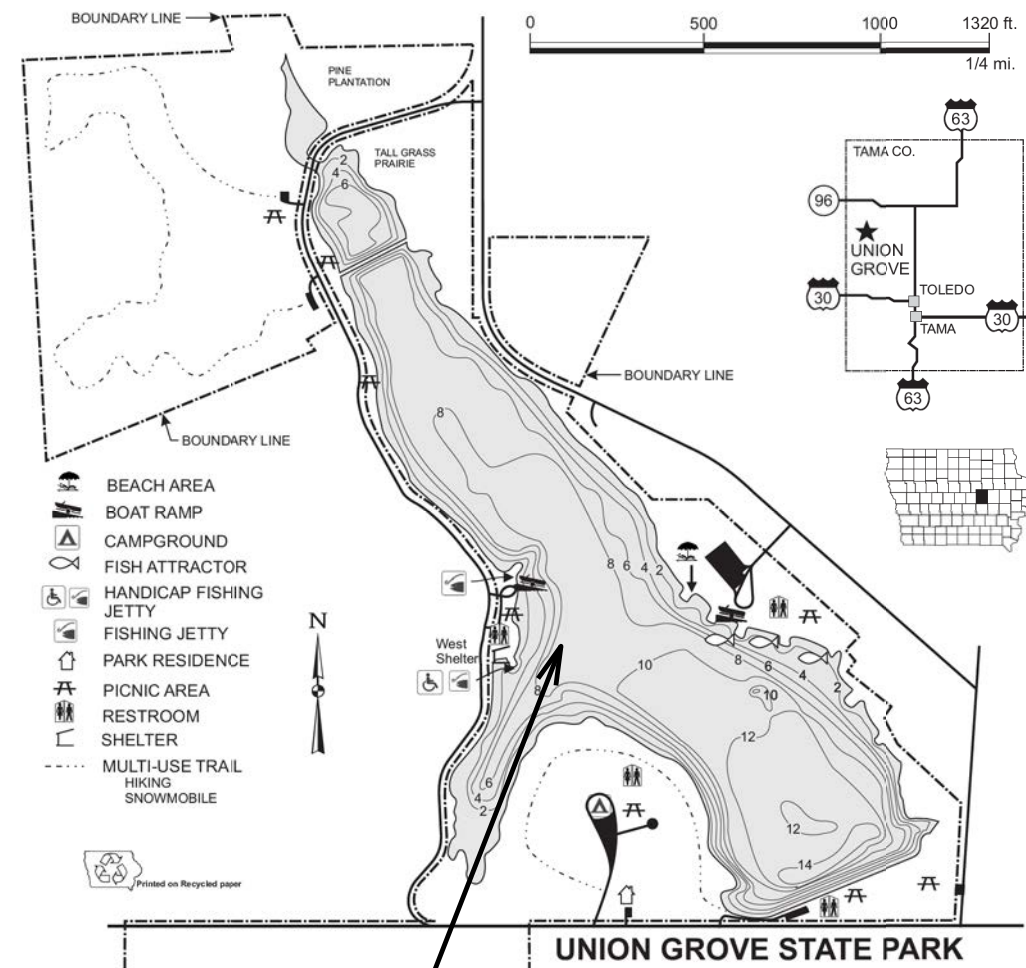


PROJECT LOCATION



UNION GROVE STATE PARK

CONSULTANT:

IOWA DEPARTMENT OF
NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



PROJECT LOCATION MAP

HYDRAULIC DREDGING
UNION GROVE STATE PARK

TAMA COUNTY

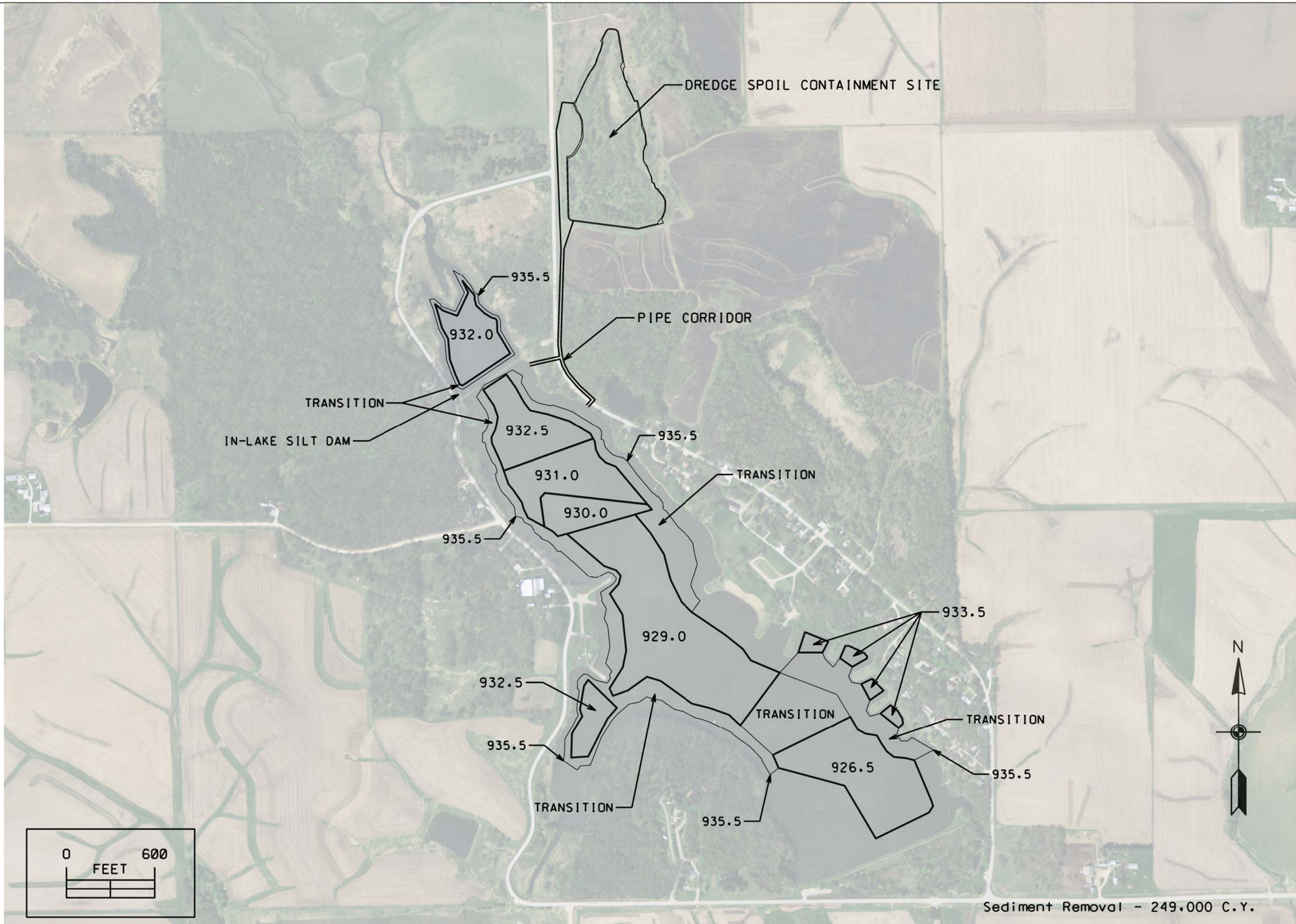
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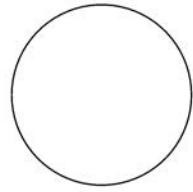
SHEET NO:

A.02



Sediment Removal - 249,000 C.Y.

CONSULTANT:



IOWA DEPARTMENT OF
NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



SEDIMENT REMOVAL

HYDRAULIC DREDGING

UNION GROVE STATE PARK

TAMA COUNTY

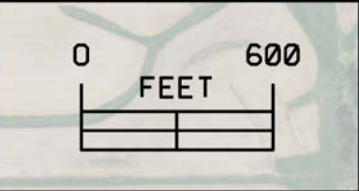
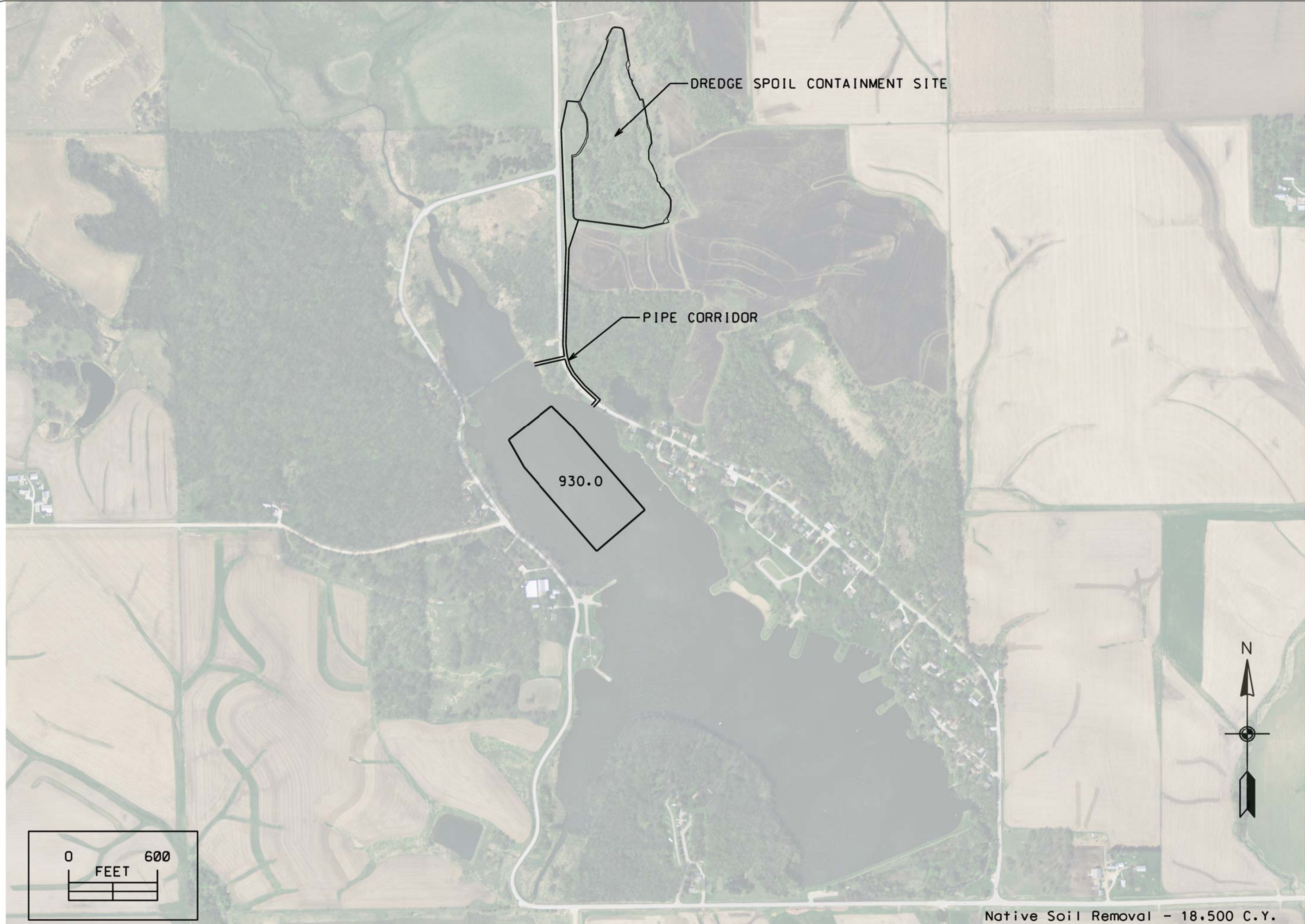
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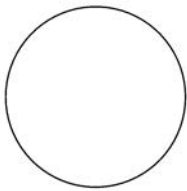
SHEET No:

D.01



Native Soil Removal - 18,500 C.Y.

CONSULTANT:



IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



NATIVE SOIL REMOVAL

HYDRAULIC DREDGING

UNION GROVE STATE PARK

TAMA COUNTY

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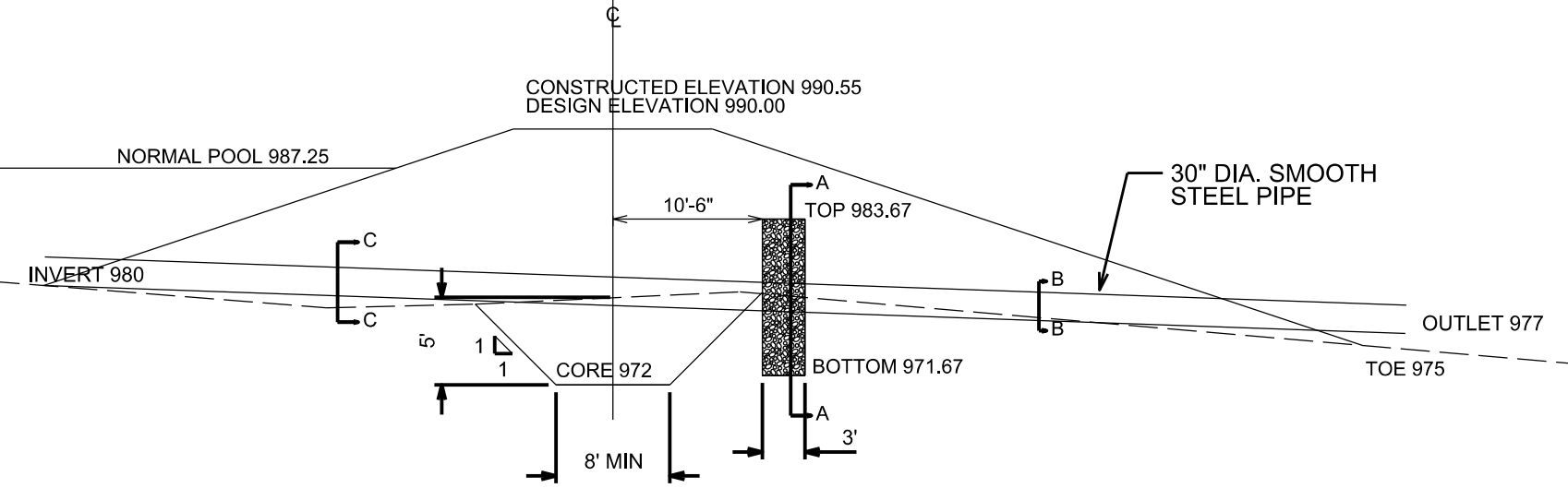
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EMBANKMENT SECTION - BY OTHERS



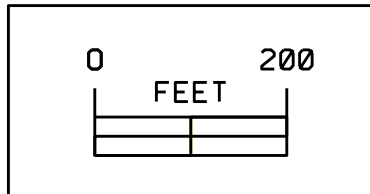
NOTES:

Contractor to provide spoil site outlet control structure to allow for the manipulation of the spoil site so that water quality standards are met. Contractor is to submit outlet control structure to IDNR Floodplains Section for review and approval. Design and permitting costs are to be considered incidental to the Control Structure bid item.

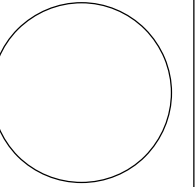
Contractor to furnish routing plan for dredge spoil pipes for review by the engineer prior to dredge operations.

Contractor is to obtain required permission from Tama County for any work in county ROW, such as road crossings, pipe placement, etc.

Containment Design Data:
 Normal Pool Elevation - 987.25
 Permanent Storage - Approx. 398,500 C.Y.
 Minimum Weir Length - 132 inches



CONSULTANT:



IOWA DEPARTMENT OF
 NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
 502 E. 9TH ST., DES MOINES, IA 50319-0034



CONTAINMENT SITE DETAILS

HYDRAULIC DREDGING
 UNION GROVE STATE PARK

TAMA COUNTY

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