta 22+24.27	PIs Sta 26+57.80
Θs = 3° 25' 14.3"	Δ = 33° 29' 59.0" (LT)	Θs = 3° 25' 14.3"
Ls = 160.00'	D = 4° 16' 32.9"	Ls = 160.00'
LT = 106.69'	L = 783.47	LT = 106.69'
ST = 53.35'	T = 403.29'	ST = 53.35'
	R = 1,340.00'	
	Se = 0.06	

FOR -L- PROFILE SEE SHEET 8

OBLITERATION OF EXISTING ROAD

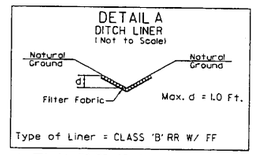
5/25/2007
R:\Hydraulics\permits\sh08_V8.dgn

DENOTES FILL IN WETLAND

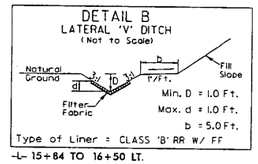
DENOTES EXCAVATION IN WETLAND

DENOTES FILL IN SURFACE WATER

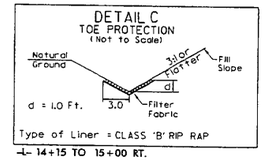
DENOTES MECHANIZED CLEARING



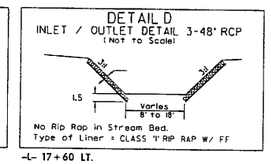
-L- STA. 14+75 TO 15+84 LT.



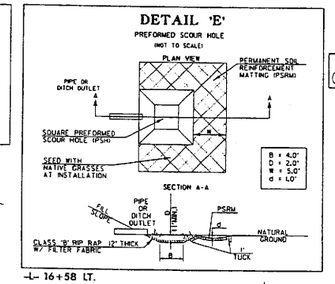
-L- 15+84 TO 16+50 LT.



-L- 14+15 TO 15+00 RT.
-L- 17+50 TO 19+00 RT.
-L- 18+50 TO 19+25 LT.



-L- 17+60 LT.
-L- 16+88 RT.



-L- 16+58 LT.

ENGLISH

USE METHOD 3 FOR CLEARING AND GRUBBING

PITT COUNTY
SR 1565
5/7/2007

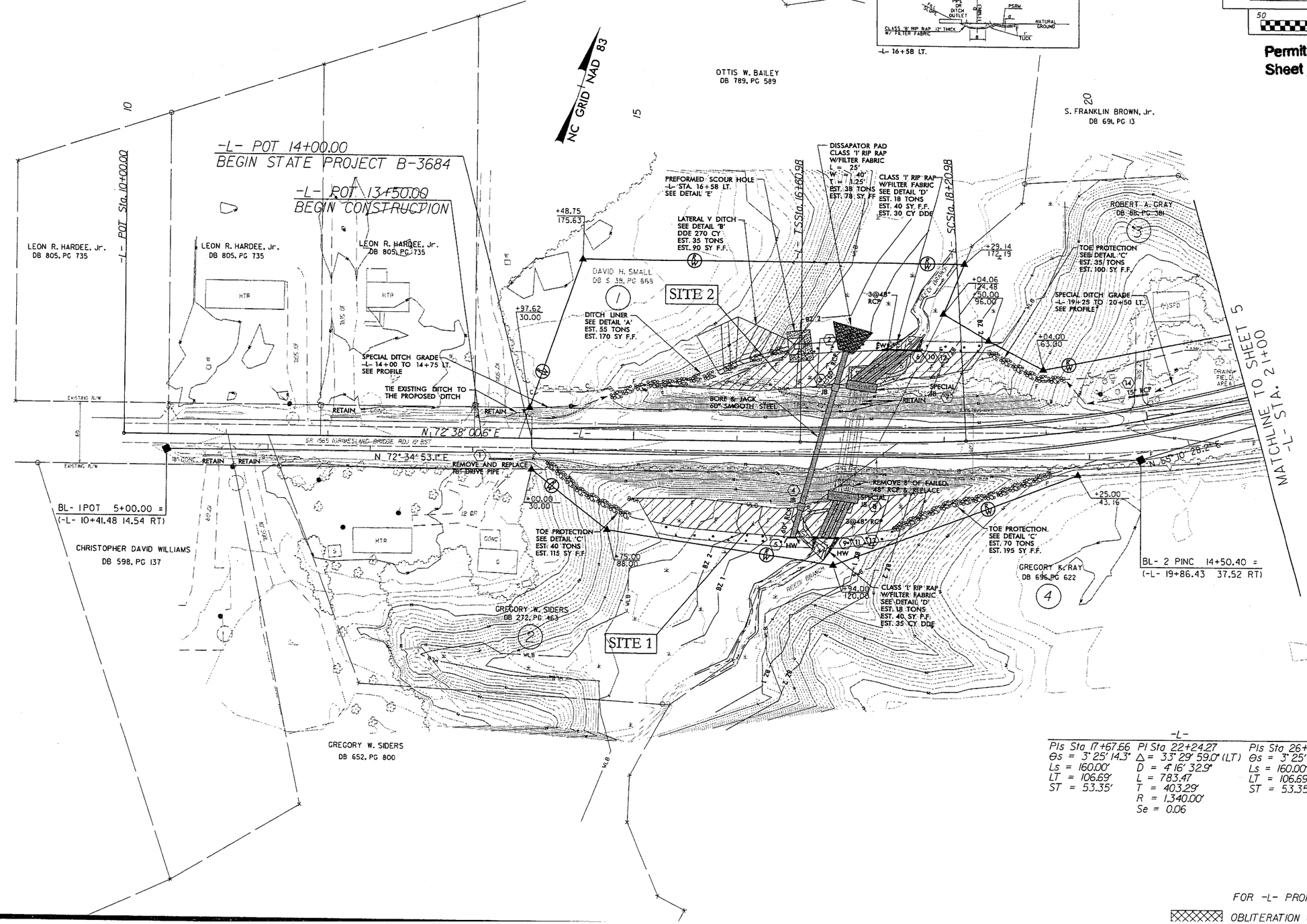
PROJECT REFERENCE NO.	SHEET
B-3684	-
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

50 0 100

Permit Drawing
Sheet 7 of 35



-L-

PIs Sta 17+67.66	PI Sta 22+24.27	PIs Sta 26+57.80
Θs = 3° 25' 14.3"	Δ = 33° 29' 59.0" (LT)	Θs = 3° 25' 14.3"
Ls = 160.00'	D = 4° 16' 32.9"	Ls = 160.00'
LT = 106.69'	L = 783.47	LT = 106.69'
ST = 53.35'	T = 403.29'	ST = 53.35'
	R = 1,340.00'	
	Se = 0.06	

FOR -L- PROFILE SEE SHEET 8

OBLITERATION OF EXISTING ROAD

REVISIONS

8/17/99

5/25/2007
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PROJECT REFERENCE NO.	SHEET NO.
B-3684	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Permit Drawing
Sheet 8 of 35

50 0 100

ENGLISH

USE METHOD 3 FOR CLEARING AND GRUBBING

PITT COUNTY
SR 1565
5/7/2007

NC GRID NAD 83

DENOTES HAND CLEARING

DENOTES FILL IN SURFACE WATER

DENOTES RESTORED WETLANDS

-L-

PIs Sta 17+67.66	PI Sta 22+24.27	PIs Sta 26+57.80
Θs = 3° 25' 14.3"	Δ = 33° 29' 59.0" (LT)	Θs = 3° 25' 14.3"
Ls = 160.00'	D = 4° 16' 32.9"	Ls = 160.00'
LT = 106.69'	L = 783.47'	LT = 106.69'
ST = 53.35'	T = 403.29'	ST = 53.35'
	R = 1,340.00'	
	Se = 0.06	

MATCHLINE TO SHEET 4
-L- STA. 21+00

MATCHLINE TO SHEET 6
-L- STA. 34+00

S. FRANKLIN BROWN, Jr.
DB 691, PG 13

ROBERT A. GRAY
DB 88, PG 381

EDWARD J. McMULLEN
DB 145, PG 689

GREGORY K. RAY
DB 696, PG 622

GREGORY K. RAY
DB 722, PG 95

LOUIS ELMORE HODGES
DB T44, PG 329

DEBBIE PHELPS
DB 540 PG 183

DEBBIE PHELPS
DB 540 PG 183

CLASS 'B' RIP RAP W/FILTER FABRIC
EST. 3 TONS
EST. 10 SY F.F.

CLASS 'II' RIP RAP W/FILTER FABRIC
EST. ??? TONS
EST. ??? SY F.F.

PREFORMED SCOUR HOLE
SEE DETAIL 'E'

CLOSED DRAINAGE SYSTEM REQUIRED ON BRIDGE FROM STA. 29+28 TO 31+68 -L- LT. AND RT. INLETS SPACED 12' ON CENTER. THIS SYSTEM WILL NEED TO TIE INTO THE 2GI'S OFF THE BRIDGE END.

FROM STATION 32+15 TO 34+07 CLOSED SYSTEM WITH INLETS SPACED 12' ON CENTER AND OUTLETING DOWN BENT #5 INTO DISSIPATOR PAD.

TEMPORARY WORK BRIDGE

2GI W/FLAT GRATE

18" CSP W/ 2 ELBOWS W/ ROD & LUG CONNECTOR W/GASKETS

COLLAR

STA 28+60 TO STA 28+82 SHBG

RETAIN

GRADE TO DRAIN

N 55° 10' 28.2" E

N 32° 17' 33.3" E

N 31° 38' 08.0" E

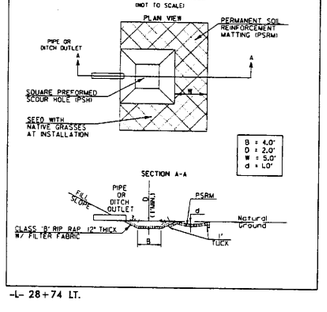
SR 1565 (GRIMESLAND BRIDGE RD.)

BL- 3 PINC 21+37.43 GPS "B3016-1"
(-L- 26+36.54 122.87 RT)

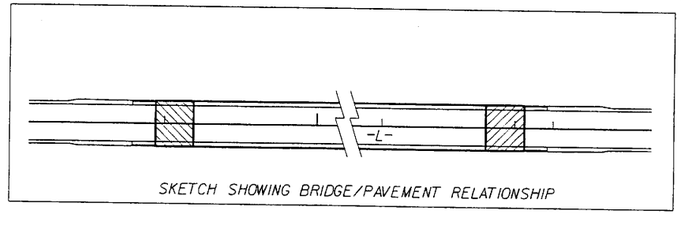
SITE 3

DETAIL 'E'

PREFORMED SCOUR HOLE
(NOT TO SCALE)



-L- 28+74 LT.



SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

FOR -L- PROFILE SEE SHEET 8

OBLITERATION OF EXISTING ROAD

REVISIONS

12-07-07 R/W REVISION
ADJUSTED EASEMENT TO PARCEL NO.7 DUE TO PERMIT DRAWING IN THE GRIMESLAND MITIGATION SITE.

8/17/99

12/11/2007
R:\Hydraulics\Permits\B05_V8.dgn

PROJECT REFERENCE NO.	SHEET NO.
B-3684	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

Permit Drawing
Sheet 9 of 35

50 0 100

ENGLISH

USE METHOD 3 FOR CLEARING AND GRUBBING

PITT COUNTY
SR 1565
5/7/2007

HC DENOTES HAND CLEARING

S DENOTES FILL IN SURFACE WATER

R DENOTES RESTORED WETLANDS

-L-

PIs Sta 17+67.66	PI Sta 22+24.27	PIs Sta 26+57.80
Θs = 3° 25' 14.3"	Δ = 33° 29' 59.0" (LT)	Θs = 3° 25' 14.3"
Ls = 160.00'	D = 4° 16' 32.9"	Ls = 160.00'
LT = 106.69'	L = 783.47'	LT = 106.69'
ST = 53.35'	T = 403.29'	ST = 53.35'
	R = 1,340.00'	
	Se = 0.06	

NC GRID NAD 83

CLOSED DRAINAGE SYSTEM REQUIRED ON BRIDGE FROM STA. 29+28 TO 31+68 -L- LT. AND RT. INLETS SPACED 12' ON CENTER. THIS SYSTEM WILL NEED TO TIE INTO THE 2GI'S OFF THE BRIDGE END.

FROM STATION 32+15 TO 34+07 CLOSED SYSTEM WITH INLETS SPACED 12' ON CENTER AND OUTLETING DOWN BENT #5 INTO DISSIPATOR PAD.

S. FRANKLIN BROWN, Jr.
DB 691, PG 13
5

ROBERT A. GRAY
DB 88, PG 381
3

EDWARD J. McMULLEN
DB 145, PG 689
6

DEBBIE PHELPS
DB 540 PG 183
7

GREGORY K. RAY
DB 696, PG 622
4

GREGORY K. RAY
DB 722, PG 95

LOUIS ELMORE HODGES
DB T44, PG 329

DEBBIE PHELPS
DB 540 PG 183

MATCHLINE TO SHEET 4
-L- STA. 21+00

MATCHLINE TO SHEET 6
-L- STA. 34+00

-L- CS Sta. 26+04.45

-L- ST Sta. 27+64.45

CLASS 'B' RIP RAP W/FILTER FABRIC
EST. 3 TONS
EST. 10 SY F.F.

CLASS 'I' RIP RAP W/FILTER FABRIC
EST. ??? TONS
EST. ??? SY F.F.

PREFORMED SCOUR HOLE
SEE DETAIL 'E'

+57.56
30.00

+30.00
130.00

+30.00
100.00

+78.38
B 16.17

+82.33
25.00

+93.00
54.00

+50.00
70.00

+00.00
43.00

+50.00
56.00

+04.45
65.00

2GI W/FLAT GRATE

18" CSP W/ 2 ELBOWS W/ ROD & LUG CONNECTOR W/GASKETS

18" RCP

COLLAR

16" PVC

TEMPORARY WORK BRIDGE

W 32° 17' 33.8" E

N 55° 10' 28.2" E

N 37° 38' 08.0" E

STA. 28+60 TO
STA. 28+82 SHBC

GRADE TO DRAIN

RETAIN

BL- 3 PINC 21+37.43 GPS "B3016-1"
(-L- 26+36.54 122.87 RT)

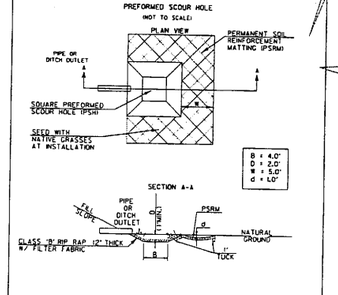
SITE 3

FOR -L- PROFILE SEE SHEET 8

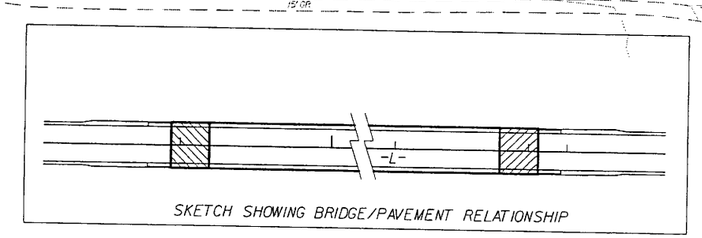
OBLITERATION OF EXISTING ROAD

DETAIL 'E'

PREFORMED SCOUR HOLE
(NOT TO SCALE)



-L- 28+74 LT.



SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

REVISIONS

8/17/99

5/25/2007
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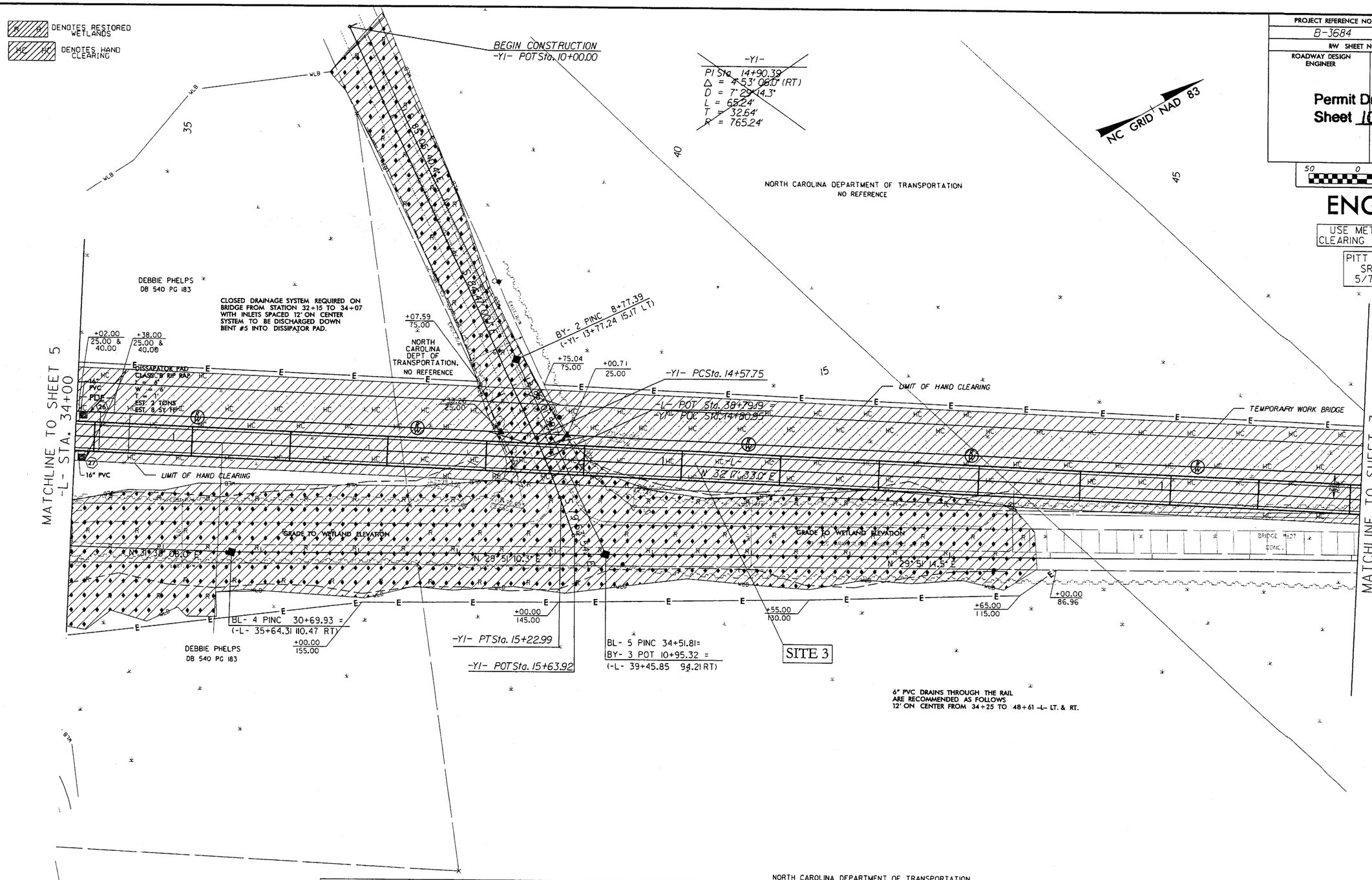
PROJECT REFERENCE NO.	SHEET NO.
B-3684	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Permit Drawing
Sheet 10 of 35

ENGLISH

USE METHOD 3 FOR CLEARING AND GRUBBING

PITT COUNTY
SR 1565
5/7/2007



FOR -L- PROFILE SEE SHEET 8 & 9

OBLITERATION OF EXISTING ROAD

REVISIONS

12-07-07 R/W REVISION
ADJUSTED EASEMENT TO PARCEL NO.7 & NO.8 DUE TO PERMIT DRAWING IN THE GRIMESLAND MITIGATION SITE.

8/17/99

12/11/2007
R:\HydraulicsV\Permits.sh06.v8.dgn

PROJECT REFERENCE NO.	SHEET NO.
B-3684	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

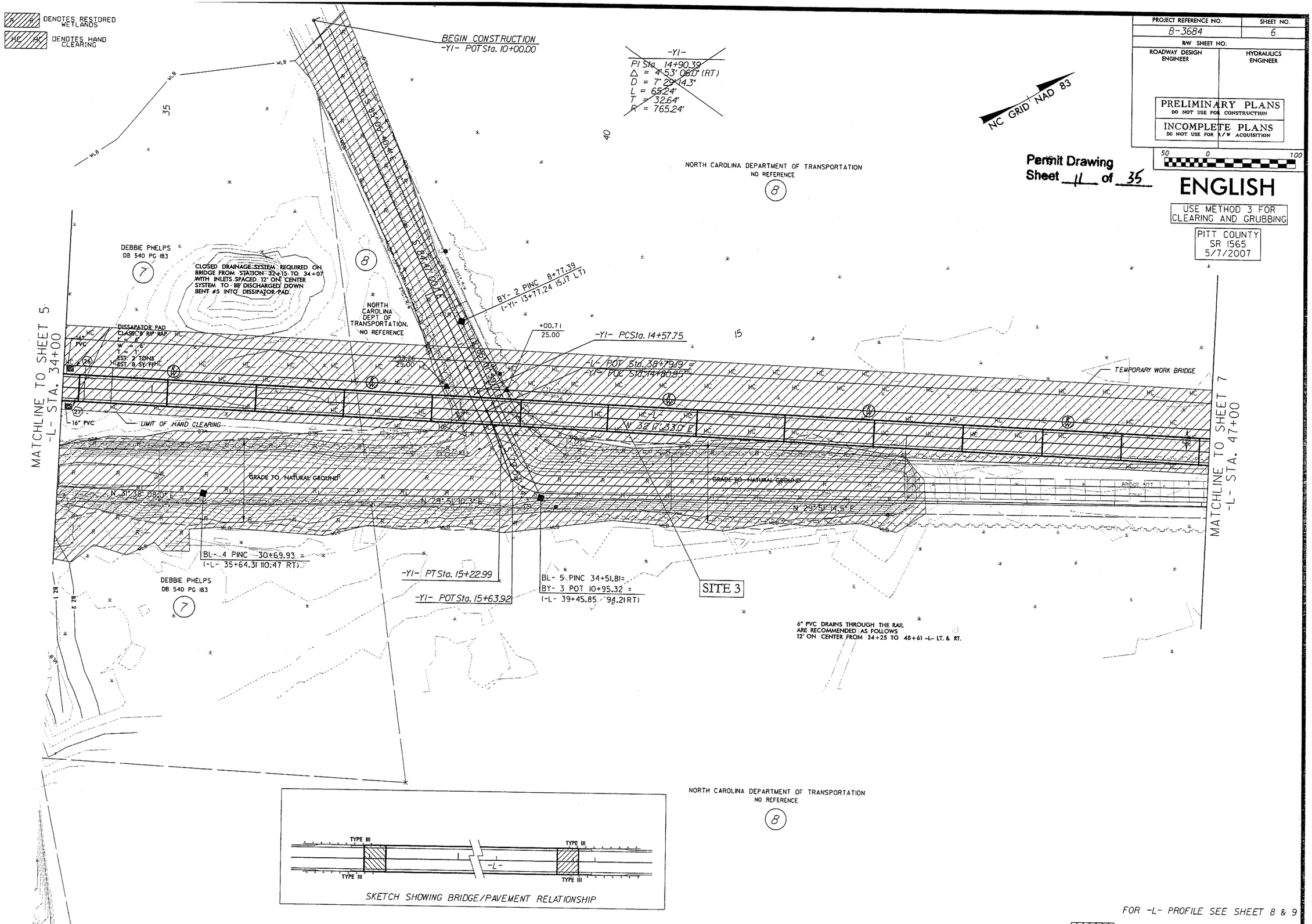
50 0 100

Permit Drawing
Sheet 11 of 35

ENGLISH

USE METHOD 3 FOR CLEARING AND GRUBBING

PITT COUNTY
SR 1565
5/7/2007



FOR -L- PROFILE SEE SHEET 8 & 9

OBLITERATION OF EXISTING ROAD

REVISIONS

8/17/99

5/25/2007
R:\Hydraulics\Permit.sh06.V8.dgn

DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

DENOTES HAND CLEARING

ENGLISH

USE METHOD 3 FOR CLEARING AND GRUBBING

PITT COUNTY
SR 1565
5/7/2007

NC GRID NAD 83

PROJECT REFERENCE NO.	SHEET NO.
B-3684	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

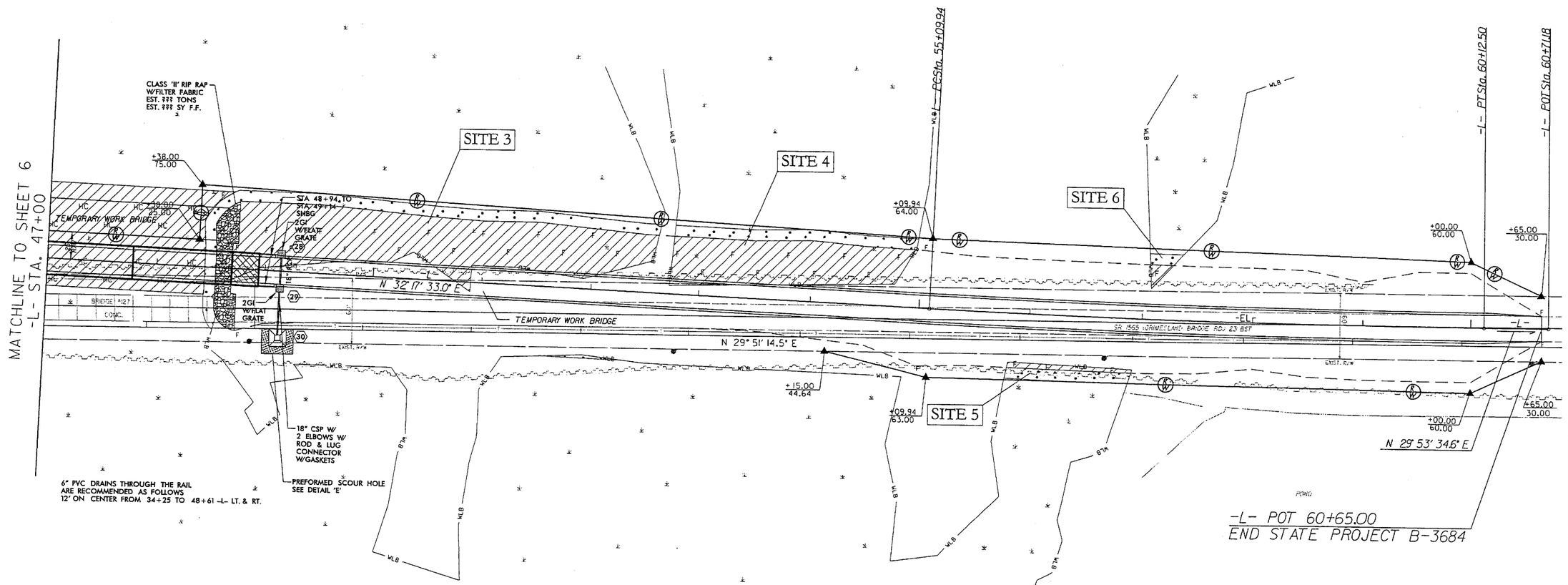
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

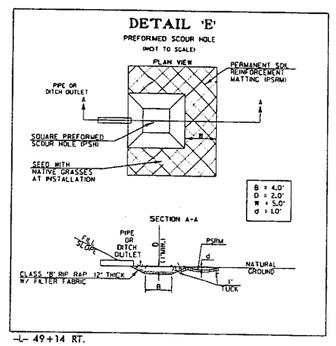
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

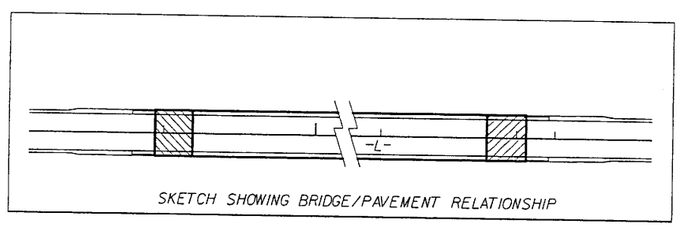
50 0 100

Permit Drawing
Sheet 12 of 135

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
NO REFERENCE
8







SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
NO REFERENCE
8

-L-
PI Sta 57+61.26
Δ = 2° 23' 58.4" (LT)
D = 0° 28' 38.9"
L = 502.56'
T = 251.32'
R = 12,000.00'
Se = NC

FOR -L- PROFIILE SEE SHEET 9

OBLITERATION OF EXISTING ROAD

REVISIONS

8/17/99

5/25/2007
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DENOTES FILL IN WETLAND

DENOTES MECHANIZED CLEARING

DENOTES HAND CLEARING

ENGLISH

USE METHOD 3 FOR CLEARING AND GRUBBING

PITT COUNTY
SR 1565
5/7/2007

NC GRID NAD 83

PROJECT REFERENCE NO.	SHEET NO.
B-3684	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

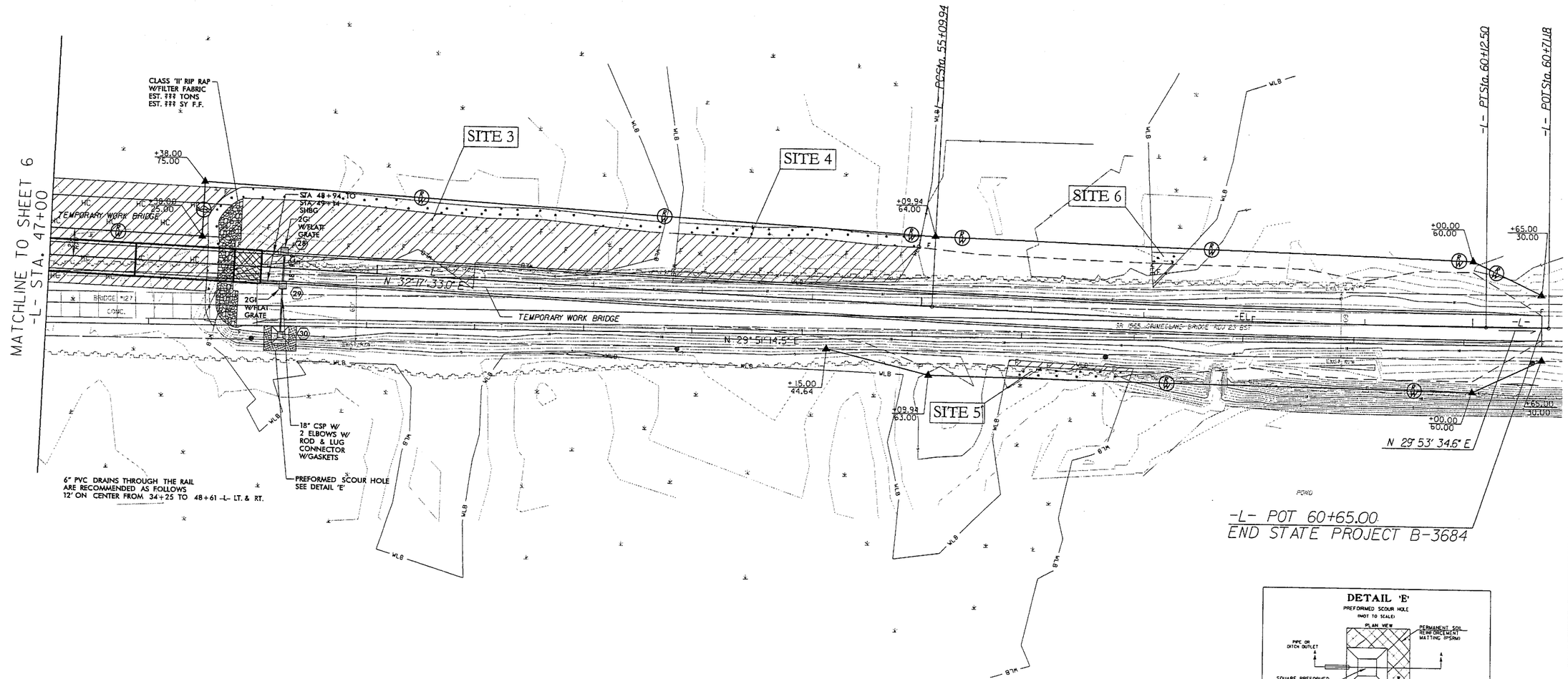
PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

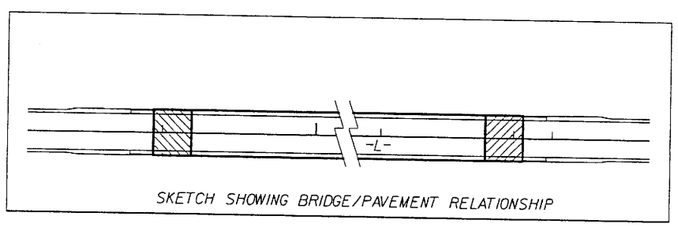
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

50 0 100

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
NO REFERENCE
8

Permit Drawing
Sheet 13 of 35

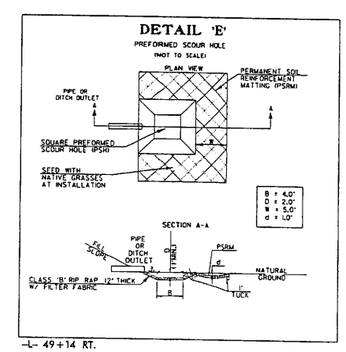




SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
NO REFERENCE
8

-L-
PI Sta 57+61.26
Δ = 2° 23' 58.4" (LT)
D = 0° 28' 38.9"
L = 502.56'
T = 251.32'
R = 12,000.00'
Se = NC



-L- 49+14 RT.

FOR -L- PROFIILE SEE SHEET 9

OBLITERATION OF EXISTING ROAD

REVISIONS

8/17/99

5/25/2007
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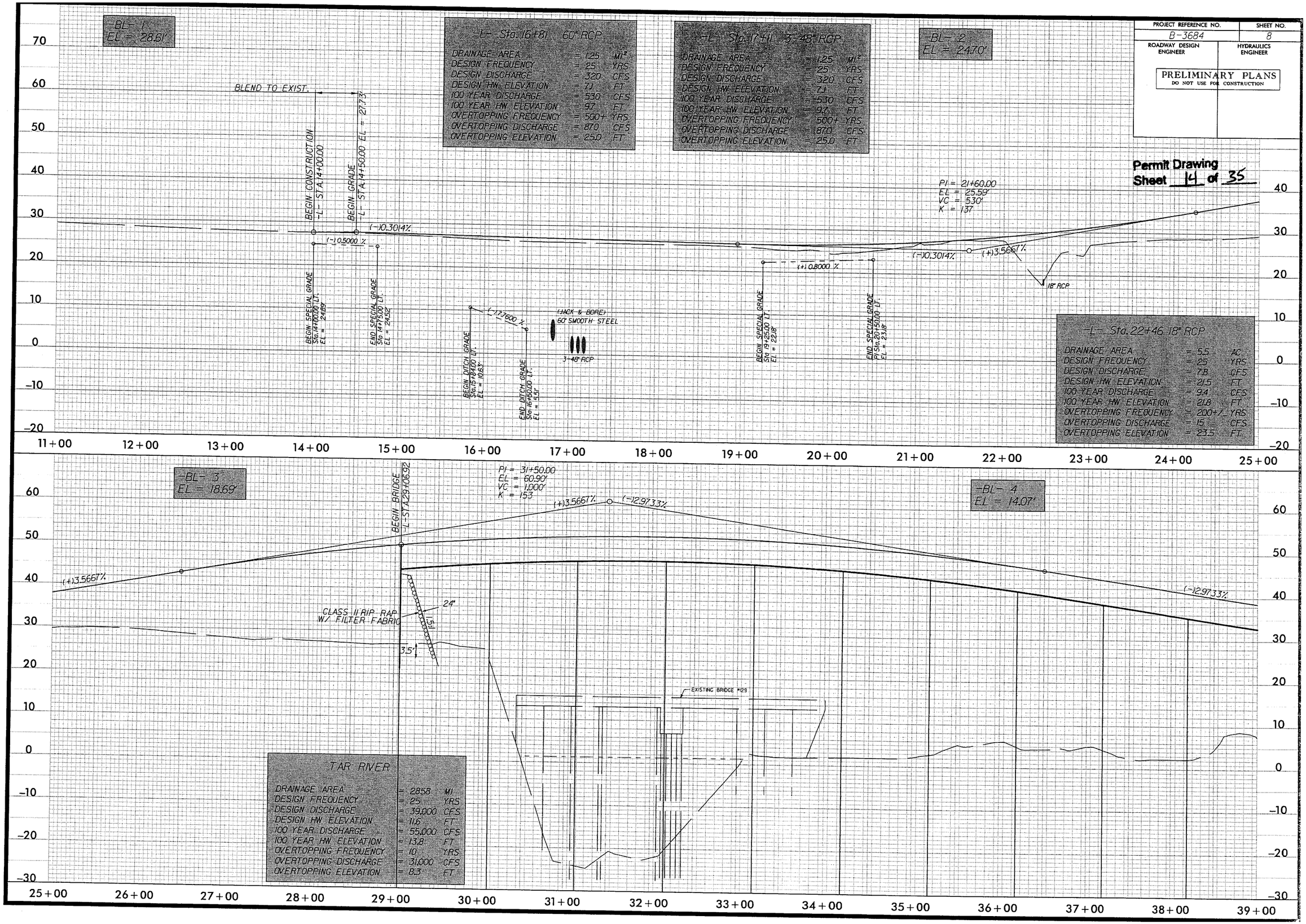
PROJECT REFERENCE NO.	SHEET NO.
B-3684	8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

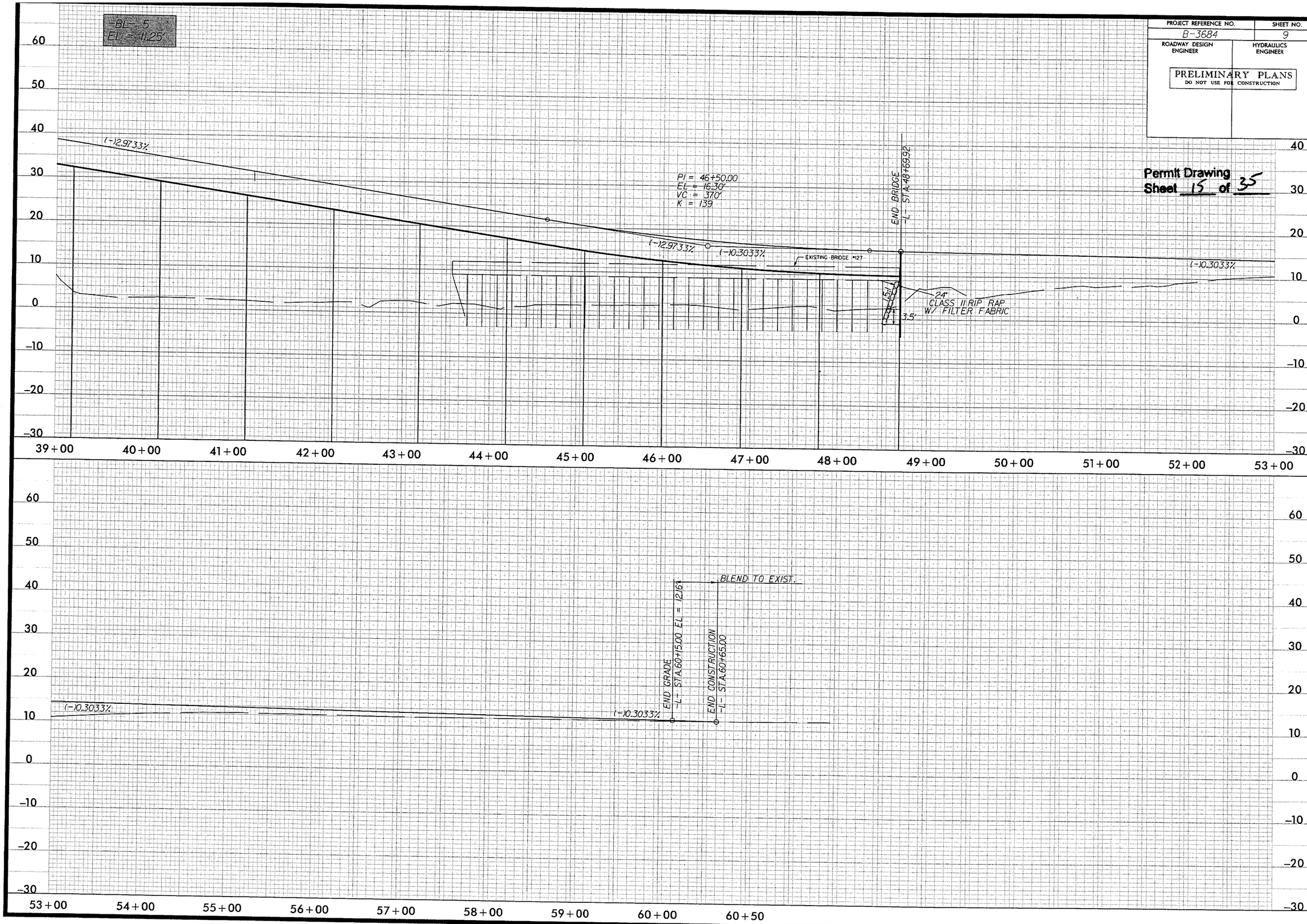
Permit Drawing
Sheet 14 of 35



PROJECT REFERENCE NO.	SHEET NO.
B-3684	9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Permit Drawing
Sheet 15 of 35

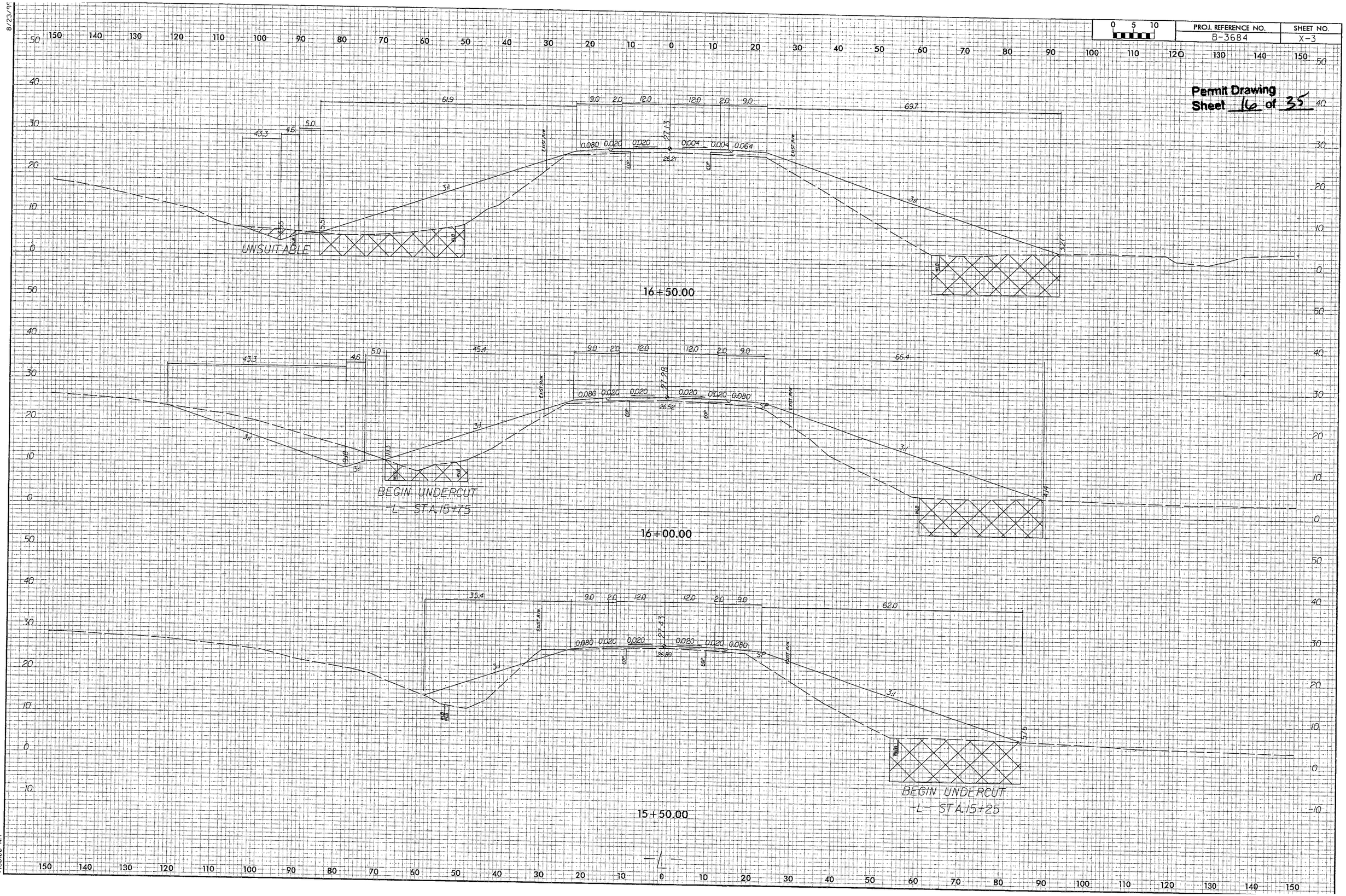


8/23/99

PROJ. REFERENCE NO.	SHEET NO.
B-3684	X-3

0 5 10

Permit Drawing
Sheet 16 of 35



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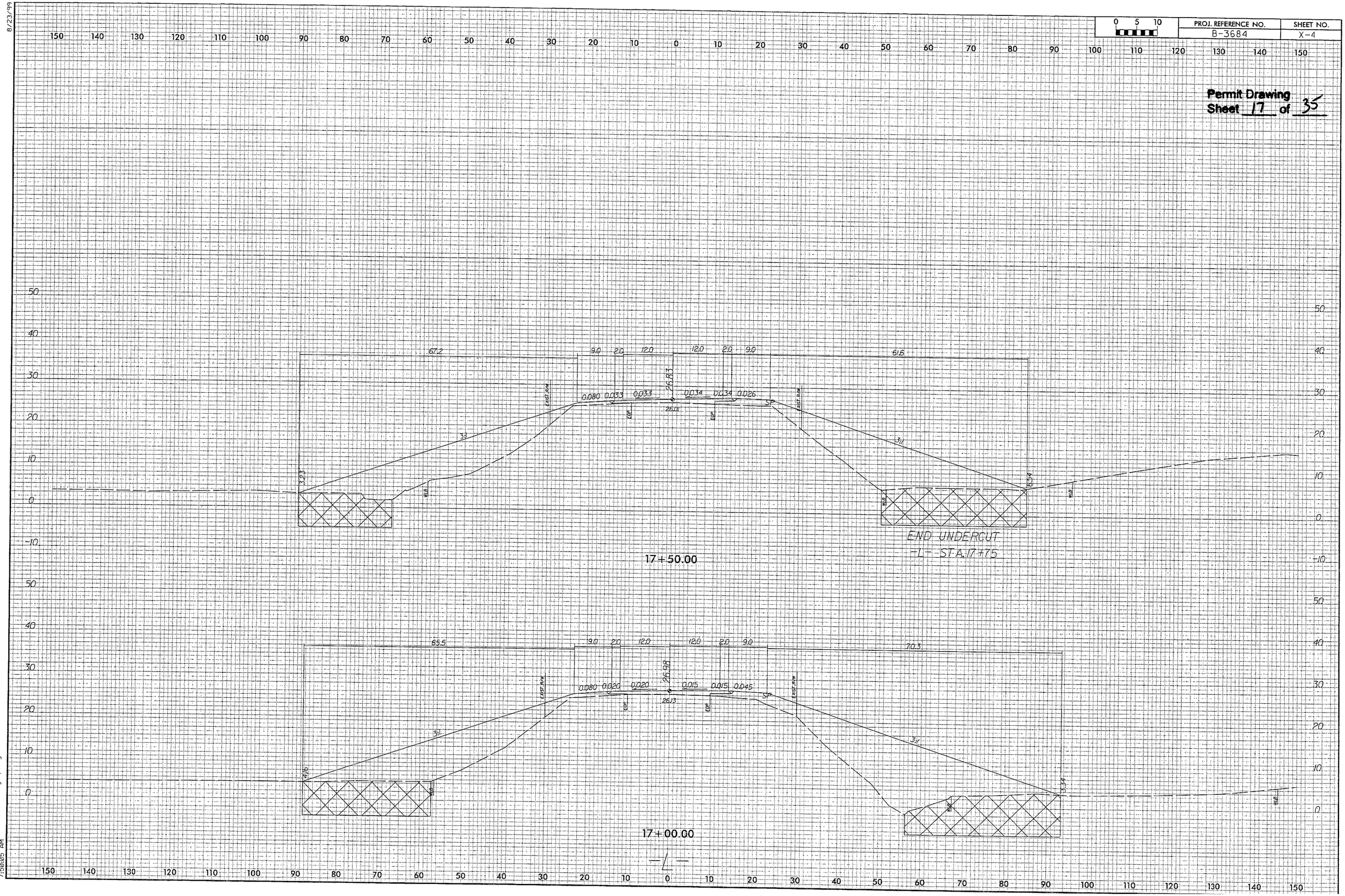
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-3684	X-4

Permit Drawing
Sheet 17 of 35



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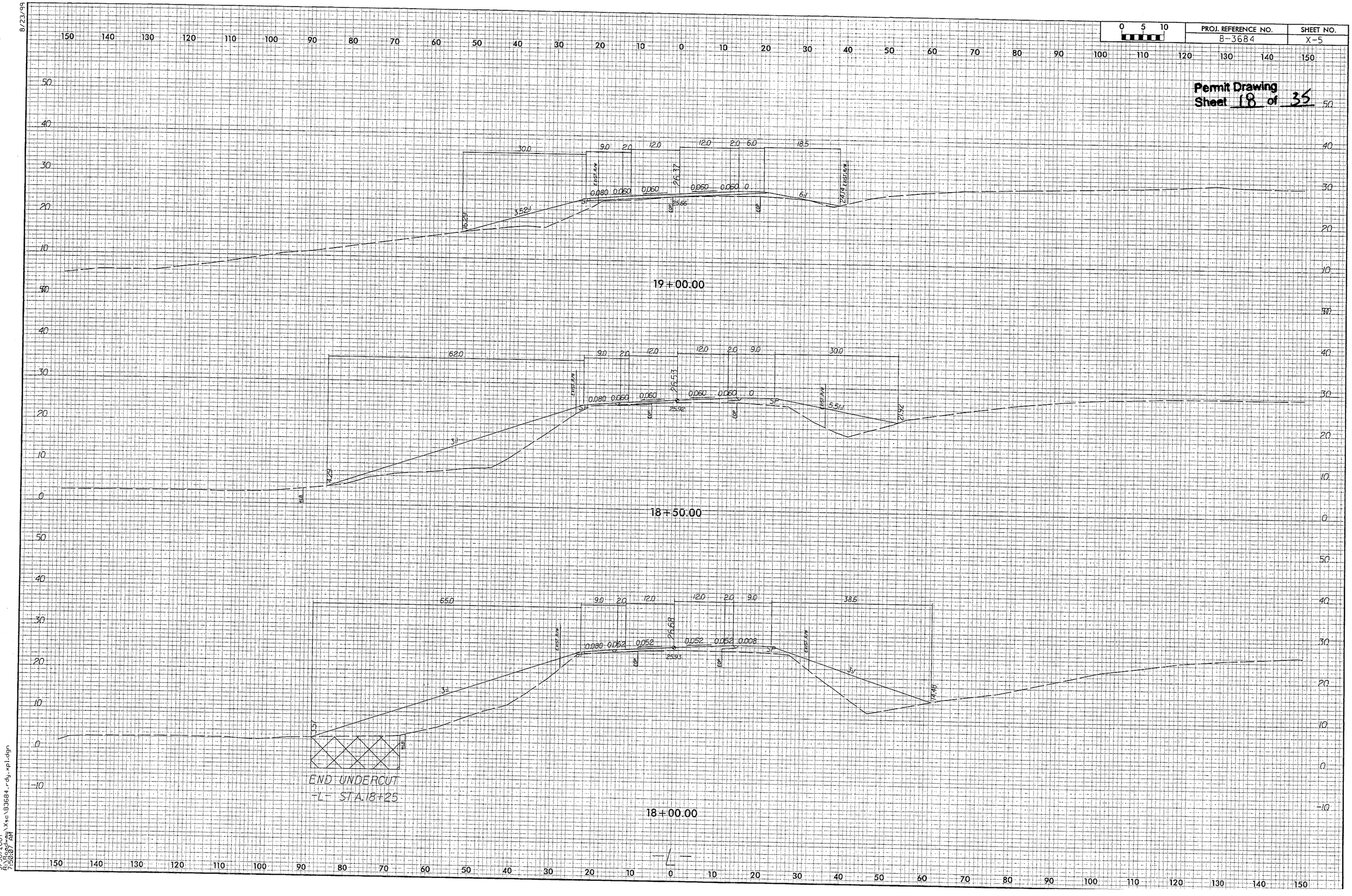
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-3684	X-5

Permit Drawing
Sheet 18 of 35



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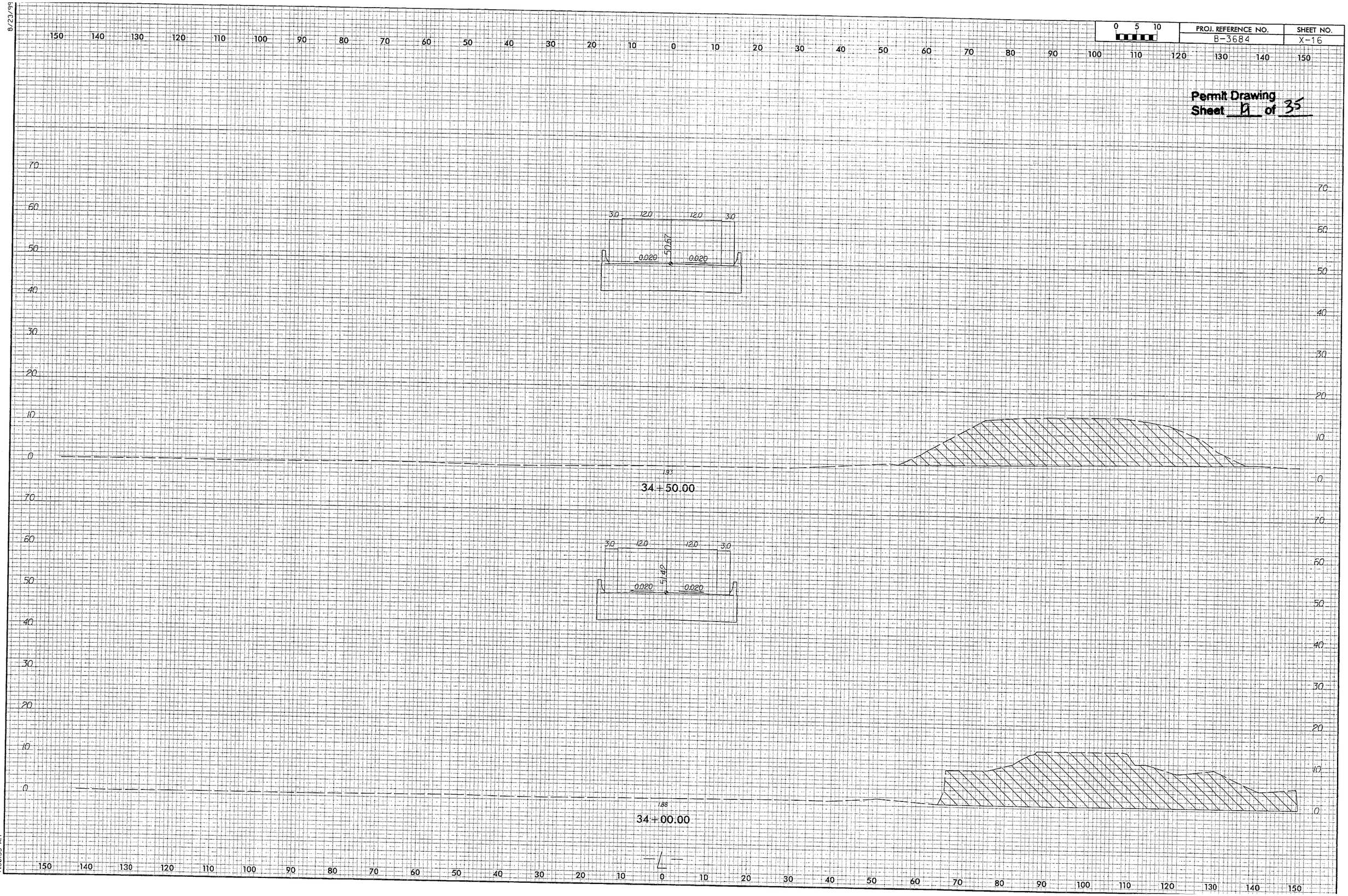
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-3684	X-16

Permit Drawing
Sheet 19 **of** 35



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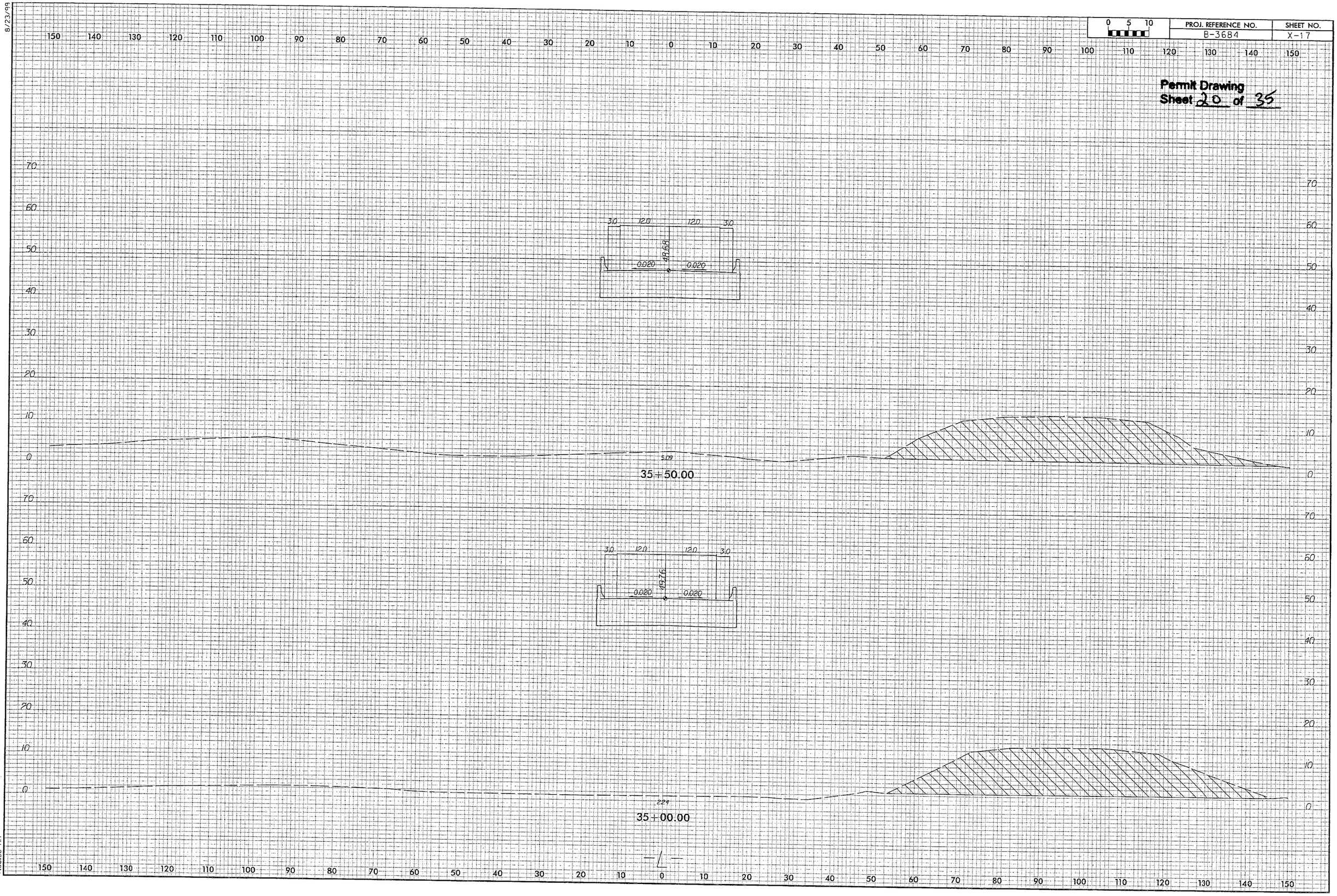
8/23/99

PROJ. REFERENCE NO.	SHEET NO.
B-3684	X-17

0 5 10

Permit Drawing
Sheet 20 of 35



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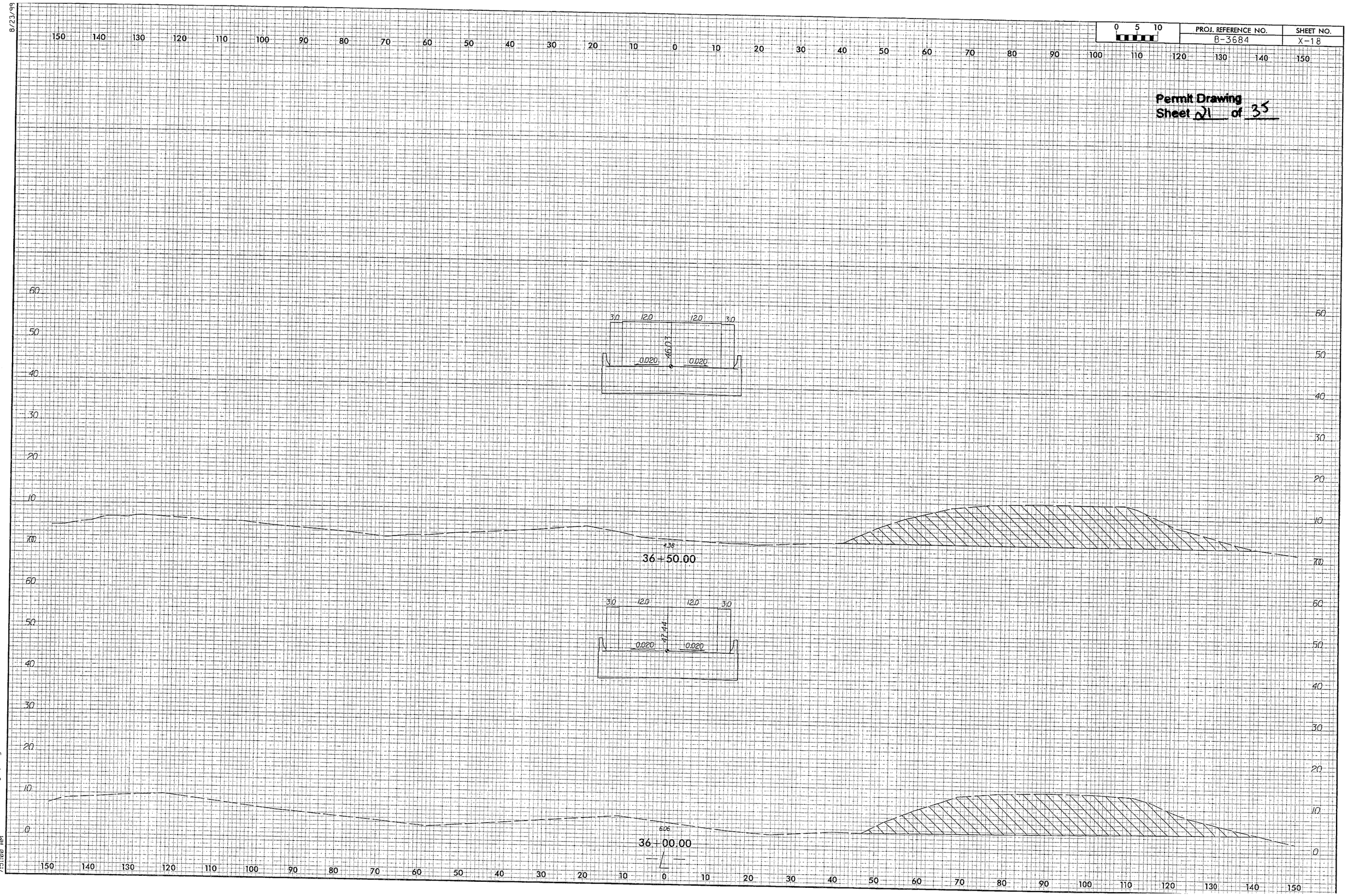
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-3684	X-18

Permit Drawing
Sheet 21 of 35



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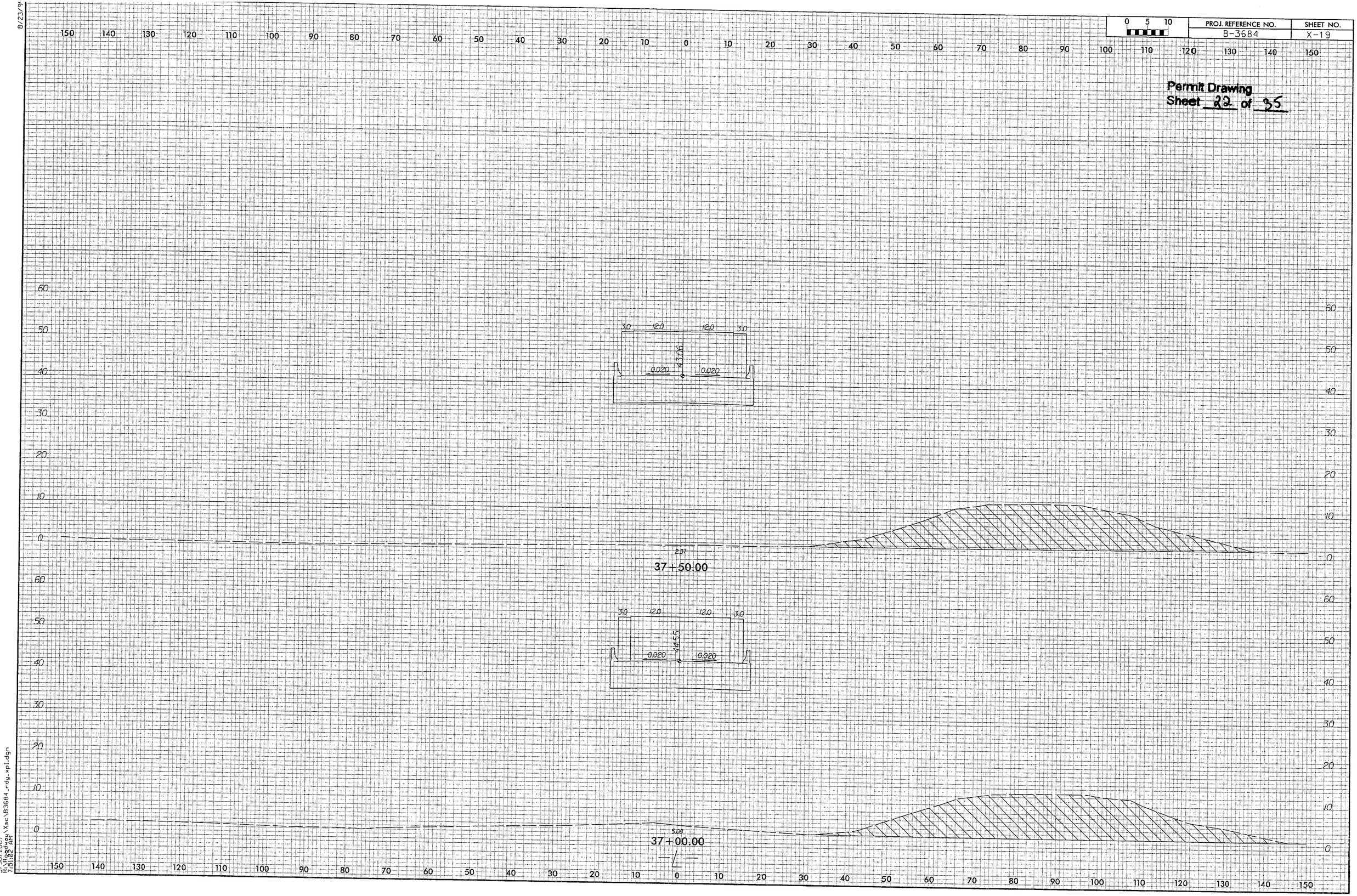
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-3684	X-19

Permit Drawing
Sheet 22 of 35



8/23/99

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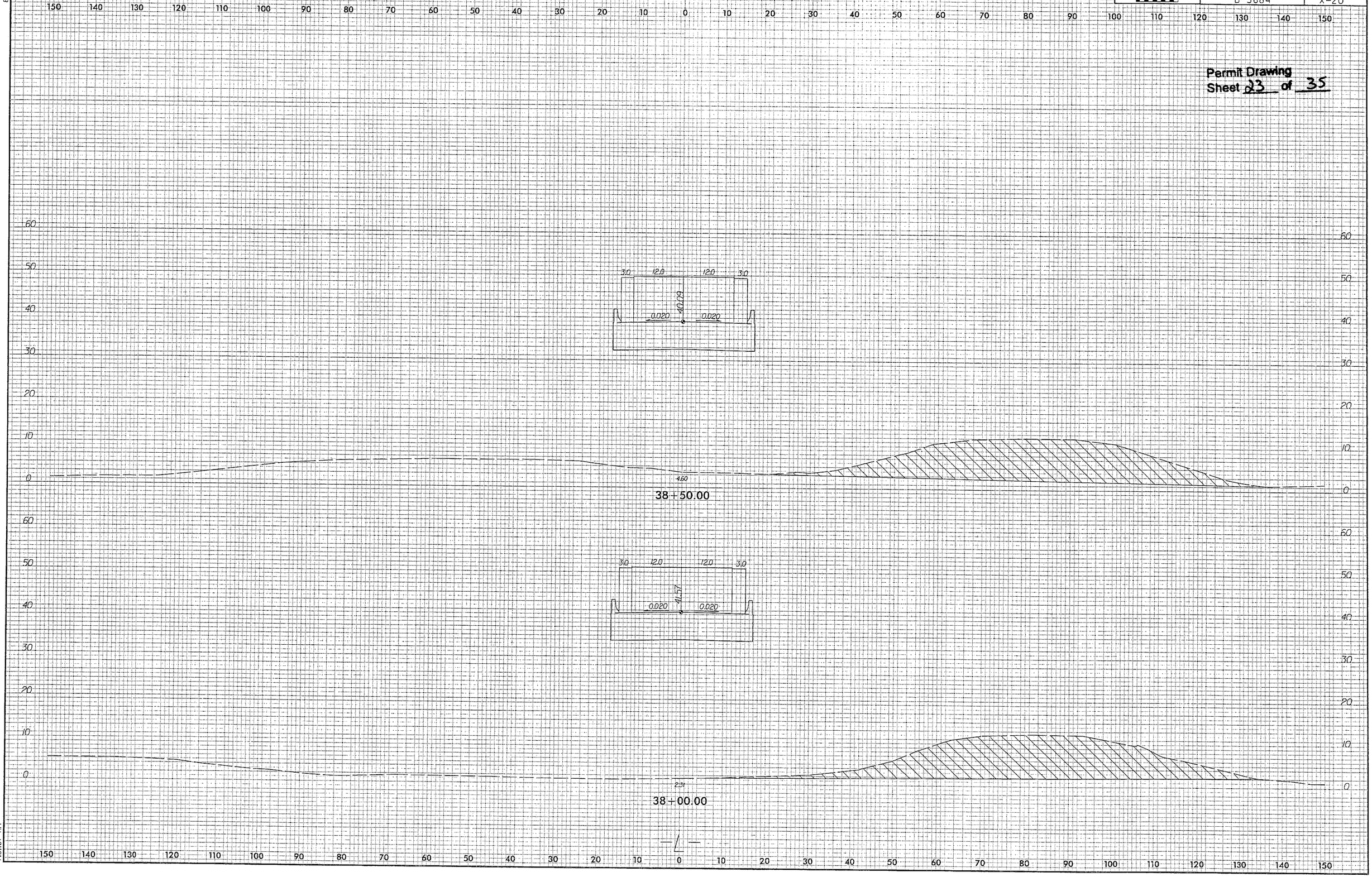
8/23/99

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-3684	X-20

Permit Drawing
Sheet 23 of 35



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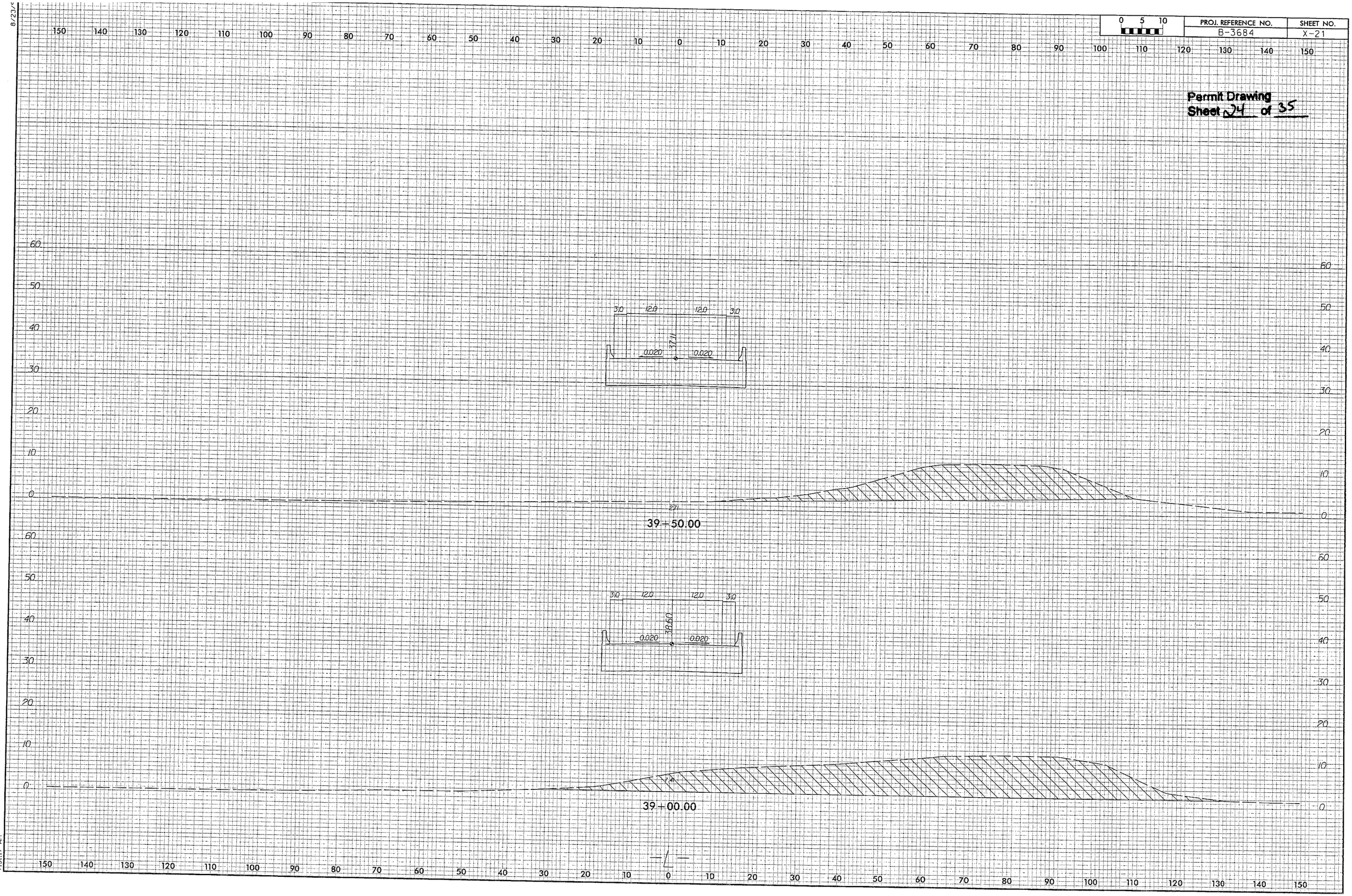
Permit Drawing
Sheet 24 of 35



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5/30/2007
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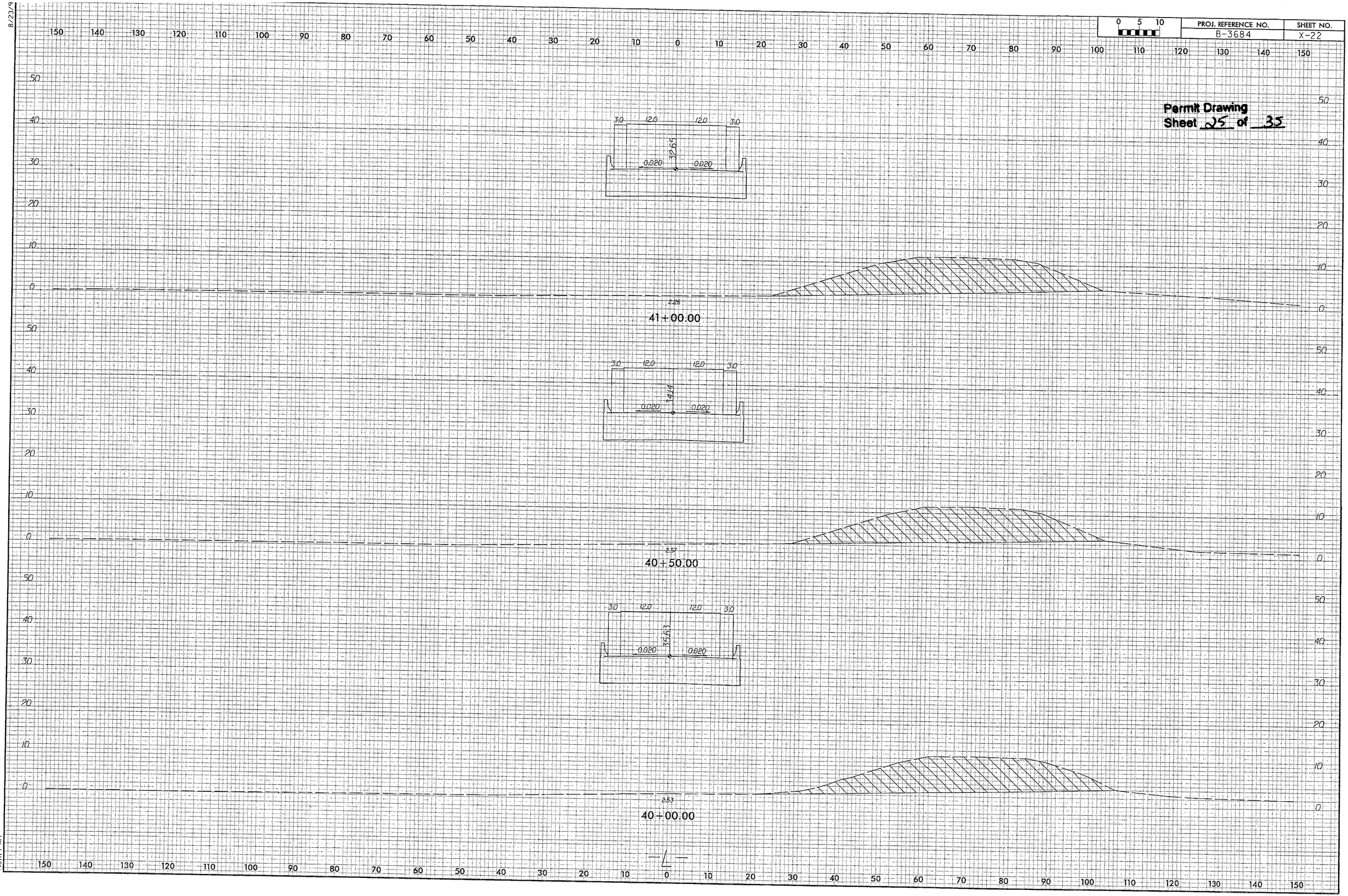
8/23/9

0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-3684	X-22

Permit Drawing
Sheet 25 of 35



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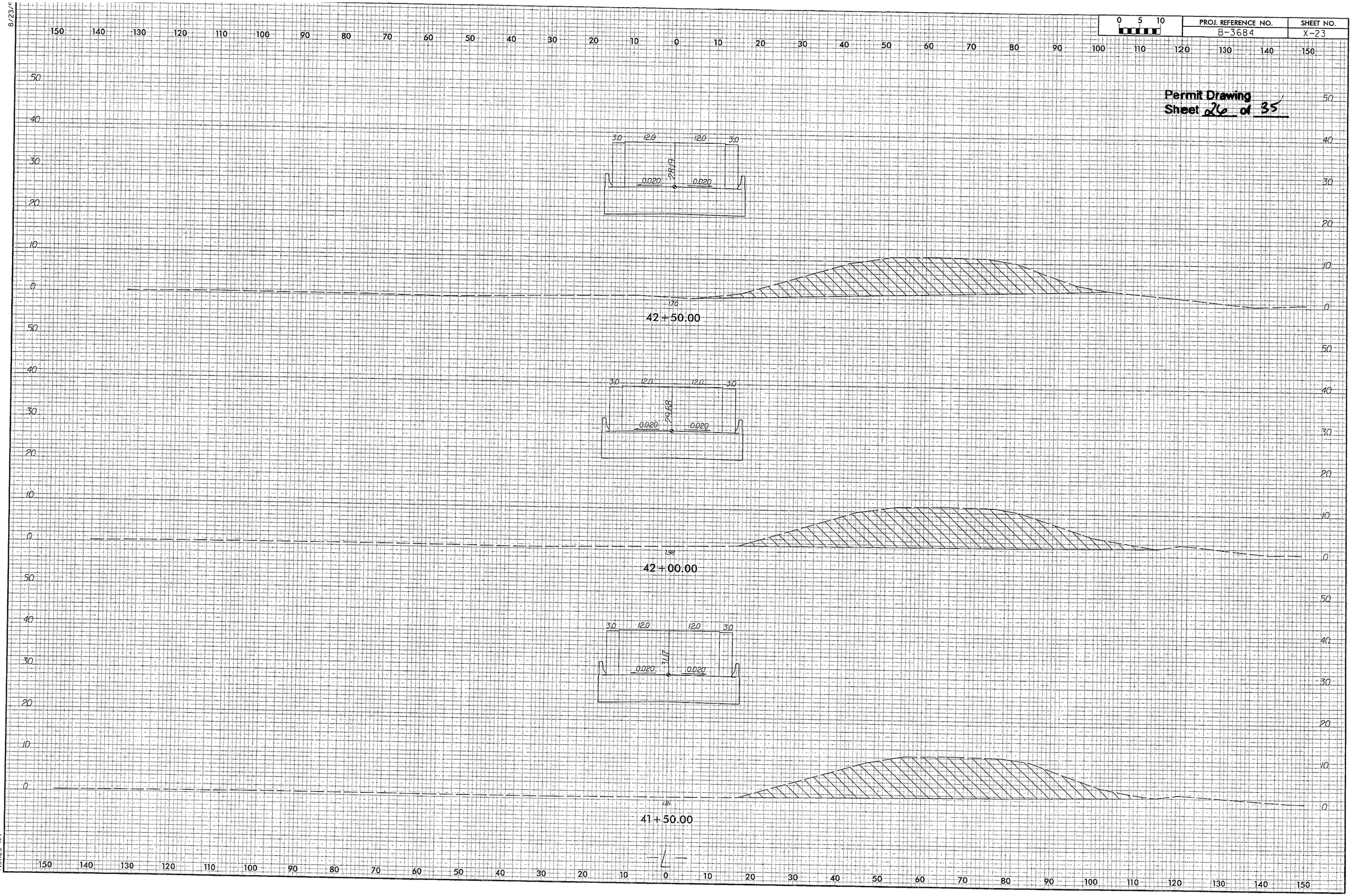
0 5 10	PROJ. REFERENCE NO.	SHEET NO.
	B-3684	X-23

Permit Drawing
Sheet 26 of 35



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8/23/9

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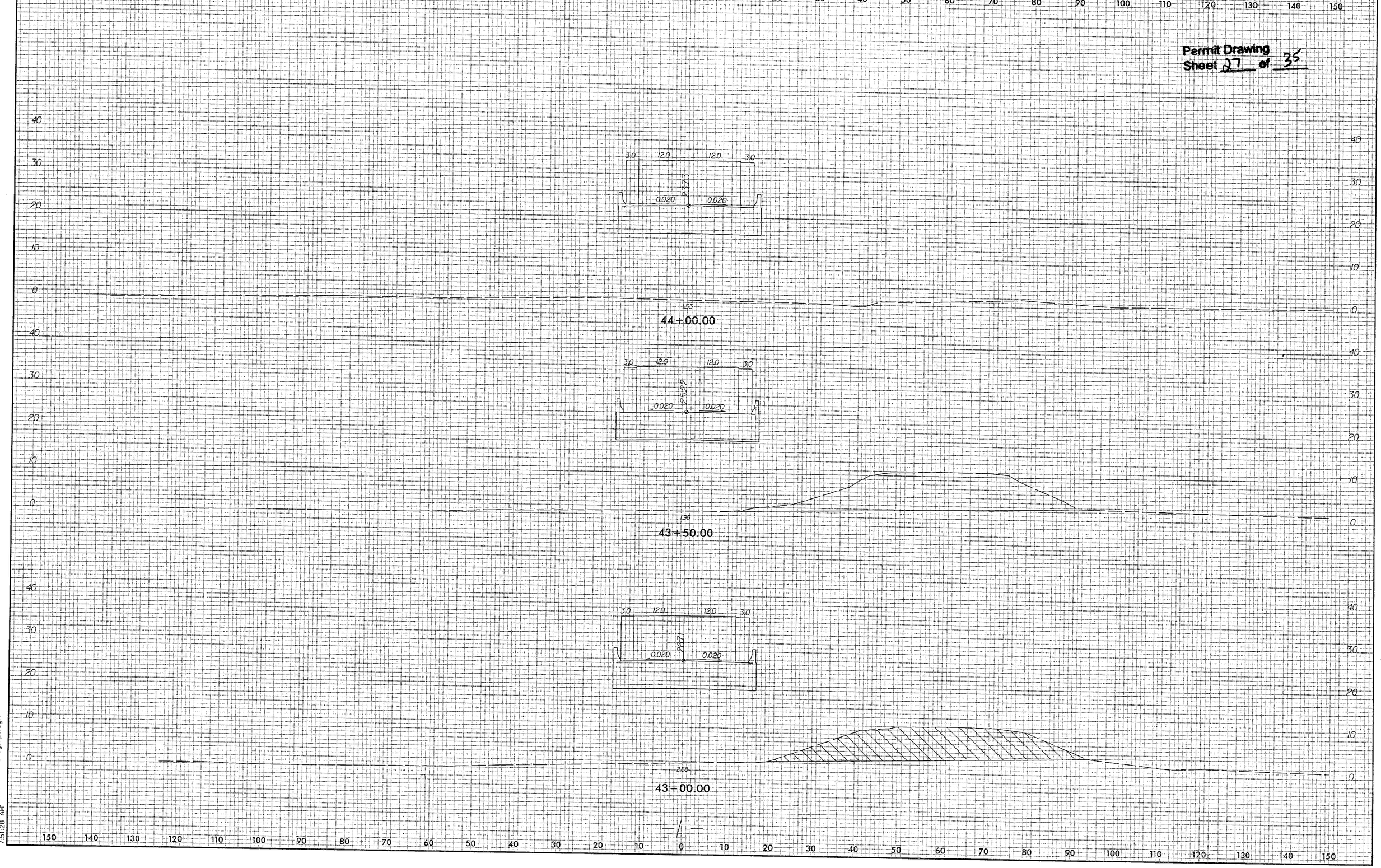
	B-3684	X-24

Permit Drawing
Sheet 27 of 35



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B-3684	X-25

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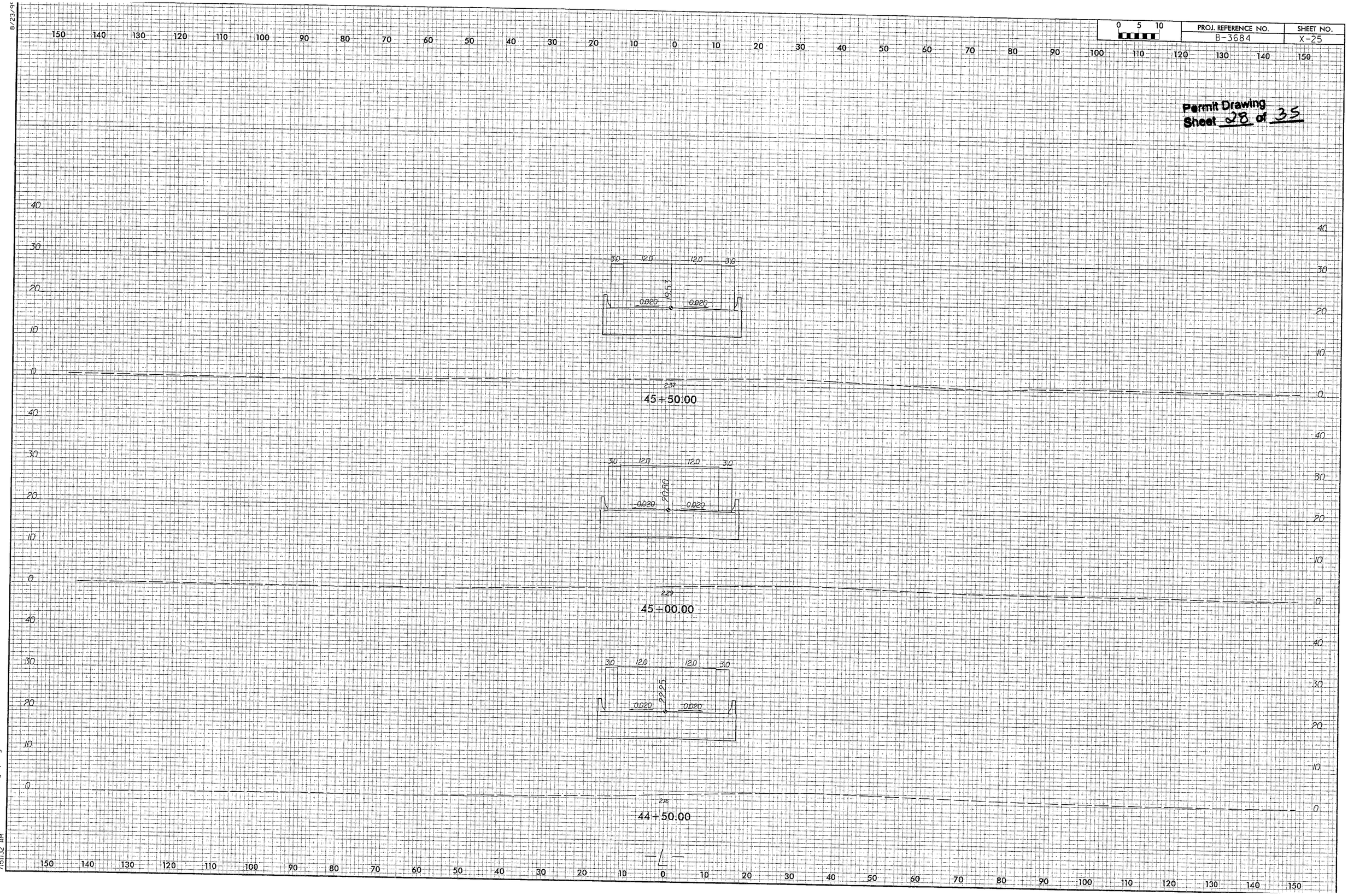
Sheet 28 of 35



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8/23/9

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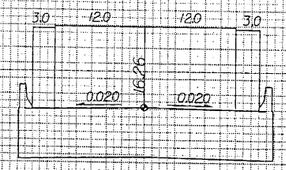
	B-3684	X-26

Permit Drawing
Sheet 29 of 35



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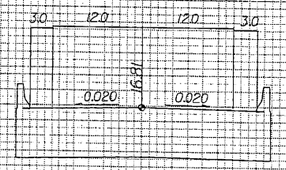

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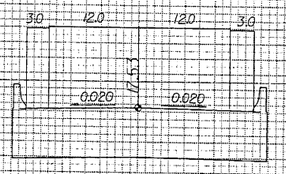

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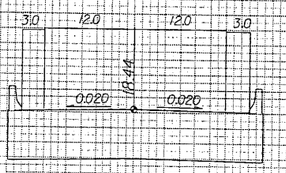

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8/23/99

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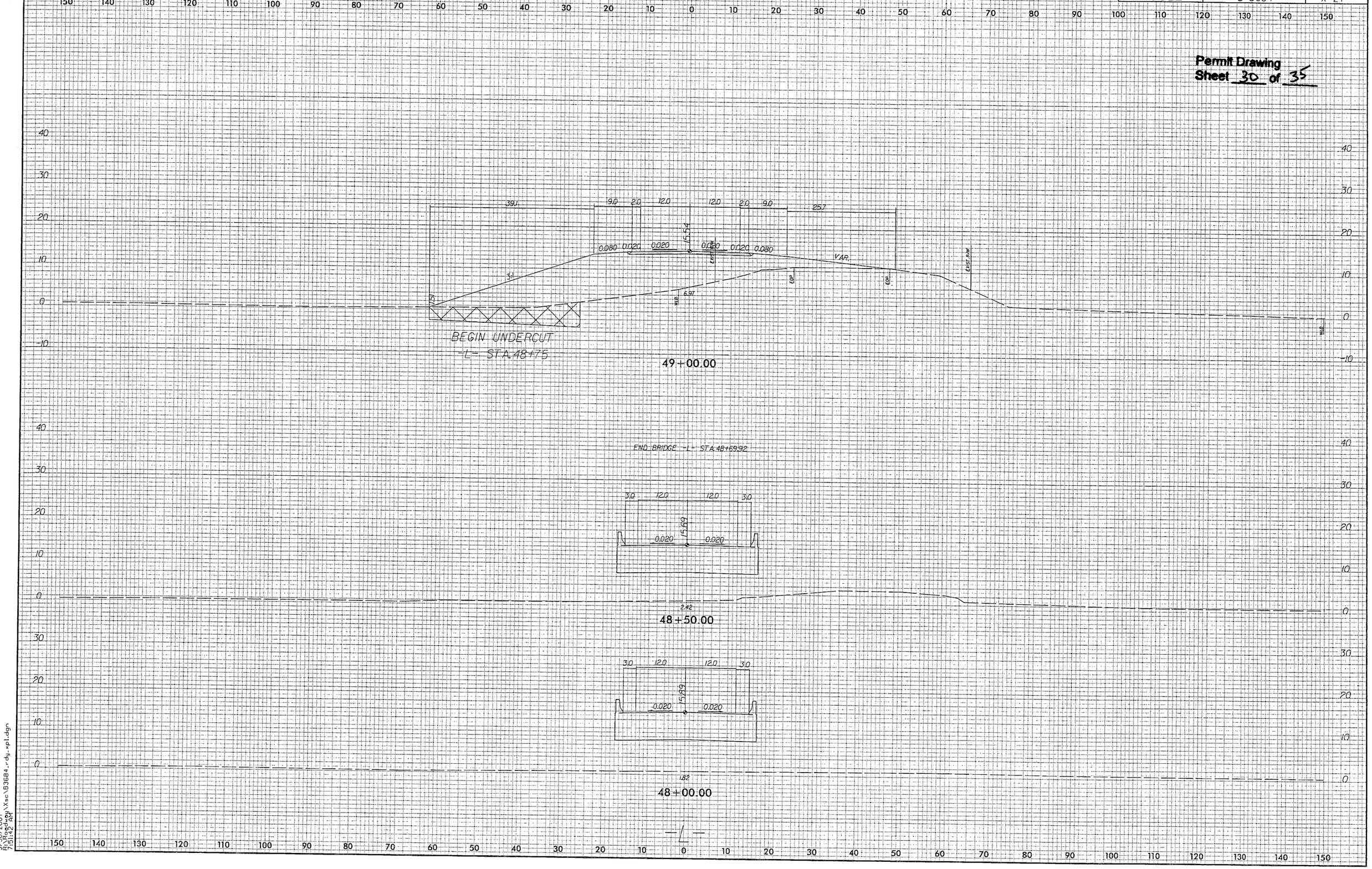
	B-3684	X-27

Permit Drawing
Sheet 30 of 35



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B-3684	X-28

0 5 10

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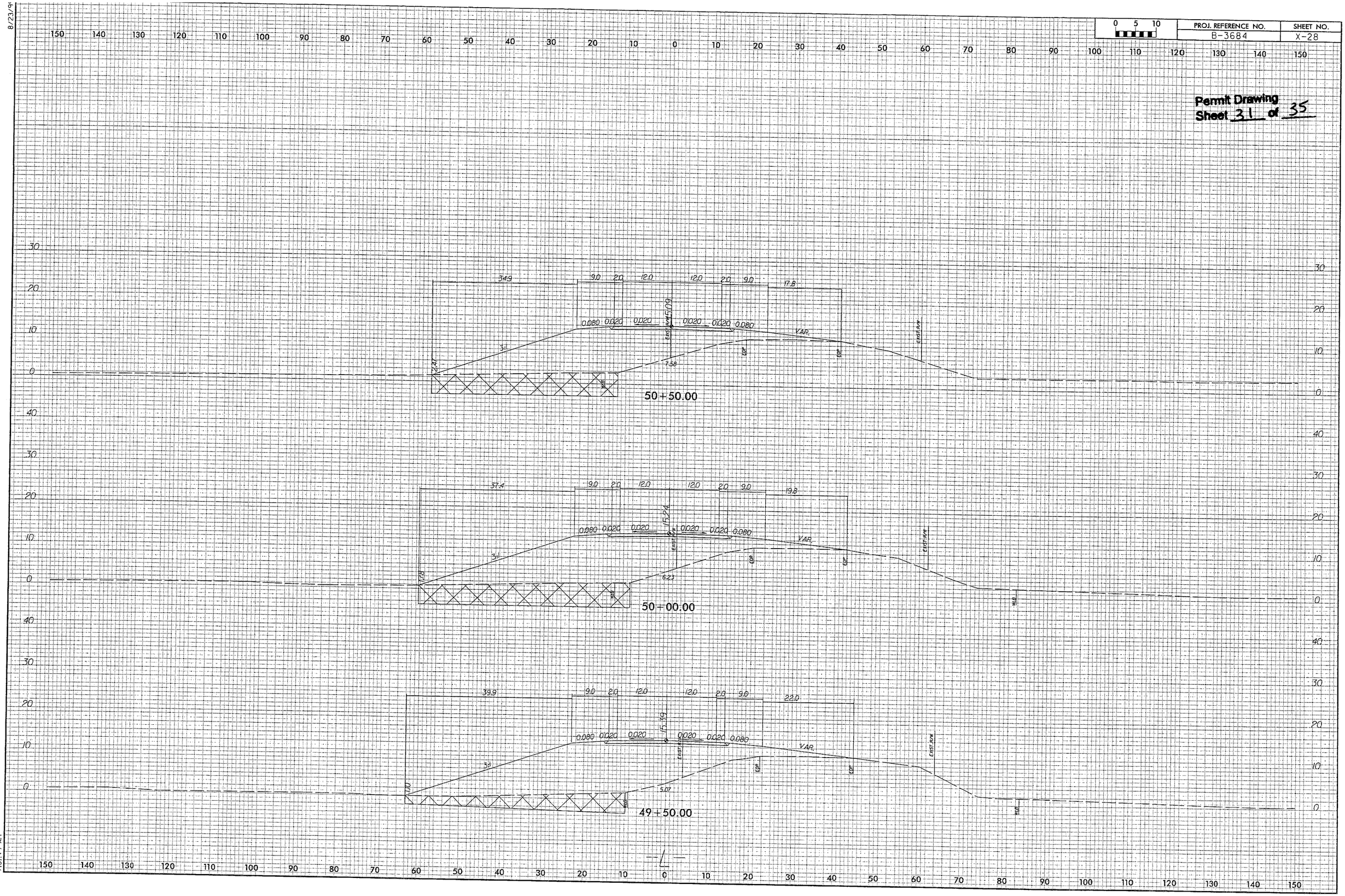
Sheet 31 of 35



8/23/9

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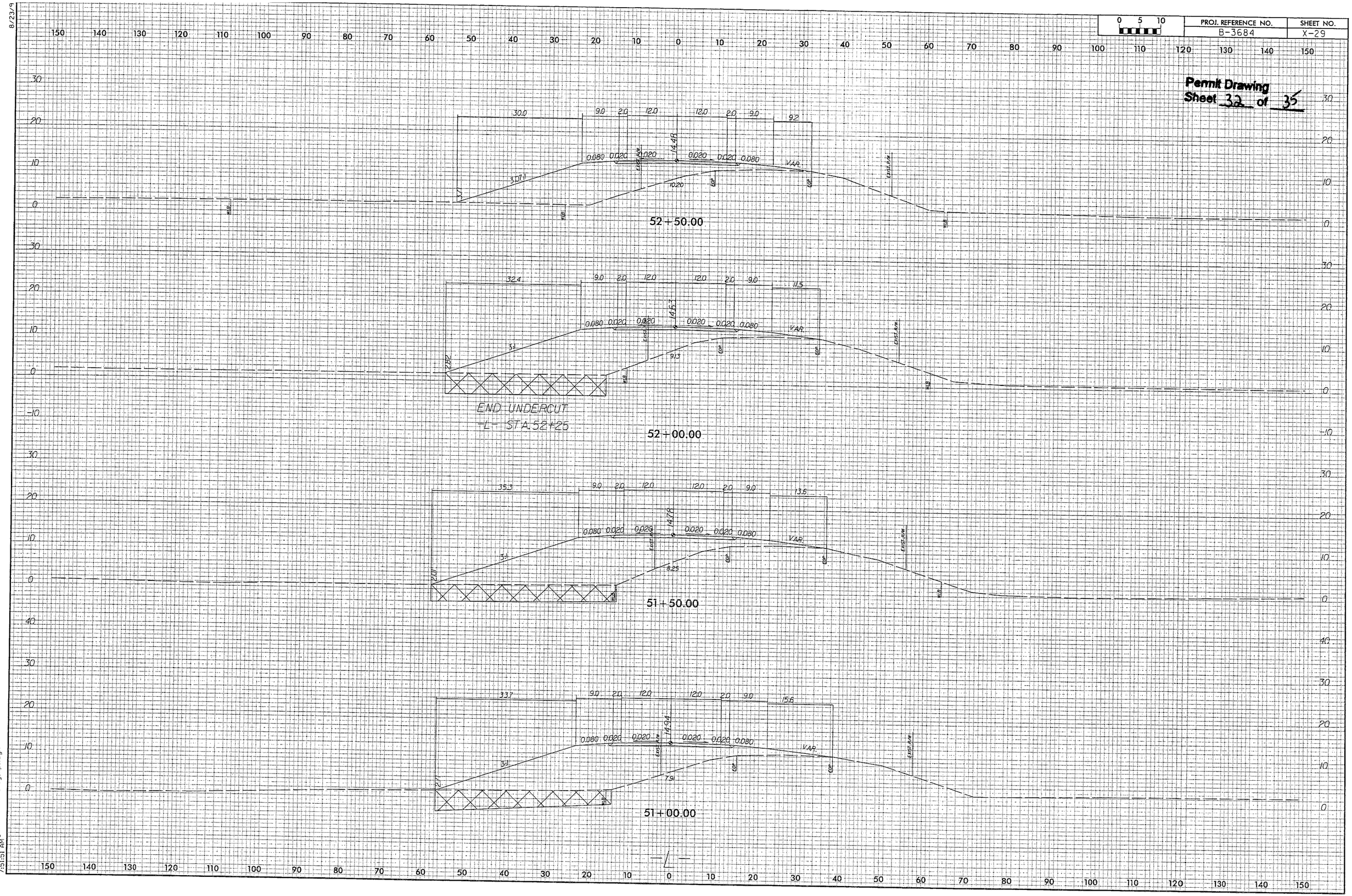
Permit Drawing
Sheet 32 of 35



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B-3684	X-30

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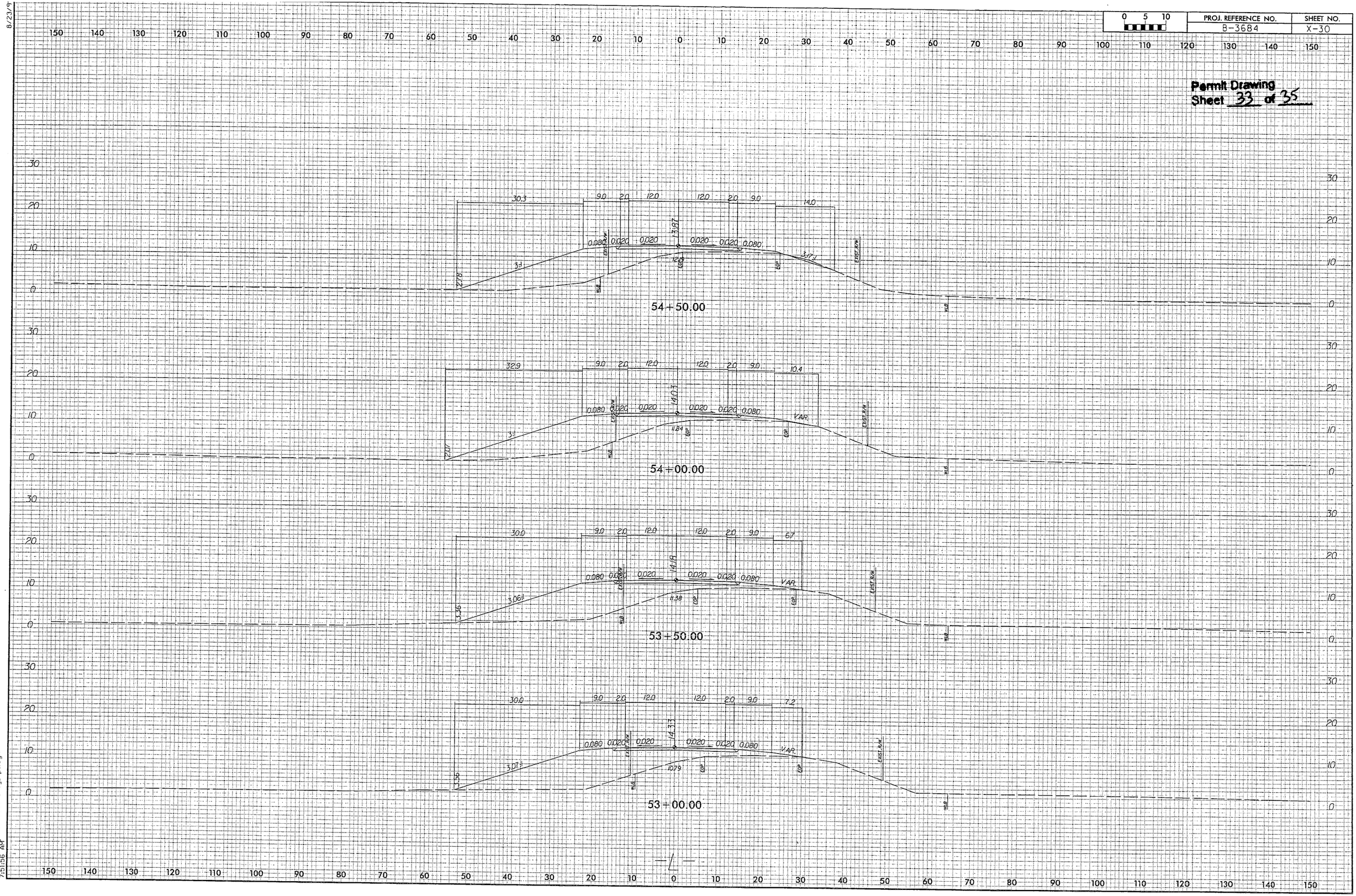
Permit Drawing
Sheet 33 of 35



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PROJ. REFERENCE NO.	SHEET NO.
B-3684	X-31

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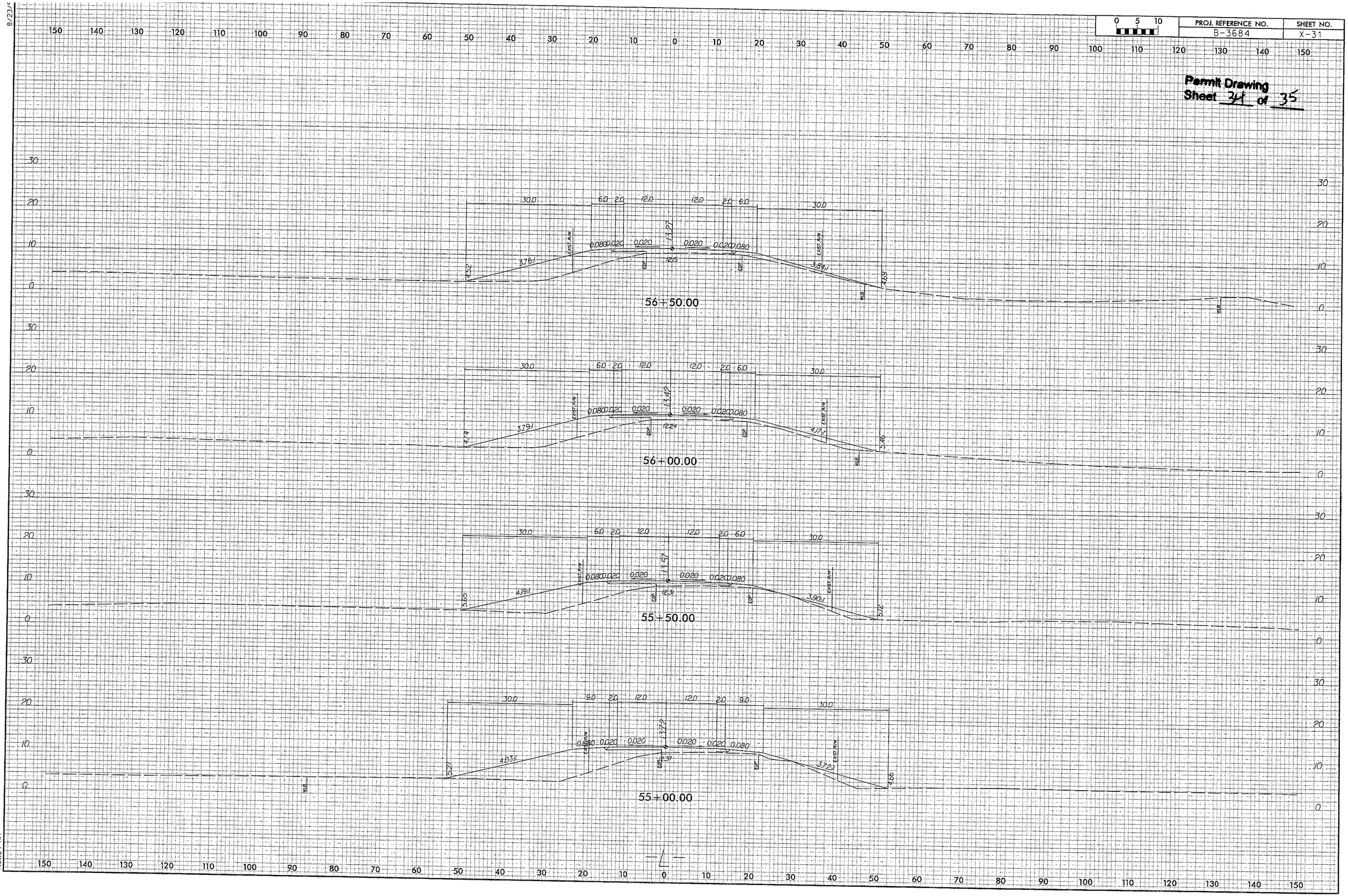
Permit Drawing
Sheet 34 of 35



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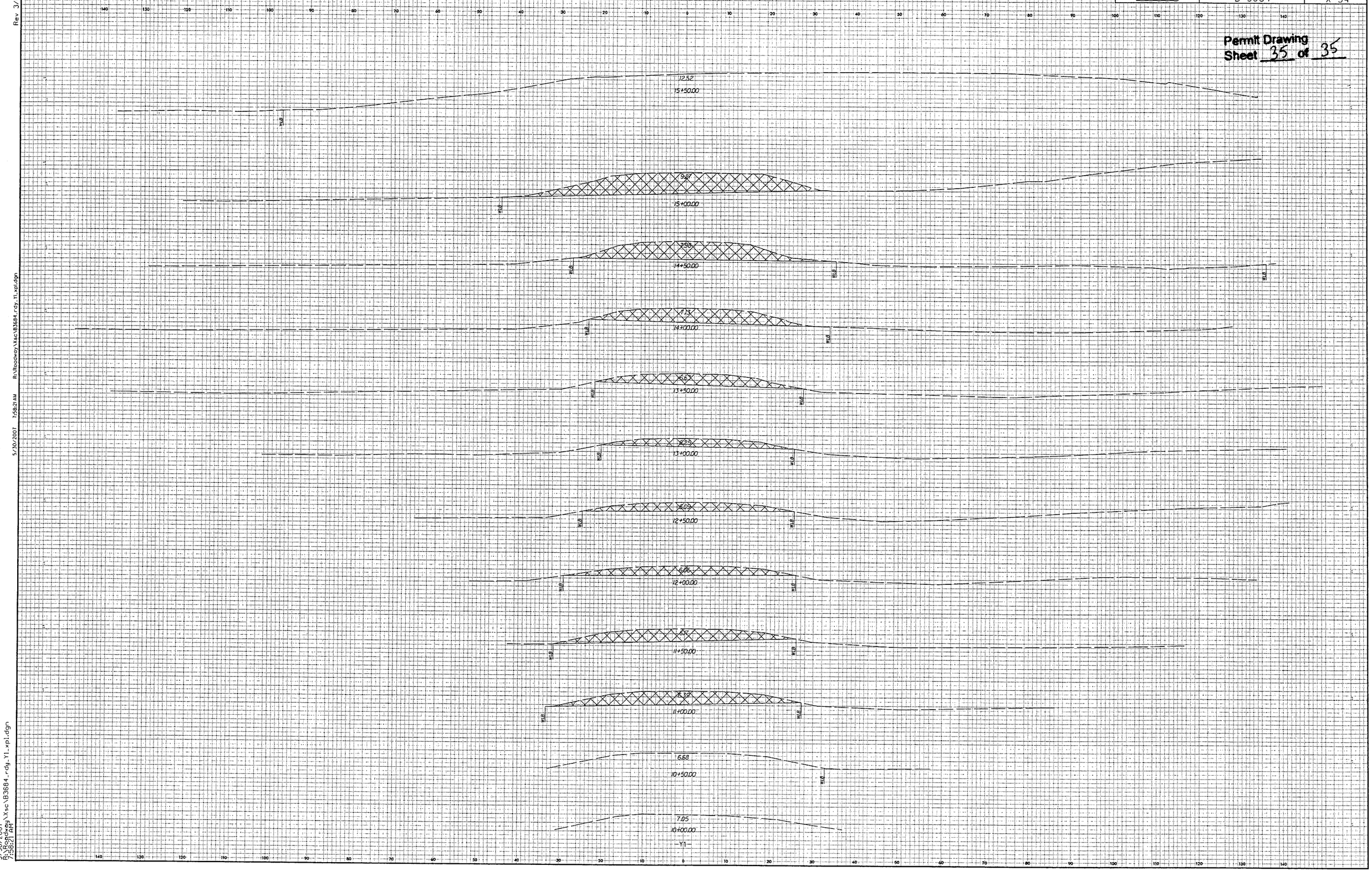
B-3684	X-34

Permit Drawing
Sheet 35 of 35



Rev 3/6/01

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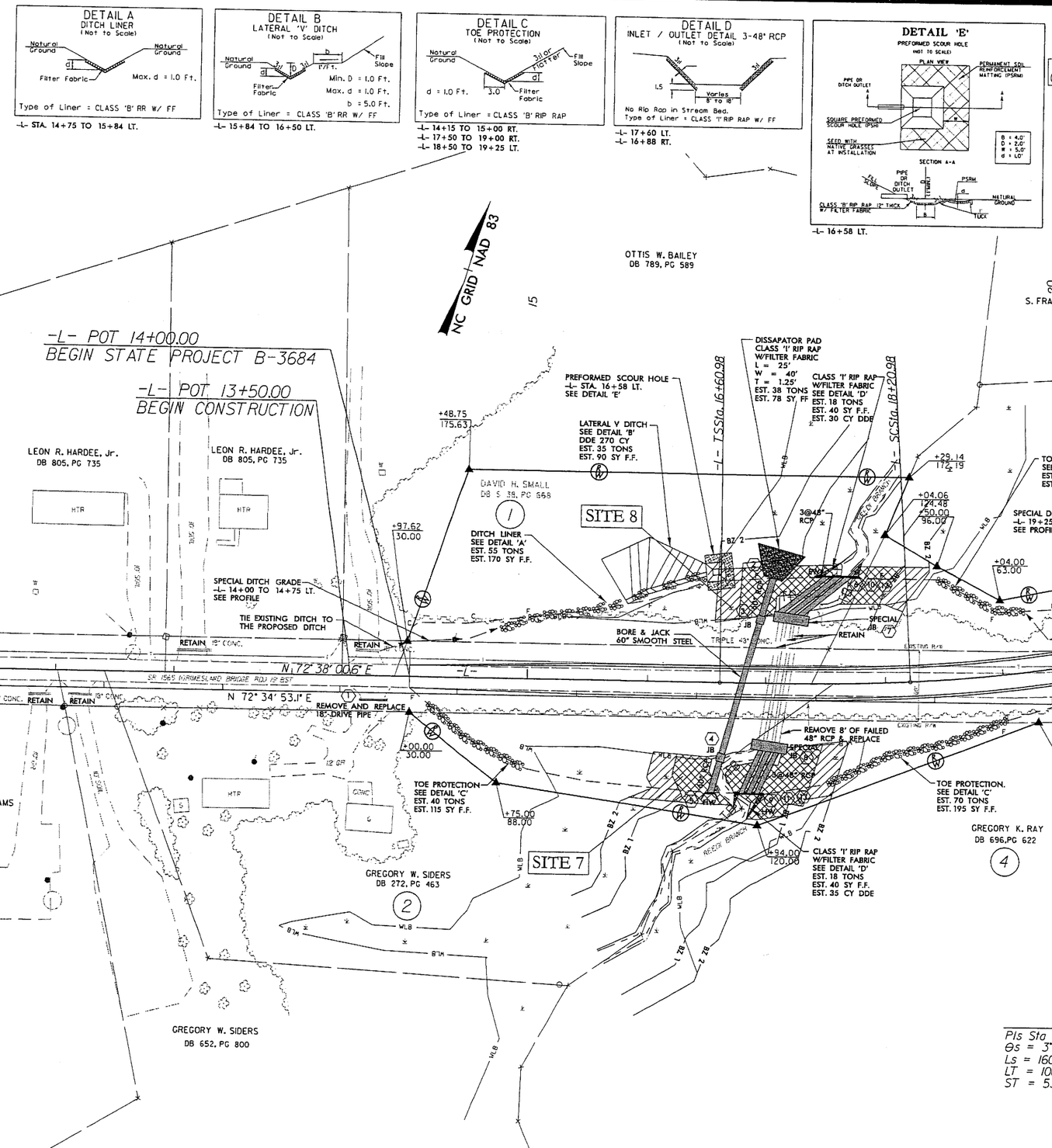
MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2



ENGLISH

USE METHOD 3 FOR CLEARING AND GRUBBING

PITT COUNTY
SR 1565
5/7/2007

PROJECT REFERENCE NO.	SHEET NO.
B-3684	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

50 0 100

Buffer Drawing
Sheet 10 of 9

-L-

PIs Sta 17+67.66	PI Sta 22+24.27	PIs Sta 26+57.80
Θs = 3° 25' 14.3"	Δ = 33° 29' 59.0" (LT)	Θs = 3° 25' 14.3"
Ls = 160.00'	D = 4° 16' 32.9"	Ls = 160.00'
LT = 106.69'	L = 783.47'	LT = 106.69'
ST = 53.35'	T = 403.29'	ST = 53.35'
	R = 1,340.00'	
	Se = 0.06	

BUFFER IMPACTS

FOR -L- PROFILE SEE SHEET 8

OBLITERATION OF EXISTING ROAD

REVISIONS

8/17/06

5/25/2007
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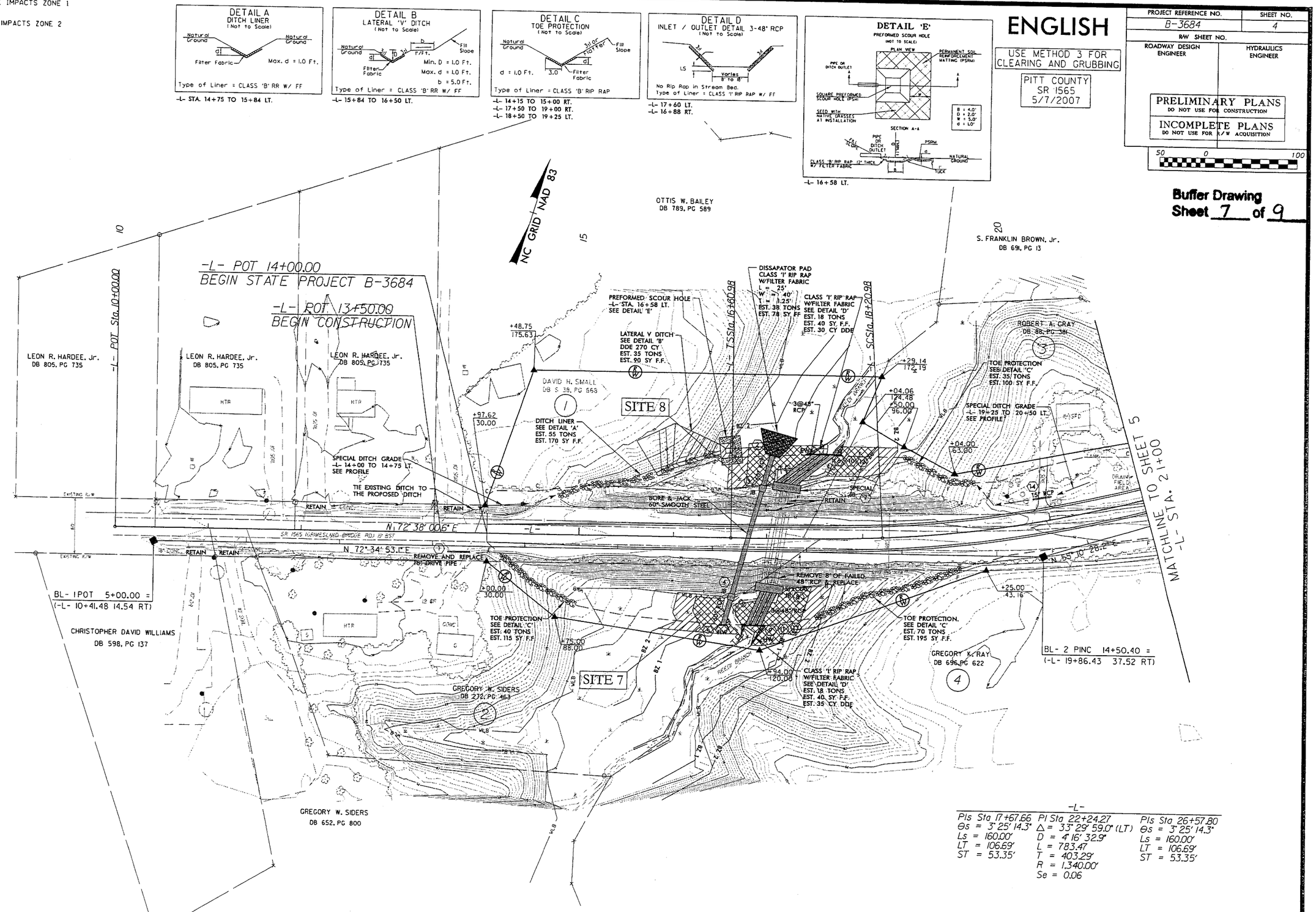
MITIGABLE IMPACTS ZONE 1

MITIGABLE IMPACTS ZONE 2



-L-

PIs Sta 17+67.66	PI Sta 22+24.27	PIs Sta 26+57.80
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ST = 53.35'	T = 403.29'	ST = 53.35'
	R = 1,340.00'	
	Se = 0.06	

BUFFER IMPACTS

FOR -L- PROFILE SEE SHEET 8

OBLITERATION OF EXISTING ROAD

REVISIONS

8/17/99

5/25/2007
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BUFFER IMPACTS

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

PROJECT REFERENCE NO.	SHEET NO.
B-3684	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

Buffer Drawing
Sheet 8 of 9

50 0 100

ENGLISH

USE METHOD 3 FOR CLEARING AND GRUBBING

PITT COUNTY
SR 1565
5/7/2007

-L-

PIs Sta 17+67.66	PI Sta 22+24.27	PIs Sta 26+57.80
Θs = 3° 25' 14.3"	Δ = 33° 29' 59.0" (LT)	Θs = 3° 25' 14.3"
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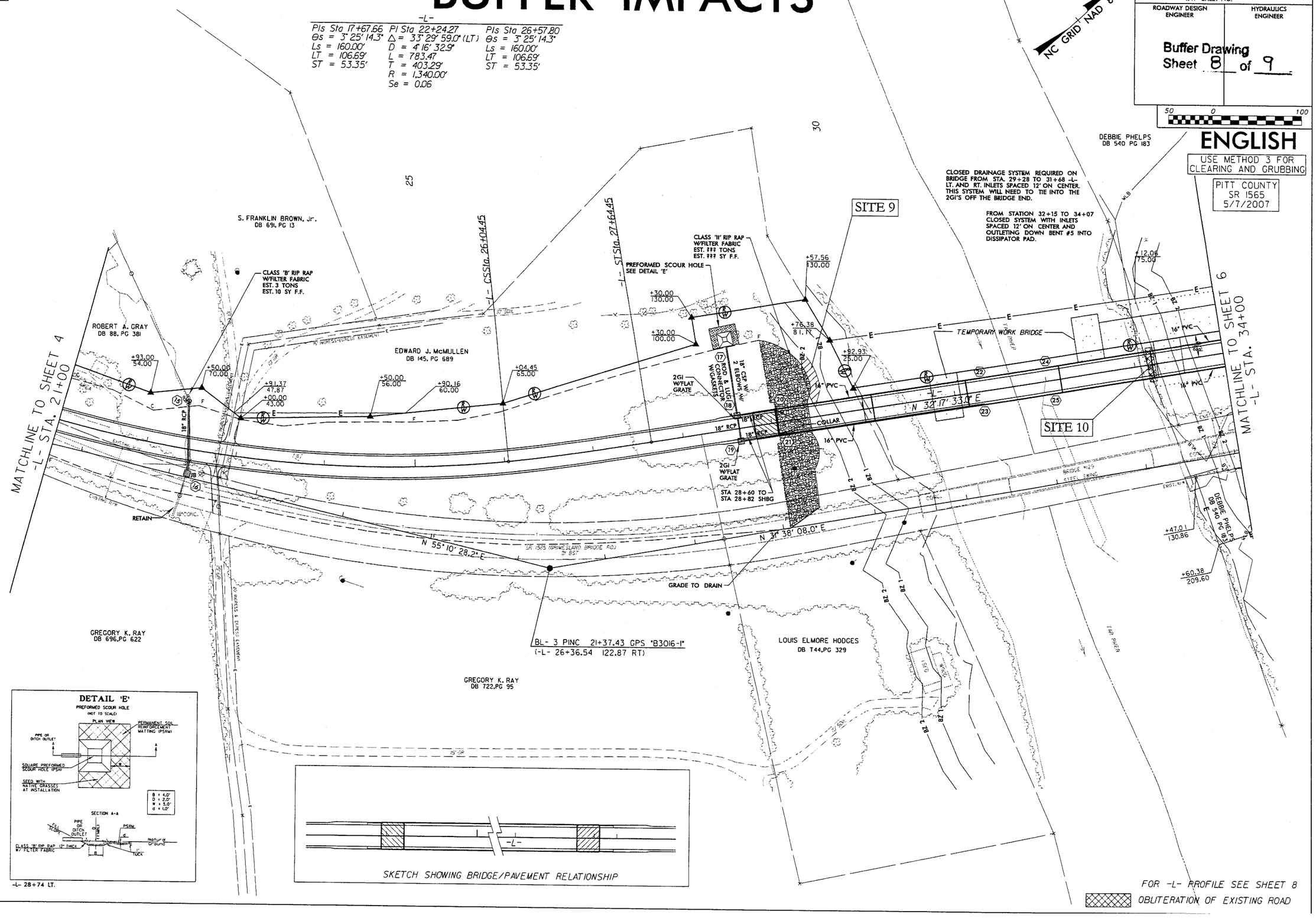
ST = 53.35'	T = 403.29'	ST = 53.35'
	R = 1,340.00'	
	Se = 0.06	



FOR -L- PROFILE SEE SHEET 8

OBLITERATION OF EXISTING ROAD

REVISIONS

12-07-07 R/W REVISION
ADJUSTED EASEMENT TO PARCEL NO.7 DUE TO PERMIT DRAWING IN THE GRIMESLAND MITIGATION SITE.

8/17/99

12/11/2007
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BUFFER IMPACTS

ALLOWABLE IMPACTS ZONE 1

ALLOWABLE IMPACTS ZONE 2

PROJECT REFERENCE NO.	SHEET NO.
B-3684	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

Buffer Drawing Sheet 9 of 9

NC GRID NAD 83

ENGLISH

USE METHOD 3 FOR CLEARING AND GRUBBING

PITT COUNTY
SR 1565
5/7/2007

-L-

PIs Sta 17+67.66	PI Sta 22+24.27	PIs Sta 26+57.80
Θs = 3° 25' 14.3"	Δ = 33° 29' 59.0" (LT)	Θs = 3° 25' 14.3"
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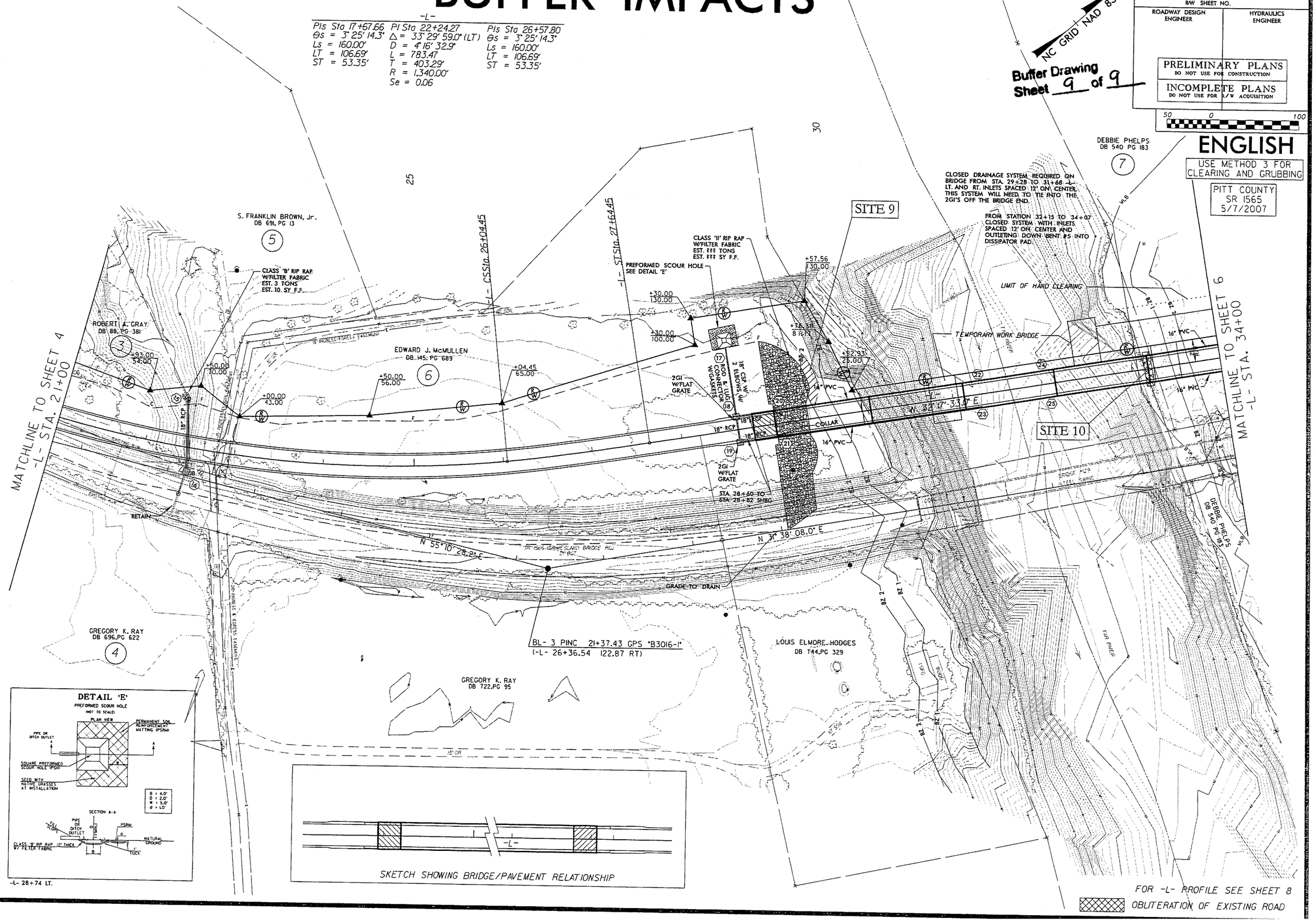
LT = 106.69'	L = 783.47'	LT = 106.69'
ST = 53.35'	T = 403.29'	ST = 53.35'
	R = 1,340.00'	
	Se = 0.06	



REVISIONS

8/17/99

5/25/2007
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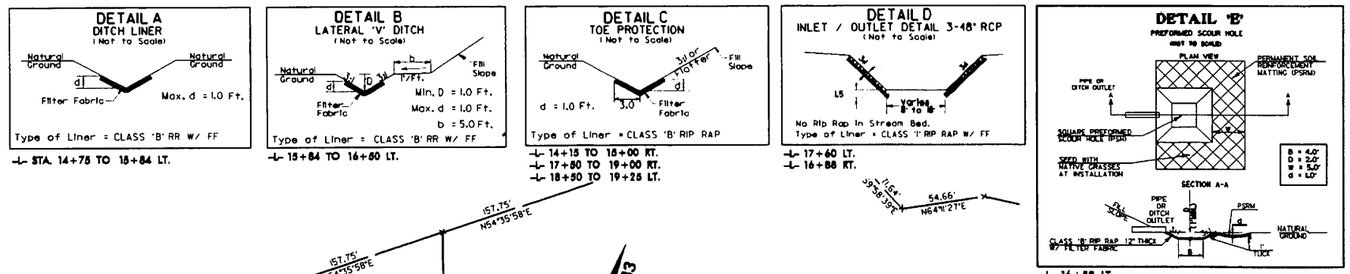
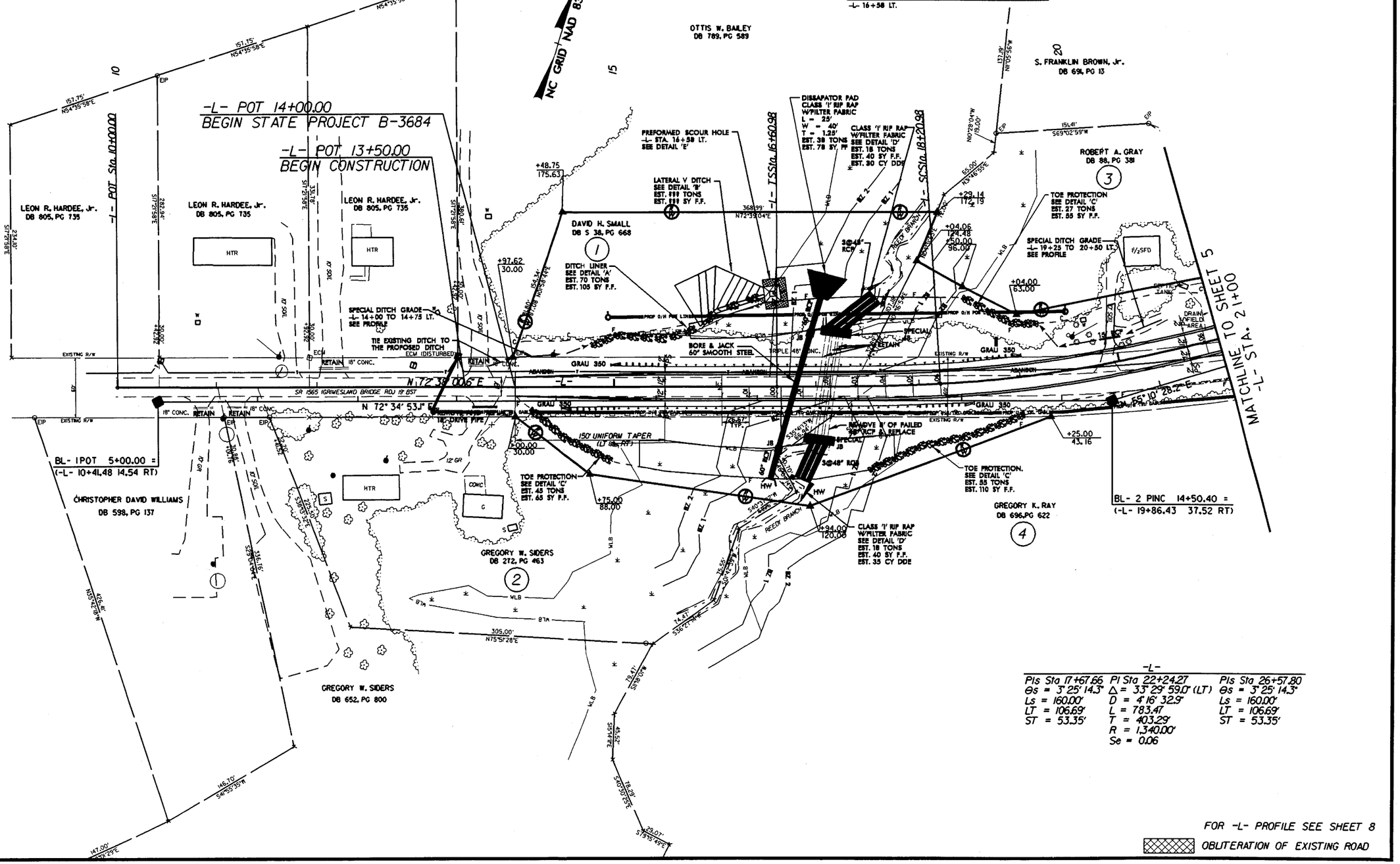
PROJECT REFERENCE NO.	SHEET NO.
B-3684	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

UTILITY PLANS





-L-

PIs Sta 17+67.66	PI Sta 22+24.27	PIs Sta 26+57.80
Θs = 3° 25' 14.3"	Δ = 33° 29' 59.0" (LT)	Θs = 3° 25' 14.3"
Ls = 160.00'	D = 4° 16' 32.9"	Ls = 160.00'
LT = 106.69'	L = 783.47'	LT = 106.69'
ST = 53.35'	T = 403.29'	ST = 53.35'
	R = 1,340.00'	
	Se = 0.06	

FOR -L- PROFILE SEE SHEET 8

OBLITERATION OF EXISTING ROAD

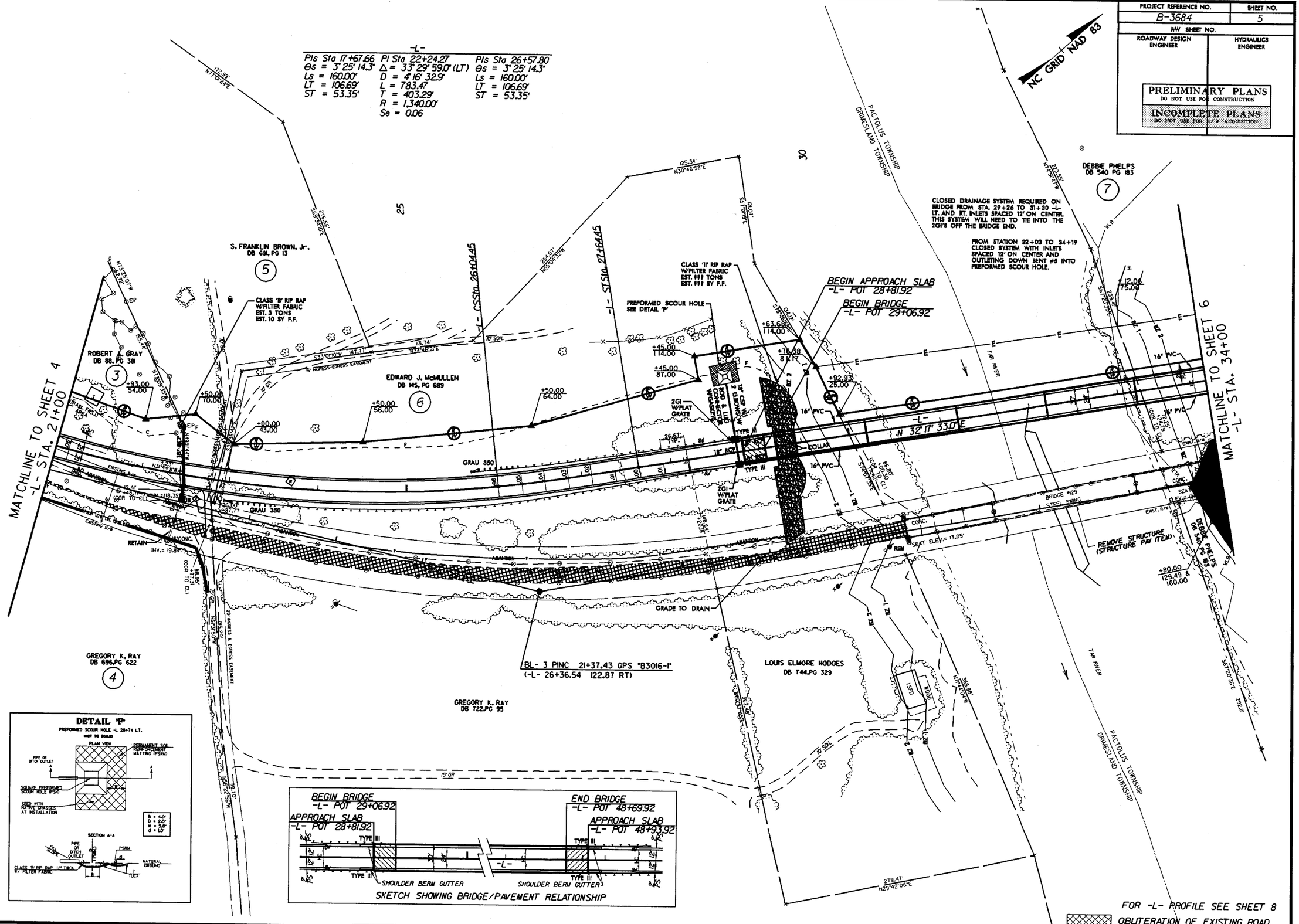
REVISIONS

8/17/99

SDATE
SFILES

PROJECT REFERENCE NO.	SHEET NO.
B-3684	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION



REVISIONS

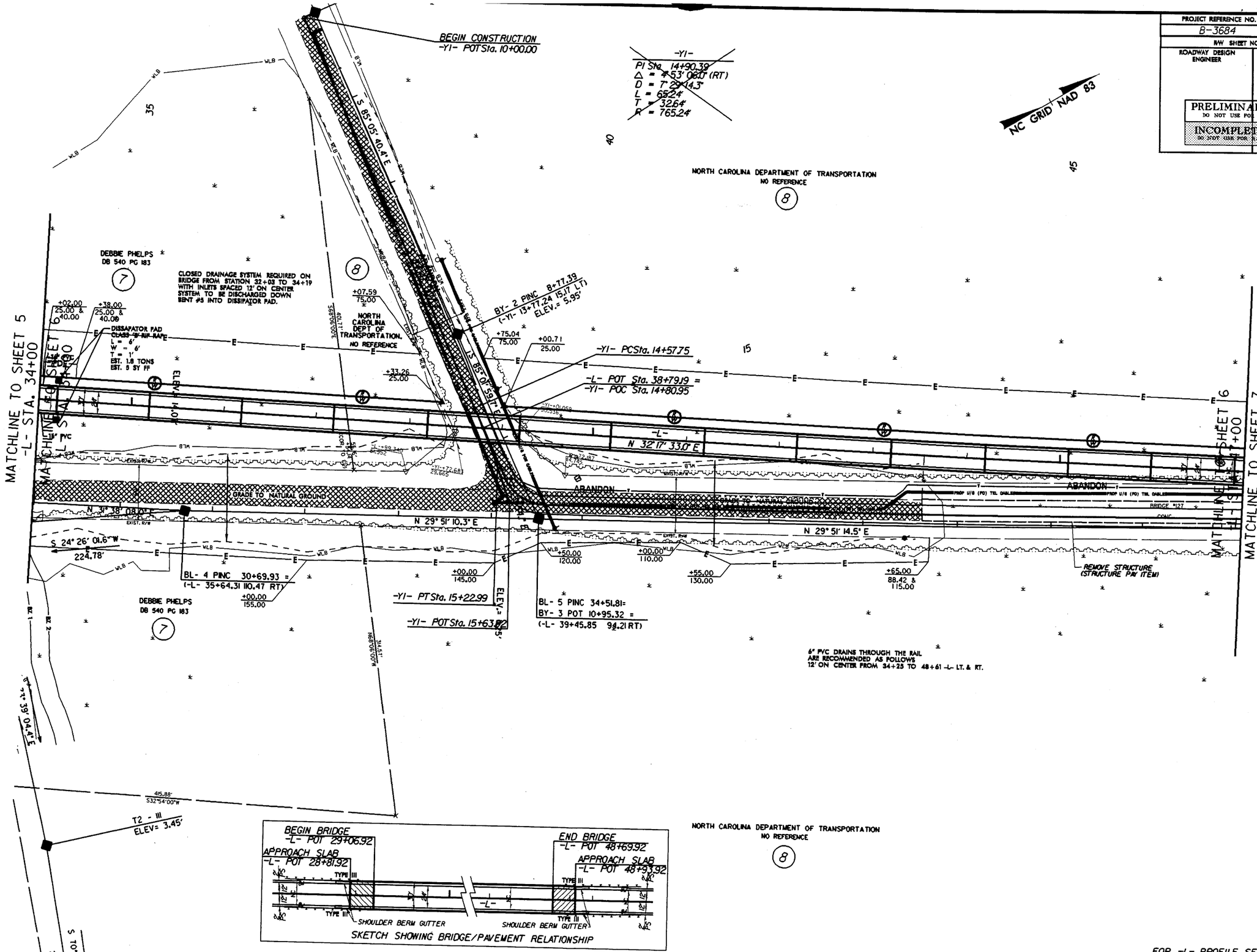
8/17/99

EDITED BY FILES

PROJECT REFERENCE NO.	SHEET NO.
B-3684	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION



FOR -L- PROFILE SEE SHEET 8 & 9

OBLITERATION OF EXISTING ROAD

REVISIONS

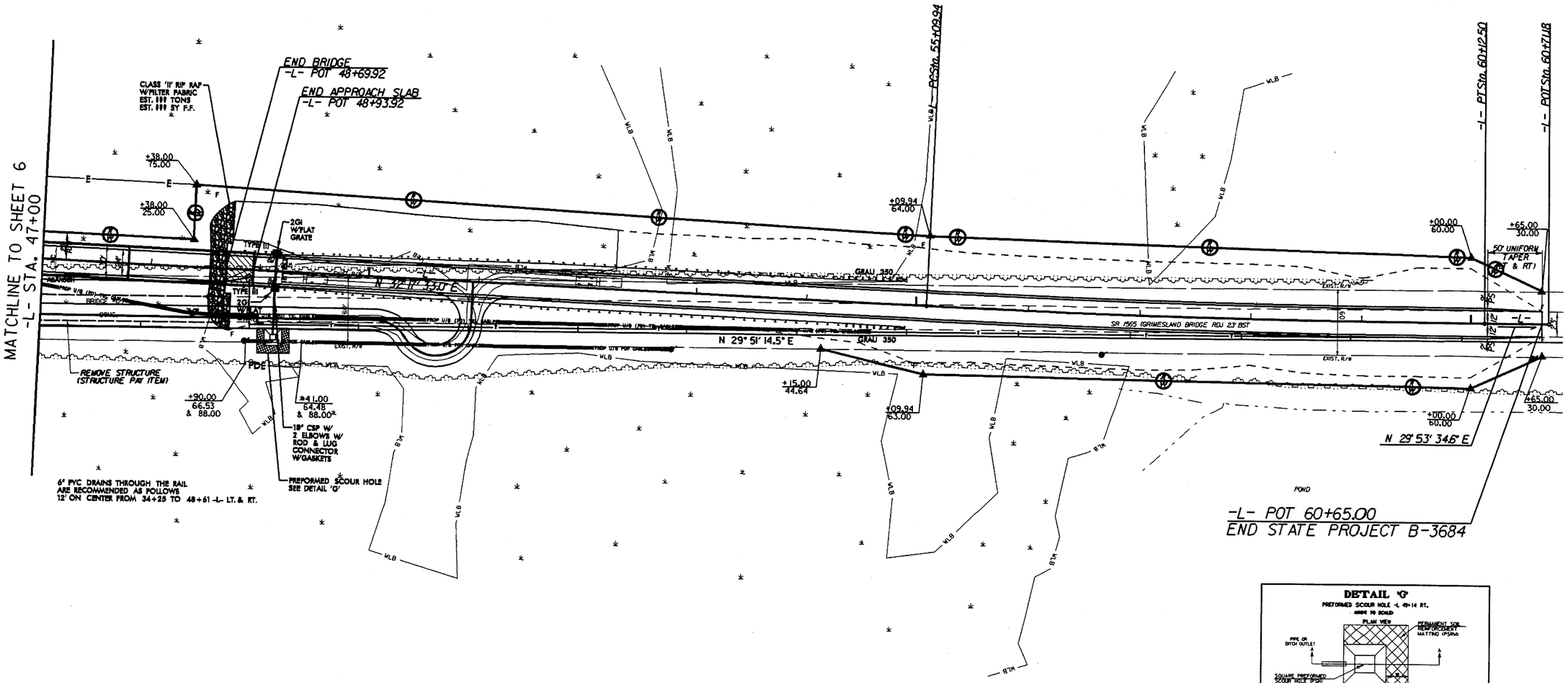
$DATE$
$FILE$

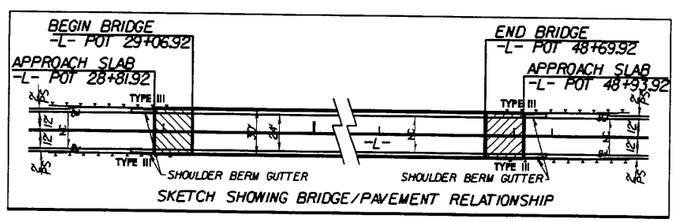
PROJECT REFERENCE NO.	SHEET NO.
B-3684	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION
INCOMPLETE PLANS
DO NOT USE FOR R/W ACQUISITION

NC GRID NAD 83

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
NO REFERENCE
8

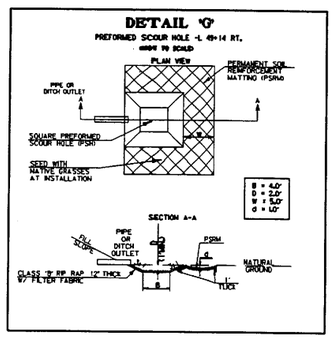




SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
NO REFERENCE
8

-L-
PI Sta 57+61.26
Δ = 2° 23' 58.4" (LT)
D = 0° 28' 38.9"
L = 502.56'
T = 251.32'
R = 12,000.00'
Se = NC



FOR -L- PROFIILE SEE SHEET 9

OBLITERATION OF EXISTING ROAD

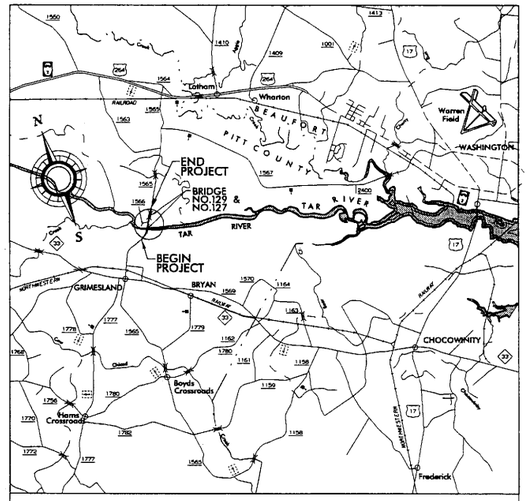
REVISIONS

8/17/99

SCATES
SFILES

PROJECT: 33225.2.1 T.I.P. PROJECT: B-3684

See Sheet 1-A For Index of Sheets



VICINITY MAP

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

PITT COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	B-3684	1	

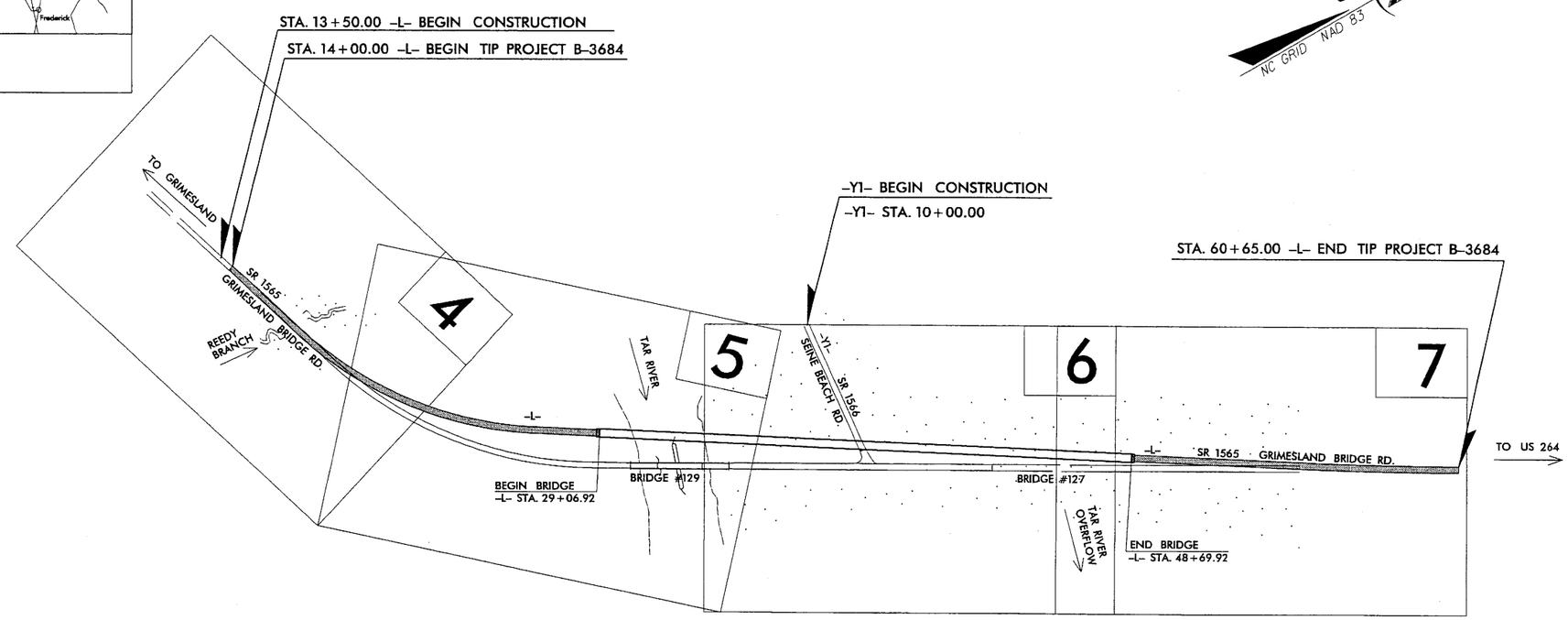
W.B.S.	F.A. PROJ. NO.	DESCRIPTION
33225.1.1	BRSTP-1565(4)	P.E.
33225.2.1	BRSTP-1565(4)	ROW & UTL.

ROADWAY PLANS

LOCATION: BRIDGE NO. 129 OVER TAR RIVER AND BRIDGE NO. 127 OVER TAR RIVER OVERFLOW ON SR 1565 (GRIMESLAND BRIDGE RD.)

TYPE OF WORK: PAVING, GRADING, DRAINAGE, AND STRUCTURE

NC GRID NAD 83



PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

CLEARING ON THIS PROJECT SHALL BE ESTABLISHED BY METHOD III.

THIS PROJECT IS NOT WITNIN THE MUNICIPAL BOUNDARIES OF GRIMESLAND.

NCDOT CONTACT: CATHY HOUSER, P.E., PROJECT ENGINEER – ROADWAY DESIGN

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

10 5 0 10 20
PROFILE (VERTICAL)

DESIGN DATA

ADT 2005 = 4,700
ADT 2025 = 6,800
DHV = 13 %
D = 55 %
T = 3 % *
V = 60 MPH
* TTST 1 % DUAL 2 %
FUNC CLASS = RURAL COLLECTOR

PROJECT LENGTH

LENGTH ROADWAY TIP PROJECT B-3684	=	0.512 mi.
LENGTH STRUCTURE TIP PROJECT B-3684	=	0.372 mi.
TOTAL LENGTH TIP PROJECT B-3684	=	0.884 mi.

Prepared In the Office of:
MULKEY ENGINEERING & CONSULTANTS
FOR THE NORTH CAROLINA DEPT. OF TRANSPORTATION

2006 STANDARD SPECIFICATIONS

MARCH 18, 2005
RIGHT OF WAY DATE:

MARCH 18, 2008
LETTING DATE:

PAMELA R. WILLIAMS
PROJECT ENGINEER

PADDY JORDAN
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE: *P.E.*

ROADWAY DESIGN ENGINEER

SIGNATURE: *P.E.*

DIVISION OF HIGHWAYS STATE OF NORTH CAROLINA

STATE DESIGN ENGINEER *P.E.*

DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION

APPROVED
DIVISION ADMINISTRATOR *DATE*

5/30/2007
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PROJECT REFERENCE NO.	SHEET NO.
B-3684	1B

*S.U.E = SUBSURFACE UTILITY ENGINEER

CONVENTIONAL SYMBOLS

ROADS & RELATED ITEMS

Edge of Pavement
Curb
Prop. Slope Stakes Cut — C
Prop. Slope Stakes Fill — F
Prop. Woven Wire Fence
Prop. Chain Link Fence
Prop. Barbed Wire Fence
Prop. Wheelchair Ramp — WCR
Exist. Guardrail
Prop. Guardrail
Equality Symbol
Pavement Removal

RIGHT OF WAY

Baseline Control Point
Existing Right of Way Marker
Exist. Right of Way Line w/Marker
Prop. Right of Way Line with Proposed R/W Marker (Iron Pin & Cap)
Prop. Right of Way Line with Proposed (Concrete or Granite) R/W Marker
Exist. Control of Access Line
Prop. Control of Access Line — C A
Exist. Easement Line — E
Prop. Temp. Construction Easement Line — E
Prop. Temp. Drainage Easement Line — TDE
Prop. Perm. Drainage Easement Line — PDE

HYDROLOGY

Stream or Body of Water
Flow Arrow
Disappearing Stream
Spring
Swamp Marsh
Shoreline
Falls, Rapids
Prop Lateral, Tail, Head Ditches — FLOW

STRUCTURES

MAJOR
Bridge, Tunnel, or Box Culvert — CONC
Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR
Head & End Wall — CONC HW
Pipe Culvert
Footbridge
Drainage Boxes — CB
Paved Ditch Gutter

UTILITIES

Exist. Pole
Exist. Power Pole
Prop. Power Pole
Exist. Telephone Pole
Prop. Telephone Pole
Exist. Joint Use Pole
Prop. Joint Use Pole
Telephone Pedestal — T
Cable TV Pedestal — C
Hydrant
Satellite Dish
Exist. Water Valve
Sewer Clean Out
Power Manhole — P
Telephone Booth — 3
Water Manhole — W
Light Pole
H-Frame Pole
Power Line Tower
Pole with Base
Gas Valve
Gas Meter
Telephone Manhole — T
Power Transformer
Sanitary Sewer Manhole
Storm Sewer Manhole — S
Tank; Water, Gas, Oil
Water Tank With Legs
Traffic Signal Junction Box — S
Fiber Optic Splice Box — F
Television or Radio Tower
Utility Power Line Connects to Traffic Signal Lines Cut Into the Pavement — TS

Recorded Water Line — W
Designated Water Line (S.U.E.*) — W
Sanitary Sewer — SS
Recorded Sanitary Sewer Force Main — FSS
Designated Sanitary Sewer Force Main(S.U.E.*) — FSS
Recorded Gas Line — G
Designated Gas Line (S.U.E.*) — G
Storm Sewer — S
Recorded Power Line — P
Designated Power Line (S.U.E.*) — P
Recorded Telephone Cable — T
Designated Telephone Cable (S.U.E.*) — T
Recorded U/G Telephone Conduit — TC
Designated U/G Telephone Conduit (S.U.E.*) — TC
Unknown Utility (S.U.E.*) — ?UTL
Recorded Television Cable — TV
Designated Television Cable (S.U.E.*) — TV
Recorded Fiber Optics Cable — FO
Designated Fiber Optics Cable (S.U.E.*) — FO
Exist. Water Meter
U/G Test Hole (S.U.E.*)
Abandoned According to U/G Record — ATTUR
End of Information — E.O.I.

BOUNDARIES & PROPERTIES

State Line
County Line
Township Line
City Line
Reservation Line
Property Line
Property Line Symbol — PL
Exist. Iron Pin — EIP
Property Corner
Property Monument — ECM
Property Number — 123
Parcel Number — 6
Fence Line — WW & ISBW
Existing Wetland Boundaries — WLB
Proposed Wetland Boundaries — WLB
Existing Endangered Animal Boundaries — EAB
Existing Endangered Plant Boundaries — EPB

BUILDINGS & OTHER CULTURE

Buildings
Foundations
Area Outline
Gate
Gas Pump Vent or U/G Tank Cap
Church
School
Park
Cemetery
Dam
Sign
Well — S W
Small Mine
Swimming Pool

TOPOGRAPHY

Loose Surface
Hard Surface
Change in Road Surface
Curb
Right of Way Symbol — R/W
Guard Post — GP
Paved Walk
Bridge
Box Culvert or Tunnel
Ferry
Culvert
Footbridge
Trail, Footpath
Light House

VEGETATION

Single Tree
Single Shrub
Hedge
Woods Line
Orchard
Vineyard — VINEYARD

RAILROADS

Standard Gauge — CSX TRANSPORTATION
RR Signal Milepost — MILEPOST 35
Switch — SWITCH

revised 02/25/97

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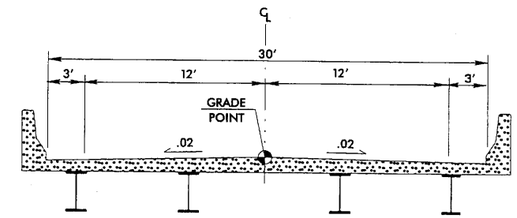
PROJECT REFERENCE NO.	SHEET NO.
B-3684	2
ROADWAY DESIGN ENGINEER	PAVEMENT DESIGN ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

PAVEMENT SCHEDULE

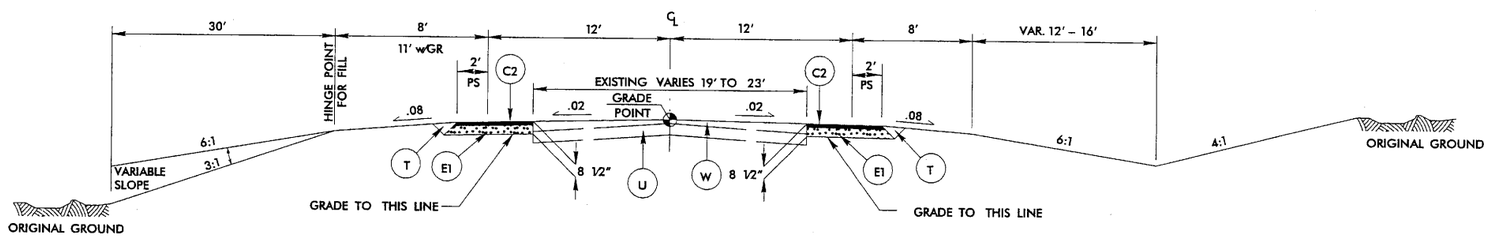
C1	PROP. APPROX. 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
C2	PROP. APPROX. 3" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD. IN EACH OF TWO LAYERS.
C3	PROP. VAR. DEPTH ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 112 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT TO EXCEED 1½" IN DEPTH.
E1	PROP. APPROX. 5½" ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 627 LBS. PER SQ. YD.
E2	PROP. VAR. DEPTH ASPHALT CONCRETE BASE COURSE, TYPE B25.0B, AT AN AVERAGE RATE OF 114 LBS. PER SQ. YD. PER 1" DEPTH. TO BE PLACED IN LAYERS NOT LESS THAN 3" IN DEPTH OR GREATER THAN 5½" IN DEPTH.
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
W	VARIABLE DEPTH ASPHALT PAVEMENT. (SEE STANDARD WEDGING DETAIL)

NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION ON STRUCTURE

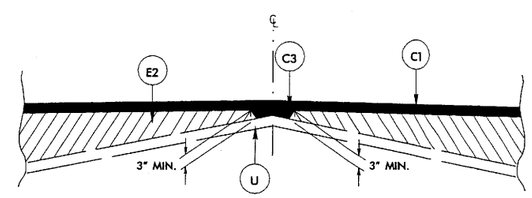
-L- STA 29+06.92 (BEGIN BRIDGE) TO 48+69.92 (END BRIDGE)



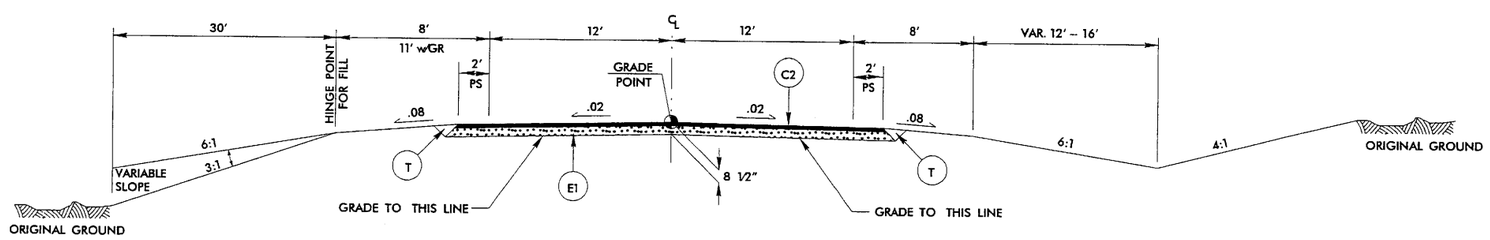
TYPICAL ROADWAY SECTION 1

-L- STA 15+50.00 TO 20+00.00
-L- STA 55+00.00 TO 60+15.00

TRANSITON FROM EXISTING TO T.S. NO 1
-L- STA 14+00.00 TO 15+50.00
-L- STA 60+15.00 TO 60+65.00



DETAIL SHOWING METHOD OF WEDGING



TYPICAL ROADWAY SECTION 2

-L- STA 20+00.00 TO 29+06.92 (BEGIN BRIDGE)
-L- STA 48+69.92 (END BRIDGE) TO 55+00.00

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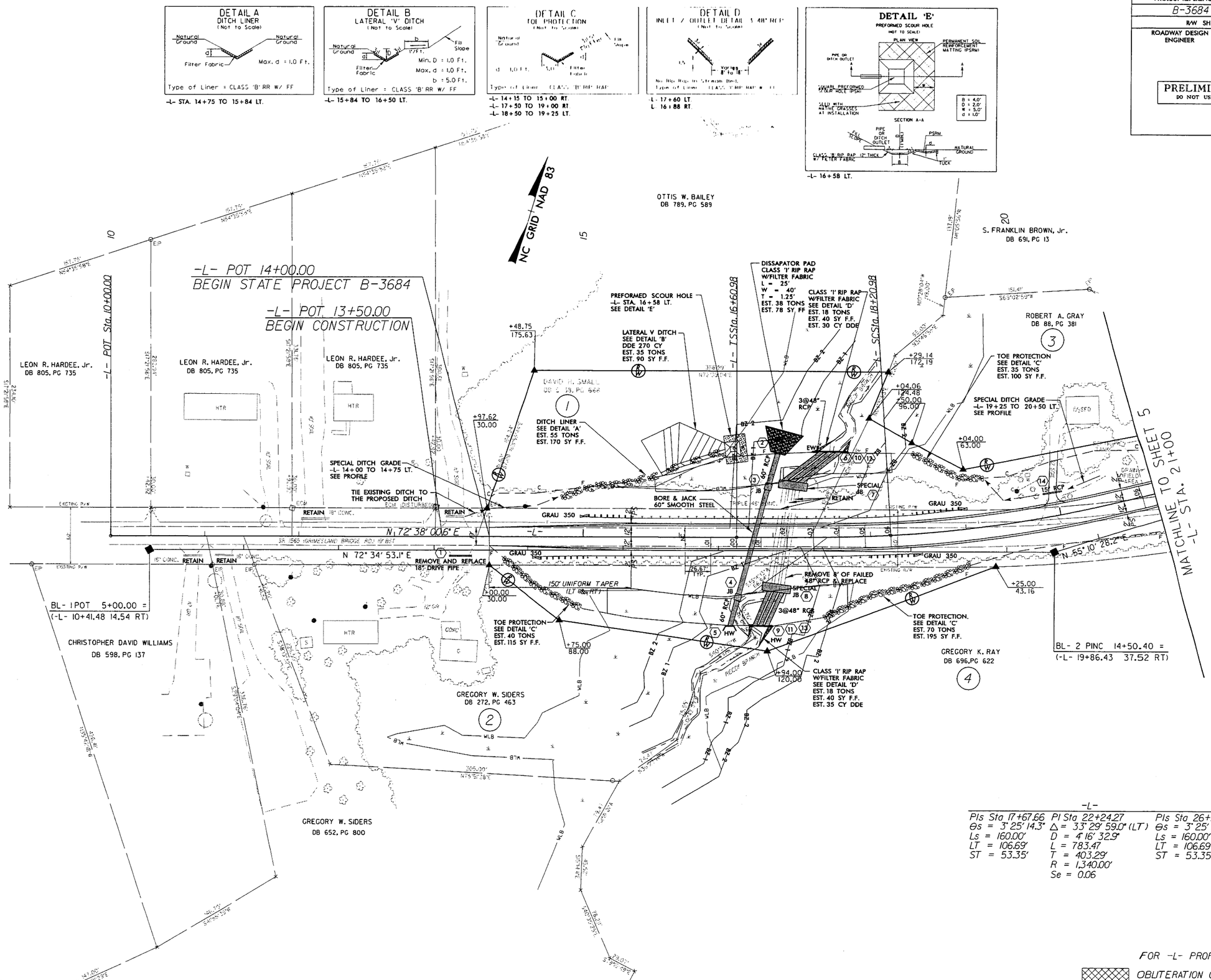
PROJECT REFERENCE NO.	SHEET NO.
B-3684	4
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



REVISIONS

8/17/99

5/30/2007
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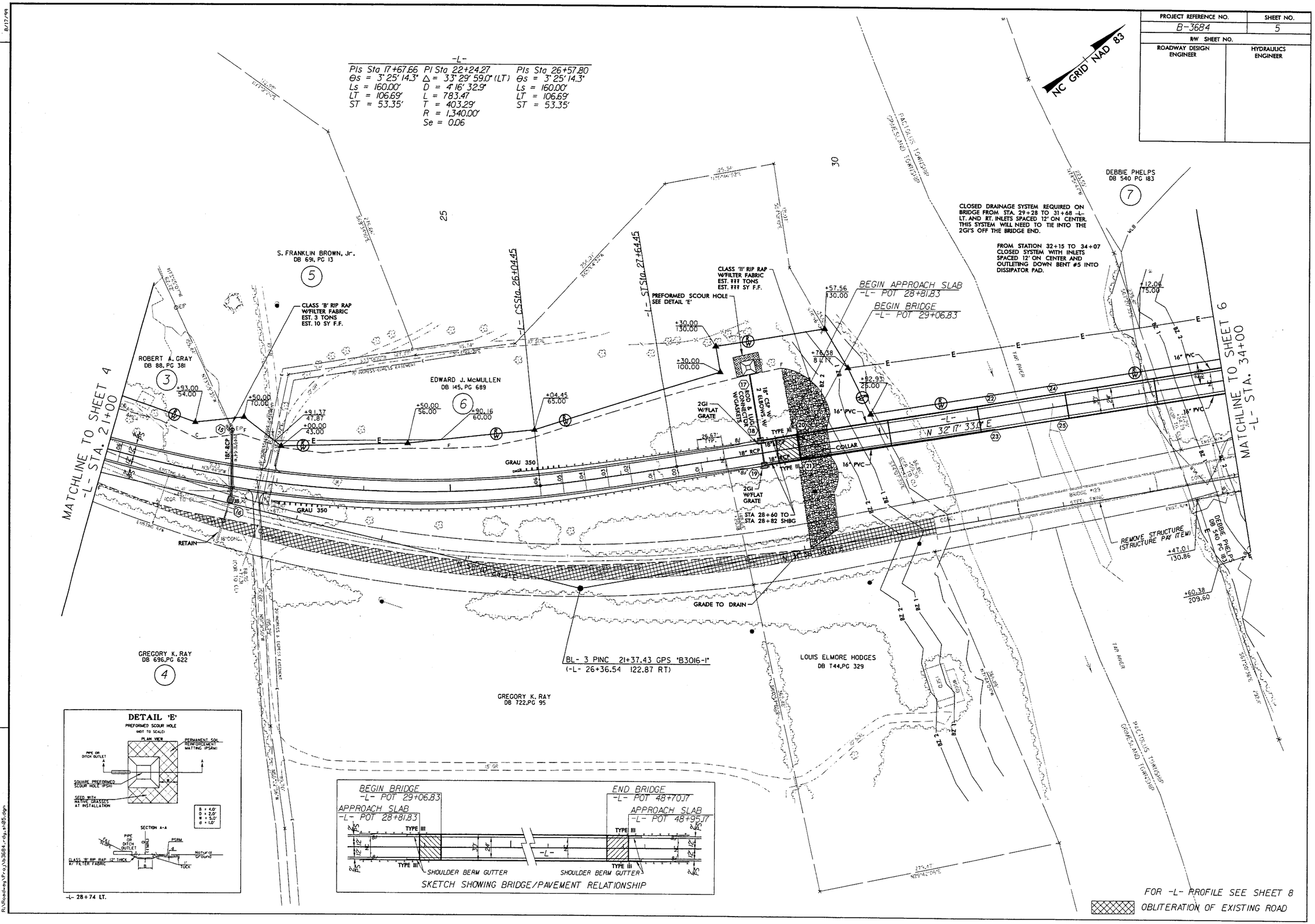
PROJECT REFERENCE NO.	SHEET NO.
B-3684	5
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER



REVISIONS

12-07-07 R/W REVISION
ADJUSTED EASEMENT TO PARCEL NO.7 DUE TO PERMIT DRAWING IN THE GRIMESLAND MITIGATION SITE.

8/17/99

12/7/2007
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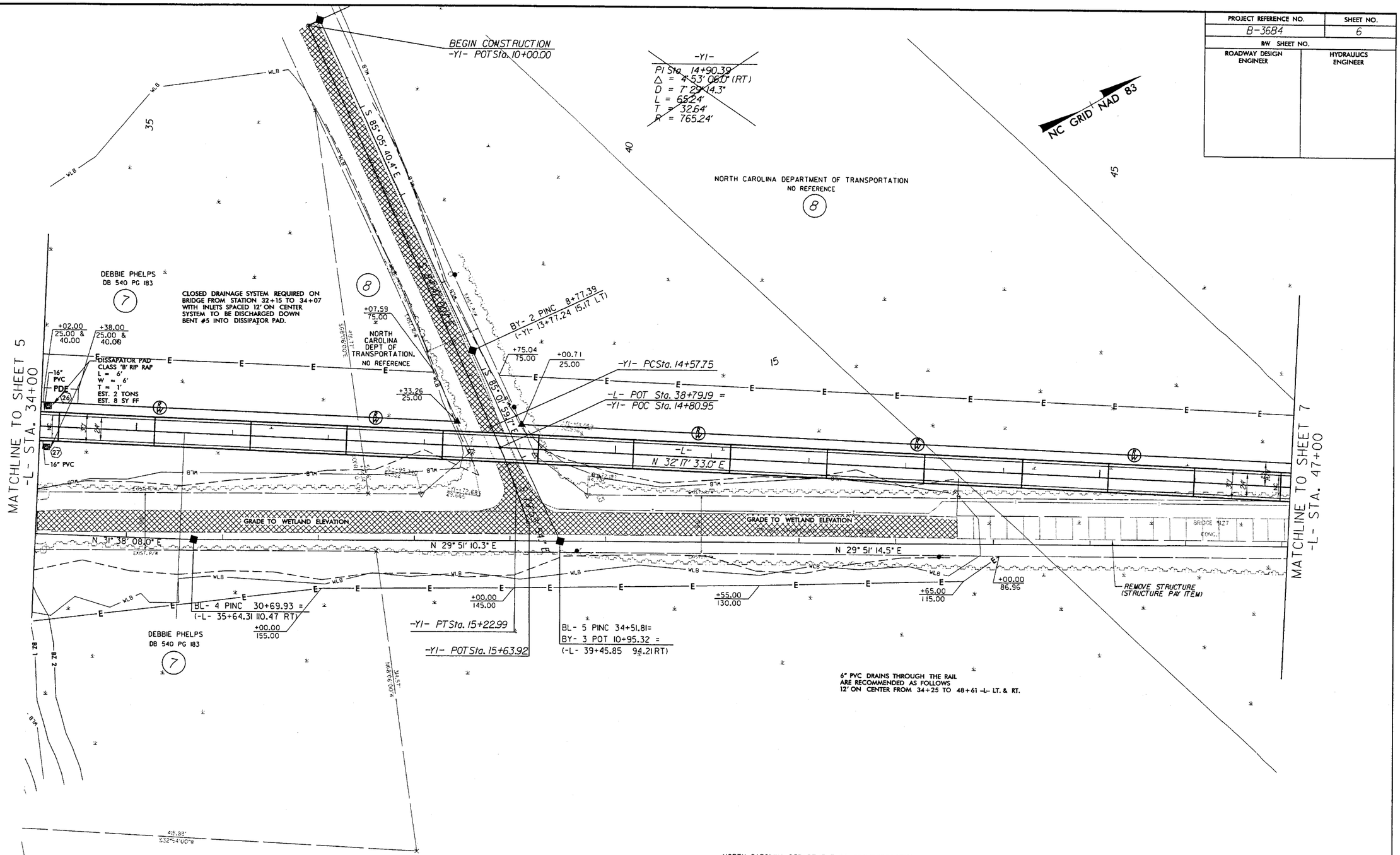
PROJECT REFERENCE NO.	SHEET NO.
B-3684	6
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

REVISIONS

12-07-07 R/W REVISION
ADJUSTED EASEMENT TO PARCEL NO.7 & NO.8 DUE TO PERMIT DRAWING IN THE GRIMESLAND MITIGATION SITE.

8/17/99



FOR -L- PROFILE SEE SHEET 8 & 9

OBLITERATION OF EXISTING ROAD

12/7/2007
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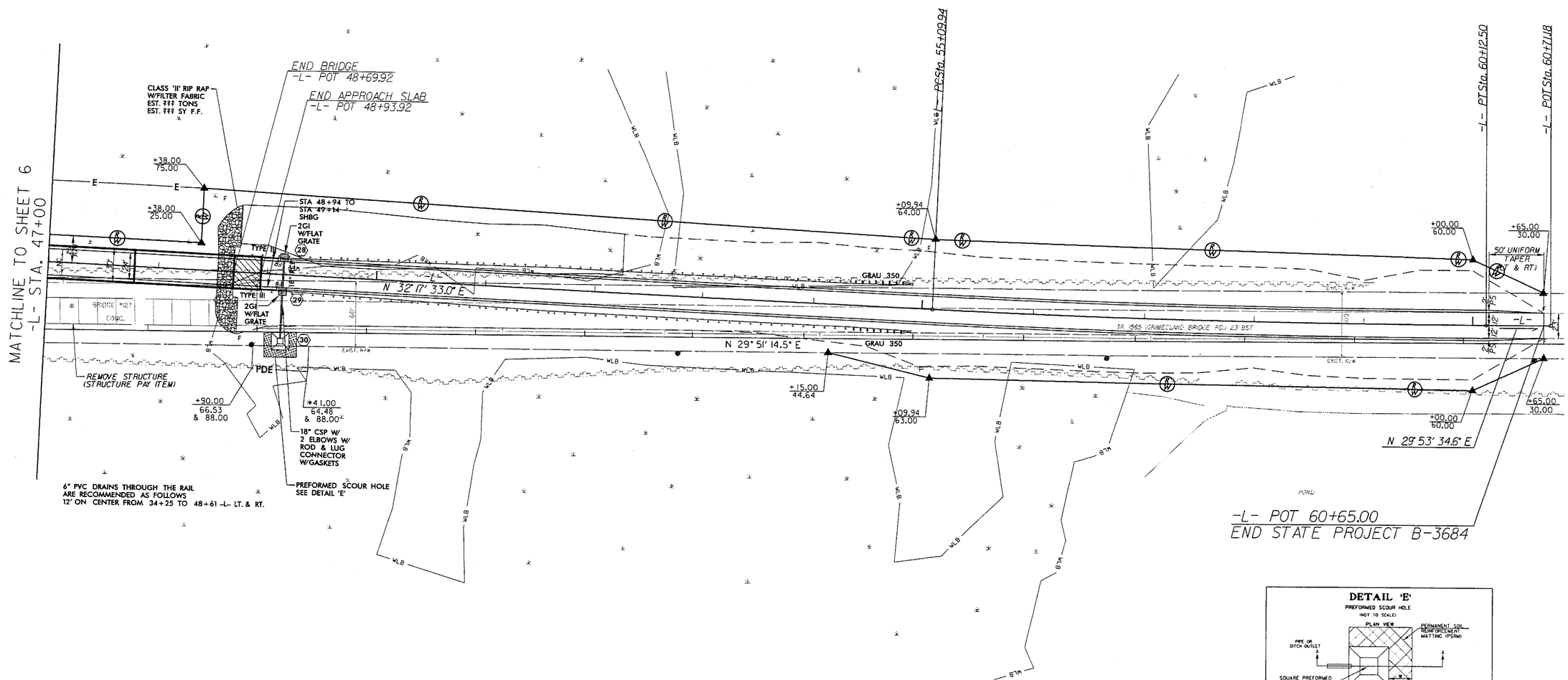
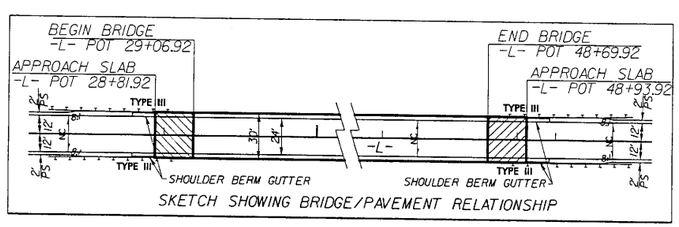
PROJECT REFERENCE NO.	SHEET NO.
B-3684	7
R/W SHEET NO.	
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

NC GRID NAD 83

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
NO REFERENCE
8

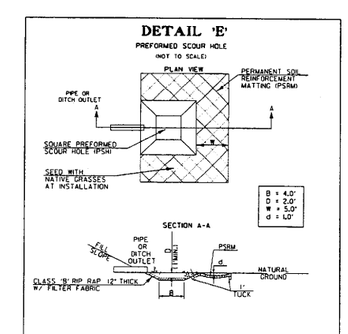




SKETCH SHOWING BRIDGE/PAVEMENT RELATIONSHIP

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
NO REFERENCE
8

-L-
PI Sta 57+61.26
Δ = 2° 23' 58.4" (LT)
D = 0° 28' 38.9"
L = 502.56'
T = 251.32'
R = 12,000.00'
Se = NC



-L- 49+14 RT.

FOR -L- PROFIILE SEE SHEET 9

OBLITERATION OF EXISTING ROAD

REVISIONS

8/17/99

5/30/2007
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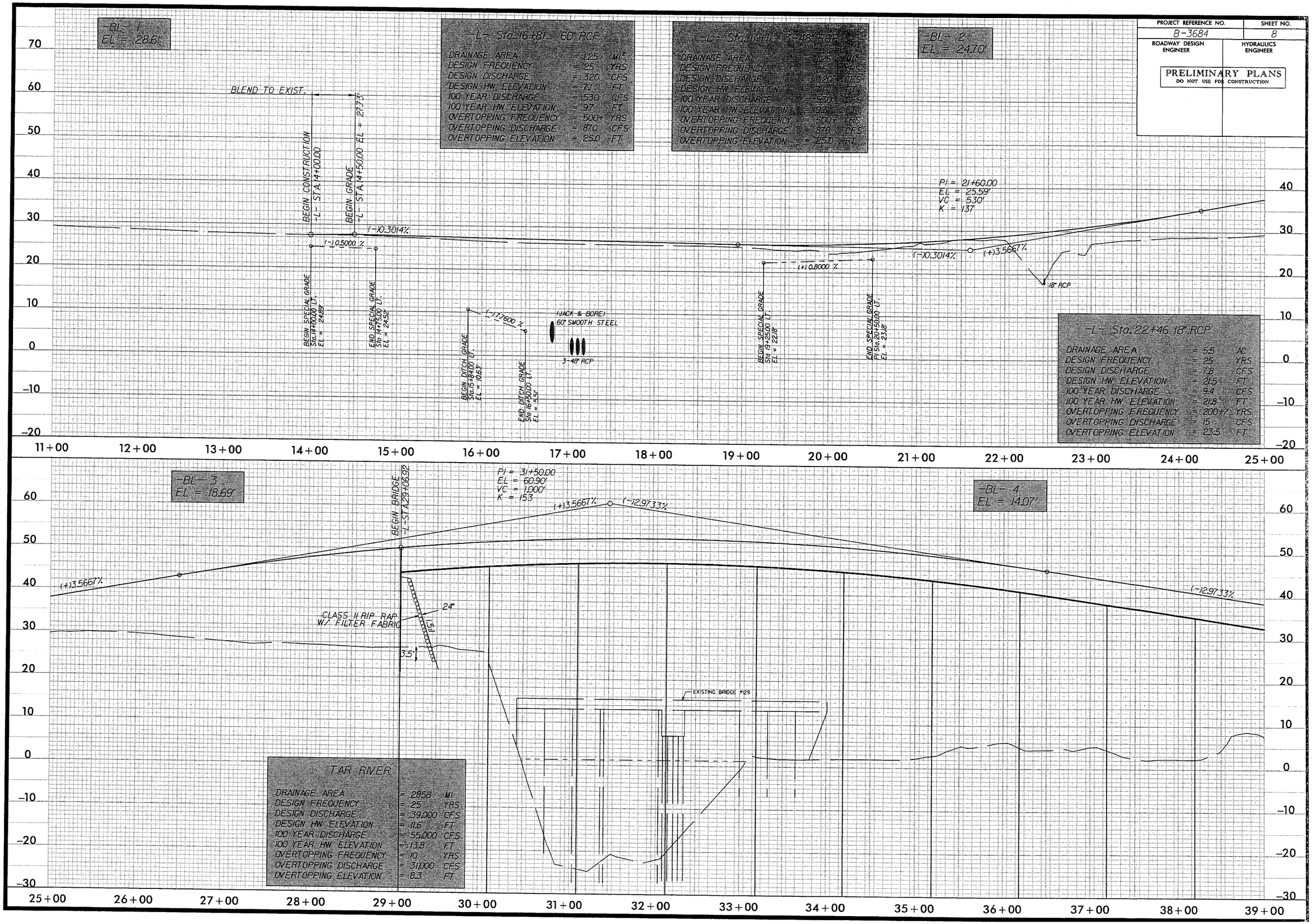
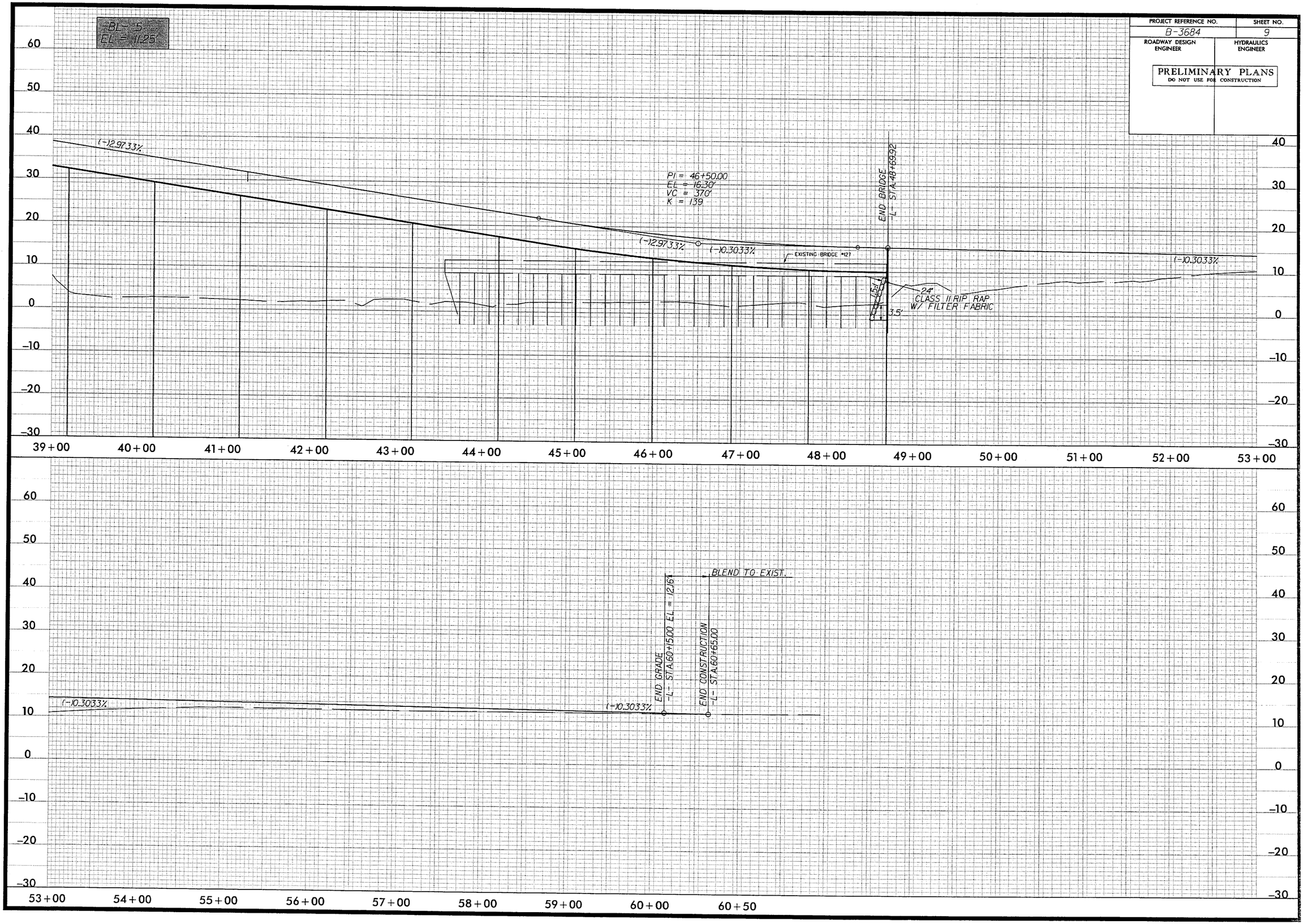
PROJECT REFERENCE NO.	SHEET NO.
B-3684	8
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



PROJECT REFERENCE NO.	SHEET NO.
B-3684	9
ROADWAY DESIGN ENGINEER	HYDRAULICS ENGINEER

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION



Rev 3/6/01

PROJ. REFERENCE NO.	SHEET NO.
B-3684	X-1

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

Note: Approximate quantities only. Unclassified excavation, Shoulder Borrow, Fine Grading, Clearing and Grubbing, Breaking of Existing Pavement and Removal of Existing Pavement will be paid for at the contract Lump Sum price for "Grading".

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

CROSS-SECTION SUMMARY

IN CUBIC YARDS

LOCATION	UNCLASSIFIED EXCAVATION	EMBANKMENT

LOCATION	UNCLASSIFIED EXCAVATION	EMBANKMENT

LOCATION	UNCLASSIFIED EXCAVATION	EMBANKMENT

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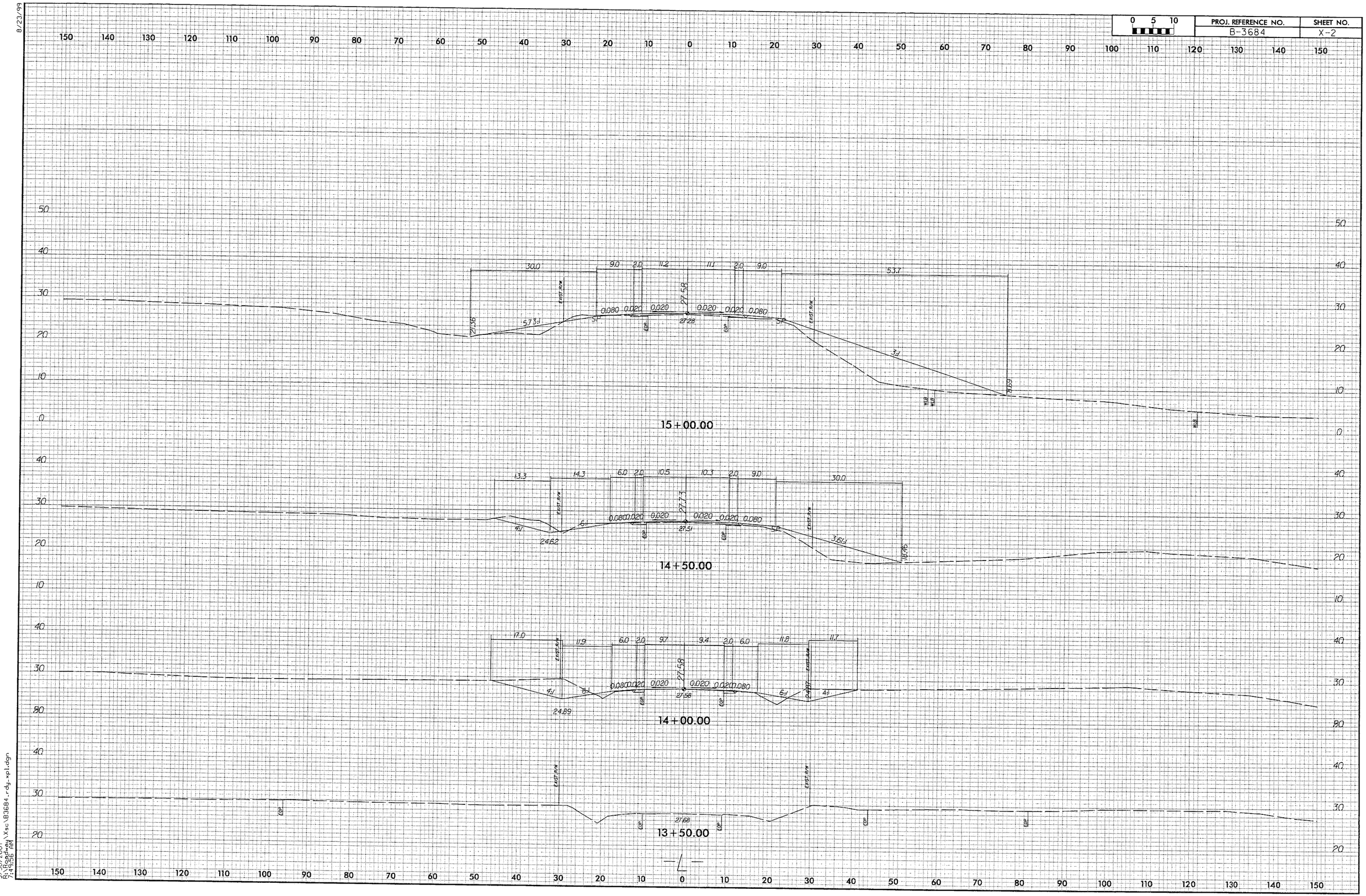
B-3684	X-2



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B-3684	X-3

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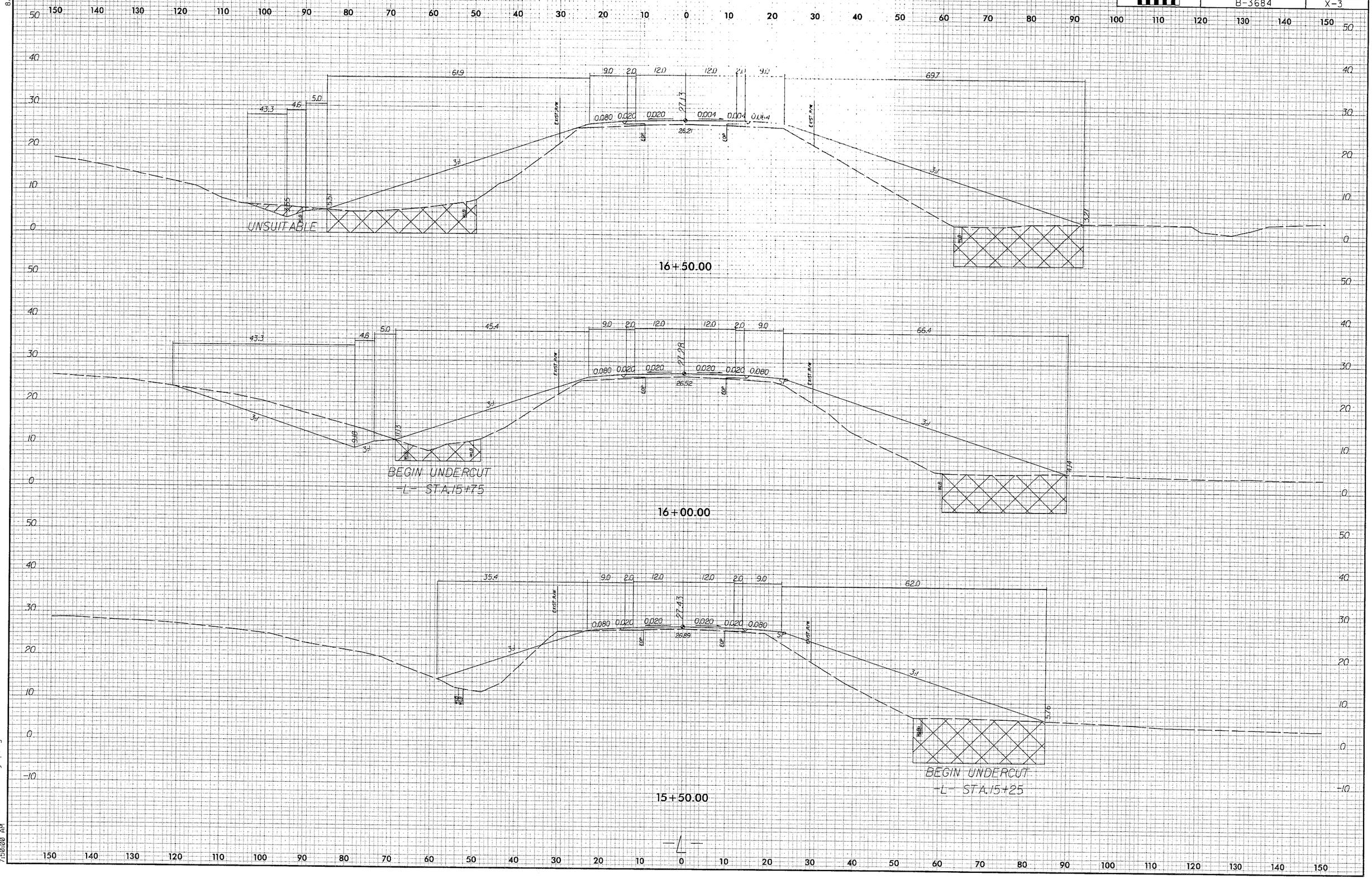

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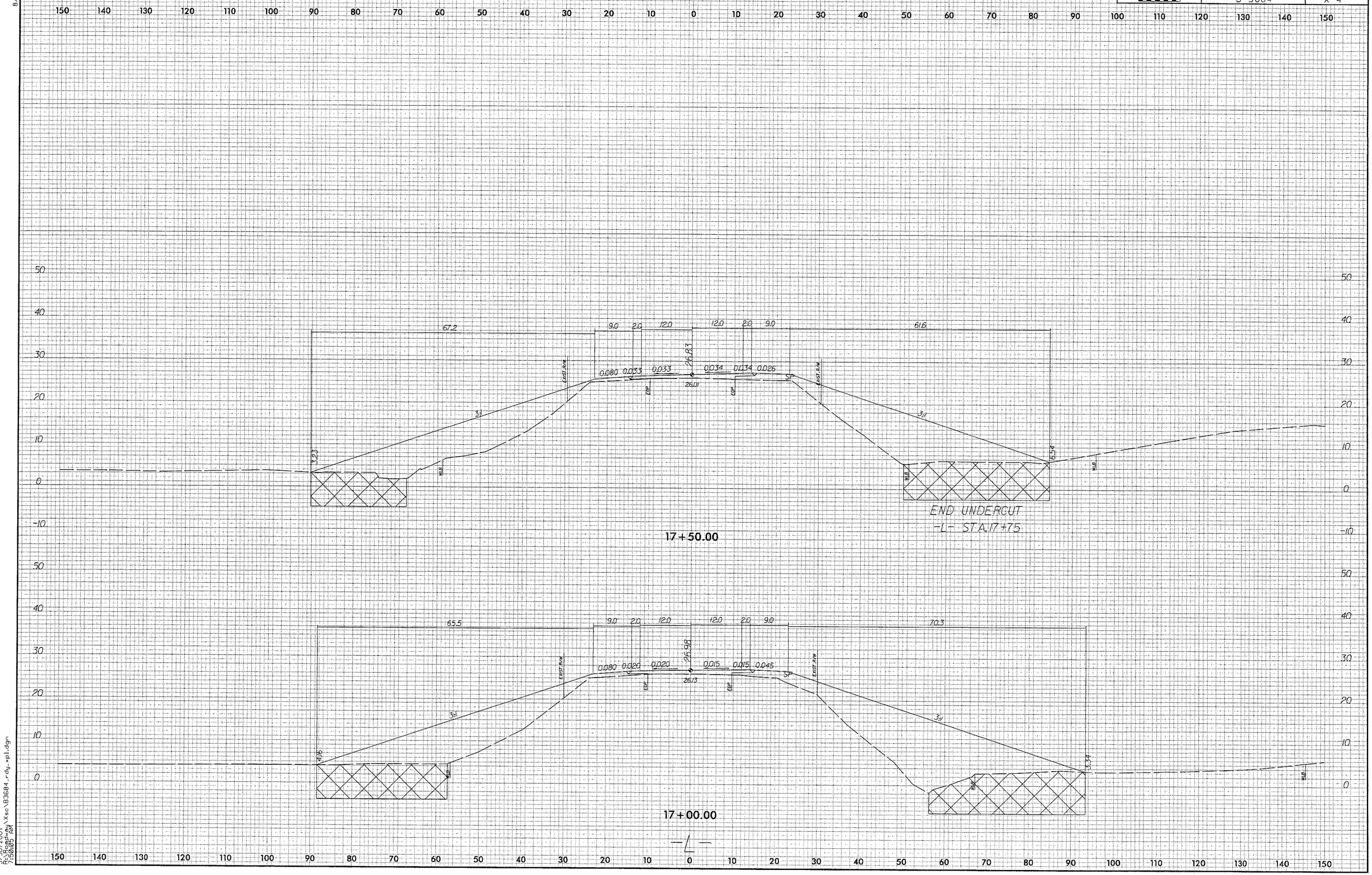

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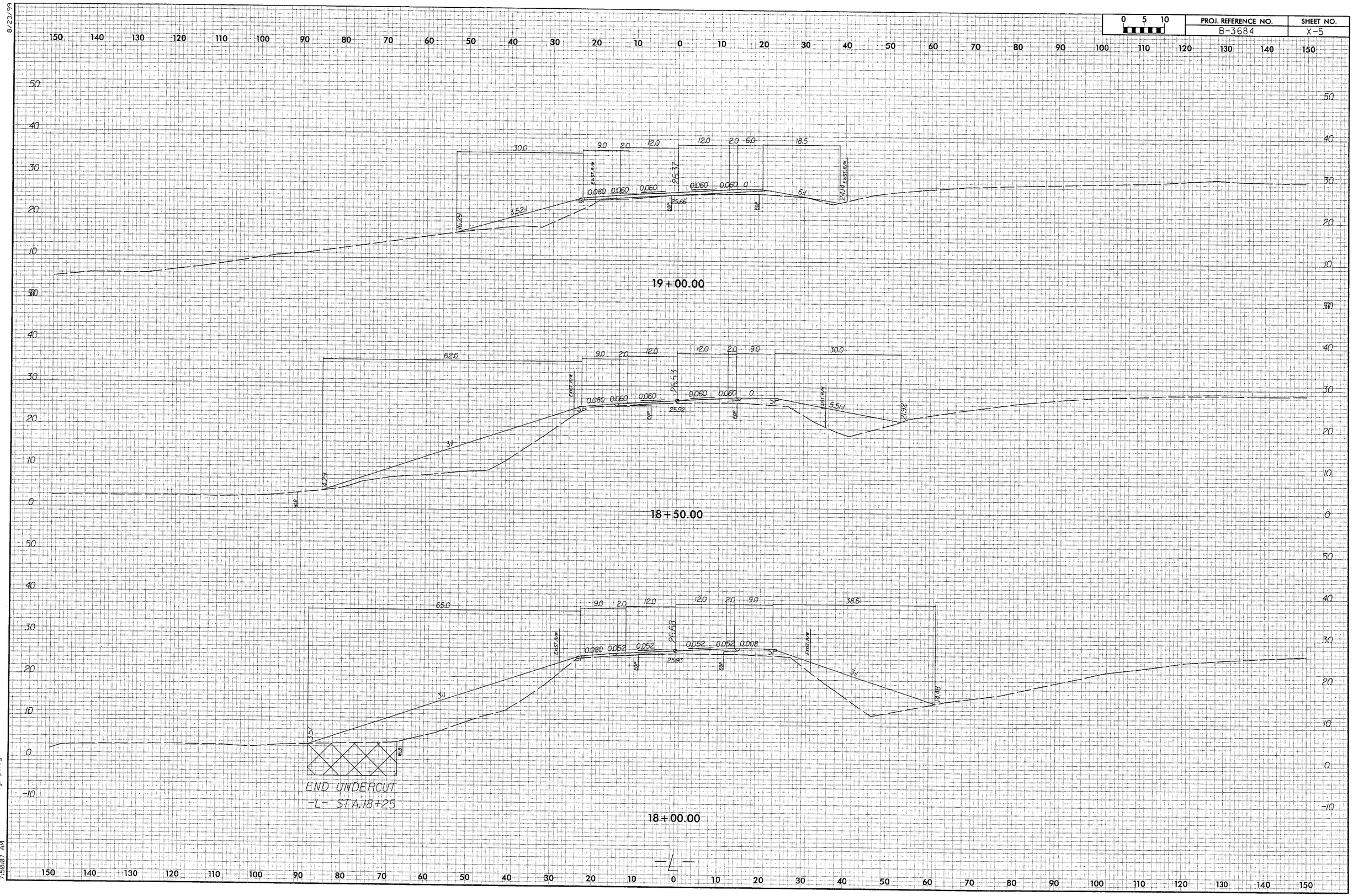

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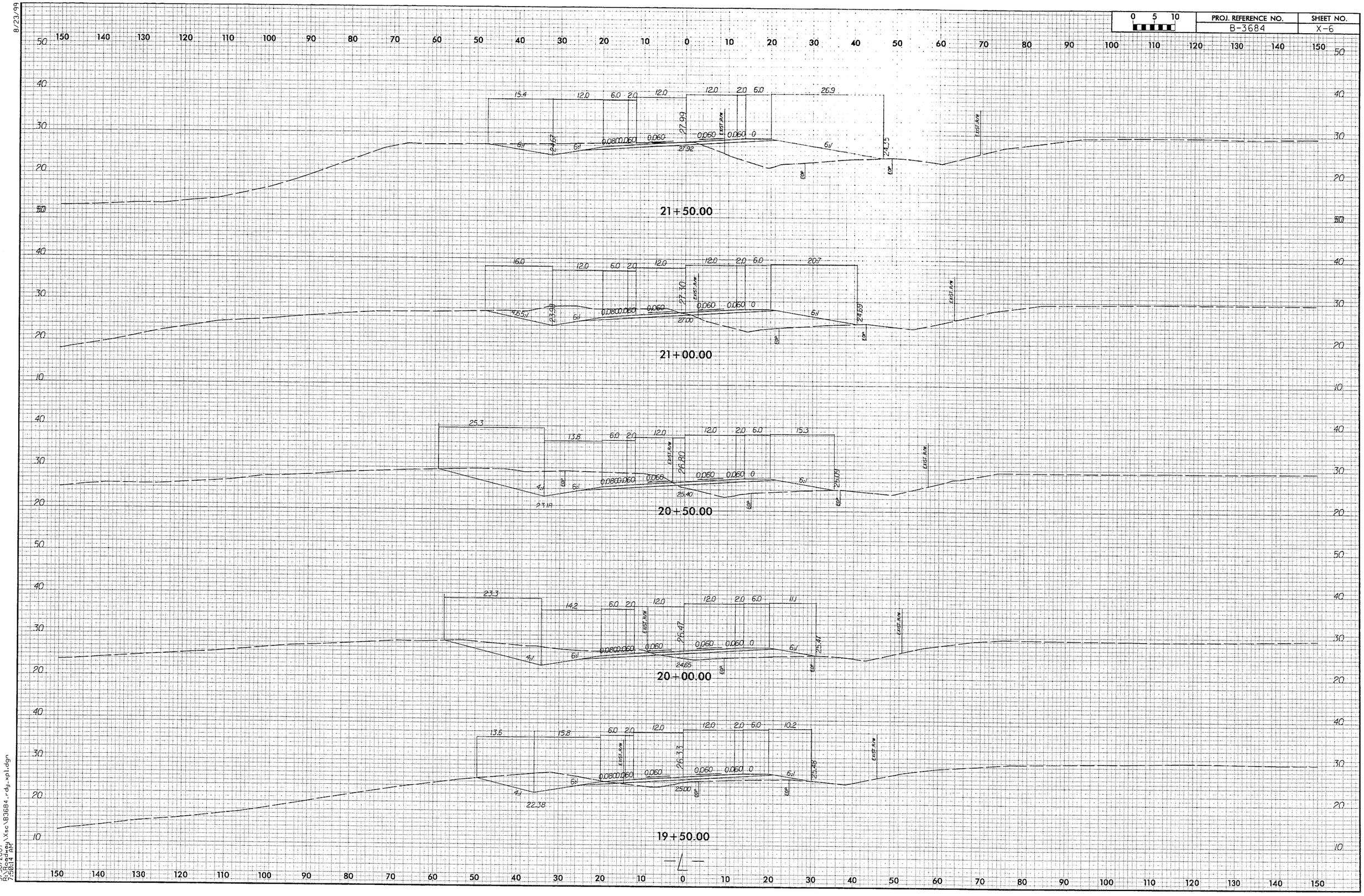

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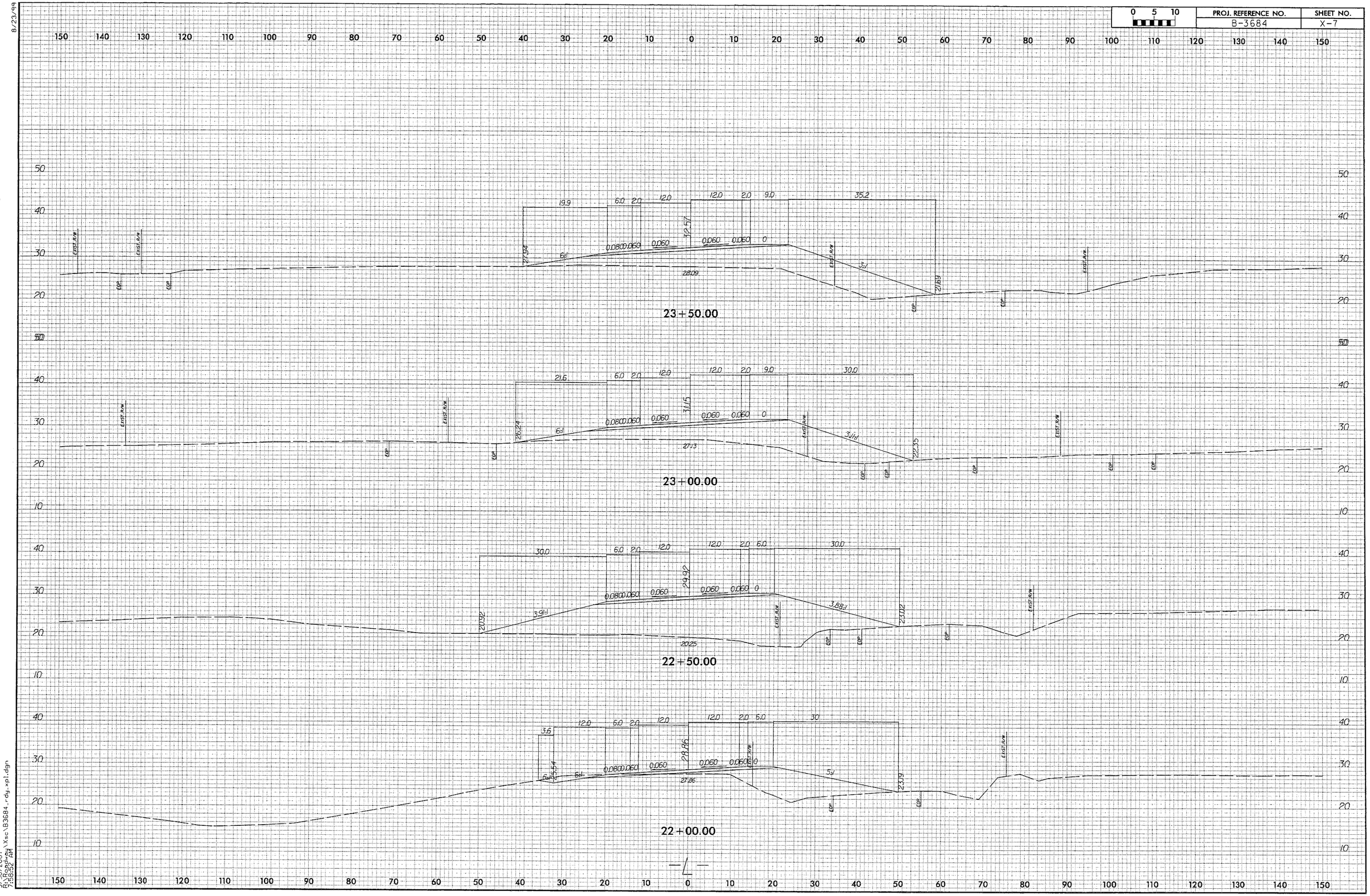

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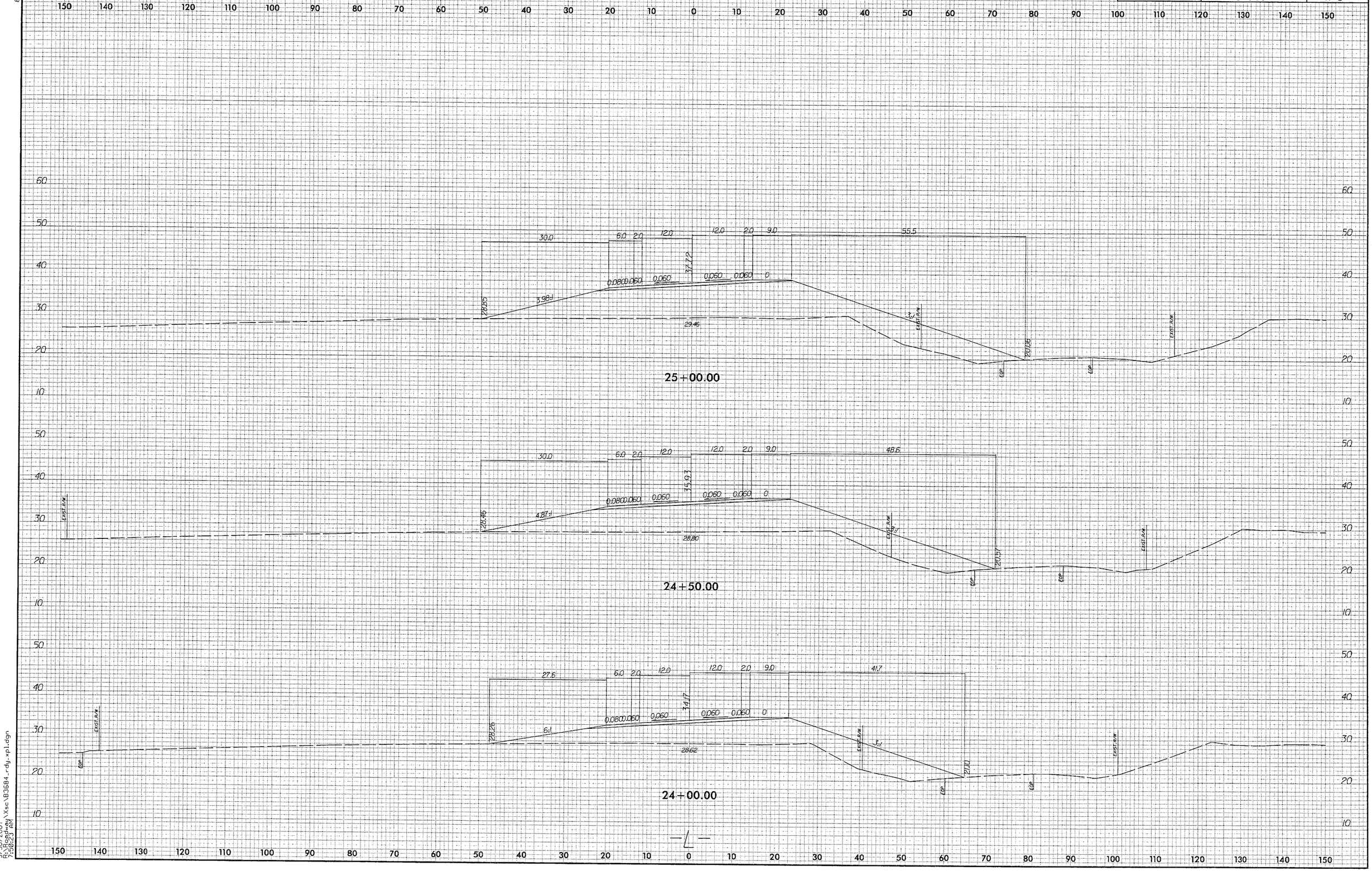

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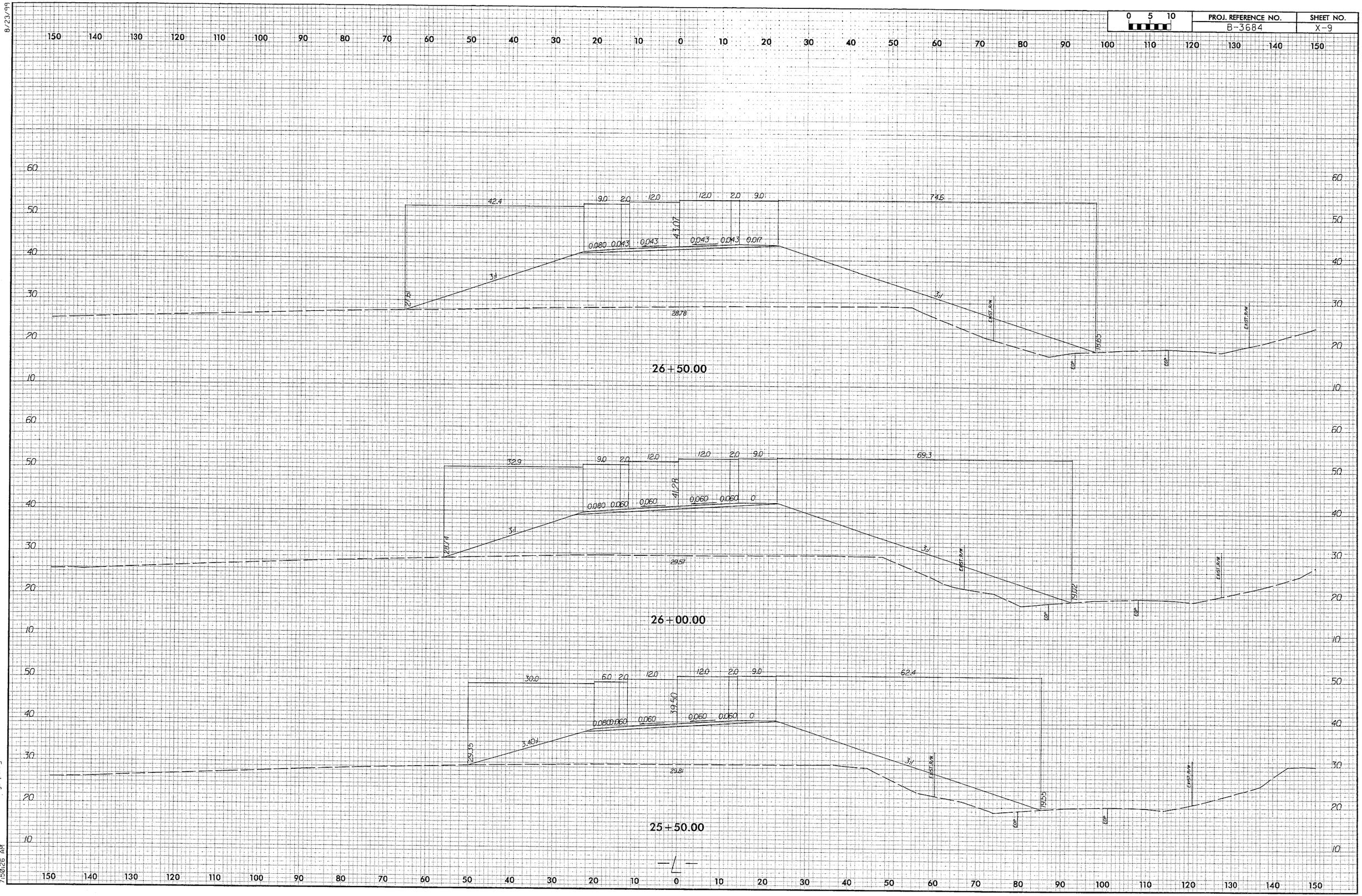

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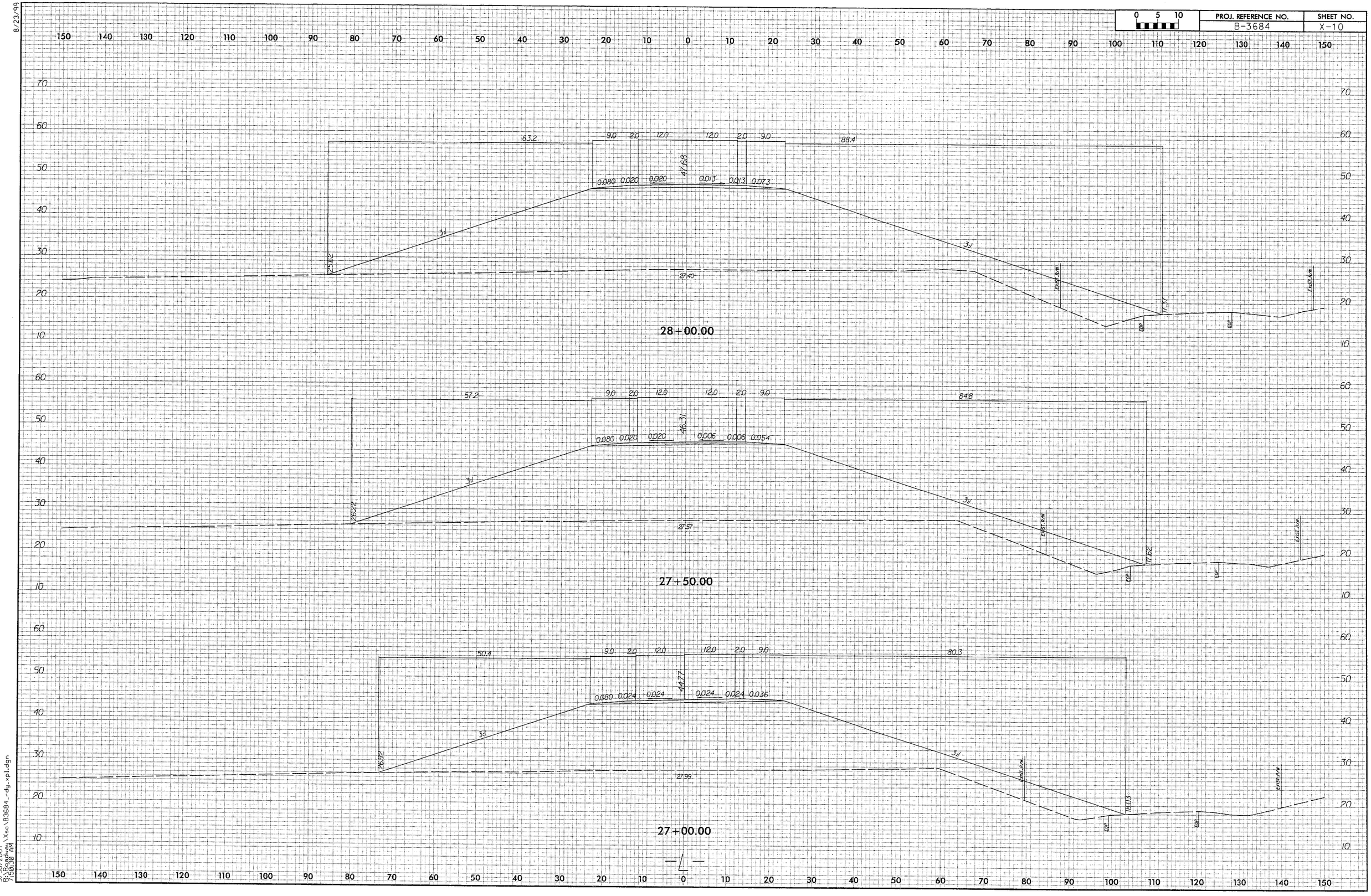

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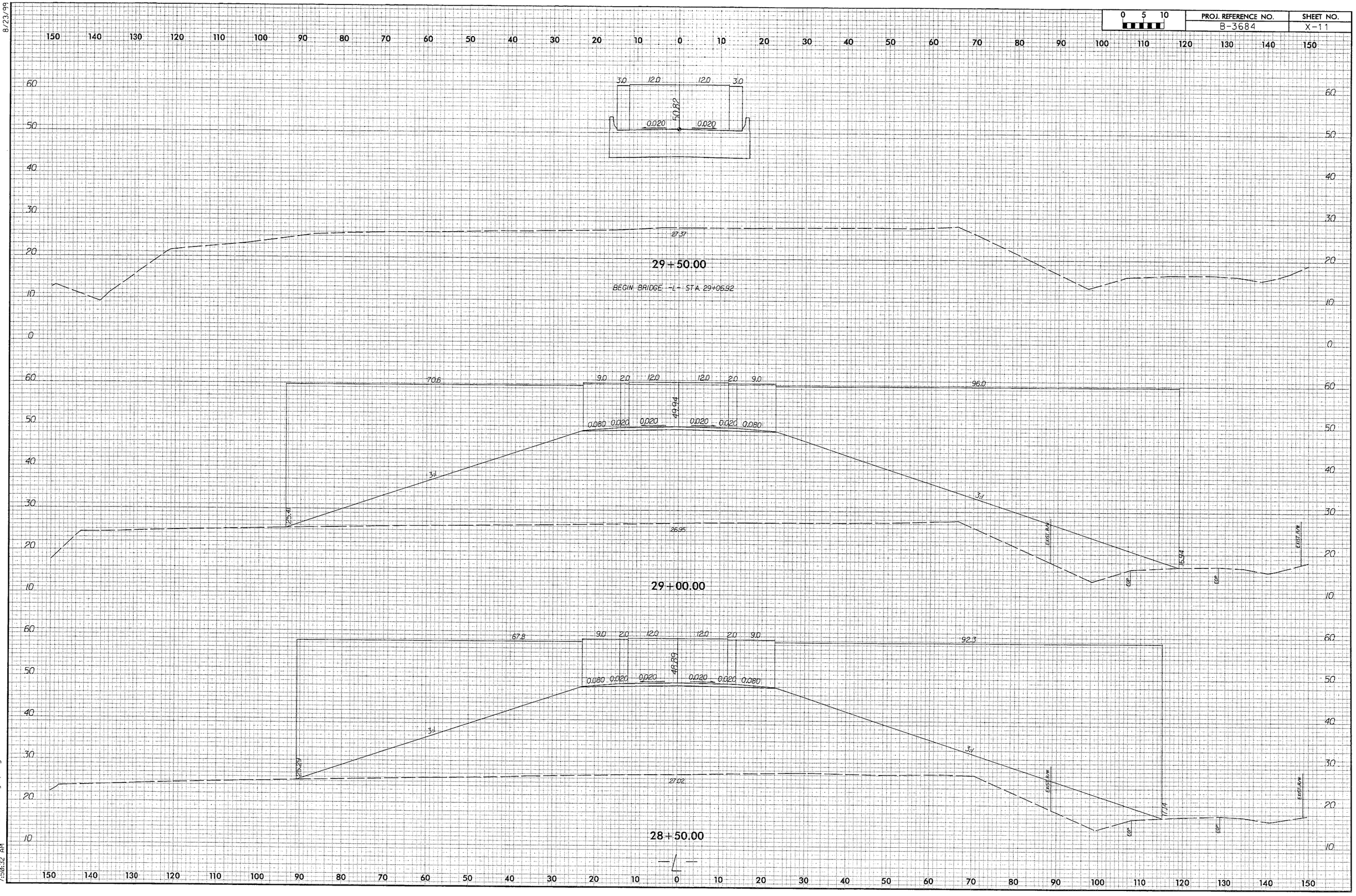

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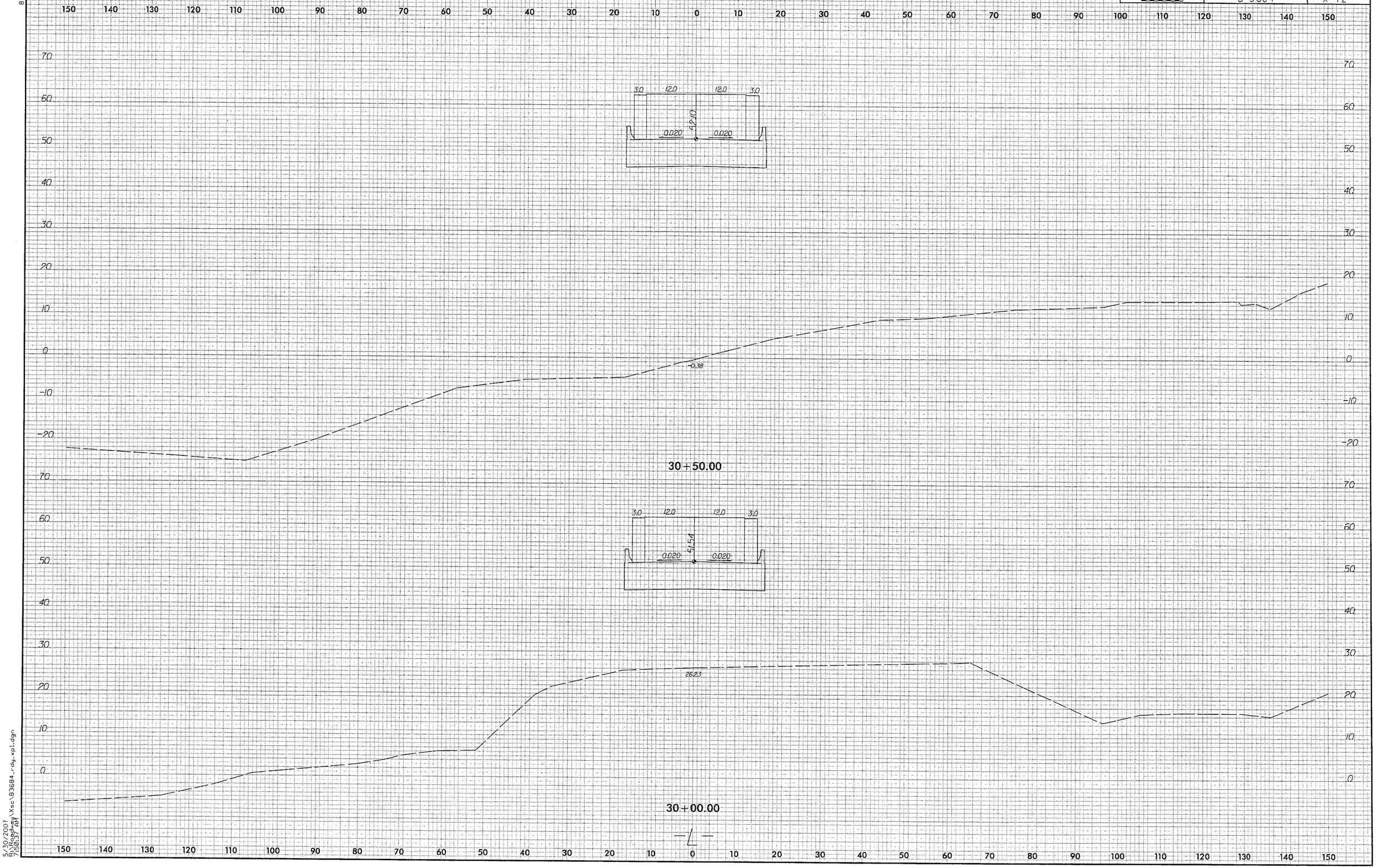

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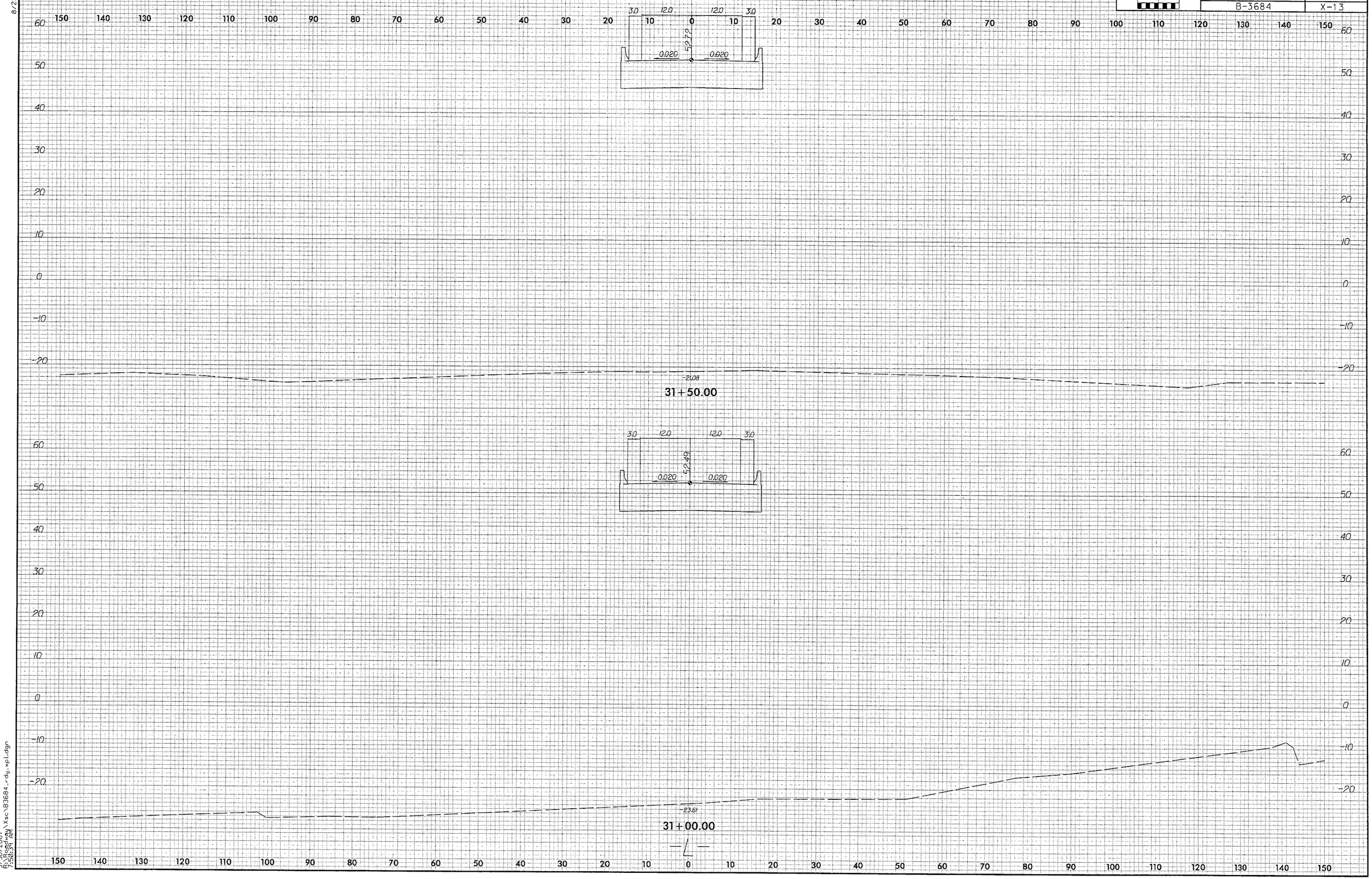

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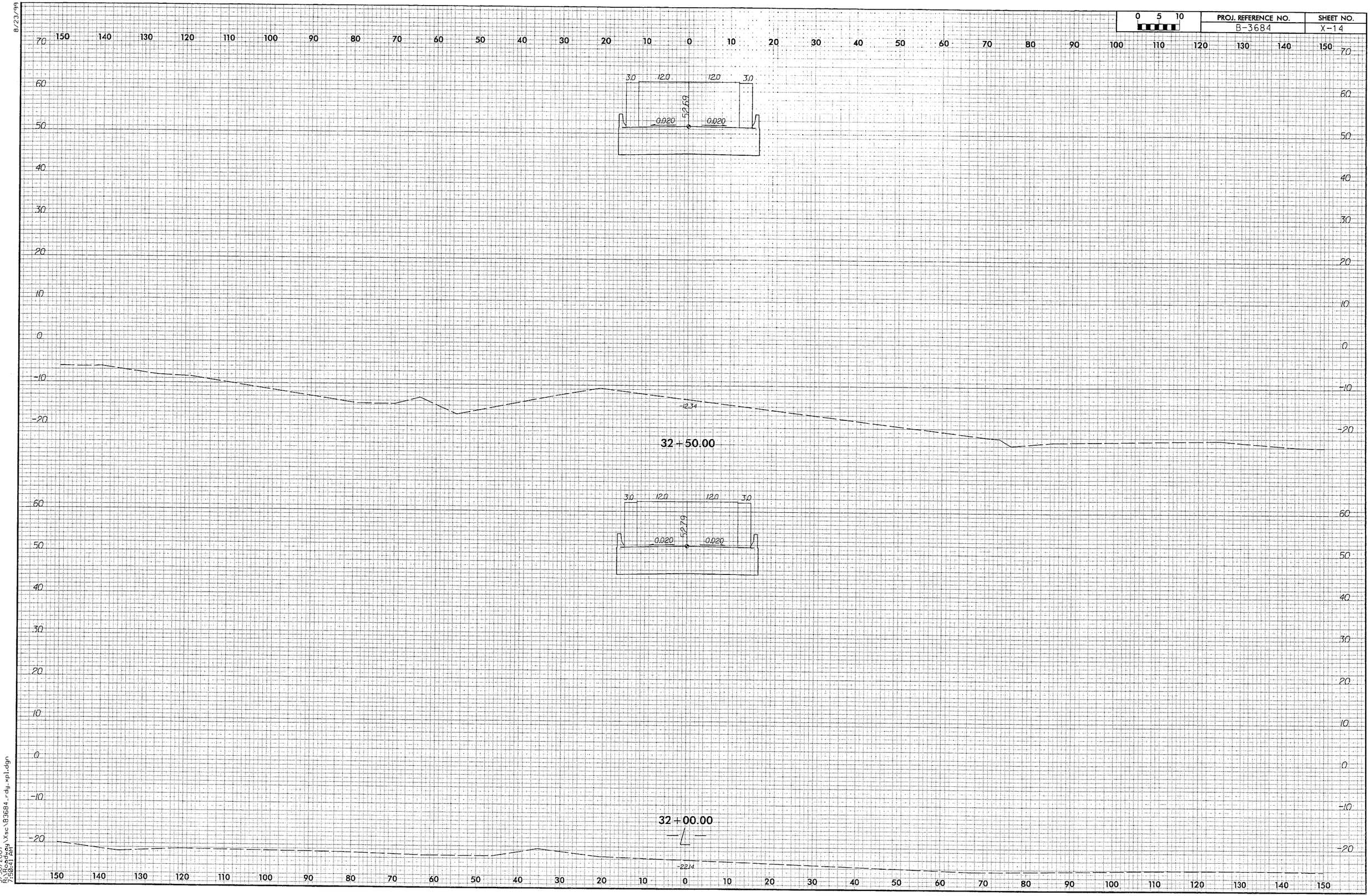

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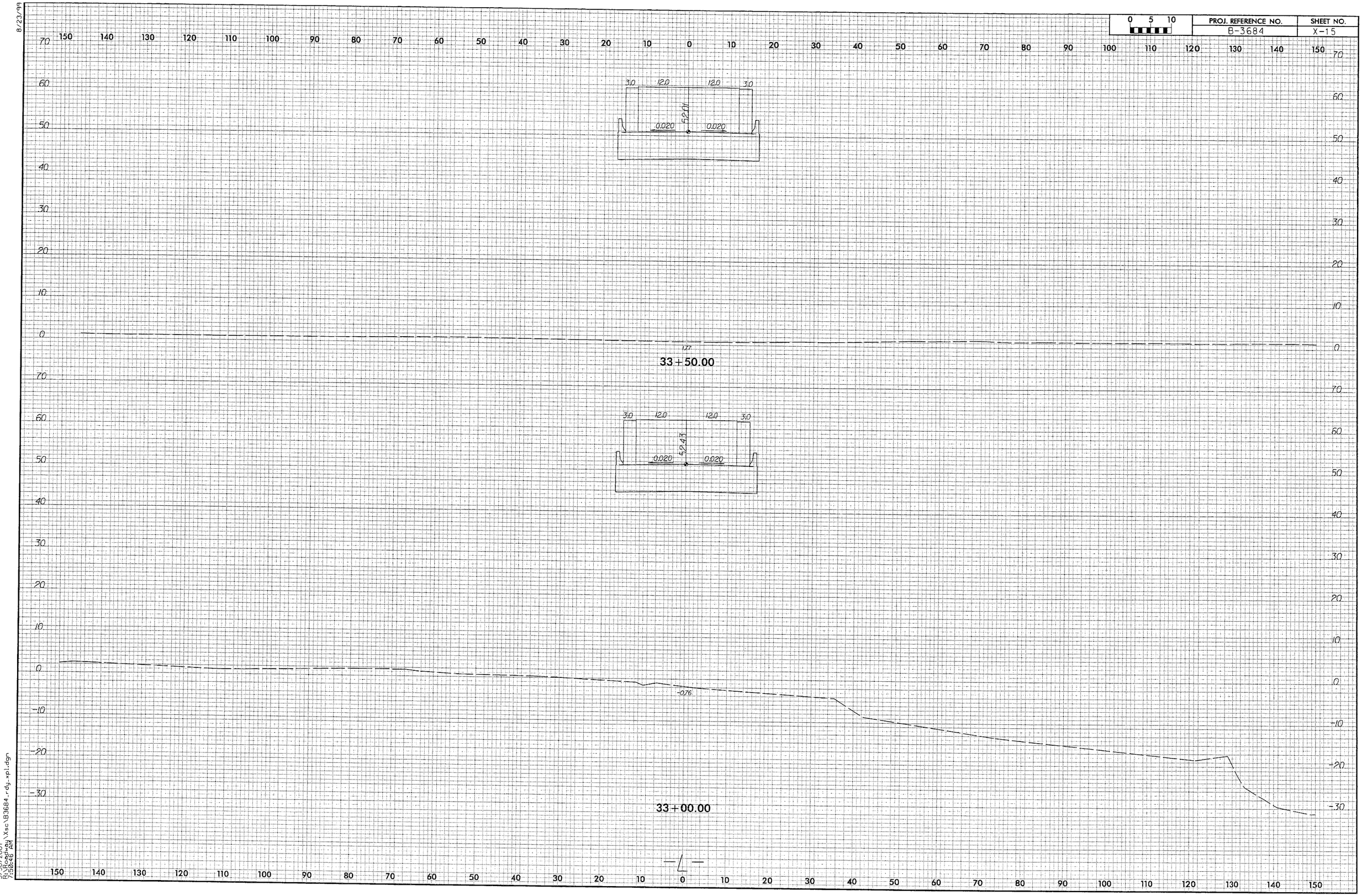

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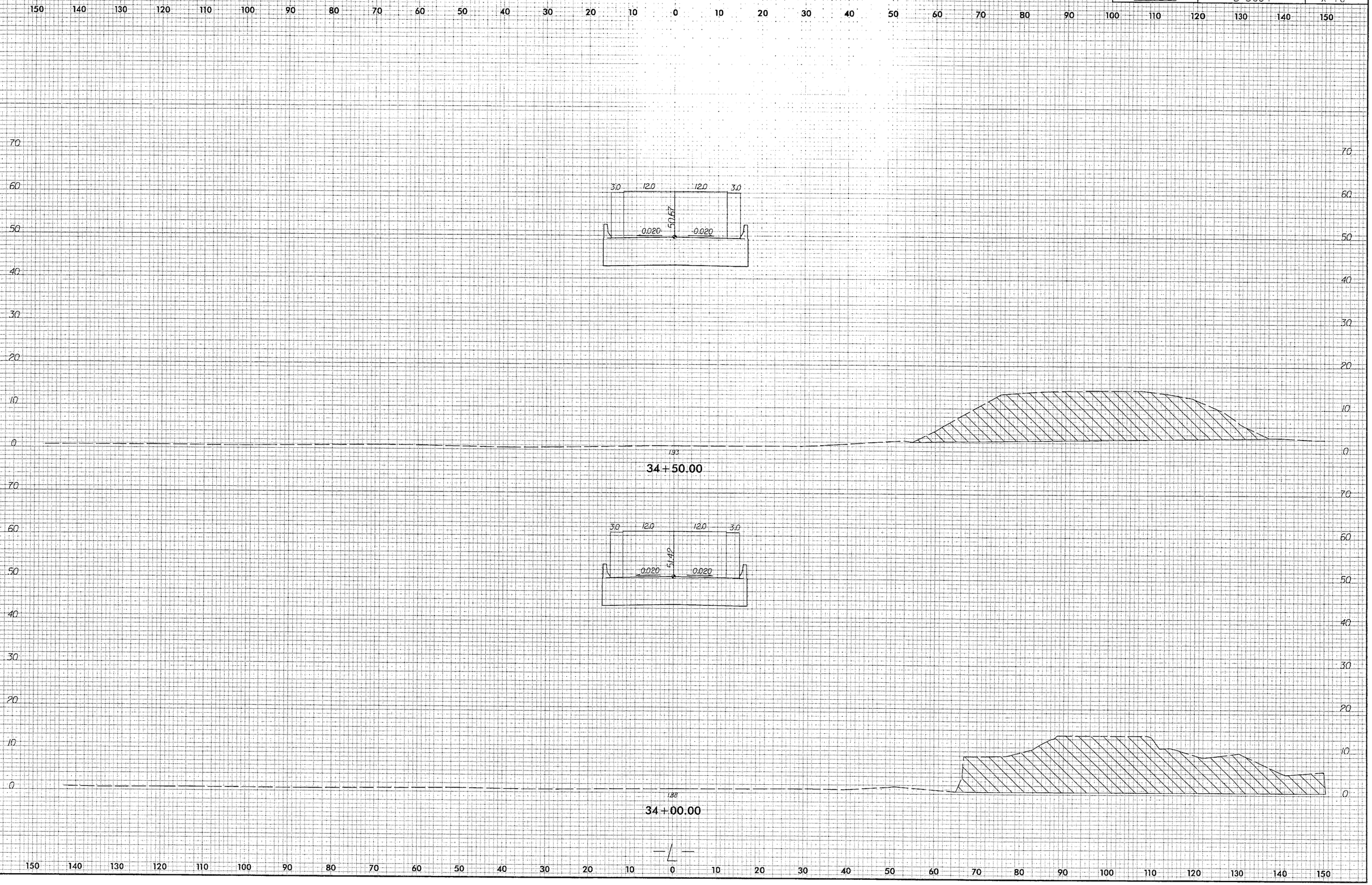

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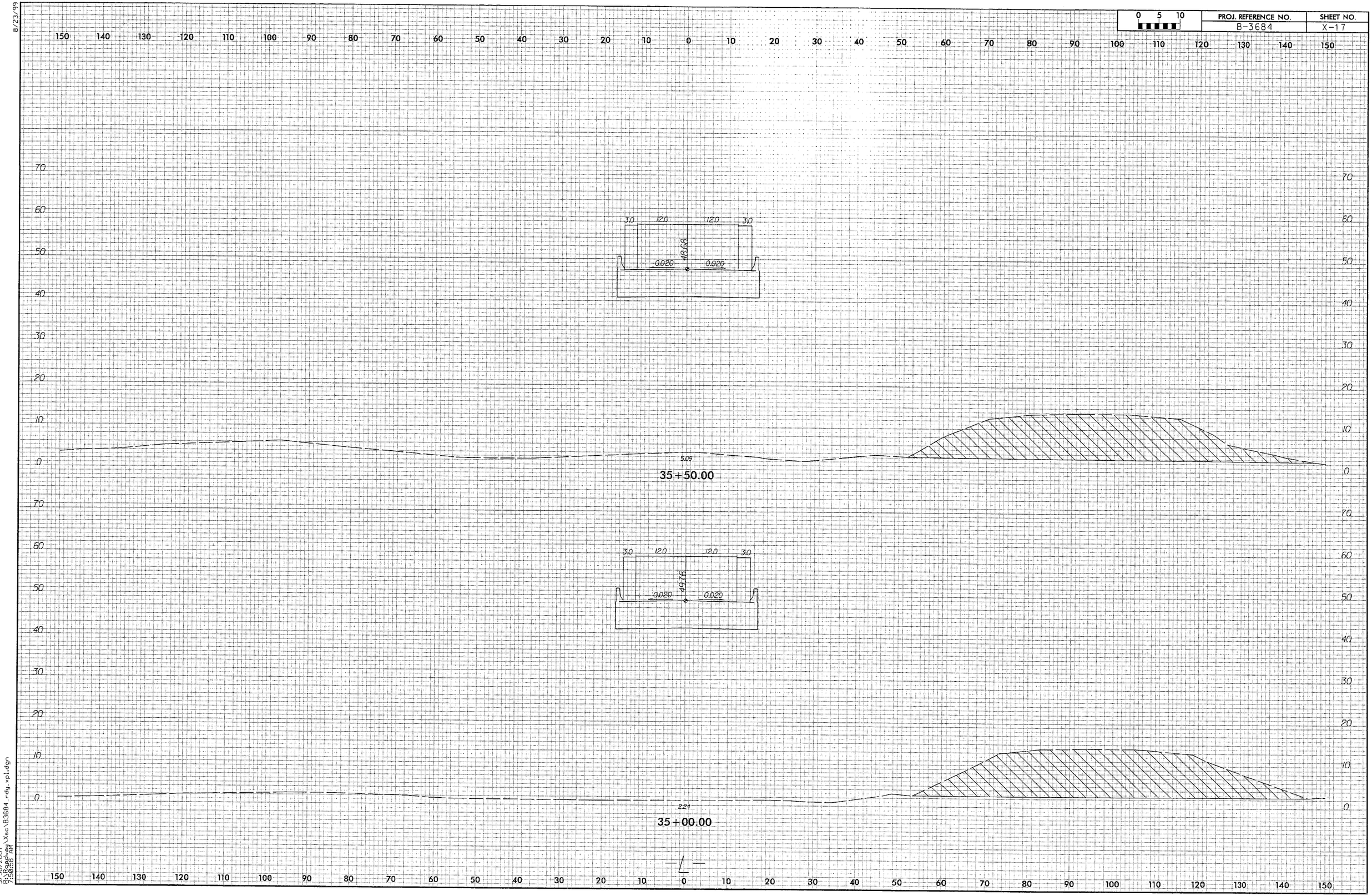

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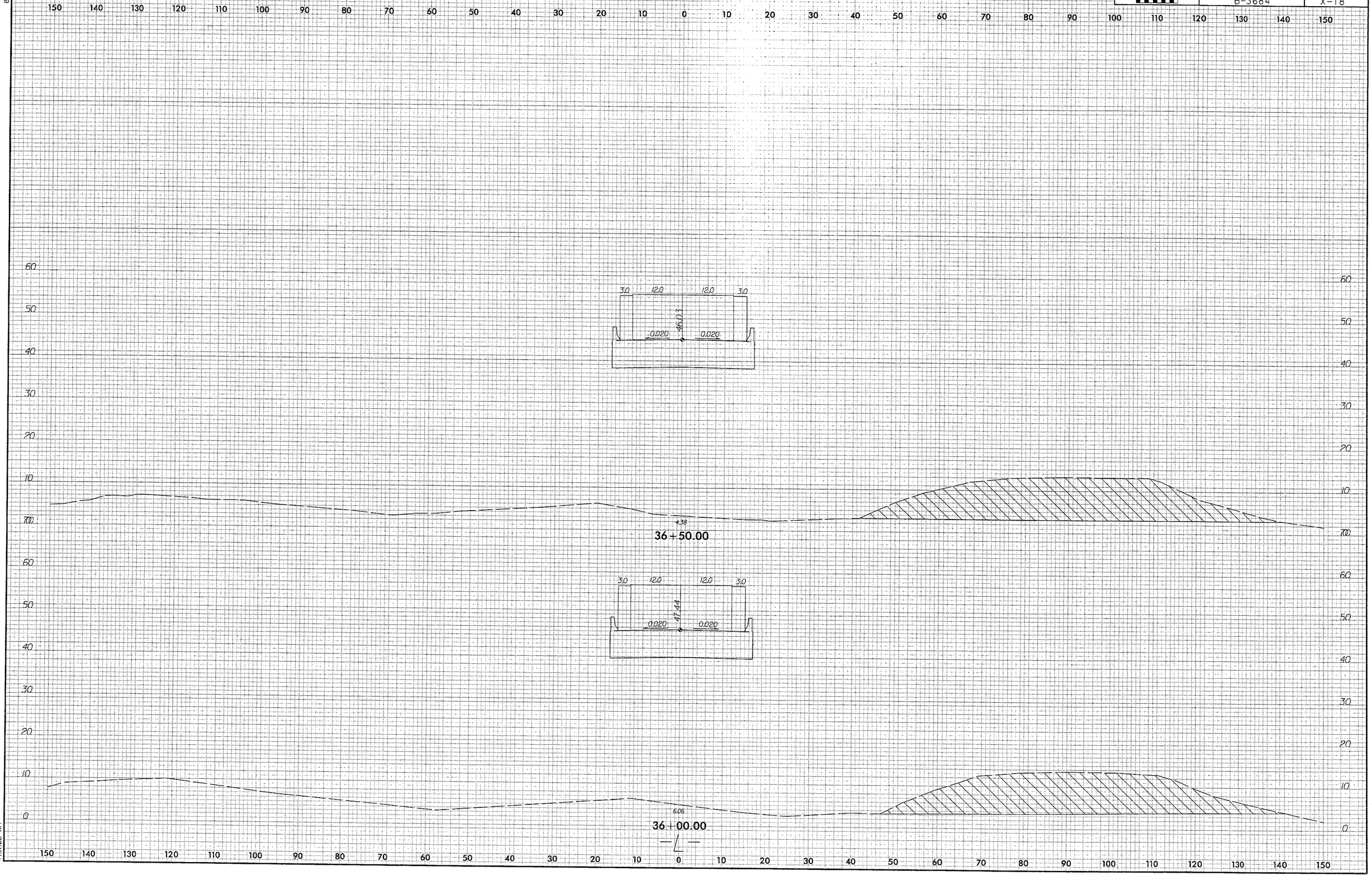

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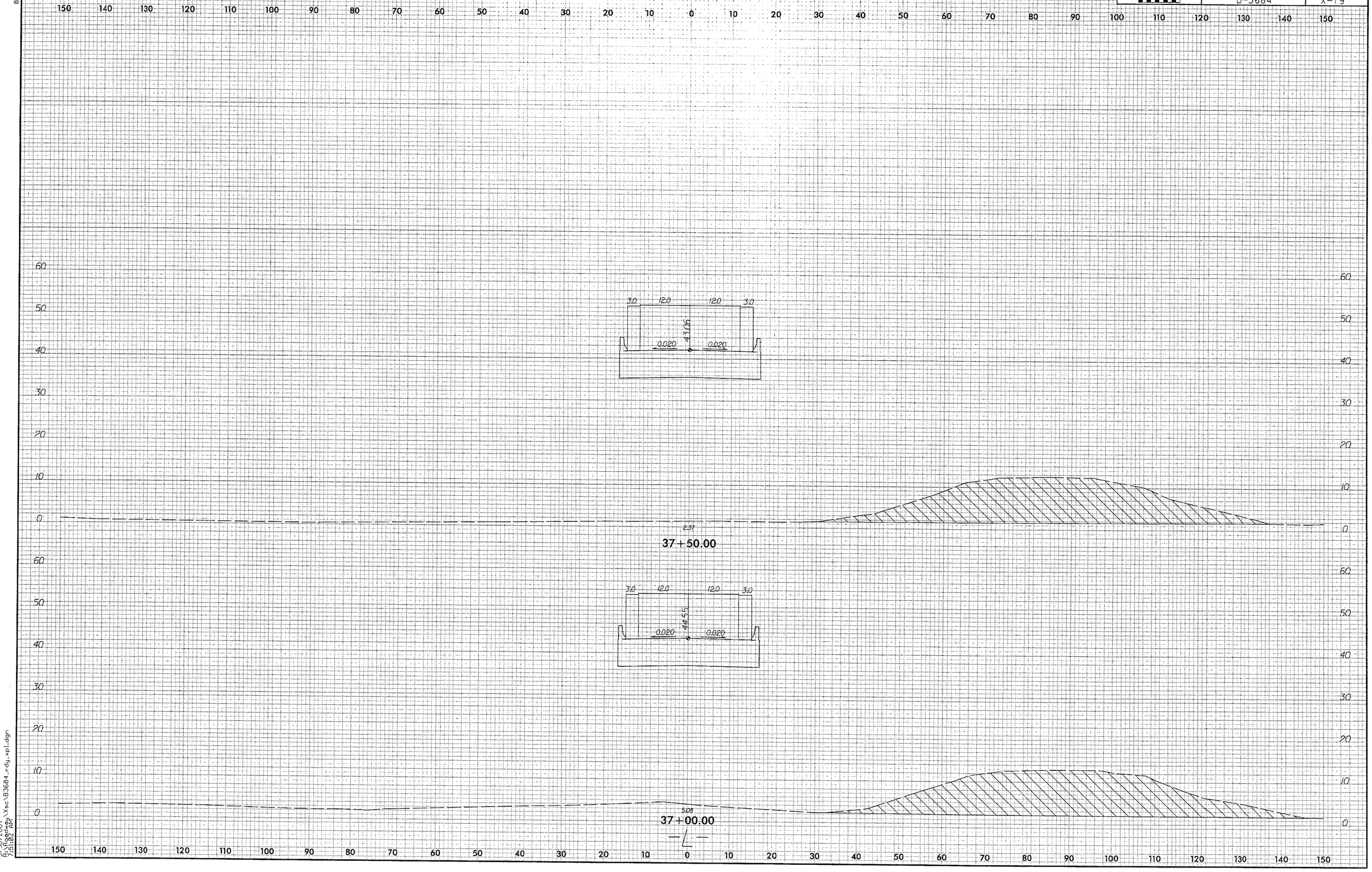

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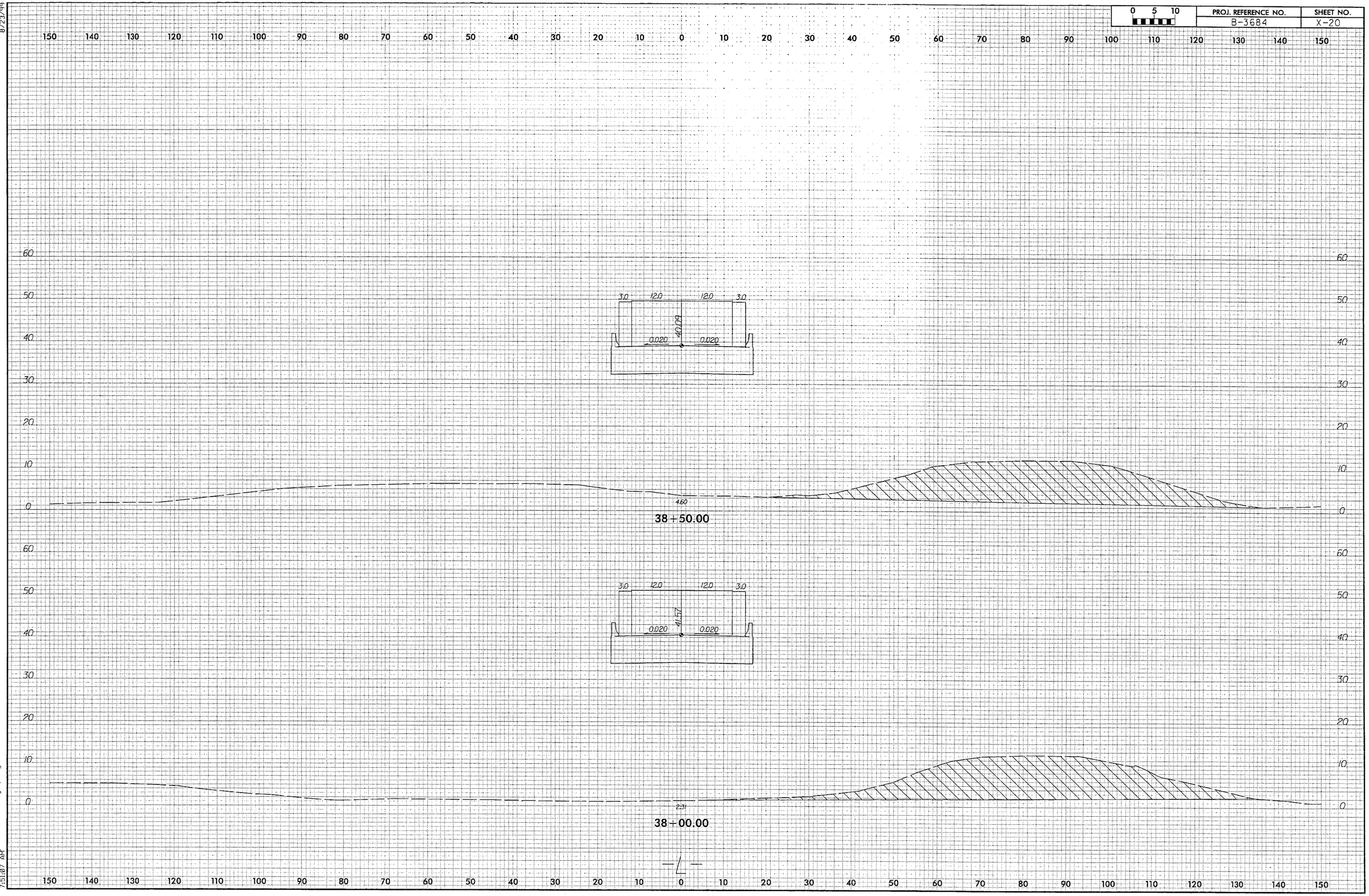

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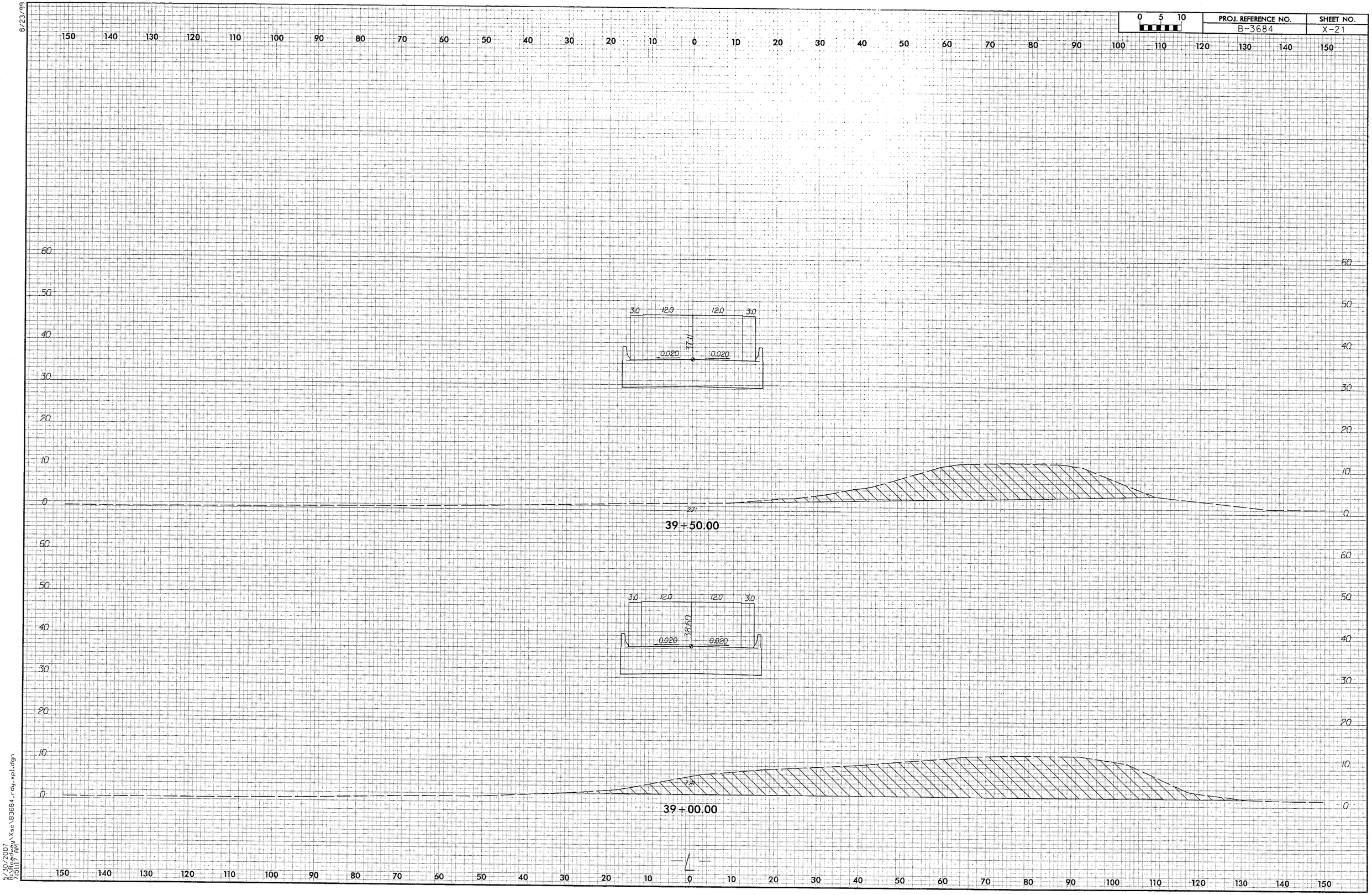
	B-3684	X-21



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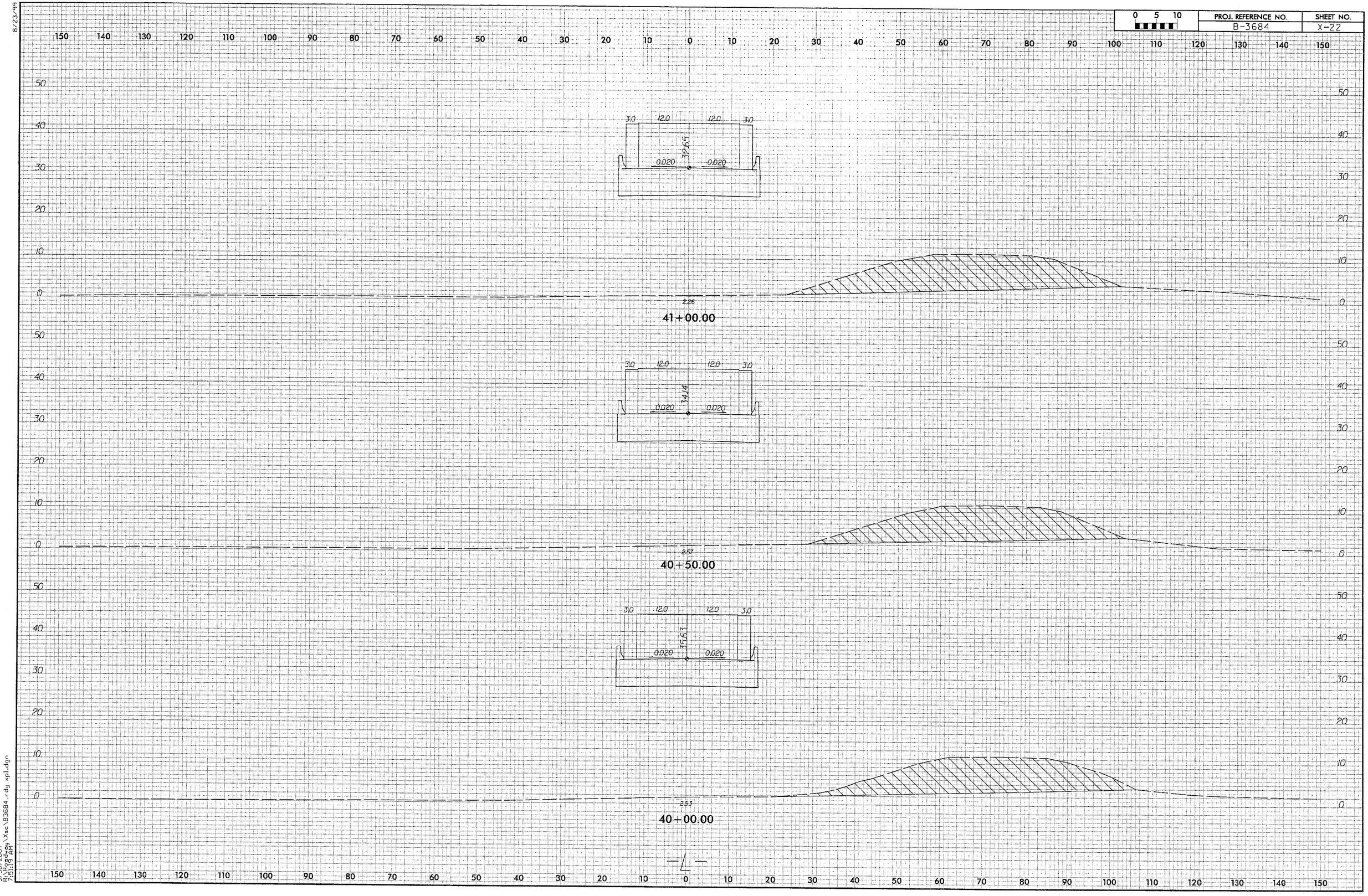

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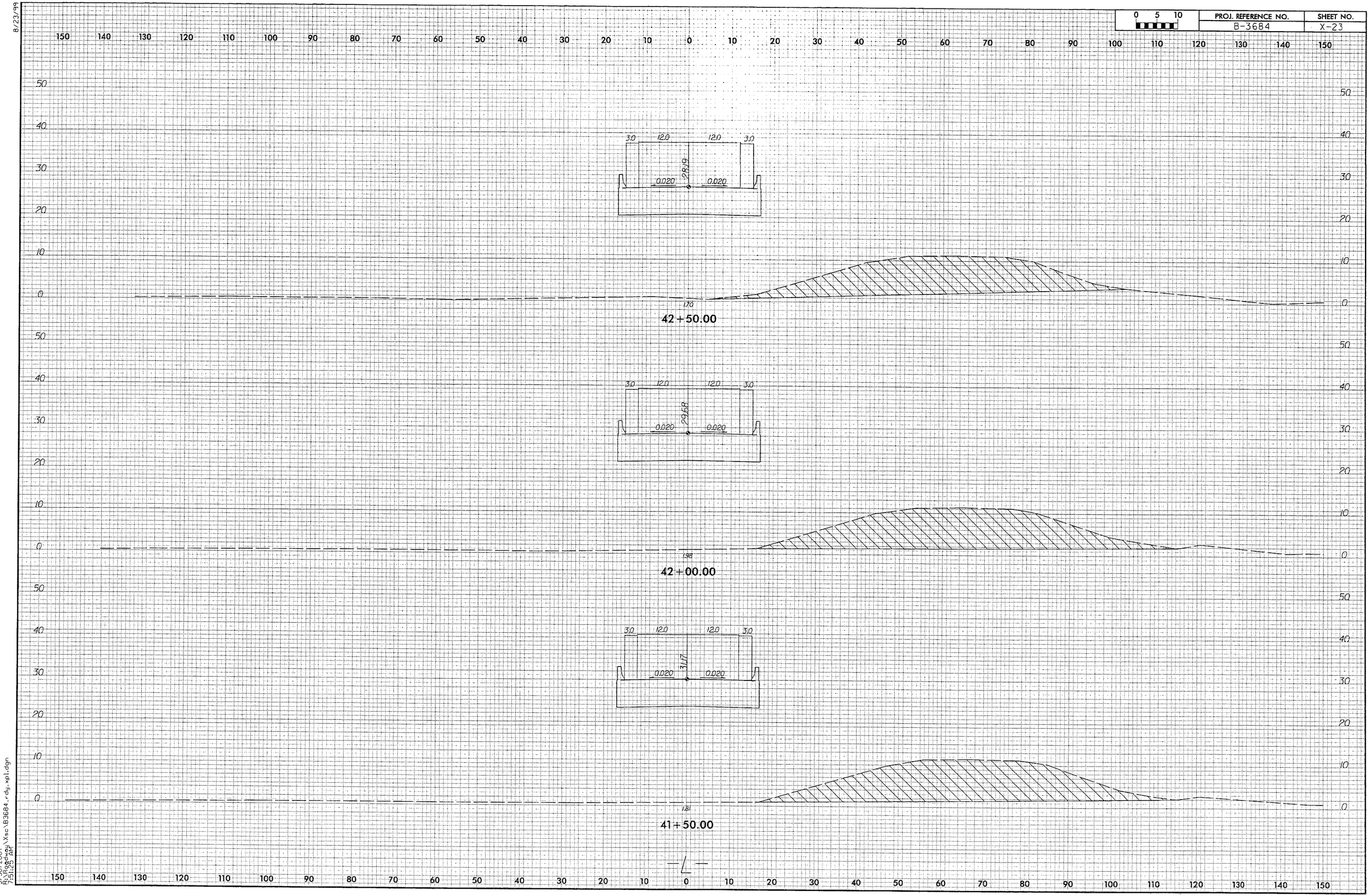
	B-3684	X-23



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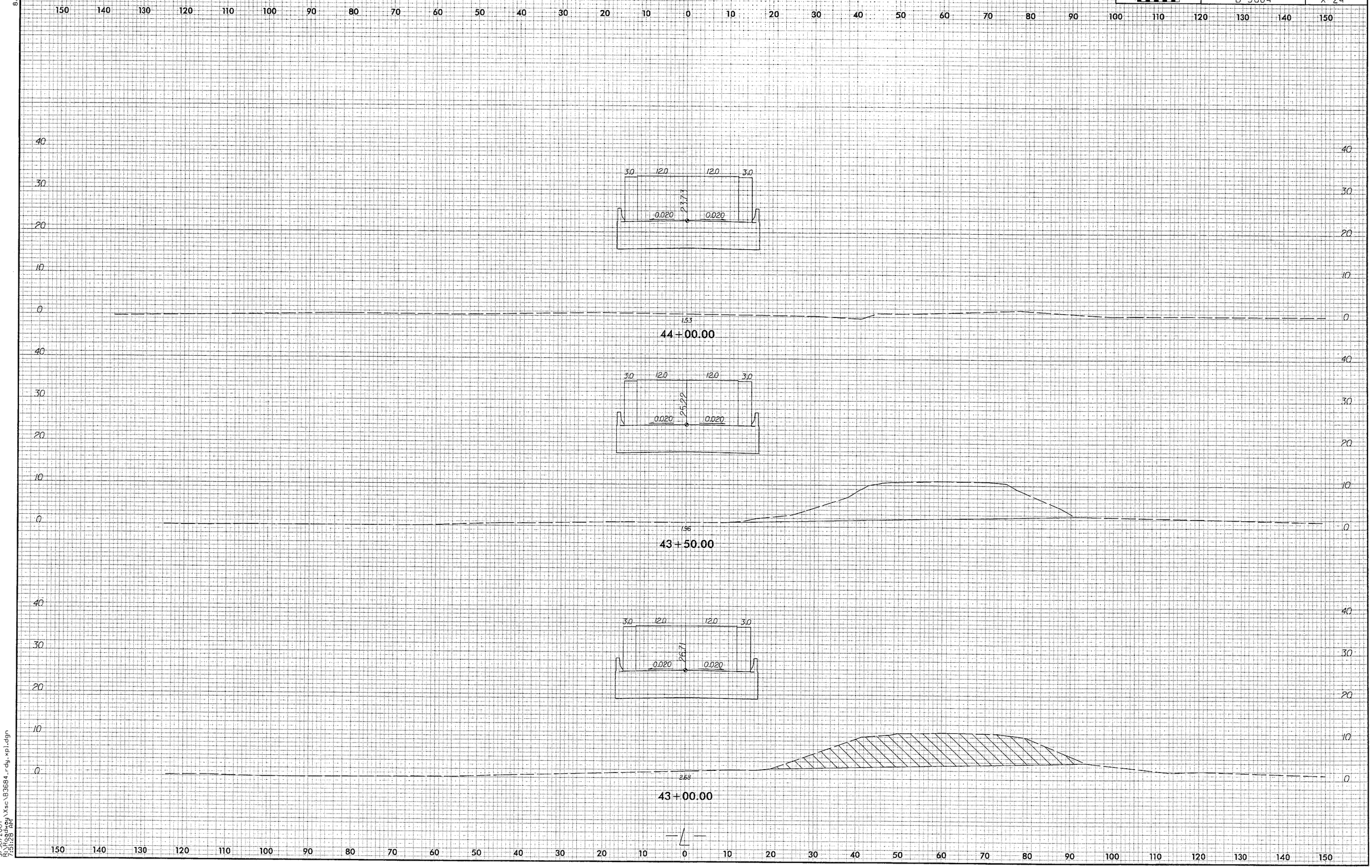

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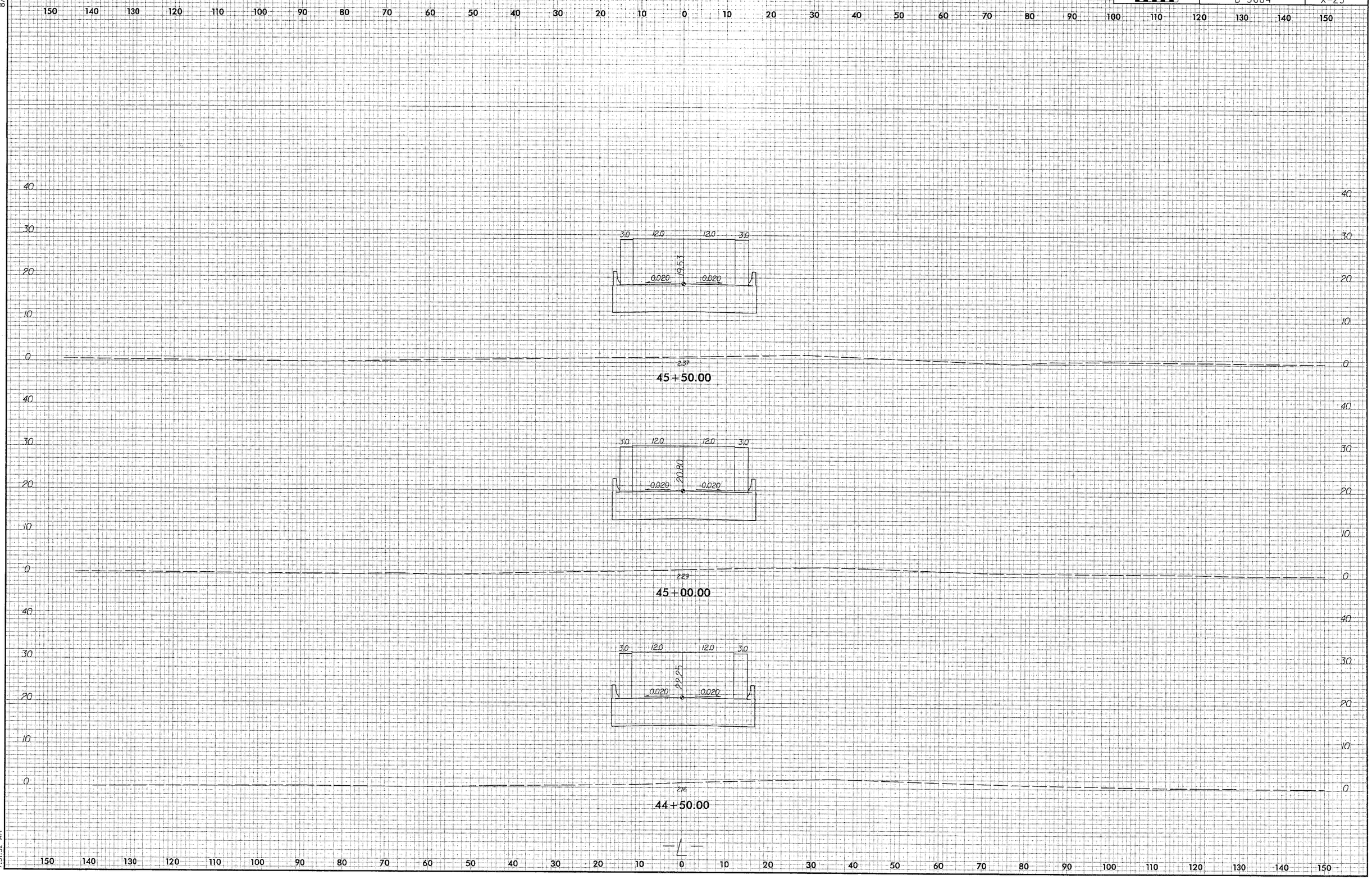

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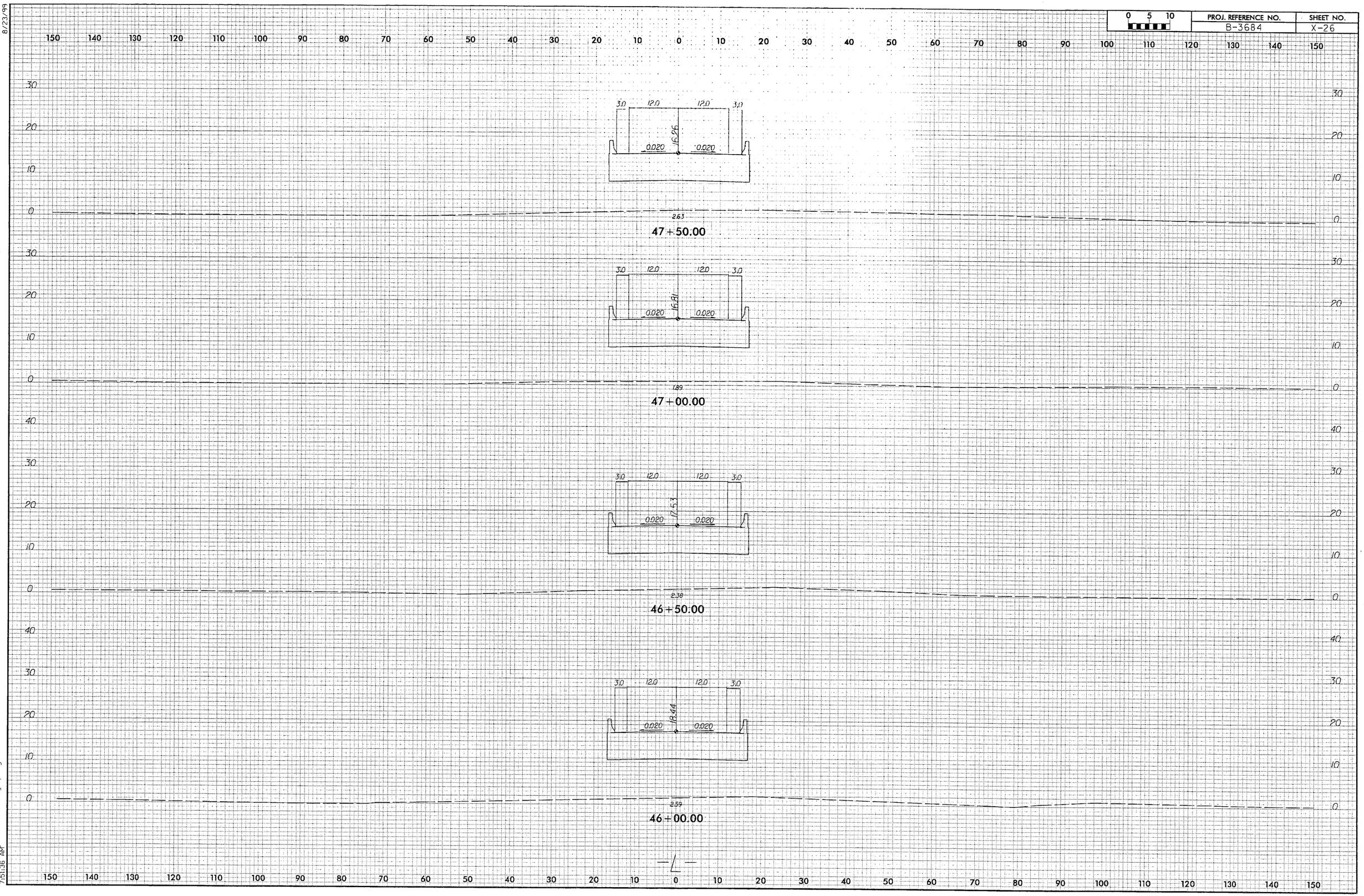

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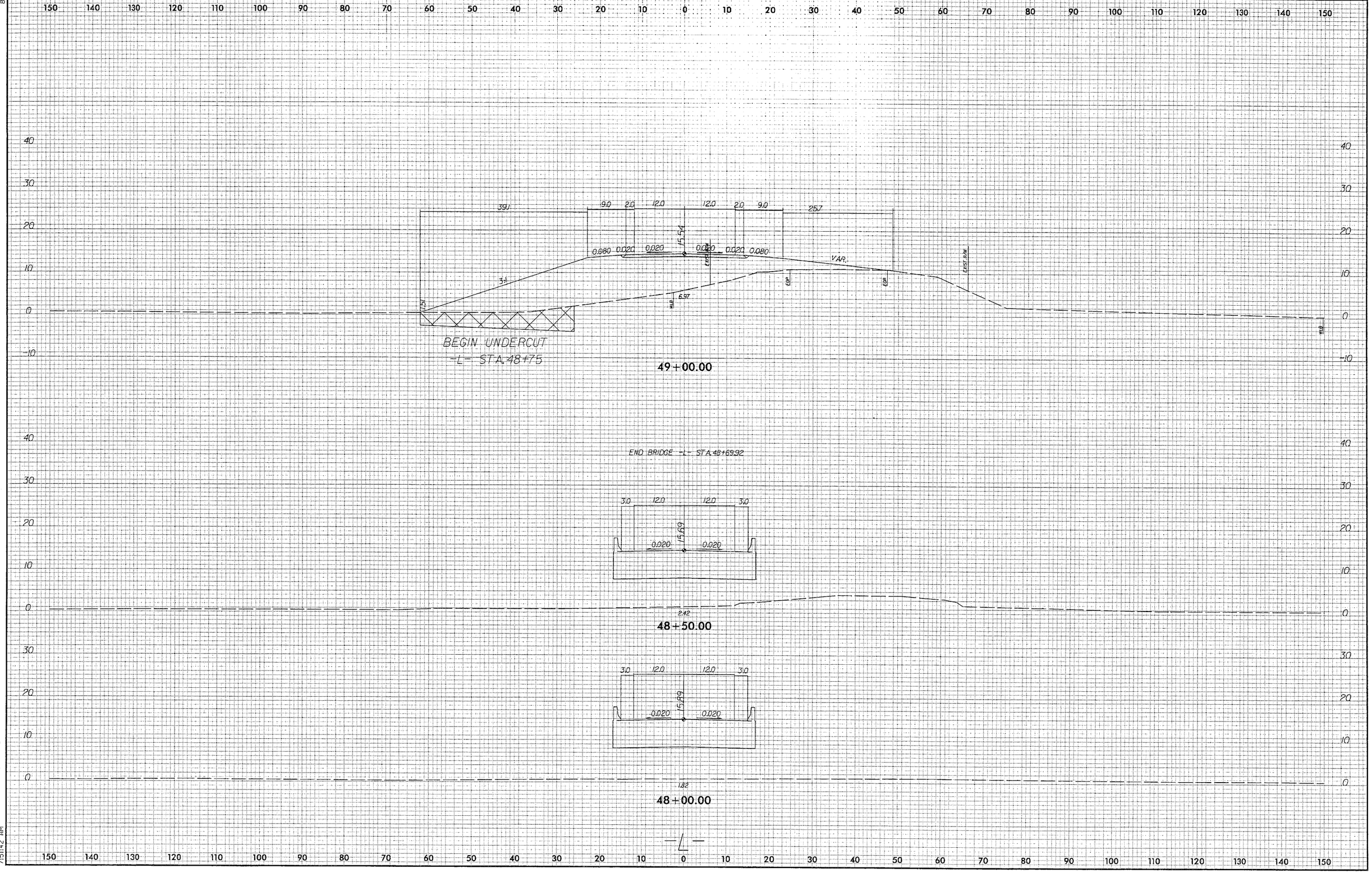

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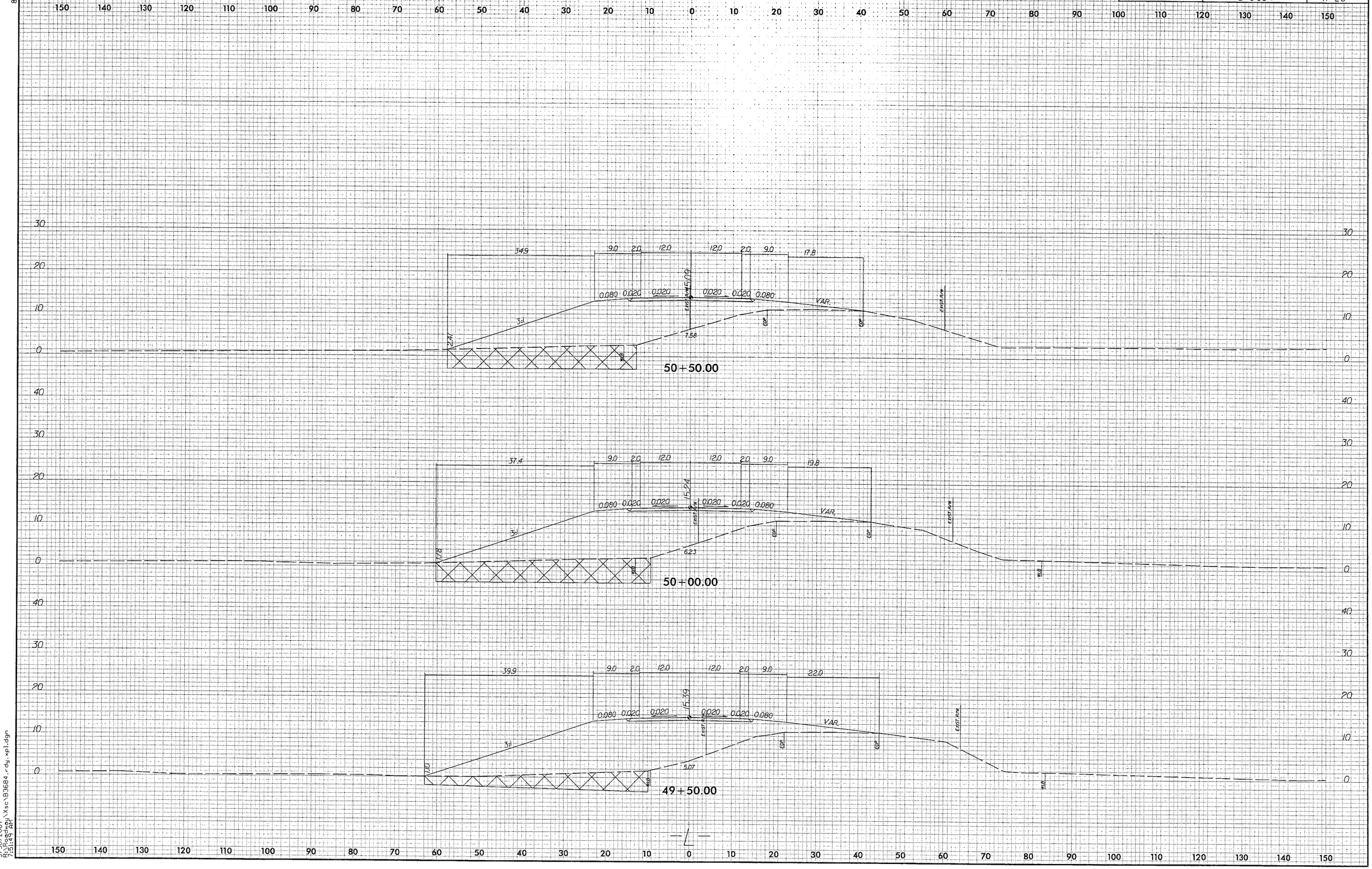

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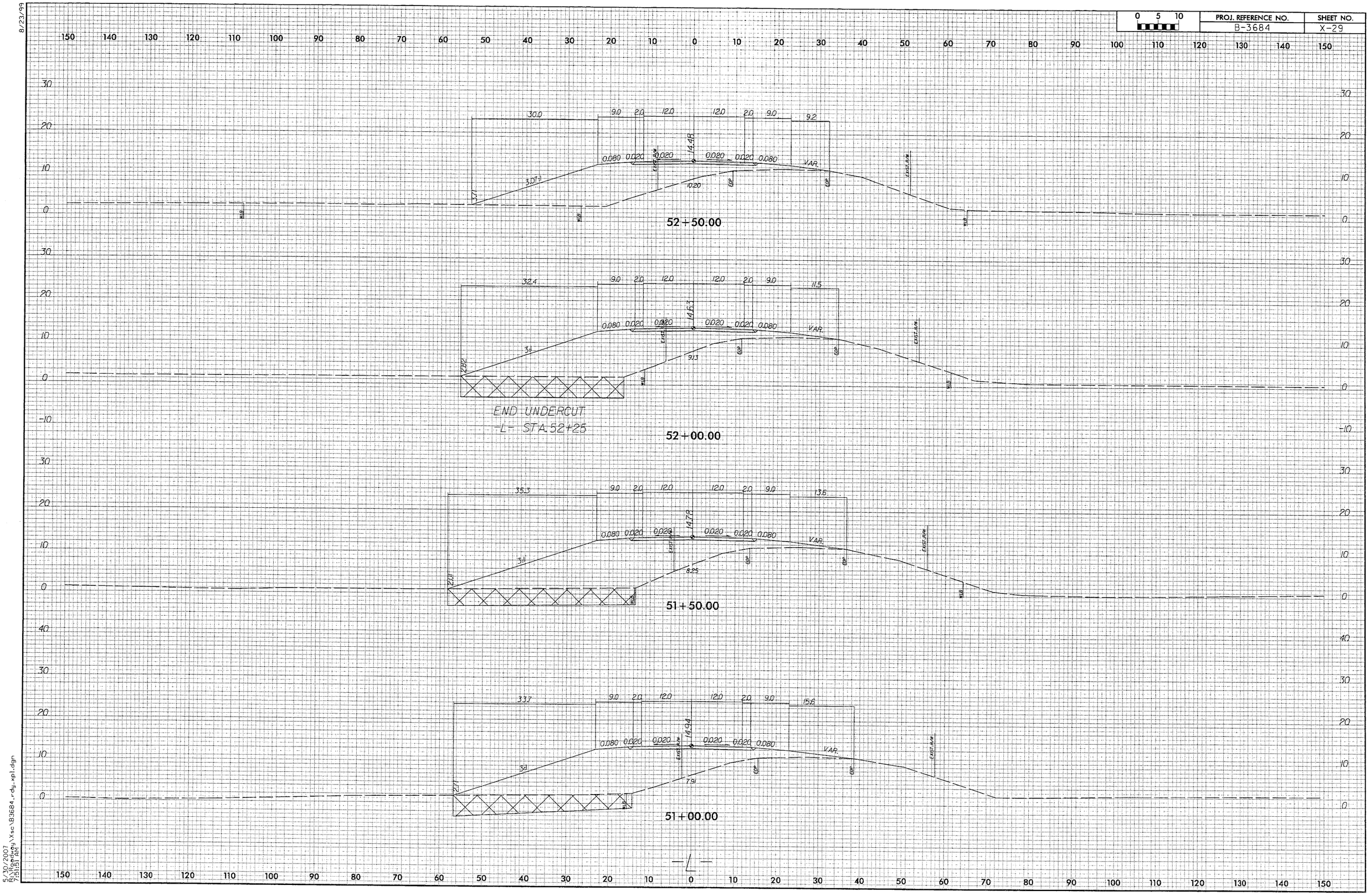

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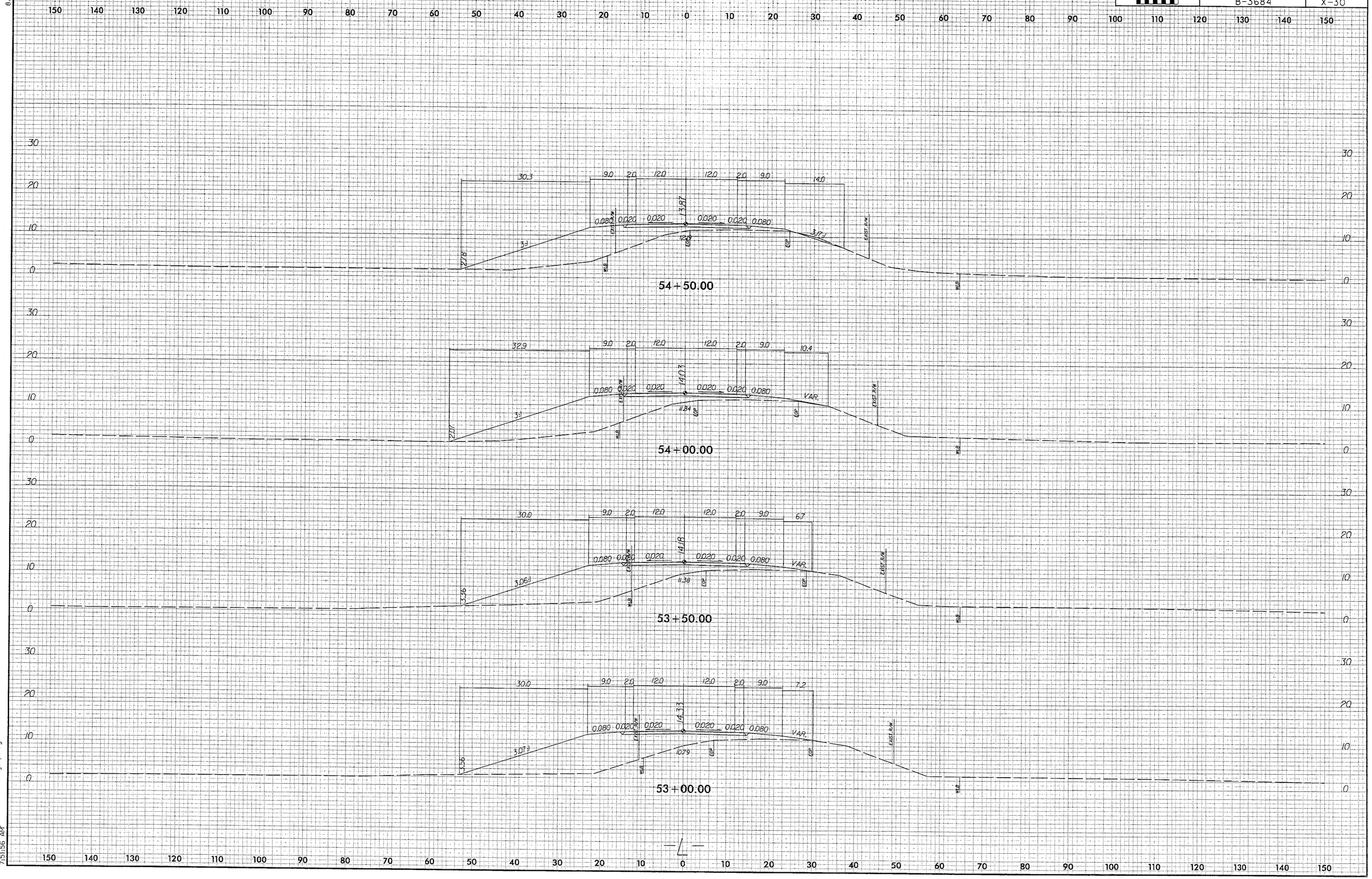

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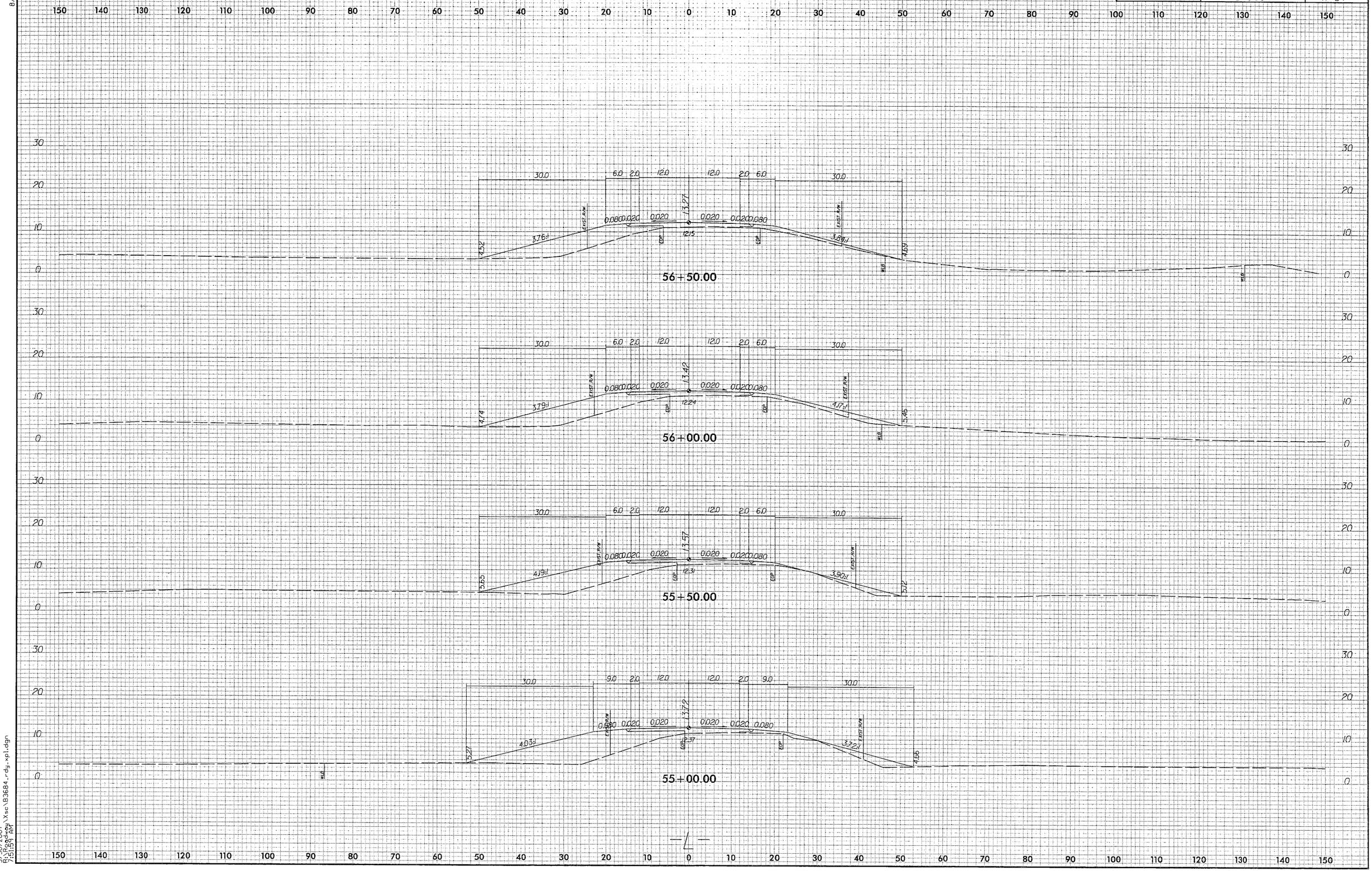

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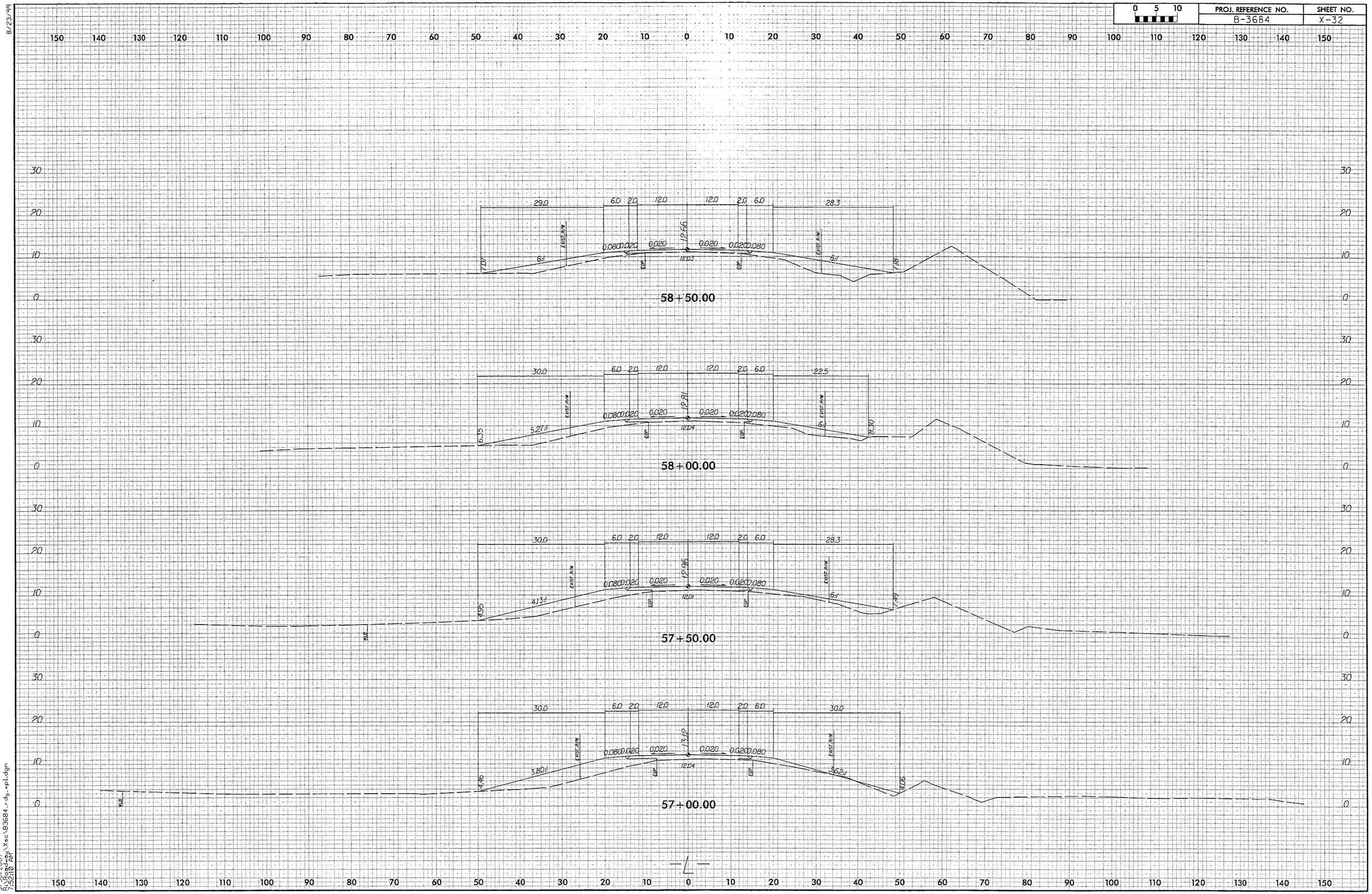

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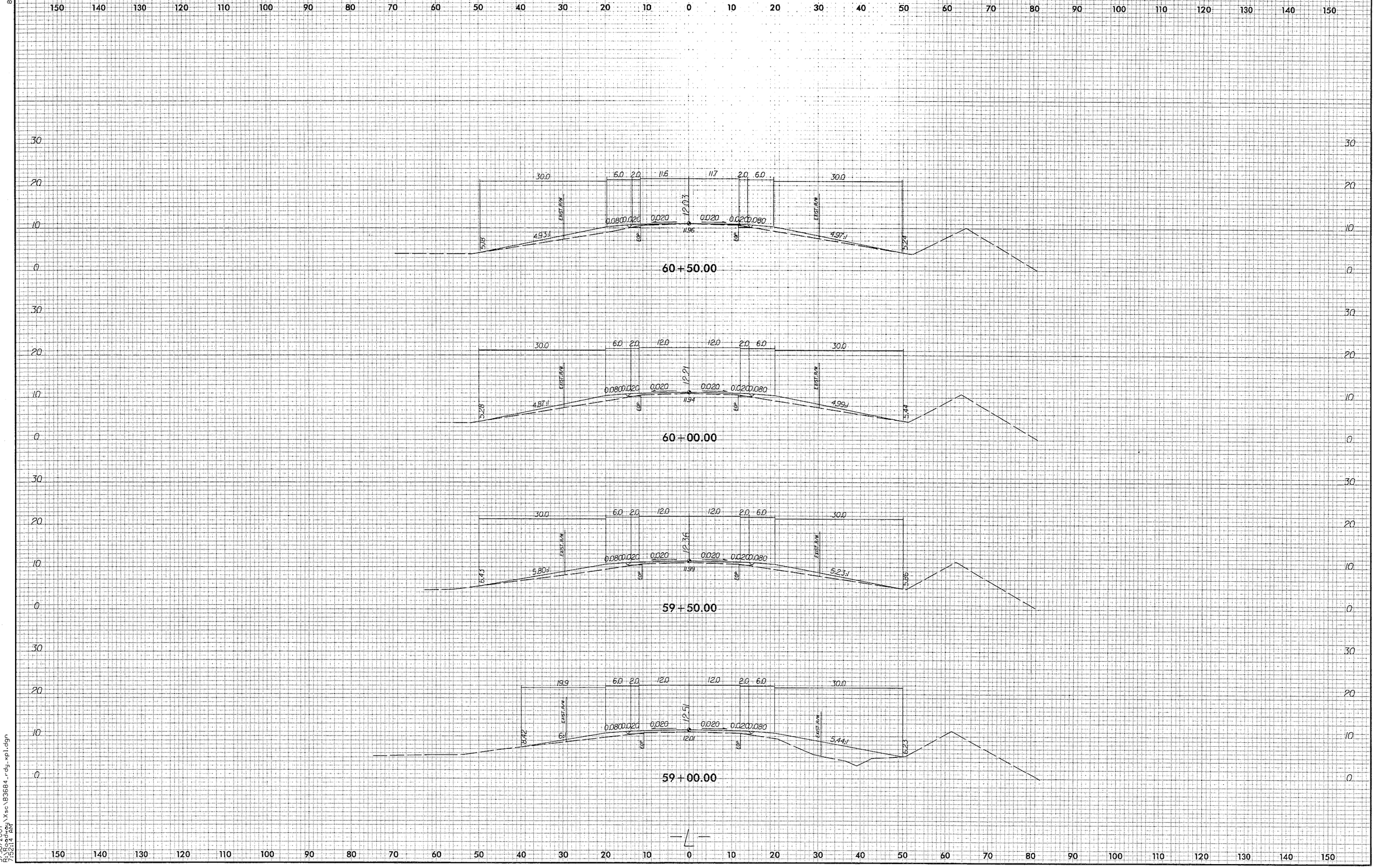

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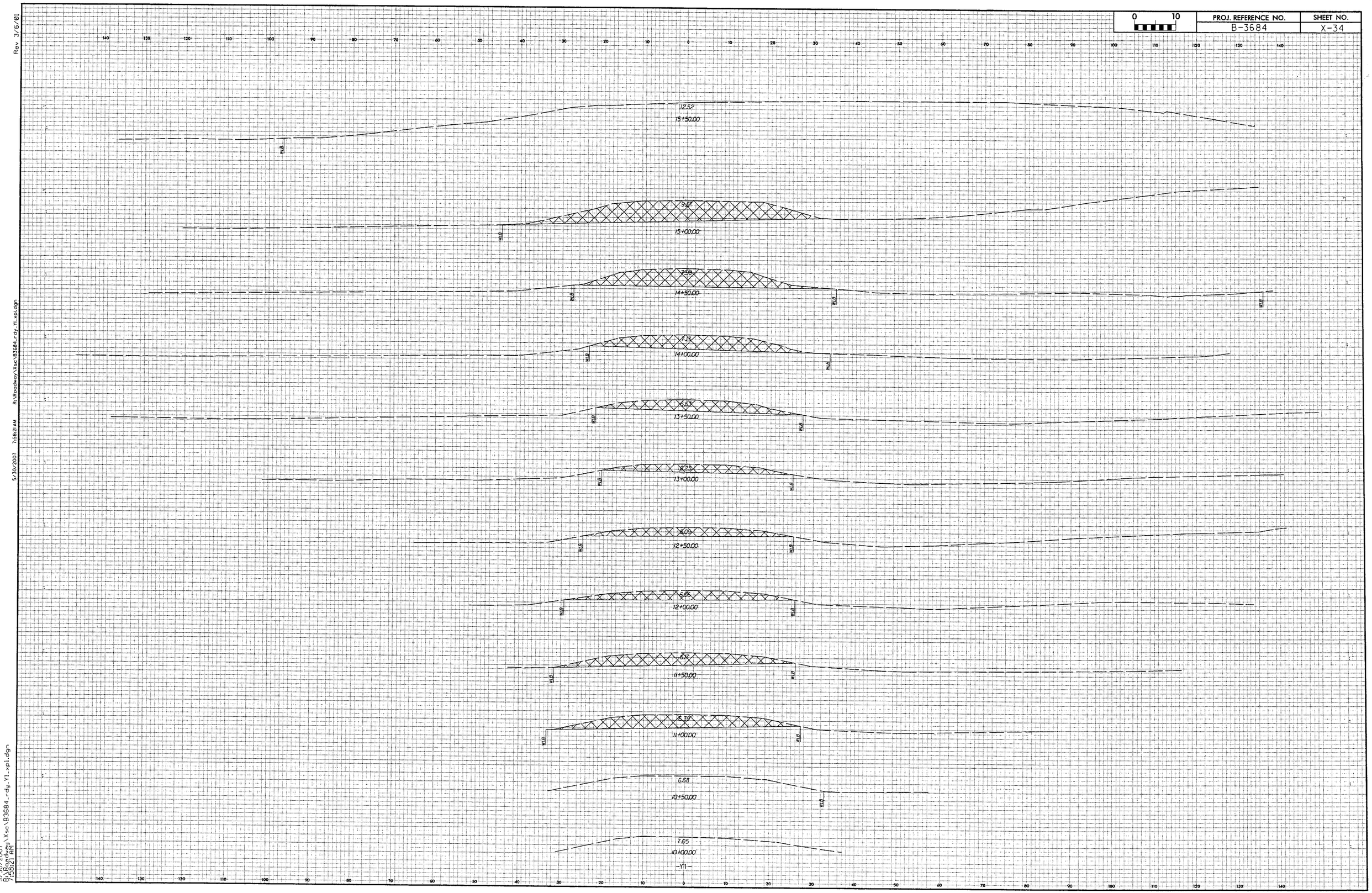

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