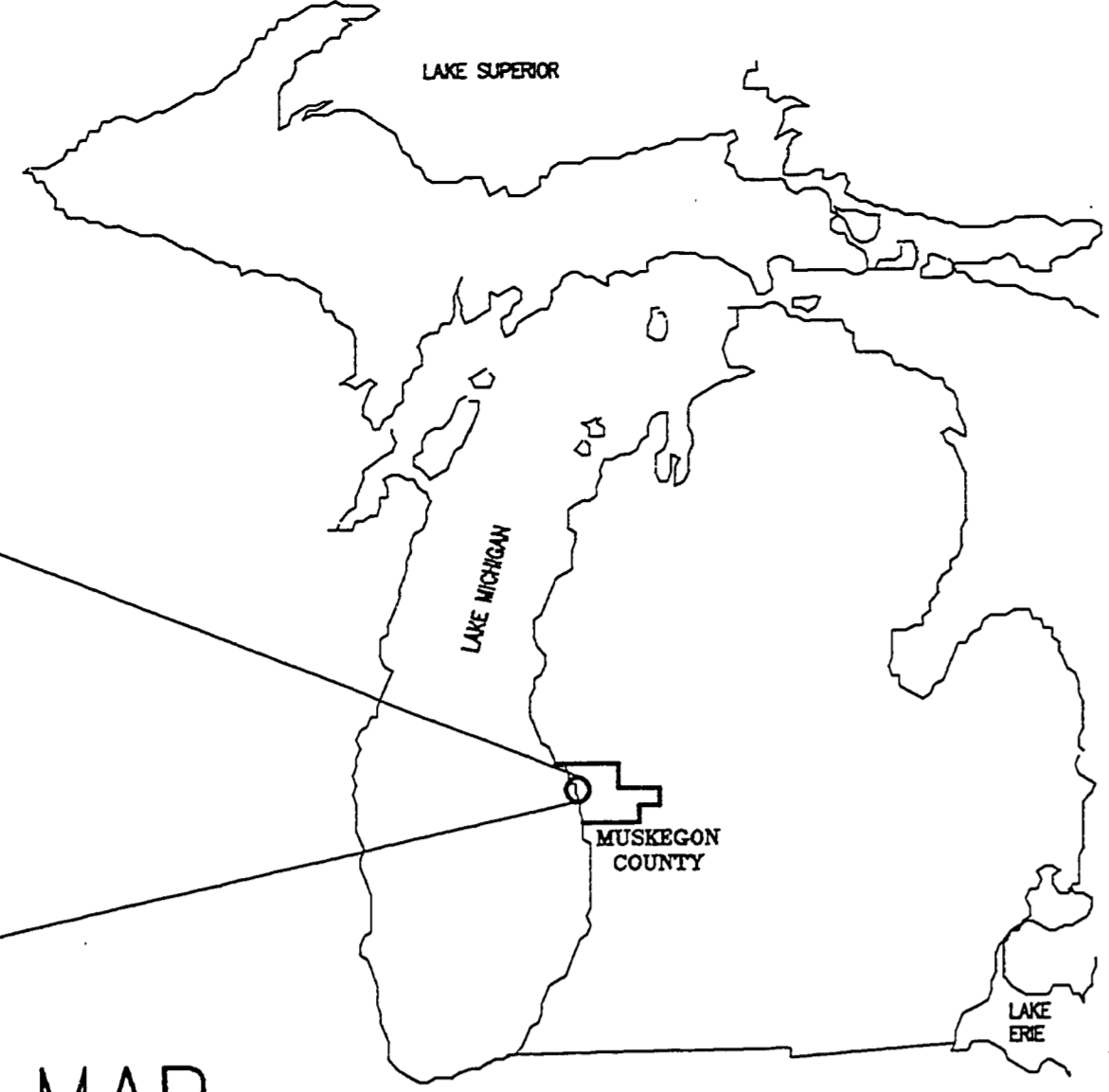


SITE LOCATION MAP
NO SCALE

STATE LOCATION MAP

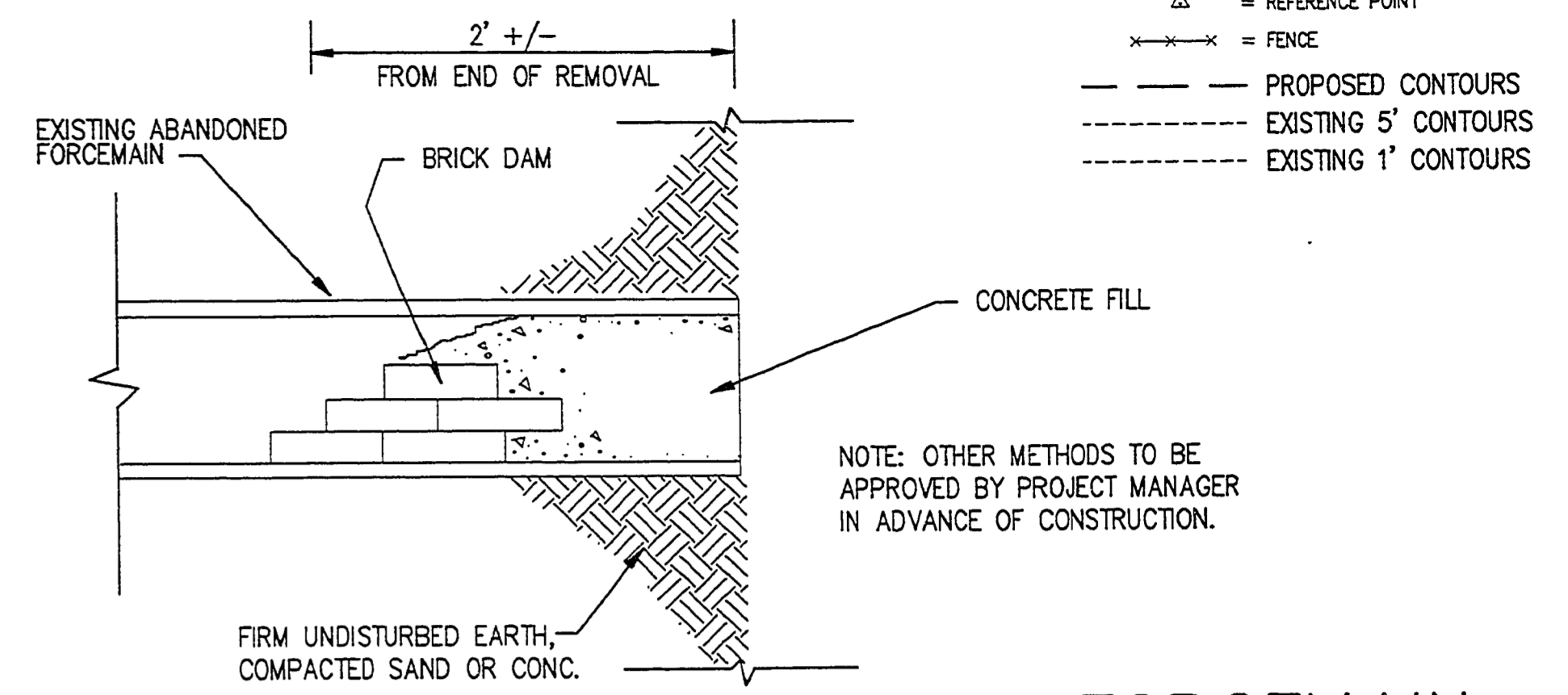


BM SITE ELEV. 588.31
PK NAIL IN 30" MAPLE TREE

RP#1-60d NAIL N 5000.00 E 5000.00
RP#2-FENCE CORNER N 5136.63 E 5021.35

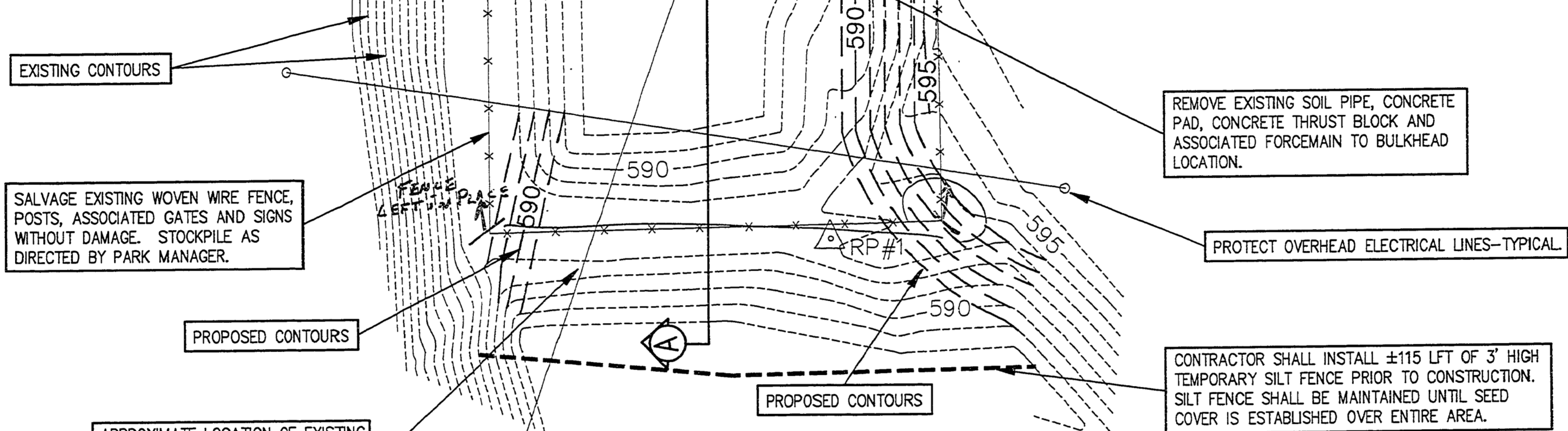
LEGEND
△ = REFERENCE POINT
--- = FENCE
- - - = PROPOSED CONTOURS
- - - = EXISTING 5' CONTOURS
- - - = EXISTING 1' CONTOURS

CONTRACTOR SHALL INSTALL ±90 LFT OF 3' HIGH TEMPORARY SILT FENCE PRIOR TO CONSTRUCTION. SILT FENCE SHALL BE MAINTAINED UNTIL SEED COVER IS ESTABLISHED OVER ENTIRE AREA.



BULKHEAD DETAIL FOR ABANDONED FORCEMAIN
NO SCALE

ESTIMATED QUANTITIES INDICATED ON THE PLANS ARE INCLUDED FOR GENERAL REFERENCE ONLY. THE CONTRACTOR SHALL USE HIS INDEPENDENT JUDGEMENT AS TO THE ACCURACY OF THE ESTIMATED QUANTITIES STATED ON THE PLANS. THE CONTRACTOR SHALL NOTE THAT NO ADJUSTMENTS TO THE LUMP SUM PRICE WILL BE MADE FOR AS CONSTRUCTED QUANTITIES WHICH ARE IN EXCESS OF THE ESTIMATED QUANTITIES INDICATED ON THE PLANS.



SEWAGE LAGOON SITE PLAN
SCALE: 1" = 20'

CONTRACTOR SHALL LEAVE EXISTING BERMS ON NORTH, EAST & WEST SIDES OF LAGOON IN PLACE. REMOVE BERM ON SOUTH SIDE OF LAGOON ONLY.

SALVAGE EXISTING WOVEN WIRE FENCE, POSTS, ASSOCIATED GATES AND SIGNS WITHOUT DAMAGE. STOCKPILE AS DIRECTED BY PARK MANAGER.

REMOVE EXISTING SOIL PIPE, CONCRETE PAD, CONCRETE THRUST BLOCK AND ASSOCIATED FORCEMAIN TO BULKHEAD LOCATION.

PROTECT OVERHEAD ELECTRICAL LINES-TYPICAL

CONTRACTOR SHALL INSTALL ±115 LFT OF 3' HIGH TEMPORARY SILT FENCE PRIOR TO CONSTRUCTION. SILT FENCE SHALL BE MAINTAINED UNTIL SEED COVER IS ESTABLISHED OVER ENTIRE AREA.

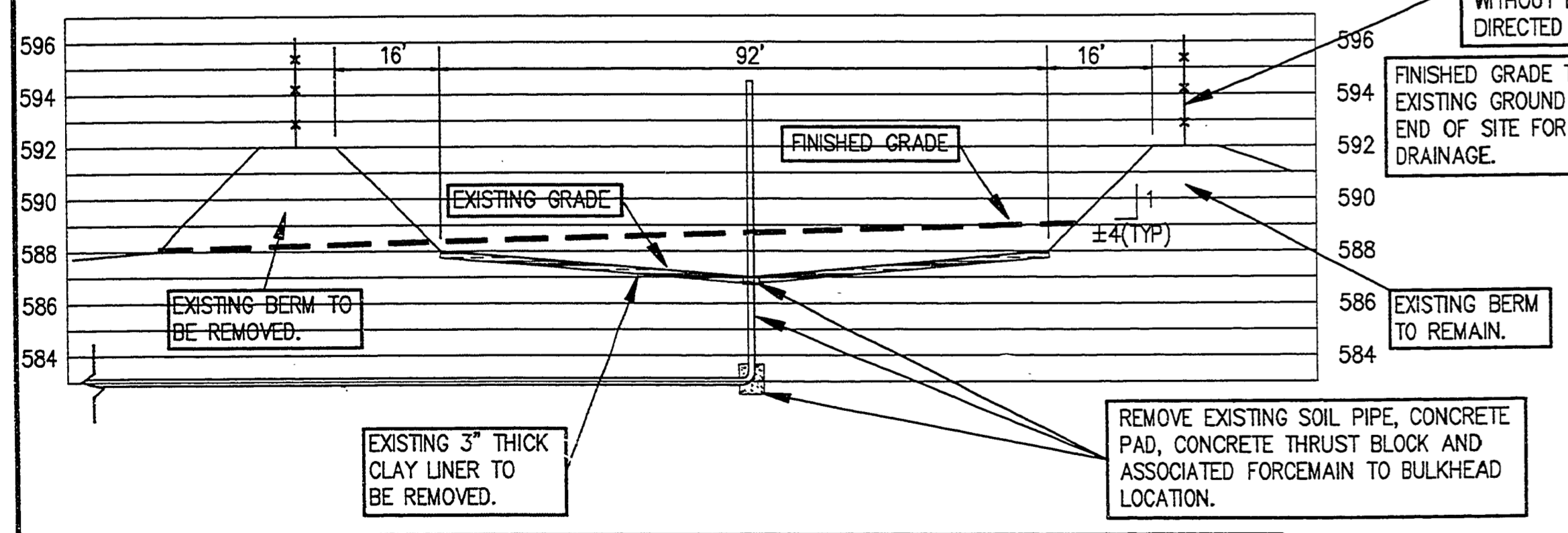
APPROXIMATE LOCATION OF EXISTING FORCEMAIN. LOCATE EXISTING FORCEMAIN ±20' FROM LAGOON AND BULKHEAD. SEE DETAIL THIS SHEET.

GENERAL CONSTRUCTION NOTES:

- 1. USE TWO BENCH MARKS FOR VERIFICATION OF GRADE ON ALL CONSTRUCTION. CONTRACTOR SHALL ESTABLISH SECOND BENCHMARK.
- 2. CONTRACTOR TO COORDINATE WITH STATE PARK STAFF AND PROJECT MANAGER FOR ACCESS TO SITE AND UTILITIES IN IMMEDIATE AREA. SNUG HARBOR SITE SHALL BE ACCESSED BY THE EXISTING SERVICE ROAD. CONTRACTOR SHALL RESTORE THE SERVICE ROAD TO EXISTING CONDITION OR BETTER UPON COMPLETION OF CONSTRUCTION. PROTECT ALL PARK ROADS INCLUDING NEW BITUMINOUS PAVEMENT NEAR SNUG HARBOR SEWAGE LAGOON. CONTRACTOR SHALL CONSTRUCT TEMPORARY ACCESS ROAD TO CHANNEL CAMPGROUND SITE. RESTORE TO EXISTING CONDITION UPON COMPLETION OF CONSTRUCTION. SEE NOTES SHEET 2 OF 2.
- 3. CONTRACTOR TO PROTECT THE EXISTING UNDERGROUND AND OVERHEAD UTILITIES AS WELL AS ABSORPTION BEDS. EXISTING ABSORPTION BEDS MUST NOT BE DRIVEN ON BY VEHICLES.
- 4. SLUDGE REMOVAL SHALL BE ACHIEVED THROUGH THE USE OF A PUMP. ADDITIONAL EFFORT SHALL BE MADE TO BACK-BLADE SLUDGE IN ORDER TO COLLECT ALL SOLIDS BY MEANS OF THE PUMP.
- 5. ALL RESIDUAL SLUDGE, 3" CLAY LINER (SNUG HARBOR LAGOON), 8 MIL VIRGIN VINYL PLASTIC LINER WITH 4" SAND PLACED ON TOP OF LINER (CHANNEL CAMPGROUND LAGOON), MISCELLANEOUS PIPING AND CONCRETE STRUCTURES BELOW THE EXISTING LAGOON AND BERMS OR AS SHOWN ON THE DRAWINGS SHALL BE REMOVED AND PROPERLY DISPOSED OF AT A LICENSED TYPE II SOLID WASTE LANDFILL IN ACCORDANCE WITH ALL MDNR REQUIREMENTS.
- 6. AFTER COMPLETION OF SLUDGE, LINER AND PIPE WORK REMOVAL, ALL DISTURBED AREAS SHALL BE GRADED, TOPSOILED, SEEDED, FERTILIZED AND MULCHED PER SPECIFICATION SECTION 02936.
- 7. ANY FILL REQUIRED SHALL BE COMPACTED TO A MINIMUM OF 90% MAXIMUM DENSITY.
- 8. THE PROJECT MANAGER SHALL INSPECT AND PROVIDE WRITTEN APPROVAL FOR THE REMOVAL OF SLUDGE, LINER AND MISCELLANEOUS PIPING BEFORE THE CONTRACTOR IS ALLOWED TO BEGIN BACKFILLING, GENERAL ROUGH GRADING AND CLEAN-UP OPERATIONS.

CONTRACTORS NOTE: ADDITIONAL FILL MATERIAL MAY BE REQUIRED TO PROVIDE POSITIVE DRAINAGE.

SALVAGE EXISTING WOVEN WIRE FENCE, POSTS, ASSOCIATED GATES AND SIGNS WITHOUT DAMAGE. STOCKPILE AS DIRECTED BY PARK MANAGER.



SEWAGE LAGOON PROFILE A-A
SCALE: 1"=20' HORIZONTAL
1"=5' VERTICAL

REMOVE EXISTING RESIDUAL SLUDGE, 3" CLAY LINER, MISCELLANEOUS PIPING AND CONCRETE STRUCTURES BELOW THE EXISTING LAGOON AND BERMS OR AS SHOWN ON THE DRAWING.

EXISTING 3" THICK CLAY LINER TO BE REMOVED.

REMOVE EXISTING SOIL PIPE, CONCRETE PAD, CONCRETE THRUST BLOCK AND ASSOCIATED FORCEMAIN TO BULKHEAD LOCATION.

FINISHED GRADE TO MATCH EXISTING GROUND AT SOUTH END OF SITE FOR POSITIVE DRAINAGE.

BM SITE

HEADQUARTERS

FILE NO.: 1159LAG1
PLOT DATE: 9-28-95
UPDATED BY: KM

| | | | |
|--------------|--------------------|--|---------|
| DRN BY: KM | IDENTIFICATION NO. | ISSUED FOR | DATE |
| DES. BY: KM | PROJECT - MUSKEGON | PRELIMINARY <input checked="" type="checkbox"/> | 9-28-95 |
| CHK BY: GDA | STATE ACCOUNT | CONSTRUCTION <input checked="" type="checkbox"/> | 9-28-95 |
| APPD BY: GDA | 607-75-2450-400 | FINAL RECORD <input type="checkbox"/> | |



STATE OF MICHIGAN
DEPARTMENT OF MANAGEMENT AND BUDGET
Office of Facilities

QUALITY OF LIFE RECREATION BOND
MICHIGAN DEPARTMENT OF NATURAL RESOURCES
PARKS DIVISION - STATE ACCT. NO. 607-75-2450-400

MUSKEGON STATE PARK
WASTEWATER LAGOON ABANDONMENT
SNUG HARBOR LAGOON

SCALE: 1"=20'
PROJ. NO.: 91159.03
SHEET 1 OF 2

Heartland
Professional Construction Services, Inc.
1800 Michigan National Tower • Lansing, Michigan 48933 • 517-482-6100

STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
APPROVED BY: Robert Helms
DATE: 9/29/95
CHIEF, PARKS & RECREATION DIVISION

AREA 2B - MUSKEGON STATE PARK - LAGOON ABANDONMENT & CLOSURE