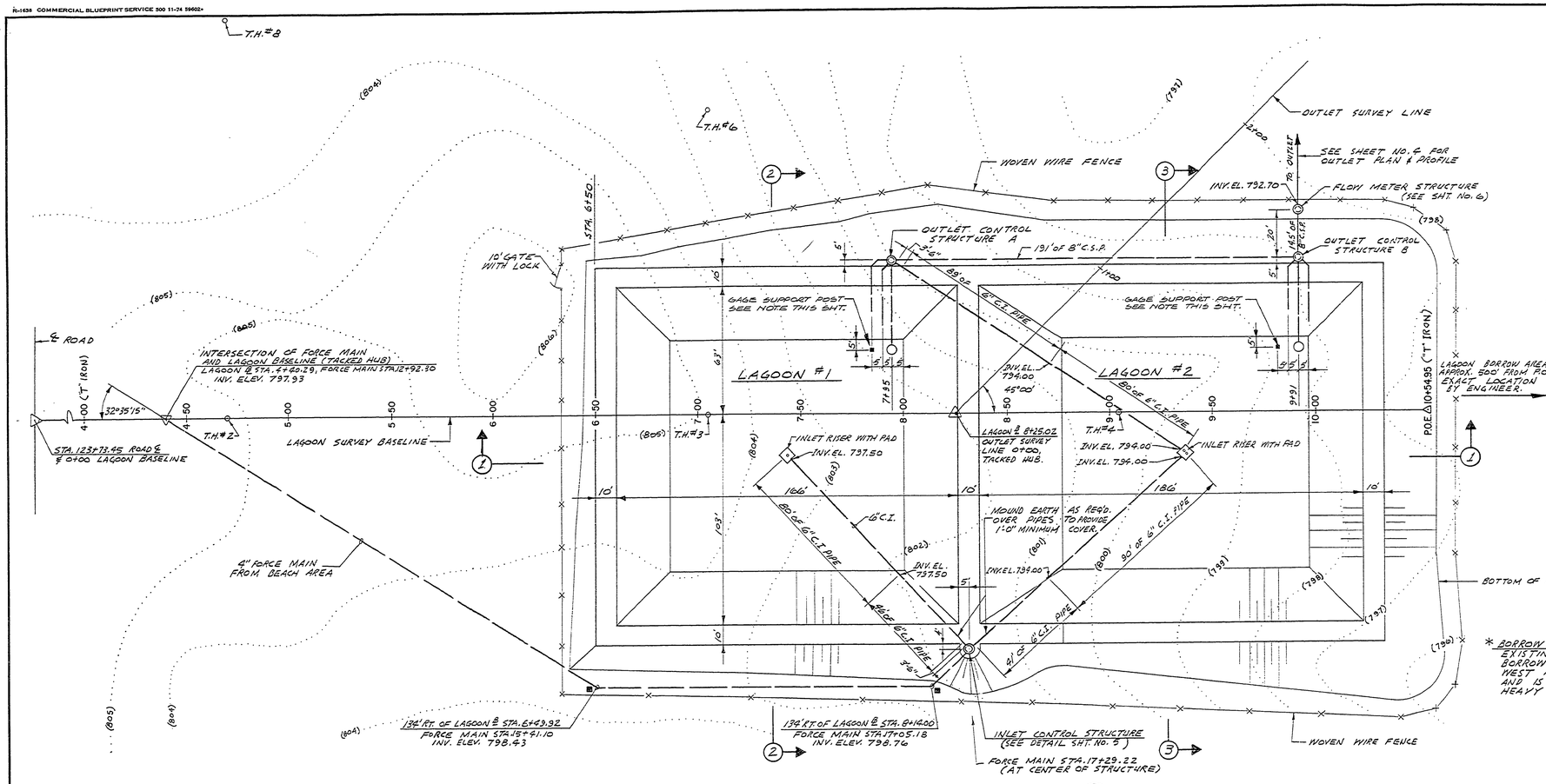
R-1638 COMMERCIAL BLUEPRINT SERVICE 300 11-74 59602*

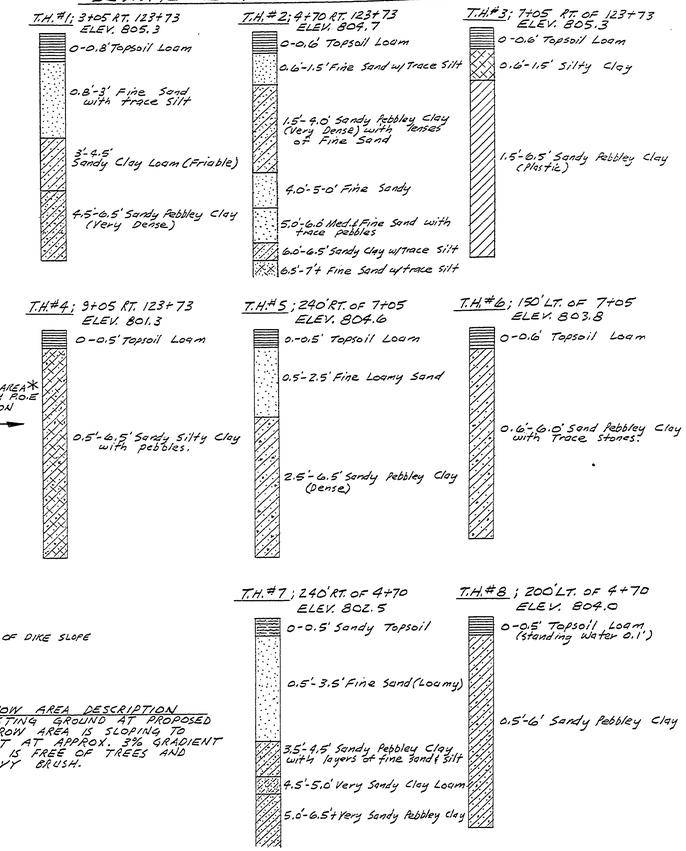


PLAN OF LAGOONS

SCALE: 1" = 30'

N

SEWAGE LAGOON SOIL BORINGS



* BORROW AREA DESCRIPTION
EXISTING GROUND AT PROPOSED BORROW AREA IS SLOPING TO WEST AT APPROX. 2% GRADIENT AND IS FREE OF TREES AND HEAVY BRUSH.

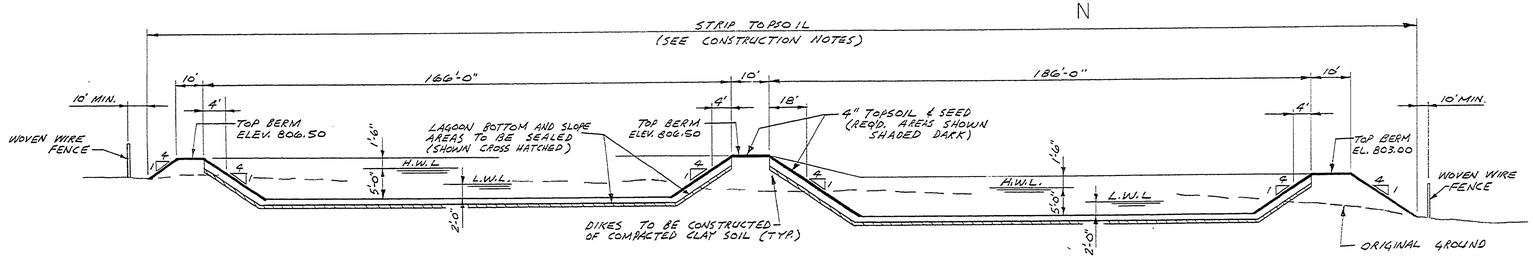
BENCHMARK DATA

B.M. #22 ELEV. 795.20
PK, NUT & TAG, N.E. ROOT OF 20" OAK, 50' RT. OF ENT. RD. STA. 1137+65.

LEGEND

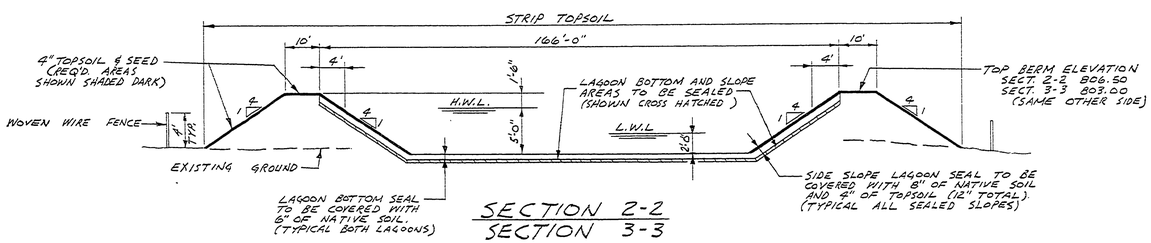
...( ) ... EXISTING GROUND CONTOUR

■ LOCATION OF CONCRETE THRUST BLOCKS (SEE DETAIL SHEET NO. 6)



SECTION 1-1

SEE SHT. NO. 5 FOR INLET AND OUTLET STRUCTURE DETAILS



SECTION 2-2
SECTION 3-3

LAGOON OPERATION NOTES

1. Under normal conditions both lagoons shall be operated so as to maintain a 2' minimum water depth year around.
2. The normal filling sequence is as follows: Raw sewage from the park is pumped into the no. 1 lagoon until it is full (5' depth). The upper 3' of liquid in no. 1 is then transferred to lagoon no. 2 filling it to about the 3' depth the first year and a full 5' depth the following years. Raw sewage flow from the park continues into lagoon no. 1 again filling it to capacity by the end of summer.
3. Lagoon contents are to be retained through the winter for spring discharge.
4. The normal discharge sequence is as follows: In March or April when lagoon water quality is acceptable the upper 3' (1' during the first year) of lagoon no. 2 shall be discharged into the river over a period of one week. The upper 3' of lagoon no. 1 shall then be transferred to lagoon no. 2 over a period of one week. After a one week retention period, the upper 3' of lagoon no. 2 shall be discharged into the river over a week period. Emptying of each lagoon shall be accomplished in stages by releasing the upper 2' liquid depth through the middle drainage pipe and then, after the lagoon water quality is shown again to be acceptable, releasing the next foot of liquid through the bottom discharge line. The two lagoons with a 2' residual depth are then ready for summer operation.
5. All requirements for discharge water quality, method and frequence of sampling, manner of discharge, and required reporting as called for in the National Pollutant Discharge Elimination System Permit shall be followed. Additional instructions for lagoon operation will be found in the operator's manual.

CONSTRUCTION NOTES:

1. TOPSOIL IN LAGOON CONSTRUCTION AREA TO BE STRIPPED AND STOCKPILED FOR FUTURE SEEDBED PREPARATION.
2. LAGOON BOTTOM AND SIDE SLOPES TO BE SEALED USING DOWELL SOIL SEALANT OR APPROVED EQUAL WHICH SHALL BE PLACED ON A PREPARED LAGOON SURFACE AND DISCED, COMPACTED, AND COVERED WITH A PROTECTIVE SOIL LAYER AS NOTED ON PLANS AND PER MANUFACTURERS SPECIFICATIONS.
3. GAGE SUPPORT POSTS TO BE 6"x6"x 9'-0" PRESSURE TREATED TIMBER POSTS EMBEDDED 4' INTO LAGOON BOTTOM AND SET VERTICAL. STAFF GAGE TO BE SUPPLIED AND SET BY OWNER.
4. TOPSOIL IN BORROW AREA TO BE STRIPPED AND STOCKPILED FOR USE IN BORROW AREA RESTORATION. MAXIMUM DEPTH OF BORROW CUT IS 5'. MAXIMUM SLOPE GRADIENT AT EDGE OF BORROW AREA TO BE 1 ON 4. BORROW AREA TO BE SHAPED TO DRAIN, TOPSOILED, SEEDED AND MULCHED WITHIN 60 DAYS AFTER BORROW WORK IS COMPLETE. THIS WORK IS CONSIDERED INCIDENTAL TO BORROW EXCAVATION.

SURVEYED BY		DRAWN BY B. BOYCE	3-'76	NO.	DATE	BY	REVISIONS	NO.	DATE	BY	REVISIONS	MICHIGAN DEPARTMENT OF NATURAL RESOURCES	LAGOON PLAN & SECTIONS (SHEET TITLE)
DESIGNED BY R. HAEUSLER	3-'76	CHECKED BY		1.				3.					SLEEPY HOLLOW STATE PARK (AREA OR PARK)
	DATE		DATE	2.				4.					SEWAGE SYSTEM (PROJECT)

PROJECT NO. 21-9542
SHEET 3 OF 10
PLAN NO. E-107