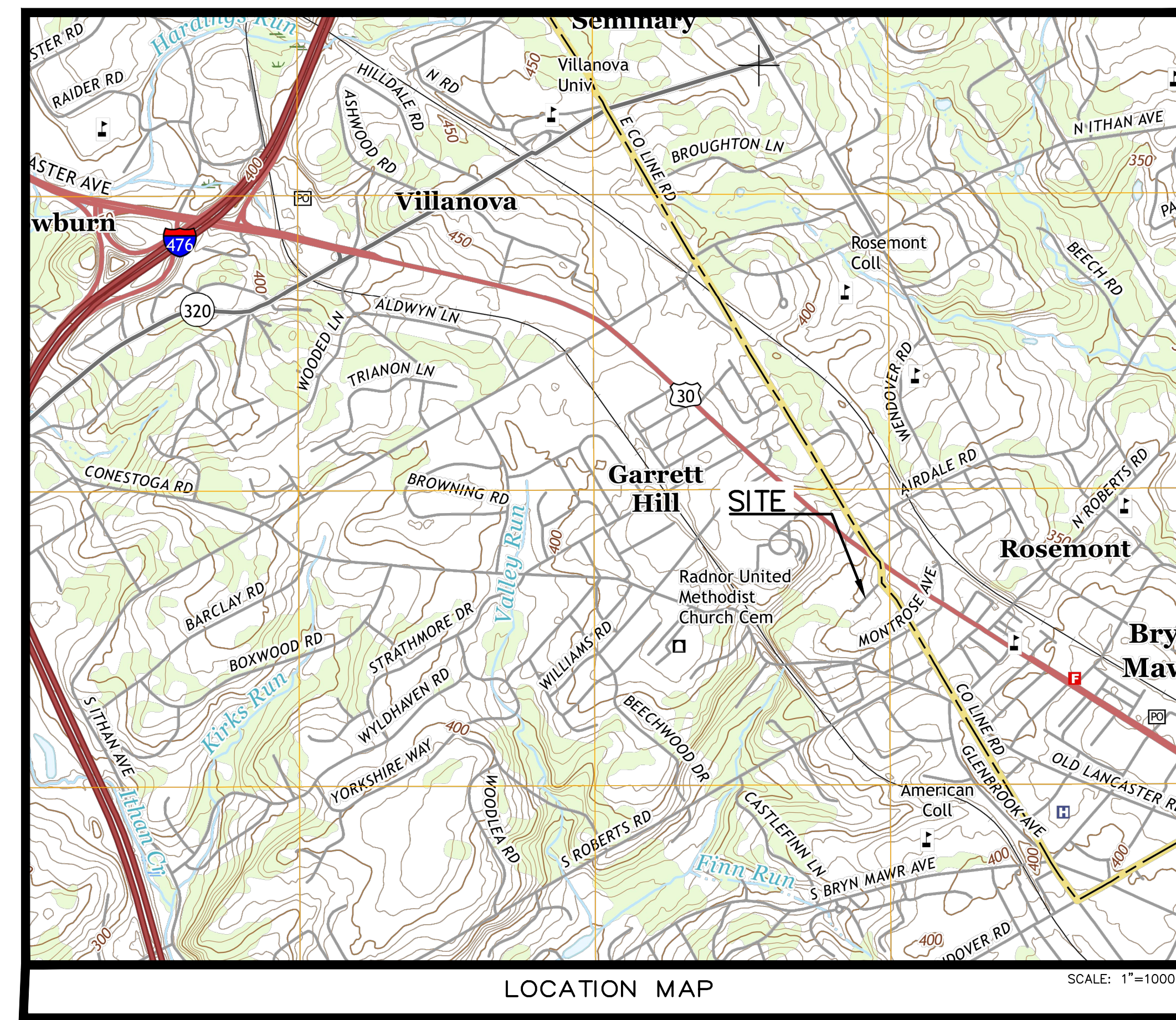


STORM SEWER IMPROVEMENTS TO THE ARTHUR ROAD CUL-DE-SAC

RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA

SHEET INDEX	
SHEET	DESCRIPTION
1	COVER SHEET
2	EXISTING FEATURES PLAN
3	OVERALL SITE PLAN
4	DETAILS PLAN



UTILITY USER LIST ACT NUMBER 287 OF 1974 AS AMENDED

- AMERIGAS PROPANE LP
- AQUA PENNSYLVANIA INC
- AT&T ATLANTA
- AT&T LOCAL SERVICES
- COMCAST CABLE
- COMCAST CABLE
- COMMUNICATIONS INC
- CROWN CASTLE
- EXTENET SYSTEMS INC
- LEVEL 3 COMMUNICATIONS LLC
- LIGHTOWER FIBER NETWORKS LLC
- PECO ENERGY
- RADNOR TOWNSHIP
- SOUTHEASTERN PA
- TRANSPORTATION AUTHORITY
- VERIZON BUSINESS FORMERLY MCI
- VERIZON PENNSYLVANIA
- WINDSTREAM
- ZAYO BANDE=WIDTH FORMERLY PPL TELCOM LLC

Pennsylvania 811



ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NO. 20183551170 WAS PLACED FOR DESIGN PURPOSES.

NO.	BY	REVISIONS	DATE

RICHARD A. YOUNG P.E.
LICENSED PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. PE-048256-E

DATE

STORM SEWER IMPROVEMENTS
TO THE
ARTHUR ROAD CUL-DE-SAC
RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA

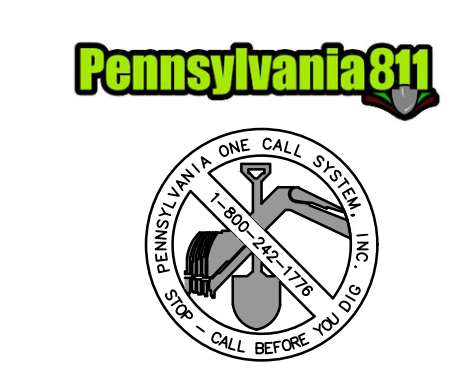
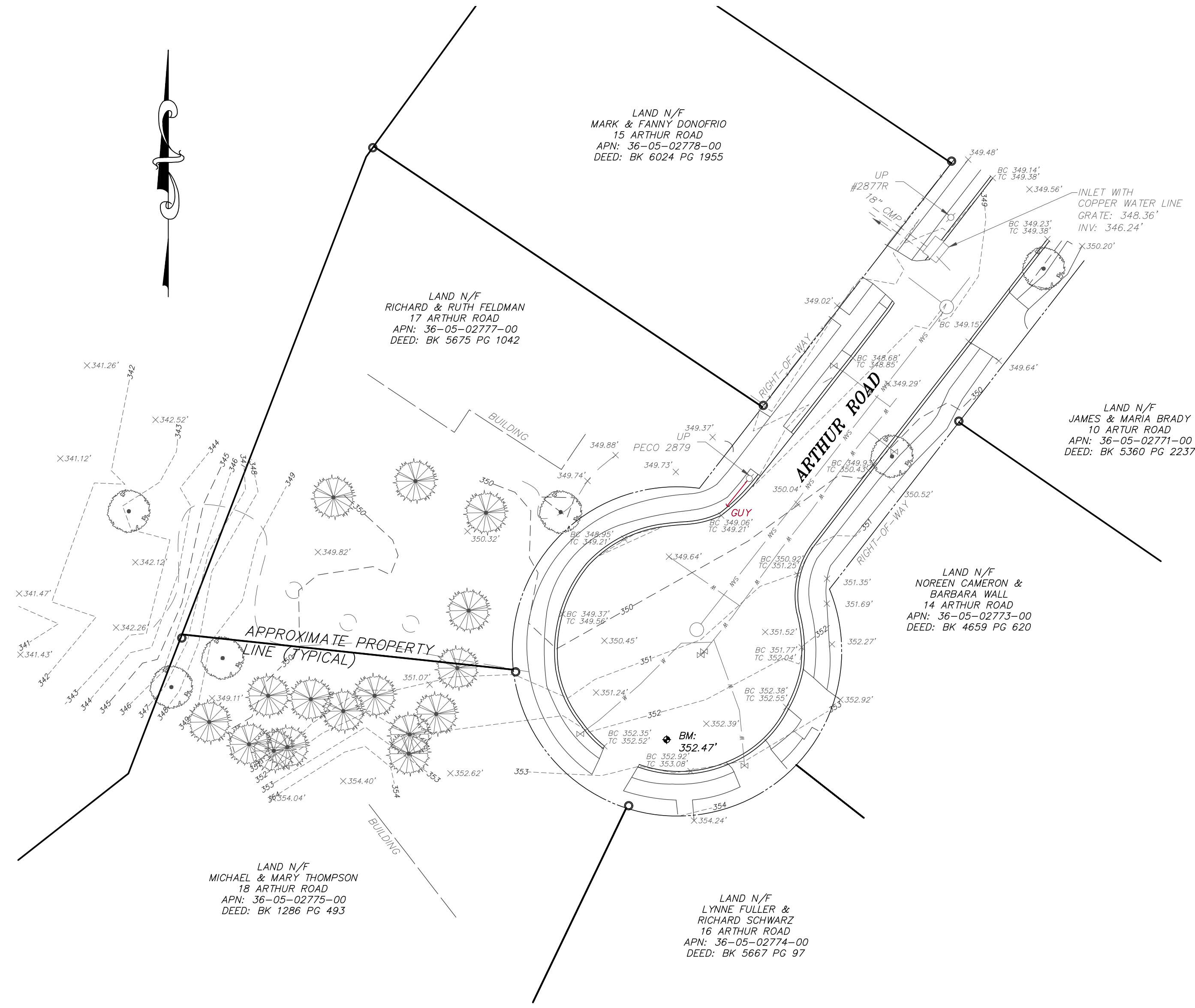
COVER SHEET

YOUR GOALS. OUR MISSION.
74 WEST BROAD STREET,
SUITE 530
BETHLEHEM, PA 18018
TEL 610-625-2999
FAX 610-625-2969
www.tandmassassociates.com

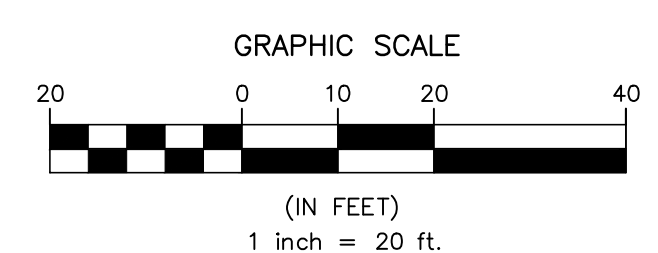
OFFICES LOCATED IN:
DELAWARE, INDIANA, KENTUCKY,
MASSACHUSETTS, MICHIGAN, NEW JERSEY,
OHIO AND PENNSYLVANIA

DESIGNED BY	MDH	DRAWING	F-COVER
CHECKED BY	RAY		
DRAWN BY	MDH	SHEET	1
DATE	1/22/2019		
SCALE	AS NOTED		
PROJ. NO.	RADN00014		OF 4

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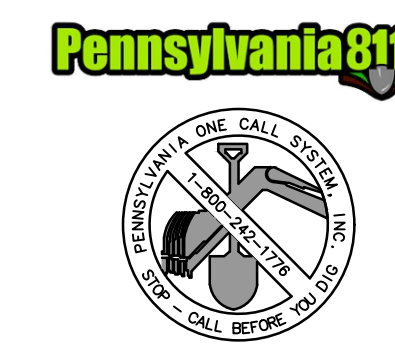
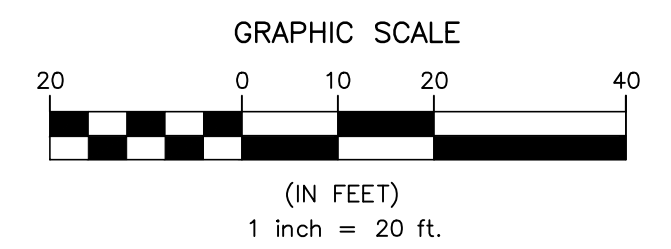
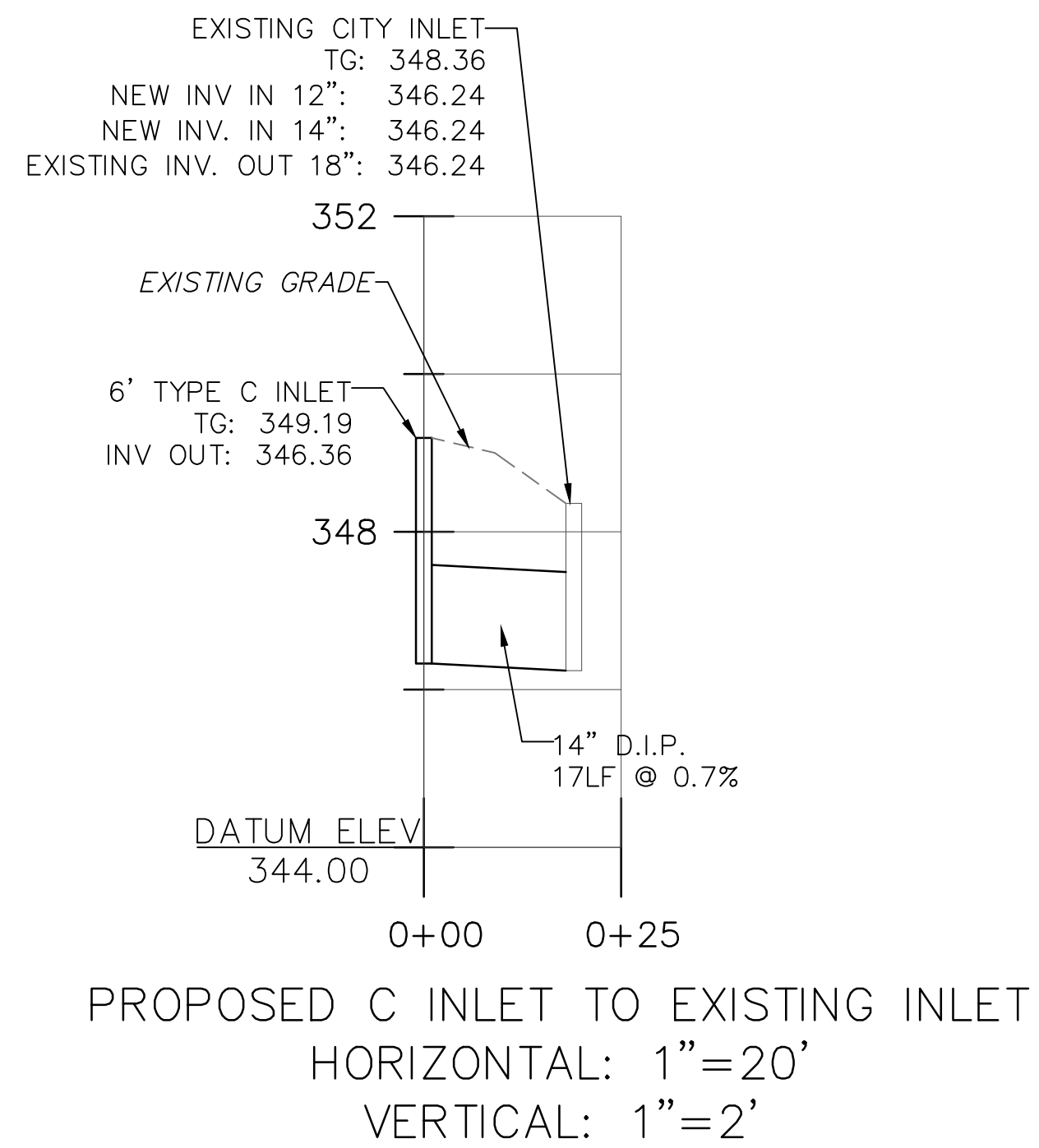
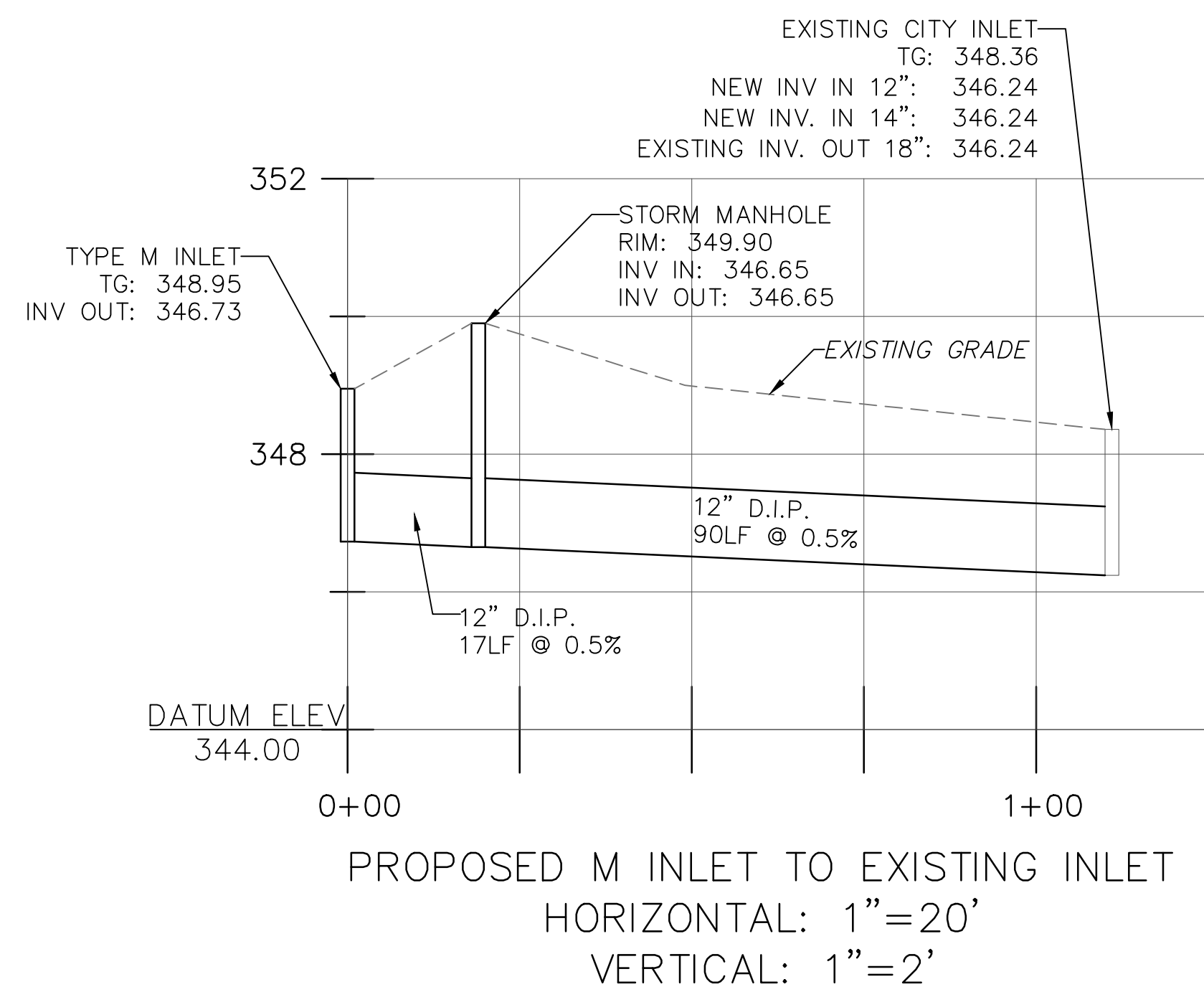
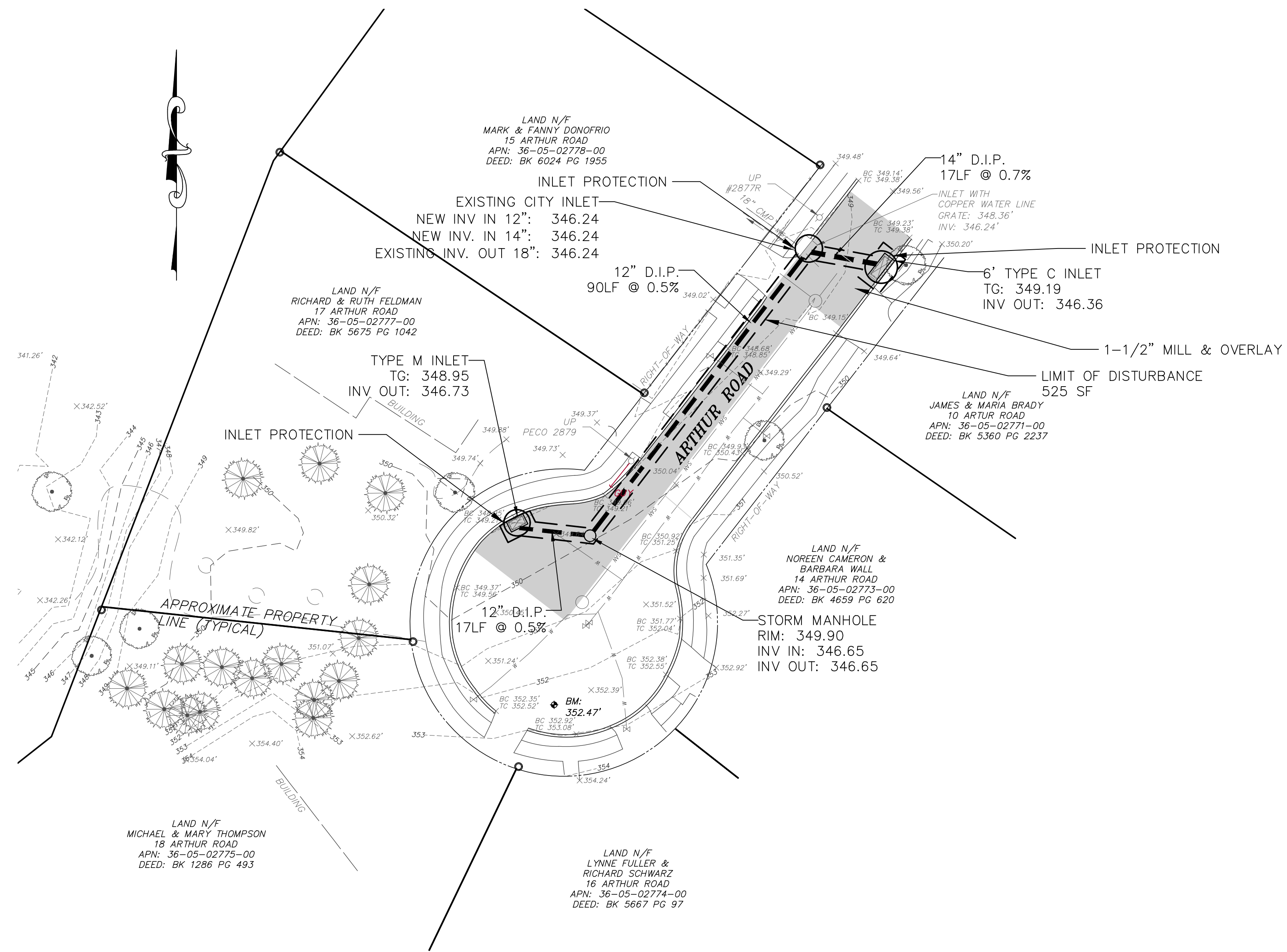
RICHARD A. YOUNG P.E.
 LICENSED PROFESSIONAL ENGINEER
 COMMONWEALTH OF PENNSYLVANIA
 LICENSE NO. PE-04826-E
 #/##/####
 DATE

**STORM SEWER IMPROVEMENTS
 TO THE
 ARHTUR ROAD CUL-DE-SAC**
 RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA
EXISTING FEATURES PLAN



DESIGNED BY	MDH	DRAWING	EX FEATURES
CHECKED BY	RAY	DRAWN BY	MDH
DRAWN BY	MDH	DATE	1/22/2019
DATE	1/22/2019	SCALE	AS NOTED
PROJ. NO.	RADN00014	SHEET	2 OF 4

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NO.	BY	REVISIONS	DATE

RICHARD A. YOUNG P.E.
LICENSED PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. PE-048256-E

DATE: _____
#/##/####

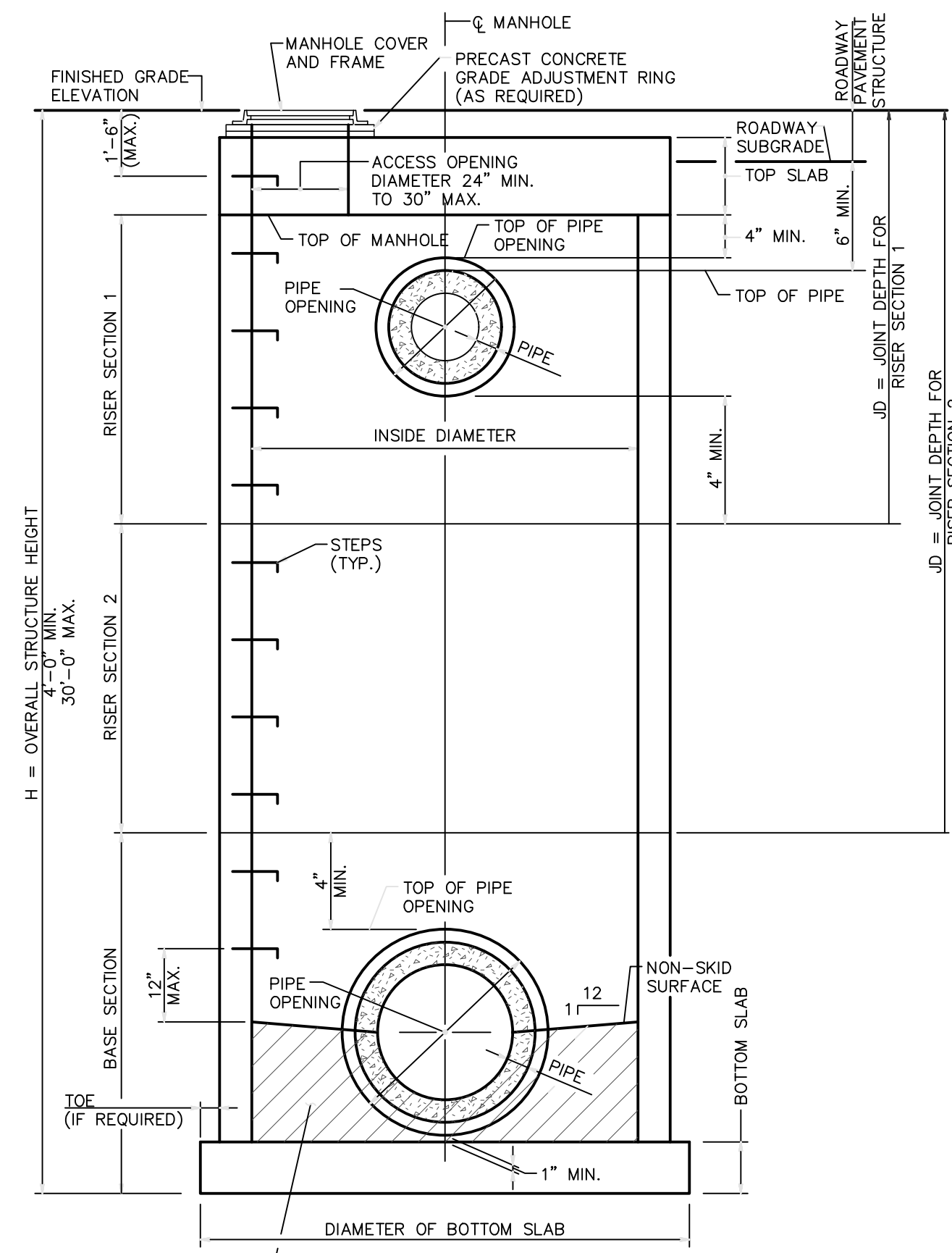
STORM SEWER IMPROVEMENTS
TO THE
ARTHUR ROAD CUL-DE-SAC
RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA

OVERALL SITE PLAN

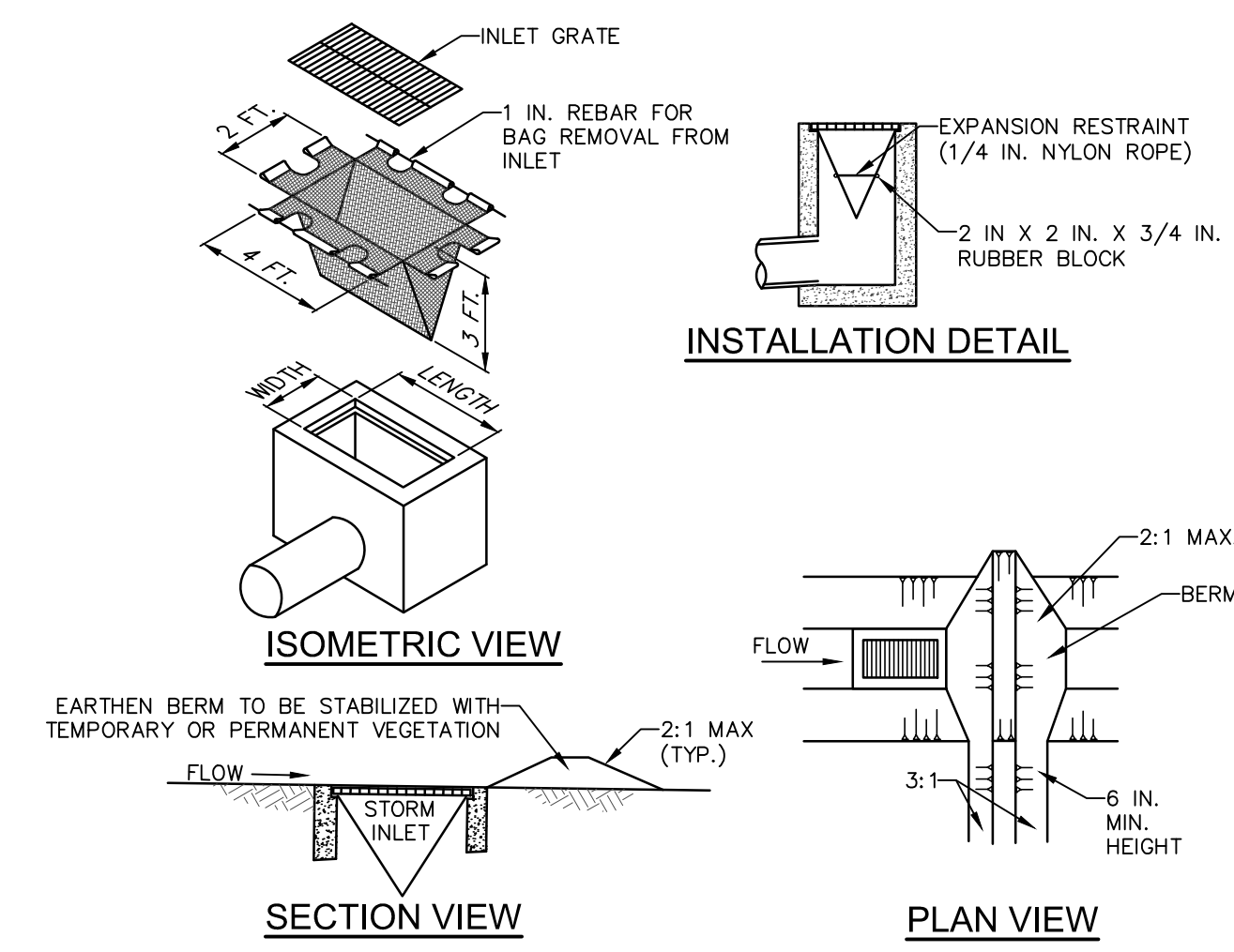
74 WEST BROAD STREET, SUITE 530
BETHLEHEM, PA 18018
TEL 610-625-2999
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OFFICES LOCATED IN:
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MASSACHUSETTS, MICHIGAN, NEW JERSEY,
OHIO AND PENNSYLVANIA

DESIGNED BY	MDH	DRAWING	F-SITE
CHECKED BY	RAY	DRAWN BY	MDH
DRAWN BY	MDH	DATE	1/22/2019
DATE	1/22/2019	SCALE	AS NOTED
PROJ. NO.	RADN00014	SHEET	3 OF 4



MANHOLE ASSEMBLY



NOTES:

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

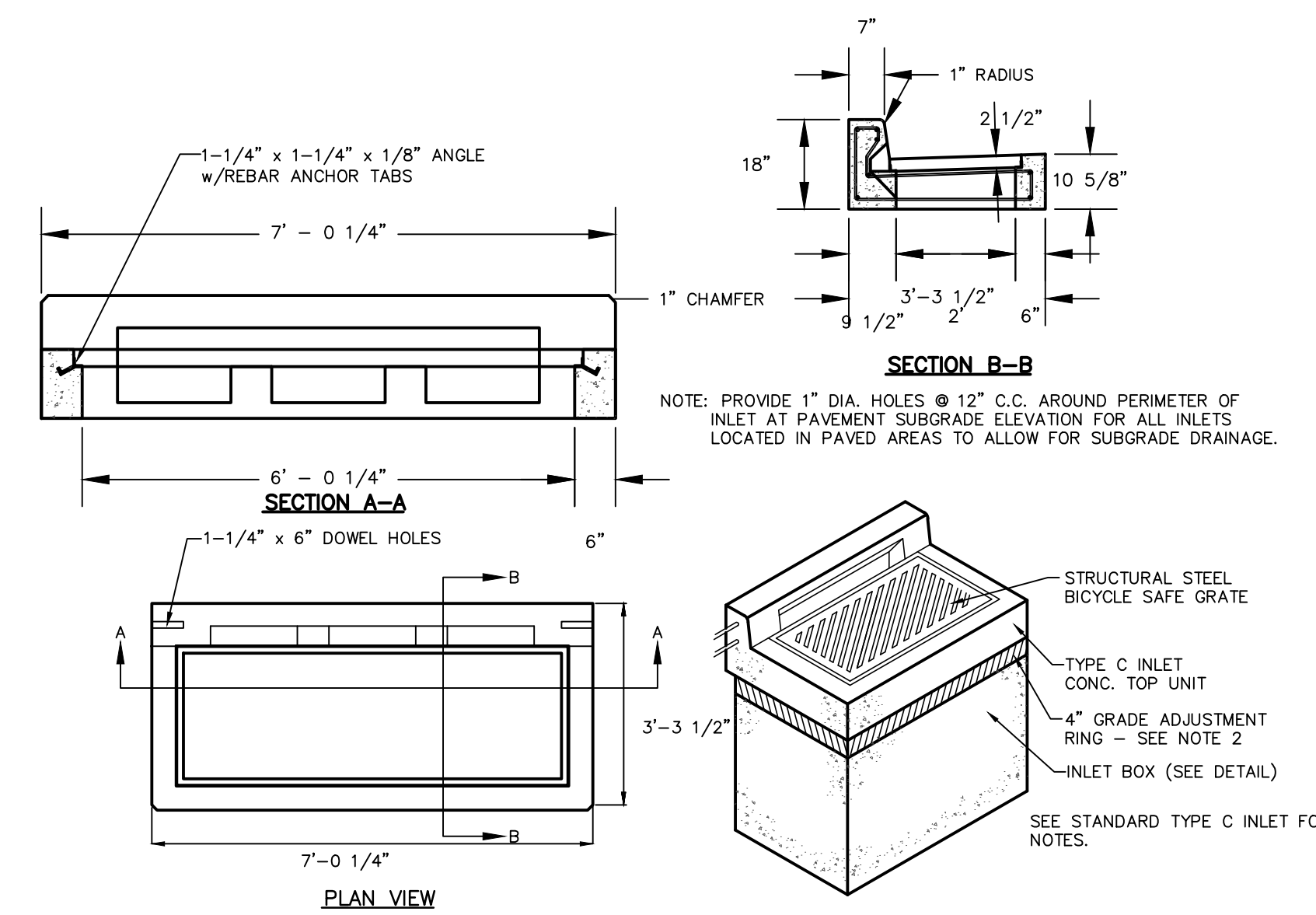
ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.

AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

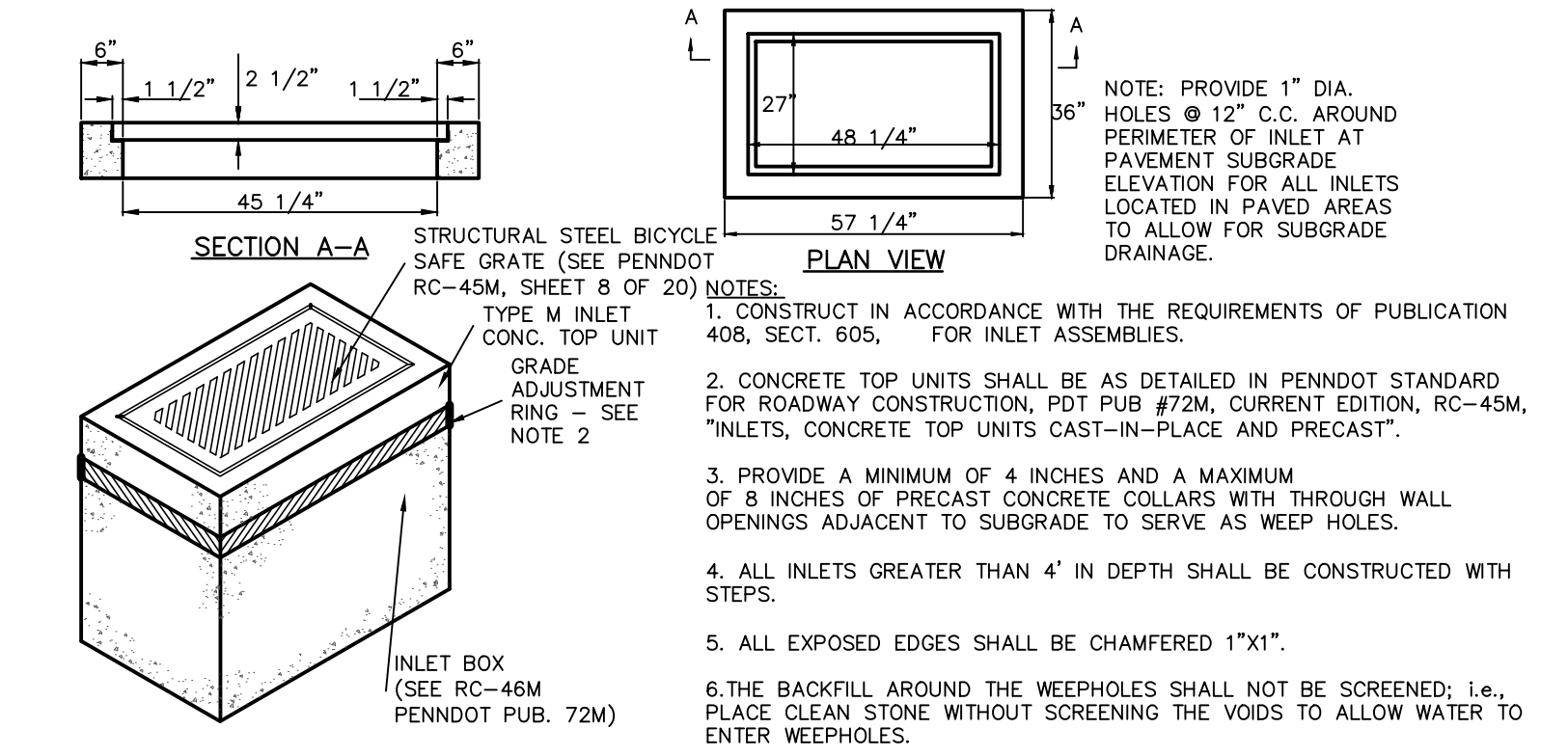
INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

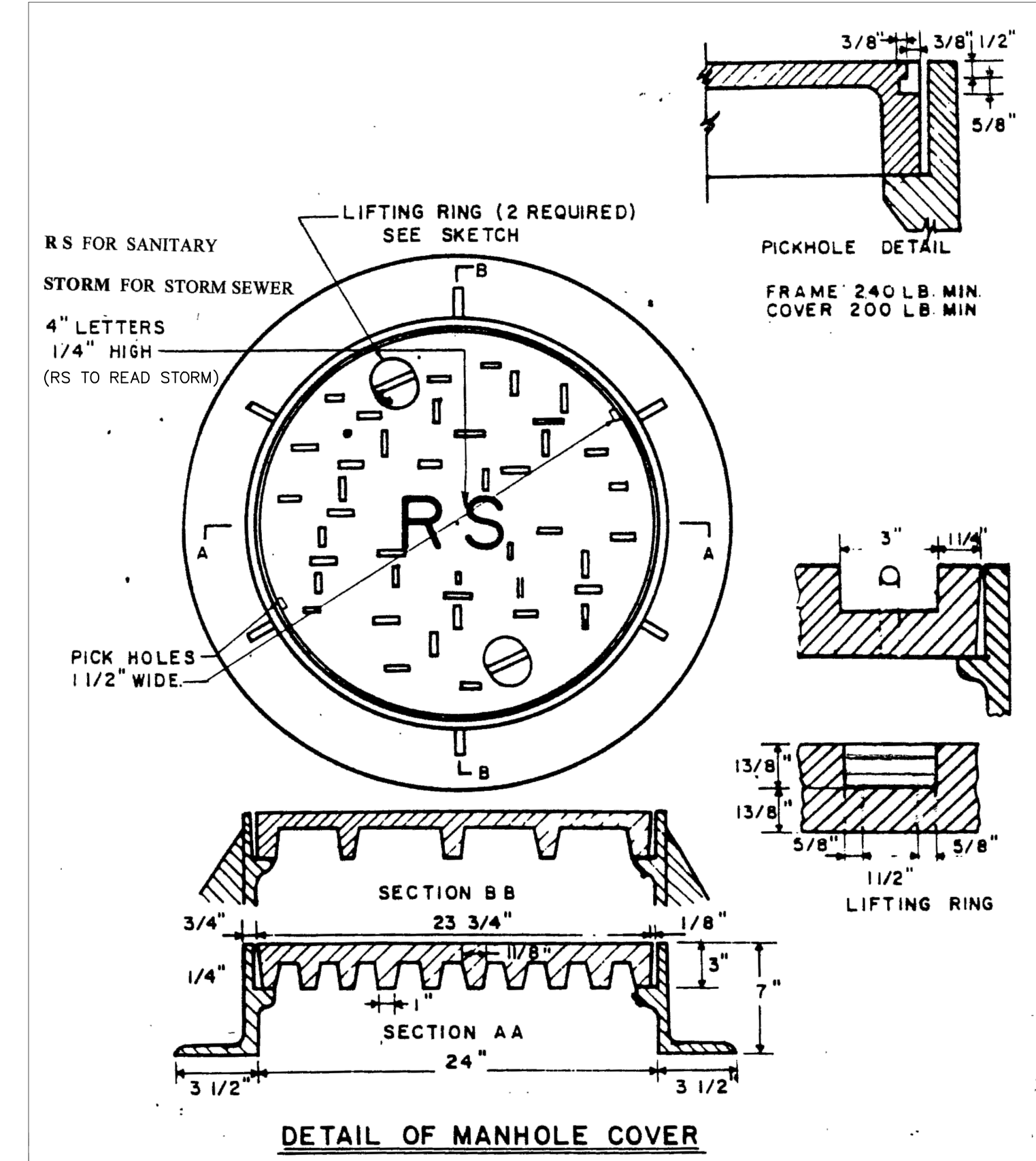
STANDARD CONSTRUCTION DETAIL #4-16
FILTER BAG INLET PROTECTION - TYPE M INLET



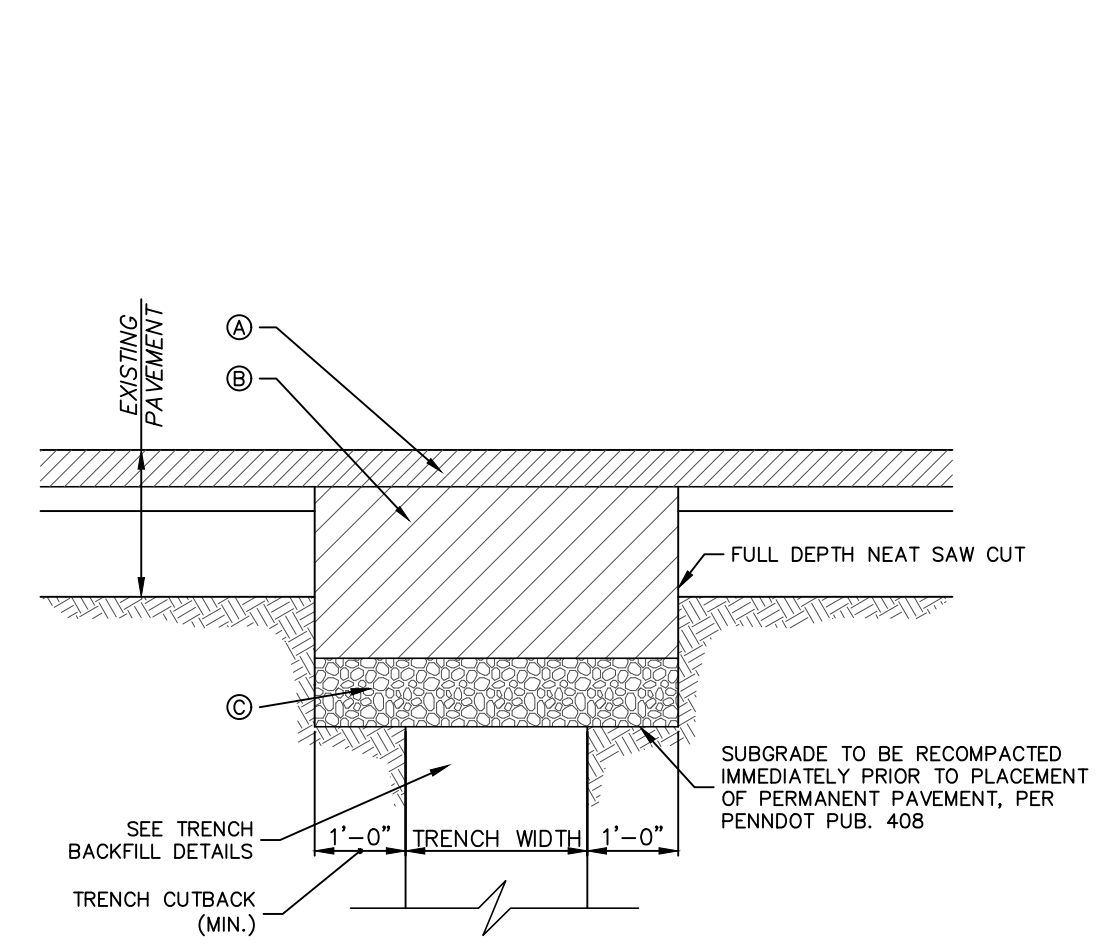
TYPE C INLET (6' INLET TOP)



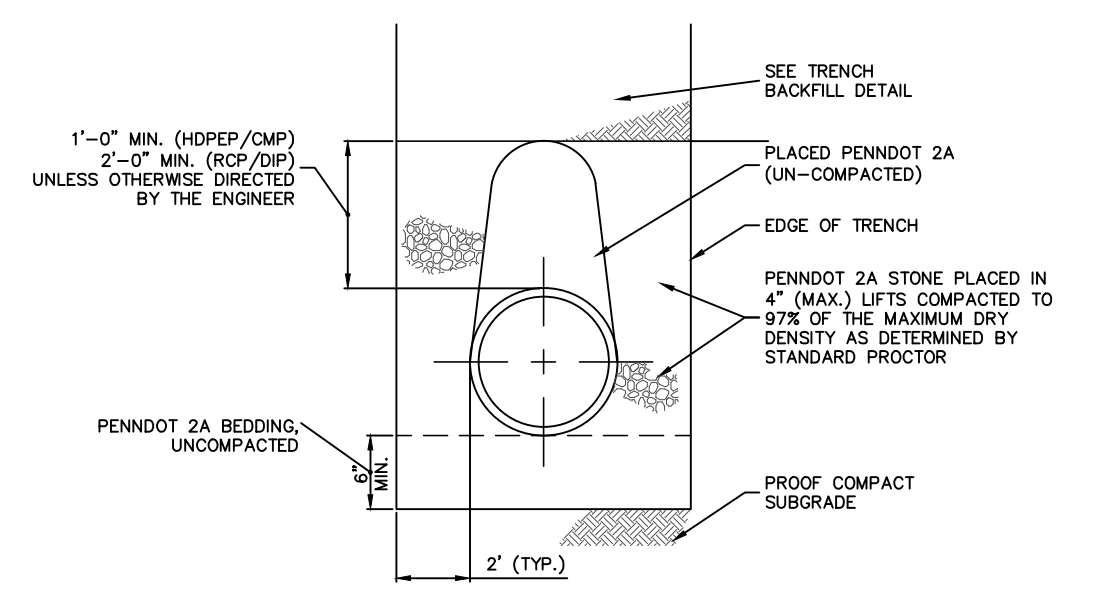
STANDARD TYPE 'M' INLET



DETAIL OF MANHOLE COVER



PAVEMENT RESTORATION (BITUMINOUS)

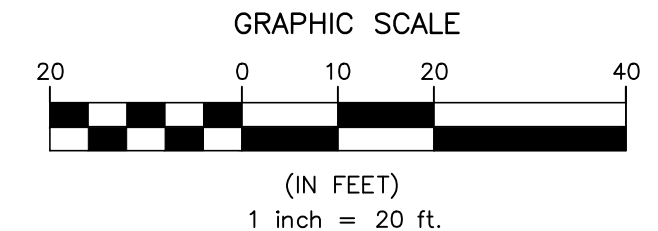


PIPE BEDDING (STORM SEWER)

RADNOR TOWNSHIP		DATE
SITE DESIGN & CONSTRUCTION STANDARDS		JUNE 1985
DRAWING NO		C-10
MANHOLE FRAME AND COVER		



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DESIGNED BY	MDH	DRAWING	F-GRADE
CHECKED BY	RAY	SHEET	4
DRAWN BY	MDH	OF	4
DATE	1/22/2019		
SCALE	AS NOTED		
PROJ. NO.	RADN00014		

STORM SEWER IMPROVEMENTS
TO THE
ARTHUR ROAD CUL-DE-SAC
RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA

DETAILS PLAN

RICHARD A. YOUNG P.E.
LICENSED PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. PE-048256-E

DATE

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BY

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