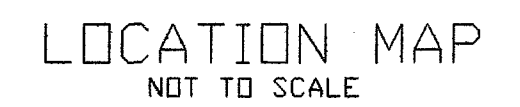


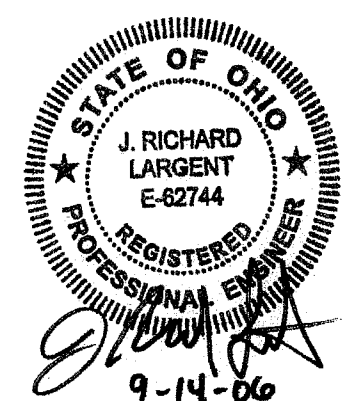
**Hettler · Largent
Engineering LLC**
Civil & Construction Consultants

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OH: 330-966-1776 • FX: 330-966-7911 • hettlereng

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STARK COUNTY, OHIO



PARCEL #0500121
RJT HOLDINGS LTD
PART OF OUTLOT 512



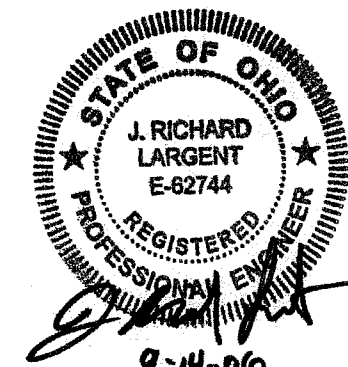
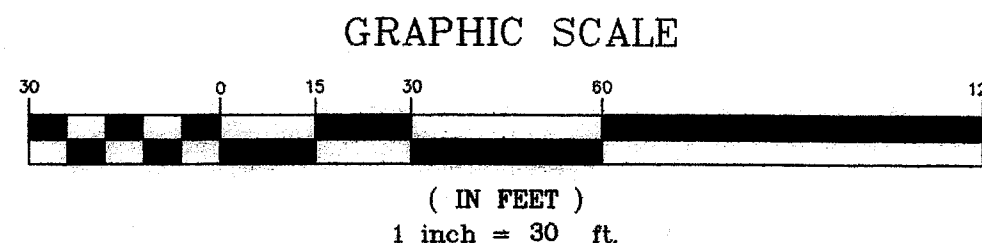
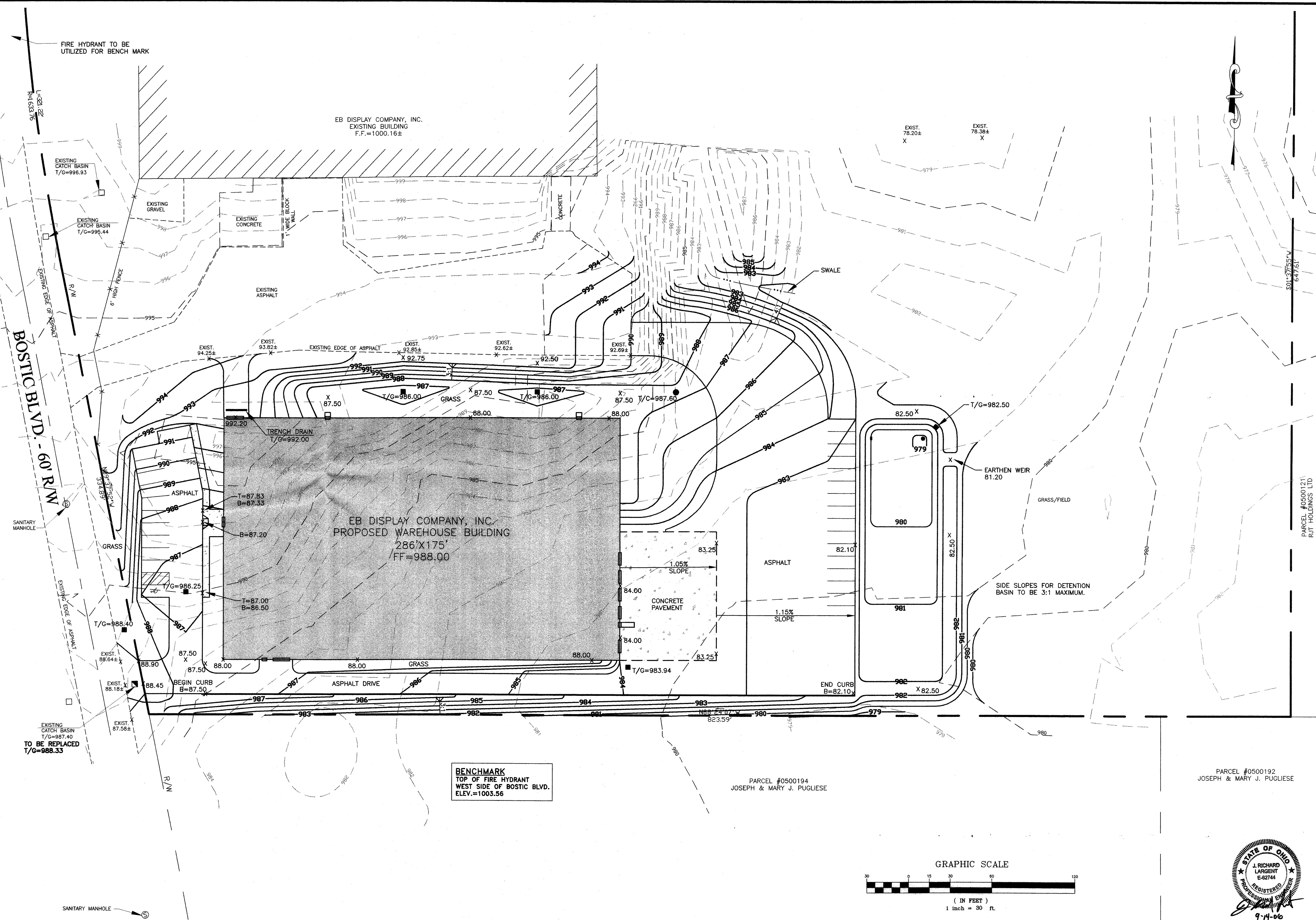
NO	DATE	DESCRIPTION	BY

GRADING PLAN

Hettler Largent
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Civil & Construction Consultants
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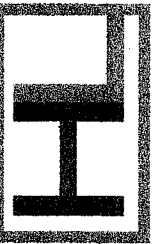
EB DISPLAY COMPANY, INC.
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CITY OF MASSILLON
STARK COUNTY, OHIO



NO.	DATE	DESCRIPTION	BY

UTILITY PLAN

Hettler Largent
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Civil & Construction Consultants
1225 North Main Street - Suite A - North Canton, OH 44720
PH: 330-966-1776 FAX: 330-966-7911 hettlereng@neo.r.com

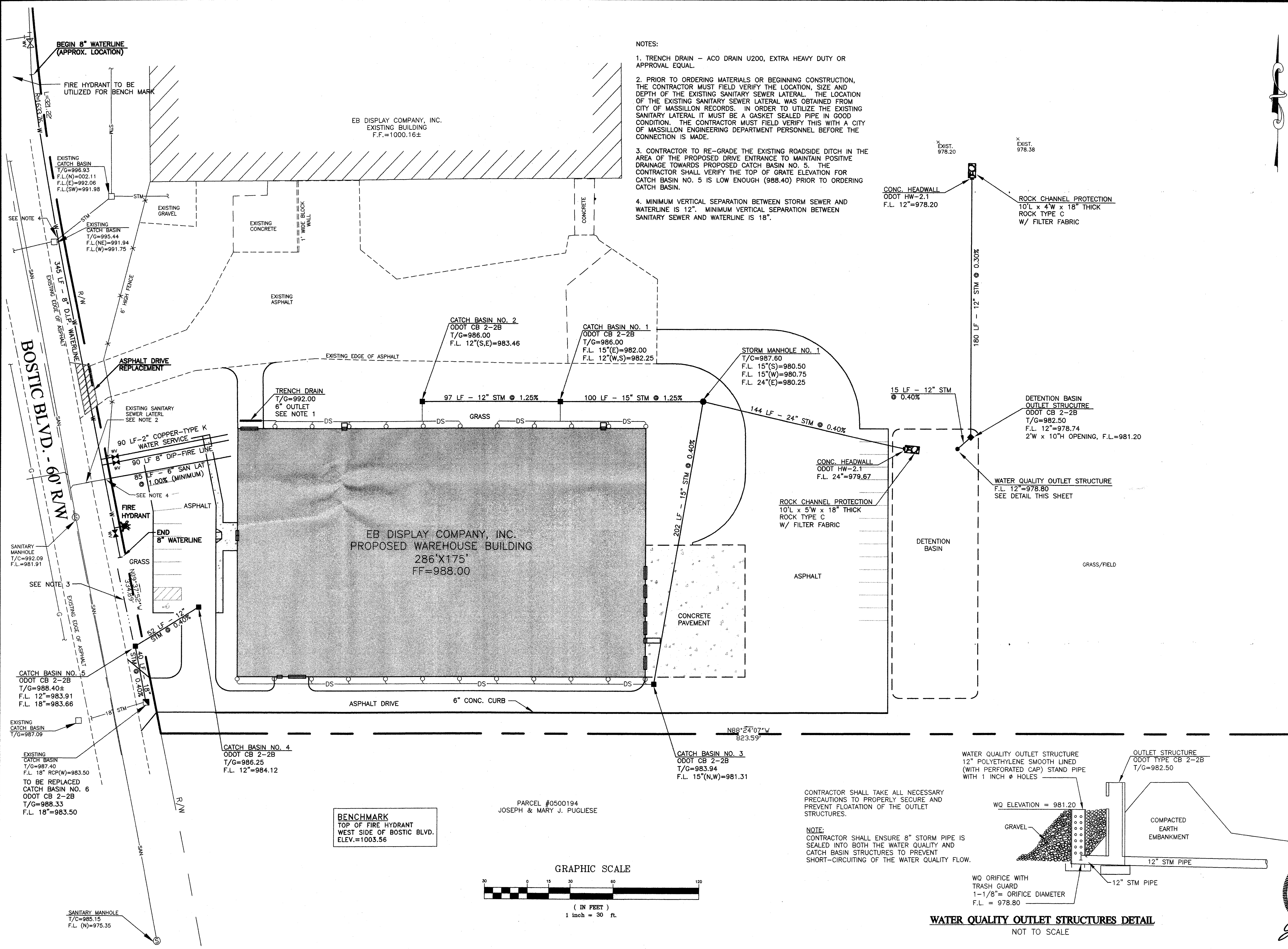


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STARK COUNTY, OHIO

PARCEL #0500121
RJT HOLDINGS LTD



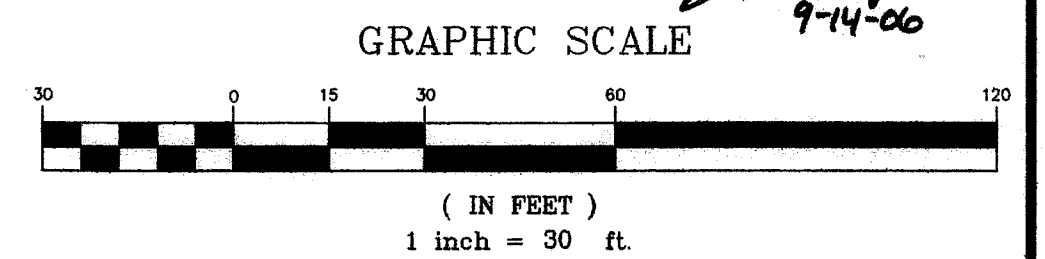
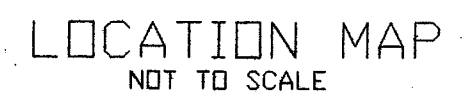
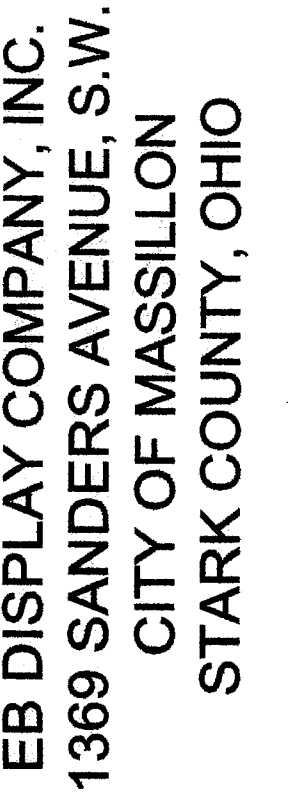
- NOTES:
1. TRENCH DRAIN - ACO DRAIN U200, EXTRA HEAVY DUTY OR APPROVAL EQUAL.
 2. PRIOR TO ORDERING MATERIALS OR BEGINNING CONSTRUCTION, THE CONTRACTOR MUST FIELD VERIFY THE LOCATION, SIZE AND DEPTH OF THE EXISTING SANITARY SEWER LATERAL. THE LOCATION OF THE EXISTING SANITARY SEWER LATERAL WAS OBTAINED FROM CITY OF MASSILLON RECORDS. IN ORDER TO UTILIZE THE EXISTING SANITARY LATERAL IT MUST BE A GASKET SEALED PIPE IN GOOD CONDITION. THE CONTRACTOR MUST FIELD VERIFY THIS WITH A CITY OF MASSILLON ENGINEERING DEPARTMENT PERSONNEL BEFORE THE CONNECTION IS MADE.
 3. CONTRACTOR TO RE-GRADE THE EXISTING ROADSIDE DITCH IN THE AREA OF THE PROPOSED DRIVE ENTRANCE TO MAINTAIN POSITIVE DRAINAGE TOWARDS PROPOSED CATCH BASIN NO. 5. THE CONTRACTOR SHALL VERIFY THE TOP OF GRATE ELEVATION FOR CATCH BASIN NO. 5 IS LOW ENOUGH (988.40) PRIOR TO ORDERING CATCH BASIN.
 4. MINIMUM VERTICAL SEPARATION BETWEEN STORM SEWER AND WATERLINE IS 12". MINIMUM VERTICAL SEPARATION BETWEEN SANITARY SEWER AND WATERLINE IS 18".



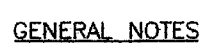
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LLP

AECOM
Civil & Construction Consultants

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— S — SILT FENCE
[] INLET PROTECTION
— — — LIMITS OF DISTURBANCE



1. TEMPORARY SOIL STABILIZATION (000T ITEM 207) SHALL OCCUR WITHIN SEVEN (7) DAYS AFTER ROUGH GRADING IF A DISTURBED AREA WILL REMAIN IDEL LONGER THAN TWENTY ONE (21) DAYS. PERMANENT SOIL STABILIZATION (000T ITEM 659) SHALL BE INITIALLY WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE (2 DAYS FOR AREAS WITHIN 50' OF STREAM). PERMANENT VEGETATION IS A GROUND COVER DEEP ENOUGH TO COVER 80% OF THE SOIL SURFACE AND DENSE ENOUGH TO SURVIVE WINTER WEATHER CONDITION.
2. ALL SEDIMENT AND EROSION CONTROLS SHALL BE INSPECTED ONCE EVERY 7 DAYS AND WITHIN 24 HOURS OF A 0.5" OR GREATER RAINFALL. A WRITTEN LOG OF THESE INSPECTIONS MUST BE KEPT. (DATES OF INSPECTION, WEATHER CONDITIONS, ACTIONS TAKEN, AND COMMENTS) SHALL BE MAINTAINED UNTIL DATE INFORMATION WAS TAKEN). WHEN SEDIMENT AND EROSION CONTROL STRUCTURES/DEVICES NEED REPAIRED/ALTERED, THE WORK SHALL BE COMPLETED WITHIN THREE (3) DAYS OF INSPECTION (SEDIMENT PONDS - REPAIR WITHIN 10 DAYS)
3. NO SOLID OR LIQUID WASTE SHALL BE DISCHARGED INTO STORM WATER RUNOFF.
4. CONSTRUCTION VEHICLES ARE LIMITED TO THE CONSTRUCTION ACCESS ROAD AND SHALL NOT ENTER THE POND. (STABILIZED CONSTRUCTION ENTRANCE).
5. OTHER EROSION CONTROL ITEMS MAY BE NECESSARY DUE TO ENVIRONMENTAL CONDITIONS.
6. THE SOIL EROSION FOR THE SITE WILL BE CONTROLLED WITH THE USE OF A SEDIMENT BASIN, S FENCE, CONSTRUCTION ENTRANCES, AND INLET PROTECTION.

DISPOSAL OF SOLID, SANITARY AND TOXIC WASTE
SOLID, SANITARY AND TOXIC WASTE MUST BE DISPOSED OF IN A PROPER MANNER IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. IT IS PROHIBITED TO BURN, BURY OR POUR OUT ONTO THE GROUND OR INTO OIL, SEWERS ANY SUCH THINGS, PAINTS, STAINS, GASOLINE, DIESEL FUEL, USED MOTOR OIL, HYDRAULIC FLUID, CEMENT, ASPHALT, PAINTS, OILS, COMPOUNDS AND OTHER SUCH TOXIC OR HAZARDOUS WASTES. WASH OUT OF CEMENT TRUCKS SHOULD OCCUR IN A DIKE, DESIGNATED AREA WHERE THE WASTE CAN BE COLLECTED AND DISPOSED OF PROPERLY WHEN THEY ARE USED TO GRADE. TANKS SHOULD BE LOCATED IN DIKED AREAS AWAY FROM DRAINAGE CHANNELS. THE DIKED AREA SHOULD HOLD A VOLUME 110% OF THE LARGEST TANK.

GENERAL CONSTRUCTION SEQUENCE

1. INSTALLATION OF THE CONSTRUCTION ENTRANCE.
2. INSTALLATION OF THE SEDIMENTATION POND WITH DIVERSION DITCHES TO CONTROL SEDIMENT RUNOFF DURING THIS PERIOD OF SITE DISTURBANCE.
3. INSTALL PERIMETER SILT FENCE.
4. A PRECONSTRUCTION MEETING IS REQUIRED.
5. PERFORM SCALPING AND STRIPPING. THE PERIMETER OF ALL SOIL STOCKPILE AREAS SHALL BE CONTAINED WITH SILT FENCE TO PREVENT SOIL MIGRATION.
6. TEMPORARY SEEDING OF THE SITE EXCEPT FOR UTILITY AREAS.
7. INSTALL UTILITIES.
8. TEMPORARY SEEDING OF UTILITIES EASEMENTS.
9. PROJECT STORM DRAIN INLETS WITH YARD INLET AND CURB INLET PROTECTION.
10. PERFORM FINAL GRADING.
11. INSTALL THE PAVEMENT.
12. CONSTRUCT BUILDINGS.
13. FINAL SEEDING.

DUST CONTROL
THE CONTRACTOR SHALL BE RESPONSIBLE TO PROPERLY CONTROL DUST FROM THE PROJECT SITE AS NECESSARY/REQUIRED TO MAINTAIN SAFE VISIBILITY WITHIN AND/OR ADJACENT TO THE SITE AND TO AVOID IMPACT ON ADJACENT PROPERTIES. METHODS FOR DUST CONTROL MUST BE APPROVED BY THE ENGINEER.

TRENCH/GROUNDWATER DEWATERING PROCEDURE

ALL TRENCH WATER AND/OR GROUNDWATER REQUIRED TO BE REMOVED TO MAINTAIN CONSTRUCTION ACTIVITIES SHALL BE DISCHARGED INTO AN OHIO EPA APPROVED BMP. BMP'S FOR CONSTRUCTION STORMWATER PERMIT. THESE BMP'S INCLUDE, BUT ARE NOT LIMITED TO UTILIZING SEDIMENT BASINS THAT ARE PREVIOUSLY CONSTRUCTED PER THE CONSTRUCTION PLANS, IF POSSIBLE OR CONSTRUCTING SEVERAL SMALLER SEDIMENT TRAPS NEAR DEWATERING OPERATIONS. OTHER ALTERNATIVES INCLUDE THE USE OF PORTABLE DEWATERING DEVICES SUCH AS DEWATERING BAGS OR FRAC TANKS, AS APPROVED BY THE ENGINEER.

PROJECT DESCRIPTION
PROJECT CONSISTS OF CONSTRUCTING A 286'x175' WAREHOUSE AND ASPHALT PARKING. GRADING OPERATIONS WILL BE NECESSARY FOR THE COMPLETION OF THIS PROJECT. INSTALLATION OF SANITARY, WATER AND STORM SEWER UTILITIES WILL BE REQUIRED.

TOTAL SITE PROPERTY AREA=13.12 ACRES
APPROX. DISTURBED AREA= 4.20 ACRES
DRAINAGE AREA = 3.97 ACRES

PRE-DEVELOPED RUNOFF COEFFICIENT=0.49
POST-DEVELOPED RUNOFF COEFFICIENT=0.75
(SEE DRAINAGE CALCULATIONS)

SOIL TYPES
Wrb - WHEELING SILT LOAM
CpC - CHILI SILT LOAM
CpB - CHILI SILT LOAM

POSTS MINIMUM
1.25" SQUARE
OR 2" ROUND SET
AT LEAST 3' INTO

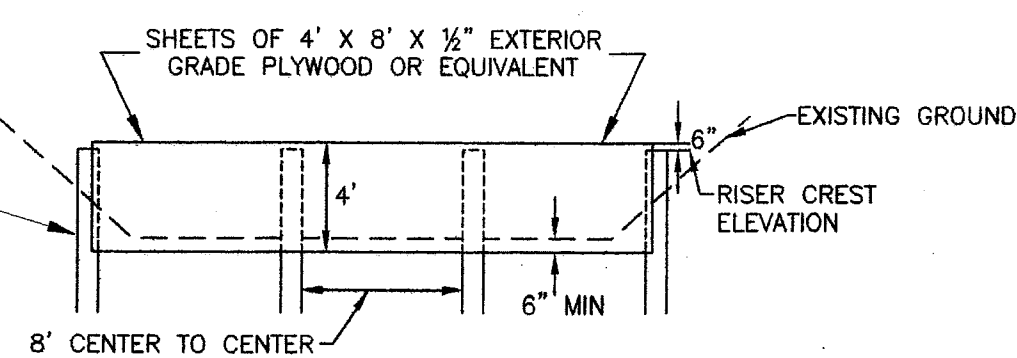
CONTACT INFORMATION
SCHUMACHER CONSTRUCTION
412 LAKE AVENUE N.E.
MASSILLON, OHIO 44648
MICHAEL A. BUSHMAN
330-833-3740

THE STORM WATER DISCHARGE FROM THIS SITE WILL BE ROUTED THROUGH
A PERMANENT DETENTION BASIN/WATER QUALITY BASIN.

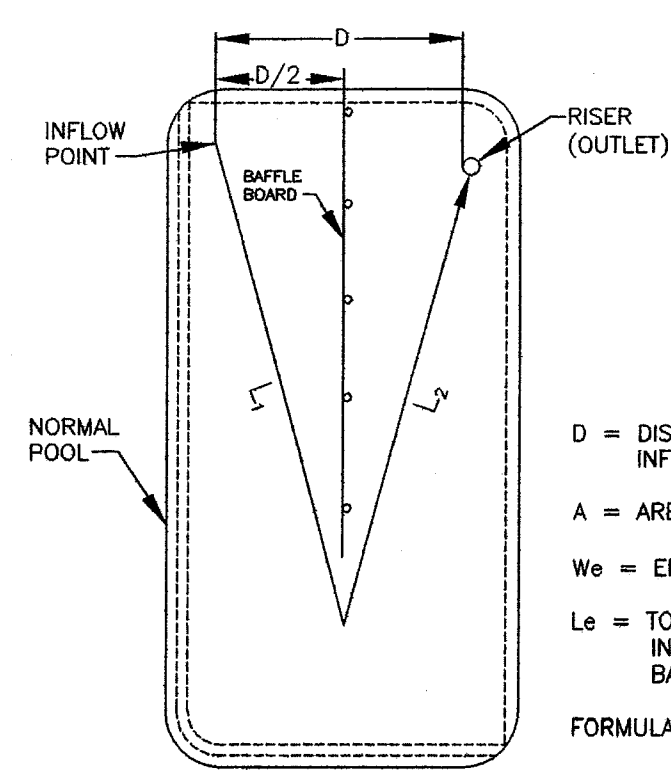
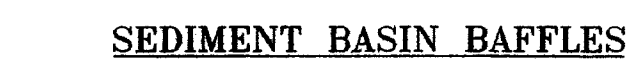
DESCRIPTION OF PRIOR LAND USE FOR SITE -
GRASS/OPEN FILED - UNDEVELOPED.

POST CONSTRUCTION BMP
A PERMANENT STORM WATER DETENTION BASIN/WATER QUALITY BASIN WILL BE CONSTRUCTED AS PART OF THE PROJECT. THE BASIN WILL BE A DRY EXCAVATED POND. THIS BASIN WILL BE USED TO ELIMINATE POLLUTANTS COLLECTED DURING THE FIRST FLUSH AND TO RELEASE PREDEVELOPED PEAK RUNOFF RATES FOR LARGER STORM EVENTS.

NON-STRUCTURAL BMP - STORM SEWER CATCH BASINS WILL HAVE "DUMP NO WASTE - DRAINS TO WATERWAY" STATED ON THE CASTINGS.



BAFFLE DETAIL



$$L_e = L_1 + L_2$$

D = DISTANCE BETWEEN
INFLOW AND OUTFLOW

A = AREA OF NORMAL POOL

W_e = EFFECTIVE WIDTH = A/D

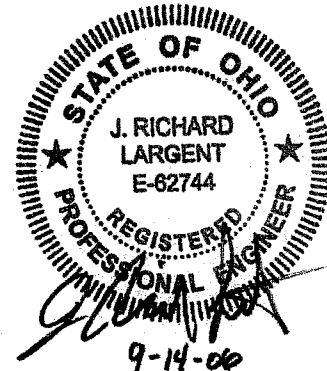
L_e = TOTAL DISTANCE FROM THE
INFLOW POINT AROUND THE
BAFFLES TO THE RISER

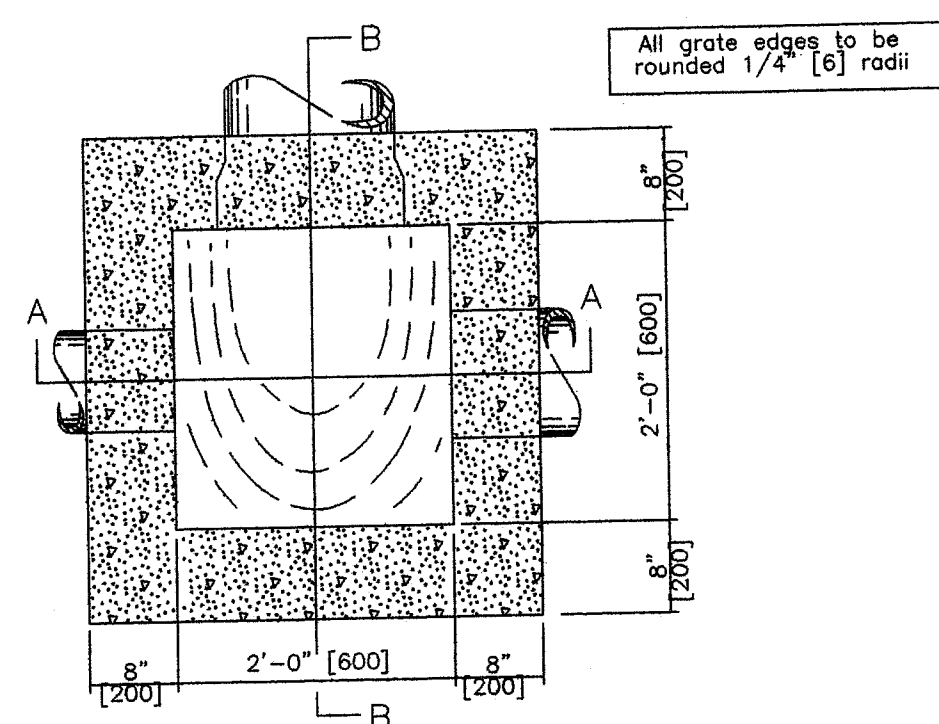
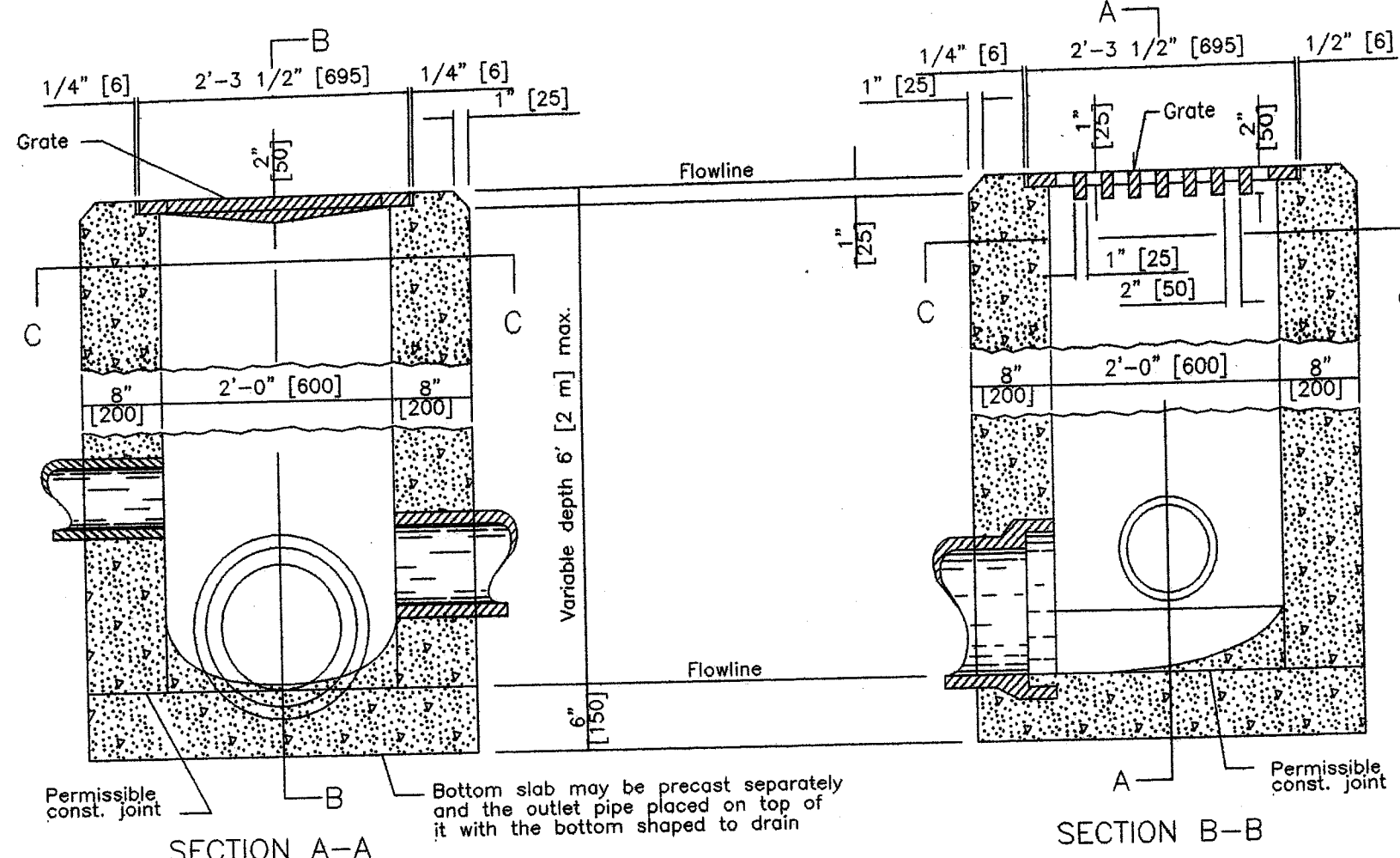
FORMULA: $\frac{L_e}{W_e} \geq 2$

FORMULA: $\frac{Le}{We} \geq 2$

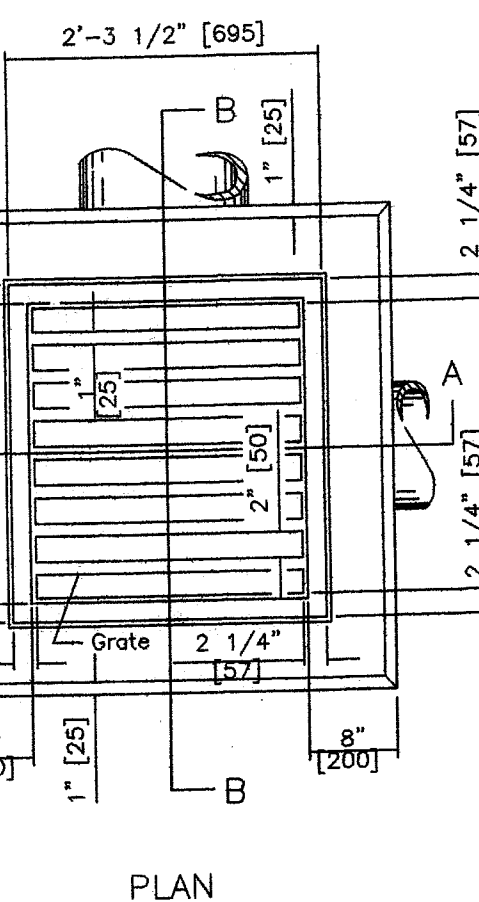
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CITY OF MASSILLON
STARK COUNTY, OHIO**





CATCH BASIN NO. 2-2B
NOT TO SCALE



NOTES

GRATE: The design shall be essentially the same and equally as strong as the one shown (see construction information table), or meet the requirements of CMS 711.14. Grate openings and dimensions shall not differ from those shown unless otherwise shown in the plans.

If necessary, bicycle safe grates shall be specified in the plans. Bicycle safe grates shall be Neenah No. R-4859-C or East Jordan No. 5110 Type M3 or approved equals.

As of January 1, 2003, the following text shall be cast into the top of the grate:

"DUMP NO WASTE" and "DRAINS TO WATERWAY"

Text shall be printed in bold, capital letters with a minimum height of 1/4\"/>

WALLS: Brick or cast-in-place walls have a nominal thickness of 8\"/>

CONCRETE: Cast-in-place concrete is to be Class C. All precast concrete shall meet the requirements of CMS 706.13 and be marked with the catch basin number.

PRECAST BASE: If a precast base is used, it shall be set deep enough so that the top can be placed on the base to provide the grate elevation specified in the plans. Layers of brick shall not be used to adjust the top elevation.

LOCATION AND ELEVATION: When given on the plans, location and elevation are at the top center of the grate. When side openings are provided, the elevation shall be at the flow line of the side inlet.

MINIMUM DEPTH: The minimum depth for CB No. 2-2B shall be the O.D. of the outlet pipe plus 4\"/>

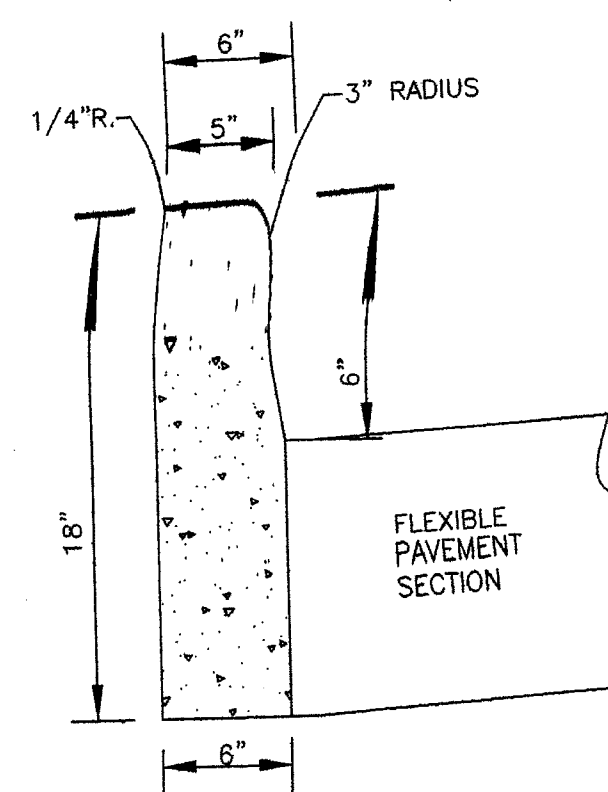
2-2B GRATE ELEVATION: Grate elevation is to be placed 4\"/>

OPENINGS: Pipe openings shall be the O.D. of the pipe being supplied plus 2\"/>

PAYMENT: All materials and labor, including excavation and backfilling, shall be paid for under Item 604 - Catch Basin, No. 2-2B.

CONSTRUCTION INFORMATION	
Minimum weight (mass) of grate, 120 lbs. (54 kg)	

CATCH BASIN	OUTLET PIPE SIZE
2-2A	12\"/>



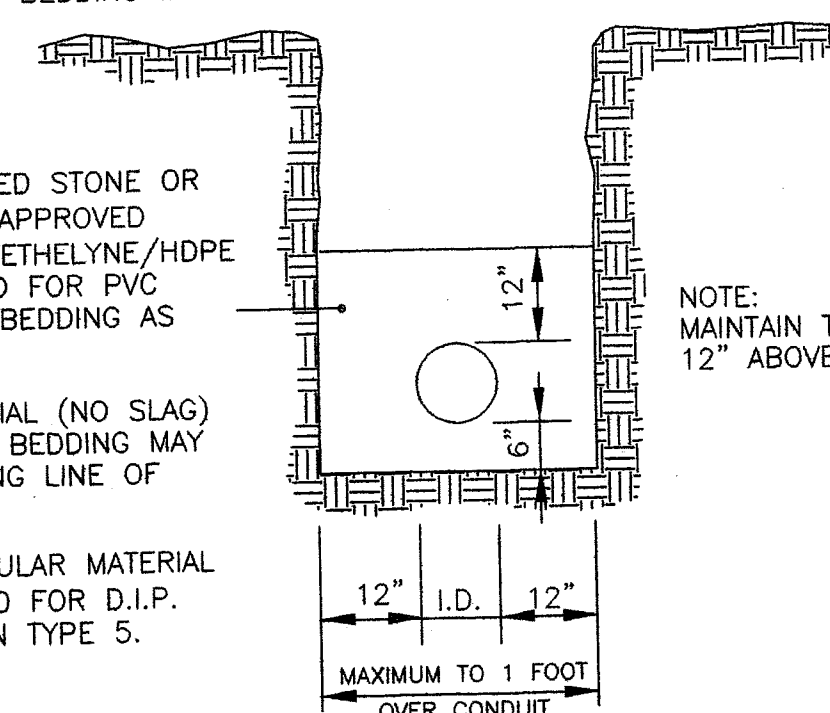
**O.D.T. TYPE 6
CONCRETE CURB**
NOT TO SCALE

IF MATERIAL MEETING THE REQUIREMENTS FOR ODOT TYPE 2 GRANULAR MATERIAL (ODOT 703.11) IS USED FOR BACKFILL OF TYPE B CONDUITS (ABOVE THE REQUIRED BEDDING MATERIAL) THEN THE CONTRACTOR MUST PROVIDE AND INSTALL AN APPROVED GEOTECHNICAL FABRIC BETWEEN THE BEDDING AND THE BACKFILL TO PREVENT MIGRATION OF THE GRANULAR BACKFILL INTO THE BEDDING MATERIAL.

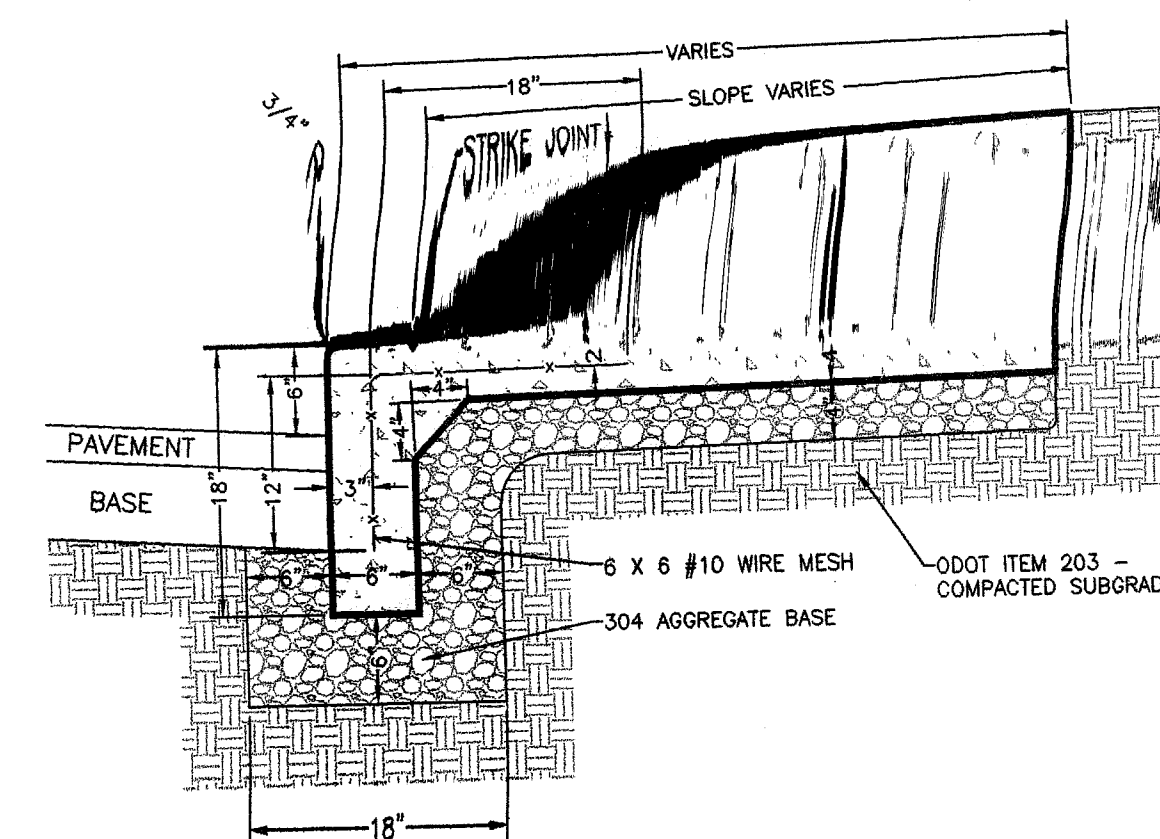
BEDDING: COMPACTED ANGULAR, CRUSHED STONE OR GRAVEL (#57 LESTONE OR APPROVED EQUAL, NO SLAG) FOR POLYETHYLENE/HDPE AND PVC STORM SEWERS AND FOR PVC SANITARY SEWERS, CLASS I BEDDING AS PER ASTM D2321-72.

COMPACTED GRANULAR MATERIAL (NO SLAG) FOR R.C.P. STORM SEWERS. BEDDING MAY BE TERMINATED AT THE SPRING LINE OF R.C.P. STORM SEWERS.

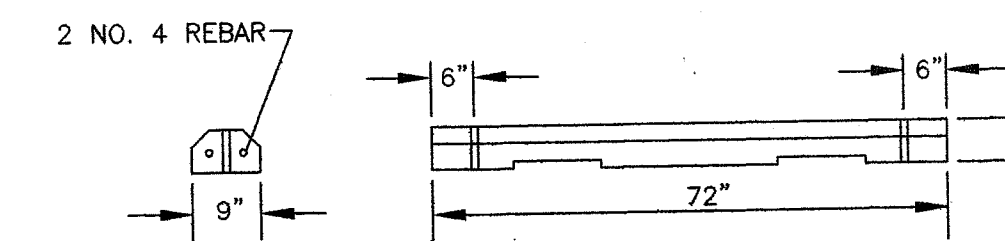
APPROVED COMPACTED GRANULAR MATERIAL PER ANSI/AWWA C150/A21.50 FOR D.I.P. WATERLINE, LAYING CONDITION TYPE 5.



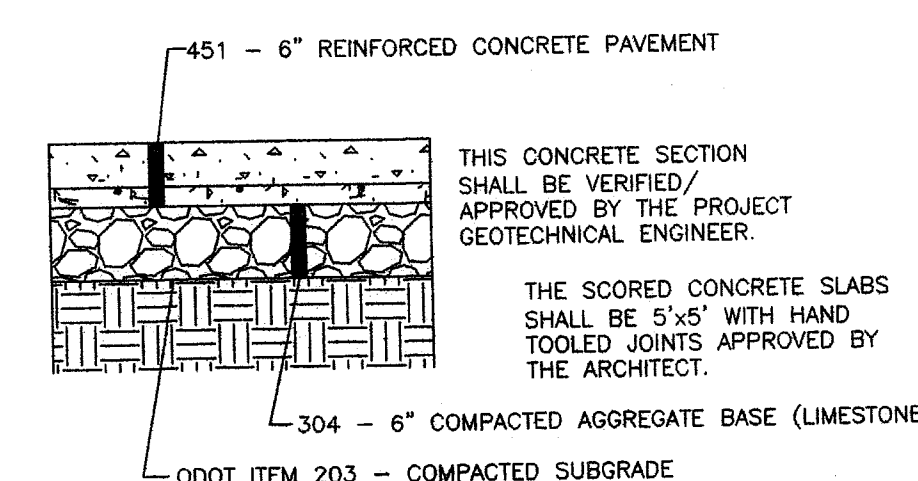
PIPE BEDDING DETAIL
NOT TO SCALE



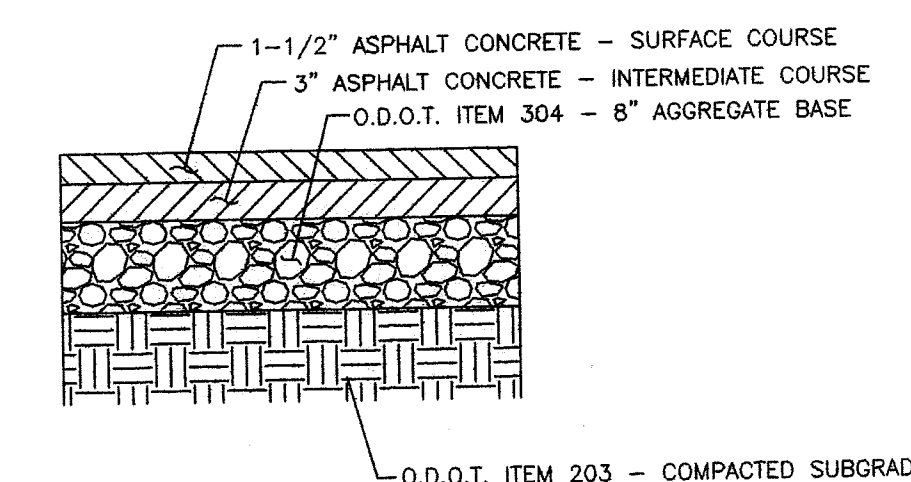
COMBINED CURB & WALK
NOT TO SCALE



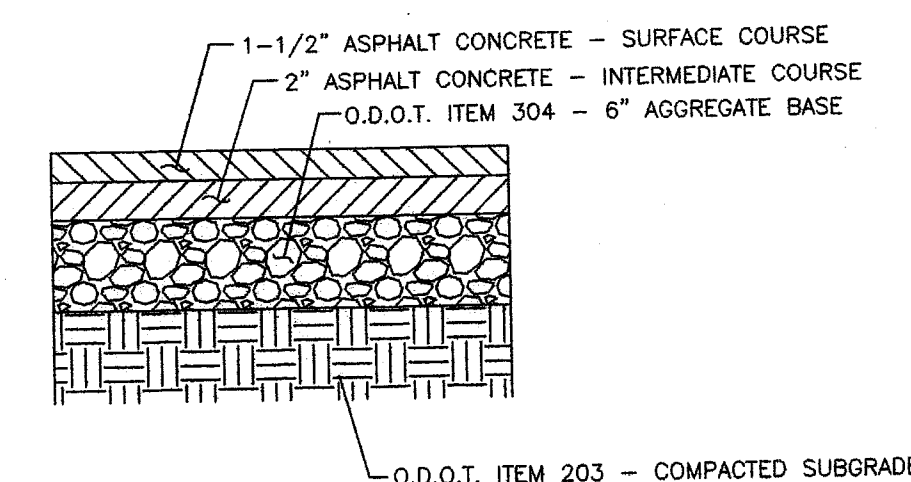
STANDARD PARKING BUMPER BLOCK
NOT TO SCALE



TYPICAL CONCRETE PAVEMENT
NOT TO SCALE

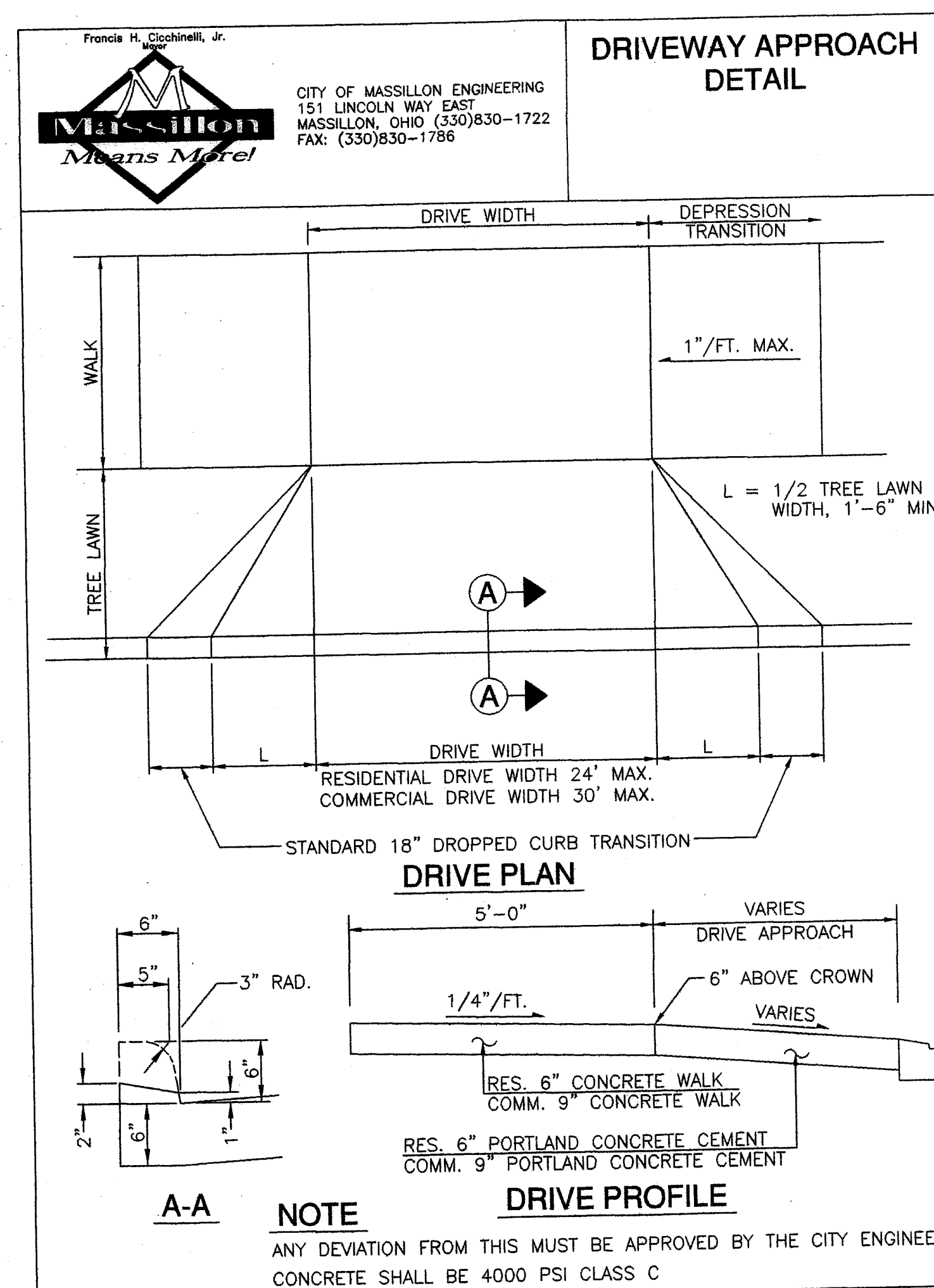
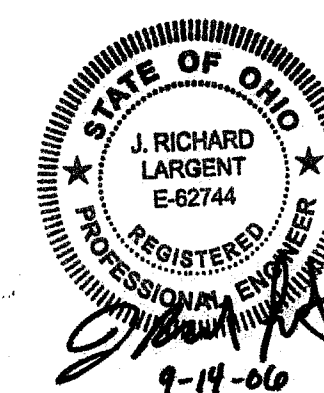


HEAVY DUTY PAVEMENT SECTION
NOT TO SCALE



STANDARD DUTY PAVEMENT SECTION
NOT TO SCALE

ALL PAVEMENT SECTIONS SHOWN ARE FOR BIDDING PURPOSES ONLY AND NEED TO BE VERIFIED/DESIGNED AND MODIFIED AS NECESSARY BY A GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.



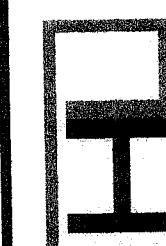
A-A

NOTE

ANY DEVIATION FROM THIS MUST BE APPROVED BY THE CITY ENGINEER. CONCRETE SHALL BE 4000 PSI CLASS C

DETAILS

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