

TEC-3



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MEMORANDUM

TO: Tom Avagliano DATE: August 17, 1984  
FROM: Jean Cline  
SUBJECT: Drilling of Monitor Wells, Florham Park, New Jersey Plant

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The four wells drilled were collared in soil and bottomed in glacial till; bedrock was not encountered in any of the holes. Wells 1, 3 and 4 are expected to produce the required 2 gpm of water, and are cased with 4" PVC pipe, the lower 20 feet of which is screen. The holes were finished according to DEP standards.

Samples of the upper portions of holes 1, 2 and 3 were collected by pounding a hollow tube into undrilled ground in advance of the drill. The remaining samples were collected by placing a shovel near the hole and allowing cuttings blown out of the hole to collect on it during drilling of the indicated sample interval. It should be recognized that although rotary drill samples contain primarily cuttings from the interval currently being drilled, samples may be contaminated by material from the upper part of the hole.

Material encountered in all holes appears to consist of unstratified glacial till, containing principally red-brown arkose, gray graywacke, granite (to granodiorite) and quartz, with variable basalt, and lesser chert, plagioclase, and K-feldspar. Fines are principally quartz sand with lesser sand-sized particles of the other rock-types present.

Wells 1 through 3 were drilled with a mud rotary rig. Bentonite mud (quick-gel) was used to keep the hole open. Plant water was used in drilling and is the fluid present in the unwashed samples.

Well 4 was drilled with an air rotary rig. A fluid known as "foam" was put down the hole when drilling reached 12 feet, to reduce the dust. A jar containing a sample of the foam is included with samples from the hole.

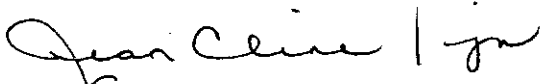
Memo to Tom Avagliano  
August 17, 1984  
Page Two

Well #1 is located north of the maintenance shop and west of the existing well. The hole was drilled to 50 feet and cased to 43 feet. Samples of the upper 20 feet were collected with the hollow tube and placed in jars. Remaining samples were washed and sieved; cleaned cuttings were placed in jars and fines in sample envelopes. Representative samples of each were logged on a clipboard.

Well #2 is located southeast of the parking lot at the south end of a small meadow. The hole was bottomed at 41 feet in water, however, the drillers were unable to get the casing past a boulder at 30 feet. As the well (at 30 feet) would not produce the required 2 gpm of water, it was abandoned. Larger samples were collected at two-foot intervals below a depth of 15 feet. Half the sample was bottled unwashed, half was washed, sieved and logged on a clipboard.

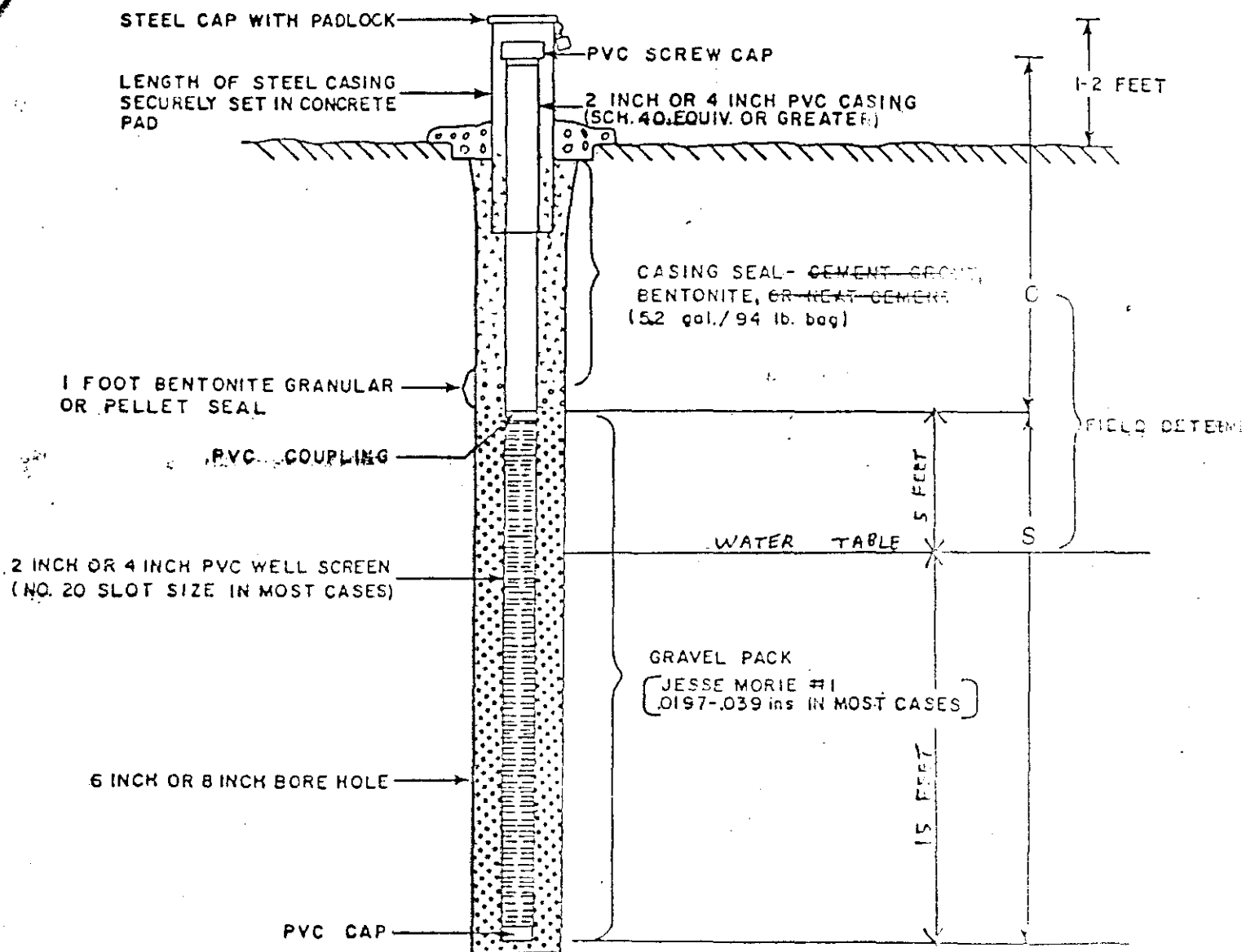
Well #3 is located west of the ARC/AOD building. The hole was bottomed at 50 feet; casing was installed to 48 feet. One sample, 6-8 feet was collected with the hollow tube. Remaining cutting samples were washed, sieved and logged with an unwashed portion being preserved.

Well #4 is located southeast of the parking lot and south of Well #2. The hole was bottomed at and cased to 35 feet. Dry samples were collected on a shovel to 12 feet. A foam material was then added to reduce dust. A portion of the sample was washed, sieved, and logged; an unwashed portion was preserved.

  
Jean Cline

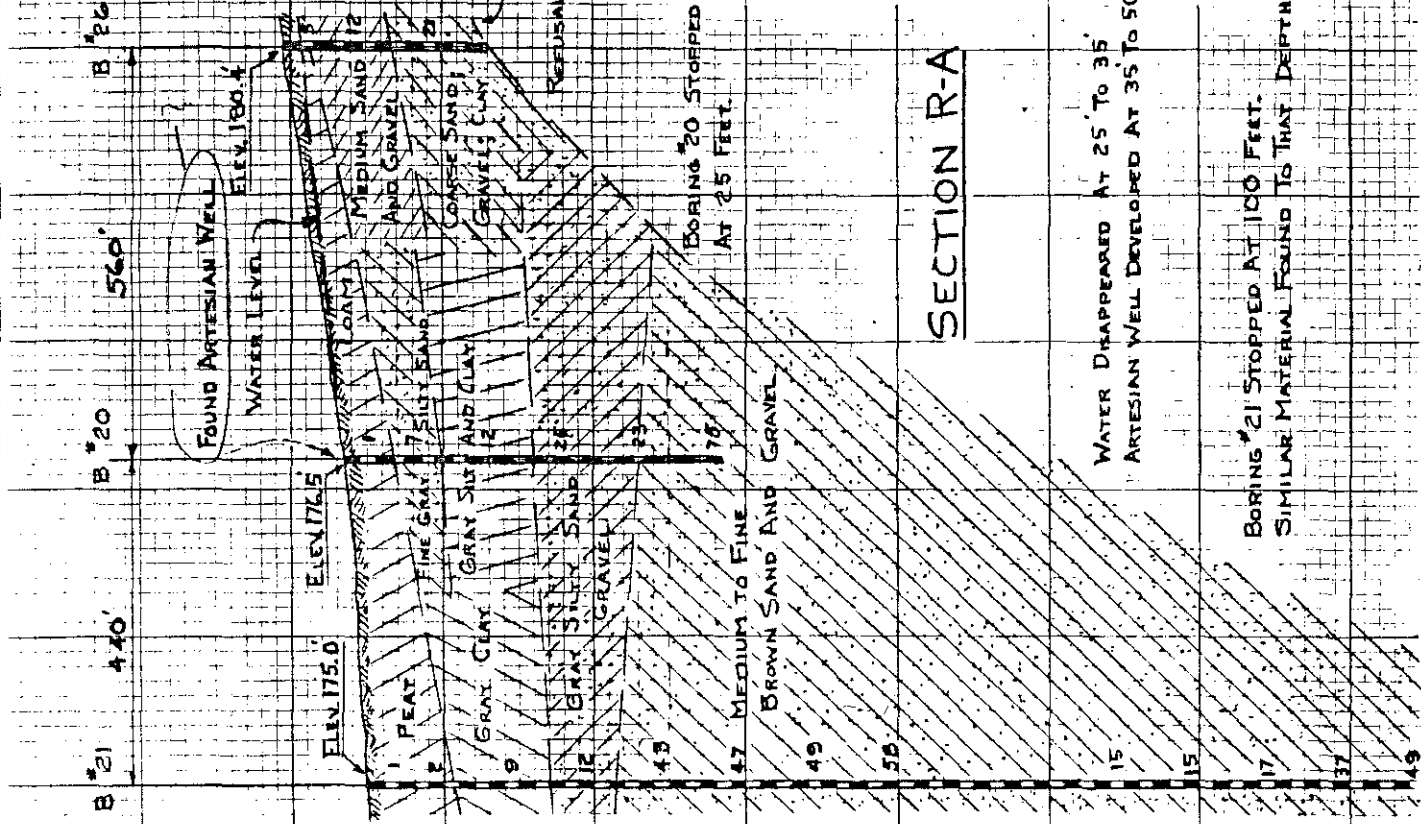
JC:jn

**DIVISION OF WATER RESOURCES SPECIFICATIONS  
MONITORING WELLS IN UNCONSOLIDATED FORMATIONS  
BUREAU OF GROUND WATER MANAGEMENT**



**REQUIREMENTS:**

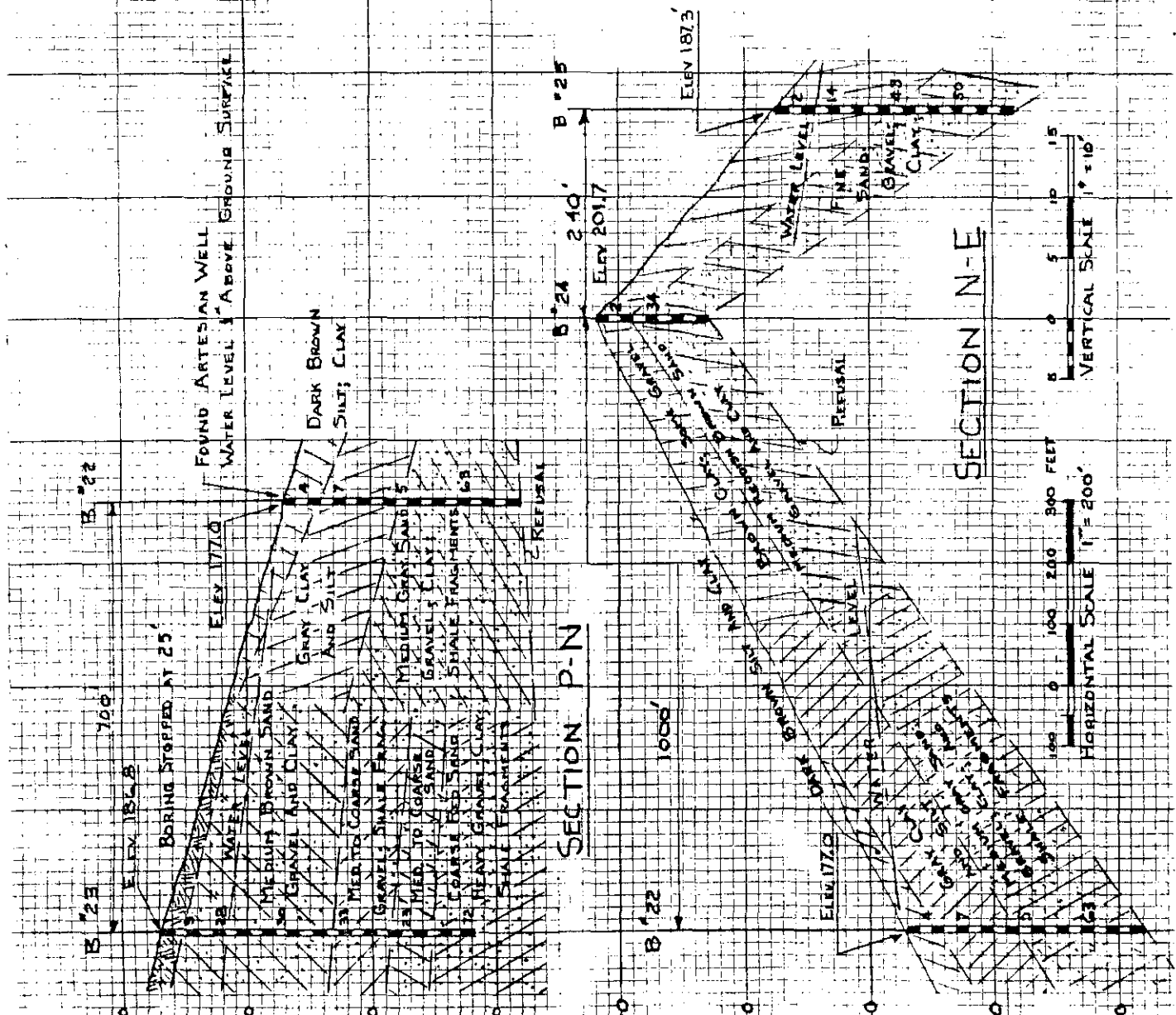
1. Notification to the Division is required two (2) weeks prior to drilling.
2. Driller is required to obtain a State Well Permit for each monitor well.
3. The driller must maintain an accurate written log of all materials penetrated in hole, record all construction details for each well, and record static water level.
4. If low level organics are to be sampled for, only screw or press joints are acceptable (no glue joints).
5. Wells must be gravel packed (when necessary) and developed to yield a sand-free discharge of at least two (2) gallons per minute where possible.
6. A length of steel casing with a locking cap must be securely set in cement and numbered.
7. Top of the PVC casing (excluding cap) must be surveyed to the nearest hundredth foot (0.01) by a licensed surveyor.
8. Other methods may be used with prior approval by the Division. Phone (609) 292-0668.



SECTION R-A

WATER DROPPED AT 25 TO 35'  
ARTESIAN WELL DEVELOPED AT 35 TO 50'

BORING 21 STOPPED AT 100 FEET.  
SIMILAR MATERIAL FOUND TO THAT DEPTH.



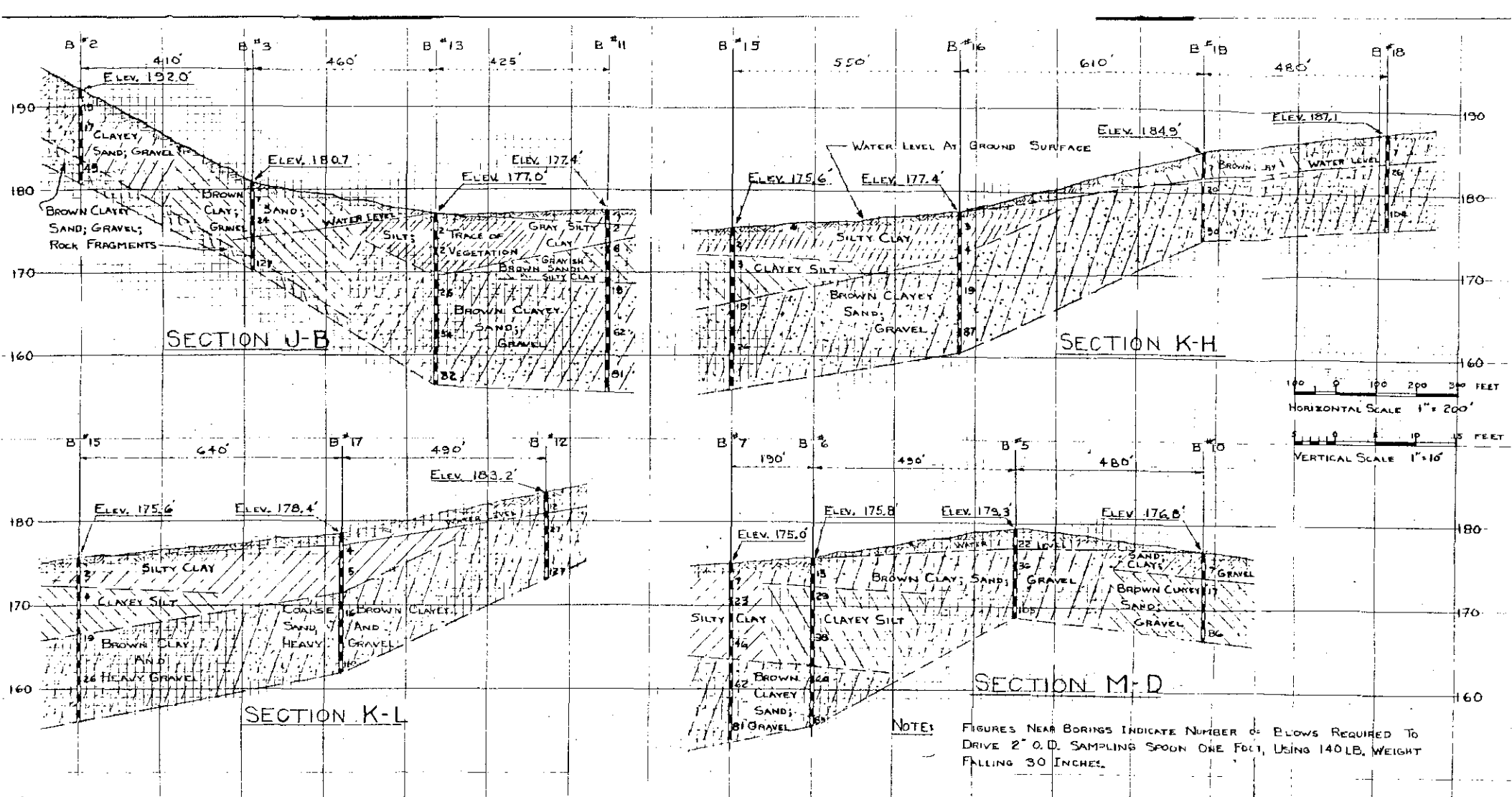
SECTION N-E

HORIZONTAL SCALE 1" = 200'

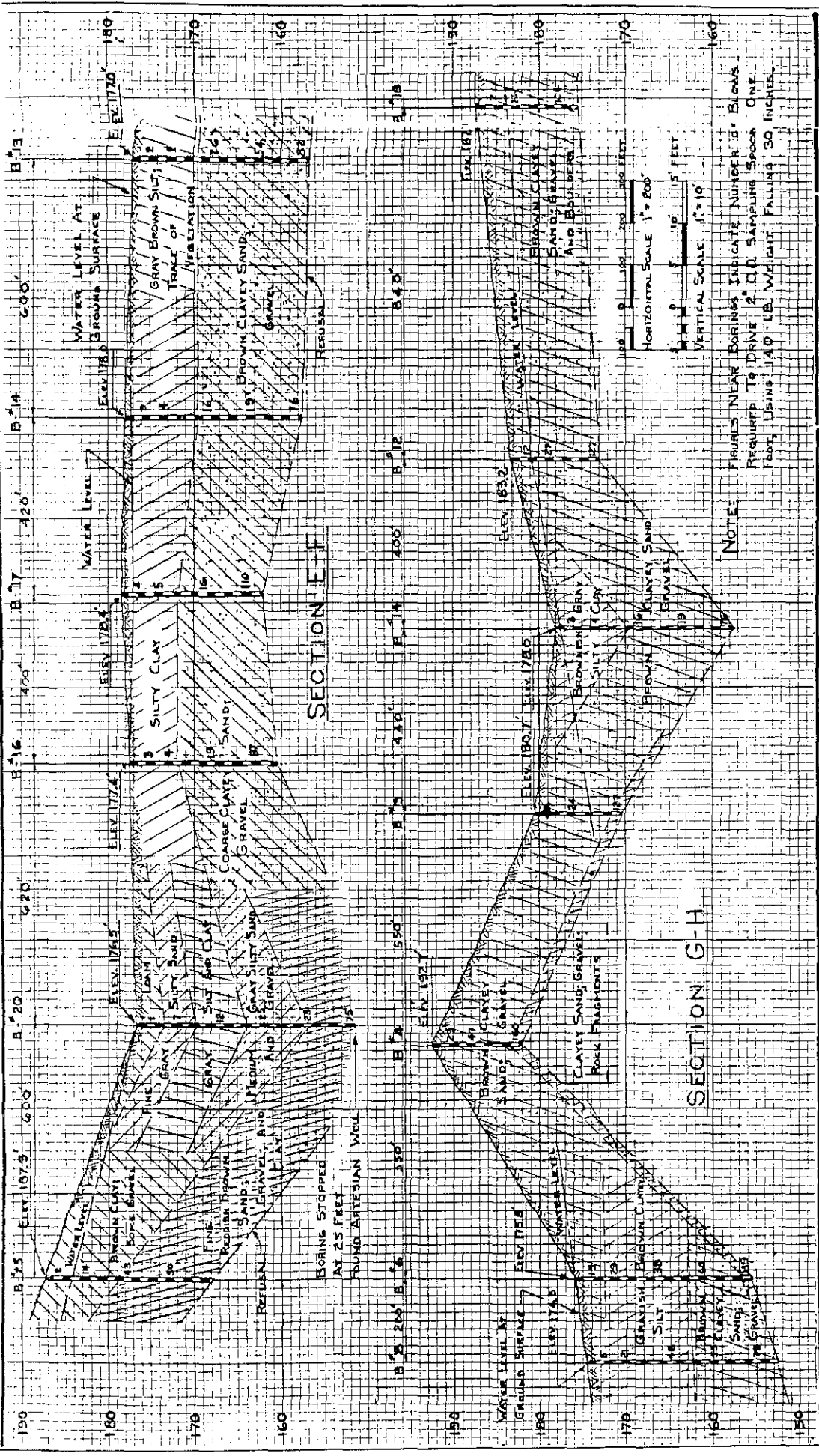
VERTICAL SCALE 1" = 10'

BORING SECTIONS





# BORING SECTIONS



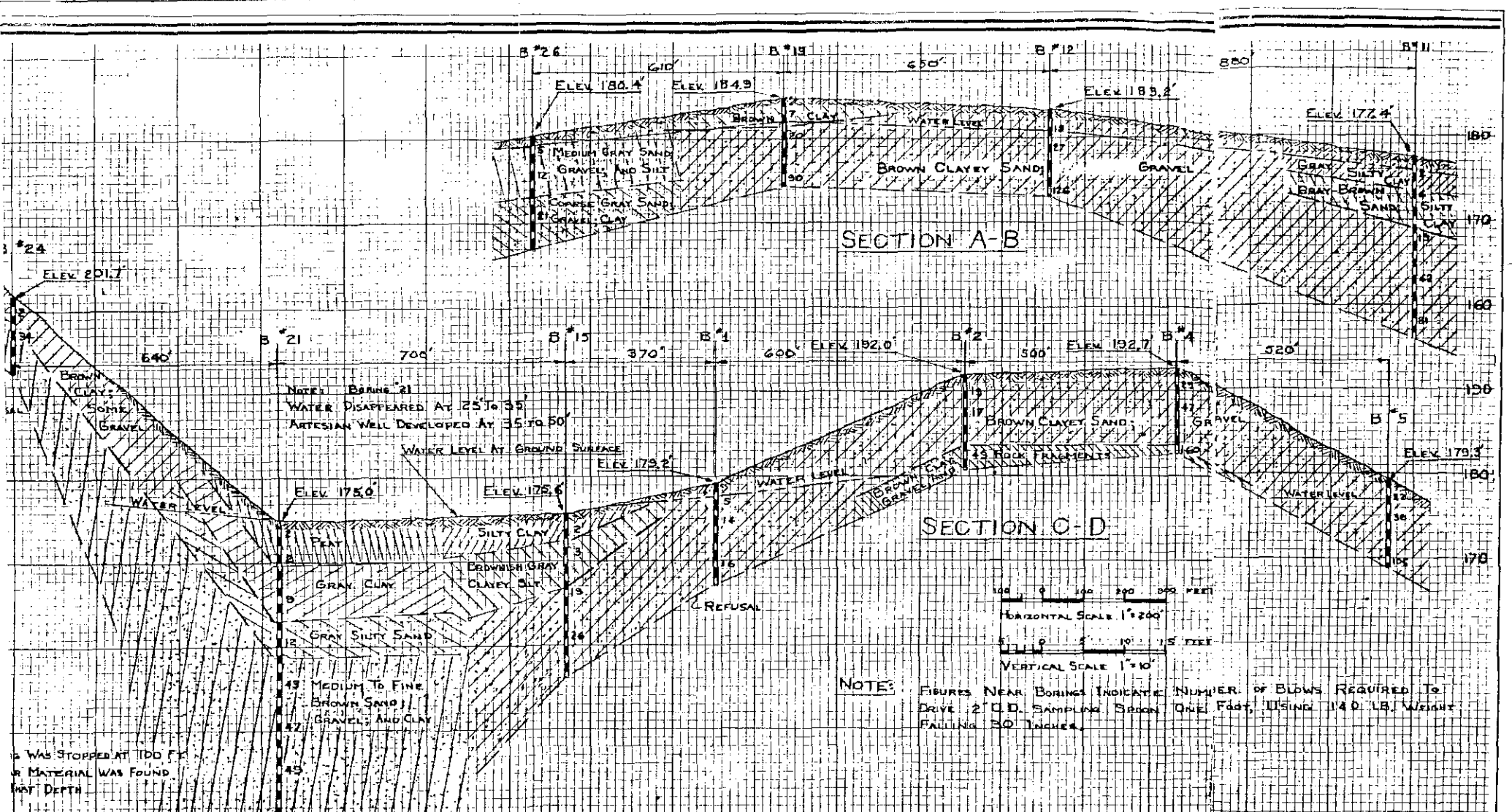
SECTION E-F

SECTION G-H

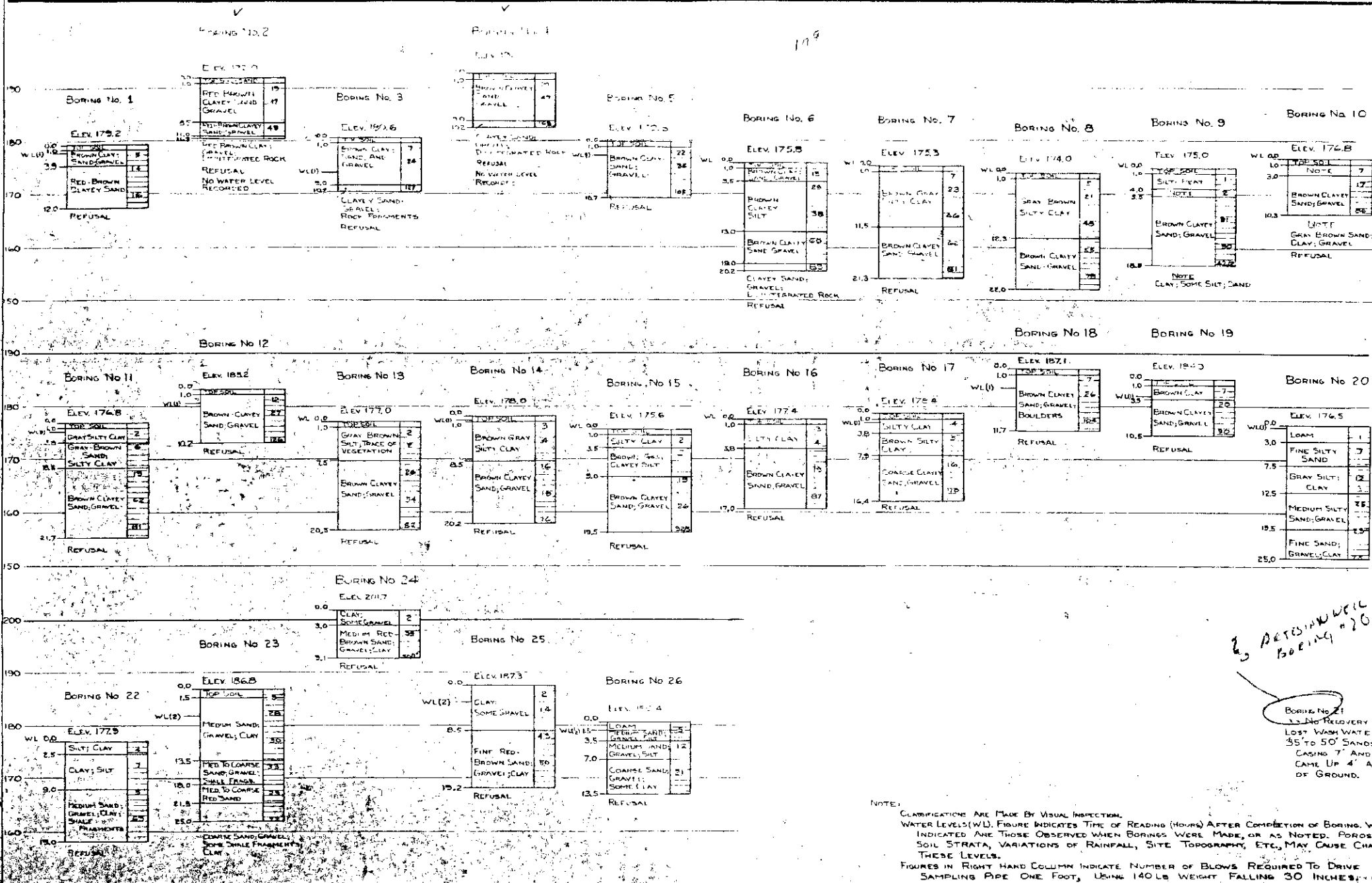
NOTE: FIGURES NEAR BORINGS INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE 2" O.D. SAMPLING SPOON ONE FOOT USING 140 LB. WEIGHT FALLING 30 INCHES.

BORING SECTIONS

8 THE AUSTIN COMPANY  
 ENGINEERS AND SURVEYORS  
 UED 3-15-57 2175



# BORING SECTIONS

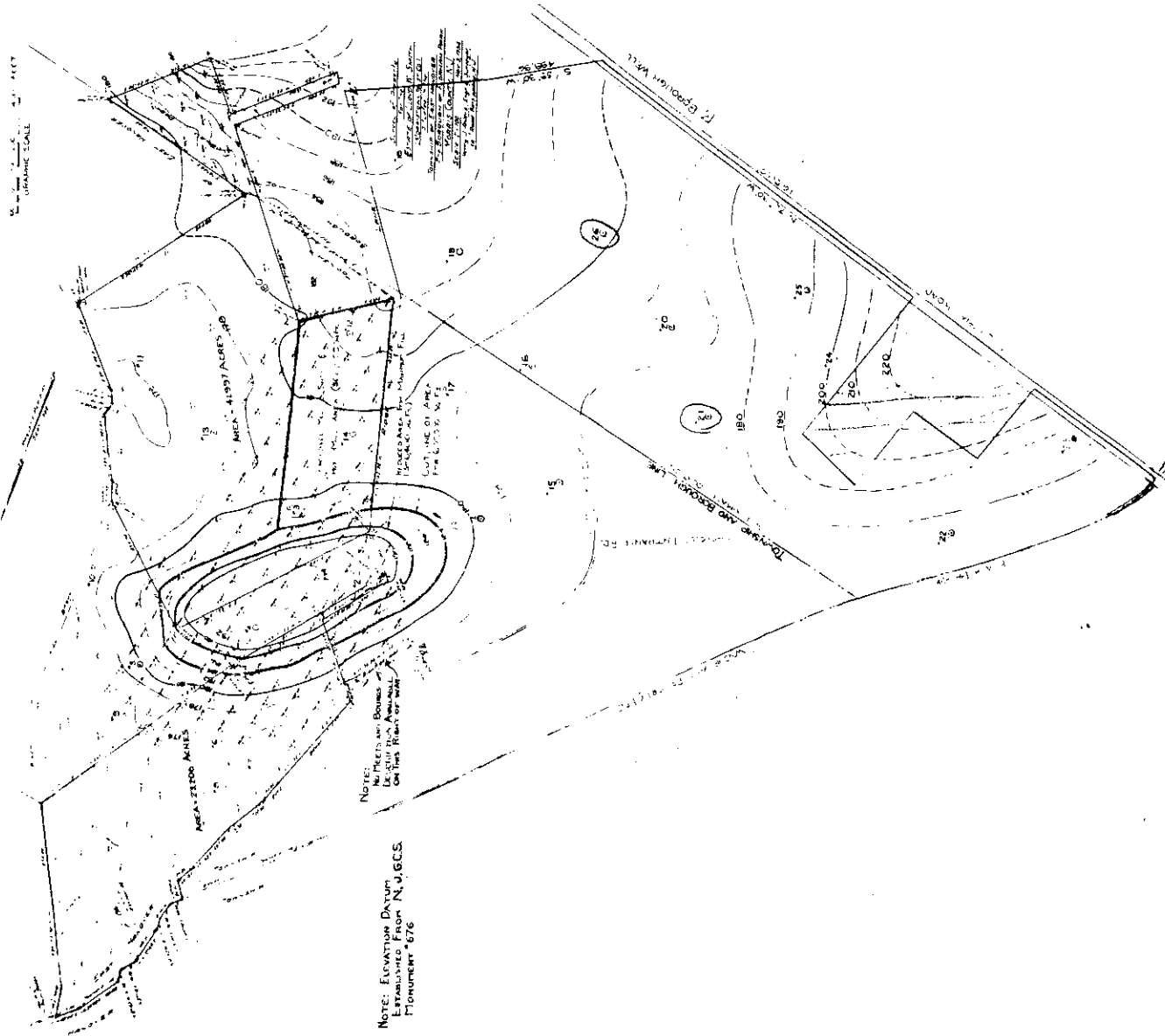


2, ARTESIAN WELL BORING #20

BORING No. 21  
NO RECOVERY OF  
LIFT WASH WATER  
35 TO 50' SANDS  
CASING 7" AND A  
CAME UP 4' AB  
OF GROUND.

NOTE: CLASSIFICATIONS ARE MADE BY VISUAL INSPECTION. WATER LEVELS (W.L.) FIGURE INDICATES TIME OF READING (HOURS) AFTER COMPLETION OF BORING. W.L. INDICATED ARE THOSE OBSERVED WHEN BORINGS WERE MADE, OR AS NOTED. POROSITY OF SOIL STRATA, VARIATIONS OF RAINFALL, SITE TOPOGRAPHY, ETC., MAY CAUSE CHANGES IN THESE LEVELS. FIGURES IN RIGHT HAND COLUMN INDICATE NUMBER OF BLOWS REQUIRED TO DRIVE 2" SAMPLING PIPE ONE FOOT, USING 140 LB WEIGHT FALLING 30 INCHES.

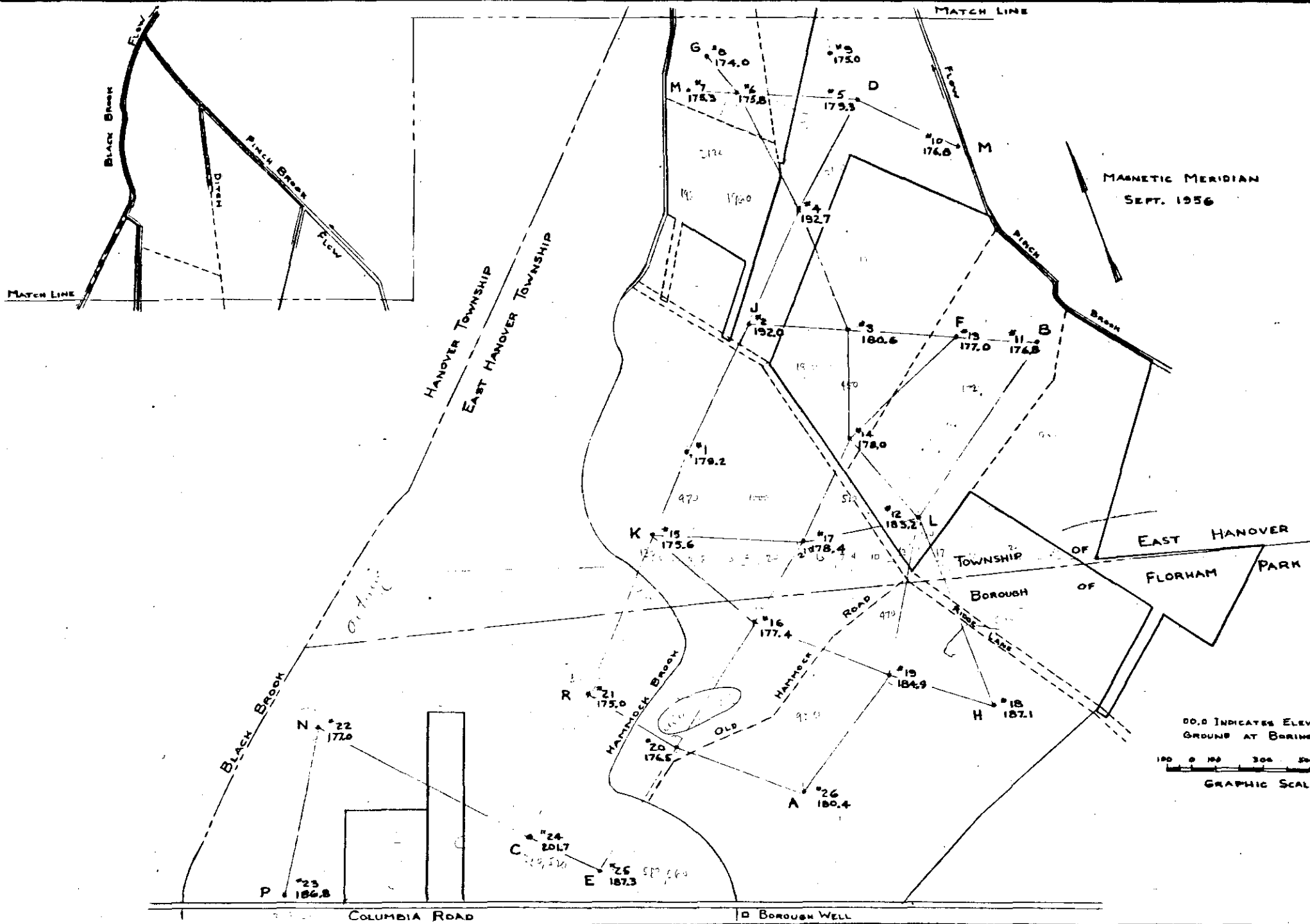
# BORING RECORD



NOTE: ELEVATION DATA  
 IS BASED ON N.A.S.T.M.  
 PROJECTIONS 87C

NOTE: ALL FEET AND BOUNDS  
 ARE FROM THE ANGLE  
 CENTER POINT OF THE

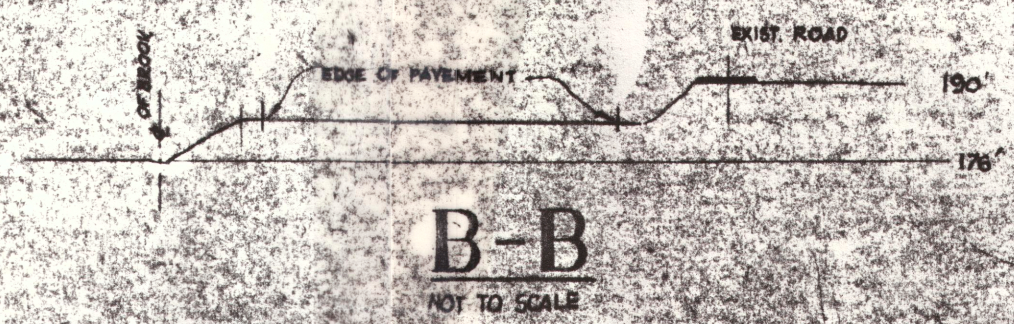
PLOT PLAN SHOWING PROPOSED LEVELS



# PLOT PLAN SHOWING BORING LOCATIONS



$A_A = \frac{1}{2} [1300 + 2570] \times 227 = 227,000$   
 $A_B = 2400 \times 2570 = 6,120,000$   
 $A_C = \frac{1}{2} \times 2600 \times 1300 = 1,690,000$   
 $A_T = 987,500 + 1,350,000 + 2,600 = 2,339,500$   
 $A_D = 700,150$   
 $A_E = 1000 \times 400 = 400,000$   
 $A_F = \frac{1}{2} \times 2600 \times 1300 = 1,690,000$   
 $A_G = 570 \times 400 + 150 \times 400 = 260,000$   
 $A_H = 2,090,000 + 6,900 = 2,096,900$   
 $A_I = 1,430,000$



R-20

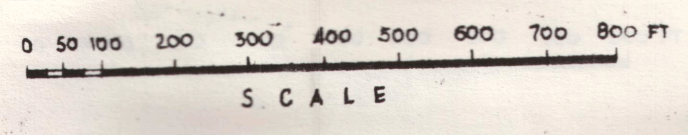
NOTE: DURING CONSTRUCTION TEMPORARY SETTLING BASIN TO BE MADE WITH TOP EMBANKMENT 18' AND BOTTOM 12'

NOTE: 1. ROOF DRAINS TO SPILL ON EXISTING GRADE 2. SIDING COATED STEEL AND CONCRETE BLOCK



A = 3000 x 3000 = 9,000,000

Area = 295 acres



- LEGEND**
- FIRE LANES AROUND BUILDING SHALL BE MARKED: "FIRE LANES - NO PARKING"
  - DRY CHEMICAL SYSTEM TO BE INSTALLED IN LIEU OF SPRINKLERS
  - FINAL PAVEMENT SLOPES TO BE CONTINUED 10 FEET BEYOND PAVEMENT EDGE TO FORM SHOULDER
  - SIDE SLOPES CONSTRUCTED AT 3:1 SLOPE
  - SEDIMENTATION BASIN WILL BE CONSTRUCTED ON WESTERLY SIDE DURING CONSTRUCTION PHASE.
  - SLOPES WILL BE ROUGH GRASS.
  - ZONE DATA:
 

|                               |      |
|-------------------------------|------|
| ZONE I1 MINIMUM REQUIREMENTS: |      |
| FRONTAGE                      | 200' |
| FRONT YD                      | 75'  |
| TOTAL SIDE YD                 | 60'  |
| REAR YD                       | 60'  |

EXISTING + NEW BUILDING = 131,123 = 151 SPACES  
 1000  
 50 PEOPLE PER SHIFT = + 25 SPACES  
 2 PEOPLE PER CAR  
 REQUIRED PARKING = 156 SPACES  
 PARKING LOT CAPACITY = 170 SPACES

TAX MAP  
 BLOCK NO. 127  
 ZONE I1  
 LOT NO 1  
 TOTAL AREA: 221.8 ACRES

WILBUR B. DRIVER CO.  
 GTE SYLVANIA  
 Russell Laustsen, PLANT ENGR. PE.

CHAIRMAN  
 PLANNING BOARD \_\_\_\_\_  
 SECRETARY  
 PLANNING BOARD \_\_\_\_\_  
 TOWNSHIP  
 ENGINEER \_\_\_\_\_

**MELT SHOP EXPANSION**  
 WILBUR B. DRIVER CO.

|                       |                      |       |                             |
|-----------------------|----------------------|-------|-----------------------------|
| REVISED DATE APPROVED | DATE                 | SCALE | PLS SHEET NO 1. OF 2 SHEETS |
| REVISED: 3-27-74 JN   | 1-200                |       |                             |
| REVISED: 3-28-74 JN   | DRAWN BY J. NICHOLLS |       |                             |
| CHECKED BY            | APPROVED BY          |       |                             |