

**SITE PLAN FOR THE
HURRICANE ISLAND REACH**

**DREDGED MATERIAL MANAGEMENT PLAN
WITH INTEGRATED ENVIRONMENTAL ASSESSMENT**

**POOL 11
DUBUQUE COUNTY, IA AND GRANT COUNTY, WI
UPPER MISSISSIPPI RIVER, RIVER MILES 591-608**

FINAL

APPENDIX E

ENGINEERING

**SITE PLAN FOR THE
HURRICANE ISLAND REACH**

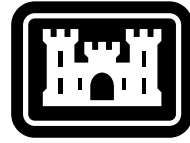
**DREDGED MATERIAL MANAGEMENT PLAN
WITH INTEGRATED ENVIRONMENTAL ASSESSMENT**

**POOL 11
DUBUQUE COUNTY, IA AND GRANT COUNTY, WI
UPPER MISSISSIPPI RIVER, RIVER MILES 591-608**

FINAL

APPENDIX E-1

CIVIL ENGINEERING



US Army Corps
of Engineers®

MISSISSIPPI RIVER

POOL 11

DUBUQUE COUNTY, IA AND GRANT COUNTY, WI

HURRICANE ISLAND DMMP FEASIBILITY

DMMP
Solicitation:
Contract:
JULY 2017

THIS PROJECT WAS DESIGNED BY THE ROCK ISLAND DISTRICT CORPS OF ENGINEERS. THE INITIALS OR SIGNATURES AND REGISTRATION DESIGNATIONS OF INDIVIDUALS APPEAR ON THESE PROJECT DOCUMENTS WITHIN THE SCOPE OF THEIR EMPLOYMENT AS REQUIRED BY ER 1110-1-8152. SIGNATURES INDICATE OFFICIAL RECOMMENDATION OF ALL DRAWINGS IN THIS SET.

APPROVED BY:

DISTRICT COMMANDER DATE

APPROVAL RECOMMENDED BY:

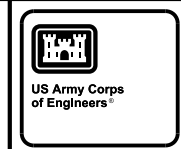
CHIEF, DESIGN BRANCH DATE

CHIEF, HYDROLOGY & HYDRAULICS BRANCH DATE

CHIEF, GEOTECHNICAL BRANCH DATE

CHIEF, TECHNICAL SERVICES BRANCH DATE

CHIEF, ENGINEERING & CONSTRUCTION DIVISION DATE



MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: E.L.S.	DATE:	SOLICITATION NO.:
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SUBMITTED BY:	PLotted BY:	PROJECT CODE:
PLOT SCALE:	PLOT DATE:	MR166
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MISSISSIPPI RIVER
DUBUQUE COUNTY, IA AND GRANT COUNTY, WI
HURRICANE ISLAND DMMP FEASIBILITY
COVER SHEET

Sheet ID
G-001

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Hurricane DMMP - Hydraulic Elevations

Hydraulic Condition		DATUM	River Mile									
			594	594.4	595	595.4	596	596.2	597	597.6	598	
14 Day Saturation Stage		1912 MSL	605.1	605.2	605.5	605.7	605.9	606	606.2	606.4	606.7	
		NGVD 1929	604.6	604.7	605	605.2	605.4	605.5	605.7	605.9	606.2	
		NAVD88	604.4	604.5	604.8	605	605.2	605.3	605.5	605.7	606	
Year Round Duration Exceedence (these elevations are equaled or exceeded _ % of the time)		25%	1912 MSL	604.5								
			NGVD 1929	604								
			NAVD88	603.8								
		50%	1912 MSL	604		604.1		604.15		604.2		604.25
			NGVD29	603.5		603.6		603.65		603.7		603.75
			NAVD88	603.3		603.4		603.45		603.5		603.55
FLAT POOL Pool 11		1912 MSL	603									
		NGVD29	602.5									
		NAVD88	602.3									
Return Period Chance Exceedence (%) Chance of Occurring in a Given Year		2-YR Flood (50% Chance Exceedence)	1912 MSL	605.4								
			NGVD29	604.9								
			NAVD88	604.7								
		10-YR Flood (10% Chance Exceedence)	1912 MSL	609.5								
			NGVD29	609								
			NAVD88	608.8								



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MISSISSIPPI RIVER
DUBUQUE COUNTY, IA AND GRANT COUNTY, WI
HURRICANE ISLAND DMMP FEASIBILITY
HYDRAULIC ELEVATIONS

Sheet ID
C-303

A1 HYDRAULIC ELEVATIONS
NO SCALE



GRANT COUNTY
WISCONSIN



US Army Corps
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MARK	DESCRIPTION

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ELN:	CHK BY:	CONTRACT NO.:

MISSISSIPPI RIVER
DUBUQUE COUNTY, IA AND GRANT COUNTY, WI
HURRICANE ISLAND DAM FEASIBILITY
BORING PLAN

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ID
B-101

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DUBUQUE COUNTY
IOWA

A1 BORING PLAN
SCALE: 1"=500'-0"



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US Army Corps
of Engineers

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SUBMITTED BY:	DATE:	PROJECT CODE:
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MISSISSIPPI RIVER
DUBUQUE COUNTY, IA AND GRANT COUNTY, WI
HURRICANE ISLAND DAMP FEASIBILITY
BORING LOGS

Sheet
ID
B-301

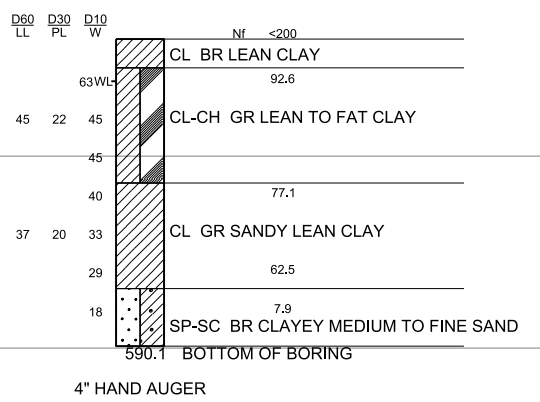
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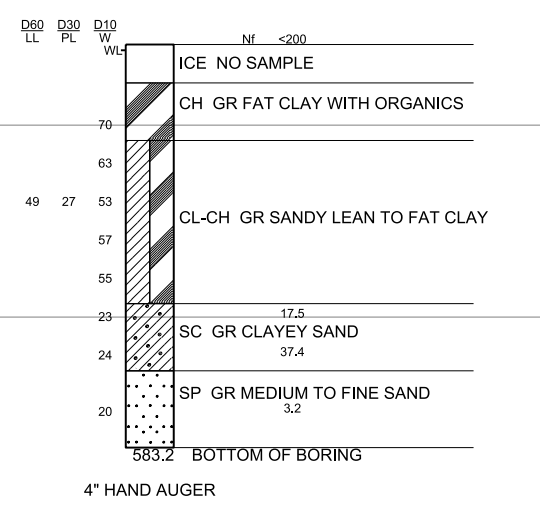
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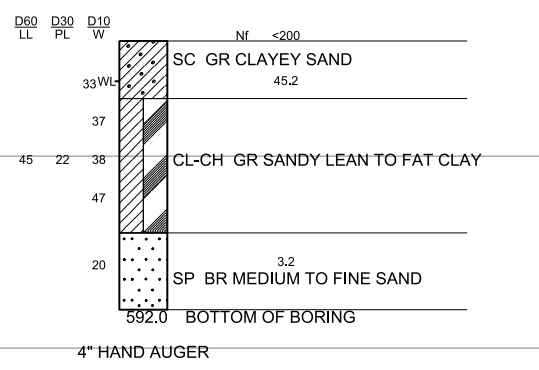
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NORTHING: 5655494
EASTING: 3714194
DATE: 03/07/2014
GROUND ELEV. 606.1



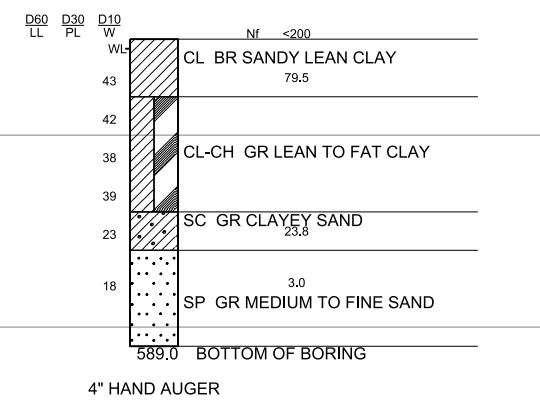
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NORTHING: 5655085
EASTING: 3714777
DATE: 03/07/2014
GROUND ELEV. 604.2



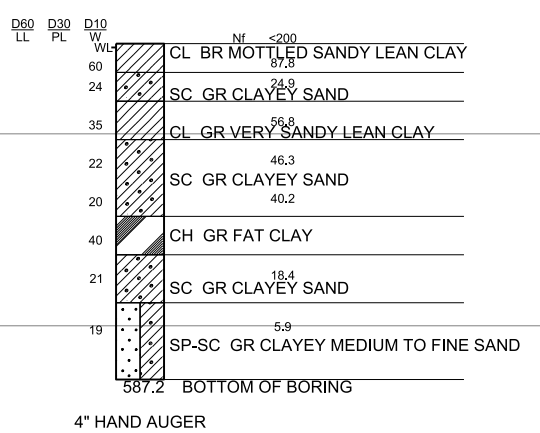
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EASTING: 3714799
DATE: 03/07/2014
GROUND ELEV. 606.0



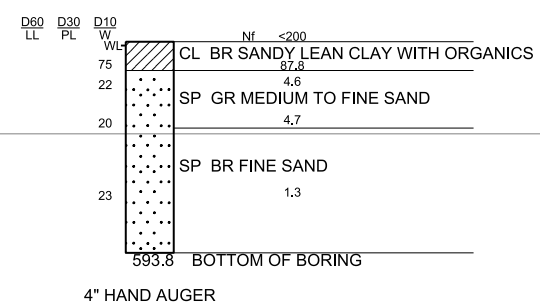
BOR. HI-14-04
NORTHING: 5649130
EASTING: 3714312
DATE: 03/13/2014
GROUND ELEV. 605.0



BOR. HI-14-05
NORTHING: 5648297
EASTING: 3714413
DATE: 03/13/2014
GROUND ELEV. 604.7



BOR. HI-14-06
NORTHING: 5642596
EASTING: 3715963
DATE: 03/13/2014
GROUND ELEV. 604.8



ELEVATIONS IN FEET (1912 MSL)

STATE PLANE: NAD 83 IOWA NORTH 1401, US SURVEY FEET

A1 BORING LOGS
SCALE: 1"=5'-0"

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INDEX	
Sheet Id	Sheet Title
GENERAL	
G-001	COVER SHEET
G-002	INDEX AND GENERAL NOTES
G-003	LEGEND AND ABBREVIATIONS
GEOTECHNICAL	
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B-301	BORING LOGS
CIVIL	
C-101	SITE PLAN
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C-103	CORPS ISLAND PLAN
C-104	CORPS ISLAND MITIGATION PLAN
C-301	TYPICAL SECTIONS
C-302	TYPICAL SECTIONS
C-303	HYDRAULIC ELEVATIONS

GENERAL NOTES

1. THE HURRICANE ISLAND DMMP IS LOCATED IN DUBUQUE COUNTY, IOWA AND GRANT COUNTY, WI.
2. LIMITED TREE CLEARING AS WELL AS BRUSH REMOVAL IS REQUIRED AT THESE SITES. TREES GREATER THAN 8 INCHES DIAMETER AT CHEST HEIGHT SHALL NOT BE REMOVED BETWEEN APRIL 1 AND SEPTEMBER 30.
3. SURVEY DATUM IS NAD 83, IL WEST 1202, STATE PLANE, US SURVEY FOOT - MSL 1912.
4. AERIAL MAPPING FLOWN IN 2013.
5. DATA OBTAINED FROM OD AND UNTRUTHED EMP LIDAR ADDED BREAKS BASED ON FLAT POOL AND ESTM.
6. FINAL SURVEY OF CONTAINMENT BERM IS TO BE PROVIDED TO EC-DN FOR COMPLETION OF AS-BUILTS AND FINAL CAPACITY CALCULATIONS.
7. FLAT POOL EL. 603.0.





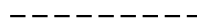

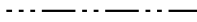

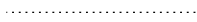
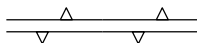




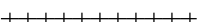
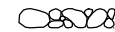






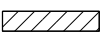





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MISSISSIPPI RIVER
DUBUQUE COUNTY, IA AND GRANT COUNTY, WI
HURRICANE ISLAND DMMP FEASIBILITY
INDEX AND
GENERAL NOTES

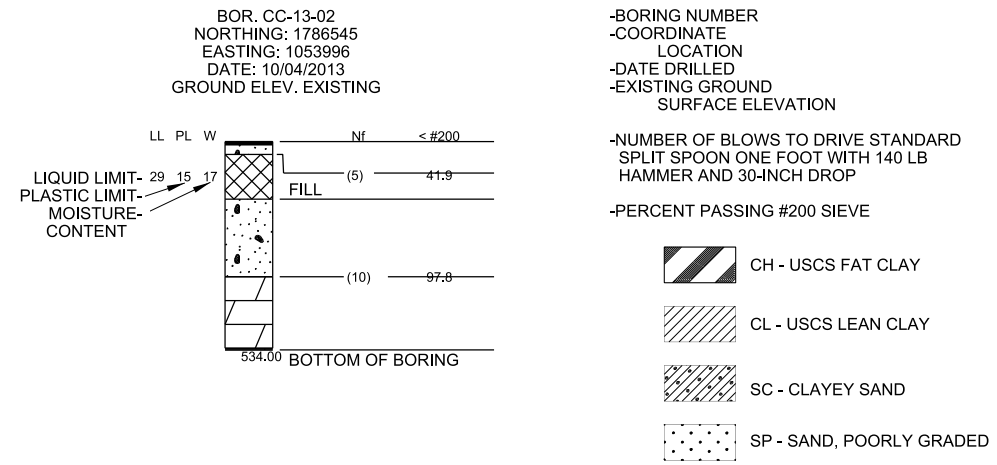
LEGEND

-  BENCHMARK
-  BORING LOCATION
-  BREAKLINE
-  CENTERLINE
-  RIGHT-OF-WAY / WORK LIMIT
-  SECTION LINE
-  STAGING AREA
-  CONTROL POINT
-  EXISTING GROUND
-  EXISTING LEVEE
-  LEVEE REPAIR AREA
-  FLOW ARROW
-  SLOPE
-  NORTH INDICATOR
-  RAILROAD
-  RIPRAP
-  RIVERMILE
-  INTERSTATE HIGHWAY
-  STATE HIGHWAY
-  US HIGHWAY
-  WATER LEVEL
-  FILL
-  BORROW / STAGING AREA
-  BEDDING STONE
-  SAND
-  TREELINE

ABBREVIATIONS

A	
APPROX AVE	APPROXIMATE AVENUE
B	
BM	BENCHMARK
C	
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
COR	CONTRACTING OFFICER REPRESENTATIVE
CY	CUBIC YARDS
D	
DIA	DIAMETER
E	
EL.	ELEVATION
F	
FT	FEET
H	
H	HORIZONTAL
HTRW	HAZARDOUS TOXIC RADIOACTIVE WASTE
I	
INV.	INVERT
M	
MAX	MAXIMUM
MSL	MEAN SEA LEVEL
MIN	MINIMUM
N	
NAD	NATIONAL GEODETIC SURVEY
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NAVD	NORTH AMERICAN VERTICAL DATUM
P	
PI	POINT OF INTERCEPTION
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
R	
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RM	RIVERMILE
RR	RAILROAD
S	
ST	STREET
STA	STATION
T	
TYP.	TYPICAL
V	
V	VERTICAL

BORING LEGEND



APPR.	
DATE	
MARK	
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MISSISSIPPI RIVER
 DUBUQUE COUNTY, IA AND GRANT COUNTY, WI
 HURRICANE ISLAND DAM FEASIBILITY
 LEGEND AND ABBREVIATIONS

Sheet ID
G-003

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GENERAL SHEET NOTES

- CORPS ISLAND NOTES:
1. MATERIAL NEEDS TO BE SHAPED SO IT FITS WITHIN THE PROFILE AND SECTIONS, SHOWN ON C-301, AFTER EACH DREDGING EVENT. DREDGED SAND SHALL NOT BE LEFT AT SLOPES STEEPER THAN 7H:1V AT COMPLETION OF EACH DREDGING EVENT. DURING DREDGING OPERATIONS DREDGED SAND SLOPES MAY EXCEED 7H:1V.
 2. TOP ELEVATION OF BERM IS 608.0. WHERE BERM HEIGHT IS LESS THAN 3 FEET THE BERM WILL BE MADE OF CLAY.
 3. TRANSITION BETWEEN CLAY BERM AND CLAY-CAPPED SAND BERM WILL BE STEPPED IN 6 INCH LAYERS.



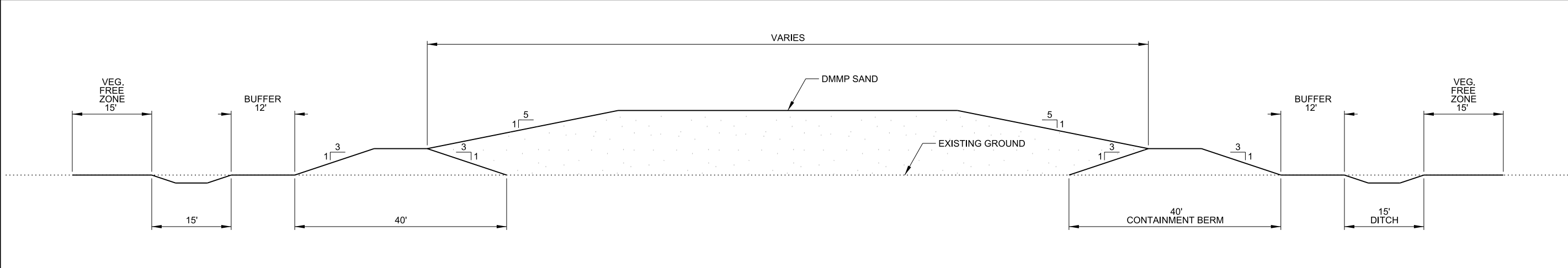
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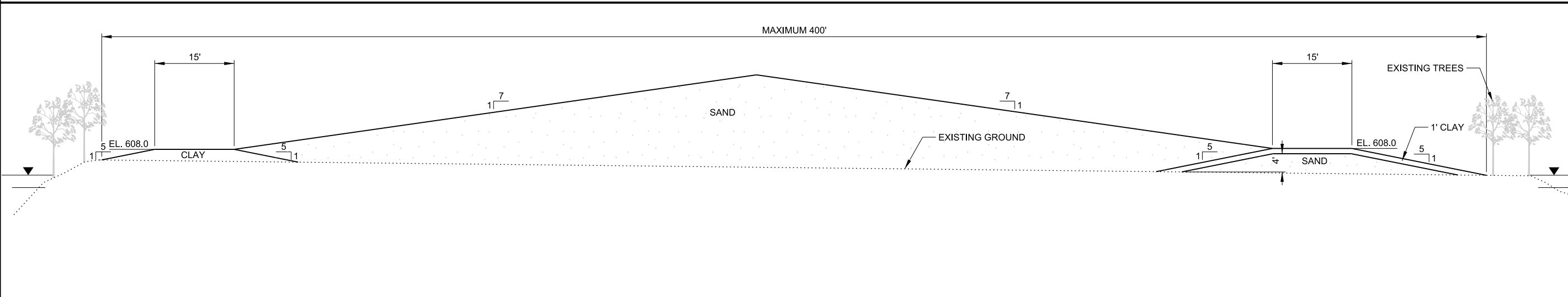
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A

C1 CORPS ISLAND TYPICAL CROSS SECTION
SCALE : NO SCALE



B1 FARM FIELD/QUARRY TYPICAL CROSS SECTION
SCALE : NO SCALE



A1 CORPS ISLAND TYPICAL CROSS SECTION
SCALE : NO SCALE

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MISSISSIPPI RIVER
DIBUQUE COUNTY LA AND GRANT COUNTY, WI
HURRICANE ISLAND DMMP FEASIBILITY

TYPICAL SECTIONS

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GENERAL SHEET NOTES

- 1. MITIGATION AREA TO BE CONSTRUCTED CONCURRENTLY WITH BATH TUB PLACEMENT.
- 2. CLAY CAP TO BE SEEDED PER MITIGATION PLAN.



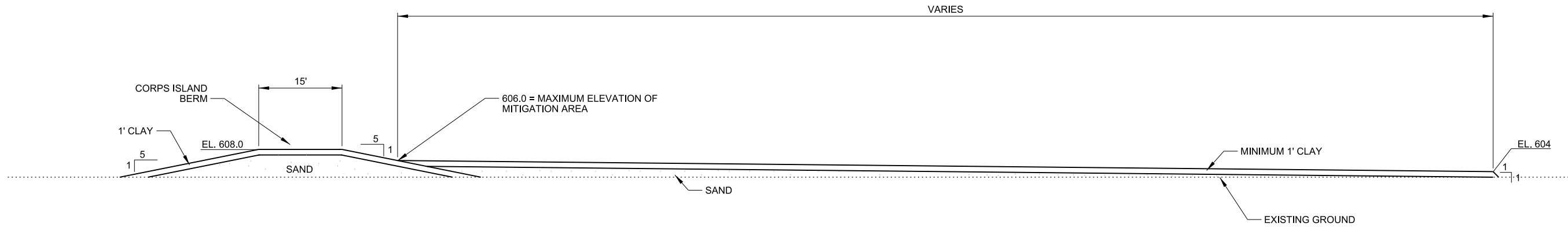
US Army Corps of Engineers

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MISSISSIPPI RIVER
 DUBUQUE COUNTY, IA AND GRANT COUNTY, WI
 HURRICANE ISLAND DAM FEASIBILITY
 TYPICAL SECTION

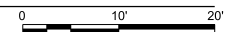
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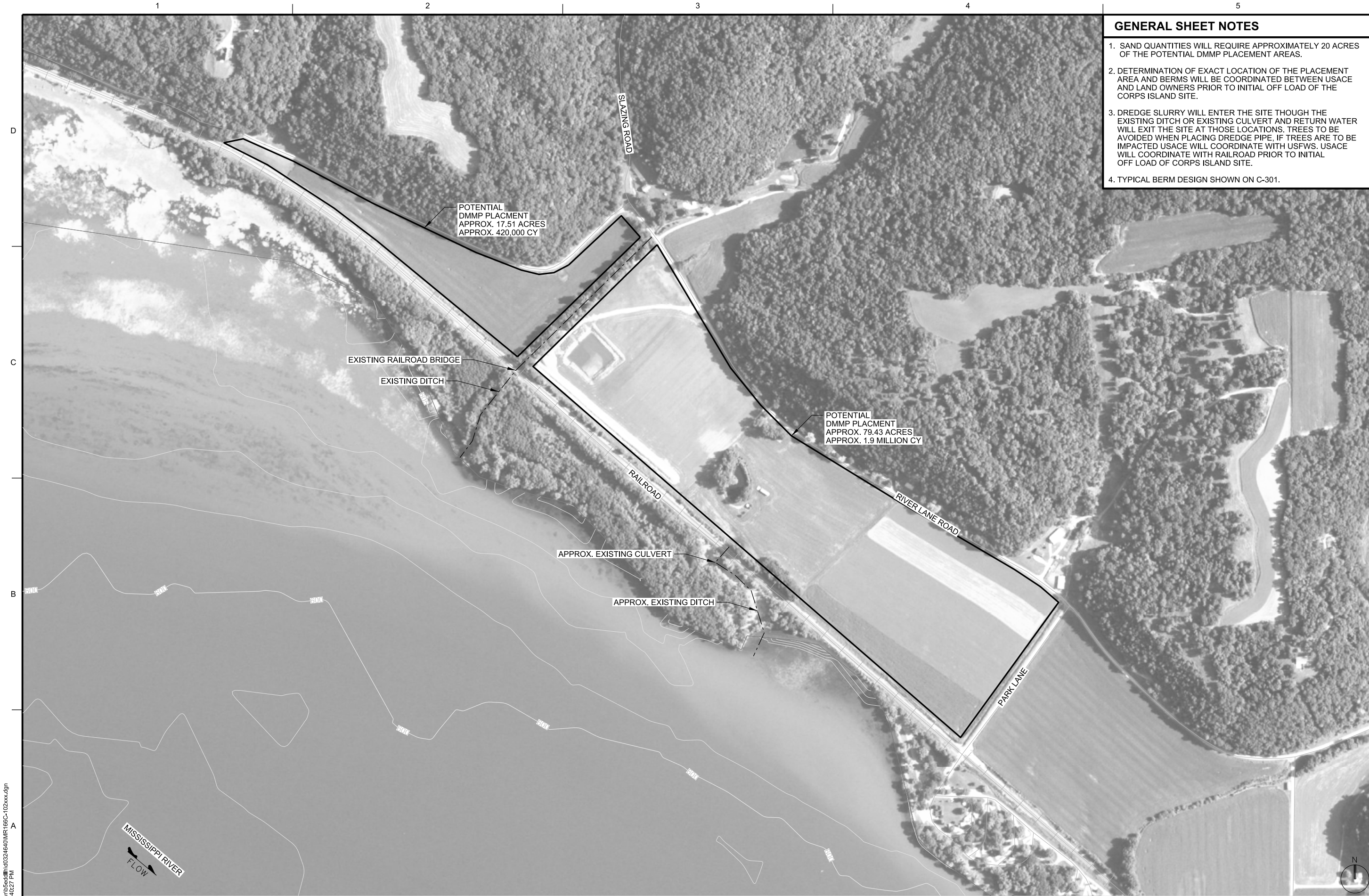


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A1 MITIGATION TYPICAL SECTION

SCALE: 1"=10'-0"





GENERAL SHEET NOTES

1. SAND QUANTITIES WILL REQUIRE APPROXIMATELY 20 ACRES OF THE POTENTIAL DMMP PLACEMENT AREAS.
2. DETERMINATION OF EXACT LOCATION OF THE PLACEMENT AREA AND BERMS WILL BE COORDINATED BETWEEN USACE AND LAND OWNERS PRIOR TO INITIAL OFF LOAD OF THE CORPS ISLAND SITE.
3. DREDGE SLURRY WILL ENTER THE SITE THROUGH THE EXISTING DITCH OR EXISTING CULVERT AND RETURN WATER WILL EXIT THE SITE AT THOSE LOCATIONS. TREES TO BE AVOIDED WHEN PLACING DREDGE PIPE. IF TREES ARE TO BE IMPACTED USACE WILL COORDINATE WITH USFWS. USACE WILL COORDINATE WITH RAILROAD PRIOR TO INITIAL OFF LOAD OF CORPS ISLAND SITE.
4. TYPICAL BERM DESIGN SHOWN ON C-301.



MARK	DATE	DESCRIPTION

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MISSISSIPPI RIVER
 DUBUQUE COUNTY, IA AND GRAND COUNTY, WI
 HURRICANE ISLAND DMMP FEASIBILITY
 FARM FIELDS/QUARRY PLAN

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C-102

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GENERAL SHEET NOTES

1. MITIGATION AREAS TO BE CONSTRUCTED CONCURRENTLY WITH FILLING OF THE BATH TUB SITE.
2. TYPICAL MITIGATION CROSS SECTION ON C-302.

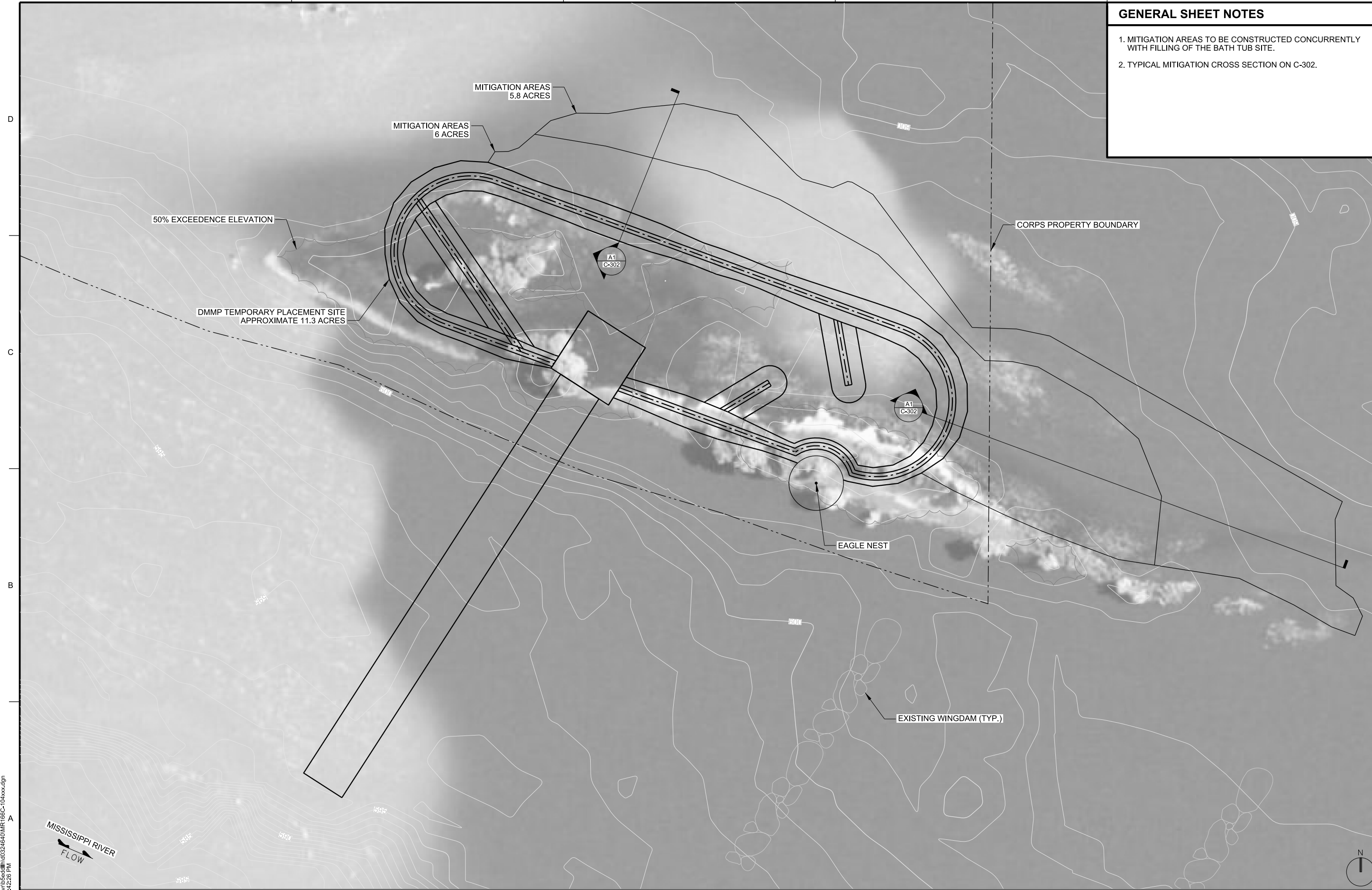


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MISSISSIPPI RIVER
 DUBUQUE COUNTY, IA AND GRANT COUNTY, WI
 HURRICANE ISLAND DMMP FEASIBILITY
 CORPS ISLAND MITIGATION PLAN

Sheet ID
C-104



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MISSISSIPPI RIVER
 FLOW

A1 CORPS ISLAND MITIGATION PLAN
 SCALE : 1"=100'-0"

