

LAND DEVELOPMENT PLANS

ZERN TRACT

A 236 UNIT RESIDENTIAL TOWNHOME DEVELOPMENT

LOCATED IN

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY, PENNSYLVANIA

PREPARED FOR

DANNY JAKE CORP.
3625 WELSH ROAD
WILLOW GROVE, PA 19090

SHEET INDEX

LAND DEVELOPMENT PLAN SET:	
1 OF 64	MASTER LAND DEVELOPMENT PLAN
2 OF 64	LAND DEVELOPMENT PLAN
3 OF 64	LAND DEVELOPMENT PLAN
4 OF 64	LAND DEVELOPMENT PLAN
5 OF 64	STRIPING, SIGNAGE, & PARKING PLAN
6 OF 64	STRIPING, SIGNAGE, & PARKING PLAN
7 OF 64	STRIPING, SIGNAGE, & PARKING PLAN
8 OF 64	DETAIL SHEET: PROPOSED SIGNAGE
9 OF 64	EXISTING FEATURES PLAN
10 OF 64	EXISTING FEATURES PLAN
11 OF 64	EXISTING FEATURES PLAN
12 OF 64	CONSTRUCTION PLAN (STORMSEWER AND GRADING)
13 OF 64	CONSTRUCTION PLAN (STORMSEWER AND GRADING)
14 OF 64	CONSTRUCTION PLAN (STORMSEWER AND GRADING)
15 OF 64	CONSTRUCTION PLAN (SANITARY SEWER AND WATER)
16 OF 64	CONSTRUCTION PLAN (SANITARY SEWER AND WATER)
17 OF 64	CONSTRUCTION PLAN (SANITARY SEWER AND WATER)
18 OF 64	EROSION AND SEDIMENTATION CONTROL PLAN
19 OF 64	EROSION AND SEDIMENTATION CONTROL PLAN
20 OF 64	EROSION AND SEDIMENTATION CONTROL PLAN
21 OF 64	EROSION AND SEDIMENTATION CONTROL PLAN
22 OF 64	PLAN NOTES: EROSION & SEDIMENTATION CONTROL
23 OF 64	DETAIL SHEET: EROSION & SEDIMENTATION CONTROL
24 OF 64	DETAIL SHEET: EROSION & SEDIMENTATION CONTROL
25 OF 64	SEDIMENT BARRIER PLAN
26 OF 64	CULVERT REPLACEMENT PLAN
27 OF 64	STREAM CROSSING PLAN
28 OF 64	TREE ASSESSMENT PLAN
29 OF 64	LANDSCAPING PLAN
30 OF 64	LANDSCAPING PLAN
31 OF 64	LANDSCAPING PLAN
32 OF 64	PLAN AND PROFILE: ROAD 'A'
33 OF 64	PLAN AND PROFILE: ROAD 'A'
34 OF 64	PLAN AND PROFILE: ROAD 'B'
35 OF 64	PLAN AND PROFILE: ROAD 'B'
36 OF 64	PLAN AND PROFILE: ROAD 'C'
37 OF 64	PLAN AND PROFILE: ROAD 'C'
38 OF 64	PLAN AND PROFILE: ROAD 'D'
39 OF 64	PLAN AND PROFILE: ROAD 'D'
40 OF 64	PLAN AND PROFILE: ROAD 'E' & 'F'
41 OF 64	PLAN AND PROFILE: ROAD 'F'
42 OF 64	OFF ROAD PROFILES
43 OF 64	OFF ROAD PROFILES
44 OF 64	SEWER UPGRADE PLAN AND PROFILE
45 OF 64	DEMOLITION PLAN
46 OF 64	DETAIL SHEET: ROAD CROSS SECTIONS
47 OF 64	DETAIL SHEET: SITE IMPROVEMENTS
48 OF 64	DETAIL SHEET: SITE IMPROVEMENTS
49 OF 64	DETAIL SHEET: STORM SEWER
50 OF 64	DETAIL SHEET: SANITARY SEWER & WATER
51 OF 64	DETAIL SHEET: SANITARY SEWER & WATER
52 OF 64	DETAIL SHEET: DETENTION BASINS
53 OF 64	DETAIL SHEET: DETENTION BASINS
54 OF 64	FIRE TRUCK TURNING PLAN
55 OF 64	FIRE TRUCK TURNING PLAN
56 OF 64	FIRE TRUCK TURNING PLAN
57 OF 64	FIRE TRUCK TURNING PLAN
58 OF 64	FIRE TRUCK TURNING PLAN
59 OF 64	FIRE TRUCK TURNING PLAN
60 OF 64	LIGHTING PLAN
61 OF 64	LIGHTING PLAN
62 OF 64	LIGHTING PLAN
63 OF 64	PHOTO OVERLAY PLAN
64 OF 64	PHASE PLAN

SHEET INDEX

OFF-SITE WATER PLAN SET:	
1 OF 5	WATER PLAN & PROFILE - MENSCH LANE & MARTIN AVENUE
2 OF 5	WATER PLAN & PROFILE - MERKEL ROAD, JACKSON ROAD & SECOND AVENUE
3 OF 5	WATER PLAN - JACKSON ROAD & SECOND AVENUE
4 OF 5	WATER PLAN - MARTIN AVE, MENSCH LN & MERKEL RD
5 OF 5	WATER PLAN - DETAIL SHEET

SHEET INDEX

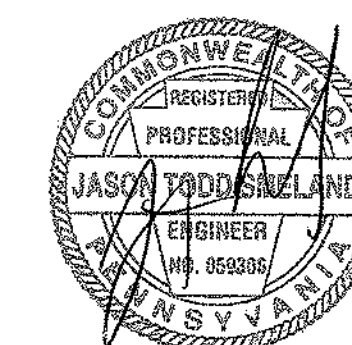
TOWNSHIP PCSM PLAN SET:	
1 OF 14	MASTER EXISTING FEATURES PLAN
2 OF 14	EXISTING NPDES SHED PLAN
3 OF 14	PROPOSED NPDES DRAINAGE SHED PLAN
4 OF 14	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
5 OF 14	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
6 OF 14	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
7 OF 14	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN (NOTE SHEET)
8 OF 14	PCSM BMP MAP
9 OF 14	PCSM BMP MAP
10 OF 14	PCSM BMP MAP
11 OF 14	PCSM DETAIL SHEET
12 OF 14	PCSM DETAIL SHEET
13 OF 14	PCSM DETAIL SHEET
14 OF 14	PCSM PROPOSED DRAINAGE SHED PLAN

HC DETAILS:	
1 OF 1	DETAIL SHEET - PHASE 1 HC RAMP DETAILS

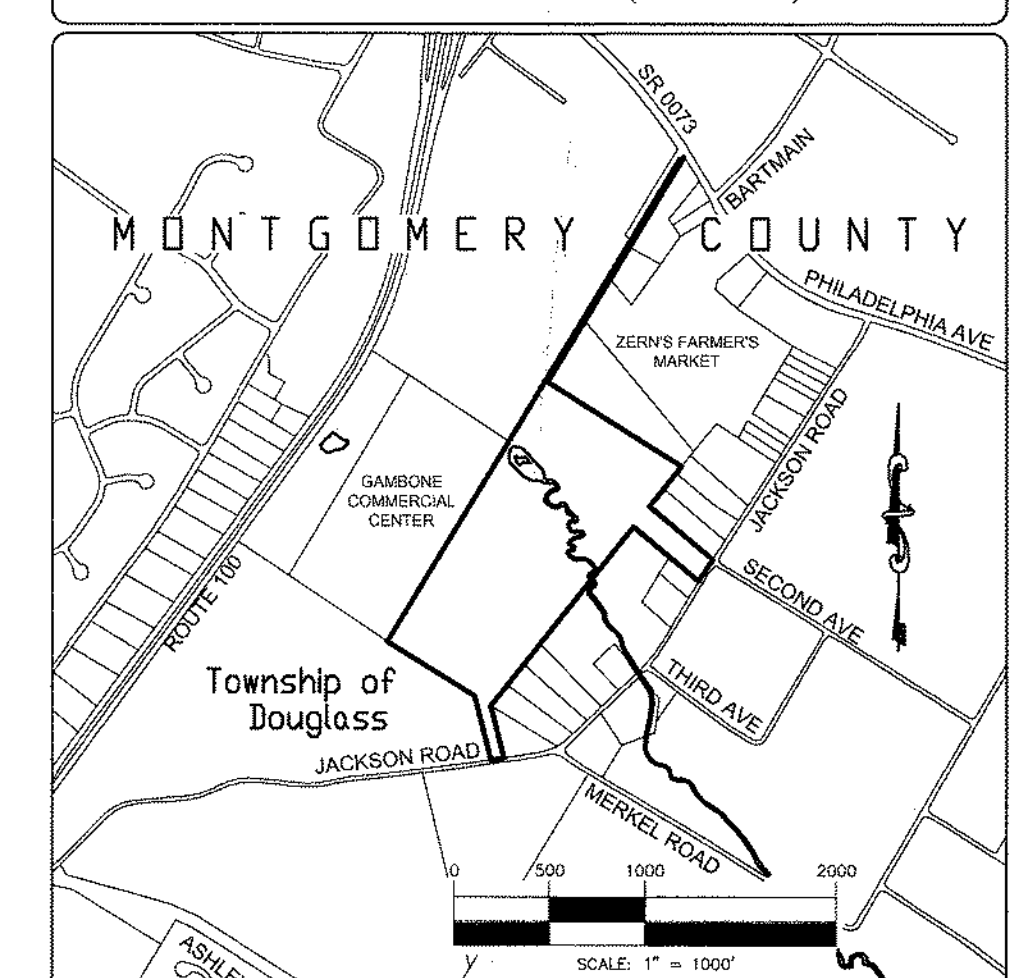
LENAPE VALLEY ENGINEERING

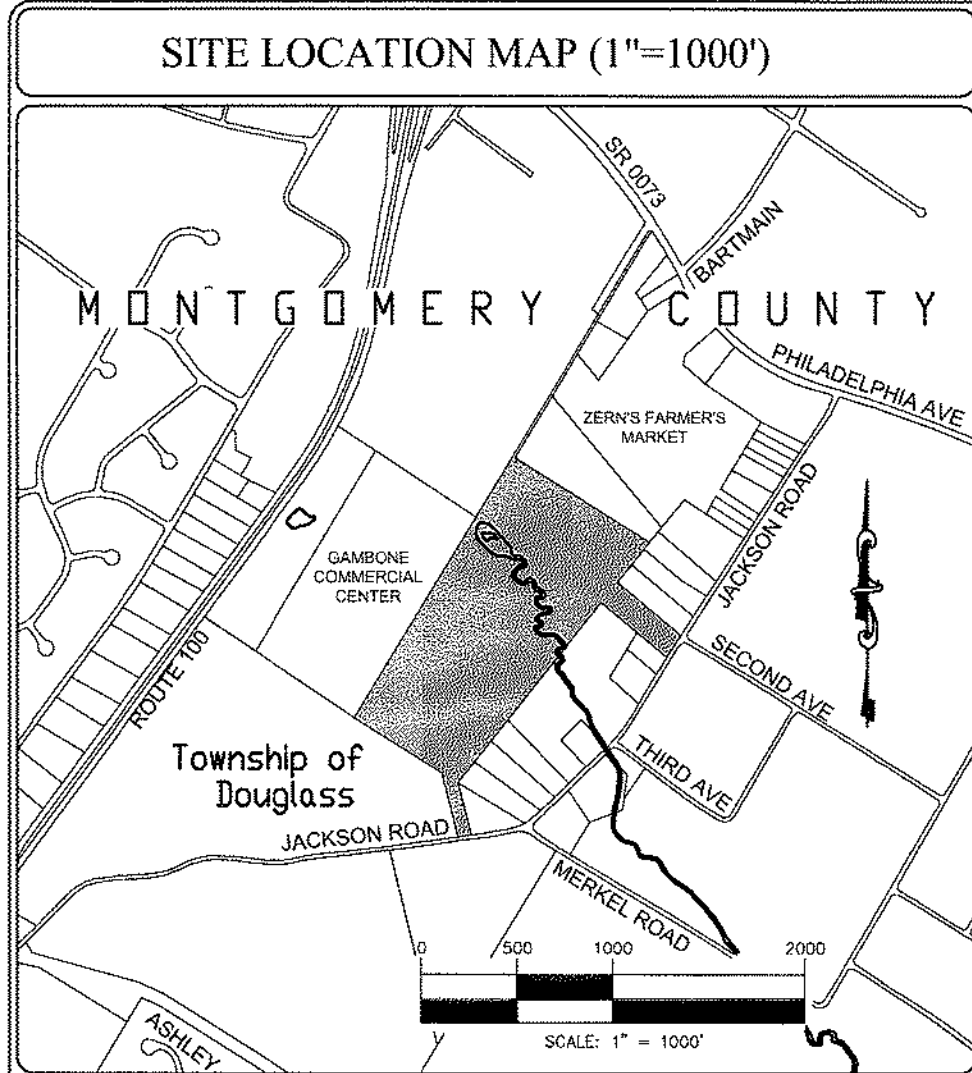
Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com



SITE LOCATION MAP (1"=1000')





ZONING DATA

OBTAINED FROM THE DOUGLASS TOWNSHIP ZONING ORDINANCE AS AMENDED BY ORDINANCE 2010-01:
DISTRICT CLASSIFICATION: ROUTE 100 CORRIDOR MASTER PLAN OVERLAY DISTRICT

REQUIREMENT	ALLOWED/REQUIRED	PROVIDED
MAXIMUM DENSITY:	12 DU PER DEVEL. ACRE	11 DU/Ac
TRACT BUILDING SETBACK:	25 FT.	25 FT.
TRACT PARKING SETBACK:	25 FT.	25 FT.
RIGHT-OF-WAY PARKING SETBACK:	10 FT.	10 FT.
MIN. LOT AREA:	NA	NA
MIN. LOT WIDTH:	18 FT.	18 FT.
MAX. BUILDING LENGTH:	180 FT.	160 FT.
MAX. BUILDING HEIGHT:	35 FT.	35 FT.
MAX. UNITS PER BUILDING:	8 UNITS	8 UNITS
MAX. BUILDING COVERAGE:	35%	16.4%
MAX. IMPERVIOUS COVERAGE:	65%	56.1%

- BUILDING SETBACKS:**
- (1) FRONT FACADE - 25 FEET FROM EDGE OF PAVING OF EXISTING & PROPOSED STREETS, PRIVATE STREETS, COMMON ACCESS DRIVES & PARKING AREAS.
 - (2) SIDE FACADE - 8 FEET FROM EDGE OF PAVING OF EXISTING & PROPOSED STREETS, PRIVATE STREETS, COMMON ACCESS DRIVES.
 - (3) REAR FACADE - 10 FEET FROM EDGE OF PAVING OF EXISTING & PROPOSED STREETS, PRIVATE STREETS, COMMON ACCESS DRIVES.
 - (4) PARKING SETBACK FROM ALL BUILDINGS - 5 FEET FROM PROPOSED PARKING AREAS AND ON-STREET PARKING SPACES.

REQUIREMENT	ALLOWED/REQUIRED	PROVIDED
SIDE TO SIDE:	20 FT.	20 FT.
REAR OR FRONT TO SIDE:	30 FT.	30 FT.
REAR TO REAR:	40 FT.	40 FT.
FRONT TO FRONT:	40 FT.	40 FT.

DENSITY & IMPERVIOUS CALCULATIONS

CALCULATION FOR DEVELOPABLE ACREAGE:	
TOTAL SITE AREA:	0.4493 Ac.
BLOCK 38 UNIT 127	28.0866 Ac.
BLOCK 38 UNIT 52	28.5359 Ac.
SUBTRACT EXISTING ROAD RIGHTS-OF-WAY:	
JACKSON ROAD EXIST. R/W:	(0.0532 Ac.)
SUBTRACT EXISTING EASEMENT (NOT IN FLOODPLAIN):	
SANITARY SEWER EASEMENT (DB 5216 PG 2055):	(0.1203 Ac.)
SUBTRACT PROPOSED ROAD RIGHTS-OF-WAY:	
JACKSON ROAD PROP. R/W:	(0.0933 Ac.)
MARKET STREET PROP. R/W:	(1.013 Ac.)
ROAD 'A' PROP. R/W:	(1.091 Ac.)
SUBTRACT SLOPE AREAS GREATER THAN 15%:	
STEEP SLOPES NOT IN FLOODPLAIN OR R/W:	(1.4576 Ac.)
SUBTRACT FLOODPLAIN AREAS:	
FLOODPLAIN AREA:	(2.8853 Ac.)
EQUALS DEVELOPABLE ACREAGE:	
ALLOWABLE DENSITY (12 DU/DEVELOPABLE AC.):	21.8222 Ac. x 12 DU/AC. = 261.860 U

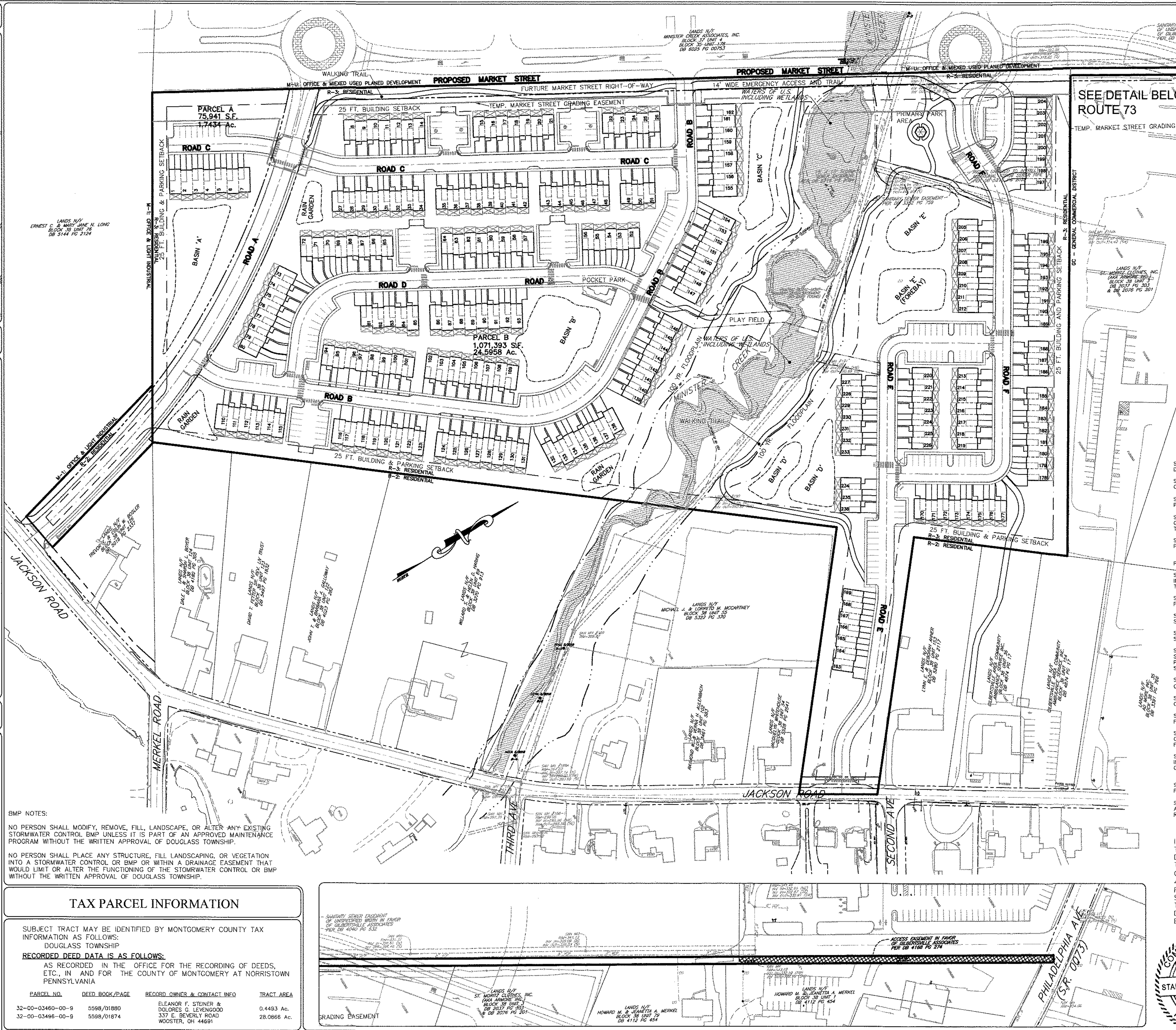
CALCULATION FOR NET LOT AREA:	
TOTAL SITE AREA:	0.4493 Ac.
BLOCK 38 UNIT 127	28.0866 Ac.
BLOCK 38 UNIT 52	28.5359 Ac.
SUBTRACT THE FOLLOWING:	
JACKSON ROAD EXIST. R/W:	(0.0532 Ac.)
JACKSON ROAD PROP. R/W:	(0.0933 Ac.)
BLOCK 38 UNIT 127 ACCESS STRIP	(0.4493 Ac.)
1/2 STEEP SLOPES NOT IN FLOODPLAIN OR R/W:	(0.7288 Ac.)
FLOODPLAIN AREA (INCLUDING POND):	(2.8853 Ac.)
EQUALS NET LOT AREA:	
ALLOWABLE BUILDING COVERAGE (35% x 24.3791):	8.51 Ac.
ALLOWABLE IMPERVIOUS COVERAGE (65% x 24.3791):	15.81 Ac.
PROPOSED BUILDING AREA:	4.01 Ac.
PROPOSED ROAD/PARKING:	4.72 Ac.
PROPOSED WALKS:	1.07 Ac.
PROPOSED DRIVEWAYS:	2.16 Ac.
PROPOSED DECKS:	1.04 Ac.
TRAIL/PARKS:	0.20 Ac.
PERVIOUS TRAIL:	0.49 Ac.
TOTAL IMPERVIOUS AREA:	
TOTAL IMPERVIOUS AREA:	13.69 Ac.

OPEN SPACE CALCULATION

GROSS SITE AREA:	
TOTAL SITE AREA:	0.4493 Ac.
BLOCK 38 UNIT 127	28.0866 Ac.
BLOCK 38 UNIT 52	28.5359 Ac.
REQUIRED OPEN SPACE (15%) - 0.15 x 28.5359 = 4.2804 AC.	
PROVIDED OPEN SPACE = 7.77 AC. (27.2%)	

PARKING CALCULATION

PARKING REQUIREMENTS: 2 SPACES PER DWELLING UNIT & 0.2 SPACES FOR VISITOR PARKING.	
236 UNITS x 2.2 PARKING SPACES PER UNIT = 519 SPACES	
TOTAL SPACES PROVIDED = 545 SPACES	



TAX PARCEL INFORMATION

SUBJECT TRACT MAY BE IDENTIFIED BY MONTGOMERY COUNTY TAX INFORMATION AS FOLLOWS:			
DOUGLASS TOWNSHIP			
RECORDED DEED DATA IS AS FOLLOWS:			
AS RECORDED IN THE OFFICE FOR THE RECORDING OF DEEDS, ETC., IN AND FOR THE COUNTY OF MONTGOMERY AT NORRISTOWN, PENNSYLVANIA			
PARCEL NO.	DEED BOOK/PAGE	RECORD OWNER & CONTACT INFO	TRACT AREA
32-00-03460-00-9	5598/01880	ELEANOR F. STERNER & DOLORES G. LEVENWOOD	0.4493 Ac.
32-00-03496-00-9	5598/01874	337 E. BEVELY ROAD, WOODLEY, OH 44091	28.0666 Ac.

GENERAL NOTES

1. TITLE LINE AND BOUNDARY INFORMATION TAKEN FROM A PLAN OF SURVEY BY GILMORE AND ASSOCIATES, INC. DATED 03-15-07, LAST REVISED 04-04-07. NO SURVEY WORK WAS CONDUCTED BY LIVE UNLESS OTHERWISE NOTED.
2. TOPOGRAPHIC INFORMATION WAS OBTAINED FROM A PLAN OF SURVEY BY GILMORE AND ASSOCIATES, INC. DATED 03-15-07, LAST REVISED 04-04-07. NO SURVEY WORK WAS CONDUCTED BY LENAPE VALLEY ENGINEERING UNLESS OTHERWISE NOTED.
3. HORIZONTAL DATUM: NAD83 PENNSYLVANIA STATE PLD. GRID, SOUTH ZONE. VERTICAL DATUM: NAVD 1988. ELEVATIONS BASED ON G.P.S. OBSERVATIONS.
4. THE PROPOSED SEWER SHALL BE SERVED BY PUBLIC WATER PROVIDED BY AQUA AMERICA INC. AND PUBLIC SEWER BY BERKS-MONTGOMERY MUNICIPAL AUTHORITY.
5. WATERS OF THE U.S./WETLANDS AND ALLUVAL SOILS SHOWN HEREON WERE FIELD DELINEATED BY NOVA CONSULTANTS, LTD. IN NOVEMBER 2013. FIELD LOCATIONS WERE BY DENNIS M. LITZENBERGER, PLS.
6. THE PROPOSED PARKING AREAS, ROADWAYS (WITH THE EXCEPTION OF ROAD 'A') AND OPEN SPACE SHALL BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION. PROPOSED ROAD 'A' SHALL BE OFFERED FOR DEDICATION TO THE TOWNSHIP.
7. ALL LOTS SHALL BE GRADED TO INSURE DRAINAGE FLOW AWAY FROM BUILDINGS AND TO NEAREST INLET OR WATERCOURSE WITHOUT POONDING OR OBSTRUCTION.
8. EXISTING SUB SURFACE UTILITY INFORMATION DEPICTED IN THESE PLANS IS BASED UPON VISUAL FIELD INSPECTION. SIZE, MATERIAL, DEPTH, ETC. INFORMATION OF THE SUBSURFACE UTILITIES IS APPROXIMATE IN NATURE. THE INFORMATION PROVIDED IS REPRESENTATIVE OF SUBSURFACE CONDITIONS ONLY AT LOCATION AND DEPTHS WHERE SUCH INFORMATION WAS AVAILABLE. THERE IS NO EXPRESSED OR IMPLIED AGREEMENT THAT UTILITIES SIZE, LOCATION, DEPTH, ETC. AS DEPICTED EXIST BETWEEN EXPLORED LOCATIONS. ACCORDINGLY, UTILITY INFORMATION SHOWN SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES. IT IS INCUMBENT UPON THE CONTRACTOR TO VERIFY THE SIZE, LOCATION, DEPTH, ETC. OF ALL UTILITIES BEFORE CONSTRUCTION.
9. GAS, ELECTRIC, TELEPHONE AND CABLE TV FACILITIES FOR ALL UNITS WITHIN THE DEVELOPMENT SHALL BE PROVIDED BY UNDERGROUND SERVICE.
10. CONCRETE MONUMENTS SHALL BE SET AS SHOWN ON PLANS. ALL OTHER LOT CORNERS WILL BE MARKED WITH IRON PINS AT THE COMPLETION OF FINAL GRADING.
11. THE DEVELOPER, ITS SUCCESSORS OR ASSIGNS, HEREBY RESERVES THE RIGHT TO ENTER UPON EACH AND EVERY LOT AND AREA OF THE SUBDIVISION/DEVELOPMENT DEPICTED HEREON, UNTIL EXPIRATION OF THE STATUTORY MAINTENANCE PERIOD FOLLOWING DEDICATION OF PUBLIC IMPROVEMENTS AS SET FORTH IN SECTION 509 OF THE PENNSYLVANIA MUNICIPALITIES PLANNING CODE, AS AMENDED, 53 P.S. 10009, FOR THE PURPOSE OF COMPLETING ANY PLANNING CODE AS REQUIRED BY THE MUNICIPALITY AND FURTHER, TO MAKE SUCH MODIFICATIONS IN GRADING AND/OR DRAINAGE IMPROVEMENTS ON ANY LOT AS MAY BE NECESSARY IN THE DISCRETION OF THE DEVELOPER, ITS SUCCESSORS OR ASSIGNS, AND/OR THE MUNICIPAL ENGINEER FOR SATISFACTORY STORM WATER MANAGEMENT.
12. THE AREA BETWEEN THE ULTIMATE AND LEGAL RIGHT-OF-WAY OF JACKSON STREET IS HEREBY OFFERED FOR DEDICATION TO THE APPROPRIATE JURISDICTION.
13. THE AREA BETWEEN THE ULTIMATE RIGHT-OF-WAY AND THE TITLE LINE OF PROPOSED MARKET STREET AND ROAD 'A' IS HEREBY OFFERED FOR DEDICATION TO THE APPROPRIATE JURISDICTION.
14. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN SIX FEET OF STORMSEWER FACILITIES. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN 10 FEET OF SANITARY OR TRAIL FACILITIES.
15. ALL INTERIOR ROADS SHALL HAVE CURBING, SIDEWALK SHALL BE PROVIDED AS SHOWN ON THE PLANS. HANDICAP RAMPS SHALL BE PROVIDED AT ALL INTERSECTIONS OF ROADS AND SIDEWALKS.
16. PRIOR TO OR SIMULTANEOUSLY WITH THE RECORDING OF THESE PLANS, A BLANKET UTILITY SANITARY SEWER AND STORM SEWER FACILITIES AND UNDERGROUND UTILITY EASEMENT SHALL BE RECORDED TO PERMIT ACCESS, INSPECTION AND MAINTENANCE OF THE WATER FACILITIES, BY AQUA AMERICA INC.
17. PRIOR TO OR SIMULTANEOUSLY WITH THE RECORDING OF THESE PLANS, A BLANKET UTILITY SANITARY SEWER AND STORM SEWER FACILITIES AND UNDERGROUND UTILITY EASEMENT SHALL BE RECORDED TO PERMIT ACCESS, INSPECTION AND MAINTENANCE OF THE SANITARY SEWER FACILITIES, AND STORMWATER MANAGEMENT, AND OTHER UNDERGROUND FACILITIES BY THE TOWNSHIP, BERKS-MONTGOMERY MUNICIPAL AUTHORITY AND OTHER UTILITY OWNERS.
18. THE DEVELOPER IS REQUIRED TO OBTAIN DEMOLITION PERMITS FROM THE TOWNSHIP FOR THE REMOVAL OR DEMOLITION OF ANY EXISTING STRUCTURES.
19. THE SITE CONTAINS A 100 YEAR FLOODPLAIN, AS SHOWN ON FLOOD INSURANCE RATE MAPS, MONTGOMERY COUNTY, PENNSYLVANIA, PANEL 78 OF 450, MAP NUMBER 420300070 G, EFFECTIVE DATE MARCH 2, 2016. BOTH THE SURVEY DATUM FOR THIS SITE AND THE FEMA FIRM VERTICAL DATUM ARE CONSISTENT (NAVD83).
20. ALL STORMWATER MANAGEMENT FACILITIES (LOCATED OUTSIDE OF THE PUBLIC RIGHT-OF-WAY) INCLUDING THE BASIN, PIPING NETWORK, ETC. SHALL BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
21. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH APPLICABLE PADOT, PADEP, MCD, AND DOUGLASS TOWNSHIP STANDARDS.
22. RECREATIONAL VEHICLES (RV'S), RECREATIONAL VEHICLES SHALL NOT BE PERMITTED TO BE PARKED, STORED, LOADED, PREPARED, OR MAINTAINED WITHIN THE DEVELOPMENT OR ON THE ROADWAY OF THE DEVELOPMENT FOR A PERIOD GREATER THAN SEVENTY-TWO (72) CONSECUTIVE HOURS OR FOR MORE THAN THREE (3) DAYS WITHIN ANY TEN (10) DAY PERIOD. THE TEN (10) DAY PERIOD SHALL BE COUNTED FROM THE FIRST DAY OF PARKING DURING THE SEVENTY-TWO (72) HOUR PERIOD AND FOR NINE DAYS THEREAFTER.
23. REMOVAL OF TOPSOIL AND GRADING ACTIVITIES, ARE PROHIBITED UNLESS APPROVED BY THE DOUGLASS TOWNSHIP BOARD OF SUPERVISORS AND WITH APPROVAL OF THE MONTGOMERY COUNTY CONSERVATION DISTRICT, DEP. PENNSYLVANIA EMERGENCY MANAGEMENT AGENCY AND ARMY CORP. OF ENGINEERS (AS APPLICABLE).
24. THE DEVELOPMENT TRACT IS LOCATED WITHIN THE ROUTE 100 CORRIDOR MASTER PLAN OVERLAY DISTRICT. THE AREA OF THE FUTURE RIGHT-OF-WAY OF PROPOSED MARKET STREET SHALL BE OFFERED FOR DEDICATION TO THE TOWNSHIP.
25. DETAILED DESIGN DRAWINGS AND CALCULATIONS SHALL BE PROVIDED TO THE TOWNSHIP FOR ALL RETAINING WALLS GREATER THAN 3 FEET IN HEIGHT. THE PLANS AND CALCULATIONS MUST BE PREPARED BY A REGISTERED PROFESSIONAL ENGINEER.
26. THE CURBING AT FIRE HYDRANTS MUST BE PAINTED YELLOW FOR A DISTANCE OF 15 FEET EACH SIDE OF THE HYDRANT (CURBING THROUGH DRIVEWAY OPENINGS NEED NOT BE PAINTED).
27. ALL GRADING ACTIVITIES ASSOCIATED WITH THIS PROJECT SHALL BE REQUIRED TO OBTAIN A GRADING PERMIT FROM THE ZONING OFFICER UPON THE RECOMMENDATION BY THE TOWNSHIP ENGINEER IN ACCORDANCE WITH SALDO SECTION 410.4.
28. ALL SANITARY SEWER CONSTRUCTION AND TESTING SHALL BE IN ACCORDANCE WITH THE RULES, REGULATIONS, AND SPECIFICATIONS OF THE BERKS-MONTGOMERY MUNICIPAL AUTHORITY AND THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
29. THE PROPOSED SEWAGE FLOWS FOR THIS FACILITY WILL CONTAIN DOMESTIC SEWAGE ONLY.
30. NO FLOOR DRAINS (FOR STORMWATER OR DRAINAGE SYSTEMS) SHALL BE CONNECTED TO THE SANITARY SEWER SYSTEM.
31. ALL SANITARY SEWER PIPE AND LATERALS SHALL BE PVC 30R-35 PIPE UNLESS OTHERWISE INDICATED.
32. WHENEVER SANITARY SEWER LINES ARE PROPOSED OUTSIDE OF STREET/MACADAM AREAS, THE MANHOLE TOPS SHALL EXTEND A MINIMUM OF 18-INCHES ABOVE FINISHED GRADE OR WATERSTIGHT BOLT DOWN MANHOLE FRAMES AND COVERS SHALL BE INSTALLED. ALL MANHOLES WITHOUT WATERSTIGHT BOLT DOWN MANHOLE FRAMES AND COVERS SHALL HAVE DOUBLED VALVE INSERTS INSTALLED.
33. CLEAR SIGHT TRIANGLES: TREES AND VEGETATION WITHIN THE CLEAR SIGHT TRIANGLES DESIGNATED AT THE INTERSECTIONS SHALL BE TRIMMED IN ORDER TO MAINTAIN ADEQUATE SIGHT DISTANCE. THE HOA DOCUMENTS SHALL NOTE THE REQUIREMENT TO MAINTAIN THE CLEAR SIGHT TRIANGLES AS SHOWN ON THIS PLAN.
34. THE TEMPORARY MARKET STREET GRADING EASEMENT SHOWN ON THIS PLAN IS PROPOSED TO ALLOW THE FUTURE DEVELOPER OF MARKET STREET TO ACCESS PORTIONS OF THIS PROPERTY IN CONNECTION WITH THE CONSTRUCTION OF FUTURE MARKET STREET. SEE TEMPORARY GRADING EASEMENT EXHIBIT PLAN BY LENAPE VALLEY ENGINEERING DATED MAY 11, 2016, LAST REVISED JULY 31, 2016.
35. A 20 FEET WIDE EASEMENT SHALL BE PROVIDED TO BMMA OVER ALL PORTIONS OF THE PROPOSED SEWER MAINS, WHICH ARE LOCATED OUTSIDE OF THE CURB LINES OF THE ROADS. NO OTHER UTILITY SHALL BE INSTALLED CLOSER THAN FIVE (5) TO THE PROPOSED SEWER MAIN WITHOUT PRIOR APPROVAL BY BMMA.

WAIVERS GRANTED

SEE RESOLUTION NO. 021617-01 (PRELIMINARY APPROVAL 2/4/2017) AND RESOLUTION NO. 030419-01 (FINAL APPROVAL 3/4/2019)

SECTION 401A.C.2.B & 414.6 - DRIVEWAY STOPPING AREA TO PERMIT DRIVEWAY SLOPES GREATER THAN 5%
SECTION 407.1.D - 100 FEET STRAIGHT COURSE FOR ROADWAY CENTERLINES AT APPROACHES TO INTERSECTIONS.
SECTION 407.1.A(3) - STREET ALIGNMENT (HORIZONTAL CURVES) TO PERMIT CURVES WITH A RADIUS OF LESS THAN 150 FEET.
SECTION 407.2.A(2) AND (3) - VERTICAL CURVE REQUIREMENTS AND GRADE CHANGES TO PERMIT VERTICAL CURVES WITH A K VALUE OF LESS THAN 25 IN SEVERAL LOCATIONS.
SECTION 407.3.7 - GRADES AT APPROACHES TO INTERSECTIONS TO PERMIT GRADES SLIGHTLY GREATER THAN 4%
SECTION 408.7 PAVEMENT AND RIGHT-OF-WAY INTERSECTION RADI TO PERMIT RADI OF 15 FEET RATHER THAN 25 FEET.
SECTION 414.2.B - DRIVEWAY SETBACKS FROM CENTERLINES OF INTERSECTIONS TO PERMIT SEVERAL DRIVEWAYS TO BE LOCATED CLOSER THAN 100 FEET FROM THE INTERSECTION CENTERLINE.
SECTION 415.2 - PERPENDICULAR PARKING, TO ALLOW PERPENDICULAR PARKING ON THE PROPOSED ROADWAYS.
SECTION 415.13 - PARKING SPACES, TO PERMIT 8 FEET BY 20 FEET SPACES IN THE DRIVEWAYS RATHER THAN 10 FEET BY 20 FEET.
SECTION 410.7 - CLEAR SIGHT TRIANGLES, TO ALLOW 30 FEET CLEAR SIGHT TRIANGLES RATHER THAN 75 FEET AT CERTAIN INTERSECTIONS.
SECTION 420.2.A.B AND 420.2.C.5 - STREET TREES AND STREET TREE SPACING, TO ALLOW SOME OF THE REQUIRED STREET TREES TO BE PLANTED AT OTHER LOCATIONS ON THE SITE, RATHER THAN ON THE STREET.
SECTION 424.1 - SIDEWALK LOCATION, TO PERMIT SIDEWALK ON ONLY ONE SIDE OF ROAD 'A'.
SECTION 410.13 - STORMWATER BASIN SIDE SLOPES TO PERMIT THE USE OF 3 TO 1 BASIN SIDE SLOPES.
SECTION 303.1.D - DRAFTING STANDARDS - TO PERMIT THE USE OF A PLAN MARGIN THAT IS LESS THAN 2 INCHES.
SECTION 305.A.B, C AND M - EXISTING FEATURES TO PERMIT THE USE OF AN AERIAL PHOTO TO DEPICT FEATURES LOCATED WITHIN 100 TO 400 FEET OF THE SITE.
SECTION 305.A.1 - EXISTING TREE LOCATIONS TO PERMIT A TREE INVENTORY RATHER THAN AN ACTUAL SURVEY TO LOCATE TREES GREATER THAN 6 INCHES IN DIAMETER.
SECTION 420-6.6.1 - STORMWATER BASIN PLANTINGS, TO PERMIT PLANTINGS WITHIN 30 FEET OF BASIN OUTLET DRAINS AND SPILLWAYS.
SECTION 410.B (STORMWATER) - BASIN SPILLWAY REQUIREMENTS, TO ALLOW CERTAIN STORMWATER BMPs TO BE DESIGNED AS RAIN GARDENS RATHER THAN BASINS.

SURVEYOR'S CERTIFICATION

I, STANLEY J. KLUSKIEWICZ, P.L.S., HEREBY CERTIFY THAT EXISTING FEATURES BOUNDARY INFORMATION DEPICTED ON THE EXISTING SITE FEATURES PLAN OF THE ZERN PROPERTY, PREPARED FOR THE ROSEN ORGANIZATION, DATED 3/4/07, LAST REVISED 4/4/07 (REFERENCED IN GENERAL NOTE#1) REPRESENTS A SURVEY MADE BY ME OR UNDER MY SUPERVISION AND THAT THE MONUMENTATION SHOWN THEREON EXISTS AS LOCATED, AND THAT ALL DIMENSIONAL AND GEODETIC DETAILS RELATED TO THE EXISTING BOUNDARY ARE CORRECT.

STANLEY J. KLUSKIEWICZ, P.L.S.
REGISTRATION NO. 031253E

RECORDING ACKNOWLEDGMENTS

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF
SS:
ME, DANNY JAKE CORPORATION, UNDERSIGNED, HAVE LAID OUT UPON OUR LAND SITUATE IN THE TOWNSHIP OF DOUGLASS, MONTGOMERY COUNTY, PENNSYLVANIA, CERTAIN IMPROVEMENTS ACCORDING TO THE ACCOMPANYING PLAN, WHICH IS INTENDED TO BE RECORDED.

IN WITNESS WHEREOF, DANNY JAKE CORPORATION HAS CAUSED ITS SEAL TO BE AFFIXED BY THE HAND OF ITS MANAGING MEMBER AND SAME TO BE ATTESTED THIS _____ DAY OF _____ 20____

DANNY JAKE CORPORATION

BY: _____ ATTEST: _____

ON THIS _____ DAY OF _____ 20____ BEFORE ME, THE UNDERSIGNED OFFICER, PERSONALLY APPEARED _____ KNOWN TO ME (OR SATISFACTORILY PROVEN) TO BE THE PERSONS WHOSE NAME IS SUBSCRIBED TO THE WITHIN INSTRUMENT, AND ACKNOWLEDGE THAT THEY EXECUTED THE SAME FOR THE PURPOSES THEREIN CONTAINED.

IN WITNESS WHEREOF, I HERETO SET MY HAND AND OFFICIAL SEAL.

NOTARY PUBLIC

COMMISSION EXPIRATION DATE _____

APPROVED BY THE DOUGLASS TOWNSHIP BOARD OF SUPERVISORS, COUNTY OF MONTGOMERY, COMMONWEALTH OF PENNSYLVANIA, ON THE _____ DAY OF _____ 20____

SECRETARY _____ CHAIRMAN _____

RECOMMENDED FOR APPROVAL BY THE DOUGLASS TOWNSHIP PLANNING COMMISSION THIS _____ DAY OF _____ 20____

CHAIRMAN _____ SECRETARY _____

REVIEWED BY THE TOWNSHIP ENGINEER ON THE _____ DAY OF _____ 20____

TOWNSHIP ENGINEER _____

RECORDED IN THE OFFICE FOR THE RECORDING OF DEEDS IN AND FOR THE COUNTY OF MONTGOMERY, AT NORRISTOWN, PENNSYLVANIA IN PLAN BOOK NUMBER _____ PAGE NUMBER _____ ON THIS _____ DAY OF _____ 20____

RECORDER OF DEEDS

MCPC No. _____ MCPC #08-0239-003

PROCESSED AND REVIEWED. A report has been prepared by the Montgomery County Planning Commission in accordance with the Municipalities Planning Code.

Certified this date _____

For the Recorder
Montgomery County Planning Commission

ENGINEER'S CERTIFICATION

I, JASON T. SMELAND, P.E., DO HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF THAT THE INFORMATION CONTAINED IN THE ACCOMPANYING PLANS, SPECIFICATIONS AND REPORTS HAS BEEN PREPARED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE AND IS TRUE AND CORRECT AND IS IN CONFORMANCE WITH THE ZONING ORDINANCE AND THE SUBDIVISION ORDINANCE OF DOUGLASS TOWNSHIP IN EFFECT AT THE TIME OF PRELIMINARY PLAN SUBMISSION FOR THIS SITE. ADDITIONALLY, I DO HEREBY CERTIFY THAT ADEQUATE PRECAUTION AGAINST FLOOD DAMAGE HAVE BEEN TAKEN WITH RESPECT TO THE DESIGN OF THE STRUCTURES THAT ARE LOCATED WITHIN THE FLOOD PLAIN AREA.

058306
(REGISTRATION NUMBER)

JASON T. SMELAND, P.E.
REGISTERED PROFESSIONAL ENGINEER
NO. 058306
STATE OF PENNSYLVANIA

RECORD PLAN SHEET - 1 OF 5

MASTER LAND DEVELOPMENT PLAN - PHASE I

Prepared for
DANNY JAKE CORP.

As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 058306

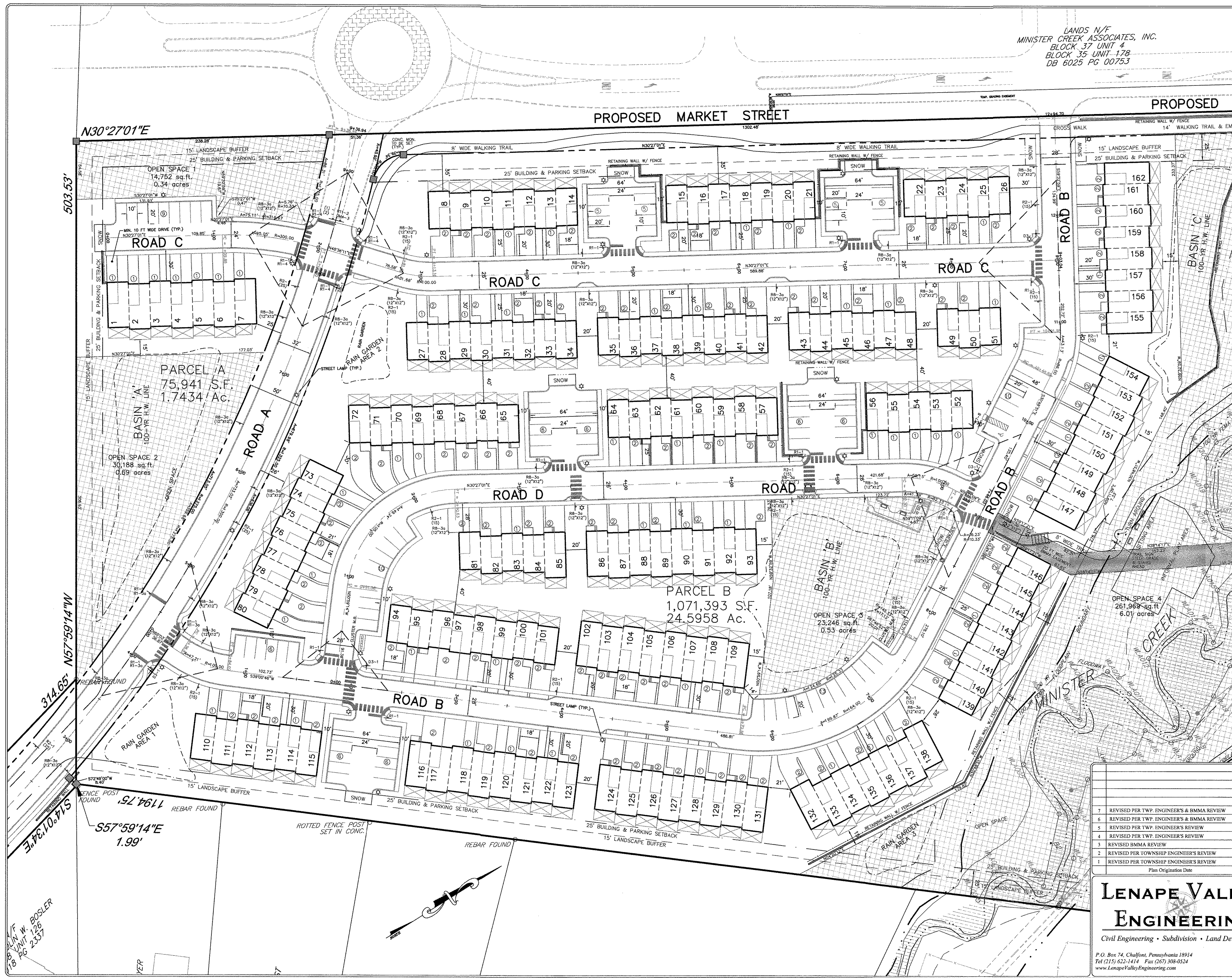
GRAPHIC SCALE
100 0 50 100 200 300

PROJECT MANAGER	DRAWING SCALE	SHEET NUMBER
J.T.S.	1"=100'	1 of 64
DRAFTED BY	PROJECT NUMBER	
B.C.S.	2028	

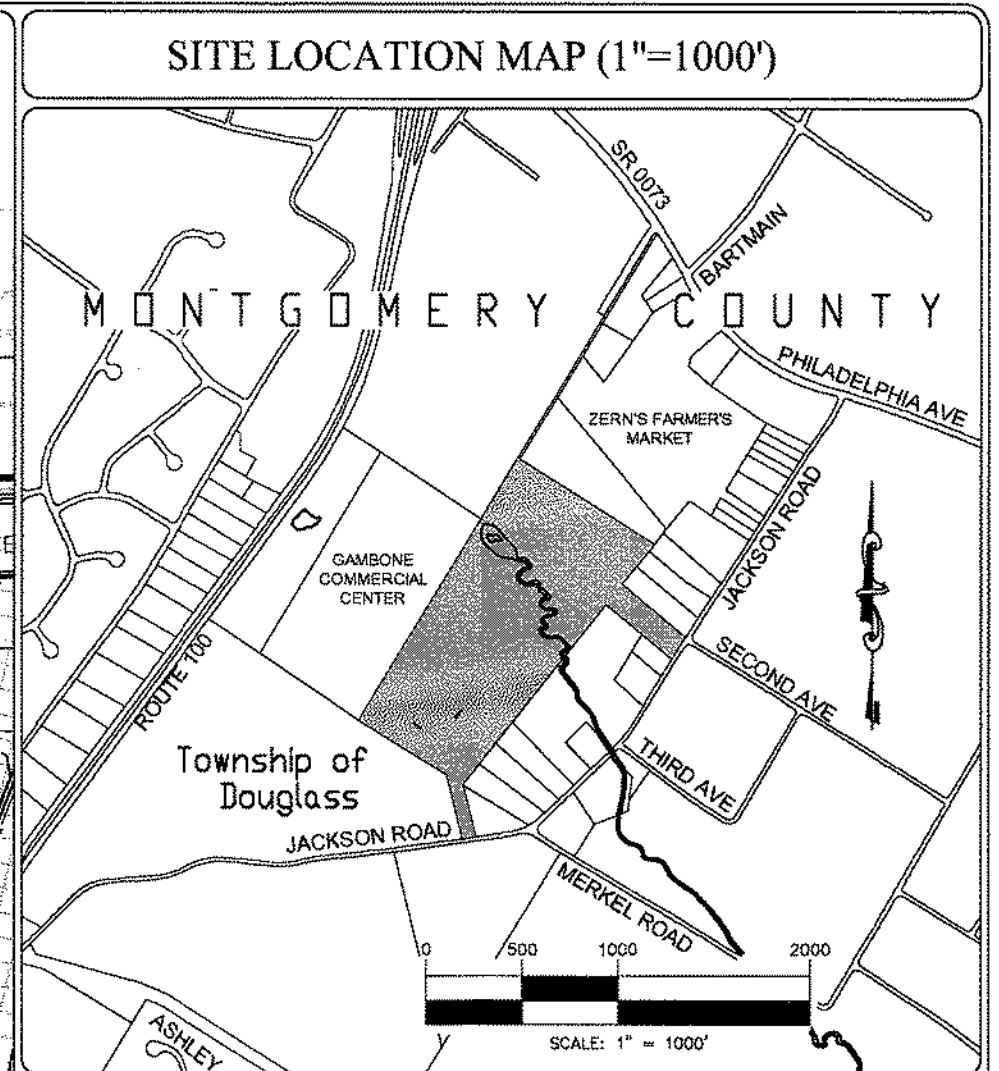
LENAPE VALLEY ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0334
www.LenapeValleyEngineering.com



LANDS N/F
MINISTER CREEK ASSOCIATES, INC.
BLOCK 37 UNIT 4
BLOCK 35 UNIT 178
DB 6025 PG 00753



ZONING DATA

OBTAINED FROM THE DOUGLASS TOWNSHIP ZONING ORDINANCE AS AMENDED BY ORDINANCE 2010-01:
DISTRICT CLASSIFICATION: ROUTE 100 CORRIDOR MASTER PLAN OVERLAY DISTRICT

PROPOSED USE: COMMUNITY CENTER TOWNHOUSE DEVELOPMENT

REQUIREMENT	ALLOWED/REQUIRED	PROVIDED
MAXIMUM DENSITY:	12 DU PER DEVEL ACRE	11.0 DU/AC
TRACT BUILDING SETBACK:	25 FT.	25 FT.
TRACT PARKING SETBACK:	25 FT.	25 FT.
RIGHT-OF-WAY PARKING SETBACK:	10 FT.	10 FT.
MIN. LOT AREA:	NA	NA
MIN. LOT WIDTH:	18 FT.	20 FT.
MAX. BUILDING LENGTH:	180 FT.	160 FT.
MAX. BUILDING HEIGHT:	35 FT.	35 FT.
MAX. UNITS PER BUILDING:	8 UNITS	8 UNITS
MAX. BUILDING COVERAGE:	35%	16.4%
MAX. IMPERVIOUS COVERAGE:	65%	56.1%

BUILDING SETBACKS:

(1) FRONT FACADE - 25 FEET FROM EDGE OF PAVING OF EXISTING & PROPOSED STREETS, PRIVATE STREETS, COMMON ACCESS DRIVES & PARKING AREAS.

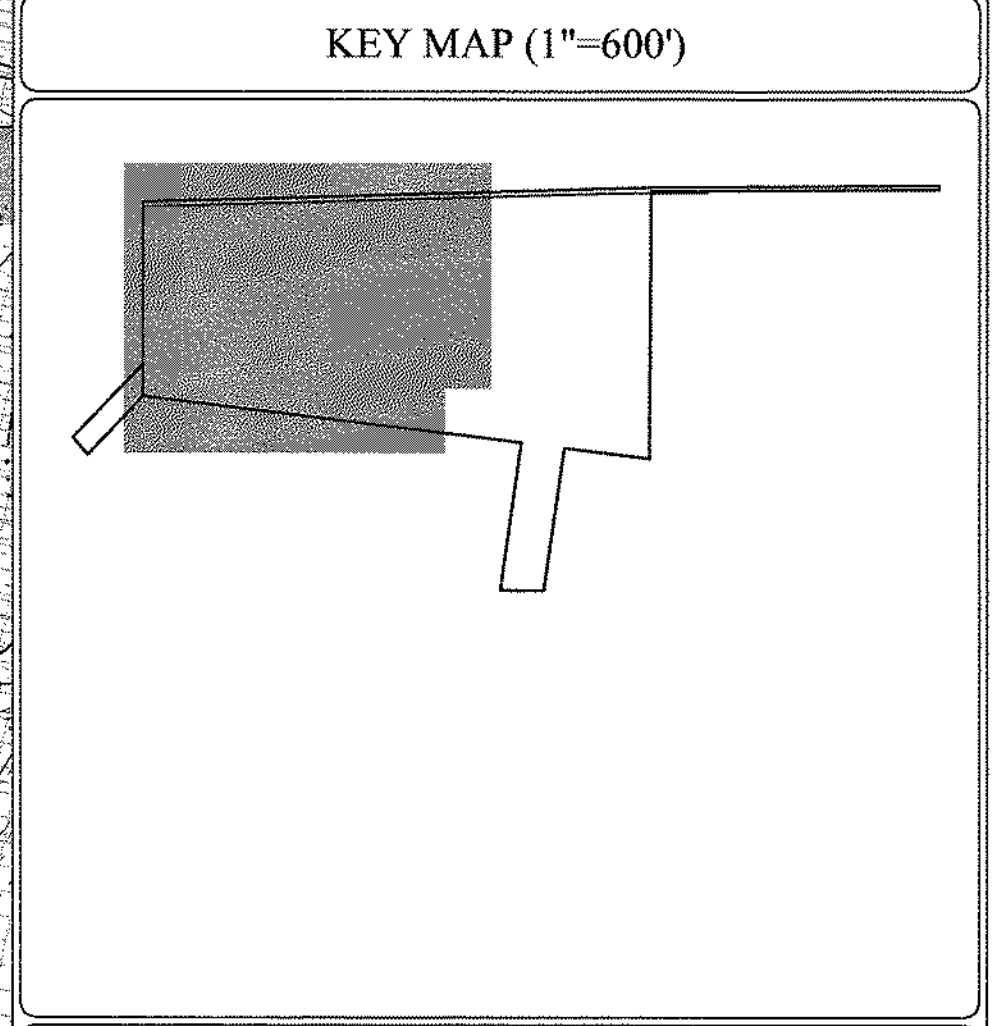
(2) SIDE FACADE - 8 FEET FROM EDGE OF PAVING OF EXISTING & PROPOSED STREETS, PRIVATE STREETS, COMMON ACCESS DRIVES.

(3) REAR FACADE - 10 FEET FROM EDGE OF PAVING OF EXISTING & PROPOSED STREETS, PRIVATE STREETS, COMMON ACCESS DRIVES.

(4) PARKING SETBACK FROM ALL BUILDINGS - 5 FEET FROM PROPOSED PARKING AREAS AND ON-STREET PARKING SPACES.

BUILDING SEPARATIONS:

REQUIREMENT	ALLOWED/REQUIRED	PROVIDED
SIDE TO SIDE:	20 FT.	20 FT.
REAR OR FRONT TO SIDE:	30 FT.	30 FT.
REAR TO REAR:	40 FT.	40 FT.
FRONT TO FRONT:	40 FT.	40 FT.



RECORD PLAN SHEET - 2 OF 5

LAND DEVELOPMENT PLAN - PHASE 1

Prepared for:
DANNY JAKE CORP.

As part of:
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

LENAPE VALLEY ENGINEERING
Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

NO.	REVISION	DATE
7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016

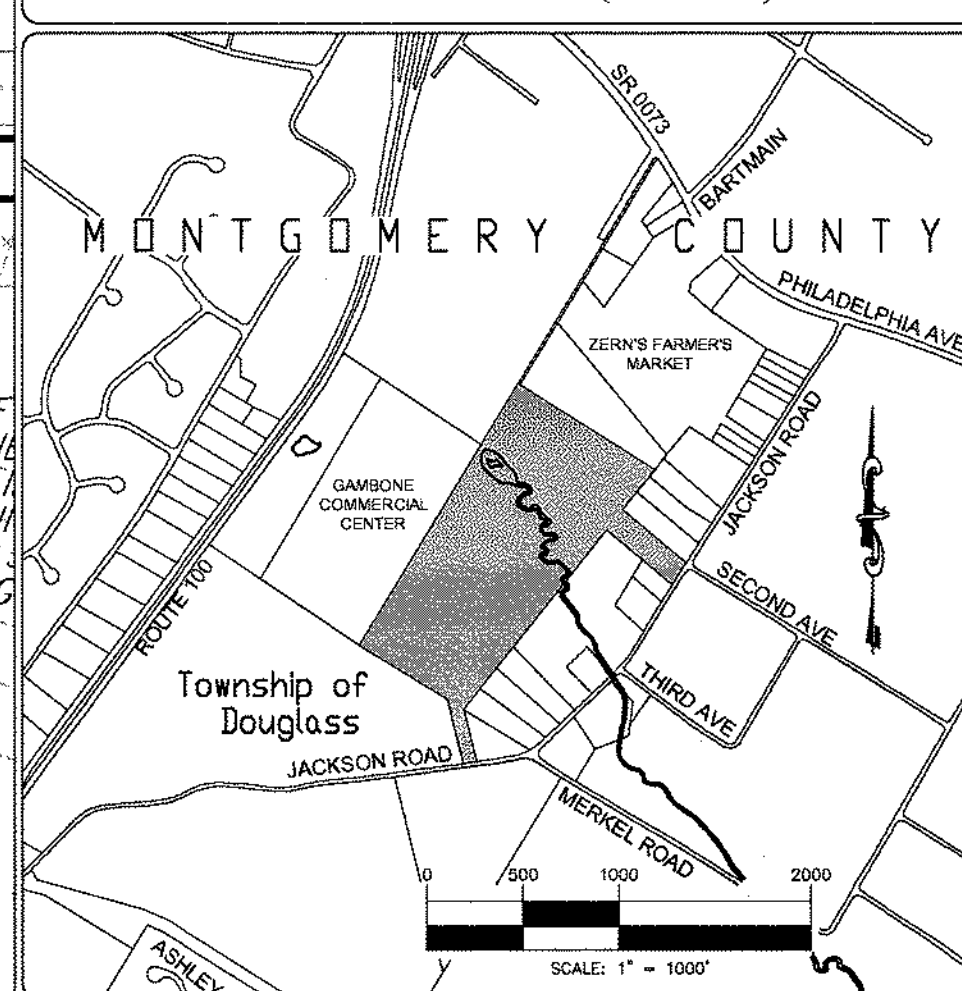
Plan Origination Date: 01-08-2014

PROJECT MANAGER	DRAWING SCALE	SHEET NUMBER
J.T.S.	1"=40'	2 OF 64

DRAFTED BY: B.C.S. PROJECT NUMBER: 2028



SITE LOCATION MAP (1"=1000')



ZONING DATA

OBTAINED FROM THE DOUGLASS TOWNSHIP ZONING ORDINANCE
AS AMENDED BY ORDINANCE 2010-01:
DISTRICT CLASSIFICATION: ROUTE 100 CORRIDOR MASTER PLAN
OVERLAY DISTRICT

PROPOSED USE: COMMUNITY CENTER TOWNHOUSE DEVELOPMENT

REQUIREMENT	ALLOWED/REQUIRED	PROVIDED
MAXIMUM DENSITY:	12 DU PER DEVELOP. ACRE	11.0 DU/ACRE
TRACT BUILDING SETBACK:	25 FT.	25 FT.
TRACT PARKING SETBACK:	25 FT.	25 FT.
RIGHT-OF-WAY PARKING SETBACK:	10 FT.	10 FT.
MIN. LOT AREA:	NA	NA
MIN. LOT WIDTH:	18 FT.	20 FT.
MAX. BUILDING LENGTH:	180 FT.	180 FT.
MAX. BUILDING HEIGHT:	35 FT.	35 FT.
MAX. UNITS PER BUILDING:	8 UNITS	8 UNITS
MAX. BUILDING COVERAGE:	35%	16.4%
MAX. IMPERVIOUS COVERAGE:	65%	56.1%

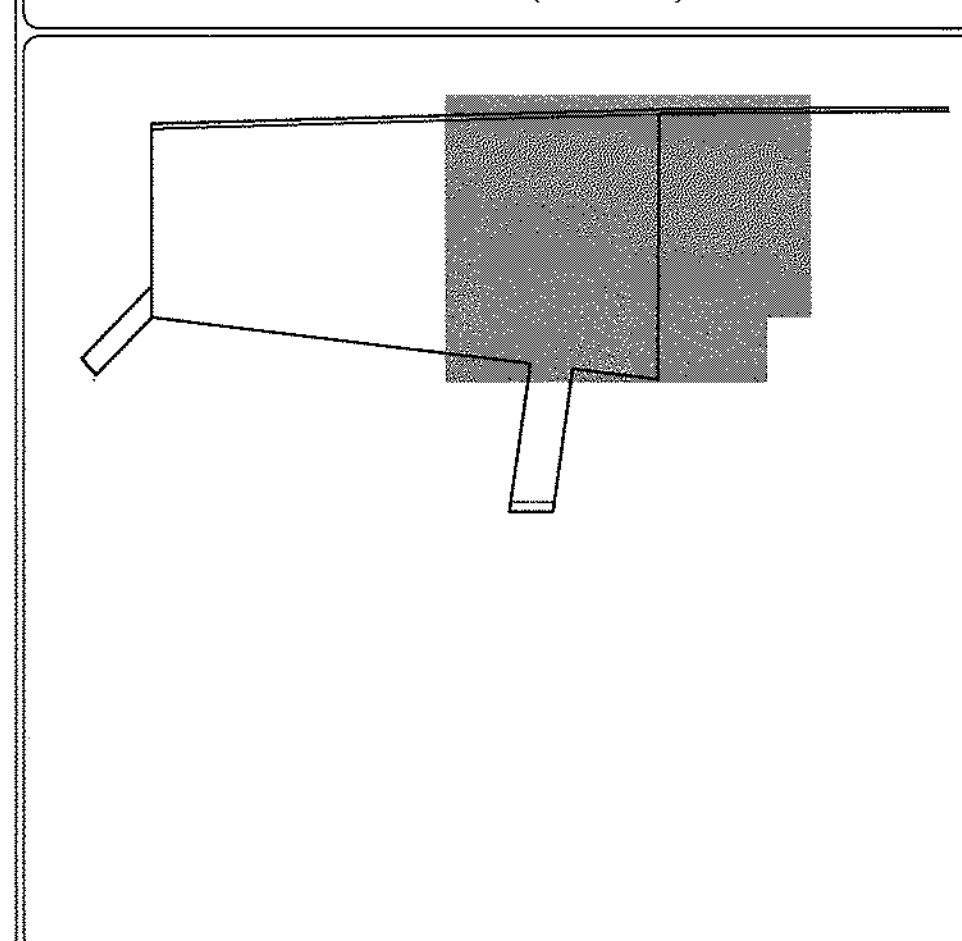
BUILDING SETBACKS:

- (1) FRONT FACADE -- 25 FEET FROM EDGE OF PAVING OF EXISTING & PROPOSED STREETS, PRIVATE STREETS, COMMON ACCESS DRIVES & PARKING AREAS.
- (2) SIDE FACADE -- 8 FEET FROM EDGE OF PAVING OF EXISTING & PROPOSED STREETS, PRIVATE STREETS, COMMON ACCESS DRIVES.
- (3) REAR FACADE -- 10 FEET FROM EDGE OF PAVING OF EXISTING & PROPOSED STREETS, PRIVATE STREETS, COMMON ACCESS DRIVES.
- (4) PARKING SETBACK FROM ALL BUILDINGS -- 5 FEET FROM PROPOSED PARKING AREAS AND ON-STREET PARKING SPACES.

BUILDING SEPARATIONS:

<u>REQUIREMENT</u>	<u>ALLOWED/REQUIRED</u>	<u>PROVIDED</u>
SIDE TO SIDE:	20 FT.	20 FT.
REAR OR FRONT TO SIDE:	30 FT.	30 FT.
REAR TO REAR:	40 FT.	40 FT.
FRONT TO FRONT	40 FT.	40 FT.

KEY MAP (1"=600')



RECORD PLAN SHEET - 3 OF 5

LAND DEVELOPMENT PLAN - PHASE 1

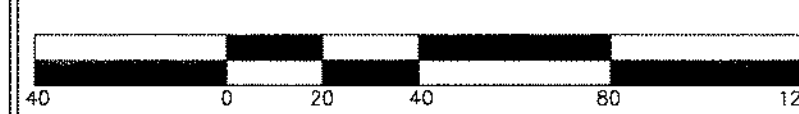
Prepared for

DANNY JAKE CORP.

As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

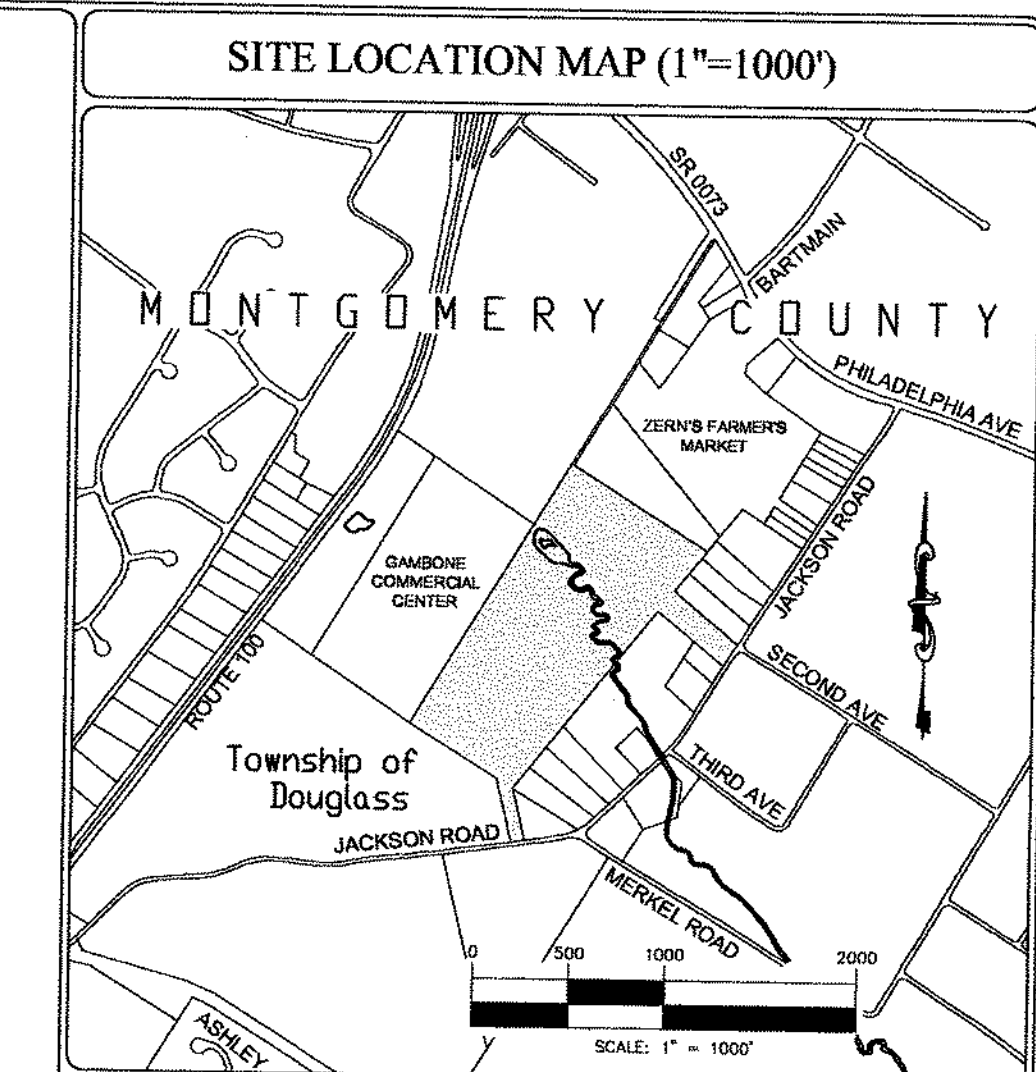
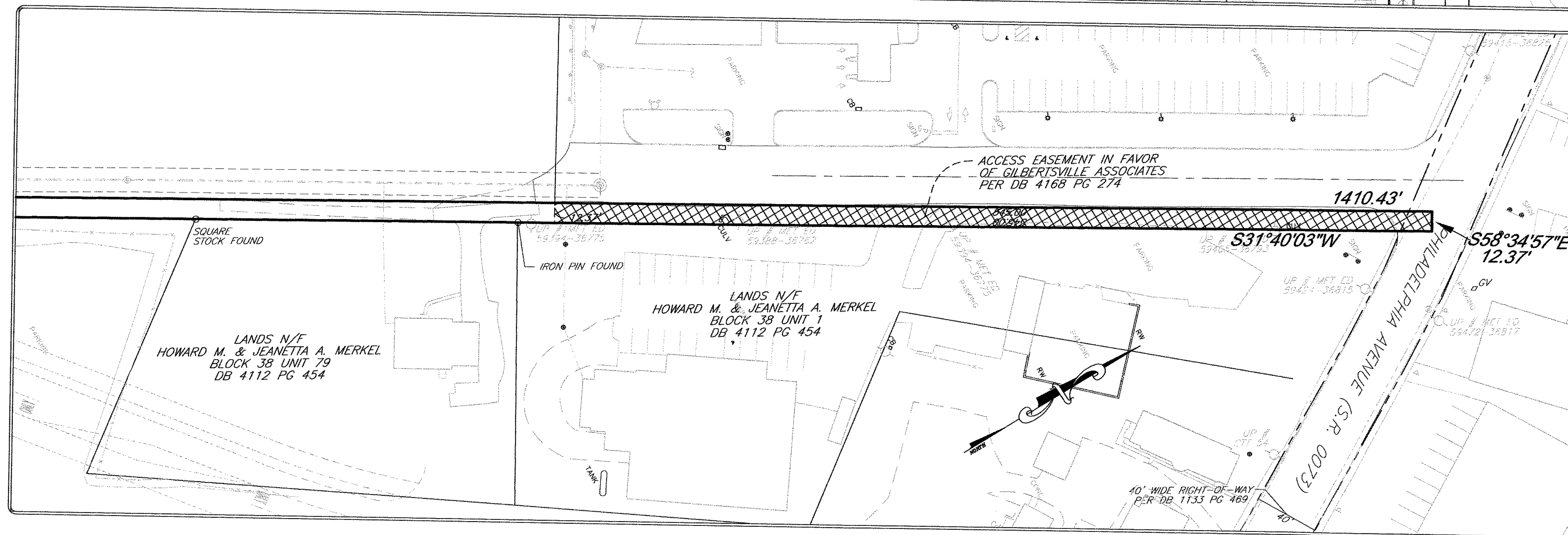
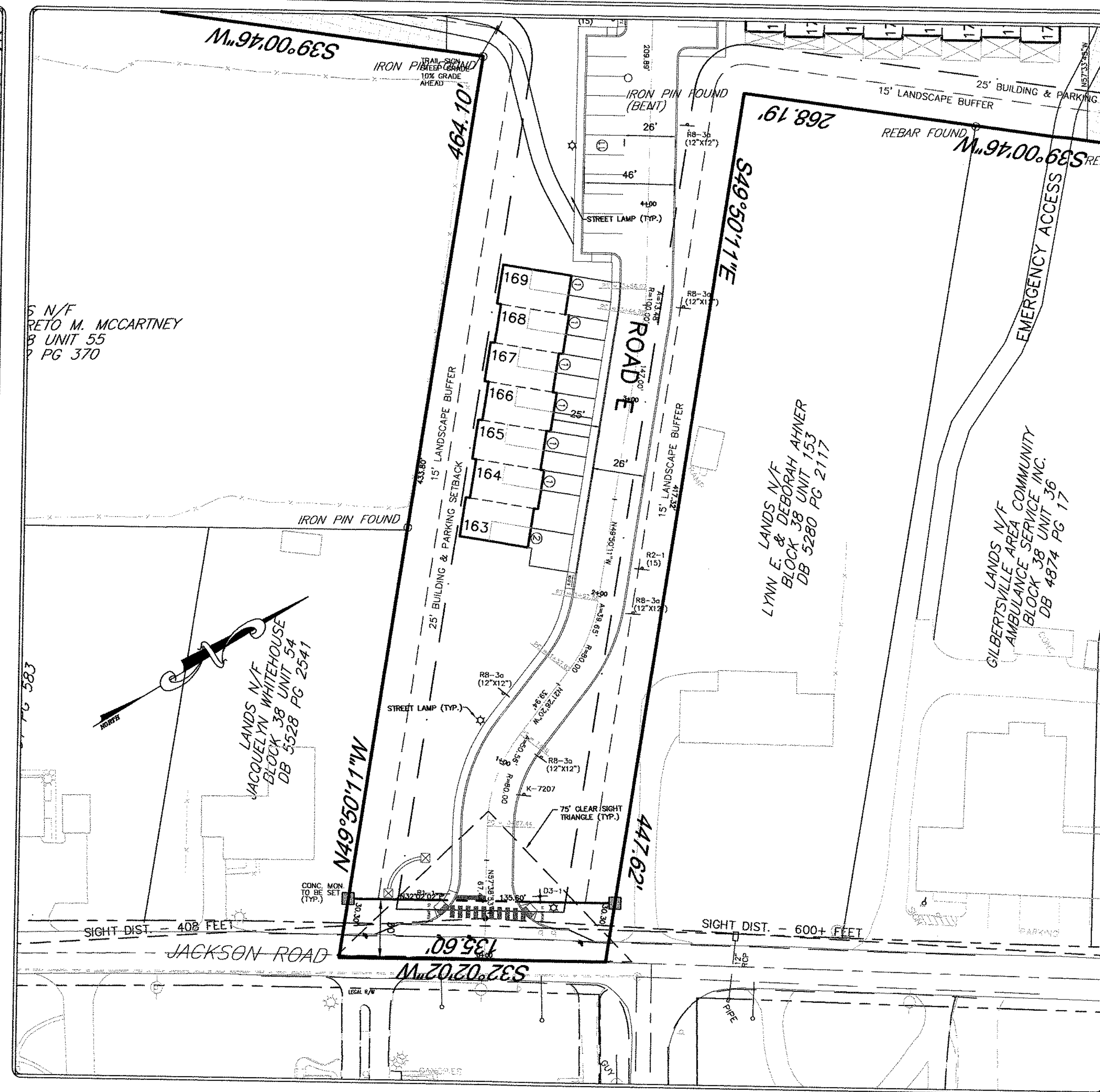


PROJECT MANAGER J.T.S.	DRAWING SCALE 1"=40'	SHEET NUMBER 3 OF 64
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	

LENAPE VALLEY ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com



OBTAINED FROM THE DOUGLASS TOWNSHIP ZONING ORDINANCE
AS AMENDED BY ORDINANCE 2010-01:
DISTRICT CLASSIFICATION: ROUTE 100 CORRIDOR MASTER PLAN
OVERLAY DISTRICT

PROPOSED USE: COMMUNITY CENTER TOWNHOUSE DEVELOPMENT			
REQUIREMENT	ALLOWED/REQUIRED	PROVIDED	
MAXIMUM DENSITY:	12 DU PER DEVEL ACRE	11.0 DU	92%
TRACT BUILDING SETBACK:	25 FT.	25	100%
TRACT PARKING SETBACK:	25 FT.	25	100%
DRIVE-WAY PARKING SETBACK:	10 FT.	10	100%
MIN. LOT AREA:	NA	NA	
MIN. LOT WIDTH:	18 FT.	20	111%
MAX. BUILDING LENGTH:	180 FT.	160	89%
MAX. BUILDING HEIGHT:	35 FT.	35	100%
MAX. UNITS PER BUILDING:	8 UNITS	8	100%
MAX. IMPERVIOUS COVERAGE:	35%	10	29%
MAX. IMPERVIOUS COVERAGE:	65%	10	15%

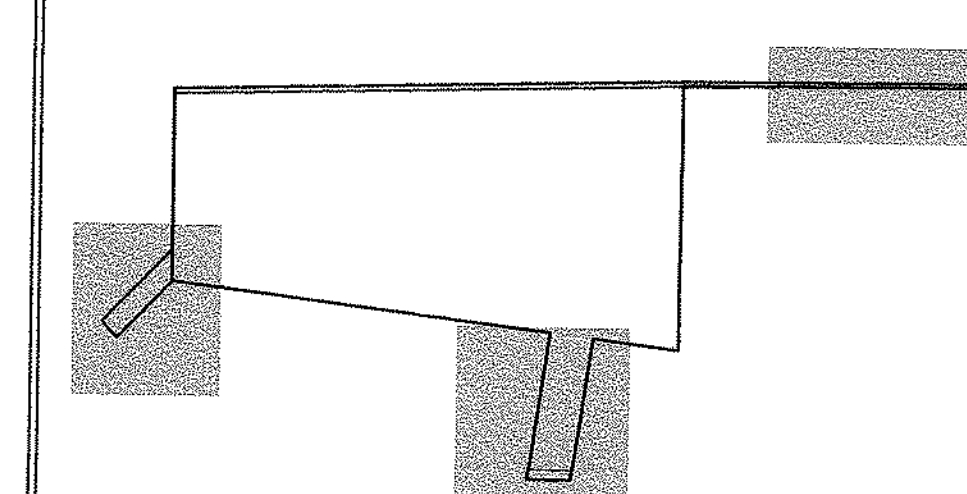
BUILDING SETBACKS

- (1) FRONT FACADE - 25 FEET FROM EDGE OF PAVING OF EXISTING & PROPOSED STREETS, PRIVATE STREETS, COMMON ACCESS DRIVES & PARKING AREAS.
- (2) SIDE FACADE - 8 FEET FROM EDGE OF PAVING OF EXISTING & PROPOSED STREETS, PRIVATE STREETS, COMMON ACCESS DRIVES.
- (3) REAR FACADE - 10 FEET FROM EDGE OF PAVING OF EXISTING & PROPOSED STREETS, PRIVATE STREETS, COMMON ACCESS DRIVES.
- (4) PARKING SETBACK FROM ALL BUILDINGS - 5 FEET FROM PROPOSED PARKING AREAS AND ON-STREET PARKING SPACES.

BUILDING SEPARATIONS

<u>REQUIREMENT</u>	<u>ALLOWED/REQUIRED</u>	<u>PROVIDE</u>
SIDE TO SIDE:	20 FT.	20
REAR OR FRONT TO SIDE:	30 FT.	30
REAR TO REAR:	40 FT.	40
FRONT TO FRONT	40 FT.	40

KEY MAP (1"=600')



RECORD PLAN SHEET - 4 OF 5

LAND DEVELOPMENT PLAN - PHASE 1

Prepared for
DANNY JAKE CORP.

As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

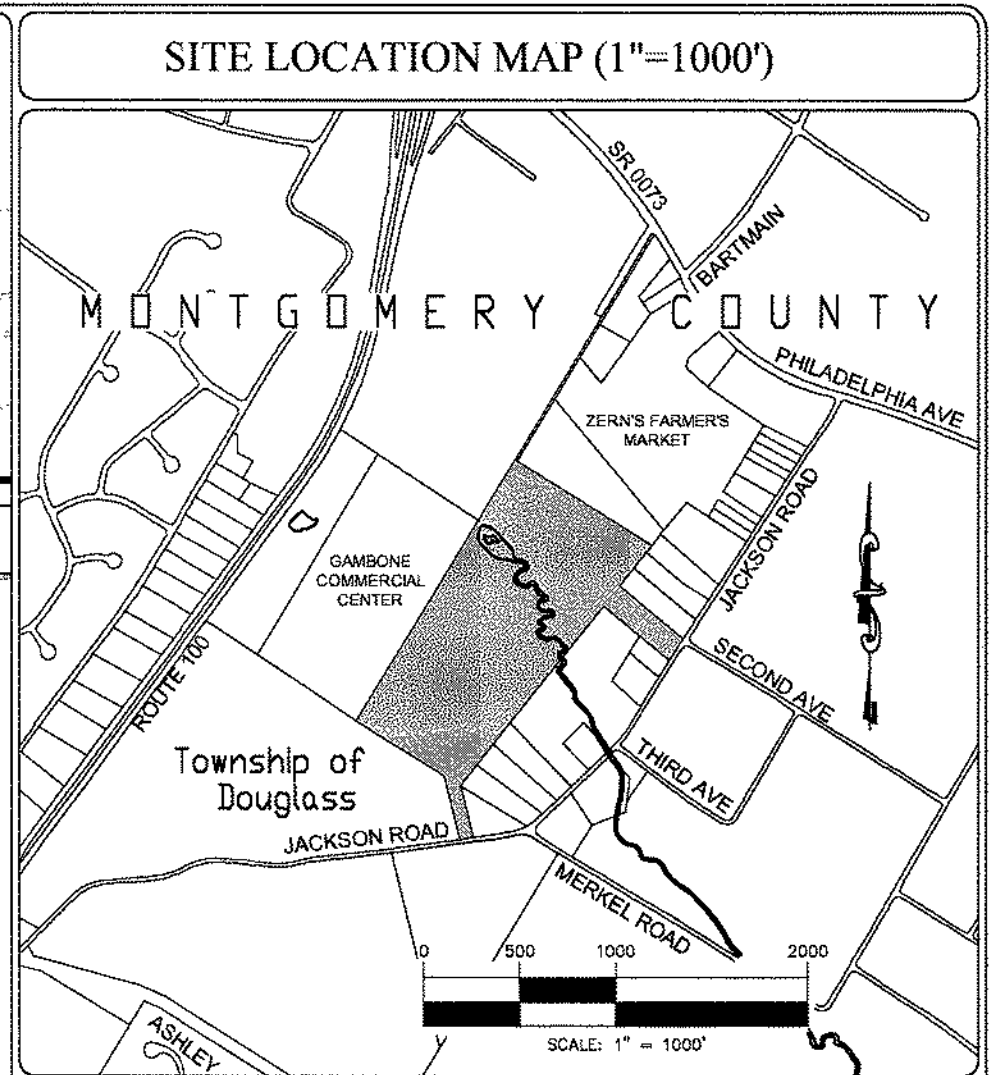
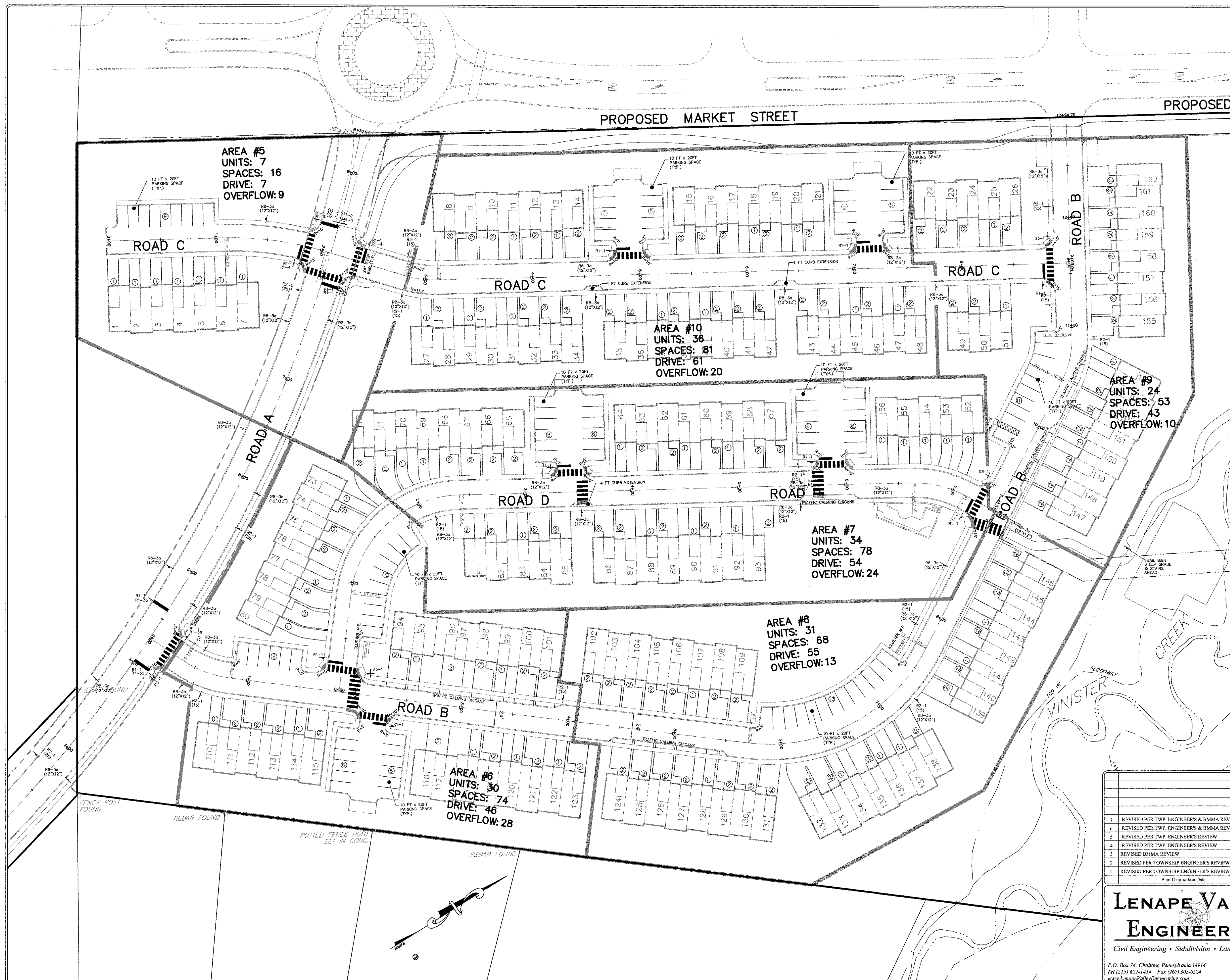


GRAPHIC SCALE		
PROJECT MANAGER J.T.S.	DRAWING SCALE 1"=40'	SHEET NUMBER 4 OF 64
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	

**LENAPE VALLEY
ENGINEERING**

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 1891-
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com



PARKING CALCULATION

PARKING REQUIREMENTS: 2 SPACES PER DWELLING UNIT & 0.2 SPACES FOR VISITOR PARKING.

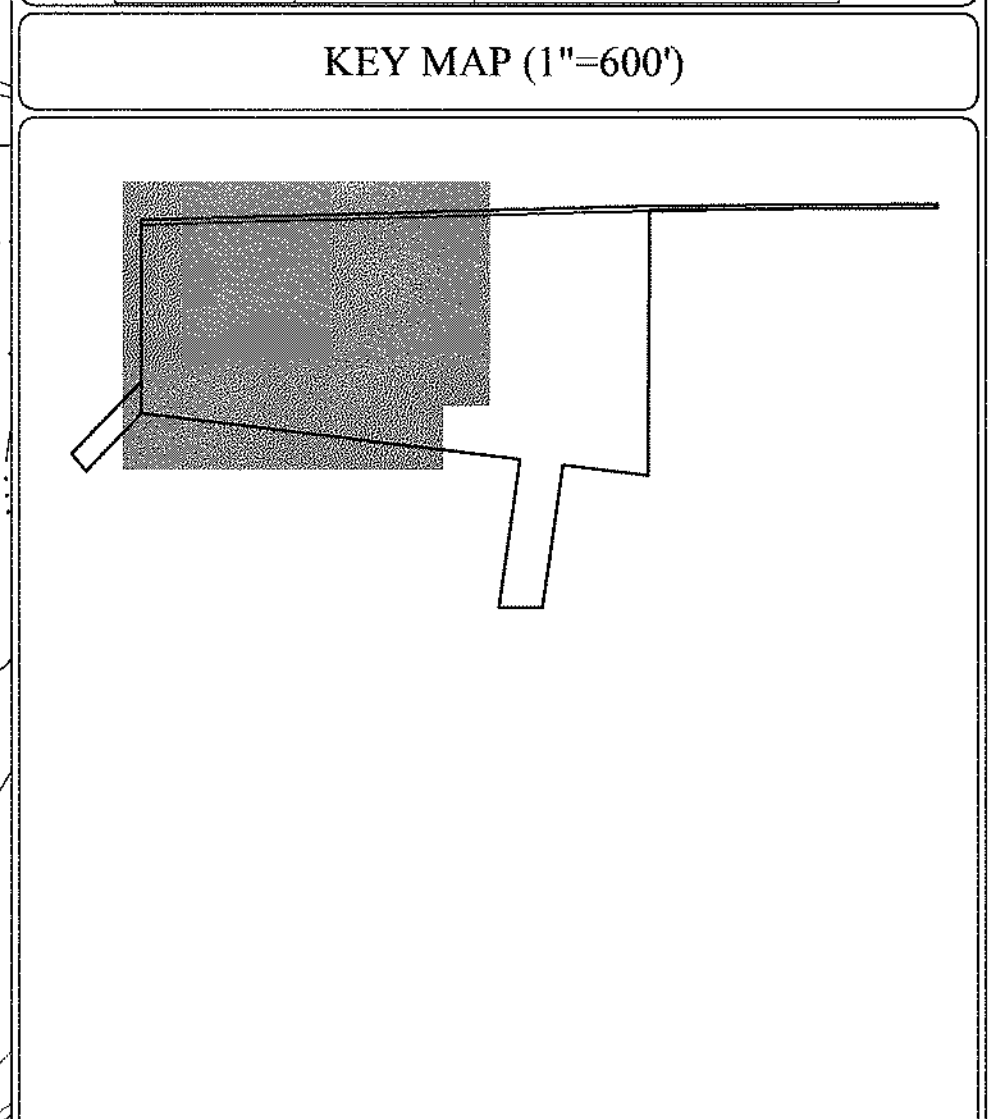
236 UNITS x 2.2 PARKING SPACES PER UNIT = 519 SPACES

TOTAL SPACES PROVIDED

AREA #	NO. UNITS	DRIVE SPACES	OVERFLOW SPACES	TOTAL SPACES
AREA #1	7	8	11	19
AREA #2	43	71	28	99
AREA #3	16	26	12	38
AREA #4	10	9	10	19
AREA #5	7	7	9	16
AREA #6	30	46	28	74
AREA #7	34	54	24	78
AREA #8	31	55	13	68
AREA #9	24	43	10	53
AREA #10	36	61	20	81
TOTAL				545

SIGN TABULATION

SERIES NUMBER	SIZE	REMARKS
R1-1	30"x30"	STOP
R2-1	24"x30"	SPEED LIMIT (25 MPH)
R2-1	12"x18"	SPEED LIMIT (15 MPH)
R8-3a	12"x12"	NO PARKING
D3-1	VAR.X9"	STREET NAME
W14-2	30"x30"	NO OUTLET
K-7202	24"x24"	LOCAL TRAFFIC ONLY
R1-4	18"x6"	ALL WAY
OM4-3	18"x18"	RED OBJECT MARKER
R11-2	48"x30"	ROAD CLOSED



LENAPE VALLEY ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

STRIPING, SIGNAGE, & PARKING PLAN

Prepared for
DANNY JAKE CORP.

As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

GRAPHIC SCALE
0 20 40 60 80 100

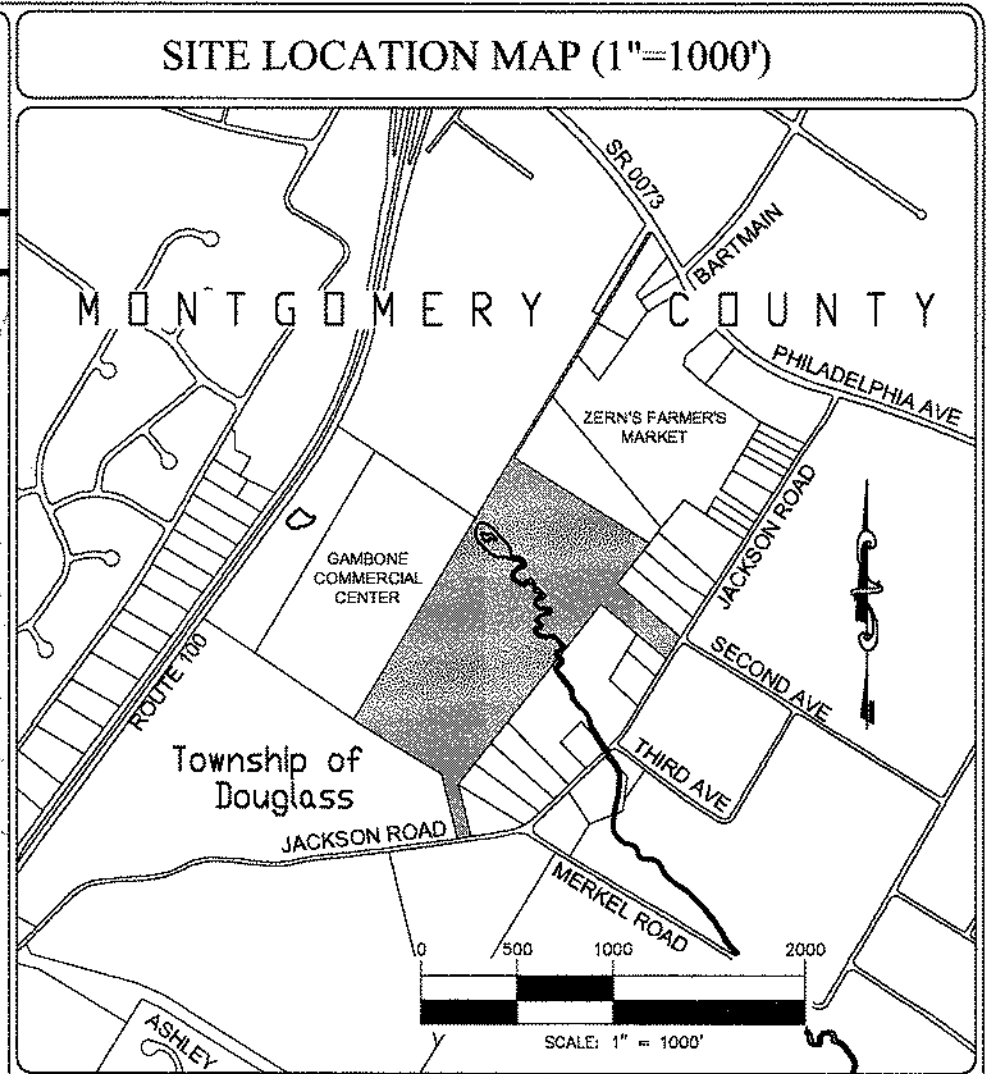
PROJECT MANAGER
J.T.S.

DRAWING SCALE
1"=40'

DRAFTED BY
B.C.S.

PROJECT NUMBER
2028

SHEET NUMBER
5 of 64



PARKING CALCULATION

PARKING REQUIREMENTS: 2 SPACES PER DWELLING UNIT & 0.2 SPACES FOR VISITOR PARKING.

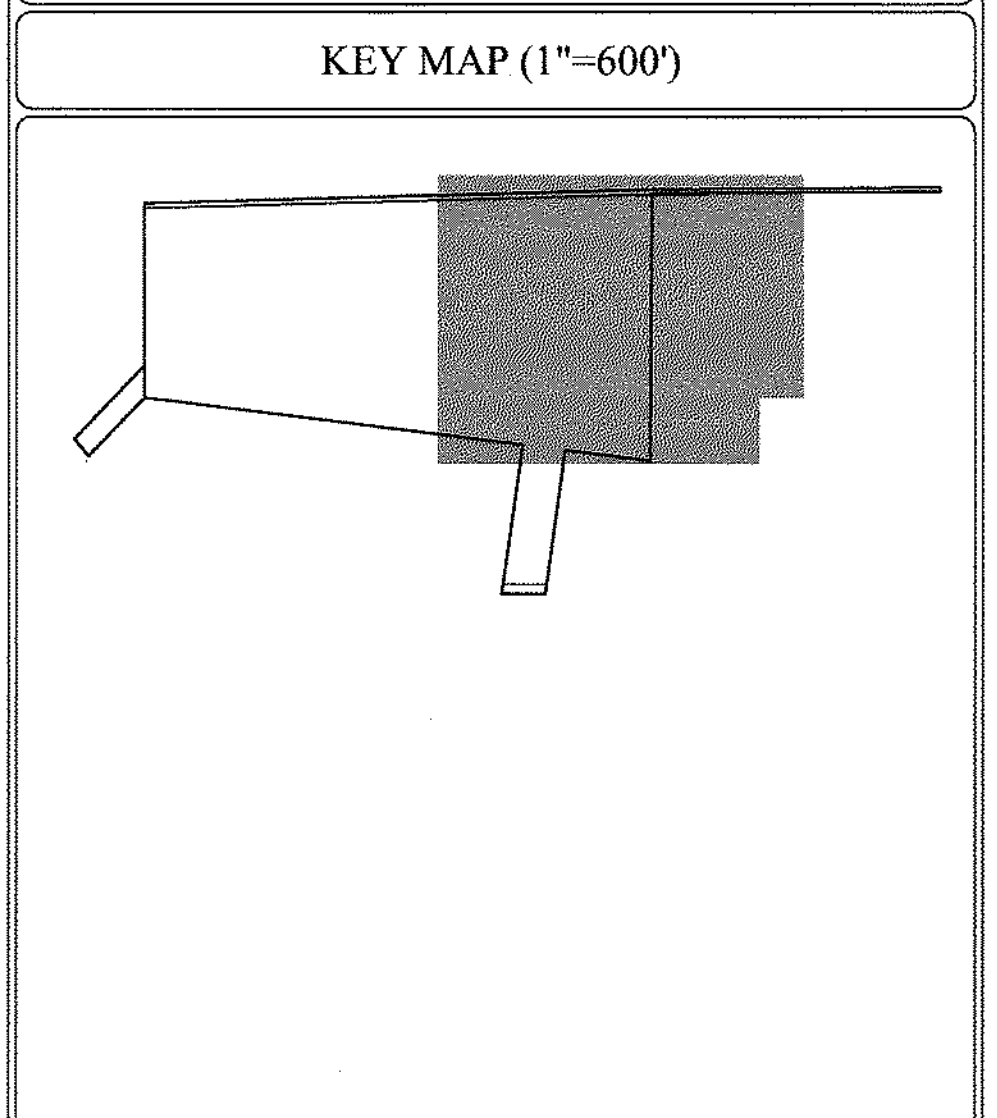
236 UNITS x 2.2 PARKING SPACES PER UNIT = 519 SPACES

TOTAL SPACES PROVIDED

AREA	NO. UNITS	DRIVE SPACES	OVERFLOW SPACES	TOTAL SPACES
AREA #1	7	8	11	19
AREA #2	43	86	28	99
AREA #3	16	26	12	38
AREA #4	8	16	10	19
AREA #5	7	7	9	16
AREA #6	30	46	28	74
AREA #7	34	54	24	78
AREA #8	31	55	13	68
AREA #9	24	43	10	53
AREA #10	36	61	20	61
TOTAL				545

SIGN TABULATION

SERIES NUMBER	SIZE	REMARKS
R1-1	30"x30"	STOP
R2-1	24"x30"	SPEED LIMIT (25 MPH)
R2-1	12"x18"	SPEED LIMIT (15 MPH)
R8-3a	12"x12"	NO PARKING
D3-1	VAR.x9"	STREET NAME
W14-2	30"x30"	NO OUTLET
K-7202	24"x24"	LOCAL TRAFFIC ONLY
R1-4	18"x6"	ALL WAY
OM4-3	18"x18"	RED OBJECT MARKER
R11-2	48"x30"	ROAD CLOSED



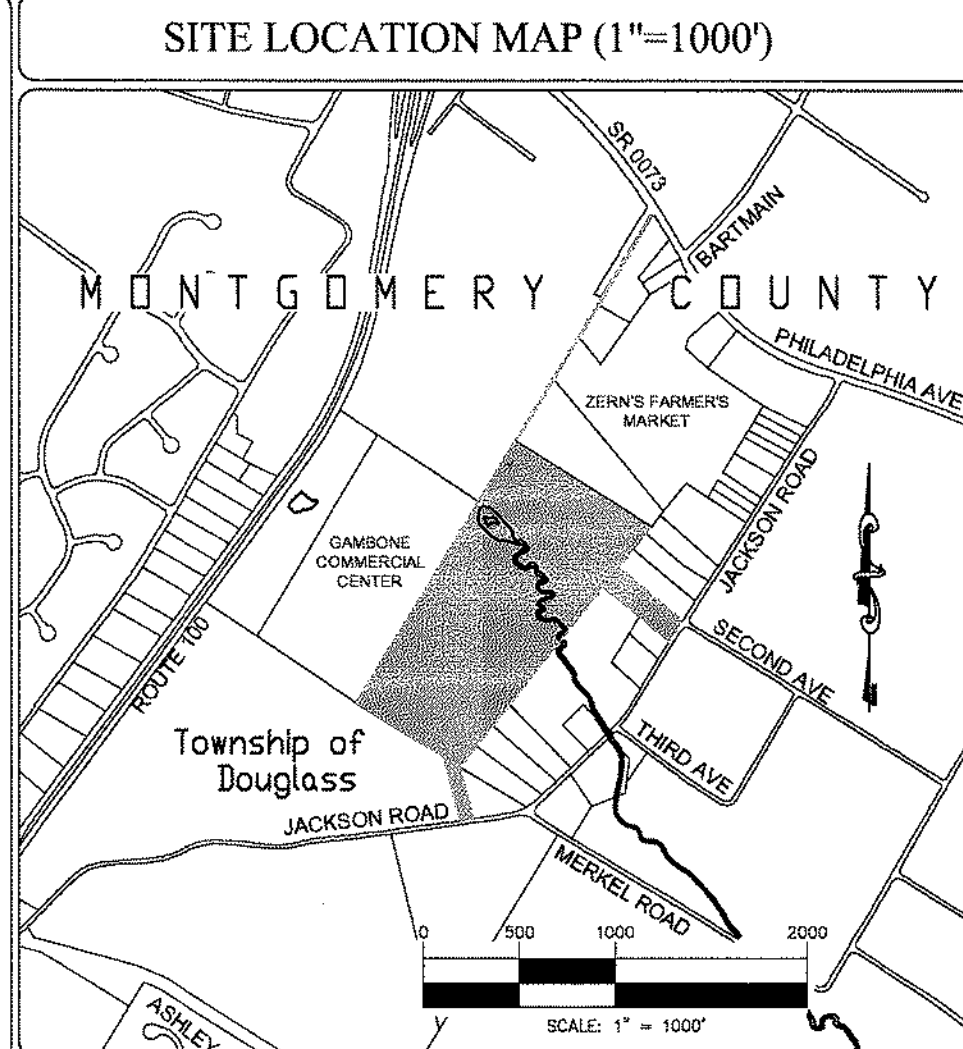
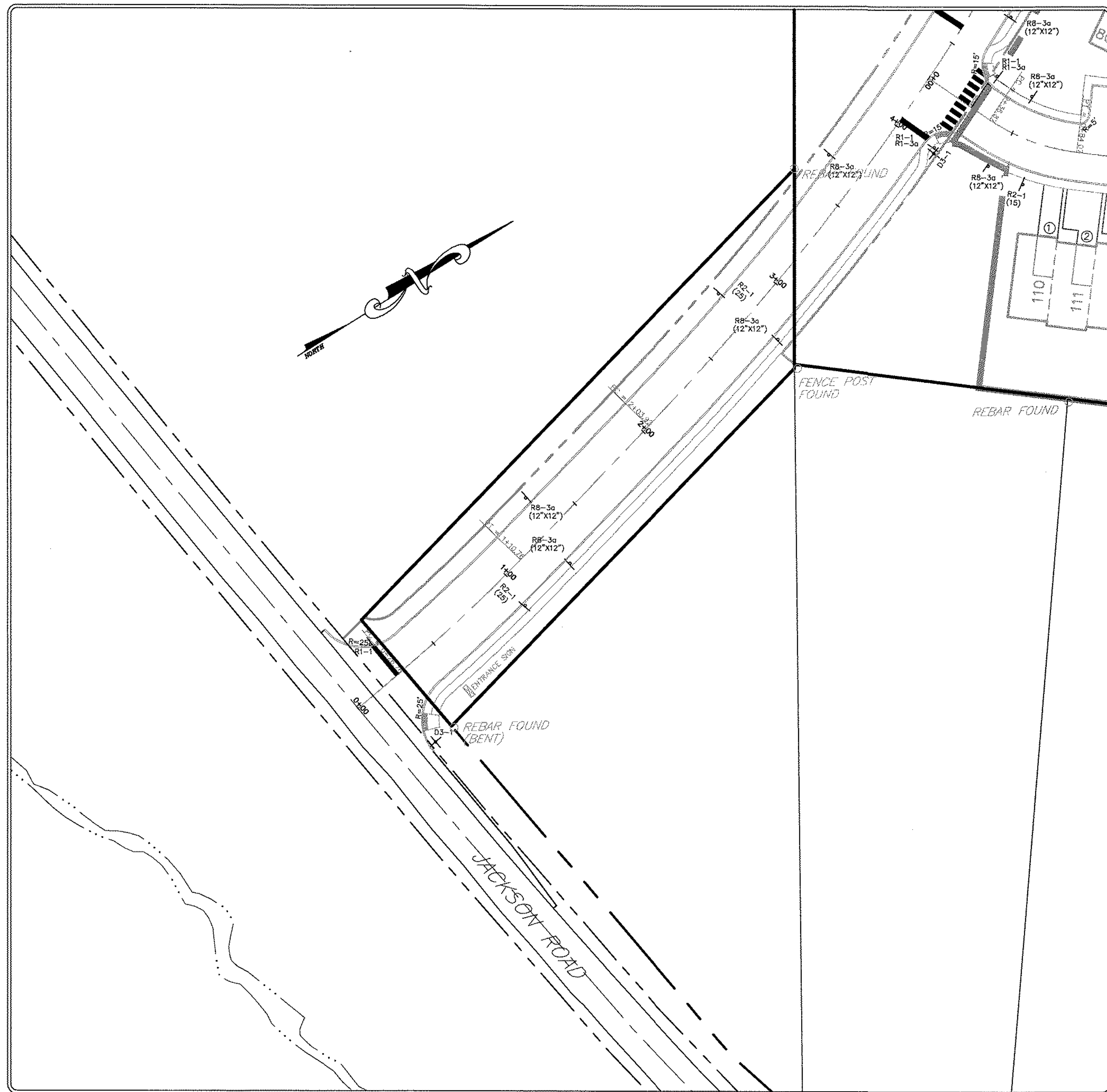
STRIPING, SIGNAGE, & PARKING PLAN	
Prepared for DANNY JAKE CORP.	
As part of ZERN TRACT	
DOUGLASS TOWNSHIP MONTGOMERY COUNTY PENNSYLVANIA	
JASON T. SMELAND PROFESSIONAL ENGINEER PA NO. 059306	
PROJECT MANAGER J.T.S.	DRAWING SCALE 1"=40'
DRAFTED BY B.C.S.	PROJECT NUMBER 2028
SHEET NUMBER 6 of 64	

LENAPE VALLEY ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014



PARKING CALCULATION

PARKING REQUIREMENTS: 2 SPACES PER DWELLING UNIT & 0.2 SPACES FOR VISITOR PARKING.

236 UNITS x 2.2 PARKING SPACES PER UNIT = 519 SPACES

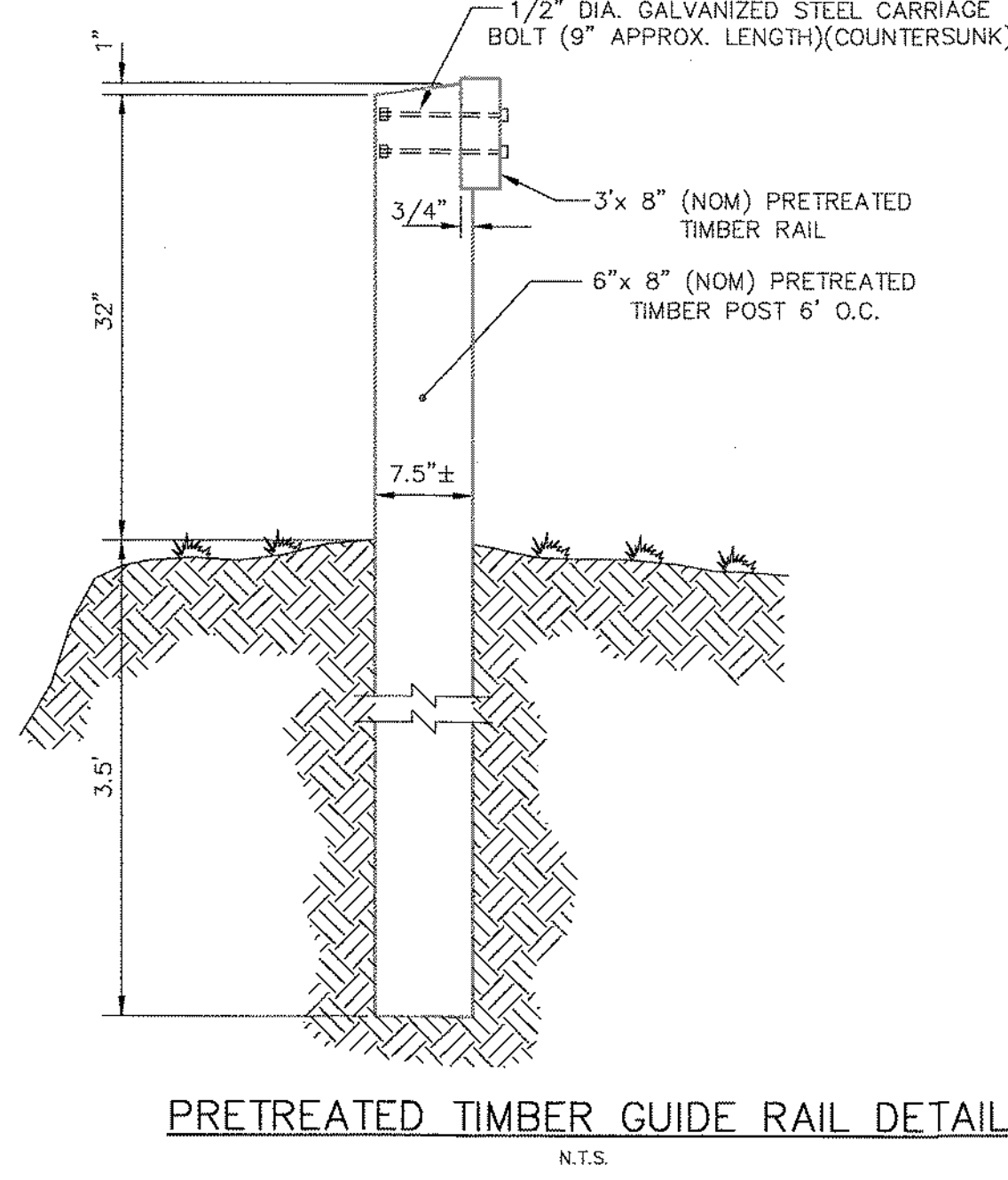
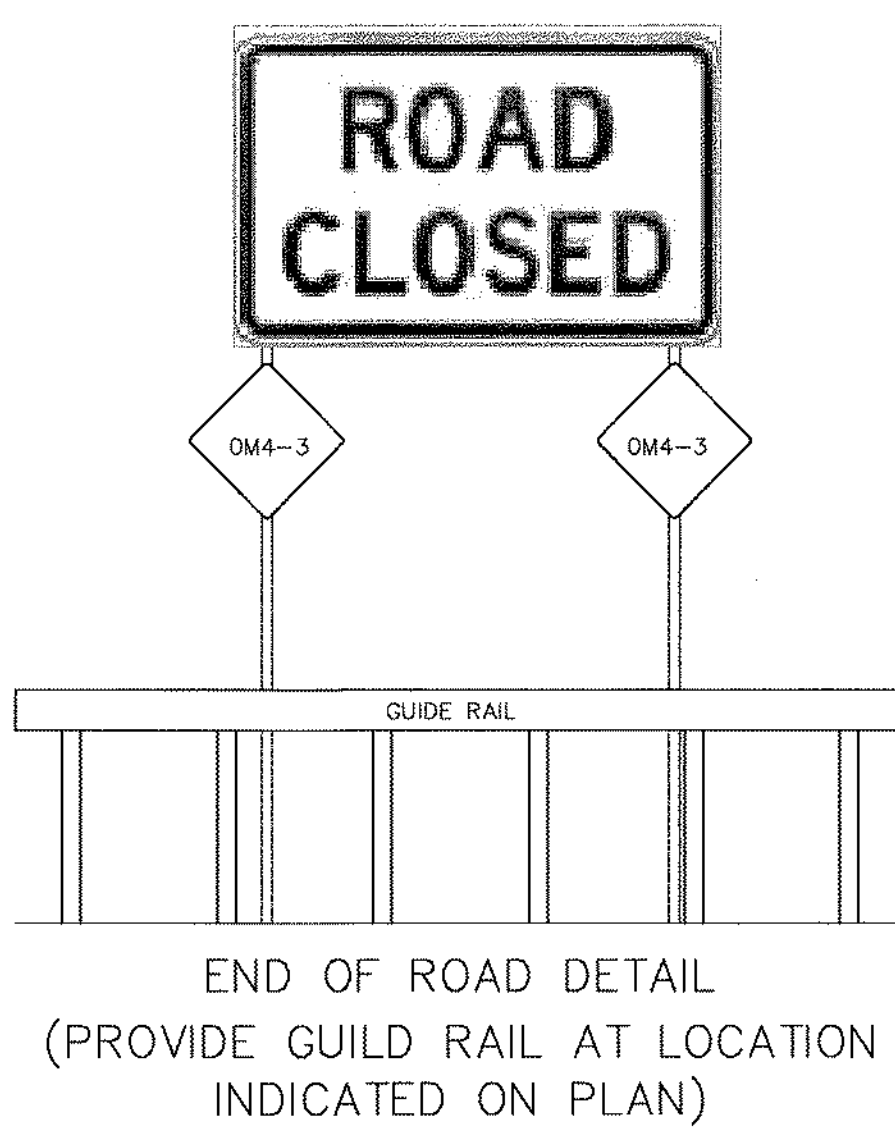
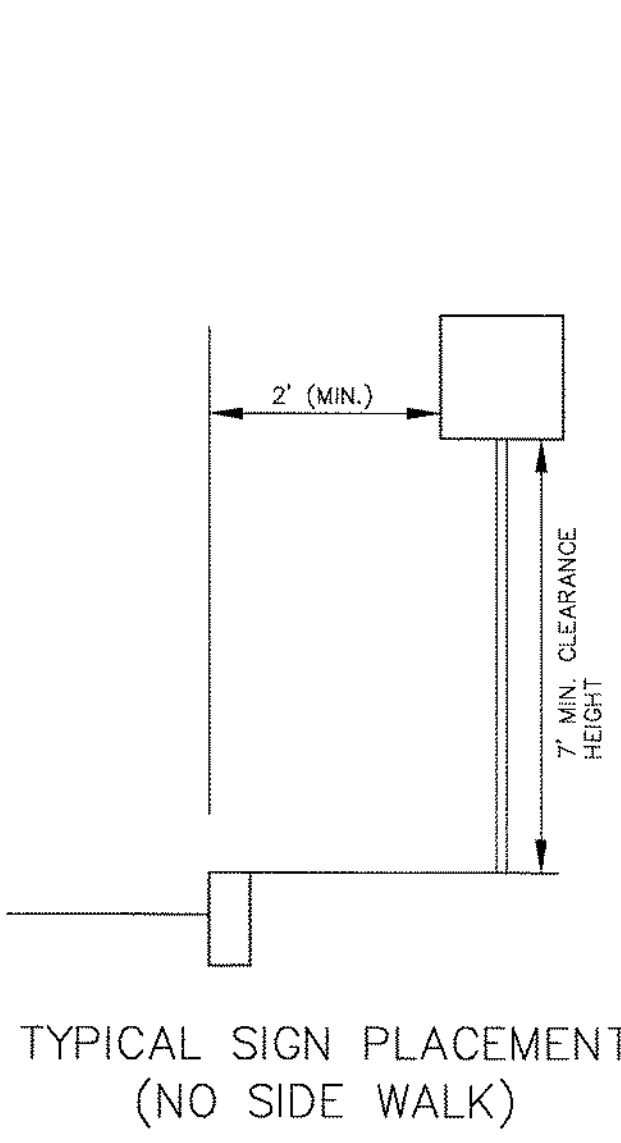
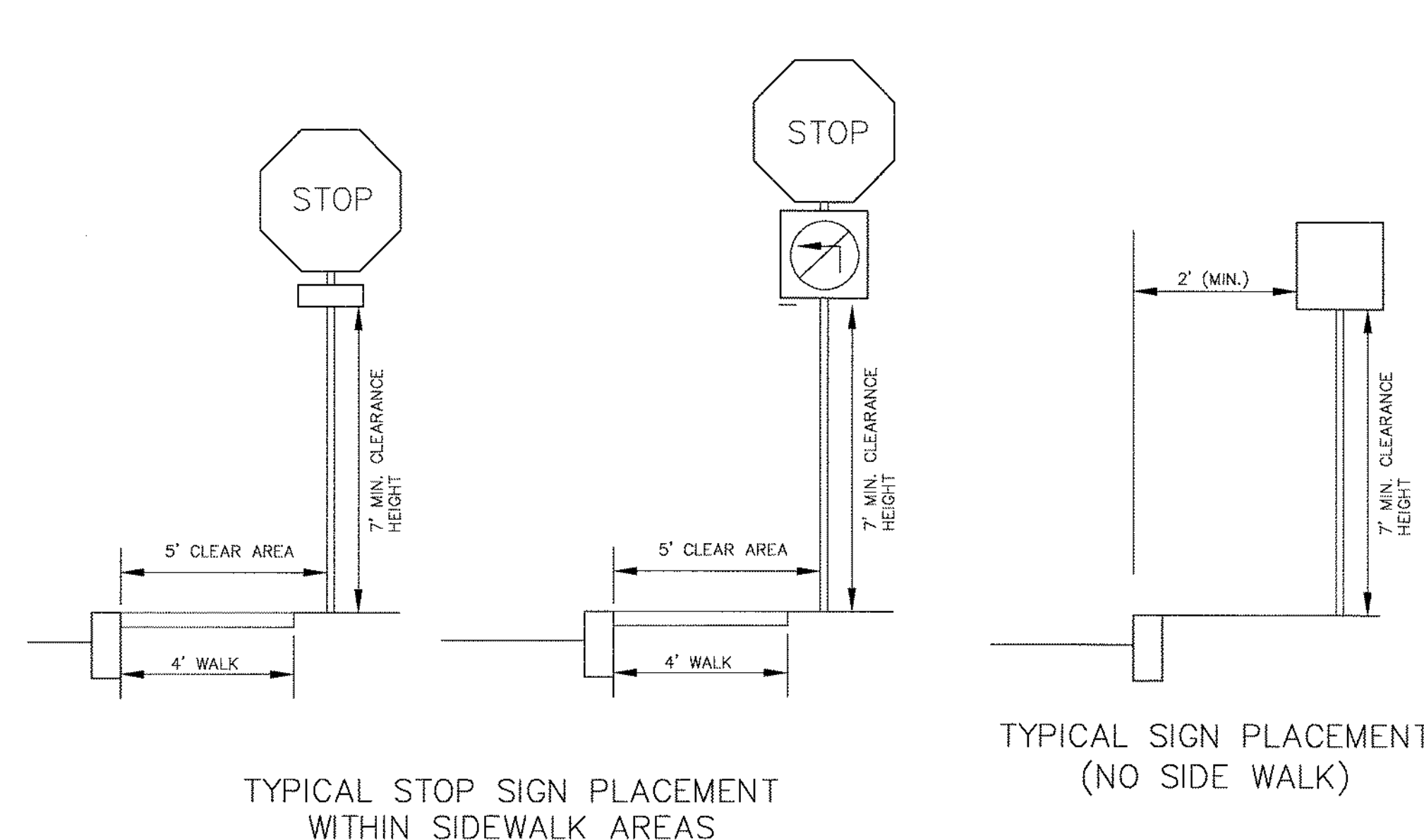
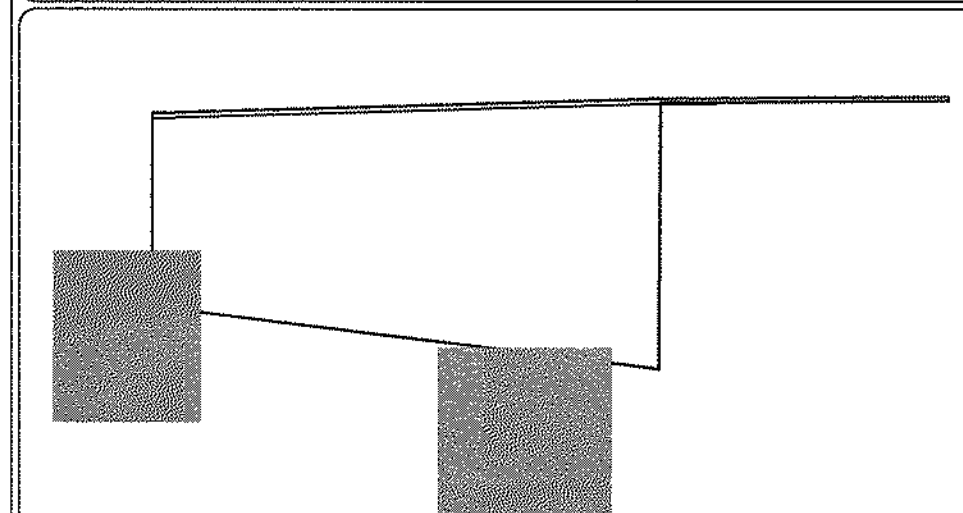
TOTAL SPACES PROVIDED

AREA	NO. UNITS	DRIVE SPACES	OVERFLOW SPACES	TOTAL SPACES
AREA #1	7	14	11	19
AREA #2	43	86	28	99
AREA #3	16	32	12	38
AREA #4	8	16	9	19
AREA #5	7	14	9	16
AREA #6	30	60	28	74
AREA #7	34	68	24	76
AREA #8	31	62	13	68
AREA #9	24	48	20	53
AREA #10	36	72	61	81
TOTAL				545

SIGN TABULATION

SERIES NUMBER	SIZE	REMARKS
R1-1	30"x30"	STOP
R2-1	24"x30"	SPEED LIMIT (25 MPH)
R2-1	12"x18"	SPEED LIMIT (15 MPH)
R8-3a	12"x12"	NO PARKING
D3-1	VAR.x9"	STREET NAME
W14-2	30"x30"	NO OUTLET
K-7202	24"x24"	LOCAL TRAFFIC ONLY
R1-4	18"x6"	ALL WAY
OM4-3	18"x18"	RED OBJECT MARKER
R11-2	48"x30"	ROAD CLOSED

KEY MAP (1"=600')



LENAPE VALLEY ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 422-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

STRIPING, SIGNAGE, & PARKING PLAN

Prepared for
DANNY JAKE CORP.

As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

GRAPHIC SCALE
1"=40'

PROJECT MANAGER
J.T.S.

DRAFTED BY
B.C.S.

DRAWING SCALE
1"=40'

PROJECT NUMBER
2028

SHEET NUMBER
7 OF 64

Diagram of a diamond-shaped "NO OUTLET" sign (W14-2) with dimensions A through L. Below the diagram is a table of dimensions for various sign sizes.

A	B	C	D	E	F	G	H	J	K	L
24	375	375	5.0	3	75	4.50	4.5	14.00	10.00	4.5
30	450	450	6.0	4	90	5.40	5.4	17.00	12.00	5.4
36	525	525	7.0	5	105	6.30	6.3	20.00	14.00	6.3

COLORS: LEGEND — BLACK
BACKGROUND — YELLOW (RETROREFLECTIVE)

2-118

Diagram of an octagonal "STOP" sign (R1-1) with dimensions A through L. Below the diagram is a table of dimensions for various sign sizes.

A	B	C	D	E	F	G	H	J	K	L
18	375	375	5.0	3	75	4.50	4.5	14.00	10.00	4.5
24	450	450	6.0	4	90	5.40	5.4	17.00	12.00	5.4
30	525	525	7.0	5	105	6.30	6.3	20.00	14.00	6.3

COLORS: LEGEND — WHITE (RETROREFLECTIVE)
BACKGROUND — RED (RETROREFLECTIVE)

1-1

Diagram of a square "NO PARKING (SYMBOL)" sign (R8-3a) with dimensions A through L. Below the diagram is a table of dimensions for various sign sizes.

A	B	C	D	E	F	G	H	J	K	L
12	375	375	5.0	3	75	4.50	4.5	14.00	10.00	4.5
18	450	450	6.0	4	90	5.40	5.4	17.00	12.00	5.4
24	525	525	7.0	5	105	6.30	6.3	20.00	14.00	6.3

SEE STRIPING AND SIGNAGE PLAN FOR SIGN SIZES

COLORS: CIRCLE & DIAGONAL — RED (RETROREFLECTIVE)
LETTER, BORDER — BLACK
BACKGROUND — WHITE (RETROREFLECTIVE)

1-104

Diagram of a rectangular "SPEED LIMIT 50" sign (R2-1) with dimensions A through L. Below the diagram is a table of dimensions for various sign sizes.

A	B	C	D	E	F	G	H	J	K	L
24	30	375	375	4	4.5	2	10.5	6.50	7.50	15
30	40	450	450	5	6.0	3	14.0	8.50	10.0	20
48	60	675	675	7.5	9.0	4.5	21.0	12.75	15.00	30

COLORS: LEGEND — BLACK
BACKGROUND — WHITE (RETROREFLECTIVE)

1-10

Diagram of two rectangular street name signs (D-3) for "E MAIN ST" and "S CENTER ST" with dimensions A through L. Below the diagram is a table of dimensions for various sign sizes.

A	B	C	D	E	F	G	H	J	K	L
24	30	375	375	4	4.5	2	10.5	6.50	7.50	15
30	40	450	450	5	6.0	3	14.0	8.50	10.0	20
48	60	675	675	7.5	9.0	4.5	21.0	12.75	15.00	30

COLORS: LEGEND — WHITE (REFLECTIVE)
BACKGROUND — GREEN (REFLECTIVE)

SUPPLY CATALOG CUTS TO TOWNSHIP ENGINEER BEFORE FABRICATION

Diagram of a "CROSS MARKING WALK DETAIL" showing a crosswalk with dimensions A through L. Below the diagram is a table of dimensions for various sign sizes.

A	B	C	D	E	F	G	H	J	K	L
24	30	375	375	4	4.5	2	10.5	6.50	7.50	15
30	40	450	450	5	6.0	3	14.0	8.50	10.0	20
48	60	675	675	7.5	9.0	4.5	21.0	12.75	15.00	30

NOTE - MID BLOCK CROSSINGS SHALL BE 10 FEET WIDE AS SHOWN ON PLANS.

Diagram of a rectangular "ROAD CLOSED" sign (R11-2) with dimensions A through L. Below the diagram is a table of dimensions for various sign sizes.

A	B	C	D	E	F	G	H	J	K	L
24	30	375	375	4	4.5	2	10.5	6.50	7.50	15
30	40	450	450	5	6.0	3	14.0	8.50	10.0	20
48	60	675	675	7.5	9.0	4.5	21.0	12.75	15.00	30

1-11-2

Diagram of a rectangular "LOCAL TRAFFIC ONLY" sign (K-7207) with dimensions A through L. Below the diagram is a table of dimensions for various sign sizes.

A	B	C	D	E	F	G	H	J	K	L
24	30	375	375	4	4.5	2	10.5	6.50	7.50	15
30	40	450	450	5	6.0	3	14.0	8.50	10.0	20
48	60	675	675	7.5	9.0	4.5	21.0	12.75	15.00	30

1-5

Diagram of a rectangular "ALL WAY" sign (R1-4) with dimensions A through L. Below the diagram is a table of dimensions for various sign sizes.

A	B	C	D	E	F	G	H	J	K	L
24	30	375	375	4	4.5	2	10.5	6.50	7.50	15
30	40	450	450	5	6.0	3	14.0	8.50	10.0	20
48	60	675	675	7.5	9.0	4.5	21.0	12.75	15.00	30

COLORS: LEGEND — WHITE (RETROREFLECTIVE)
BACKGROUND — RED (RETROREFLECTIVE)

1-5

Diagram of a diamond-shaped "ROAD CLOSED" sign (OM4-3) with dimensions A through L. Below the diagram is a table of dimensions for various sign sizes.

A	B	C	D	E	F	G	H	J	K	L
24	30	375	375	4	4.5	2	10.5	6.50	7.50	15
30	40	450	450	5	6.0	3	14.0	8.50	10.0	20
48	60	675	675	7.5	9.0	4.5	21.0	12.75	15.00	30

1-5

DETAIL SHEET: PROPOSED SIGNAGE

Prepared for
DANNY JAKE CORP.

As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

GRAPHIC SCALE
0 20 40 60 80 100 120

PROJECT MANAGER
J.T.S.

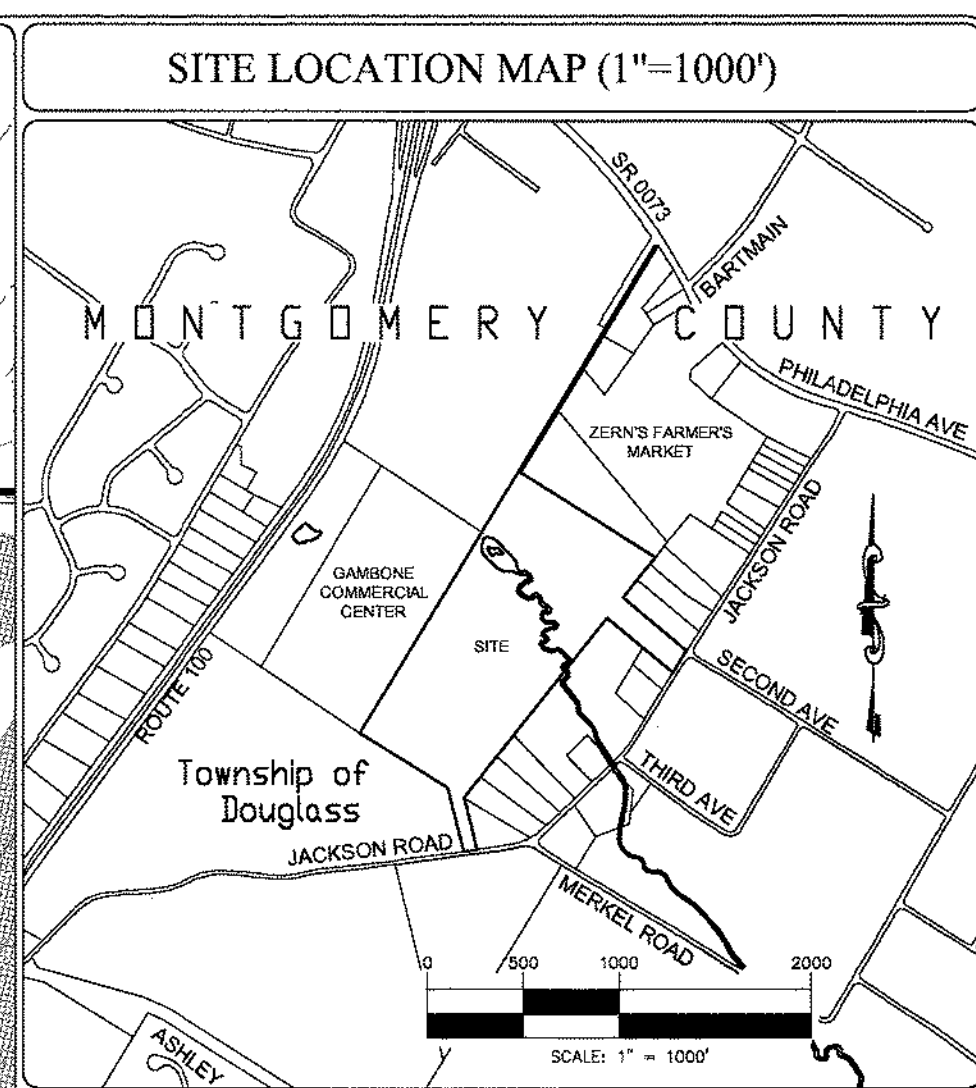
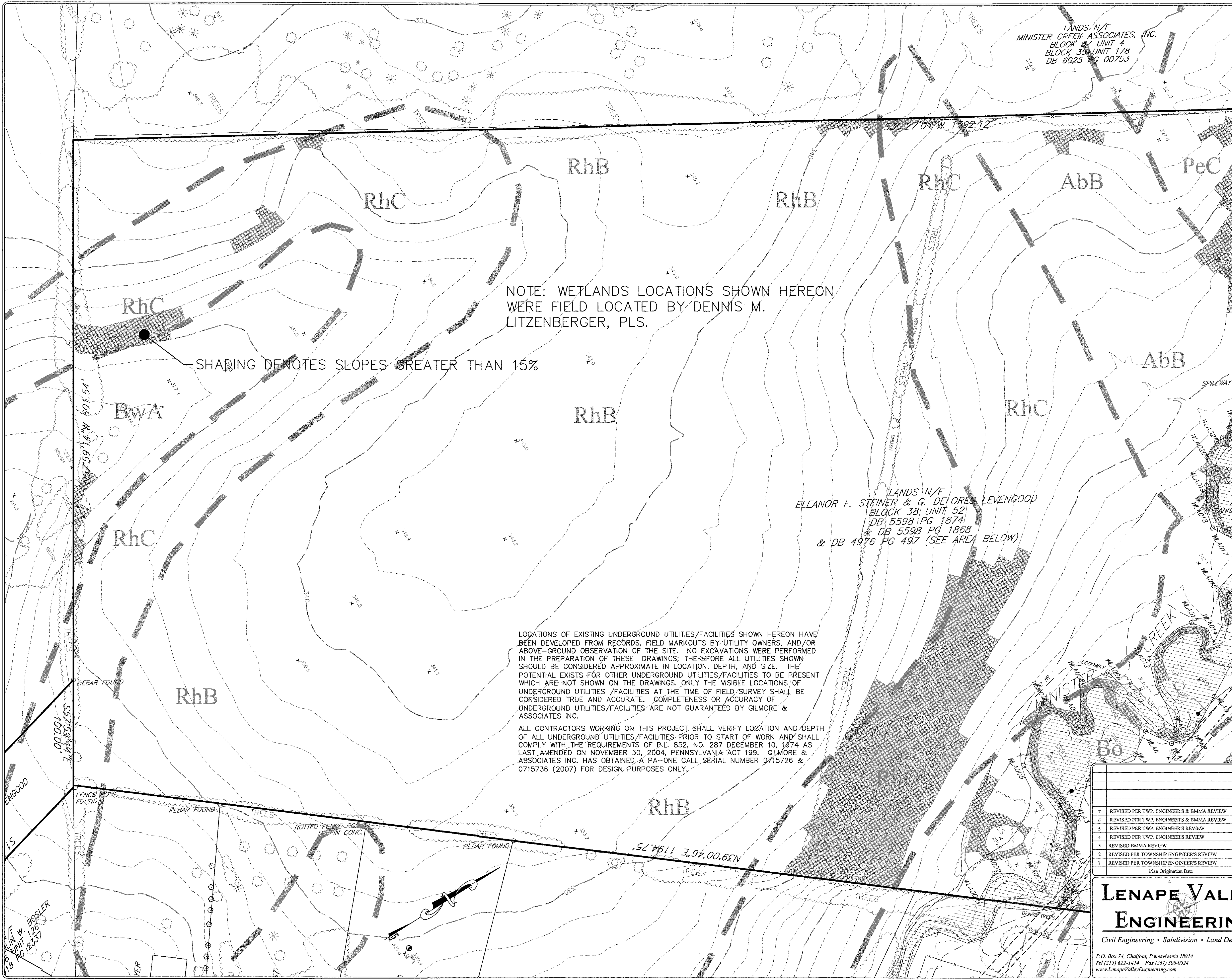
DRAWING SCALE
1"=40'

DRAFTED BY
B.C.S.

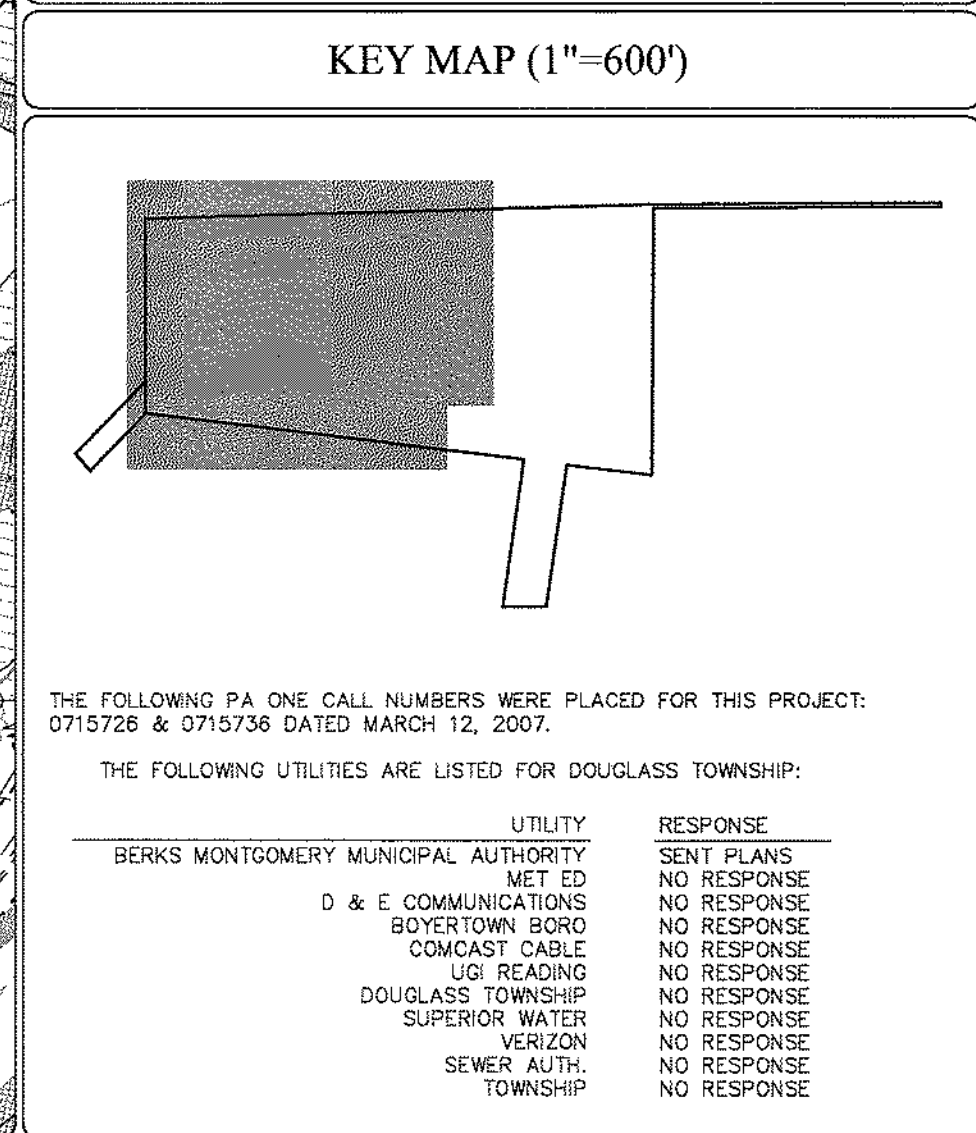
PROJECT NUMBER
2028

SHEET NUMBER
8 of 64

LENAPE VALLEY ENGINEERING
Civil Engineering • Subdivision • Land Development
P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com



- GENERAL NOTES**
1. TOPOGRAPHIC INFORMATION SHOWN IS FROM AERIAL PHOTOGRAMMETRIC METHODS. NO EAST MAPPING, INC. COMPILED THE MAPPING BASED ON A FEBRUARY 8, 2007 FLIGHT. GILMORE & ASSOCIATES, INC. CONDUCTED SUPPLEMENTAL GROUND SURVEYS AND GROUND CONTROL. BUILDING FOOTPRINTS SHOWN ARE BASED ON ROOFLINES VISIBLE FROM AERIAL PHOTOGRAPHY.
 2. BOUNDARY INFORMATION IS CALCULATED FROM DEEDS OF RECORD, A TITLE INSURANCE COMMITMENT FROM SECURITY ABSTRACT OF PA, INC., FILE NO. SPA37116CH, DATED JANUARY 10, 2007, AND SURVEYED FIELD EVIDENCE.
 3. HORIZONTAL DATUM: NAD 1983 PENNSYLVANIA STATE PLANE GRID, SOUTH ZONE.
 4. VERTICAL DATUM: NAVD 1988. ELEVATIONS BASED ON G.P.S. OBSERVATIONS.
 5. SITE IS PARTIALLY IN A 100 YEAR FLOOD ZONE AREA. FLOOD ZONE SHOWN IS BASED ON ELEVATIONS PER FLOOD INSURANCE RATE MAP OF MONTGOMERY COUNTY, PANEL No. 78 OF 451, MAP NUMBER 42091C0078 G, EFFECTIVE DATE MARCH 2, 2016. BOTH THE SURVEY DATUM FOR THIS SITE AND THE FEMA FIRM VERTICAL DATUM ARE CONSISTENT (NAD1988).
 6. THIS PLAN DOES NOT SHOW ENVIRONMENTAL HAZARDS OR ARCHEOLOGICAL SITES THAT MAY EXIST ON SITE.
 7. EASEMENTS OF RECORD:
 - A. RIGHTS GRANTED TO MANUFACTURERS LIGHT & HEAT CO. AS SET FORTH IN DEED BOOK 1223 PAGE 553. (NOT PLOTTABLE)
 - B. AGREEMENT AS SET FORTH IN DEED BOOK 4040 PAGE 532. (NOT PLOTTABLE)
 - C. DEED OF EASEMENT AS SET FORTH IN DEED BOOK 4168 PAGE 274. (PLOTTED)
 - D. RIGHT-OF-WAY AGREEMENT AS IN DEED BOOK 5216 PAGE 2054. (PLOTTED)
 - E. RESOLUTION TO DOUGLASS TOWNSHIP AS IN DEED BOOK 5168 PAGE 2180 (NOT PLOTTABLE)
 - F. RIGHTS GRANTED TO METROPOLITAN EDISON CO. AS IN DEED BOOK 1216 PAGE 266, DEED BOOK 1284 PAGE 478, DEED BOOK 2128 PAGE 213, DEED BOOK 1829 PAGE 311, DEED BOOK 3475 PAGE 213, DEED BOOK 3352 PAGE 759, AND DEED BOOK 3407 PAGE 1088 (NOT PLOTTABLE)
 - G. SUBJECT TO TERMS OF RELEASE TO MONTGOMERY COUNTY AS IN DEED BOOK 1133 PAGE 469. (PLOTTED)



LOCATIONS OF EXISTING UNDERGROUND UTILITIES/FACILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM RECORDS, FIELD MARKOUTS BY UTILITY OWNERS, AND/OR ABOVE-GROUND OBSERVATION OF THE SITE. NO EXCAVATIONS WERE PERFORMED IN THE PREPARATION OF THESE DRAWINGS; THEREFORE ALL UTILITIES SHOWN SHOULD BE CONSIDERED APPROXIMATE IN LOCATION, DEPTH, AND SIZE. THE POTENTIAL EXISTS FOR OTHER UNDERGROUND UTILITIES/FACILITIES TO BE PRESENT WHICH ARE NOT SHOWN ON THE DRAWINGS. ONLY THE VISIBLE LOCATIONS OF UNDERGROUND UTILITIES /FACILITIES AT THE TIME OF FIELD SURVEY SHALL BE CONSIDERED TRUE AND ACCURATE. COMPLETENESS OR ACCURACY OF UNDERGROUND UTILITIES/FACILITIES ARE NOT GUARANTEED BY GILMORE & ASSOCIATES INC.

ALL CONTRACTORS WORKING ON THIS PROJECT SHALL VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES/FACILITIES PRIOR TO START OF WORK AND SHALL COMPLY WITH THE REQUIREMENTS OF P.L. 852, NO. 287 DECEMBER 10, 1874 AS LAST AMENDED ON NOVEMBER 30, 2004, PENNSYLVANIA ACT 199. GILMORE & ASSOCIATES INC. HAS OBTAINED A PA-ONE CALL SERIAL NUMBER 0715726 & 0715736 (2007) FOR DESIGN PURPOSES ONLY.

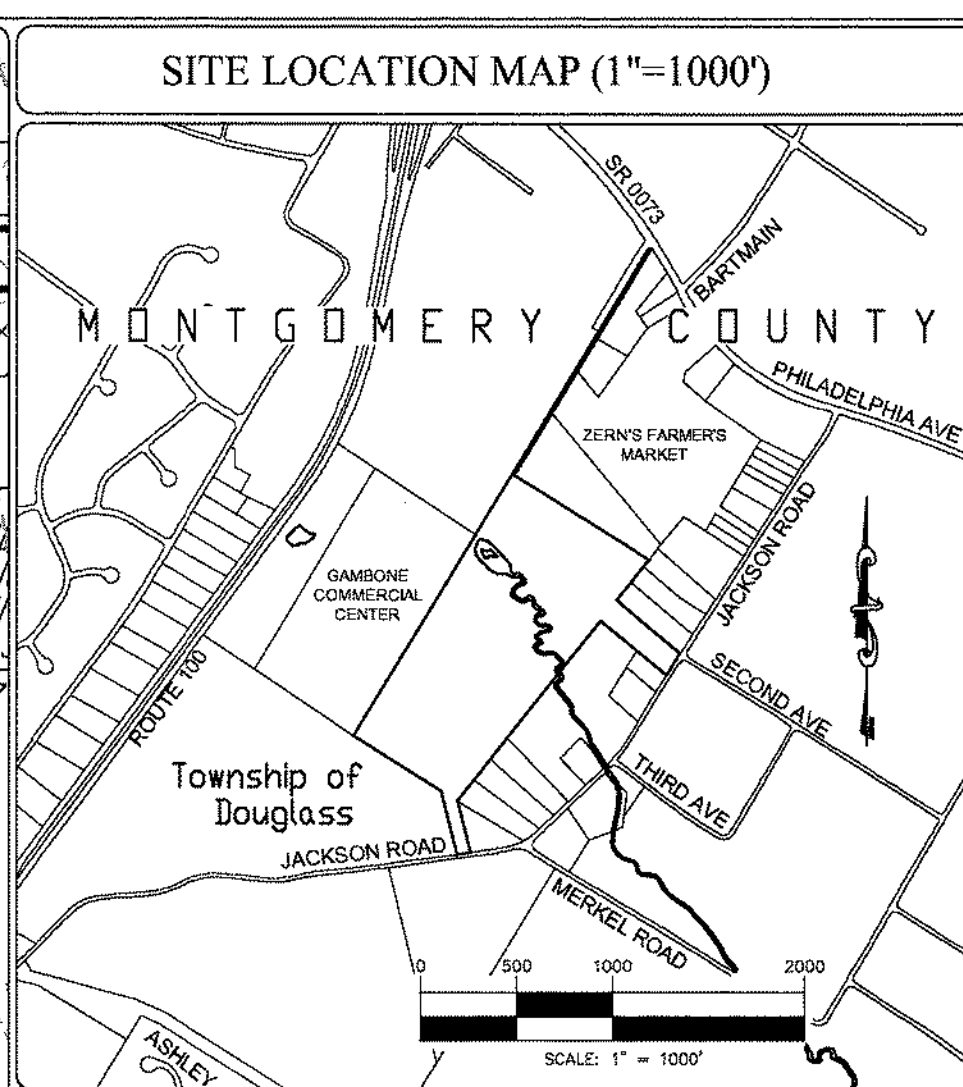
7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

EXISTING FEATURES PLAN
Prepared for
DANNY JAKE CORP.
As part of
ZERN TRACT
DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

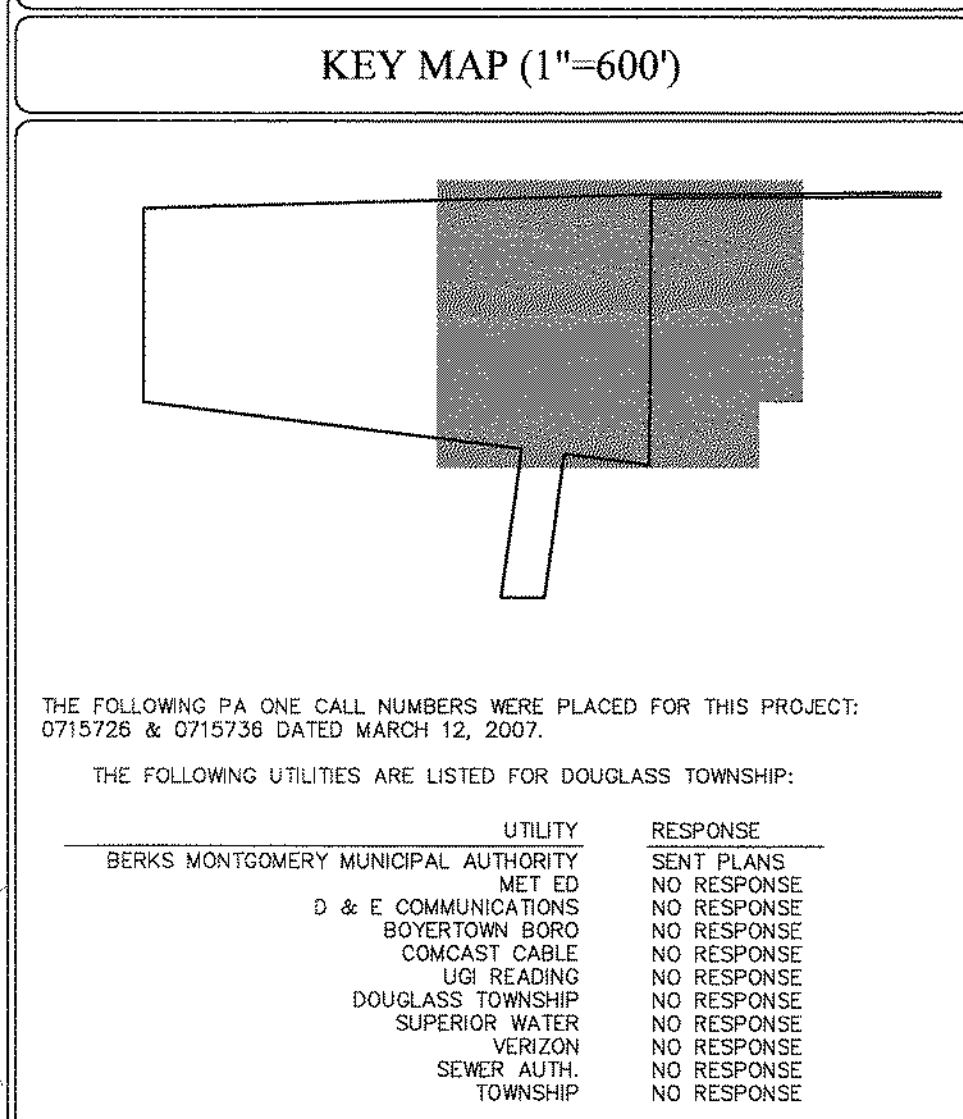
LENAPE VALLEY
ENGINEERING
Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 19914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

JASON T. SMELAND PROFESSIONAL ENGINEER PA NO. 059306	GRAPHIC SCALE 0 20 40 80 120
PROJECT MANAGER J.T.S.	DRAWING SCALE 1"=40'
DRAFTED BY B.C.S.	PROJECT NUMBER 2028
SHEET NUMBER 9 OF 64	



- GENERAL NOTES**
1. TOPOGRAPHIC INFORMATION SHOWN IS FROM AERIAL PHOTOGRAMMETRIC METHODS. NO EAST MAPING, INC. COMPILED THE MAPING BASED ON A FEBRUARY 8, 2007 FLIGHT. GILMORE & ASSOCIATES, INC. CONDUCTED SUPPLEMENTAL GROUND SURVEYS AND GROUND CONTROL. BUILDING FOOTPRINTS SHOWN ARE BASED ON ROOFLINES VISIBLE FROM AERIAL PHOTOGRAPHY.
 2. BOUNDARY INFORMATION IS CALCULATED FROM DEEDS OF RECORD, A TITLE INSURANCE COMMITMENT FROM SECURITY ABSTRACT OF PA, INC. FILE NO. SPA37116CH, DATED JANUARY 10, 2007, AND SURVEYED FIELD EVIDENCE.
 3. HORIZONTAL DATUM: NAD 1983 PENNSYLVANIA STATE PLANE GRID, SOUTH ZONE.
 4. VERTICAL DATUM: NAVD 1988. ELEVATIONS BASED ON G.P.S. OBSERVATIONS.
 5. SITE IS PARTIALLY IN A 100 YEAR FLOOD ZONE AREA. FLOOD ZONE SHOWN IS BASED ON ELEVATIONS PER FLOOD INSURANCE RATE MAP OF MONTGOMERY COUNTY, PANEL NO. 78 OF 451, MAP NUMBER 42091C0078 G, EFFECTIVE DATE MARCH 2, 2016. BOTH THE SURVEY DATUM FOR THIS SITE AND THE FEMA FIRM VERTICAL DATUM ARE CONSISTENT (NAD1988).
 6. THIS PLAN DOES NOT SHOW ENVIRONMENTAL HAZARDS OR ARCHEOLOGICAL SITES THAT MAY EXIST ON SITE.
 7. EASEMENTS OF RECORD:
 - A. RIGHTS GRANTED TO MANUFACTURERS LIGHT & HEAT CO. AS SET FORTH IN DEED BOOK 1223 PAGE 553. (NOT PLOTTABLE)
 - B. AGREEMENT AS SET FORTH IN DEED BOOK 4040 PAGE 532. (NOT PLOTTABLE)
 - C. DEED OF EASEMENT AS SET FORTH IN DEED BOOK 4168 PAGE 274. (PLOTTED)
 - D. RIGHT-OF-WAY AGREEMENT AS IN DEED BOOK 5216 PAGE 2054. (PLOTTED)
 - E. RESOLUTION TO DOUGLASS TOWNSHIP AS IN DEED BOOK 5168 PAGE 2180 (NOT PLOTTABLE)
 - F. RIGHTS GRANTED TO METROPOLITAN EDISON CO. AS IN DEED BOOK 1216 PAGE 266, DEED BOOK 1284 PAGE 478, DEED BOOK 2128 PAGE 213, DEED BOOK 1829 PAGE 311, DEED BOOK 3475 PAGE 213, DEED BOOK 3352 PAGE 759, AND DEED BOOK 3407 PAGE 1089 (NOT PLOTTABLE)
 - G. SUBJECT TO TERMS OF RELEASE TO MONTGOMERY COUNTY AS IN DEED BOOK 1133 PAGE 469. (PLOTTED)



THE FOLLOWING PA ONE CALL NUMBERS WERE PLACED FOR THIS PROJECT:
0715726 & 0715736 DATED MARCH 12, 2007.

THE FOLLOWING UTILITIES ARE LISTED FOR DOUGLASS TOWNSHIP:

UTILITY	RESPONSE
BERKS MONTGOMERY MUNICIPAL AUTHORITY	SENT PLANS
MET ED	NO RESPONSE
D & E COMMUNICATIONS	NO RESPONSE
BOYERTOWN BORO	NO RESPONSE
COMCAST CABLE	NO RESPONSE
UGI READING	NO RESPONSE
DOUGLASS TOWNSHIP	NO RESPONSE
SUPERIOR WATER	NO RESPONSE
VERIZON	NO RESPONSE
SEWER AUTH.	NO RESPONSE
TOWNSHIP	NO RESPONSE

EXISTING FEATURES PLAN
Prepared for
DANNY JAKE CORP.
As part of
ZERN TRACT
DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

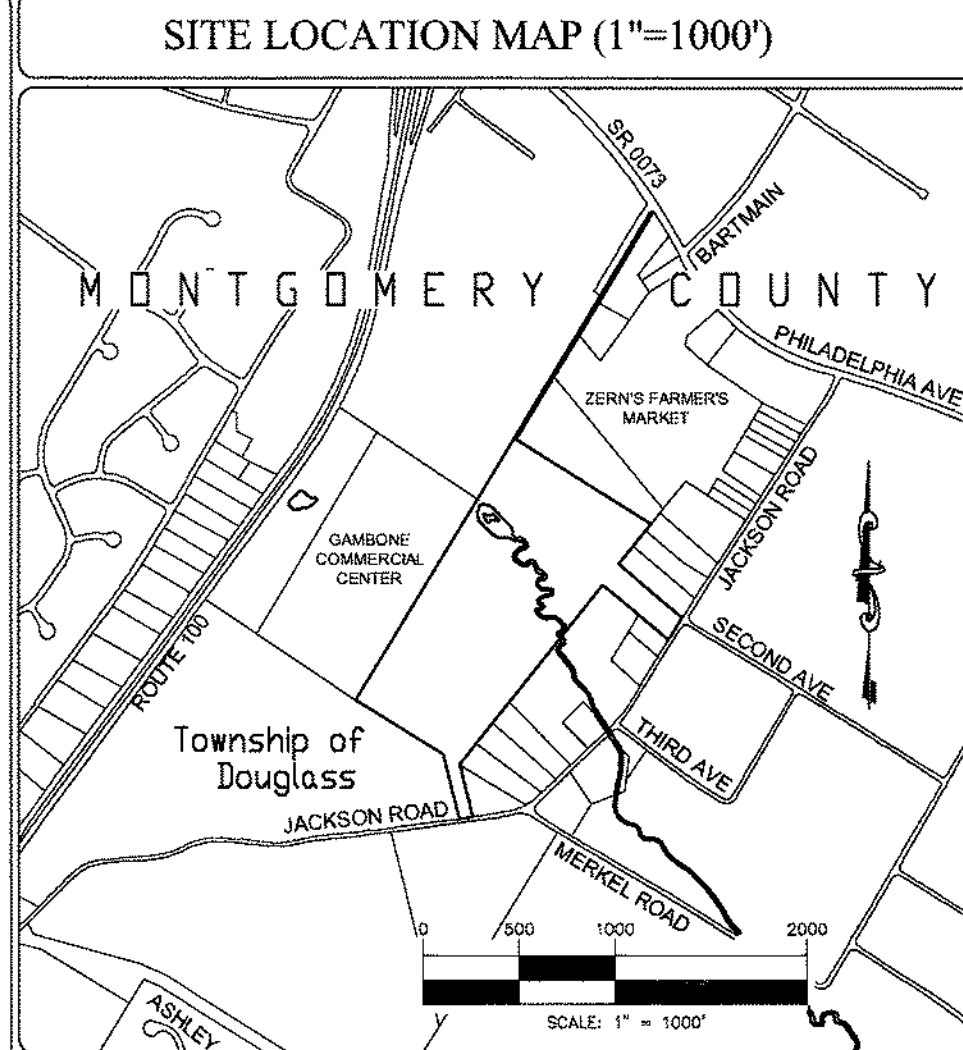
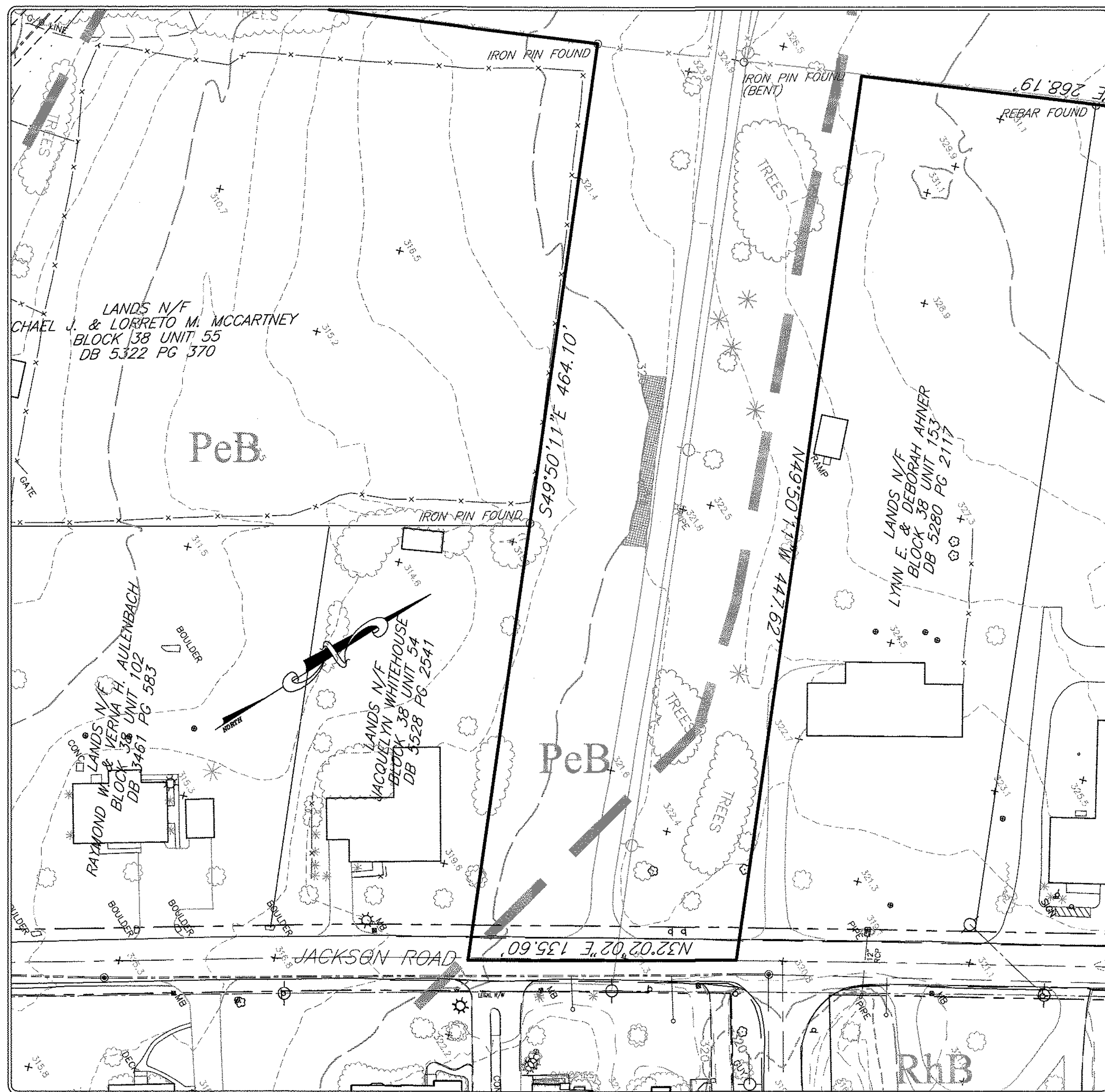
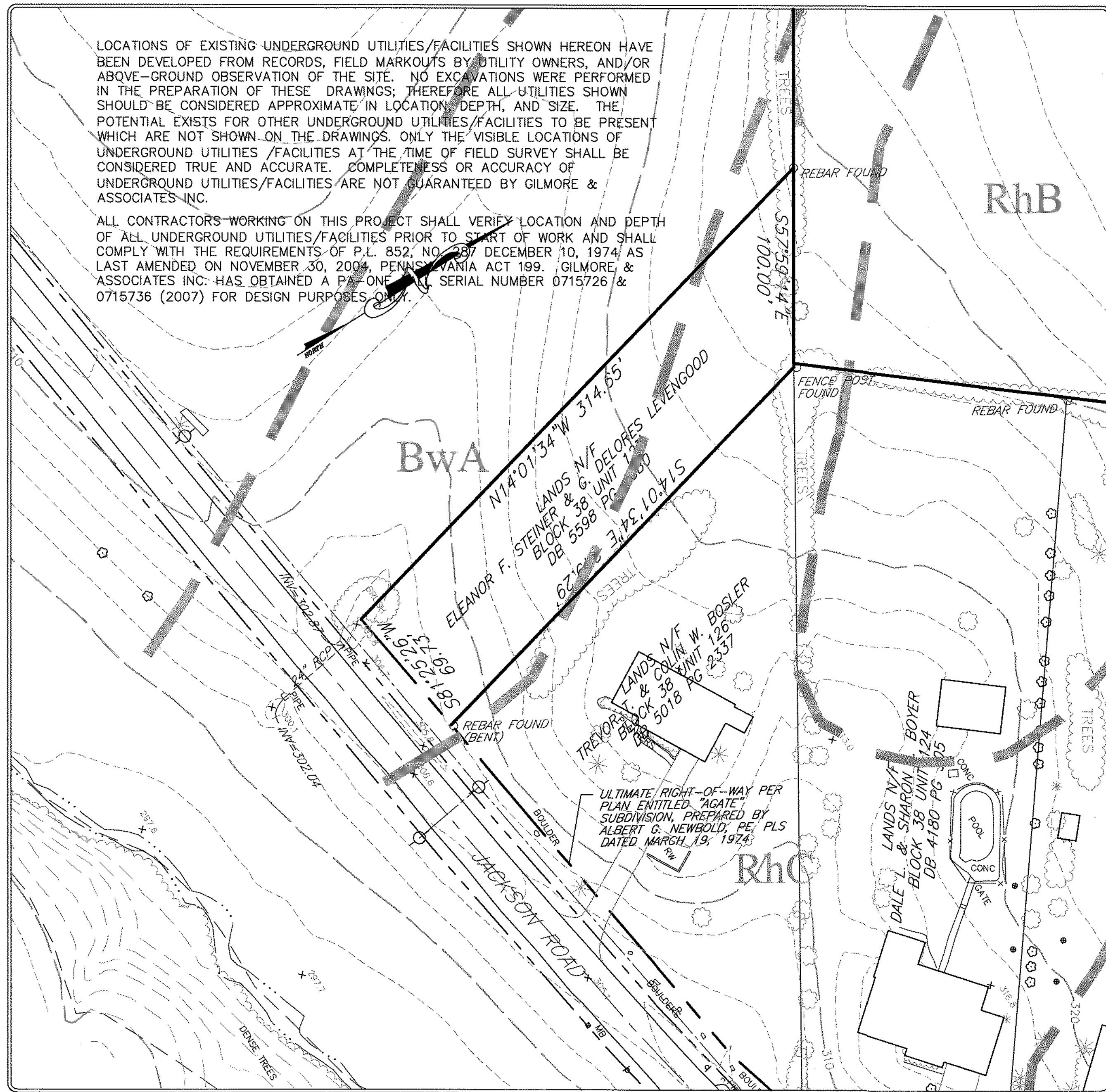
JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

GRAPHIC SCALE
0 20 40 80 120
1"=40'

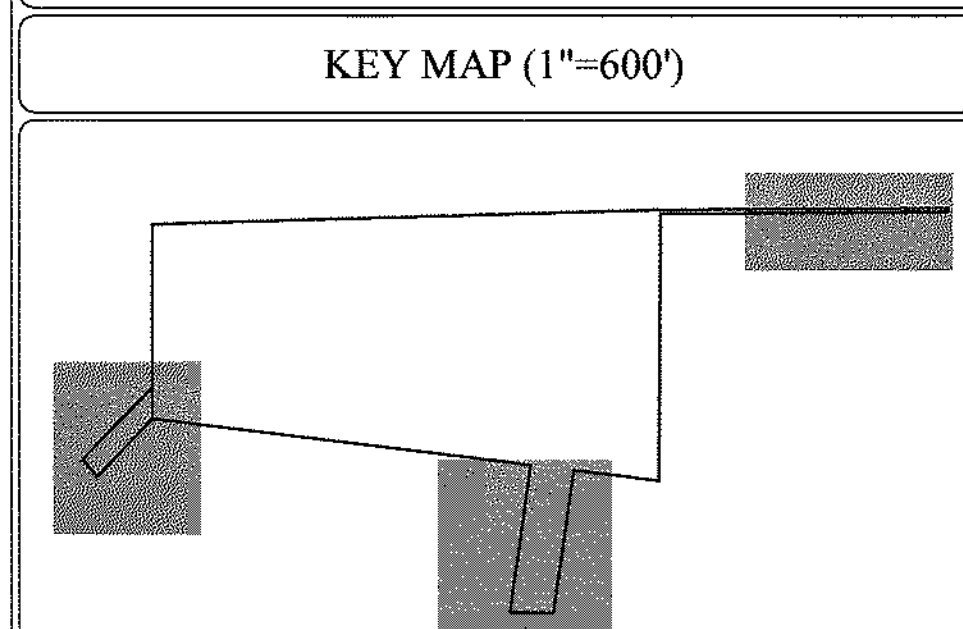
PROJECT MANAGER	DRAWING SCALE	SHEET NUMBER
J.T.S.	1"=40'	10 of 64
DRAFTED BY	PROJECT NUMBER	
B.C.S.	2028	

LENAPE VALLEY
ENGINEERING
Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 908-0524
www.LenapeValleyEngineering.com



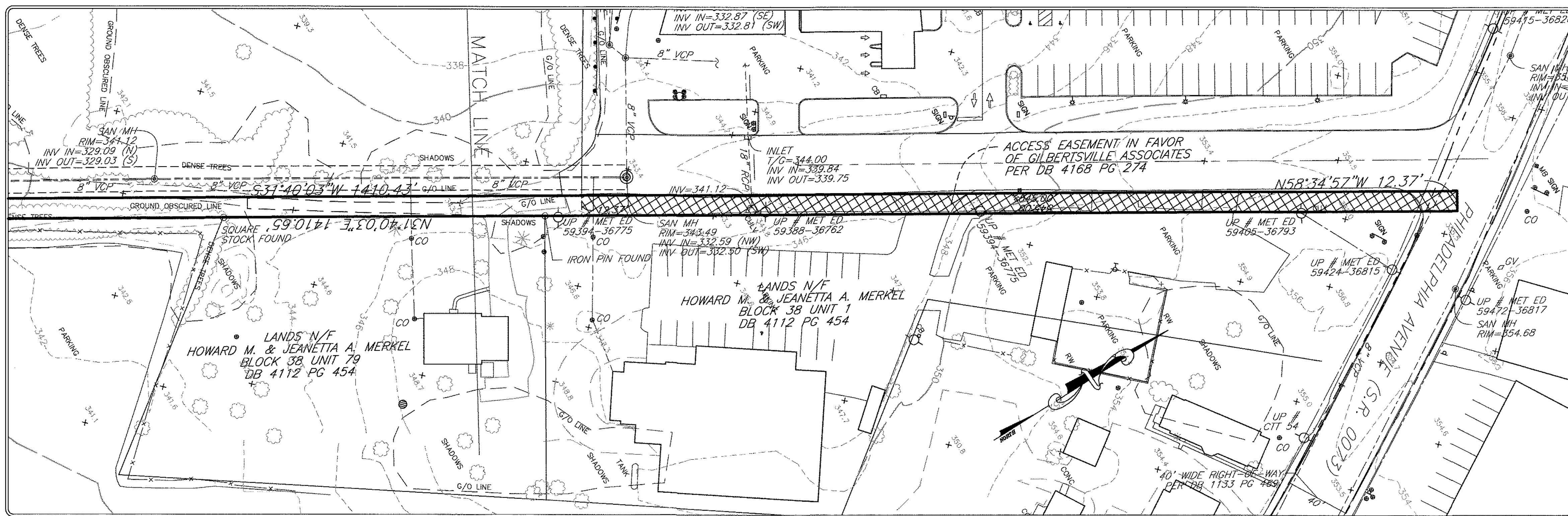
- GENERAL NOTES**
- TOPOGRAPHIC INFORMATION SHOWN IS FROM AERIAL PHOTOGRAMMETRIC METHODS. NOR EAST MAPPING, INC. COMPILED THE MAPPING BASED ON A FEBRUARY 8, 2007 FLIGHT. GILMORE & ASSOCIATES, INC. CONDUCTED SUPPLEMENTAL GROUND SURVEYS AND GROUND CONTROL. BUILDING FOOTPRINTS SHOWN ARE BASED ON ROOFLINES VISIBLE FROM AERIAL PHOTOGRAPHY.
 - BOUNDARY INFORMATION IS CALCULATED FROM DEEDS OF RECORD, A TITLE INSURANCE COMMITMENT FROM SECURITY ABSTRACT OF P.A. INC., FILE NO. SPA37116CH, DATED JANUARY 10, 2007, AND SURVEYED FIELD EVIDENCE.
 - HORIZONTAL DATUM: NAD 1983 PENNSYLVANIA STATE PLANE GRID, SOUTH ZONE.
 - VERTICAL DATUM: NAVD 1985. ELEVATIONS BASED ON G.P.S. OBSERVATIONS.
 - SITE IS PARTIALLY IN A 100 YEAR FLOOD ZONE AREA. FLOOD ZONE SHOWN IS BASED ON ELEVATIONS PER FLOOD INSURANCE RATE MAP OF MONTGOMERY COUNTY, PANEL NO. 7B OF 451, MAP NUMBER 42091C0078 G, EFFECTIVE DATE MARCH 2, 2016. BOTH THE SURVEY DATUM FOR THIS SITE AND THE FEMA FIRM VERTICAL DATUM ARE CONSISTENT (NAD1983).
 - THIS PLAN DOES NOT SHOW ENVIRONMENTAL HAZARDS OR ARCHEOLOGICAL SITES THAT MAY EXIST ON SITE.
 - EASEMENTS OF RECORD:
 - RIGHTS GRANTED TO MANUFACTURERS LIGHT & HEAT CO. AS SET FORTH IN DEED BOOK 1223 PAGE 553. (NOT PLOTTABLE)
 - AGREEMENT AS SET FORTH IN DEED BOOK 4040 PAGE 532. (NOT PLOTTABLE)
 - DEED OF EASEMENT AS SET FORTH IN DEED BOOK 4168 PAGE 274. (PLOTTED)
 - RIGHT-OF-WAY AGREEMENT AS IN DEED BOOK 5216 PAGE 2054. (PLOTTED)
 - RESOLUTION TO DOUGLASS TOWNSHIP AS IN DEED BOOK 5168 PAGE 2180 (NOT PLOTTABLE)
 - RIGHTS GRANTED TO METROPOLITAN EDISON CO. AS IN DEED BOOK 1218 PAGE 268, DEED BOOK 1284 PAGE 478, DEED BOOK 2128 PAGE 213, DEED BOOK 1829 PAGE 311, DEED BOOK 3475 PAGE 213, DEED BOOK 3352 PAGE 758, AND DEED BOOK 3407 PAGE 1089 (NOT PLOTTABLE)
 - SUBJECT TO TERMS OF RELEASE TO MONTGOMERY COUNTY AS IN DEED BOOK 1133 PAGE 469. (PLOTTED)



THE FOLLOWING PA ONE CALL NUMBERS WERE PLACED FOR THIS PROJECT: 0715726 & 0715736 DATED MARCH 12, 2007.

THE FOLLOWING UTILITIES ARE LISTED FOR DOUGLASS TOWNSHIP:

UTILITY	RESPONSE
BERKS MONTGOMERY MUNICIPAL AUTHORITY	SENT PLANS
UTILITY	NO RESPONSE
D & E COMMUNICATIONS	NO RESPONSE
BOYDVIEW BORO	NO RESPONSE
COMCAST CABLE	NO RESPONSE
UGI READING	NO RESPONSE
DOUGLASS TOWNSHIP	NO RESPONSE
SUPERIOR WATER	NO RESPONSE
VERIZON	NO RESPONSE
SEWER AUTH.	NO RESPONSE
TOWNSHIP	NO RESPONSE



NO.	REVISION	DATE
7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

LENAPE VALLEY ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 422-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

EXISTING FEATURES PLAN

Prepared for
DANNY JAKE CORP.

As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

GRAPHIC SCALE

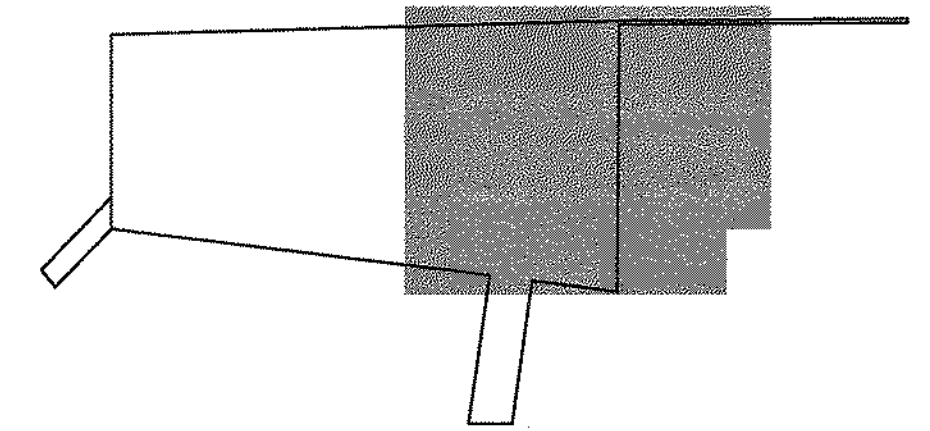
PROJECT MANAGER: J.T.S.
DRAWING SCALE: 1"=40'
DRAFTED BY: B.C.S.
PROJECT NUMBER: 2028
SHEET NUMBER: 11 of 64



CONSTRUCTION NOTES

1. ALL CURB TYPE STORM SEWER INLETS SHALL BE PENN. D.O.T. TYPE "C" INLETS CONFORMING TO DOUGLASS TOWNSHIP SPECIFICATIONS WITH BICYCLE SAFE STRUCTURAL STEEL GRATES.
2. ALL LAWN AREA STORM SEWER INLETS SHALL BE PENN. D.O.T. TYPE "M" AND SHALL CONFORM TO PENN.D.O.T. FORM 408/LATEST EDITION, SECTION 605.
3. ALL CONCRETE "DW" ENDWALLS SHALL CONFORM TO PENN. D.O.T. FORM 408/LATEST EDITION, SECTION 605.
4. THE TOP OF GRATE ELEVATION FOR ALL STORM SEWER INLETS IS FOR THE CENTER OF THE INLET AT THE FACE OF CURB. THE CONTRACTOR IS RESPONSIBLE FOR PROJECTING THE ROADWAY GRADE ALONG THE LENGTH OF THE INLET.
5. ALL LOTS SHALL BE PROPERLY GRADED TO ENSURE PROPER DRAINAGE FLOW, AWAY FROM BUILDINGS TO NEAREST INLET OR WATERCOURSE WITHOUT PONDING OR OBSTRUCTION. A MINIMUM OF 2% SLOPE SHALL BE PROVIDED ON ALL GRASSED AREAS.
6. ANY SPRING ENCOUNTERED DURING ROADWAY CONSTRUCTION SHALL BE OUTLETTED BY U-DRAIN TO NEAREST STORM SEWER FACILITY OR WATERCOURSE. U-DRAIN PLACEMENT TO BE BY THE DIRECTION OF THE BOROUGH ENGINEER.
7. NO STORM PIPE CAN TIE INTO THE CORNER OF AN INLET.
8. A HORIZONTAL SEPARATION OF 10 FEET AND OR VERTICAL CLEARANCE OF 18 INCHES SHALL BE MAINTAINED BETWEEN THE SANITARY SEWER AND OTHER UTILITIES (INCLUDING BUT NOT LIMITED TO WATER, GAS, ELECTRIC, PHONE, ETC.) WHERE PIPE LINE MUST CROSS UNDER A SEWER, THE INSTALLATION MUST ALSO PROVIDE ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER TO PREVENT DEFLECTION AND BREAKING OF THE SEWER. WHERE PROPER CLEARANCES CAN NOT BE PROVIDED, THE SEWER SHALL BE CONCRETE ENCASED FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CONFLICT.
9. NO OTHER UNDERGROUND UTILITIES (i.e., ELECTRIC, TELEPHONE, CABLE, GAS OR STREET LIGHTS) SHOULD BE INSTALLED WITHIN FIVE FEET OF ANY WATER SERVICE LINE.
10. ALL SANITARY SEWER CONSTRUCTION AND TESTING SHALL BE IN ACCORDANCE WITH THE RULES, REGULATIONS, AND SPECIFICATIONS OF THE BERKS-MONTGOMERY MUNICIPAL AUTHORITY AND THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION "DOMESTIC WASTEWATER FACILITIES MANUAL," 362-0300-001, OCTOBER 1997. SEWER MAINS SHALL COMPLY WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STANDARDS.
11. ALL ENGINEERING AND CONSTRUCTION WORK FOR SEWER LATERALS AND MAINS SHALL BE IN ACCORDANCE WITH BERKS-MONTGOMERY MUNICIPAL AUTHORITY STANDARDS AND SPECIFICATIONS AS WELL AS THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION "DOMESTIC WASTEWATER FACILITIES MANUAL," 362-0300-001, OCTOBER 1997. SEWER MAINS SHALL COMPLY WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STANDARDS.
12. ALL WATER LINES SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER.
13. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN SIX FEET OF STORMSEWER FACILITIES. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN 10 FEET OF SANITARY OR WATER FACILITIES.
14. THE PORTIONS OF THE SEWER LINE FROM THE END OF THE 8" LATERAL TO THE PROPOSED BUILDING IS CONSIDERED THE "BUILDING SEWER", AND ITS CONSTRUCTION IS SUBJECT TO THE APPROVAL AND INSPECTION BY THE TOWNSHIP PLUMBING INSPECTOR/CODE ENFORCEMENT OFFICER. A WATERTIGHT PLUG SHALL BE INSTALLED AT THE END OF THE 8" LATERAL TO ALLOW FOR AIR TESTING OF THE LATERAL ALONG WITH THE SANITARY SEWER MAIN AND MANHOLES. NO BUILDING SEWER CONNECTIONS SHALL BE MADE UNTIL THE PROPOSED SANITARY SEWER MAINS, LATERALS, AND MANHOLES ARE TESTED AND CERTIFIED FOR FLOW BY THE AUTHORITY ENGINEER.
15. ALL UNITS WITH BASEMENTS SHALL HAVE SUMP PUMPS. SUMP PUMPS SHALL NOT DIRECTLY DISCHARGE WATER INTO A STREET RIGHT-OF-WAY OR INTO A SANITARY SEWER SYSTEM.

KEY MAP (1"=600')



WALKING TRAIL NOTE: THE WALKING TRAIL LOCATED WITHIN THE FLOOD PLAIN AREA SHALL BE CONSTRUCTED AT GRADE OR IN A CUT CONDITION SO AS NOT TO DECREASE THE CAPACITY OF THE FLOODPLAIN

GAS MAIN SHOWN IS APPROXIMATE - REFER TO GAS DESIGN DRAWINGS BY OTHERS.

NO.	REVISION	DATE
7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

LENAPE VALLEY
ENGINEERING
Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

CONSTRUCTION IMPROVEMENT PLAN
(STORMSEWER & GRADING)

Prepared for

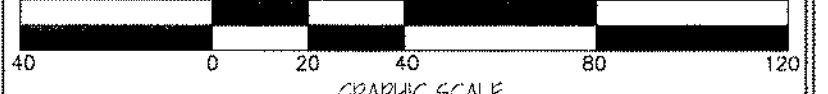
DANNY JAKE CORP.

As part of

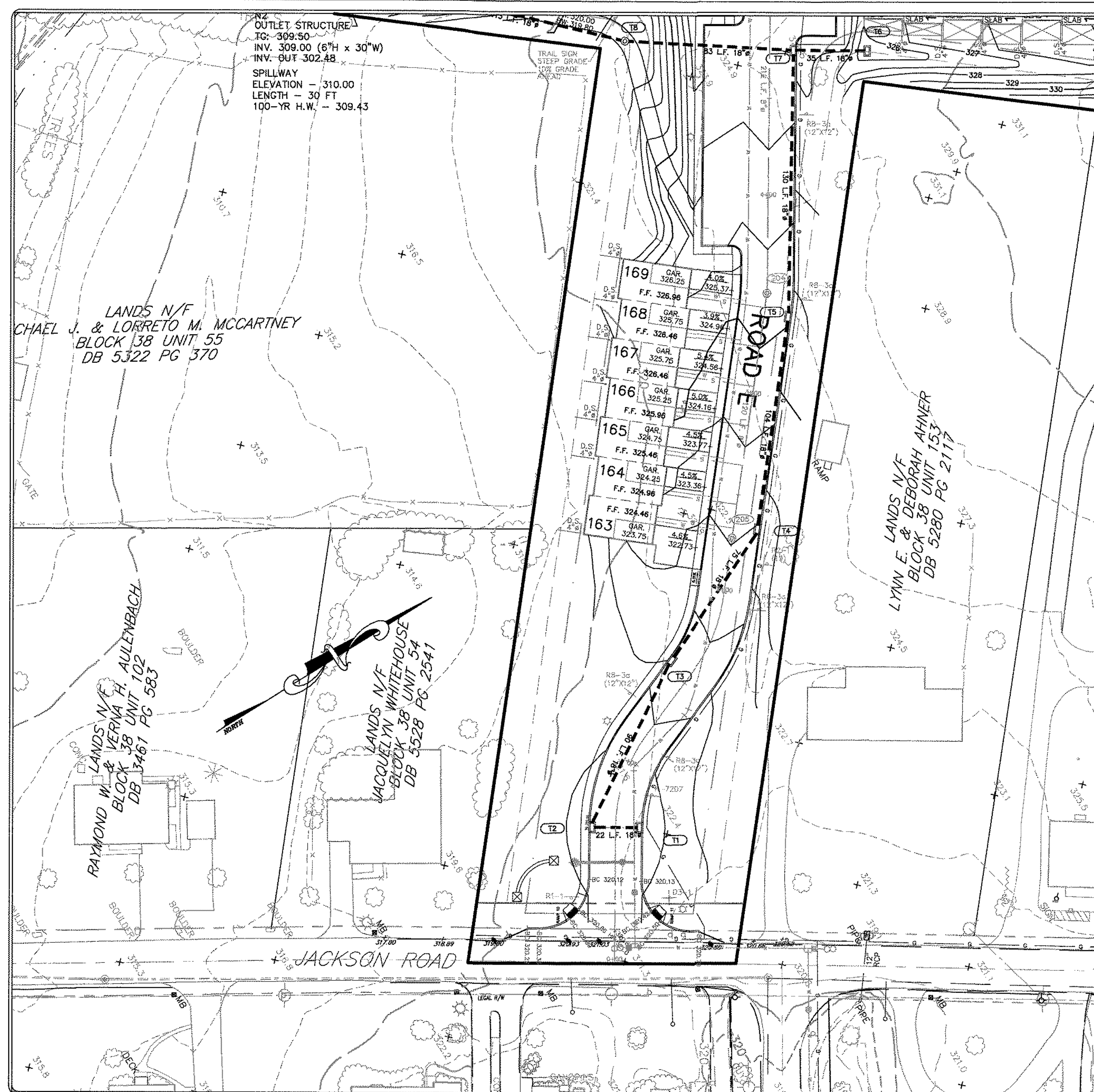
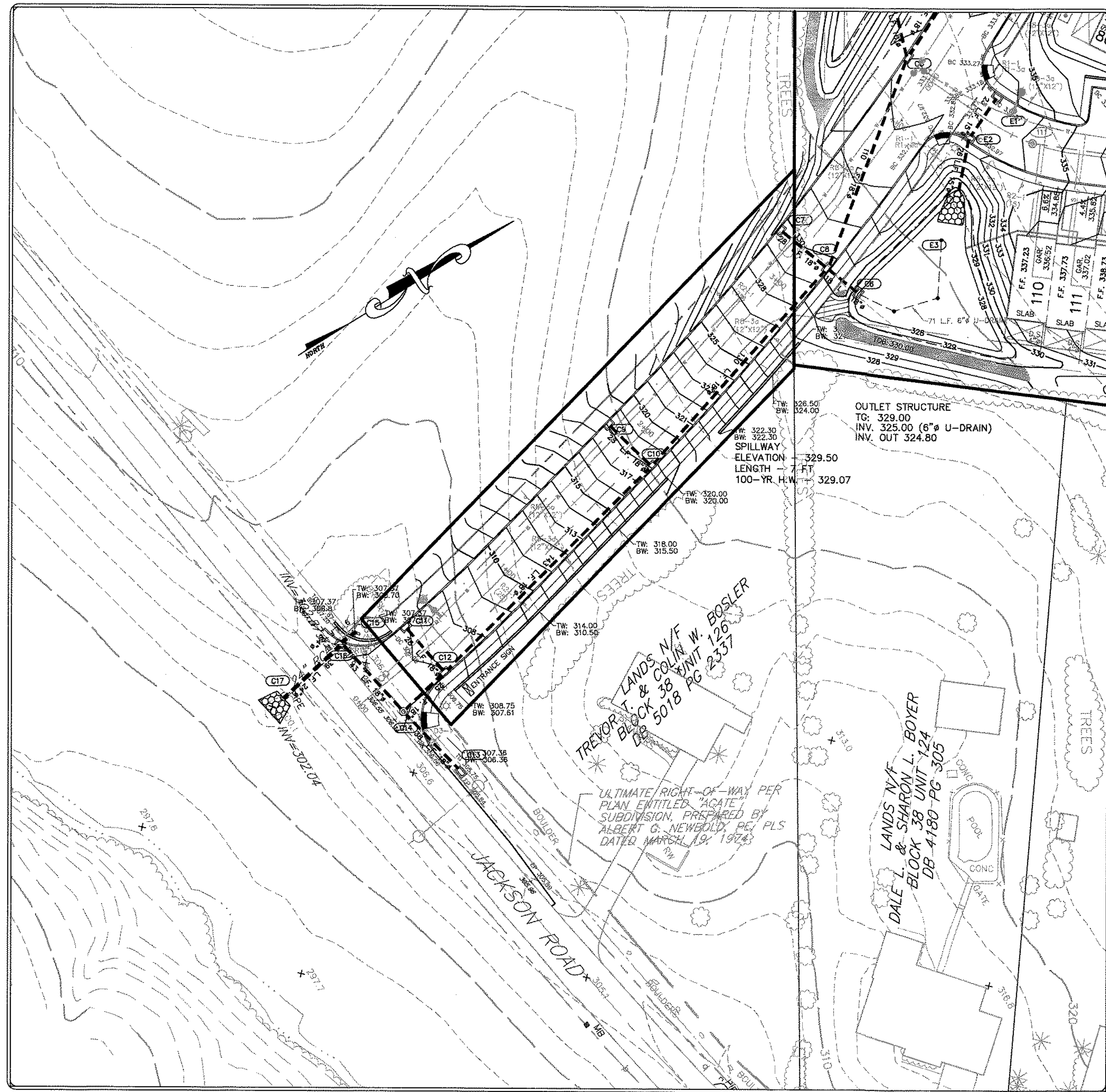
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059308



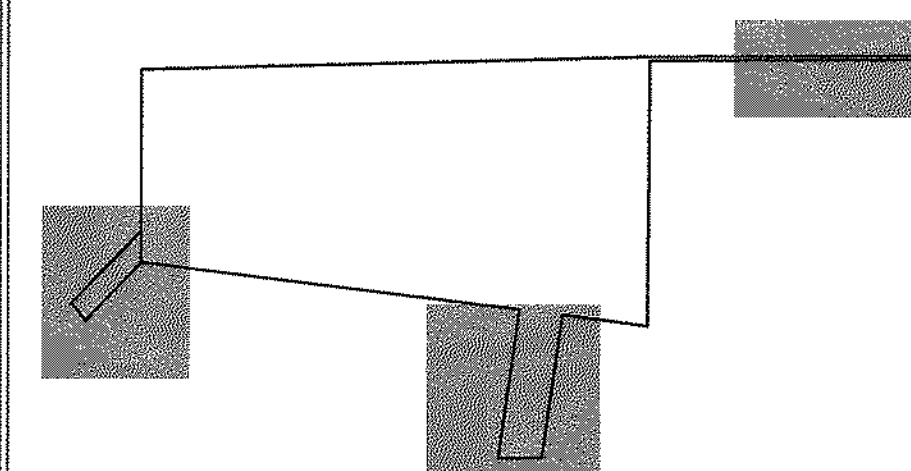
PROJECT MANAGER	DRAWING SCALE	SHEET NUMBER
J.T.S.	1"=40'	13 OF 64
DRAFTED BY	PROJECT NUMBER	
B.C.S.	2028	



CONSTRUCTION NOTES

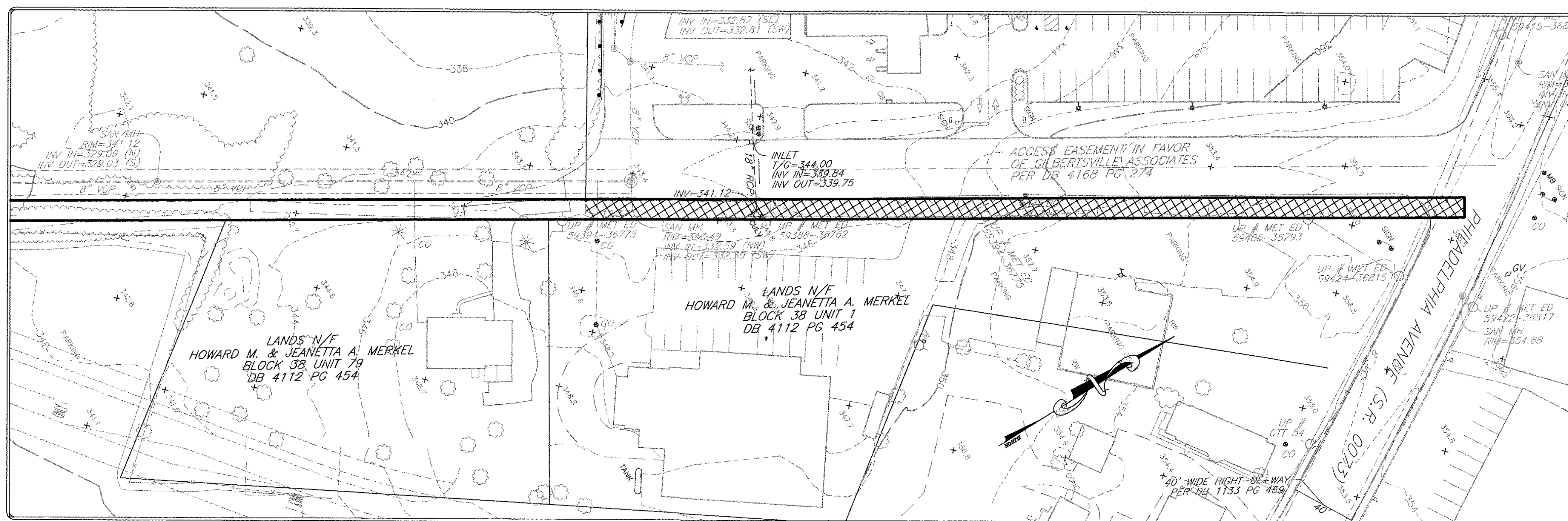
1. ALL CURB TYPE STORM SEWER INLETS SHALL BE PENN. D.O.T. 4' TYPE 'C' INLETS CONFORMING TO DOUGLASS TOWNSHIP SPECIFICATIONS WITH BICYCLE SAFE STRUCTURAL STEEL GRATES.
2. ALL LAWN AREA STORM SEWER INLETS SHALL BE PENN. D.O.T. TYPE 'M' AND SHALL CONFORM TO PENN.D.O.T. FORM 408/LATEST EDITION, SECTION 605.
3. ALL CONCRETE "DW" ENDWALLS SHALL CONFORM TO PENN. D.O.T. FORM 408/LATEST EDITION, SECTION 605.
4. THE TOP OF GRATE ELEVATION FOR ALL STORM SEWER INLETS IS FOR THE CENTER OF THE INLET AT THE FACE OF CURB. THE CONTRACTOR IS RESPONSIBLE FOR PROJECTING THE ROADWAY GRADE ALONG THE LENGTH OF THE INLET.
5. ALL LOTS SHALL BE PROPERLY GRADED TO ENSURE PROPER DRAINAGE FLOW, AWAY FROM BUILDINGS TO NEAREST INLET OR WATERCOURSE WITHOUT PONDING OR OBSTRUCTION. A MINIMUM OF 2% SLOPE SHALL BE PROVIDED ON ALL GRASSED AREAS.
6. ANY SPRING ENCOUNTERED DURING ROADWAY CONSTRUCTION SHALL BE OUTLETTED BY U-DRAIN TO NEAREST STORM SEWER FACILITY OR WATERCOURSE. U-DRAIN PLACEMENT TO BE BY THE DIRECTION OF THE BOROUGH ENGINEER.
7. NO STORM PIPE CAN TIE INTO THE CORNER OF AN INLET.
8. A HORIZONTAL SEPARATION OF 10 FEET AND OR VERTICAL CLEARANCE OF 18 INCHES SHALL BE MAINTAINED BETWEEN THE SANITARY SEWER AND OTHER UTILITIES (INCLUDING BUT NOT LIMITED TO WATER, GAS, ELECTRIC, PHONE, ETC.) WHERE PIPE LINE MUST CROSS UNDER A SEWER, THE INSTALLATION MUST ALSO PROVIDE ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER TO PREVENT DEFLECTION AND BREAKING OF THE SEWER, WHERE PROPER CLEARANCES CAN NOT BE PROVIDED, THE SEWER SHALL BE CONCRETE ENCASED FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CONFLICT.
9. NO OTHER UNDERGROUND UTILITIES (I.E. ELECTRIC, TELEPHONE, CABLE, GAS OR STREET LIGHTS SHOULD BE INSTALLED WITHIN FIVE FEET OF ANY WATER SERVICE LINE.
10. ALL SANITARY SEWER CONSTRUCTION AND TESTING SHALL BE IN ACCORDANCE WITH THE RULES, REGULATIONS, AND SPECIFICATIONS OF THE BERKS-MONTGOMERY MUNICIPAL AUTHORITY AND THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
11. ALL ENGINEERING AND CONSTRUCTION WORK FOR SEWER LATERALS AND MAINS SHALL BE IN ACCORDANCE WITH BERKS-MONTGOMERY MUNICIPAL AUTHORITY STANDARDS AND SPECIFICATIONS AS WELL AS THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION "DOMESTIC WASTEWATER FACILITIES MANUAL," 362-0300-001, OCTOBER 1997. SEWER MAINS SHALL COMPLY WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STANDARDS.
12. ALL WATER LINES SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER.
13. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN SIX FEET OF STORMSEWER FACILITIES. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN 10 FEET OF SANITARY OR WATER FACILITIES.
14. THE PORTIONS OF THE SEWER LINE FROM THE END OF THE 6" LATERAL TO THE PROPOSED BUILDING IS CONSIDERED THE "BUILDING SEWER", AND ITS CONSTRUCTION IS SUBJECT TO THE APPROVAL AND INSPECTION BY THE TOWNSHIP PLUMBING INSPECTOR/CODE ENFORCEMENT OFFICER. A WATERTIGHT PLUG SHALL BE INSTALLED AT THE END OF THE 6" LATERAL TO ALLOW FOR AIR TESTING OF THE LATERAL ALONG WITH THE SANITARY SEWER MAIN AND MANHOLES. NO BUILDING SEWER CONNECTIONS SHALL BE MADE UNTIL THE PROPOSED SANITARY SEWER MAINS, LATERAL(S), AND MANHOLES ARE TESTED AND CERTIFIED FOR FLOW BY THE AUTHORITY ENGINEER.
15. ALL UNITS WITH BASEMENTS SHALL HAVE SUMP PUMPS. SUMP PUMPS SHALL NOT DIRECTLY DISCHARGE WATER INTO A STREET RIGHT-OF-WAY OR INTO A SANITARY SEWER SYSTEM.

KEY MAP (1"=600')



WALKING TRAIL NOTE: THE WALKING TRAIL LOCATED WITHIN THE FLOOD PLAIN AREA SHALL BE CONSTRUCTED AT GRADE OR IN A CUT CONDITION SO AS NOT TO DECREASE THE CAPACITY OF THE FLOODPLAIN

GAS MAIN SHOWN IS APPROXIMATE - REFER TO GAS DESIGN DRAWINGS BY OTHERS.



NO.	REVISION	DATE
7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

LENAPE VALLEY
ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

CONSTRUCTION IMPROVEMENT PLAN (STORMSEWER & GRADING)

Prepared for
DANNY JAKE CORP.

As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306



PROJECT MANAGER	DRAWING SCALE	SHEET NUMBER
J.T.S.	1"=40'	14 of 64
DRAFTED BY	PROJECT NUMBER	
B.C.S.	2028	

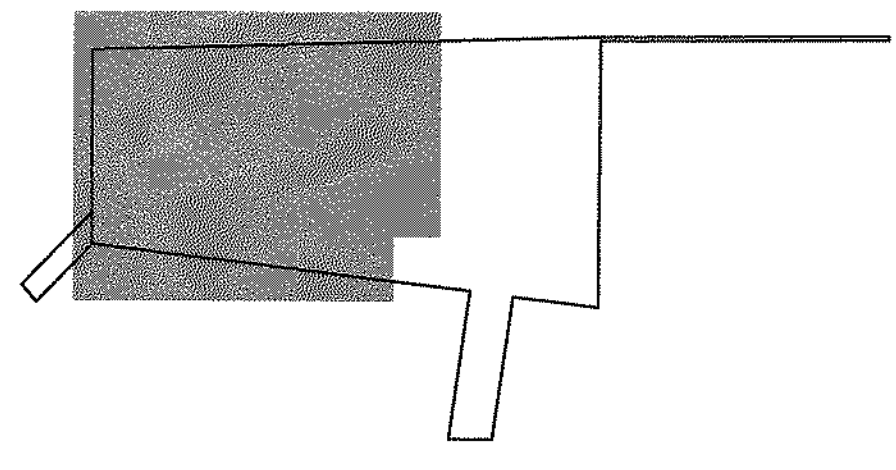


LANDS, N/F
MINISTER CREEK ASSOCIATES, INC.
BLOCK 37 UNIT 4
BLOCK 35 UNIT 178
DB 6025 PG 00753

CONSTRUCTION NOTES

1. ALL CURB TYPE STORM SEWER INLETS SHALL BE PENN. D.O.T. TYPE "C" INLETS CONFORMING TO DOUGLASS TOWNSHIP SPECIFICATIONS WITH BICYCLE SAFE STRUCTURAL STEEL GRATES.
2. ALL LAWN AREA STORM SEWER INLETS SHALL BE PENN. D.O.T. TYPE "M" AND SHALL CONFORM TO PENN.D.O.T. FORM 408/LATEST EDITION, SECTION 605.
3. ALL CONCRETE "DW" ENDWALLS SHALL CONFORM TO PENN. D.O.T. FORM 408/LATEST EDITION, SECTION 605.
4. THE TOP OF GRATE ELEVATION FOR ALL STORM SEWER INLETS IS FOR THE CENTER OF THE INLET AT THE FACE OF CURB. THE CONTRACTOR IS RESPONSIBLE FOR PROJECTING THE ROADWAY GRADE ALONG THE LENGTH OF THE INLET.
5. ALL LOTS SHALL BE PROPERLY GRADED TO ENSURE PROPER DRAINAGE FLOW, AWAY FROM BUILDINGS TO NEAREST INLET OR WATERCOURSE WITHOUT PONDING OR OBSTRUCTION. A MINIMUM OF 2% SLOPE SHALL BE PROVIDED ON ALL GRASSED AREAS.
6. ANY SPRING ENCOUNTERED DURING ROADWAY CONSTRUCTION SHALL BE OUTLETTED BY U-DRAIN TO NEAREST STORM SEWER FACILITY OR WATERCOURSE. U-DRAIN PLACEMENT TO BE BY THE DIRECTION OF THE BOROUGH ENGINEER.
7. NO STORM PIPE CAN TIE INTO THE CORNER OF AN INLET.
8. A HORIZONTAL SEPARATION OF 10 FEET AND OR VERTICAL CLEARANCE OF 18 INCHES SHALL BE MAINTAINED BETWEEN THE SANITARY SEWER AND OTHER UTILITIES (INCLUDING BUT NOT LIMITED TO WATER, GAS, ELECTRIC, PHONE, ETC.). WHERE PIPE LINE MUST CROSS UNDER A SEWER, THE INSTALLATION MUST ALSO PROVIDE ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER TO PREVENT DEFLECTION AND BREAKING OF THE SEWER. WHERE PROPER CLEARANCES CAN NOT BE PROVIDED, THE SEWER SHALL BE CONCRETE ENCASED FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CONFLICT.
9. NO OTHER UNDERGROUND UTILITIES (I.E.) ELECTRIC, TELEPHONE, CABLE, GAS OR STREET LIGHTS SHOULD BE INSTALLED WITHIN FIVE FEET OF ANY WATER SERVICE LINE.
10. ALL SANITARY SEWER CONSTRUCTION AND TESTING SHALL BE IN ACCORDANCE WITH THE RULES, REGULATIONS, AND SPECIFICATIONS OF THE BERKS-MONTGOMERY MUNICIPAL AUTHORITY AND THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
11. ALL ENGINEERING AND CONSTRUCTION WORK FOR SEWER LATERALS AND MAINS SHALL BE IN ACCORDANCE WITH BERKS-MONTGOMERY MUNICIPAL AUTHORITY STANDARDS AND SPECIFICATIONS AS WELL AS THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION "DOMESTIC WASTEWATER FACILITIES MANUAL," 362-0300-001, OCTOBER 1997. SEWER MAINS SHALL COMPLY WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STANDARDS.
12. ALL WATER LINES SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER.
13. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN SIX FEET OF STORMSEWER FACILITIES. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN 10 FEET OF SANITARY OR WATER FACILITIES.
14. THE PORTIONS OF THE SEWER LINE FROM THE END OF THE 6" LATERAL TO THE PROPOSED BUILDING CONSIDERED THE "BUILDING SEWER", AND ITS CONSTRUCTION IS SUBJECT TO THE APPROVAL AND INSPECTION BY THE TOWNSHIP PLUMBING INSPECTOR/CODE ENFORCEMENT OFFICER. A WATERTIGHT PLUG SHALL BE INSTALLED AT THE END OF THE 6" LATERAL TO ALLOW FOR AIR TESTING OF THE LATERAL ALONG WITH THE SANITARY SEWER MAIN AND MANHOLES. NO BUILDING SEWER CONNECTIONS SHALL BE MADE UNTIL THE PROPOSED SANITARY SEWER MAINS, LATERAL(S), AND MANHOLES ARE TESTED AND CERTIFIED FOR FLOW BY THE AUTHORITY ENGINEER.
15. ALL UNITS WITH BASEMENTS SHALL HAVE SUMP PUMPS. SUMP PUMPS SHALL NOT DIRECTLY DISCHARGE WATER INTO A STREET RIGHT-OF-WAY OR INTO A SANITARY SEWER SYSTEM.

KEY MAP (1"=600')



REFER TO AQUA AMERICA DESIGN DRAWING FOR DETAILED INFORMATION REGARDING THE WATER LINE DESIGN

GAS MAIN SHOWN IS APPROXIMATE - REFER TO GAS DESIGN DRAWINGS BY OTHERS.

CONSTRUCTION IMPROVEMENT PLAN (SANITARY & WATER)		
Prepared for:		
DANNY JAKE CORP.		
As part of:		
ZERN TRACT		
DOUGLASS TOWNSHIP		
MONTGOMERY COUNTY		
PENNSYLVANIA		
JASON T. SMELAND		
PROFESSIONAL ENGINEER		
PA NO. 059306		
Plan Origination Date		
01-08-2014		

LENAPE VALLEY
ENGINEERING
Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

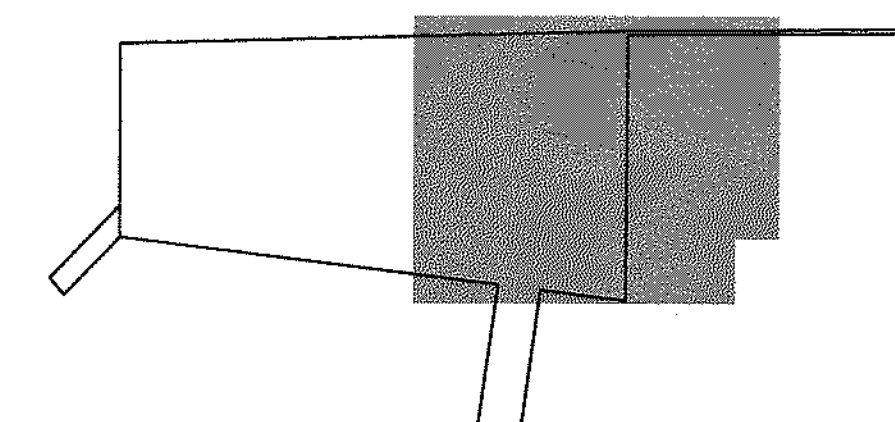
GRAPHIC SCALE		
PROJECT MANAGER		
J.T.S.		
DRAWING SCALE		
1"=40'		
DRAFTED BY		
B.C.S.		
PROJECT NUMBER		
2028		
SHEET NUMBER		
15 of 64		

BLOCK 35 UNIT 178
DB 6025 PG 00753

CONSTRUCTION NOTES

1. ALL CURB TYPE STORM SEWER INLETS SHALL BE PENN. D.O.T. "A" TYPE "C" INLETS CONFORMING TO DOUGLASS TOWNSHIP SPECIFICATIONS WITH BICYCLE SAFE STRUCTURAL STEEL GRATES.
2. ALL LAWN AREA STORM SEWER INLETS SHALL BE PENN. D.O.T. TYPE "M" AND SHALL CONFORM TO PENN.D.O.T. FORM 40B/LATEST EDITION, SECTION 605.
3. ALL CONCRETE "DW" ENDWALLS SHALL CONFORM TO PENN. D.O.T. FORM 40B/LATEST EDITION, SECTION 605.
4. THE TOP OF GRATE ELEVATION FOR ALL STORM SEWER INLETS IS FOR THE CENTER OF THE INLET AT THE FACE OF CURB. THE CONTRACTOR IS RESPONSIBLE FOR PROJECTING THE ROADWAY GRADE ALONG THE LENGTH OF THE INLET.
5. ALL LOTS SHALL BE PROPERLY GRADED TO ENSURE PROPER DRAINAGE FLOW, AWAY FROM BUILDINGS TO NEAREST INLET OR WATERCOURSE, WITHOUT PONDING OR OBSTRUCTION. A MINIMUM OF 2% SLOPE SHALL BE PROVIDED ON ALL GRASSED AREAS.
6. ANY SPRING ENCOUNTERED DURING ROADWAY CONSTRUCTION SHALL BE OBTUDED BY U-DRAIN TO NEAREST STORM SEWER FACILITY OR WATERCOURSE. THE PLACEMENT TO BE BY THE DIRECTION OF THE BOROUGH ENGINEER.
7. NO STORM PIPE CAN TIE INTO THE CORNER OF AN INLET.
8. A HORIZONTAL SEPARATION OF 10 FEET AND OR VERTICAL CLEARANCE OF 18 INCHES SHALL BE MAINTAINED BETWEEN THE SANITARY SEWER AND OTHER UTILITIES (INCLUDING BUT NOT LIMITED TO WATER, GAS, ELECTRIC, PHONE, ETC.) WHERE PIPE LINE MUST CROSS UNDER A SEWER, THE INSTALLATION MUST ALSO PROVIDE ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER TO PREVENT DEFLECTION AND BREAKING OF THE SEWER. WHERE PROPER CLEARANCES CAN NOT BE PROVIDED, THE SEWER SHALL BE CONCRETE ENCASED FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CROSSING.
9. NO OTHER UNDERGROUND UTILITIES (I.e.) ELECTRIC, TELEPHONE, CABLE, GAS OR STREET LIGHTS SHOULD BE INSTALLED WITHIN FIVE FEET OF ANY WATER SERVICE LINE.
10. ALL SANITARY SEWER CONSTRUCTION AND TESTING SHALL BE IN ACCORDANCE WITH THE RULES, REGULATIONS, AND SPECIFICATIONS OF THE BERKS-MONTGOMERY COMBINED SEWER AUTHORITY AND THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
11. ALL ENGINEERING AND CONSTRUCTION WORK FOR SEWER LATERALS AND MAINS SHALL BE IN ACCORDANCE WITH BERKS-MONTGOMERY MUNICIPAL AUTHORITY STANDARDS AND SPECIFICATIONS AS WELL AS THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION DOMESTIC WASTEWATER FACILITIES MANUAL " 362-0300-001, OCTOBER 1997. SEWER MAINS SHALL COMPLY WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STANDARDS.
12. ALL WATER LINES SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER.
13. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN SIX FEET OF STORMSEWER FACILITIES. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN 10 FEET OF SANITARY OR WATER FACILITIES.
14. THE PORTIONS OF THE SEWER LINE FROM THE END OF THE "6" LATERAL TO THE PROPOSED BUILDING IS CONSIDERED THE "BUILDING SEWER", AND ITS CONSTRUCTION IS SUBJECT TO THE APPROVAL AND INSPECTION BY THE TOWNSHIP PLUMBING INSPECTOR/CODE ENFORCEMENT OFFICER. A WATERIGHT ALLOW SHALL BE INSTALLED AT THE END OF THE "6" LATERAL TO ALLOW FOR AIR TESTING OF THE LATERAL ALONG WITH THE SANITARY SEWER MAIN AND MANHOLES. NO BUILDING SEWER CONNECTIONS SHALL BE MADE UNTIL THE PROPOSED SANITARY SEWER MAINS, LATERAL(S), AND MANHOLES ARE TESTED AND CERTIFIED FOR FLOW BY THE AUTHORITY ENGINEER.
15. ALL UNITS OR BASEMENTS SHALL HAVE SUMP PUMPS. SUMP PUMPS SHALL NOT DISCHARGE INTO THE STREET. RIGHT-OF-WAY OR INTO A SANITARY SEWER SYSTEM.

KEY MAP (1"=600')



REFER TO AQUA AMERICA DESIGN DRAWING
FOR DETAILED INFORMATION REGARDING
THE WATER LINE DESIGN

GAS MAIN SHOWN IS APPROXIMATE - REFER
TO GAS DESIGN DRAWINGS BY OTHERS.

7	REVISED PER TWP. ENGINEER'S & BMMMA REVIEW	05-22-	
6	REVISED PER TWP. ENGINEER'S & BMMMA REVIEW	03-20-	
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-	
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-	
3	REVISED BMMMA REVIEW	02-15-	
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-03	
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-03	
	Plan Origination Date	01-08-	

CONSTRUCTION IMPROVEMENT PLAN
(SANITARY & WATER)

DANNY JAKE CORP.

As part of

ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELANI
PROFESSIONAL ENGINEER
PA NO. 059306



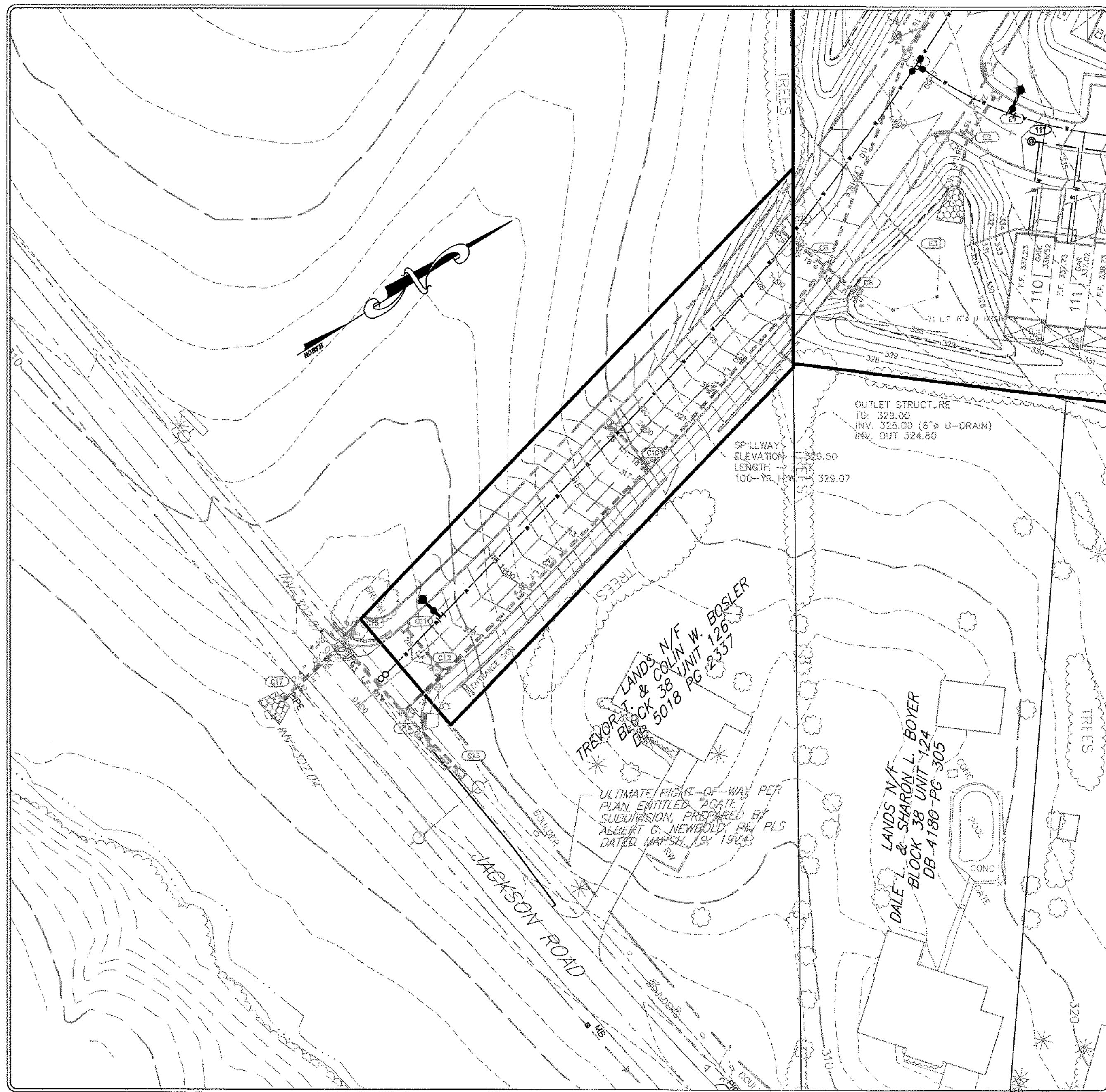
PROJECT MANAGER J.T.S.	DRAWING SCALE 1"=40'	SHEET NUMBER
DRAFTED BY R.C.S.	PROJECT NUMBER 2028	16 of 64

LENAPE VALLEY ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

16 OF 64

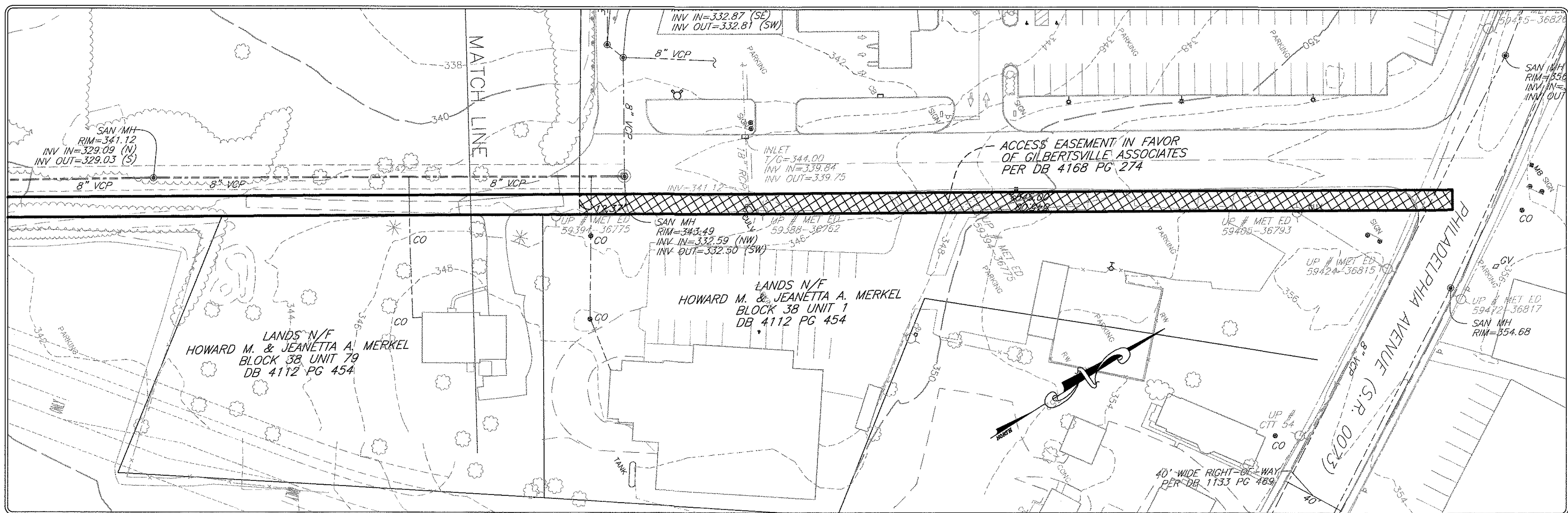


- ### CONSTRUCTION NOTES
1. ALL CURB TYPE STORM SEWER INLETS SHALL BE PENN. D.O.T. 4" TYPE "C" INLETS CONFORMING TO DOUGLASS TOWNSHIP SPECIFICATIONS WITH BICYCLE SAFE STRUCTURAL STEEL GRATES.
 2. ALL LAWN AREA STORM SEWER INLETS SHALL BE PENN. D.O.T. TYPE "M" AND SHALL CONFORM TO PENN.D.O.T. FORM 408/LATEST EDITION, SECTION 605.
 3. ALL CONCRETE "DW" ENDWALLS SHALL CONFORM TO PENN. D.O.T. FORM 408/LATEST EDITION, SECTION 605.
 4. THE TOP OF GRATE ELEVATION FOR ALL STORM SEWER INLETS IS FOR THE CENTER OF THE INLET AT THE FACE OF CURB. THE CONTRACTOR IS RESPONSIBLE FOR PROJECTING THE ROADWAY GRADE ALONG THE LENGTH OF THE INLET.
 5. ALL LOTS SHALL BE PROPERLY GRADED TO ENSURE PROPER DRAINAGE FLOW AWAY FROM BUILDINGS TO NEAREST INLET OR WATERCOURSE WITHOUT PONDING OR OBSTRUCTION. A MINIMUM OF 2% SLOPE SHALL BE PROVIDED ON ALL GRASSED AREAS.
 6. ANY SPRING ENCOUNTERED DURING ROADWAY CONSTRUCTION SHALL BE OUTLETTED BY U-DRAIN TO NEAREST STORM SEWER FACILITY OR WATERCOURSE. U-DRAIN PLACEMENT TO BE BY THE DIRECTION OF THE BOROUGH ENGINEER.
 7. NO STORM PIPE CAN TIE INTO THE CORNER OF AN INLET.
 8. A HORIZONTAL SEPARATION OF 10 FEET AND VERTICAL CLEARANCE OF 18 INCHES SHALL BE MAINTAINED BETWEEN THE SANITARY SEWER AND OTHER UTILITIES (INCLUDING BUT NOT LIMITED TO WATER, GAS, ELECTRIC, PHONE, ETC.) WHERE PIPE LINE MUST CROSS UNDER A SEWER. THE INSTALLATION MUST ALSO PROVIDE ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER TO PREVENT DEFLECTION AND BREAKING OF THE SEWER WHERE PROPER CLEARANCES CAN NOT BE PROVIDED. THE SEWER SHALL BE CONCRETE ENCASED FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CONFLICT.
 9. NO OTHER UNDERGROUND UTILITIES (I.e.) ELECTRIC, TELEPHONE, CABLE, GAS OR STREET LIGHTS SHOULD BE INSTALLED WITHIN FIVE FEET OF ANY WATER SERVICE LINE.
 10. ALL SANITARY SEWER CONSTRUCTION AND TESTING SHALL BE IN ACCORDANCE WITH THE RULES, REGULATIONS, AND SPECIFICATIONS OF THE BERKS-MONTGOMERY MUNICIPAL AUTHORITY AND THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
 11. ALL ENGINEERING AND CONSTRUCTION WORK FOR SEWER LATERALS AND MAINS SHALL BE IN ACCORDANCE WITH BERKS-MONTGOMERY MUNICIPAL AUTHORITY STANDARDS AND SPECIFICATIONS AS WELL AS THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION "DOMESTIC WASTEWATER FACILITIES MANUAL," 362-0300-001, OCTOBER 1997. SEWER MAINS SHALL COMPLY WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STANDARDS.
 12. ALL WATER LINES SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER.
 13. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN SIX FEET OF STORMSEWER FACILITIES. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN 10 FEET OF SANITARY OR WATER FACILITIES.
 14. THE PORTIONS OF THE SEWER LINE FROM THE END OF THE 6" LATERAL TO THE PROPOSED BUILDING IS CONSIDERED THE "BUILDING SEWER", AND ITS CONSTRUCTION IS SUBJECT TO THE APPROVAL AND INSPECTION BY THE TOWNSHIP PLUMBING INSPECTOR/CODE ENFORCEMENT OFFICER. A WATERTIGHT PLUG SHALL BE INSTALLED AT THE END OF THE 6" LATERAL TO ALLOW FOR AIR TESTING OF THE LATERAL ALONG WITH THE SANITARY SEWER MAIN AND MANHOLES. NO BUILDING SEWER CONNECTIONS SHALL BE MADE UNTIL THE PROPOSED SANITARY SEWER MAINS, LATERALS, AND MANHOLES ARE TESTED AND CERTIFIED FOR FLOW BY THE AUTHORITY ENGINEER.
 15. ALL UNITS WITH BASEMENTS SHALL HAVE SUMP PUMPS. SUMP PUMPS SHALL NOT DIRECTLY DISCHARGE WATER INTO A STREET RIGHT-OF-WAY OR INTO A SANITARY SEWER SYSTEM.

KEY MAP (1"=600')

REFER TO AQUA AMERICA DESIGN DRAWING FOR DETAILED INFORMATION REGARDING THE WATER LINE DESIGN

GAS MAIN SHOWN IS APPROXIMATE - REFER TO GAS DESIGN DRAWINGS BY OTHERS.

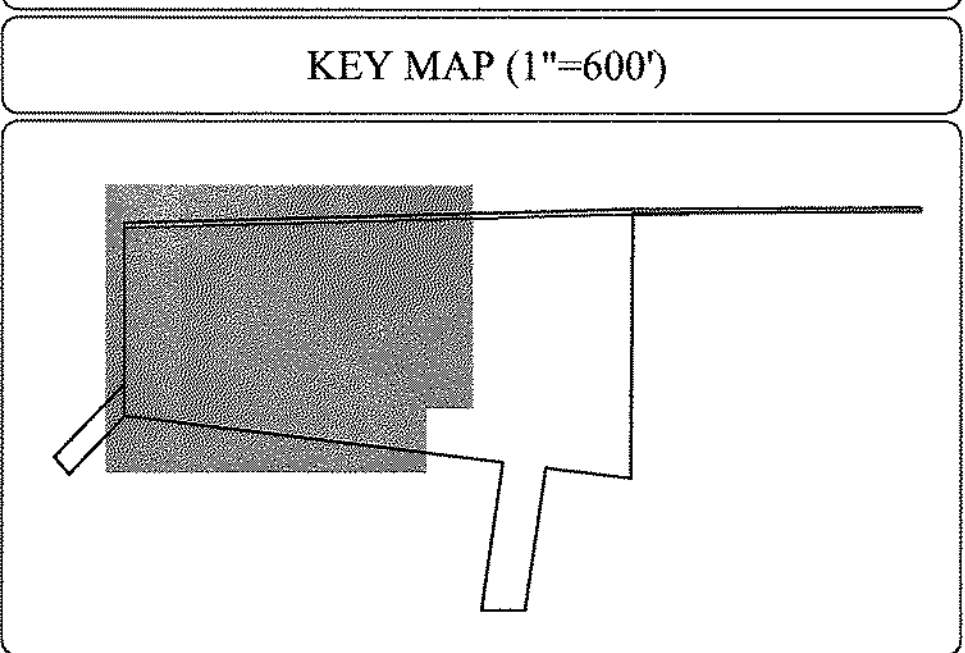
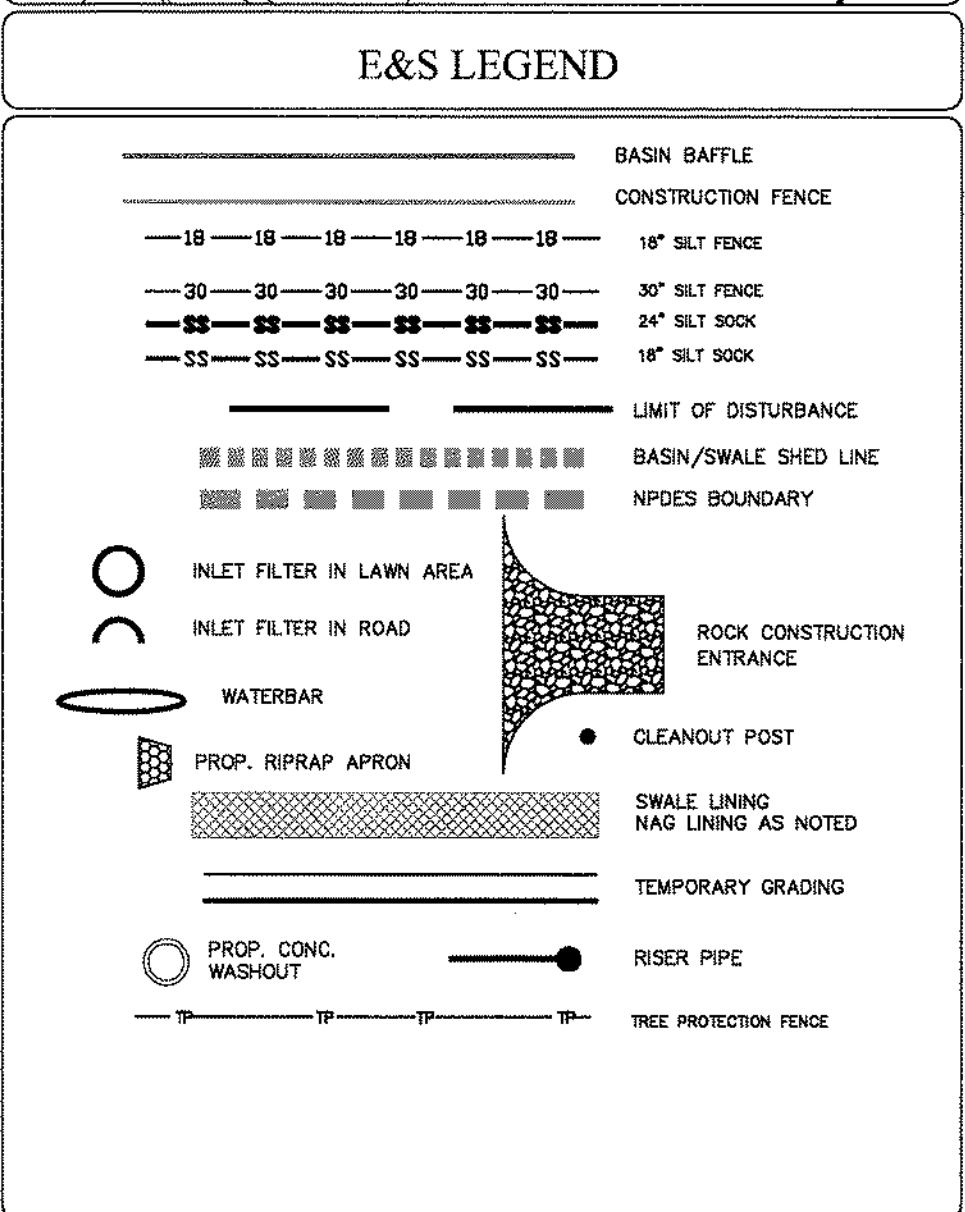
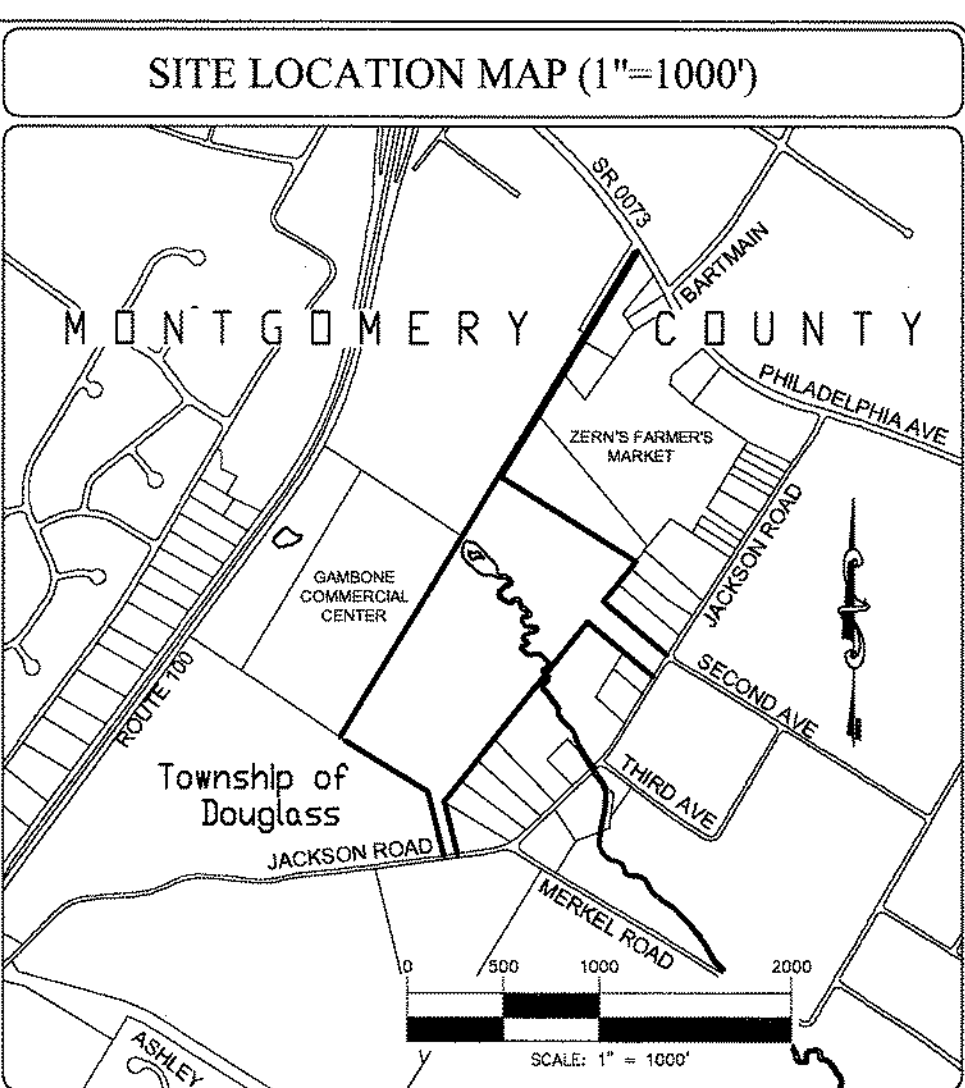
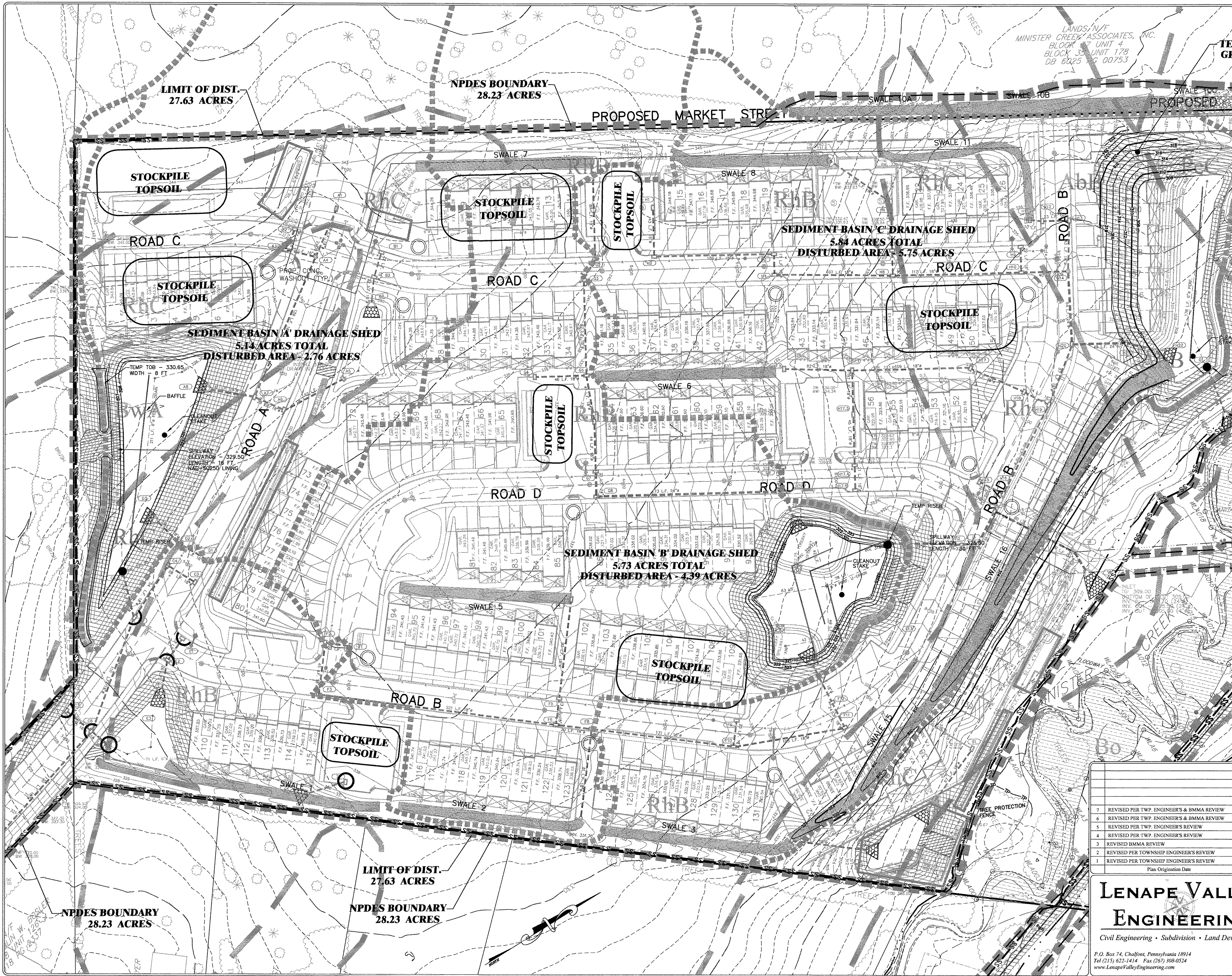


CONSTRUCTION IMPROVEMENT PLAN (SANITARY & WATER)													
Prepared for													
DANNY JAKE CORP.													
As part of													
ZERN TRACT													
DOUGLASS TOWNSHIP MONTGOMERY COUNTY PENNSYLVANIA													
JASON T. SMELAND PROFESSIONAL ENGINEER PA NO. 059308													
<table border="1"> <thead> <tr> <th>PROJECT MANAGER</th> <th>DRAWING SCALE</th> <th>SHEET NUMBER</th> </tr> </thead> <tbody> <tr> <td>J.T.S.</td> <td>1"=40'</td> <td rowspan="2">17 of 64</td> </tr> <tr> <td>DRAFTED BY</td> <td>PROJECT NUMBER</td> </tr> <tr> <td>B.C.S.</td> <td>2028</td> <td></td> </tr> </tbody> </table>			PROJECT MANAGER	DRAWING SCALE	SHEET NUMBER	J.T.S.	1"=40'	17 of 64	DRAFTED BY	PROJECT NUMBER	B.C.S.	2028	
PROJECT MANAGER	DRAWING SCALE	SHEET NUMBER											
J.T.S.	1"=40'	17 of 64											
DRAFTED BY	PROJECT NUMBER												
B.C.S.	2028												

LENAPE VALLEY ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com



TAX PARCEL INFORMATION

SUBJECT TRACT MAY BE IDENTIFIED BY MONTGOMERY COUNTY TAX INFORMATION AS FOLLOWS:
DOUGLASS TOWNSHIP
RECORDED DEED DATA IS AS FOLLOWS:
AS RECORDED IN THE OFFICE FOR THE RECORDING OF DEEDS, ETC., IN AND FOR THE COUNTY OF MONTGOMERY AT NORRISTOWN PENNSYLVANIA

PARCEL NO.	DEED BOOK/PAGE	RECORD OWNER & CONTACT INFO	TRACT AREA
32-00-03460-00-9	5599/01880	ELEANOR F. STEINER & DOLORES G. LEVENGOOD	0.4493 Ac.
32-00-03496-00-9	5599/01874	337 E. BEVERLY ROAD WOOSTER, OH 44691	28.0866 Ac.

LENAPE VALLEY ENGINEERING
Civil Engineering • Subdivision • Land Development
P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (215) 308-0534
www.LenapeValleyEngineering.com

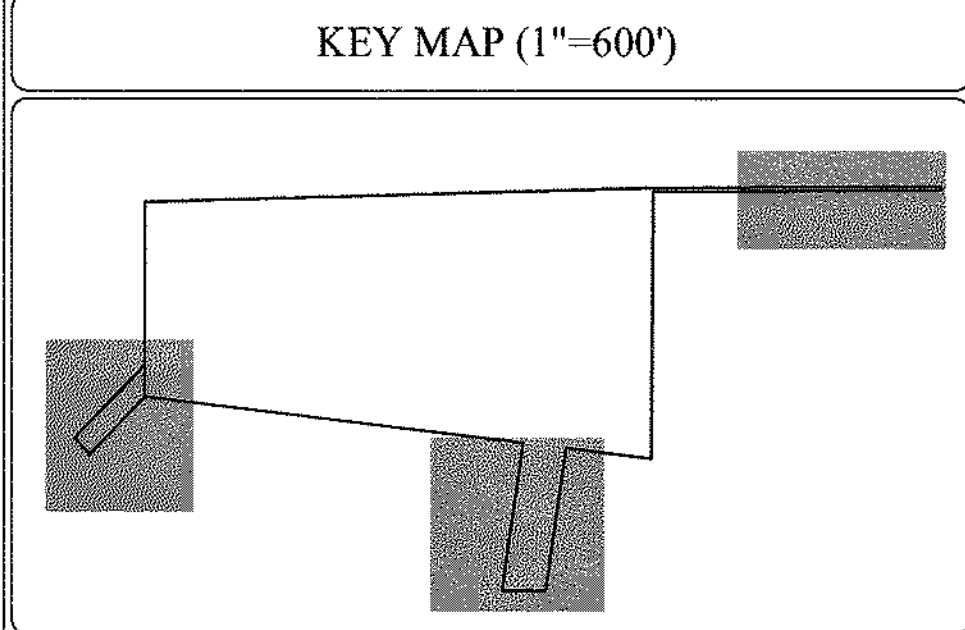
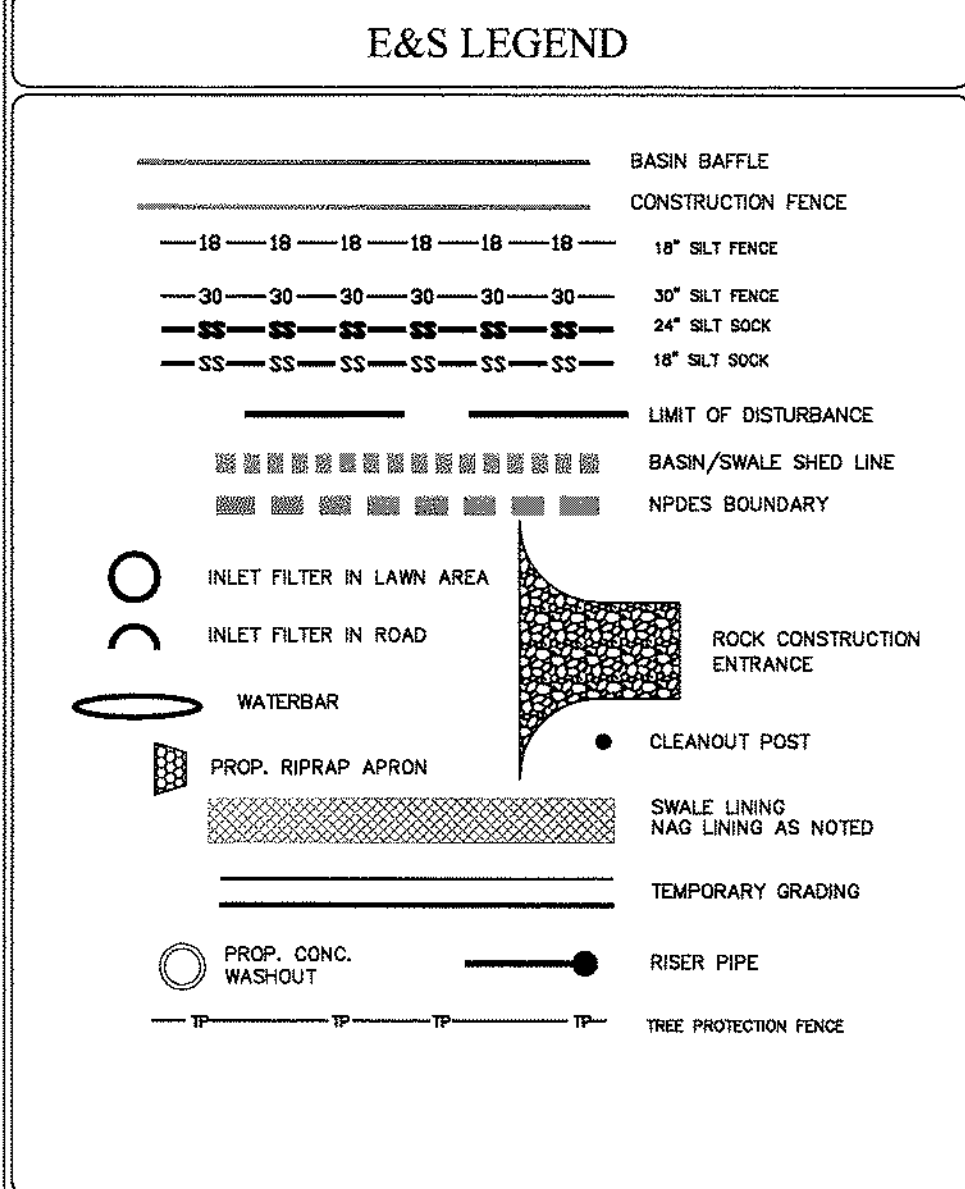
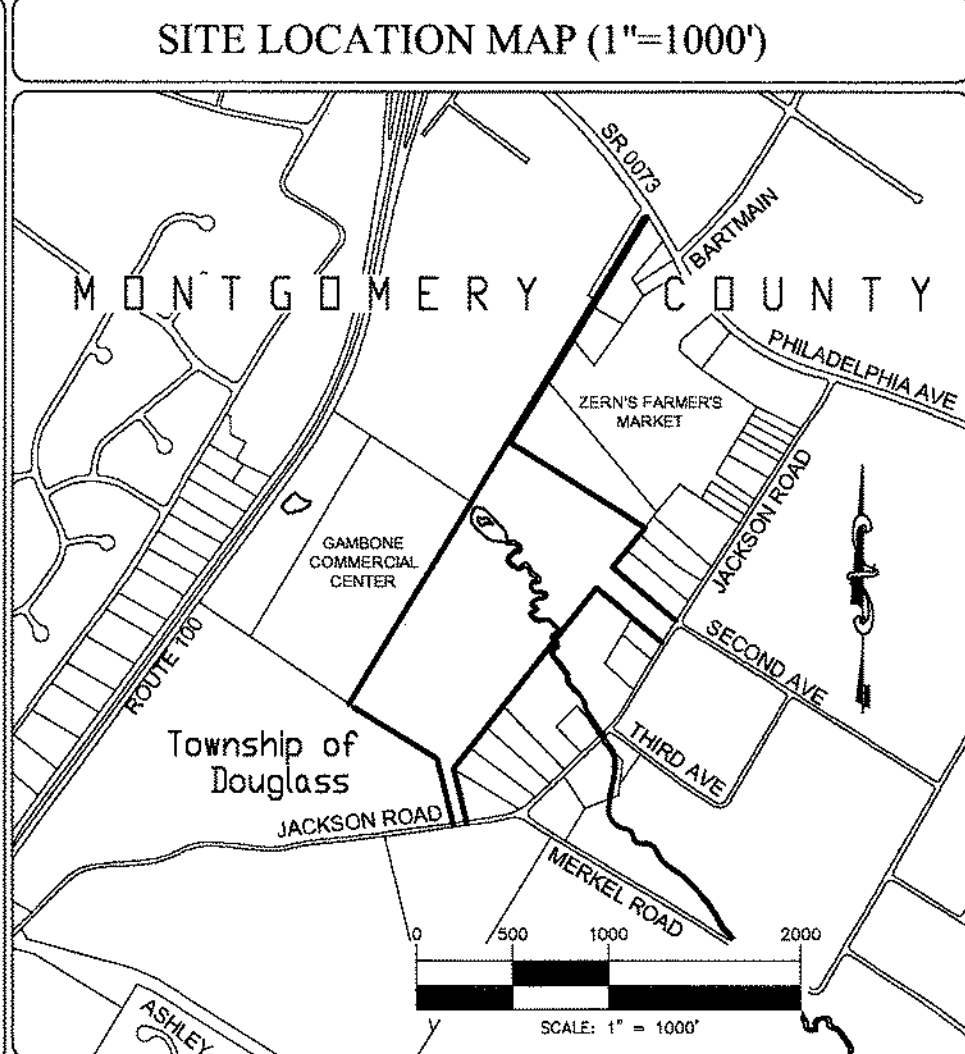
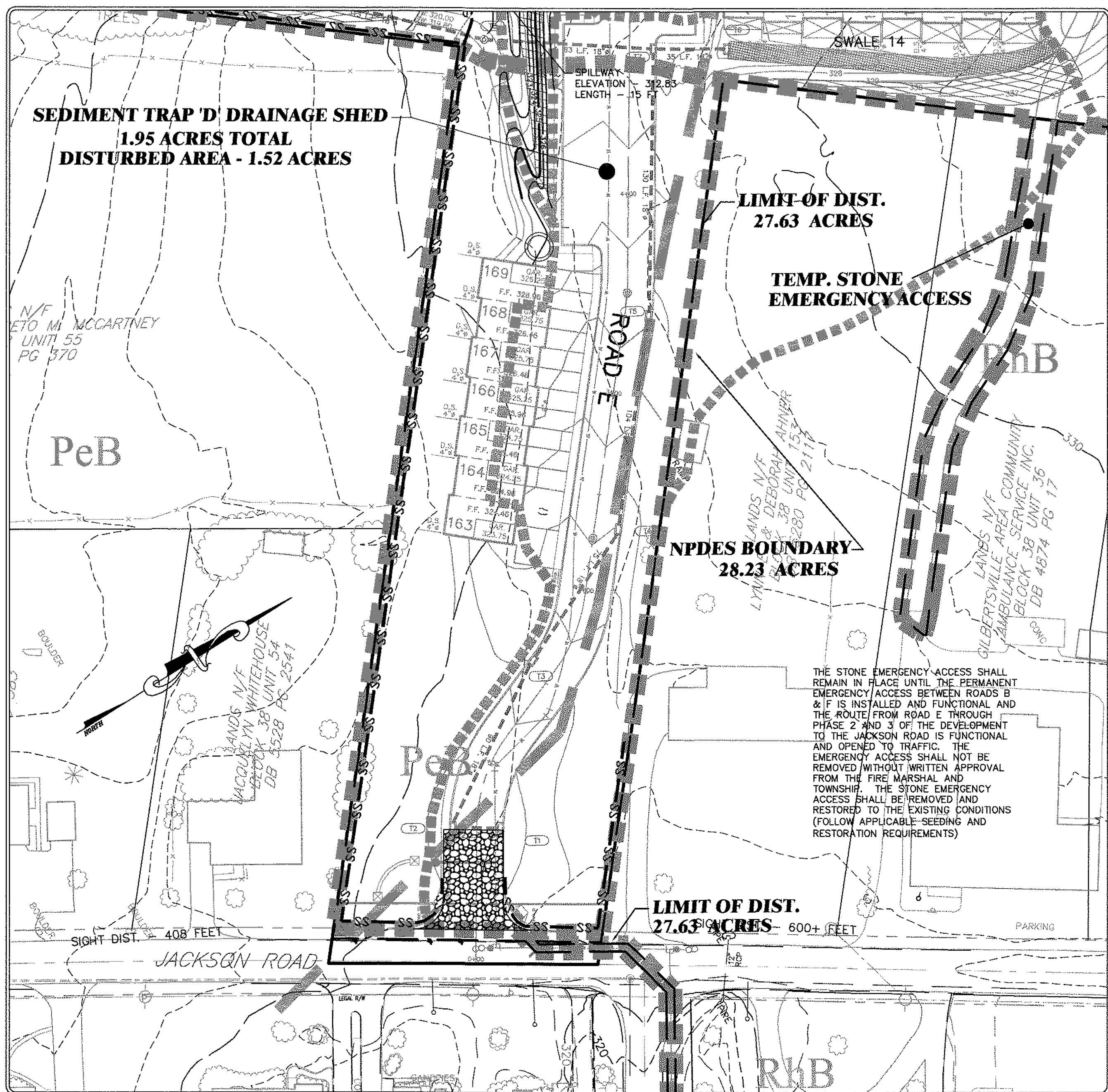
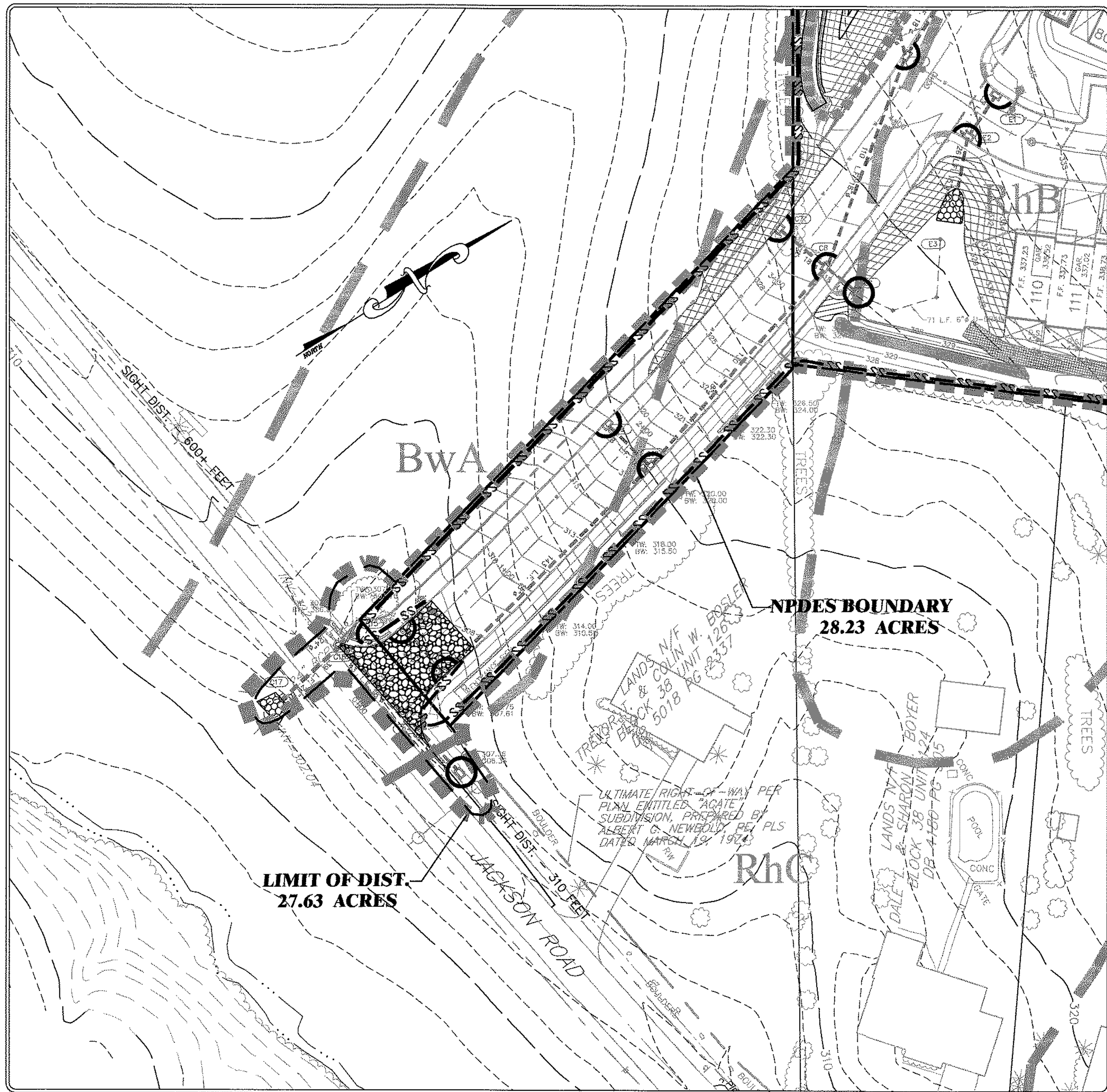
EROSION & SEDIMENTATION CONTROL PLAN

Prepared for
DANNY JAKE CORP.
As part of
ZERN TRACT

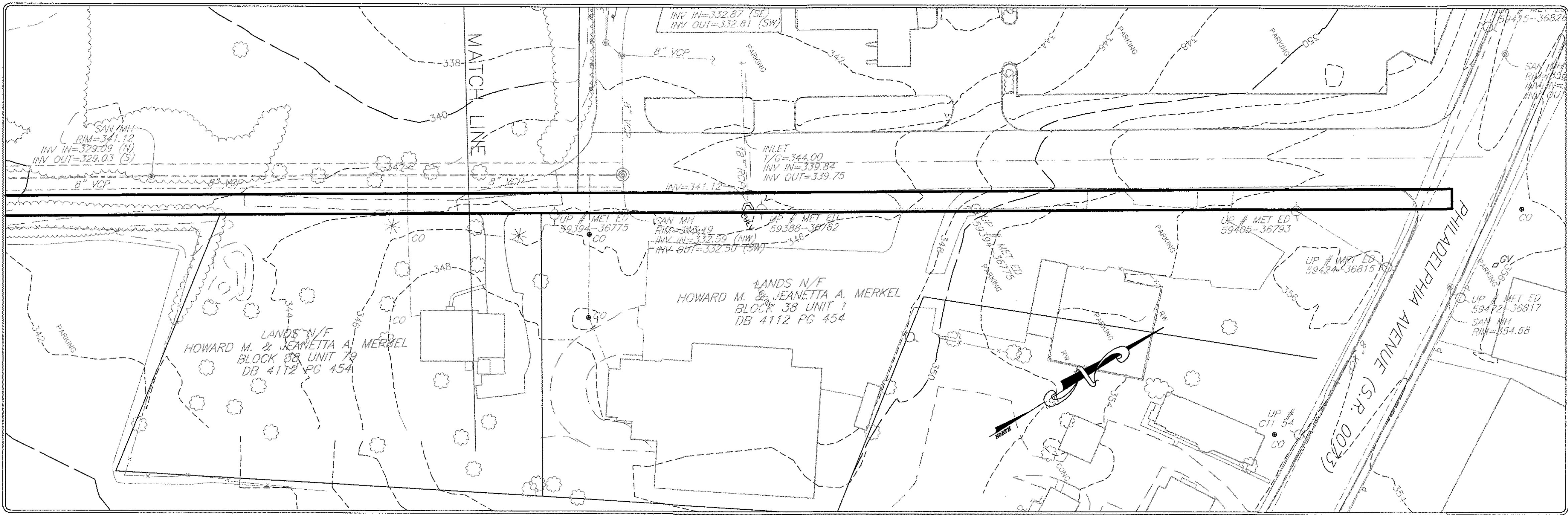
DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

PROJECT MANAGER	DRAWING SCALE	SHEET NUMBER
J.T.S.	1"=40'	18 of 64
DRAFTED BY	PROJECT NUMBER	
B.C.S.	2028	



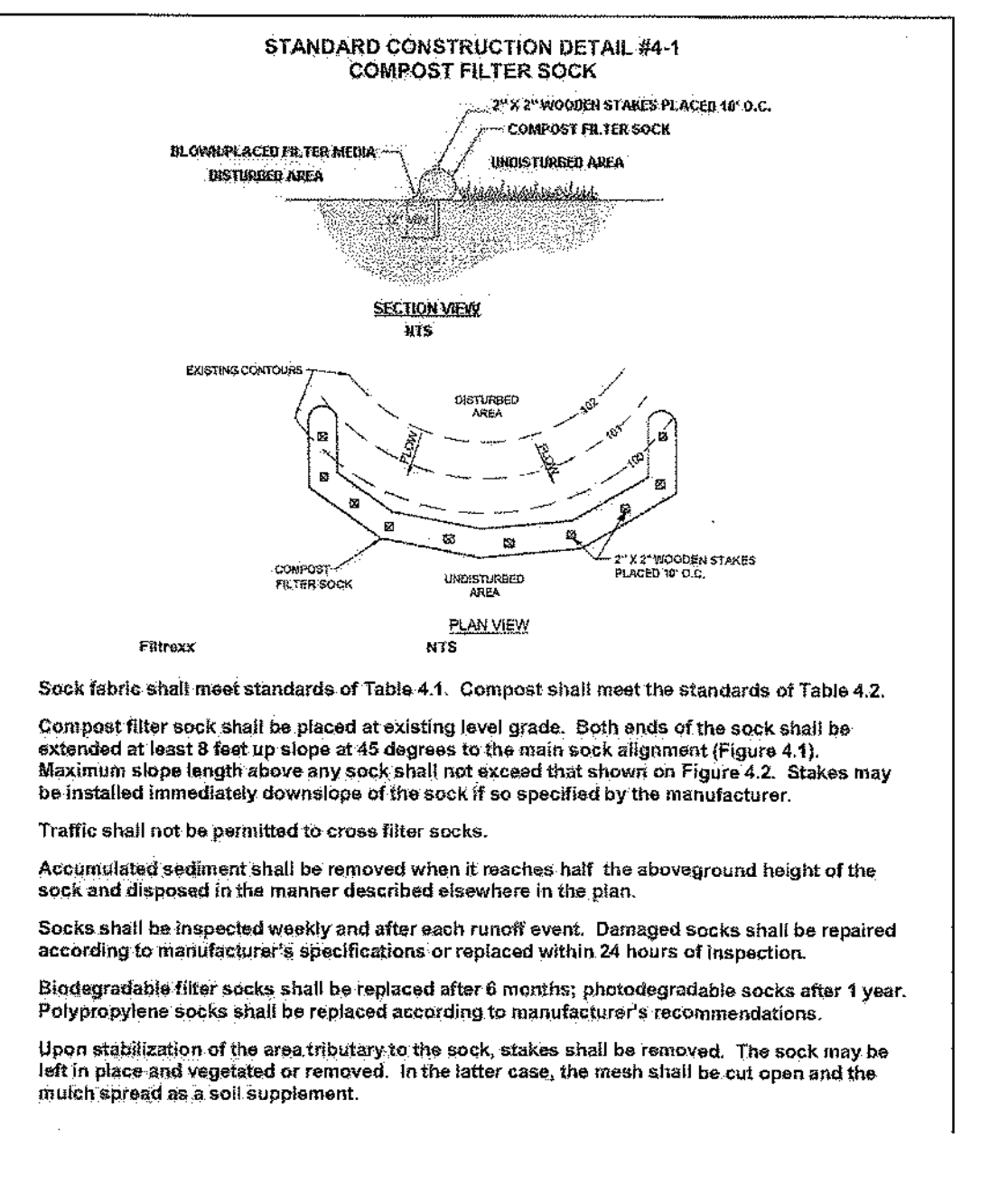
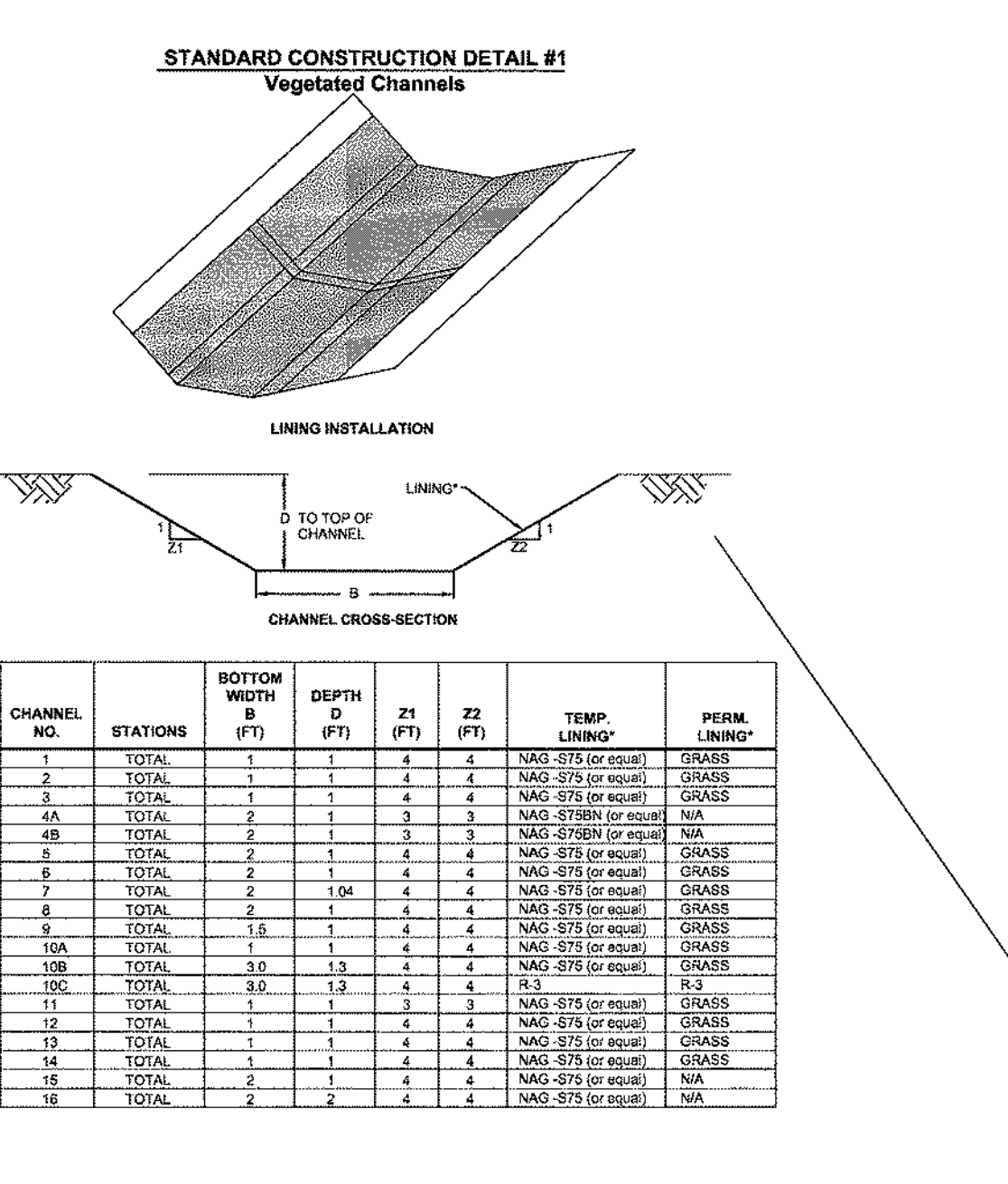
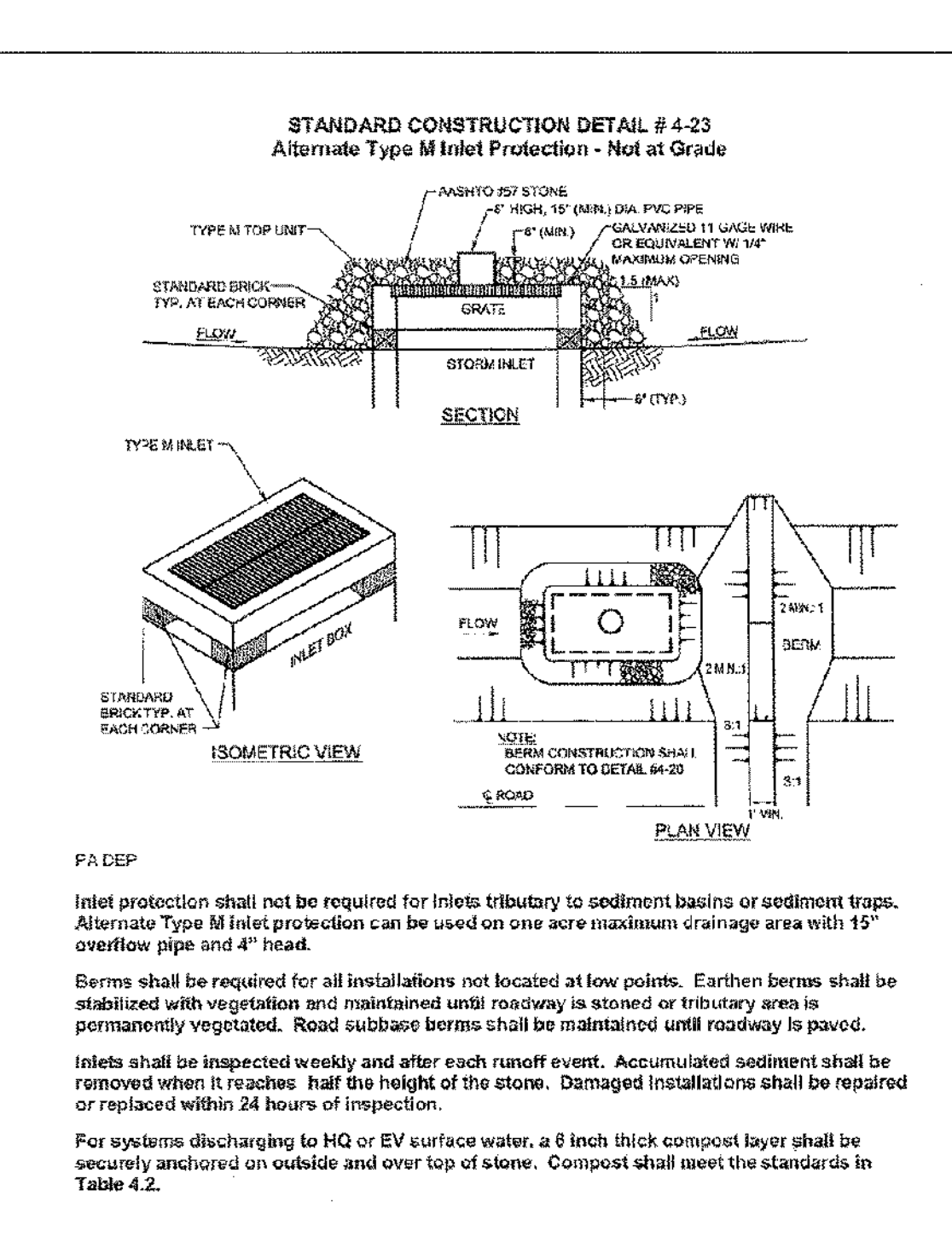
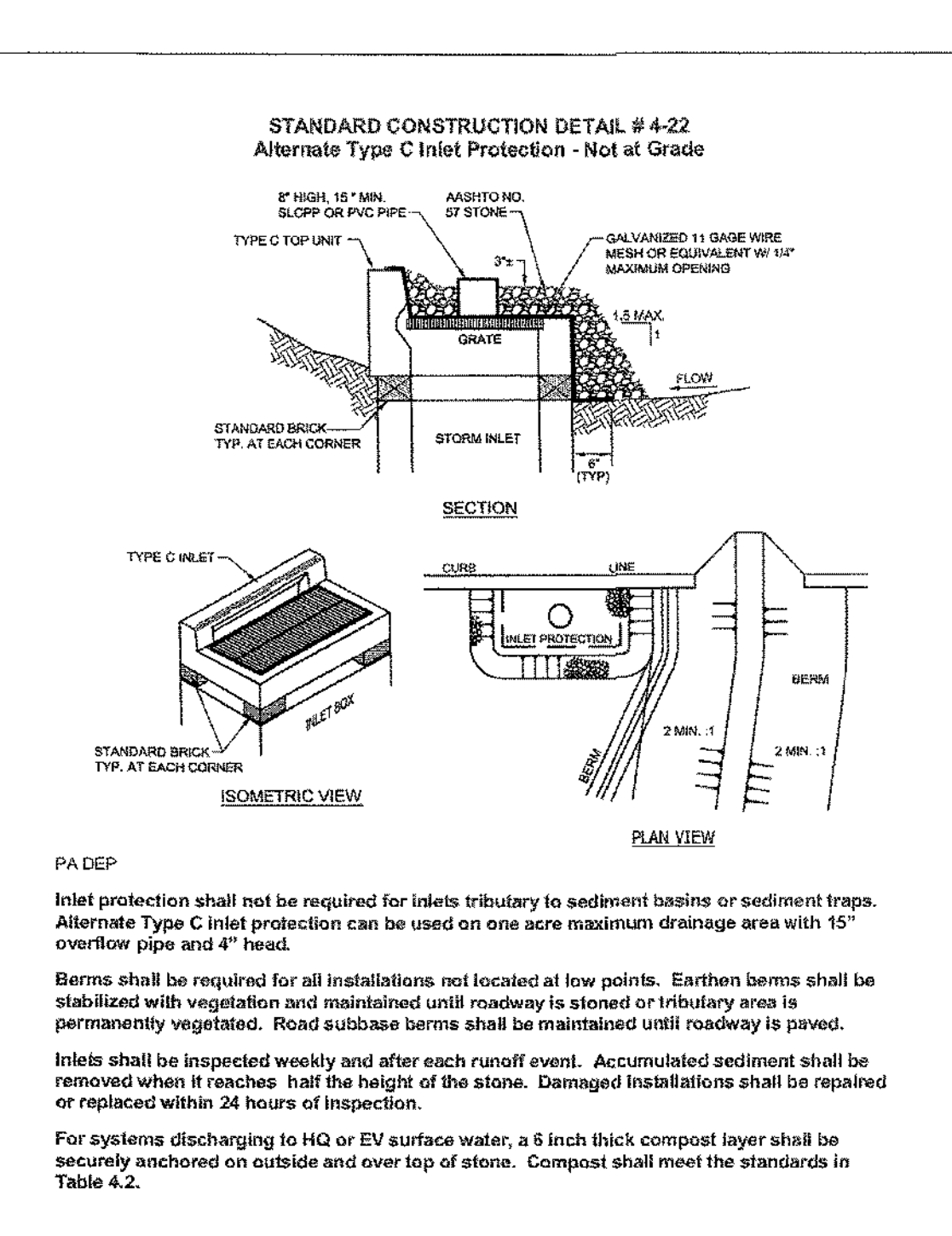
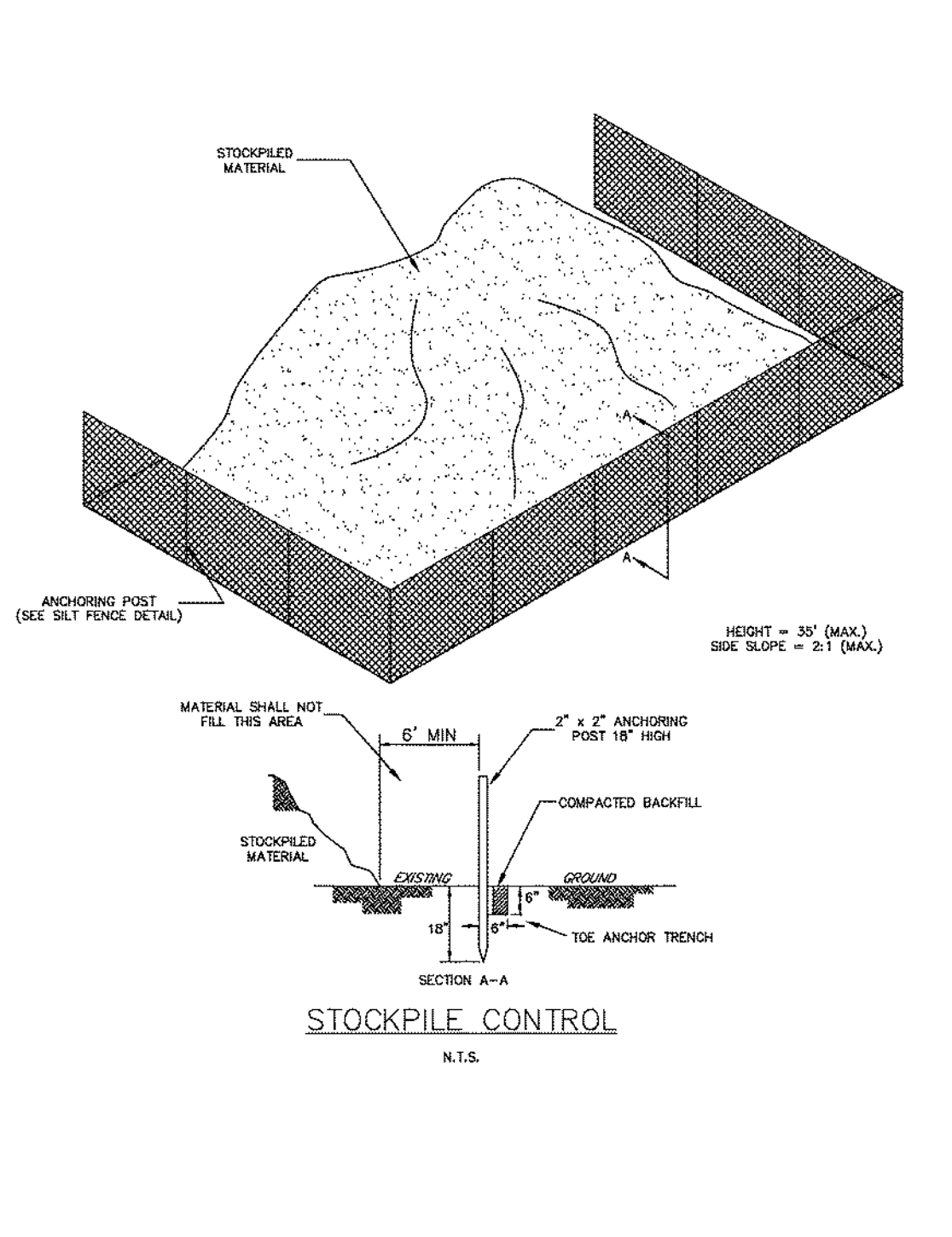
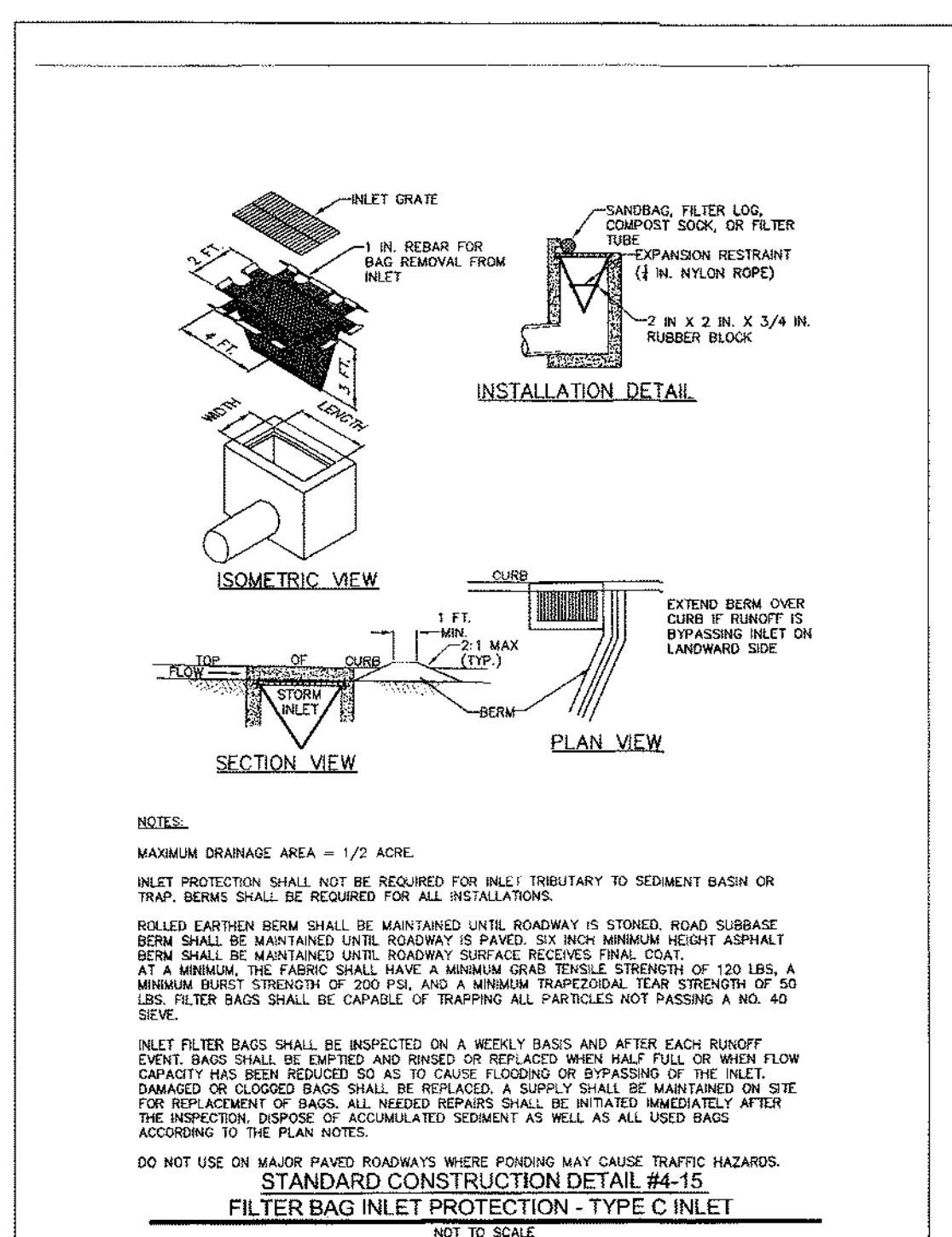
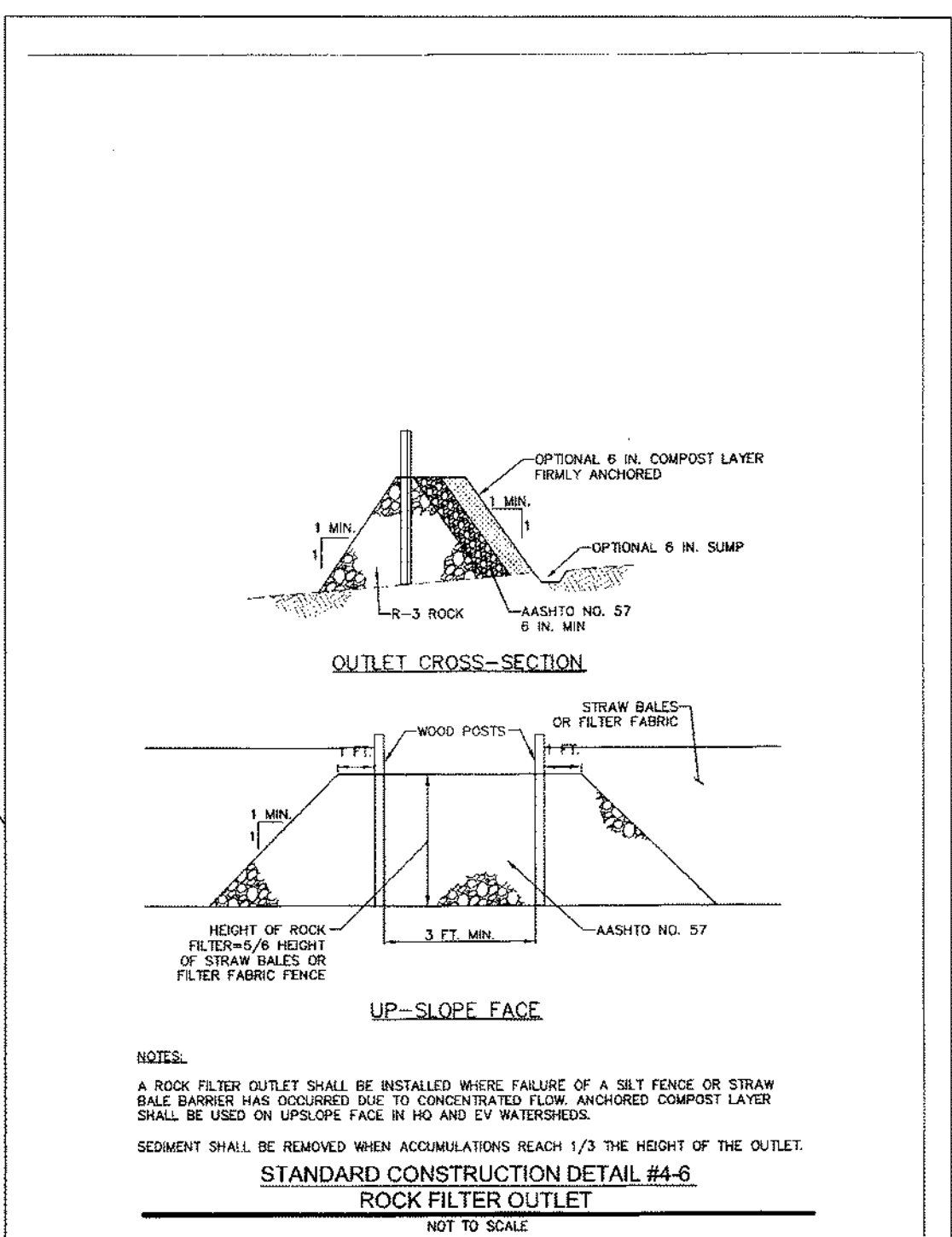
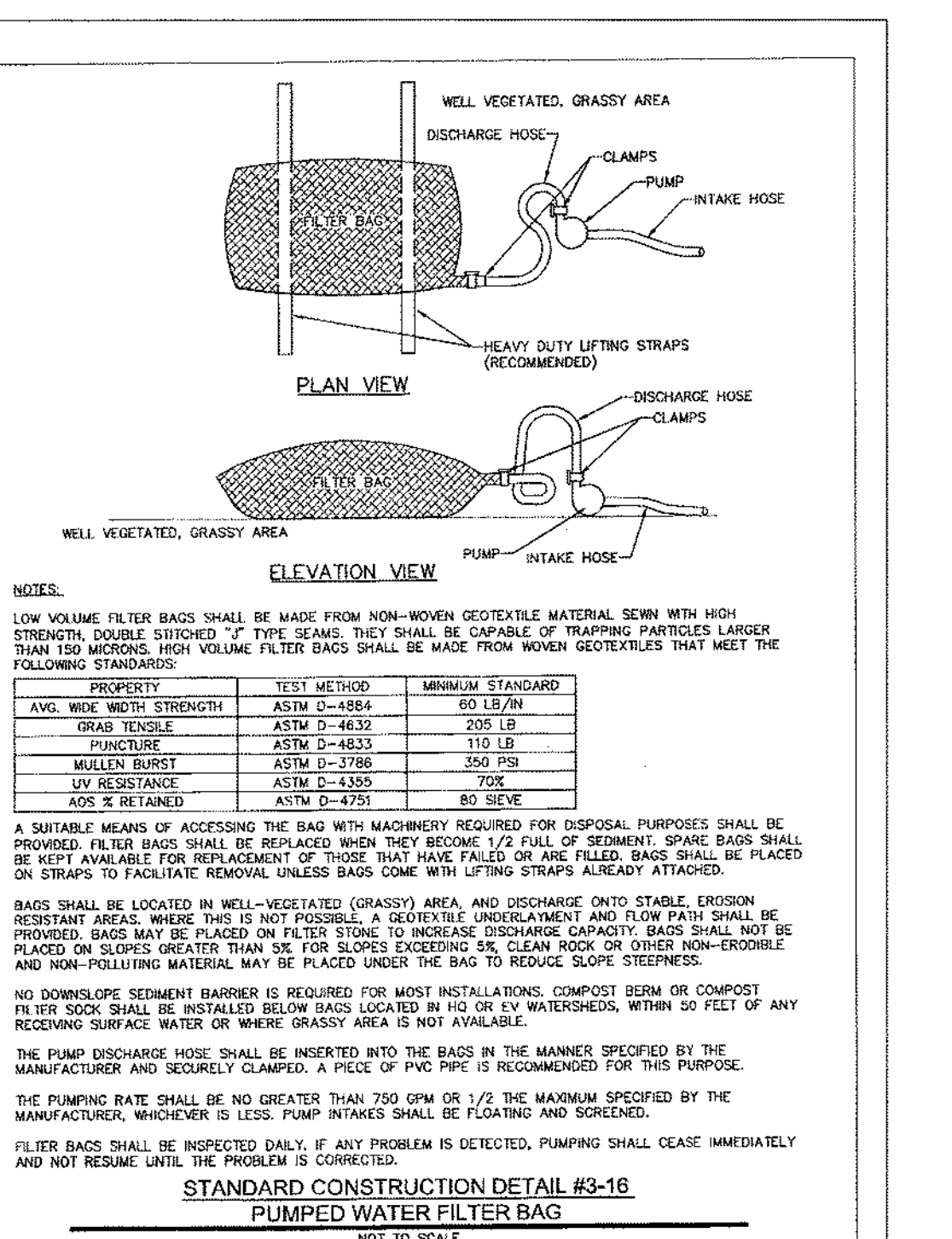
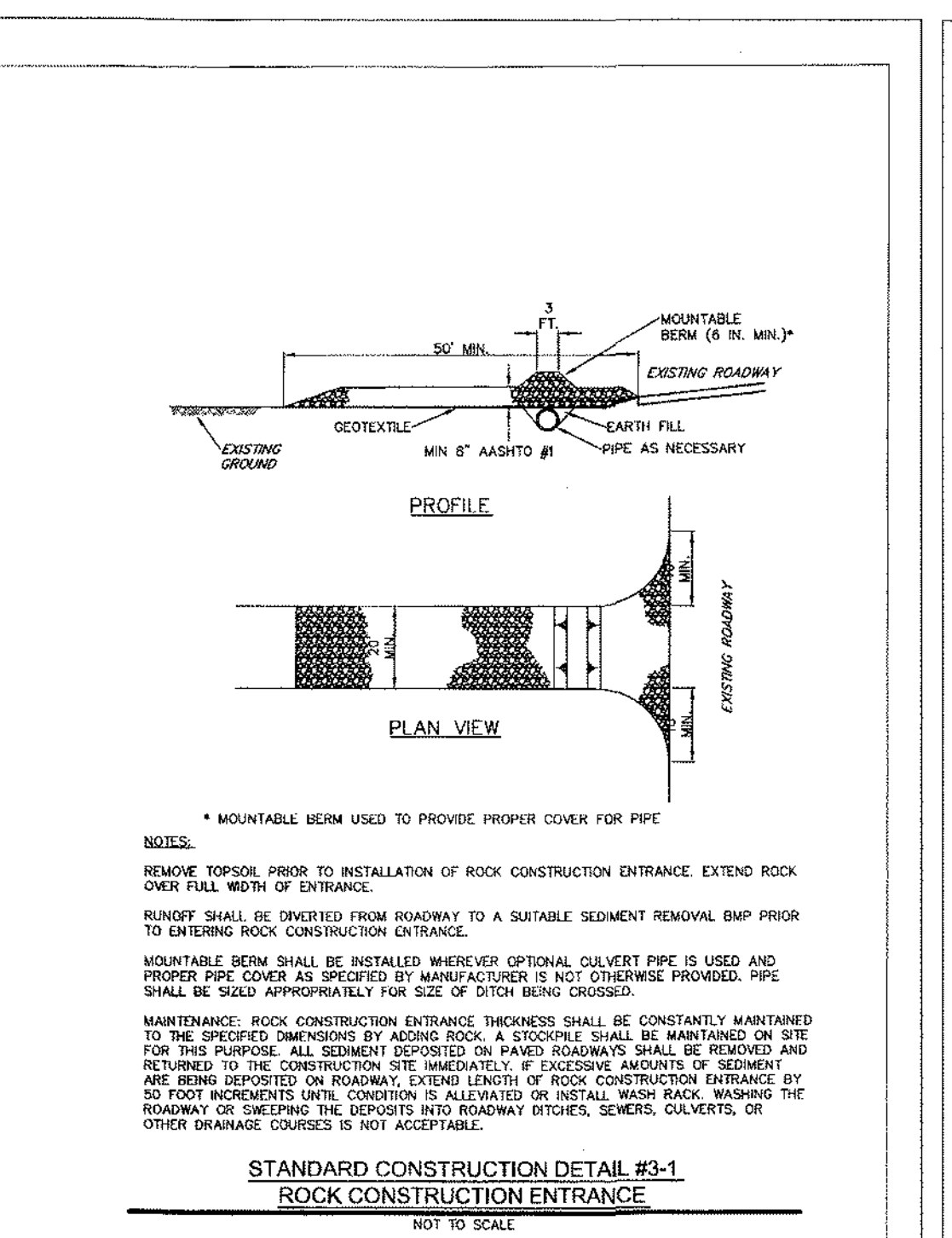
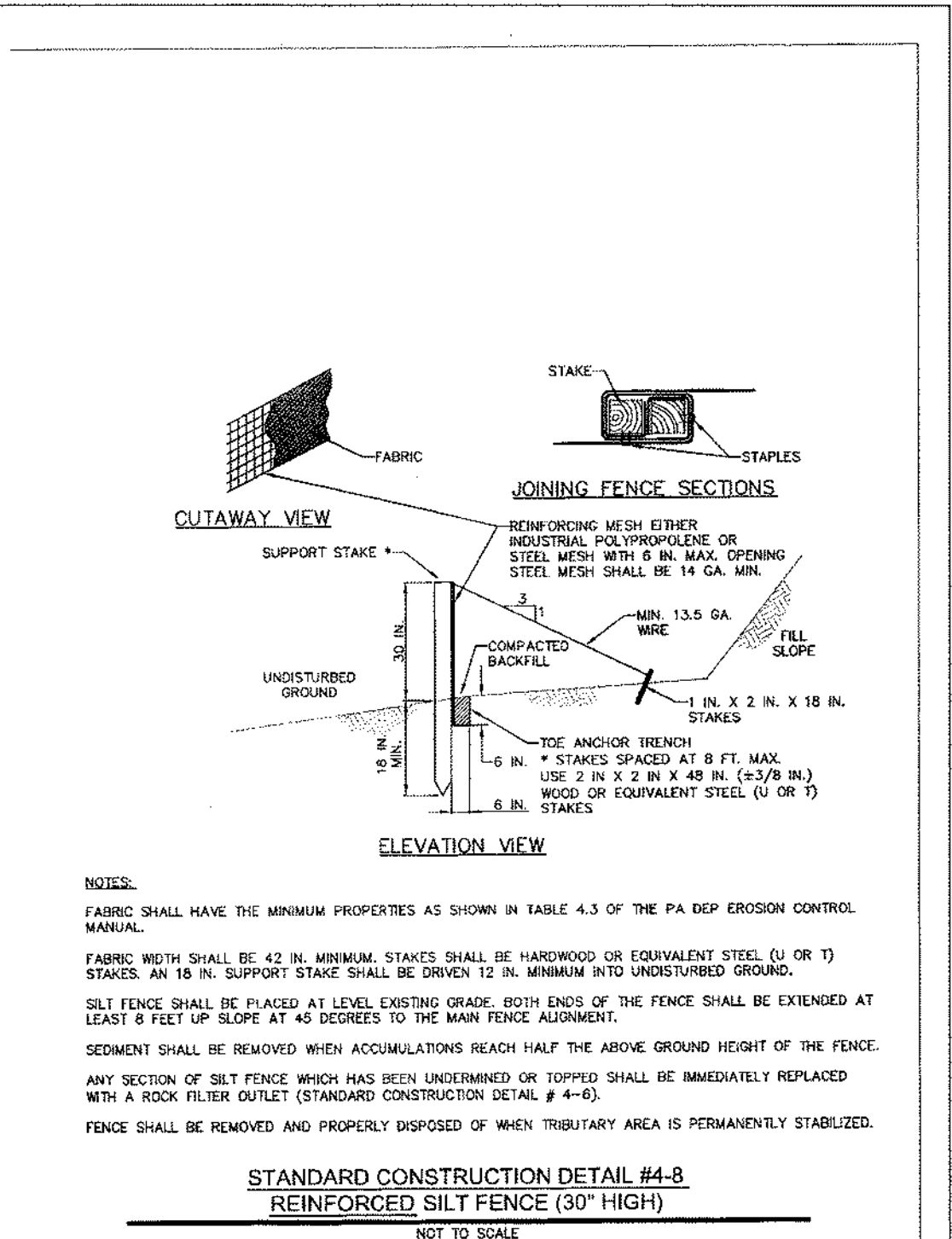
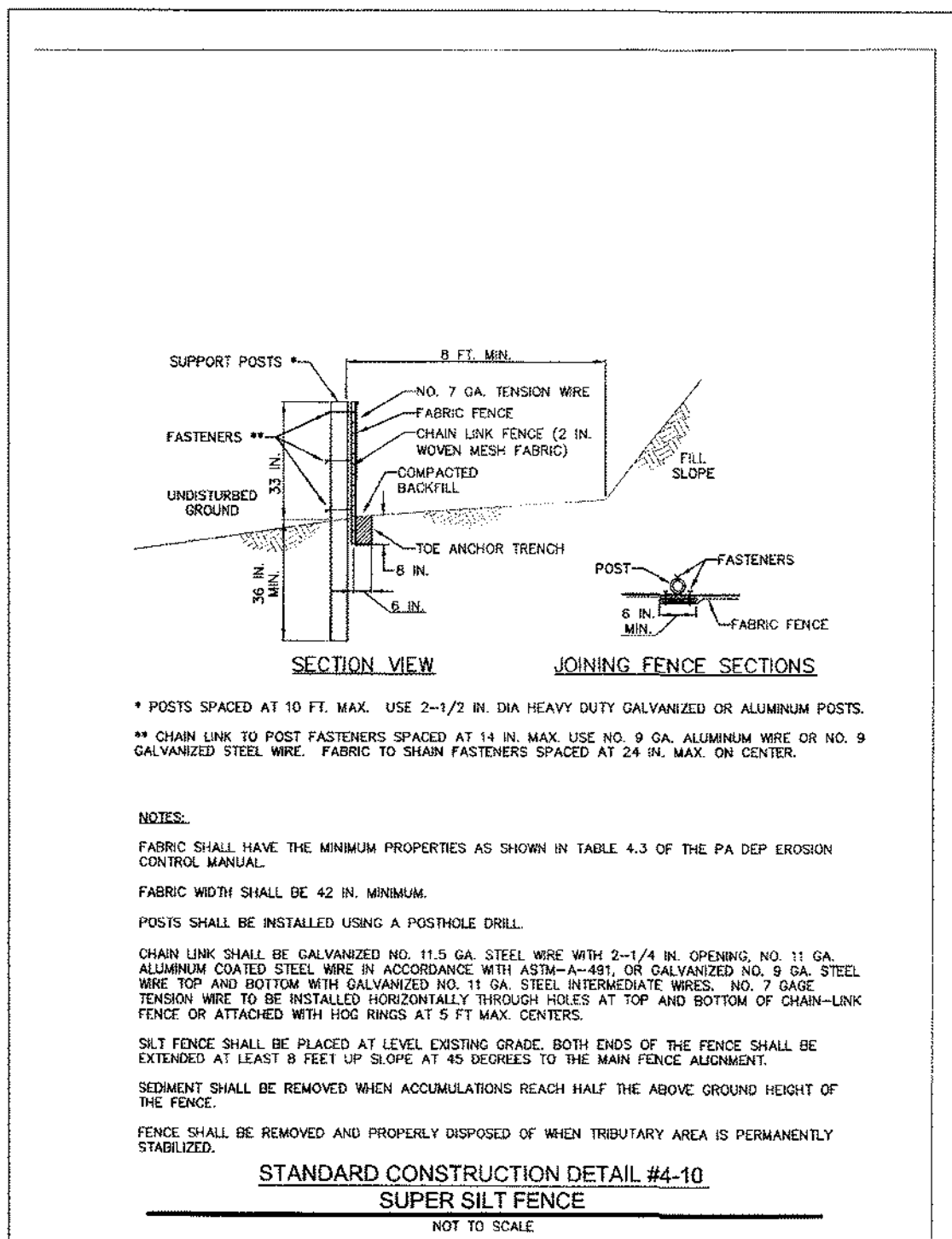
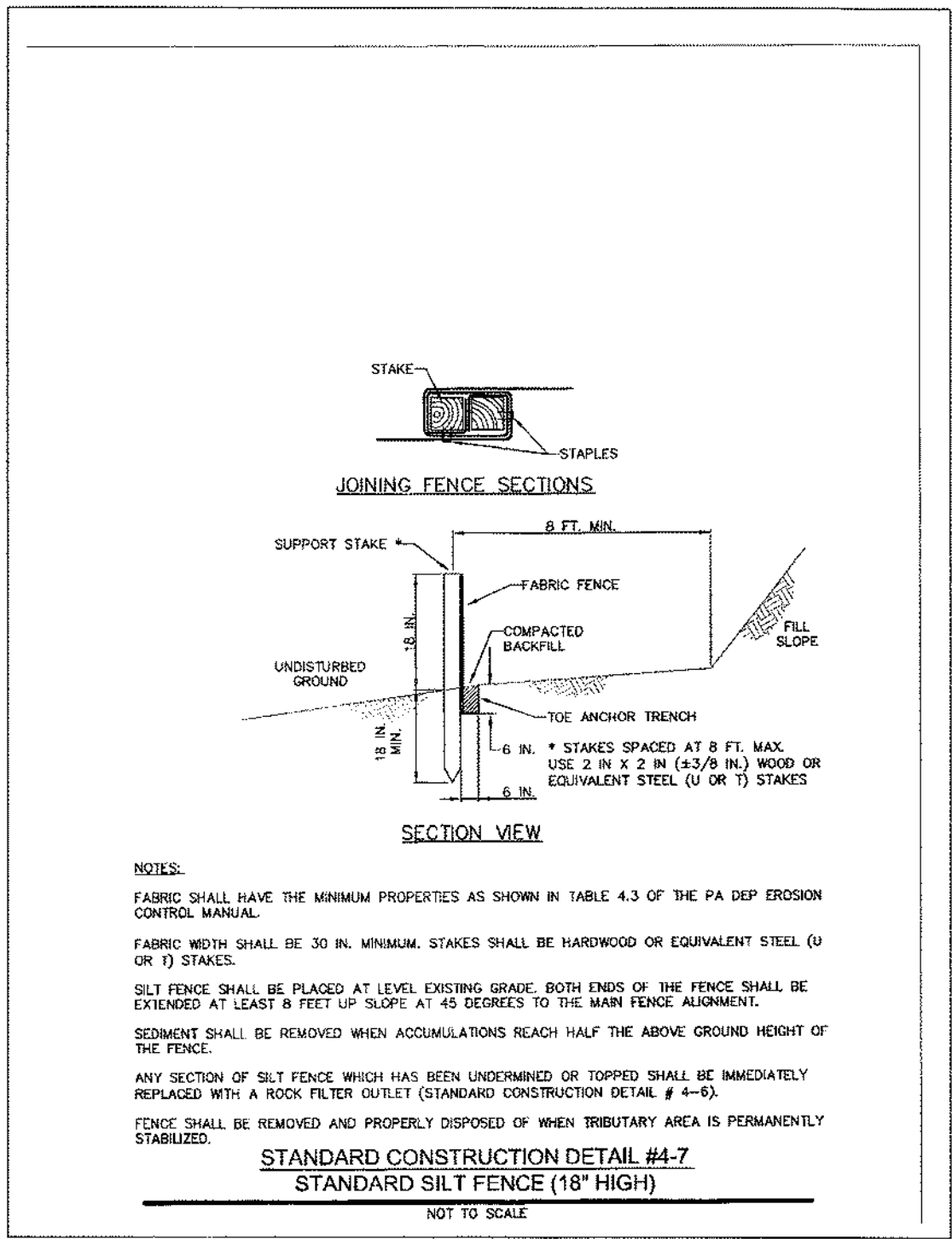
TAX PARCEL INFORMATION				
SUBJECT TRACT MAY BE IDENTIFIED BY MONTGOMERY COUNTY TAX INFORMATION AS FOLLOWS:				
DOUGLASS TOWNSHIP				
RECORDED DEED DATA IS AS FOLLOWS:				
AS RECORDED IN THE OFFICE FOR THE RECORDING OF DEEDS, ETC., IN AND FOR THE COUNTY OF MONTGOMERY AT NORRISTOWN, PENNSYLVANIA				
PARCEL NO.	DEED BOOK/PAGE	RECORD OWNER & CONTACT INFO	TRACT AREA	
32-00-03460-00-9	5599/01880	ELEANOR F. STEINER & DOLORES G. LEVENWOOD	0.4493 Ac.	
32-00-03460-00-9	5599/01874	337 E. BEVERLY ROAD, WOOSTER, OH 44691	26.0666 Ac.	



7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

LENAPE VALLEY ENGINEERING
Civil Engineering • Subdivision • Land Development
P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 625-1414 Fax (267) 308-0534
www.LenapeValleyEngineering.com

EROSION & SEDIMENTATION CONTROL PLAN
Prepared for:
DANNY JAKE CORP.
As part of:
ZERN TRACT
DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA
JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306
GRAPHIC SCALE
PROJECT MANAGER: J.T.S.
DRAWING SCALE: 1" = 40'
SHEET NUMBER: 20 of 64
PROJECT NUMBER: 2028



NO.	PIPE DIA. (in.)	TAIL WATER COND. (Max or Min)	MAN. 1/2" FOR PIPE (F.T./FT.)	PIPE SLOPE (F.T./FT.)	Q (CFS)	V* (FPS)	RIPRAP SIZE	Rt (in.)	At (ft)	Aw (ft)	Asw (ft)
A8	24	MAX	0.013	0.1041	8.14	5.11	R-4	18	10	6	10
D3	18	MAX	0.013	0.0762	1.88	3.31	R-4	18	10	4.5	8.5
C17	24	MIN	0.013	0.0051	16.31	6.35	R-4	18	10	6	16
E3	15	MIN	0.013	0.0462	1.88	2.43	R-4	18	10	4.5	14.5
B3	15	MIN	0.013	0.0064	0.93	0.76	R-4	18	10	4.5	14.5
P2	18	MIN	0.013	0.005	1.34	4.4	R-4	18	10	4.5	14.5
G15	24	MAX	0.013	0.010	13.85	4.45	R-4	18	10	6	10
F13	24	MAX	0.013	0.005	12.65	5.76	R-4	18	10	6	10
J22	24	MAX	0.013	0.1310	21.73	7.38	R-4	18	10	6	10
I6	24	MIN	0.013	0.025	31	10.1	R-4	24	18	6	24
O2	18	MIN	0.013	0.0062	1.20	0.73	R-4	18	10	4.5	14.5
Z2	18	MIN	0.013	0.050	1.5	4.1	R-4	18	10	4.5	14.5
S2	18	MIN	0.013	0.0149	1.3	3.9	R-4	18	10	4.5	14.5
R2	30	MIN	0.013	0.126	0.1	3.8	R-4	18	10	4.5	14.5
N3	18	MIN	0.013	0.010	4.8	4.7	R-4	18	10	4.5	14.5
Q2	18	MAX	0.013	0.010	3.2	5.2	R-4	18	10	4.5	8.5
J13	18	MAX	0.013	0.0143	10.11	6.16	R-4	18	10	4.5	10
T10	18	MAX	0.013	0.0155	6.72	3.80	R-4	18	10	4.5	8.5
L6	24	MAX	0.013	0.0065	11.08	5.75	R-4	18	10	6	10
K3	18	MAX	0.013	0.0238	5.32	3.15	R-4	18	10	4.5	8.5
K5	18	MAX	0.013	0.02	6.0	3.8	R-4	18	10	4.5	8.5
M2	18	MIN	0.013	0.013	0.2	2.9	R-4	18	10	4.5	14.5
AA2	18	MIN	0.013	0.008	1.88	3.47	R-4	18	10	4.5	14.5
TRAP F	24	MAX	0.013	0.0129	10.1	6.20	R-4	18	10	6	10

*The anticipated velocity (V) should not exceed the maximum permissible shown in Table 6.5 for the proposed riprap protection. Adjust for less than full pipe flow. Use Manning's equation to calculate velocity for pipe slopes ≥ 0.05 ft/ft.

363-2134-008 / March 31, 2012 / Page 105

363-2134-008 / March 31, 2012 / Page 106

DETAIL SHEET
EROSION & SEDIMENTATION CONTROL

Prepared for
DANNY JAKE CORP.

As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

GRAPHIC SCALE

PROJECT MANAGER
J.T.S.

DRAWING SCALE
NTS

SHEET NUMBER
23 of 64

7 REVISD PER TWP. ENGINEER'S & BMMA REVIEW 05-22-2019

6 REVISD PER TWP. ENGINEER'S & BMMA REVIEW 03-20-2019

5 REVISD PER TWP. ENGINEER'S REVIEW 02-02-2019

4 REVISD PER TWP. ENGINEER'S REVIEW 04-07-2018

3 REVISD BMMA REVIEW 02-15-2018

2 REVISD PER TOWNSHIP ENGINEER'S REVIEW 11-09-2016

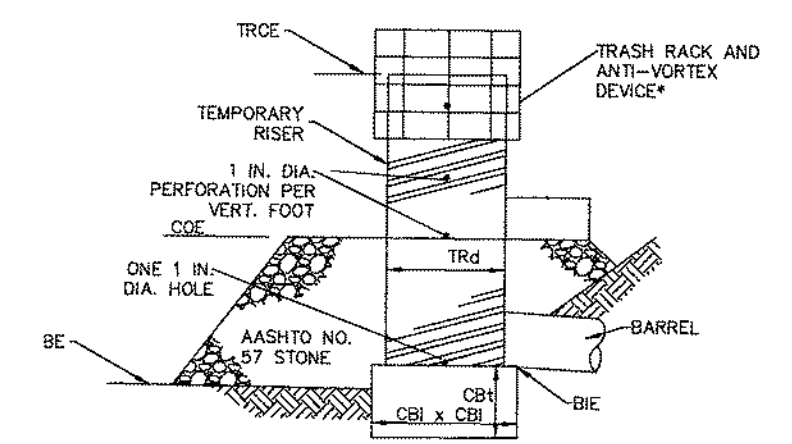
1 REVISD PER TOWNSHIP ENGINEER'S REVIEW 05-31-2016

Plan Origination Date 01-08-2014

LENAPE VALLEY
ENGINEERING
Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

WHEREVER TOTAL TRAP DEWATERING IS REQUIRED, ONE 1" DIAMETER HOLE SHOULD BE LOCATED AT THE BOTTOM OF THE RISER AND A 2" THICK LAYER OF AASHTO #57 STONE PLACED AROUND THE RISER UP TO THE TOP OF THE SEDIMENT STORAGE ZONE. FILTER CLOTH WRAPPED AROUND THE RISER IS NOT AN ACCEPTABLE ALTERNATIVE DUE TO THE POTENTIAL FOR CLOGGING. A DRY SEDIMENT TRAP RISER HAS LOW SEDIMENT REMOVAL EFFICIENCY. IT IS NOT AN ADEQUATE SPECIAL PROTECTION WATERWAYS. HOWEVER, THE EFFICIENCY CAN BE RAISED TO MODERATE BY ANCHORING A 6" LAYER OF COMPOST AROUND THE OUTSIDE OF THE AASHTO #57 STONE.



* SEE STANDARD CONSTRUCTION DETAIL #7-5, TRASH RACK AND ANTI-VORTEX DEVICE

TRAP NO.	TRAP DIA. (IN)	TRAP LENGTH (FT)	TRAP WIDTH (FT)	TRAP THICKNESS (IN)	TRAP INLET ELEV. (FT)	TRAP OUTLET ELEV. (FT)	TRAP CLEAN ELEV. (FT)	TRAP BOTTOM ELEV. (FT)
D	24	310.00	309.00	36	36	12	302.48	
E	24	315.00	314.00	36	36	12	309.27	
F	24	318.00	317.00	36	36	12	318.00	

NOTES:

IN SPECIAL PROTECTION WATERSHEDS, ANCHOR A 6 IN. LAYER OF COMPOST SHALL BE SECURELY ANCHORED ON TOP OF STONE (NO) OR REPLACE STONE WITH SUITABLE COMPOST FILTER SOCK (NO OR EV).

A MINIMUM OF 2-#6 REBAR SHALL BE PLACED AT RIGHT ANGLES AND PROJECTING THROUGH SIDES OF RISER TO ANCHOR IT TO CONCRETE BASE. REBAR SHALL PROJECT A MINIMUM OF 1/4 RISER DIAMETER BEYOND OUTSIDE OF RISER.

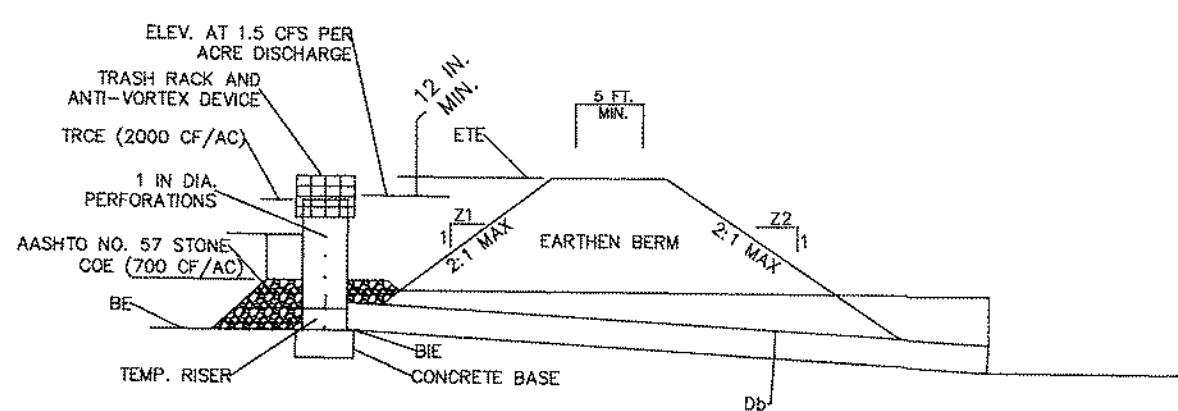
CONCRETE BASE SHALL BE POURED IN SUCH A MANNER SO AS TO INSURE THAT CONCRETE FILLS BOTTOM OF RISER TO INVERT OF THE OUTLET PIPE TO PREVENT RISER FROM BREAKING AWAY FROM THE BASE. MINIMUM BASE WIDTH EQUALS 2 TIMES RISER DIAMETER.

EMBEDDED SECTION OF ALUMINUM OR ALUMINIZED PIPE SHALL BE PAINTED WITH ZINC CHROMATE OR EQUIVALENT.

CLOGGED OR DAMAGED SPILLWAYS SHALL BE REPAIRED IMMEDIATELY. TRASH AND OTHER DEBRIS SHALL BE REMOVED FROM THE BASIN AND RISER.

STANDARD CONSTRUCTION DETAIL #8-5 DRY SEDIMENT TRAP TEMPORARY RISER

NOT TO SCALE



TRAP NO.	TRAP DIA. (IN)	TRAP LENGTH (FT)	TRAP WIDTH (FT)	TRAP THICKNESS (IN)	TRAP INLET ELEV. (FT)	TRAP OUTLET ELEV. (FT)	TRAP CLEAN ELEV. (FT)	TRAP BOTTOM ELEV. (FT)
D	24	310.00	308.00	36	36	12	302.48	
E	24	315.00	314.00	36	36	12	309.27	
F	24	318.00	316.00	36	36	12	318.00	

NOTES:

SEE DETAIL #8-5 DRY SEDIMENT TRAP TEMPORARY RISER FOR DETAILS OF THE TEMPORARY RISER CONSTRUCTION.

IN SPECIAL PROTECTION WATERSHEDS, ADD A 6 IN. LAYER OF COMPOST ON TOP OF STONE OR REPLACE STONE WITH SUITABLE COMPOST FILTER SOCK.

FILL MATERIAL FOR THE EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN LAYERED LIFTS OF NOT MORE THAN 6 TO 8 IN. THE MAXIMUM ROCK SIZE SHALL BE NO GREATER THAN 2/3 THE LIFT THICKNESS.

UPON COMPLETION, THE EMBANKMENT SHALL BE SEEDING AND MULCHED OR OTHERWISE STABILIZED ACCORDING TO THE SPECIFICATIONS OF THE E&S PLAN DRAWINGS.

ALL SEDIMENT TRAPS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT.

ACCESS FOR SEDIMENT REMOVAL AND OTHER REQUIRED MAINTENANCE ACTIVITIES SHALL BE PROVIDED.

A CLEAN OUT STAKE SHALL BE PLACED NEAR THE CENTER OF EACH TRAP. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED THE CLEAN OUT ELEVATION ON THE STAKE AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS. DISPOSE OF MATERIALS REMOVED FROM THE TRAP IN THE MANNER DESCRIBED IN THE E&S PLAN.

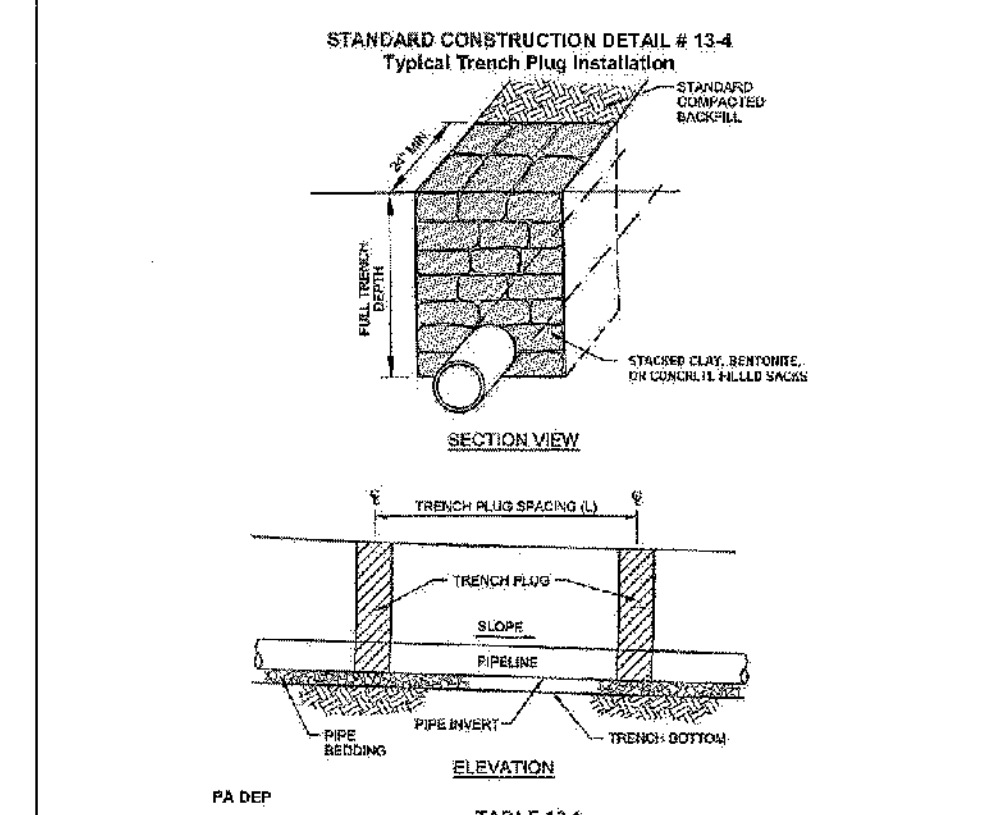
CHECK EMBANKMENTS, SPILLWAYS, AND OUTLETS FOR EROSION, PIPING AND SETTLEMENT. CLOGGED OR DAMAGED SPILLWAYS AND/OR EMBANKMENTS SHALL BE IMMEDIATELY REPAIRED TO THE DESIGN SPECIFICATIONS.

DISPLACED RIPRAP WITHIN THE OUTLET PROTECTION SHALL BE REPLACED IMMEDIATELY.

ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISTURBED AREAS INSIDE THE TRAP SHALL BE STABILIZED BEFORE CONVERSION TO A STORMWATER MANAGEMENT FACILITY. TO ASSIST IN REMOVING SEDIMENT, WHICH MAY BE SATURATED, A DEVICE SUCH AS IS SHOWN IN STANDARD CONSTRUCTION DETAIL #7-18 MAY BE USED TO DEWATER THE SEDIMENT PRIOR TO ITS REMOVAL.

STANDARD CONSTRUCTION DETAIL #7-14 DRY BARREL/RISER SEDIMENT TRAP

NOT TO SCALE

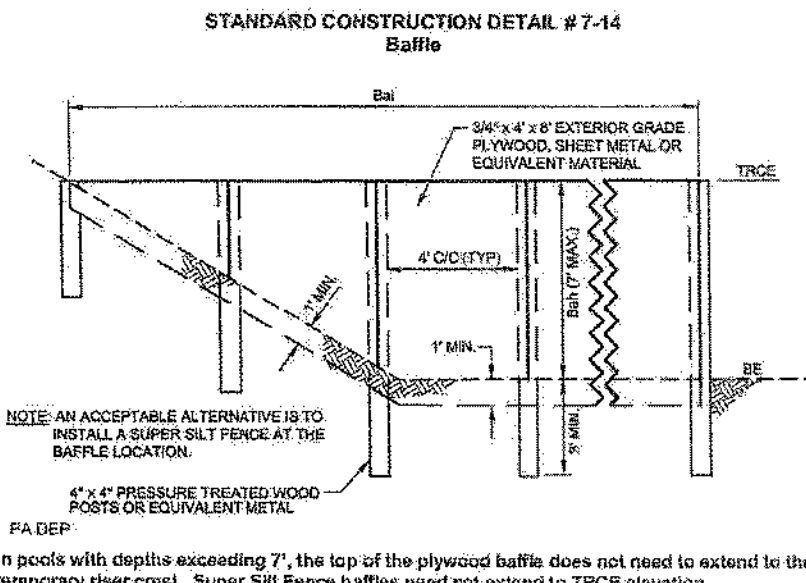


Trench Slope (%)	Plug Material
≤ 10	1. Clay, Bentonite, or Concrete Plug
10 - 25	2. Clay, Bentonite, or Concrete Plug
25 - 35	3. Clay, Bentonite, or Concrete Plug
35 - 50	4. Clay, Bentonite, or Concrete Plug
50 - 100	5. Concrete Plug

*TOPSOIL MUST BE USED TO FILL BACKS.

Impervious trench plugs are required for all streams, river, wetland, or other water body crossings.

363-2134-008 / March 31, 2012 / Page 201



SIZE: AN ACCEPTABLE ALTERNATIVE IS TO INSTALL A SUBMERGED Baffle AT THE Baffle LOCATION.

4" x 4" PRESSURE TREATED WOOD POSTS OR EQUIVALENT METAL.

NOTE: This table is intentionally blank and should be filled in by the plan preparer.

Basin or Trap No.	Basin or Trap DIA. (IN)	Basin or Trap LENGTH (FT)	Basin or Trap WIDTH (FT)	Basin or Trap THICKNESS (IN)	Basin or Trap INLET ELEV. (FT)	Basin or Trap OUTLET ELEV. (FT)	Basin or Trap CLEAN ELEV. (FT)	Basin or Trap BOTTOM ELEV. (FT)
A	24	310.00	308.00	36	36	12	302.48	
B	24	315.00	314.00	36	36	12	309.27	
C	24	318.00	316.00	36	36	12	318.00	

See appropriate basin detail for proper location and orientation.

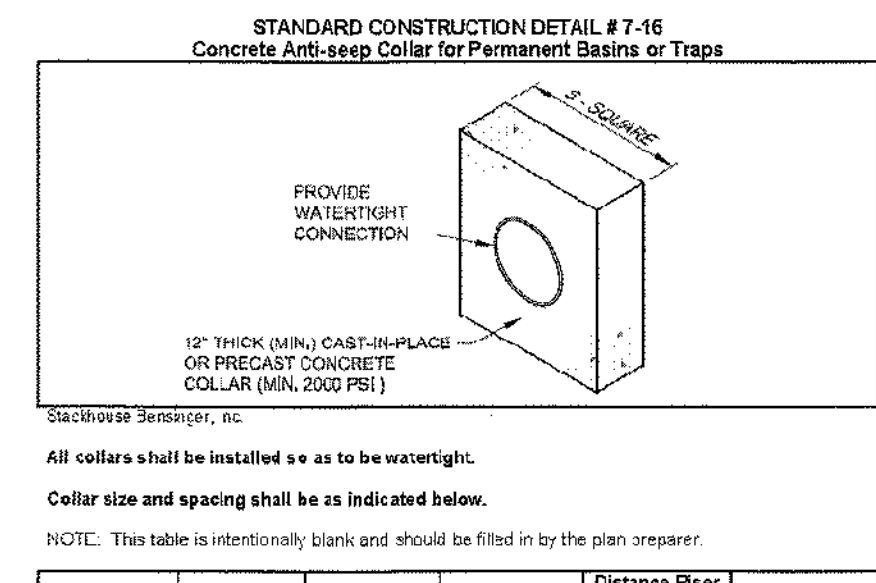
Baffles shall be tied into one side of the basin unless otherwise shown in the plan drawings.

Substitution of materials not specified in this detail shall be approved by the Department or the local conservation district before installation.

Damaged or warped baffles shall be replaced within 7 days of inspection.

Baffles requiring support posts shall not be installed in basins requiring impervious liners.

363-2134-008 / March 31, 2012 / Page 201



12" THICK (MIN.) CAST-IN-PLACE CONCRETE COLLAR (MIN. 2000 PSI)

PROVIDE WEATHERTIGHT CONNECTION

NOTE: This table is intentionally blank and should be filled in by the plan preparer.

Basin or Trap No.	Basin or Trap DIA. (IN)	Basin or Trap LENGTH (FT)	Basin or Trap WIDTH (FT)	Basin or Trap THICKNESS (IN)	Basin or Trap INLET ELEV. (FT)	Basin or Trap OUTLET ELEV. (FT)	Basin or Trap CLEAN ELEV. (FT)	Basin or Trap BOTTOM ELEV. (FT)
A	24	310.00	308.00	36	36	12	302.48	
B	24	315.00	314.00	36	36	12	309.27	
C	24	318.00	316.00	36	36	12	318.00	

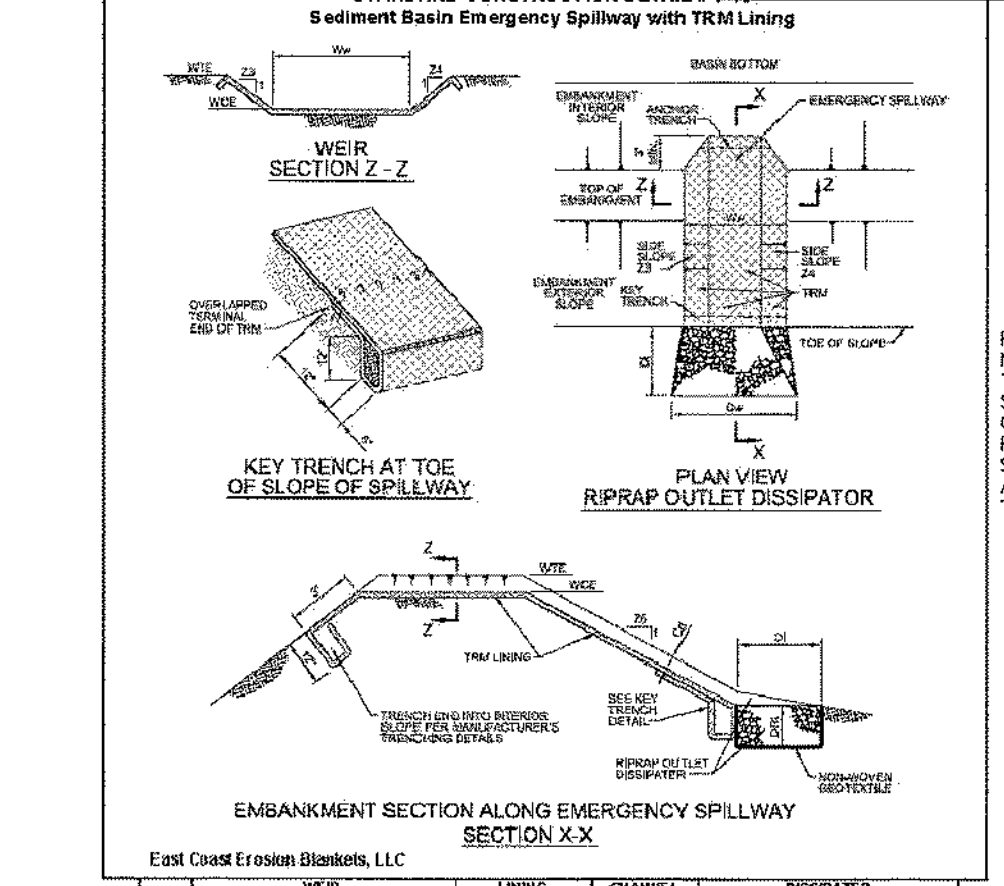
All collars shall be installed so as to be watertight.

Collar size and spacing shall be as indicated below.

NOTE: This table is intentionally blank and should be filled in by the plan preparer.

Basin or Trap No.	Basin or Trap DIA. (IN)	Basin or Trap LENGTH (FT)	Basin or Trap WIDTH (FT)	Basin or Trap THICKNESS (IN)	Basin or Trap INLET ELEV. (FT)	Basin or Trap OUTLET ELEV. (FT)	Basin or Trap CLEAN ELEV. (FT)	Basin or Trap BOTTOM ELEV. (FT)
A	24	310.00	308.00	36	36	12	302.48	
B	24	315.00	314.00	36	36	12	309.27	
C	24	318.00	316.00	36	36	12	318.00	

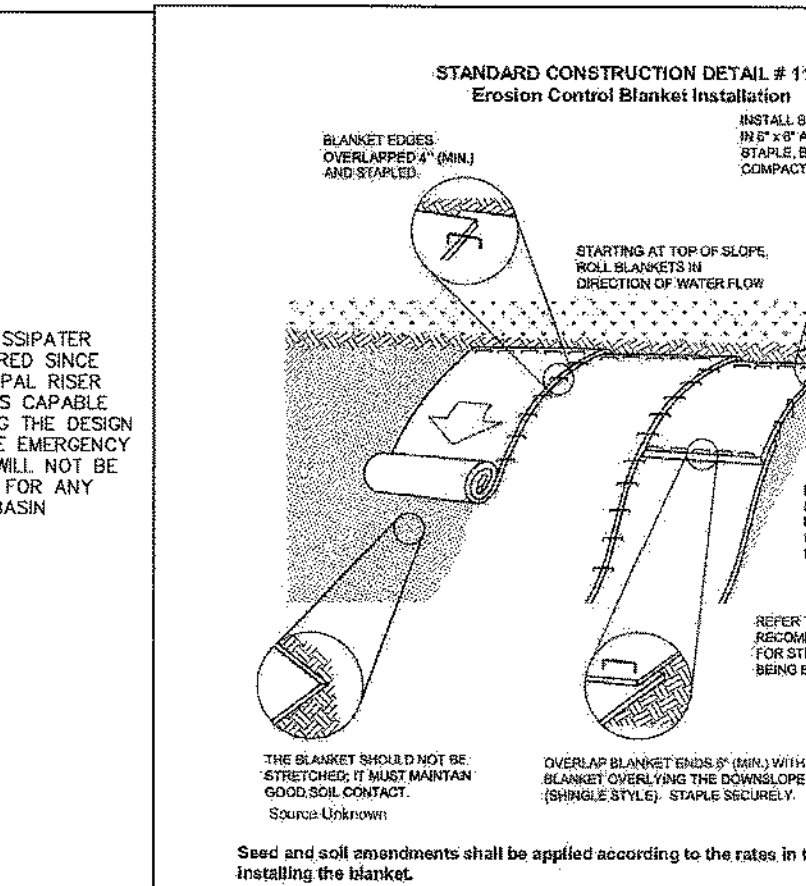
363-2134-008 / March 31, 2012 / Page 208



Basin No.	Basin DIA. (IN)	Basin LENGTH (FT)	Basin WIDTH (FT)	Basin THICKNESS (IN)	Basin INLET ELEV. (FT)	Basin OUTLET ELEV. (FT)	Basin CLEAN ELEV. (FT)	Basin BOTTOM ELEV. (FT)
A	24	310.00	308.00	36	36	12	302.48	
B	24	315.00	314.00	36	36	12	309.27	
C	24	318.00	316.00	36	36	12	318.00	

Heavy equipment shall not cross over spillway without precautions taken to protect TRM lining.

Displaced liner within the spillway and/or outlet channel shall be replaced immediately.



Blanket edges shall be secured with staples.

Blanket shall have good continuous contact with underlying soil throughout entire length. Lay blanket loosely and stake or staple to maintain direct contact with soil. Do not stretch blanket.

The blanket shall be stapled in accordance with the manufacturer's recommendations.

Blanketed areas shall be inspected weekly and after each runoff event until perennial vegetation is established to a minimum uniform 75% coverage throughout the blanketed area. Damaged or displaced blankets shall be replaced or repaired within 4 calendar days.

363-2134-008 / March 31, 2012 / Page 214

Basin or Trap No.	Basin or Trap DIA. (IN)	Basin or Trap LENGTH (FT)	Basin or Trap WIDTH (FT)	Basin or Trap THICKNESS (IN)	Basin or Trap INLET ELEV. (FT)	Basin or Trap OUTLET ELEV. (FT)	Basin or Trap CLEAN ELEV. (FT)	Basin or Trap BOTTOM ELEV. (FT)
A	24	310.00	308.00	36	36	12	302.48	
B	24	315.00	314.00	36	36	12	309.27	
C	24	318.00	316.00	36	36	12	318.00	

NOTE: This table is intentionally blank and should be filled in by the plan preparer.

Basin or Trap No.	Basin or Trap DIA. (IN)	Basin or Trap LENGTH (FT)	Basin or Trap WIDTH (FT)	Basin or Trap THICKNESS (IN)	Basin or Trap INLET ELEV. (FT)	Basin or Trap OUTLET ELEV. (FT)	Basin or Trap CLEAN ELEV. (FT)	Basin or Trap BOTTOM ELEV. (FT)
A	24	310.00	308.00	36	36	12	302.48	
B	24	315.00	314.00	36	36	12	309.27	
C	24	318.00	316.00	36	36	12	318.00	

NOTE: This table is intentionally blank and should be filled in by the plan preparer.

Basin or Trap No.	Basin or Trap DIA. (IN)	Basin or Trap LENGTH (FT)	Basin or Trap WIDTH (FT)	Basin or Trap THICKNESS (IN)	Basin or Trap INLET ELEV. (FT)	Basin or Trap OUTLET ELEV. (FT)	Basin or Trap CLEAN ELEV. (FT)	Basin or Trap BOTTOM ELEV. (FT)
A	24	310.00	308.00	36	36	12	302.48	
B	24	315.00	314.00	36	36	12	309.27	
C	24	318.00	316.00	36	36	12	318.00	

NOTE: This table is intentionally blank and should be filled in by the plan preparer.

Basin or Trap No.	Basin or Trap DIA. (IN)	Basin or Trap LENGTH (FT)	Basin or Trap WIDTH (FT)	Basin or Trap THICKNESS (IN)	Basin or Trap INLET ELEV. (FT)	Basin or Trap OUTLET ELEV. (FT)	Basin or Trap CLEAN ELEV. (FT)	Basin or Trap BOTTOM ELEV. (FT)
A	24	310.00	308.00	36	36	12	302.48	
B	24	315.00	314.00	36	36	12	309.27	
C	24	318.00	316.00	36	36	12	318.00	

NOTE: This table is intentionally blank and should be filled in by the plan preparer.

Basin or Trap No.	Basin or Trap DIA. (IN)	Basin or Trap LENGTH (FT)	Basin or Trap WIDTH (FT)	Basin or Trap THICKNESS (IN)	Basin or Trap INLET ELEV. (FT)	Basin or Trap OUTLET ELEV. (FT)	Basin or Trap CLEAN ELEV. (FT)	Basin or Trap BOTTOM ELEV. (FT)
A	24	310.00	308.00	36	36	12	302.48	
B	24	315.00	314.00	36	36	12	309.27	
C	24	318.00	316.00	36	36	12	318.00	

NOTE: This table is intentionally blank and should be filled in by the plan preparer.

Basin or Trap No.	Basin or Trap DIA. (IN)	Basin or Trap LENGTH (FT)	Basin or Trap WIDTH (FT)	Basin or Trap THICKNESS (IN)	Basin or Trap INLET ELEV. (FT)	Basin or Trap OUTLET ELEV. (FT)	Basin or Trap CLEAN ELEV. (FT)	Basin or Trap BOTTOM ELEV. (FT)
A	24	310.00	308.00	36	36	12	302.48	
B	24	315.00	314.00	36	36	12	309.27	
C	24	318.00	316.00	36	36	12	318.00	

NOTE: This table is intentionally blank and should be filled in by the plan preparer.

Basin or Trap No.	Basin or Trap DIA. (IN)	Basin or Trap LENGTH (FT)	Basin or Trap WIDTH (FT)	Basin or Trap THICKNESS (IN)	Basin or Trap INLET ELEV. (FT)	Basin or Trap OUTLET ELEV. (FT)	Basin or Trap CLEAN ELEV. (FT)	Basin or Trap BOTTOM ELEV. (FT)
A	24	310.00	308.00	36	36	12	302.48	
B	24	315.00	314.00	36	36	12	309.27	
C	24	318.00	316.00	36	36	12	318.00	

NOTE: This table is intentionally blank and should be filled in by the plan preparer.

Basin or Trap No.	Basin or Trap DIA. (IN)	Basin or Trap LENGTH (FT)	Basin or Trap WIDTH (FT)	Basin or Trap THICKNESS (IN)	Basin or Trap INLET ELEV. (FT)	Basin or Trap OUTLET ELEV. (FT)	Basin or Trap CLEAN ELEV. (FT)	Basin or Trap BOTTOM ELEV. (FT)
A	24	310.00	308.00	36	36	12	302.48	
B	24	315.00	314.00	36	36	12	309.27	
C	24	318.00	316.00	36	36	12	318.00	

NOTE: This table is intentionally blank and should be filled in by the plan preparer.

Basin or Trap No.	Basin or Trap DIA. (IN)	Basin or Trap LENGTH (FT)	Basin or Trap WIDTH (FT)	Basin or Trap THICKNESS (IN)	Basin or Trap INLET ELEV. (FT)	Basin or Trap OUTLET ELEV. (FT)	Basin or Trap CLEAN ELEV. (FT)	Basin or Trap BOTTOM ELEV. (FT)
A	24	310.00	308.00	36	36	12	302.48	
B	24	315.00	314.00	36	36	12	309.27	
C	24	318.00	316.00	36	36	12	318.00	

NOTE: This table is intentionally blank and should be filled in by the plan preparer.

Basin or Trap No.	Basin or Trap DIA. (IN)	Basin or Trap LENGTH (FT)	Basin or Trap WIDTH (FT)	Basin or Trap THICKNESS (IN)	Basin or Trap INLET ELEV. (FT)	Basin or Trap OUTLET ELEV. (FT)	Basin or Trap CLEAN ELEV. (FT)	Basin or Trap BOTTOM ELEV. (FT)
A	24	310.00	308.00	36	36	12	302.48	
B	24	315.00	314.00	36	36	12	309.27	
C	24	318.00	316.00	36	36	12	318.00	

NOTE: This table is intentionally blank and should be filled in by the plan preparer.

Basin or Trap No.	Basin or Trap DIA. (IN)	Basin or Trap LENGTH (FT)	Basin or Trap WIDTH (FT)	Basin or Trap THICKNESS (IN)	Basin or Trap INLET ELEV. (FT)	Basin or Trap OUTLET ELEV. (FT)	Basin or Trap CLEAN ELEV. (FT)	Basin or Trap BOTTOM ELEV. (FT)
A	24	310.00	308.00	36	36	12	302.48	
B	24	315.00	314.00	36	36	12	309.27	
C	24	318.00	316.00	36	36	12	318.00	

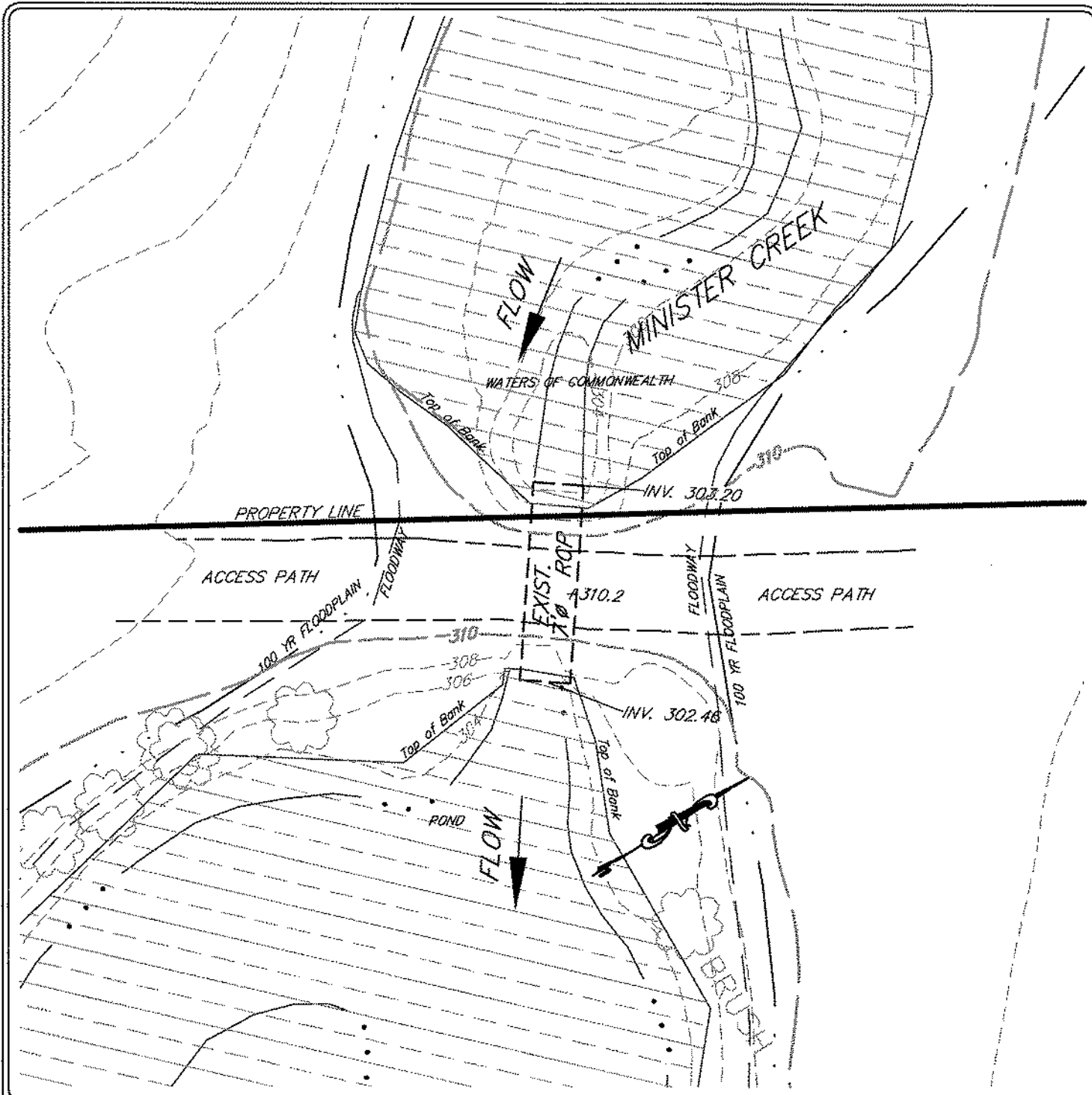
NOTE: This table is intentionally blank and should be filled in by the plan preparer.

Basin or Trap No.	Basin or Trap DIA. (IN)	Basin or Trap LENGTH (FT)	Basin or Trap WIDTH (FT)	Basin or Trap THICKNESS (IN)	Basin or Trap INLET ELEV. (FT)	Basin or Trap OUTLET ELEV. (FT)	Basin or Trap CLEAN ELEV. (FT)	Basin or Trap BOTTOM ELEV. (FT)
A	24	310.00	308.00	36	36	12	302.48	
B	24	315.00	314.00	36	36	12	309.27	
C	24	318.00	316.00	36	36	12	318.00	

NOTE: This table is intentionally blank and should be filled in by the plan preparer.

Sediment basins, including all appurtenant works, shall be constructed to the detail and dimensions shown on the E&S plan drawings.

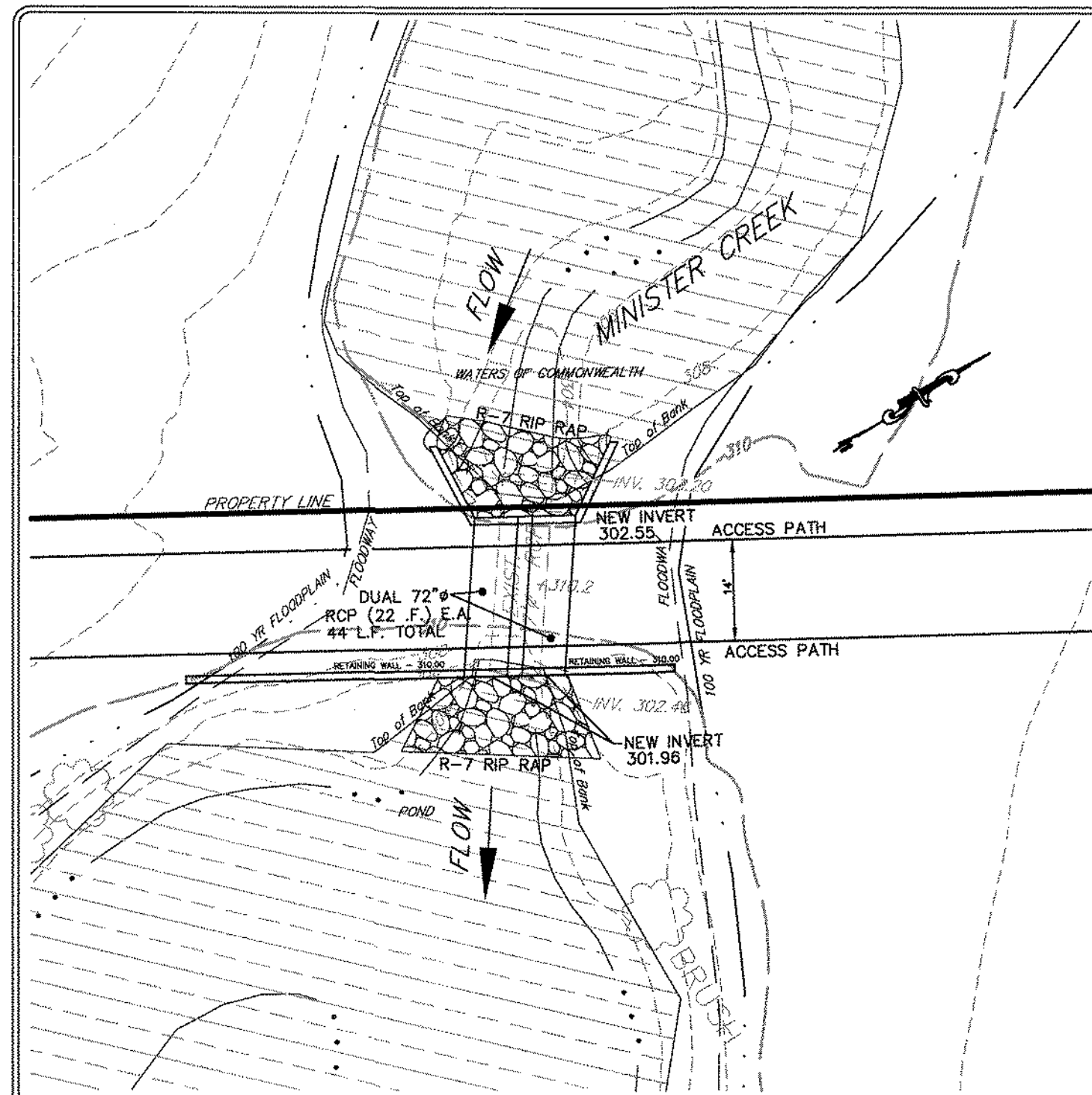
Area under embankment shall be cleared, grubbed, and stripped of topsoil to a depth of two feet prior to any placement and compaction of earthen fill. Fill material for the embankments shall be free of roots, or other woody vegetation, organic material, large stones, and other objectionable materials. The embankment shall be compacted in layered lifts of not more than 6" to 8". The maximum rock size shall be no greater than 2/3 the lift thickness. Upon completion, the emb



GENERAL PERMIT - PLAN VIEW
EXISTING CONDITIONS
Prepared for
DANNY JAKE CORP.
As part of
ZERN TRACT
DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

**LENAPE VALLEY
ENGINEERING**
Civil Engineering • Subdivision • Land Development
P.O. Box 74, Chalfont, Pennsylvania 18914 • Tel (215) 622-1414
Fax (267) 308-0524 • www.LenapeValleyEngineering.com

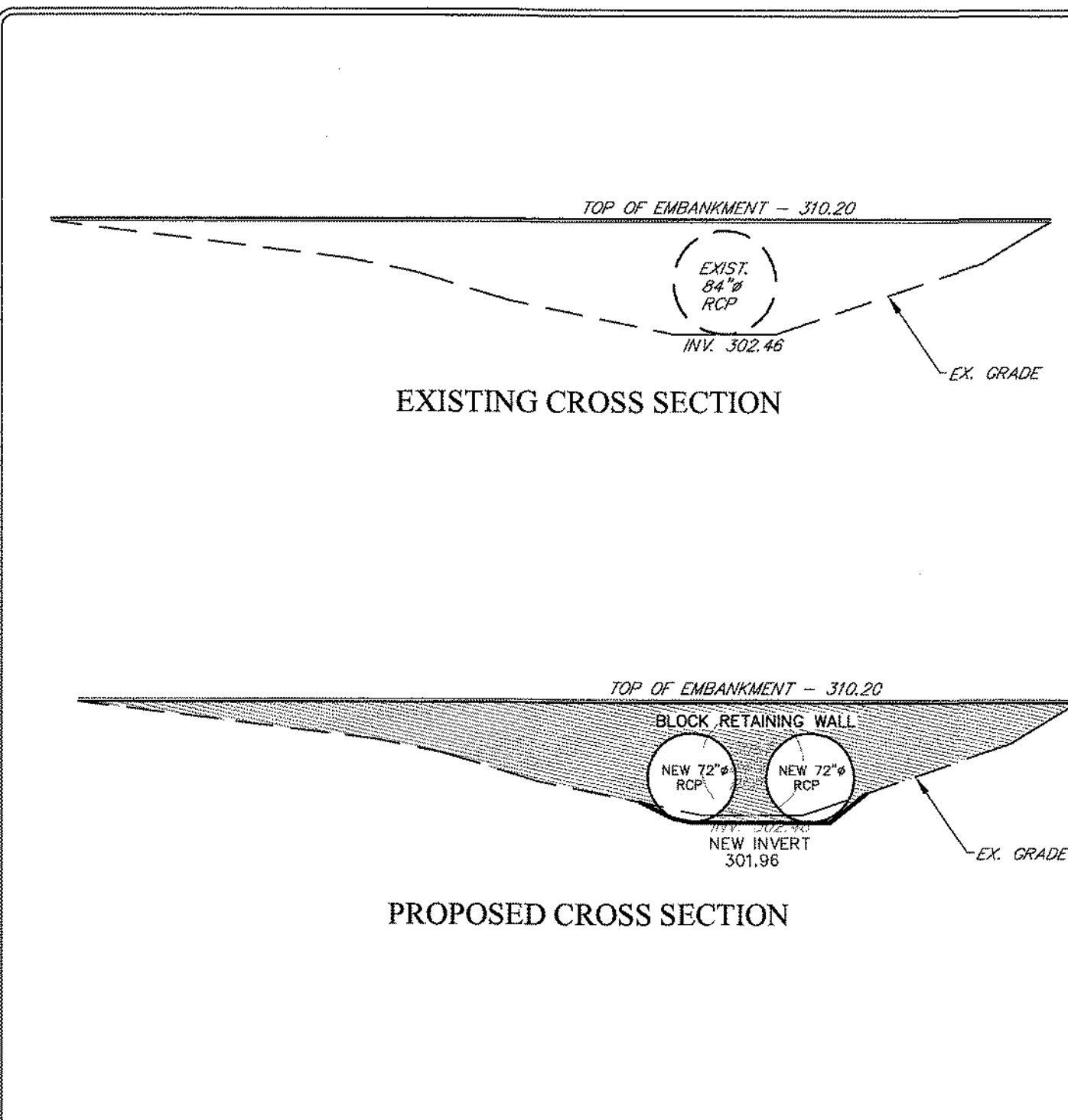
PROJECT MANAGER	DRAWING SCALE	SHEET NUMBER
J.T.S.	1"=20'	1 of 5
DRAFTED BY	PROJECT NUMBER	
B.C.S.	2124	



GENERAL PERMIT - PLAN VIEW
PROPOSED CONDITIONS
Prepared for
DANNY JAKE CORP.
As part of
ZERN TRACT
DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

**LENAPE VALLEY
ENGINEERING**
Civil Engineering • Subdivision • Land Development
P.O. Box 74, Chalfont, Pennsylvania 18914 • Tel (215) 622-1414
Fax (267) 308-0524 • www.LenapeValleyEngineering.com

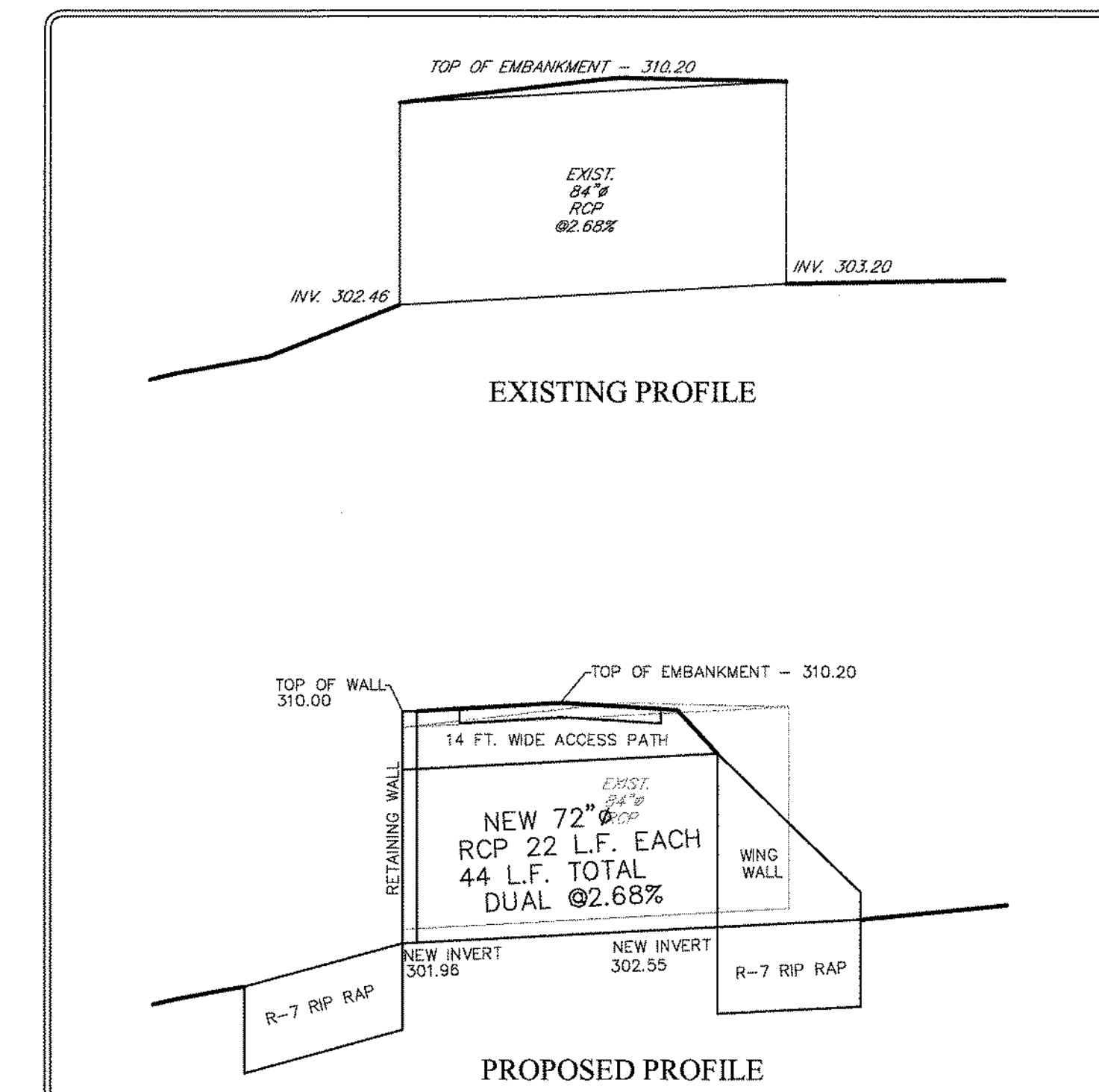
PROJECT MANAGER	DRAWING SCALE	SHEET NUMBER
J.T.S.	1"=20'	2 of 5
DRAFTED BY	PROJECT NUMBER	
B.C.S.	2124	



GENERAL PERMIT PLAN
CROSS SECTION
Prepared for
DANNY JAKE CORP.
As part of
ZERN TRACT
DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

**LENAPE VALLEY
ENGINEERING**
Civil Engineering • Subdivision • Land Development
P.O. Box 74, Chalfont, Pennsylvania 18914 • Tel (215) 622-1414
Fax (267) 308-0524 • www.LenapeValleyEngineering.com

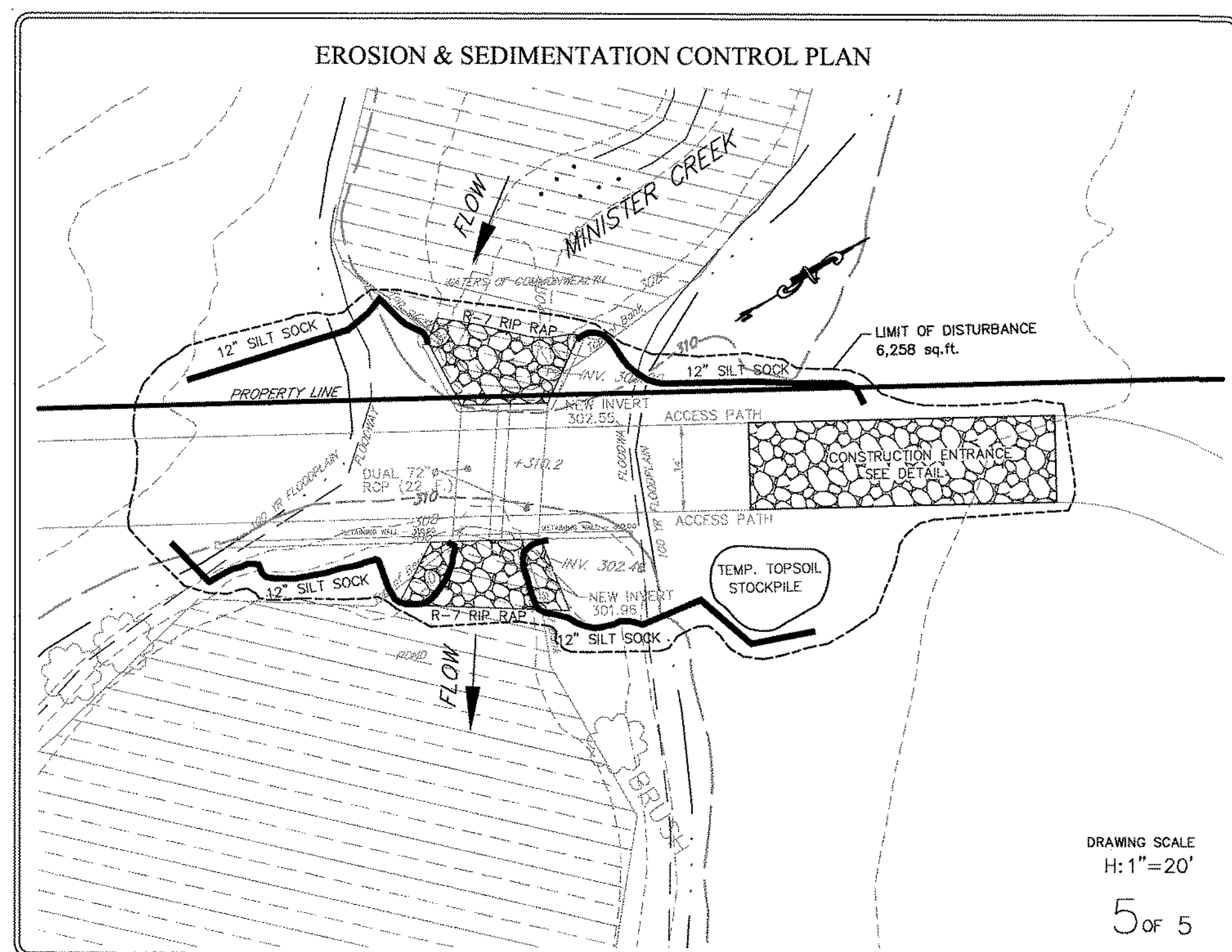
PROJECT MANAGER	DRAWING SCALE	SHEET NUMBER
J.T.S.	1"=10'	3 of 5
DRAFTED BY	PROJECT NUMBER	
B.C.S.	2124	



GENERAL PERMIT PLAN
PROFILE
Prepared for
DANNY JAKE CORP.
As part of
ZERN TRACT
DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

**LENAPE VALLEY
ENGINEERING**
Civil Engineering • Subdivision • Land Development
P.O. Box 74, Chalfont, Pennsylvania 18914 • Tel (215) 622-1414
Fax (267) 308-0524 • www.LenapeValleyEngineering.com

PROJECT MANAGER	DRAWING SCALE	SHEET NUMBER
J.T.S.	NTS	4 of 5
DRAFTED BY	PROJECT NUMBER	
B.C.S.	2124	

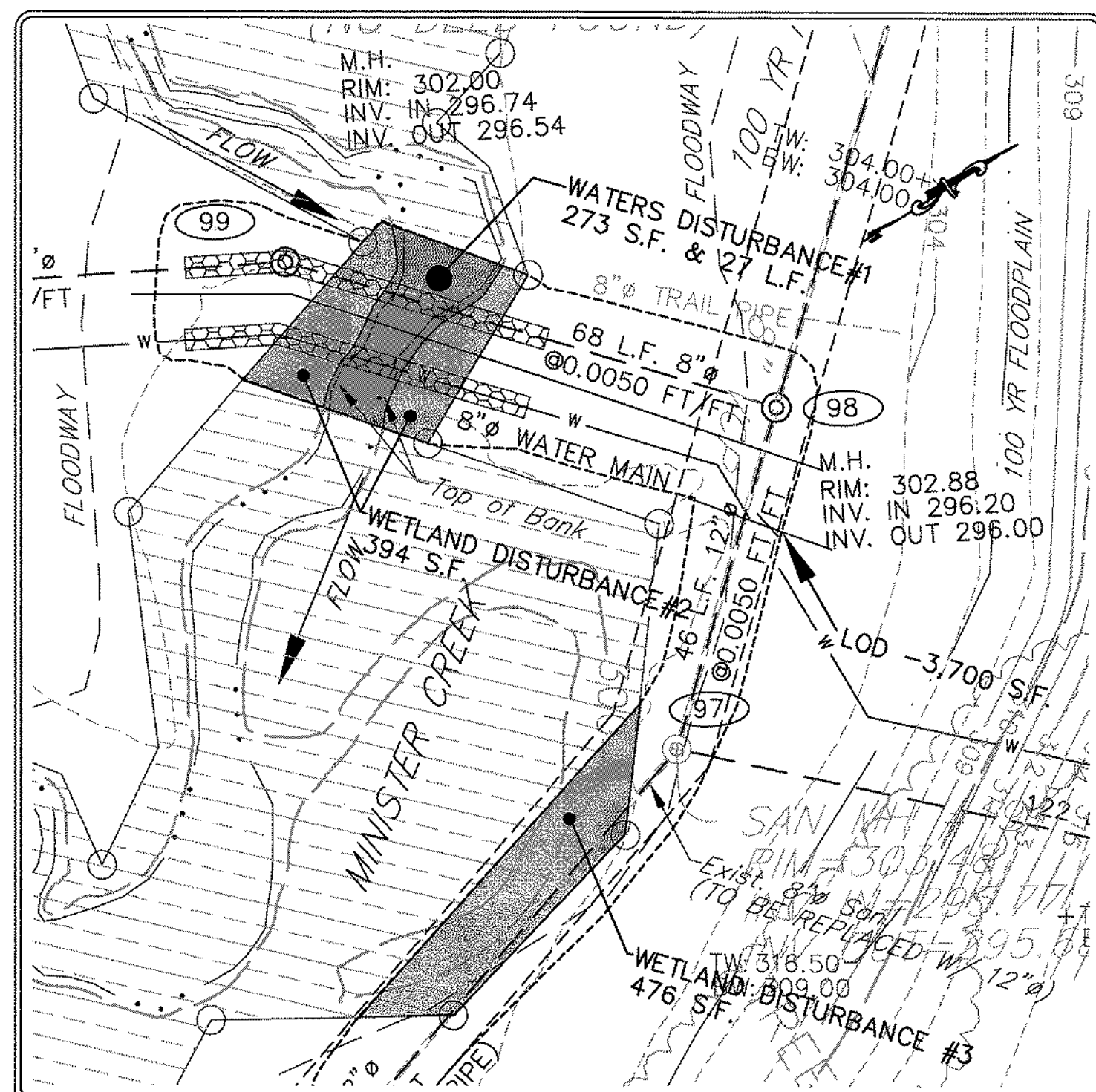


DRAWING SCALE
H: 1"=20'
5 of 5

CULVERT REPLACEMENT PLAN		Prepared for	
		DANNY JAKE CORP.	
		As part of	
		ZERN TRACT	
		DOUGLASS TOWNSHIP	
		MONTGOMERY COUNTY	
		PENNSYLVANIA	
		JASON T. SMELAND	
		PROFESSIONAL ENGINEER	
		PA NO. 059306	
		GRAPHIC SCALE	
		PROJECT MANAGER	
		J.T.S.	
		DRAFTED BY	
		B.C.S.	
		DRAWING SCALE	
		NTS	
		PROJECT NUMBER	
		2028	
		SHEET NUMBER	
		26 of 64	

**LENAPE VALLEY
ENGINEERING**
Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 • Fax (267) 308-0524
www.LenapeValleyEngineering.com



GENERAL PERMIT - PLAN VIEW
Prepared for
DANNY JAKE CORP.
As part of
ZERN TRACT
DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

**LENAPE VALLEY
ENGINEERING**

Civil Engineering • Subdivision • Land Development
P.O. Box 74, Chalfont, Pennsylvania 18914 • Tel (215) 622-1414
Fax (267) 308-0534 • www.LenapeValleyEngineering.com

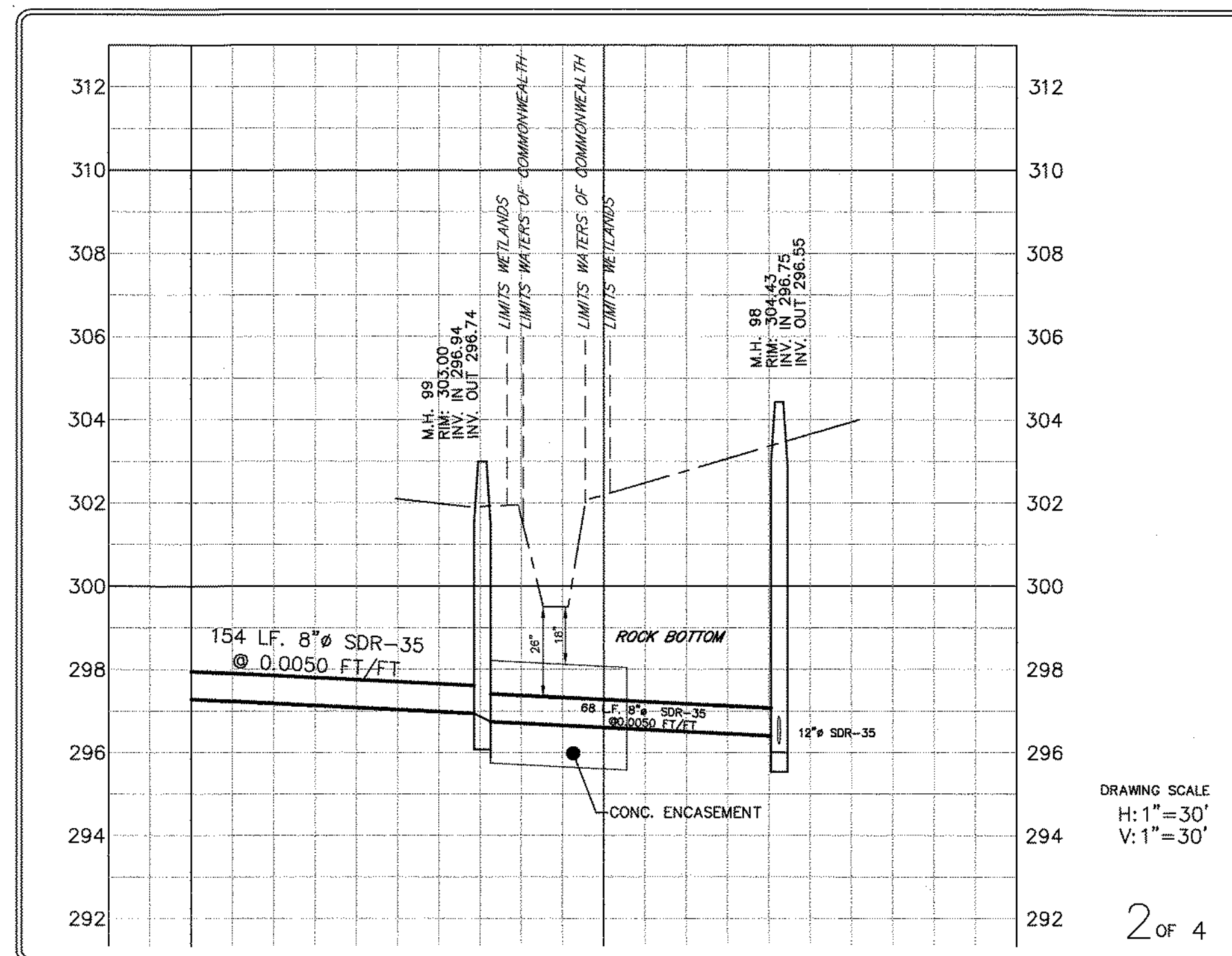
PROJECT MANAGER
J.T.S.

DRAWING SCALE
1"=20'

SHEET NUMBER
1 OF 4

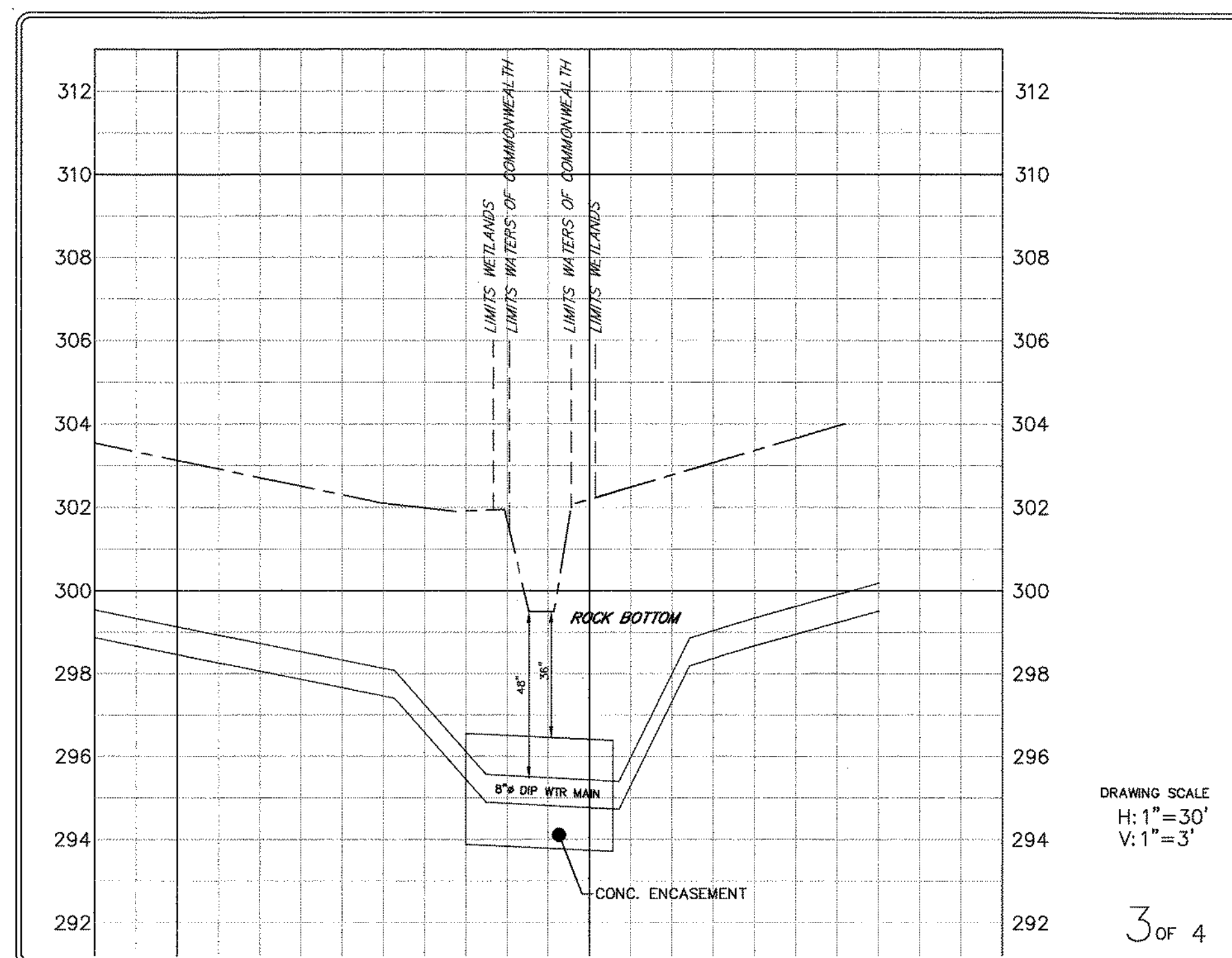
DRAFTED BY
B.C.S.

PROJECT NUMBER
2124



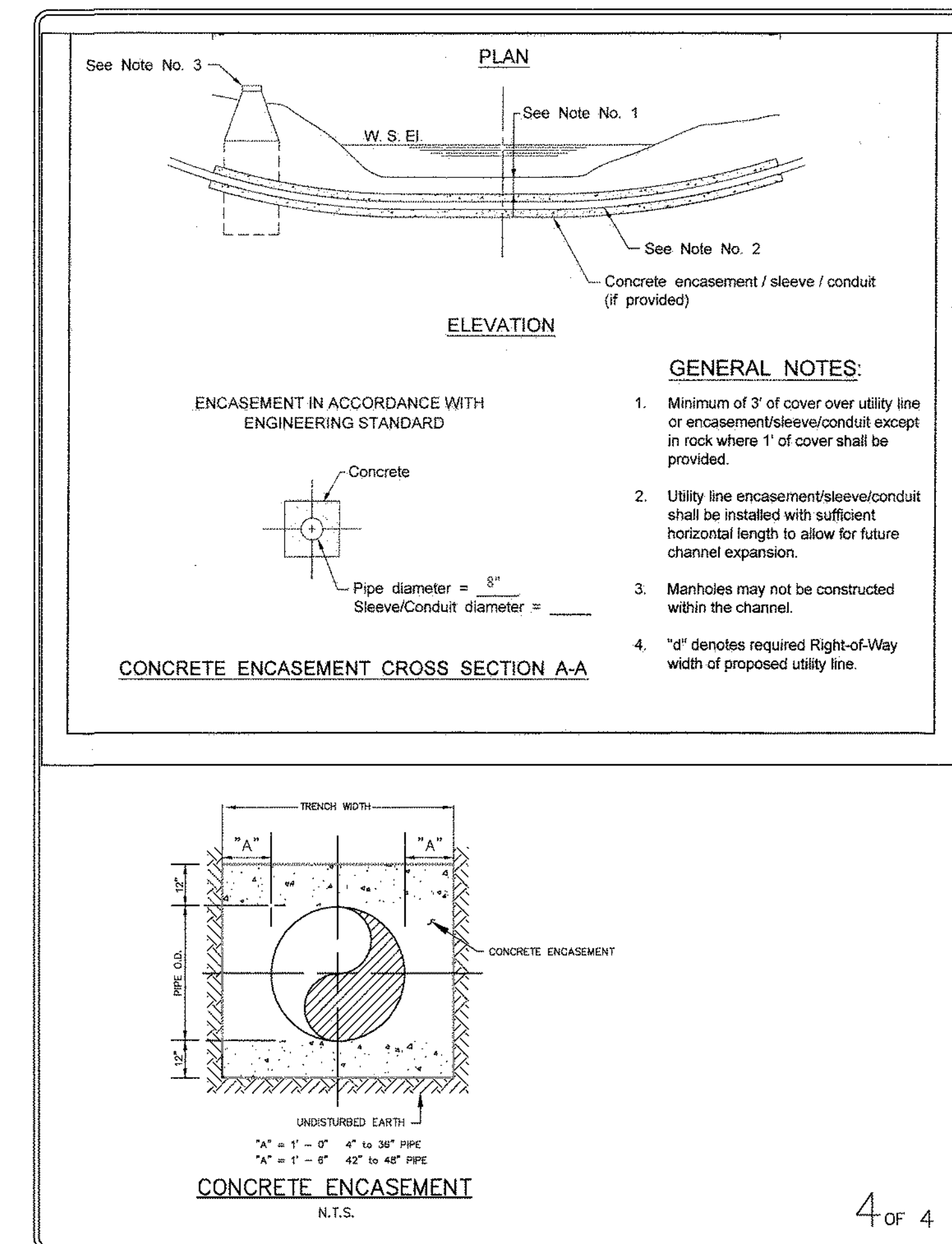
DRAWING SCALE
H: 1"=30'
V: 1"=30'

2 OF 4



DRAWING SCALE
H: 1"=30'
V: 1"=3'

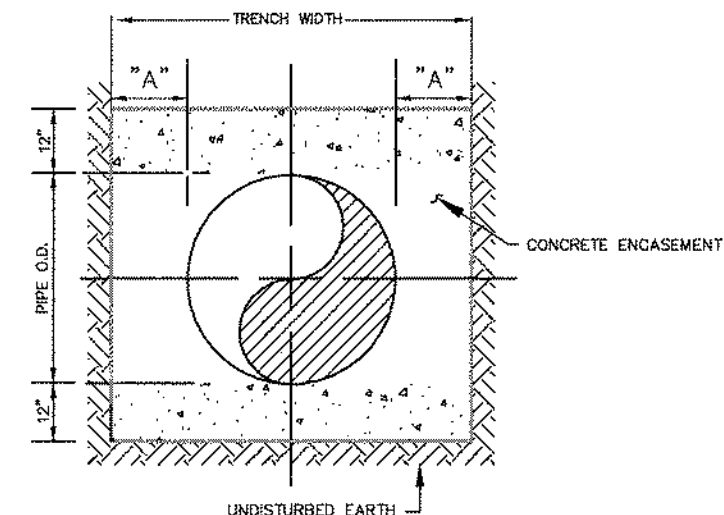
3 OF 4



ENCASUREMENT IN ACCORDANCE WITH
ENGINEERING STANDARD

Concrete
Pipe diameter = 8"
Sleeve/Conduit diameter =

CONCRETE ENCASUREMENT CROSS SECTION A-A



CONCRETE ENCASUREMENT
N.T.S.

4 OF 4

REVISION	DESCRIPTION	DATE
7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

**LENAPE VALLEY
ENGINEERING**

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0534
www.LenapeValleyEngineering.com

STREAM CROSSING PLAN

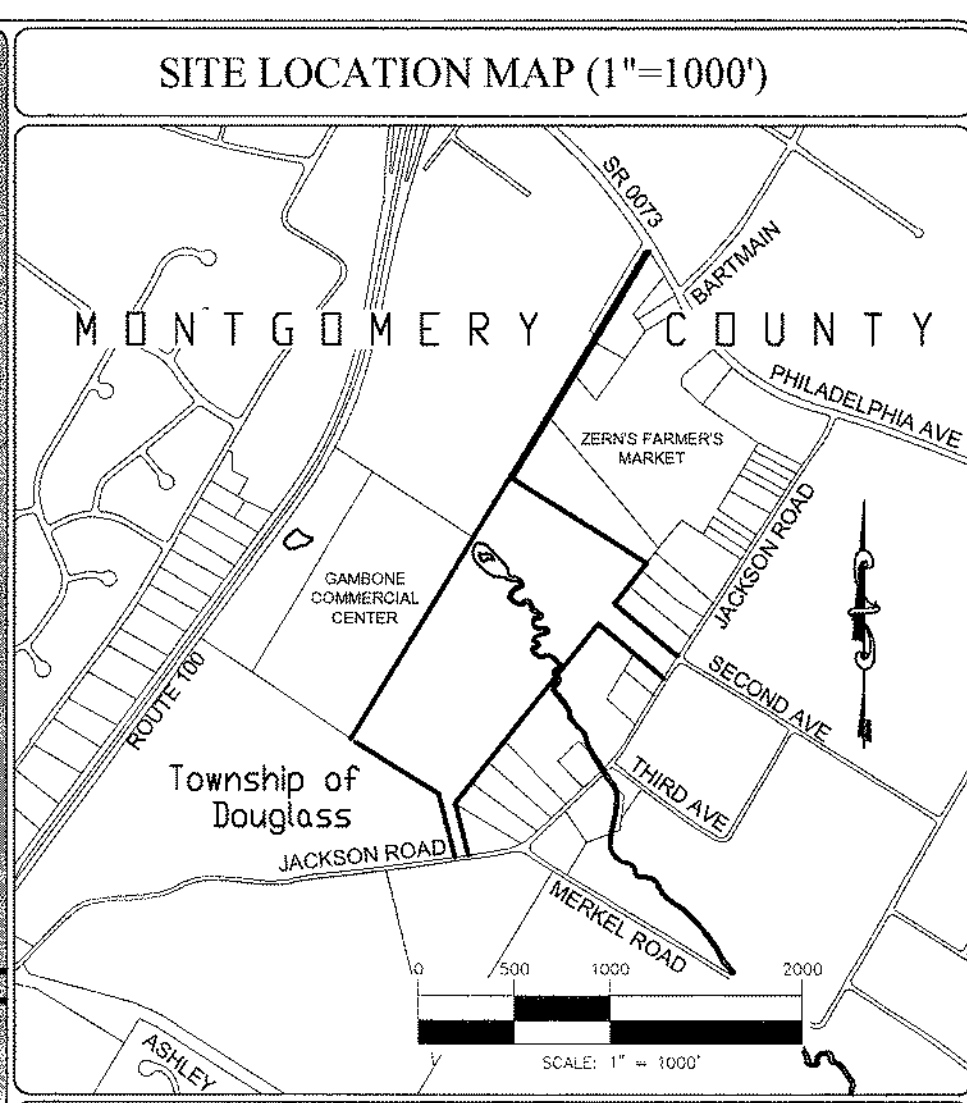
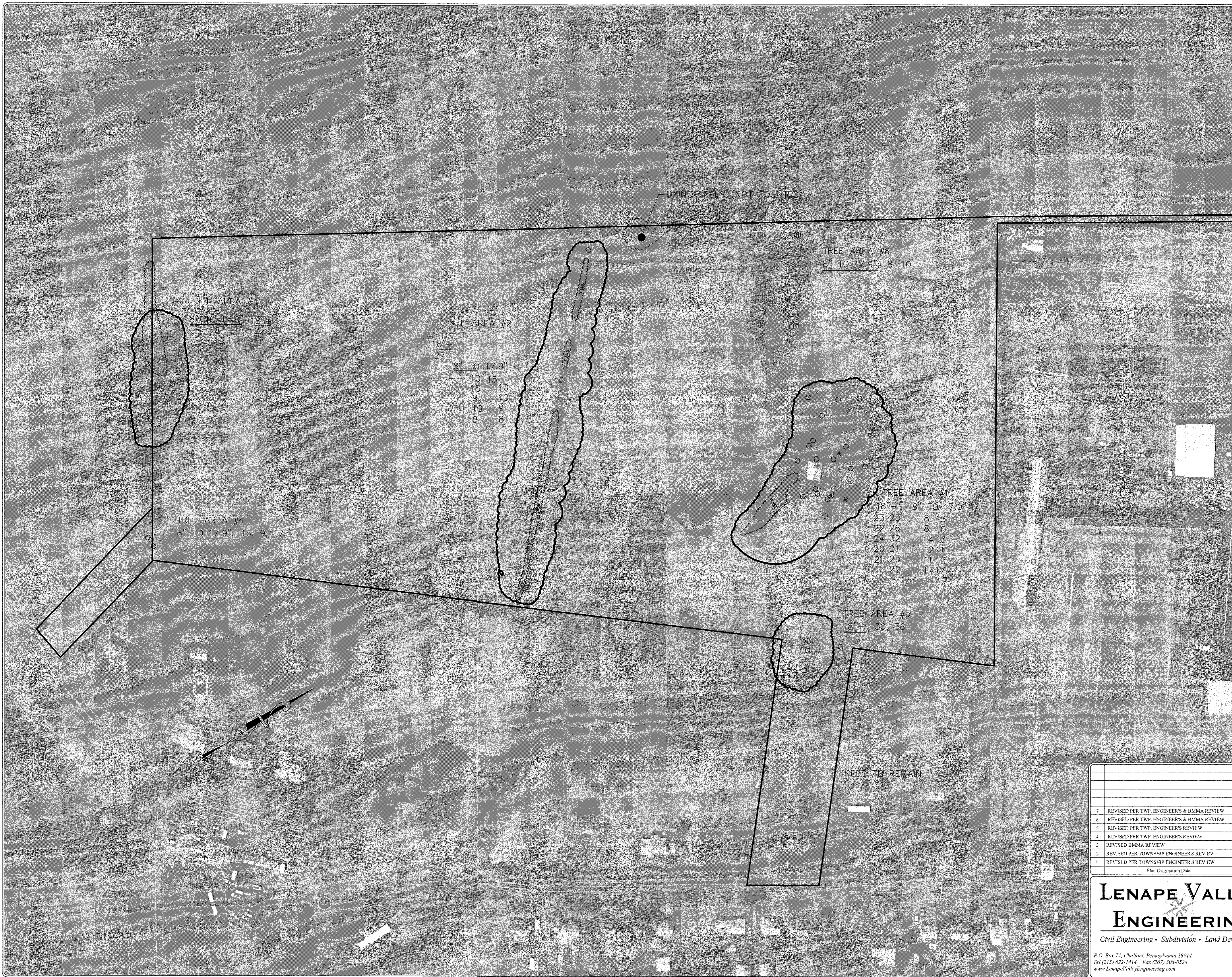
Prepared for
DANNY JAKE CORP.
As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306



PROJECT MANAGER	DRAWING SCALE	SHEET NUMBER
J.T.S.	NTS	27 OF 64
DRAFTED BY	PROJECT NUMBER	
B.C.S.	2028	



TREE REPLACEMENT CALCULATION	
TREE REPLACEMENT CALCULATIONS (8" TO 18"):	
TREE AREA #1	TREES 8" TO 18" = 13 TREES TO BE REMOVED
TREE AREA #2	TREES 8" TO 18" = 10 TREES TO BE REMOVED
TREE AREA #3	TREES 8" TO 18" = 5 TREES TO BE REMOVED
TREE AREA #4	TREES 8" TO 18" = 3 TREES TO BE REMOVED
TREE AREA #5	TREES 8" TO 18" = 0 TREES TO BE REMOVED
TREE AREA #6	TREES 8" TO 18" = 2 TREES TO BE REMOVED
REPLACEMENT REQUIREMENT: EACH TREE OF 8 TO 18 INCHES DBH SHALL BE REPLACED WITH ONE TREE NOT LESS THAN 2.5 CALIPER INCHES.	
TOTAL NUMBER OF 8" TO 18" TREES TO BE REPLACED = 33	
TREE REPLACEMENT CALCULATIONS (18"+):	
TREE AREA #1	TOTAL CALIPER INCHES OF TREES TO BE REMOVED = 257 IN.
TREE AREA #2	TOTAL CALIPER INCHES OF TREES TO BE REMOVED = 27 IN.
TREE AREA #3	TOTAL CALIPER INCHES OF TREES TO BE REMOVED = 22 IN.
TREE AREA #4	TOTAL CALIPER INCHES OF TREES TO BE REMOVED = 0 IN.
TREE AREA #5	TOTAL CALIPER INCHES OF TREES TO BE REMOVED = 66 IN.
TREE AREA #6	TOTAL CALIPER INCHES OF TREES TO BE REMOVED = 0 IN.
REPLACEMENT REQUIREMENT: EACH TREE OF GREATER THAN 18 INCHES DBH SHALL BE REPLACED WITH EQUAL CALIPER INCHES OF REPLACEMENT TREES.	
TOTAL NUMBER OF CALIPER INCHES TO BE REPLACED = 372 INCHES = 149 TREES OF 2.5 INCH CALIPER	
TOTAL REQUIRED REPLACEMENT TREES = 33 + 149 = 182 TREES	

7	REVISED PER TWP. ENGINEERS & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEERS & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEERS REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEERS REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEERS REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEERS REVIEW	05-31-2016
Plan Origination Date		01-08-2014

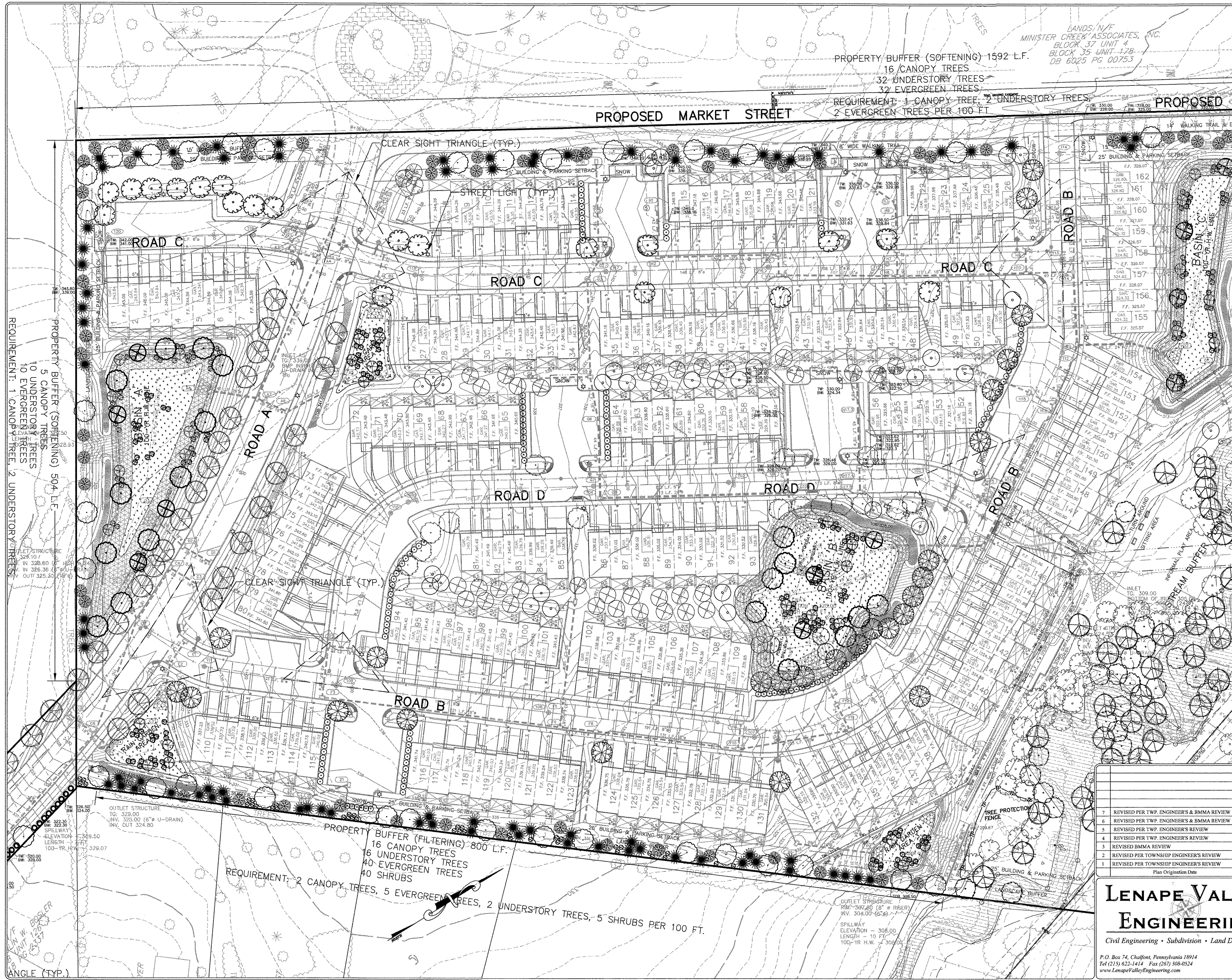
LENAPE VALLEY
ENGINEERING
Civil Engineering • Subdivision • Land Development
P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

TREE ASSESSMENT PLAN
Proposed for
DANNY JAKE CORP.
As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

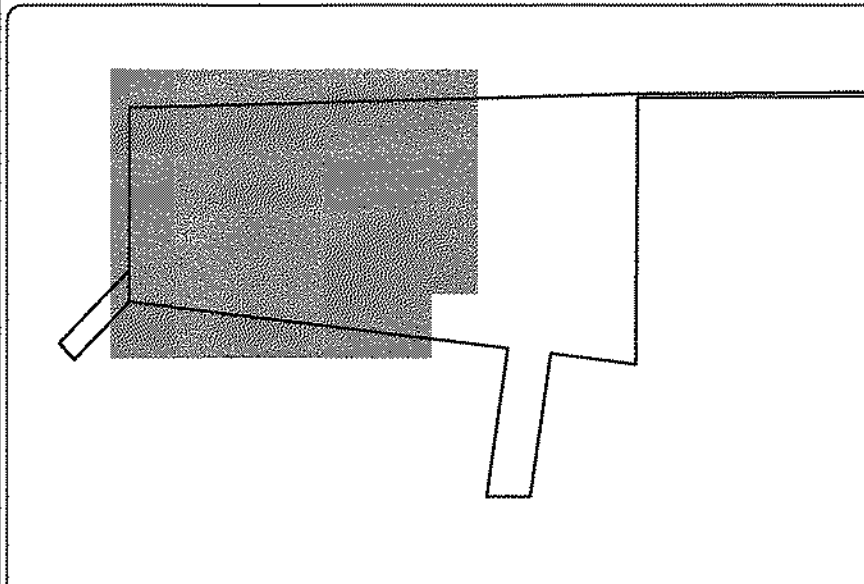
PROJECT MANAGER J.T.S.	DRAWING SCALE 1"=80'	SHEET NUMBER 28 of 64
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	



PLANTING SCHEDULE

(STREET TREES) SYCAMORE (QUERCUS COCCINEA) QTY - 25 SIZE - 2.5" CAL.	(LOT TREE) THORNLESS HONEY LOCUST (LIRIODENDRON) QTY - 25 SIZE - 2.5" CAL.
(STREET TREES) RED MAPLE (ACER RUBRA) QTY - 44 SIZE - 2.5" CAL.	(LOT TREE) RIVER BIRCH (BETULA NIGRA) QTY - 25 SIZE - 8 TO 8 FT.
(STREET TREES) AMERICAN LINDEN (TILIA AMERICANA) QTY - 25 SIZE - 2.5" CAL.	(LOT TREE) RED MAPLE (ACER RUBRA) QTY - 25 SIZE - 2.5" CAL.
(STREET TREES) SCARLET OAK (QUERCUS COCCINEA) QTY - 83 SIZE - 2.5" CAL.	(LOT TREE) RED MAPLE (ACER RUBRA) QTY - 25 SIZE - 2.5" CAL.
(BUFFER TREES) FLOWERING DOGWOOD (DOGWOOD FLORIDA) QTY - 105 SIZE - 8 TO 8 FT.	(LOT TREE) SWEETBAY MAGNOLIA (MAGNOLIA VIRGINIANA) QTY - 47 SIZE - 8 TO 8 FT.
(BUFFER TREES) WHITE PINE (PINUS STROBILATUS) QTY - 19 SIZE - 8 FT.	(LOT TREE) RIVER BIRCH (BETULA NIGRA) QTY - 25 SIZE - 8 TO 8 FT.
(BUFFER TREES) SUGAR MAPLE (ACER SACCHARUM) QTY - 80 SIZE - 2.5" CAL.	(LOT TREE) WINTERBERRY (LIGUSTRUM VIRENS) QTY - 302 SIZE - 2.5" CAL.
(BUFFER SHRUBS) INKBERRY HOLLY (LIGUSTRUM VIRENS) QTY - 247 SIZE - 2.5" CAL.	(PARKING LOT SHRUBS) BAYBERRY (DIPLOMELIS) QTY - 172 SIZE - 2.5" CAL.
(STREAM BUFFER) RED MAPLE (ACER RUBRA) QTY - 28 SIZE - 2.5" CAL.	(STREAM BUFFER) SCARLET OAK (QUERCUS COCCINEA) QTY - 37 SIZE - 2.5" CAL.
(STREAM BUFFER) SYCAMORE (QUERCUS COCCINEA) QTY - 42 SIZE - 2.5" CAL.	(STREAM BUFFER) FLOWERING EVERGREEN SHURB (RHOENYSSA) QTY - 24 SIZE - 2.5" CAL.
ERNMX-127 SEED MIXTURE	ERNMX-183 SEED MIXTURE

KEY MAP (1"=600')



ERNMX-127 SEED MIXTURE

PERCENTAGE OF MIXTURE	BOTANICAL NAME	COMMON NAME
20	AGROSTIS STOLONIFERA	CREeping BENTGRASS
25	ALOPECURUS ARUNDINACEUS	GARRISON CREEPING FOXTAIL
25	ELYMUS VIRGINICUS	VIRGINIA WILD RYE
5	FESTUCA RUBRA	CREeping RED FESCUE
5	BIDENS CERNUA	NODDING BUR-MARIGOLD
4	SPARGANIUM EURYCARPUM	GRANT BUR-REED
4	SCORPUS ATRUVIRENS	GREEN BULRUSH
4	SCORPUS POLYPHYLLUS	MAN-LEAVED BULRUSH
3	VERBENA HASTATA	BLUE VERVAIN
3	SCORPUS CYPERINUS	WOOLGRASS
1	MIMULUS RINGENS	MONKEY-FLOWER
1	SOLIDAGO PATULA	ROUGH-LEAF GOLDENROD

ERNMX-183 SEED MIXTURE

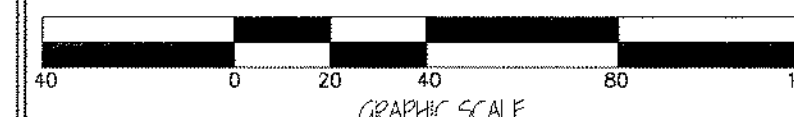
PERCENTAGE OF MIXTURE	BOTANICAL NAME	COMMON NAME
25	ELYMUS VIRGINICUS	VIRGINIA WILD RYE
25	PANICUM CLANDESTINUM	DEER TONGUE
20	CAREX VULPINODEA	FOX SEDGE
15	AGROSTIS PERENNANS	AUTUMN BENTGRASS
15	AGROSTIS SCABRA	TICKLEGRASS

LANDSCAPING PLAN

Prepared for
DANNY JAKE CORP.
As part of
ZERN TRACT

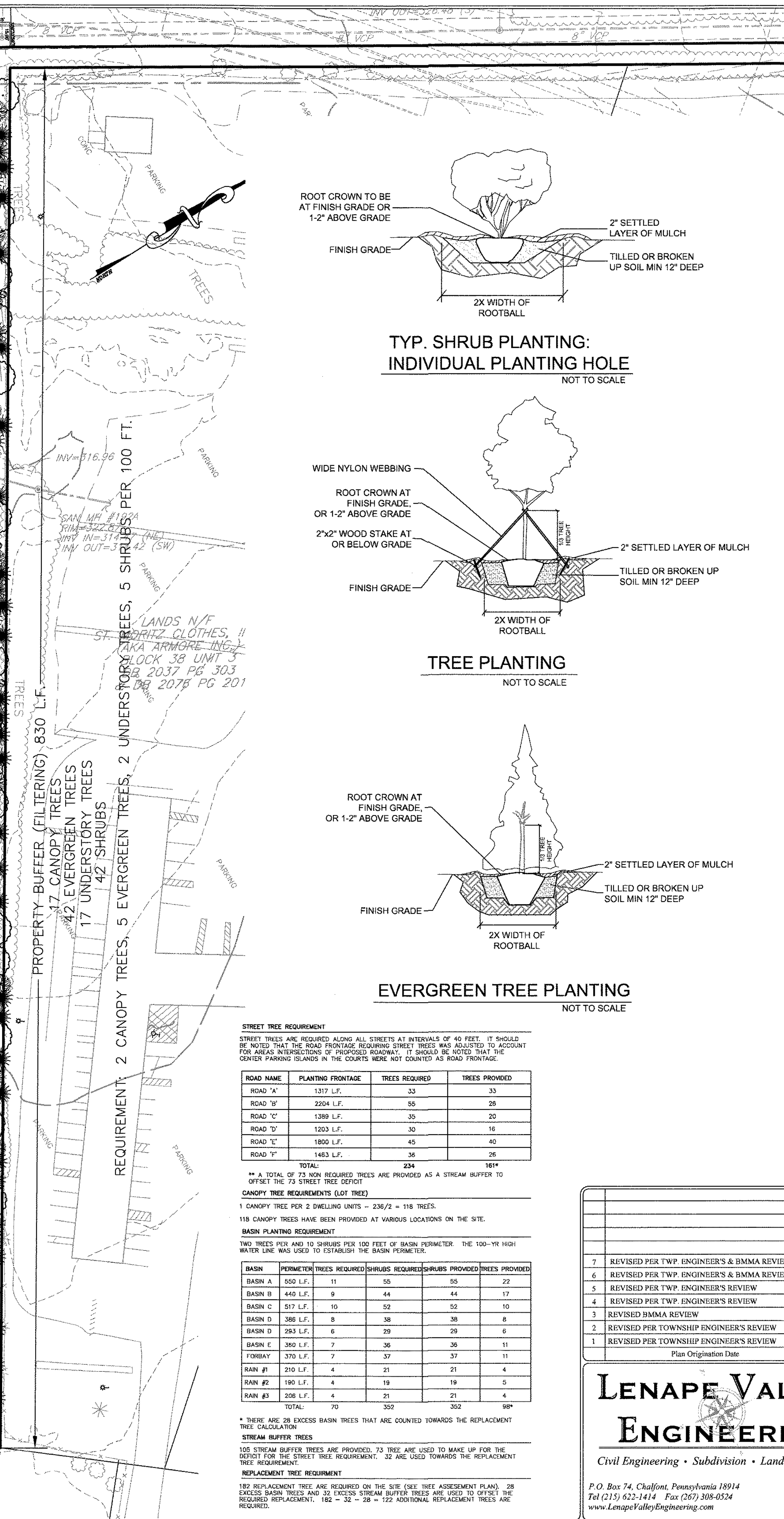
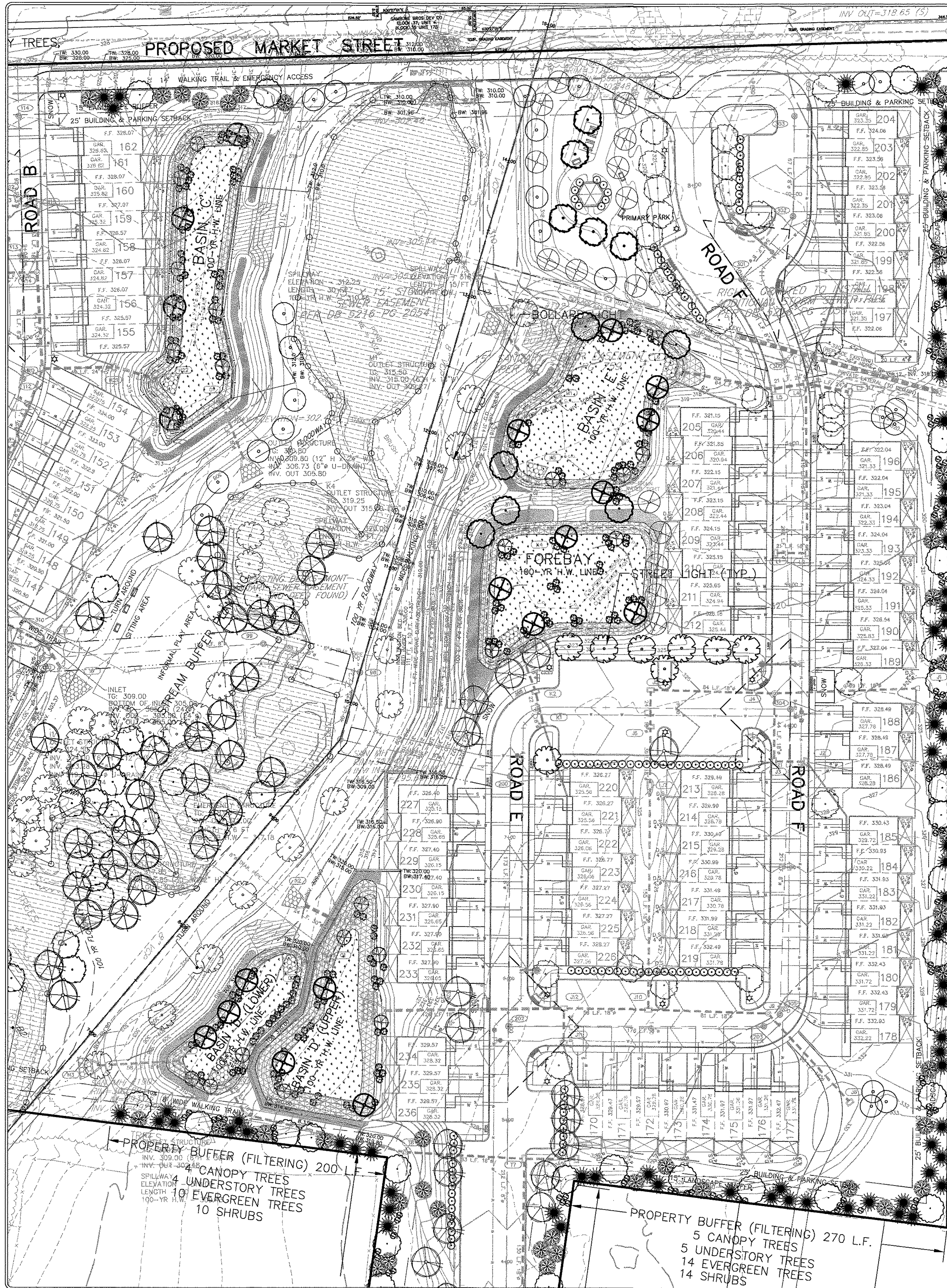
DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059308



PROJECT MANAGER J.T.S.	DRAWING SCALE 1"=40'	SHEET NUMBER 29 of 64
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	

LENAPE VALLEY
ENGINEERING
Civil Engineering • Subdivision • Land Development
P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com



PLANTING SCHEDULE

(STREET TREES) SYCAMORE QTY - 25 SIZE - 2.5" CAL.	(LOT TREE) THORNLESS HONEY LOCUST QTY - 25 SIZE - 2.5" CAL.
(STREET TREES) RED MAPLE QTY - 44 SIZE - 2.5" CAL.	(LOT TREE) RIVER BIRCH QTY - 25 SIZE - 2.5" CAL.
(STREET TREES) AMERICAN LINDEN QTY - 25 SIZE - 2.5" CAL.	(LOT TREE) RED MAPLE QTY - 25 SIZE - 2.5" CAL.
(STREET TREES) SCARLET OAK QTY - 43 SIZE - 2.5" CAL.	(LOT TREE) RED MAPLE QTY - 25 SIZE - 2.5" CAL.
(BUFFER TREES) FLOWERING DOGWOOD QTY - 100 SIZE - 2.5" CAL.	(LOT TREE) SWEETBAY MAGNOLIA QTY - 25 SIZE - 2.5" CAL.
(BUFFER TREES) WHITE PINE QTY - 100 SIZE - 2.5" CAL.	(LOT TREE) RIVER BIRCH QTY - 25 SIZE - 2.5" CAL.
(BUFFER TREES) SUGAR MAPLE QTY - 40 SIZE - 2.5" CAL.	(LOT TREE) WINTERBERRY QTY - 25 SIZE - 2.5" CAL.
(BUFFER TREES) INKBERRY HOLLY QTY - 140 SIZE - 2.5" CAL.	(LOT TREE) WINTERBERRY QTY - 25 SIZE - 2.5" CAL.
(STREAM BUFFER) RED MAPLE QTY - 43 SIZE - 2.5" CAL.	(LOT TREE) SCARLET OAK QTY - 25 SIZE - 2.5" CAL.
(STREAM BUFFER) SYCAMORE QTY - 43 SIZE - 2.5" CAL.	(LOT TREE) FLOWERING EVERGREEN SHRUB QTY - 25 SIZE - 2.5" CAL.

ERNMX-127 SEED MIXTURE

PERCENTAGE OF MIXTURE	BOTANICAL NAME	COMMON NAME
20	AGROSTIS STOLONIFERA	CREEPING BENTGRASS
25	ALOPECURUS ARUNDINACEUS	GARRISON CREEPING FOXTAIL
25	ELYMUS VIRGINICUS	VIRGINIA WILD RYE
5	FESTUCA RUBRA	CREEPING RED FESCUE
5	BIODENS CERNUA	NODDING BUR-MARIKOLD
4	SPARGANIUM EURYCARPUM	GIANT BUR-REED
4	SCIRPUS ATROVIRENS	GREEN BULRUSH
4	SCIRPUS POLYPHYLLUS	MAN-LEAVED BULRUSH
3	VERBENA HASTATA	BLUE VERVAIN
3	SCIRPUS CYPERINUS	WOOLGRASS
1	MIMULUS RINGENS	MONKEYFLOWER
1	SOLIDAGO PATULA	ROUGH-LEAF GOLDENROD

ERNMX-183 SEED MIXTURE

PERCENTAGE OF MIXTURE	BOTANICAL NAME	COMMON NAME
25	ELYMUS VIRGINICUS	VIRGINIA WILD RYE
25	PANICUM CLANDESTINUM	DEER TONGUE
20	CAREX VULPINODEA	FOX SEDGE
15	AGROSTIS PERENNANS	AUTUMN BENTGRASS
15	AGROSTIS SCABRA	TICKLEGRASS

KEY MAP (1"=600')

LANDSCAPING PLAN

Prepared for
DANNY JAKE CORP.

As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

7 REVISOR PER TWP. ENGINEER'S & BMMA REVIEW 05-22-2019
6 REVISOR PER TWP. ENGINEER'S & BMMA REVIEW 03-20-2019
5 REVISOR PER TWP. ENGINEER'S REVIEW 02-02-2019
4 REVISOR PER TWP. ENGINEER'S REVIEW 04-07-2018
3 REVISOR BMMA REVIEW 02-15-2018
2 REVISOR PER TOWNSHIP ENGINEER'S REVIEW 11-09-2016
1 REVISOR PER TOWNSHIP ENGINEER'S REVIEW 05-31-2016

Plan Origination Date 01-08-2014

LENAPE VALLEY ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
(Tel) 215-622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

PROJECT MANAGER J.T.S.	DRAWING SCALE 1"=40'	SHEET NUMBER 30 OF 64
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	

TREE REPLACEMENT CALCULATION

TREE REPLACEMENT CALCULATIONS (8" TO 18"):

TREE AREA #1 - TREES 8" TO 18" = 13 TREES TO BE REMOVED
 TREE AREA #2 - TREES 8" TO 18" = 10 TREES TO BE REMOVED
 TREE AREA #3 - TREES 8" TO 18" = 5 TREES TO BE REMOVED
 TREE AREA #4 - TREES 8" TO 18" = 3 TREES TO BE REMOVED
 TREE AREA #5 - TREES 8" TO 18" = 0 TREES TO BE REMOVED
 TREE AREA #6 - TREES 8" TO 18" = 2 TREES TO BE REMOVED

REPLACEMENT REQUIREMENT: EACH TREE OF 8 TO 18 INCHES DBH SHALL BE REPLACED WITH ONE TREE NOT LESS THAN 2.5 CALIPER INCHES.

TOTAL NUMBER OF 8" TO 18" TREES TO BE REPLACED = 33

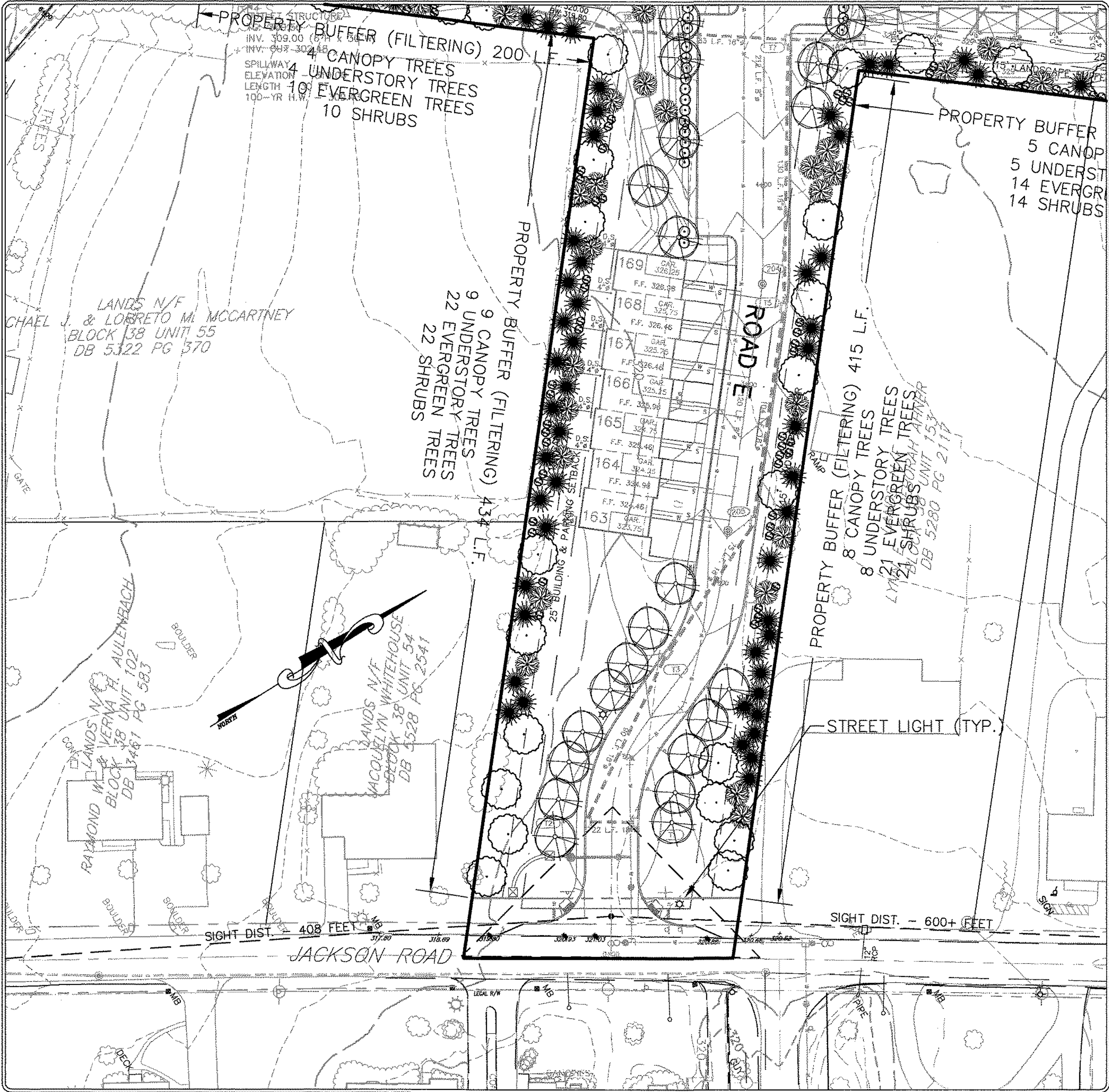
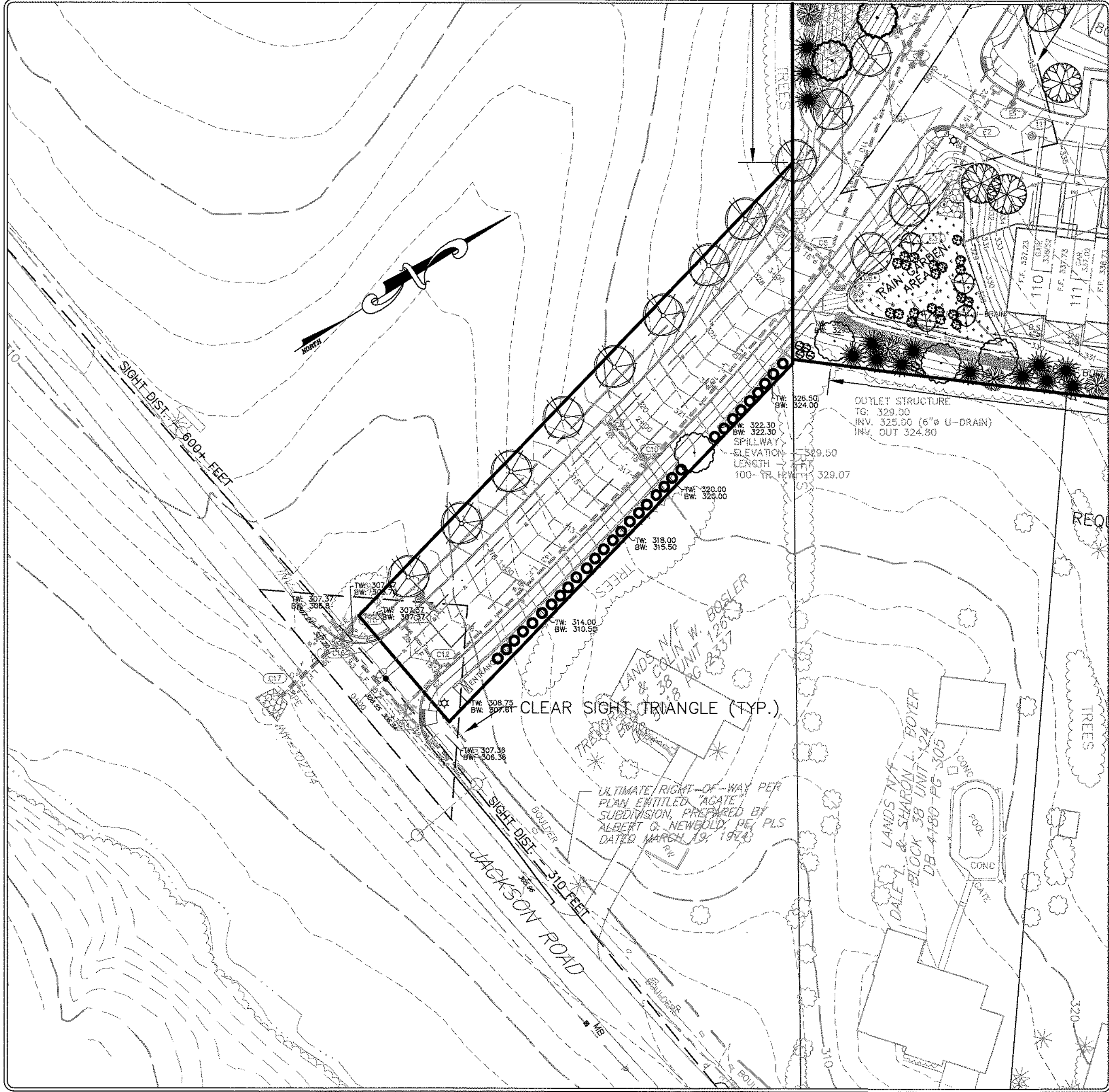
TREE REPLACEMENT CALCULATIONS (18"+):

TREE AREA #1 - TOTAL CALIPER INCHES OF TREES TO BE REMOVED = 257 IN.
 TREE AREA #2 - TOTAL CALIPER INCHES OF TREES TO BE REMOVED = 27 IN.
 TREE AREA #3 - TOTAL CALIPER INCHES OF TREES TO BE REMOVED = 22 IN.
 TREE AREA #4 - TOTAL CALIPER INCHES OF TREES TO BE REMOVED = 0 IN.
 TREE AREA #5 - TOTAL CALIPER INCHES OF TREES TO BE REMOVED = 66 IN.
 TREE AREA #6 - TOTAL CALIPER INCHES OF TREES TO BE REMOVED = 0 IN.

REPLACEMENT REQUIREMENT: EACH TREE OF GREATER THAN 18 INCHES DBH SHALL BE REPLACED WITH EQUAL CALIPER INCHES OF REPLACEMENT TREES.

TOTAL NUMBER OF CALIPER INCHES TO BE REPLACED = 372 INCHES = 149 TREES OF 2.5 INCH CALIPER

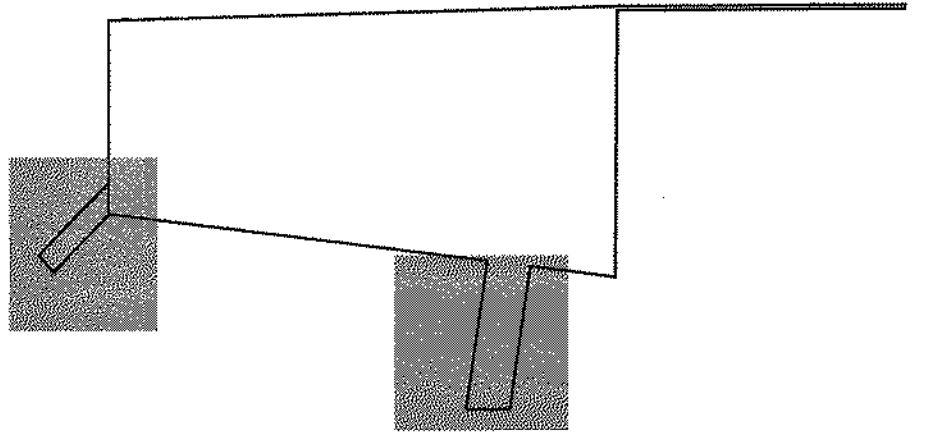
TOTAL REQUIRED REPLACEMENT TREES = 33 + 149 = 182 TREES



PLANTING SCHEDULE

(STREET TREES) SYCAMORE (QUERCUS COCCINEA) QTY - 18 SIZE - 2.5" CAL.	(LOT TREE) THORNLESS HONEY LOCUST (VITEX TRICANTANS) QTY - 25 SIZE - 2.5" CAL.
(STREET TREES) RED MAPLE (ACER RUBRA) QTY - 48 SIZE - 2.5" CAL.	(LOT TREE) RIVER BIRCH (BETULA NERA) QTY - 89 SIZE - 4 TO 8 FT.
(STREET TREES) AMERICAN LINDEN (TILIA AMERICANA) QTY - 25 SIZE - 2.5" CAL.	(LOT TREE) RED MAPLE (ACER RUBRA) QTY - 9 SIZE - 2" CAL.
(STREET TREES) SCARLET OAK (QUERCUS COCCINEA) QTY - 88 SIZE - 2.5" CAL.	(BASIN TREE) RED MAPLE (ACER RUBRA) QTY - 25 SIZE - 2.5" CAL.
(BUFFER TREES) FLOWERING DOGWOOD (DOGWOOD FLORIDA) QTY - 150 SIZE - 5 TO 8 FT.	(BASIN TREE) SWEETBAY MAGNOLIA (MAGNOLIA VIRGINICA) QTY - 47 SIZE - 8 TO 8 FT.
(BUFFER TREES) WHITE PINE (PINUS STROBUS) QTY - 199 SIZE - 8 FT.	(BASIN TREE) RIVER BIRCH (BETULA NERA) QTY - 26 SIZE - 6 TO 8 FT.
(BUFFER TREES) SUGAR MAPLE (ACER SACCARUM) QTY - 88 SIZE - 2.5" CAL.	(BASIN SHRUB) WINTERBERRY (ILEX VERTICILLATA) QTY - 25 SIZE - 24"
(BUFFER SHRUBS) INKBERRY HOLLY (ILEX GLABRA) QTY - 149 SIZE - 24"	(PARKING LOT SHRUBS) BAYBERRY (MYRTUS PENSYLVANICA) QTY - 177 SIZE - 24"
(STREAM BUFFER) SYCAMORE (QUERCUS COCCINEA) QTY - 48 SIZE - 2.5" CAL.	(STREAM BUFFER) SCARLET OAK (QUERCUS COCCINEA) QTY - 27 SIZE - 2.5" CAL.
(STREAM BUFFER) SYCAMORE (QUERCUS COCCINEA) QTY - 48 SIZE - 2.5" CAL.	FLOWERING EVERGREEN SHRUB BROADLEAFED HYDRANGEA QTY - 31 SIZE - 24"
ERNMX-127 SEED MIXTURE	ERNMX-183 SEED MIXTURE

KEY MAP (1"=600')



LANDSCAPING NOTES

1. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS SHOWN ON THE DRAWINGS, AS SPECIFIED, AND IN QUANTITIES INDICATED ON THE PLANT LIST.
2. ALL PLANTS SHALL BE NURSERY GROWN AND FRESHLY DUG.
3. ALL PLANTS SHALL BE IN ACCORDANCE WITH THE AMERICAN STANDARD FOR NURSERY STOCK, LATEST EDITION. ALL PLANTS SHALL MEET THE MINIMUM STANDARDS FOR HEALTH, FORM AND ROOT CONDITIONS AS OUTLINED IN THE AMERICAN ASSOCIATION OF NURSERYMEN (AAN) STANDARDS.
4. ALL PLANTS SHALL BE HARDY UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT. ALL PLANT MATERIAL SHALL BE HARDY WITHIN THE USDA HARDINESS ZONE 6 APPLICABLE TO MONTGOMERY COUNTY, PENNSYLVANIA.
5. FALL DIGGING HAZARD: ANY SPECIES LISTED BELOW, IF INCLUDED ON THE PLANT LIST, MUST NOT BE DUG IN THE FALL (OCTOBER THROUGH DECEMBER) BECAUSE OF RISK TO THE TREE'S SURVIVAL. SPECIAL EXCEPTIONS MAY BE GRANTED IF THE OWNER IS NOTIFIED IN WRITING AND AN EXTENDED WARRANTY ON THESE PLANTS IS AGREED UPON PRIOR TO DIGGING. THE FOLLOWING VARIETIES SHOULD NOT BE DUG IN FALL: BETULA, US, CELIS, CERATOPHYLLUM, CRATAEGUS, CRYPTOMERIA, FAGUS, HALEZIA, ILEX (TREE RM VARIETIES), LIQUIDAMBAR, LIRIODENDRON, NYSSA, Ostrya, PRUNUS, PYRUS, QUERCUS (EXCEPT QUERCUS PALUSTRIS), SALIX, WEeping VARIETIES, AND TILIA TOMENTOSA. DIGGING FOR WALLS AND ZELKOVA VARIETIES SHOULD BE AVOIDED IN FALL ONLY WHEN IN LEAF.
6. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OR GROWTH. THEY SHALL BE SOUND, HEALTHY AND VIGOROUS, WELL BRANCHED AND DENSELY FOLIATED WHEN IN LEAF. THEY SHALL BE CERTIFIED BY APPROPRIATE STATE AND FEDERAL AUTHORITIES TO BE FREE OF DISEASE AND INSECT PESTS, EGGS OR LARVAE. THEY SHALL HAVE HEALTHY, WELL-DEVELOPED ROOT SYSTEMS.
8. MEASUREMENT: DIMENSIONS OF TREES AND SHRUBS SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK, LATEST EDITION. ALL CANOPY TREES SHALL HAVE A MIN. CALIPER OF 2.5" AT PLANTING.
9. SIZE: ALL PLANTS SHALL CONFORM TO THE MEASUREMENT SPECIFIED ON THE PLANT LIST, UNLESS AUTHORIZED IN WRITING.
10. BALLED AND BURLAPPED PLANTS SHALL BE DUG WITH FIRM NATURAL BALLS OF EARTH OF DIAMETER AND DEPTH TO INCLUDE MOST OF THE FIBROUS ROOTS. CONTAINER GROWN STOCK SHALL HAVE BEEN GROWN IN A CONTAINER LONG ENOUGH FOR THE ROOT SYSTEM TO HAVE DEVELOPED SUFFICIENTLY TO HOLD ITS SOIL TOGETHER FIRM AND WHOLE. NO PLANTS SHALL BE LOOSE IN THE CONTAINER.
11. ROOT BALLS OF ALL PLANTS SHALL BE ADEQUATELY PROTECTED AT ALL TIMES FROM SUN AND DRYING WINDS OR FROST.
12. OWNER OR THE OWNER'S REPRESENTATIVE AND THE TOWNSHIP SHALL BE NOTIFIED PRIOR TO BEGINNING PLANTING OPERATIONS.
13. PLANTS WITH BROKEN ROOT BALLS OR EXCESSIVE DAMAGE TO THE CROWN SHALL BE REPLACED PRIOR TO PLANTING.
14. ALL TREES SHALL BE STAKED AND GUYED ACCORDING TO ACCEPTED INDUSTRY PRACTICE.
15. EACH TREE AND SHRUB SHALL BE PRUNED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS TO PRESERVE THE NATURAL CHARACTER OF THE PLANT. ALL DEAD WOOD OR SUNKEN AND ALL BROKEN OR BADLY BRUISED BRANCHES SHALL BE REMOVED.
16. MULCH: IMMEDIATELY AFTER PLANTING OPERATIONS ARE COMPLETED, ALL TREES AND SHRUB PLANTING PITS SHALL BE COVERED WITH A 3" THREE INCH LAYER OF LIGNITE OR OTHER MATERIAL APPROVED BY THE OWNER OR THE OWNER'S REPRESENTATIVE. A GRANULAR PRE-EMERGENT WEED CONTROL SHALL BE SPREAD PRIOR TO MULCHING. THE LIMIT OF THIS MULCH FOR DECIDUOUS TREES AND SINGLE EVERGREEN TREES SHALL BE THE AREA OF THE PIT. FOR EVERGREEN TREE CLUSTERS, A MULCHED BED SHALL BE CREATED.
17. WEED CONTROL: ALL PLANTING AREAS SHALL BE FREE FROM WEEDS PRIOR TO THE BEGINNING OF PLANTING OPERATION. CONTACT HERBICIDE SPRAYS SHOULD ONLY BE USED AS REQUIRED AND ALL MANUFACTURERS' SPECIFICATIONS FOLLOWED.
18. TREES IN LEAF, INCLUDING EVERGREENS, WHEN PLANTED SHALL BE TREATED WITH ANTI-DESICCANT SUCH AS WET-PROOF IF PLANTED DURING THE MONTHS OF JUNE THROUGH SEPTEMBER, NOVEMBER, AND DECEMBER.
19. PLANTING SOIL OF 50% TOPSOIL AND 50% PEAT MOSS SHALL BE MIXED WITH EXISTING SOIL AT A RATE OF 1/3 PLANTING SOIL AND 2/3 EXISTING SOIL.
20. GUARANTEE: REQUIRED SCREENING, SHADE TREES AND PERIMETER LANDSCAPING SHALL BE PERPETUALLY MAINTAINED. THE APPLICANT SHALL BE RESPONSIBLE FOR PLANTINGS FOR A PERIOD OF EIGHTEEN (18) MONTH MAINTENANCE PERIOD FOLLOWING DEDICATION OF THE IMPROVEMENTS. THE LANDOWNER SHALL BE RESPONSIBLE FOR MAINTENANCE AFTER THIS PERIOD HAS EXPIRED. ANY MATERIAL THAT IS 25% DEAD OR MORE SHALL BE CONSIDERED DEAD AND MUST BE REPLACED AT NO CHARGE. A TREE SHALL BE CONSIDERED DEAD WHEN THE MAIN LEADER HAS DIED BACK, OR THERE IS 25% OF THE CROWN DEAD.
21. ALL PLANTING SHALL BE AT THE LOCATIONS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING AT THE CORRECT GRADES, ALIGNMENT, AND TO THE INDICATED LAYOUT OF THE PLANTING BEDS.
22. LAYOUT OF PLANTING: THE CONTRACTOR SHALL LAY OUT WITH IDENTIFIABLE STAKES THE LOCATION OF ALL PLANTING BEDS AS INDICATED ON DRAWING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING AT THE CORRECT GRADES, ALIGNMENT, AND TO THE INDICATED LAYOUT OF THE PLANTING BEDS.
23. CONDITIONS DETRIMENTAL TO PLANTS: THE CONTRACTOR SHALL NOTIFY THE PROJECT REPRESENTATIVE IN WRITING OF ALL SOIL OR DRAINAGE CONDITIONS WHICH THE CONTRACTOR CONSIDERS DETRIMENTAL TO THE GROWTH OF PLANTS. THE CONTRACTOR SHALL STATE THE CONDITIONS AND SUBMIT A PROPOSAL FOR CORRECTING THE CONDITIONS, INCLUDING ANY CHANGE IN COST, FOR REVIEW AND ACCEPTANCE BY THE PROJECT REPRESENTATIVE.
24. MINOR ADJUSTMENTS TO TREE LOCATIONS MAY BE NECESSARY DUE TO FIELD CONDITIONS AND FINAL GRADING. THE CONTRACTOR SHALL NOTIFY THE OWNER IF MAJOR ADJUSTMENTS ARE REQUIRED.
25. ALL DEBRIS RESULTING FROM LANDSCAPE CONTRACTING OPERATIONS SHALL BE CLEANED UP AND REMOVED FROM THE SITE ON A WEEKLY BASIS.
26. WATERING: LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR WATERING SUFFICIENTLY AT THE TIME OF PLANTING AND UNTIL THE JOB IS COMPLETED, ACCEPTED AND TURNED OVER TO THE OWNER.
27. NO PLANTINGS OR STRUCTURES SHOULD BE LOCATED WITHIN 10 FEET OF THE SANITARY SEWERS OR LATERALS.
28. TREES TO BE PRESERVED SHALL BE PROTECTED BY TREE PROTECTION FENCING AS INDICATED ON THE PLANS.

ERNMX-127 SEED MIXTURE

PERCENTAGE OF MIXTURE	BOTANICAL NAME	COMMON NAME
20	AGROSTIS STOLONIFERA	CREeping BENTGRASS
25	ALOPECURUS ARUNDINACEUS	GARRISON CREEPING FOXTAIL
25	ELYMUS VIRGINICUS	VIRGINIA WILD RYE
5	FESTUCA RUBRA	CREeping RED FESCUE
5	BIDENS CERNUA	NODDING BUR-MARIGOLD
4	SPARGANIUM EURYCARPUM	GIANT BUR-REED
3	SCORPUS ATROVIRENS	GREEN BULRUSH
4	SCORPUS POLYPHYLLUS	MAN-LEAVED BULRUSH
3	VERBENA HASTATA	BLUE VERVAIN
3	SCORPUS CYPERINUS	WOLFGRASS
1	MIMULUS RINGENS	MONKEYFLOWER
1	SOLIDAGO PATULA	ROUGH-LEAF GOLDENROD

ERNMX-183 SEED MIXTURE

PERCENTAGE OF MIXTURE	BOTANICAL NAME	COMMON NAME
25	ELYMUS VIRGINICUS	VIRGINIA WILD RYE
25	PANICUM CLANDESTINUM	DEER TONGUE
20	CAREX VULPINOIDEA	FOX SEDGE
15	AGROSTIS PERENNANS	AUTUMN BENTGRASS
15	AGROSTIS SCABRA	TICKLEGRASS

LENAPE VALLEY
ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Clifton, Pennsylvania 18914
 Tel (215) 622-4141 Fax (267) 368-0524
 www.LenapeValleyEngineering.com

LANDSCAPING PLAN

Prepared for
DANNY JAKE CORP.

As part of

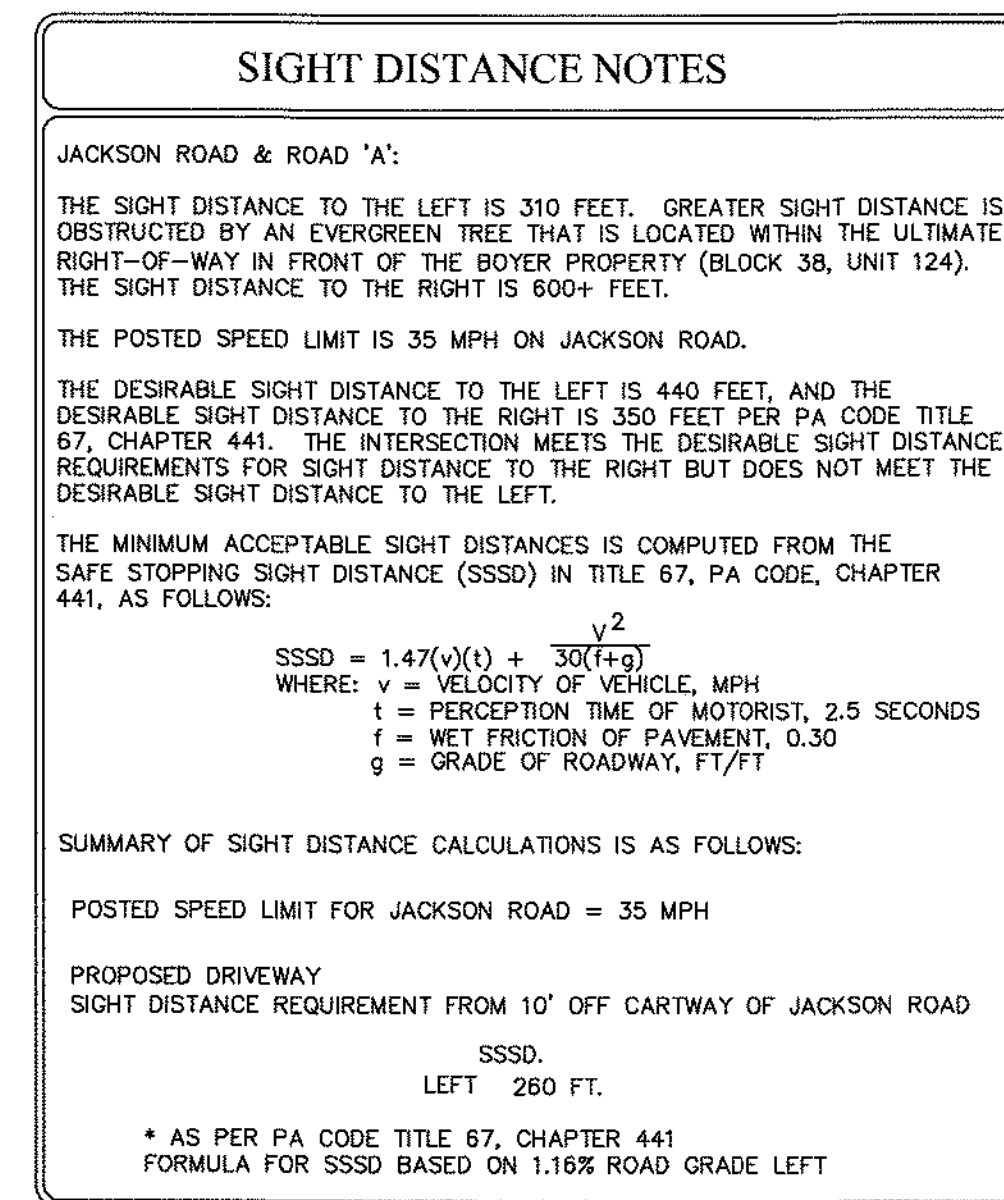
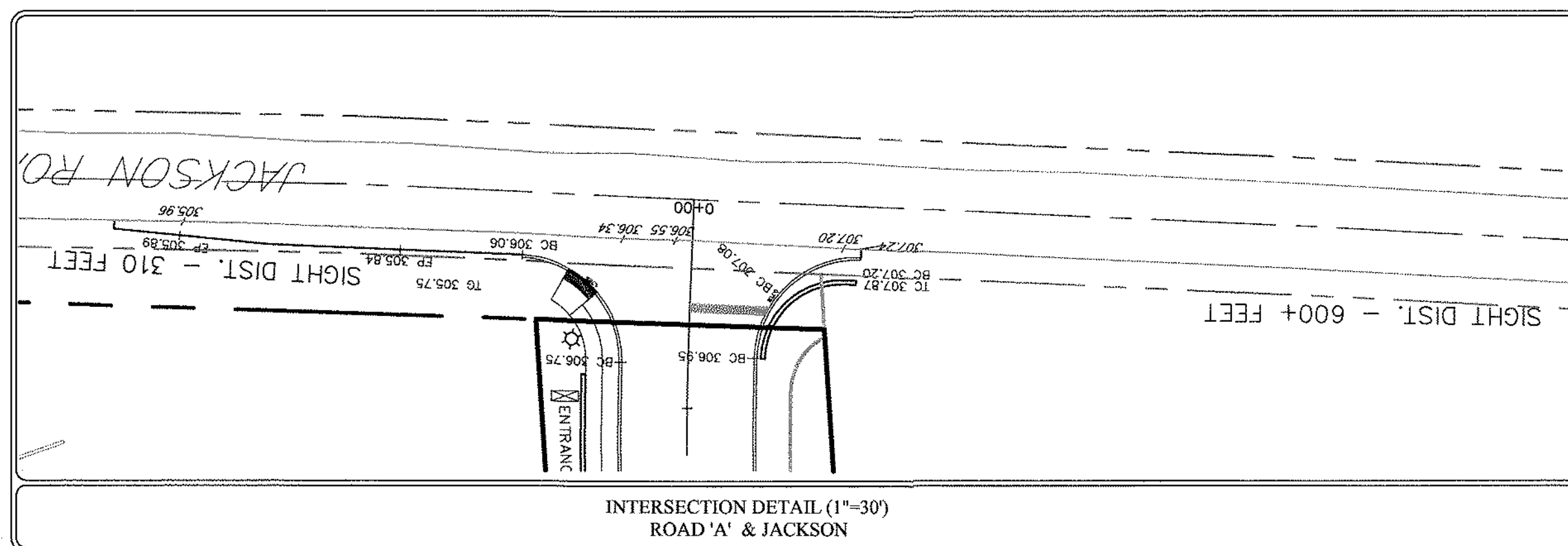
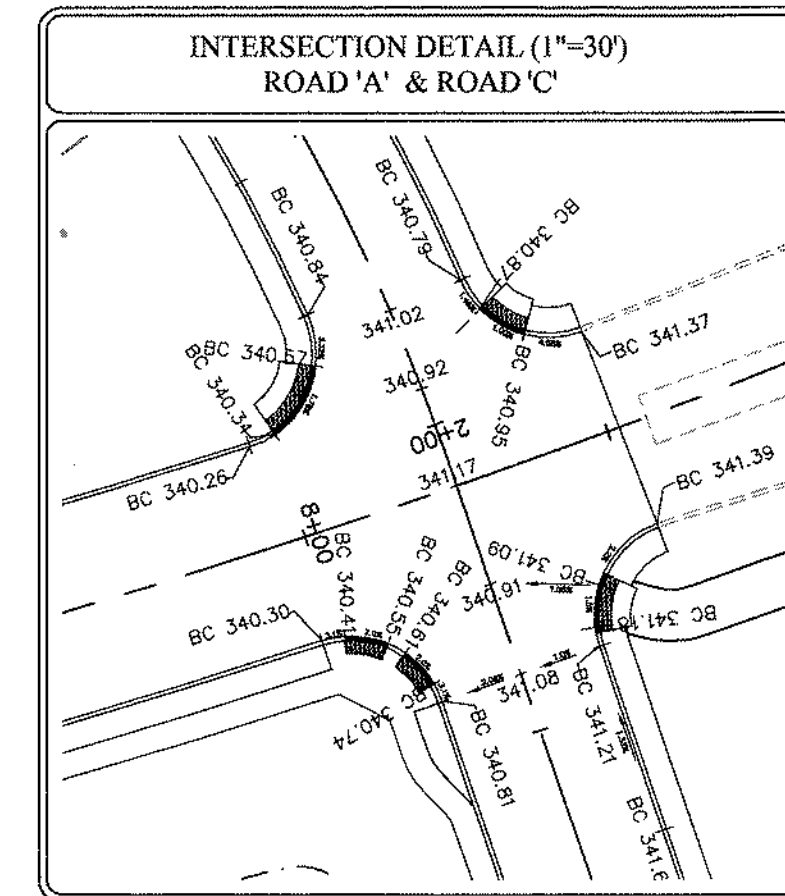
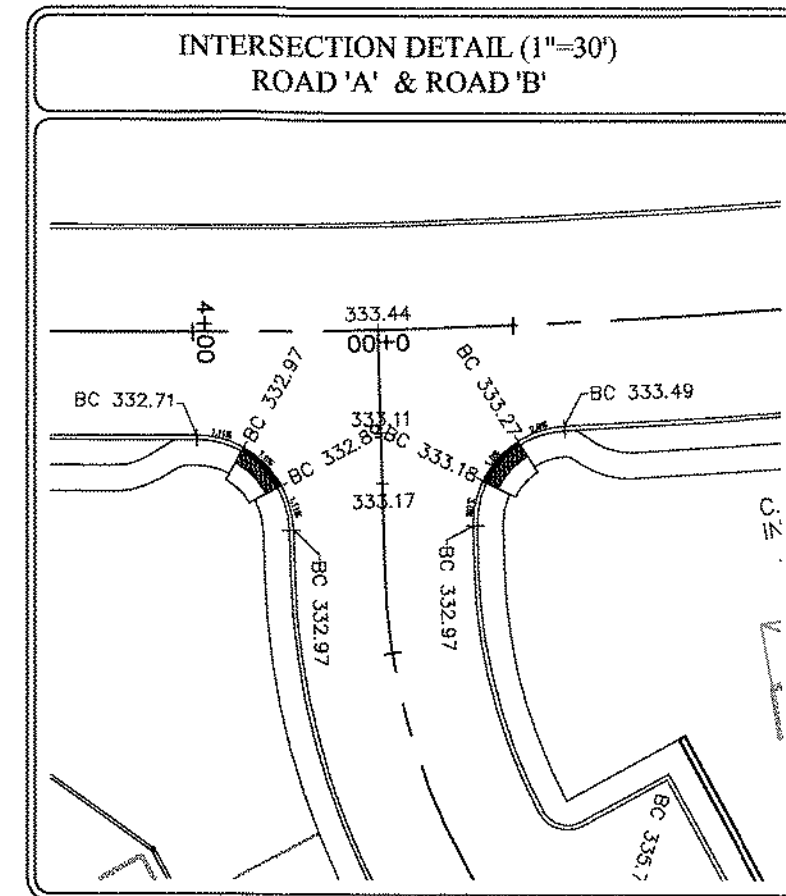
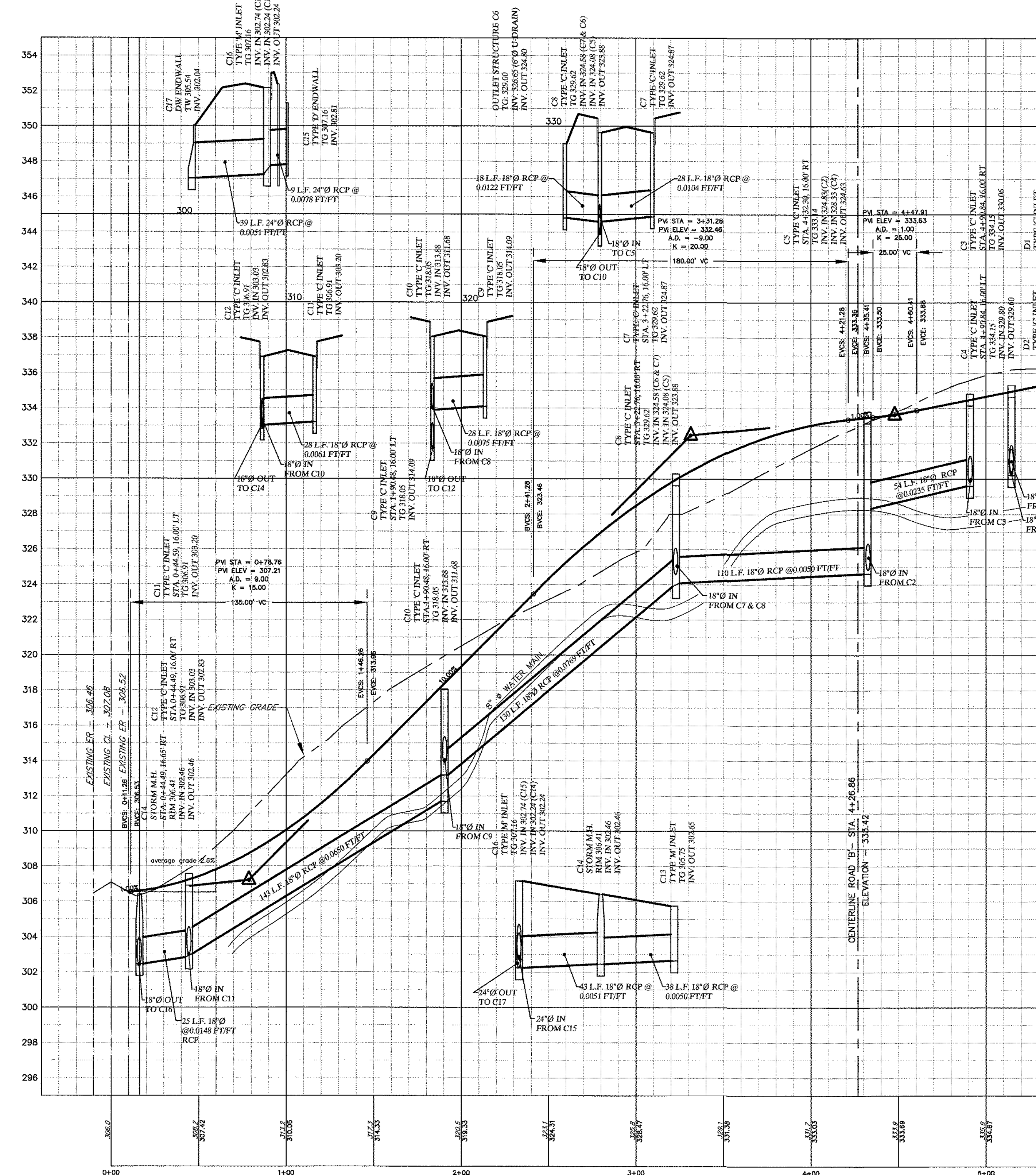
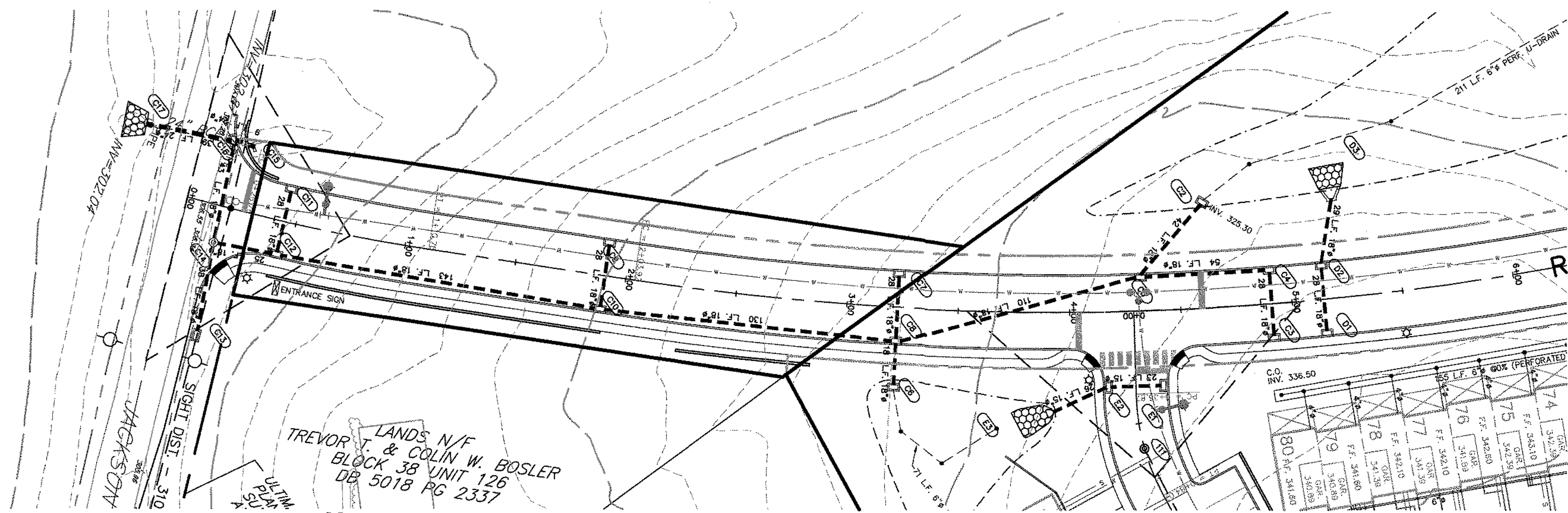
ZERN TRACT

DOUGLASS TOWNSHIP
 MONTGOMERY COUNTY
 PENNSYLVANIA

JASON T. SMELAND
 PROFESSIONAL ENGINEER
 PA NO. 059306

GRAPHIC SCALE
 40 0 20 40 80 120

PROJECT MANAGER J.T.S.	DRAWING SCALE 1"=40'	SHEET NUMBER 31 of 64
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	



CONSTRUCTION NOTES

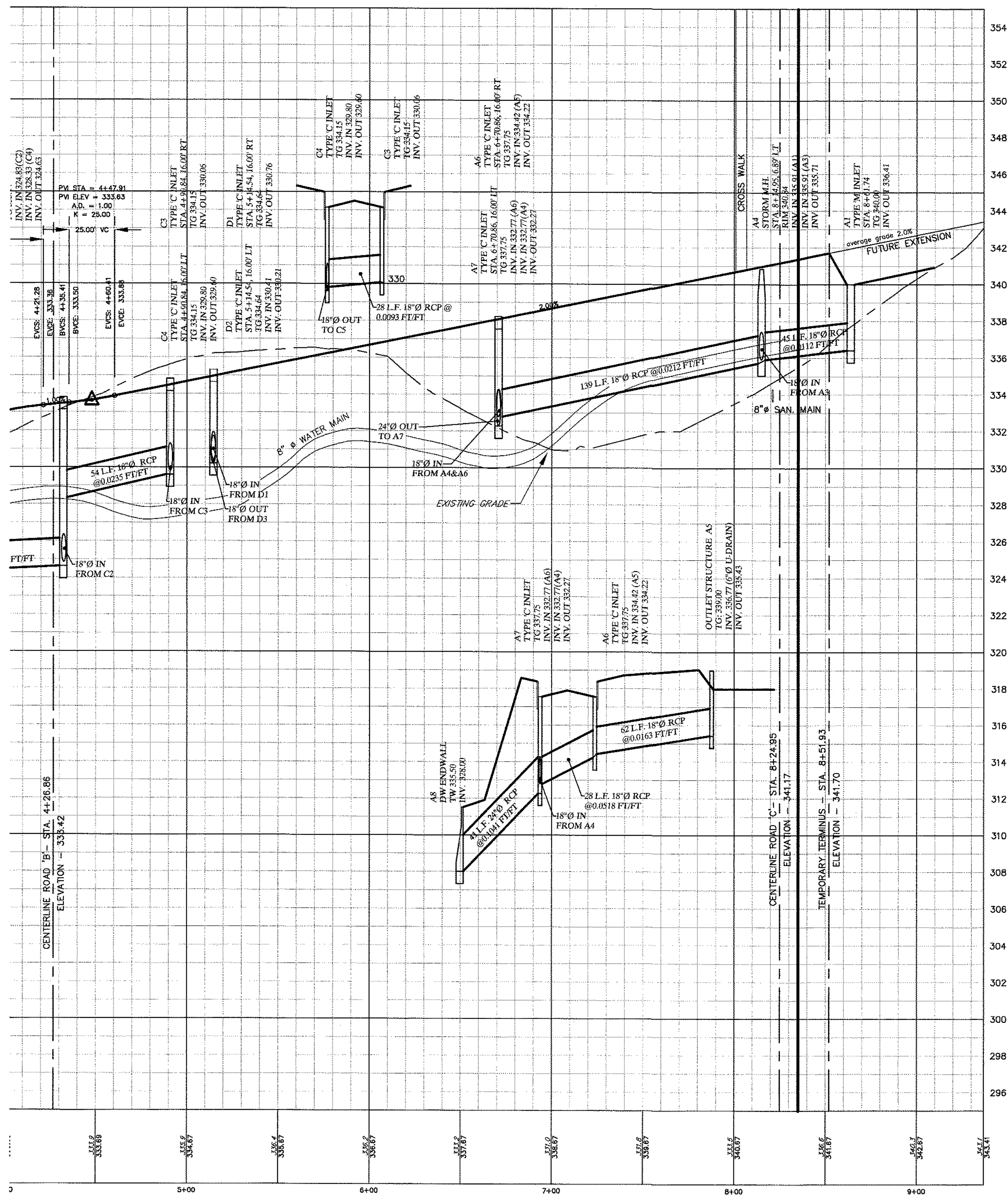
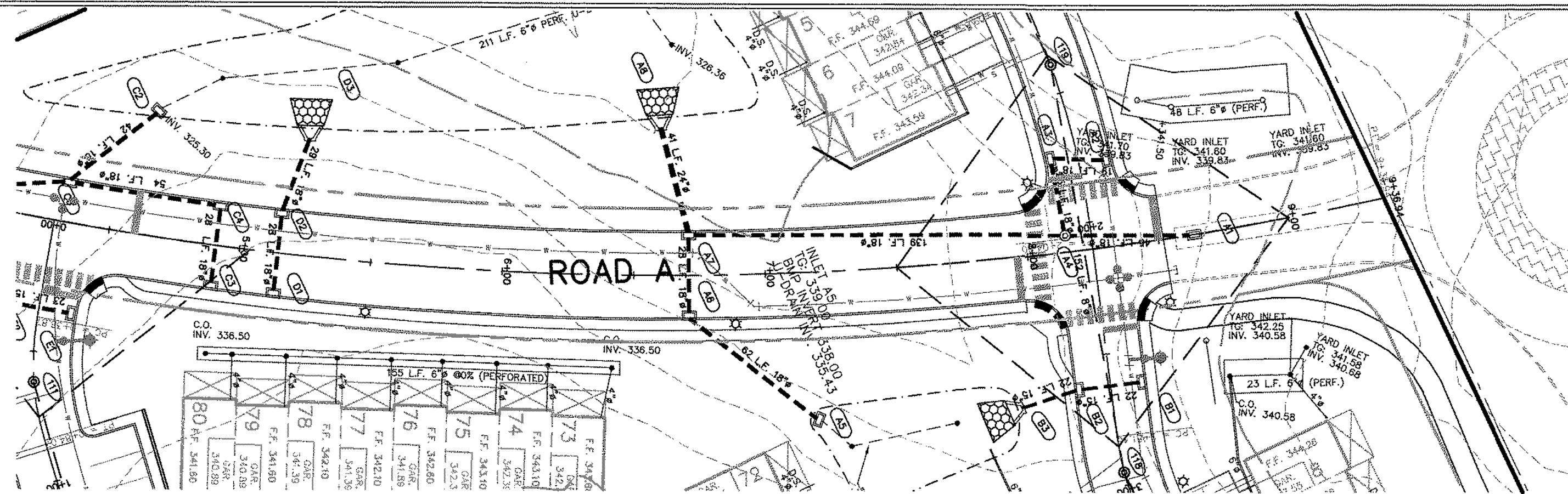
- ALL CURB TYPE STORM SEWER INLETS SHALL BE PENN. D.O.T. 4" TYPE "C" INLETS CONFORMING TO DOUGLASS TOWNSHIP SPECIFICATIONS WITH BICYCLE SAFE STRUCTURAL STEEL GRATES.
- ALL LAWN AREA STORM SEWER INLETS SHALL BE PENN. D.O.T. TYPE "M" AND SHALL CONFORM TO PENN.D.O.T. FORM 408/LATEST EDITION, SECTION 605.
- ALL CONCRETE "DW" ENDWALLS SHALL CONFORM TO PENN. D.O.T. FORM 408/LATEST EDITION, SECTION 605.
- THE TOP OF GRATE ELEVATION FOR ALL STORM SEWER INLETS IS FOR THE CENTER OF THE INLET AT THE FACE OF CURB. THE CONTRACTOR IS RESPONSIBLE FOR PROJECTING THE ROADWAY GRADE ALONG THE LENGTH OF THE INLET.
- ALL LOTS SHALL BE PROPERLY GRADED TO ENSURE PROPER DRAINAGE FLOW AWAY FROM BUILDINGS TO NEAREST INLET OR WATERCOURSE WITHOUT PONDING OR OBSTRUCTION. A MINIMUM OF 2% SLOPE SHALL BE PROVIDED ON ALL GRASSED AREAS.
- ANY SPRING ENCOUNTERED DURING ROADWAY CONSTRUCTION SHALL BE OUTLETTED BY U-DRAIN TO NEAREST STORM SEWER FACILITY OR WATERCOURSE. U-DRAIN PLACEMENT TO BE BY THE DIRECTION OF THE BOROUGH ENGINEER.
- NO STORM PIPE CAN TIE INTO THE CORNER OF AN INLET.
- A HORIZONTAL SEPARATION OF 10 FEET AND OR VERTICAL CLEARANCE OF 18 INCHES SHALL BE MAINTAINED BETWEEN THE SANITARY SEWER AND OTHER UTILITIES (INCLUDING BUT NOT LIMITED TO WATER, GAS, ELECTRIC, PHONE, ETC.) WHERE PIPE LINE MUST CROSS UNDER A SEWER, THE INSTALLATION MUST ALSO PROVIDE ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER TO PREVENT DEFLECTION AND BREAKING OF THE SEWER. WHERE PROPER CLEARANCES CAN NOT BE PROVIDED, THE SEWER SHALL BE CONCRETE ENCASED FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CONFLICT.
- NO OTHER UNDERGROUND UTILITIES (I.E.) ELECTRIC, TELEPHONE, CABLE, GAS OR STREET LIGHTS SHOULD BE INSTALLED WITHIN FIVE FEET OF ANY WATER SERVICE LINE.
- ALL SANITARY SEWER CONSTRUCTION AND TESTING SHALL BE IN ACCORDANCE WITH THE RULES, REGULATIONS, AND SPECIFICATIONS OF THE BERKS-MONTGOMERY MUNICIPAL AUTHORITY AND THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- ALL ENGINEERING AND CONSTRUCTION WORK FOR SEWER LATERALS AND MAINS SHALL BE IN ACCORDANCE WITH BERKS-MONTGOMERY MUNICIPAL AUTHORITY STANDARDS AND SPECIFICATIONS AS WELL AS THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION "DOMESTIC WASTEWATER FACILITIES MANUAL," 382-0300-001, OCTOBER 1997. SEWER MAINS SHALL COMPLY WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STANDARDS.
- ALL WATER LINES SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER.
- NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN SIX FEET OF STORMSEWER FACILITIES. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN 10 FEET OF SANITARY OR WATER FACILITIES.
- THE PORTIONS OF THE SEWER LINE FROM THE END OF THE 6" LATERAL TO THE PROPOSED BUILDING IS CONSIDERED THE "BUILDING SEWER", AND ITS CONSTRUCTION IS SUBJECT TO THE APPROVAL AND INSPECTION BY THE TOWNSHIP PLUMBING INSPECTOR/CODE ENFORCEMENT OFFICER. A WATERTIGHT PLUG SHALL BE INSTALLED AT THE END OF THE 6" LATERAL TO ALLOW FOR AIR TESTING OF THE LATERAL ALONG WITH THE SANITARY SEWER MAIN AND MANHOLES. NO BUILDING SEWER CONNECTIONS SHALL BE MADE UNTIL THE PROPOSED SANITARY SEWER MAINS, LATERALS(S), AND MANHOLES ARE TESTED AND CERTIFIED FOR FLOW BY THE AUTHORITY ENGINEER.
- ALL UNITS WITH BASEMENTS SHALL HAVE PUMP SUMPS. PUMP PUMPS SHALL NOT DIRECTLY DISCHARGE WATER INTO A STREET RIGHT-OF-WAY OR INTO A SANITARY SEWER SYSTEM.

NO.	REVISION	DATE
7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

LENAPE VALLEY
ENGINEERING
 Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
 Tel (215) 622-1414 Fax (267) 308-0524
 www.LenapeValleyEngineering.com

PLAN AND PROFILE: PROPOSED ROAD 'A'	
Prepared for DANNY JAKE CORP.	
As part of ZERN TRACT	
DOUGLASS TOWNSHIP MONTGOMERY COUNTY PENNSYLVANIA	
JASON T. SMELAND PROFESSIONAL ENGINEER PA NO. 059306	
PROJECT MANAGER J.T.S.	SHEET NUMBER 32 of 64
DRAFTED BY B.C.S.	PROJECT NUMBER 2028



PROFILE ROAD 'A'

CONSTRUCTION NOTES

- ALL CURB TYPE STORM SEWER INLETS SHALL BE PENN. D.O.T. 4' TYPE 'C' INLETS CONFORMING TO DOUGLASS TOWNSHIP SPECIFICATIONS WITH BICYCLE SAFE STRUCTURAL STEEL GRATES.
- ALL LAWN AREA STORM SEWER INLETS SHALL BE PENN. D.O.T. TYPE 'M' AND SHALL CONFORM TO PENN.D.O.T. FORM 408/LATEST EDITION, SECTION 605.
- ALL CONCRETE "DW" ENDWALLS SHALL CONFORM TO PENN. D.O.T. FORM 408/LATEST EDITION, SECTION 605.
- THE TOP OF GRATE ELEVATION FOR ALL STORM SEWER INLETS IS FOR THE CENTER OF THE INLET AT THE FACE OF CURB. THE CONTRACTOR IS RESPONSIBLE FOR PROJECTING THE ROADWAY GRADE ALONG THE LENGTH OF THE INLET.
- ALL LOTS SHALL BE PROPERLY GRADED TO ENSURE PROPER DRAINAGE FLOW AWAY FROM BUILDINGS TO NEAREST INLET OR WATERCOURSE WITHOUT PONDING OR OBSTRUCTION. A MINIMUM OF 2% SLOPE SHALL BE PROVIDED ON ALL GRASSED AREAS.
- ANY SPRING ENCOUNTERED DURING ROADWAY CONSTRUCTION SHALL BE OUTLETTED BY U-DRAIN TO NEAREST STORM SEWER FACILITY OR WATERCOURSE. U-DRAIN PLACEMENT TO BE BY THE DIRECTION OF THE BOROUGH ENGINEER.
- NO STORM PIPE CAN TIE INTO THE CORNER OF AN INLET.
- A HORIZONTAL SEPARATION OF 10 FEET AND OR VERTICAL CLEARANCE OF 18 INCHES SHALL BE MAINTAINED BETWEEN THE SANITARY SEWER AND OTHER UTILITIES (INCLUDING BUT NOT LIMITED TO WATER, GAS, ELECTRIC, PHONE, ETC.) WHERE PIPE LINE MUST CROSS UNDER A SEWER, THE INSTALLATION MUST ALSO PROVIDE ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER TO PREVENT DEFLECTION AND BREAKING OF THE SEWER. WHERE PROPER CLEARANCES CAN NOT BE PROVIDED, THE SEWER SHALL BE CONCRETE ENCASED FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CONFLICT.
- NO OTHER UNDERGROUND UTILITIES (i.e.) ELECTRIC, TELEPHONE, CABLE, GAS OR STREET LIGHTS SHOULD BE INSTALLED WITHIN FIVE FEET OF ANY WATER SERVICE LINE.
- ALL SANITARY SEWER CONSTRUCTION AND TESTING SHALL BE IN ACCORDANCE WITH THE RULES, REGULATIONS, AND SPECIFICATIONS OF THE BERKS-MONTGOMERY MUNICIPAL AUTHORITY AND THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- ALL ENGINEERING AND CONSTRUCTION WORK FOR SEWER LATERALS AND MAINS SHALL BE IN ACCORDANCE WITH BERKS-MONTGOMERY MUNICIPAL AUTHORITY STANDARDS AND SPECIFICATIONS AS WELL AS THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION "DOMESTIC WASTEWATER FACILITIES MANUAL," 362-0300-001, OCTOBER 1997. SEWER MAINS SHALL COMPLY WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STANDARDS.
- ALL WATER LINES SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER.
- NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN SIX FEET OF STORMSEWER FACILITIES. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN 10 FEET OF SANITARY OR WATER FACILITIES.
- THE PORTIONS OF THE SEWER LINE FROM THE END OF THE 6" LATERAL TO THE PROPOSED BUILDING IS CONSIDERED THE "BUILDING SEWER", AND ITS CONSTRUCTION IS SUBJECT TO THE APPROVAL AND INSPECTION BY THE TOWNSHIP PLUMBING INSPECTOR/CODE ENFORCEMENT OFFICER. A WATERTIGHT PLUG SHALL BE INSTALLED AT THE END OF THE 6" LATERAL TO ALLOW FOR AIR TESTING OF THE LATERAL ALONG WITH THE SANITARY SEWER MAIN AND MANHOLES. NO BUILDING SEWER CONNECTIONS SHALL BE MADE UNTIL THE PROPOSED SANITARY SEWER MAINS, LATERAL(S), AND MANHOLES ARE TESTED AND CERTIFIED FOR FLOW BY THE AUTHORITY ENGINEER.
- ALL UNITS WITH BASEMENTS SHALL HAVE SUMP PUMPS. SUMP PUMPS SHALL NOT DIRECTLY DISCHARGE WATER INTO A STREET RIGHT-OF-WAY OR INTO A SANITARY SEWER SYSTEM.

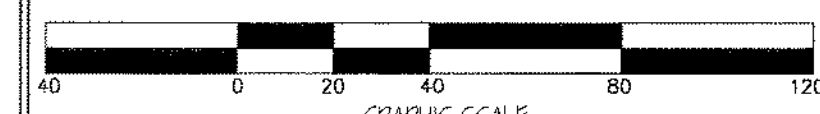
PLAN AND PROFILE: PROPOSED ROAD 'A'

Prepared for
DANNY JAKE CORP.

As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306



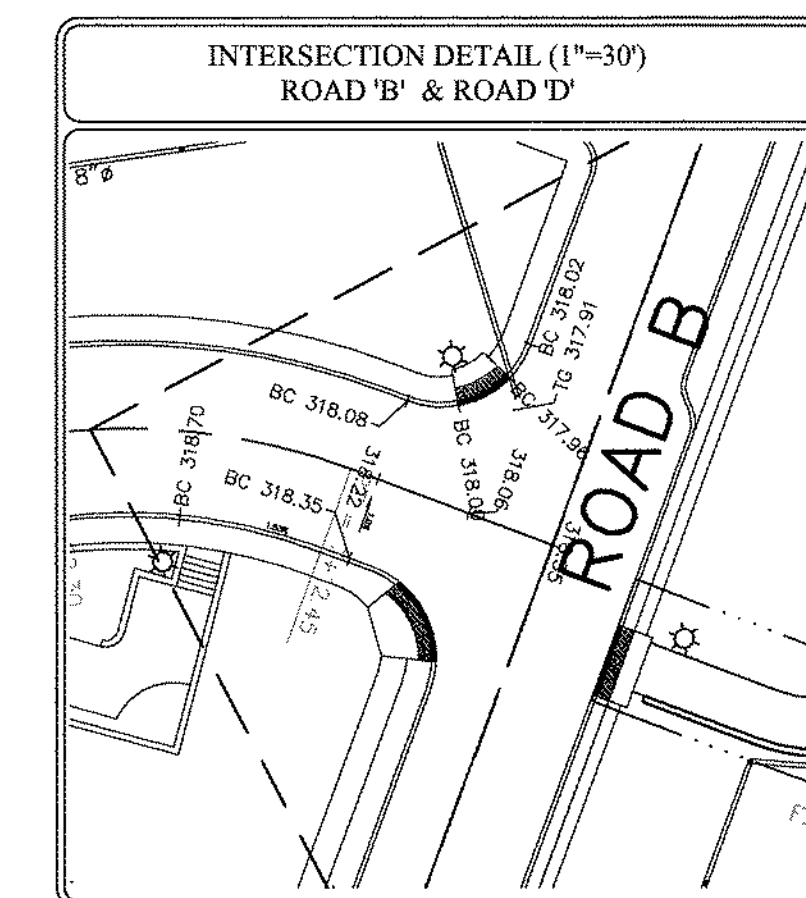
PROJECT MANAGER	DRAWING SCALE	SHEET NUMBER
J.T.S.	H:1"=40'	33 of 64
DRAFTED BY	PROJECT NUMBER	
B.C.S.	2028	

LENAPE VALLEY
ENGINEERING

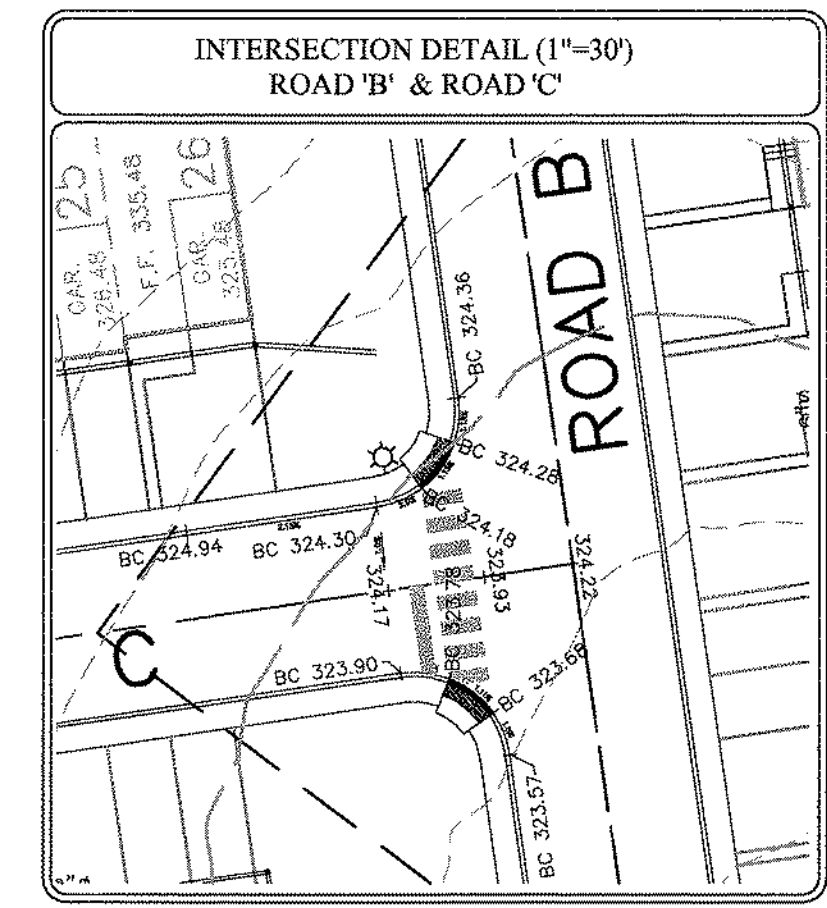
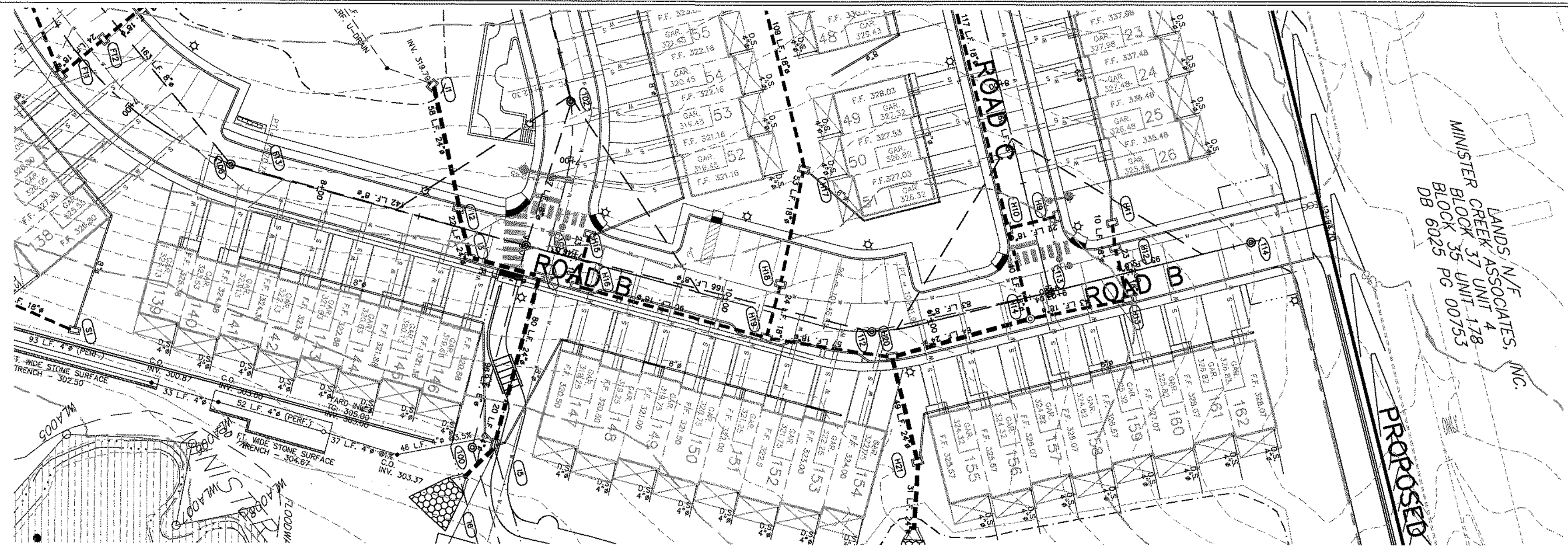
Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

REVISION	DATE	DESCRIPTION
7	05-23-2019	REVISED PER TWP. ENGINEER'S & BMMA REVIEW
6	03-20-2019	REVISED PER TWP. ENGINEER'S & BMMA REVIEW
5	02-02-2019	REVISED PER TWP. ENGINEER'S REVIEW
4	04-07-2018	REVISED PER TWP. ENGINEER'S REVIEW
3	02-15-2018	REVISED BMMA REVIEW
2	11-09-2016	REVISED PER TOWNSHIP ENGINEER'S REVIEW
1	05-31-2016	REVISED PER TOWNSHIP ENGINEER'S REVIEW
Plan Origination Date		01-08-2014

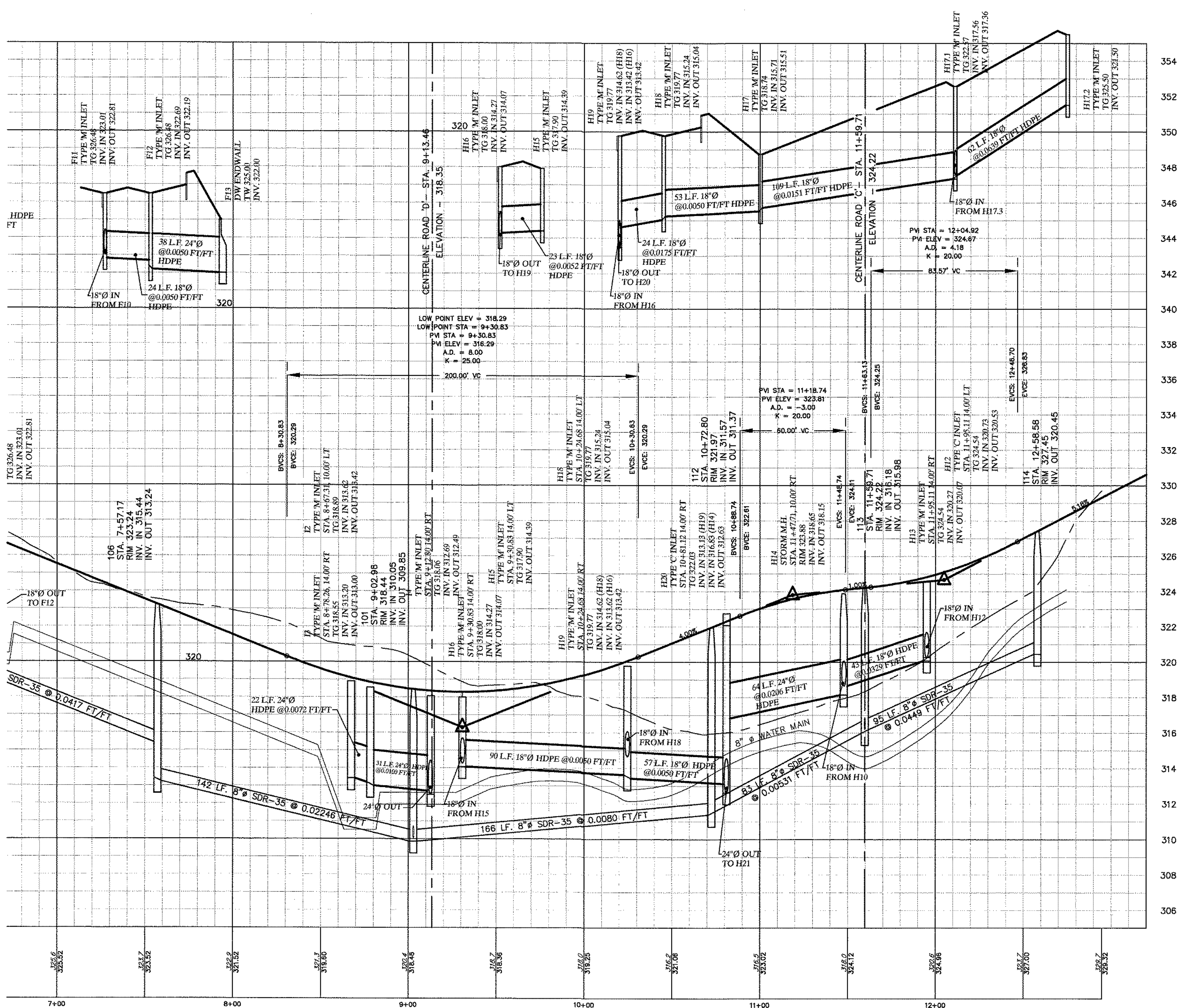


P.O. Box 74, Chalfont, Pennsylvania 1891
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com



CONSTRUCTION NOTES

- ALL CURB TYPE STORM SEWER INLETS SHALL BE PENN. D.O.T. 4" TYPE 'C' INLETS CONFORMING TO DOUGLASS TOWNSHIP SPECIFICATIONS WITH BICYCLE SAFE STRUCTURAL STEEL GRATES.
- ALL LAWN AREA STORM SEWER INLETS SHALL BE PENN. D.O.T. TYPE 'M' AND SHALL CONFORM TO PENN.D.O.T. FORM 408/LATEST EDITION, SECTION 605.
- ALL CONCRETE "DW" ENDWALLS SHALL CONFORM TO PENN. D.O.T. FORM 408/LATEST EDITION, SECTION 605.
- THE TOP OF GRATE ELEVATION FOR ALL STORM SEWER INLETS IS FOR THE CENTER OF THE INLET AT THE FACE OF CURB. THE CONTRACTOR IS RESPONSIBLE FOR PROJECTING THE ROADWAY GRADE ALONG THE LENGTH OF THE INLET.
- ALL LOTS SHALL BE PROPERLY GRADED TO ENSURE PROPER DRAINAGE FLOW, AWAY FROM BUILDINGS TO NEAREST INLET OR WATERCOURSE WITHOUT PONDING OR OBSTRUCTION. A MINIMUM OF 2% SLOPE SHALL BE PROVIDED ON ALL GRASSED AREAS.
- ANY SPRING ENCOUNTERED DURING ROADWAY CONSTRUCTION SHALL BE OUTLETTED BY U-DRAIN TO NEAREST STORM SEWER FACILITY OR WATERCOURSE. U-DRAIN PLACEMENT TO BE BY THE DIRECTION OF THE BOROUGH ENGINEER.
- NO STORM PIPE CAN THE INTO THE CORNER OF AN INLET.
- A HORIZONTAL SEPARATION OF 10 FEET OR VERTICAL CLEARANCE OF 18 INCHES SHALL BE MAINTAINED BETWEEN THE SANITARY SEWER AND OTHER UTILITIES (INCLUDING BUT NOT LIMITED TO WATER, GAS, ELECTRIC, PHONE, ETC.) WHERE PIPE LINE MUST CROSS UNDER A SEWER, THE INSTALLATION MUST ALSO PROVIDE ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER TO PREVENT DEFLECTION AND BREAKING OF THE SEWER. WHERE PROPER CLEARANCES CAN NOT BE PROVIDED, THE SEWER SHALL BE CONCRETE ENCASED FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CONFLICT.
- NO OTHER UNDERGROUND UTILITIES (I.E.) ELECTRIC, TELEPHONE, CABLE, GAS OR STREET LIGHTS SHOULD BE INSTALLED WITHIN FIVE FEET OF ANY WATER SERVICE LINE.
- ALL SANITARY SEWER CONSTRUCTION AND TESTING SHALL BE IN ACCORDANCE WITH THE RULES, REGULATIONS, AND SPECIFICATIONS OF THE BERKS-MONTGOMERY MUNICIPAL AUTHORITY AND THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- ALL ENGINEERING AND CONSTRUCTION WORK FOR SEWER LATERALS AND MAINS SHALL BE IN ACCORDANCE WITH BERKS-MONTGOMERY MUNICIPAL AUTHORITY STANDARDS AND SPECIFICATIONS AS WELL AS THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION "DOMESTIC WASTEWATER FACILITIES MANUAL," 362-0300-001, OCTOBER 1997. SEWER MAINS SHALL COMPLY WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STANDARDS.
- ALL WATER LINES SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER.
- NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN SIX FEET OF STORMSEWER FACILITIES. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN 10 FEET OF SANITARY OR WATER FACILITIES.
- THE PORTIONS OF THE SEWER LINE FROM THE END OF THE 6" LATERAL TO THE PROPOSED BUILDING IS CONSIDERED THE "BUILDING SEWER", AND ITS CONSTRUCTION IS SUBJECT TO THE APPROVAL AND INSPECTION BY THE TOWNSHIP PLUMBING INSPECTOR/CODE ENFORCEMENT OFFICER. A WATERTIGHT PLUG SHALL BE INSTALLED AT THE END OF THE 6" LATERAL TO ALLOW FOR AIR TESTING OF THE LATERAL ALONG WITH THE SANITARY SEWER MAIN AND MANHOLES. NO BUILDING SEWER CONNECTIONS SHALL BE MADE UNTIL THE PROPOSED SANITARY SEWER MAINS, LATERAL(S), AND MANHOLES ARE TESTED AND CERTIFIED FOR FLOW BY THE AUTHORITY ENGINEER.
- ALL UNITS WITH BASEMENTS SHALL HAVE SUMP PUMPS. SUMP PUMPS SHALL NOT DIRECTLY DISCHARGE WATER INTO A STREET RIGHT-OF-WAY OR INTO A SANITARY SEWER SYSTEM.



PROFILE ROAD 'B'

REVISION	DESCRIPTION	DATE
7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

LENAPE VALLEY
ENGINEERING
Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

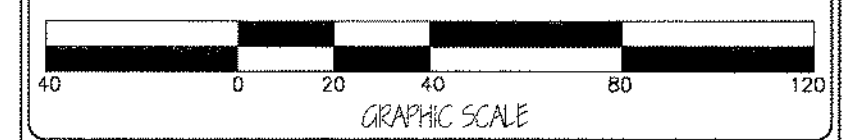
PLAN AND PROFILE:
PROPOSED ROAD 'B'

Prepared for:
DANNY JAKE CORP.

As part of
ZERN TRACT

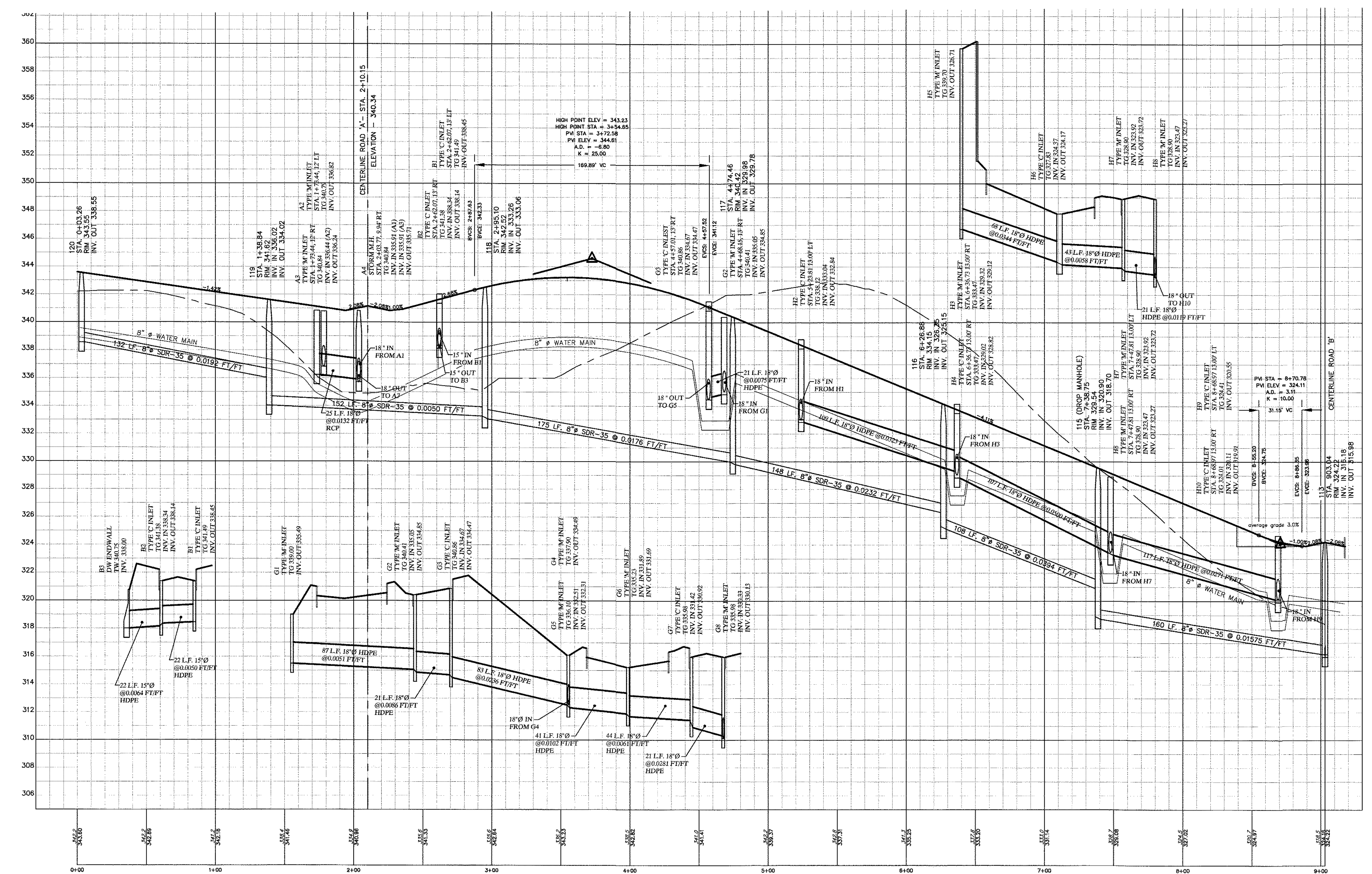
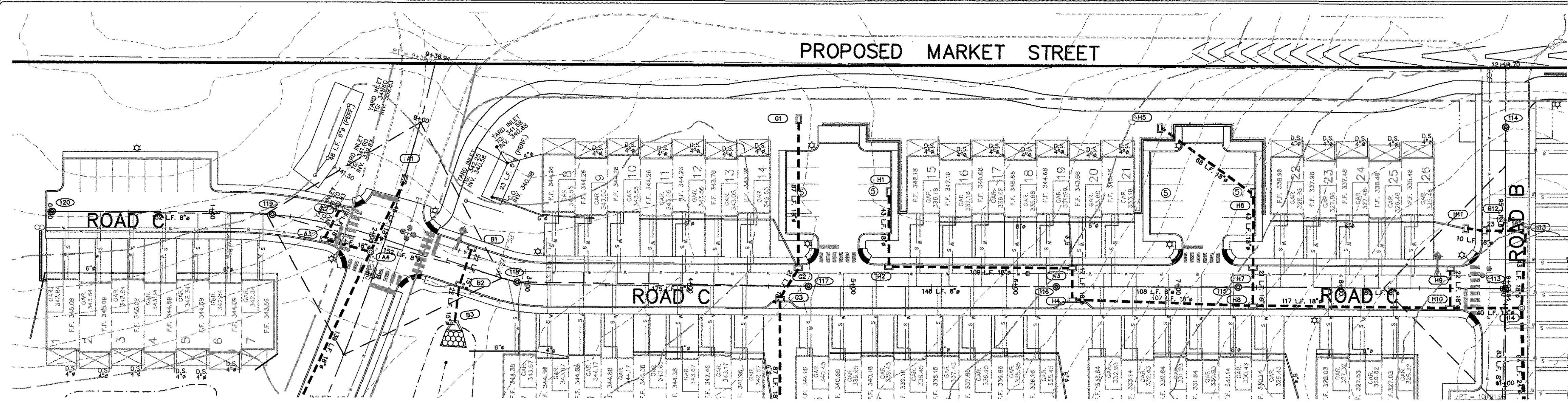
DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 058306



PROJECT MANAGER	DRAWING SCALE	SHEET NUMBER
J.T.S.	H:1"=40'	35 of 64
DRAFTED BY	PROJECT NUMBER	
B.C.S.	2028	

PROPOSED MARKET STREET



CONSTRUCTION NOTES

1. ALL CURB TYPE STORM SEWER INLETS SHALL BE PENN. D.O.T. 4" TYPE "C" INLETS CONFORMING TO DOUGLASS TOWNSHIP SPECIFICATIONS WITH BICYCLE SAFE STRUCTURAL STEEL GRATES.
2. ALL LAWN AREA STORM SEWER INLETS SHALL BE PENN. D.O.T. TYPE "M" AND SHALL CONFORM TO PENN.D.O.T. FORM 408/LATEST EDITION, SECTION 605.
3. ALL CONCRETE "DW" ENDWALLS SHALL CONFORM TO PENN. D.O.T. FORM 408/LATEST EDITION, SECTION 605.
4. THE TOP OF GRATE ELEVATION FOR ALL STORM SEWER INLETS IS FOR THE CENTER OF THE INLET AT THE FACE OF CURB. THE CONTRACTOR IS RESPONSIBLE FOR PROJECTING THE ROADWAY GRADE ALONG THE LENGTH OF THE INLET.
5. ALL LOTS SHALL BE PROPERLY GRADED TO ENSURE PROPER DRAINAGE FLOW, AWAY FROM BUILDINGS TO NEAREST INLET OR WATERCOURSE WITHOUT PONDING OR OBSTRUCTION. A MINIMUM OF 2% SLOPE SHALL BE PROVIDED ON ALL GRASSED AREAS.
6. ANY SPRING ENCOUNTERED DURING ROADWAY CONSTRUCTION SHALL BE OUTLETTED BY U-DRAIN TO NEAREST STORM SEWER FACILITY OR WATERCOURSE. U-DRAIN PLACEMENT TO BE BY THE DIRECTION OF THE BOROUGH ENGINEER.
7. NO STORM PIPE CAN TIE INTO THE CORNER OF AN INLET.
8. A HORIZONTAL SEPARATION OF 10 FEET AND OR VERTICAL CLEARANCE OF 18 INCHES SHALL BE MAINTAINED BETWEEN THE SANITARY SEWER AND OTHER UTILITIES (INCLUDING BUT NOT LIMITED TO WATER, GAS, ELECTRIC, PHONE, ETC.) WHERE PIPE LINE MUST CROSS UNDER A SEWER, THE INSTALLATION MUST ALSO PROVIDE ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER TO PREVENT DEFLECTION AND BREAKING OF THE SEWER. WHERE PROPER CLEARANCES CAN NOT BE PROVIDED, THE SEWER SHALL BE CONCRETE ENCASED FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CONFLICT.
9. NO OTHER UNDERGROUND UTILITIES (I.E.) ELECTRIC, TELEPHONE, CABLE, GAS OR STREET LIGHTS SHOULD BE INSTALLED WITHIN FIVE FEET OF ANY WATER SERVICE LINE.
10. ALL SANITARY SEWER CONSTRUCTION AND TESTING SHALL BE IN ACCORDANCE WITH THE RULES, REGULATIONS, AND SPECIFICATIONS OF THE BERKS-MONTGOMERY MUNICIPAL AUTHORITY AND THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
11. ALL ENGINEERING AND CONSTRUCTION WORK FOR SEWER LATERALS AND MAINS SHALL BE IN ACCORDANCE WITH BERKS-MONTGOMERY MUNICIPAL AUTHORITY STANDARDS AND SPECIFICATIONS AS WELL AS THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION "DOMESTIC WASTEWATER FACILITIES MANUAL," 362-0300-001, OCTOBER 1997. SEWER MAINS SHALL COMPLY WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STANDARDS.
12. ALL WATER LINES SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER.
13. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN SIX FEET OF STORMSEWER FACILITIES. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN 10 FEET OF SANITARY OR WATER FACILITIES.
14. THE PORTIONS OF THE SEWER LINE FROM THE END OF THE 6" LATERAL TO THE PROPOSED BUILDING IS CONSIDERED THE "BUILDING SEWER", AND ITS CONSTRUCTION IS SUBJECT TO THE APPROVAL AND INSPECTION BY THE TOWNSHIP PLUMBING INSPECTOR/CODE ENFORCEMENT OFFICER. A WATERTIGHT PLUG SHALL BE INSTALLED AT THE END OF THE 6" LATERAL TO ALLOW FOR AIR TESTING OF THE LATERAL ALONG WITH THE SANITARY SEWER MAIN AND MANHOLES. NO BUILDING SEWER CONNECTIONS SHALL BE MADE UNTIL THE PROPOSED SANITARY SEWER MAINS, LATERAL(S), AND MANHOLES ARE TESTED AND CERTIFIED FOR FLOW BY THE AUTHORITY ENGINEER.
15. ALL UNITS WITH BASEMENTS SHALL HAVE SUMP PUMPS. SUMP PUMPS SHALL NOT DIRECTLY DISCHARGE WATER INTO A STREET RIGHT-OF-WAY OR INTO A SANITARY SEWER SYSTEM.

PLAN AND PROFILE:
PROPOSED ROAD 'C'

Proposed by
DANNY JAKE CORP.

As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

LENAPE VALLEY
ENGINEERING

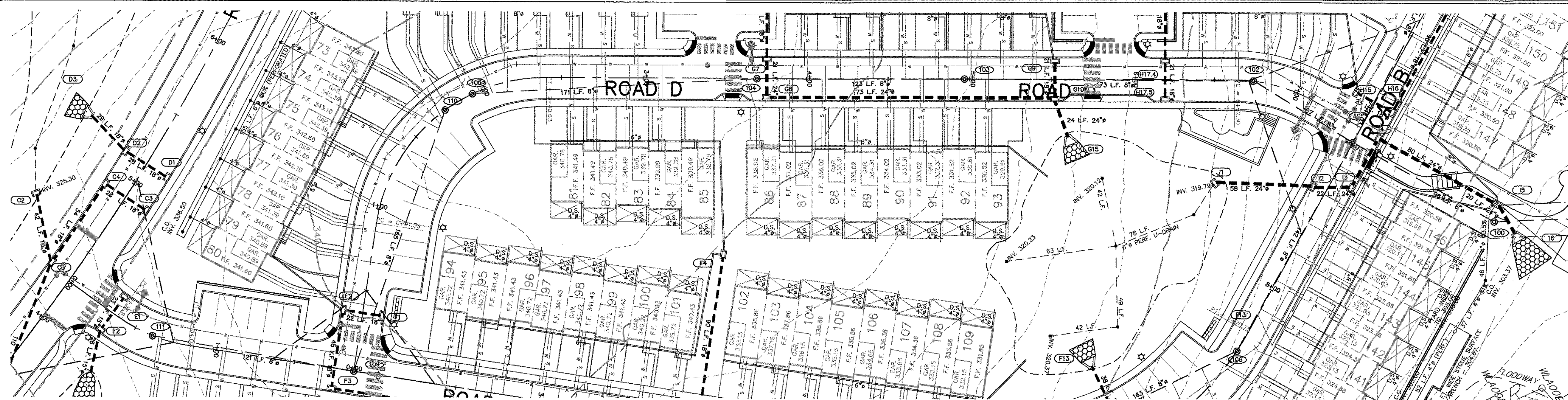
Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

PROJECT MANAGER
J.T.S.

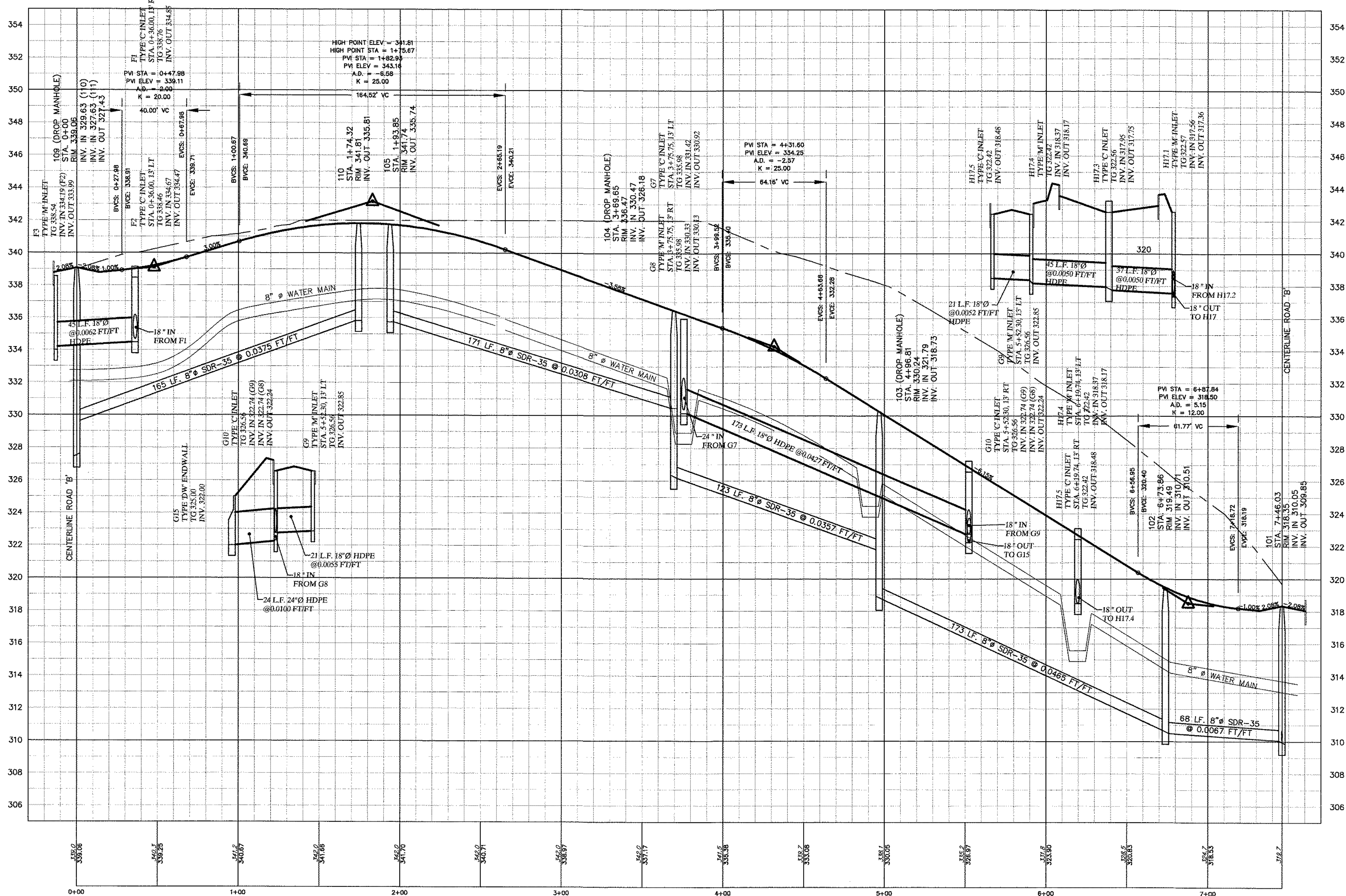
DRAWING SCALE
H:1"=40'

SHEET NUMBER
36 of 64



CONSTRUCTION NOTES

- ALL CURB TYPE STORM SEWER INLETS SHALL BE PENN. D.O.T. 4" TYPE "C" INLETS CONFORMING TO DOUGLASS TOWNSHIP SPECIFICATIONS WITH BICYCLE SAFE STRUCTURAL STEEL GRATES.
- ALL LAWN AREA STORM SEWER INLETS SHALL BE PENN. D.O.T. TYPE "M" AND SHALL CONFORM TO PENN.D.O.T. FORM 408/LATEST EDITION, SECTION 805.
- ALL CONCRETE "DW" ENDWALLS SHALL CONFORM TO PENN. D.O.T. FORM 408/LATEST EDITION, SECTION 805.
- THE TOP OF GRATE ELEVATION FOR ALL STORM SEWER INLETS IS FOR THE CENTER OF THE INLET AT THE FACE OF CURB. THE CONTRACTOR IS RESPONSIBLE FOR PROJECTING THE ROADWAY GRADE ALONG THE LENGTH OF THE INLET.
- ALL LOTS SHALL BE PROPERLY GRADED TO ENSURE PROPER DRAINAGE FLOW AWAY FROM BUILDINGS TO NEAREST INLET OR WATERCOURSE WITHOUT PONDING OR OBSTRUCTION. A MINIMUM OF 2% SLOPE SHALL BE PROVIDED ON ALL GRASSED AREAS.
- ANY SPRING ENCOUNTERED DURING ROADWAY CONSTRUCTION SHALL BE OUTLETED BY U-DRAIN TO NEAREST STORM SEWER FACILITY OR WATERCOURSE. U-DRAIN PLACEMENT TO BE BY THE DIRECTION OF THE BOROUGH ENGINEER.
- NO STORM PIPE CAN TIE INTO THE CORNER OF AN INLET.
- A HORIZONTAL SEPARATION OF 10 FEET AND OR VERTICAL CLEARANCE OF 18 INCHES SHALL BE MAINTAINED BETWEEN THE SANITARY INLET AND OTHER UTILITIES (INCLUDING BUT NOT LIMITED TO WATER, GAS, ELECTRIC, PHONE, ETC.) WHERE PIPE LINE MUST CROSS UNDER A SEWER, THE INSTALLATION MUST PROVIDE ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER TO PREVENT DEFLECTION AND BREAKING OF THE SEWER. WHERE PROPER CLEARANCES CAN NOT BE PROVIDED, THE SEWER SHALL BE CONCRETE ENCASED FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CONFLICT.
- NO OTHER UNDERGROUND UTILITIES (I.E.) ELECTRIC, TELEPHONE, CABLE, GAS OR STREET LIGHTS SHOULD BE INSTALLED WITHIN FIVE FEET OF ANY WATER SERVICE LINE.
- ALL SANITARY SEWER CONSTRUCTION AND TESTING SHALL BE IN ACCORDANCE WITH THE RULES, REGULATIONS, AND SPECIFICATIONS OF THE BERKS-MONTGOMERY MUNICIPAL AUTHORITY AND THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- ALL ENGINEERING AND CONSTRUCTION WORK FOR SEWER LATERALS AND MAINS SHALL BE IN ACCORDANCE WITH BERKS-MONTGOMERY MUNICIPAL AUTHORITY STANDARDS AND SPECIFICATIONS AS WELL AS THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION "DOMESTIC WASTEWATER FACILITIES MANUAL," 362-0300-001, OCTOBER 1997. SEWER MAINS SHALL COMPLY WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STANDARDS.
- ALL WATER LINES SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER.
- NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN SIX FEET OF STORMSEWER FACILITIES. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN 10 FEET OF SANITARY OR WATER FACILITIES.
- THE PORTIONS OF THE SEWER LINE FROM THE END OF THE 6" LATERAL TO THE PROPOSED BUILDING IS CONSIDERED THE "BUILDING SEWER", AND ITS CONSTRUCTION IS SUBJECT TO THE APPROVAL AND INSPECTION BY THE TOWNSHIP PLUMBING INSPECTOR/CODE ENFORCEMENT OFFICER. A WATER TIGHT PLUG SHALL BE INSTALLED AT THE END OF THE 6" LATERAL TO ALLOW FOR AIR TESTING OF THE LATERAL ALONG WITH THE SANITARY SEWER MAIN AND MANHOLES. NO BUILDING SEWER CONNECTIONS SHALL BE MADE UNTIL THE PROPOSED SANITARY SEWER MAINS, LATERAL(S), AND MANHOLES ARE TESTED AND CERTIFIED FOR FLOW BY THE AUTHORITY ENGINEER.
- ALL UNITS WITH BASEMENTS SHALL HAVE SUMP PUMPS. SUMP PUMPS SHALL NOT DIRECTLY DISCHARGE WATER INTO A STREET RIGHT-OF-WAY OR INTO A SANITARY SEWER SYSTEM.



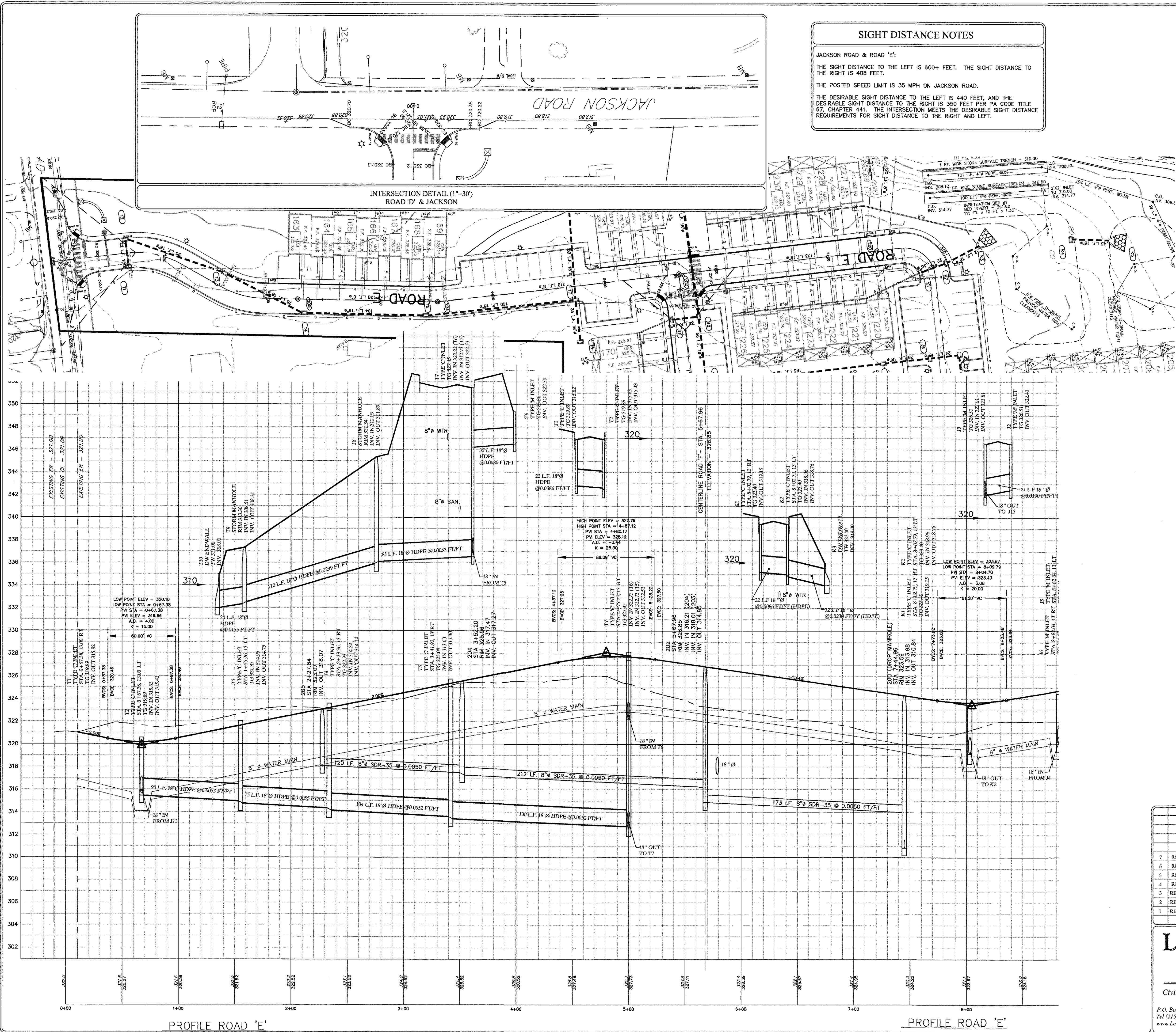
PROFILE ROAD 'D'

PLAN AND PROFILE: PROPOSED ROAD 'D'		
Prepared for		
DANNY JAKE CORP.		
As part of		
ZERN TRACT		
DOUGLASS TOWNSHIP MONTGOMERY COUNTY PENNSYLVANIA		
JASON T. SMELAND PROFESSIONAL ENGINEER PA NO. 059306		
PROJECT MANAGER J.T.S.		
DRAFTED BY B.C.S.		
REVISIONS		
7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		
01-08-2014		

LENAPE VALLEY
ENGINEERING
Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

 GRAPHIC SCALE		
PROJECT MANAGER J.T.S.	DRAWING SCALE H: 1"=40' V: 1"=4'	SHEET NUMBER 37 OF 64
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	



SIGHT DISTANCE NOTES

JACKSON ROAD & ROAD 'E':

THE SIGHT DISTANCE TO THE LEFT IS 600+ FEET. THE SIGHT DISTANCE TO THE RIGHT IS 408 FEET.

THE POSTED SPEED LIMIT IS 35 MPH ON JACKSON ROAD.

THE DESIRABLE SIGHT DISTANCE TO THE LEFT IS 440 FEET, AND THE DESIRABLE SIGHT DISTANCE TO THE RIGHT IS 350 FEET PER PA CODE TITLE 67, CHAPTER 441. THE INTERSECTION MEETS THE DESIRABLE SIGHT DISTANCE REQUIREMENTS FOR SIGHT DISTANCE TO THE RIGHT AND LEFT.

- CONSTRUCTION NOTES**
- ALL CURB TYPE STORM SEWER INLETS SHALL BE PENN. D.O.T. TYPE "C" INLETS CONFORMING TO DOUGLASS TOWNSHIP SPECIFICATIONS WITH BICYCLE SAFE STRUCTURAL STEEL GRATES.
 - ALL LAWN AREA STORM SEWER INLETS SHALL BE PENN. D.O.T. TYPE "M" AND SHALL CONFORM TO PENN.D.O.T. FORM 408/LATEST EDITION, SECTION 605.
 - ALL CONCRETE "DW" ENDWALLS SHALL CONFORM TO PENN. D.O.T. FORM 408/LATEST EDITION, SECTION 605.
 - THE TOP OF GRATE ELEVATION FOR ALL STORM SEWER INLETS IS FOR THE CENTER OF THE INLET AT THE FACE OF CURB. THE CONTRACTOR IS RESPONSIBLE FOR PROJECTING THE ROADWAY GRADE ALONG THE LENGTH OF THE INLET.
 - ALL LOTS SHALL BE PROPERLY GRADED TO ENSURE PROPER DRAINAGE FLOW AWAY FROM BUILDINGS TO NEAREST INLET OR WATERCOURSE WITHOUT PONDING OR OBSTRUCTION. A MINIMUM OF 2% SLOPE SHALL BE PROVIDED ON ALL GRASSED AREAS.
 - ANY SPRING ENCOUNTERED DURING ROADWAY CONSTRUCTION SHALL BE OUTLETTED BY U-DRAIN TO NEAREST STORM SEWER FACILITY OR WATERCOURSE. U-DRAIN PLACEMENT TO BE BY THE DIRECTION OF THE BOROUGH ENGINEER.
 - NO STORM PIPE CAN TIE INTO THE CORNER OF AN INLET.
 - A HORIZONTAL SEPARATION OF 10 FEET AND OR VERTICAL CLEARANCE OF 18 INCHES SHALL BE MAINTAINED BETWEEN THE SANITARY SEWER AND OTHER UTILITIES (INCLUDING BUT NOT LIMITED TO WATER, GAS, ELECTRIC, PHONE, ETC.) WHERE PIPE LINE MUST CROSS UNDER SEWER. THE INSTALLATION MUST ALSO PROVIDE ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER TO PREVENT DEFLECTION AND BREAKING OF THE SEWER. WHERE PROPER CLEARANCES CAN NOT BE PROVIDED, THE SEWER SHALL BE CONCRETE ENCASED FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CONFLICT.
 - NO OTHER UNDERGROUND UTILITIES (I.E. ELECTRIC, TELEPHONE, CABLE, GAS OR STREET LIGHTS SHOULD BE INSTALLED WITHIN FIVE FEET OF ANY WATER SERVICE LINE.
 - ALL SANITARY SEWER CONSTRUCTION AND TESTING SHALL BE IN ACCORDANCE WITH THE RULES, REGULATIONS, AND SPECIFICATIONS OF THE BERKS-MONTGOMERY MUNICIPAL AUTHORITY AND THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
 - ALL ENGINEERING AND CONSTRUCTION WORK FOR SEWER LATERALS AND MAINS SHALL BE IN ACCORDANCE WITH BERKS-MONTGOMERY MUNICIPAL AUTHORITY STANDARDS AND SPECIFICATIONS AS WELL AS THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION "DOMESTIC WASTEWATER FACILITIES MANUAL" 382-0300-001, OCTOBER 1997. SEWER MAINS SHALL COMPLY WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STANDARDS.
 - ALL WATER LINES SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER.
 - NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN SIX FEET OF STORMSEWER FACILITIES. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN 10 FEET OF SANITARY OR WATER FACILITIES.
 - THE PORTIONS OF THE SEWER LINE FROM THE END OF THE 6" LATERAL TO THE PROPOSED BUILDING IS CONSIDERED THE "BUILDING SEWER", AND ITS CONSTRUCTION IS SUBJECT TO THE APPROVAL AND INSPECTION BY THE TOWNSHIP PLUMBING INSPECTOR/CODE ENFORCEMENT OFFICER. A WATERTIGHT PLUG SHALL BE INSTALLED AT THE END OF THE 6" LATERAL TO ALLOW FOR AIR TESTING OF THE LATERAL ALONG WITH THE SANITARY SEWER MAIN AND MANHOLES. NO BUILDING SEWER CONNECTIONS SHALL BE MADE UNTIL THE PROPOSED SANITARY SEWER MAINS, LATERAL(S), AND MANHOLES ARE TESTED AND CERTIFIED FOR FLOW BY THE AUTHORITY ENGINEER.
 - ALL UNITS WITH BASEMENTS SHALL HAVE SUMP PUMPS. SUMP PUMPS SHALL NOT DIRECTLY DISCHARGE WATER INTO A STREET RIGHT-OF-WAY OR INTO A SANITARY SEWER SYSTEM.

PLAN AND PROFILE:
PROPOSED ROAD 'E'

Prepared for:
DANNY JAKE CORP.

As part of:
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

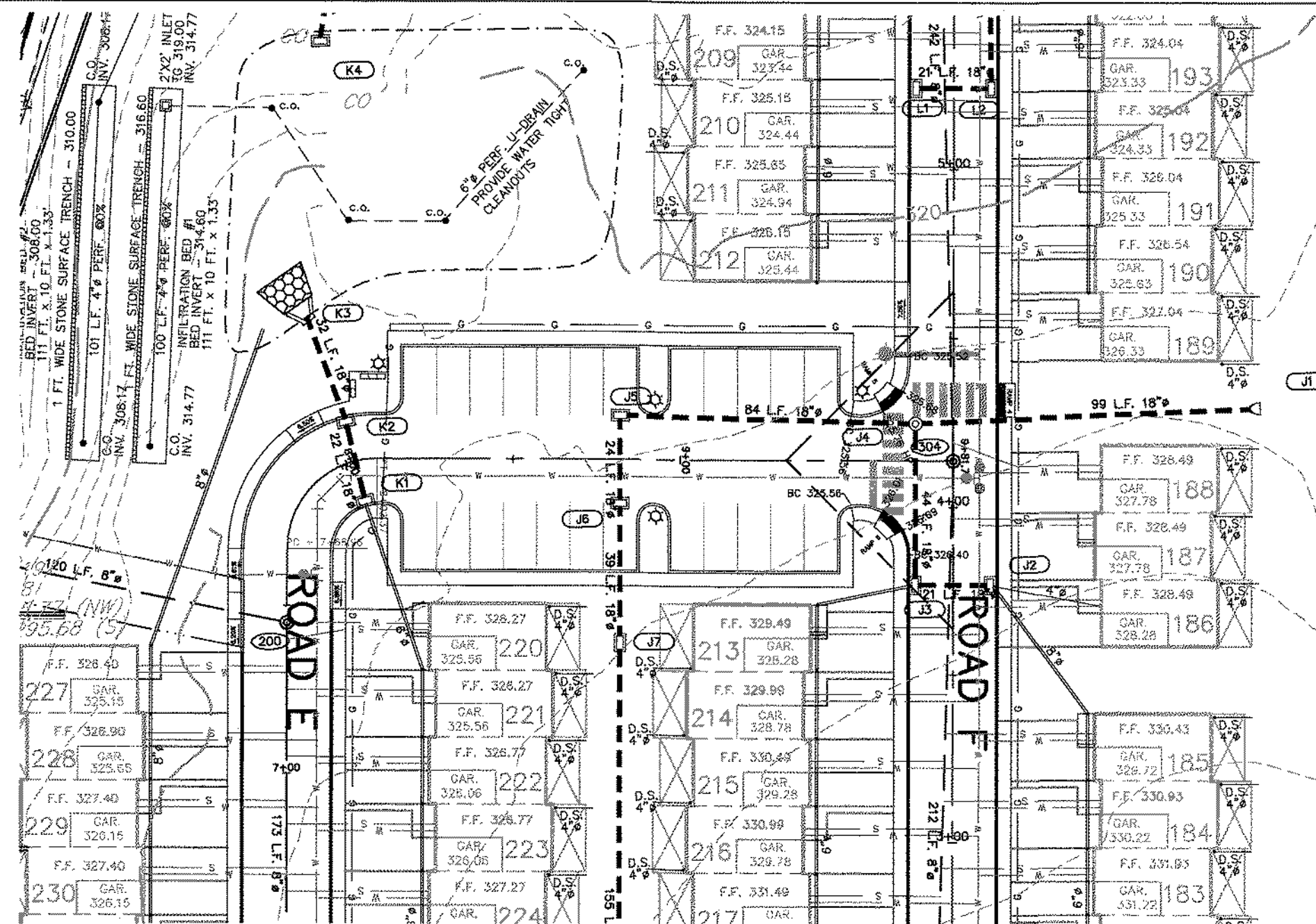
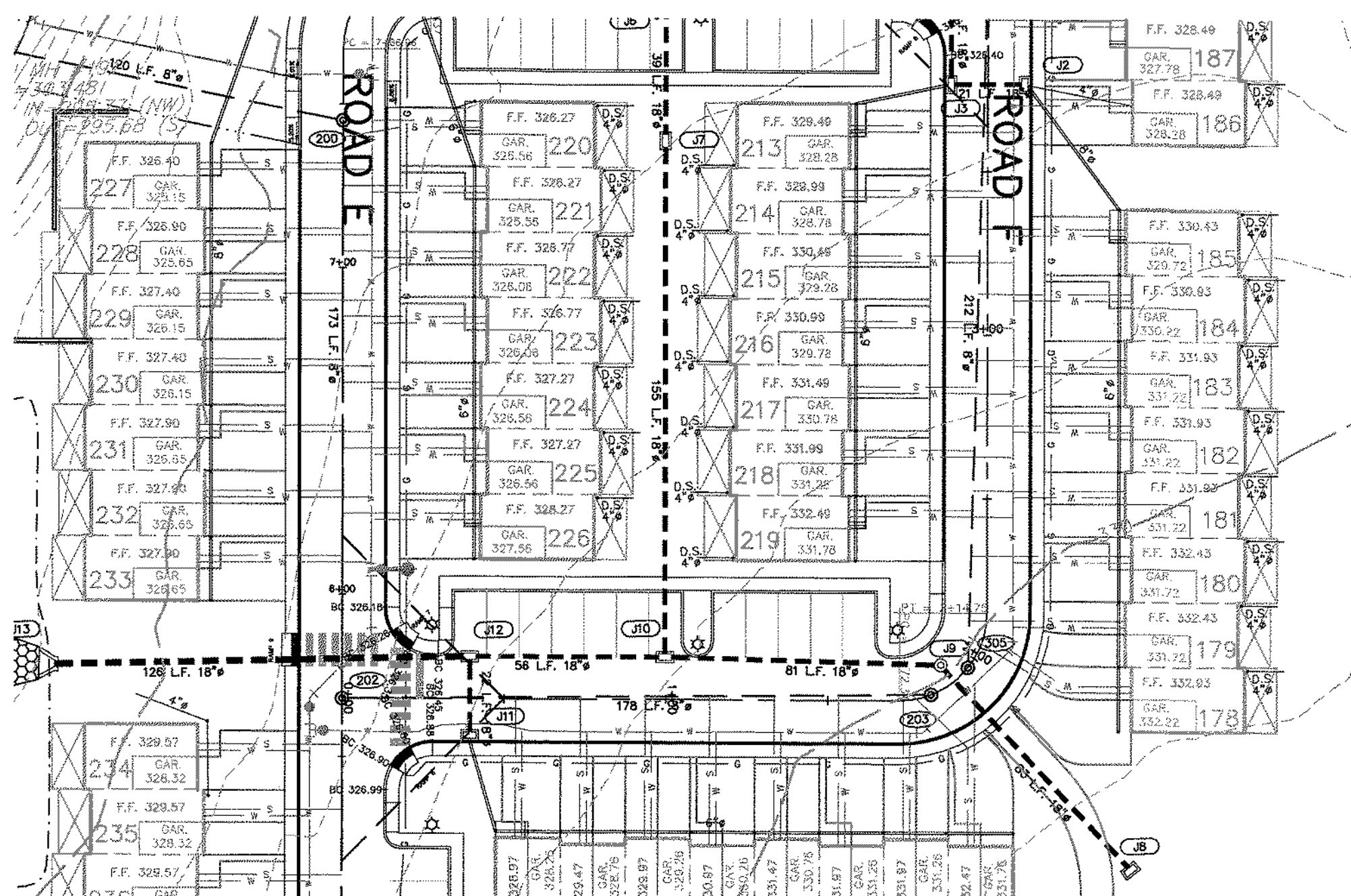
GRAPHIC SCALE
0 20 40 60 80 100 120

PROJECT MANAGER J.T.S.	DRAWING SCALE H:1"=40'	SHEET NUMBER 38 OF 64
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	

7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

LENAPE VALLEY
ENGINEERING
Civil Engineering • Subdivision • Land Development

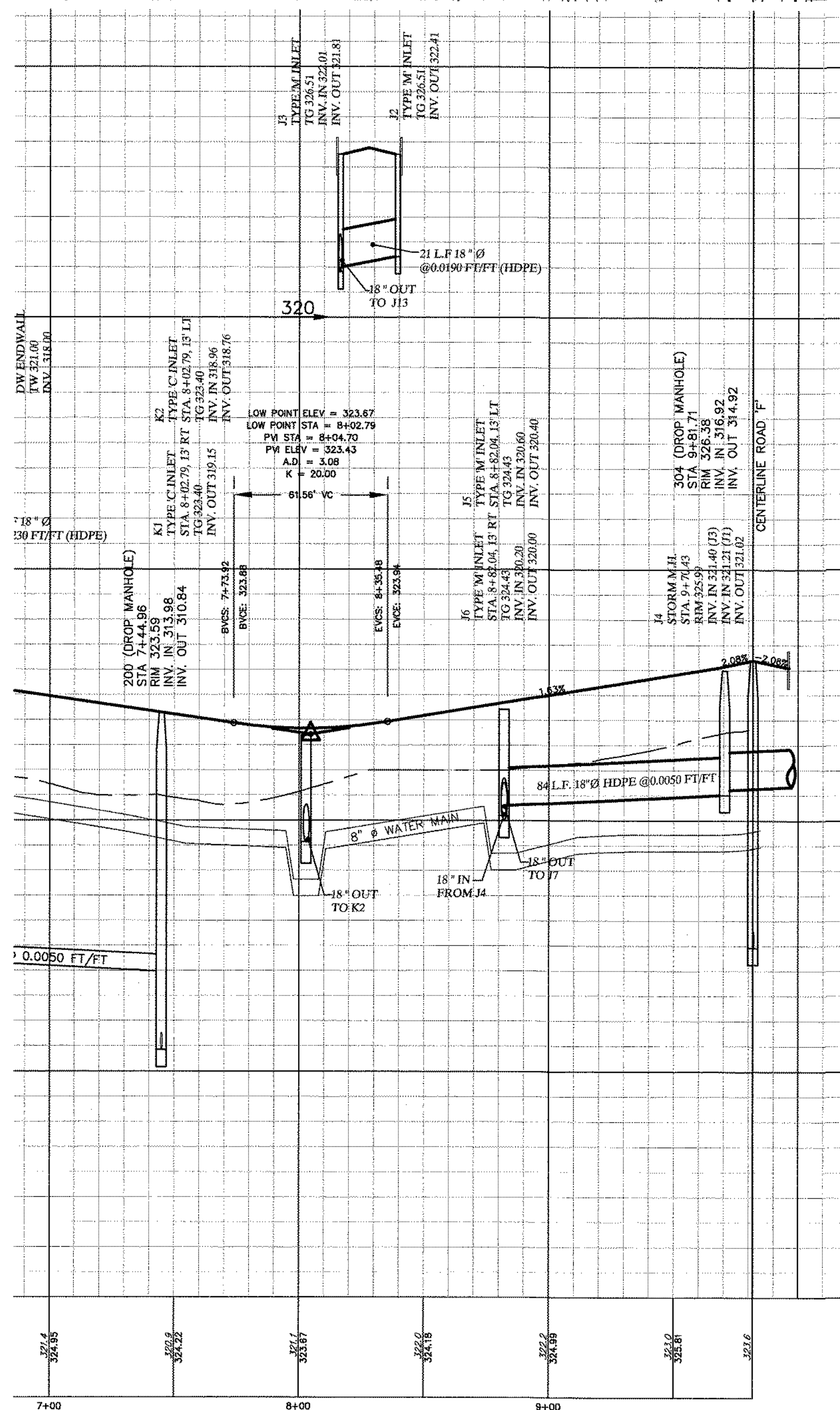
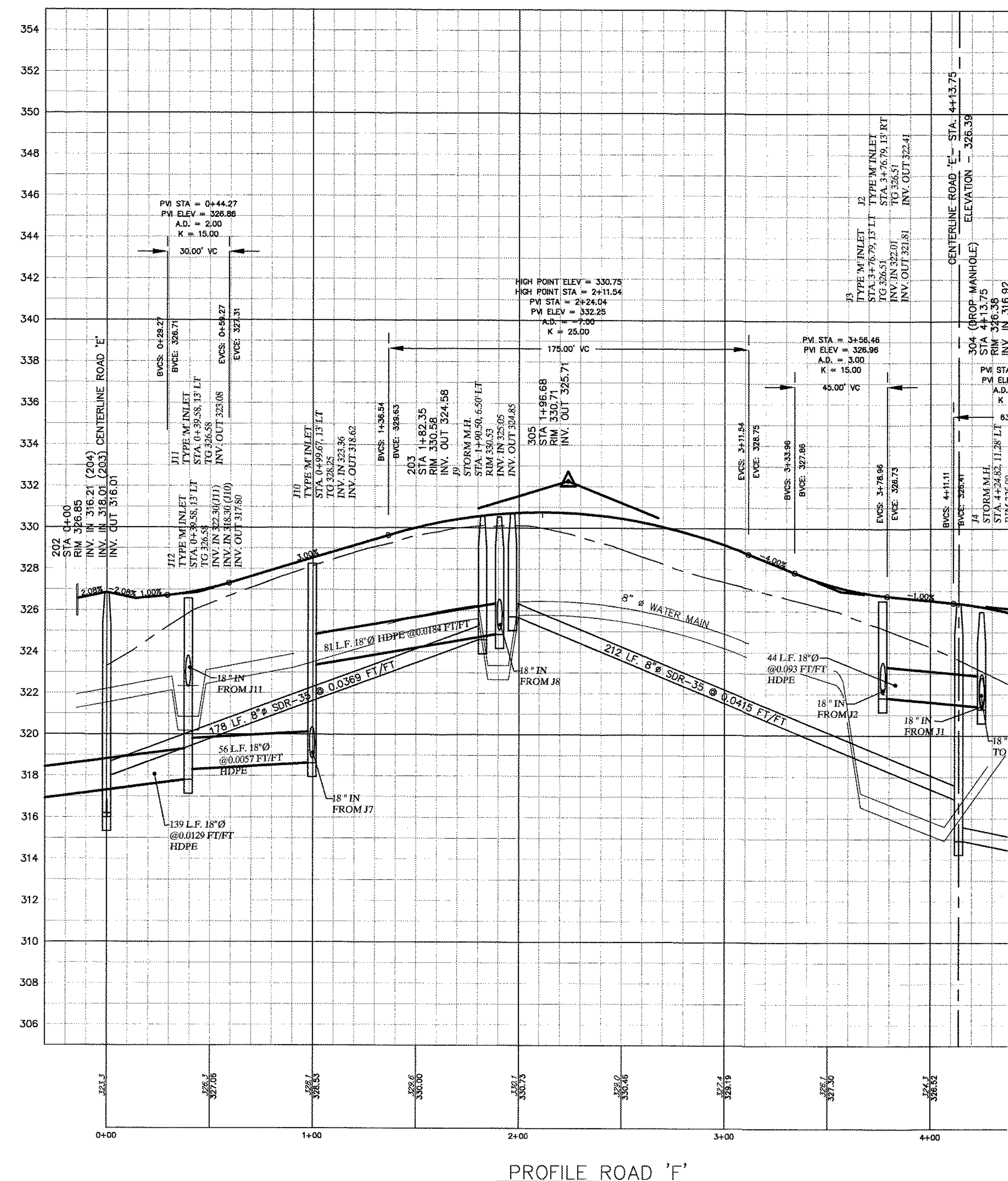
P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com



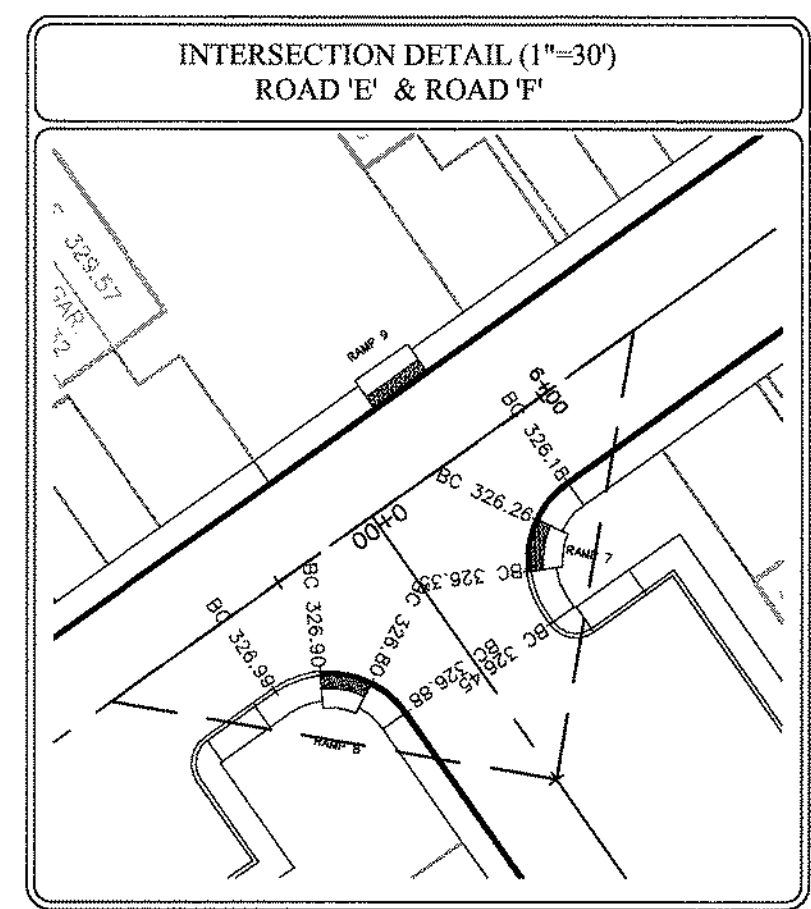
LANE
ST. MORITZ
(AKA AR
BLOCK
DB 20.
& DB 2

CONSTRUCTION NOTES

- ALL CURB TYPE STORM SEWER INLETS SHALL BE PENN. D.O.T. TYPE "C" INLETS CONFORMING TO DOUGLASS TOWNSHIP SPECIFICATIONS WITH BICYCLE SAFE STRUCTURAL STEEL GRATES.
- ALL LAWN AREA STORM SEWER INLETS SHALL BE PENN. D.O.T. TYPE "M" AND SHALL CONFORM TO PENN.D.O.T. FORM 408/LATEST EDITION, SECTION 605.
- ALL CONCRETE "DW" ENDWALLS SHALL CONFORM TO PENN. D.O.T. FORM 408/LATEST EDITION, SECTION 605.
- THE TOP OF GRATE ELEVATION FOR ALL STORM SEWER INLETS IS FOR THE CENTER OF THE INLET AT THE FACE OF CURB. THE CONTRACTOR IS RESPONSIBLE FOR PROJECTING THE ROADWAY GRADE ALONG THE LENGTH OF THE INLET.
- ALL LOTS SHALL BE PROPERLY GRADED TO ENSURE PROPER DRAINAGE FLOW, AWAY FROM BUILDINGS TO NEAREST INLET OR WATERCOURSE WITHOUT PONDING OR OBSTRUCTION. A MINIMUM OF 2% SLOPE SHALL BE PROVIDED ON ALL GRASSED AREAS.
- ANY SPRING ENCOUNTERED DURING ROADWAY CONSTRUCTION SHALL BE OUTLETTED BY U-DRAIN TO NEAREST STORM SEWER FACILITY OR WATERCOURSE. U-DRAIN PLACEMENT TO BE BY THE DIRECTION OF THE BOROUGH ENGINEER.
- NO STORM PIPE CAN TIE INTO THE CORNER OF AN INLET.
- A HORIZONTAL SEPARATION OF 10 FEET AND OR VERTICAL CLEARANCE OF 18 INCHES SHALL BE MAINTAINED BETWEEN THE SANITARY SEWER AND OTHER UTILITIES (INCLUDING BUT NOT LIMITED TO WATER, GAS, ELECTRIC, PHONE, ETC.) WHERE PIPE LINE MUST CROSS UNDER A SEWER. THE INSTALLATION MUST ALSO PROVIDE ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER TO PREVENT DEFLECTION AND BREAKING OF THE SEWER. WHERE PROPER CLEARANCES CAN NOT BE PROVIDED, THE SEWER SHALL BE CONCRETE ENCASED FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CONFLICT.
- NO OTHER UNDERGROUND UTILITIES (I.E.) ELECTRIC, TELEPHONE, CABLE, GAS OR STREET LIGHTS SHOULD BE INSTALLED WITHIN FIVE FEET OF ANY WATER SERVICE LINE.
- ALL SANITARY SEWER CONSTRUCTION AND TESTING SHALL BE IN ACCORDANCE WITH THE RULES, REGULATIONS, AND SPECIFICATIONS OF THE BERKS-MONTGOMERY MUNICIPAL AUTHORITY AND THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- ALL ENGINEERING AND CONSTRUCTION WORK FOR SEWER LATERALS AND MAINS SHALL BE IN ACCORDANCE WITH BERKS-MONTGOMERY MUNICIPAL AUTHORITY STANDARDS AND SPECIFICATIONS AS WELL AS THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION "DOMESTIC WASTEWATER FACILITIES MANUAL," 362-0300-001, OCTOBER 1997. SEWER MAINS SHALL COMPLY WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STANDARDS.
- ALL WATER LINES SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER.
- NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN SIX FEET OF STORMSEWER FACILITIES. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN 10 FEET OF SANITARY OR WATER FACILITIES.
- THE PORTIONS OF THE SEWER LINE FROM THE END OF THE 6" LATERAL TO THE PROPOSED BUILDING IS CONSIDERED THE "BUILDING SEWER", AND ITS CONSTRUCTION IS SUBJECT TO THE APPROVAL AND INSPECTION BY THE TOWNSHIP PLUMBING INSPECTOR/CODE ENFORCEMENT OFFICER. A WATERTIGHT PLUG SHALL BE INSTALLED AT THE END OF THE 6" LATERAL TO ALLOW FOR AIR TESTING OF THE LATERAL ALONG WITH THE SANITARY SEWER MAIN AND MANHOLES. NO BUILDING SEWER CONNECTIONS SHALL BE MADE UNTIL THE PROPOSED SANITARY SEWER MAINS, LATERAL(S), AND MANHOLES ARE TESTED AND CERTIFIED FOR FLOW BY THE AUTHORITY ENGINEER.
- ALL UNITS WITH BASEMENTS SHALL HAVE SUMP PUMPS. SUMP PUMPS SHALL NOT DIRECTLY DISCHARGE WATER INTO A STREET RIGHT-OF-WAY OR INTO A SANITARY SEWER SYSTEM.



352
350
348
346
344
342
340
338
336
334
332
330
328
326
324
322
320
318
316
314
312
310
308
306
304
302

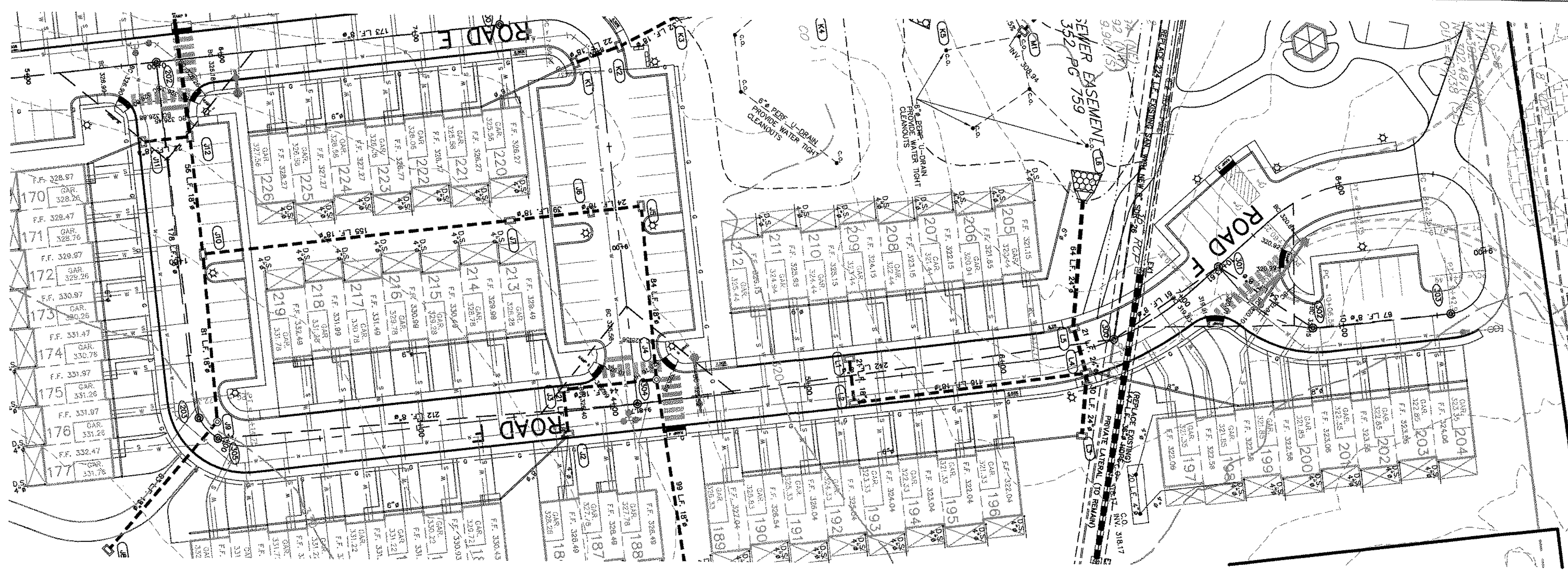


PLAN AND PROFILE: PROPOSED ROAD 'E' & 'F'		
Prepared by: DANNY JAKE CORP.		
As part of: ZERN TRACT		
DOUGLASS TOWNSHIP MONTGOMERY COUNTY PENNSYLVANIA		
JASON T. SMELAND PROFESSIONAL ENGINEER PA NO. 059308		
GRAPHIC SCALE 40 0 20 40 60 80 120		
PROJECT MANAGER	DRAWING SCALE	SHEET NUMBER
J.T.S.	H: 1"=40'	39 of 64
DRAFTED BY	PROJECT NUMBER	
B.C.S.	2028	

REVISION	DESCRIPTION	DATE
7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

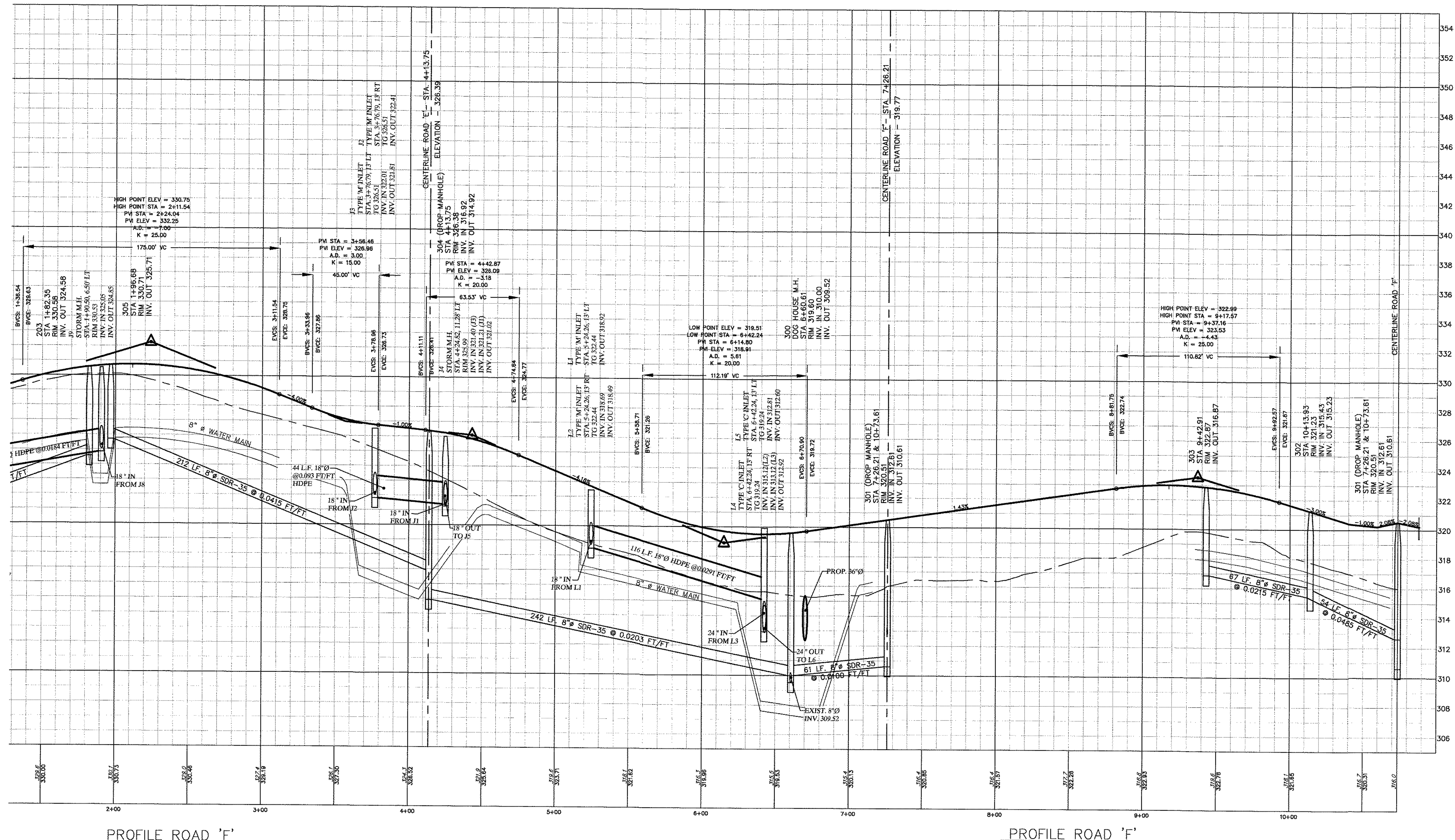
LENAPE VALLEY
ENGINEERING
Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com



CONSTRUCTION NOTES

1. ALL CURB TYPE STORM SEWER INLETS SHALL BE PENN. D.O.T. 4" TYPE "C" INLETS CONFORMING TO DOUGLASS TOWNSHIP SPECIFICATIONS WITH BICYCLE SAFE STRUCTURAL STEEL GRATES.
2. ALL LAWN AREA STORM SEWER INLETS SHALL BE PENN. D.O.T. TYPE "M" AND SHALL CONFORM TO PENN.D.O.T. FORM 408/LATEST EDITION, SECTION 605.
3. ALL CONCRETE "DW" ENDWALLS SHALL CONFORM TO PENN. D.O.T. FORM 408/LATEST EDITION, SECTION 605.
4. THE TOP OF GRATE ELEVATION FOR ALL STORM SEWER INLETS IS FOR THE CENTER OF THE INLET AT THE FACE OF CURB. THE CONTRACTOR IS RESPONSIBLE FOR PROJECTING THE ROADWAY GRADE ALONG THE LENGTH OF THE INLET.
5. ALL LOTS SHALL BE PROPERLY GRADED TO ENSURE PROPER DRAINAGE FLOW, AWAY FROM BUILDINGS TO NEAREST INLET OR WATERCOURSE WITHOUT PONDING OR OBSTRUCTION. A MINIMUM OF 2% SLOPE SHALL BE PROVIDED ON ALL GRADED AREAS.
6. ANY SPRING ENCOUNTERED DURING ROADWAY CONSTRUCTION SHALL BE OUTLETED BY U-DRAIN TO NEAREST STORM SEWER FACILITY OR WATERCOURSE. U-DRAIN PLACEMENT TO BE BY THE DIRECTION OF THE BOROUGH ENGINEER.
7. NO STORM PIPE CAN TIE INTO THE CORNER OF AN INLET.
8. A HORIZONTAL SEPARATION OF 10 FEET AND OR VERTICAL CLEARANCE OF 18 INCHES SHALL BE MAINTAINED BETWEEN THE SANITARY SEWER AND OTHER UTILITIES (INCLUDING BUT NOT LIMITED TO WATER, GAS, ELECTRIC, PHONE, ETC) WHERE PIPE LINE MUST CROSS UNDER A SEWER. THE INSTALLATION MUST ALSO PROVIDE ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER TO PREVENT DEFLECTION AND BREAKING OF THE SEWER. WHERE PROPER CLEARANCES CAN NOT BE PROVIDED, THE SEWER SHALL BE CONCRETE ENCASED FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CONFLICT.
9. NO OTHER UNDERGROUND UTILITIES (I.E.) ELECTRIC, TELEPHONE, CABLE, GAS OR STREET LIGHTS SHOULD BE INSTALLED WITHIN FIVE FEET OF ANY WATER SERVICE LINE.
10. ALL SANITARY SEWER CONSTRUCTION AND TESTING SHALL BE IN ACCORDANCE WITH THE RULES, REGULATIONS, AND SPECIFICATIONS OF THE BERKS-MONTGOMERY MUNICIPAL AUTHORITY AND THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
11. ALL ENGINEERING AND CONSTRUCTION WORK FOR SEWER LATERALS AND MAINS SHALL BE IN ACCORDANCE WITH BERKS-MONTGOMERY MUNICIPAL AUTHORITY STANDARDS AND SPECIFICATIONS AS WELL AS THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION "DOMESTIC WASTEWATER FACILITIES MANUAL," 362-0300-001, OCTOBER 1997. SEWER MAINS SHALL COMPLY WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STANDARDS.
12. ALL WATER LINES SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER.
13. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN SIX FEET OF STORMSEWER FACILITIES. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN 10 FEET OF SANITARY OR WATER FACILITIES.
14. THE PORTIONS OF THE SEWER LINE FROM THE END OF THE 6" LATERAL TO THE PROPOSED BUILDING IS CONSIDERED THE "BUILDING SEWER", AND ITS CONSTRUCTION IS SUBJECT TO THE APPROVAL AND INSPECTION BY THE TOWNSHIP PLUMBING INSPECTOR/CODE ENFORCEMENT OFFICER. A WATERTIGHT PLUG SHALL BE INSTALLED AT THE END OF THE 6" LATERAL TO ALLOW FOR AIR TESTING OF THE LATERAL ALONG WITH THE SANITARY SEWER MAIN AND MANHOLES. NO BUILDING SEWER CONNECTIONS SHALL BE MADE UNTIL THE PROPOSED SANITARY SEWER MAINS, LATERAL(S), AND MANHOLES ARE TESTED AND CERTIFIED FOR FLOW BY THE AUTHORITY ENGINEER.
15. ALL UNITS WITH BASEMENTS SHALL HAVE SUMP PUMPS. SUMP PUMPS SHALL NOT DIRECTLY DISCHARGE WATER INTO A STREET RIGHT-OF-WAY OR INTO A SANITARY SEWER SYSTEM.



PROFILE ROAD 'F'

PROFILE ROAD 'F'

PLAN AND PROFILE:
PROPOSED ROAD 'F'

Prepared for
DANNY JAKE CORP.

As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306



GRAPHIC SCALE

PROJECT MANAGER
J.T.S.

DRAFTED BY
B.C.S.

DRAWING SCALE
H: 1"=40'
V: 1"=4'

PROJECT NUMBER
2028

SHEET NUMBER
40 of 64

**LENAPE VALLEY
ENGINEERING**

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

7 REVISED PER TWP. ENGINEER'S & BMMA REVIEW 05-22-2019

6 REVISED PER TWP. ENGINEER'S & BMMA REVIEW 03-20-2019

5 REVISED PER TWP. ENGINEER'S REVIEW 02-02-2019

4 REVISED PER TWP. ENGINEER'S REVIEW 04-07-2018

3 REVISED BMMA REVIEW 02-15-2018

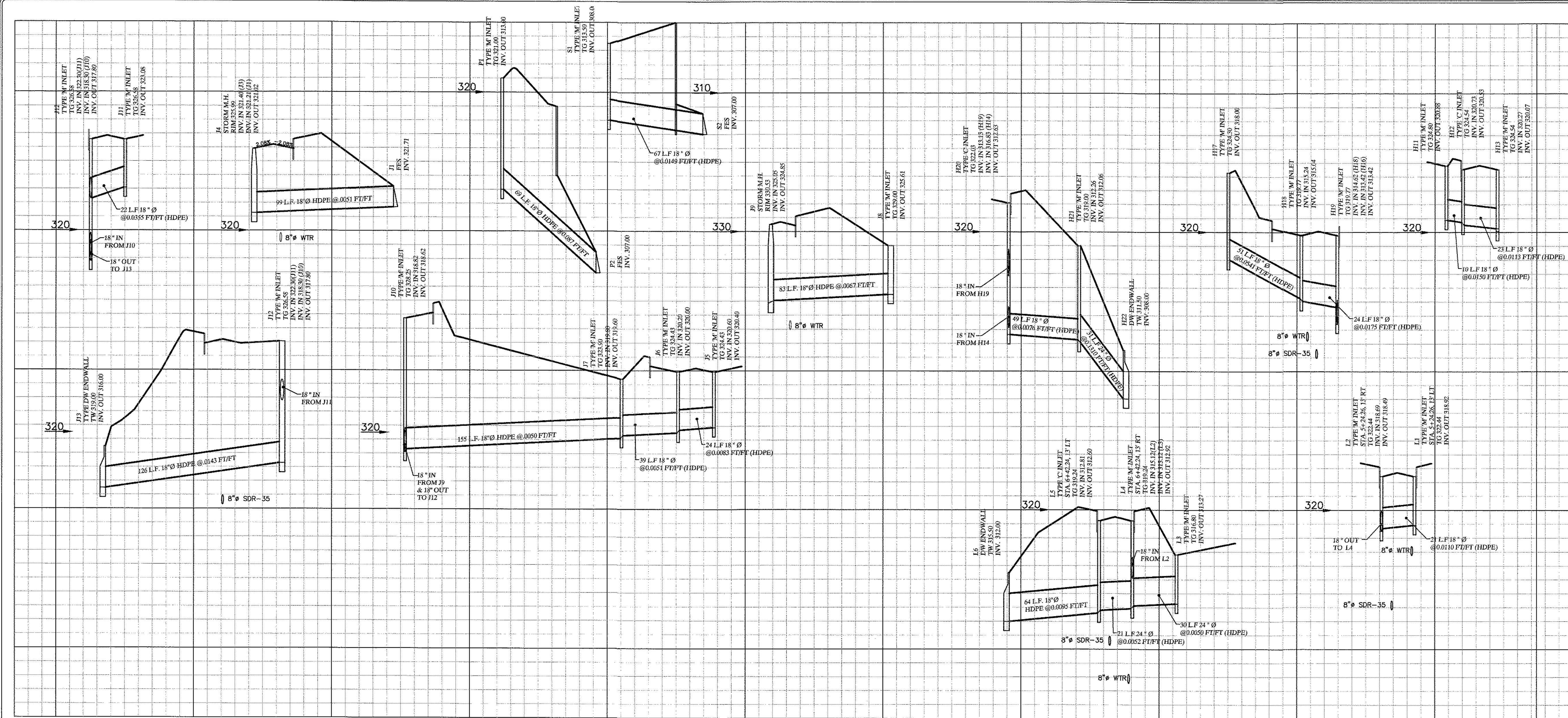
2 REVISED PER TOWNSHIP ENGINEER'S REVIEW 11-09-2016

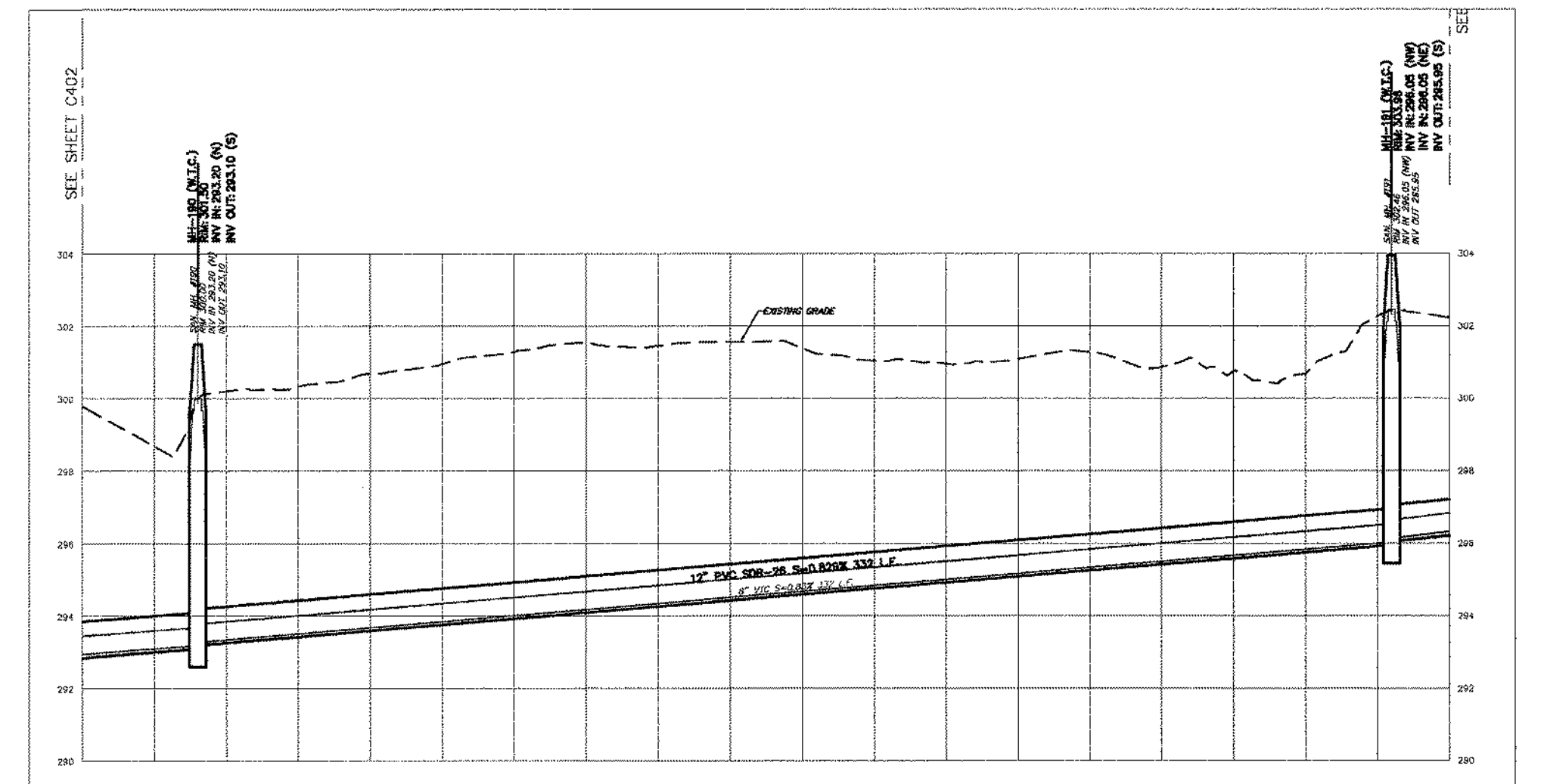
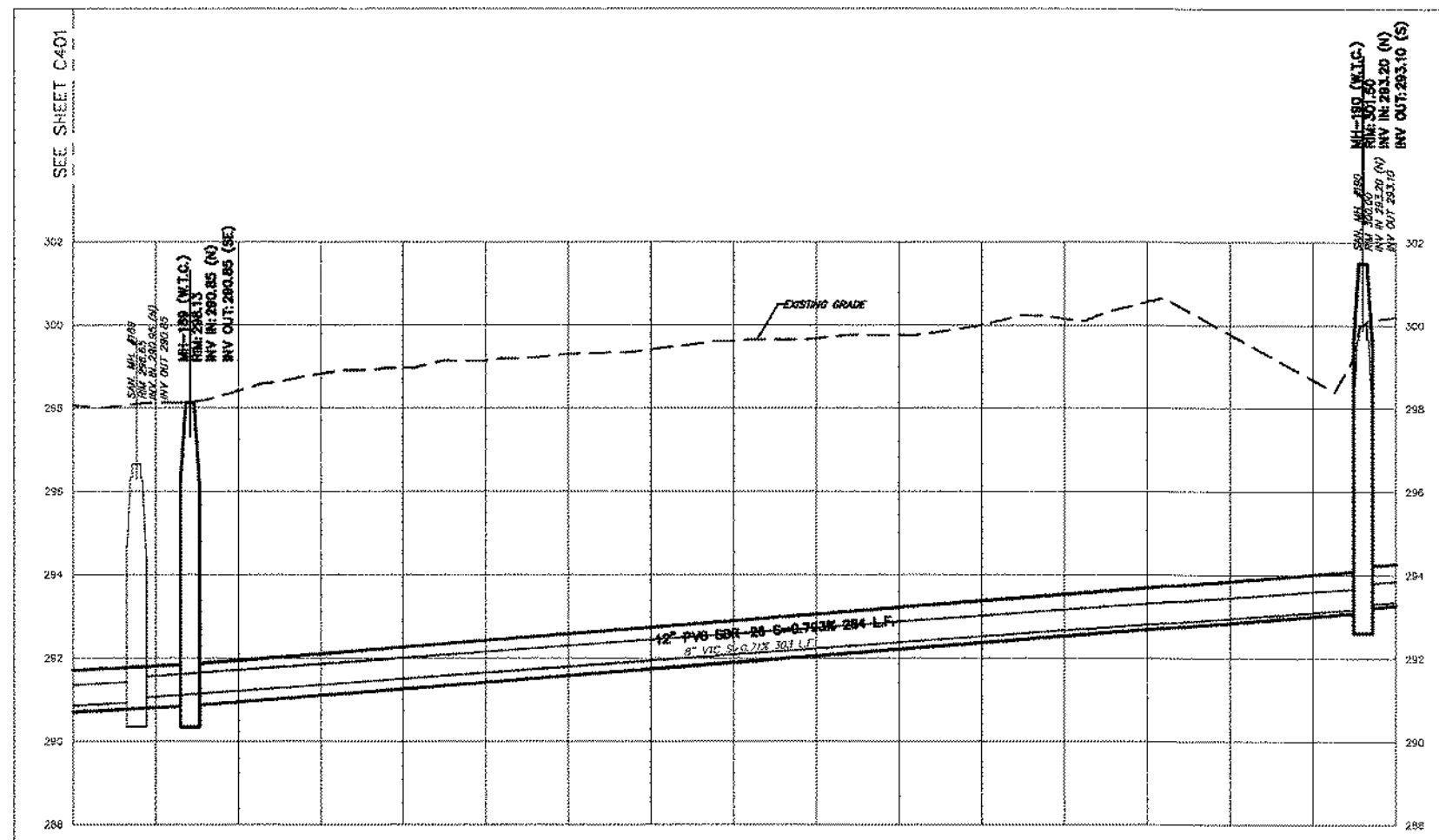
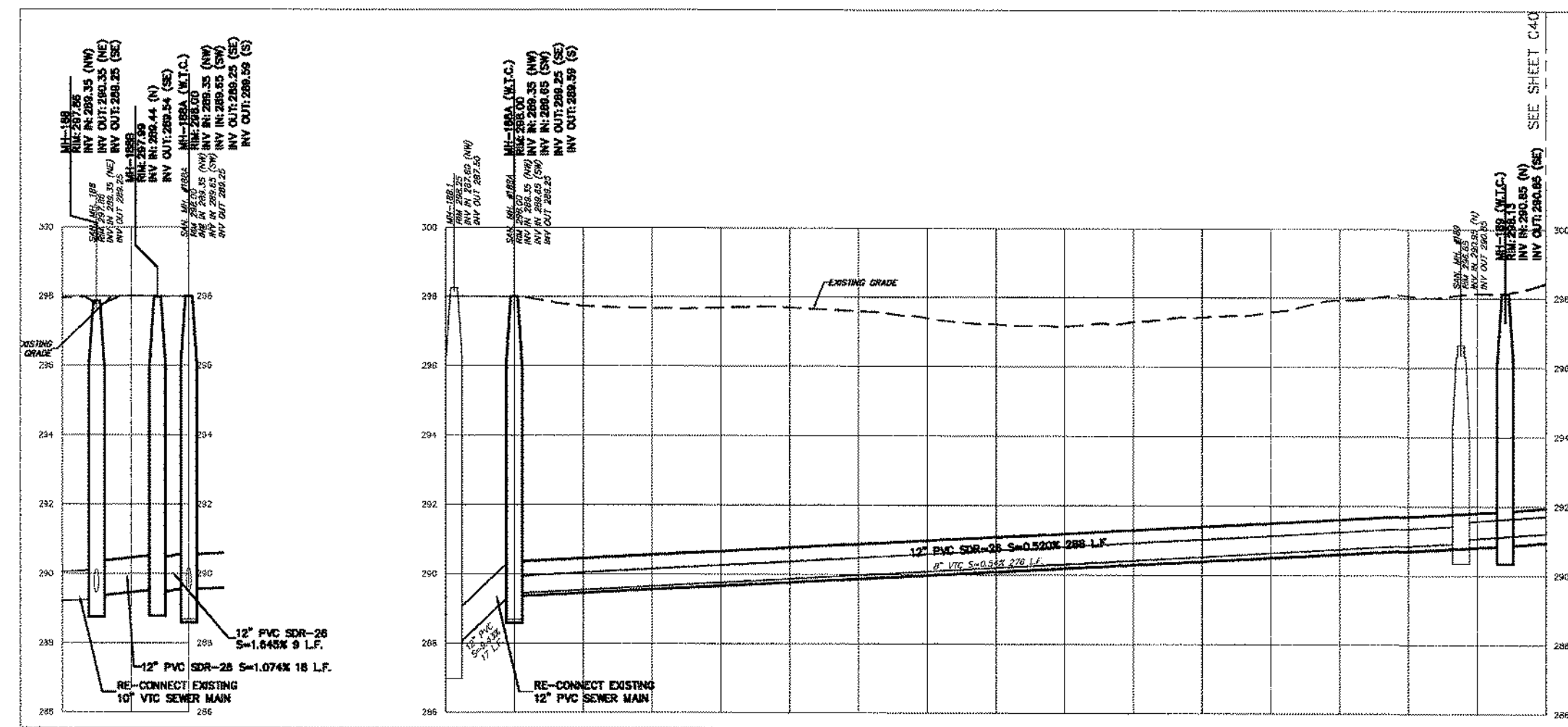
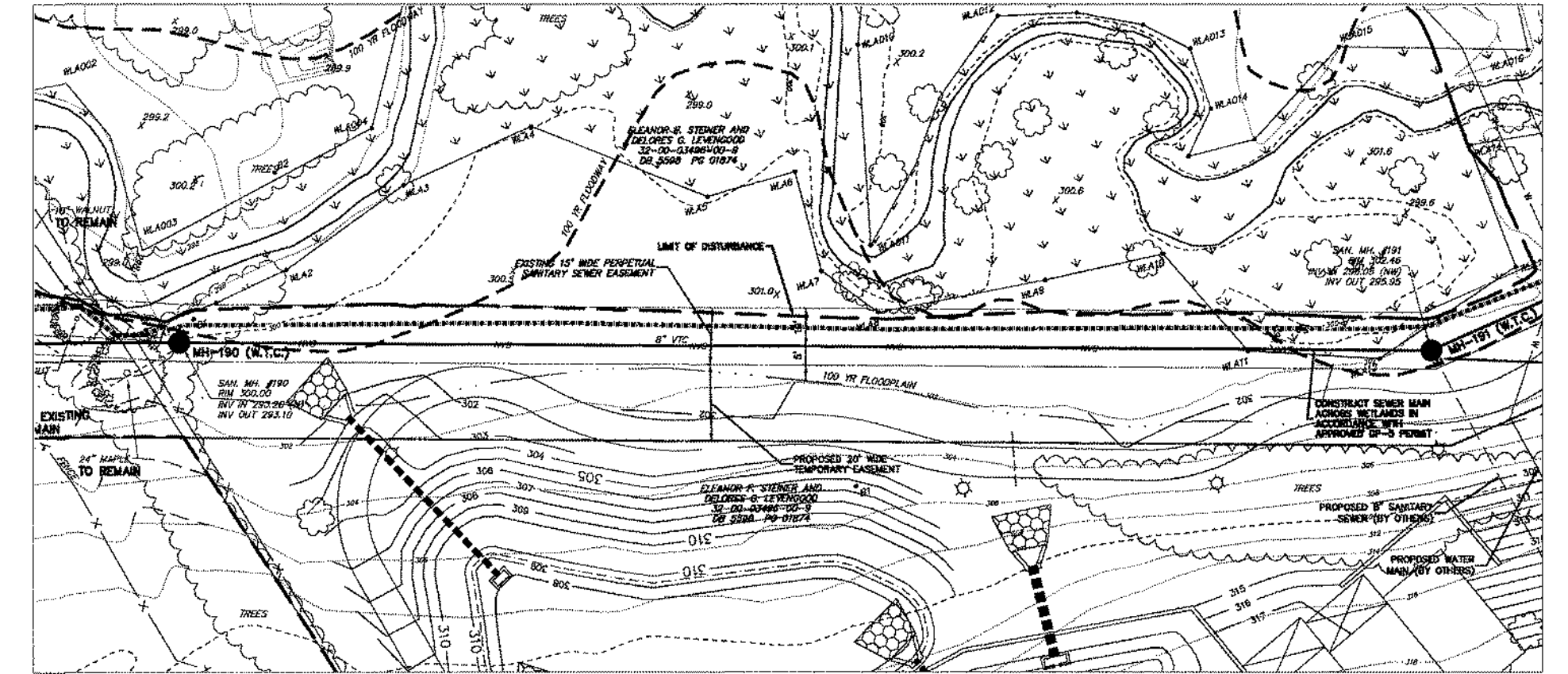
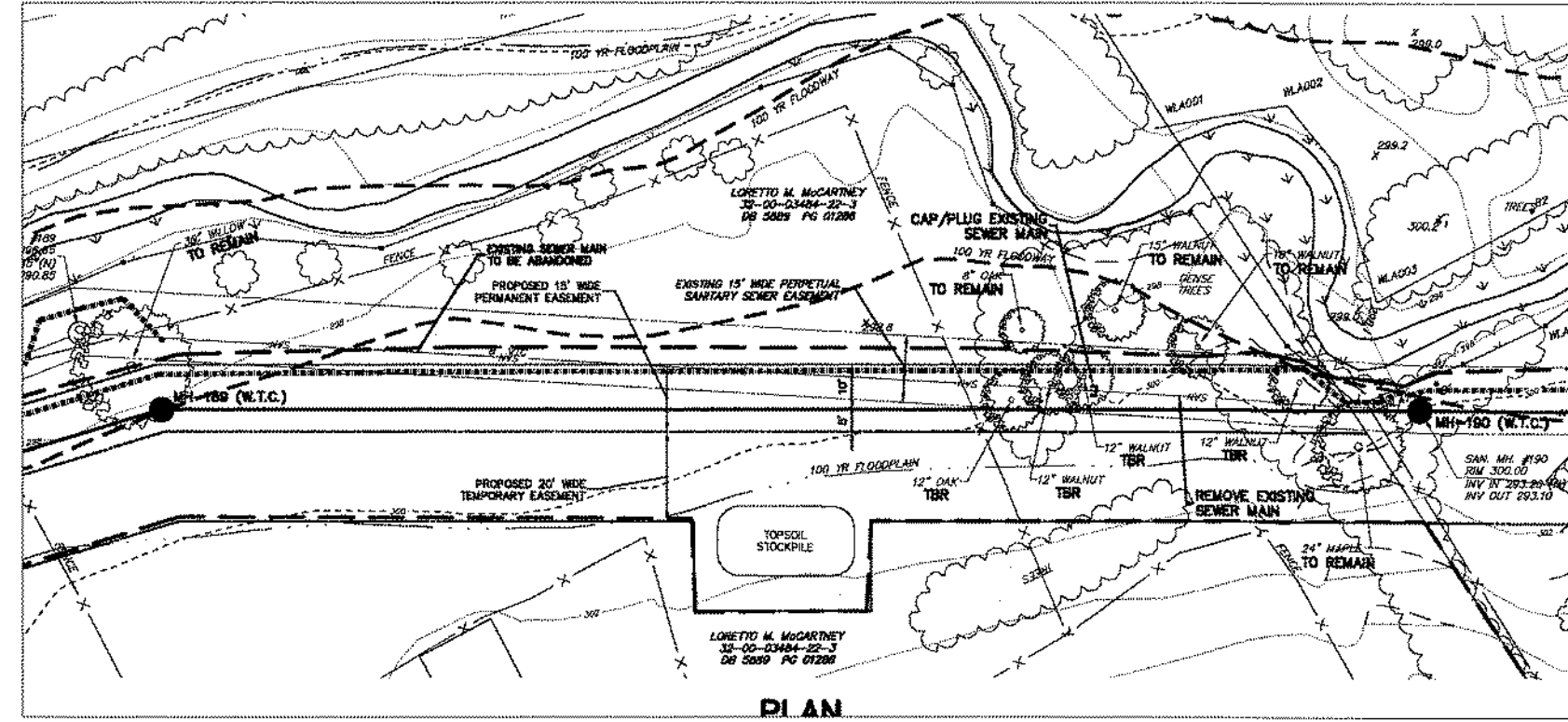
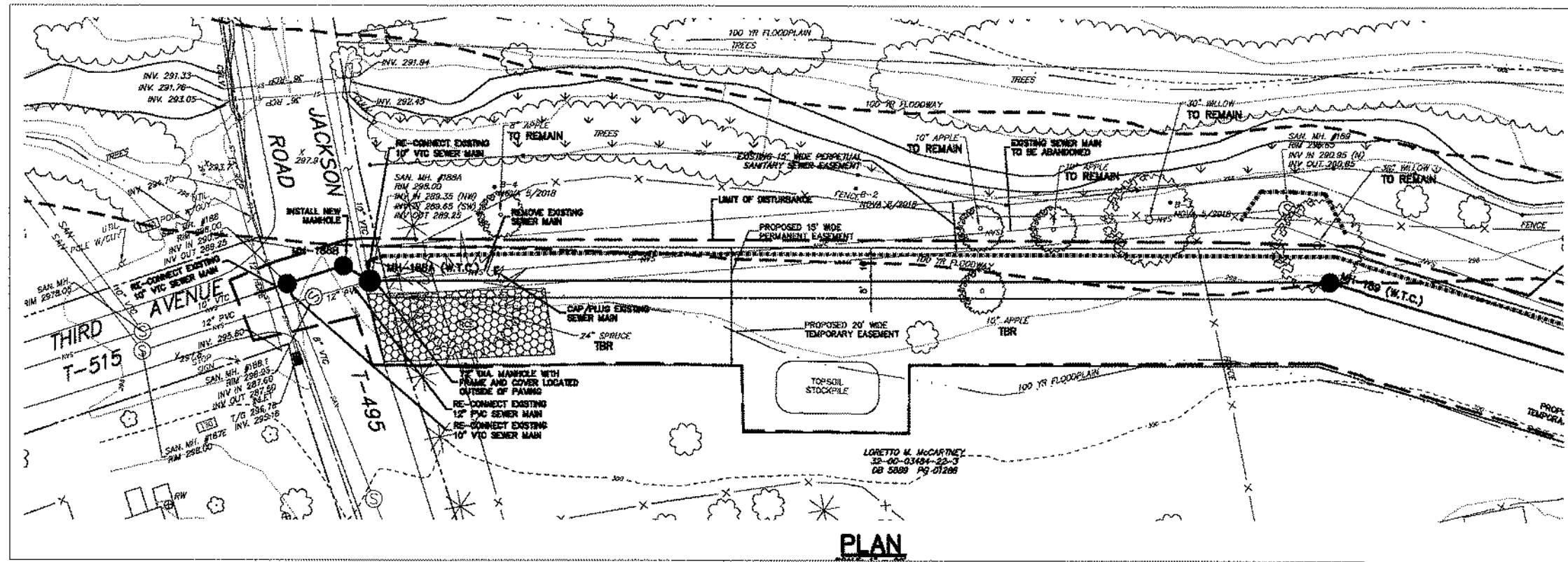
1 REVISED PER TOWNSHIP ENGINEER'S REVIEW 05-31-2016

Plan Origination Date 01-08-2014

CONSTRUCTION NOTES

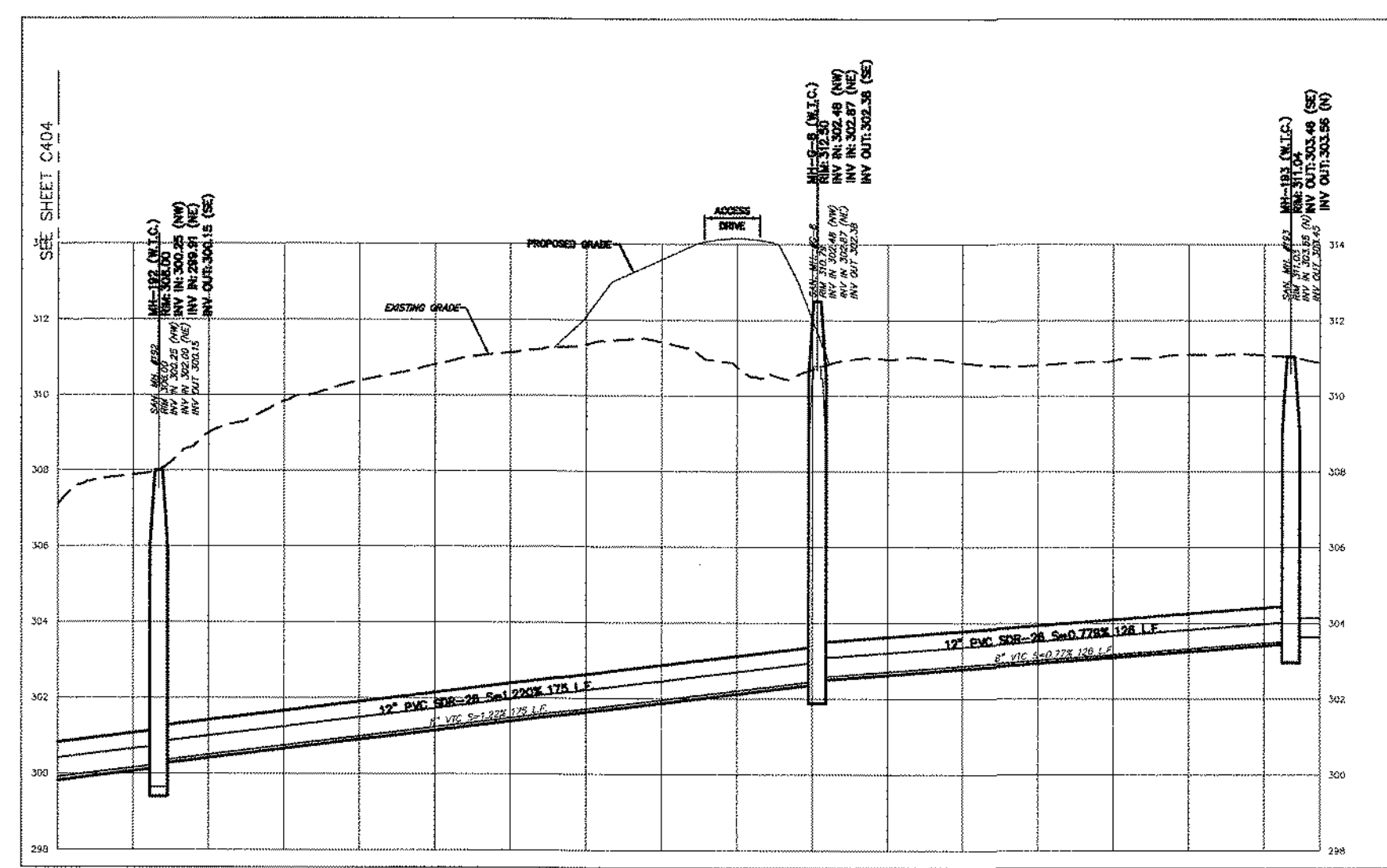
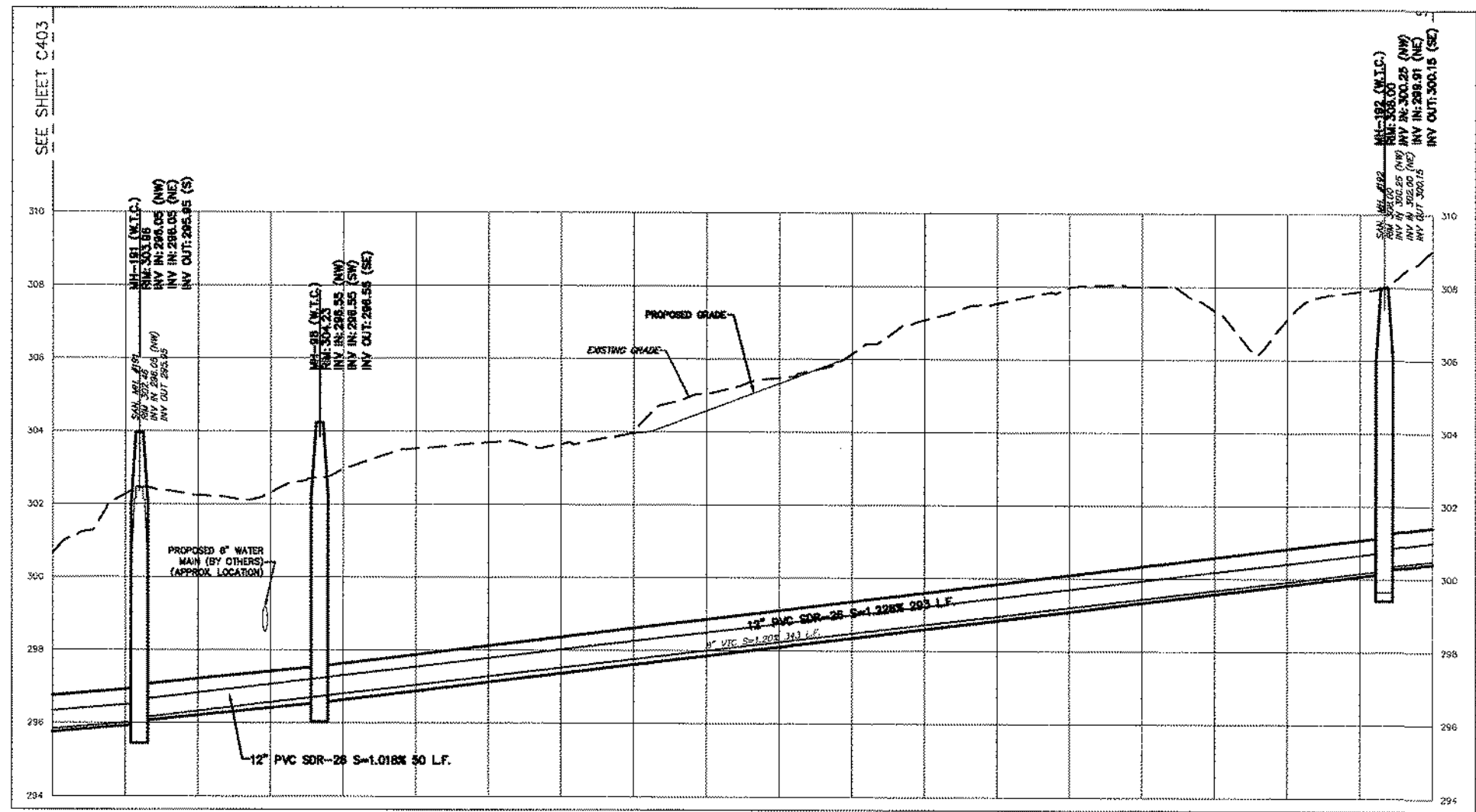
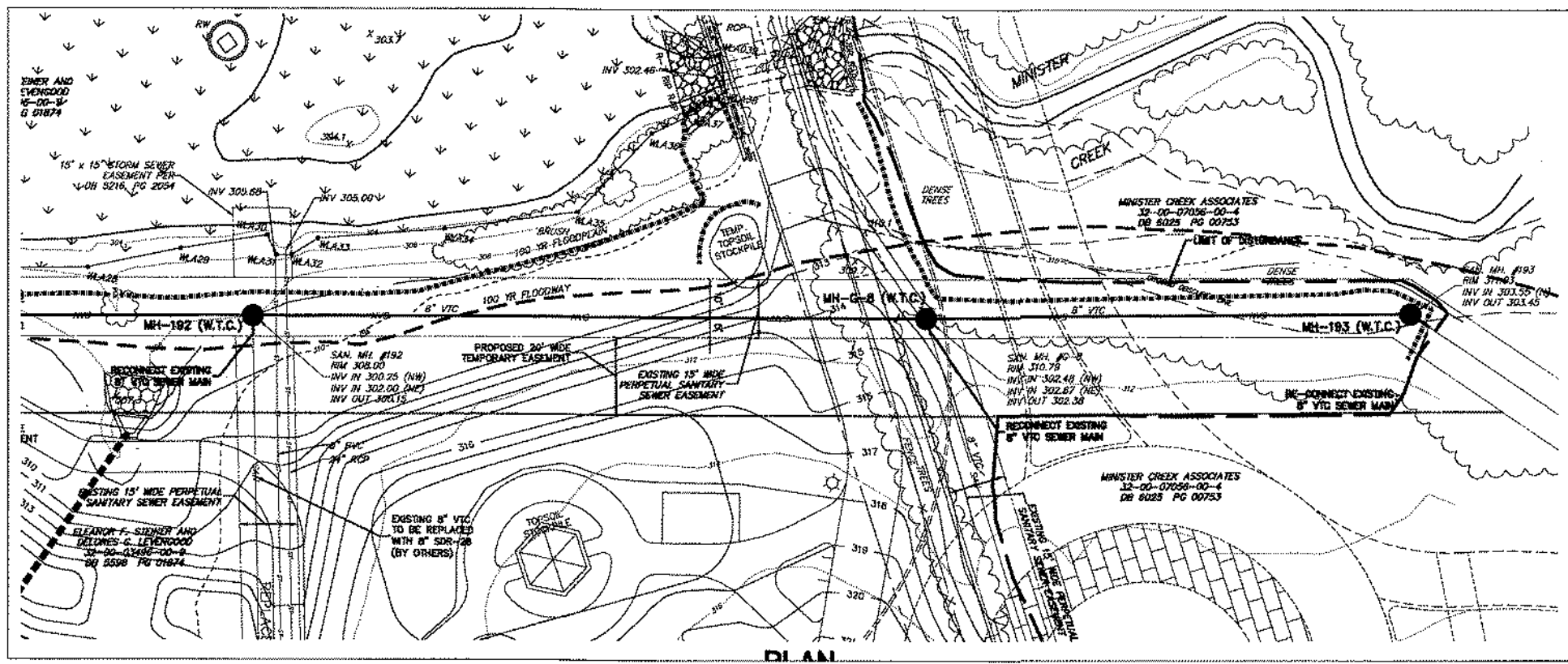
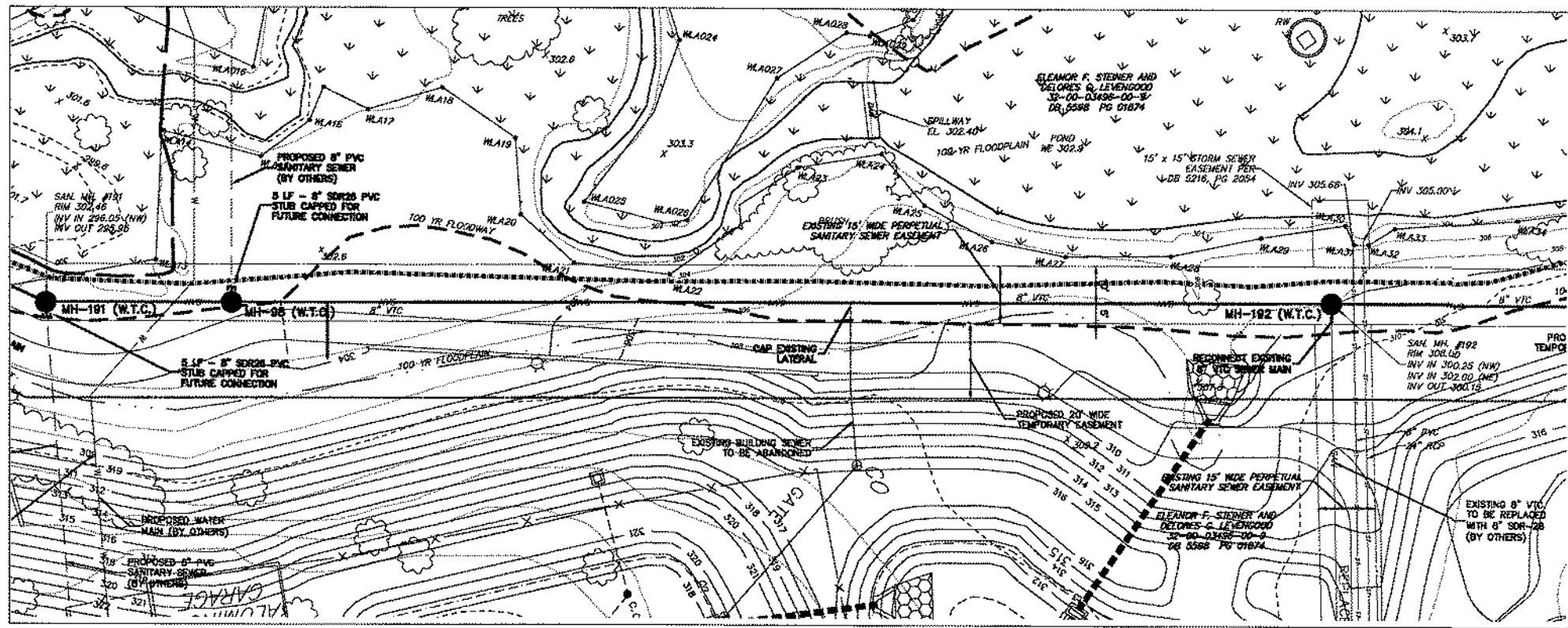
- ALL CURB TYPE STORM SEWER INLETS SHALL BE PENN. D.O.T. 4" TYPE "C" INLETS CONFORMING TO DOUGLASS TOWNSHIP SPECIFICATIONS WITH BICYCLE SAFE STRUCTURAL STEEL GRATES.
- ALL LAWN AREA STORM SEWER INLETS SHALL BE PENN. D.O.T. TYPE "M" AND SHALL CONFORM TO PENN.D.O.T. FORM 408/LATEST EDITION, SECTION 605.
- ALL CONCRETE "DW" ENDWALLS SHALL CONFORM TO PENN. D.O.T. FORM 408/LATEST EDITION, SECTION 605.
- THE TOP OF GRATE ELEVATION FOR ALL STORM SEWER INLETS IS FOR THE CENTER OF THE INLET AT THE FACE OF CURB. THE CONTRACTOR IS RESPONSIBLE FOR PROJECTING THE ROADWAY GRADE ALONG THE LENGTH OF THE INLET.
- ALL LOTS SHALL BE PROPERLY GRADED TO ENSURE PROPER DRAINAGE FLOW AWAY FROM BUILDINGS TO NEAREST INLET OR WATERCOURSE WITHOUT PONDING OR OBSTRUCTION. A MINIMUM OF 2% SLOPE SHALL BE PROVIDED ON ALL GRASSED AREAS.
- ANY SPRING ENCOUNTERED DURING ROADWAY CONSTRUCTION SHALL BE OUTLETTED BY U-DRAIN TO NEAREST STORM SEWER FACILITY OR WATERCOURSE. U-DRAIN PLACEMENT TO BE BY THE DIRECTION OF THE BOROUGH ENGINEER.
- NO STORM PIPE CAN TIE INTO THE CORNER OF AN INLET.
- A HORIZONTAL SEPARATION OF 10 FEET AND OR VERTICAL CLEARANCE OF 18 INCHES SHALL BE MAINTAINED BETWEEN THE SANITARY SEWER AND OTHER UTILITIES (INCLUDING BUT NOT LIMITED TO WATER, GAS, ELECTRIC, PHONE, ETC.) WHERE PIPE LINE MUST CROSS OVER A SEWER. THE INSTALLATION MUST ALSO PROVIDE ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER TO PREVENT DEFLECTION AND BREAKING OF THE SEWER. WHERE PROPER CLEARANCES CAN NOT BE PROVIDED, THE SEWER SHALL BE CONCRETE ENCASED FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CONFLICT.
- NO OTHER UNDERGROUND UTILITIES (I.E.) ELECTRIC, TELEPHONE, CABLE, GAS OR STREET LIGHTS SHOULD BE INSTALLED WITHIN FIVE FEET OF ANY WATER SERVICE LINE.
- ALL SANITARY SEWER CONSTRUCTION AND TESTING SHALL BE IN ACCORDANCE WITH THE RULES, REGULATIONS, AND SPECIFICATIONS OF THE BERKS-MONTGOMERY MUNICIPAL AUTHORITY AND THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- ALL ENGINEERING AND CONSTRUCTION WORK FOR SEWER LATERALS AND MAINS SHALL BE IN ACCORDANCE WITH BERKS-MONTGOMERY MUNICIPAL AUTHORITY STANDARDS AND SPECIFICATIONS AS WELL AS THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION "DOMESTIC WASTEWATER FACILITIES MANUAL," 362-0300-001, OCTOBER 1997. SEWER MAINS SHALL COMPLY WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION'S STANDARDS.
- ALL WATER LINES SHALL HAVE A MINIMUM OF FOUR (4) FEET OF COVER.
- NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN SIX FEET OF STORMSEWER FACILITIES. NO TREES OR STRUCTURES SHALL BE PERMITTED WITHIN 10 FEET OF SANITARY OR WATER FACILITIES.
- THE PORTIONS OF THE SEWER LINE FROM THE END OF THE 6" LATERAL TO THE PROPOSED BUILDING IS CONSIDERED THE "BUILDING SEWER", AND ITS CONSTRUCTION IS SUBJECT TO THE APPROVAL AND INSPECTION BY THE TOWNSHIP PLUMBING INSPECTOR/CODE ENFORCEMENT OFFICER. A WATERTIGHT PLUG SHALL BE INSTALLED AT THE END OF THE 6" LATERAL TO ALLOW FOR AIR TESTING OF THE LATERAL ALONG WITH THE SANITARY SEWER MAIN AND MANHOLES. NO BUILDING SEWER CONNECTIONS SHALL BE MADE UNTIL THE PROPOSED SANITARY SEWER MAINS, LATERAL(S), AND MANHOLES ARE TESTED AND CERTIFIED FOR FLOW BY THE AUTHORITY ENGINEER.
- ALL UNITS WITH BASEMENTS SHALL HAVE SUMP PUMPS. SUMP PUMPS SHALL NOT DIRECTLY DISCHARGE WATER INTO A STREET RIGHT-OF-WAY OR INTO A SANITARY SEWER SYSTEM.





THIS PLAN IS PROVIDED AS A REFERENCE ONLY. REFER TO DESIGN PLANS PREPARED BY SYSTEMS DESIGN ENGINEERING, INC. FOR PLANS TO BE USED FOR CONSTRUCTION OF THE LINE IMPROVEMENTS FROM MH 193 TO MH 188.

PLAN AND PROFILE: OFF-ROAD PROFILES Prepared for DANNY JAKE CORP. As part of ZERN TRACT		DOUGLASS TOWNSHIP MONTGOMERY COUNTY PENNSYLVANIA	
7 REVISED PER TWP. ENGINEERS & BMMA REVIEW 05-22-2019 6 REVISED PER TWP. ENGINEERS & BMMA REVIEW 03-20-2019 5 REVISED PER TWP. ENGINEERS REVIEW 02-02-2019 4 REVISED PER TWP. ENGINEER'S REVIEW 04-07-2018 3 REVISED BMMA REVIEW 02-15-2018 2 REVISED PER TOWNSHIP ENGINEERS REVIEW 11-09-2016 1 REVISED PER TOWNSHIP ENGINEER'S REVIEW 05-31-2016 Plan Origination Date 01-08-2014		JASON T. SMELAND PROFESSIONAL ENGINEER PA NO. 059306	
LENAPE VALLEY ENGINEERING Civil Engineering • Subdivision • Land Development P.O. Box 74, Chalfont, Pennsylvania 18914 Tel (215) 622-1414 Fax (267) 308-0524 www.LenapeValleyEngineering.com		GRAPHIC SCALE 0 20 40 80 120 PROJECT MANAGER J.T.S. DRAWING SCALE H.1"=40' V.1"=4' DRAFTED BY B.C.S. PROJECT NUMBER 2028 SHEET NUMBER 43 of 64	



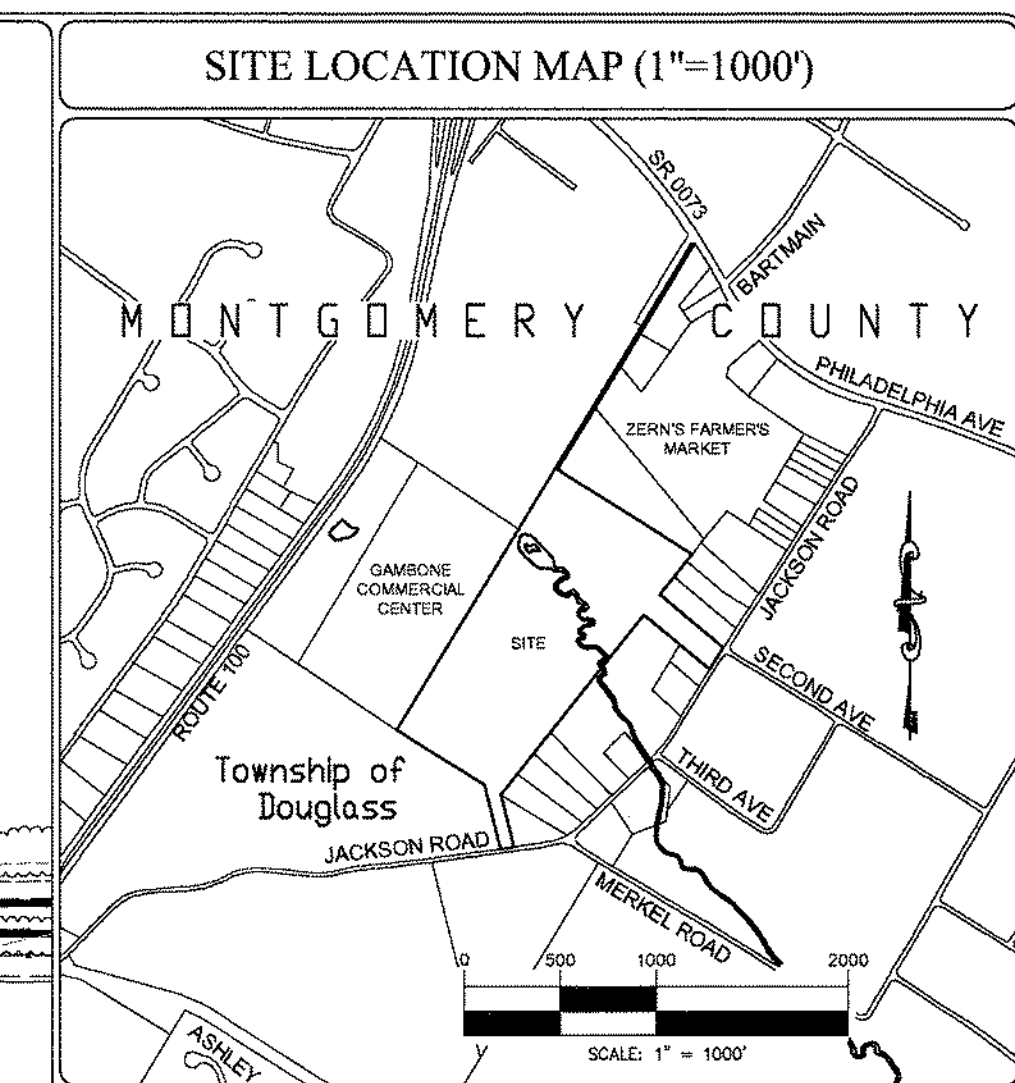
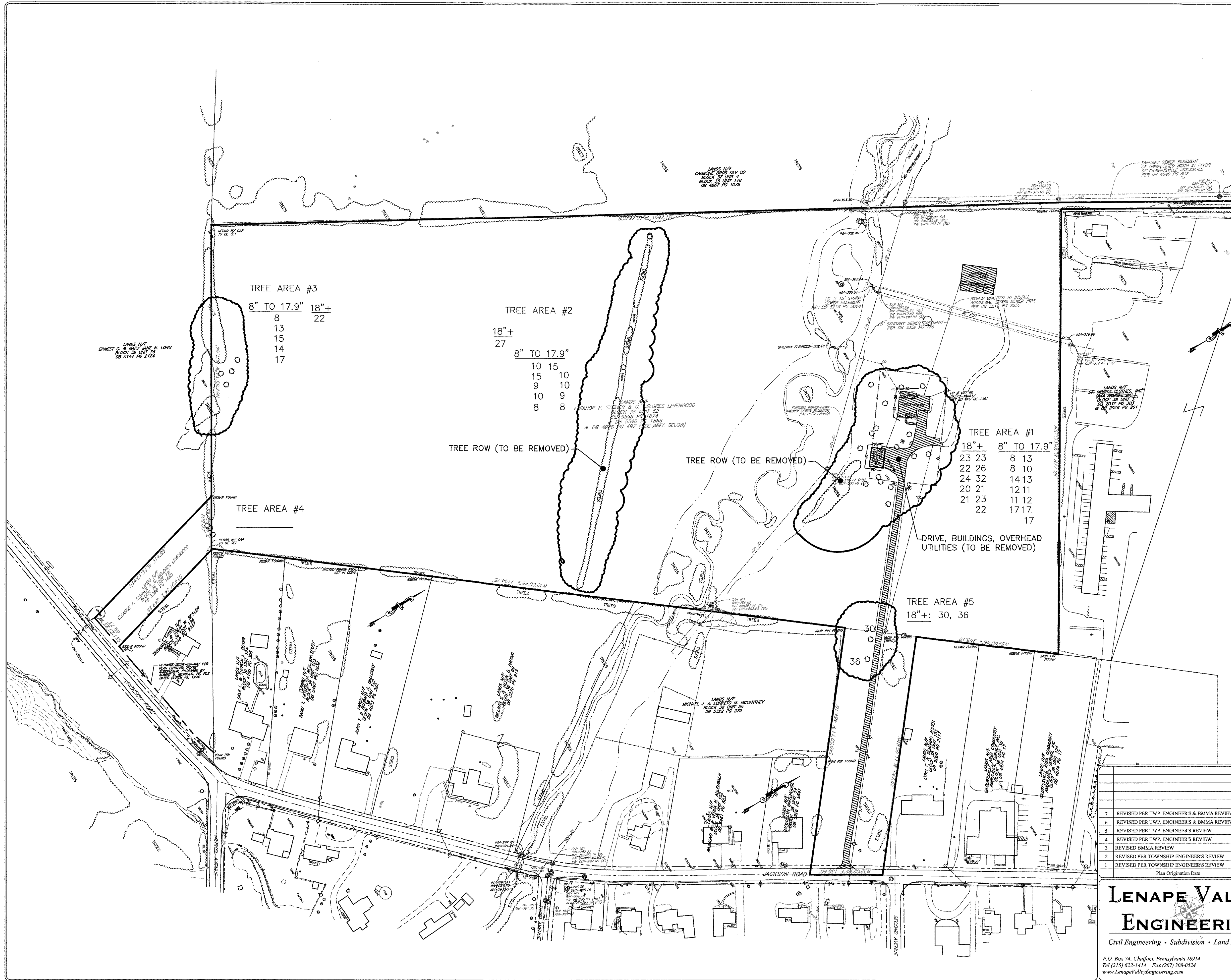
THIS PLAN IS PROVIDED AS A REFERENCE ONLY. REFER TO DESIGN PLANS PREPARED BY SYSTEMS DESIGN ENGINEERING, INC. FOR PLANS TO BE USED FOR CONSTRUCTION OF THE LINE IMPROVEMENTS FROM MH 193 TO MH 188.

PLAN AND PROFILE: OFF-ROAD PROFILES Prepared for DANNY JAKE CORP. As part of ZERN TRACT	
DOUGLASS TOWNSHIP MONTGOMERY COUNTY PENNSYLVANIA	
JASON T. SMELAND PROFESSIONAL ENGINEER PA NO. 059306	
PROJECT MANAGER J.T.S.	SHEET NUMBER 44 of 64
DRAFTED BY B.C.S.	PROJECT NUMBER 2028

LENAPE VALLEY ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
 Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com



DEMOLITION NOTES

THIS PLAN IS INTENDED TO DEPICT THE BUILDINGS/STRUCTURES THAT ARE TO BE REMOVED IN ORDER TO ACCOMMODATE THE NEW DEVELOPMENT, AS WELL AS DOCUMENT REQUIRED EROSION AND SEDIMENTATION CONTROL MEASURES. THE SITE CONTRACTOR IS RESPONSIBLE FOR COMPLETING THE DEMOLITION WORK IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.

1. DEMOLITION PERMITS MUST BE OBTAINED FROM DOUGLASS TOWNSHIP PRIOR TO ANY DEMOLITION WORK.
2. A TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED IN ACCORDANCE WITH ENTRANCE DETAIL DEPICTED ON THE E&S PLANS.
3. SILT FENCE SHALL BE INSTALLED WHERE INDICATED ON THE PLAN.
4. UTILITY DECOMMISSIONING - ALL EXISTING UTILITIES TO THE BUILDINGS TO BE DEMOLISHED SHALL BE REMOVED AND/OR DISCONNECTED.
5. ALL WASTE MATERIALS SHALL BE REMOVED IN ACCORDANCE WITH APPLICABLE REGULATIONS. REFER TO E&S PLANS FOR FILL MATERIAL NOTES.

7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-26-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

LENAPE VALLEY
ENGINEERING
Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 • Fax (267) 308-0524
www.LenapeValleyEngineering.com

DEMOLITION PLAN
Prepared for
DANNY JAKE CORP.
As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

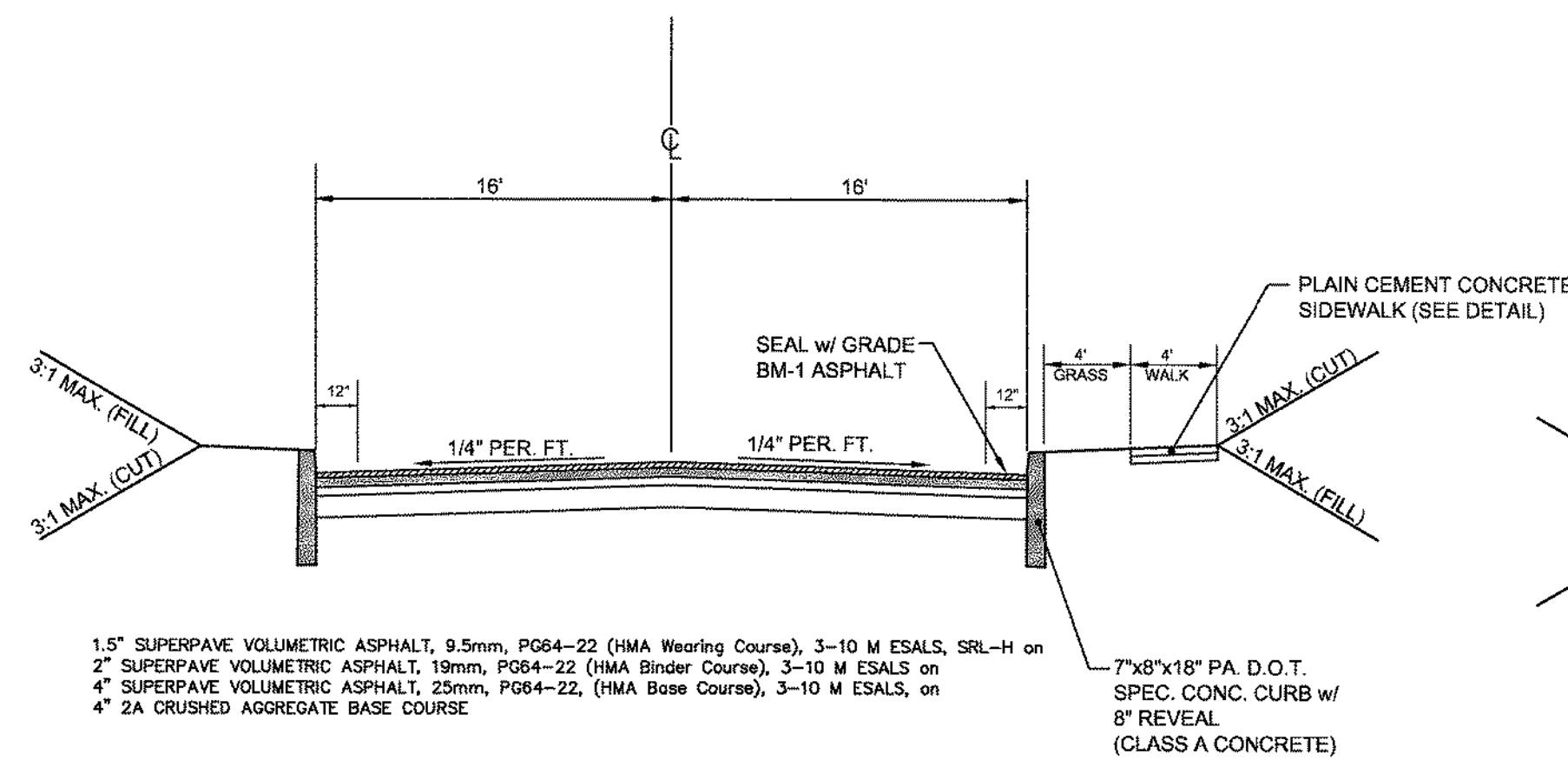
PROJECT MANAGER
J.T.S.

DRAWING SCALE
1"=40'

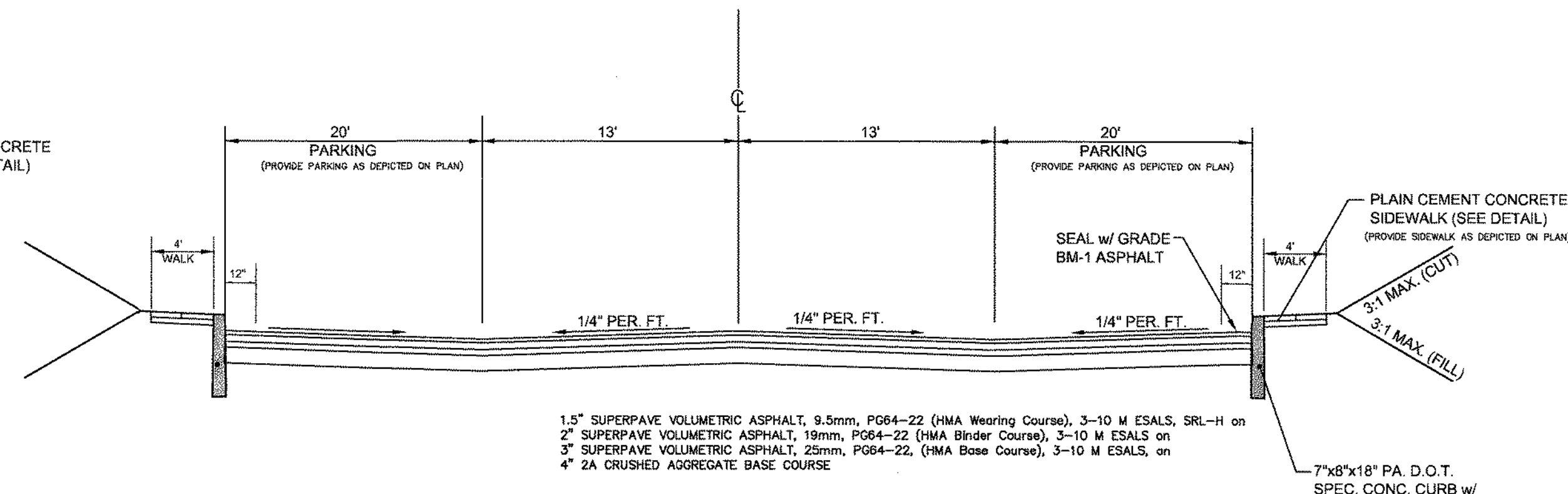
DRAFTED BY
B.C.S.

PROJECT NUMBER
2028

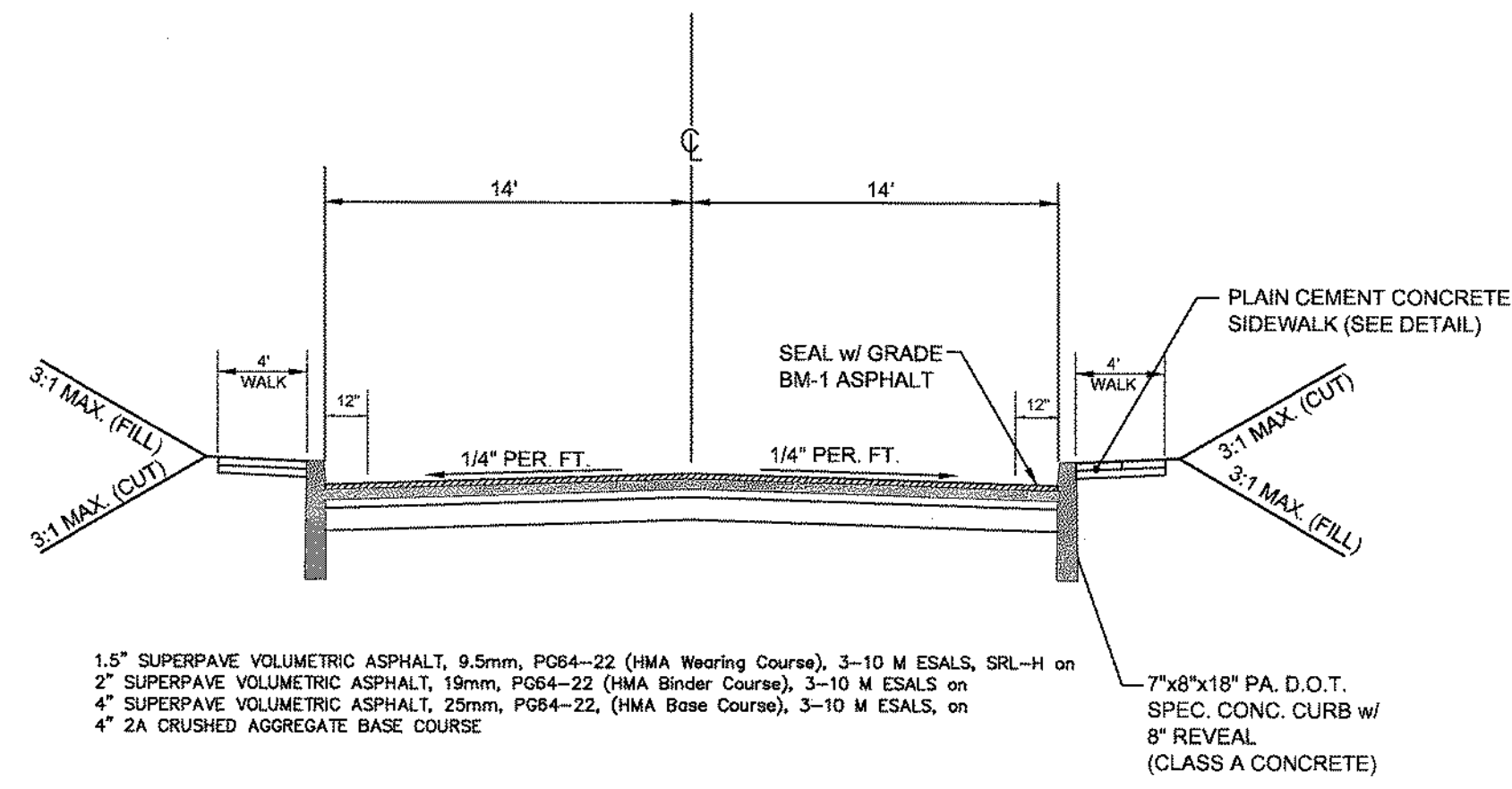
SHEET NUMBER
45 of 64



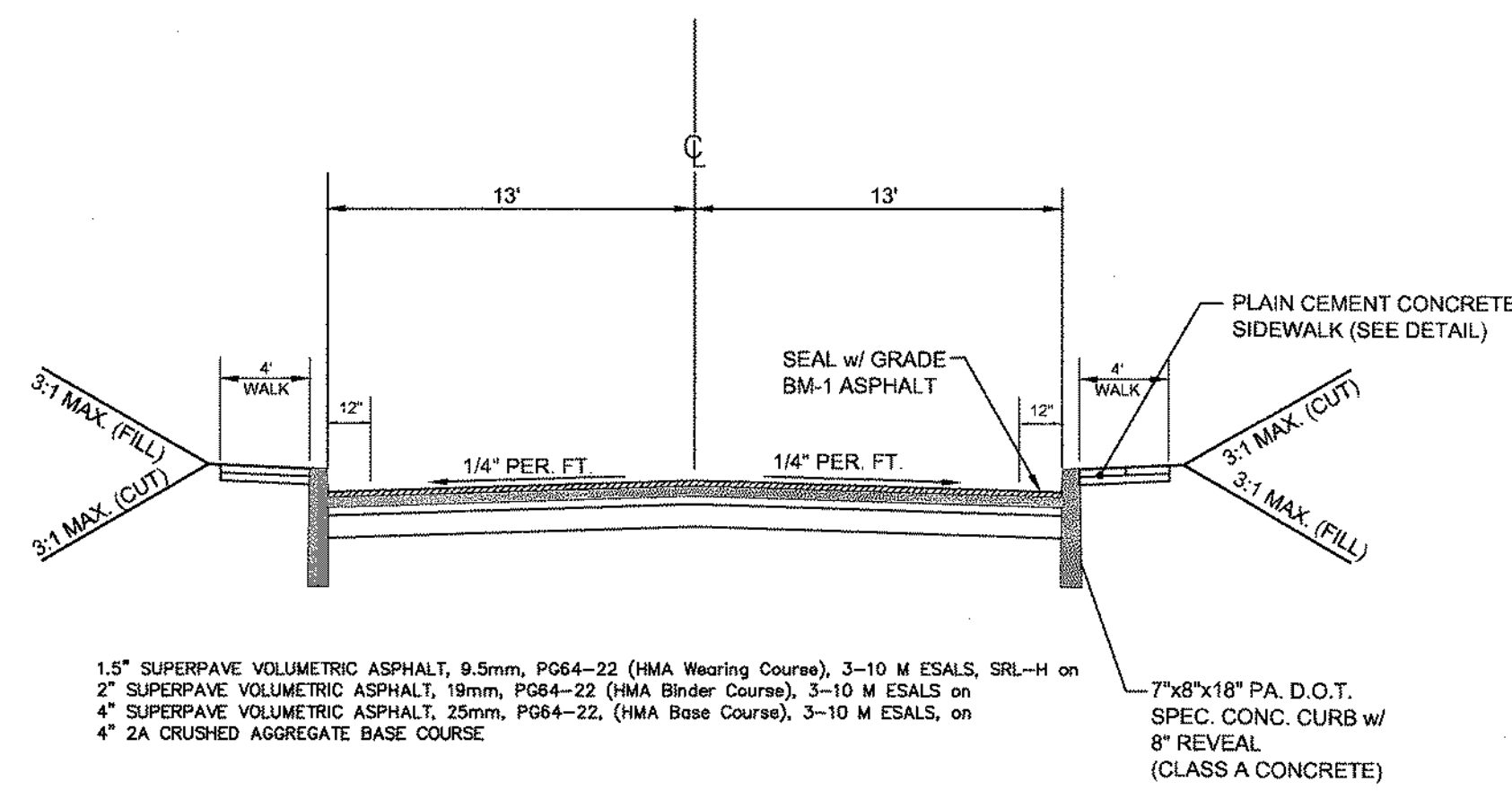
TYPICAL CROSS SECTION
ROAD 'A'



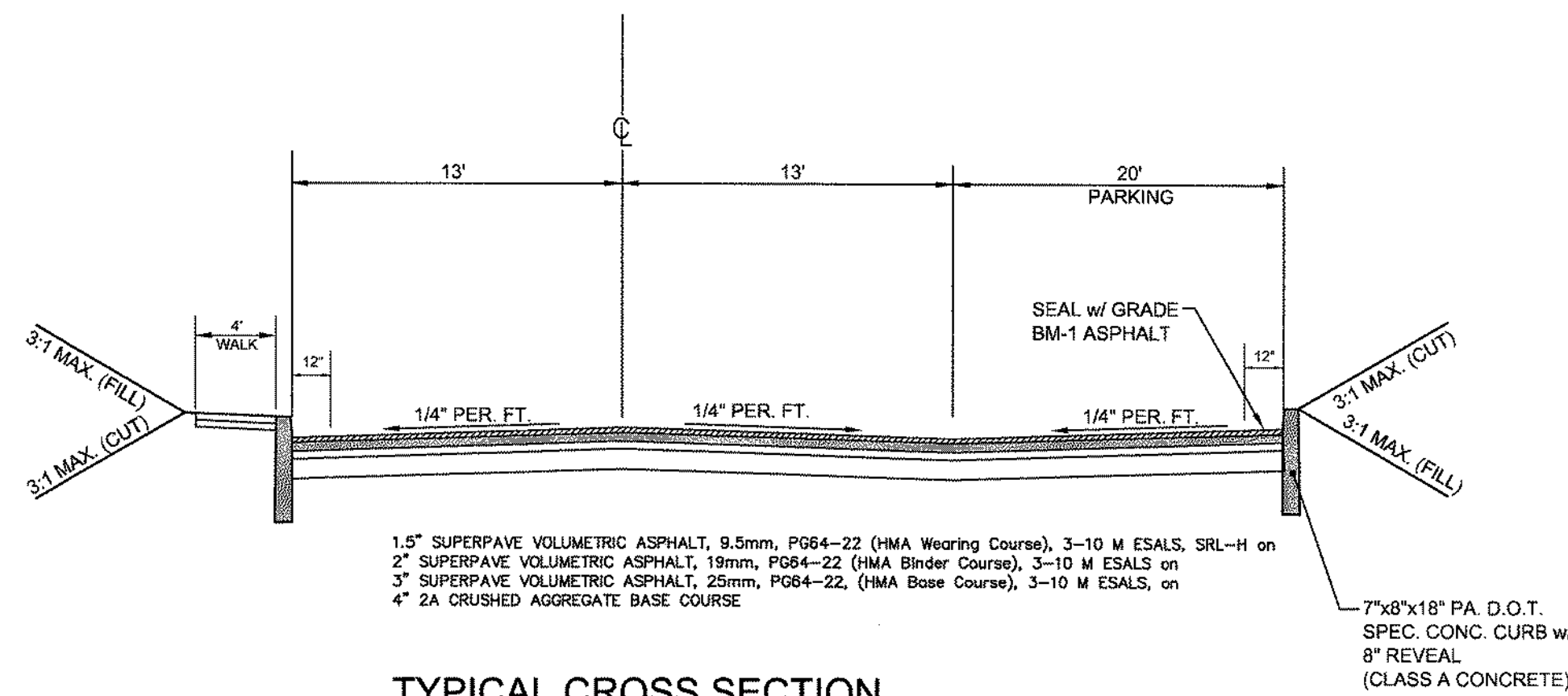
TYPICAL CROSS SECTION
ROAD 'G'



TYPICAL CROSS SECTION
ROAD 'B'



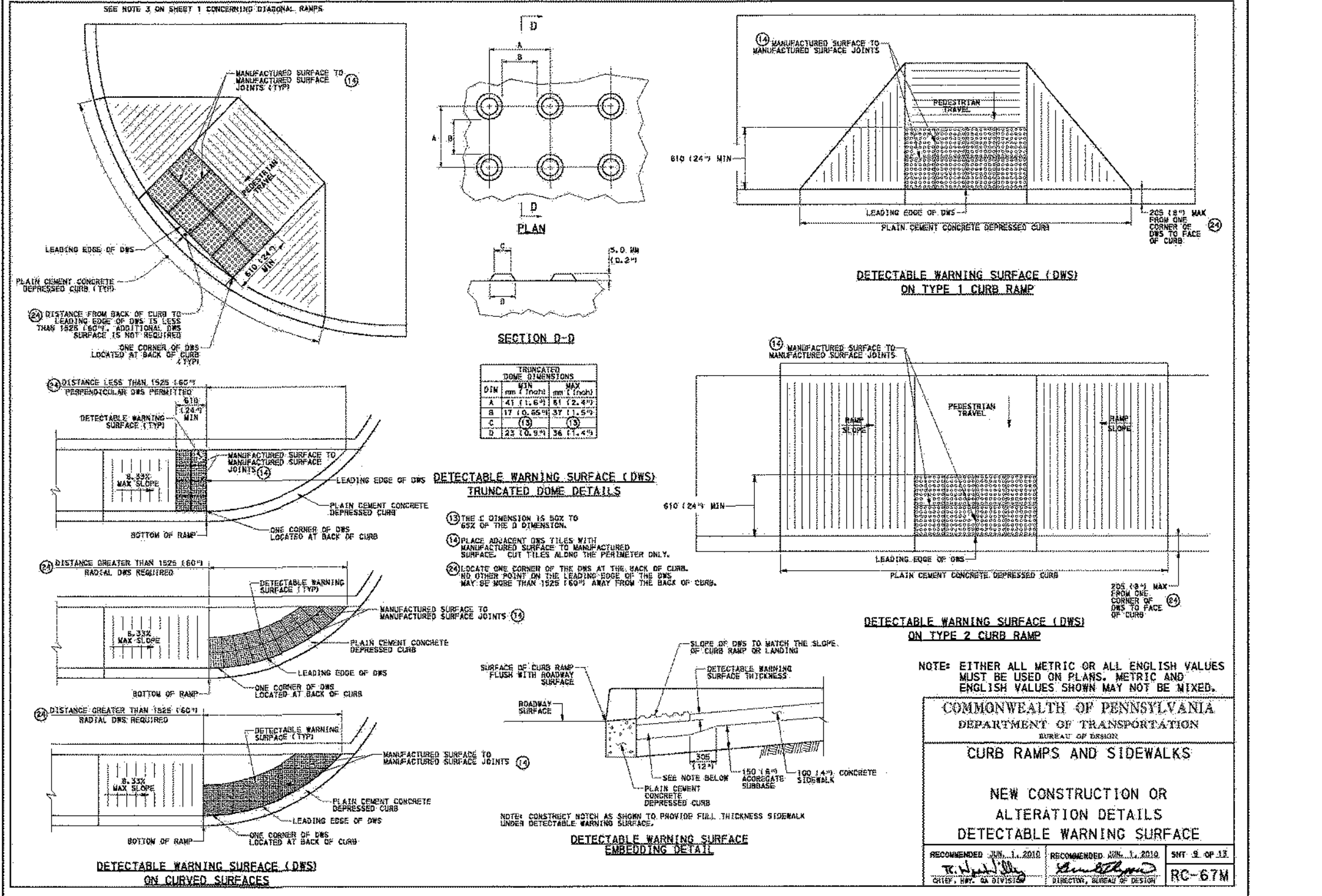
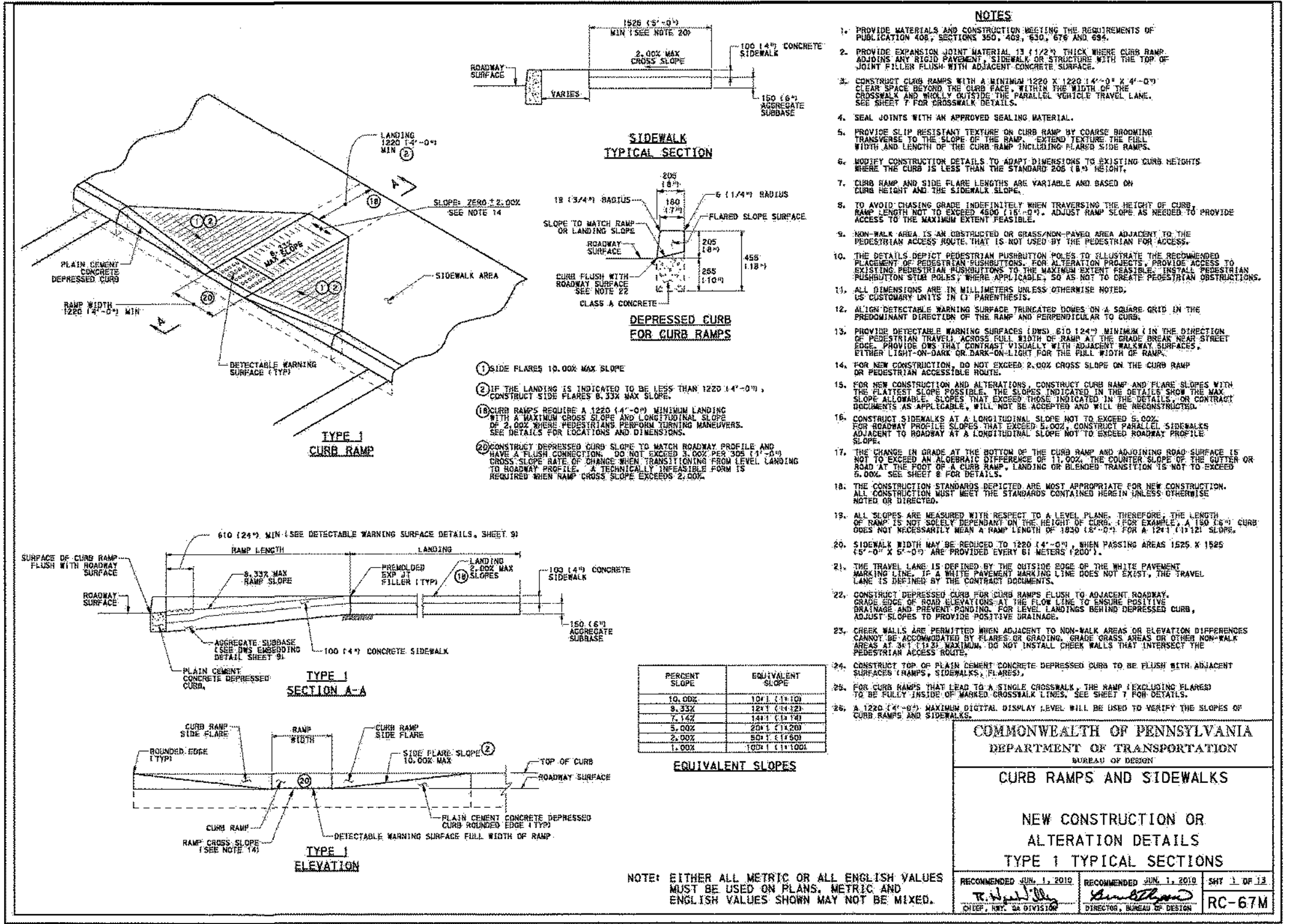
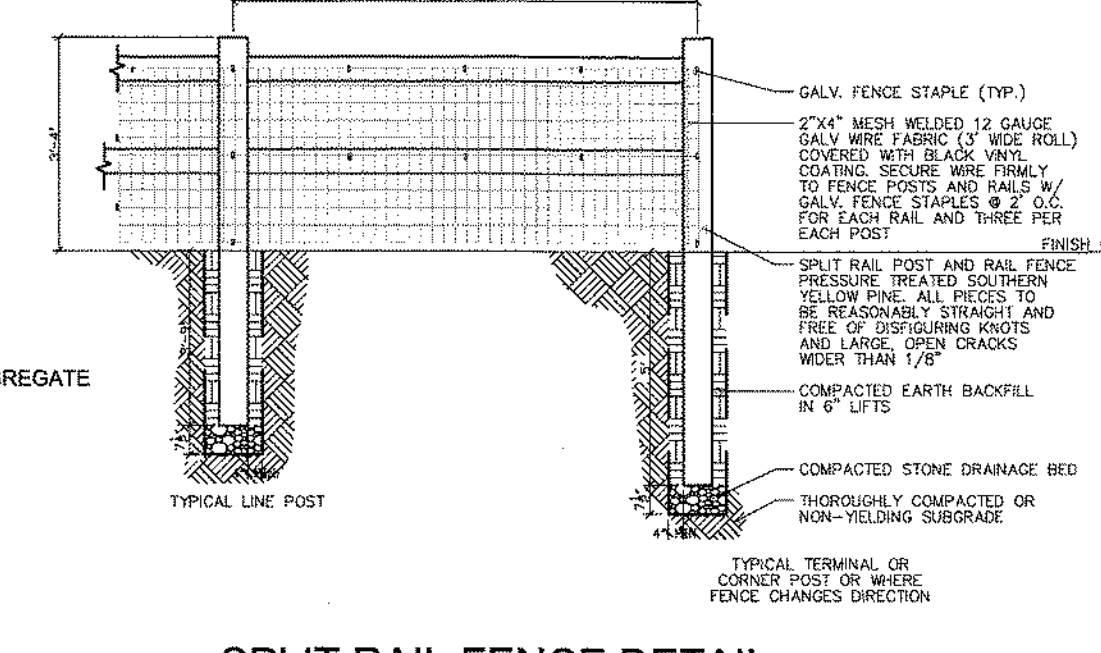
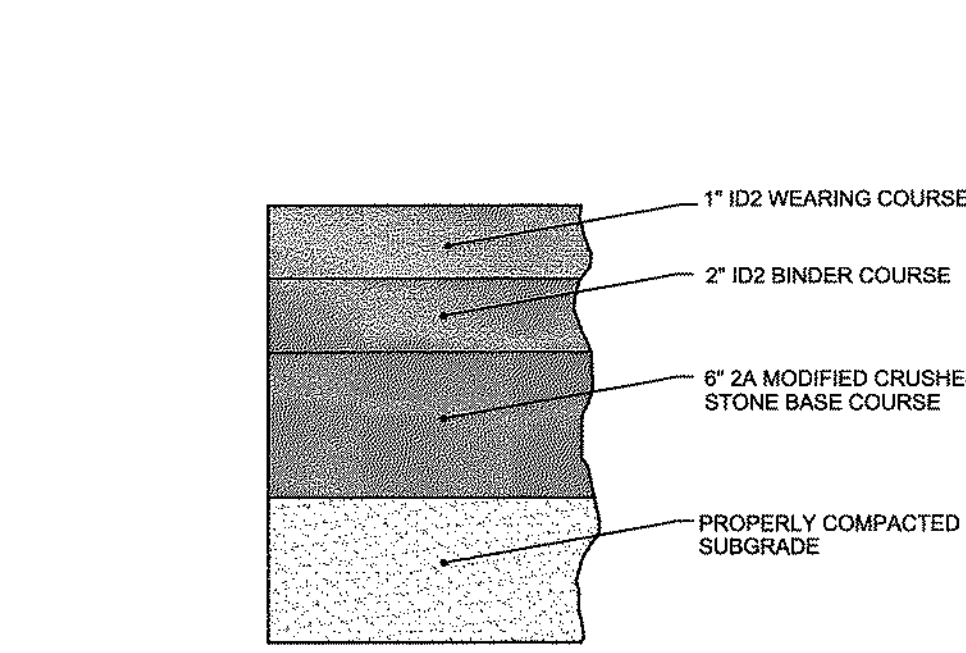
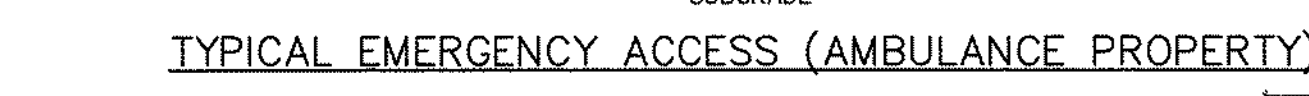
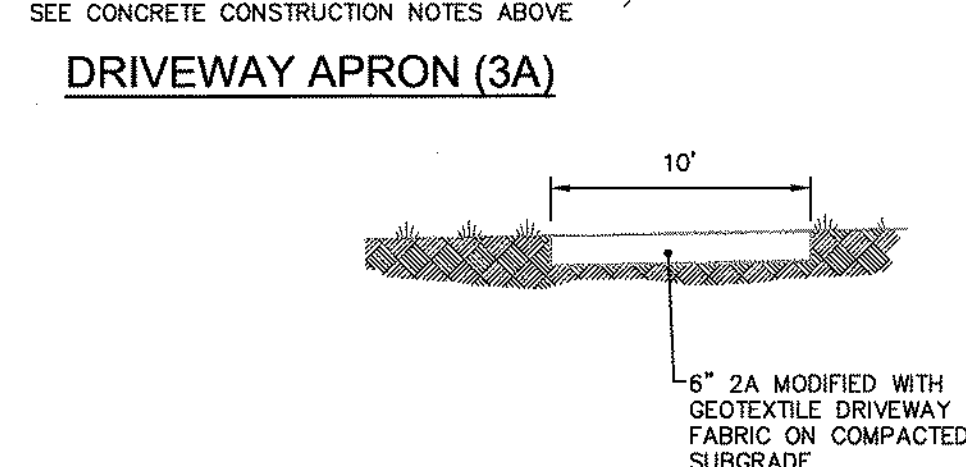
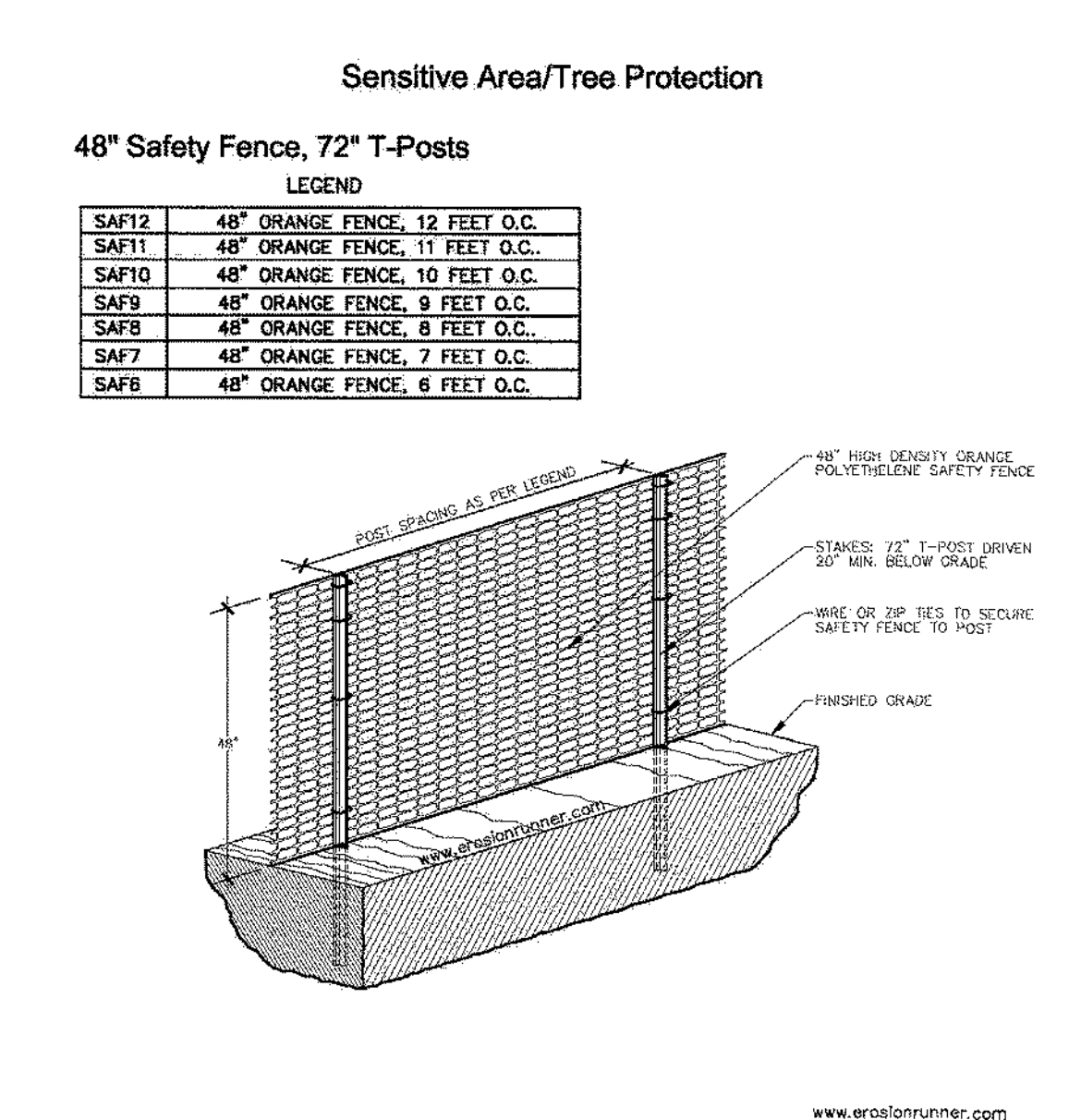
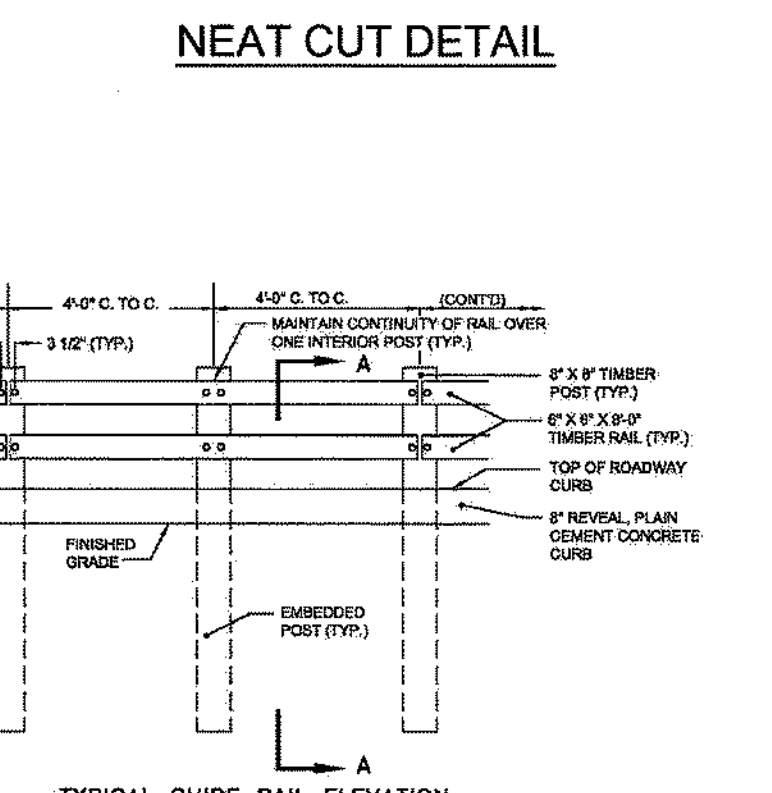
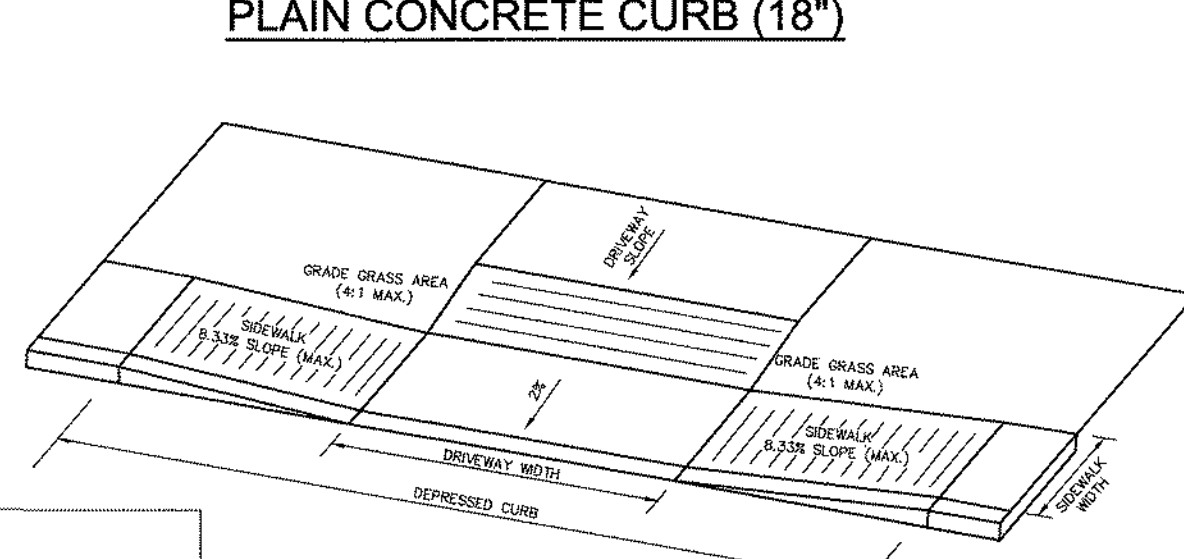
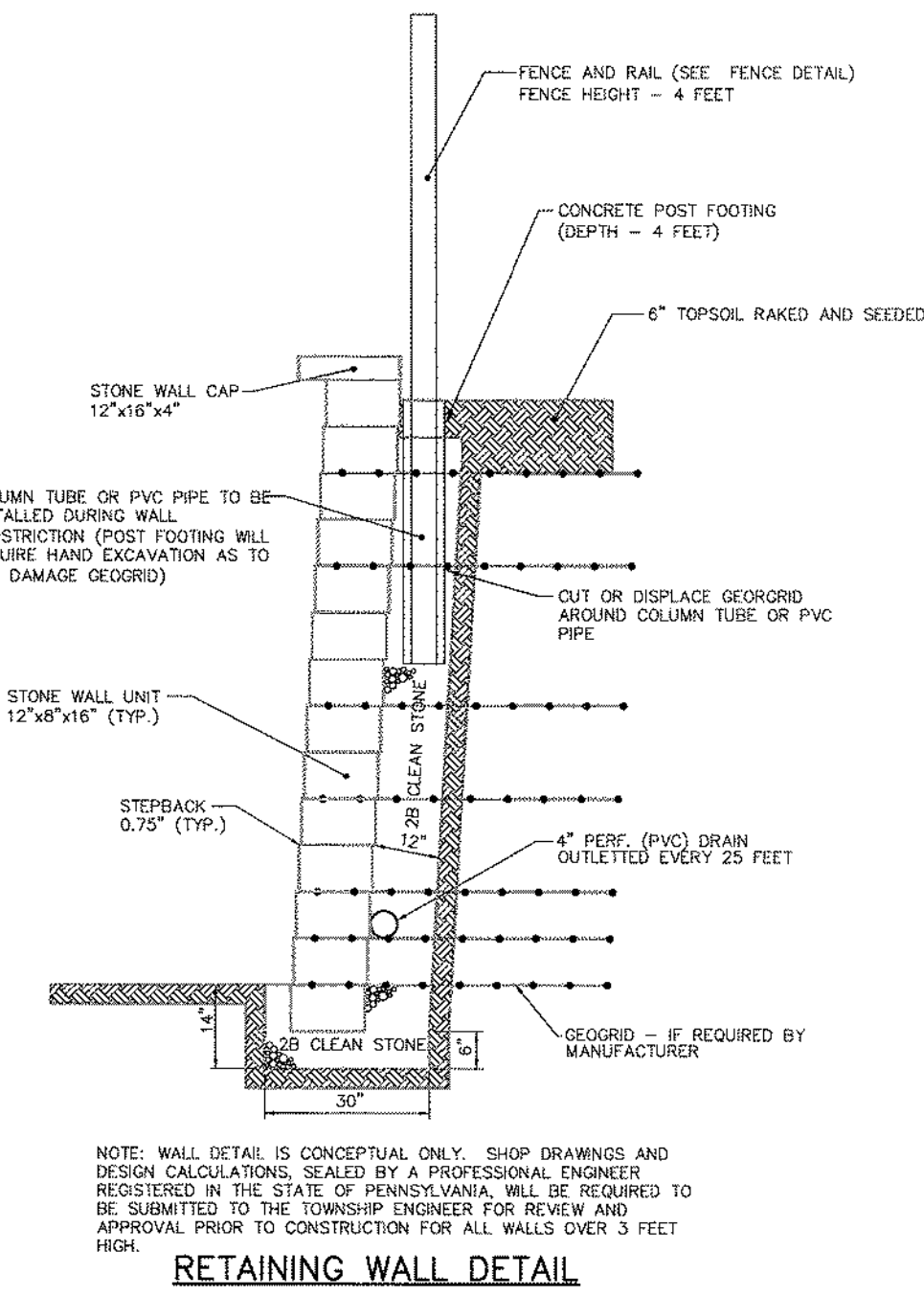
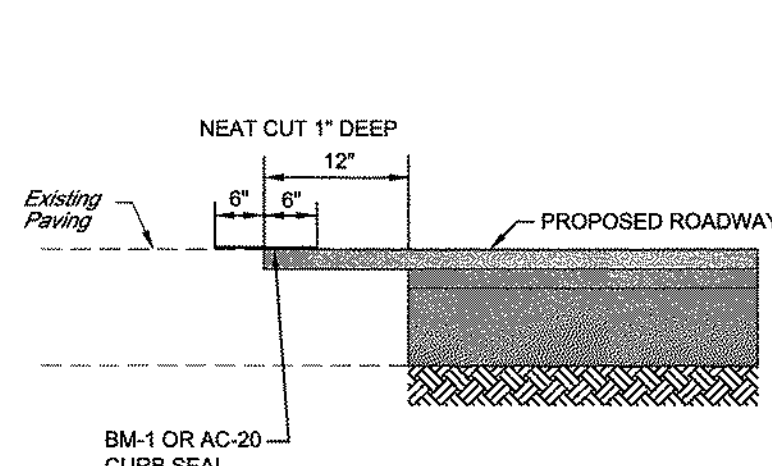
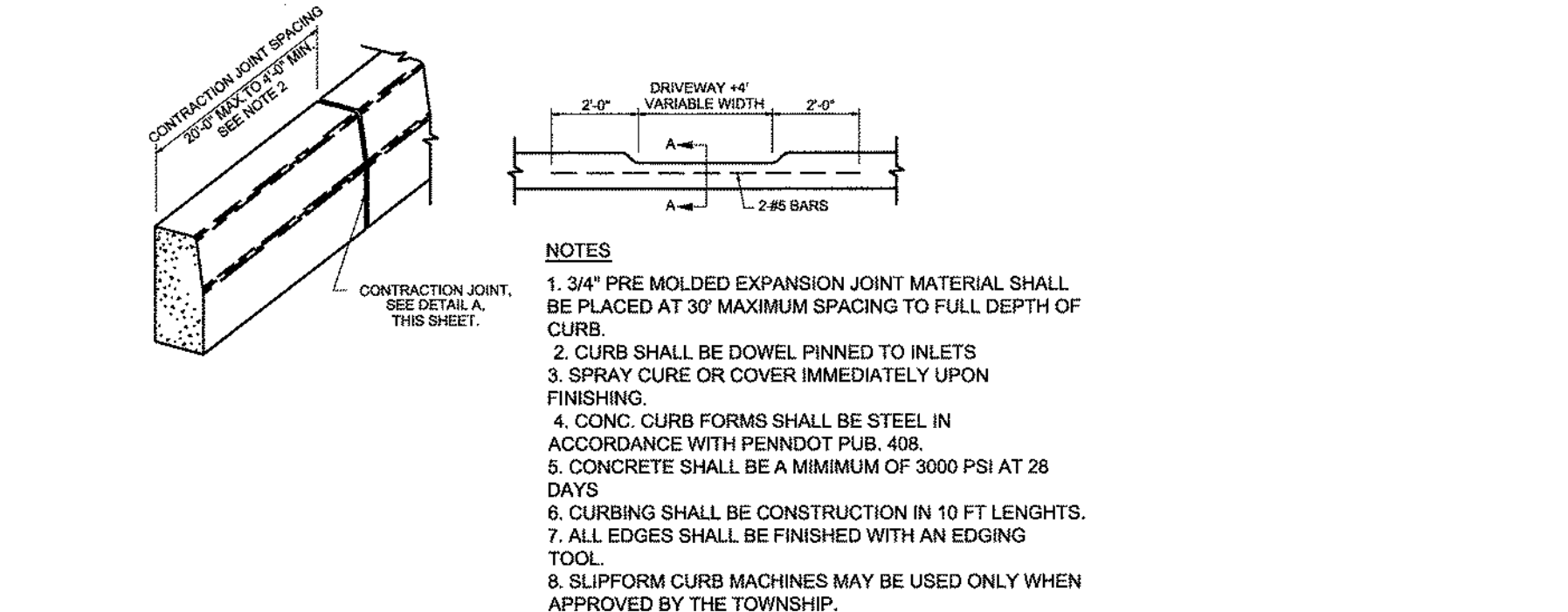
TYPICAL CROSS SECTION
ROAD 'C' & 'D'



TYPICAL CROSS SECTION
ROAD 'E' & 'F'

		DETAIL SHEET ROAD CROSS SECTIONS	
		Prepared for DANNY JAKE CORP.	
		As part of ZERN TRACT	
		DOUGLASS TOWNSHIP MONTGOMERY COUNTY PENNSYLVANIA	
		JASON T. SMELAND PROFESSIONAL ENGINEER PA NO. 059306	
		GRAPHIC SCALE	
7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019	
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019	
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019	
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018	
3	REVISED BMMA REVIEW	02-15-2018	
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016	
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016	
Plan Origination Date		01-08-2014	
LENAPE VALLEY ENGINEERING Civil Engineering • Subdivision • Land Development P.O. Box 74, Chalfont, Pennsylvania 18914 Tel (215) 622-1414 Fax (267) 308-0524 www.LenapeValleyEngineering.com			
PROJECT MANAGER J.T.S.	DRAWING SCALE NTS	SHEET NUMBER 46 of 64	
DRAFTED BY B.C.S.	PROJECT NUMBER 2028		

DRIVEWAY APRONS SHALL BE 6" THICK AND CONTAIN 6" x 6" REINFORCEMENT WIRE (No. 9 WIRE MIN.). TWO LAYER OF THIS WIRE SHALL BE UTILIZED WITH A MINIMUM OF 2" SPACING BETWEEN LAYERS. THE WIRE SHALL NOT BE CLOSER THAN ONE-HALF INCH FROM THE TOP OR BOTTOM SURFACE OF THE APRON.



7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW				05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW				03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW				02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW				04-07-2018
3	REVISED BMMA REVIEW				02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW				11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW				05-31-2016
			Plan Orientation Date:		01-29-2014

DETAIL SHEET
SITE IMPROVEMENTS
Prepared for
DANNY LAKE CORP

As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

LENAPE VALLEY ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

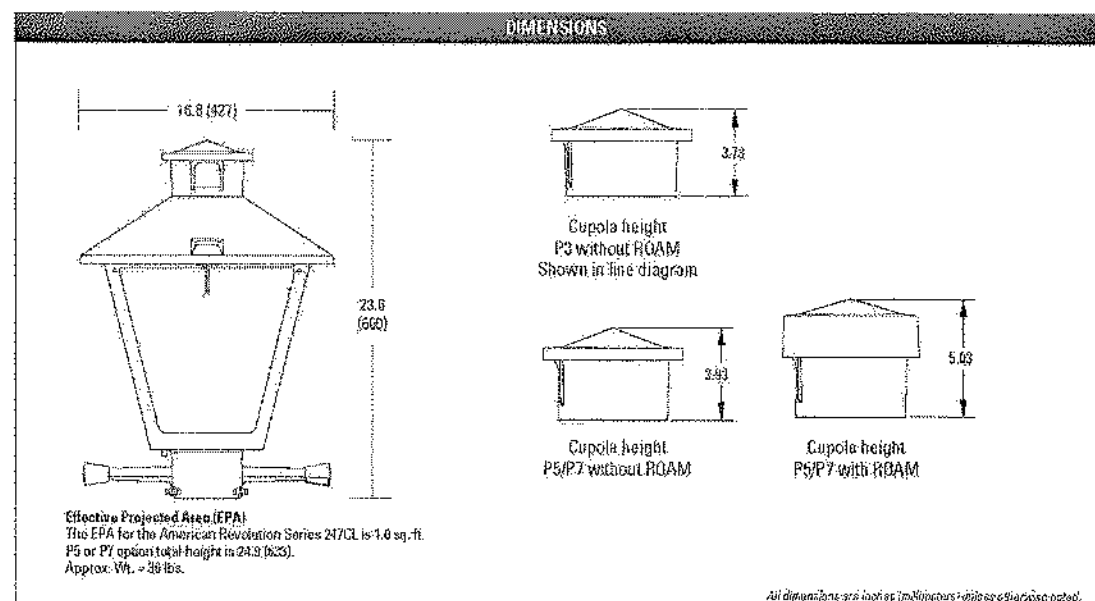
GRAPHIC SCALE		
PROJECT MANAGER J.T.S.	DRAWING SCALE NTS	SHEET NUMBER
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	47 OF 64



Features:

- Die cast aluminum housing and hole for long-life performance
- Die cast trigger latch (T1) and captive thumb screw option available for easy access to internal components
- Optical assembly designed for maximum performance, available in Type 1 and Type 2
- Hinged hood and captive thumb screw provision afford quick, easy access to electrical and optical area for servicing
- Slighter than most die cast aluminum enclosures; installation to pole sizes 2.38" or 2.0"
- Strong protection device (standard) affords ANSI C22.4 Category 1 compliance (hazard tested at 100V/250V)
- Conforms with ANSI: C136.1, C138.1, C138.15
- CSA listed and suitable for up to 250°C ambient
- Rated L70, LED life greater than 100,000 hours at 25°C
- Replaces up to 150W HPS high pressure incandescent module
- LED electronic 10-10W dimmable driver
- Designated ENEC/CEC/UL qualified product. All versions at this time are ENEC/CEC/UL qualified. ENEC/CEC/UL qualified products are listed at www.sageledlighting.com to confirm which version are qualified.

- Streetscapes
- Walkways
- Pathways
- Parks



None. Specifications subject to change without notice.
American Revolution Full Output Series 240CL LED



Visual Template Tool

<http://www.visual-3d.com/tools/template.html?app=fd-0913n>

File Help Tools

Settings Units Feet Footcandles Precision D

Calculation Area
Area Length ft
Area Width ft
Point Spacing' ft
Point Spacing" ft
Gridlines 1ft ft

Criteria Illuminance

J&J - 24TCL 10LEDE1W XXXX 3K R2

0.1 248

Calculation Results
Calculation Area
Point Spacing
Units Illuminance
Area = 64.0 ft²
Display
Points ft
Area ft²
Illuminance
A = 1
Vt
Ht
Rt
St

Project Information

A B C

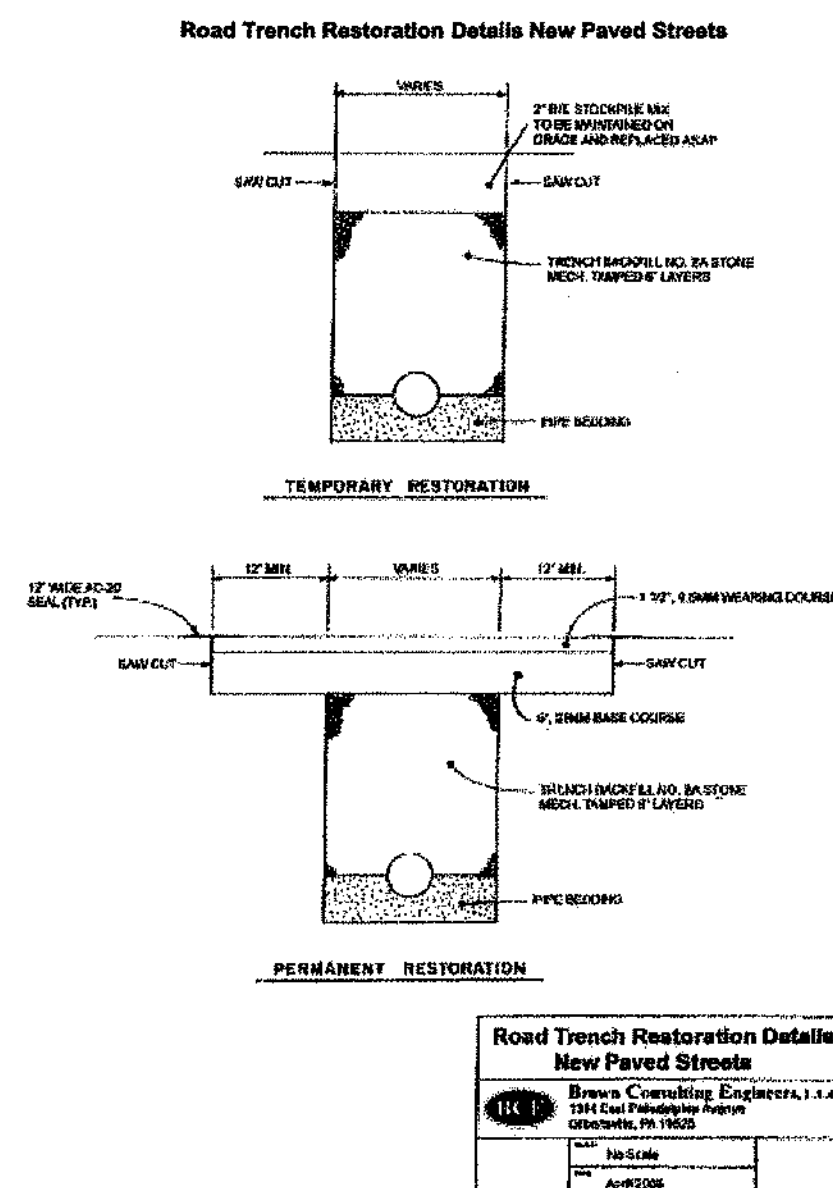
American Electric Lighting
J A J - 24TCL 10LEDE1W XXXX 3K R2
Configuration Single Light Exit Factor
Mounting Height 12 Orientation 0 Lamp Quantity 1
Support Length 1 Tilt 0 Lumens Per Lamp 2480
Wastage 30

Photo Available
J&J - 24TCL 10LEDE1W XXXX 3K R2

Copyright © 2011-2015 Acuity Brands Lighting, Inc. Visual Template Tool version 3.0.2.1.6. Results generated by this tool are provided for informational purposes only, without any warranty as to accuracy, completeness, reliability or otherwise. This calculated results may be flawed due to user provided data or data generated from publicly available sources, and do not meet true site record. All features are circumstantial, the Visual Support Center is available at support@visual-3d.com.

2 of 1

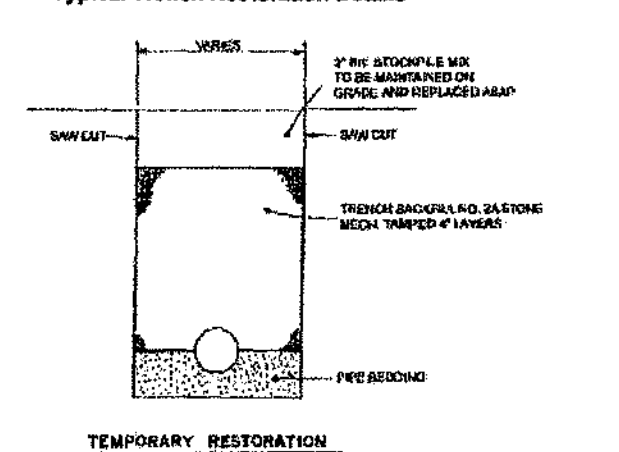
9/15/2015 10:38 AM



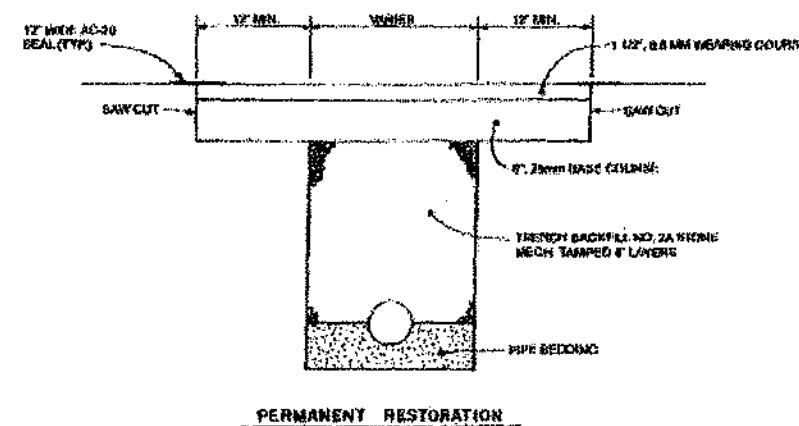
112

Douglass Township Subdivision and Land Development Ordinance

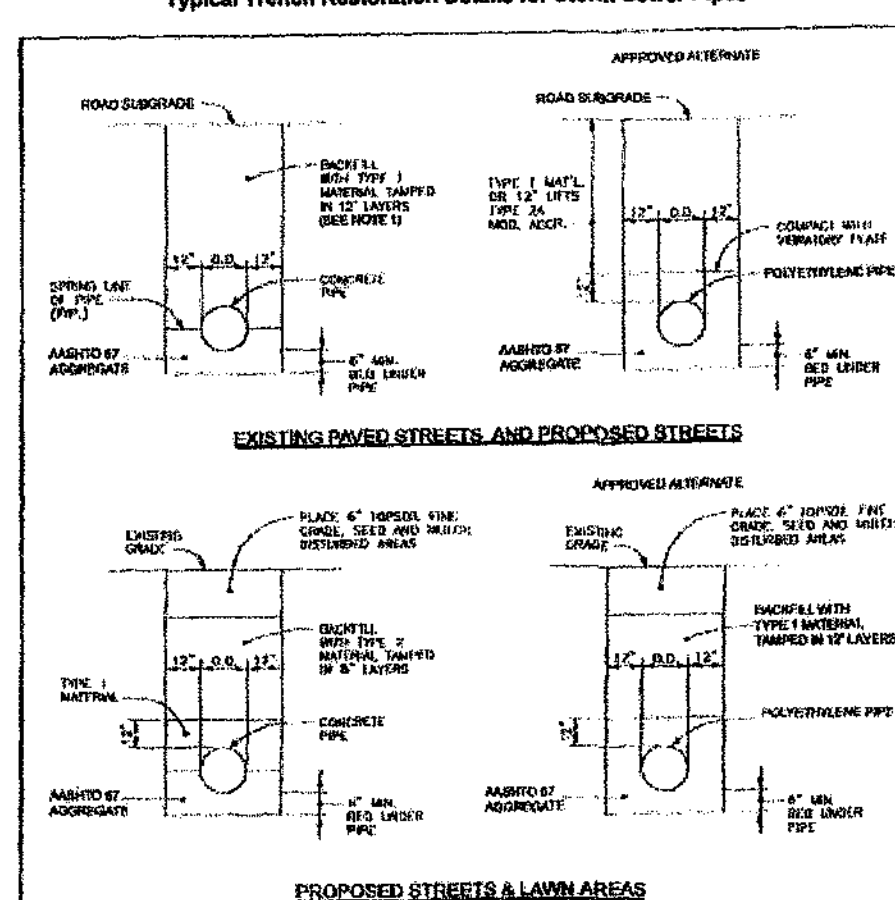
STREET LIGHT AR 247CL FULL CUT OFF - QTY. = 48



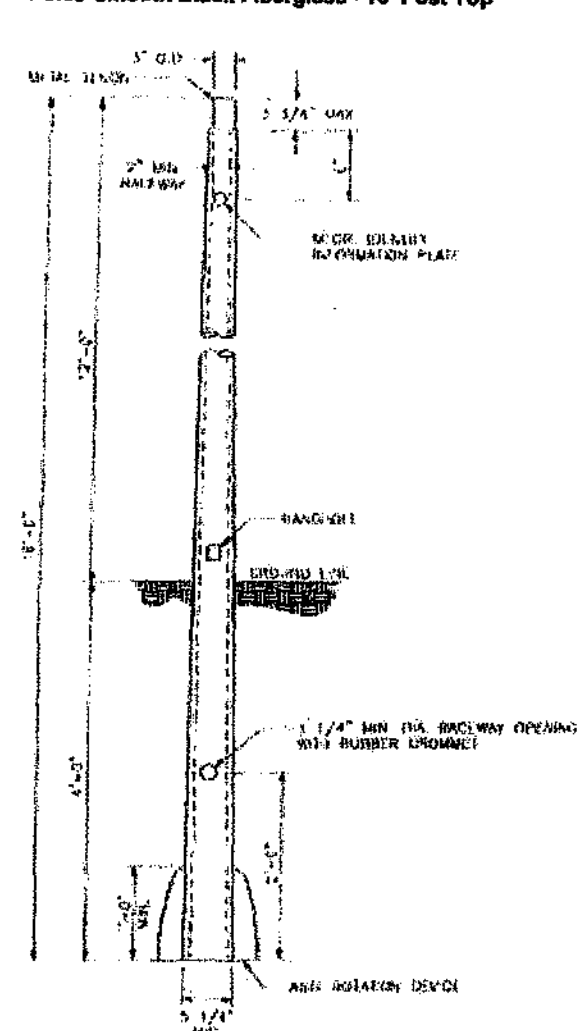
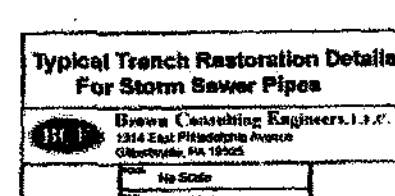
TEMPORARY RESTORATION



PERMANENT RESTORATION



PROPOSED STREETS & LAWN AREAS



**SMOOTH BLACK FIBERGLASS POLE
18' POST TOP
EMBEDDED BASE
APPROVED STANDARD**

7	REVISED PER TWP. ENGINEER'S & BMAA REVIEW		05-22-2011
6	REVISED PER TWP. ENGINEER'S & BMAA REVIEW		03-20-2011
5	REVISED PER TWP. ENGINEER'S REVIEW		02-02-2011
4	REVISED PER TWP. ENGINEER'S REVIEW		04-07-2011
3	REVISED BMAA REVIEW		02-15-2011
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW		11-09-2010
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW		05-31-2010
	Plan Origination Date		01-08-2011

DETAIL SHEET
SITE IMPROVEMENTS
Prepared for
DANNY JAKE CORP.
As part of
ZERN TRACT

As part of
ZERN TRAC

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306



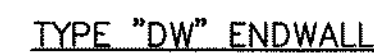
GRAPHIC SCALE

PROJECT MANAGER J.T.S.	DRAWING SCALE NTS	SHEET NUMBER 48 of 64
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	

**LENAPE VALLEY
ENGINEERING**

Civil Engineering • Subdivision • Land Development

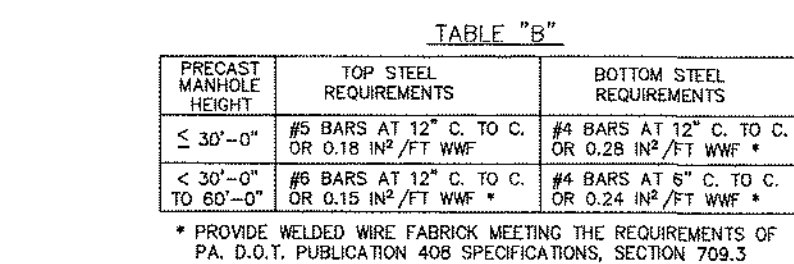
P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com



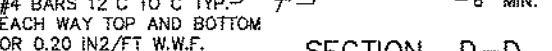
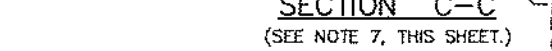
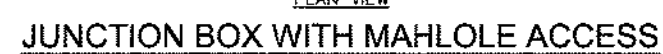
PIPE DIA.	A	B	C	D	E	F	G	H	I	J	K	L	M	N
12"-18"	46"	12"	22"	37"	27"	54"	3"	12"	36"	22"	52"	25"	12"	3"
21"-27"	55"	12"	28"	46"	37"	86"	6"	12"	30"	26"	67"	30"	12"	6"
30"-36"	63"	12"	24"	53"	53"	86.5"	5"	N/A	30"	45"	98"	45"	12"	6"



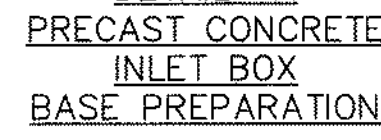
DIMENSIONS, INCHES (mm)						
PIPE DIAMETER	A (25)	B (25.4)	H (1.25)	L (2.5)	W (1.25)	W (3.18)
12, 15 (300, 375)	6.5 (165)	10 (254)	8.5 (165)	25 (635)	29 (736)	
18 (450)	7.5 (190)	15 (380)	8.5 (168)	32 (812)	35 (890)	
24 (600)	7.5 (190)	18 (450)	8.5 (165)	36 (900)	45 (1140)	
30 (750)	10.5 (266)	NA	7.0 (178)	53 (1346)	68 (1725)	
36 (900)	10.5 (266)	NA	7.0 (178)	53 (1346)	68 (1725)	



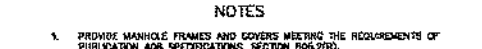
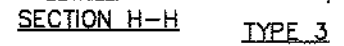
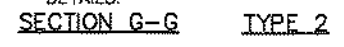
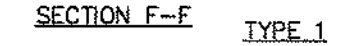
- NOTES
1. PRECAST MANHOLES, MEETING THE REQUIREMENTS OF PA. D.O.T. PUBLICATION 408 SPECIFICATIONS, SECTION 713.2(C), MAY BE SUBSTITUTED FOR TYPES A AND B MANHOLES.
 2. PROVIDE MANHOLE STEPS MEETING THE REQUIREMENTS OF PA. D.O.T. PUBLICATION 408 SPECIFICATIONS, SECTION 605.2(C). ALTERNATE CONFIGURATIONS AND DIMENSIONS, AND APPROVED BY THE ENGINEER, MAY BE USED.



- NOTES:
1. STEPS TO BE FABRICATED OF ALUMINUM ALLOY 6061-T6(EXTRUDED)
2. PORTIONS OF STEPS TO BE EMBEDDED IN WALLS OF MANHOLES OR
CHAMBERS TO BE DIPPED IN HEAVY BODIED BITUMINOUS PAINT OR
PROVIDE PLASTIC INSERT.



- # NOTES
1. CONSTRUCT INLET BOXES IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408, SECTION 713.2(4), FOR PRECAST CEMENT CONCRETE.
 2. ONLY PRECAST INLET BOXES SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15 SHALL BE PERMITTED. FOR A BULLETIN LISTED IN A 223, THE INLET BOXES SHALL BE SUPPLIED TO THE BUREAU OF CONSTRUCTION AND MATERIALS. MATERIALS AND TESTING SHALL BE SUBJECT TO THE BUREAU'S APPROVAL.
 3. PROVIDE STANDARD INLET BOXES AND COVER ADJUSTMENT SLABS WITH A 24"x45" 1/4" OPENING TO ACCOMMODATE STANDARD TOP COMPRESSOR HOLES.
 4. INLETS THAT EXCEED THE MAXIMUM HEIGHT SHOWN SHALL REQUIRE A SPECIAL DETAIL AND DESIGN FOR THE INLET WALLS AND PROVIDE THE CONSTRUCTION OF THE INLET WALLS IN HEIGHT WITH STEPS SIMILAR TO MANHOLES. SEE RC-30.
 5. LOCATE PIPE OR PIPES, AS INDICATED, WITH THE INLET BOTTOM TO THE SAME CHANNEL OR LOW TOWARD THE SAME CHANNEL.
 6. PLACE SUBGRADE MATERIAL WITHIN THE REQUIREMENTS OF PUBLICATION 408, SECTION 502.2, IN 4 INCH LAYERS, COMPACTED AND TESTED TO MEET THE SAME REQUIREMENTS AS MANHOLES TO THE INLET PAY ITEM.
 7. FOR PIPE DIAMETERS LARGER THAN 26" IN THIS WAL FOR A 30" INLET, USE A MODIFIED TYPE I INLET BOX R.C.P. OR SHIRT, 8" THICK.
 8. FOR PIPE DIAMETERS LARGER THAN 48" R.C.P. OR 54" C.M.P. IN THIS WAL FOR A 30" INLET, USE A MODIFIED TYPE II INLET BOX R.C.P. OR SHIRT, 8" THICK.
 9. FOR PIPE DIAMETERS LARGER THAN 48" R.C.P. OR 54" C.M.P. IN THIS WAL FOR A 36" INLET, USE A MODIFIED TYPE II INLET BOX R.C.P. OR SHIRT, 8" THICK.



- [illegible]



7	REVISED PER TWP. ENGINEER'S & BMAA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMAA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMAA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		
		01-08-2014

DETAIL SHEET
STORM SEWER
Prepared for
DANNY JAKE CORP.

As part of
ZERN TRACT

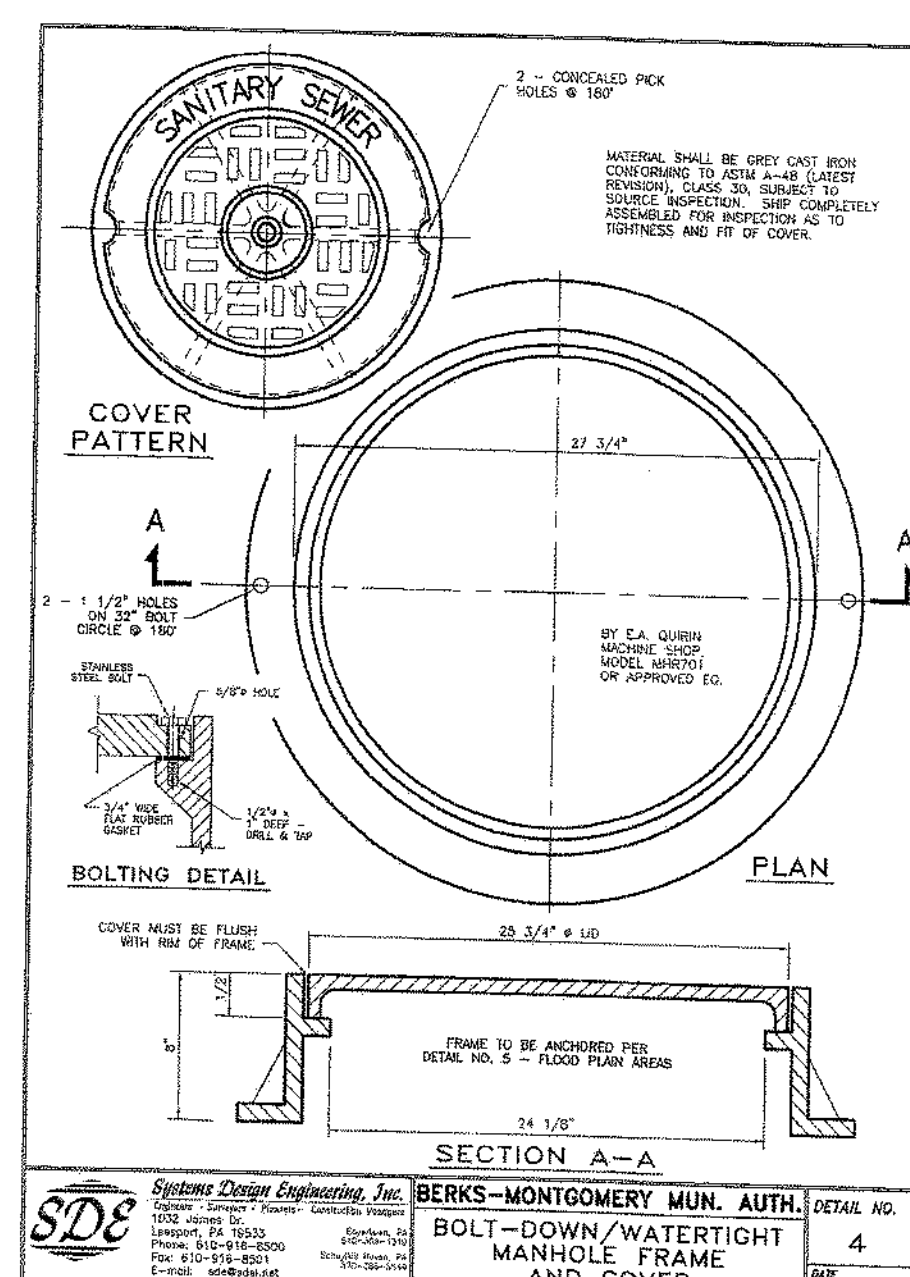
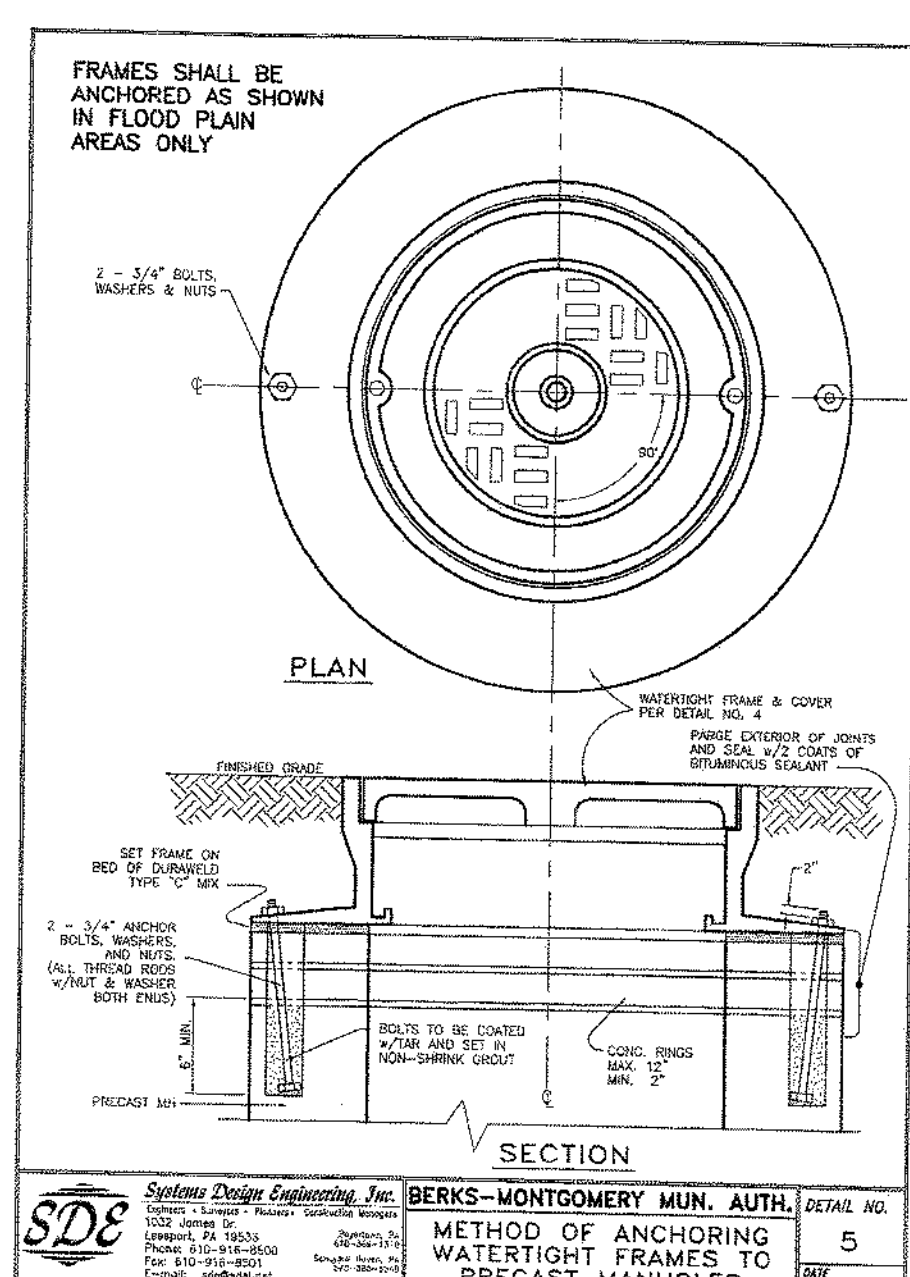
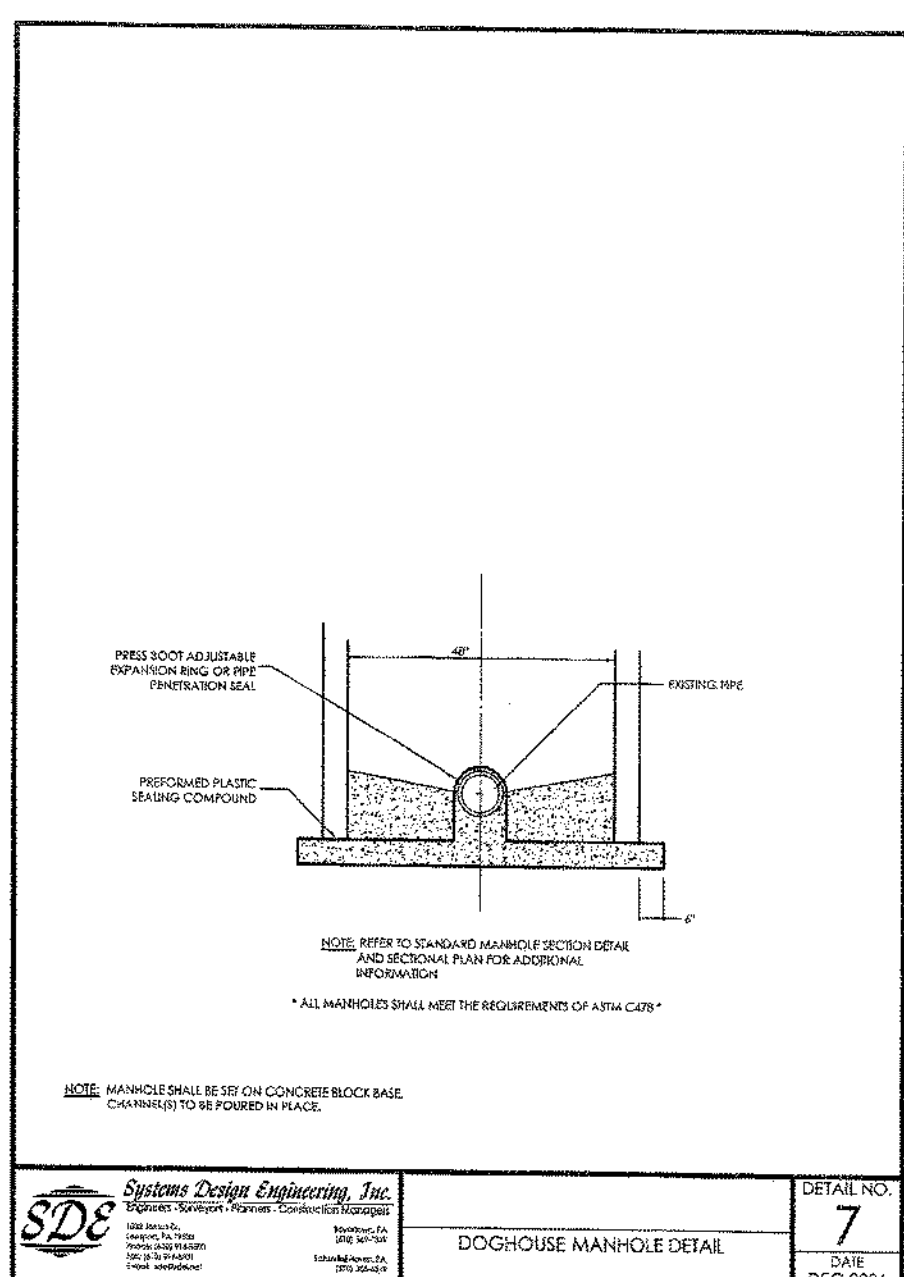
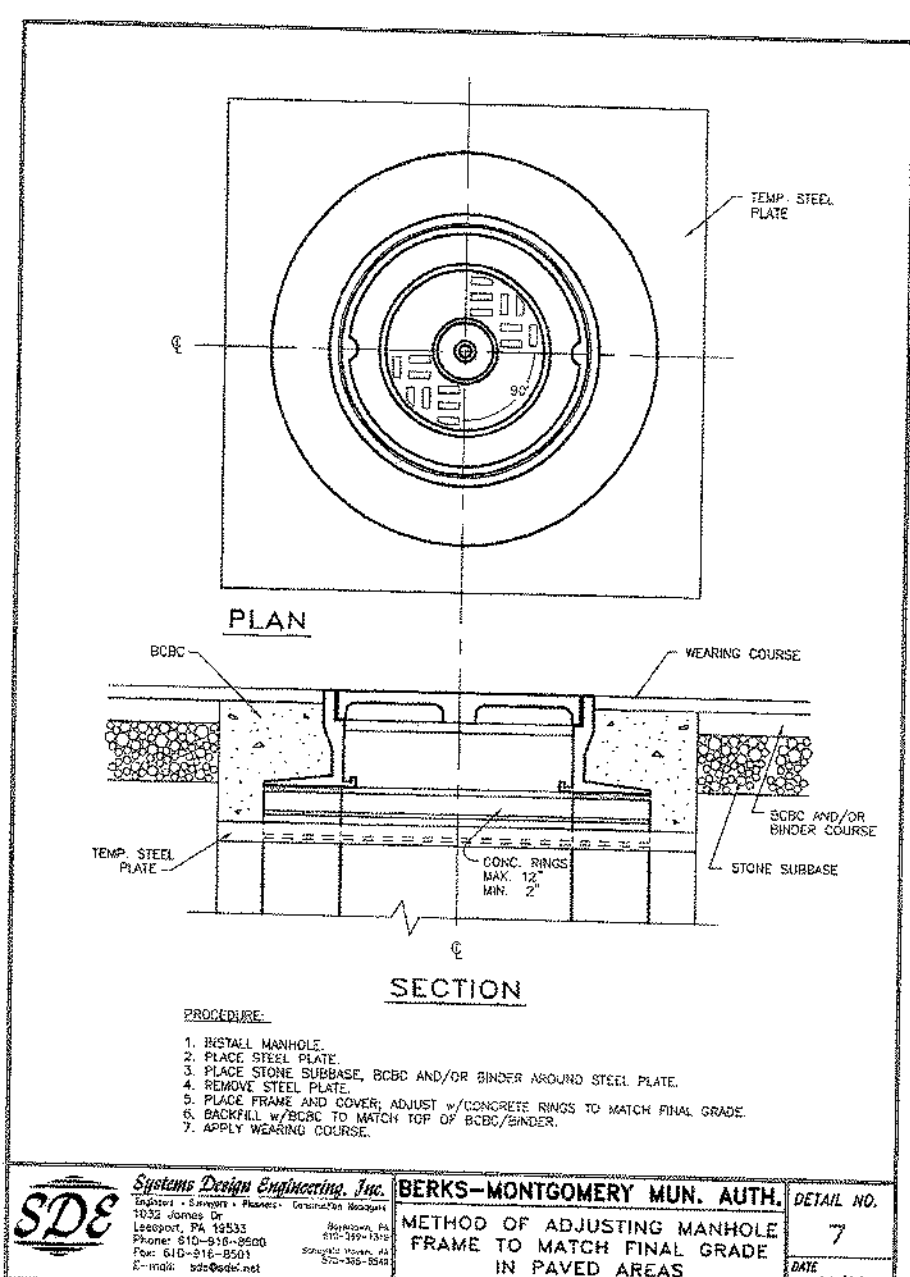
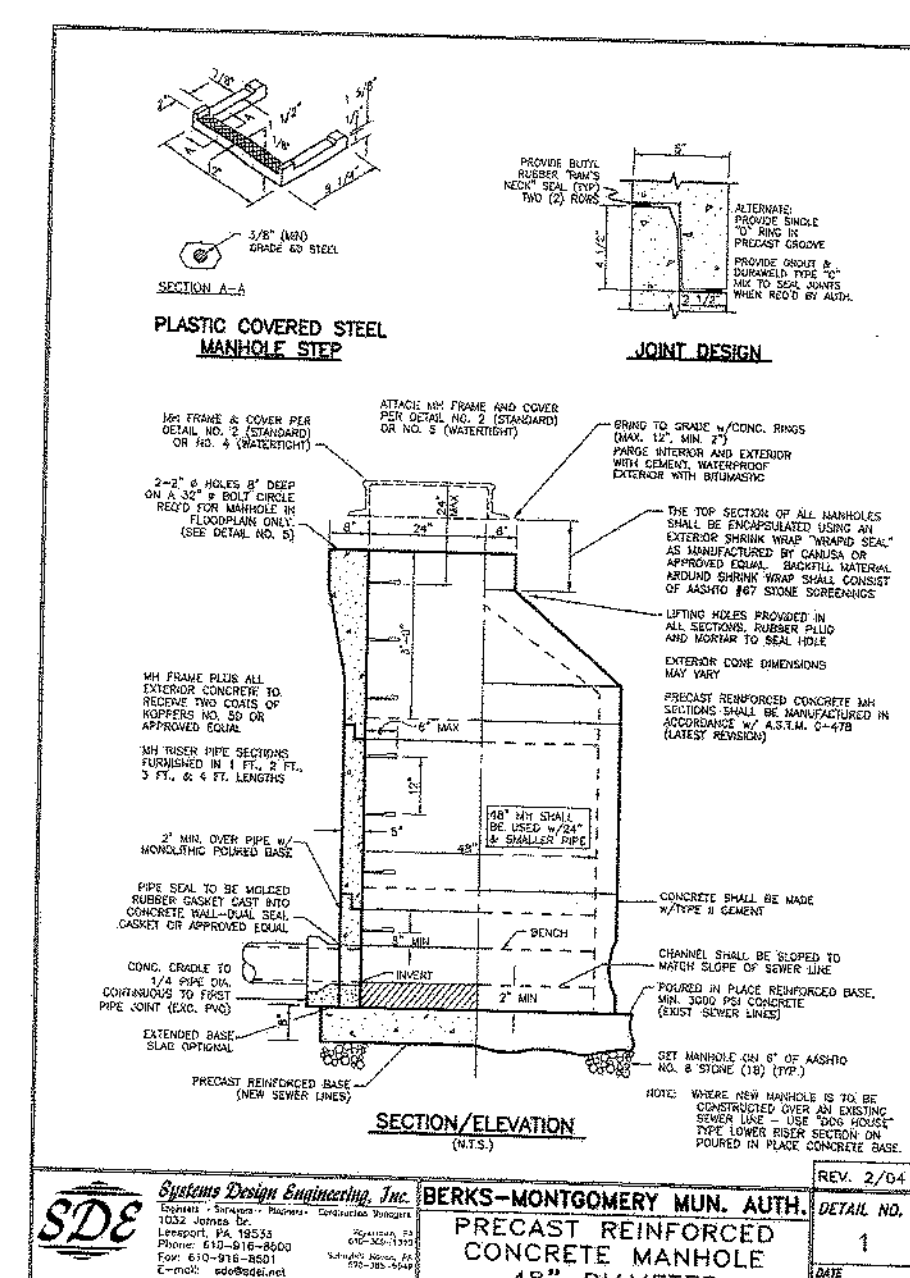
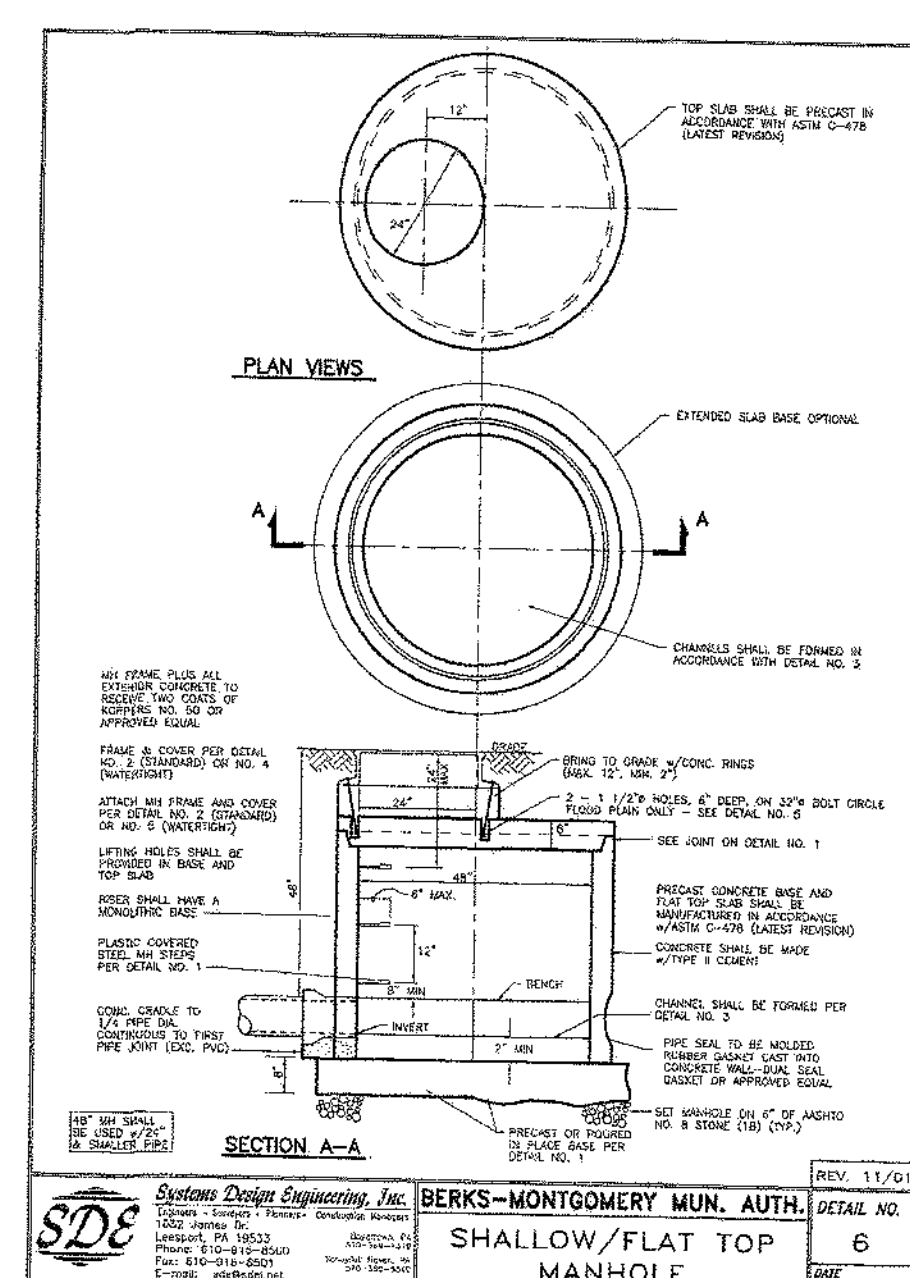
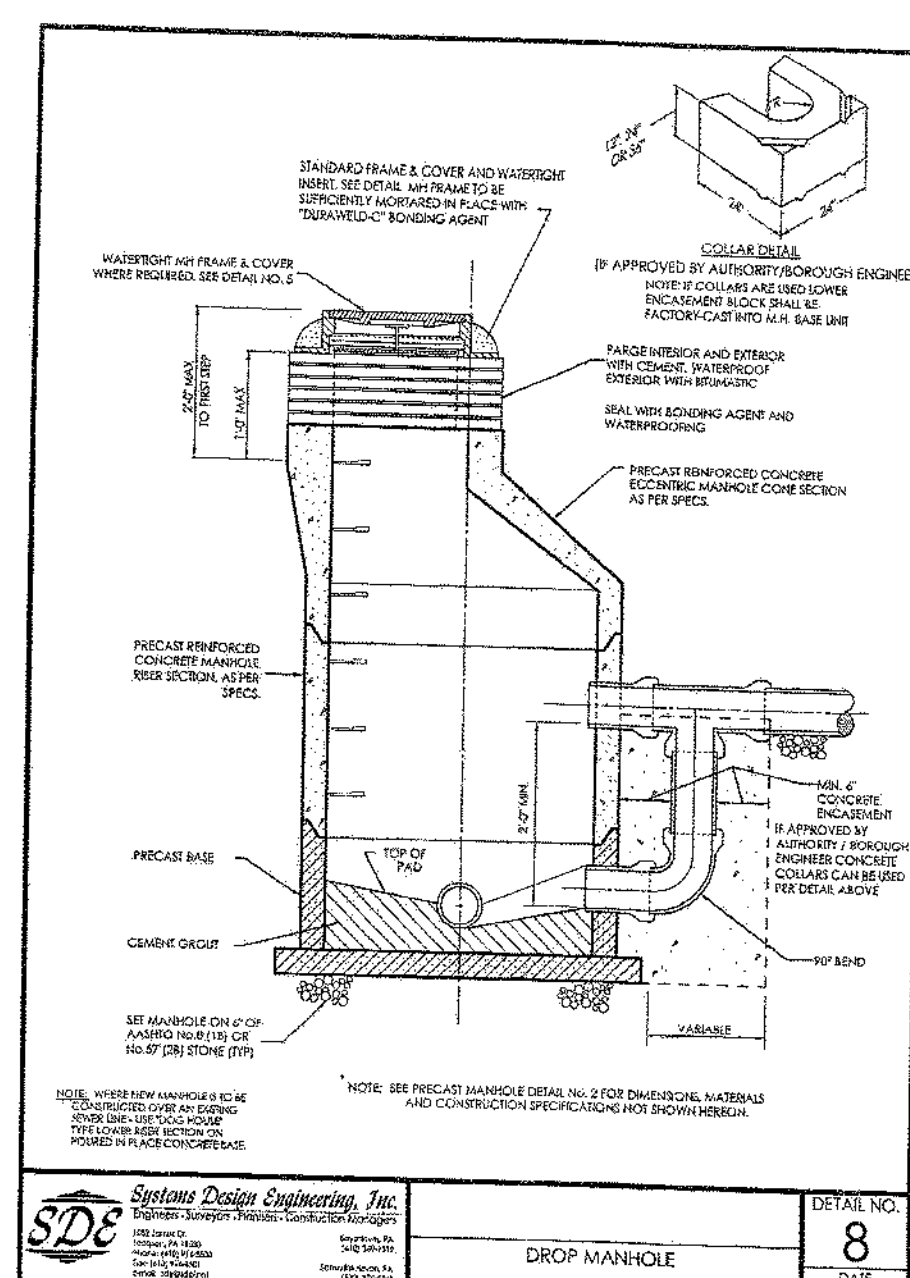
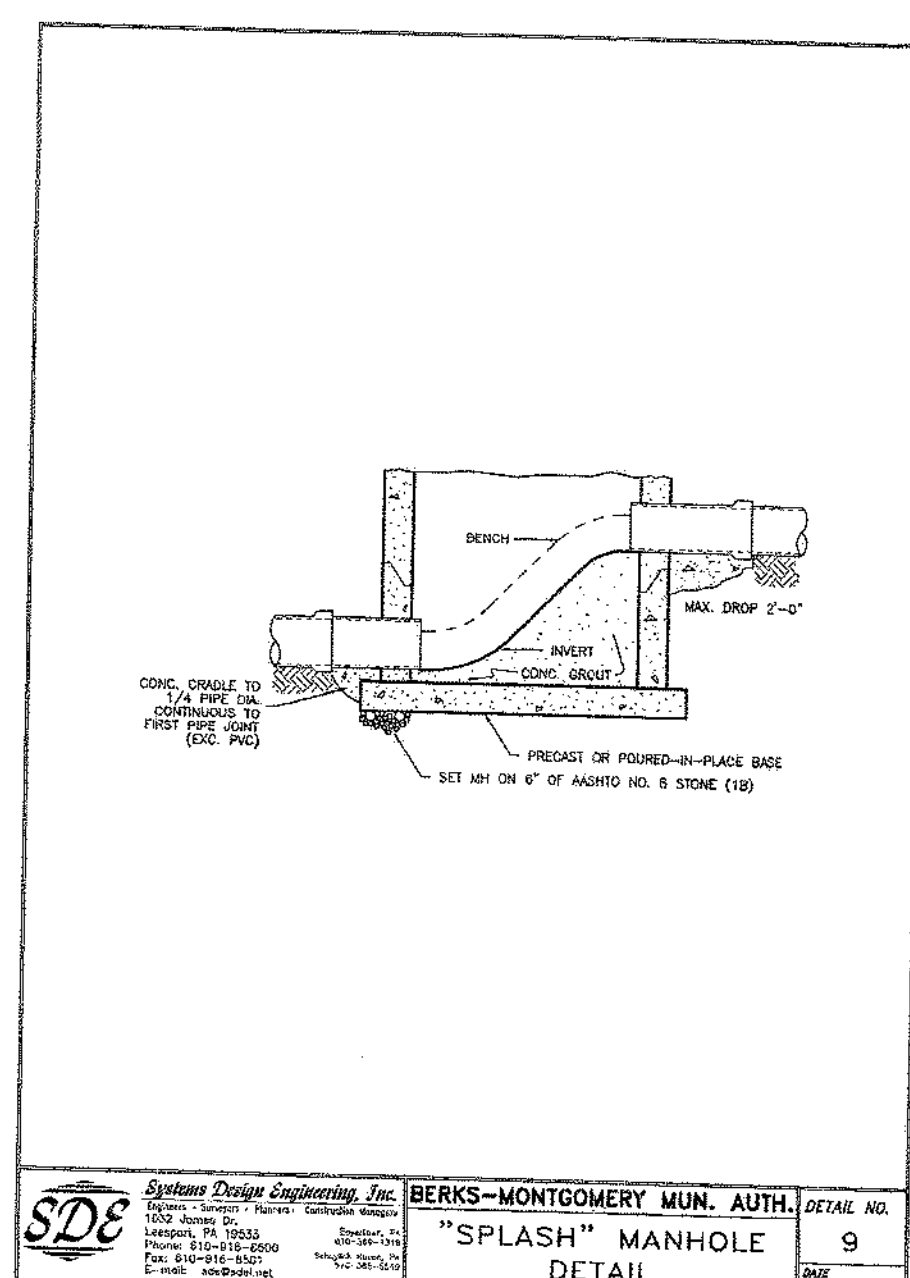
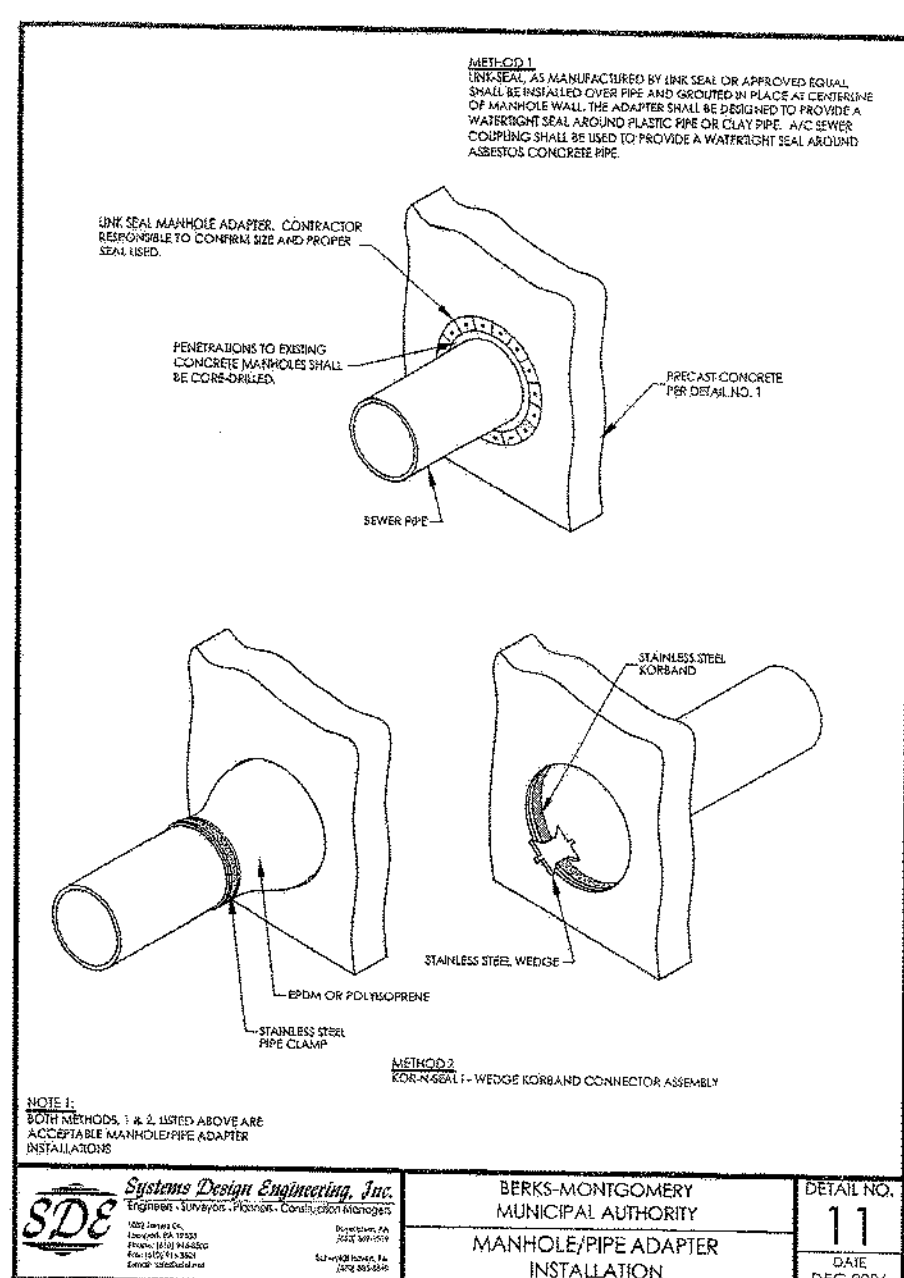
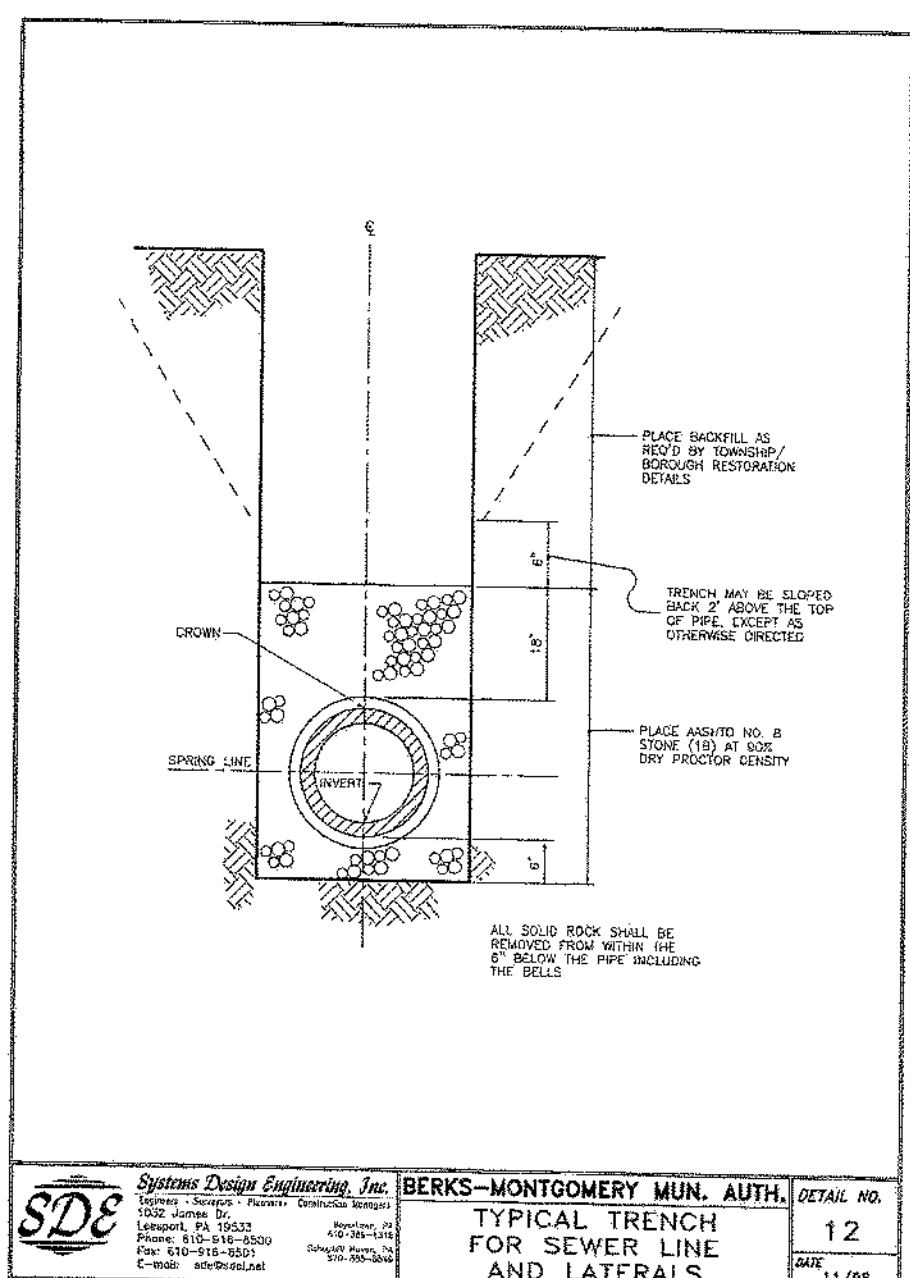
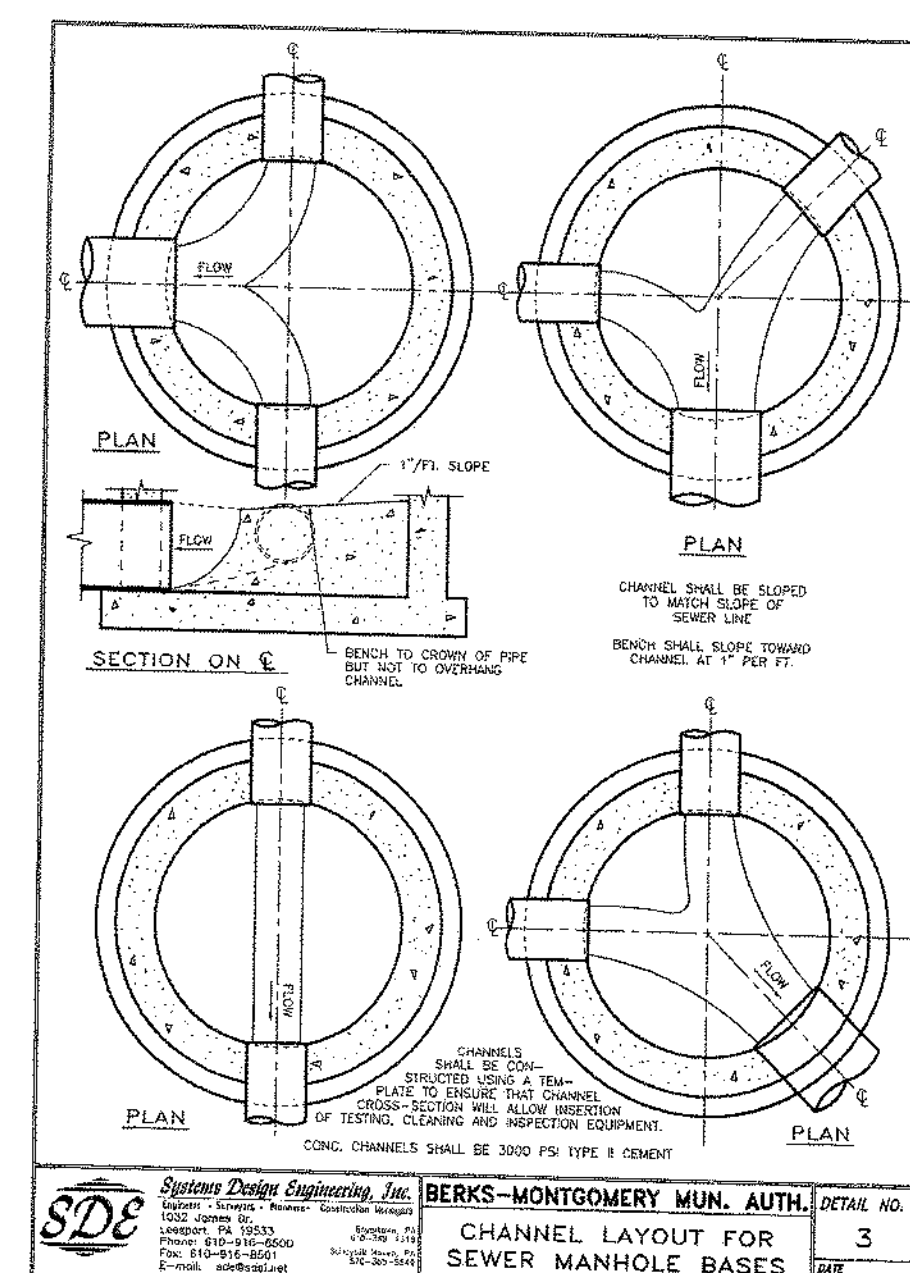
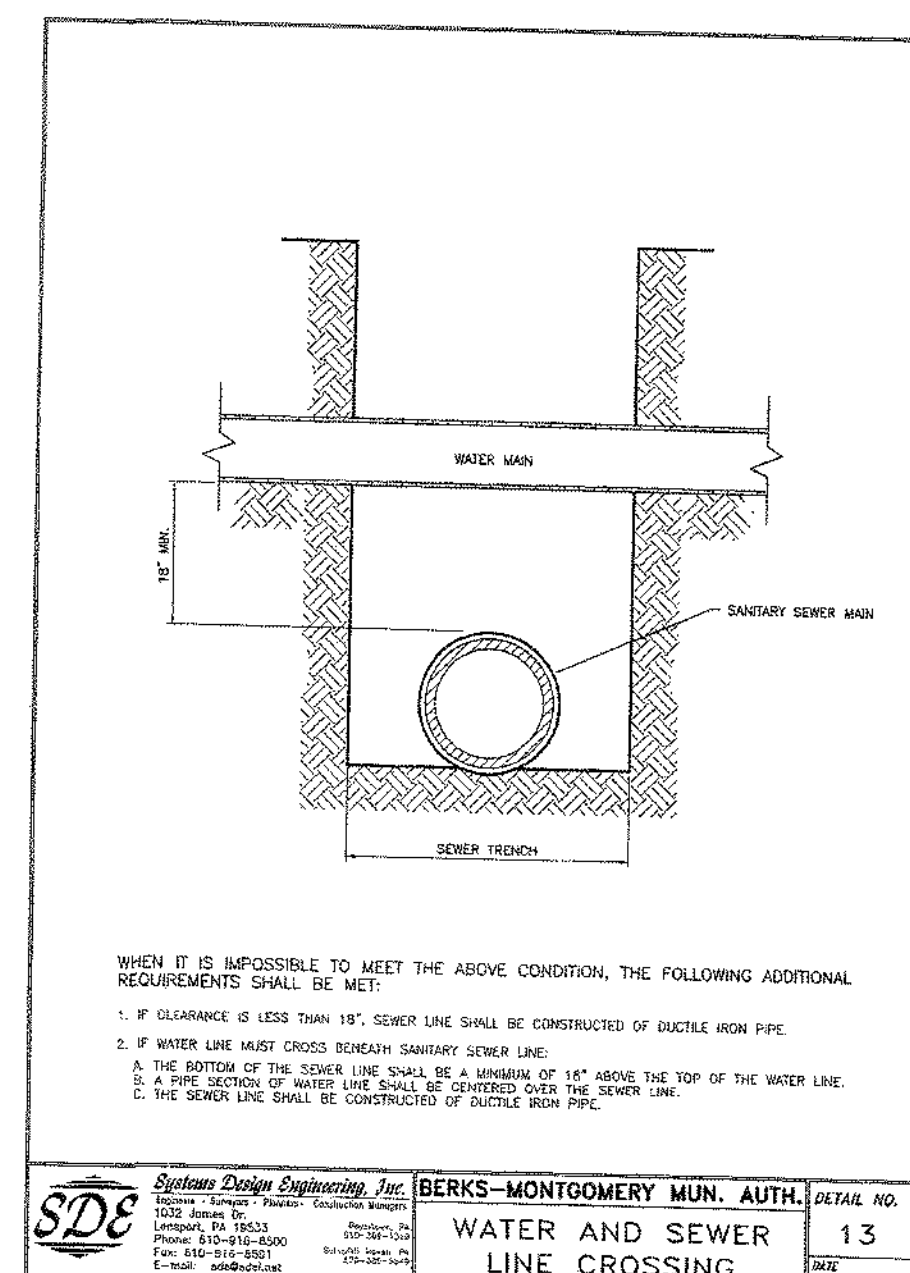
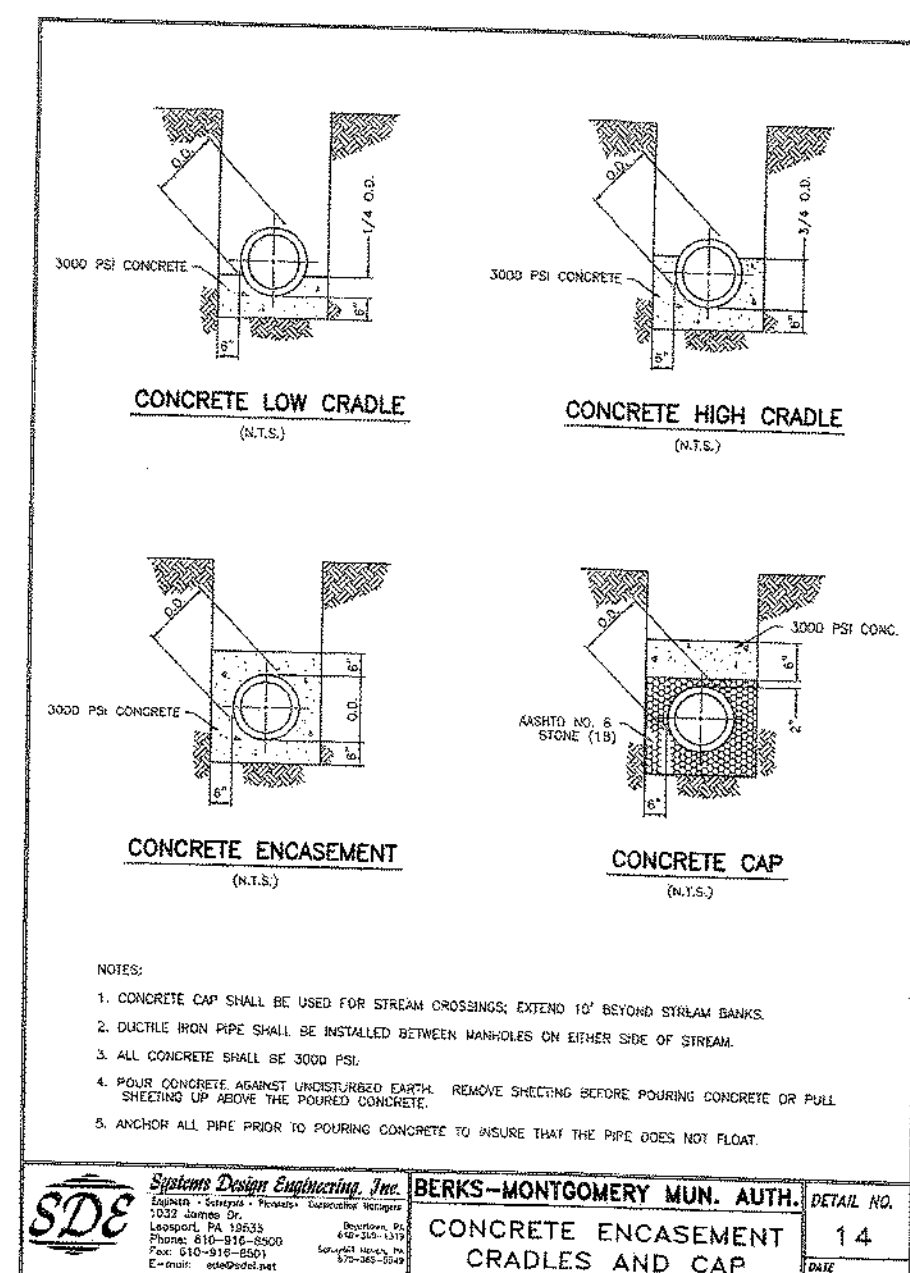
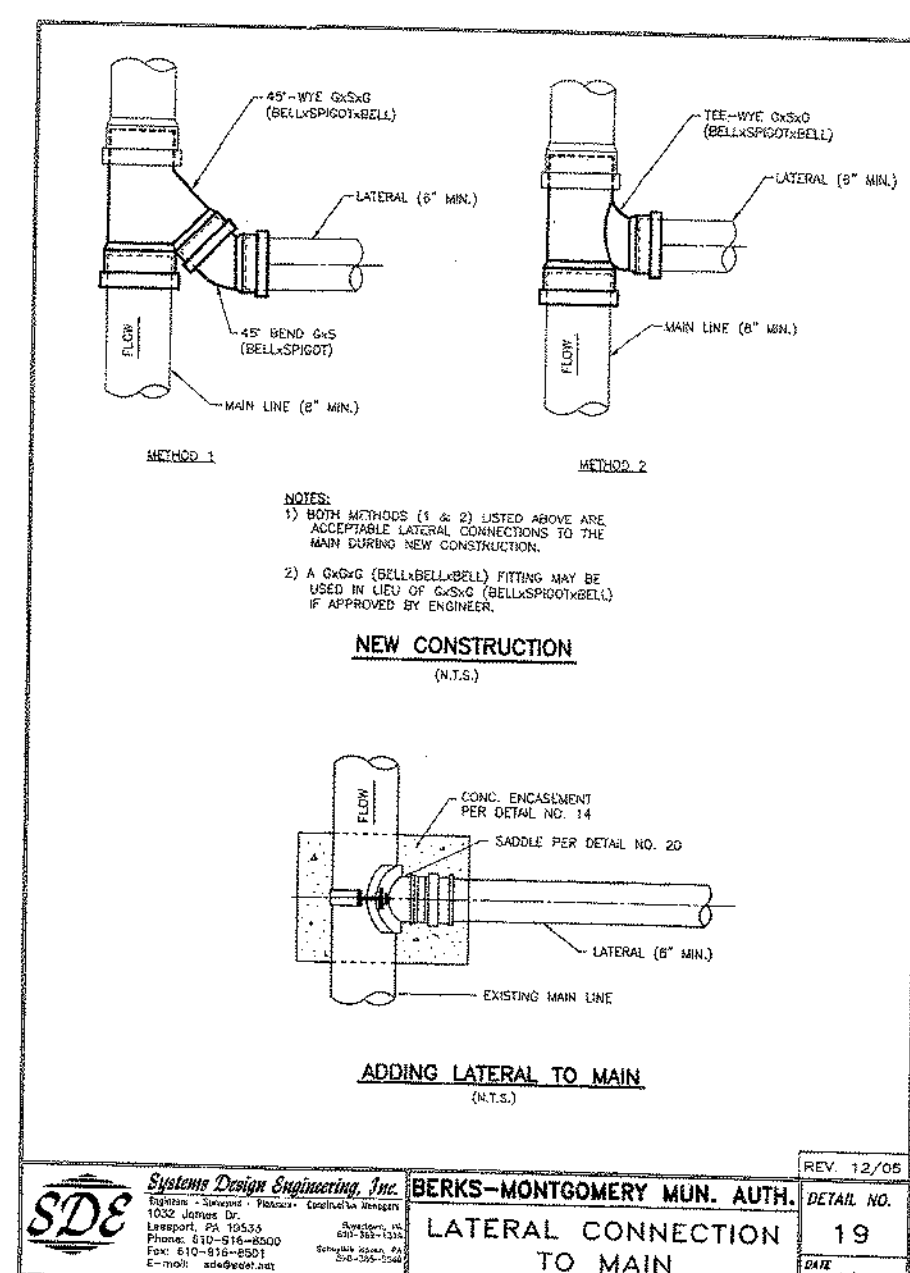
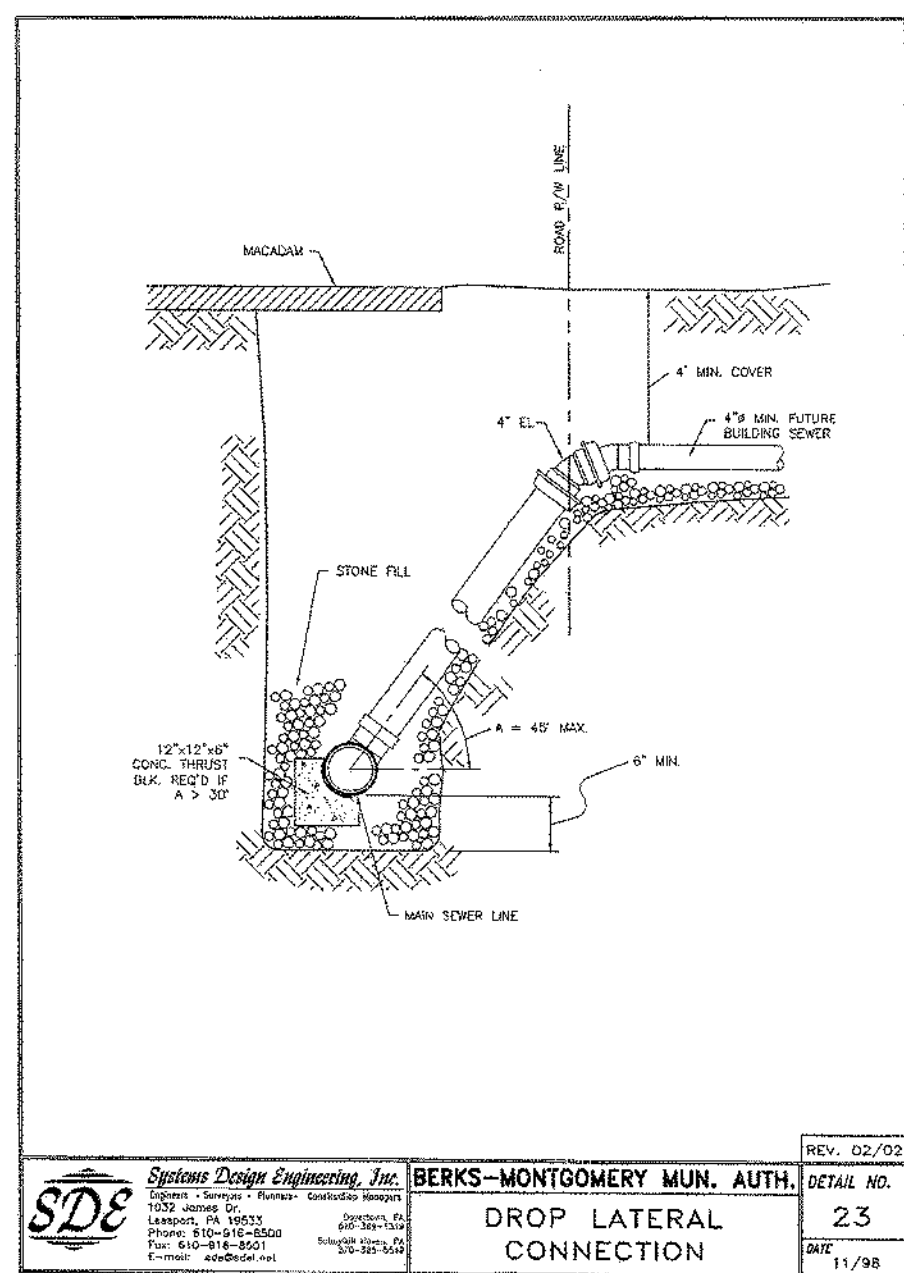
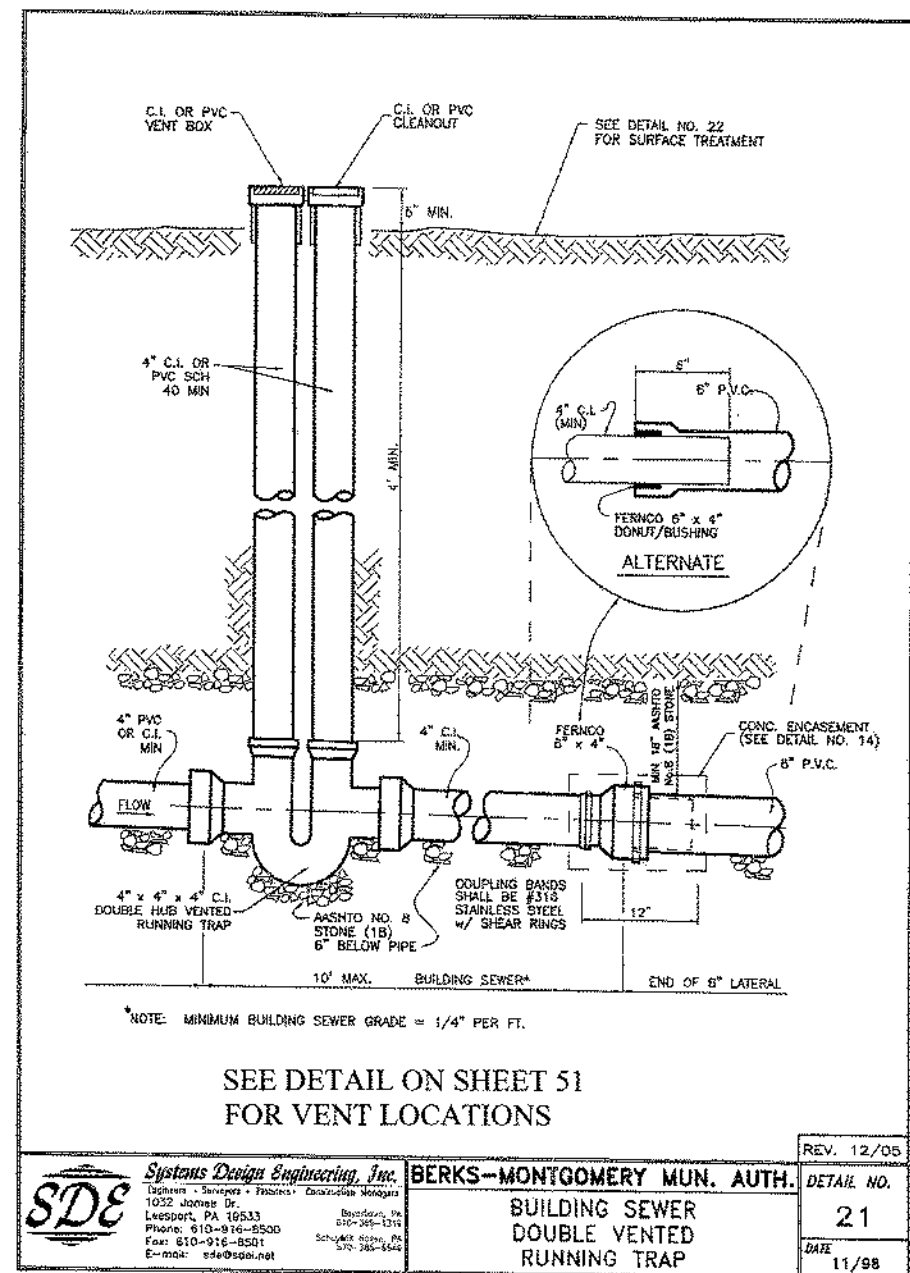
DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

LENAPE VALLEY ENGINEERING

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

PROJECT MANAGER J.T.S.	DRAWING SCALE NTS	SHEET NUMBER
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	49 OF 64



DETAIL SHEET

SANITARY SEWER & WATER

Prepared for

DANNY JAKE CORP.

As part of

ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

7 REVISED PER TWP. ENGINEER'S & BMMA REVIEW 05-22-2019

6 REVISED PER TWP. ENGINEER'S & BMMA REVIEW 03-20-2019

5 REVISED PER TWP. ENGINEER'S REVIEW 02-02-2019

4 REVISED PER TWP. ENGINEER'S REVIEW 04-07-2018

3 REVISED BMMA REVIEW 02-15-2018

2 REVISED PER TOWNSHIP ENGINEER'S REVIEW 11-09-2016

1 REVISED PER TOWNSHIP ENGINEER'S REVIEW 05-31-2016

Plan Origination Date 01-08-2014

LENAPE VALLEY

ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0534
www.LenapeValleyEngineering.com

GRAPHIC SCALE

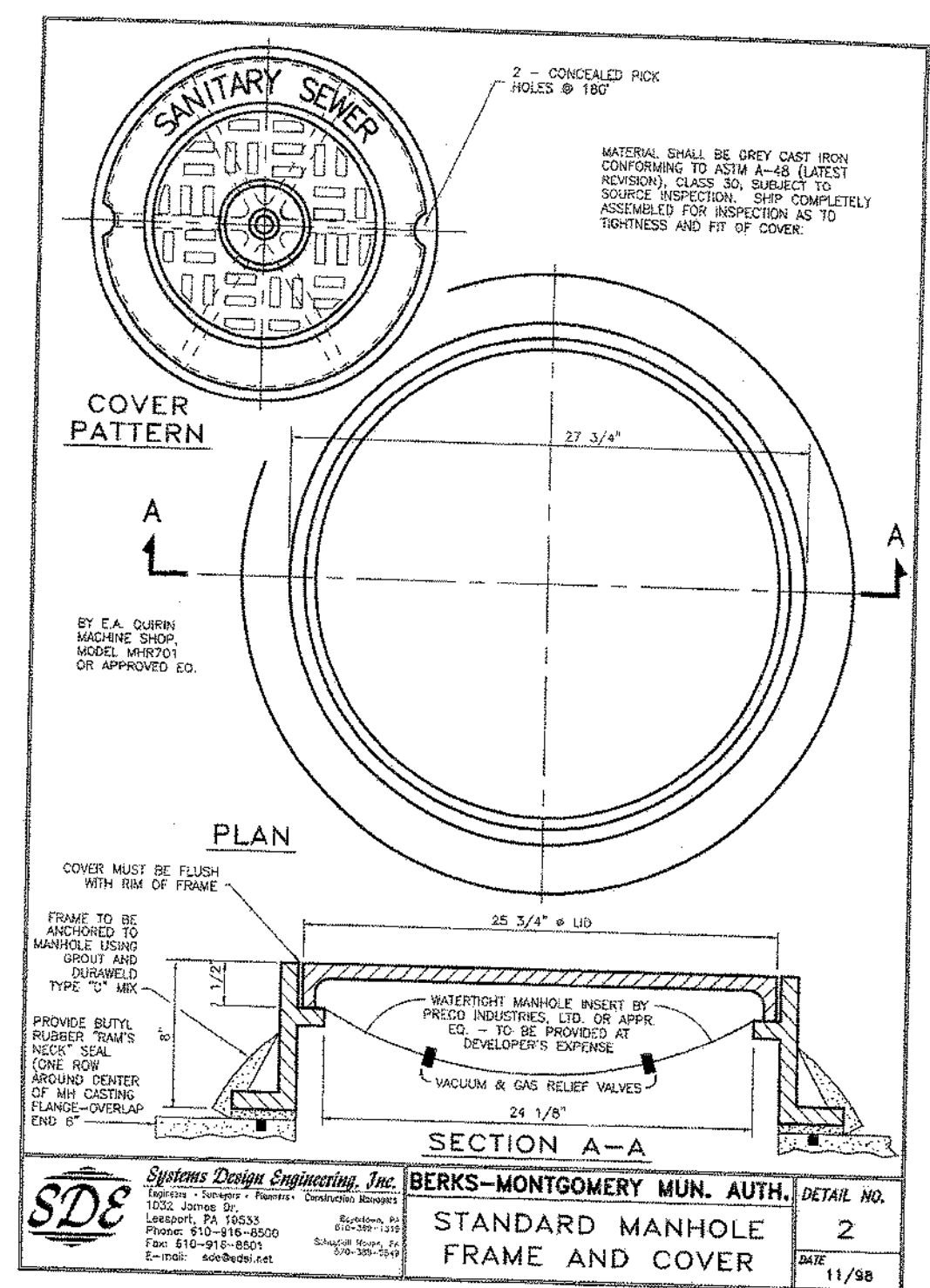
PROJECT MANAGER J.T.S.

DRAWING SCALE NTS

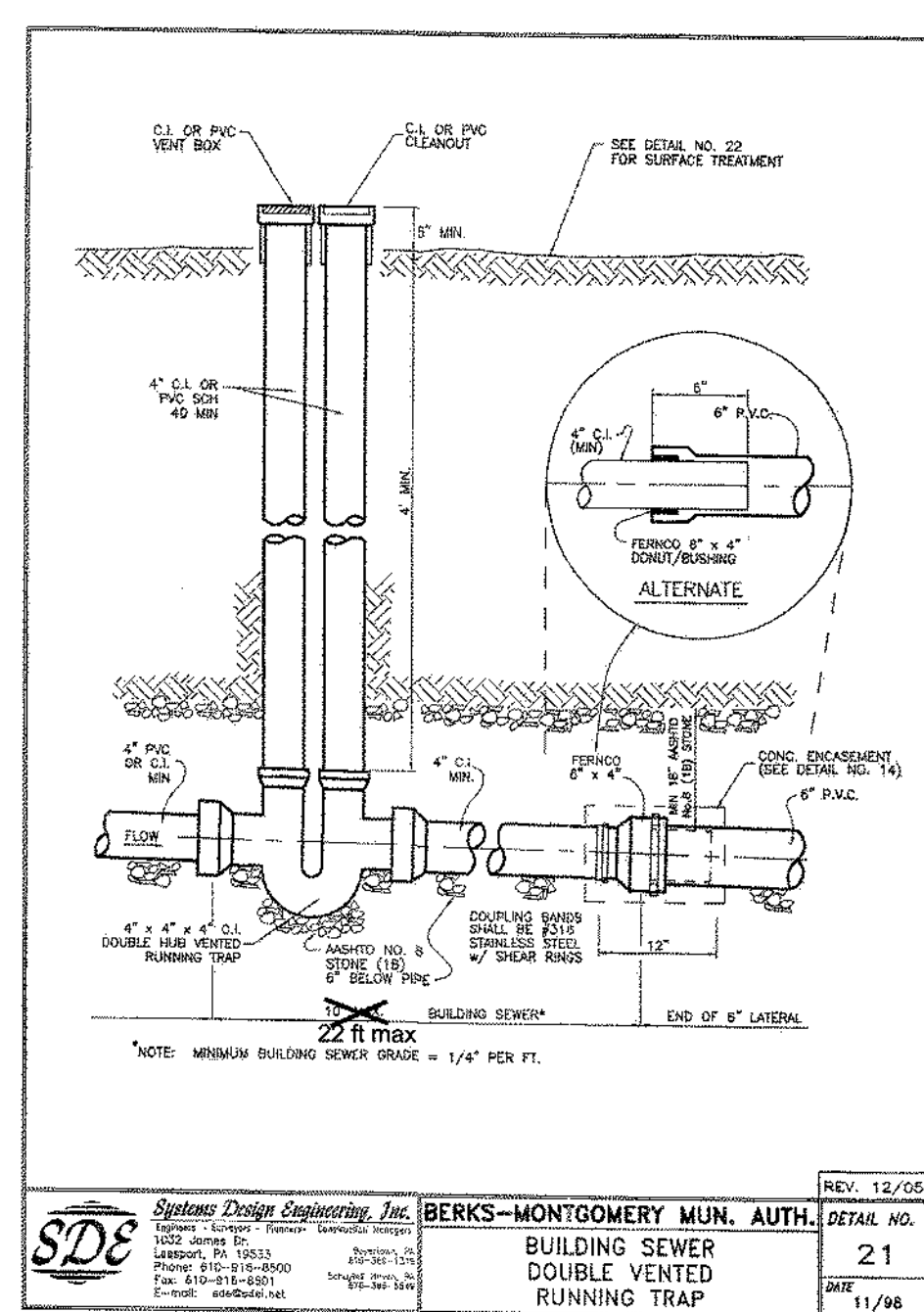
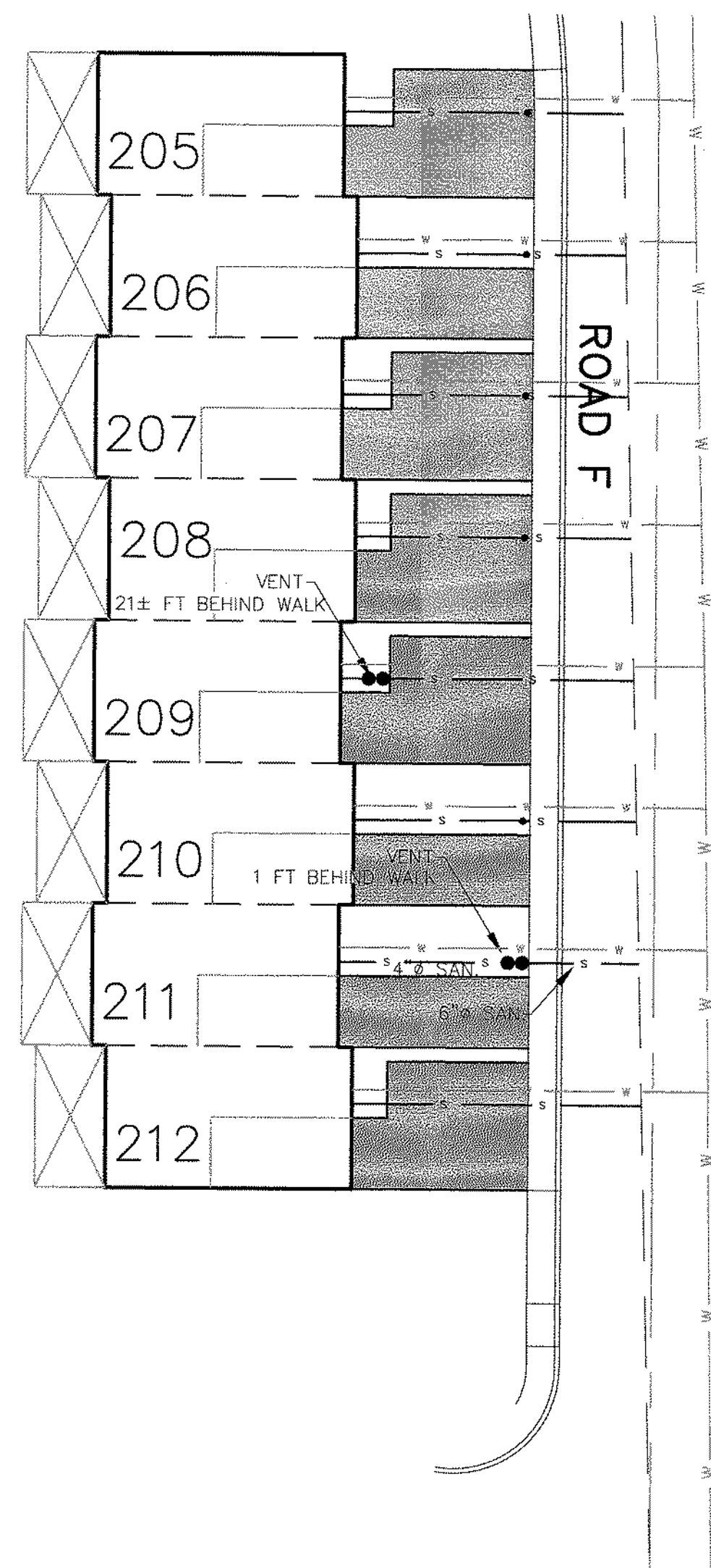
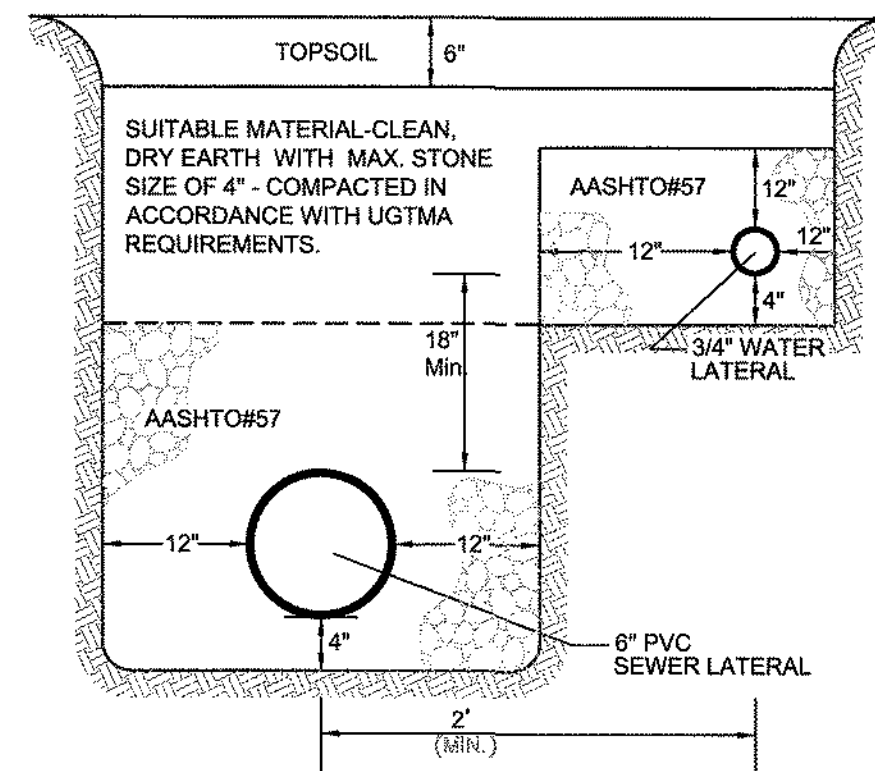
DRAFTED BY B.C.S.

PROJECT NUMBER 2028

SHEET NUMBER 50 of 64

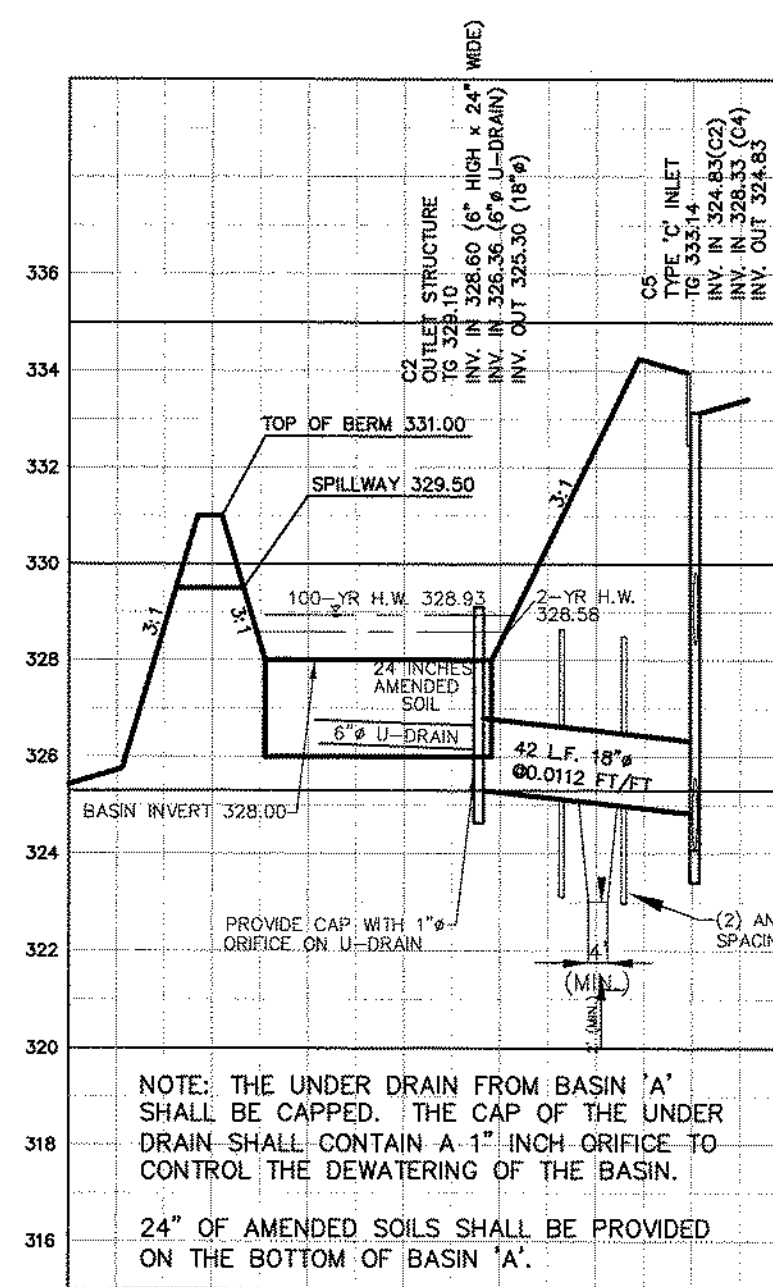


**SANITARY SEWER AND WATER LATERAL
TRENCH DETAIL**

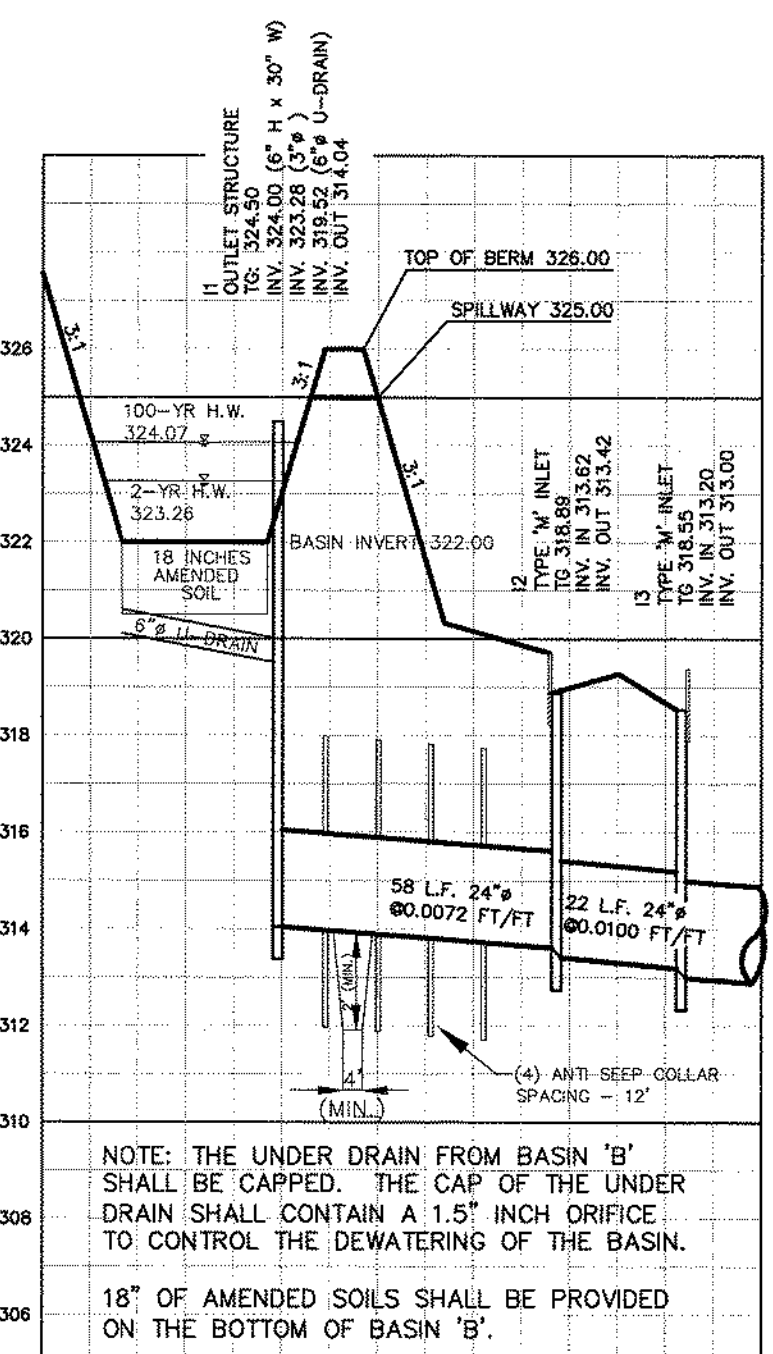


SEWER LATERAL VENTS SHALL NOT BE PROVIDED IN PAVED DRIVEWAY AREAS. IN THE CASE WHERE A UNIT HAS A TWO CAR DRIVEWAY, THE SEWER VENTS SHALL BE PROVIDED IN THE GRASS AREA BETWEEN THE DWELLING AND THE EDGE OF THE DRIVEWAY AS SHOWN IN THE TYPICAL DETAIL.

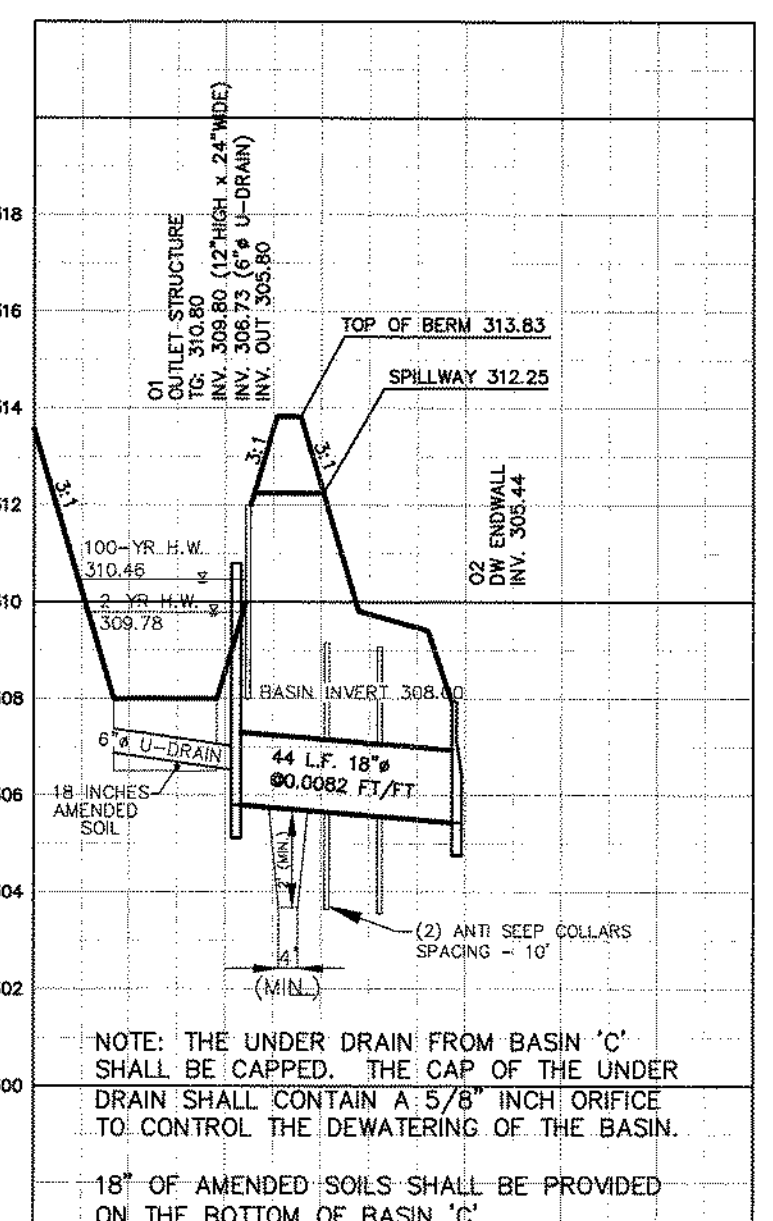
DETAIL SHEET SANITARY SEWER & WATER Prepared for DANNY JAKE CORP. As part of ZERN TRACT	
DOUGLASS TOWNSHIP MONTGOMERY COUNTY PENNSYLVANIA	
JASON T. SMELAND PROFESSIONAL ENGINEER PA NO. 059306	
LENAPE VALLEY ENGINEERING Civil Engineering • Subdivision • Land Development P.O. Box 74, Chalfont, Pennsylvania 18914 Tel (215) 622-1414 Fax (267) 308-0524 www.LenapeValleyEngineering.com	
PROJECT MANAGER J.T.S.	DRAWING SCALE NTS
DRAFTED BY B.C.S.	PROJECT NUMBER 2028
SHEET NUMBER 51 of 64	



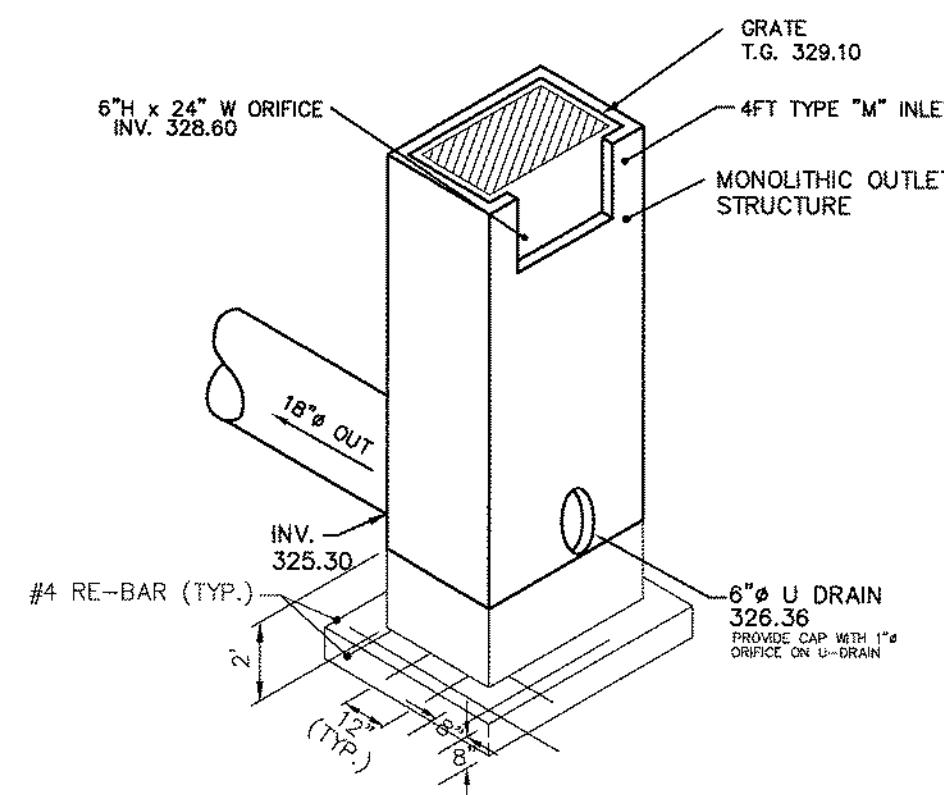
BASIN 'A'



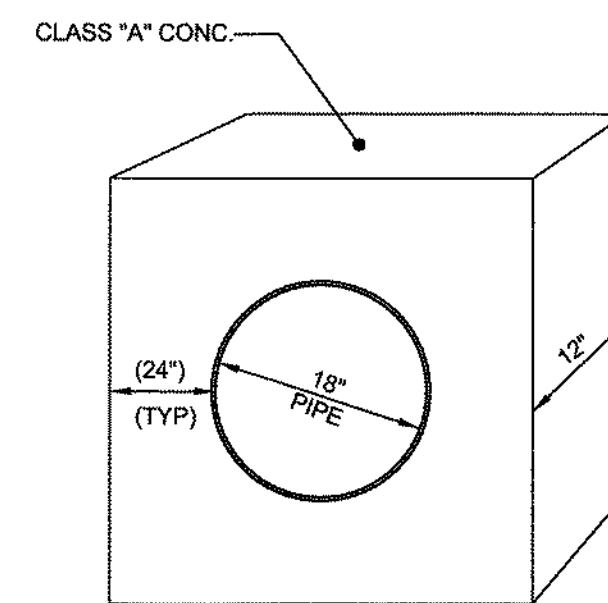
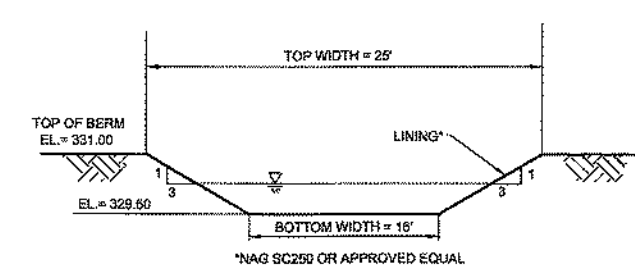
BASIN 'B'



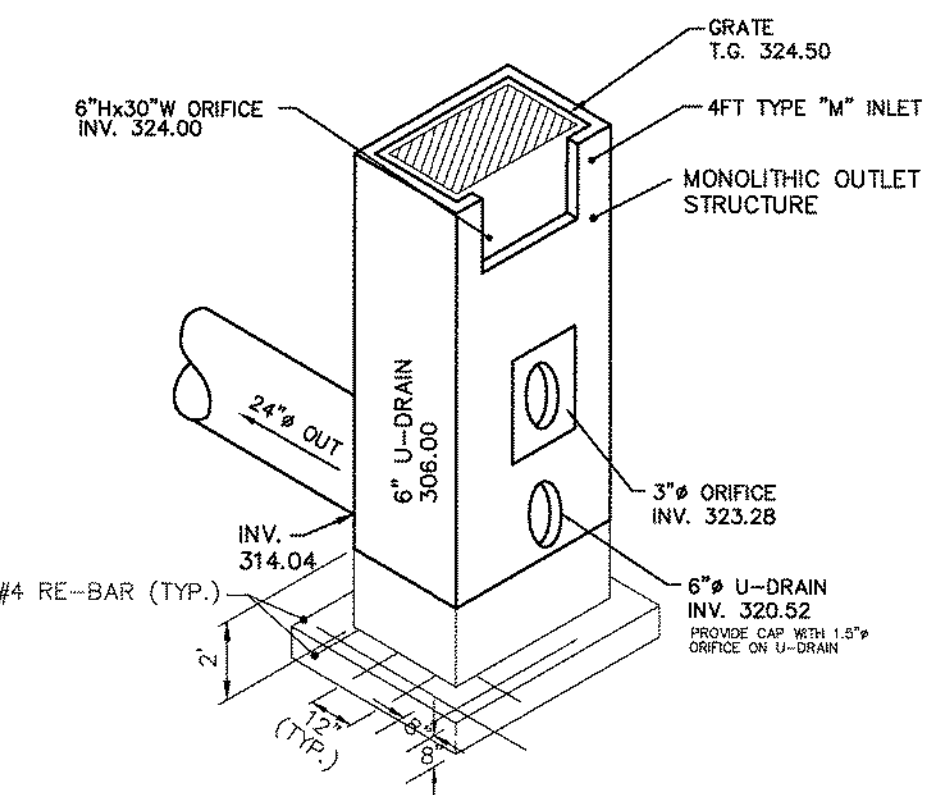
BASIN 'C'



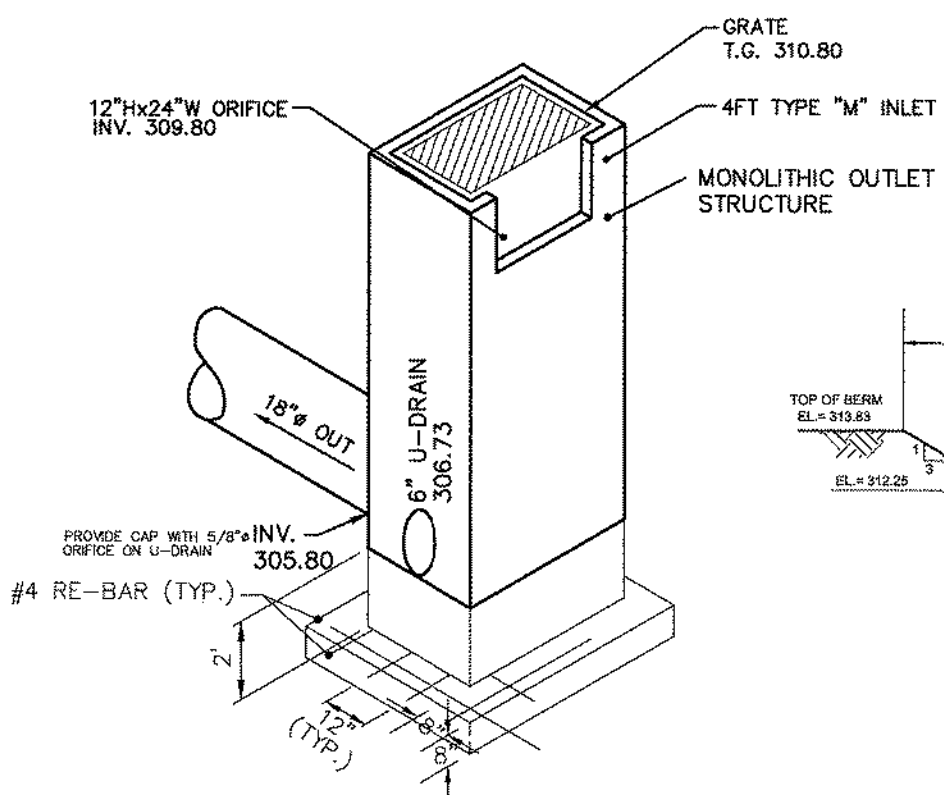
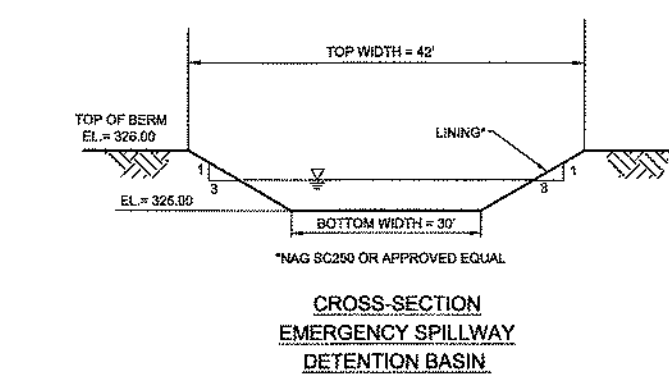
BASIN 'A' - SLOW RELEASE



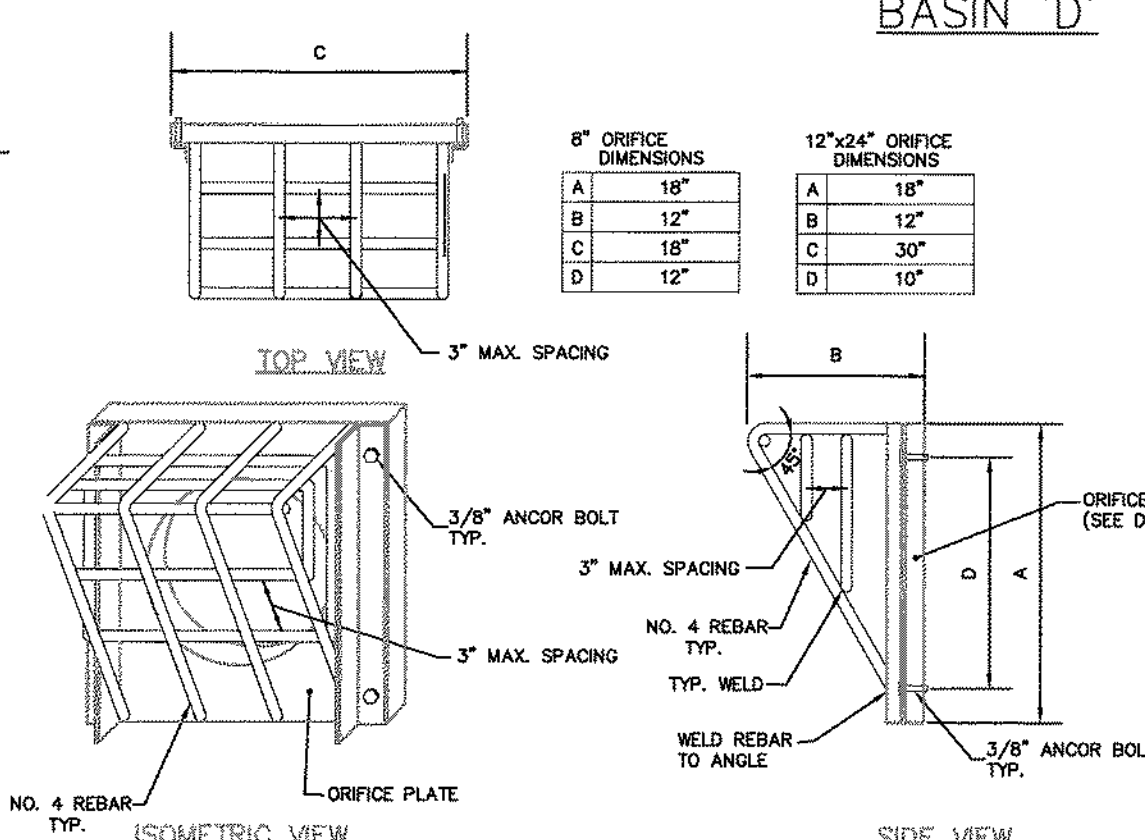
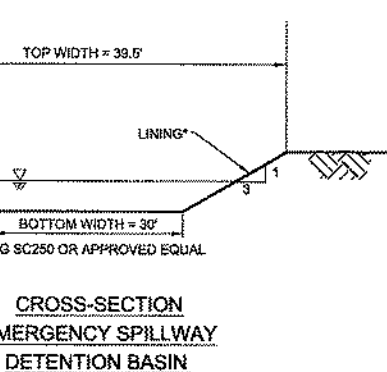
ANTI-SEEP COLLAR



BASIN 'B' - EXTENDED DETENTION BASIN



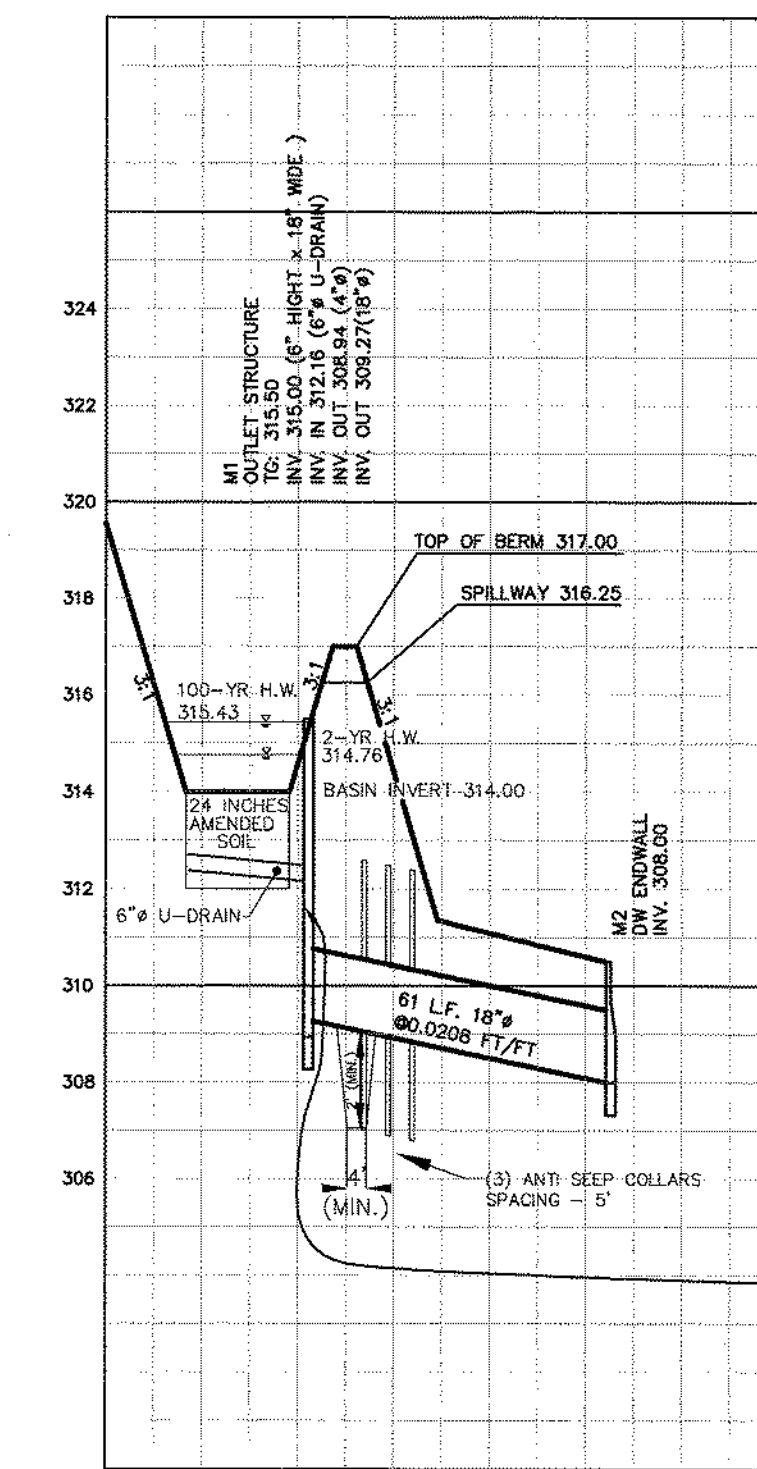
BASIN 'C' - EXTENDED DETENTION BASIN



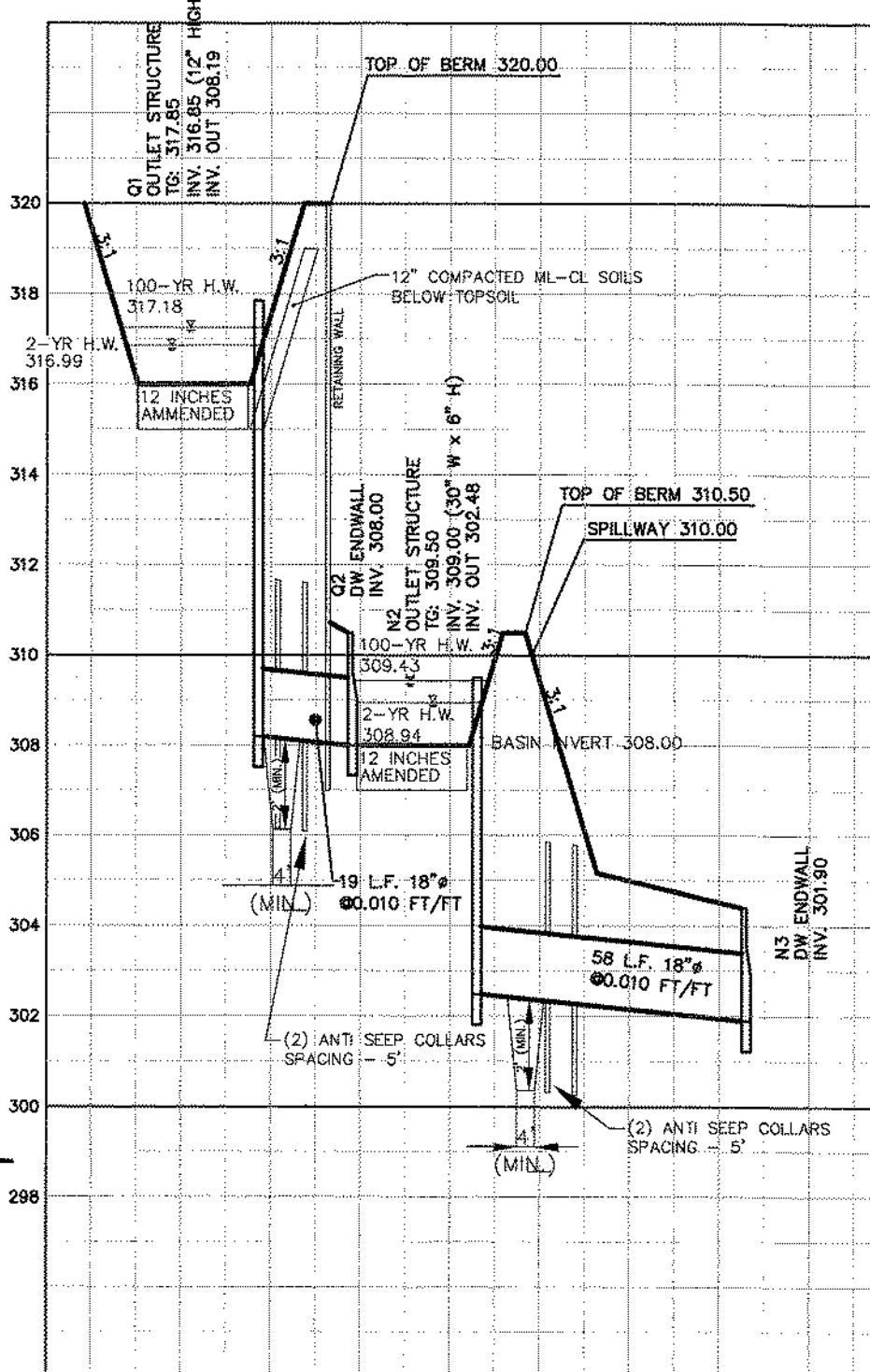
NOTE: AFTER RACK IS CONSTRUCTED (WELDED) THE ASSEMBLY SHALL BE EPOXY COATED.

TRASH RACK TO BE INSTALLED OVER ORIFICE OPENING ON THE BASIN OUTLET STRUCTURE.

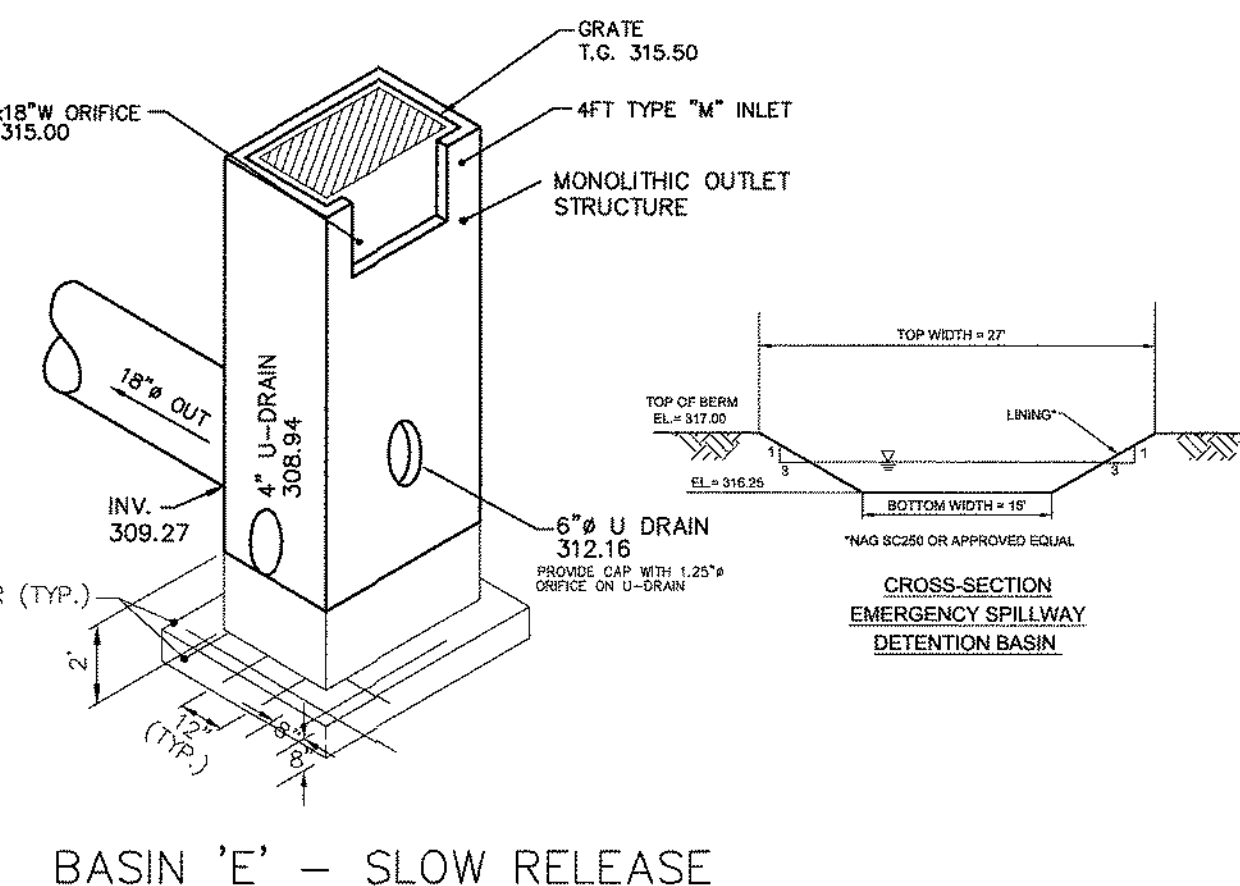
TRASH RACK DETAIL



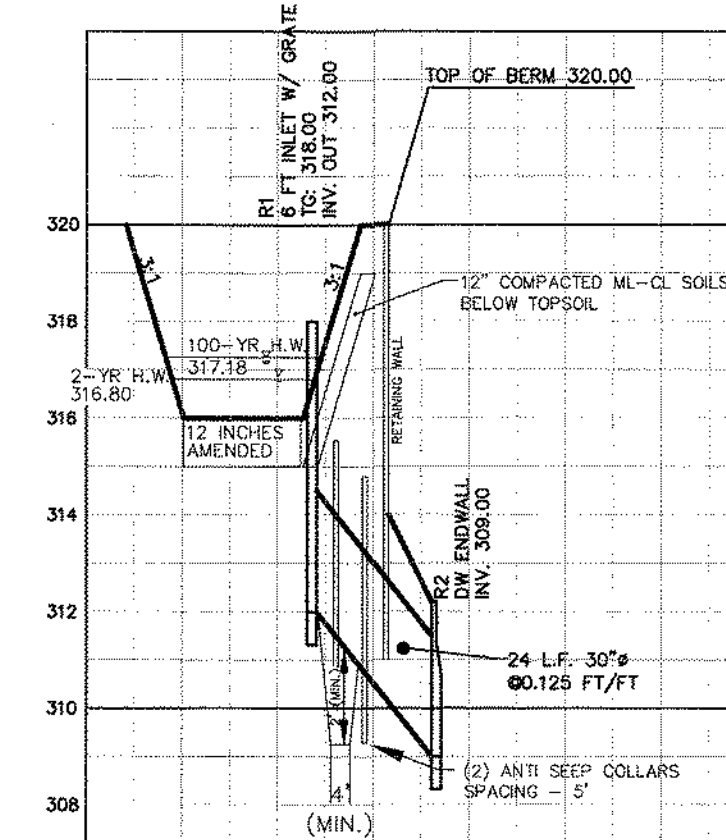
BASIN 'E'



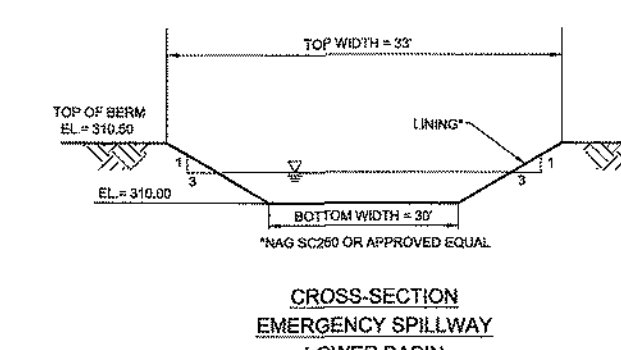
BASIN 'D'



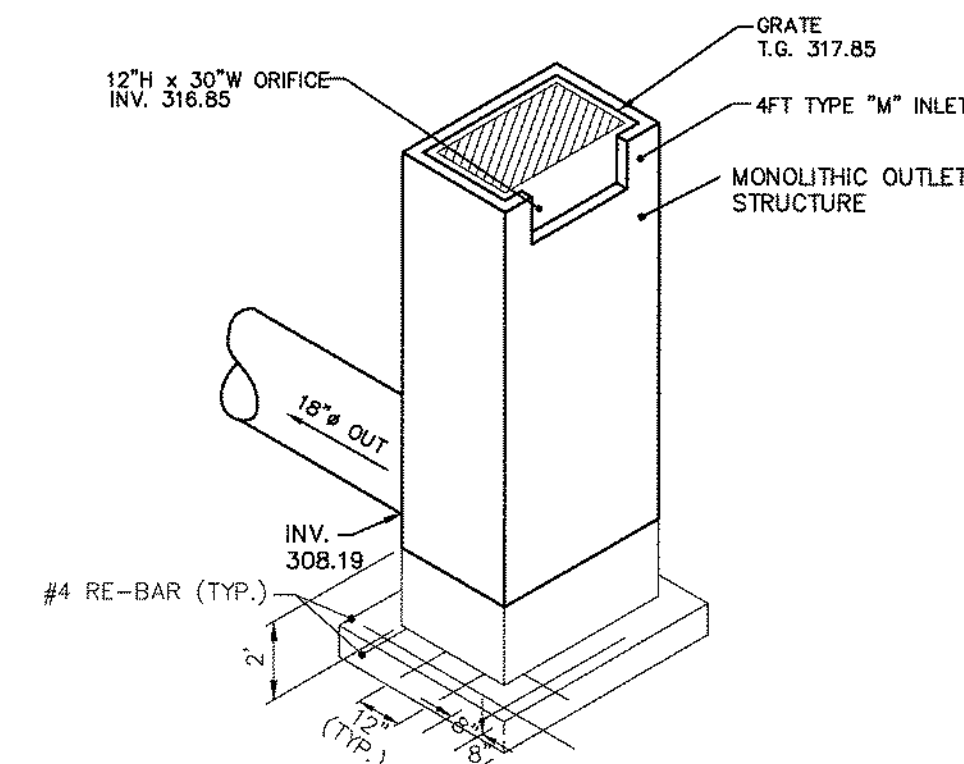
BASIN 'E' - SLOW RELEASE



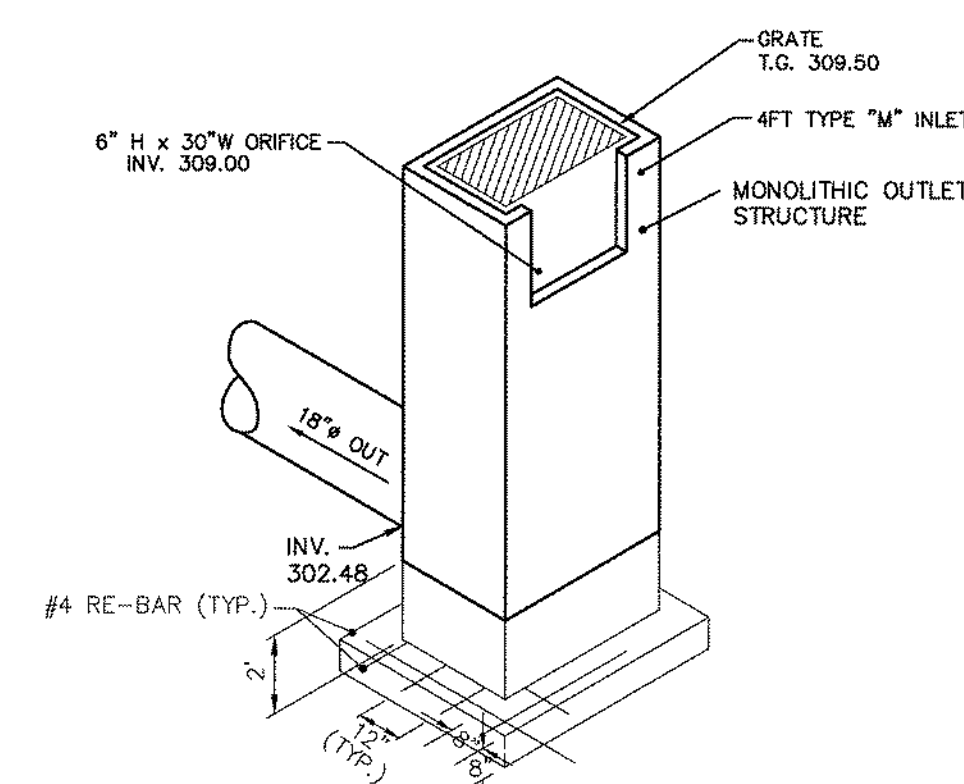
EMERGENCY SPILLWAY UPPER BASIN



EMERGENCY SPILLWAY LOWER BASIN



BASIN 'D' - INFILTRATION BASIN STRUCTURE Q1



BASIN 'D' - INFILTRATION BASIN STRUCTURE N2

NOTES:

- EMBANKMENT AND KEY WAY MATERIAL AS WELL AS BACKFILL MATERIAL AROUND ENTIRE OUTFALL PIPE THROUGH BERM AND ANTI SEEP COLLARS TO BE TYPE CL OR ML SOILS, CLAY SOILS.
- FILL MATERIAL LISTED IN NOTE 1 ABOVE SHOULD CONTAIN SUFFICIENT MOISTURE SO THAT IT CAN BE FORMED BY HAND INTO A BALL WITHOUT CRUMBLING. IF WATER CAN BE SQUEEZED OUT OF THE BALL, IT IS TOO WET FOR PROPER COMPACTION.
- FILL MATERIALS LISTED IN NOTE 1 AND 2 ABOVE SHALL BE PLACED IN 8" LIFTS AND COMPACTION TO 95% MAX. DRY DENSITY PER (ASTM D-1557)

DETAIL SHEET:
DETENTION BASIN DETAILS

Prepared for:
DANNY JAKE CORP.

As part of:
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

LENAP VALLEY ENGINEERING
Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapValleyEngineering.com

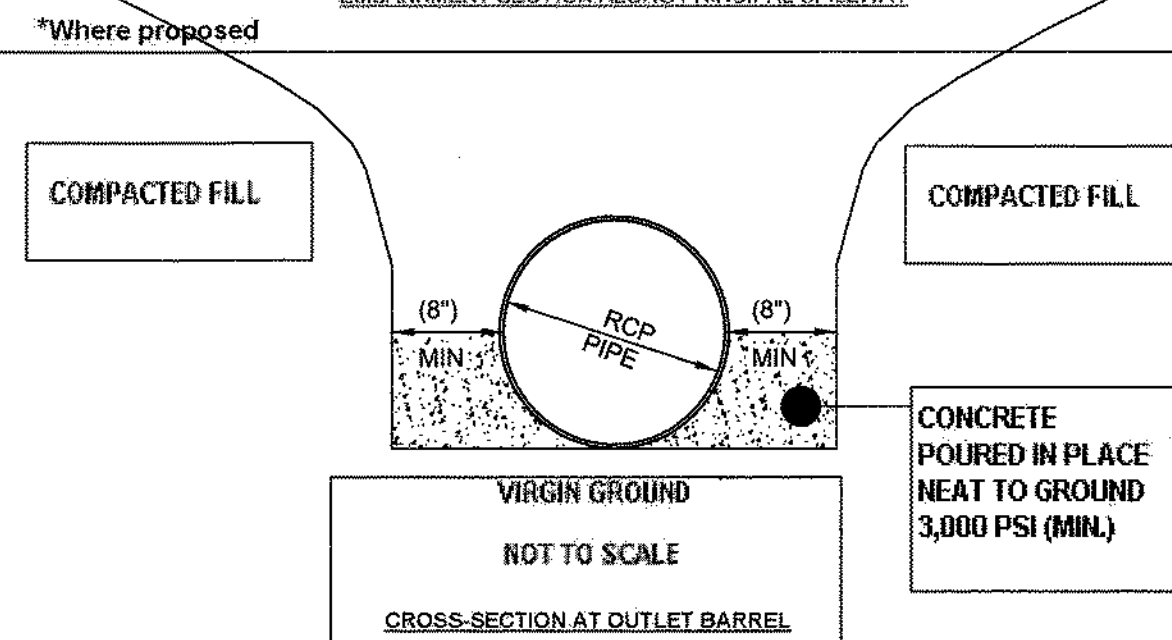
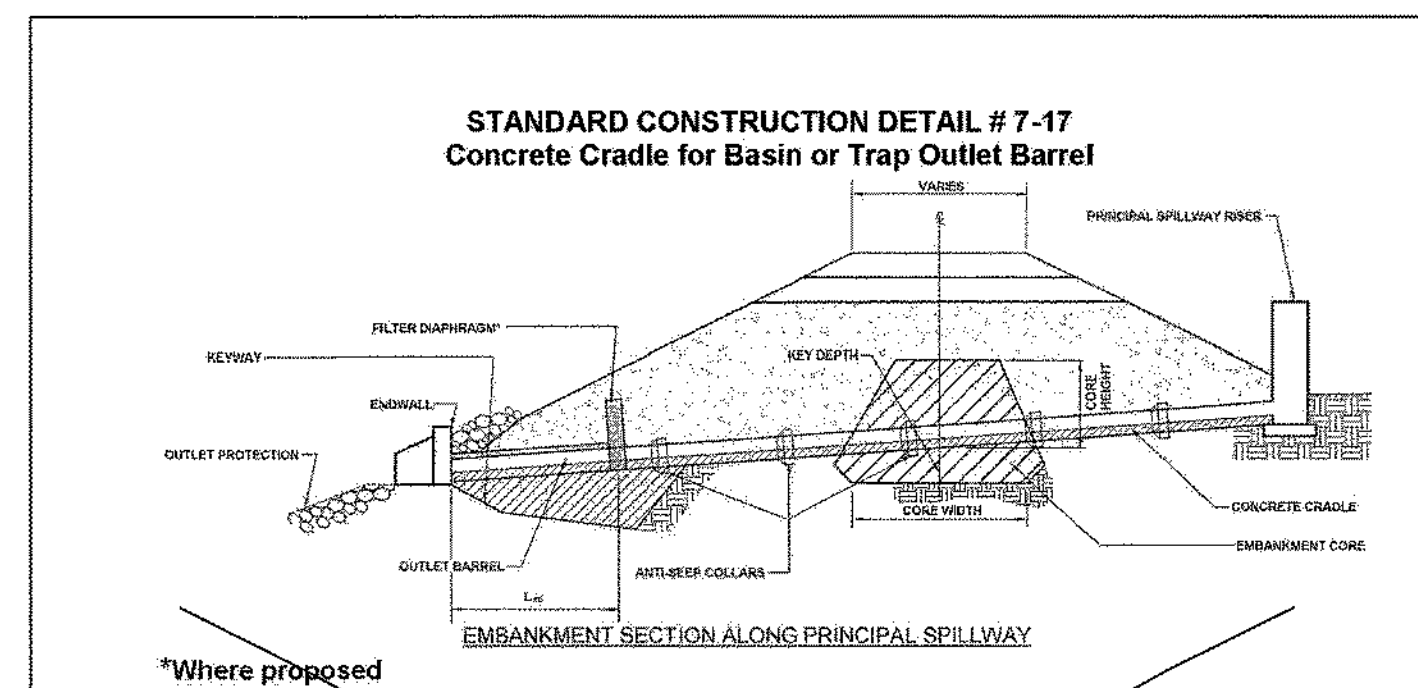
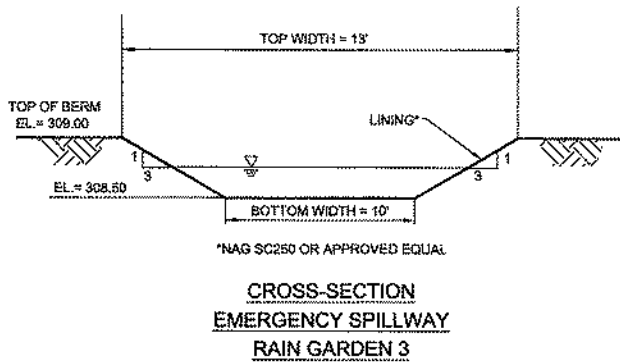
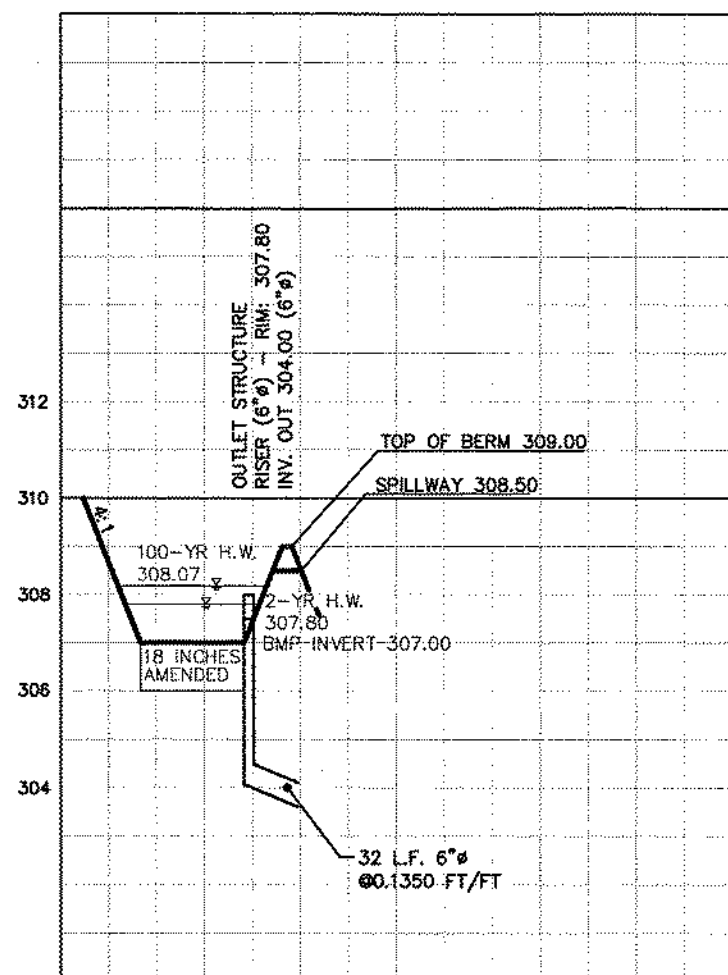
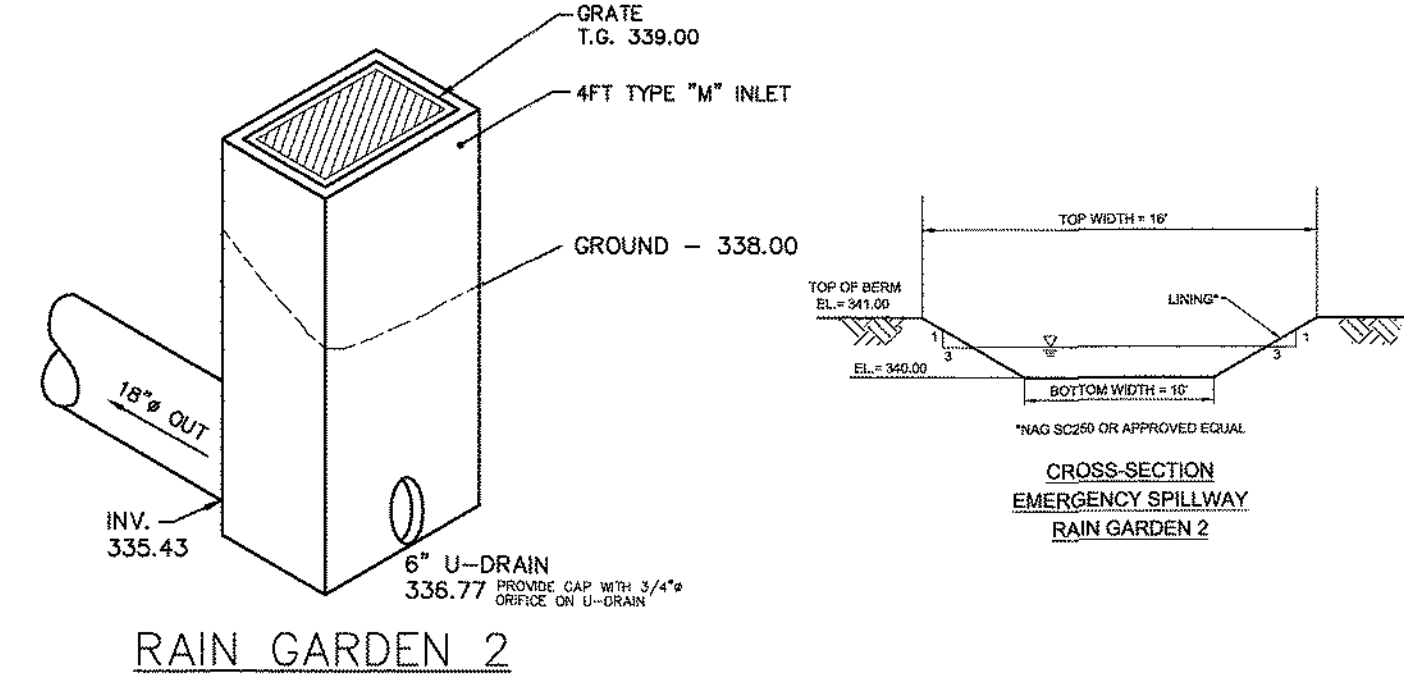
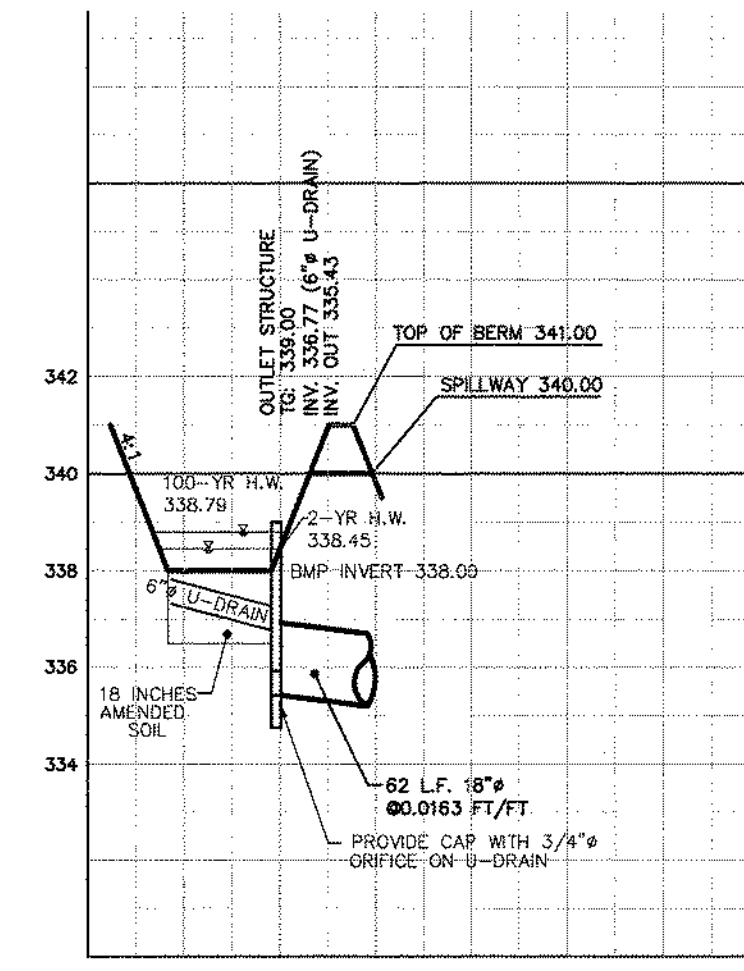
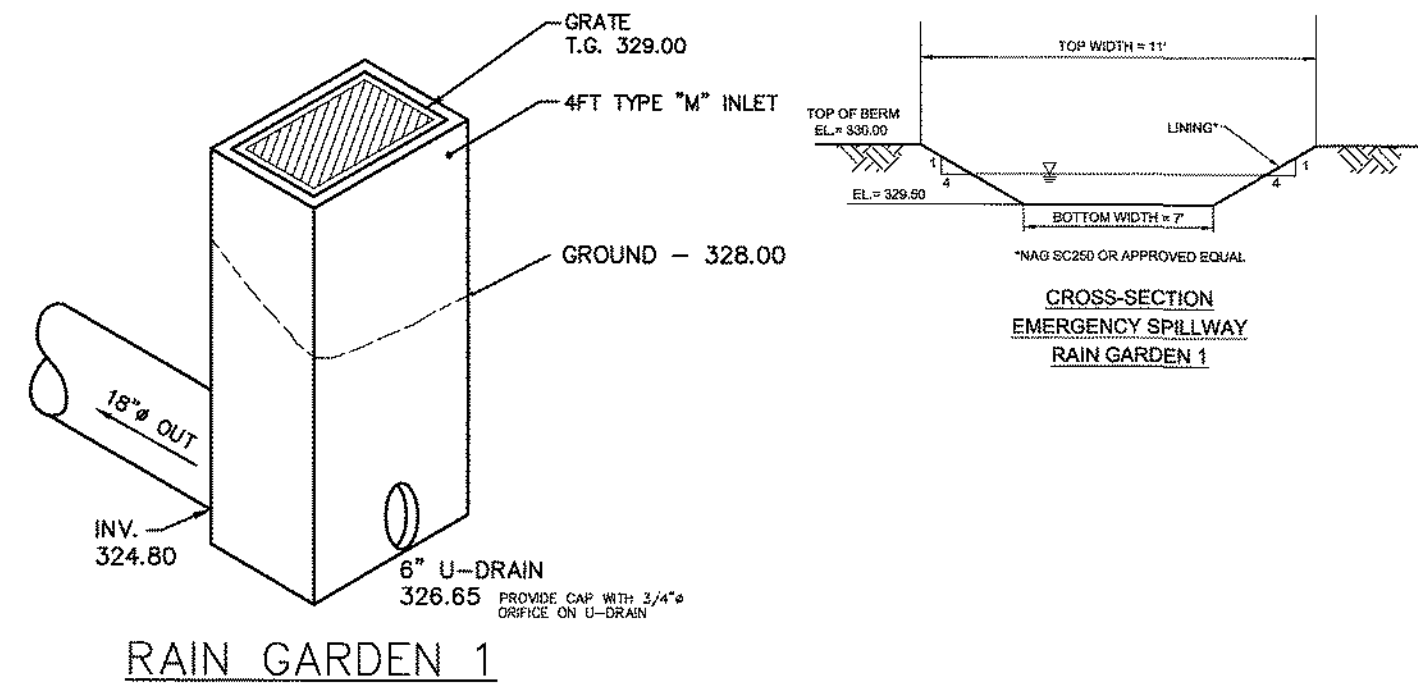
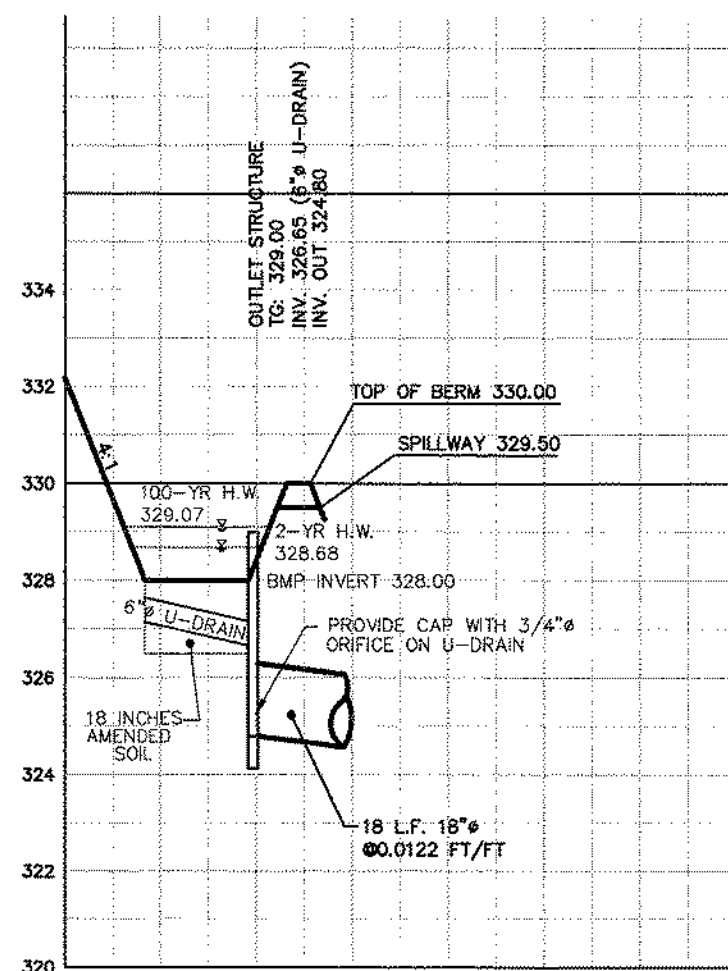
7 REVISED PER TWP. ENGINEER'S & BMMA REVIEW 05-22-2019
6 REVISED PER TWP. ENGINEER'S & BMMA REVIEW 03-20-2019
5 REVISED PER TWP. ENGINEER'S REVIEW 02-02-2019
4 REVISED PER TWP. ENGINEER'S REVIEW 04-07-2018
3 REVISED BMMA REVIEW 02-15-2018
2 REVISED PER TOWNSHIP ENGINEER'S REVIEW 11-09-2016
1 REVISED PER TOWNSHIP ENGINEER'S REVIEW 05-31-2016

Plan Origination Date 01-08-2014

PROJECT MANAGER J.T.S.
DRAFTED BY B.C.S.

DRAWING SCALE H:1"=40' V:1"=4'
PROJECT NUMBER 2028

SHEET NUMBER 52 of 64



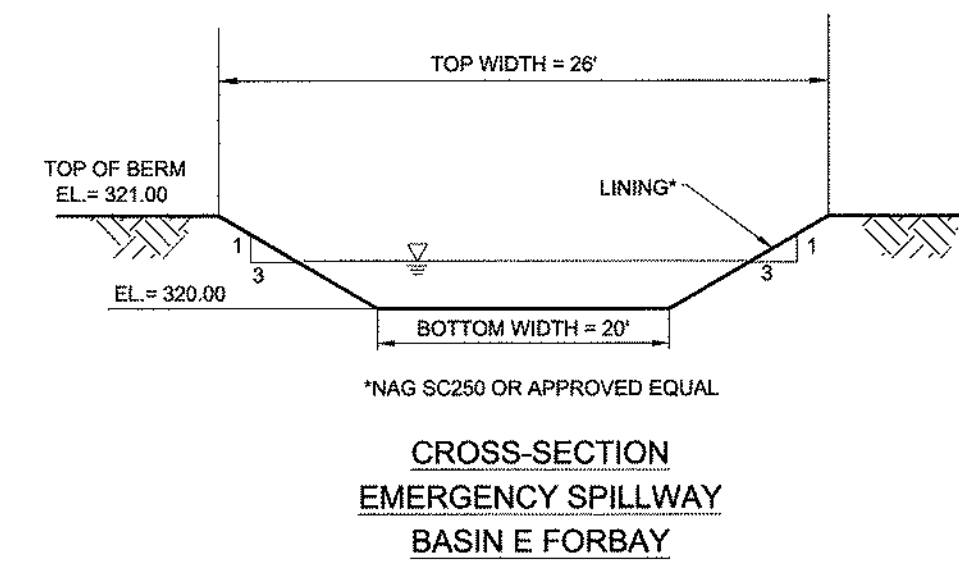
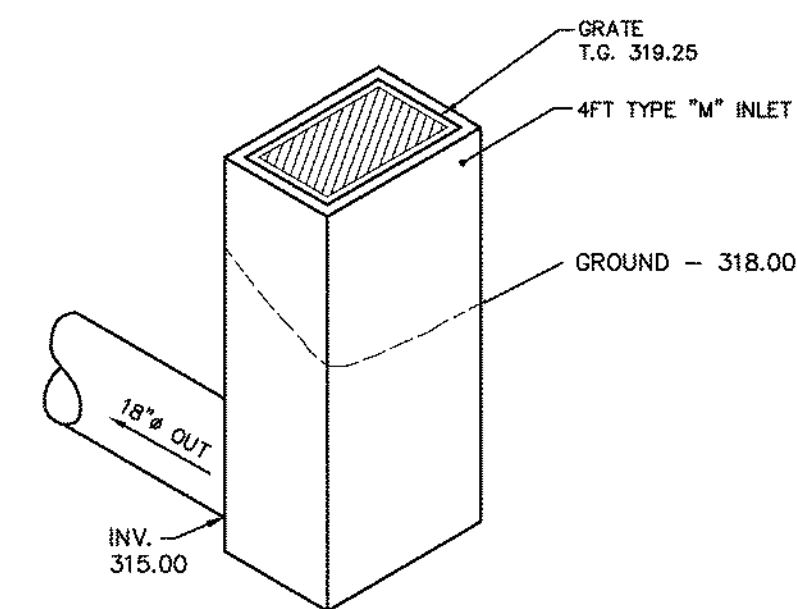
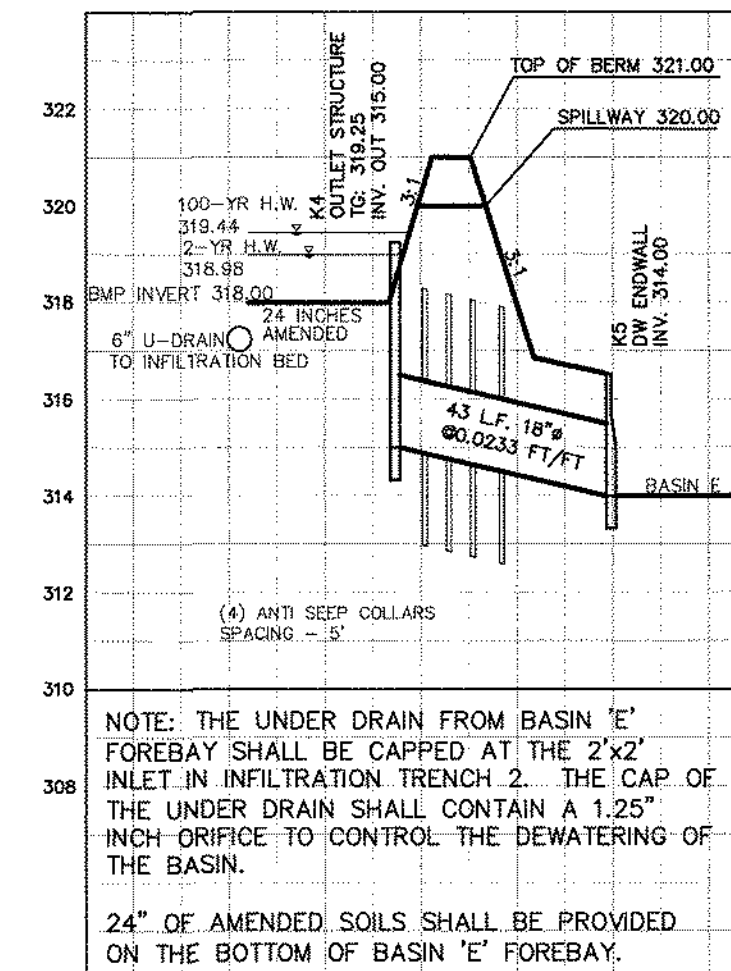
Adapted from Westmoreland Conservation District

Note: A concrete cradle may be used in conjunction with anti-seep collars and/or filter diaphragm.

Anti-seep collar number, size and spacing shall be as shown elsewhere in plan.

Filter diaphragm location (L_{FD}) shall be as shown in Figure 7.8.

PROVIDE CRADLE ON ALL BASIN OUTFLOW PIPES
DO NOT PROVIDE CRADLE ON RAIN GARDEN OUTLET PIPES



NOTES:

1. EMBANKMENT AND KEY WAY MATERIAL AS WELL AS BACKFILL MATERIAL AROUND ENTIRE OUTFALL PIPE THROUGH BERM AND ANTI SEEP COLLARS TO BE TYPE CL OR ML SOILS, CLAY SOILS.

2. FILL MATERIAL LISTED IN NOTE 1 ABOVE SHOULD CONTAIN SUFFICIENT MOISTURE SO THAT IT CAN BE FORMED BY HAND INTO A BALL WITHOUT CRUMBLING. IF WATER CAN BE SQUEEZED OUT OF THE BALL, IT IS TOO WET FOR PROPER COMPACTION.

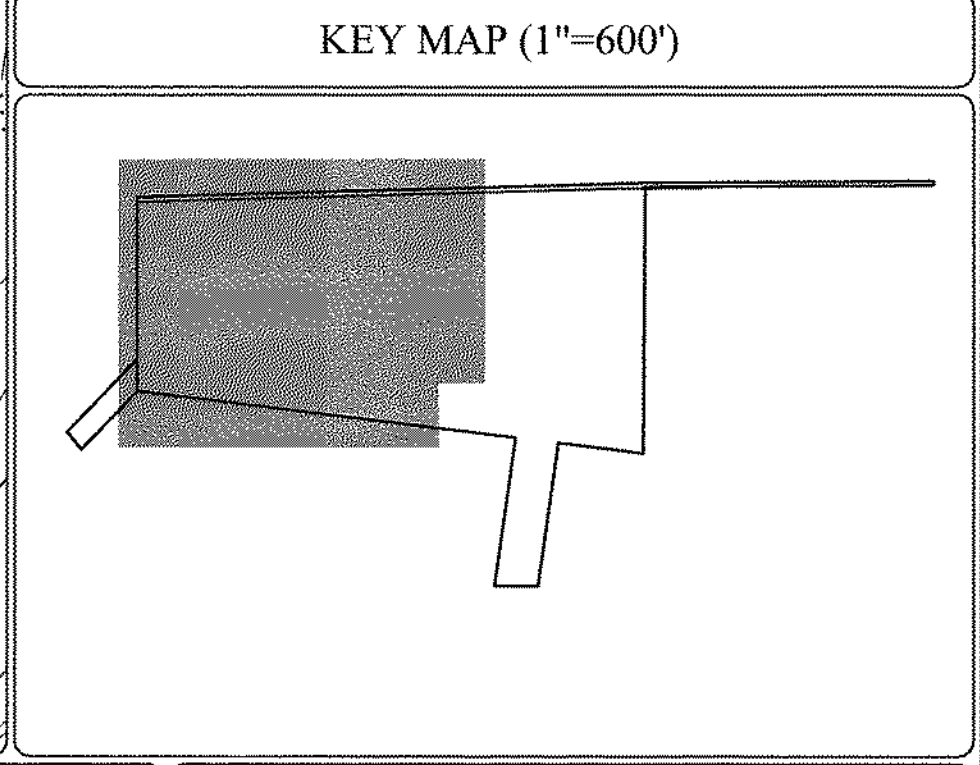
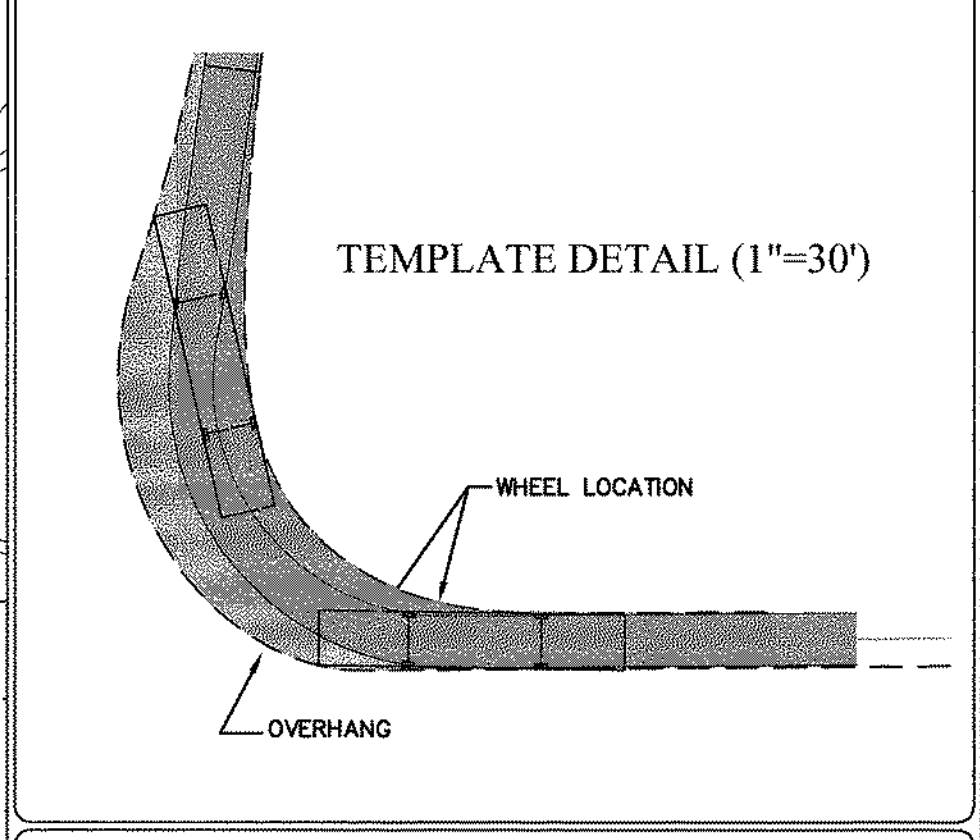
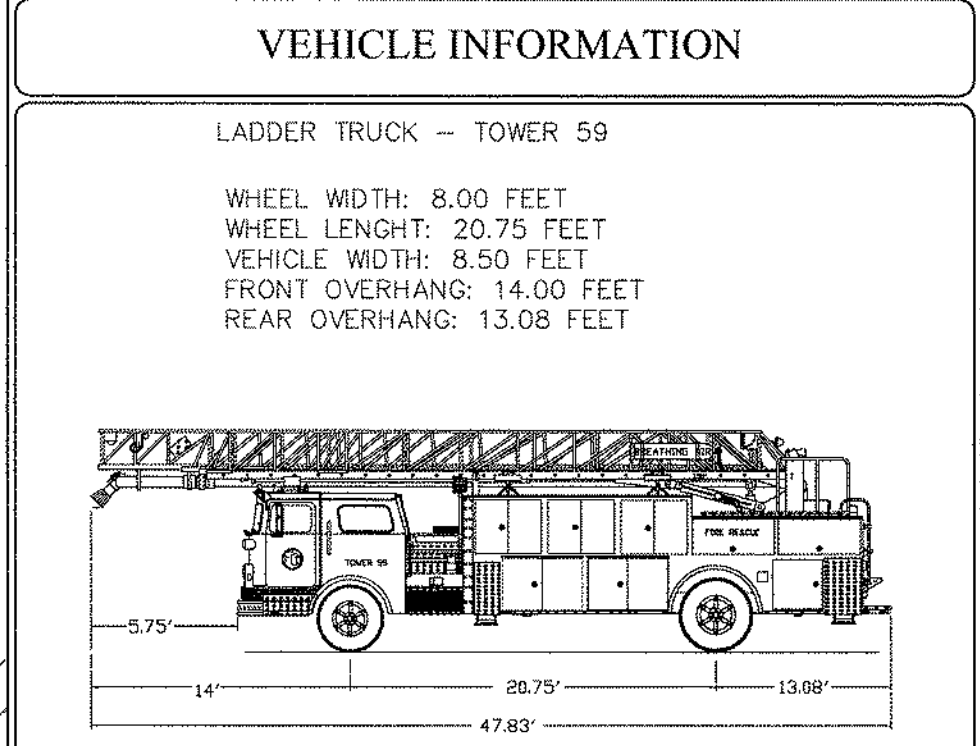
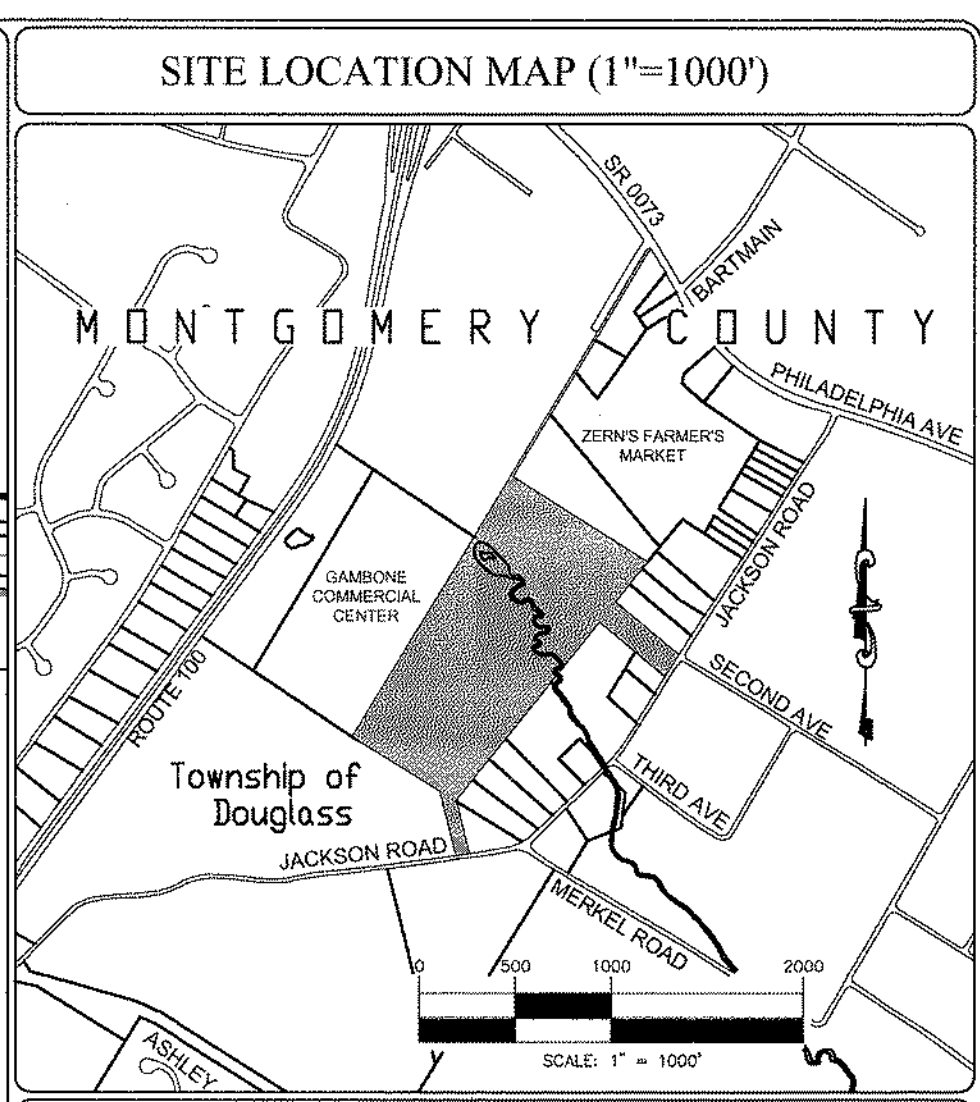
3. FILL MATERIALS LISTED IN NOTE 1 AND 2 ABOVE SHALL BE PLACED IN 8" LIFTS AND COMPACTED TO 95% MAX. DRY DENSITY PER (ASTM D-1557)

		DETAIL SHEET: DETENTION BASIN DETAILS	
		Prepared for DANNY JAKE CORP.	
		As part of ZERN TRACT	
		DOUGLASS TOWNSHIP MONTGOMERY COUNTY PENNSYLVANIA	
		JASON T. SMELAND PROFESSIONAL ENGINEER PA NO. 059306	
		GRAPHIC SCALE 0 20 40 60 80 100 120	
		PROJECT MANAGER J.T.S.	SHEET NUMBER 53 of 64
		DRAFTED BY B.C.S.	PROJECT NUMBER 2028
		7 REVISD PER TWP. ENGINEER'S & BMMA REVIEW 05-23-2019 6 REVISD PER TWP. ENGINEER'S & BMMA REVIEW 03-20-2019 5 REVISD PER TWP. ENGINEER'S REVIEW 02-02-2019 4 REVISD PER TWP. ENGINEER'S REVIEW 04-07-2018 3 REVISD BMMA REVIEW 02-15-2018 2 REVISD PER TOWNSHIP ENGINEER'S REVIEW 11-09-2016 1 REVISD PER TOWNSHIP ENGINEER'S REVIEW 05-31-2016 Plan Origination Date 01-08-2014	

LENAPE VALLEY
ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com



7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

LENAPE VALLEY
ENGINEERING
Civil Engineering • Subdivision • Land Development
P.O. Box 74, Chalfont, Pennsylvania 18914
Tel: (215) 622-1414 Fax: (267) 308-0524
www.LenapeValleyEngineering.com

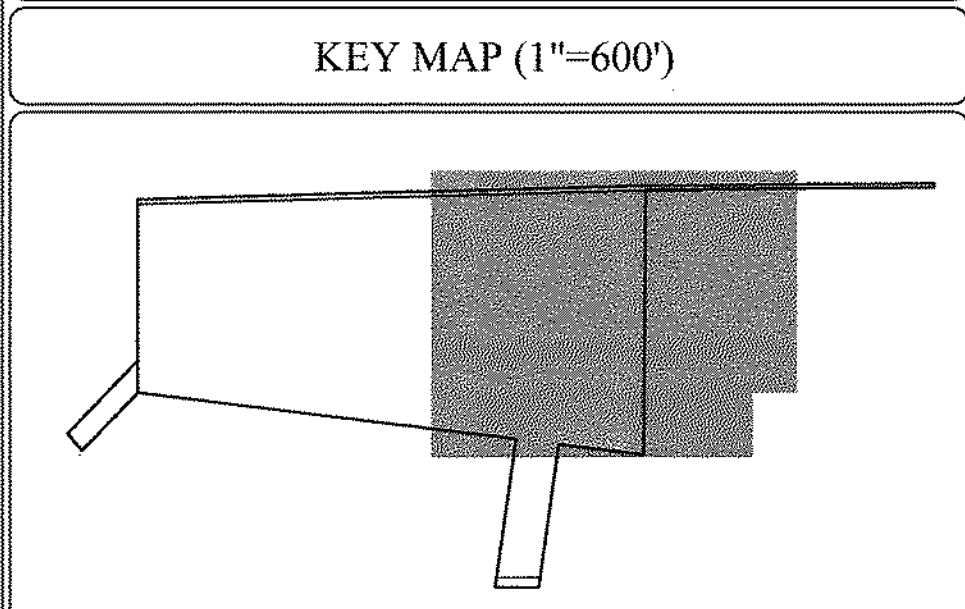
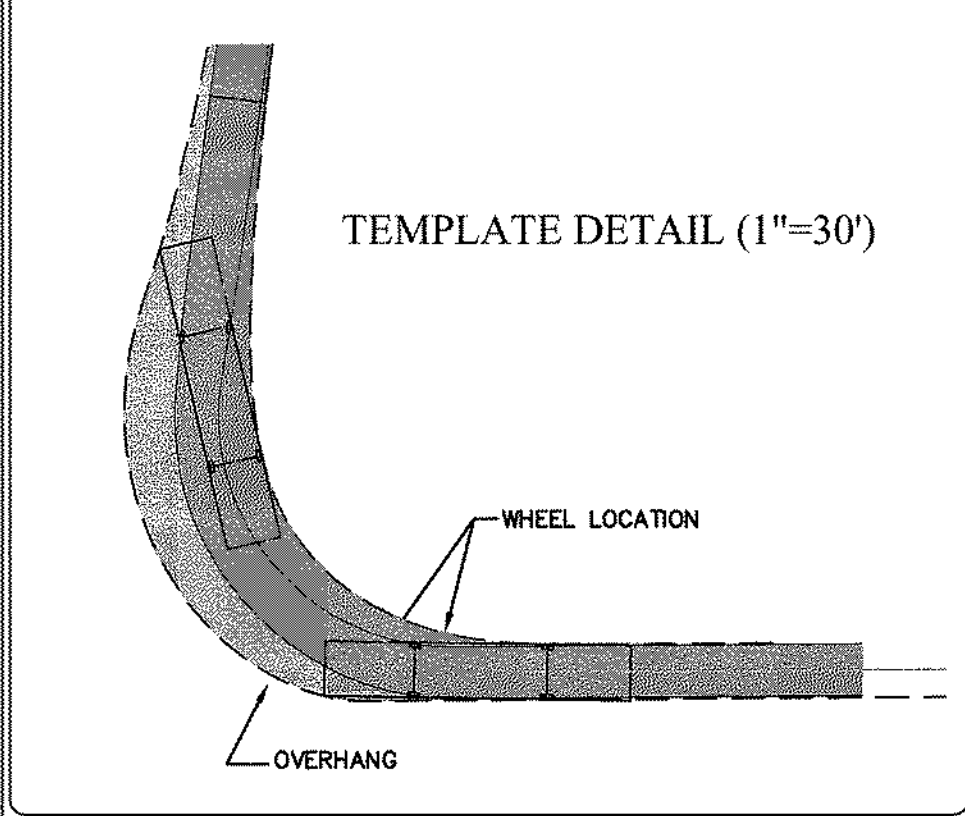
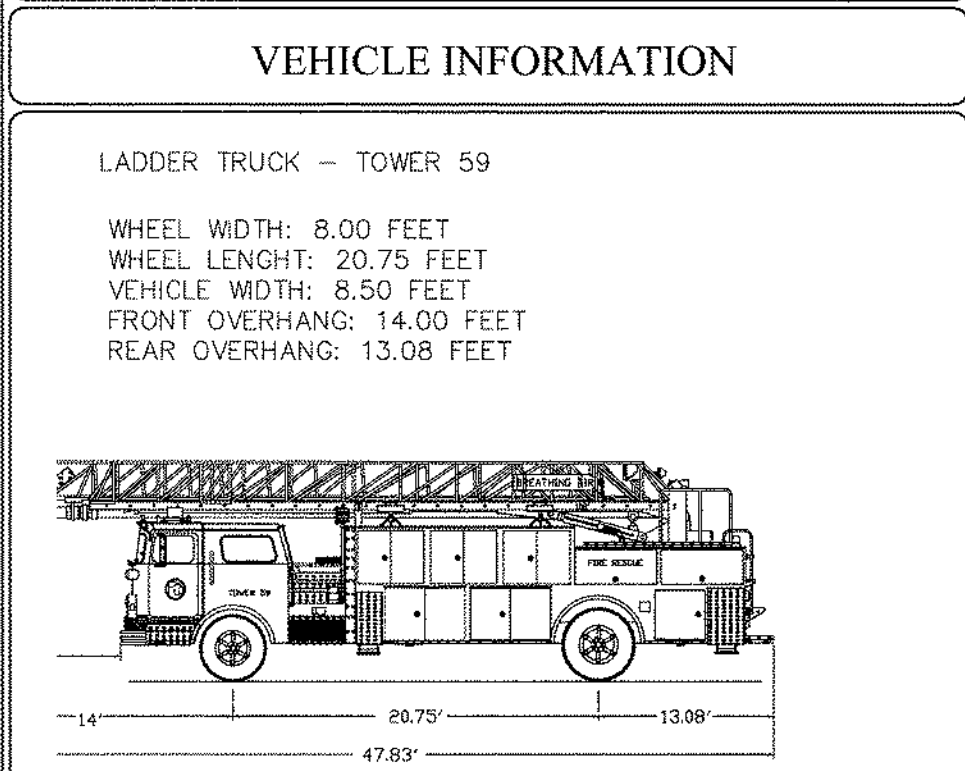
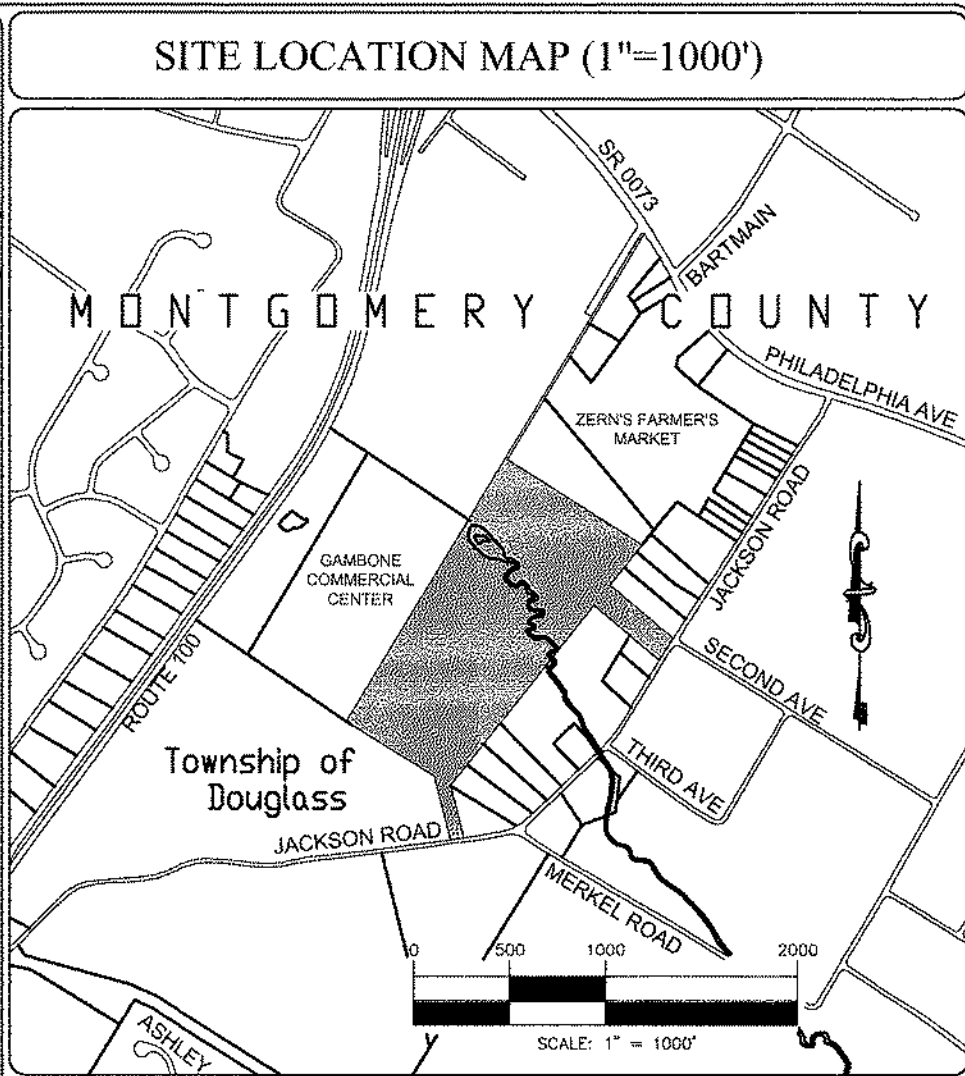
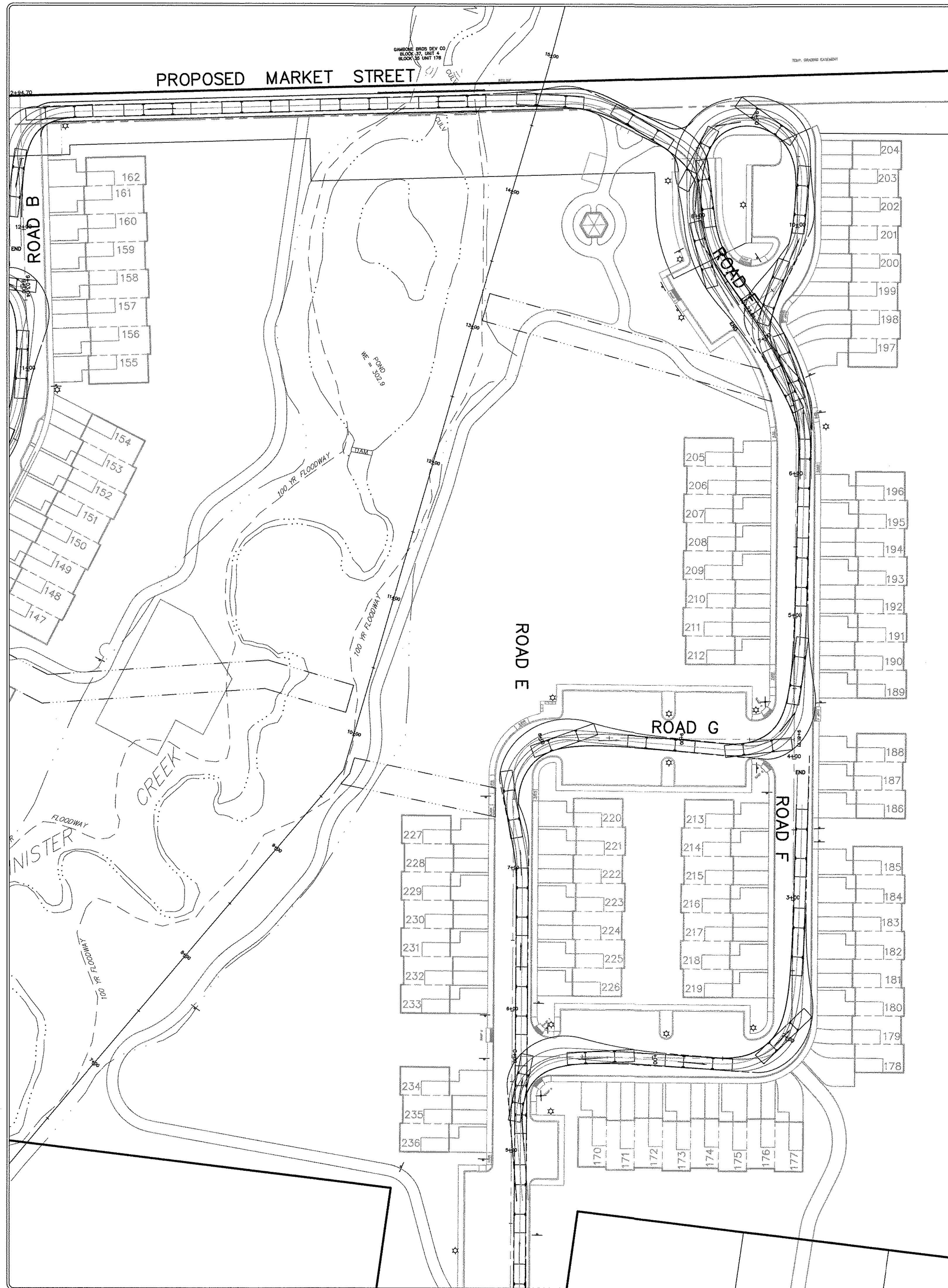
FIRE TRUCK TURNING PLAN
Prepared for
DANNY JAKE CORP.
As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

GRAPHIC SCALE
0 20 40 60 80 100 120

PROJECT MANAGER J.T.S.	DRAWING SCALE 1"=40'	SHEET NUMBER 54 OF 64
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	



7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

LENAPE VALLEY
ENGINEERING
Civil Engineering • Subdivision • Land Development

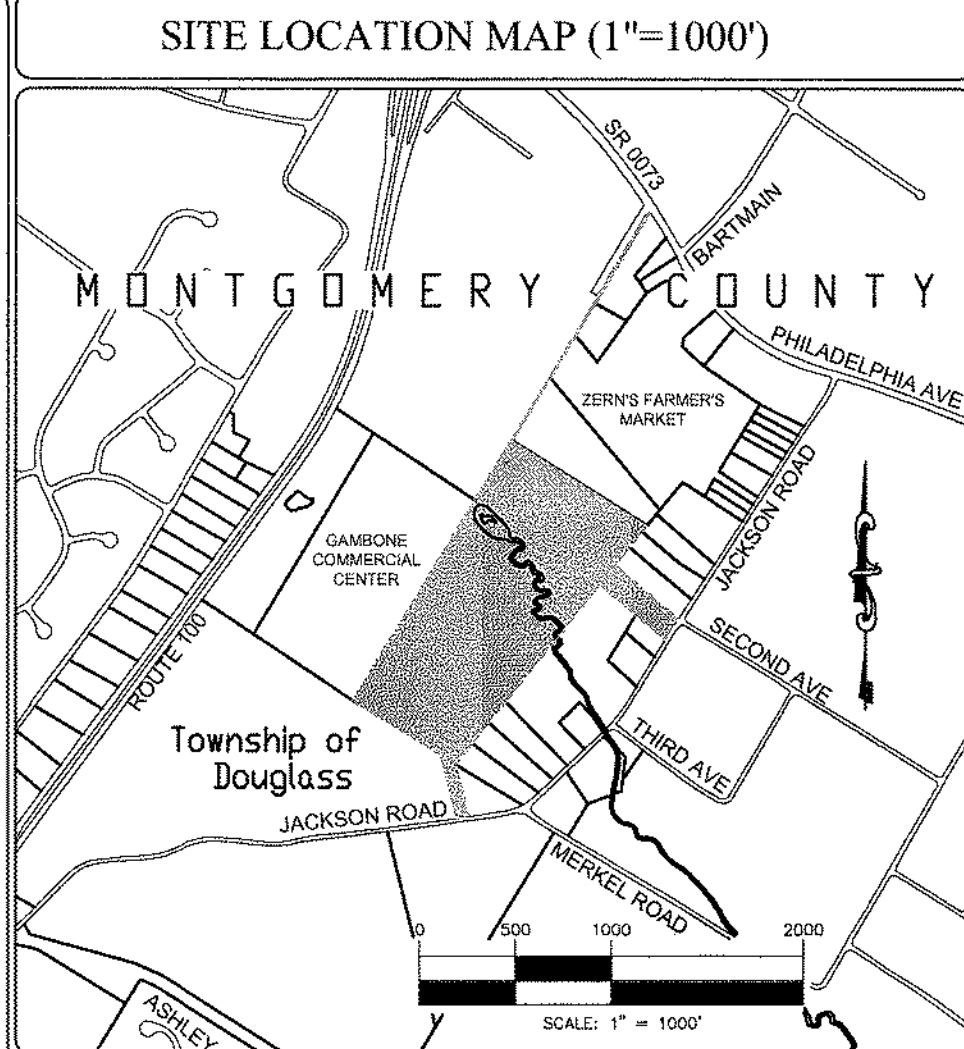
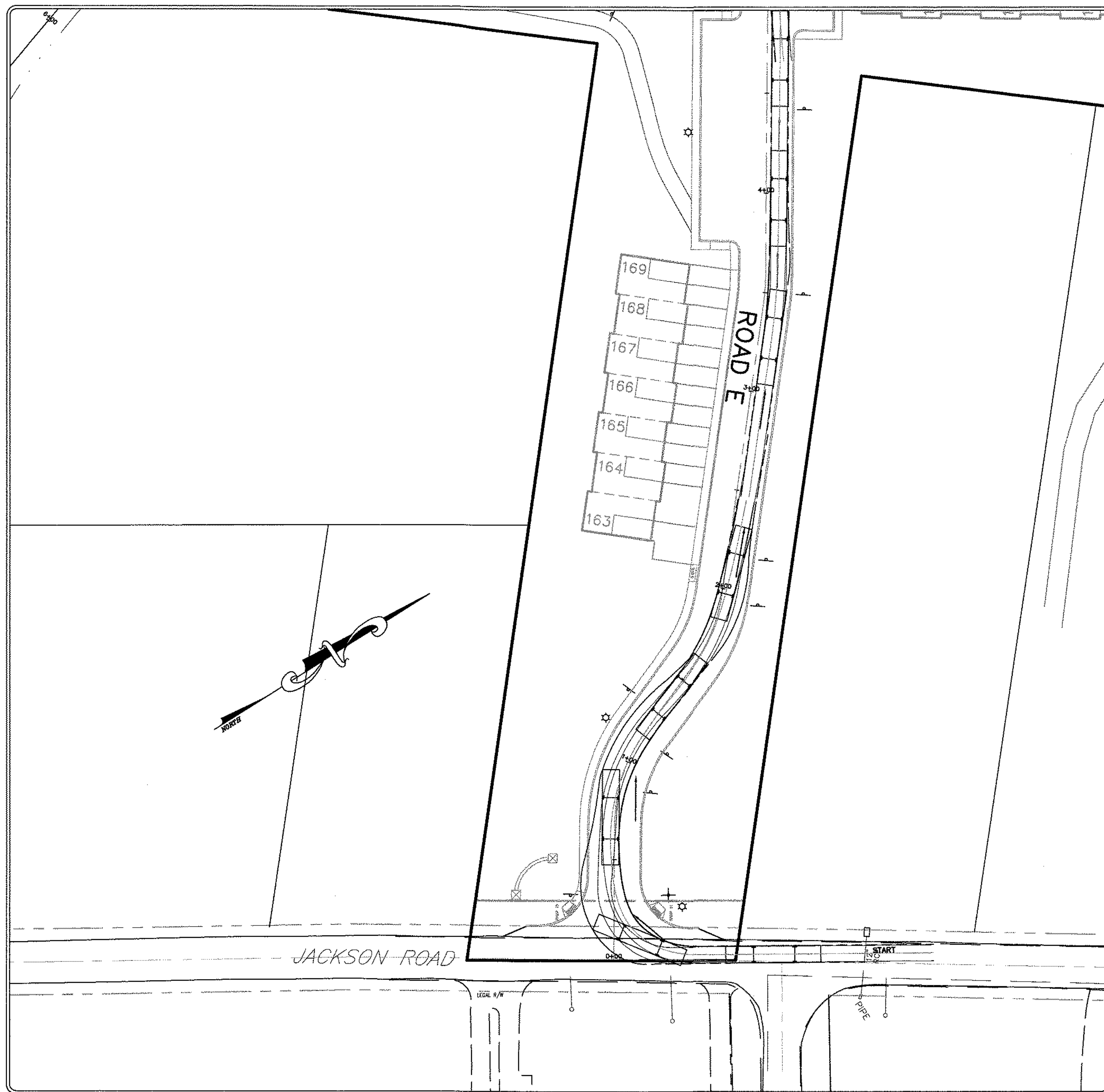
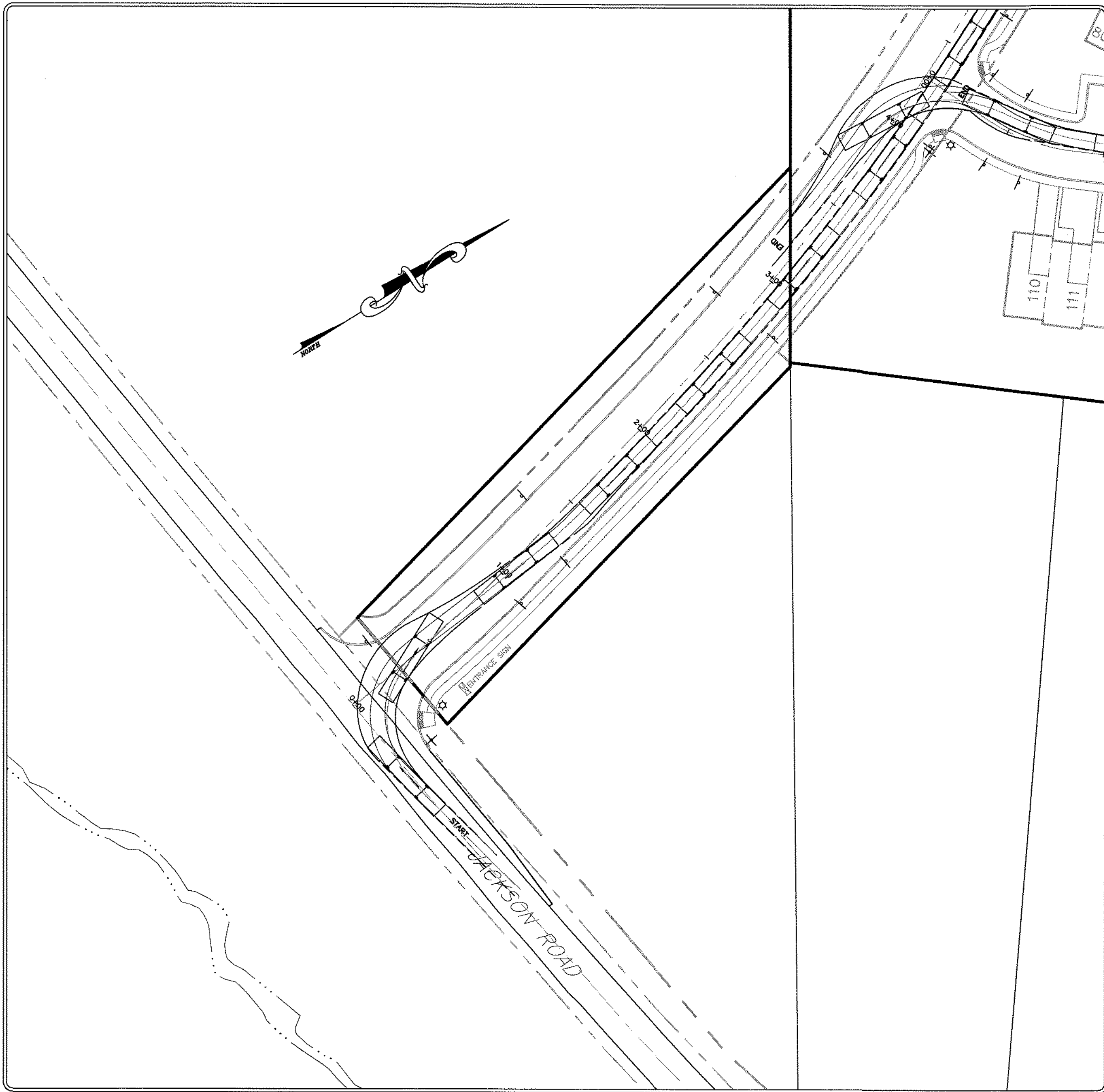
P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

FIRE TRUCK TURNING PLAN
Prepared for
DANNY JAKE CORP.
As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

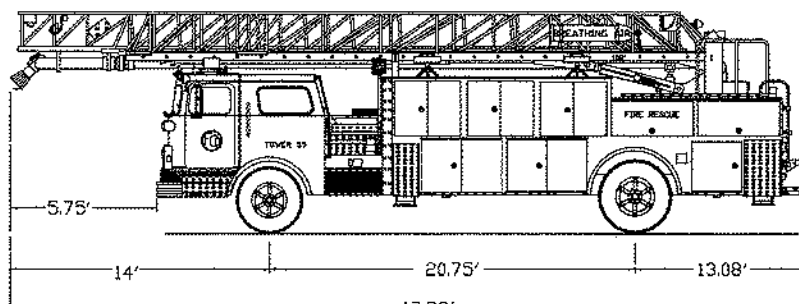
PROJECT MANAGER: J.T.S.
DRAWING SCALE: 1"=40'
SHEET NUMBER: 55 of 64
DRAFTED BY: B.C.S.
PROJECT NUMBER: 2028



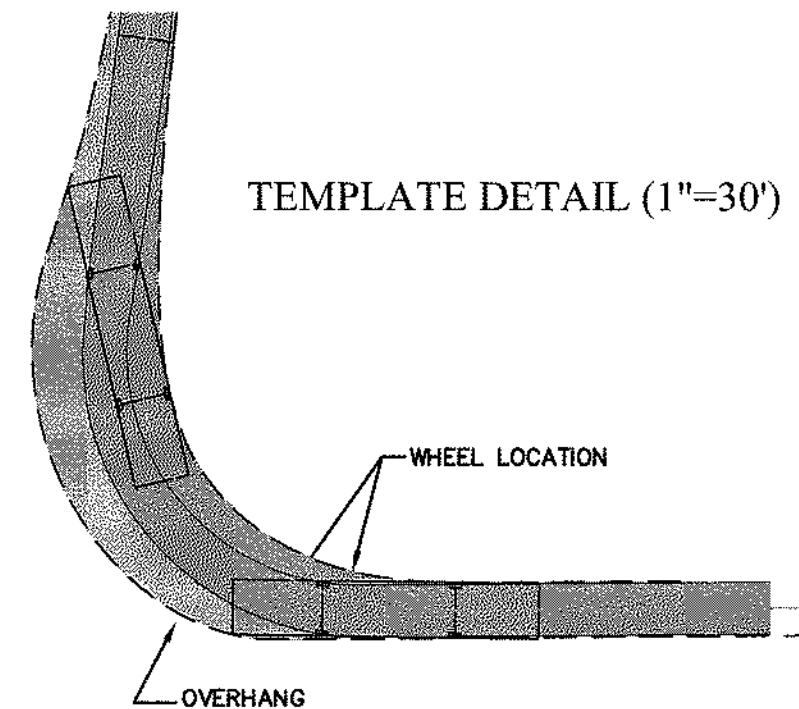
VEHICLE INFORMATION

LADDER TRUCK - TOWER 59

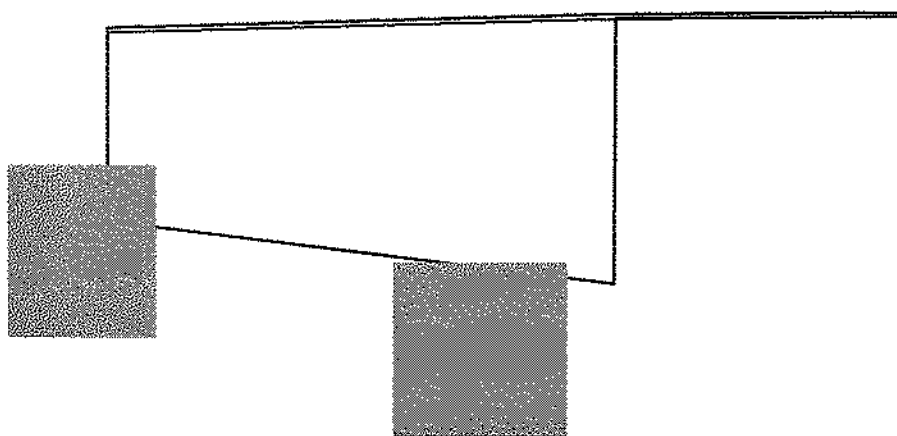
WHEEL WIDTH: 8.00 FEET
WHEEL LENGTH: 20.75 FEET
VEHICLE WIDTH: 8.50 FEET
FRONT OVERHANG: 14.00 FEET
REAR OVERHANG: 13.08 FEET



TEMPLATE DETAIL (1"=30')



KEY MAP (1"=600')



LENAPE VALLEY
ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

FIRE TRUCK TURNING PLAN

Prepared for
DANNY JAKE CORP.

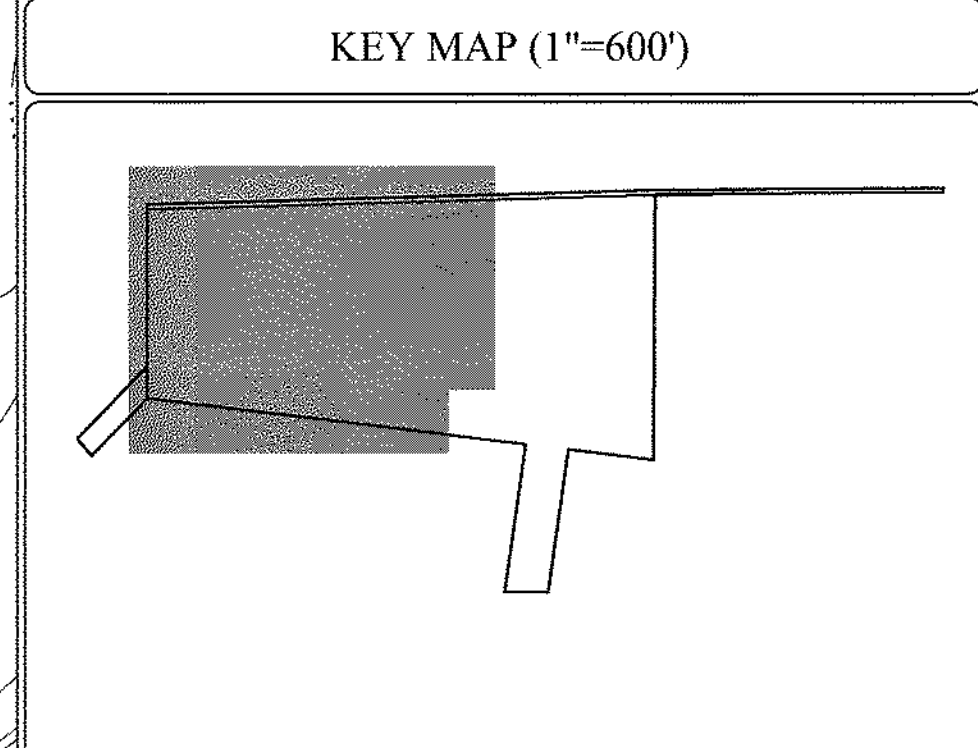
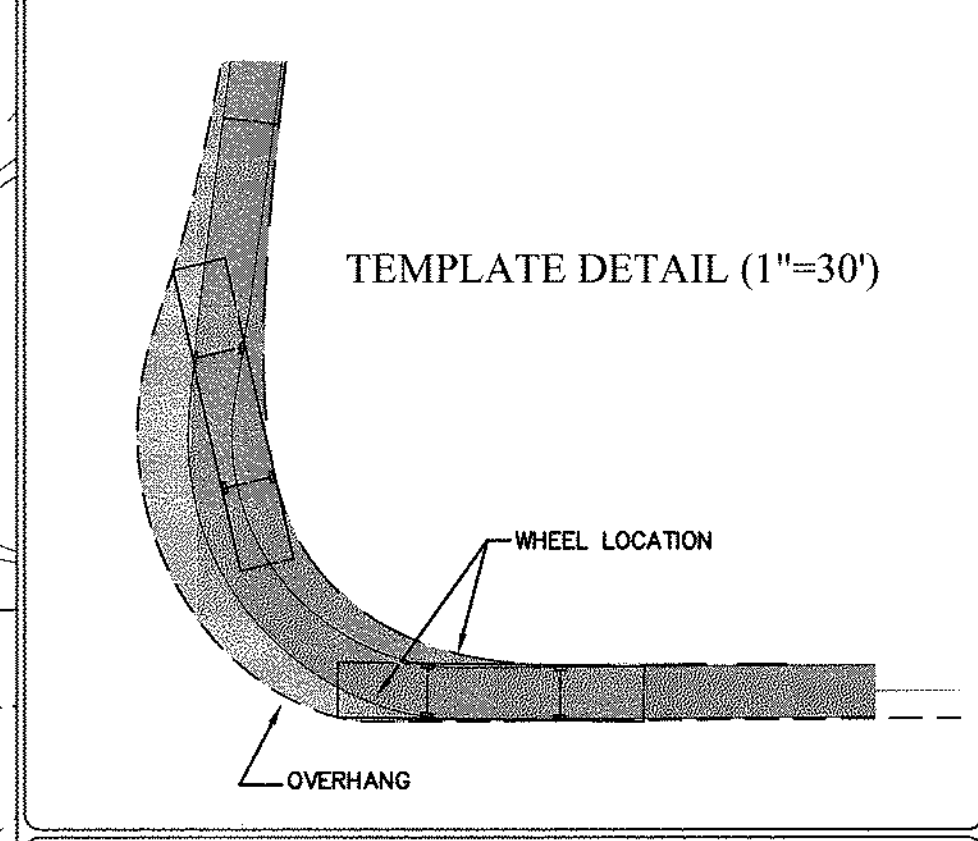
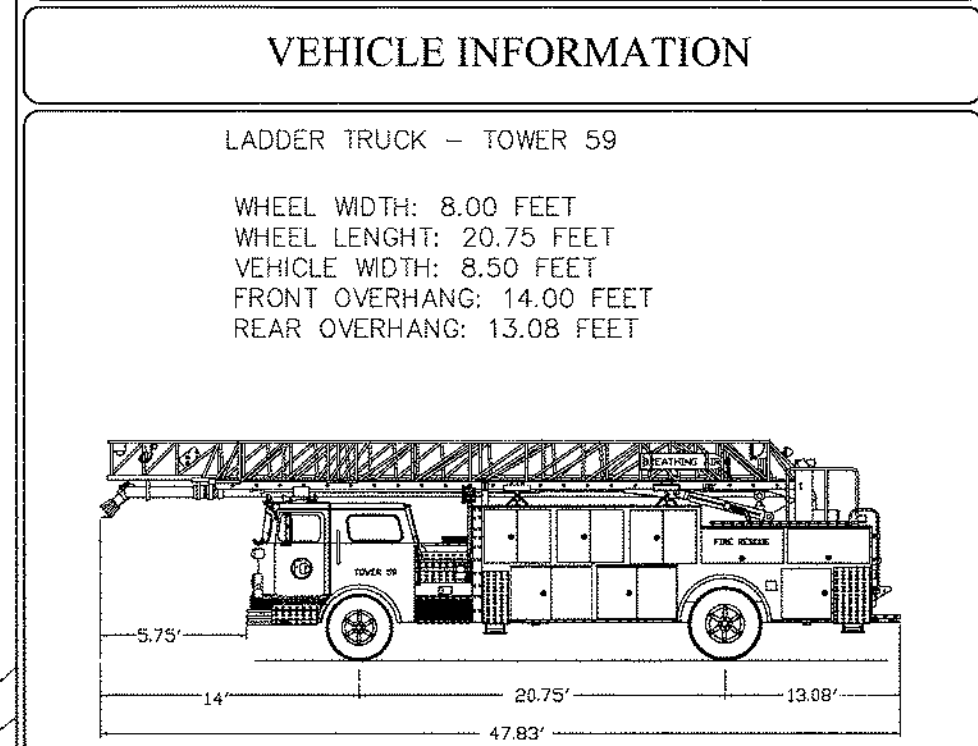
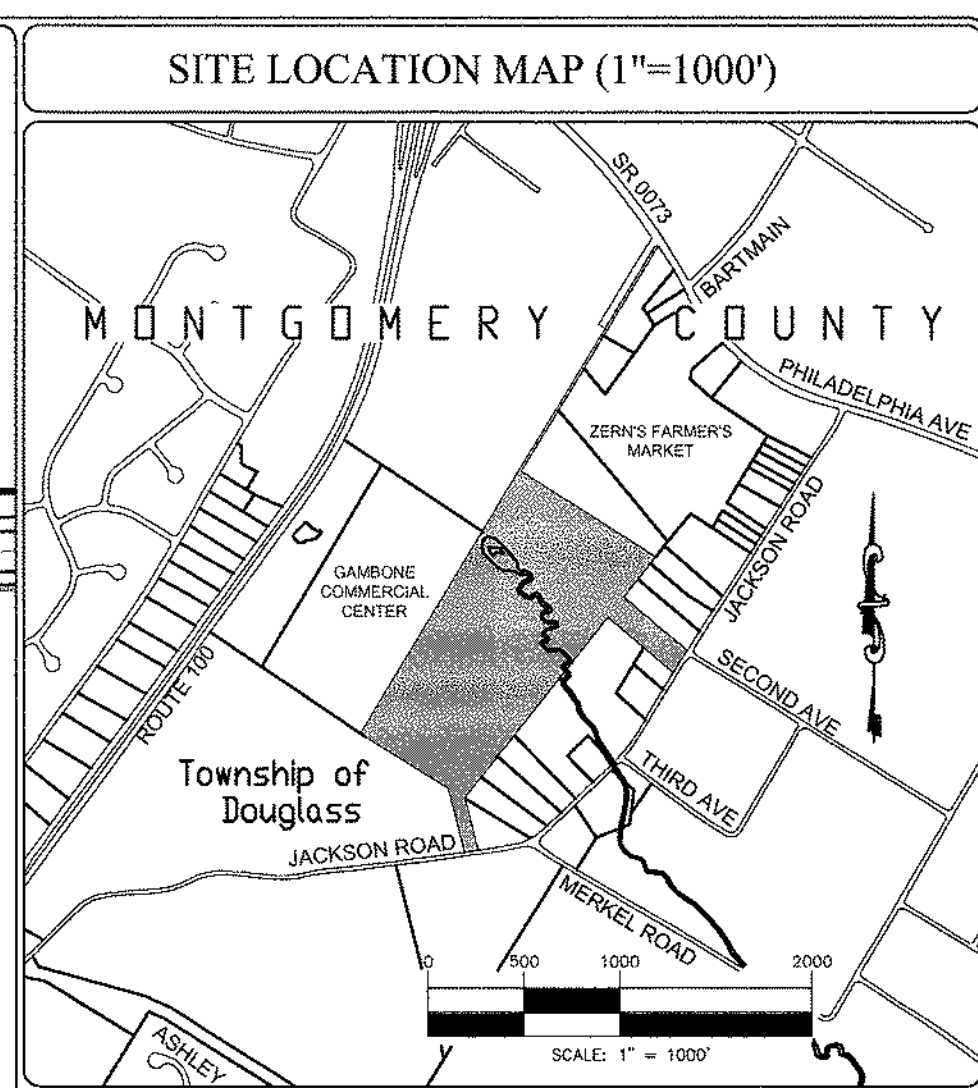
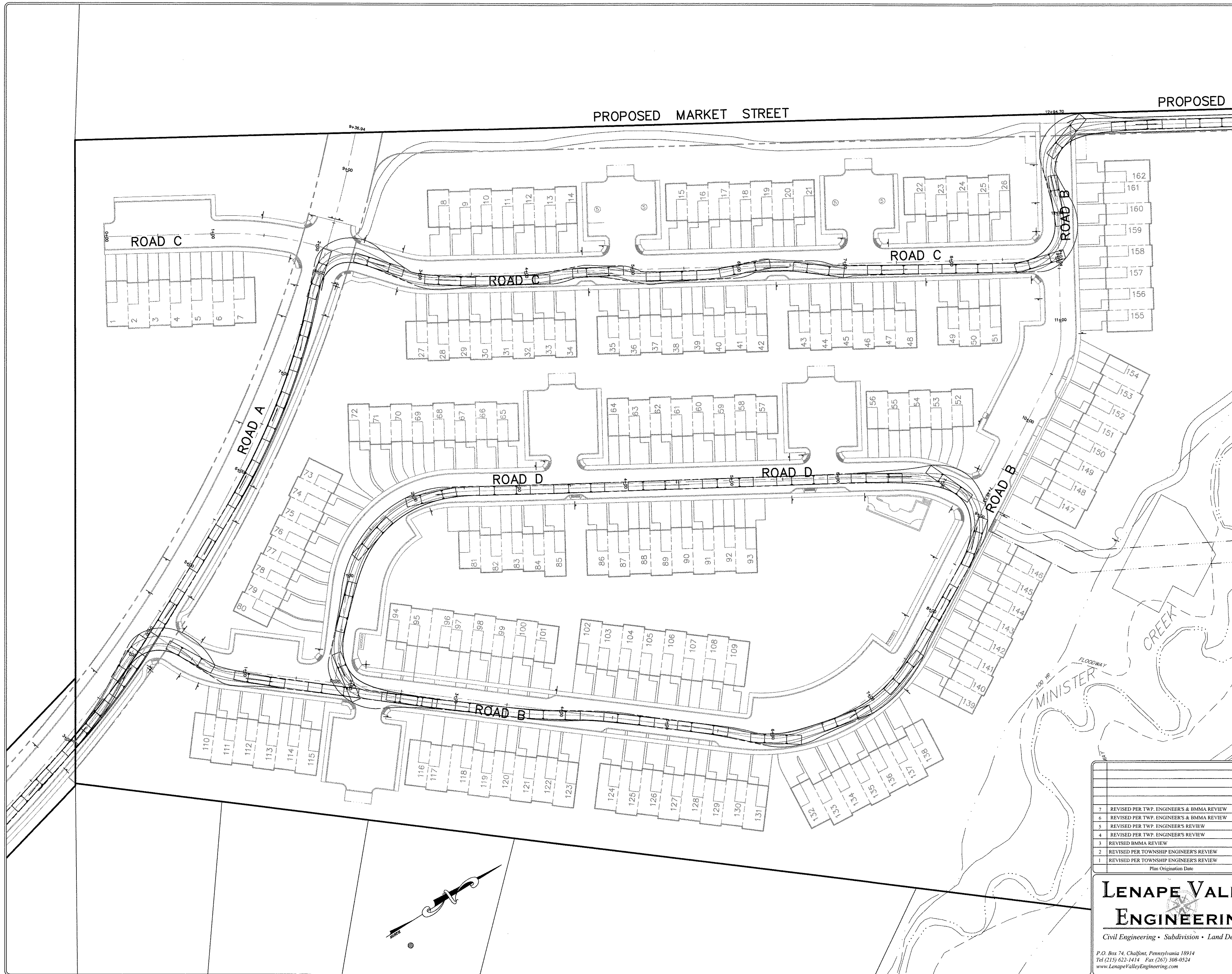
As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306



PROJECT MANAGER J.T.S.	DRAWING SCALE 1"=40'	SHEET NUMBER 56 of 64
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	



7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

LENAPE VALLEY
ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

FIRE TRUCK TURNING PLAN

Prepared for
DANNY JAKE CORP.

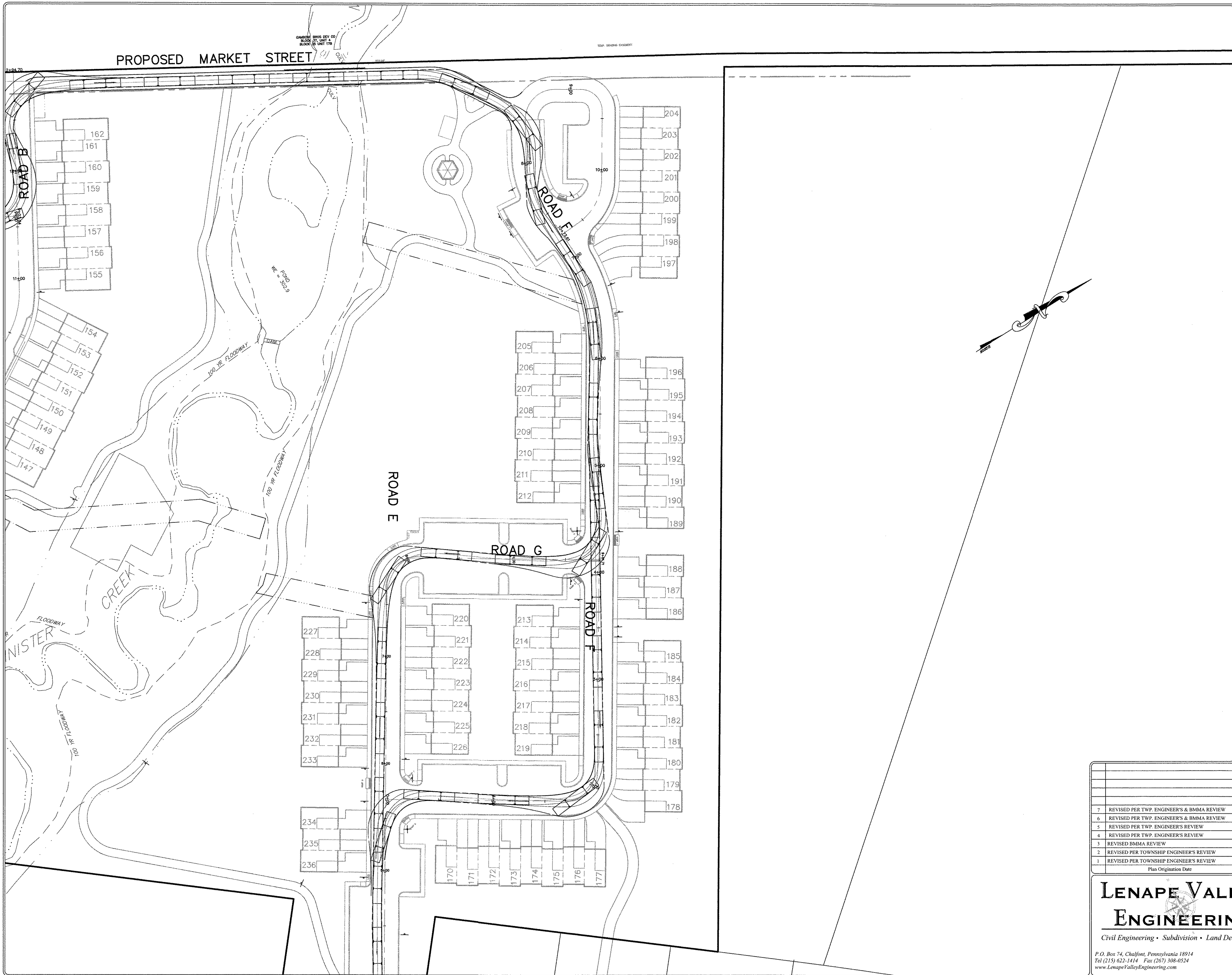
As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

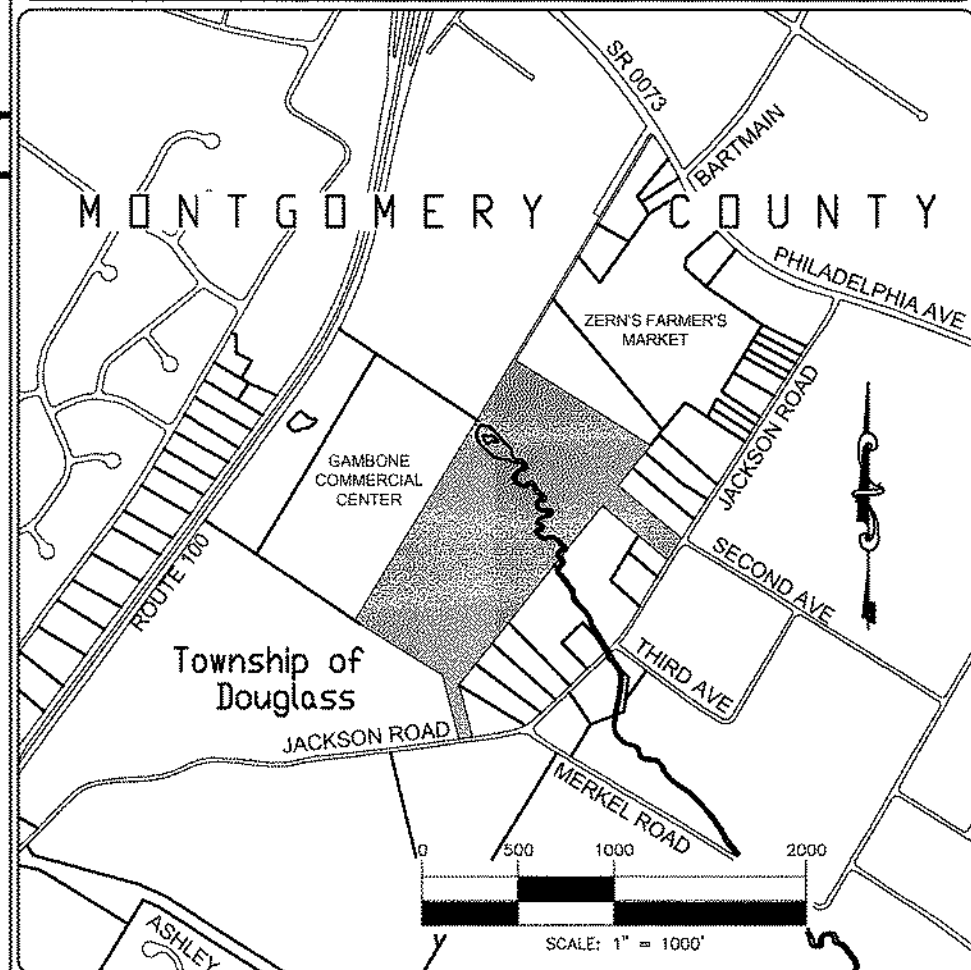
JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

GRAPHIC SCALE
0 20 40 60 80 100 120

PROJECT MANAGER J.T.S.	DRAWING SCALE 1"=40'	SHEET NUMBER 57 OF 64
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	



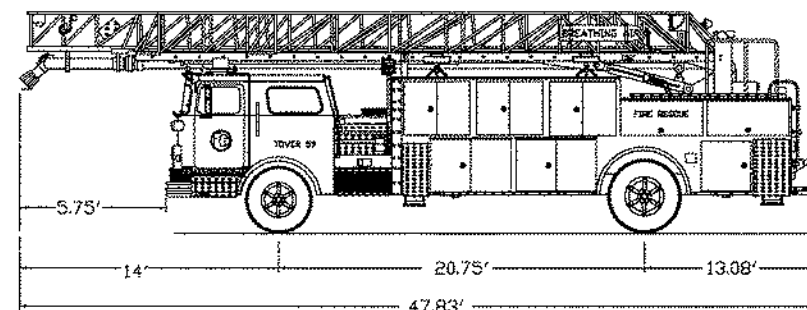
SITE LOCATION MAP (1"=1000')



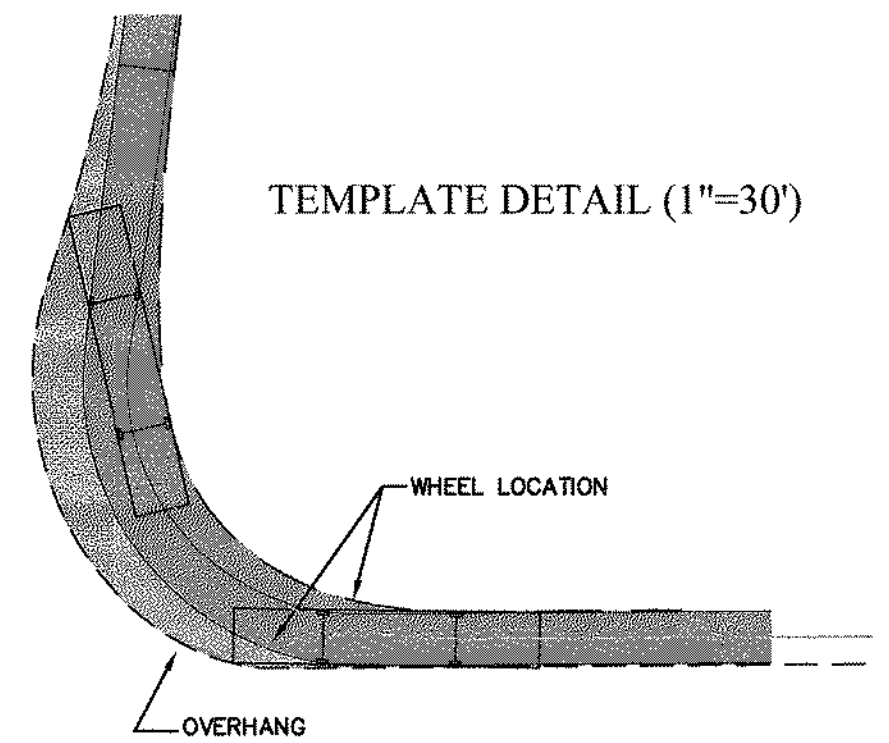
VEHICLE INFORMATION

LADDER TRUCK - TOWER 59

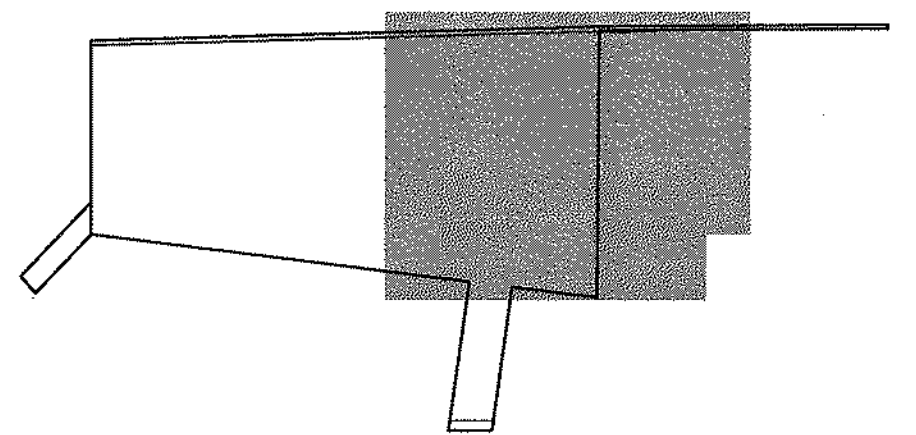
WHEEL WIDTH: 8.00 FEET
WHEEL LENGTH: 20.75 FEET
VEHICLE WIDTH: 8.50 FEET
FRONT OVERHANG: 14.00 FEET
REAR OVERHANG: 13.08 FEET



TEMPLATE DETAIL (1"=30')



KEY MAP (1"=600')



7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

LENAPE VALLEY
ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

FIRE TRUCK TURNING PLAN

Prepared for

DANNY JAKE CORP.

As part of

ZERN TRACT

DOUGLASS TOWNSHIP

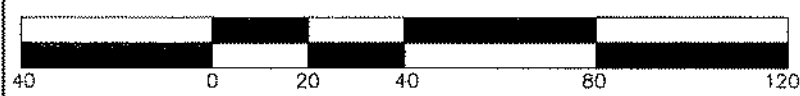
MONTGOMERY COUNTY

PENNSYLVANIA

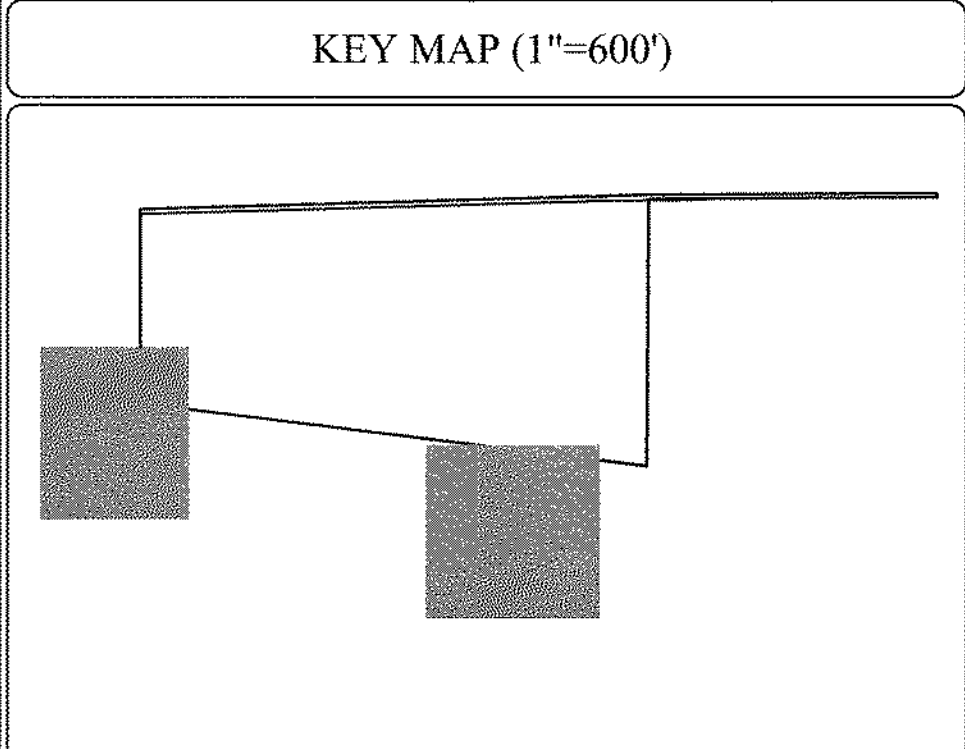
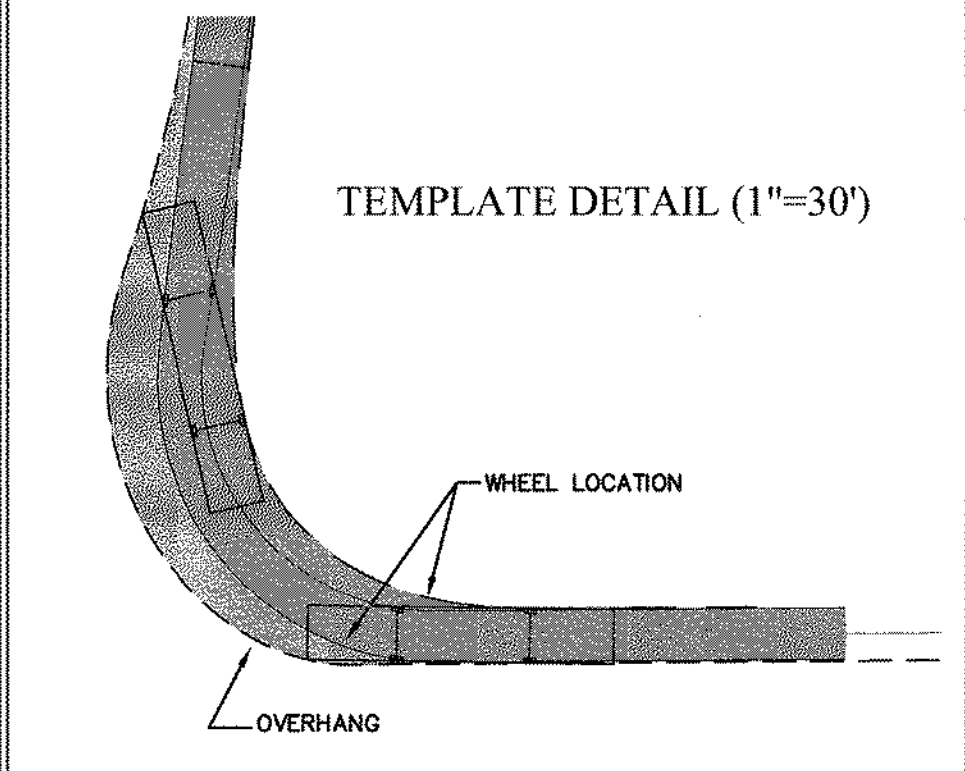
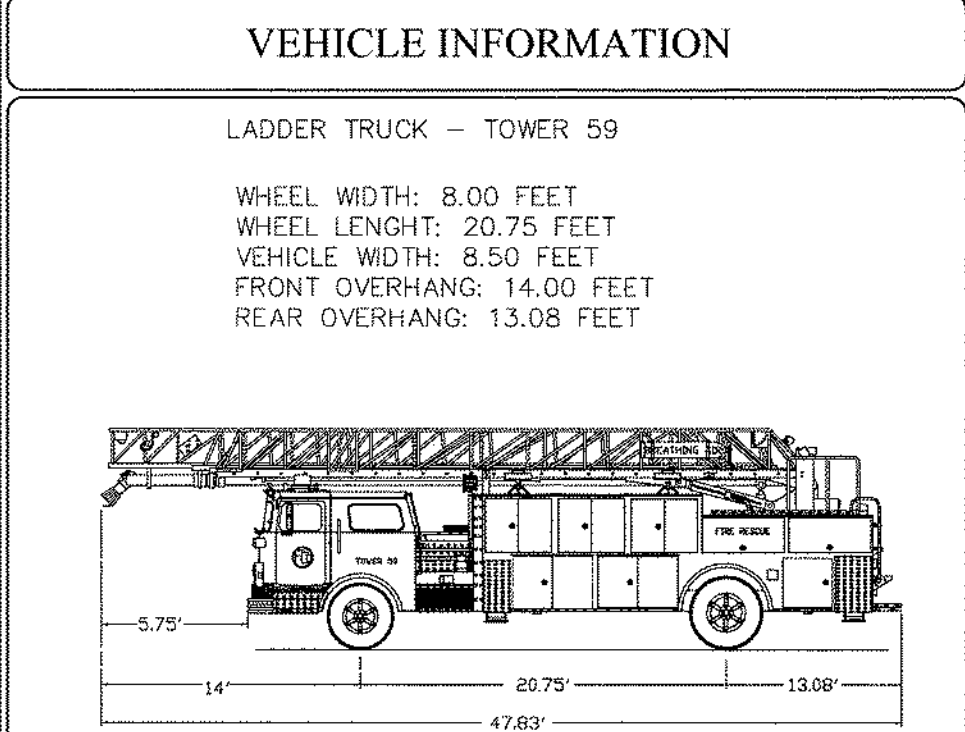
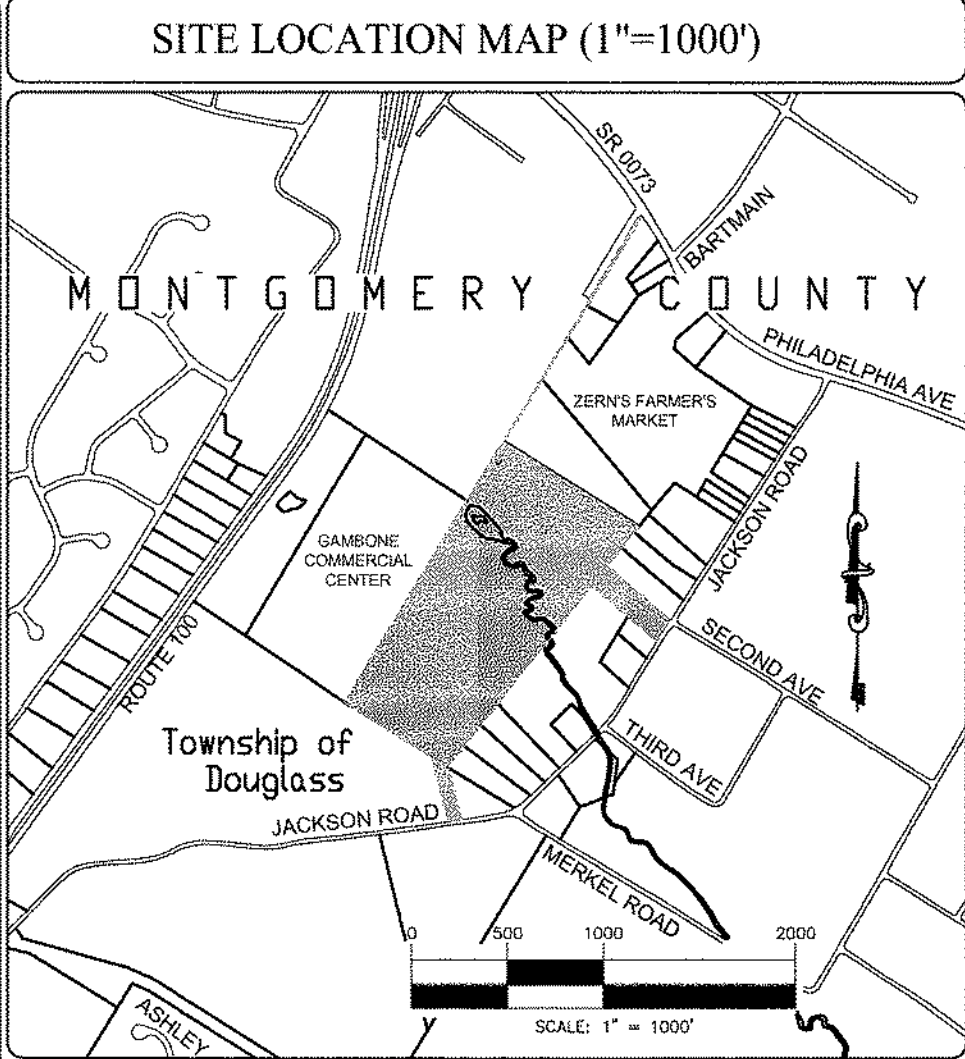
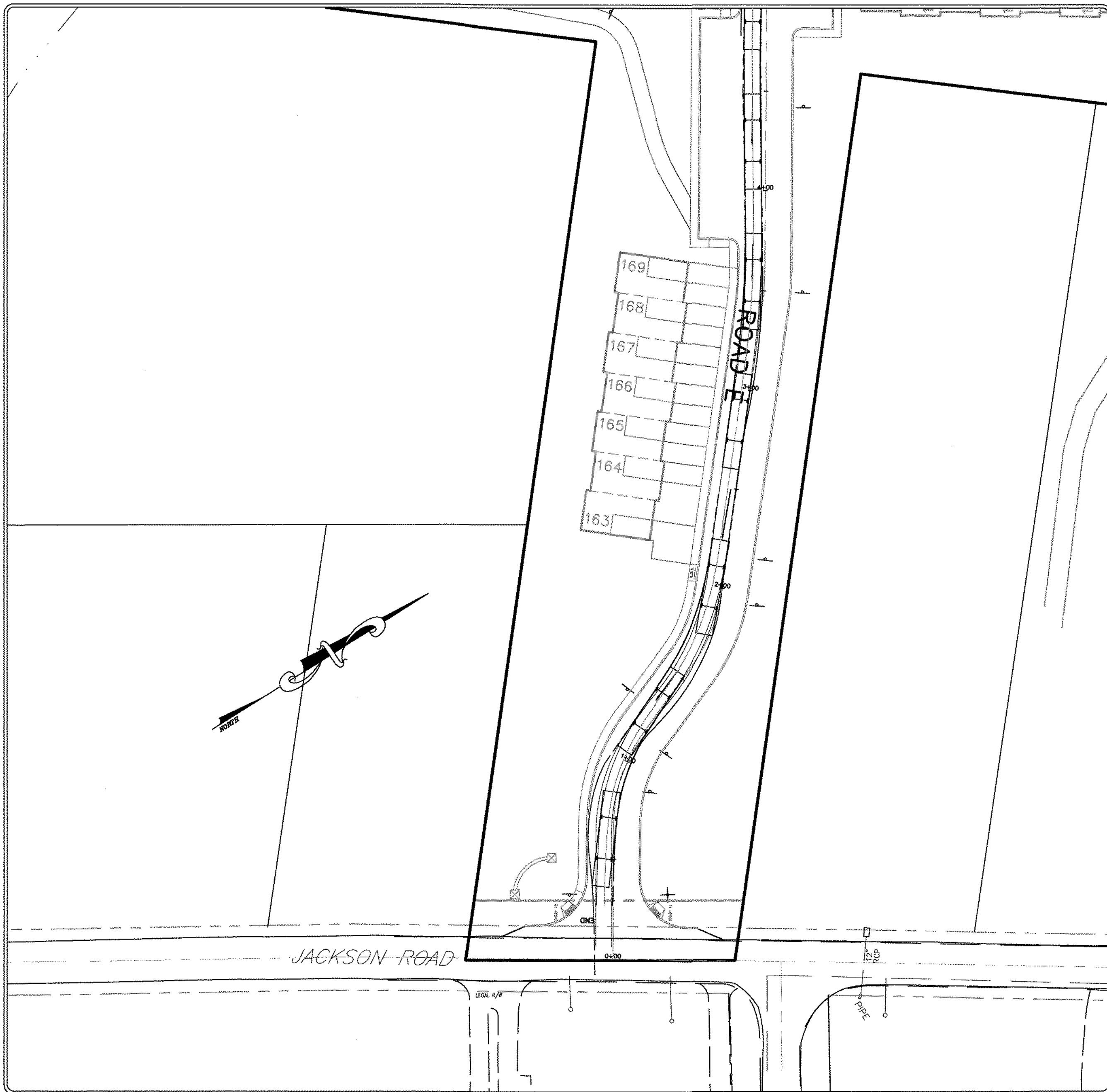
JASON T. SMELAND

PROFESSIONAL ENGINEER

PA NO. 059306



PROJECT MANAGER J.T.S.	DRAWING SCALE 1"=40'	SHEET NUMBER 58 of 64
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	

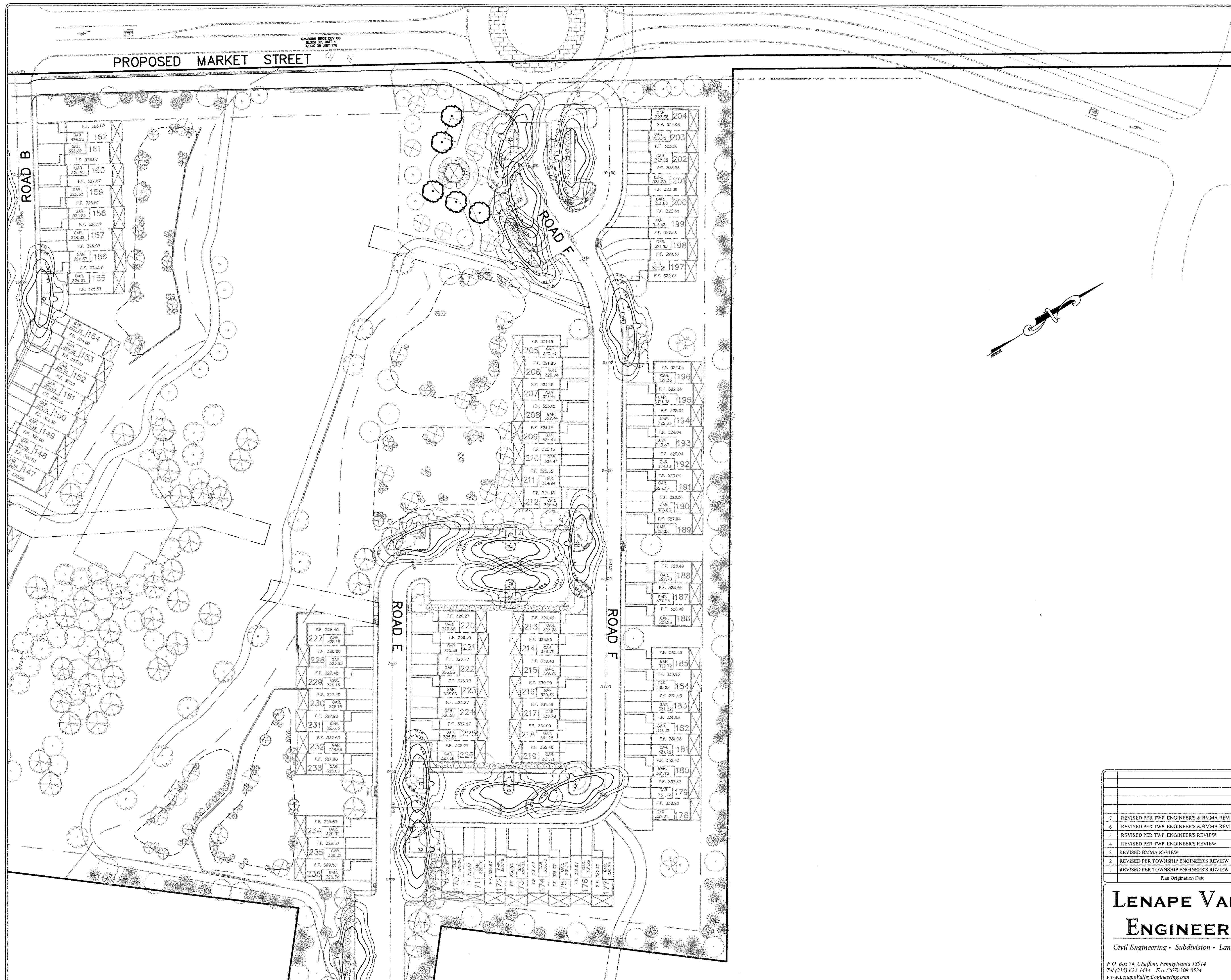


7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

LENAPE VALLEY
ENGINEERING
 Civil Engineering • Subdivision • Land Development

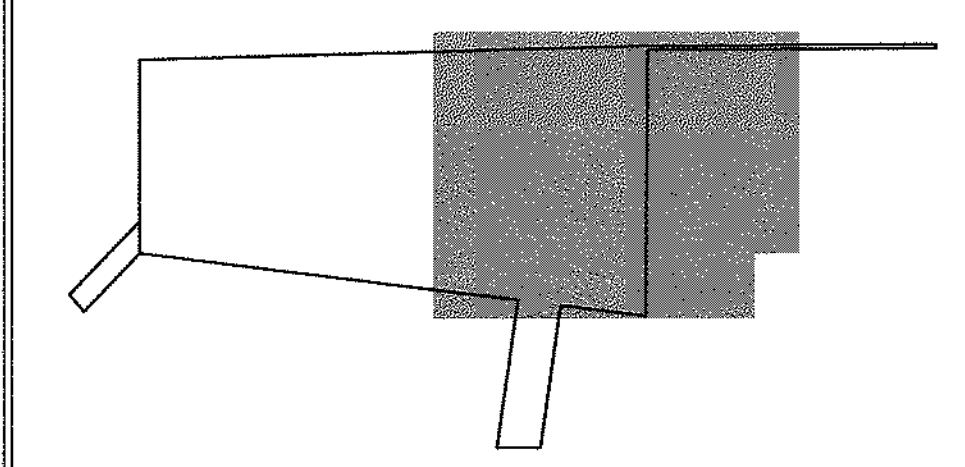
P.O. Box 74, Chalfont, Pennsylvania 18914
 Tel (215) 622-1414 Fax (267) 308-0524
 www.LenapeValleyEngineering.com

FIRE TRUCK TURNING PLAN Prepared for: DANNY JAKE CORP. As part of: ZERN TRACT		
DOUGLASS TOWNSHIP MONTGOMERY COUNTY PENNSYLVANIA		
JASON T. SMELAND PROFESSIONAL ENGINEER PA NO. 059306		
PROJECT MANAGER J.T.S.	DRAWING SCALE 1"=40'	SHEET NUMBER 59 of 64
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	



○ STREET LIGHT (QTY - 48)

KEY MAP (1"=600')

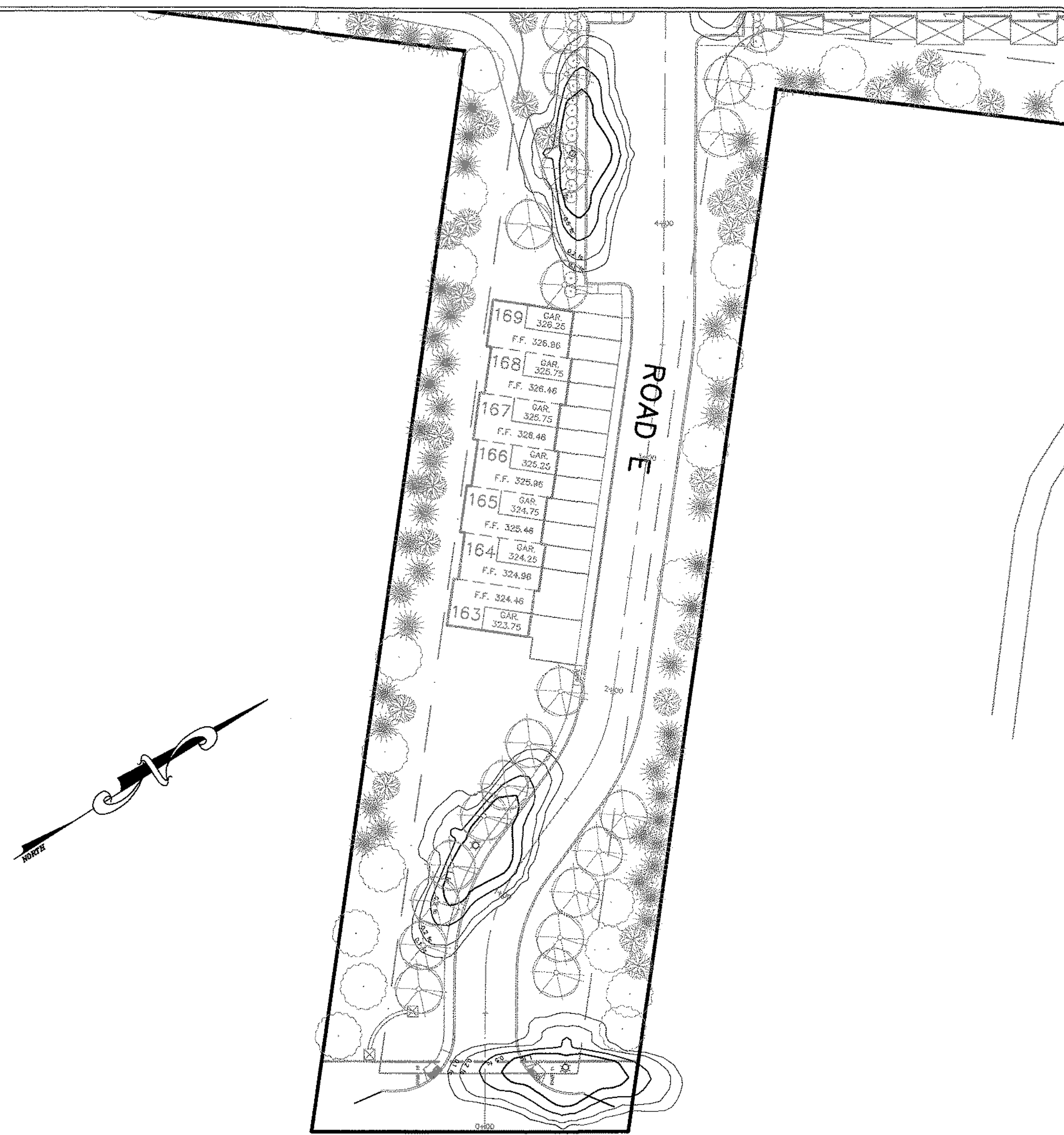


7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

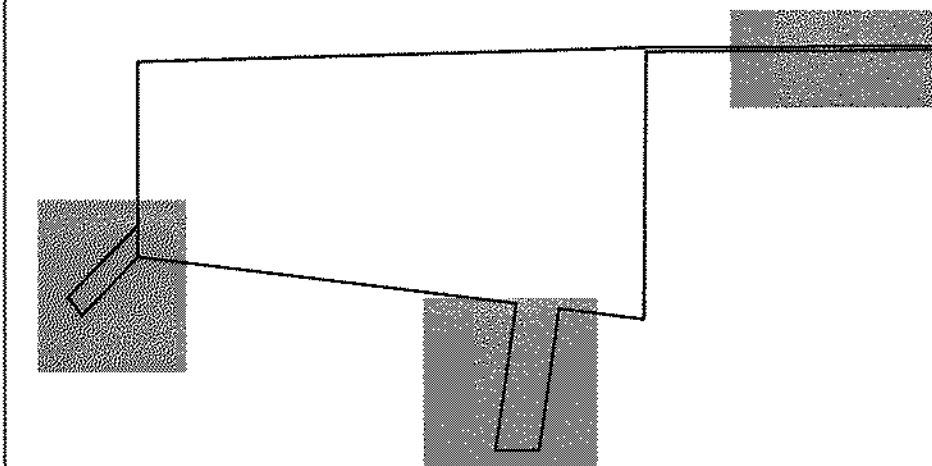
LENAPE VALLEY
ENGINEERING
Civil Engineering • Subdivision • Land Development
P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

LIGHTING PLAN
Prepared for
DANNY JAKE CORP.
As part of
ZERN TRACT
DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306
GRAPHIC SCALE
PROJECT MANAGER
J.T.S.
DRAWING SCALE
1"=40'
SHEET NUMBER
61 of 64
DRAFTED BY
B.C.S.
PROJECT NUMBER
2028



KEY MAP (1"=600')



LIGHTING PLAN

Prepared for

DANNY JAKE CORP.

As part of

ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

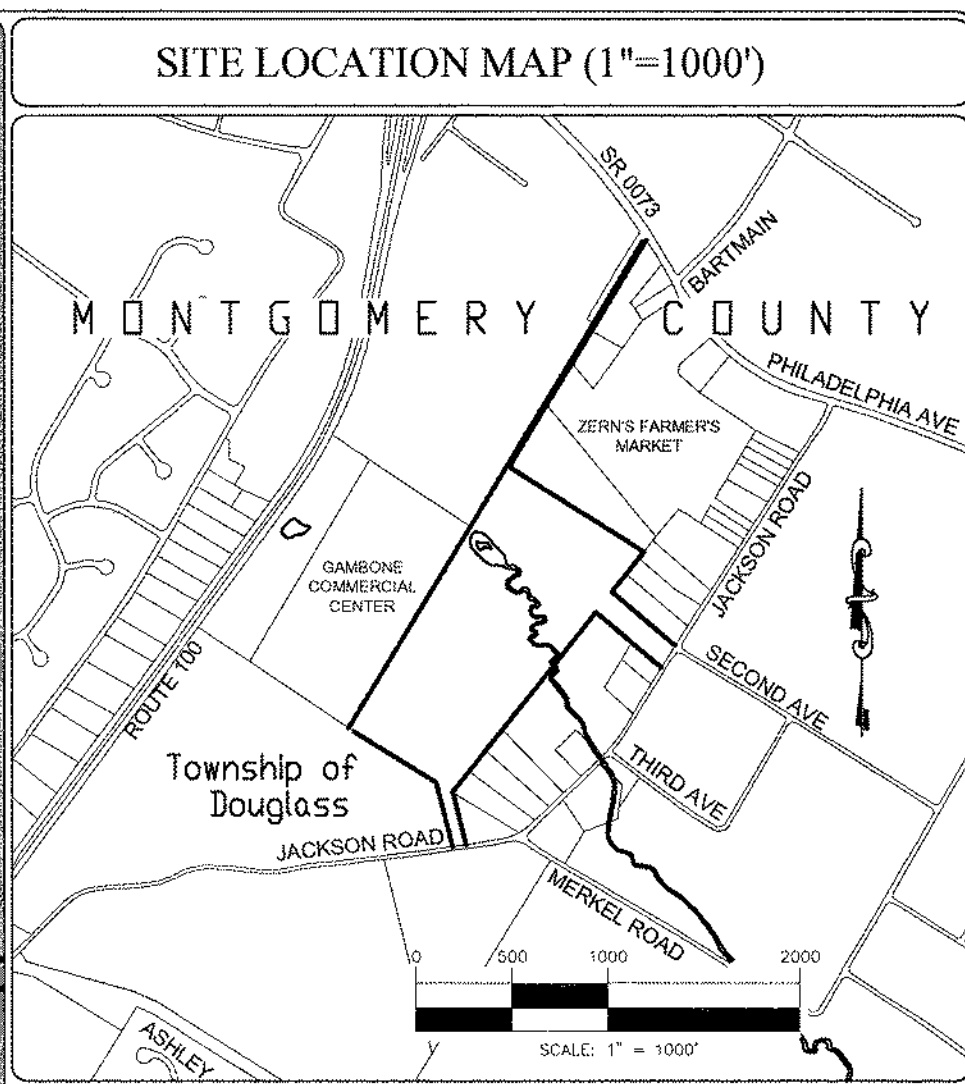


PROJECT MANAGER J.T.S.	DRAWING SCALE 1"=40'	SHEET NUMBER
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	62 OF 64

LENAPE VALLEY ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com



ZONING DATA

OBTAINED FROM THE DOUGLASS TOWNSHIP ZONING ORDINANCE,
AS AMENDED BY ORDINANCE 2010-01:
**DISTRICT CLASSIFICATION: ROUTE 100 CORRIDOR MASTER PLAN
OVERLAY DISTRICT**

PROPOSED USE: COMMUNITY CENTER TOWNHOUSE DEVELOPMENT

REQUIREMENT	ALLOWED/REQUIRED	PROVIDED
MAXIMUM DENSITY:	12 DU PER DEVEL ACRE	11 DU/AC
TRACT BUILDING SETBACK:	25 FT.	25 FT.
TRACT PARKING SETBACK:	25 FT.	25 FT.
RIGHT-OF-WAY PARKING SETBACK:	10 FT.	10 FT.
MIN. LOT AREA:	NA	NA
MIN. LOT WIDTH:	18 FT.	20 FT.
MAX. BUILDING HEIGHT:	35 FT.	35 FT.
MAX. UNITS PER BUILDING:	8 UNITS	8 UNITS
MAX. BUILDING COVERAGE:	35%	16.4%
MAX. IMPERVIOUS COVERAGE:	65%	56.1%

BUILDING SETBACKS:

(1) FRONT FACADE - 25 FEET FROM EDGE OF PAVING OF EXISTING & PROPOSED STREETS, PRIVATE STREETS, COMMON ACCESS DRIVES & PARKING AREAS.

(2) SIDE FACADE - 8 FEET FROM EDGE OF PAVING OF EXISTING & PROPOSED STREETS, PRIVATE STREETS, COMMON ACCESS DRIVES.

(3) REAR FACADE - 10 FEET FROM EDGE OF PAVING OF EXISTING & PROPOSED STREETS, PRIVATE STREETS, COMMON ACCESS DRIVES.

(4) PARKING SETBACK FROM ALL BUILDINGS - 5 FEET FROM PROPOSED PARKING AREAS AND ON-STREET PARKING SPACES.

BUILDING SEPARATIONS:

REQUIREMENT	ALLOWED/REQUIRED	PROVIDED
SIDE TO SIDE:	20 FT.	20 FT.
REAR OR FRONT TO SIDE:	30 FT.	30 FT.
REAR TO REAR:	40 FT.	40 FT.
FRONT TO FRONT:	40 FT.	40 FT.

7	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	05-22-2019
6	REVISED PER TWP. ENGINEER'S & BMMA REVIEW	03-20-2019
5	REVISED PER TWP. ENGINEER'S REVIEW	02-02-2019
4	REVISED PER TWP. ENGINEER'S REVIEW	04-07-2018
3	REVISED BMMA REVIEW	02-15-2018
2	REVISED PER TOWNSHIP ENGINEER'S REVIEW	11-09-2016
1	REVISED PER TOWNSHIP ENGINEER'S REVIEW	05-31-2016
Plan Origination Date		01-08-2014

LENAPE VALLEY
ENGINEERING
Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-1414 Fax (267) 308-0524
www.LenapeValleyEngineering.com

PHOTO OVERLAY PLAN
Prepared for
DANNY JAKE CORP.
As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306

GRAPHIC SCALE
0 40 80 160 240

PROJECT MANAGER	DRAWING SCALE	SHEET NUMBER
J.T.S.	1"=80'	63 OF 64
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	

LANDS N/F
ERNEST C. & MARY JANE N. LONG
BLOCK 38 UNIT 76
DB 5144 PG 2124

TREVOR
LANDS N/F
BLOCK 38 UNIT 124
DB 5018 PG 2357

LANDS N/F
DALE L. & SHARON L. BOYER
BLOCK 38 UNIT 124
DB 4165 PG 305

LANDS N/F
DAVID T. FETTER
BLOCK 38 UNIT 123
DB 4487 PG 163

JOHN T. LANDS N/F
BLOCK 38 UNIT 123
DB 4023 PG 282

LANDS N/F
WILLARD S. & HELEN D. HAWING
BLOCK 38 UNIT 913
DB 3030 PG 913

LANDS N/F
MICHAEL J. & LORRETO M. MCCARTNEY
BLOCK 38 UNIT 55
DB 5322 PG 370

LANDS N/F
RAYMOND M. & KATHLEEN A. ALLENBACH
BLOCK 38 UNIT 55
DB 4001 PG 925

LANDS N/F
MICHAEL J. & LORRETO M. MCCARTNEY
BLOCK 38 UNIT 55
DB 5322 PG 370

PROPOSED MARKET STREET

PROPOSED MARKET STREET

PHASE THREE

9.4169 Ac.
(410,201 S.F.)

PHASE TWO

8.0465 Ac.
(350,505 S.F.)

PHASE ONE

PHASE 1

11.0725 Ac.
(482,319 S.F.)

LANDS N/F
ST. MORITZ CLOTHES, INC.
(AKA ARMORE, INC.)
BLOCK 38 UNIT 5
DB 2037 PG 303
& DB 2076 PG 201

PHASE I - 74 UNITS

PHASE II - 80 UNITS

PHASE III - 82 UNITS

LENAPE VALLEY
ENGINEERING

Civil Engineering • Subdivision • Land Development

P.O. Box 74, Chalfont, Pennsylvania 18914
Tel (215) 622-4114 Fax (267) 308-0524
www.LenapeValleyEngineering.com

RECORD PLAN SHEET - 5 OF 5

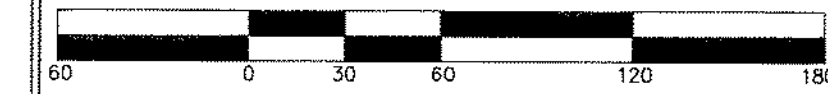
LAND DEVELOPMENT PHASE PLAN

Proposed for
DANNY JAKE CORP.

As part of
ZERN TRACT

DOUGLASS TOWNSHIP
MONTGOMERY COUNTY
PENNSYLVANIA

JASON T. SMELAND
PROFESSIONAL ENGINEER
PA NO. 059306



PROJECT MANAGER J.T.S.	DRAWING SCALE 1"=60'	SHEET NUMBER 64 OF 64
DRAFTED BY B.C.S.	PROJECT NUMBER 2028	