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METCALF AND EDDY OF NEW YORK INC NY

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NATIONAL DAM SAFETY PROGRAM. LITTLE CHOCONUT WATERSHED SITE 2C --ETC(U)

SEP 81 G P FULTON

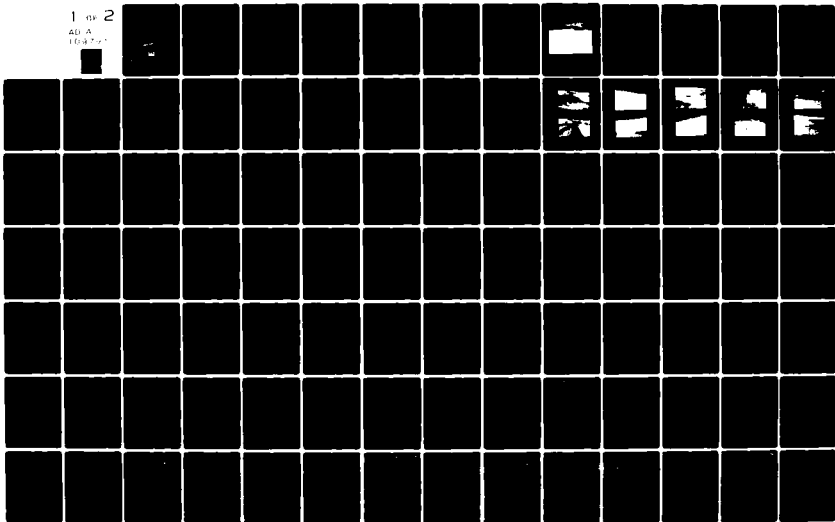
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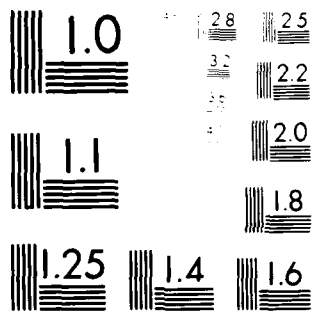
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NATIONAL BUREAU OF STANDARDS-1963-A

SUSQUEHANNA RIVER BASIN

2

LITTLE CHOCONUT WATERSHED SITE 2C DAM

BROOME COUNTY, NEW YORK
INVENTORY NO. NY, 722

LEVEL II

AD A109797

**PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM**

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Visual Inspection		Broome County
Hydrology, Structural Stability		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number)		
This report provides information and analysis on the physical condition of the dam as of the report date. Information and analysis are based on visual inspection of the dam by the performing organization. The examination of documents and a visual inspection of The Little Choconut Watershed Site 2C Dam did not reveal conditions which constitute a hazard to human life or property.		

The total discharge capacity of the spillways is adequate to impound and safely discharge the floodwaters resulting from the Probable Maximum Flood (PMF).

PREFACE

This report is prepared under guidance contained in the Recommended Guidelines for Safety Inspection of Dams, for Phase I Investigations. Copies of these guidelines may be obtained from the Office of Chief of Engineers, Washington, D.C. 20314. The purpose of a Phase I Investigation is to identify expeditiously those dams which may pose hazards to human life or property. The assessment of the general condition of the dam is based upon available data and visual inspections. Detailed investigation, and analyses involving topographic mapping, subsurface investigations, testing, and detailed computational evaluations are beyond the scope of a Phase I Investigation; however, the investigation is intended to identify any need for such studies.

In reviewing this report, it should be realized that the reported condition of the dam is based on observations of field conditions at the time of inspection along with data available to the inspection team. In cases where the reservoir was lowered or drained prior to inspection, such action, while improving the stability and safety of the dam, removes the normal load on the structure and may obscure certain conditions which might otherwise be detectable if inspected under the normal operating environment of the structure.

It is important to note that the condition of a dam depends on numerous and constantly changing internal and external conditions, and is evolutionary in nature. It would be incorrect to assume that the present condition of the dam will continue to represent the condition of the dam at some point in the future. Only through frequent inspections can unsafe conditions be detected and only through continued care and maintenance can these conditions be prevented or corrected.

Phase I inspections are not intended to provide detailed hydrologic and hydraulic analyses. In accordance with the established Guidelines, and Spillway Test flood is based on the estimated "Probable Maximum Flood" for the region (greatest reasonably possible storm runoff), or fractions thereof. Because of the magnitude and rarity of such a storm event, a finding that a spillway will not pass the test flood should not be interpreted as necessarily posing a highly inadequate condition. The test flood provides a measure of relative spillway capacity and serves as an aide in determining the need for more detailed hydrologic and hydraulic studies, considering the size of the dam, its general condition and the downstream damage potential.

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PHASE II	☐
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PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM
LITTLE CHOCONUT WATERSHED SITE 2C DAM
I.D. No. NY-722
(#96A-3619)
SUSQUEHANNA RIVER BASIN
BROOME COUNTY, NEW YORK
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Phase I Inspection Report
National Dam Safety Program

Name of Dam: Little Choconut Watershed Site 2C Dam
I.D. No. NY-722

State Located: New York

County Located: Broome

Watershed: Susquehanna River Basin

Date of Inspection: July 10, 1981

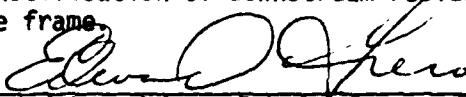
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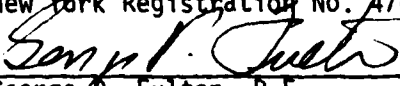
The examination of documents and a visual inspection of The Little Choconut Watershed Site 2C Dam did not reveal conditions which constitute a hazard to human life or property.

The total discharge capacity of the spillways is adequate to impound and safely discharge the floodwaters resulting from the Probable Maximum Flood (PMF).

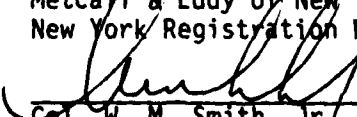
Several minor deficiencies were noted which should be corrected within six months of the date of final approval of this report.

The required actions are mowing the crown vetch on the dam and in the auxiliary spillway, repair areas eroded by vehicular traffic, replace missing planking from the top of the inlet riser, lubricate the slide gate stem, repair the animal guard on the internal drainage pipe, and visually monitor wet areas along the toe of the east slope of the auxiliary spillway. In addition, an emergency action plan for notification of downstream residents should be developed within the same time frame.


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Approved By:


Col. W. M. Smith, Jr.
New York District Engineer

Date:

14 Sep 81

OVERVIEW
LITTLE CHOCONUT WATERSHED
SITE 2C DAM
ID NO. NY 722



PHASE I INSPECTION REPORT
NATIONAL DAM SAFETY PROGRAM
LITTLE CHOCONUT WATERSHED SITE 2C DAM
I.D. No. NY-722
(#96A-3619)
SUSQUEHANNA RIVER BASIN
BROOME COUNTY, NEW YORK

SECTION 1: PROJECT INFORMATION

1.1 GENERAL

a. Authority

The Phase I inspection reported herein was authorized by the Department of the Army, New York District, Corps of Engineers, to fulfill the requirements of the National Dam Inspection Act, Public Law 92-367.

b. Purpose of Inspection

This inspection was conducted to evaluate the existing conditions of the dam, to identify deficiencies and hazardous conditions, to determine if these deficiencies constitute hazards to life and property, and to recommend remedial measures where required.

1.2 DESCRIPTION OF PROJECT

a. Description of Dam

The Little Choconut Watershed Site 2C Dam consists of an earth dam with a service spillway pipe passing through the embankment and an excavated auxiliary spillway passing around the eastern end of the dam.

The dam consists of a compacted earth embankment which is 59 feet high, has a crest length of 590 feet and a crest width of 19 feet. The upstream slope is 1 vertical on 3 horizontal with a 10 foot wide berm near the base of the slope. The downstream slope is 1 vertical on 2.5 horizontal. The crest and exposed slopes are covered with crown vetch. An earth cutoff trench of varying depth and width keys the embankment into the foundation soils.

The service spillway consists of a rectangular reinforced concrete drop inlet structure, a 30 inch diameter reinforced concrete pipe with anti-seepage collars and a concrete impact basin. A reservoir drain consisting of a 12 inch diameter cast iron pipe extends 45 feet upstream from the base of the spillway riser to an excavated 10 foot wide inlet channel. A vertical slide gate mechanism mounted along the inside of the riser controls the flow through the reservoir drain. The auxiliary spillway is an earth cut with a bottom width of 160 feet.

The internal drainage system consists of twin 10-inch bituminous coated perforated corrugated metal pipes in a drain fill trench located downstream of the centerline of the dam, symmetric about the service spillway and approximately parallel with the downstream toe. Seepage is conducted through these drains to discharge in the concrete impact basin

beyond the baffle structure.

b. Location

The Little Choconut Watershed Site 2C Dam is located off New Ireland Road in the Town of Maine. The structure is approximately 0.25 miles north of the Village of New Ireland.

c. Size Classification

The dam is 59 feet high and has a maximum storage capacity of almost 1,400 acre-feet. Therefore, the dam is in the intermediate size category as defined by the "Recommended Guidelines for Safety Inspection of Dams."

d. Hazard Classification

This dam is classified as "high" hazard due to the presence of a number of homes in the Village of New Ireland located downstream of the dam.

e. Ownership

The dam is owned by Broome County, New York. Mr. Darrell Stone, Broome County, Deputy Commissioner of Public Works was contacted; telephone number is (607) 772-2871.

f. Purpose of Dam

The dam is a floodwater retarding structure.

g. Design and Construction History

The dam was designed by the U.S. Department of Agriculture, Soil Conservation Service (SCS). The SCS district office in Syracuse has a design folder containing hydrologic, hydraulic and structural design information. Dam construction was performed by Les Strong, Inc. and was completed in 1968.

h. Normal Operating Procedures

Normal flows are discharged through the service spillway. This structure has sufficient capacity to store and discharge a 100 year flood without discharge occurring in the auxiliary spillway. For storms in excess of the 100 year flood, discharge through the auxiliary spillway can be expected.

1.3 PERTINENT DATA

a. Drainage Area (square miles)

3.5

b. Discharge at Dam (cfs)

Service Spillway at maximum high water	145
Service Spillway at auxiliary spillway crest elev.	132
Auxiliary Spillway at maximum high water	15,685
Reservoir drain at service spillway crest elevation	14.3

c. Elevation (USGS Datum)

Top of Dam	1241.0
Auxiliary Spillway Crest	1231.1
Service Spillway Crest	1199.8
Reservoir Drain (invert elevation)	1185.0

d. Reservoir Surface Area (acres)

Top of Dam	62.8
Auxiliary Spillway Crest	47.3
Service Spillway Crest	5.7

e. Storage Capacity (acre-feet)

Top of Dam	1,271
Auxiliary Spillway Crest	733
Service Spillway Crest	0

f. Dam

Embankment type - A compacted earth fill with a keyed earth cut-off trench, and a drain parallel to the axis of dam

Embankment length (ft)	590
------------------------	-----

Slopes - Upstream	1 vertical on 3.0 horizontal with 10 foot wide berm - slope below berm is 1 vertical on 3 horizontal
Downstream	1 vertical on 2.5 horizontal

Crest Width (ft)	19
------------------	----

g. Service Spillway

Type: Ungated, reinforced concrete drop inlet (2.5 x 7.5 ft), rising 19 feet above the invert of the 30 inch diameter concrete conduit; length of conduit 284.33 feet

Weir length (ft).	13.3
-------------------	------

h. Auxiliary Spillway

Type: An excavated, trapezoidal channel with a crown vetch lining.

Bottom Width (ft)	160
Side Slopes (V:H)	1:2.5, 1:3.0
Exit Slope (ft/ft)	0.028

i. Reservoir Drain

Type: 12 inch diameter cast iron pipe

Control: Manually operated vertical slide gate mounted along the inside of the service spillway riser.

SECTION 2: ENGINEERING DATA

2.1 GEOTECHNICAL DATA

a. Geology

The Little Choconut Watershed Site 2C Dam is located in the Allegheny Plateau Physiographic Province of southern New York State. It is approximately 4 miles north of Johnson City. The moderately steep slopes on the site are typical of the glacial topography of the area. There is no bedrock exposed anywhere on the site, and none was encountered in any of the drill holes or test pits. Approximately 1.5 miles north of Site 2-C, along the New Ireland Road, siltstone and shale (a shaly siltstone) of the Upper Devonian period outcrop along the roadside.

The till deposits in the Binghamton area have been classified as two facies of the Wisconsin glacial movement. It has been suggested by at least one author that the Binghamton facies will not be found at elevations above 950'. This would indicate that the material on this site would be classified as the Olean facies of the Wisconsin glacial period.

There is a thin layer (approx, 2' - 3') of recent alluvial material which overlies the glacial till across the flood plain.

Some of the tills located in the flood plain, below the recent alluvium, appear to have been reworked in some way, causing a lower percent of fines to be associated with this material. However, it still classifies as a GM material.

b. Subsurface Investigations

A subsurface investigation program was conducted by SCS. Test pits and drill holes were progressed in 1965. A total of 18 borings and 17 test pits were taken at locations along the dam auxiliary spillway and structural elements. Applicable subsurface information has been included in Appendix F.

In order to penetrate the denser till, an average excavation depth of five feet was recommended for the principal spillway. Material from the auxiliary spillway was determined to be uniform and capable of providing a homogeneous embankment material. Bedrock was not encountered in any of the test holes. Testing of the samples taken indicated a significant percentage of fines in the till and subsequently a low permeability rate.

2.2 DESIGN RECORDS

This dam was designed by the Soil Conservation Service, who prepared a design report. A folder containing the design report and other design information was available at the SCS district office in Syracuse. Eighteen drawings, several of which have been included in Appendix F, were prepared for the construction of this dam.

2.3 CONSTRUCTION RECORDS

Complete construction records are available from the SCS office in Syracuse. The construction drawings in Appendix are noted to be as-built record drawings.

2.4 OPERATION RECORDS

Since the dam is an uncontrolled, floodwater retarding structure, no operating records are maintained regarding water levels. However, during periods of heavy rainfall, SCS personnel do monitor reservoir levels.

2.5 EVALUATION OF DATA

The data presented in this report has been compiled from information obtained from the Soil Conservation Service as well as the New York State Department of Environmental Conservation files. It appears to be adequate and reliable for Phase I inspection purposes.

SECTION 3: VISUAL INSPECTION

3.1 FINDINGS

a. General

Visual inspection of the Site 1 dam was conducted on July 10, 1981. The weather was partly cloudy and the temperature was in the eighties. The water surface at the time of the inspection was at the weir crest of the concrete riser.

b. Embankment

No signs of distress were observed in the earth embankment and no evidence of seepage, misalignment, subsidence or surface cracking were noted on the embankment. The only deficiencies noted were of a minor nature. Consideration should be given to mowing all embankment slopes as the crown vetch averages 3 feet in height. Minor erosion mainly due to vehicular traffic present on the top of the dam and on the upstream slope at the west abutment.

An internal drainage system composed of 2 - 10 inch diameter pipes surrounded by drain-fill material provides drainage at the base of the embankment. At the time of the inspection, there was no flow coming from the pipes. The outlet ends of the drainage pipes are covered by small animal guards. The guard for the outlet on the west side of the impact basin has been vandalized.

c. Service Spillway

The service spillway consists of a vertical drop inlet structure, a reinforced concrete pipe and reinforced concrete impact basin at the conduit outlet. The elements which were visible appeared to be in good condition. One section of galvanized planking was missing from the top of the inlet riser. Minor rust was visible on the trash racks, planking, slide gate stem, and the bolts for the metal work. Minor staining of the concrete was noted in the impact basin.

d. Auxiliary Spillway

The auxiliary spillway is located in an earth cut at the eastern end of the dam. A 3-foot high growth of crown vetch covers the channel and side slopes. Erosion due to vehicular traffic exists on the crest and side slopes. Wet areas with cattails occur along the toe of the east side slope. The spillway discharges into a natural wooded area.

e. Reservoir Drain

The 12 inch diameter reservoir drain and manually operated slide gate may be used to lower the reservoir. The drain was reported to be operational.

f. Reservoir

There were no signs of serious soil instability in the reservoir area.

g. Downstream Channel

The downstream channel below the impact basin was stone filled for a distance. Beyond the area which was disturbed by construction, the channel was cut into natural ground. Heavy brush and some trees were growing along the edge of the channel.

3.2 EVALUATION OF OBSERVATIONS

Visual inspection of this dam revealed the following deficiencies:

1. The 3-foot high crown vetch cover on all features of the dam and auxiliary spillway hindered a more thorough visual inspection;
2. Erosion of the vegetative cover due to vehicular traffic on the top and upstream slope of the dam and in the channel and side slopes of the auxiliary spillway;
3. A section of galvanized planking missing from the top of the inlet riser;
4. Minor rust on the gate stem on the low-level outlet;
5. A vandalized animal guard on the west outlet of the internal drainage system;
6. Wet areas along the toe of the west side slope of the auxiliary spillways.

SECTION 4: OPERATION AND MAINTENANCE PROCEDURES

4.1 PROCEDURES

The normal water surface elevation is at the crest of the principal spillway riser. Downstream flows are limited by flow into the riser, except during periods of extremely heavy runoff when the auxiliary spillway is in service.

4.2 MAINTENANCE OF DAM

The dam is maintained by the owner. Yearly technical inspections are conducted by Broome County Personnel. Construction of the dam was completed in 1968. Consideration should be given to mowing the top and slopes of the dam as well as the channels and slopes of the auxiliary spillway. The dam appeared to be satisfactorily maintained.

4.3 WARNING SYSTEM IN EFFECT

Notification of the local civil defense agent is the only warning system in use at this time. A system for notification of residents downstream of the dam is currently being investigated by Broome County.

4.4 EVALUATION

The operation and maintenance procedures for this dam are satisfactory.

SECTION 5: HYDROLOGIC/HYDRAULIC

5.1 DRAINAGE AREA CHARACTERISTICS

Delineation of the 3.5 square mile watershed of the Site 1 dam was made using the USGS 7.5 minute quadrangle for Castle Creek, New York. The watershed consists of open grassed fields and woodlands. Relief in the drainage area ranges from moderate to steep.

5.2 ANALYSIS CRITERIA

The analysis of the floodwater retarding capability of this dam was performed using the Corps of Engineers HEC-1 computer program, Dam Safety version. This program develops an inflow hydrograph using the Snyder Synthetic Unit Hydrograph method and then uses the "Modified Puls" flood routing procedure. The spillway design flood selected was the Probable Maximum Flood (PMF) in accordance with the Recommended Guidelines of the U.S. Army Corps of Engineers.

5.3 SPILLWAY CAPACITY

The principal and auxiliary spillways are uncontrolled structures. The capacities for both spillways were taken from the stage-discharge data included in the SCS design report.

The spillways have sufficient capacity for discharging the peak outflow from the PMF. For this storm, the peak inflow is 5,814 cfs and the peak outflow is 5,716 cfs. When the spillways are discharging the peak outflow, the water surface will be 4.4 feet below the top of the dam. Further information concerning this analysis is included in Appendix C.

5.4 RESERVOIR CAPACITY

Normal flood control storage capacity of the reservoir between the principal and auxiliary spillways is 733 acre-feet which is equivalent to a runoff depth of 3.94 inches over the drainage area. Surge storage capacity to the maximum high water elevation is an additional 538 acre-feet, equivalent to a runoff depth over the drainage area of 2.89 inches. Total storage capacity of the dam is 1,271 acre-feet.

5.5 FLOODS OF RECORD

The maximum known flood occurred during September, 1975. The pool level at this time was reported to be about elevation 1217.6. No higher water has been recorded since the dam was completed in 1968.

5.6 OVERTOPPING POTENTIAL

Analysis indicates that the total discharge capacity is sufficient to prevent overtopping from the PMF.

5.7 EVALUATION

This dam has sufficient capability to impound and adequately discharge floodwaters expected to result from the PMF.

SECTION 6: STRUCTURAL STABILITY

6.1 EVALUATION OF STRUCTURAL STABILITY

a. Visual Observations

No signs of distress were observed in connection with the earth embankment.

b. Design and Construction Data

Design data was obtained from SCS (see Appendix D Stability Computations). Stability analyses were performed using the Swedish circle method of analysis. Two undrained triaxial shear tests were performed on compacted soil samples from the auxiliary spillway excavation. These tests were used to select soil parameters for use in the analysis. One case was analyzed on the upstream slope. For rapid drawdown from the permanent pool elevation, considering a 10' berm at elevation 1199.8 and a 1 on 3 slope, the minimum factor of safety was 1.53. For the downstream slope, long term steady seepage was analyzed. The minimum factor of safety for this case was 1.86.

c. Post Construction Changes

There have been no changes in the construction of the dam since it was completed in 1968.

d. Seismic Stability

The dam is located in Seismic Zone 1. No records of any seismic stability analysis performed for this structure could be located.

SECTION 7: ASSESSMENT/RECOMMENDATIONS

7.1 ASSESSMENT

a. Safety

The Phase I inspection of the Little Choconut Watershed Site 2C Dam did not reveal conditions which constitute a hazard to human life or property. The earth embankment is considered to be stable and the spillways are capable of retarding and safely discharging floodwaters resulting from the Probable Maximum Flood (PMF).

b. Adequacy of Information

Information reviewed for Phase I inspection purposes is considered to be adequate.

c. Need for Additional Investigations

No additional investigations are necessary at this time.

d. Urgency

Remedial measures listed below should be completed by the Owner within 6 months of the date of final approval of this report.

7.2 RECOMMENDED MEASURES

The following actions should be taken within six months of the date of final approval of this report:

- a. Mow the crown vetch cover to facilitate future inspection evaluations.
- b. Repair areas eroded by vehicular traffic and consider methods to limit further trespass.
- c. Replace missing planking on top of the inlet riser.
- d. Lubricate the slide gate stem to insure continued operability.
- e. Repair the animal guard on the internal drainage pipe.
- f. Visually monitor the wet areas along the toe of the east side slope of the auxiliary spillway. If increased seepage causes instability of the slope, install horizontal drains into the hillside.
- g. Develop an emergency action plan for notification of downstream residents in the event of large auxiliary spillway discharges.

APPENDIX A

PHOTOGRAPHS



UPSTREAM SLOPE OF DAM



TOP OF DAM AND TIRE TRACKS



DOWNSTREAM SLOPE OF DAM AND OUTLET AT TOE



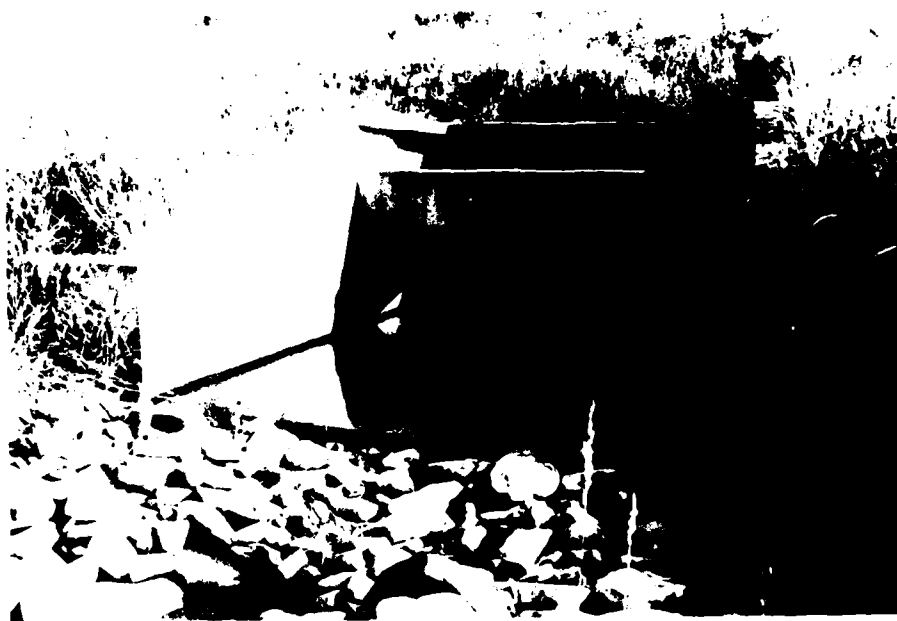
DISCHARGE CHANNEL BELOW OUTLET



**INTAKE STRUCTURE (FOREGROUND) AND APPROACH
CHANNEL OF EMERGENCY SPILLWAY (BACKGROUND)**



EMERGENCY SPILLWAY CHANNEL NEAR CREST



OUTLET STRUCTURE



OUTLET END OF DISCHARGE PIPE



TIRE TRACKS ON UPSTREAM SLOPE AT RIGHT ABUTMENT



TRESPASSING ON CREST AND SIDES OF EMERGENCY
SPILLWAY

APPENDIX B

VISUAL INSPECTION CHECKLIST

VISUAL INSPECTION CHECKLIST1) Basic Data

a. General

Name of Dam LITTLE CHOCONUT WATERSHED SITE 2C DAMFed. I.D. # NY 722 DEC Dam No. 96A-3619River Basin SUSQUEHANNALocation: Town MAINE County BROOMEStream Name LITTLE CHOCONUT CREEK

Tributary of _____

Latitude (N) 42° 11.0' Longitude (W) 75° 57.3'Type of Dam EARTH EMBANKMENTHazard Category CDate(s) of Inspection JULY 10, 1981Weather Conditions PARTLY CLOUDY - 85°Reservoir Level at Time of Inspection AT INTAKE RISER WEIR CRESTb. Inspection Personnel R. BARRON, L. BRANAGAN, W. CHECCHI, G. PAGE (SCS),
P. SCERENTINO (BROOME COUNTY), S. PIERCE, C. SWEETc. Persons Contacted (Including Address & Phone No.) MR. DARRELL STONE -
DEPUTY COMMISSIONER OF PUBLIC WORKS, BROOME COUNTY OFFICE BLDG.
HOLLY ST., BINGHAMPTON, N.Y., 13901 - 607-772-2871
MR. GARY PAGE - SCS BROOME COUNTY AIRPORT OFFICE
- 607-773-2751

d. History:

Date Constructed 1968 COMPLETED Date(s) Reconstructed _____Designer SOIL CONSERVATION SERVICE (N.Y.S. D.O.T.)Constructed By LES STRONG, INC.Owner BROOME COUNTY

2) Embankment

a. Characteristics

- (1) Embankment Material COMPACTED TILL
- (2) Cutoff Type COMPACTED EARTH
- (3) Impervious Core NONE
- (4) Internal Drainage System YES
- (5) Miscellaneous CROWN VETCH AS EARTH COVER

b. Crest

- (1) Vertical Alignment GOOD
- (2) Horizontal Alignment CURVED
- (3) Surface Cracks NONE
- (4) Miscellaneous TIRE TRACKS ALONG CREST

c. Upstream Slope

- (1) Slope (Estimate) (V:H) 1 ON 3
- (2) Undesirable Growth or Debris, Animal Burrows 3-FOOT HIGH CROWN VETCH
- (3) Sloughing, Subsidence or Depressions MINOR EROSION ALONG AUXILIARY SPILLWAY EMBANKMENT CONTACT - TIRE TRACKS WEST OF INTAKE RISER

(4) Slope Protection CROWN VETCH ON SLOPES - SMALL STONE
RIPRAP ON 10-FOOT BERM

(5) Surface Cracks or Movement at Toe NONE

d. Downstream Slope

(1) Slope (Estimate - V:H) 1 ON 2.5

(2) Undesirable Growth or Debris, Animal Burrows 3-FOOT HIGH CROWN
VETCH

(3) Sloughing, Subsidence or Depressions MINOR EROSION ALONG
WEST ABUTMENT CONTACT - FOOT PATH ON SLOPE
WEST OF IMPACT BASIN

(4) Surface Cracks or Movement at Toe NONE

(5) Seepage NONE

(6) External Drainage System (Ditches, Trenches; Blanket) NONE

(7) Condition Around Outlet Structure GOOD - 3-FOOT HIGH CROWN
VETCH - RIPRAP

(8) Seepage Beyond Toe NONE

e. Abutments - Embankment Contact

EARTH TO EARTH

(1) Erosion at Contact MINOR

(2) Seepage Along Contact NONE

3) Drainage System

a. Description of System TWO - 10-INCH DIAMETER - PERFORATED
CORRUGATED METAL PIPES WITH SMALL ANIMAL GUARDS

b. Condition of System OKAY - WESTERLY ANIMAL GUARD
VANDALIZED

c. Discharge from Drainage System NONE

4) Instrumentation (Monumentation/Surveys, Observation Wells, Weirs,
Piezometers, Etc.) NONE

93-15-3(9/80)

5) Reservoir

- a. Slopes STEEP WITH BRUSH AND TREES
- b. Sedimentation MINOR - FROM ACCESS ROADWAY AREA
NORTH WEST OF DAM EMBANKMENT
- c. Unusual Conditions Which Affect Dam NONE

6) Area Downstream of Dam

- a. Downstream Hazard (No. of Homes, Highways, etc.) VILLAGE OF
NEW IRELAND
- b. Seepage, Unusual Growth NONE
- c. Evidence of Movement Beyond Toe of Dam NONE
- d. Condition of Downstream Channel HEAVY BRUSH AND TREES
ALONG CHANNEL

7) Spillway(s) (Including Discharge Conveyance Channel)

- a. General CONCRETE INTAKE RISER → CONCRETE CONDUIT → CONCRETE
IMPACT BASIN WITH BAFFLE

AUXILIARY SPILLWAY - CHANNEL IN EARTH CUT-CROWN VETCH

- b. Condition of Service Spillway SATISFACTORY - MINOR RUSTING OF GALVANIZED
TRASH RACKS, GRATING, AND HOLD DOWN BOLTS ; ONE SECTION OF GRATING
MISSING ; MINOR EROSION OF CONCRETE ALONG WEIR CREST OF RISER ;
VERTICAL CRACK RUNNING FULL HEIGHT OF THE OVERHANGING
WING OF THE CONCRETE INTAKE RISER

c. Condition of Auxiliary Spillway SATISFACTORY - 3-FOOT HIGH CROWN VETCH
ON SPILLWAY AND EMBANKMENTS; CATTAILS AND WET AREAS ALONG
TOE OF EAST ABUTMENT; RUNOFF GULLIES ALONG
BERM ON ABUTMENT SLOPE

d. Condition of Discharge Conveyance Channel HEAVY BRUSH AND
TREES ALONG DOWNSTREAM CHANNEL

8) Reservoir Drain/Outlet

Type: Pipe ☒ Conduit _____ Other _____

Material: Concrete _____ Metal ☒ Other _____

Size: 12-INCH Length 46-FEET

Invert Elevations: Entrance 1185.0 Exit 1182.5

Physical Condition (Describe): _____ Unobservable ☒

Material: _____

Joints: _____ Alignment _____

Structural Integrity: _____

Hydraulic Capability: _____

Means of Control: Gate ☒ Valve _____ Uncontrolled _____

Operation: Operable ☒ Inoperable _____ Other _____

Present Condition (Describe): MINOR RUSTING OF SLIDE GATE
STEM AND WRENCH SOCKET

9) Structural

- a. Concrete Surfaces SATISFACTORY - MINOR EROSION ALONG INTAKE
RISER WEIR CREST, MINOR STAINING OF CONCRETE 0.5'
ABOVE DISCHARGE INVERT AT IMPACT BASIN
- b. Structural Cracking MINIMAL - ONE VERTICAL CRACK ALONG
THE HEIGHT OF THE OVERHANGING WING OF THE
NORTH INTAKE RISER WALL AT THE CONTACT
- c. Movement - Horizontal & Vertical Alignment (Settlement) NONE
- d. Junctions with Abutments or Embankments GOOD
- e. Drains - Foundation, Joint, Face GOOD
- f. Water Passages, Conduits, Sluices GOOD
- g. Seepage or Leakage NONE

- h. Joints - Construction, etc. GOOD
- i. Foundation OKAY
- j. Abutments OKAY
- k. Control Gates NOT OBSERVABLE
- l. Approach & Outlet Channels APPROACH - NOT OBSERVABLE
OUTLET - OKAY, SMALL STONE RIPRAP
- m. Energy Dissipators (Plunge Pool, etc.) BAFFLE IN IMPACT BASIN
- n. Intake Structures GOOD
- o. Stability
- p. Miscellaneous

10) Appurtenant Structures (Power House, Lock, Gatehouse, Other)a. Description and Condition NONE

11) Operation Procedures (Lake Level Regulation):N/A (FLOOD CONTROL)

APPENDIX C
HYDROLOGIC/HYDRAULIC
ENGINEERING DATA AND COMPUTATIONS

CHECK LIST FOR DAMS
HYDROLOGIC AND HYDRAULIC
ENGINEERING DATA

1

AREA-CAPACITY DATA:

	<u>Elevation</u> (ft.)	<u>Surface Area</u> (acres)	<u>Storage Capacity</u> (acre-ft.)
1) Top of Dam	<u>1241.0</u>	<u>62.8</u>	<u>1271</u>
2) Design High Water (Max. Design Pool)	<u>1234.0</u>	<u>51.8</u>	<u>873</u>
3) Auxiliary Spillway Crest	<u>1231.1</u>	<u>47.3</u>	<u>733</u>
4) Pool Level with Flashboards	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
5) Service Spillway Crest	<u>1199.8</u>	<u>5.7</u>	<u>0</u>

DISCHARGES

	<u>Volume</u> (cfs)
1) Average Daily	<u>UNKNOWN</u>
2) Spillway @ Maximum High Water	<u>15685</u>
3) Spillway @ Design High Water	<u>1950</u>
4) Spillway @ Auxiliary Spillway Crest Elevation	<u>132</u>
5) Low Level Outlet	<u>14</u>
6) Total (of all facilities) @ Maximum High Water	<u> </u>
7) Maximum Known Flood	<u>UNKNOWN</u>
8) At Time of Inspection	<u>± .01</u>

CREST:

ELEVATION: 1241.0Type: GRASSED EARTHWidth: 19' Length: 590'Spillover AUXILIARY CHANNELLocation EAST END OF DAM

SPILLWAY:

SERVICE

1199.8

Elevation

AUXILIARY

1231.1R/C DROP INLET

Type

EARTH CUT CHANNELWEIR LENGTH 13.3'

Width

160'Type of Control

✓

Uncontrolled

✓

Controlled:

Type

(Flashboards; gate)

Number

Size/Length

Invert Material

Anticipated Length
of operating service

Chute Length

Height Between Spillway Crest
& Approach Channel Invert
(Weir Flow)

HYDROMETEROLOGICAL GAGES:

Type : NONE

Location: _____

Records:

Date - _____

Max. Reading - _____

FLOOD WATER CONTROL SYSTEM:

Warning System: CONTACT COUNTY CIVIL DEFENSE — COUNTY
CURRENTLY WORKING ON NOTIFICATION PROGRAM FOR RESIDENTS

Method of Controlled Releases (mechanisms):

RESERVOIR DRAIN

DRAINAGE AREA: 3.49 SQ. Mi.

DRAINAGE BASIN RUNOFF CHARACTERISTICS:

Land Use - Type: FARMS WOODLANDS

Terrain - Relief: GRASS - FORESTS

Surface - Soil: TILL

Runoff Potential (existing or planned extensive alterations to existing
(surface or subsurface conditions)

NONE

Potential Sedimentation problem areas (natural or man-made; present or future)

ACCESS ROADWAY NORTHWEST OF DAM

EMBANKMENT

Potential Backwater problem areas for levels at maximum storage capacity
including surcharge storage:

NONE

Dikes - Floodwalls (overflow & non-overflow) - Low reaches along the
Reservoir perimeter:

Location: NONE

Elevation: _____

Reservoir:

Length @ Maximum Pool _____ (Miles)

Length of Shoreline (@ Spillway Crest) 0.5 (Miles)

Project NY C&E Dam Inspection Acct. No. 7594 Page 1 of 2
 Subject Little Chocoma Comptd. By _____ Date 8/20/81
 Detail _____ Ch'd. By _____ Date _____

DRAINAGE AREA = 3.49 sq mi

Impervious areas include:

2 ponds	9.0 acres
reservoir	5.7 acres
total	14.7 acres

The ratio of impervious area to total area is:

$$\frac{14.7 \text{ ac}}{3.5 \text{ sq mi}} = 0.007$$

WATERSHED PARAMETERS

Snyder Unit Hydrograph
 Lag time:

$$t_p = C_L (LLC)^{0.3}$$

Where $C_L = 2.0$
 $L = 3.6 \text{ mi}$
 $L_c = 1.8 \text{ mi}$

$$t_p = 2.0 (3.6 \cdot 1.8)^{0.3} = 3.50 \text{ hrs}$$

Unit rainfall duration

$$t_r = t_p / 5.5$$

$$= 3.50 / 5.5 = 0.64 \text{ hrs}$$

adjusted $t_r = 0.5 \text{ hrs}$

Adjusted Lag time

$$t_{pe} = t_p + 0.25 (t_a - t_r)$$

$$= 3.5 + 0.25 (0.5 - 0.64) = 3.47 \text{ hrs.}$$

Peaking Coefficient, $C_P = 0.6$

Base Flow

Based on design computations for the dam, the base flow for the stream is 47 cfs.
 (These design computations are included after sheet C-2.)

Based on other dam inspection reports, $R_{TOR} = 1.5$
 and QR_{CSN} is 15%

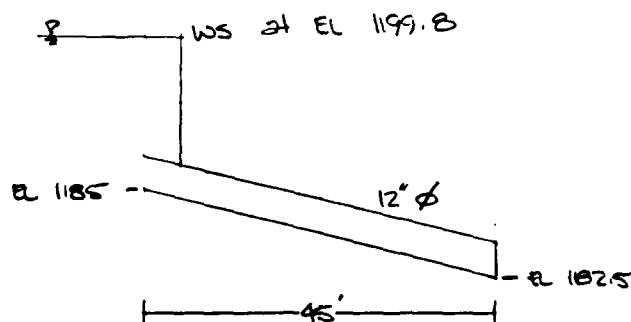
Storage

Stage-storage values were obtained from the design computations and are included following sheet 2

Spillway Capacity

Spillway capacity computations were obtained from the design computations and are included following sheet 2

Low Level Outlet



Calculate discharge:

$$\begin{aligned}
 Q &= 0.6 A \sqrt{2gH} \\
 &= 0.6 \pi (.5)^2 \sqrt{2(32.2)(1199.8 - 1185.5)} \\
 &= 14.3 \text{ cfs}
 \end{aligned}$$

STATE New York PROJECT Little Chocanet Creek Watershed Site 2C
 BY JCI DATE 9/65 CHECKED BY J. H. H. H. DATE 10/65 JOB NO. NY-2018 ✓
 SUBJECT Principal Spillway SHEET 2 OF 3

Site	100-year frequency									
	1-day rainfall			10-day rainfall			Q ₁₀	T _c	RA	Serial No.
	CN AMCII	Rainfall	Runoff Q ₁	CN AMCII	Rainfall	Runoff Q ₁₀				
2A	83	5.8	3.90	69	9.7	5.82	0.670	0.50	763	6
2B	74	5.8	3.02	57	9.7	4.26	0.709	1.36	160	6
2C	77	5.8	3.30	61	9.7	4.79	0.689	1.44	349	6
2E	73	5.8	2.92	56	9.7	4.13	0.707	2.41	102	14
2	74	5.8	3.02	57	9.7	4.26	0.709	1.34	50	6

Compute the climatic index

$$C_i = \frac{100 P_0}{(T_0)^2} = \frac{100 \times 36.24}{45.8^2} = 1.73 \quad \begin{matrix} P_0 = 36.24 \\ T_0 = 45.8 \end{matrix}$$

Channel Losses

The climatic index is greater than (1)

The soils would reduce the loss to a min.

∴ channel losses are not considered.

Base Flow (Determine the minimum permissible base flow)

Assume 2 csm base flow

From Table 2.14 using $C_i = 1.73$ Base Flow = 0.225 csm
 = 7.69 csm

Snowmelt (Determine the minimum permissible snow melt)

$$S_{mc} = \frac{P_m (40 - T_m)}{2} \quad \begin{matrix} T_m = 31.3 \\ P_m = 2.82 \end{matrix}$$

$$= \frac{2.82 (40 - 31.3)}{2} = 12.57 \text{ csm}$$

$$S_{mi} = \frac{2.82 (40 - 31.3)}{53.8} = 0.462 \text{ csm}$$

This rate is greater than the computed base flow
 ∴ snow melt will be used.

STATE <i>New York</i>	PROJECT <i>Little Chocoma</i>	SITE <i>2-C</i> ✓	
BY <i>JPH</i>	DATE <i>10/65</i>	CHECKED BY <i>WY</i>	DATE <i>11/65</i>
SUBJECT <i>Principal Spillway</i>		JOB NO. <i>NY-2018</i>	
		SHEET <i>2 OF 4</i>	

$Q_{10} = 4.79$ Snowmelt = 0.500 /day, Table 2.10
 $A = 3.49$ sq mi. $A Q_{10} = 16.717$ mi² inches Serial #6

Time	Preliminary PSMC	Accum. Snow Melt	PSMC	PSMC	Preliminary PSH	Snow melt	PSH
days	Inches	Inches	Inches	Acft	cfs	cfs	cfs
0	0	0	0	0	0	47	47
0.1	0.003	0.050	0.053	10	6		53
0.5	0.033	0.250	0.283	53	8		55
1.0	0.079	0.500	0.579	108	9		56
2.0	0.179	1.000	1.179	219	15		58
3.0	0.313	1.500	1.813	338	14		61
3.5	0.404	1.750	2.154	401	19		66
4.0	0.525	2.000	2.525	470	24		71
4.2	0.585	2.100	2.685	500	34		81
4.4	0.671	2.200	2.871	534	48		95
4.6	0.776	2.300	3.076	573	57		104
4.7	0.842	2.350	3.192	594	70		117
4.8	0.925	2.400	3.325	616	94		141
4.9	1.051	2.450	3.501	652	152		199
5.0	2.071	2.500	4.571	851	1835		1882
5.1	3.327	2.580	5.877	1094	614		661
5.2	3.753	2.600	6.353	1183	218		265
5.3	3.920	2.650	6.570	1223	106		153
5.4	4.010	2.700	6.710	1249	71		118
5.5	4.075	2.750	6.825	1271	56		103
5.6	4.126	2.800	6.926	1289	43		90
5.8	4.201	2.900	7.101	1322	33		80
6.0	4.262	3.000	7.262	1352	27		74
6.5	4.384	3.250	7.634	1421	23		70
7.0	4.476	3.500	7.976	1485	17		64
8.0	4.611	4.000	8.611	1603	12		59
9.0	4.713	4.500	9.213	1715	9		65
10.0	4.785	5.000	9.785	1822	7		54
10.1	4.790	5.050	9.840	1832	0.3		47
10.3	4.790	5.150	9.940	1850	0		47
11.0	4.790	5.500	10.290	1915			

Little Choconut Watershed

Site 2-C NY-2018

3-1

Stage Storage Computations

Area in Sq in = Planimeter Reading x 0.003827

Map Scale: 1" = 100'

1 sq in = 0.2296 Acres

Elev	Planimeter Reading	Area Acres	E Area Acres	Avg Area Acres	Diff. in Elev.	Vol Ac FT	Accum. Vol Ac FT	Accum. Vol. Minus Sediment
1184.0	0	.03					0	
			.03	.02	1.0	.02		
1185.0	38	.03					.02	
			1.14	.57	5.0	2.85		
1190.0	1256	1.11					2.87	
			4.17	~~2.08~~ 2.04	5.0	~~10.40~~ 10.20		
1195.0	3482	3.06					13.07	
			8.93	4.47	5.0	22.35		
1200.0	6662	5.87	Crest of Riser to EL 1199.8			1199.8	35.42	0
			16.90	8.45	5.0	42.25	62	1.28
1205.0	12,532	11.03					77.87	35.01
			27.99	13.95	5.0	69.75		
1210.0	19,272	16.96					147.42	96.23
			41.07	20.54	5.0	102.70	62	
1215.0	27,386	24.11					250.32	190.41
			54.78	27.39	5.0	136.95		
1220.0	34,848	30.67					387.27	316.84
			68.27	34.14	5.0	170.70	27	
1225.0	42,717	37.60					557.97	481.03
			83.39	41.69	5.0	208.45		
1230.0	52,026	45.79					766.22	689.96
			98.84	49.42	5.0	247.10	42	
1235.0	60,266	53.05					1013.32	919.52
			119.27	57.14	5.0	285.70	52	
1240.0	69,553	61.22					1299.02	1205.22
			131.19	65.59	5.0	327.95	22	
1245.0	79,498	69.97					1627.17	1533.17
			149.89	74.95	5.0	374.75	4626.47	
1250.0	90,801	79.92					2001.92	1907.72

2200

LITTLE CHOCONUT WATERSHED CA 64 201 11.5

SITE 2-C NY 2018

Stage Storage Curve

1500

1600

1700

1200

1000

800

600

400

200

11800

1190

1200

1210

1220

1230

1240

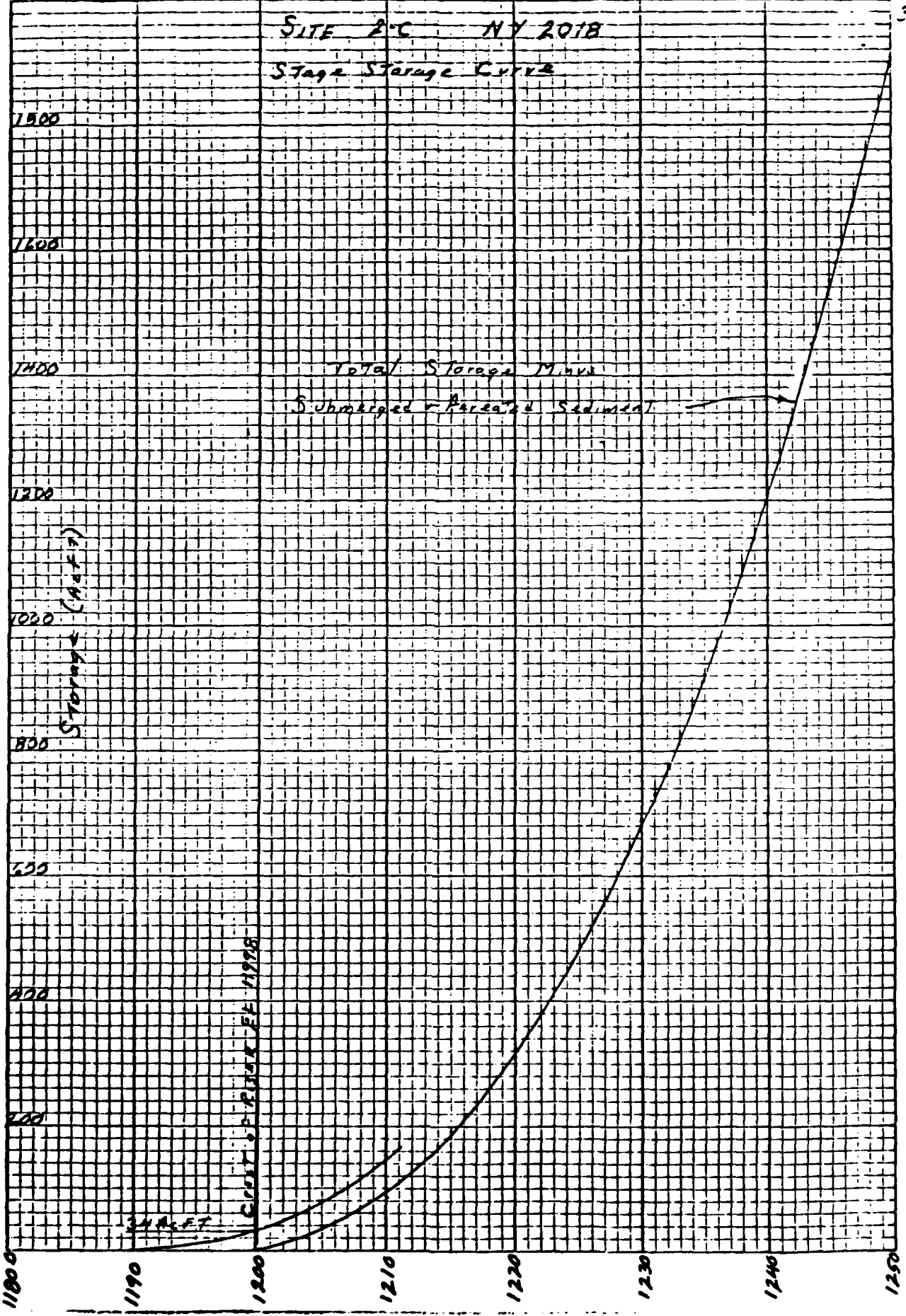
1250

Storage (Ac.Ft.)

Total Storage Minus
 Submerged & Buried Sediment

24 A.F.T.

COUNT OF RISE EF 11998



STATE NEW YORK PROJECT LITTLE CHOCOMUT SITE 2 C
 BY J. H. H. H. DATE 11/65 CHECKED BY LCI DATE 11/65 JOB NO. NY-2018
 SUBJECT Flow Constants SHEET 4 OF 1

Use a 30" pipe

Weir Flow Over Crest of Riser

$$Q = C L H^{3/2}$$

$$Q = (3.1) (730) H^{3/2}$$

$$C = 3.1$$

Center wall

$$L = 3D \times 2 = 15.0' - 2.0' = 13.0$$

Refer to ES-151

$$Q = 40.3 H^{3/2}$$

Pipe Flow For 30" pipe

$$Q = CA \sqrt{2gh}$$

$$Q = 0.49 \times 4.91 \times 8.02^{1/2}$$

$$Q = 19.30 h^{1/2}$$

$$C = \frac{1}{\sqrt{2 + K_p + L_p}}$$

$$C = \frac{1}{\sqrt{2 + 0.0786 \times 272}}$$

$$C = \frac{1}{\sqrt{2 + 2.14}}$$

$$C = \frac{1}{2.04} = 0.49$$

$$A_p = 4.91$$

$$L_p = 272$$

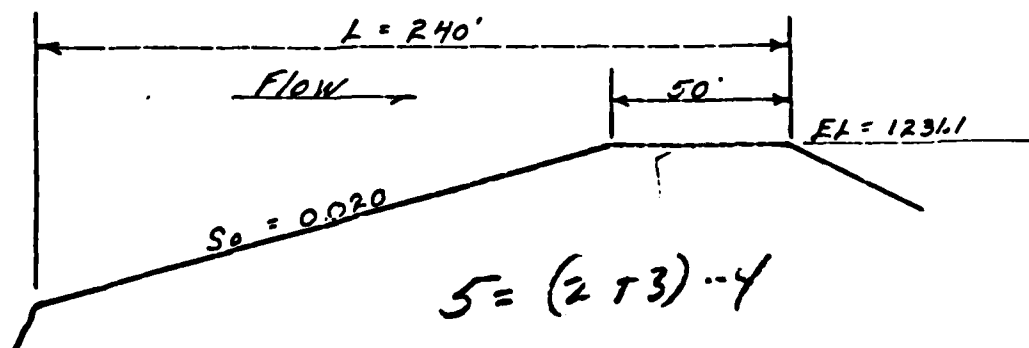
$$n = 0.012$$

$$K_p = 0.0786$$

STATE New York PROJECT Little Choconut Creek W.S. S.T. 2.C
BY JFH DATE 3/66 CHECKED BY LCI DATE 3/66 JOB NO. NY-2018
SUBJECT 1/2 Yr Hp Computations (Emergency Spillway) SHEET 4 OF 2

$$n = 0.040$$

EMERGENCY SPILLWAY $L = 240'$ $b = 160'$					
Q/b	dx	$\sqrt{2g}$	$S_o(L-50)$	Hp	Q
2	4.89	0.00	3.80	1.09	320
4	5.42	0.01		1.63	640
6	5.83	0.02		2.05	960
8	6.20	0.02		2.42	1280
10	6.57	0.03		2.80	1600
15	7.45	0.05		3.51	2400
20	7.79	0.08		4.07	3200
25	8.28	0.11		4.59	4000
30	8.81	0.13		5.14	4800
35	9.24	0.16		5.60	5600
40	9.73	0.18		6.11	6400
50	10.43	0.24		6.87	8000
60	11.12	0.31		7.63	9600
70	11.78	0.35		8.33	11,200
80	12.38	0.42		9.00	12,800
90	12.89	0.48		9.57	14,400
100	13.44	0.54		10.18	16,000
120	14.48	0.64		11.32	19,200
140	15.43	0.76		12.39	22,400
160	16.36	0.83		13.39	25,600
180	17.24	0.94		14.38	28,800
200	18.05	1.02	3.80	15.27	32,000

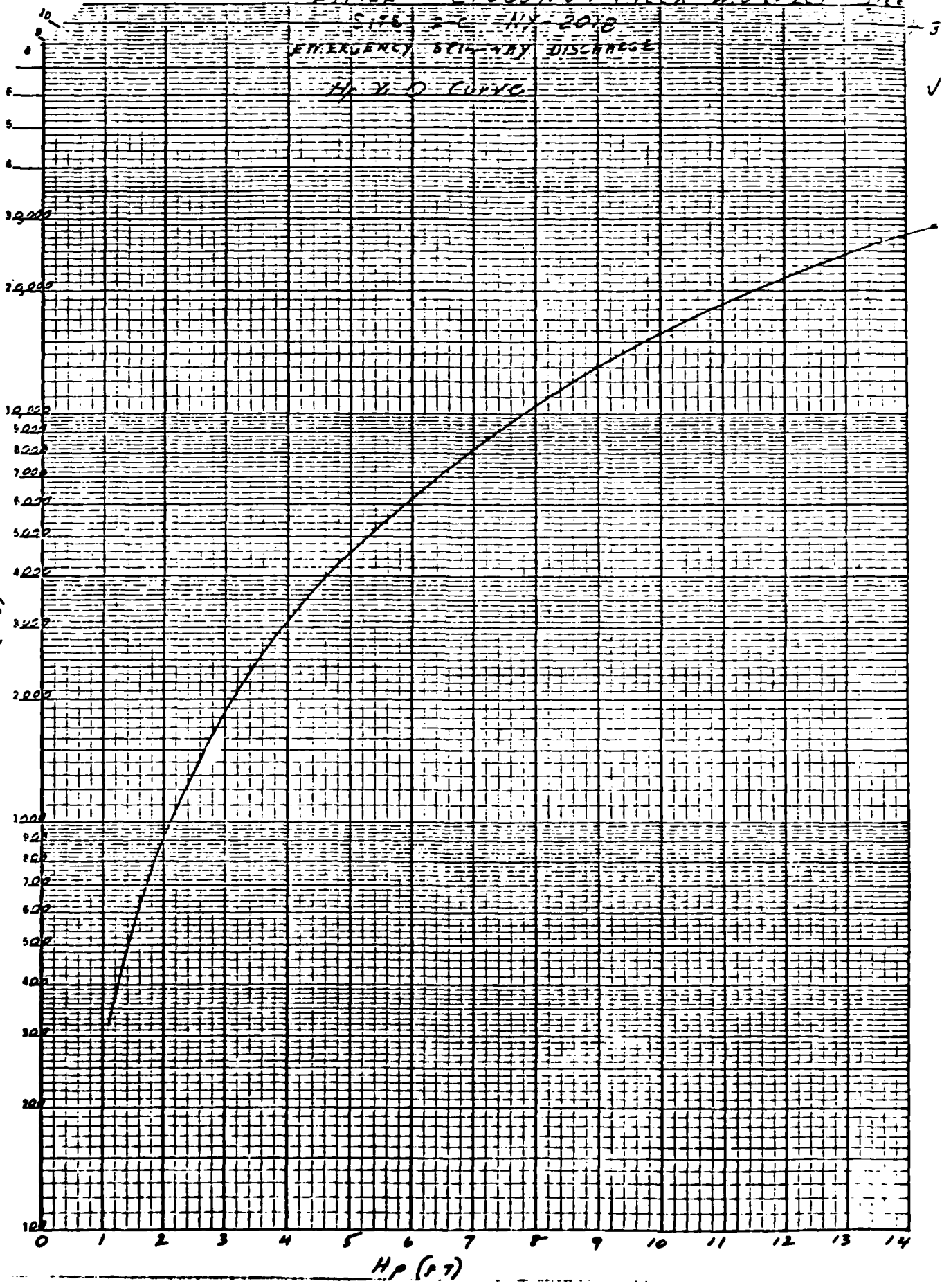


LITTLE CHOCONUT CREEK W/S 2/10/61 3/10/61

Site No. 11-2018
EMERGENCY 600-187 DISCHARGE
H₂O CURVE

3/10/61
3/10/61
✓

K-E SEMI-LOGARITHMIC 46 5493
5 CYCLES 7 10 DIVISIONS MADE IN U.S.A.
KUPPEL & ESSER CO.



LITTLE CHOCONUT CREEK WATERSHED

SITE 2-C

NY-2018

STAGE DISCHARGE COMPUTATIONS

ELEV.	WEIR @ RISER		FLOW CREST	PIPE FLOW			EMERGENCY SPILLWAY FLOW		Q TOTAL
	1/ H	3/2 H		2/ h	1/2 h	19.30 h ^{1/2}	Hp	Q	
Riser Crest									
1199.8	0	0	0						0
1200.3	.5	.35	14.1						14
1200.8	1.0	1.0	40.3	16.3	4.04	78			40
1201.4	1.6	2.02	81.4	16.9	4.11	79			79
1201.8	2.0	2.83	114	17.3	4.16	80			80
1203.0				18.5	4.30	83			83
1206.0				21.5	4.64	90			90
1210.0				25.5	5.05	97			97
1215.0				30.5	5.52	107			107
1220.0				35.5	5.96	115			115
1225.0				40.5	6.36	123			123
Crest of Emergency									
1231.1				46.6	6.83	132	0	0	132
1232.2				47.7	6.91	133	1.1	320	453
1233.1				48.6	6.97	135	2.0	918	1053
1234.1				49.6	7.04	136	3.0	1850	1986
1235.0				50.5	7.11	137	3.9	3000	3137
1236.1				51.6	7.18	139	5.0	4580	4719
1237.5				53.0	7.28	141	6.4	6400	7041
1238.7				54.2	7.36	142	7.6	8500	8642
1240.0				55.5	7.45	144	8.9	12700	12844
~~1242.1~~				~~56.6~~	~~7.52~~	~~145~~	~~10.0~~	~~15500~~	~~15643~~
1242.5				58.0	7.62	147	11.4	19800	19947
1243.7				59.2	7.69	148	12.6	23200	23348
1245.0				60.5	7.78	150	13.9	27000	27150
1247	1/	Riser Crest	@Elev. 1199.8			153		33200	33350
	2/	Invert of Pipe	@Elev. 1180.0		@ Pipe	@Elev. 1181.25			
		Assume Head Loss of	3.25 thru biff.						
		Consider	Water Surface @Elev. 1184.5						

STATE	New York		PROJECT	Little Chocanut Creek W.S. Site 2C	
BY	LCI	DATE	CHECKED BY	DATE	JOB NO.
SUBJECT	Exit Channel Slope and Velocity (Em. Spill.)			NY-2018	
			SHEET 4 OF 5		
<u>Exit Channel Slope - Veg. Earth</u>					

$$Q_{total} = 1950 \text{ cfs}$$

$$Q_{pipe} = 136 \text{ cfs}$$

$$Q_{em} = Q_{total} - Q_{pipe} = 1950 - 136 = 1814 \text{ cfs}$$

$$25\% \text{ } Q = 0.25 \frac{1814}{160} = 2.83 \text{ cfs}$$

$$S_c = 0.028 \quad (ES 98 3 of 4)$$

Velocity (V_c) in exit channel

$$\frac{Q_{em}}{b} = \frac{1814}{160} = 11.3 \text{ cfs}$$

$$V_c = 7.8 \text{ fps} < (7.5 \text{ fps} + 25\%) \therefore \text{OK}$$

V_c selected from
Part 6 - V.D. Method
of Reservoir Flood
Routing

	NEW YORK C. OF E. PHASE 1 DAM INSPECTION							
	LITTLE CHOCONUT DAM SITE 2-C							
	FULL AND HALF PMF FLOOD ANALYSIS							
1	A							
2	A							
3	A							
4	B	0	0	0	0	0	0	0
5	B1	100	0					
6	J	1	2	1				
7	J1	0.5	1					
8	K	0	1					
9	K1							
10	H	1	1					
11	P	0	21	111	123	132	0	1
12	T							
13	W	3.67	0.6					.007
14	X	47	-0.35	1.5				
15	K	1	1					
16	K1							
17	Y							
18	Y1	20						
19	Y1199.8	1231.1	1233.1	1235.0	1237.5	1238.7	1240.0	1242.5
20	Y5	0	132	1053	3137	7041	9642	12844
21	S5	0	96	319	681	1205	1533	19947
22	SZ1199.8	1210.0	1220.0	1230.0	1240.0	1245.0		
23	S\$1199.8							
24	\$D1241.0		2.7	1.5	600			
25	X							

PREVIEW OF SEQUENCE OF STREAM NETWORK CALCULATIONS

RUNOFF HYDROGRAPH AT
ROUTE HYDROGRAPH TO
END OF NETWORK

1

1

 FLOOD HYDROGRAPH PACKAGE (HSC-1)
 DAN SAFETY VERSION JULY 1978
 LAST MODIFICATION 25 SEP 78

RUN DATE: 24 AUG 1981

NEW YORK C. OF E. PHASE 1 DAM INSPECTION
 LITTLE CHOCHUT DAM SITE 2-C
 FULL AND HALF PMF FLOOD ANALYSIS

JOB SPECIFICATION

NO	NR	NRH	NRH	IOAY	INR	ININ	NETC	IPLT	IPRT	INSTAN
100	0	30	0	0	0	0	0	0	0	0
JOPER 5										
NWT LROPT TRACE										
0 0 0										

MULTI-PLAN ANALYSES TO BE PERFORMED

NPLAN= 1 NRTIO= 2 LRTIO= 1

RTIOS= 0.50 1.00

SUB-AREA RUNOFF COMPUTATION

INFLOW HYDROGRAPH

ISTAQ	ICOMP	IECON	ITAPE	JPLT	JPRT	IMANE	ISTAGE	IAUTO
1	0	0	0	2	0	1	0	0

HYDROGRAPH DATA

INHYD	IUNG	TAREA	SNAP	TRSDA	TRSPC	RATIO	ISNOW	ISANE	LOCAL
1	1	3.50	0.0	3.50	0.0	0.0	0	1	0

PRECIP DATA

SPFE	PHS	R6	R12	R24	R48	R72	R96
0.0	21.00	111.00	123.00	132.00	142.00	0.0	0.0

TRSPC COMPUTED BY THE PROGRAM IS 0.800

LOSS DATA

LROPT	STRES	DLTKR	RTIOL	ERAIN	STRES	RTIOK	STRTL	CHSTL	ALSHX	RTIMP
0	0.0	0.0	1.00	0.0	0.0	1.00	1.00	0.10	0.0	0.01

UNIT HYDROGRAPH DATA

TP= 3.47 CP=0.60 NTA= 0

RECESSION DATA

STRIO= 47.00 ORCSH= -0.15 RTIOR= 1.50
 APPROXIMATE CLARK COEFFICIENTS FROM GIVEN SNYDER CP AND TP ARE TC= 7.80 AND R= 6.84 INTERVALS

UNIT HYDROGRAPH #1 END-OF-PERIOD ORDINATES, LAG= 3.49 HOURS, CP= 0.61 VOL= 1.00

20.	74.	147.	231.	309.	367.	396.	390.	352.	304.
262.	227.	196.	169.	146.	126.	109.	94.	81.	70.
61.	52.	45.	39.	34.	29.	25.	22.	19.	16.

18.
3.

12.

10.

9.

8.

7.

6.

5.

4.

4.

END-OF-PERIOD FLOW									
NO. DA	HR. IN	PERIOD	RAIN	EICS	LOSS	COMP Q	NO. DA	HR. IN	PERIOD
0									
1.01	0.30	1	0.00	0.00	0.00	45.	1.02	1.30	51
1.01	1.00	2	0.00	0.00	0.00	43.	1.02	2.00	52
1.01	1.30	3	0.00	0.00	0.00	42.	1.02	2.30	53
1.01	2.00	4	0.00	0.00	0.00	40.	1.02	3.00	54
1.01	2.30	5	0.00	0.00	0.00	38.	1.02	3.30	55
1.01	3.00	6	0.00	0.00	0.00	37.	1.02	4.00	56
1.01	3.30	7	0.00	0.00	0.00	35.	1.02	4.30	57
1.01	4.00	8	0.00	0.00	0.00	34.	1.02	5.00	58
1.01	4.30	9	0.00	0.00	0.00	33.	1.02	5.30	59
1.01	5.00	10	0.00	0.00	0.00	31.	1.02	6.00	60
1.01	5.30	11	0.00	0.00	0.00	30.	1.02	6.30	61
1.01	6.00	12	0.00	0.00	0.00	29.	1.02	7.00	62
1.01	6.30	13	0.01	0.00	0.01	28.	1.02	7.30	63
1.01	7.00	14	0.01	0.00	0.01	27.	1.02	8.00	64
1.01	7.30	15	0.01	0.00	0.01	26.	1.02	8.30	65
1.01	8.00	16	0.01	0.00	0.01	25.	1.02	9.00	66
1.01	8.30	17	0.01	0.00	0.01	24.	1.02	9.30	67
1.01	9.00	18	0.01	0.00	0.01	23.	1.02	10.00	68
1.01	9.30	19	0.01	0.00	0.01	22.	1.02	10.30	69
1.01	10.00	20	0.01	0.00	0.01	21.	1.02	11.00	70
1.01	10.30	21	0.01	0.00	0.01	20.	1.02	11.30	71
1.01	11.00	22	0.01	0.00	0.01	19.	1.02	12.00	72
1.01	11.30	23	0.01	0.00	0.01	18.	1.02	12.30	73
1.01	12.00	24	0.01	0.00	0.01	17.	1.02	13.00	74
1.01	12.30	25	0.07	0.00	0.07	16.	1.02	13.30	75
1.01	13.00	26	0.07	0.00	0.07	15.	1.02	14.00	76
1.01	13.30	27	0.08	0.00	0.08	14.	1.02	14.30	77
1.01	14.00	28	0.08	0.00	0.08	13.	1.02	15.00	78
1.01	14.30	29	0.11	0.00	0.11	12.	1.02	15.30	79
1.01	15.00	30	0.11	0.00	0.11	11.	1.02	16.00	80
1.01	15.30	31	0.13	0.00	0.13	10.	1.02	16.30	81
1.01	16.00	32	0.41	0.23	0.18	9.	1.02	17.00	82
1.01	16.30	33	0.10	0.05	0.05	8.	1.02	17.30	83
1.01	17.00	34	0.10	0.05	0.05	7.	1.02	18.00	84
1.01	17.30	35	0.08	0.03	0.05	6.	1.02	18.30	85
1.01	18.00	36	0.08	0.03	0.05	5.	1.02	19.00	86
1.01	18.30	37	0.01	0.00	0.01	4.	1.02	19.30	87
1.01	19.00	38	0.01	0.00	0.01	3.	1.02	20.00	88
1.01	19.30	39	0.01	0.00	0.01	2.	1.02	20.30	89
1.01	20.00	40	0.01	0.00	0.01	1.	1.02	21.00	90
1.01	20.30	41	0.01	0.00	0.01	0.	1.02	21.30	91
1.01	21.00	42	0.01	0.00	0.01	0.	1.02	22.00	92
1.01	21.30	43	0.01	0.00	0.01	0.	1.02	22.30	93
1.01	22.00	44	0.01	0.00	0.01	0.	1.02	23.00	94
1.01	22.30	45	0.01	0.00	0.01	0.	1.02	23.30	95
1.01	23.00	46	0.01	0.00	0.01	0.	1.03	0.00	96
1.01	23.30	47	0.01	0.00	0.01	0.	1.03	0.30	97
1.02	0.00	48	0.01	0.00	0.01	0.	1.03	1.00	98
1.02	0.30	49	0.05	0.00	0.05	0.	1.03	1.30	99
1.02	1.00	50	0.05	0.00	0.05	0.	1.03	2.00	100

SUN 23.86 20.18 3.67 85063.
(606.)(513.)(93.)(2408.72)

PEAK 5814.
CFS 165.
6-HOUR 4641.
24-HOUR 1707.
72-HOUR 845.
TOTAL VOLUME 84480.
2392.

INCHES
MM
AC-FT

12.34
313.34
2302.

18.15
460.96
3386.

18.71
475.26
3491.

18.71
475.26
3491.

THOUS CU H

2839.

4176.

4306.

4306.

STATION 1[illegible]

[illegible]

•OVER•

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 1

23.	21.	20.	19.	18.	17.	16.
15.	14.	13.	12.	11.	10.	9.
10.	9.	8.	7.	6.	5.	4.
68.	55.	48.	42.	36.	32.	28.
19.	15.	13.	12.	11.	10.	9.
9.	12.	20.	33.	51.	72.	95.
171.	203.	241.	308.	410.	551.	729.
1541.	1903.	2262.	2579.	2804.	2907.	2703.
1945.	1695.	1472.	1279.	1113.	970.	845.

PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
2907.	2321.	854.	422.	42240.
82.	66.	24.	12.	1196.
INCHES	6.17	9.07	9.36	
MM	156.67	230.46	237.63	
AC-FT	1151.	1693.	1745.	
THOUS CU M	1419.	2088.	2153.	

HYDROGRAPH AT STA 1 FOR PLAN 1, RTIO 2

45.	42.	40.	38.	37.	35.	34.
30.	28.	27.	26.	25.	24.	23.
20.	19.	18.	17.	16.	15.	14.
14.	13.	12.	11.	10.	9.	8.
137.	123.	109.	96.	83.	73.	64.
38.	33.	30.	26.	22.	21.	20.
18.	16.	14.	12.	10.	9.	8.
343.	369.	407.	482.	616.	820.	1103.
3081.	3807.	4525.	5158.	5608.	5814.	5740.
3890.	3389.	2944.	2559.	2226.	1939.	1690.

PEAK	6-HOUR	24-HOUR	72-HOUR	TOTAL VOLUME
5814.	4641.	1707.	885.	84880.
165.	131.	48.	24.	2392.
INCHES	12.34	18.15	18.71	
MM	313.34	460.96	475.26	
AC-FT	2302.	3386.	3491.	
THOUS CU M	2839.	4176.	4306.	

HYDROGRAPH ROUTING

ROUTED HYDROGRAPH AT DAM NO BREACH

ISTAO	ICORP	IECON	ITAPE	JPLT	JPRT	INAME	ISTACE	IAUTO
1	1	0	0	0	0	1	0	0
QLOSS	CLOSS	AVC	IRCS	ISAME	IOPT	IPNP	LISTR	
0.0	0.0	0.0	1	1	0	0	0	

WSTPS WSTDL LAG ANSK X TSE STORA ISPRAT
20 0 0 0.0 0.0 -1200. -1

STAGE 1199.80 1231.10 1233.10 1235.00 1237.50 1238.70 1240.00 1242.50 1245.00 1247.00
 FLOW 0.0 132.00 1053.00 3137.00 7041.00 9642.00 12844.00 19947.00 27150.80 33350.00

CAPACITY= 0. 96. 319. 681. 1205. 1533.

ELEVATION= 1200. 1210. 1220. 1230. 1240. 1245.

CREL SPWID COQH EXPN ELEV COOL CARZA EXPL
 1199.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0

DAN DATA
 TOPEL COQD EXPD DANWID
 1241.0 2.7 1.5 600.

STATION 1, PLAN 1, RATIO 1

END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW	
0.	1.
3.	4.
5.	5.
6.	6.
13.	14.
17.	15.
16.	16.
27.	17.
77.	18.
2182.	19.
	20.
	21.
	22.
	23.
	24.
	25.
	26.
	27.
	28.
	29.
	30.
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	86.
	87.
	88.
	89.
	90.
	91.
	92.
	93.
	94.
	95.
	96.
	97.
	98.
	99.
	100.

STORAGE

1.	2.	3.	4.	5.	6.	7.
8.	9.	10.	11.	12.	13.	14.
15.	16.	17.	18.	19.	20.	21.
22.	23.	24.	25.	26.	27.	28.
29.	30.	31.	32.	33.	34.	35.
36.	37.	38.	39.	40.	41.	42.
43.	44.	45.	46.	47.	48.	49.
50.	51.	52.	53.	54.	55.	56.
57.	58.	59.	60.	61.	62.	63.
64.	65.	66.	67.	68.	69.	70.
71.	72.	73.	74.	75.	76.	77.
78.	79.	80.	81.	82.	83.	84.
85.	86.	87.	88.	89.	90.	91.
92.	93.	94.	95.	96.	97.	98.
99.	100.	101.	102.	103.	104.	105.
106.	107.	108.	109.	110.	111.	112.
113.	114.	115.	116.	117.	118.	119.
120.	121.	122.	123.	124.	125.	126.
127.	128.	129.	130.	131.	132.	133.
134.	135.	136.	137.	138.	139.	140.
141.	142.	143.	144.	145.	146.	147.
148.	149.	150.	151.	152.	153.	154.
155.	156.	157.	158.	159.	160.	161.
162.	163.	164.	165.	166.	167.	168.
169.	170.	171.	172.	173.	174.	175.
176.	177.	178.	179.	180.	181.	182.
183.	184.	185.	186.	187.	188.	189.
190.	191.	192.	193.	194.	195.	196.
197.	198.	199.	200.	201.	202.	203.
204.	205.	206.	207.	208.	209.	210.
211.	212.	213.	214.	215.	216.	217.
218.	219.	220.	221.	222.	223.	224.
225.	226.	227.	228.	229.	230.	231.
232.	233.	234.	235.	236.	237.	238.
239.	240.	241.	242.	243.	244.	245.
246.	247.	248.	249.	250.	251.	252.
253.	254.	255.	256.	257.	258.	259.
260.	261.	262.	263.	264.	265.	266.
267.	268.	269.	270.	271.	272.	273.
274.	275.	276.	277.	278.	279.	280.
281.	282.	283.	284.	285.	286.	287.
288.	289.	290.	291.	292.	293.	294.
295.	296.	297.	298.	299.	300.	301.
302.	303.	304.	305.	306.	307.	308.
309.	310.	311.	312.	313.	314.	315.
316.	317.	318.	319.	320.	321.	322.
323.	324.	325.	326.	327.	328.	329.
330.	331.	332.	333.	334.	335.	336.
337.	338.	339.	340.	341.	342.	343.
344.	345.	346.	347.	348.	349.	350.
351.	352.	353.	354.	355.	356.	357.
358.	359.	360.	361.	362.	363.	364.
365.	366.	367.	368.	369.	370.	371.
372.	373.	374.	375.	376.	377.	378.
379.	380.	381.	382.	383.	384.	385.
386.	387.	388.	389.	390.	391.	392.
393.	394.	395.	396.	397.	398.	399.
400.	401.	402.	403.	404.	405.	406.
407.	408.	409.	410.	411.	412.	413.
414.	415.	416.	417.	418.	419.	420.
421.	422.	423.	424.	425.	426.	427.
428.	429.	430.	431.	432.	433.	434.
435.	436.	437.	438.	439.	440.	441.
442.	443.	444.	445.	446.	447.	448.
449.	450.	451.	452.	453.	454.	455.
456.	457.	458.	459.	460.	461.	462.
463.	464.	465.	466.	467.	468.	469.
470.	471.	472.	473.	474.	475.	476.
477.	478.	479.	480.	481.	482.	483.
484.	485.	486.	487.	488.	489.	490.
491.	492.	493.	494.	495.	496.	497.
498.	499.	500.	501.	502.	503.	504.
505.	506.	507.	508.	509.	510.	511.
512.	513.	514.	515.	516.	517.	518.
519.	520.	521.	522.	523.	524.	525.
526.	527.	528.	529.	530.	531.	532.
533.	534.	535.	536.	537.	538.	539.
540.	541.	542.	543.	544.	545.	546.
547.	548.	549.	550.	551.	552.	553.
554.	555.	556.	557.	558.	559.	560.
561.	562.	563.	564.	565.	566.	567.
568.	569.	570.	571.	572.	573.	574.
575.	576.	577.	578.	579.	580.	581.
582.	583.	584.	585.	586.	587.	588.
589.	590.	591.	592.	593.	594.	595.
596.	597.	598.	599.	600.	601.	602.
603.	604.	605.	606.	607.	608.	609.
610.	611.	612.	613.	614.	615.	616.
617.	618.	619.	620.	621.	622.	623.
624.	625.	626.	627.	628.	629.	630.
631.	632.	633.	634.	635.	636.	637.
638.	639.	640.	641.	642.	643.	644.
645.	646.	647.	648.	649.	650.	651.
652.	653.	654.	655.	656.	657.	658.
659.	660.	661.	662.	663.	664.	665.
666.	667.	668.	669.	670.	671.	672.
673.	674.	675.	676.	677.	678.	679.
680.	681.	682.	683.	684.	685.	686.
687.	688.	689.	690.	691.	692.	693.
694.	695.	696.	697.	698.	699.	700.
701.	702.	703.	704.	705.	706.	707.
708.	709.	710.	711.	712.	713.	714.
715.	716.	717.	718.	719.	720.	721.
722.	723.	724.	725.	726.	727.	728.
729.	730.	731.	732.	733.	734.	735.
736.	737.	738.	739.	740.	741.	742.
743.	744.	745.	746.	747.	748.	749.
750.	751.	752.	753.	754.	755.	756.
757.	758.	759.	760.	761.	762.	763.
764.	765.	766.	767.	768.	769.	770.
771.	772.	773.	774.	775.	776.	777.
778.	779.	780.	781.	782.	783.	784.
785.	786.	787.	788.	789.	790.	791.
792.	793.	794.	795.	796.	797.	798.
799.	800.	801.	802.	803.	804.	805.
806.	807.	808.	809.	810.	811.	812.
813.	814.	815.	816.	817.	818.	819.
820.	821.	822.	823.	824.	825.	826.
827.	828.	829.	830.	831.	832.	833.
834.	835.	836.	837.	838.	839.	840.
841.	842.	843.	844.	845.	846.	847.
848.	849.	850.	851.	852.	853.	854.
855.	856.	857.	858.	859.	860.	861.
862.	863.	864.	865.	866.	867.	868.
869.	870.	871.	872.	873.	874.	875.
876.	877.	878.	879.	880.	881.	882.
883.	884.	885.	886.	887.	888.	889.
890.	891.	892.	893.	894.	895.	896.
897.	898.	899.	900.	901.	902.	903.
904.	905.	906.	907.	908.	909.	910.
911.	912.	913.	914.	915.	916.	917.
918.	919.	920.	921.	922.	923.	924.
925.	926.	927.	928.	929.	930.	931.
932.	933.	934.	935.	936.	937.	938.
939.	940.	941.	942.	943.	944.	945.
946.	947.	948.	949.	950.	951.	952.
953.	954.	955.	956.	957.	958.	959.
960.	961.	962.	963.	964.	965.	966.
967.	968.	969.	970.	971.	972.	973.
974.	975.	976.	977.	978.	979.	980.
981.	982.	983.	984.	985.	986.	987.
988.	989.	990.	991.	992.	993.	994.
995.	996.	997.	998.	999.	1000.	1001.
1002.	1003.	1004.	1005.	1006.	1007.	1008.
1009.	1010.	1011.	1012.	1013.	1014.	1015.
1016.	1017.	1018.	1019.	1020.	1021.	1022.
1023.	1024.	1025.	1026.	1027.	1028.	1029.
1030.	1031.	1032.	1033.	1034.	1035.	1036.
1037.	1038.	1039.	1040.	1041.	1042.	1043.
1044.	1045.	1046.	1047.	1048.	1049.	1050.
1051.	1052.	1053.	1054.	1055.	1056.	1057.
1058.	1059.	1060.	1061.	1062.	1063.	1064.
1065.	1066.	1067.	1068.	1069.	1070.	1071.
1072.	1073.	1074.	1075.	1076.	1077.	1078.
1079.	1080.	1081.	1082.	1083.	1084.	1085.
1086.	1087.	1088.	1089.	1090.	1091.	1092.
1093.	1094.	1095.	1096.	1097.	1098.	1099.
1100.	1101.	1102.	1103.	1104.	1105.	1106.
1107.	1108.	1109.	1110.	1111.	1112.	1113.
1114.	1115.	1116.	1117.	1118.	1119.	1120.
1121.	1122.	1123.	1124.	1125.	1126.	1127.
1128.	1129.	1130.	1131.	1132.	1133.	1134.
1135.	1136.	1137.	1138.	1139.	1140.	1141.
1142.	1143.	1144.	1145.	1146.	1147.	1148.
1149.	1150.	1151.	1152.	1153.	1154.	1155.
1156.	1157.	1				

CBS
INCHES
HI

67.

46.
4.32
109.63

13.
4.92
124.91

6.
5.00
127.00

639.
5.00
127.00

AC-FT
THOUS CU H

805.
993.

918.
1132.

933.
1151.

933.
1151.

STATION 1, PLAN 1, RATIO 2
END-OF-PERIOD HYDROGRAPH ORDINATES

OUTFLOW											
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
7.	10.	10.	11.	11.	11.	11.	11.	11.	11.	11.	11.
10.	11.	12.	13.	14.	16.	18.	21.	23.	25.	27.	29.
25.	27.	30.	31.	32.	33.	33.	34.	35.	38.	41.	46.
34.	34.	34.	34.	35.	38.	41.	46.	50.	53.	56.	58.
32.	32.	33.	34.	35.	38.	41.	46.	50.	53.	56.	58.
48.	50.	53.	56.	60.	65.	72.	81.	90.	100.	100.	100.
113.	128.	1048.	3385.	4908.	5520.	5716.	5607.	5274.	4817.	4817.	4817.
4311.	3799.	3317.	2938.	2609.	2291.	2003.	1749.	1526.	1331.	1331.	1331.

STORAGE

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.
22.	23.	23.	23.	24.	24.	24.	25.	26.	27.	28.	29.
25.	25.	26.	27.	29.	32.	36.	41.	47.	52.	57.	61.
57.	61.	65.	68.	70.	72.	74.	75.	75.	75.	75.	76.
76.	76.	76.	76.	75.	75.	74.	73.	72.	71.	70.	69.
72.	72.	72.	73.	75.	79.	84.	91.	100.	110.	110.	110.
122.	135.	149.	165.	185.	212.	249.	299.	364.	449.	449.	449.
558.	695.	843.	951.	1002.	1026.	1030.	1026.	1015.	999.	999.	999.
982.	965.	949.	933.	918.	903.	889.	877.	866.	857.	857.	857.

STAGE

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1200.0	1200.2	1200.4	1200.5	1200.7	1200.8	1201.0	1201.1	1201.2	1201.3	1201.3	1201.3
1201.4	1201.5	1201.6	1201.7	1201.8	1201.9	1201.9	1202.0	1202.1	1202.1	1202.1	1202.1
1202.2	1202.2	1202.2	1202.3	1202.3	1202.3	1202.4	1202.4	1202.4	1202.4	1202.4	1202.4
1202.4	1202.5	1202.5	1202.7	1202.9	1203.2	1203.7	1204.2	1204.8	1205.3	1205.3	1205.3
1205.8	1206.3	1206.7	1207.0	1207.3	1207.5	1207.6	1207.7	1207.8	1207.9	1207.9	1207.9
1207.9	1207.9	1207.9	1207.9	1207.8	1207.8	1207.7	1207.7	1207.6	1207.6	1207.6	1207.6
1207.5	1207.4	1207.4	1207.5	1207.8	1208.1	1208.7	1209.5	1210.2	1210.6	1210.6	1210.6
1211.2	1211.7	1212.4	1213.1	1214.0	1215.2	1216.9	1219.1	1221.2	1223.6	1223.6	1223.6
1226.6	1230.3	1233.1	1235.2	1236.1	1236.5	1236.7	1236.6	1236.4	1236.1	1236.1	1236.1
1235.8	1235.4	1235.1	1234.8	1234.5	1234.2	1234.0	1233.7	1233.5	1233.4	1233.4	1233.4

PEAK OUTFLOW IS 5716. AT TIME 43.50 HOURS

PEAK			
5716.	4304.	638.	63792.
162.	122.	18.	1806.
CFS	CHS	INCHES	MM
11.44	13.96	14.13	14.13
290.58	354.70	358.88	358.88
2134.	2605.	2636.	2636.
AC-FT	THOUS CU H	THOUS CU H	THOUS CU H
2633.	3214.	3252.	3252.

PEAK FLOW AND STORAGE (END OF PERIOD) SUMMARY FOR MULTIPLE PLAN-RATIO ECONOMIC COMPUTATIONS
 FLOWS IN CUBIC FEET PER SECOND (CUBIC METERS PER SECOND)
 AREA IN SQUARE MILES (SQUARE KILOMETERS)

RATIOS APPLIED TO FLOWS

OPERATION	STATION	AREA	PLAN	RATIO 1	RATIO 2
				0.50	1.00

HYDROGRAPH AT	1	3.50	1	2907.	5014.
	(	9.07)	(	82.32)	(164.63)

ROUTED TO	1	3.50	1	2354.	5716.
	(	9.07)	(	66.67)	(161.85)

SUMMARY OF DAM SAFETY ANALYSIS

PLAN 1

ELEVATION
STORAGE
OUTFLOW

INITIAL VALUE
1199.80
0.
0.

SPILLWAY CHEST
1199.80
0.
0.

TOP OF DAM
1241.00
1271.
15685.

RATIO
OF
PHF

MAXIMUM
RESERVOIR
W.S.ELEV

MAXIMUM
DEPTH
OVER DAM

MAXIMUM
STORAGE
AC-FT

MAXIMUM
OUTFLOW
CFS

DURATION
OVER TOP
HOURS

TIME OF
MAX OUTFLOW
HOURS

TIME OF
FAILURE
HOURS

0.50
1.00

1234.29
1236.65

0.0
0.0

906.
1030.

2354.
5716.

0.0
0.0

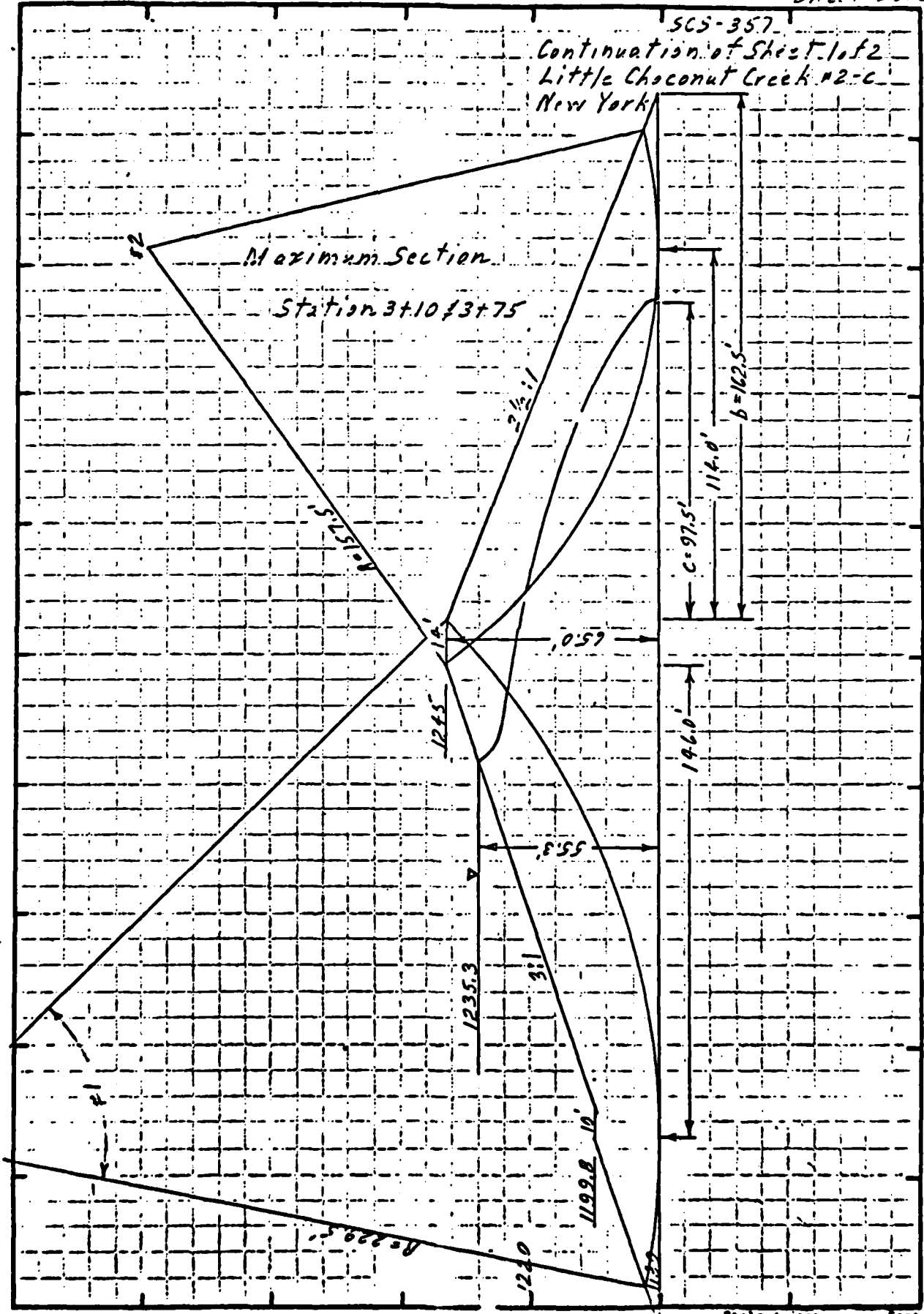
44.50
43.50

0.0
0.0

APPENDIX D
STABILITY COMPUTATIONS

SCS-357

Continuation of Sheet 1 of 2
Little Choconut Creek #2-C
New York

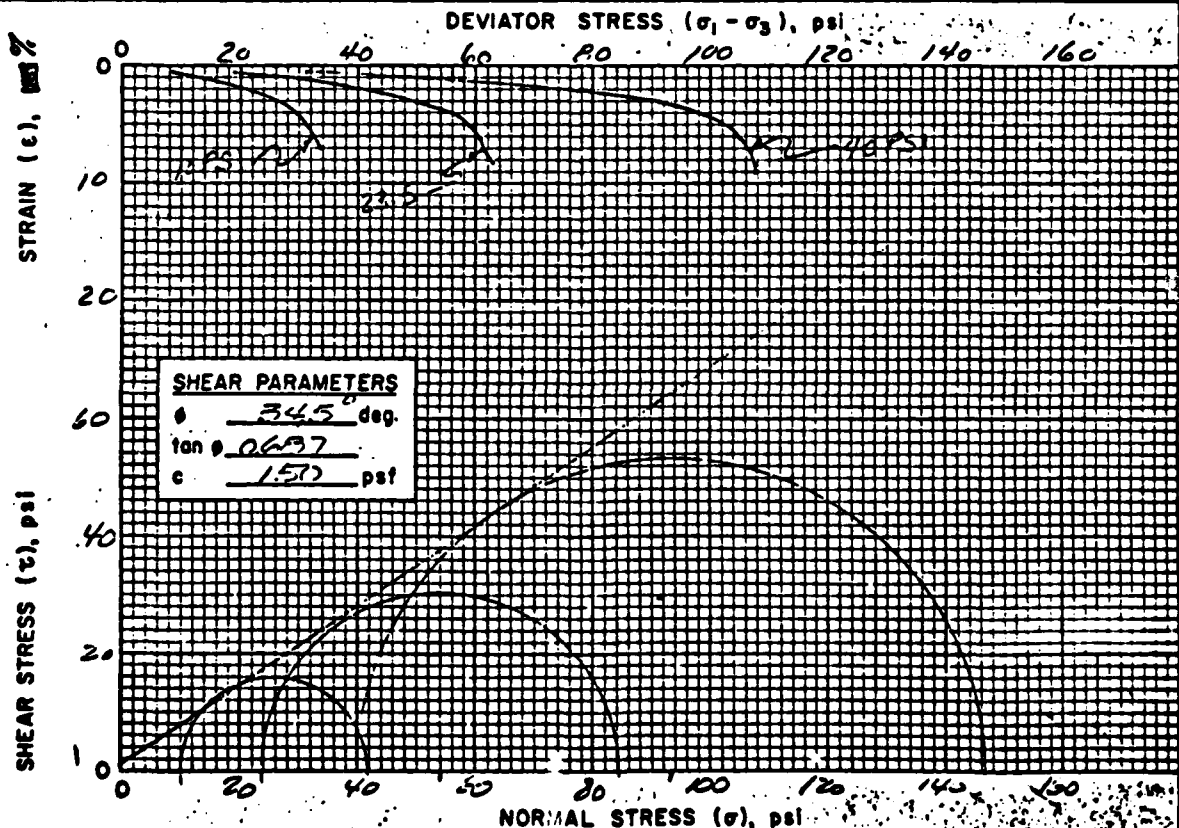


[illegible]

MATERIALS TESTING REPORT **U. S. DEPARTMENT of AGRICULTURE SOIL CONSERVATION SERVICE** **TRIAxIAL SHEAR TEST**PROJECT and STATE LITTLE CHOCONUT CREEK # 20 NEW YORK SAMPLE LOCATION EMERGENCY SPILLWAYFIELD SAMPLE NO. 201.1 DEPTH 2.0 - 10.0' GEOLOGIC ORIGIN GLACIAL TILLTYPE OF SAMPLE DISTURBED TESTED AT LINCOLN APPROVED BY LPD DATE 11-5-65

INDEX TEST DATA				SPECIMEN DATA		TYPE OF TEST
USCS <u>GC GM</u>	LL <u>24</u>	PI <u>5</u>	% FINER (mm): 0.002 <u>6</u> ; 0.005 <u>12</u>	HEIGHT <u>8.0</u> "	DIAMETER <u>4.0</u> "	
	0.074 (#200) <u>40</u>		G _s (+4) <u>2.70</u> ; G _s (+4) <u>2.73</u>	MATERIALS TESTED PASSED <u>3/4"</u> SIEVE		UU ☐
STANDARD: γ_d MAX. <u>116.5</u> pcf; w_0 <u>11.5</u> %			MODIFIED: γ_d MAX. _____ pcf w_0 _____ %	METHOD OF PREPARATION <u>STATIC</u>		CU ☐
				<u>MOLDED IN 4 LIFTS</u>		CU ☒
				MOLDING MOISTURE <u>13.7</u> %		CD ☐
				MOLDED AT _____ % OF γ_d MAXIMUM		

DRY DENSITY		MOISTURE CONTENT, %			TIME OF CONSOLIDATION (hrs.)	MINOR PRINCIPAL STRESS σ_3 (psi)	DEVIATOR STRESS $\sigma_1 - \sigma_3$ (psi)	AXIAL STRAIN AT FAILURE (%)
INITIAL pcf ☒ g/cc ☐	CONSOLIDATED pcf ☒ g/cc ☐	START OF TEST	DEG. OF SAT. AT START OF TEST	END OF TEST				
121.7	122.6	13.7	95.1	12.9	16.83	10	31.7	5.0
123.0	126.1	13.9	100.0	12.6	67.83	23.5	60.9	6.1
123.0	125.5	13.5	97.1	12.5	64.25	40	106.4	7.0

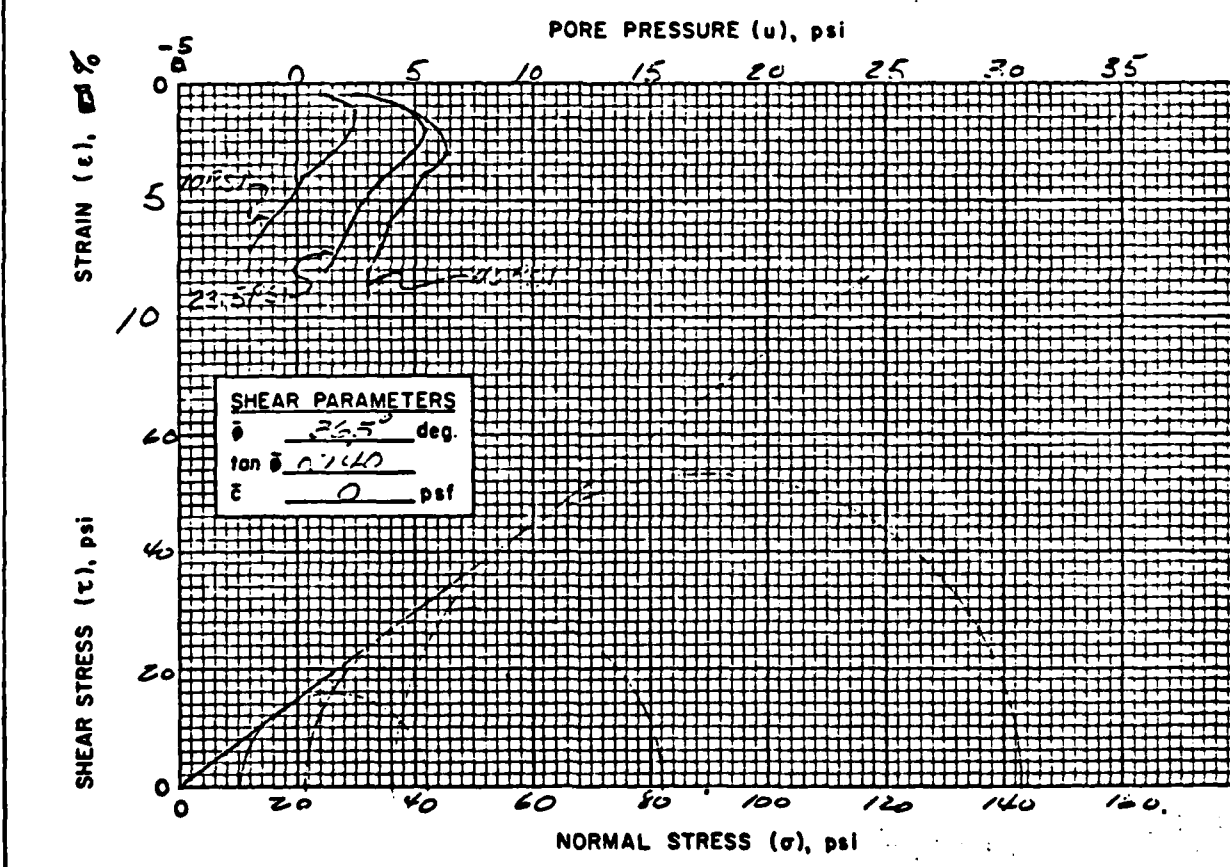


REMARKS

MATERIALS TESTING REPORT	U. S. DEPARTMENT of AGRICULTURE SOIL CONSERVATION SERVICE	TRIAXIAL SHEAR TEST with pore pressure measured
-------------------------------------	--	---

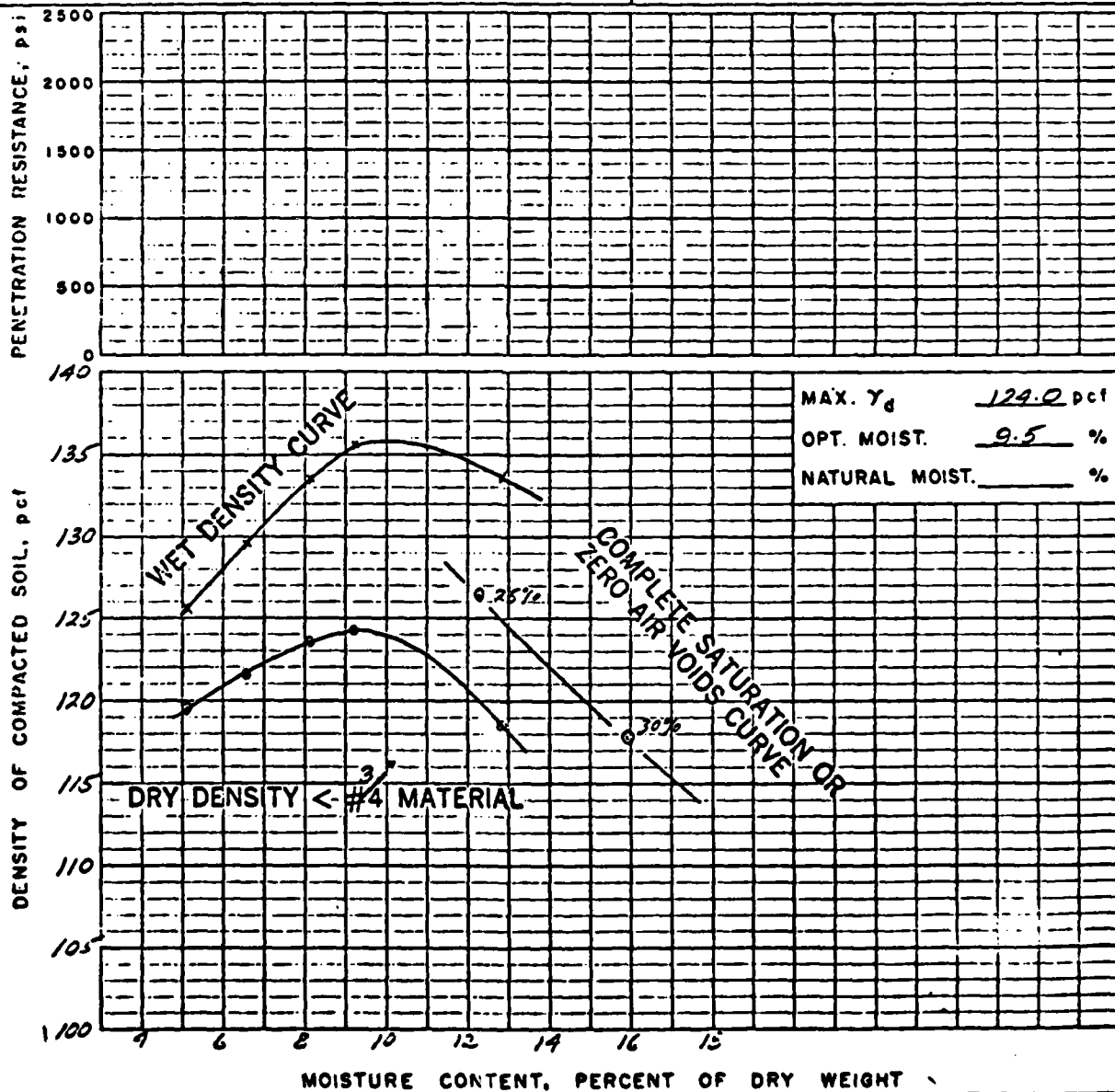
PROJECT AND STATE <u>LITTLE PATENT CREEK NO. 20 NEW YORK</u>	SAMPLE LOCATION <u>EMERGENCY SPILLWAY</u>
TYPE OF SAMPLE	TESTED AT <u>SML LINCOLN</u>
	APPROVED BY <u>LPD</u>
	DATE <u>11-5-65</u>

MINOR PRINCIPAL STRESS, σ_3 (psi)	PORE PRESSURE, u (psi)	EFFECTIVE MINOR PRINCIPAL STRESS, $\bar{\sigma}_3$ (psi)	DEVIATOR STRESS, $\sigma_1 - \sigma_3$ (psi)	FAILURE CRITERIA	STRAIN AT FAILURE, e (%)
12	-0.3	10.3	31.7	Maximum Stress Ratio	5.0
23.5	2.3	21.2	60.8		6.1
40	3.6	36.4	106.4		7.0



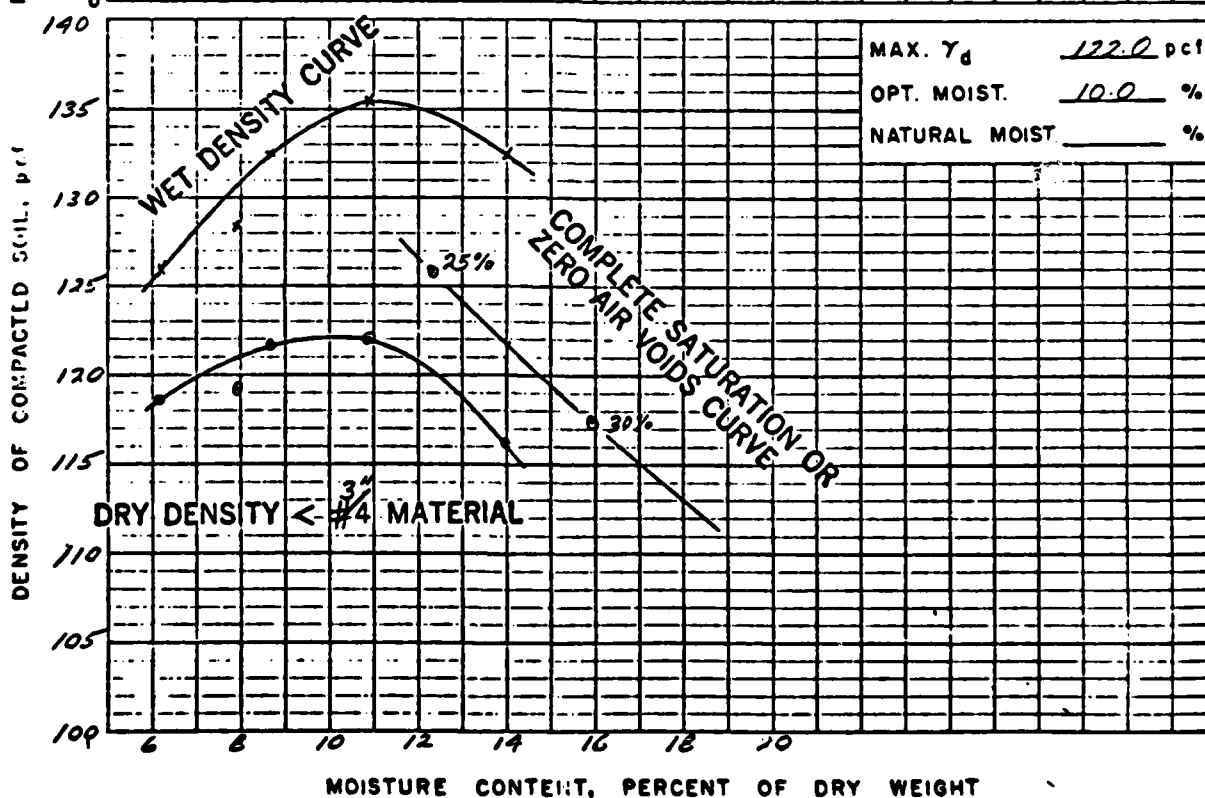
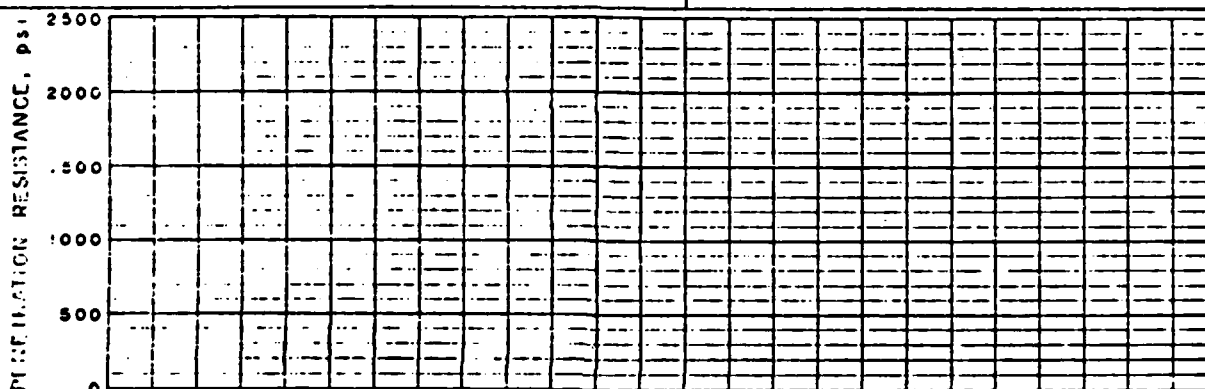
REMARKS

MATERIALS TESTING REPORT		U. S. DEPARTMENT of AGRICULTURE SOIL CONSERVATION SERVICE		COMPACTION AND PENETRATION RESISTANCE	
PROJECT and STATE <u>Little Chocanut Creek #2-C New York</u>					
FIELD SAMPLE NO <u>201.1</u>		LOCATION <u>Emergency Spillway</u>			DEPTH <u>2'-10'</u>
GEOLOGIC ORIGIN <u>Glacial Till</u>		TESTED AT <u>SML Lincoln</u>		APPROVED BY <u>LPD</u>	DATE <u>11-5-65</u>
CLASSIFICATION <u>GC-GM</u> LL <u>24</u> PI <u>5</u>				CURVE NO. <u>1X</u> OF <u>3X</u>	
MAX. PARTICLE SIZE INCLUDED IN TEST <u>< 3/4"</u>				STD. (ASTM D-698) ☒ ; METHOD <u>C</u>	
SPECIFIC GRAVITY (G _s) { MINUS NO. 4 <u>2.70</u> PLUS NO. 4 <u>2.73</u>				MOD. (ASTM D-1557) ☐ ; METHOD _____	
				OTHER TEST ☐ (SEE REMARKS)	



REMARKS

MATERIALS TESTING REPORT		U. S. DEPARTMENT of AGRICULTURE SOIL CONSERVATION SERVICE		COMPACTION AND PENETRATION RESISTANCE	
PROJECT AND STATE <u>Little Chocoma Creek #2-C New York</u>					
FIELD SAMPLE NO. <u>205.1</u>		LOCATION <u>Emergency Spillway</u>		DEPTH <u>2'-13'</u>	
SOURCE OF ORIGIN <u>Glacial Till</u>		TESTED AT <u>SML Lincoln</u>		APPROVED BY <u>LPD</u>	
DATE <u>11-5-65</u>					
CLASSIFICATION <u>GC-GM</u> LL <u>27</u> PI <u>6</u>			CURVE NO. <u>2X</u> OF <u>3X</u>		
MAX. PARTICLE SIZE INCLUDED IN TEST <u>< 9/4"</u>			STD. (ASTM D-698) ☒ METHOD <u>C</u>		
SPECIFIC GRAVITY (G _s) { MINUS NO. 4 <u>2.69</u> PLUS NO. 4 <u>2.74</u>			MOD. (ASTM D-1557) ☐ METHOD _____		
			OTHER TEST ☐ (SEE REMARKS)		



REMARKS

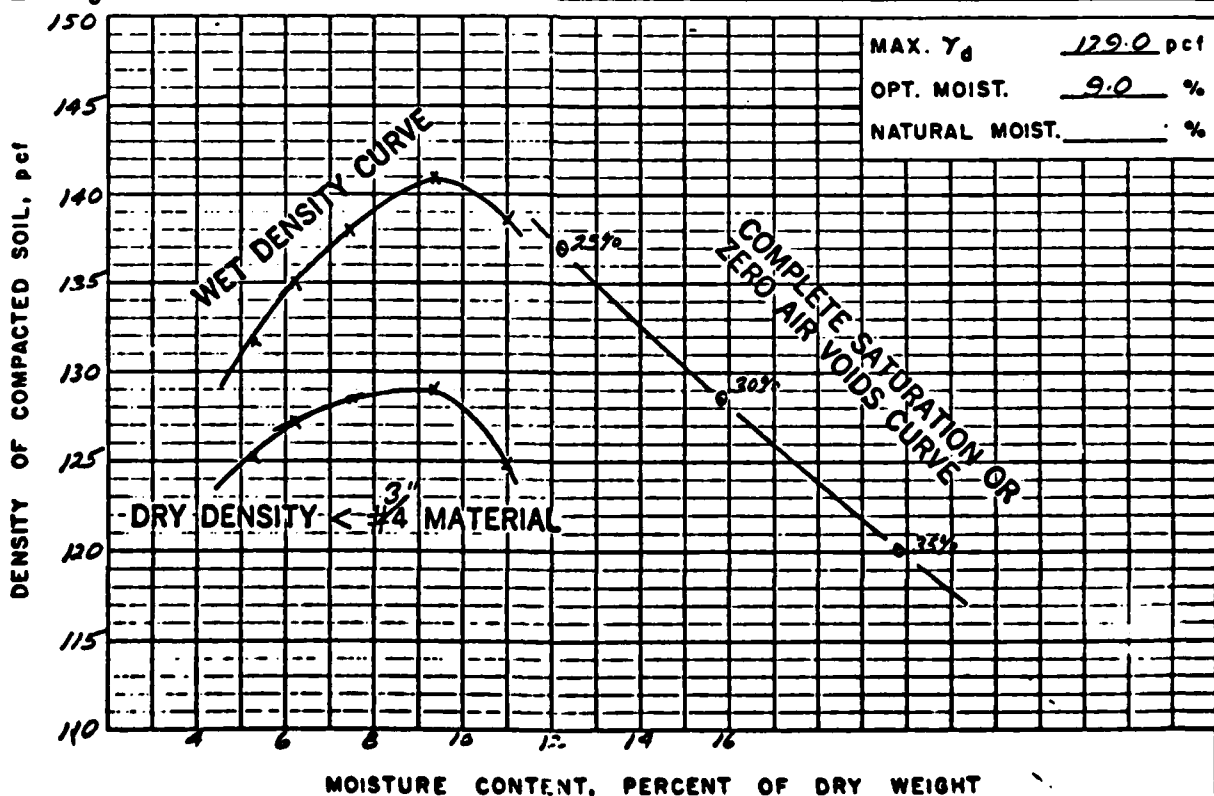
MATERIALS TESTING REPORT	U. S. DEPARTMENT of AGRICULTURE SOIL CONSERVATION SERVICE	COMPACTION AND PENETRATION RESISTANCE
-------------------------------------	--	--

PROJECT and STATE Little Choconut Creek #12C New York

FIELD SAMPLE NO <u>207.1</u>	LOCATION <u>Emergency Spillway</u>	DEPTH <u>2'-10'</u>
---------------------------------	---------------------------------------	------------------------

GEOLOGIC ORIGIN <u>Glacial Till</u>	TESTED AT <u>SML Lincoln</u>	APPROVED BY <u>LPD</u>	DATE <u>11-5-65</u>
--	---------------------------------	---------------------------	------------------------

CLASSIFICATION _____ LL _____ PI _____	CURVE NO. <u>3X</u> OF <u>3X</u>
MAX. PARTICLE SIZE INCLUDED IN TEST <u>< 3/4"</u>	STD. (ASTM D-698) ☒ METHOD <u>C</u>
SPECIFIC GRAVITY (G _s) {	MOD. (ASTM D-1557) ☐ METHOD _____
	OTHER TEST ☐ (SEE REMARKS)
MINUS NO. 4 <u>2.71</u>	
PLUS NO. 4 <u>2.72</u>	



REMARKS

APPENDIX E

REFERENCES

HYDRAULICS

Chow, Ven Te, 1959, Open Channel Hydraulics, McGraw Hill.

King, H.W. and E.F. Brater, 1963, Handbook of Hydraulics, 5th Edition, McGraw-Hill

U.S. Army Corps of Engineers:

HEC-1 Flood Hydrograph Package - Dam Safety Version, September 1978.

Engineering Manual 1110-2-1405; Flood-Hydrograph Analyses and Computations, August 1959.

U.S. Department of Agriculture, Soil Conservation Service:

National Engineering Handbook; Section 4 - Hydrology, August 1972.

U.S. Department of Commerce; Weather Bureau:

Hydrometeorological Report No. 33: Seasonal Variation of the Probable Maximum Precipitation East of the 105th Meridian for Areas from 10 to 1,000 Square Miles and Durations of 6,12,24, and 48 Hours, April 1956.

U.S. Department of the Interior:

BUREC, 1977, Design of Small Dams, 2nd Ed. (rev. reprint).

USGS, 1980, Water Resources Data For New York, Western New York, USGS Water Data Report NY-80-3.

APPENDIX F
PREVIOUS INSPECTION REPORTS

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DAM INSPECTION REPORT
(By Visual Inspection)

<u>Dam Number</u>	<u>River Basin</u>	<u>Town</u>	<u>County</u>	<u>Hazard Class*</u>	<u>Date & Inspector</u>
96A-3619	Susq.	Haire	Broome	B	5/28/76 KDH

Type of Construction

- ☐ Earth w/concrete spillway
☒ Earth w/drop inlet ~~pipe concrete~~
☐ Earth w/stone or riprap spillway
☐ Concrete
☐ Stone
☐ Timber

Use

- ☐ Water Supply
☒ ~~Dam~~ Flood Control
☐ Recreation
☐ Fish and Wildlife
☐ Farm Pond
☐ No Apparent Use-Abandoned

Estimated Impoundment Size

- ☐ 1-5 acres
☐ 5-10 acres
☒ Over 10 acres CS MAX.

Estimated Height of Dam above Streambed

- ☐ Under 10 feet
☐ 10-25 feet
☒ Over 25 feet 59'

Condition of Spillway

- ☒ Service satisfactory
☐ In need of repair or maintenance
☒ Auxiliary satisfactory
☐ In need of repair or maintenance

Explain: _____

Condition of Non-Overflow Section

- ☒ Satisfactory
☐ In need of repair or maintenance Explain: _____

Condition of Mechanical Equipment

- ☒ Satisfactory
☐ In need of repair or maintenance Explain: _____

Evaluation (From Visual Inspection)

- ☒ No defects observed beyond normal maintenance
☐ Repairs required beyond normal maintenance

*Explain Hazard Class, if Necessary _____

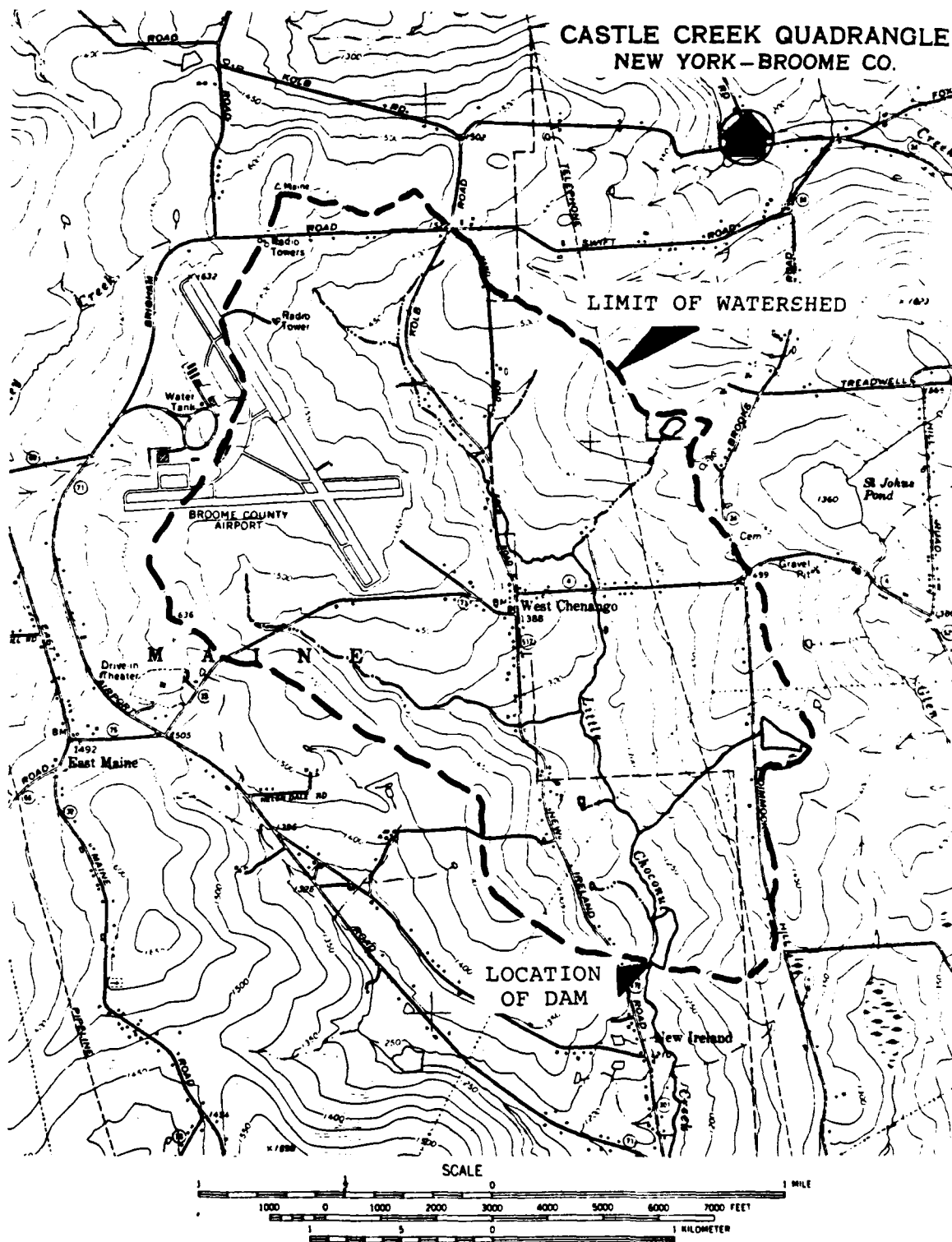
APPENDIX G

DRAWINGS

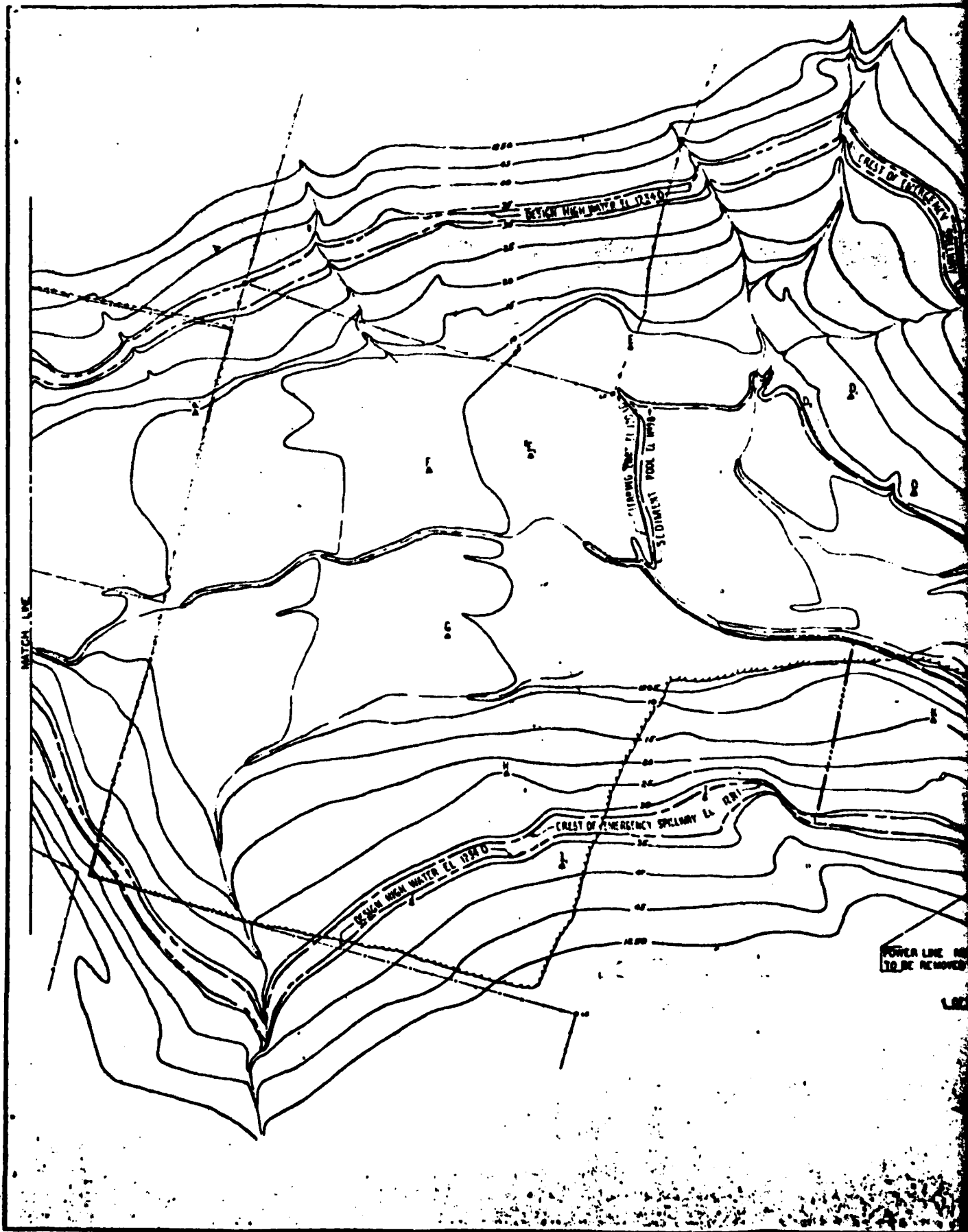
DAM
SITE



VICINITY MAP
LITTLE CHOCONUT WATERSHED SITE 2C DAM
I.D. NO. NY 722



TOPOGRAPHIC MAP
LITTLE CHOCONUT WATERSHED
SITE 2C DAM
I.D. No. NY 722

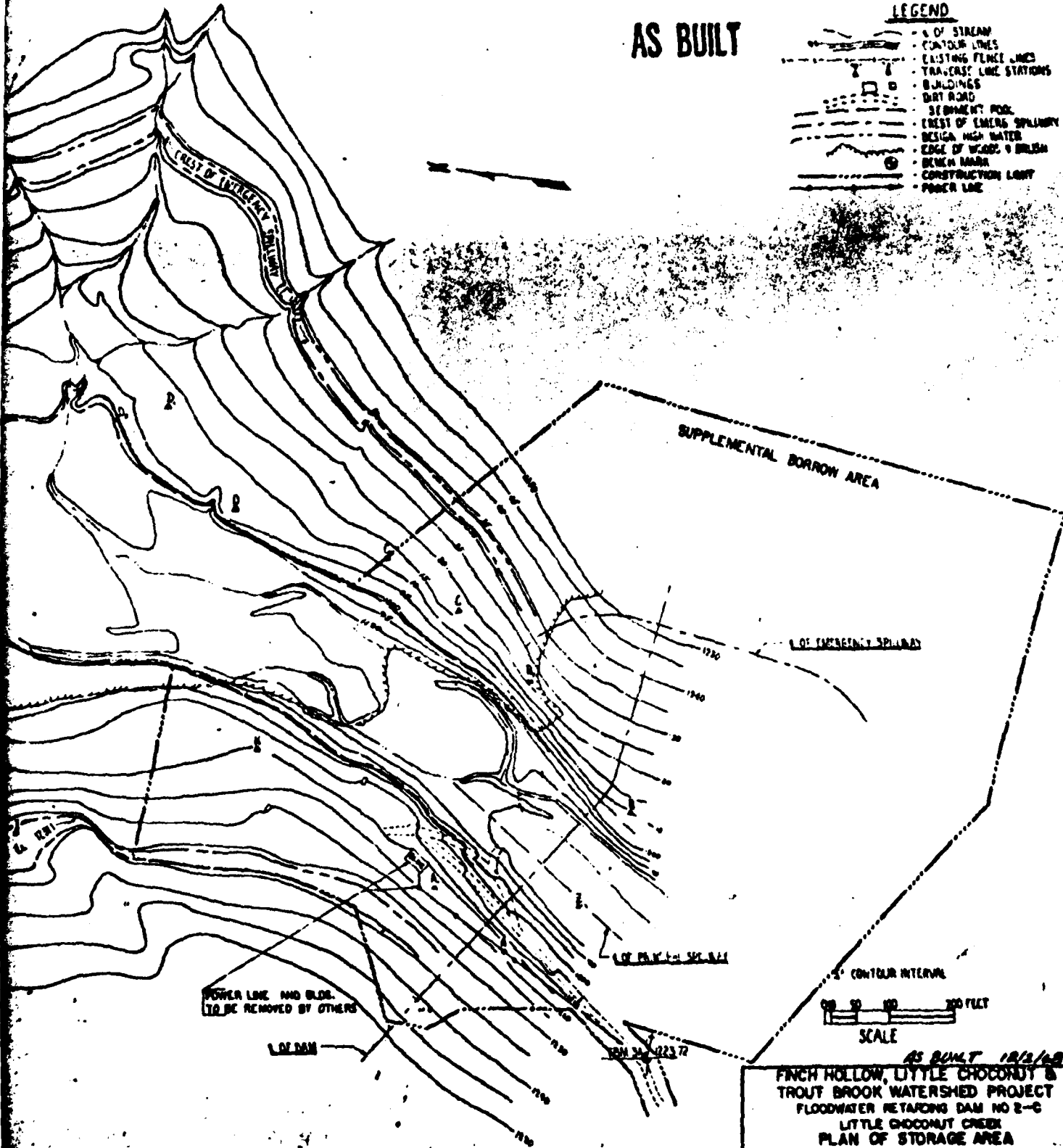


POWER LINE
TO BE REMOVED

AS BUILT

LEGEND

- OF STREAM
- CONTOUR LINES
- EXISTING FENCE LINES
- TRAILER LINE STATIONS
- BUILDINGS
- DIRT ROAD
- SEDIMENT POND
- CREST OF EMBANKMENT
- DESIGN HIGH WATER
- EDGE OF WOODS & BRUSH
- BENCH MARK
- CONSTRUCTION LIGHT
- POWER LINE



FINCH HOLLOW, LITTLE CHOCONUT &
TROUT BROOK WATERSHED PROJECT
FLOODWATER RETARDING DAM NO 2-C
LITTLE CHOCONUT CREEK
PLAN OF STORAGE AREA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

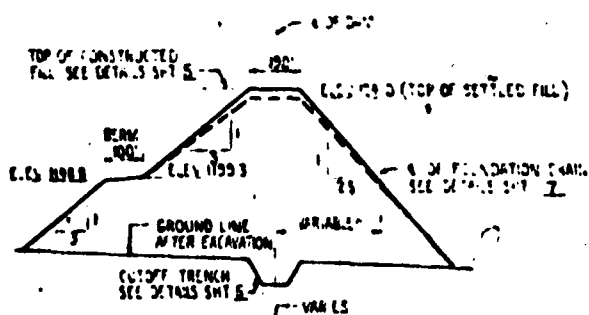
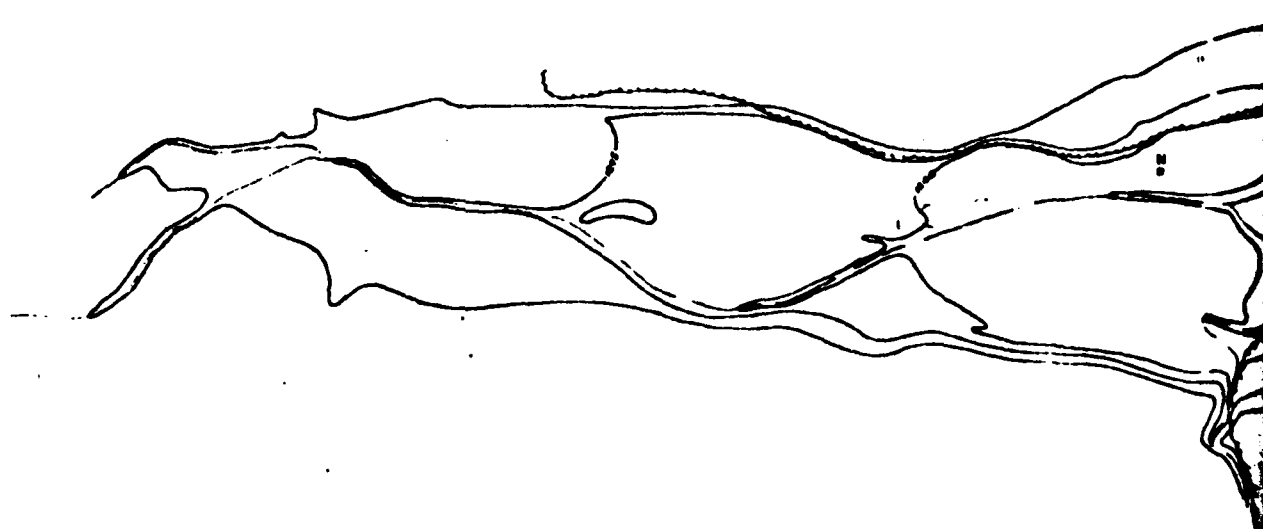
DESIGNED BY	L. HORTON	DATE	10/68
DRAWN BY	J. BLICK	DATE	10/68
CHECKED BY	W. VILVER	DATE	10/68
APPROVED BY	J. H. BULL	DATE	10/68
PROJECT NO.	NY-2016	DATE	10/68

GENERAL NOTES

1. AREAS UNDER DAM, DYE, EMERGENCY SPILLWAY AND SUPPLEMENTAL BORROW AREA TO BE CLEARED AND GRUBBED. LIMITS TO BE CLEARED AND GRUBBED SHALL BE AS STATED IN THE FIELD BY THE ENGINEER (SPEC. 8A)
2. AREA UPSTREAM FROM DAM AND BELOW ELEVATION 1201.0 (HGL) AND DESIGNATED WASTE AREAS SHALL BE CLEARED. LIMITS OF AREA TO BE CLEARED SHALL BE AS STATED IN THE FIELD BY THE ENGINEER (SPEC. 8B)
3. BOTTOM SECTION OF EMERGENCY SPILLWAY FROM STATION 445 TO STATION 4+25 TO BE COVERED WITH 12" OF TOPSOIL. ALL ADDITIONAL TOPSOIL THAT IS SUITABLE FOR USE WILL BE INCORPORATED WITHIN THE SLOPES OF THE EARTHFILL AS DIRECTED BY THE ENGINEER

INSTRUCTIONS FOR FOUNDATION AND ABUTMENT

1. AFTER STRIPPING EXCAVATE THE FLOOD PLAIN SETS FROM WITHIN THE LIMITS OF THE FOUNDATION OF THE DAM (COMMON ELEVATION) THE LIMITS AND DEPTHS OF THE EXCAVATION TO BE DETERMINED BY CONSTRUCTION BY THE ENGINEER IN THE FIELD
2. ABUTMENTS SHALL BE SLOPED TO 8:1 OR FLATTER (COMMON ELEVATION)



TYPICAL SECTION OF DAM

NOT TO SCALE

EARTH FILL REQUIREMENTS					
MATERIAL	MIN. ROCK SIZE	MAX. LIFT	REDUCED WATER CONTENT	COMPACTION	
DATA GAINED FROM EMERGENCY SPILLWAY & SUPPLEMENTAL BORROW AREA REPRESENTED BY TO 1' FROM 10' TO 12' TO 20' FROM 10' TO 12' TO 2' FROM 10' TO 12'	6"	4"	2 PERCENTAGE PTS. BELOW TO 2 PERCENTAGE PTS. ABOVE OF "M.M."	CLP 3	95% ABS

1. MAXIMUM LIFT THICKNESS PRIOR TO COMPACTION
 2. WATER CONTENT AT TIME OF COMPACTION
 3. FOR TYPICAL COMPACTION CURVES SEE SHEET 2
- NOTE: THE FOUNDATION SURFACE THROUGH THE SPILLWAY OF THE DAM SHALL BE GRADED TO A DEPTH OF 6' MIN. AND COMPACTED PRIOR TO PLACEMENT OF FILL MATERIAL

FOR FOUNDATION AND ABUTMENT TREATMENT

AS BUILT

NOTE - FOR LEGEND SEE SHEETS

STRIPPING (EARTH, THE FLOOD PLAN FROM WITHIN THE LIMITS OF THE FOUNDATION OF DAM (COMMON EXCAVATION) THE LIMITS OF THE EXCAVATION TO BE DETERMINED AT THE TIME CONSTRUCTION BY THE ENGINEER IN THE FIELD (LIMITS SHALL BE SLOPED TO 8:1 OR FLATTER FOR EXCAVATION)



SHEET	RED WATER CONTENT	COMPACTION	
		CLP-S	DEFINITION
1	2 PERCENTAGE PTS BELOW TO 2 PERCENTAGE PTS ABOVE OF 100%	A	95% MAX DENSITY BY ASTM D698, METHOD C

5' CONTOUR INTERVAL



SCALE

AS BUILT 12/2/68

FINCH HOLLOW, LITTLE CHOCONUT & TROUT BROOK WATERSHED PROJECT
FLOODWATER RETARDING DAM NO 2-C
LITTLE CHOCONUT CREEK
PLAN OF STORAGE AREA

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Designed by J. M. ZUPLO	Drawn by W. POLTON	Checked by J. M. ZUPLO	Approved by J. M. ZUPLO
NY-2018-P			

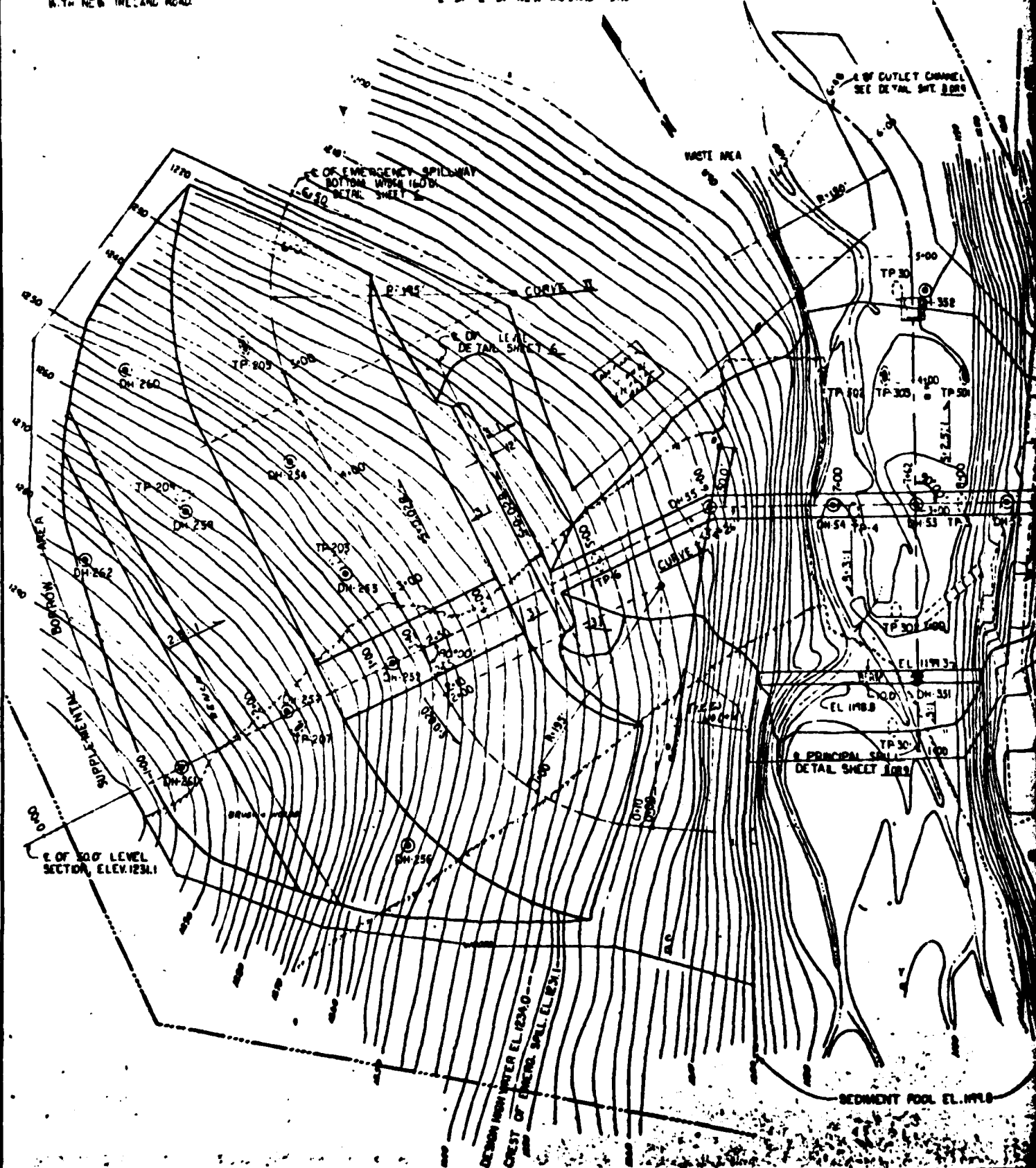
NO. 2018-P

NO. 2018-P
SHEET 2
THE SPACE BETWEEN
A DEPTH OF 6 INCHES
OF THE MATERIAL

275 ALONG DSH WINDAL ON NORTH SIDE OF
UTILITY POLE 2.3 ABOVE GROUND 330'
NE ALONG DIRT ROAD FROM INTERSECTION
W/TH NEW IRELAND ROAD

SCS ALUM DISC 8" DIA. H. 26" L.B.M.
WHITE PINE 15' ABOVE GROUND 22" N
OF UTILITY POLE E 161-8" AND 30 FT.
E OF S. OF NEW HAVEN ROAD

451: 452



AS BUILT

LEGEND

- DESIGN HIGH WATER
- CREST OF EMERG. SPILL.
- SEDIMENT POOL
- E. OF STREAM
- CONTOUR LINES
- WOODS LINE
- BENCH MARK
- TRAVERSE STATIONS
- DIRT ROAD
- BUILDINGS
- SPUR ROAD
- DRILL HOLE
- TEST PIT
- TEST PIT
- CONSTRUCTION LIGHT
- POWER LINE

LAYOUT DATA

CURVE I

Δ 56° 46' T 109.80
 R 195' E 28.19
 D 29° 23' M 23.08
 L 200'

E. STATION	DEFLECTION	DIST. FROM PC
2+00	0	0
1+85	3° 40'	21.94
1+60	7° 21'	49.89
1+35	11° 01'	74.23
1+10	14° 41'	98.86
0+85	18° 22'	122.89
0+60	22° 02'	146.31
0+35	25° 42'	169.19
0+10	29° 23'	191.35

LAYOUT DATA

CURVE II

Δ 51° 24' T 93.85
 R 195' E 21.41
 D 29° 23' M 19.24
 L 174.95'

E. STATION	DEFLECTION	DIST. FROM PC
4+75	0	0
4+50	3° 40'	21.94
4+25	7° 21'	49.89
4+00	11° 01'	74.23
3+75	14° 41'	98.86
3+50	18° 22'	122.89
3+25	22° 02'	146.31
3+00	25° 42'	169.19

0 10 25 50 100 FEET
SCALE

AS BUILT 10/2/60
 FINCH HOLLOW, LITTLE CHOCONUT &
 TROUT BROOK WATERSHED PROJECT
 FLOODWATER RETARDING DAM NO 2-C
 LITTLE CHOCONUT CREEK
 PLAN OF STRUCTURAL WORKS

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

DESIGNED BY	DATE	APPROVED BY	DATE
W. C. HOBBS	3/60		
W. C. HOBBS	3/60		
W. C. HOBBS	3/60		
W. C. HOBBS	3/60		

2' CONTOUR INTERVAL

1280

1260

1240

1220

1200

1180

1+00

2+00

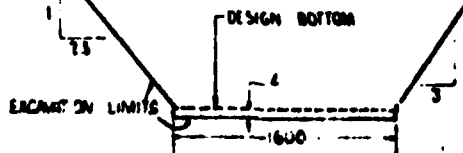
3+00

4+00

5+00

PROFILE ALONG CENTERLINE
(FACING DAM)

0 10 20 30 40 50 60 70 80 90 100
HORIZONTAL SCALE IN FEET



TYPICAL SECTION OF EMERGENCY SPILLWAY @ A OF LEVEL SECTION
(TYPICAL FROM STA 1+75 TO STA 2+25 EXCAVATION LIMITS TO DESIGN BOTTOM FROM STA 0+32 TO STA 1+25)

NOTE:
FOR TYPICAL SECTION OF LEVEL
ALONG EMERGENCY SPILLWAY
EXIT CHANNEL SEE SHEET 5

ELEV 1231

160.0'

ELEV 1230

TP-6

(6M)

ORIGINAL

APPROXIMATE STRIPPED GROUND LINE

APPROXIMATE BOTTOM OF CUTTING
TRENCH. FINAL DEPTH TO BE
DETERMINED IN THE FIELD AT THE
TIME OF CONSTRUCTION BY
THE ENGINEER

STRIPPED GROUND



SECTION OF CUTTING TRENCH AT
STA 6+00 TYPICAL FROM STA 4+40
TO 5+50 AND 8+50 TO 10+40



SECTION OF CUTTING TRENCH
STA 6+75 TYPICAL FROM STA
5+50 TO 7+00 AND 8+50 TO 9+50

OF EMERGENCY SPILLWAY
@ A OF DAM STA 3+40

1231

(6M)

(6M)

(6M)

(6M)

(6M)

(6M)

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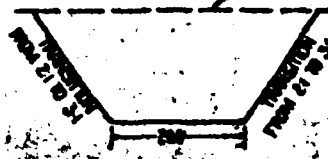
(6M)

(6M)

AS BUILT



SECTION OF DITCH TRENCH AT STA 6-75 TYPICAL FROM STA 6-50 TO 7-00 AND 8-50 TO 9-50

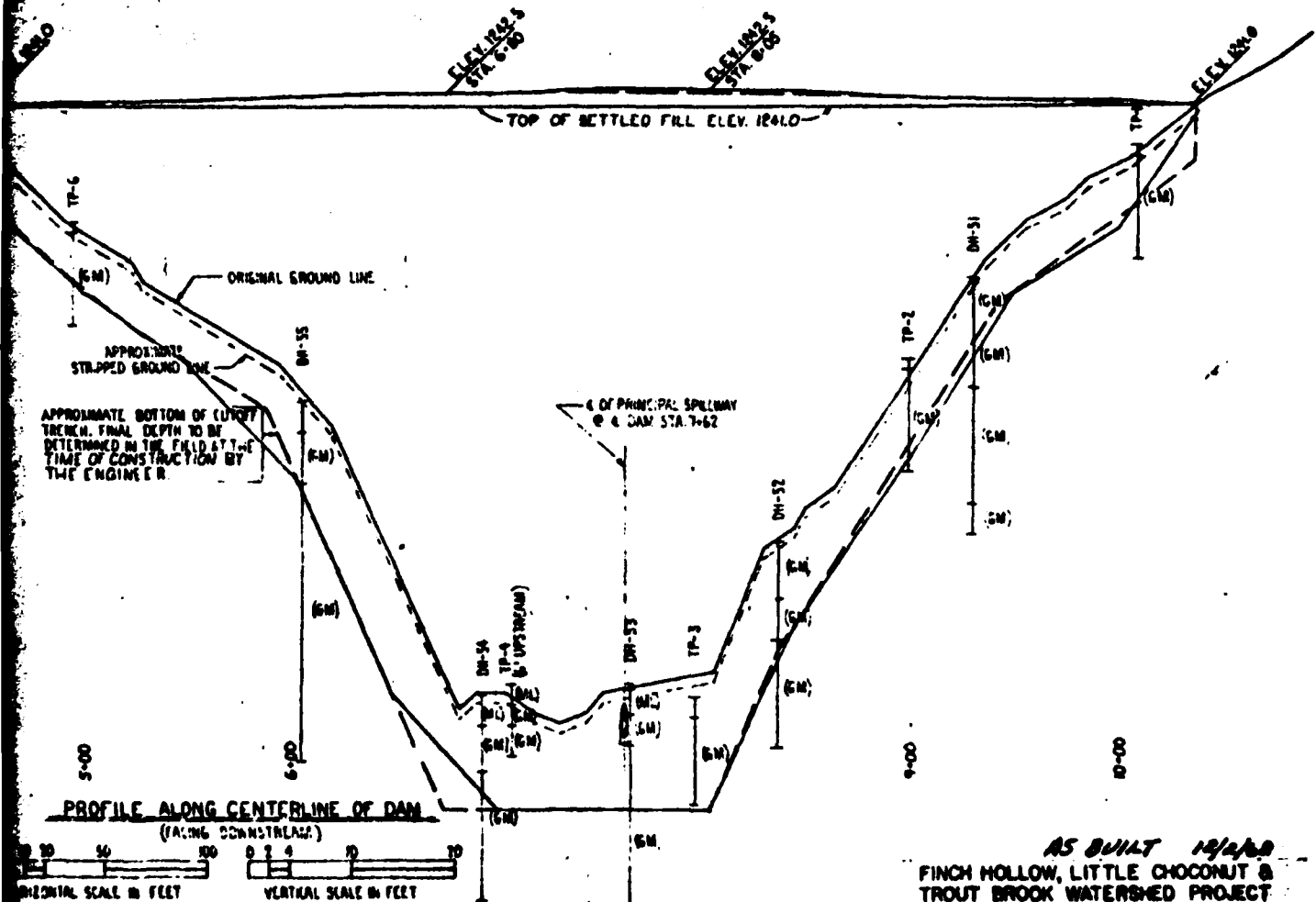


SECTION OF DITCH TRENCH AT STA 8-00 TYPICAL FROM STA 7-00 TO 7-50 AND 7-75 TO 8-00

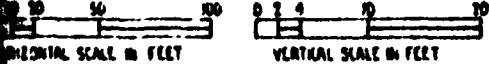


SECTION OF DITCH TRENCH AT STA 7-62 TYPICAL FROM STA 7-50 TO 7-75

CONSTRUCTION ELEVATIONS

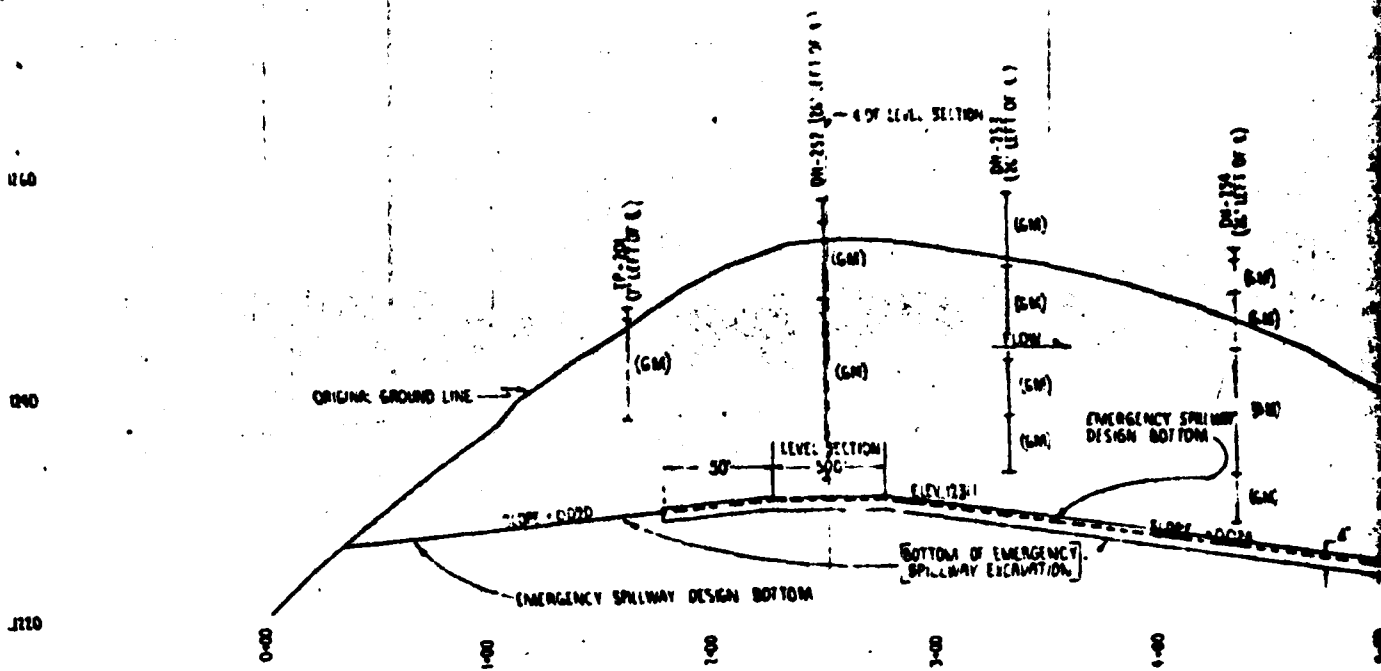


PROFILE ALONG CENTERLINE OF DAM
(FACING DOWNSTREAM)

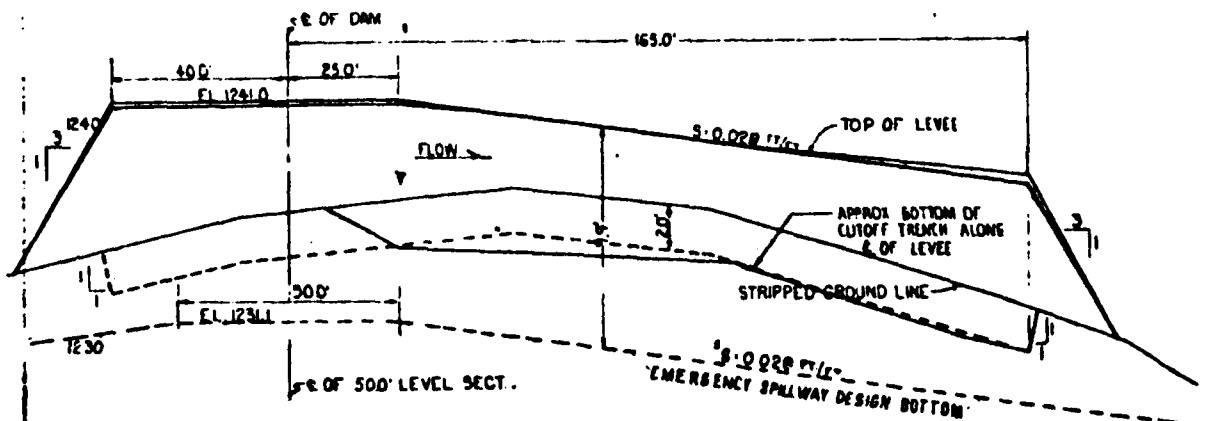
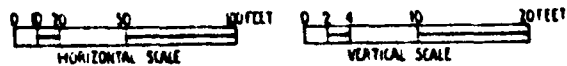


AS BUILT 12/2/68
FINCH HOLLOW, LITTLE CHOCONUT &
TROUT BROOK WATERSHED PROJECT
FLOODWATER RETARDING DAM NO. 2-C
LITTLE CHOCONUT CREEK
PROFILES

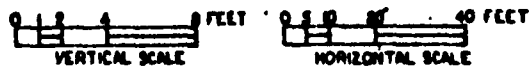
J. M. DAVIS 1/68
D. YOUNG 2/68
J. M. DAVIS 7/68 NY-508-4



PROFILE ALONG 4 OF EMERGENCY SPILLWAY

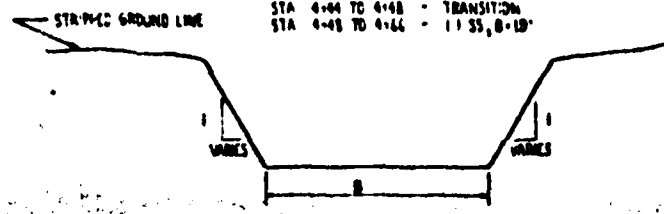


PROFILE ALONG 6 OF LEVEE

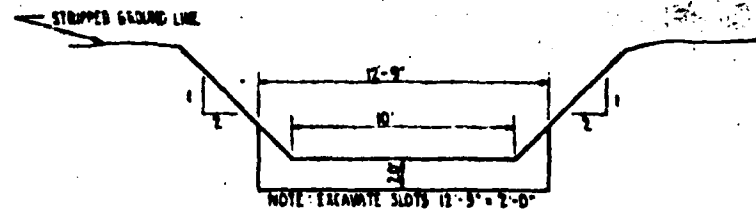


AS BUILT

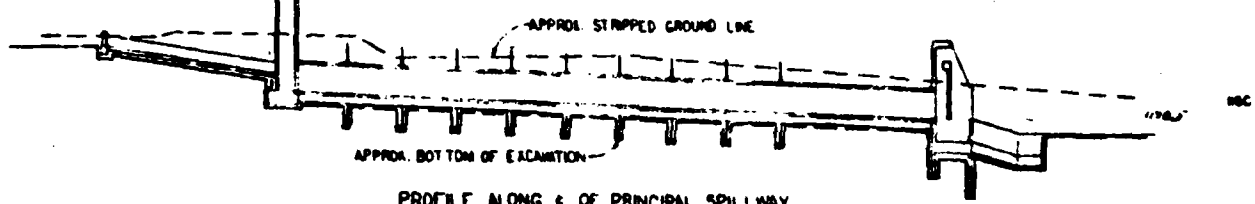
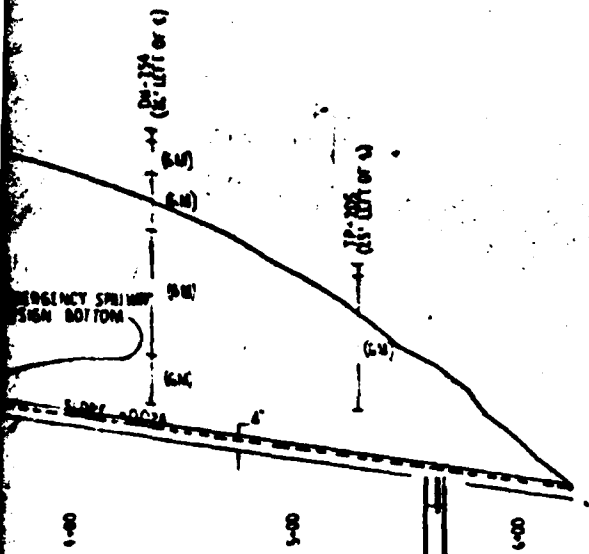
STA 1+00 TO 1+10 - 2:1 SS, 8'-10"
 STA 1+10 TO 1+15 - TRANSITION
 STA 1+15 TO 3+96 - 2:1 SS, 8'-10"
 STA 3+96 TO 4+44 - 4:1 SS, 8'-10"
 STA 4+44 TO 4+68 - TRANSITION
 STA 4+68 TO 4+86 - 1:1 SS, 8'-10"



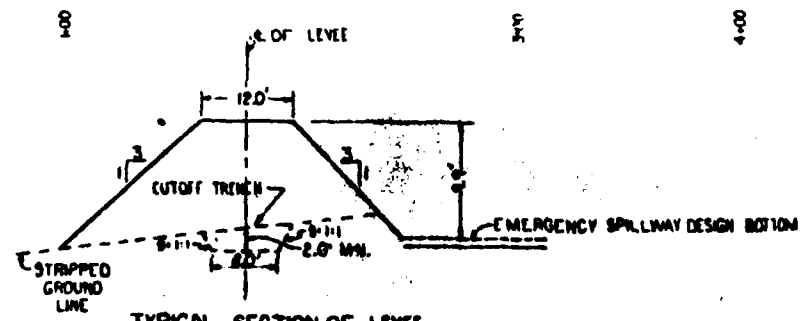
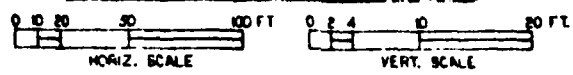
TYPICAL SECTION OF PRINCIPAL SPILLWAY EXCAVATION



PRINCIPAL SPILLWAY EXCAVATION AT ANTI-SLOPE COLLARS



PROFILE ALONG C OF PRINCIPAL SPILLWAY



**TYPICAL SECTION OF LEVEE
(ALONG EMERGENCY SPILLWAY CHANNEL)**

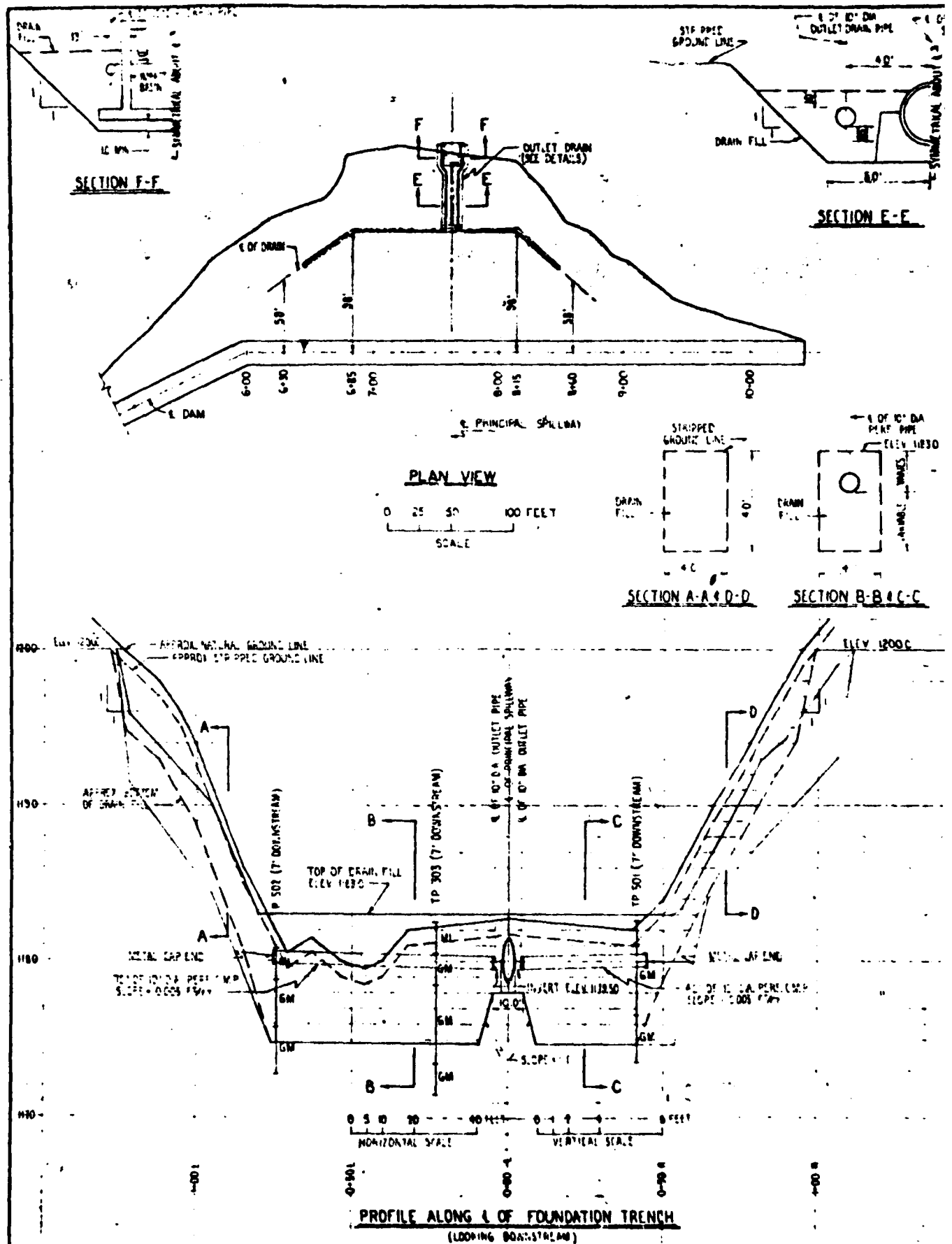
AS BUILT 1944/45
 FINCH HOLLOW, LITTLE CHOCONUT &
 TROUT BROOK WATERSHED PROJECT
 FLOODWATER RETARDING DAM NO 2-C
 LITTLE CHOCONUT CREEK
 PROFILES

U.S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE

L. HIBBON
 J. HUER
 W. YOLTON

1/56
 2/56

J. M. ZURLO
 7/56
 NY-2018-P



AD-A109 797

METCALF AND EDDY OF NEW YORK INC NY

F/G 13/13

NATIONAL DAM SAFETY PROGRAM. LITTLE CHOCONUT WATERSHED SITE 2C --ETC(U)

SEP 81 G P FULTON

DACW51-81-C-0044

NL

UNCLASSIFIED

2 of 2

AD-A

10-9-79



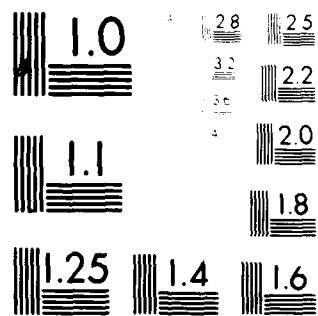
END

DATE

FILED

02-82

DTIC



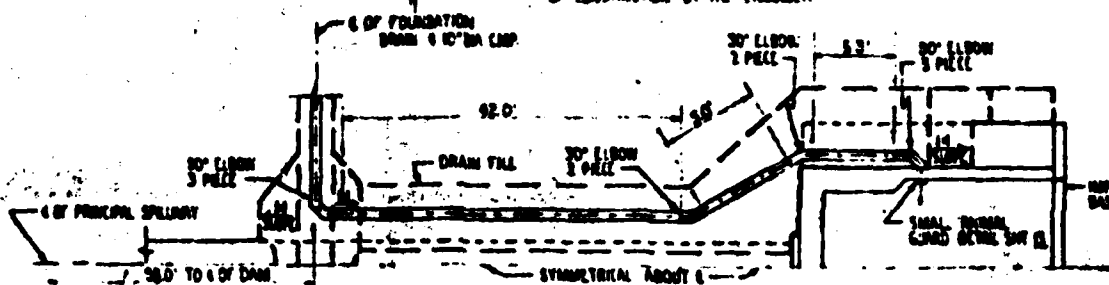
MICROCOPY RESOLUTION TEST CHART
NBS 1010-A

AS BUILT

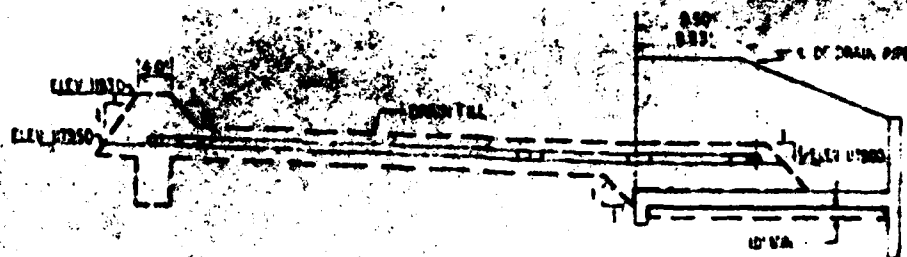
DRAINAGE SYSTEM NOTES

1. ALL DRAIN PIPE SHALL CONFORM TO SPECIFICATION NO. 100 SHALL BE 12" DIA. SHARP 1" CLASS 1 MANHOLE OR CLASS 2 MANHOLE TYPE A FULLY BITUMINOUS COATED PERFORATED PIPE.
2. USE A MINIMUM OF 2" OF DRAIN FILL AROUND PIPE.
3. THE PROFILES OF THE BOTTOM OF ALL EXCAVATIONS AS SHOWN ARE ONLY APPROX. THE REQUIRED FINISHED GRADES WILL BE ESTABLISHED IN THE FIELD AT THE TIME OF CONSTRUCTION BY THE ENGINEER.

SECTION E-E



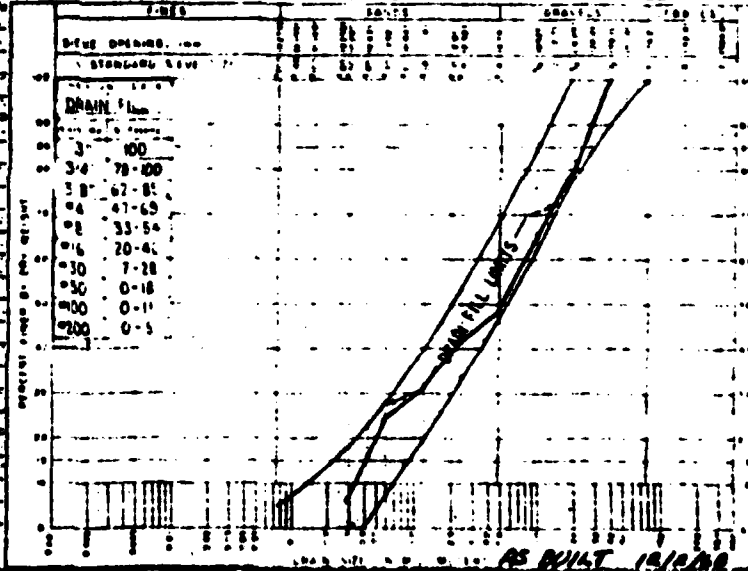
PLAN OF OUTLET DRAIN
(NOT TO SCALE)



TYPICAL SECTION ALONG OUTLET DRAIN

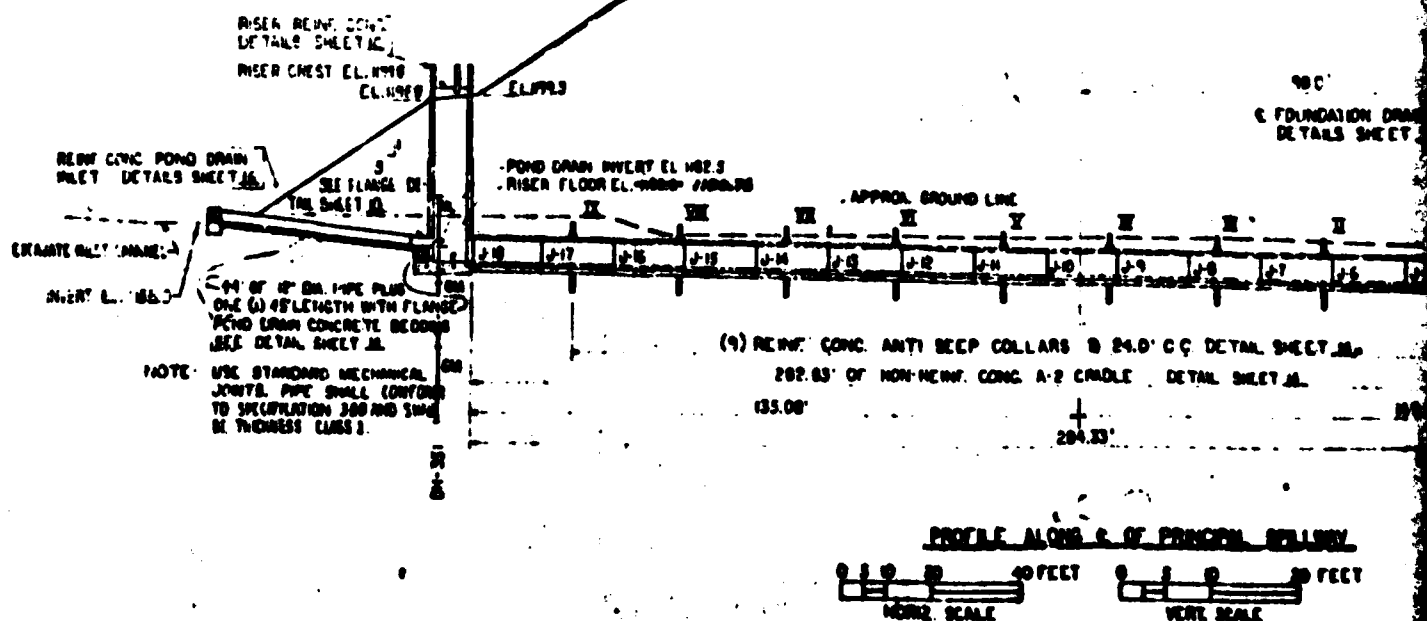
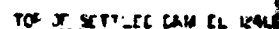
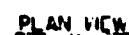
SECTION B-B & C-C

GRAIN SIZE DISTRIBUTION GRAPH FOR DRAIN FILL

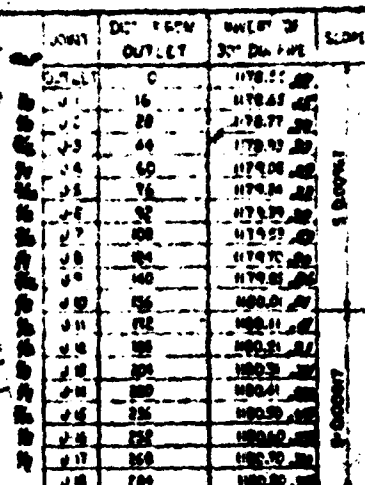


FROM HOLLOW, LITTLE CHOONUT &
TROUT BROOK WATERSHED PROJECT
FLOODWATER RETARDING DAM NO 2-C
LITTLE CHOONUT CREEK
DRAINAGE SYSTEM DETAILS
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

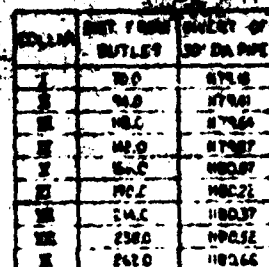
BY L. H. BOSTON 6/56
BY W. VOLTON 6/56
BY J. M. ZURLO 7/56 NY-2018-P



2 OF BUTLEY CHAMBER.
BOTTOM BOTH W
APPROX LENGTH 212
BOTTOM SLOPE 11.22
SIDE SLOPE 11.22



NOTE ABOVE DIMENSIONS FOR
LENGTHS OF PNE AND PNE-2
NORMAL LENGTHS AND WEIGHT
BELLER CREW



2' 12" NEAR WATER PIPE
 2' 12" 2 SECTIONS
 2' 12" 1 SECTION
 2' 12" 1/2" BALL FITTING FOR 12" WALL
 2' 12" 1/2" 285.93
 2' 12" 1/2" 52
 2' 12" 1/2" 1/2" PER LIN FT BASED ON O.D. OF 317
 2' 12" 1/2" 1/2" STRENGTH FOR JOCK CRACK
 2' 12" 1/2" 1/2" PER LIN FT FOR PRESTRESSED FOL
 2' 12" 1/2" 1/2"

PAINT OUTSIDE OF SPRAY RING WITH CONCRETE
PROTECTANT.

2. LIPRAID ALONG OUTLET CHANNEL SHALL BE WELL GRADED FROM A MAX. SIZE OF 24" TO A MIN. OF 3" AND SHALL BE Laid ON 12" OF BEDDING.

GRADUATING SHALL MEET THE GRADUATION REQUIREMENTS
FOR DEGREE AS SHOWN ON SHEET 2

IMPACT BASIN, PLANT CORE
DETAILS SHEET 12

-DVL 47 LL 11725
-LL 471

1.011'W RIPPED 3.0'
ABOVE CHANNEL BOTTOM

USE THIS SHEET FOR PIPE CONDUITS
PLANNED IN 5.0' SECTIONS

**FINCH HOLLOW, LITTLE CHOCONUT &
TROUT BROOK WATERSHED PROJECT
FLOODWATER RETARDING DAM NO 2-C
LITTLE CHOCONUT CREEK
PLAN-PROFILE OF PRINCIPAL SPILLWAY**

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

L. MONTSON
in ZORAARD

2. ANSWERS

J W DAVIS

NY-2000-4

1970 5 3 11 4 30 1970



NOTE
ENTIRE TRASH PACH EXCEPT
ALUMINUM GRATING TO BE
GALVANIZED IN ACCORDANCE WITH
SPEC 119



RISE R TRASH RACK DETAILS

BILL OF MATERIALS

LOCATION	ITEM	SIZE	LENGTH	QUAN
100.0	1/2" DIA. BOLT	1/2"	10.0	20
100.0	1/2" DIA. NUT	1/2"	10.0	20
100.0	1/2" DIA. WASHER	1/2"	10.0	20
100.0	1/2" DIA. PIPE	1/2"	10.0	20

AS BUILT

1/2" DIA. BOLT
THREADED PORTION
2" EACH END

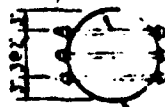
SHOULDER ON
ANGLE IRON

BOLT DETAIL N° 1

1/2" Dia. Bolts
w/ Max Nut And Washers
N° Long

1 1/2"

Drill 1/2" Dia
Holes



10" Dia Pipe

SMALL ANIMAL GUARD DETAILS

AS BUILT 10/2/68

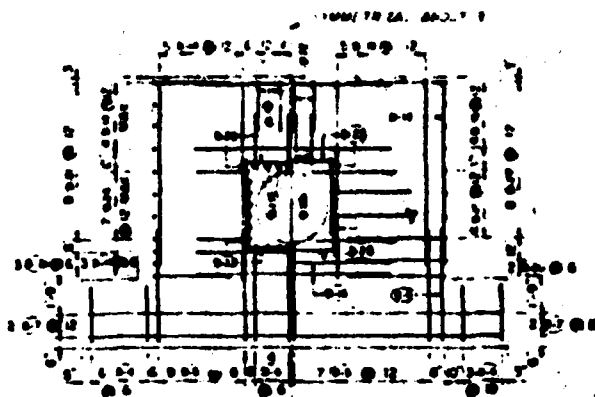
FINCH HOLLOW, LITTLE CHOCONUT &
TROUT BROOK WATERSHED PROJECT
FLOODWATER RETARDING DAM NO 2-C
LITTLE CHOCONUT CREEK
TRASH RACK & SMALL ANIMAL GUARD DETAILS
U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

L. MITCHELL
D. ANGEL

6/20
6/20

6/20
6/20

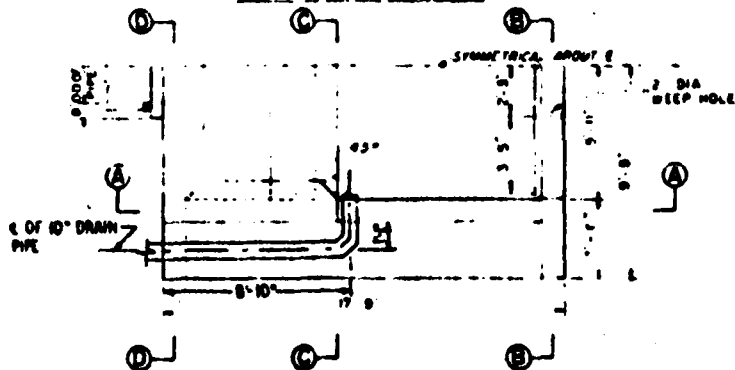
NY-2018-P



PLAN OF FLOOR SLAB TOP FACE

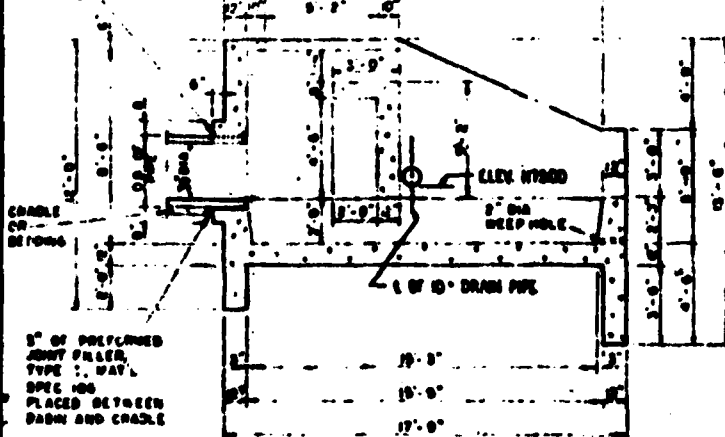
SYMMETRICAL ABOUT E

PLAN OF FLOOR SLAB TOP FACE

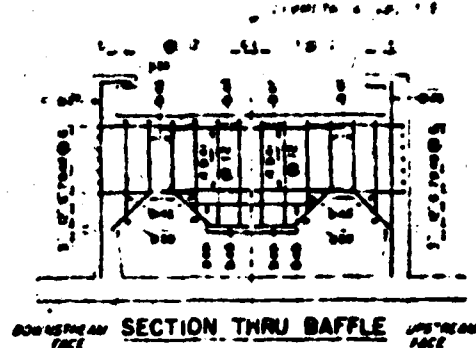


PLAN VIEW

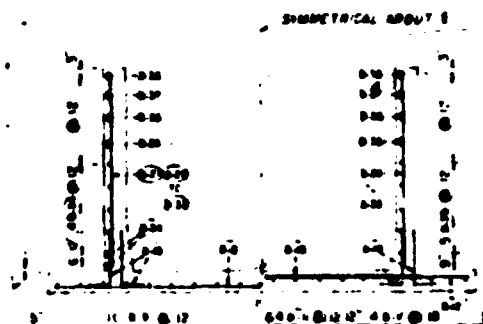
1/2 PREFORMED JOINT FILLER, TYPE 2, MAY BE SPEC FOR PLACED BETWEEN DRAIN AND CHAIR



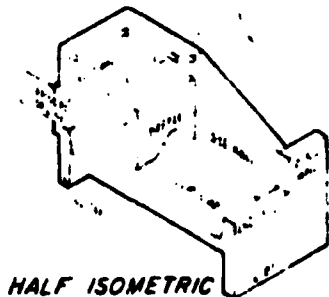
SECTION ON E



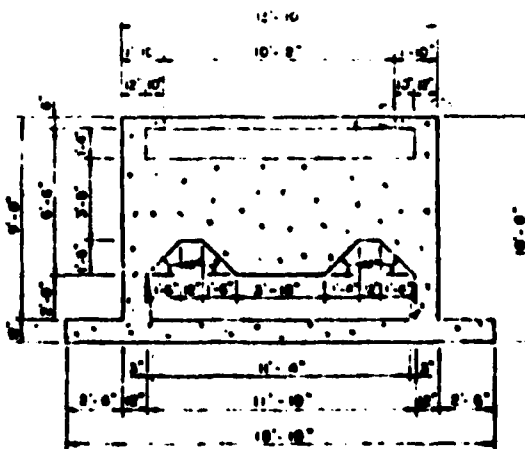
SECTION THRU BAFFLE



SECTION C-C



HALF ISOMETRIC



SECTION THRU BAFFLE

