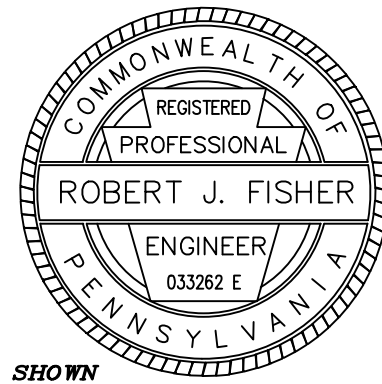


# FINAL LAND DEVELOPMENT PLAN FOR PHASE 2A OF THE TOWNES AT MARGARET'S GROVE LOCATED IN SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA.

**ENGINEER**  
R.J. FISHER & ASSOCIATES  
ENGINEERING, PLANNING & SURVEYING  
1546 BRIDGE STREET  
NEW CUMBERLAND, PA 17070  
(717) 774-7534



I HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THE PLAN SHOWN AND DESCRIBED HEREON IS TRUE AND CORRECT TO THE ACCURACY REQUIRED BY THE SUSQUEHANNA TOWNSHIP SUBDIVISION AND LAND DEVELOPMENT ORDINANCE. I ALSO HEREBY CERTIFY THAT THE STORMWATER MANAGEMENT PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE SUSQUEHANNA TOWNSHIP STORMWATER MANAGEMENT ORDINANCE.

ROBERT J. FISHER P.L.S., P.E.

NOTE: BOUNDARY AND TOPOGRAPHICAL SURVEY WERE PERFORMED BY BISCON LAND SURVEYING

### ZONING REQUIREMENTS:

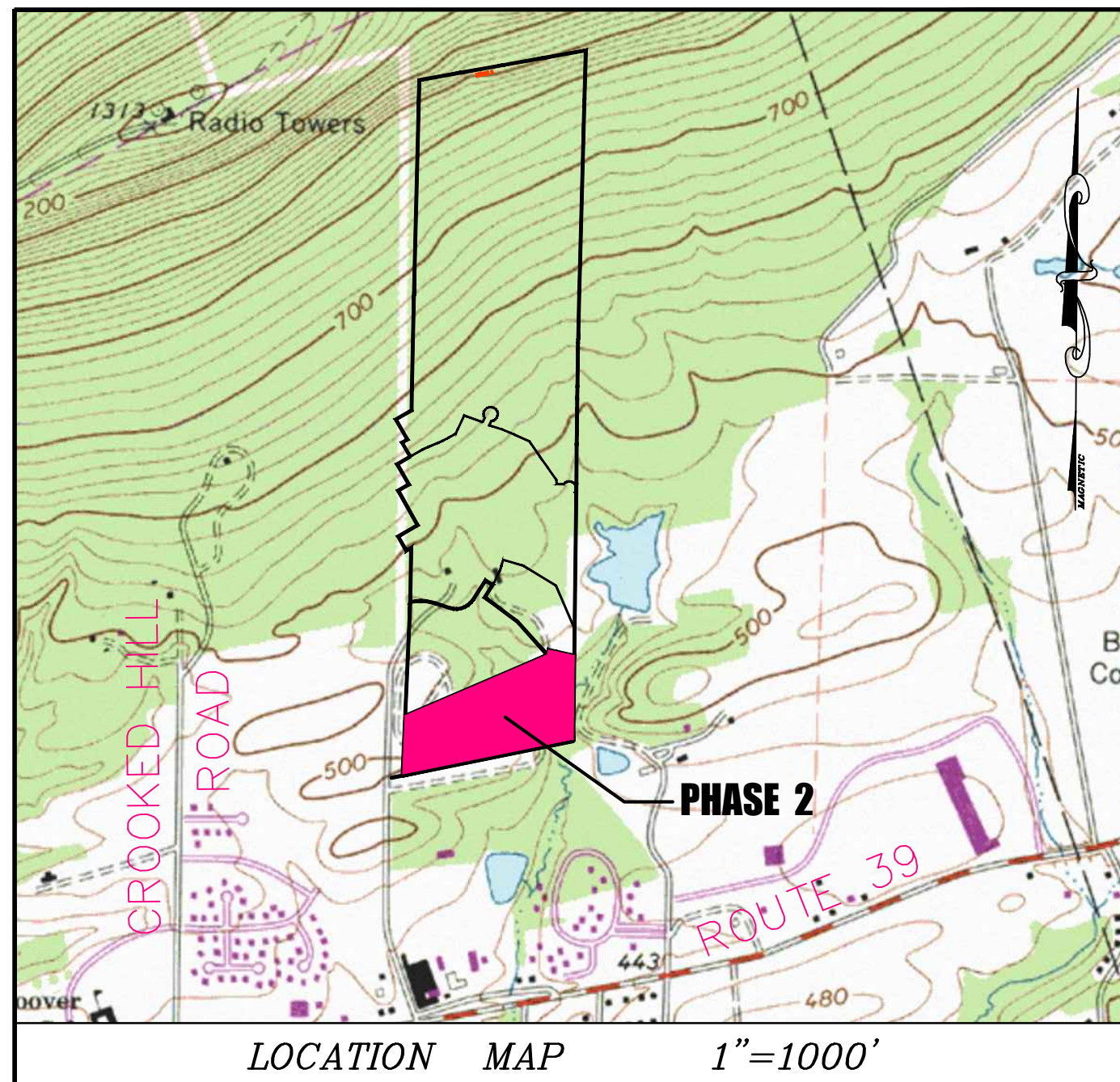
R-4: RESIDENTIAL URBAN ZONING DISTRICT  
(for single family attached dwellings only)  
Minimum development area: 40,000 square feet  
Minimum lot area per dwelling unit: 2,200 square feet  
Minimum individual lot & structure width: 28 feet  
Maximum Building Coverage: 35%  
Maximum dwelling units per acre: 10  
Minimum front yard: 25 feet  
Minimum side yard: 10 feet one side, 10 feet total sides  
Minimum rear yard: 25 feet  
Maximum principal building height: 30 feet/3 stories

### LIST OF UTILITIES

Bell Atlantic Pennsylvania 2875 Appleton Street Camp Hill, PA 17011 (717) 777-5875	UGI P.O. Box 3565 Harrisburg, PA 17105-3565 (717) 234-5951	Quest Communications (800) 242-1776
Pennsylvania Power and Light 1030 McCloy Street Harrisburg, PA (717) 238-4380	AT&T 4251 Chambers Hill Road Harrisburg, PA 17111 (717) 558-1332	Verizon Wireless (800) 242-1776
United Water of Pennsylvania 4211 East Park Circle P.O. Box 4151 Harrisburg, PA 17111 (717) 561-1103	Comcast Communications 4601 Smith Street Harrisburg, PA 17109 (717) 651-1913	
Next Link Pennsylvania 925 Berkshire Boulevard Wilmington, PA 19810 (800) 242-1776	Comcast Telecomm Services 35 East Broad Street Elizabethville, PA 17023-0073 (717) 362-3046	
Susquehanna Township 1900 Lingstrom Road Harrisburg, PA 17110 (717) 909-9225	Buckeye Pipeline P.O. Box 368 Ermoua, PA 18049-0368 (610) 770-4000	



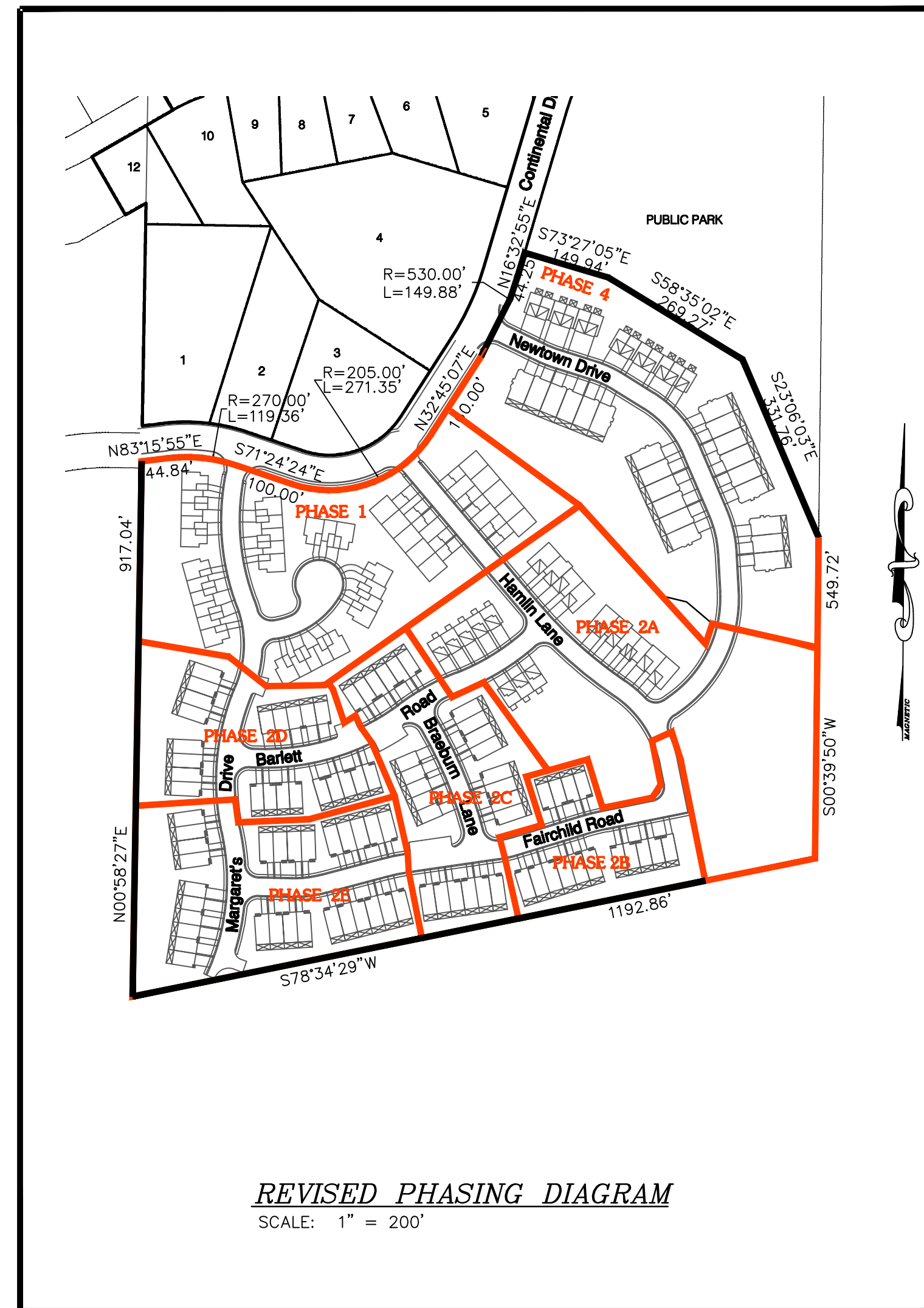
Before You Dig Anywhere  
In ... PENNSYLVANIA  
STOP! Call 1-800-242-1776  
PA Law requires 3 working days before you dig.  
PA One Call System, Inc.



### WAIVERS

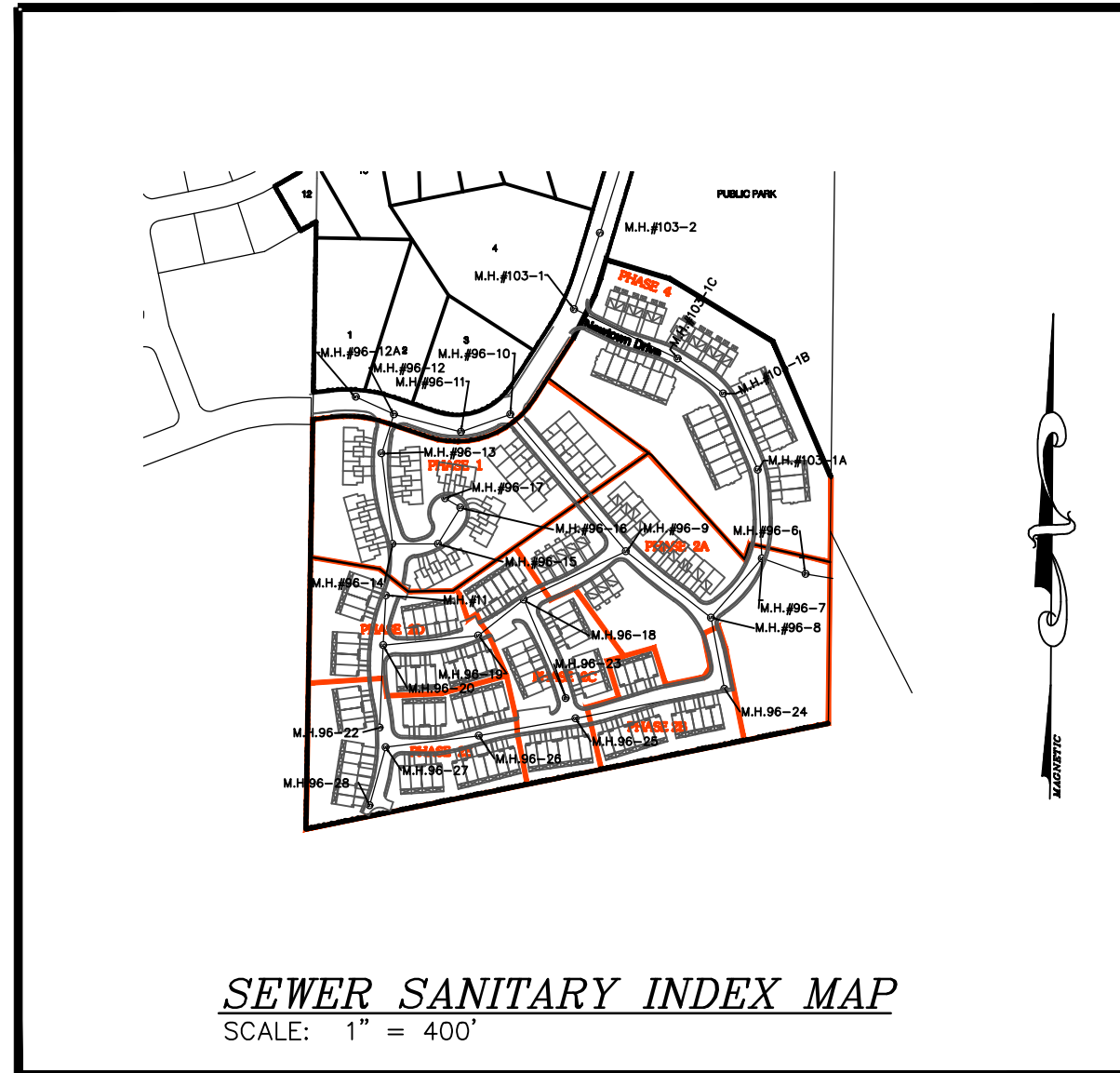
The following waivers were approved with the Final Land Development Plan for The Townes at Margaret's Grove - Phases 2 & 3

WAIVER SECTION	WAIVER REQUIREMENT
22-407.A.(17)	pertaining to a buffer yard
22-407.A.(20)(j)	pertaining to an existing resources and site analysis plan
22-407.A.(20)(k)	pertaining to a resource impact and conservation report
22-606.2	pertaining to vertical curbs along streets
22-502.5.A	pertaining to location of driveways
22-502.6	pertaining to vertical sag curve "K" value on Margaret's Lane



DRAWING INDEX	
SHEET NO.	TITLE
1	COVER SHEET
2	LAND DEVELOPMENT PLAN
3	FINAL GRADING PLAN
4	EROSION CONTROL PLAN
5	PROFILE OF BARLETT ROAD
6	PROFILE OF HAMLIN LANE & NEWTOWN DRIVE
7	PROFILE OF MISC. STORM SEWERS
8	PROFILE OF MISC. STORM SEWERS
9 & 10	RAIN GARDEN PLAN
11 & 12	MISCELLANEOUS DETAILS

**APPLICANT**  
THE McNAUGHTON COMPANY  
4400 DEER PATH ROAD, SUITE 201  
HARRISBURG, PA. 17110  
(717) 234-4000



### SITE DATA:

- Record Owner and applicant-- The McNaughton Company  
4400 Deer Path Road, Suite 201  
Harrisburg, PA 17110  
phone: (717) 234-4000
- deed reference: Book 2418, page 458  
tax parcel number: 62-004-005 & 62-013-003
- Phase 2A is zoned "RU - Residential Urban".
- Phase 2A site area: 228,194 square feet, or 5.24 acres.
- Existing number of lots: 1
- Proposed number of lots: 1
- Proposed number of dwelling units: 18
- Proposed use: single family attached dwellings
- Proposed water supply: public (United Water)
- Proposed sewage disposal: public (Susquehanna Township Authority)
- Proposed Phase 2A density: 3.44 units per acre

### GENERAL NOTES:

- The purpose of this plan is to build 18 townhomes as part of the previously approved Final Land Development Plan for Phases 2 and 3 of the Townes at Margaret's Grove. This plan is a revised phase of the previously approved plan, and this plan updates the phasing layout in order to reflect current housing market demands.
- A wetland delineation was performed by Vortex Environmental, Inc. on October 6, 2008.
- No floodplain exists on this site, per the Flood Boundary and Floodway Map 01F-03F, prepared by the U.S. Department of Housing and Urban Development -- Federal Insurance Administration, Panel 02F, page 1 of 1, Community Number 420397A, effective date 4/15/77.
- Sanitary sewer mains are proposed to be dedicated to Susquehanna Township Authority.
- No existing covenants run with this land, except for the existing easements of record. Proposed restrictions are noted on these plans.
- The developer shall be responsible for the implementation of the approved erosion control plan. The NPDES permit, PAI-0322-08-002 already exists for this site for discharge of stormwater.
- Topographic benchmark is sanitary sewer manhole #12-8, invert elevation 421.75'. Topography is U.S.G.S. datum.
- Each lot shall have a minimum of 2 off-street parking spaces, in the garage and/or driveway.
- The water line on this plan is schematic only and final design will be supplied for by United Water of Pennsylvania.
- Concrete monuments to be set as shown, all other corners shall be marked with iron pins.
- A Sewage Facilities Planning Module was approved by DEP with the Preliminary Plan, DEP Code No. A3-22931-229-3.
- All construction shall conform to PennDOT Publications 408 and 72 standards and the Susquehanna Township ordinances.
- This Final Phase 2A plan is based on the approved Preliminary Subdivision and Land Development Plan for The Townes at Margaret's Grove and the approved Final Land Development Plan for Phases 2 and 3 of the Townes at Margaret's Grove, as approved by Susquehanna Township Board of Commissioners.
- Prior to the construction of any facilities shown on these plans, the contractor shall verify all elevations and notify the Owner and engineer of any discrepancies.
- Township staff shall have permission to access drainage easements from the nearest right-of-way.
- Inlet box corners shall not be knocked out for pipe connection.
- All corners not shown to be marked with concrete monuments shall be marked with 5/8" rebar.
- Implementation of the erosion control plan is the responsibility of the lot owner, and/or the person(s) authorized by coverage under the NPDES Permit for discharge of storm water associated with construction activity.
- The developer/contractor shall be responsible to provide a minimum of 48 hours notice and to coordinate with the Township/HRG, Inc. in regards to all municipal inspection work required on the project site.
- Nothing shall be placed or placed within an easement which would adversely affect the function of the easement, or conflict with any conditions associated with such easement.
- Stormwater management facilities located on an individual lot shall be owned by the lot owner, but shall be maintained by the homeowners association. Maintenance of stormwater management facilities shall be required to ensure that they are permanent and continuously functioning as originally designed.
- The Operation and Maintenance Agreement is part of the Stormwater Management Plan.
- The existing sanitary sewer between MH#6-8 and MH#6-9 will need to have an air test performed after the laterals have been abandoned and the new lateral installed. The abandoned laterals shall be abandoned at the mainline and the new lateral constructed as per STA specification.
- Previously constructed culverts and associated facilities outside of the public right-of-way shall be maintained by the Homeowners Association.
- The existing sidewalk installed along Hamlin Lane will be extended to meet the sidewalk proposed with this plan.

### THIS PLAN REVIEWED BY THE DAUPHIN COUNTY PLANNING COMMISSION

THIS DAY OF \_\_\_\_\_ 2012  
CHAIRMAN \_\_\_\_\_  
SECRETARY \_\_\_\_\_  
COMMONWEALTH OF PENNSYLVANIA  
COUNTY OF DAUPHIN  
ON THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_ BEFORE ME  
THE UNDERSIGNED PERSONALLY APPEARED.

### THE PLAN REVIEWED BY THE SUSQUEHANNA TOWNSHIP ENGINEER

THIS DAY OF \_\_\_\_\_ 2012  
TOWNSHIP ENGINEER \_\_\_\_\_  
WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSE AND SAY THAT THEY ARE THE OWNERS OF THE PROPERTY SHOWN ON THIS PLAN AND THAT THEY ACKNOWLEDGE THE SAME TO BE THEIR ACT AND DEED AND DESIRE THE SAME TO BE RECORDED AS SUCH ACCORDING TO LAW.

### THIS PLAN RECOMMENDED FOR APPROVAL BY THE SUSQUEHANNA TOWNSHIP PLANNING COMMISSION

THIS DAY OF \_\_\_\_\_ 2012  
CHAIRMAN \_\_\_\_\_  
SECRETARY \_\_\_\_\_  
WITNESS MY HAND AND NOTORIAL SEAL THE DAY AND THE DATE ABOVE WRITTEN  
NOTARY PUBLIC \_\_\_\_\_ DATE \_\_\_\_\_

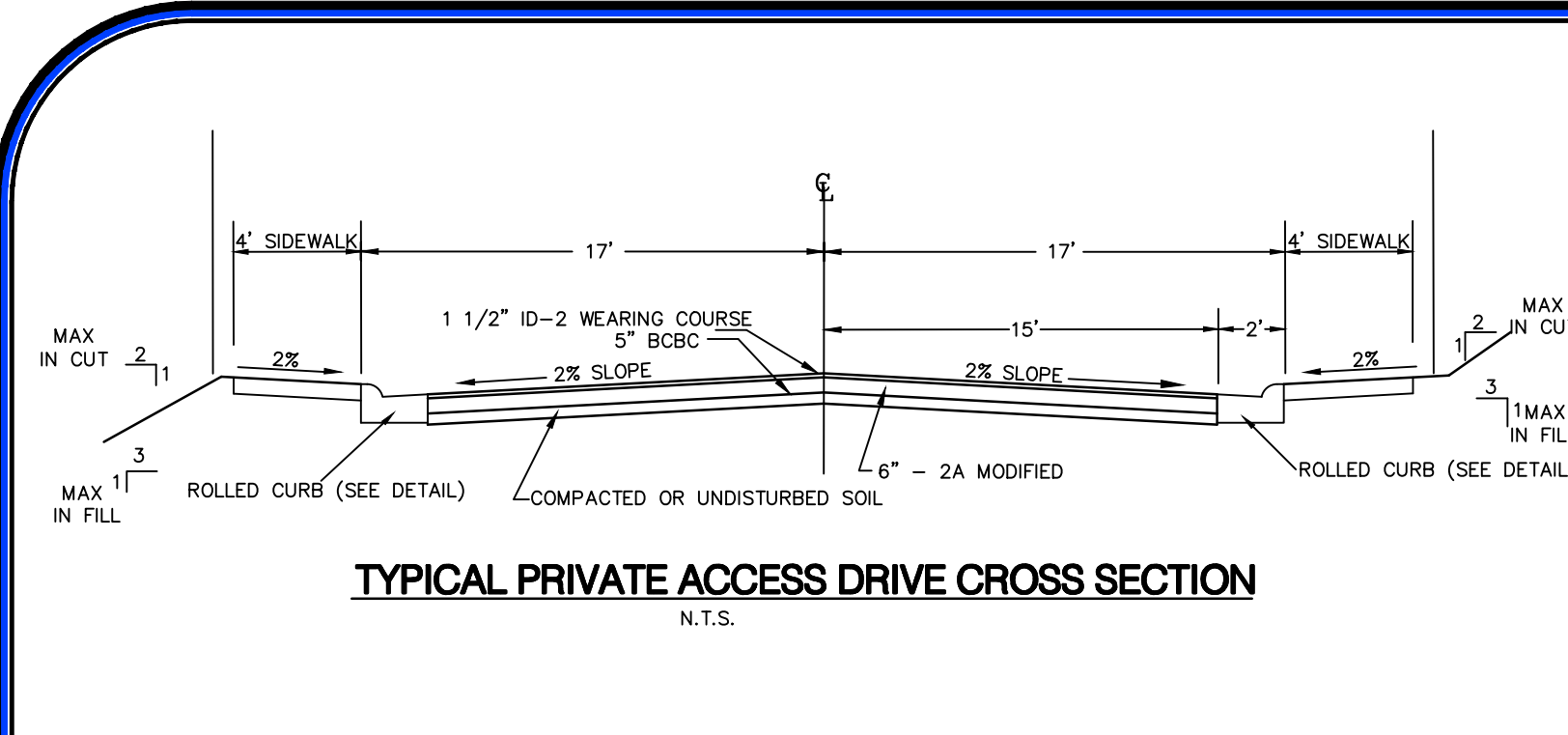
### THIS PLAN APPROVED BY THE SUSQUEHANNA TOWNSHIP BOARD OF COMMISSIONERS, AND ALL CONDITIONS IMPOSED WITH RESPECT TO SUCH APPROVAL WERE COMPLETED ON

THIS DAY OF \_\_\_\_\_ 2012  
PRESIDENT \_\_\_\_\_  
SECRETARY \_\_\_\_\_  
OWNER \_\_\_\_\_

### THIS PLAN RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN AND FOR DAUPHIN COUNTY

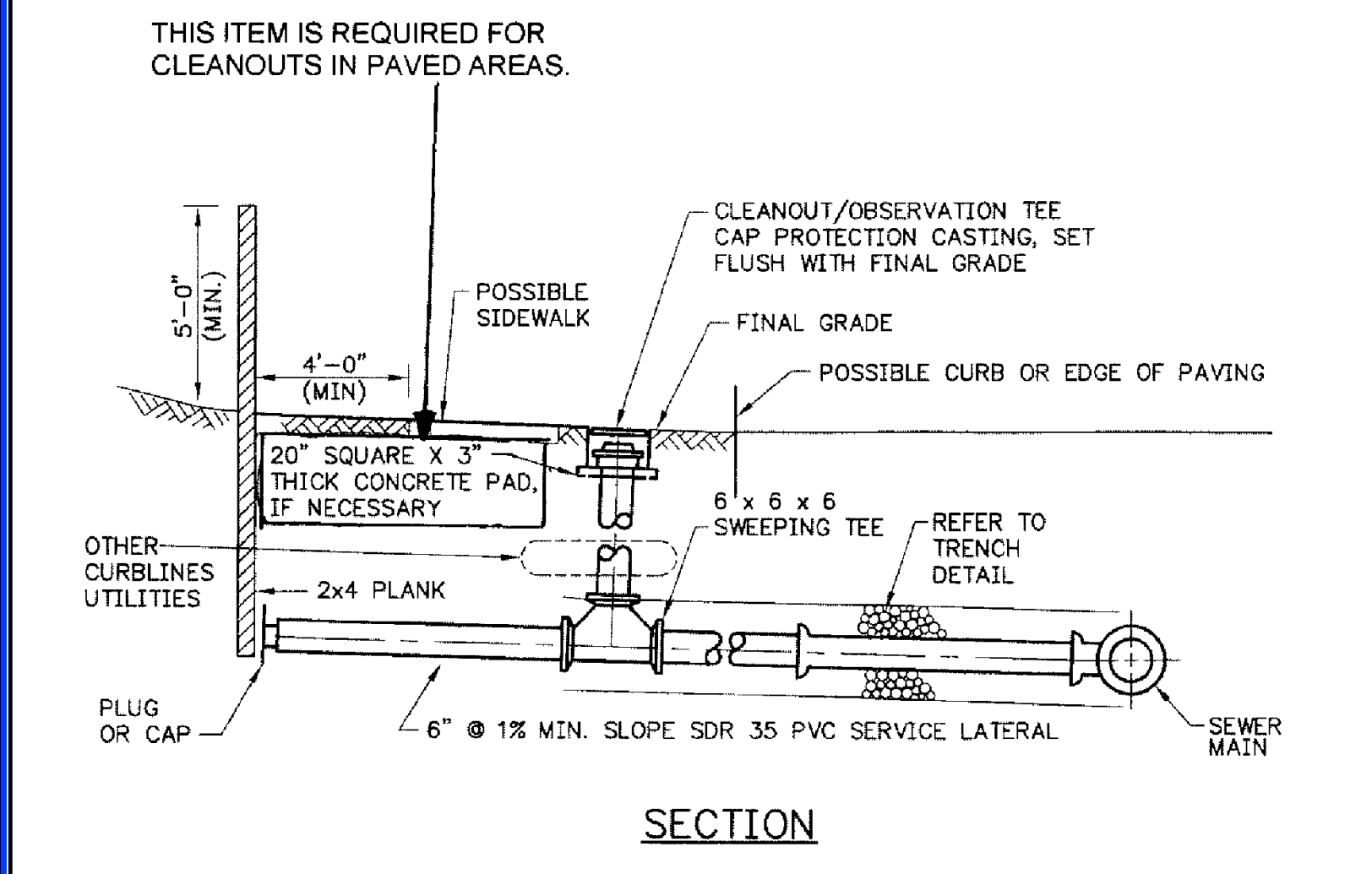
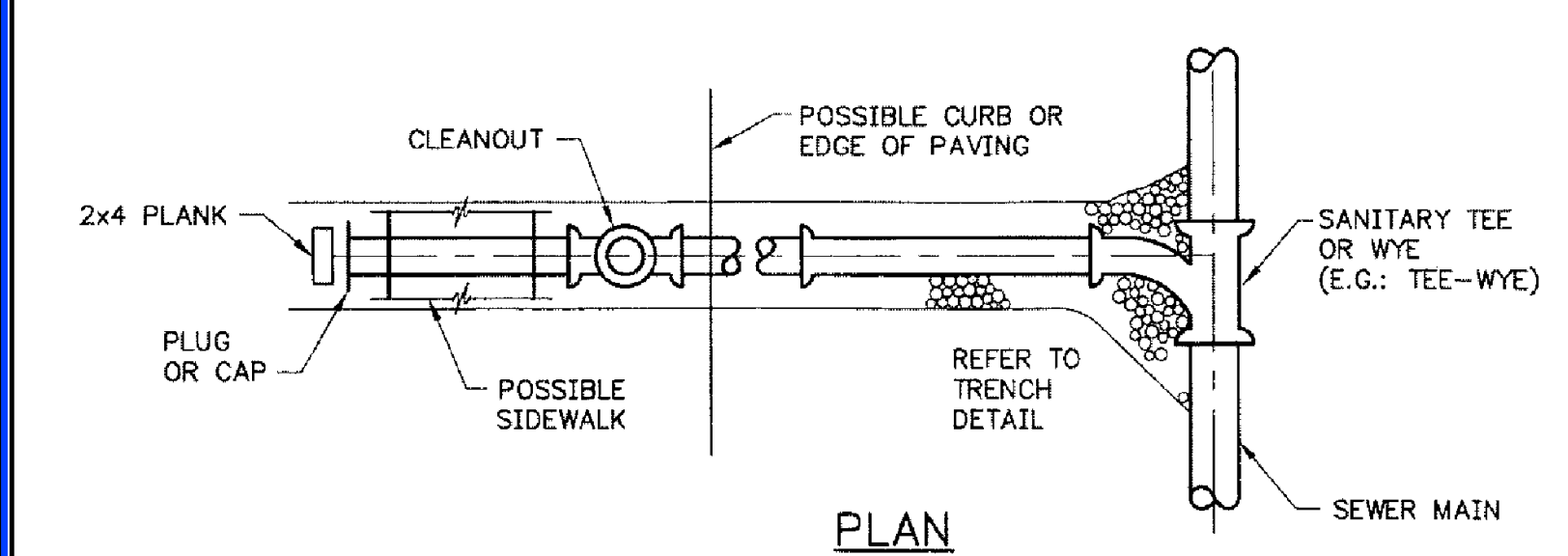
THIS DAY OF \_\_\_\_\_ 2012  
INSTRUMENT # \_\_\_\_\_

No.	REVISION	DATE	R.J. FISHER & ASSOC., INC. COPYRIGHT © 2019	DRAWING ID
1				212017-Cov-Dtls
2				DATE: 6/07/19
3				SHEET 1 OF 12.



**SANITARY SEWER LATERAL NOTES**

1. THE EXISTING LATERALS (TO BE ABANDONED) SHOULD BE EXCAVATED AND CAPPED AT THE MAIN LINE TEE.
2. THE NEW LATERALS SHALL BE INSTALLED USING SOLID SLEEVES AND 8x6x8 TEES AT THE MAIN LINE.
3. ALL LATERALS SHALL BE 6-INCH SDR-35 PIPE.
4. THE EXISTING SANITARY SEWER BETWEEN MH96-8 AND MH96-9 SHALL BE AIR TESTED AFTER THE LATERALS HAVE BEEN ABANDONED AND THE NEW LATERAL INSTALLED.



**NOTES:**

1. CURB CLEANOUT NOT TO BE LOCATED IN SIDEWALK OR BENEATH OTHER CURBLINE UTILITIES.

**SANITARY SEWER LATERAL DETAIL**  
N.T.S.

PLAN SYMBOL	PENNDOT DESIGNATION	SIGN DESCRIPTION	SIZE
⊙	R1-1	STOP	24" X 24"
⊙	-	STANDARD STREETS IDENTIFICATION SIGN	PER TOWNSHIP STANDARDS
⊙	R2-1	SPEED LIMIT 25	24" X 30"

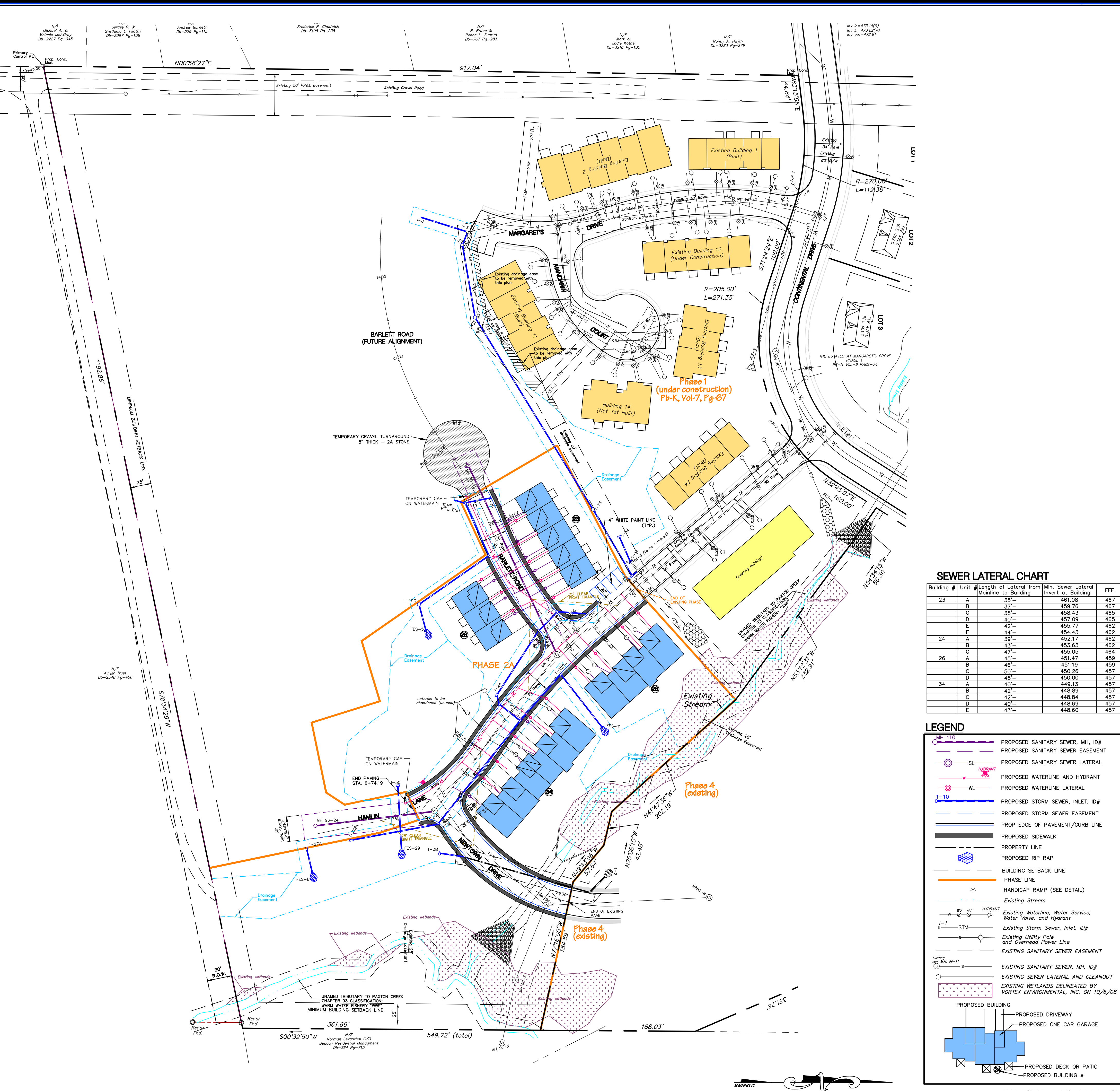
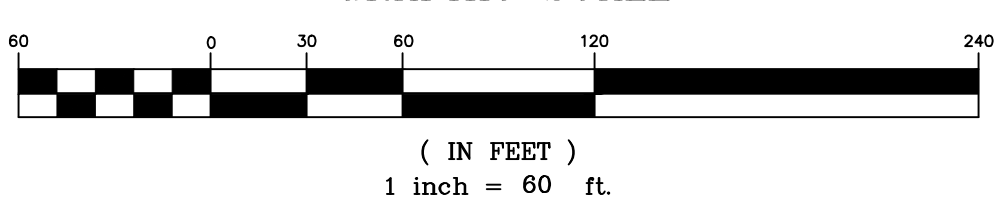
NOTE: SEE SIGN DETAILS ON SHEET #14  
**TRAFFIC SIGN CHART**

**INTERSECTION SIGHT DISTANCES**

INTERSECTION	ACTUAL SIGHT DISTANCE LEFT	ACTUAL SIGHT DISTANCE RIGHT
BARLETT ROAD/HAMLIN LANE	312'	225'

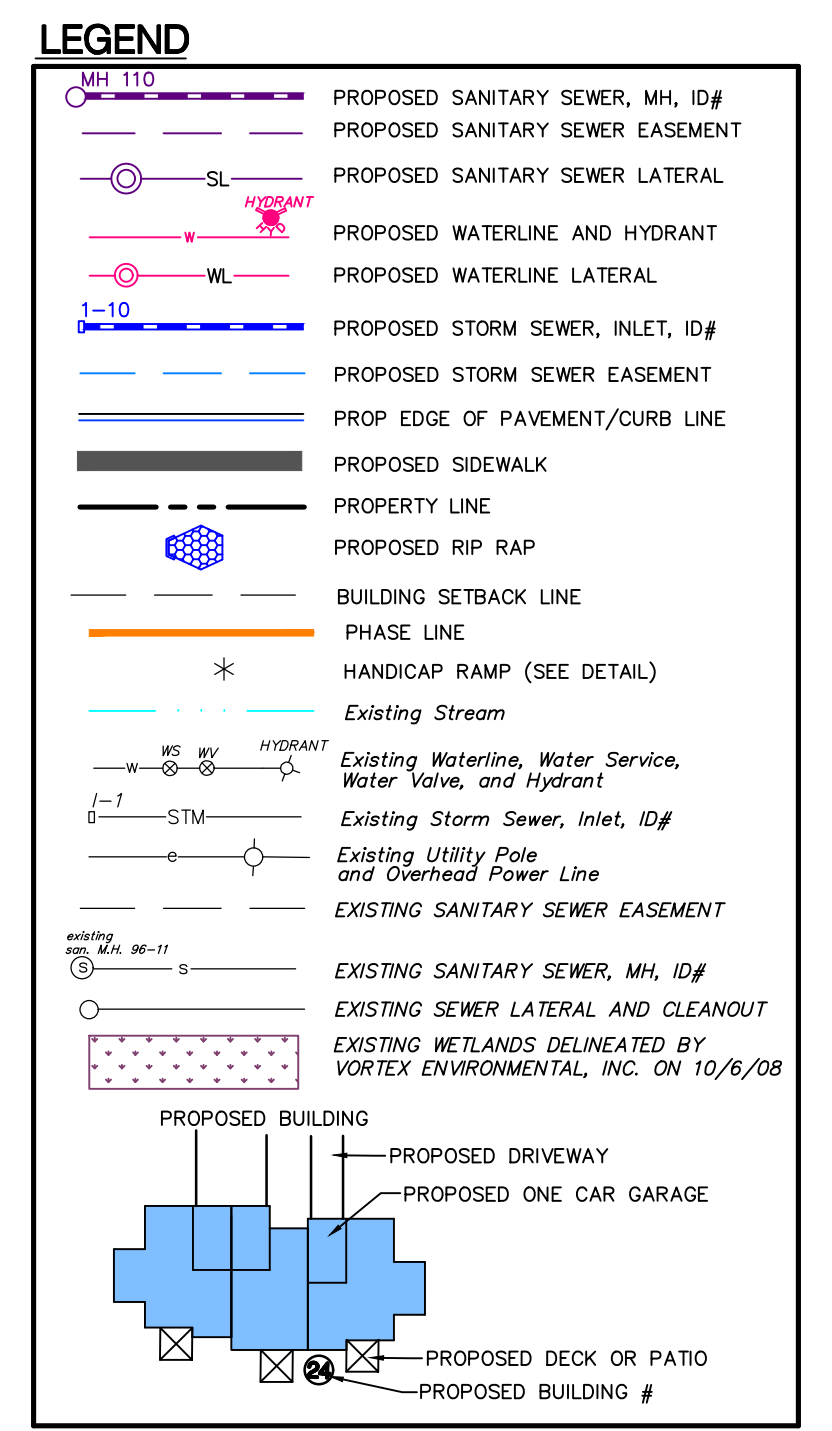
REQUIRED SIGHT DISTANCE IS 250' TO THE LEFT AND 195' TO THE RIGHT

**GRAPHIC SCALE**



**SEWER LATERAL CHART**

Building #	Unit #	Length of Lateral from Mainline to Building	Min. Sewer Lateral Invert at Building	FFE
23	A	35'-	461.08	467
	B	37'-	459.76	467
	C	39'-	458.43	465
	D	40'-	457.09	465
	E	42'-	455.77	462
	F	44'-	454.43	462
24	A	39'-	452.17	462
	B	43'-	453.63	462
	C	47'-	455.05	464
26	A	45'-	451.47	459
	B	46'-	451.19	459
	C	50'-	450.26	457
	D	48'-	450.00	457
34	A	40'-	449.13	457
	B	42'-	448.89	457
	C	42'-	448.84	457
	D	40'-	448.69	457
	E	43'-	448.60	457



No.	REVISION	DATE
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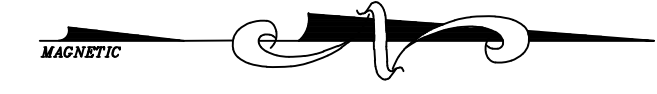
**R. J. FISHER & ASSOCIATES, INC.**  
 CIVIL ENGINEERING & LAND SURVEYS  
 1546 BRIDGE STREET, NEW CUMBERLAND, PA. 17070  
 PHONE: (717) 774-7534 FAX: (717) 774-7190  
 WWW.RJFISHERENGINEERING.COM



**FINAL LAND DEVELOPMENT PLAN FOR PHASE 2A OF THE TOWNES AT MARGARET'S GROVE**  
 LOCATED IN SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA.

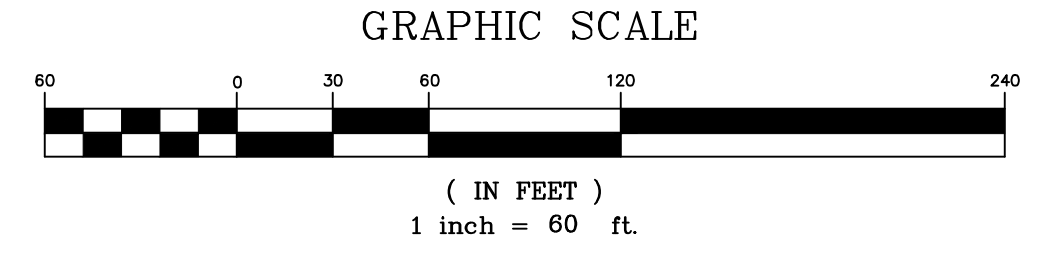
DRAWING ID: 212017-Ph2A-LDP  
 DATE: 6/07/19

RECORDING SHEET 2 OF 2 SHEET 2 OF 12



**LEGEND**

- MH 110 — PROPOSED SANITARY SEWER, MH, ID#
- SL — PROPOSED SANITARY SEWER LATERAL
- 1-10 — PROPOSED STORM SEWER, INLET, ID#
- PROPOSED RIP RAP APRON
- PROPOSED STORM SEWER EASEMENT
- PROP EDGE OF PAVEMENT/CURB LINE
- PROPOSED SIDEWALK
- PROPERTY LINE
- Existing Stream
- STM — Existing Storm Sewer, Inlet, ID#
- Existing Utility Pole and Overhead Power Line
- EXISTING SANITARY SEWER EASEMENT
- EXISTING SANITARY SEWER, MH, ID#
- EXISTING SEWER LATERAL AND CLEANOUT
- PROPOSED 2' CONTOUR
- PROPOSED 10' CONTOUR
- PROPOSED PERMANENT SWALE LINING
- PROPOSED SWALE LIMITS
- PROPOSED SPOT ELEVATION
- Existing 2' Contour
- Existing 10' Contour
- EXISTING WETLANDS DELINEATED BY VORTEX ENVIRONMENTAL, INC. ON 10/6/08
- Existing 100-Year Floodplain Per HEC-RAS Analysis Done By R.J. Fisher & Assoc. 9/25/08
- PROPOSED BUILDING
- PROPOSED DRIVEWAY
- PROPOSED ONE CAR GARAGE
- PROPOSED DECK OR PATIO
- PROPOSED BUILDING #



No.	REVISION	DATE
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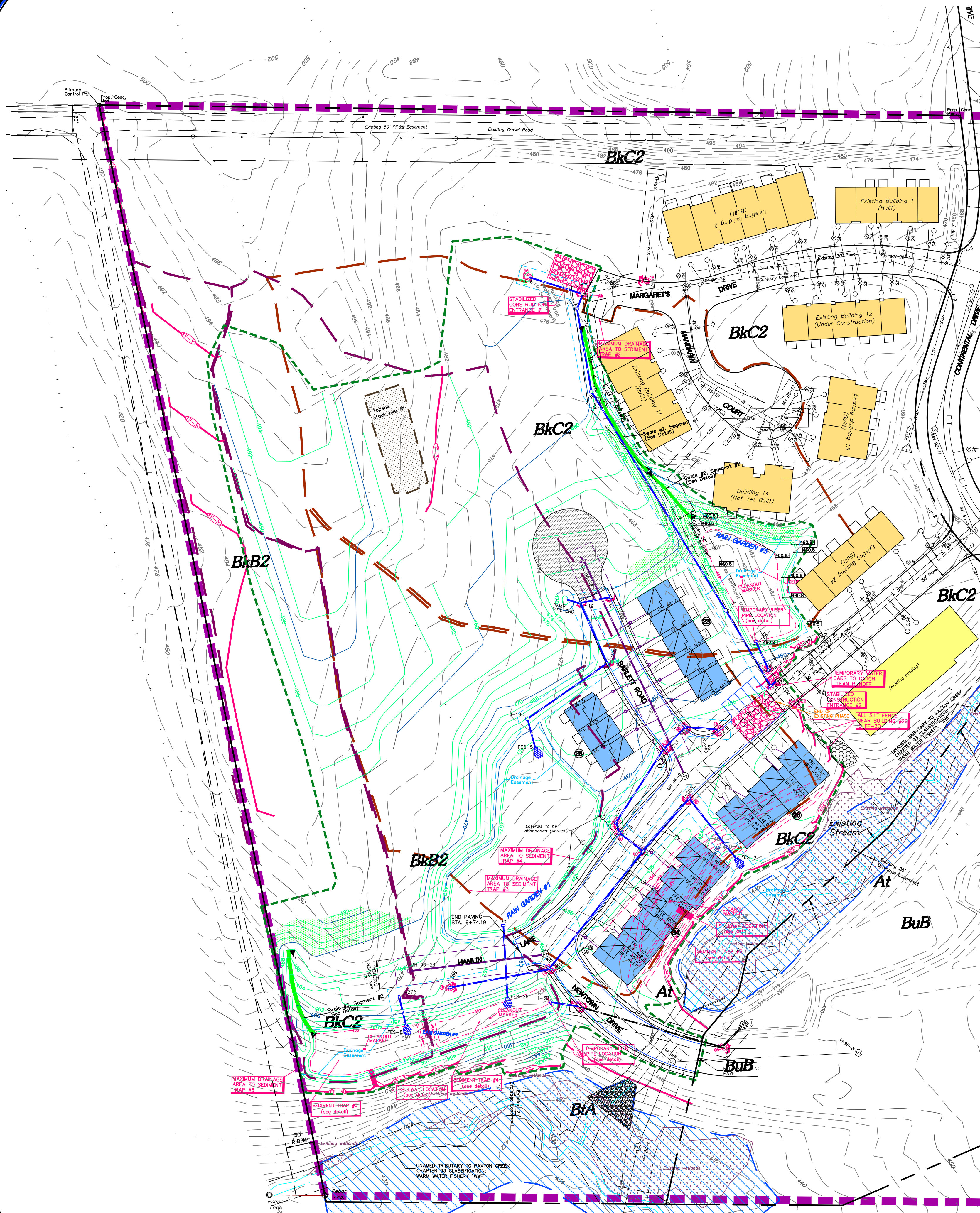
**R. J. FISHER & ASSOCIATES, INC.**  
 □ SITE PLANNING □ CIVIL ENGINEERING □ LAND SURVEYS  
 1546 BRIDGE STREET, NEW CUMBERLAND, PA. 17070  
 PHONE: (717) 774-7534 FAX: (717) 774-7190  
 WWW.RJFISHERENGINEERING.COM



**FINAL GRADING PLAN**  
 FOR  
**PHASE 2A**  
 OF  
**THE TOWNES AT MARGARET'S GROVE**  
 LOCATED IN  
 SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA.

DRAWING ID  
 212017-Ph2A-GR  
 DATE: 6/07/19  
 SHEET 3 OF 12

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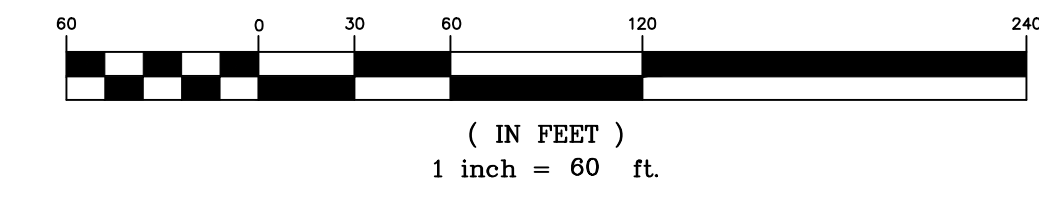
**SOILS TABLE**

SOIL SYMBOL	SOIL DESCRIPTION	SLOPE (%)	SOIL LIMITATIONS FOR RESIDENTIAL DEVELOPMENT, PER SCS SURVEY	HYDROLOGIC GROUP
At	Atkins silt loam	--	High water table	D
BkC2	Berks shaly silt loam	8 to 15	Shallowness to bedrock	C
BkB2	Berks shaly silt loam	3 to 8	Shallowness to bedrock	C
BtA	Brinkerton and Armagh silt loams	0 to 3	High water table	D
LoC2	Laidig gravelly loam	8 to 20	Slope	C

**LEGEND**

- PROPOSED SANITARY SEWER, MH, ID#
- PROPOSED SANITARY SEWER LATERAL
- PROPOSED STORM SEWER, INLET, ID#
- PROPOSED RIP RAP APRON
- PROPOSED STORM SEWER EASEMENT
- PROP EDGE OF PAVEMENT/CURB LINE
- PROPERTY LINE
- Existing Stream
- Existing Storm Sewer, Inlet, ID#
- Existing Utility Pole
- EXISTING SANITARY SEWER EASEMENT
- EXISTING SANITARY SEWER, MH, ID#
- EXISTING SEWER LATERAL AND CLEANOUT
- PROPOSED 2' CONTOUR
- PROPOSED 10' CONTOUR
- PROPOSED SPOT ELEVATION
- Existing 2' Contour
- Existing 10' Contour
- EXISTING WETLANDS DELINEATED BY VORTEX ENVIRONMENTAL, INC. ON 10/6/08
- Existing 100-Year Floodplain from HEC-RAS Analysis Done by R.J. Fisher & Assoc. 3/25/08
- PROPOSED BUILDING
- PROPOSED DRIVEWAY
- PROPOSED ONE CAR GARAGE
- PROPOSED DECK OR PATIO
- PROPOSED BUILDING #
- PROPOSED SWALE LIMITS
- PROPOSED PERMANENT SWALE LINING
- MAXIMUM DRAINAGE AREA TO PERMANENT SWALE AS INDICATED ON PLANS
- MAXIMUM DRAINAGE AREA TO SEDIMENT TRAP AS INDICATED ON PLANS
- TEMPORARY CONTOUR FOR EROSION CONTROL
- PROPOSED SUPER SILT FENCE (SF-30)
- PROPOSED 30" SILT FENCE (FF-30)
- PROPOSED 18" SILT FENCE (FF-18)
- PROPOSED LIMIT OF EARTH DISTURBANCE
- PROPOSED INLET PROTECTION
- PROPOSED WATER BAR
- PROPOSED EROSION CONTROL MATTING
- PROPOSED ROCK CONSTRUCTION ENTRANCE
- NPDES BOUNDARY LINE

**GRAPHIC SCALE**



**EROSION CONTROL PLAN**  
FOR  
**PHASE 2A**  
OF  
**THE TOWNES AT MARGARET'S GROVE**  
LOCATED IN  
SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA.

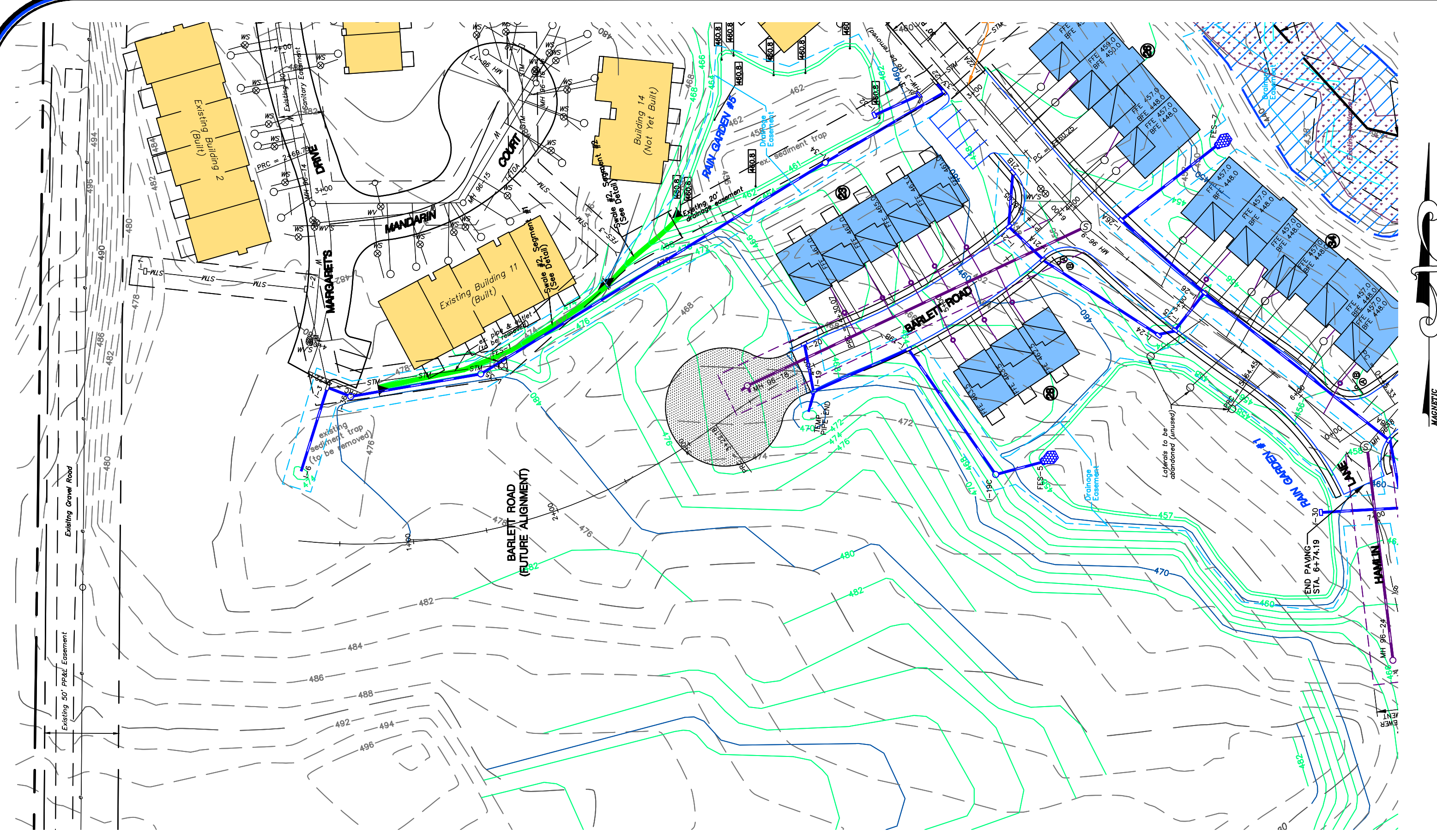
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212017-Ph2A-ES  
DATE: 6/07/19  
SHEET 4 OF 12

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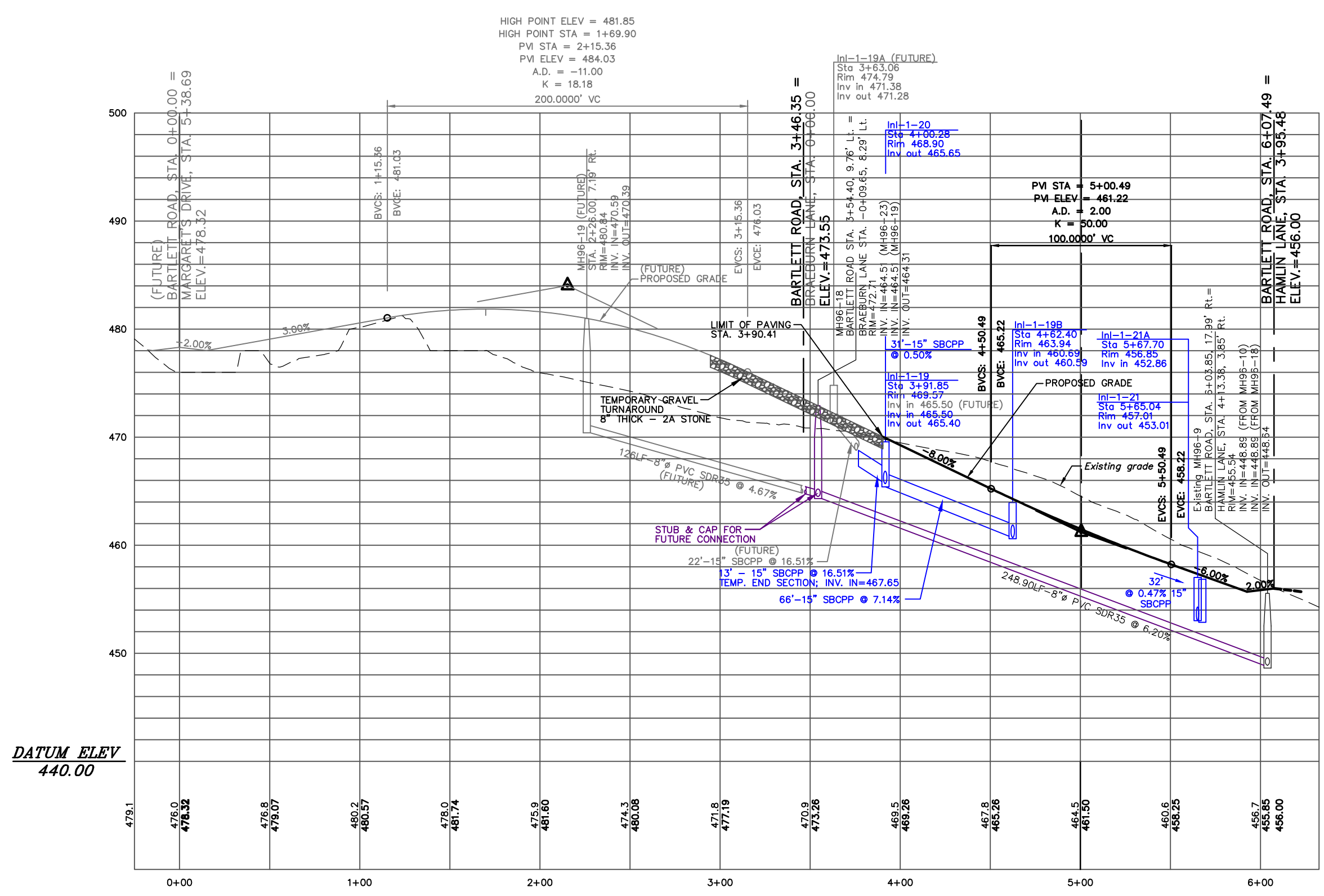
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**PLAN VIEW OF BARLETT ROAD**

Scale: 1"=60'

**STORM SEWER CONSTRUCTION NOTES**  
 1. All proposed inlets are PA DOT RC-34 boxes; hood types are rolled curb unless otherwise noted on the profile.  
 2. SBCPP = Smooth Bore Corrugated Plastic Pipe.  
 CMP = Corrugated Helical Metal Pipe.



**CENTERLINE PROFILE OF BARLETT ROAD**

Scales: Horz. 1"=60' Vert: 1"=10'



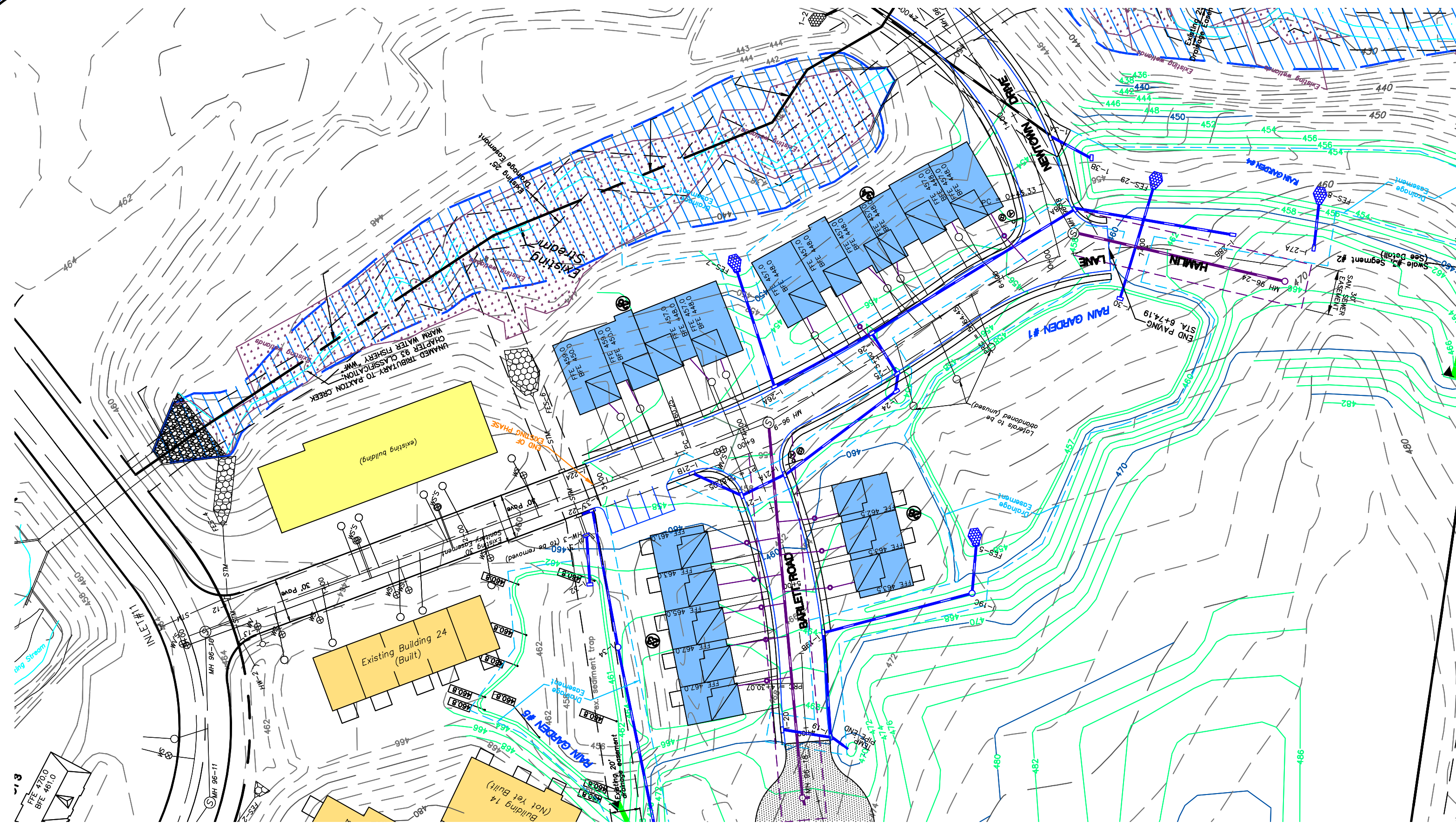
**R.J. FISHER & ASSOCIATES, INC.**  
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 PHONE: (717) 774-7534 FAX: (717) 774-7190  
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**PROFILE OF BARLETT ROAD**  
 FOR  
**PHASE 2A**  
 OF  
**THE TOWNES AT MARGARET'S GROVE**  
 LOCATED IN  
 SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA.

DRAWING ID  
 212017-Ph2A-PRO  
 DATE: 6/07/19  
 SHEET 5 OF 12

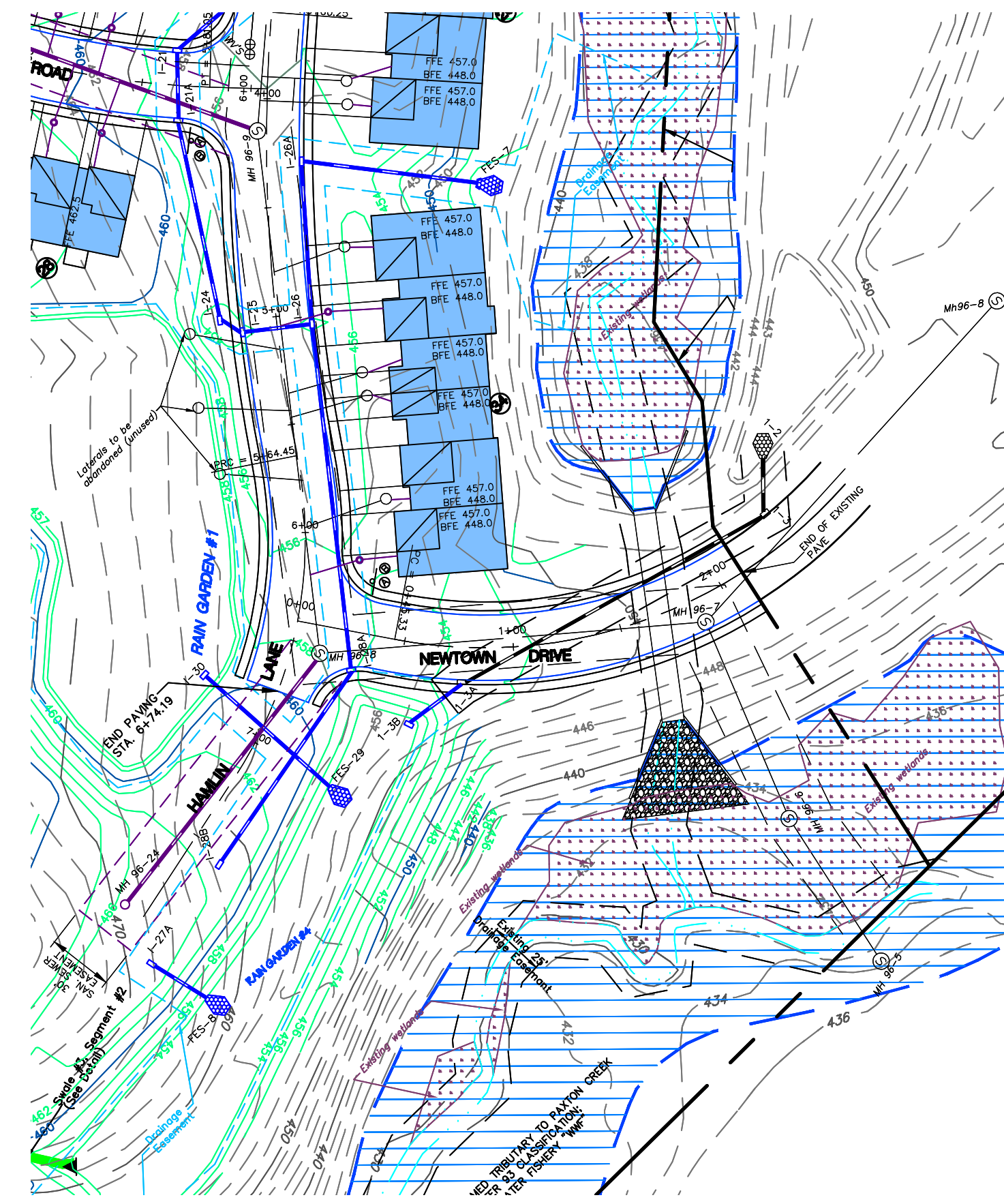
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**PLAN VIEW OF HAMLIN LANE**

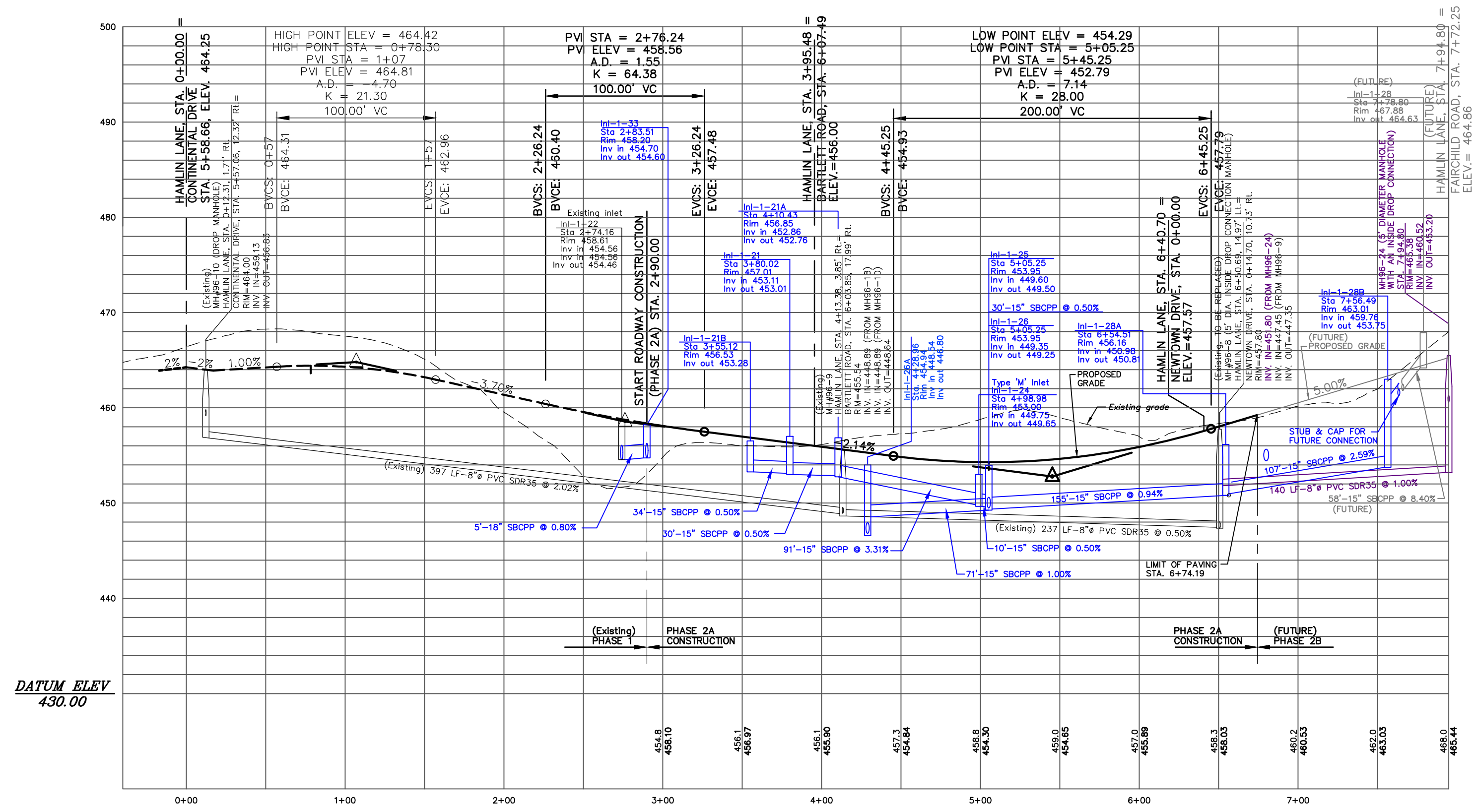
Scale: 1"=60'



**PLAN VIEW OF NEWTOWN DRIVE**

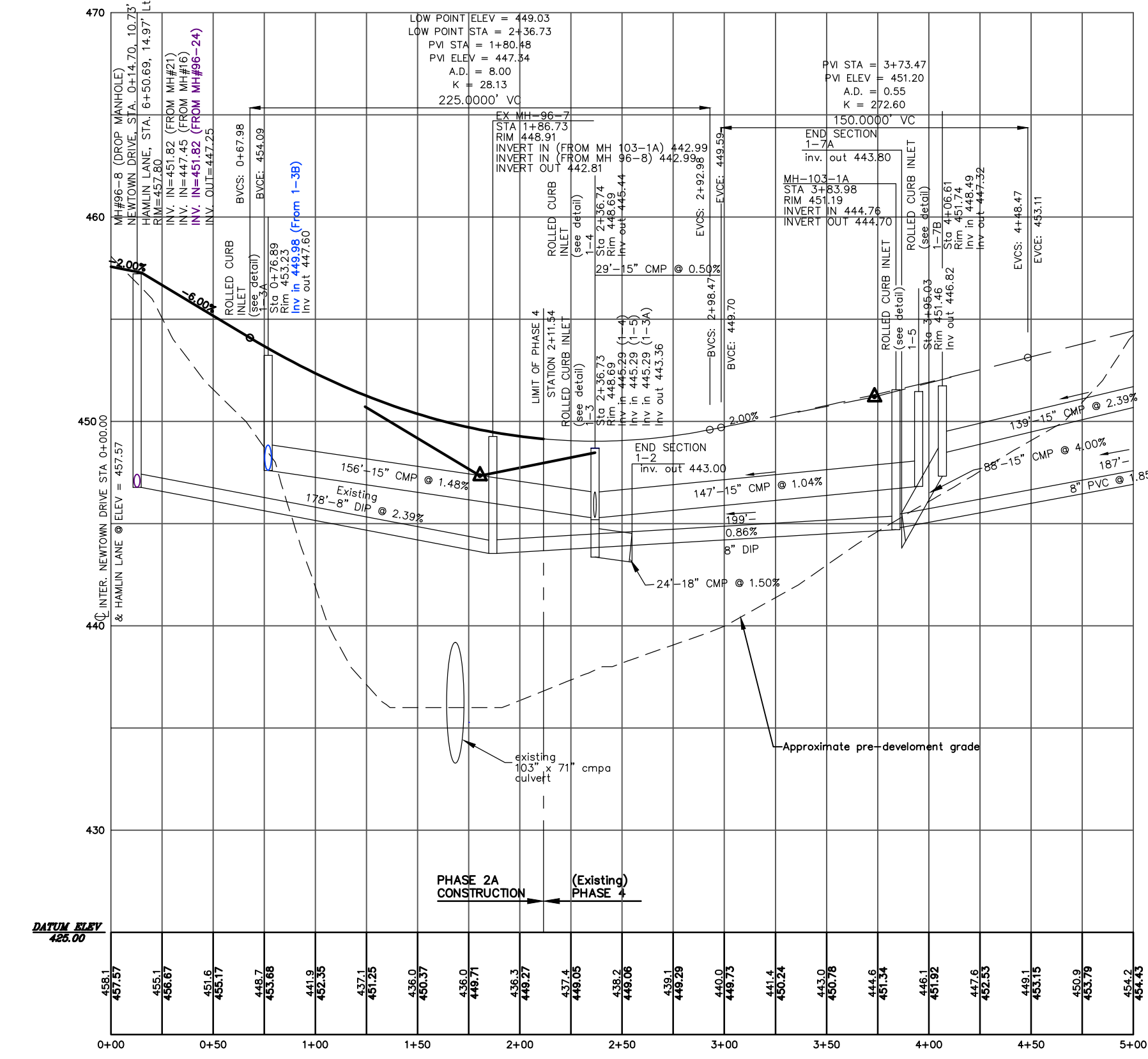
Scale: 1"=60'

**STORM SEWER CONSTRUCTION NOTES**  
 1. All proposed inlets are PA DOT RC-34 boxes; hood types are rolled curb unless otherwise noted on the profile.  
 2. SBPP = Smooth Bore Corrugated Plastic Pipe.  
 CMP = Corrugated Metal Pipe.



**CENTERLINE PROFILE OF HAMLIN LANE**

Scales: Horz. 1"=60' Vert. 1"=10'



**CENTERLINE PROFILE OF NEWTOWN DRIVE**

Scales: Horz. 1"=60' Vert. 1"=10'

No.	REVISION	DATE
1		
2		
3		
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**R.J. FISHER & ASSOCIATES, INC.**  
 CIVIL ENGINEERING & LAND SURVEYS  
 1546 BRIDGE STREET, NEW CUMBERLAND, PA. 17070  
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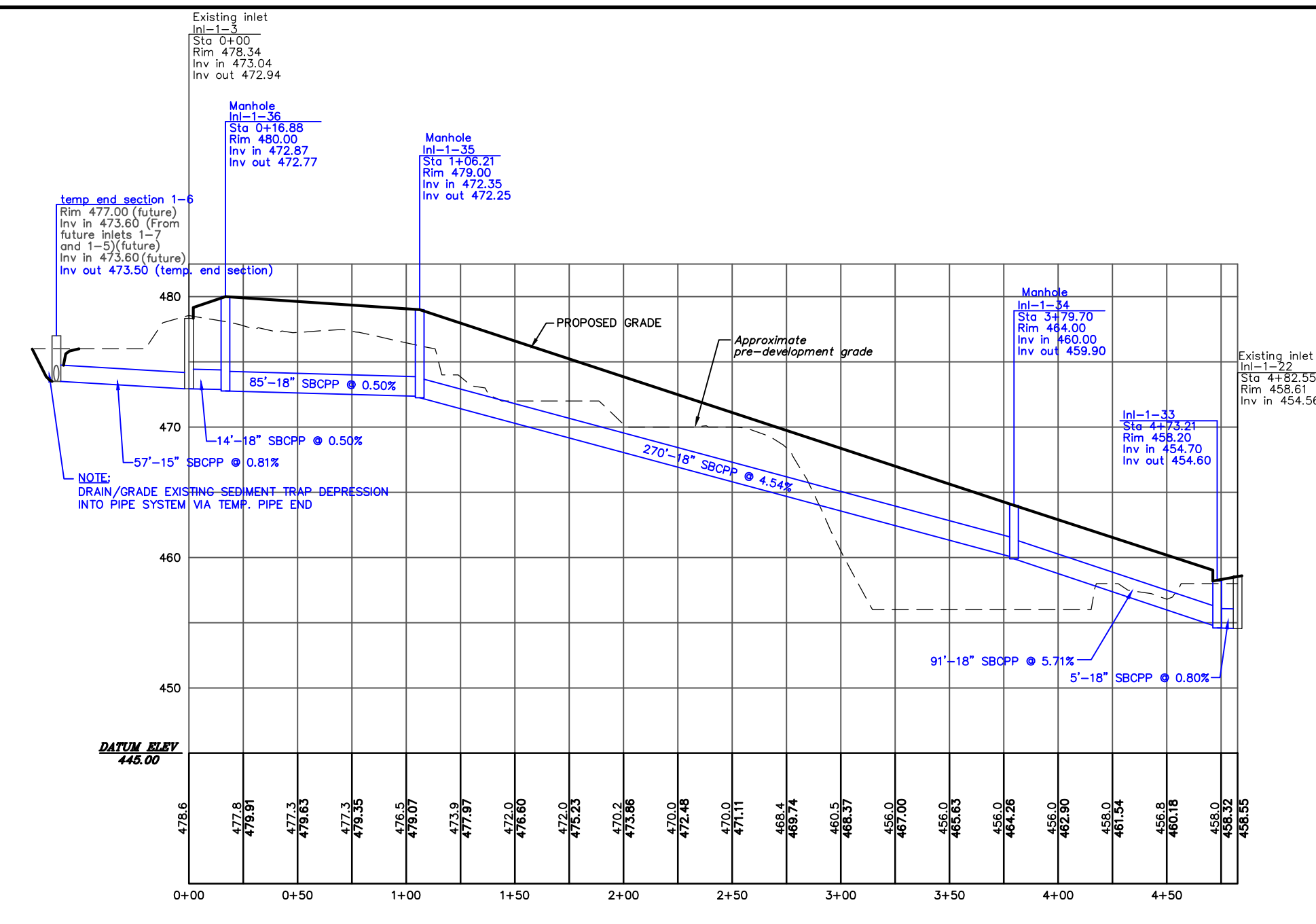
**PROFILE OF HAMLIN LANE & NEWTOWN DRIVE**  
 FOR  
**PHASE 2A**  
 OF  
**THE TOWNES AT MARGARET'S GROVE**  
 LOCATED IN  
 SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA.

DRAWING ID  
 212017-Ph2A-RPRO  
 DATE: 6/07/19  
 SHEET 6 OF 12

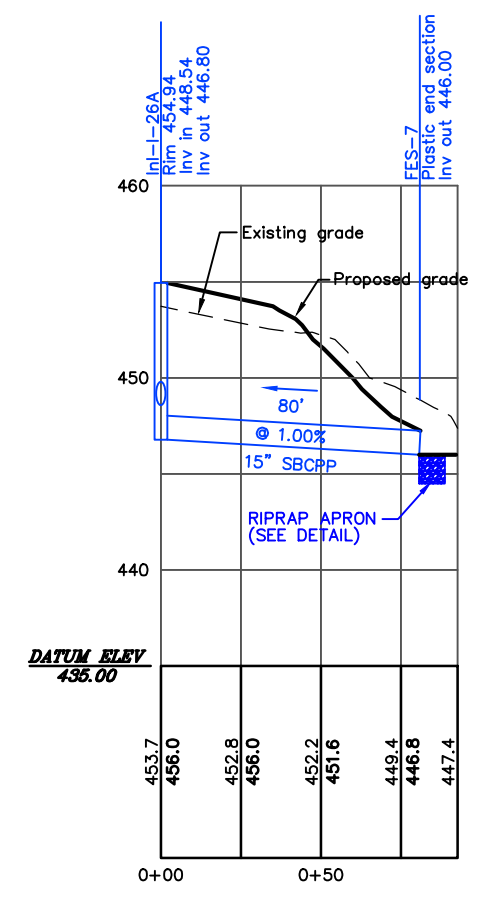
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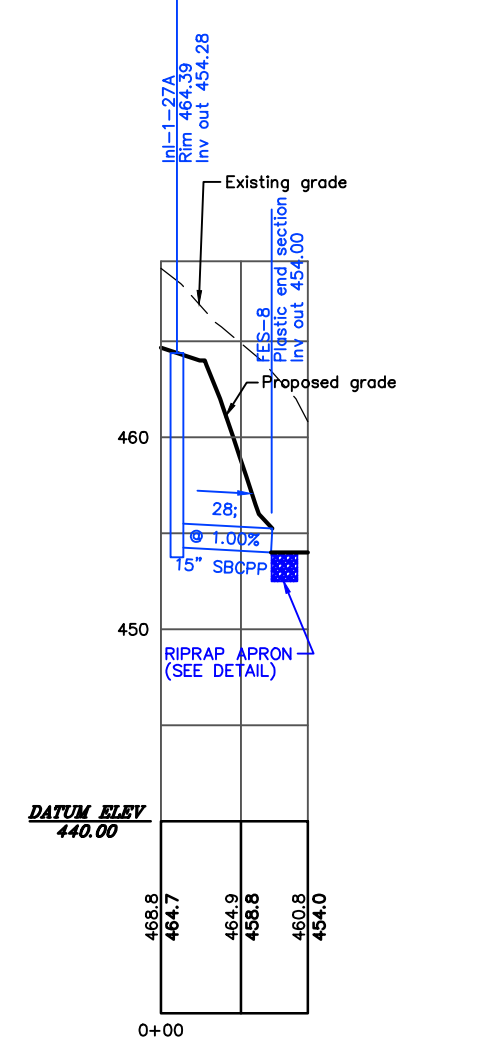
**PLAN VIEW INLET 1-6 to INLET 1-22** SCALE: HORZ. 1"=60'  
**PLAN VIEW INLET 1-26A to FES-7** SCALE: HORZ. 1"=60'  
**PLAN VIEW INLET 1-27A to FES-8** SCALE: HORZ. 1"=60'  
**PLAN VIEW INLET 1-30 FES-29** SCALE: HORZ. 1"=60'



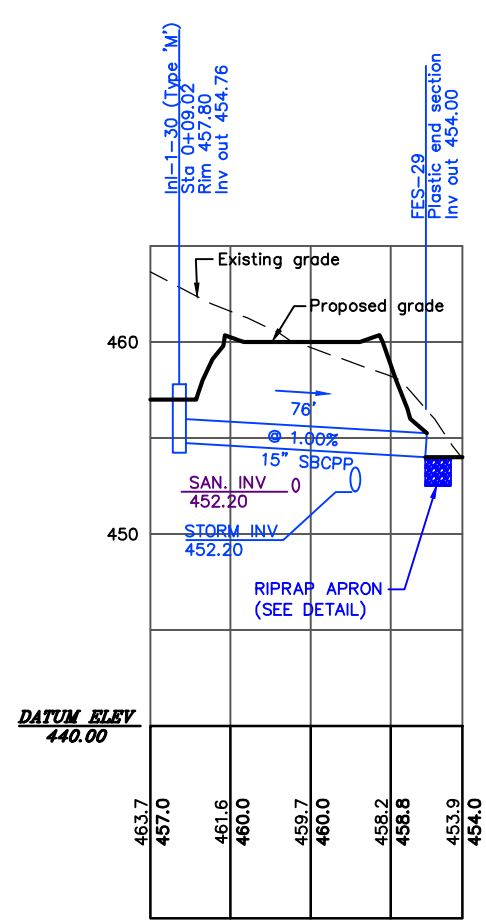
**PROFILE OF INLET 1-6 to INLET 1-22**  
 SCALE: HORZ. 1"=60' VERT. 1"=10'



**PROFILE OF INLET 1-26A to FES-7**  
 SCALE: HORZ. 1"=60' VERT. 1"=10'



**PROFILE OF INLET 1-27A to FES-8**  
 SCALE: HORZ. 1"=60' VERT. 1"=10'



**PROFILE OF INLET 1-30 to FES-29**  
 SCALE: HORZ. 1"=60' VERT. 1"=10'

**STORM SEWER CONSTRUCTION NOTES**  
 1. All proposed inlets are PA DOT RC-34 boxes; hood types are rolled curb unless otherwise noted on the profile.  
 2. SBPP = Smooth Bore Corrugated Plastic Pipe.  
 CMP = Corrugated Helical Metal Pipe.

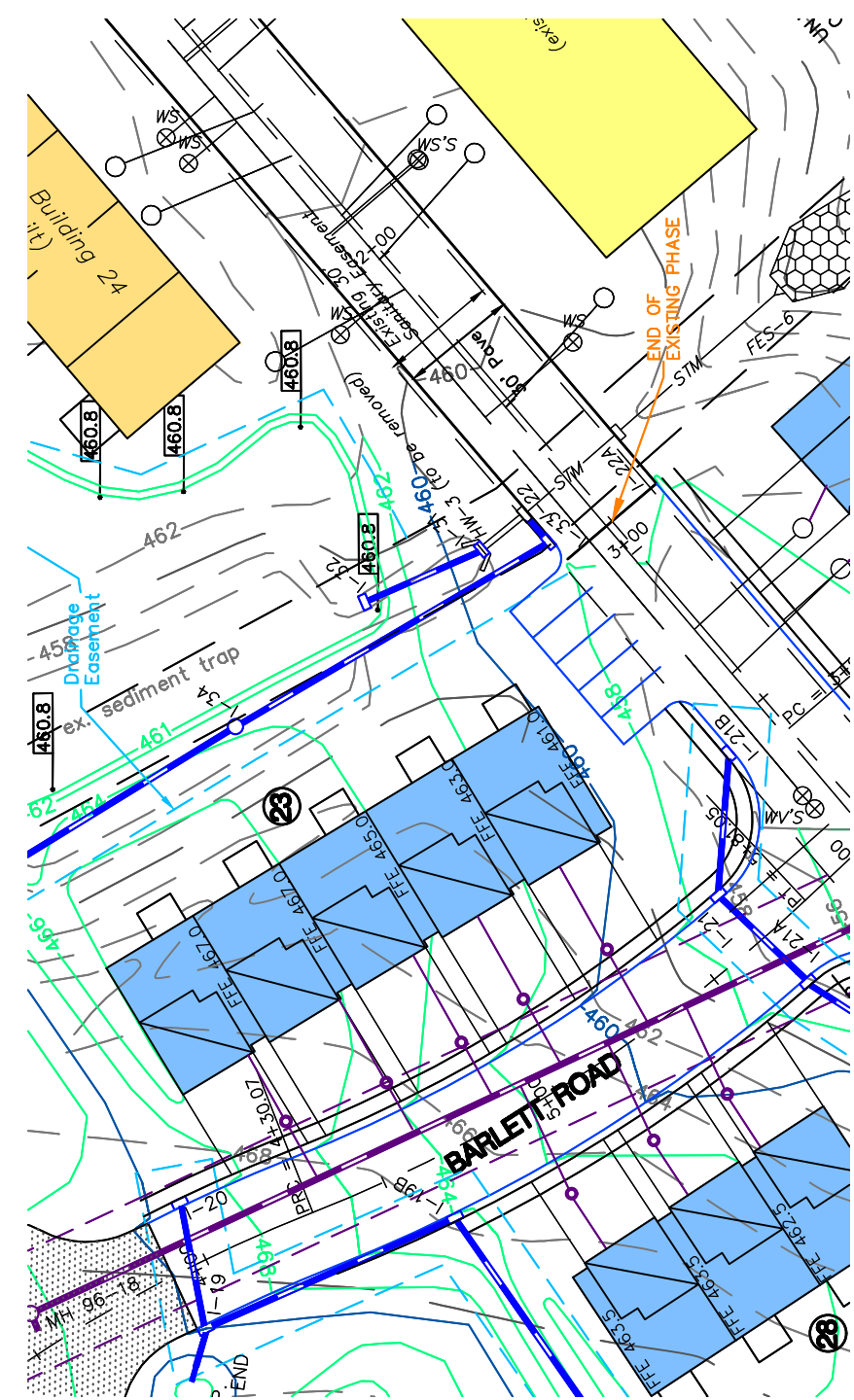
No.	REVISION	DATE
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 CIVIL ENGINEERING & LAND SURVEYS  
 1546 BRIDGE STREET, NEW CUMBERLAND, PA. 17070  
 PHONE: (717) 774-7534 FAX: (717) 774-7190  
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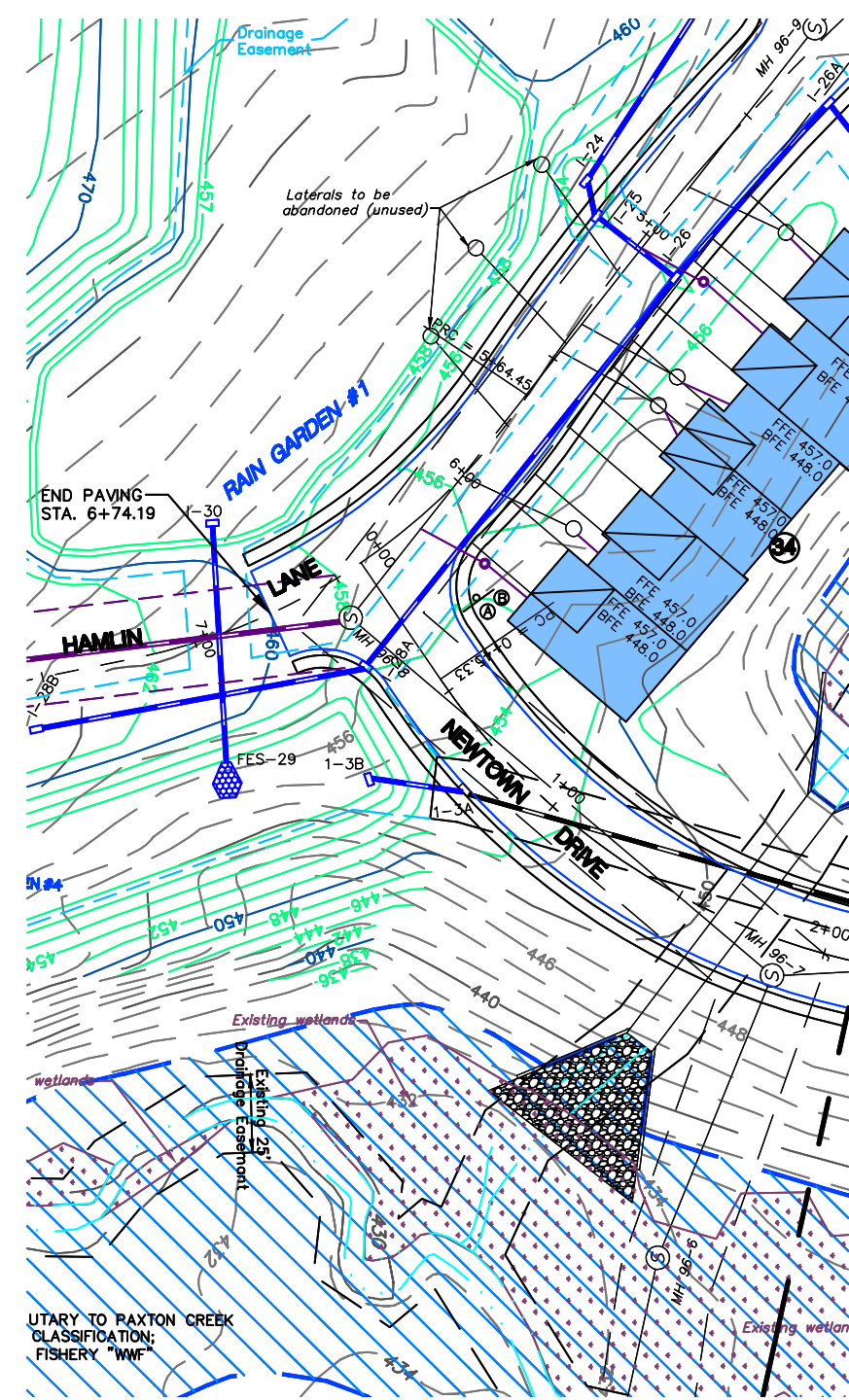
**PROFILE OF MISCELLANEOUS STORM SEWERS FOR PHASE 2A OF THE TOWNES AT MARGARET'S GROVE**  
 LOCATED IN SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA.

DRAWING ID: 212017-Ph2A-RPRO  
 DATE: 6/07/19  
 SHEET 7 OF 12



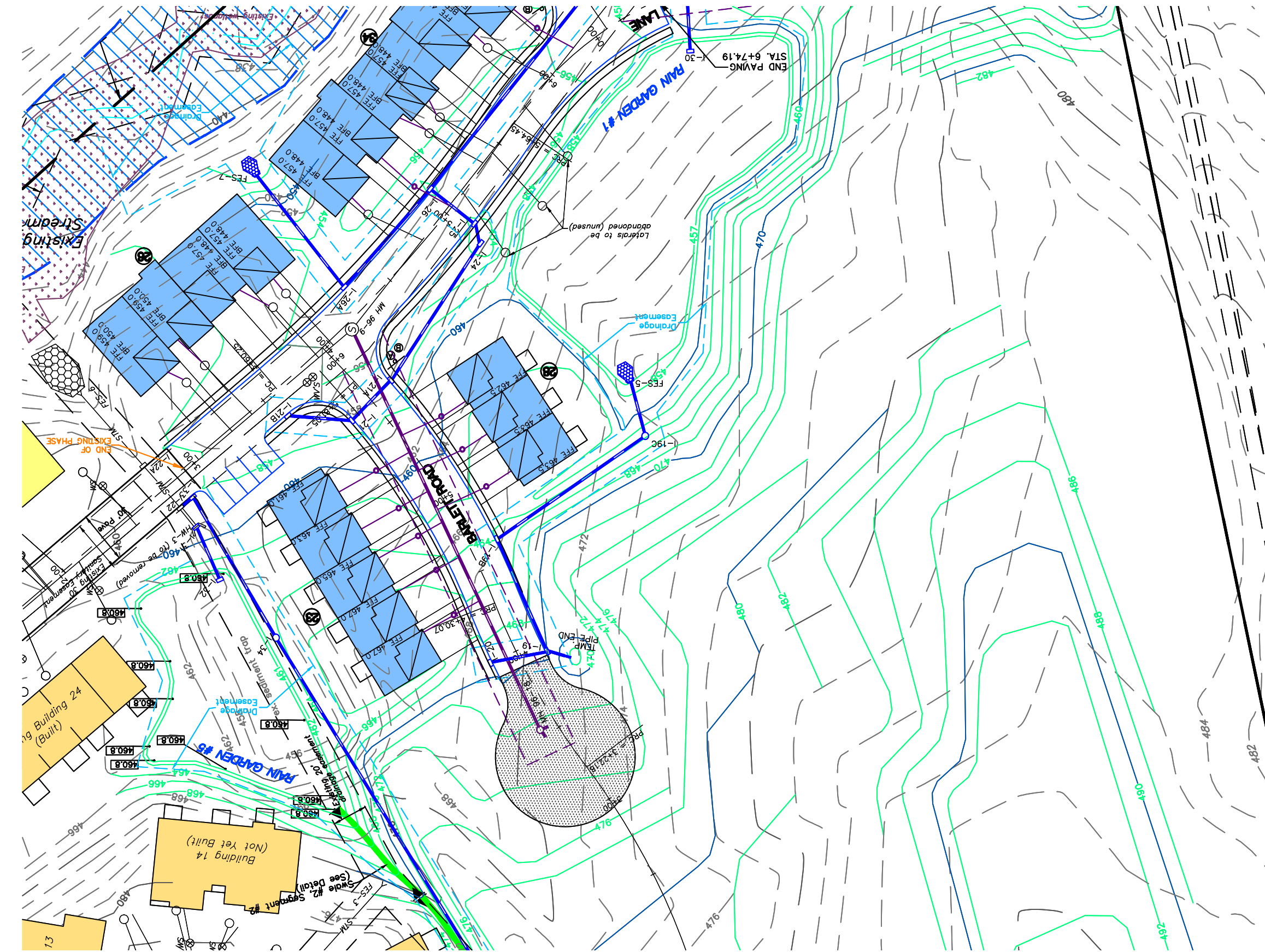
PLAN VIEW OF INLET 1-32 to INLET 1-22

SCALE: HORZ. 1"=60'



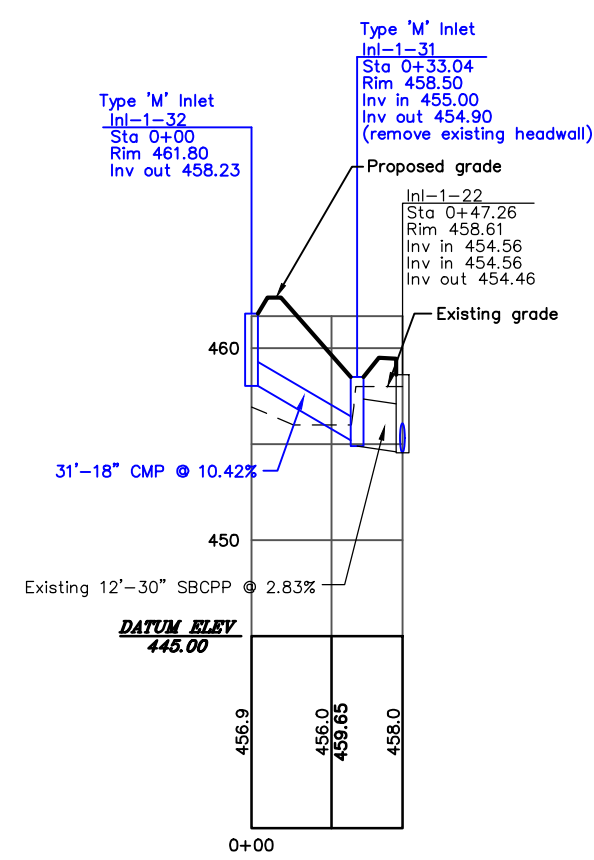
PLAN VIEW OF INLET 1-3B to INLET 1-3A

SCALE: HORZ. 1"=60'



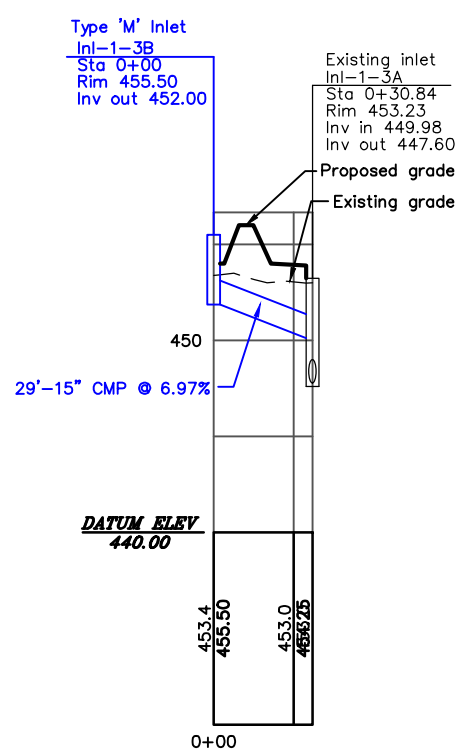
PLAN VIEW OF INLET 1-19B to FES 5

SCALE: HORZ. 1"=60'



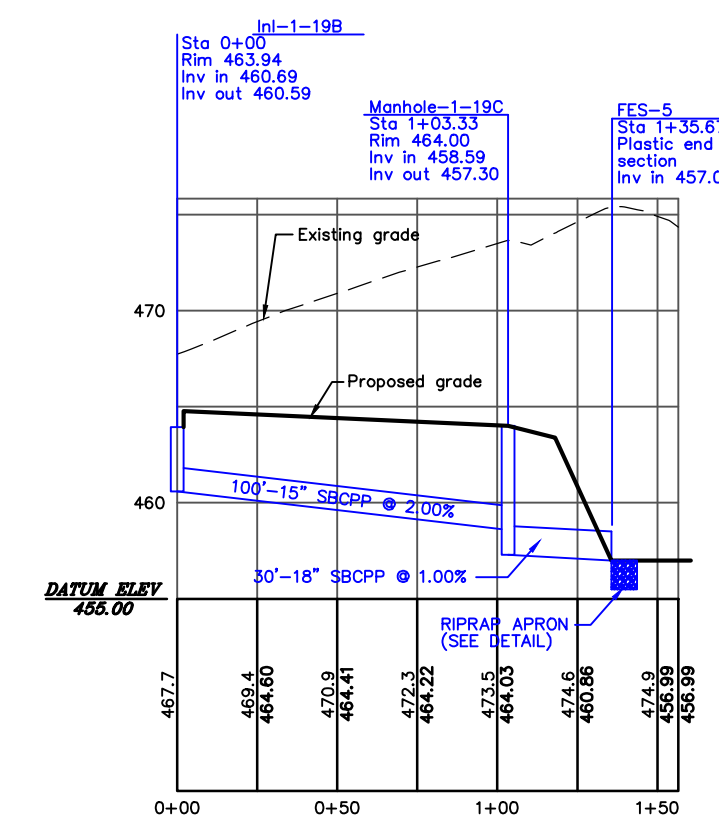
PROFILE OF INLET 1-32 to INLET 1-22

SCALE: HORZ. 1"=60' VERT. 1"=10'



PROFILE OF INLET 1-3B to INLET 1-3A

SCALE: HORZ. 1"=60' VERT. 1"=10'



PROFILE OF INLET 1-19B to FES-5

SCALE: HORZ. 1"=60' VERT. 1"=10'

**STORM SEWER CONSTRUCTION NOTES**  
 1. All proposed inlets are PA 1001 RC-34 boxes; hood types are rolled curb unless otherwise noted on the profile.  
 2. SBPP = Smooth Bore Corrugated Plastic Pipe.  
 CMP = Corrugated Helical Metal Pipe.

PROFILE OF MISCELLANEOUS STORM SEWERS  
 FOR  
**PHASE 2A**  
 OF  
**THE TOWNES AT MARGARET'S GROVE**  
 LOCATED IN  
 SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA.

DRAWING ID  
 212017-Ph2A-RPRO  
 DATE: 6/07/19  
 SHEET 8 OF 12

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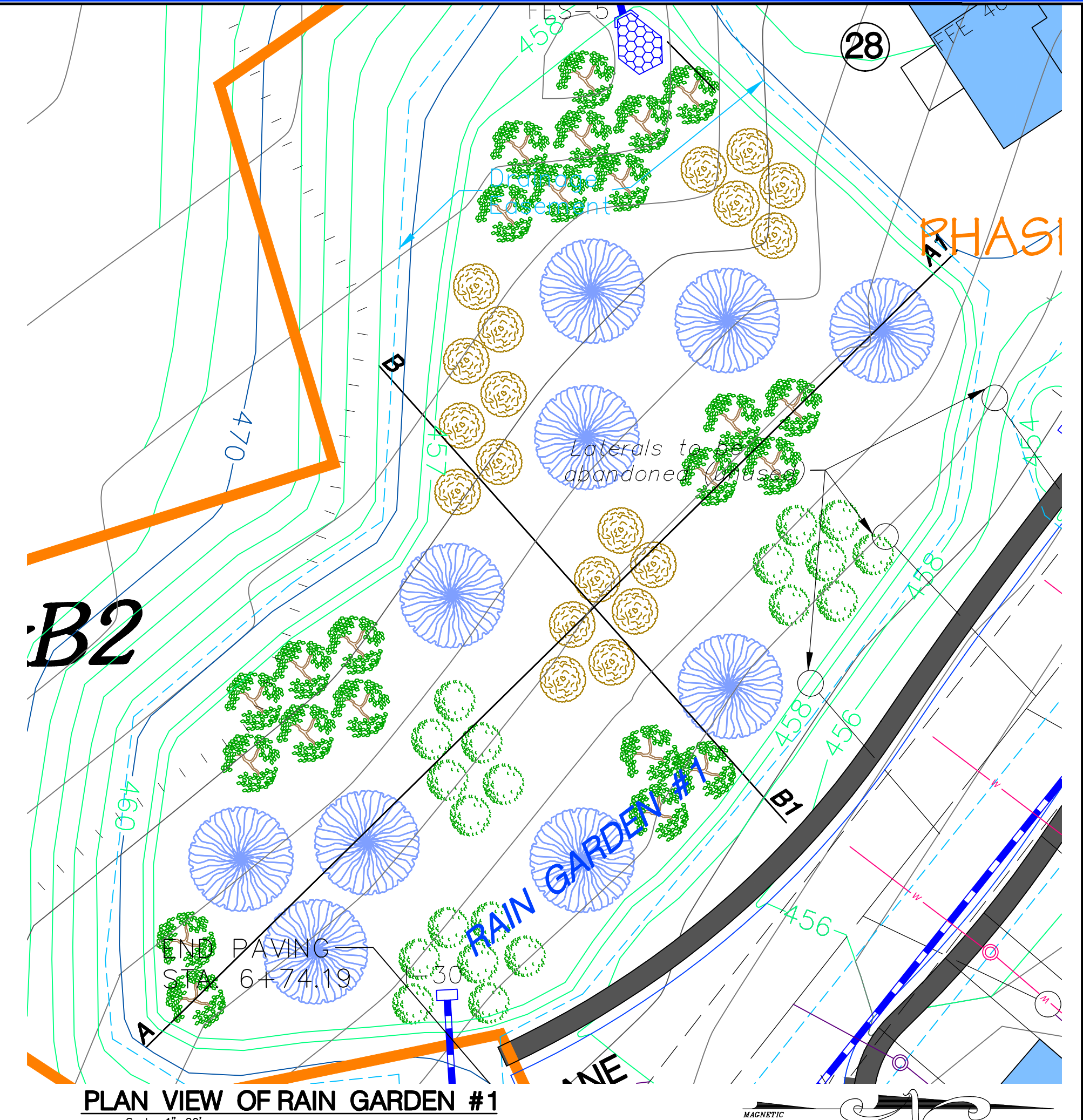
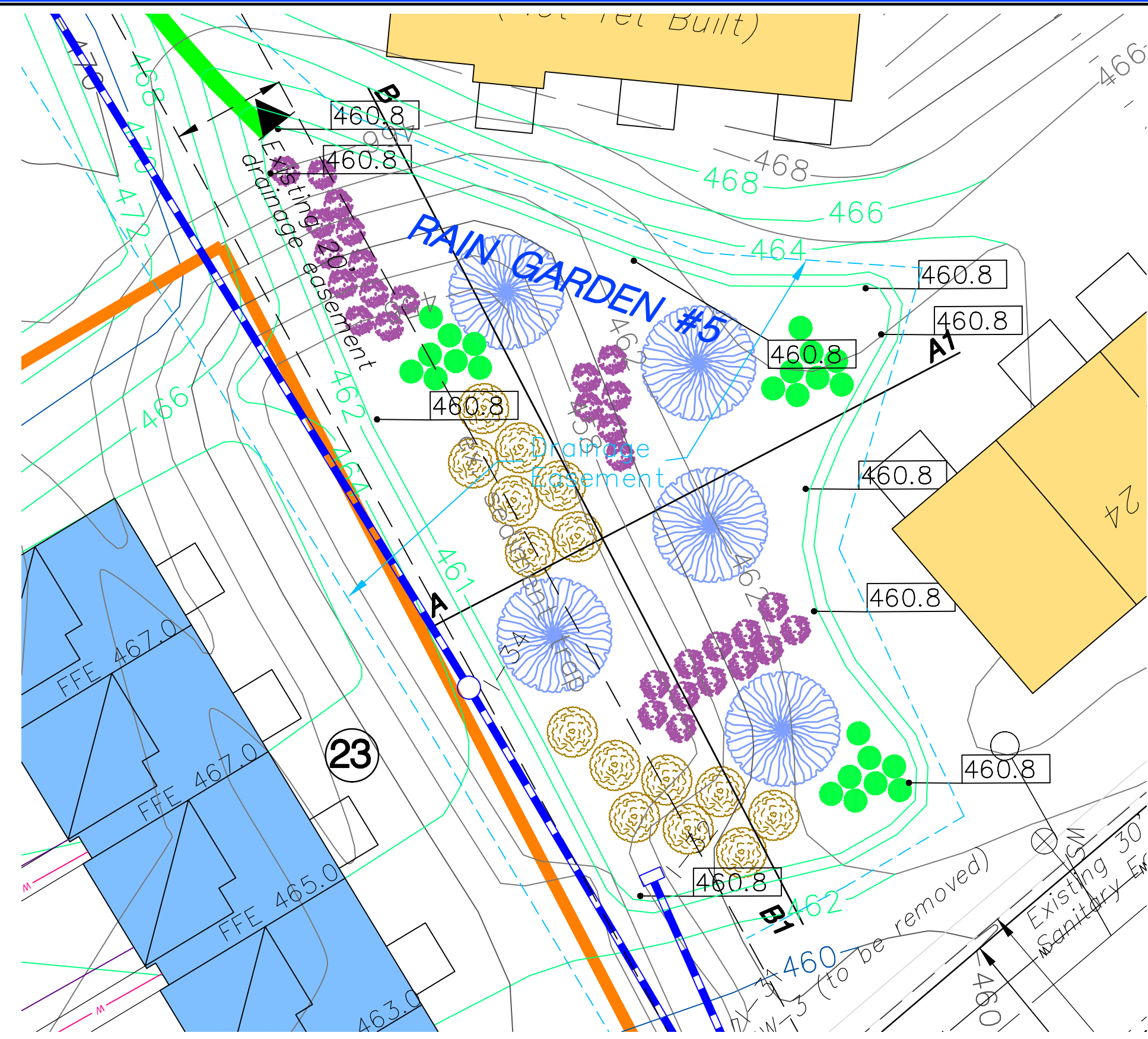
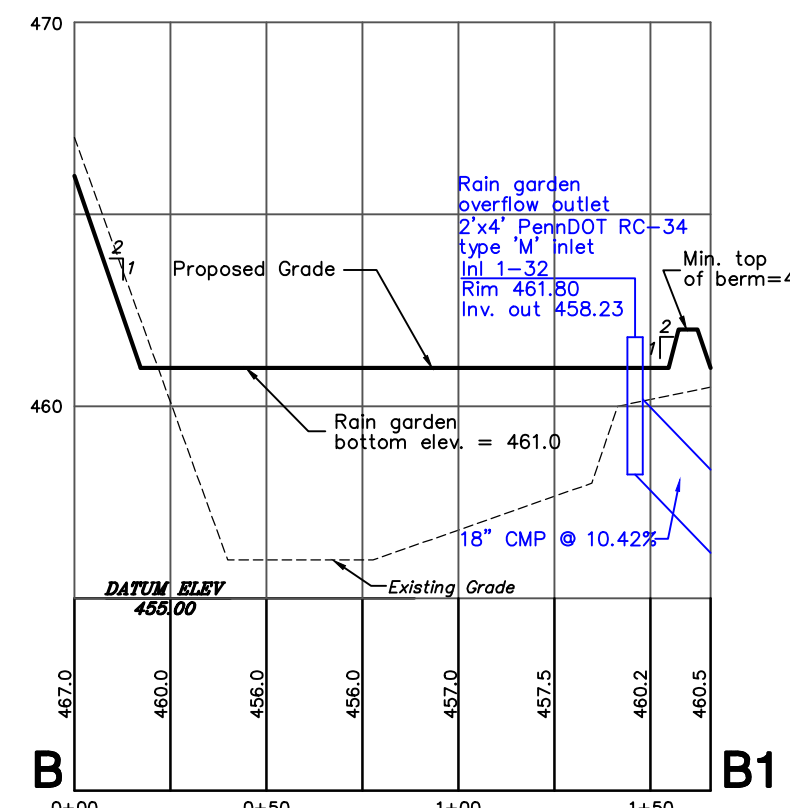
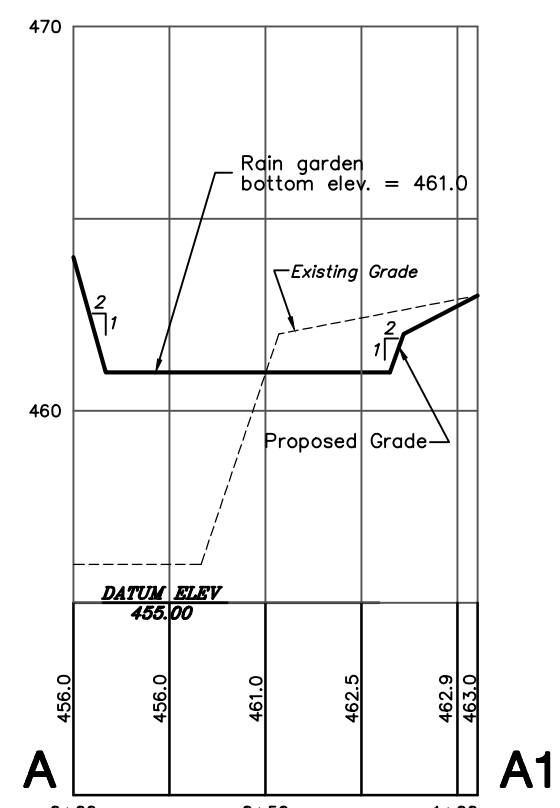
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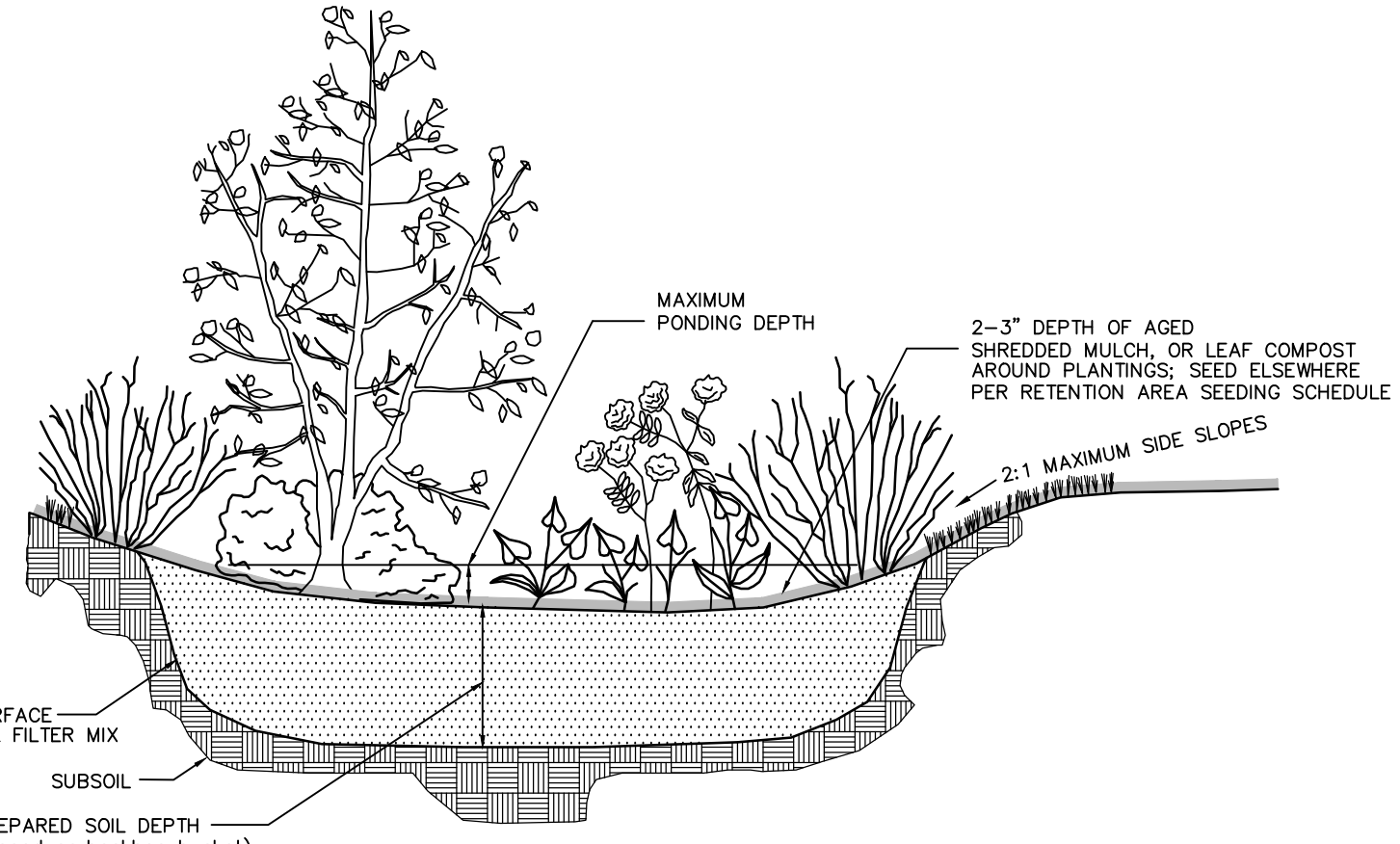
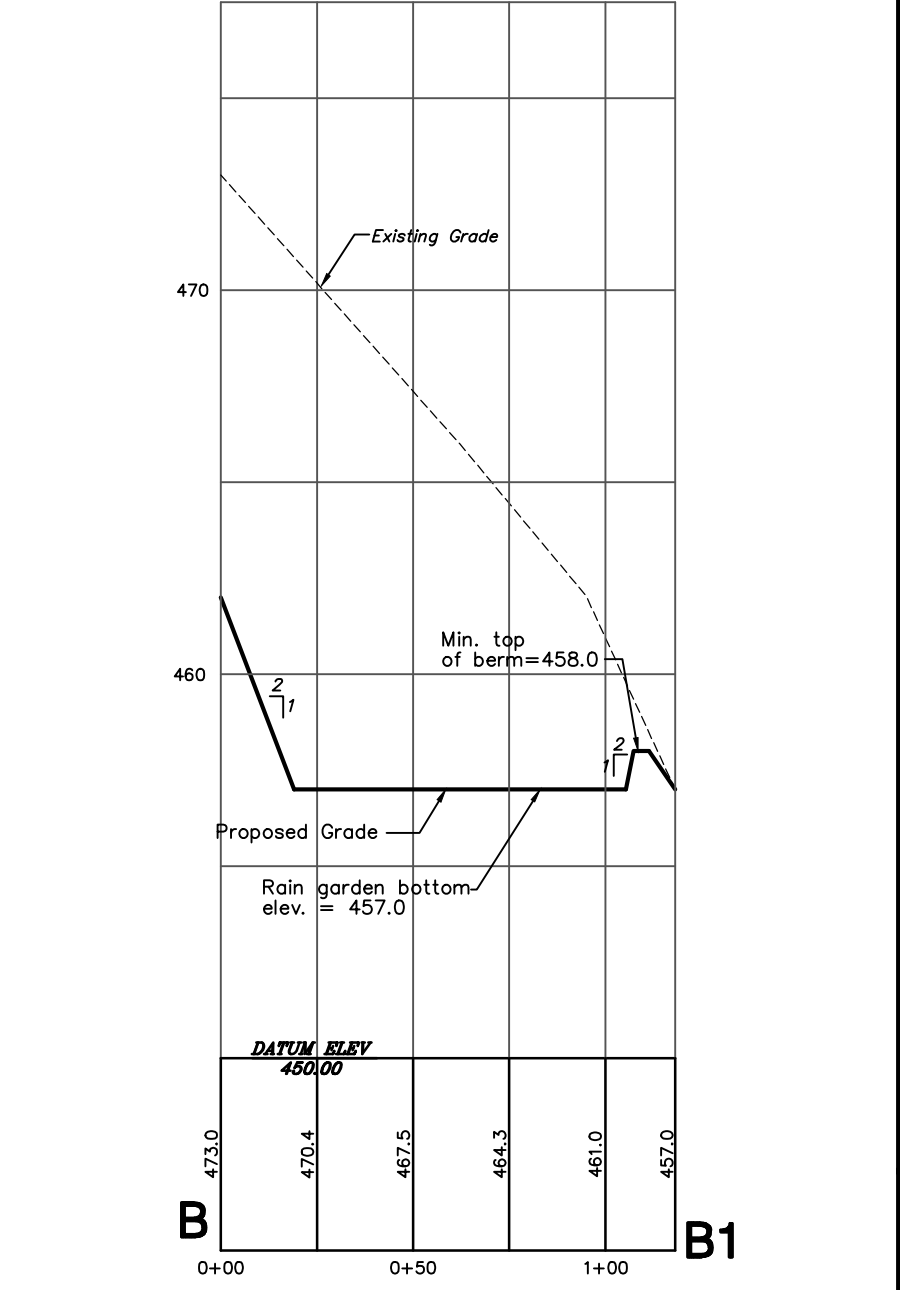
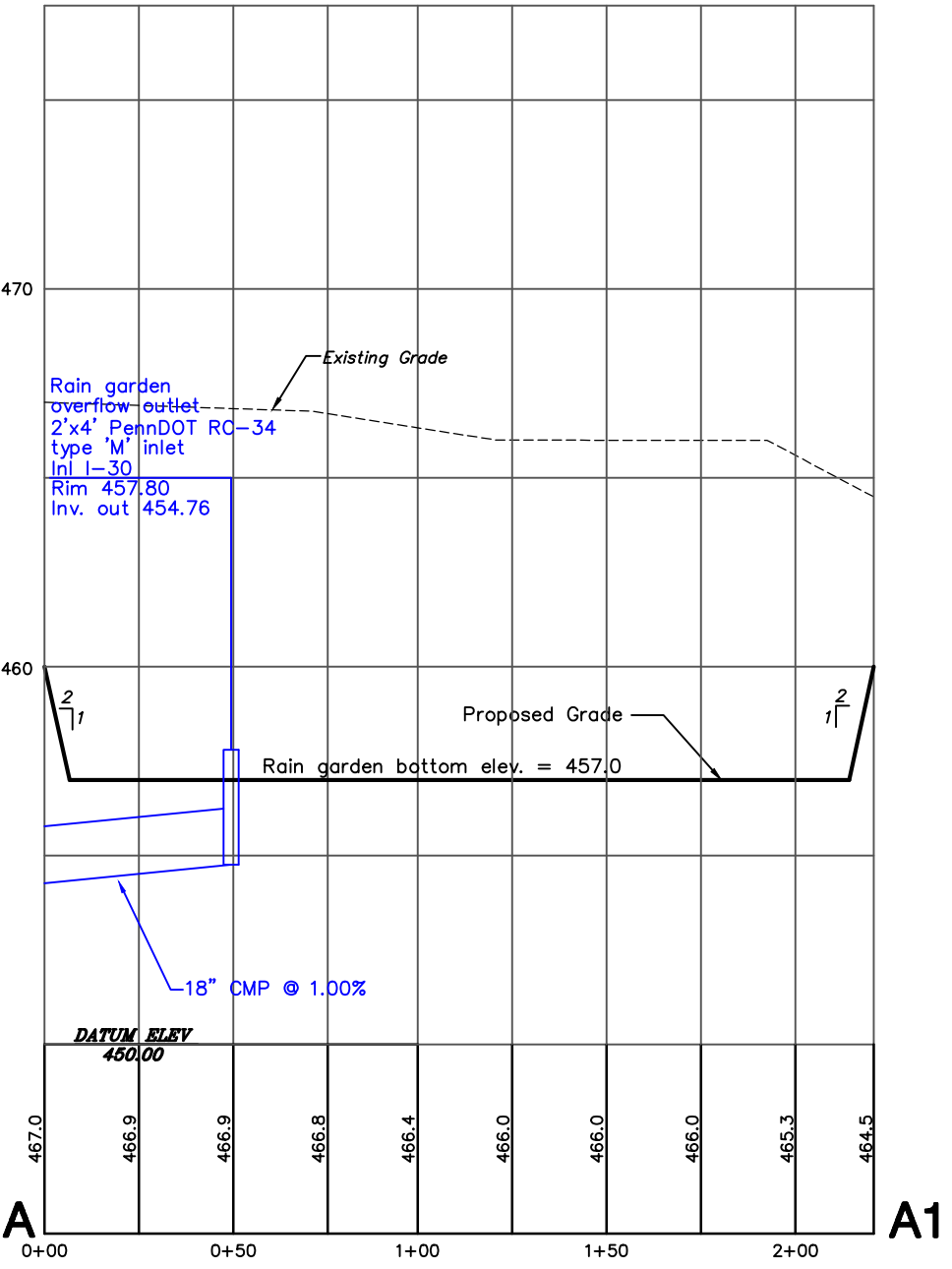
PLANT SCHEDULE FOR RAIN GARDEN #5

SYMBOL	QTY.	COMMON NAME	BOTANICAL NAME	NATIVE (if X)	MIN. SIZE (at planting time)	SPACING & LOCATION
	15	ARROW WOOD VIBURNUM	VIBURNUM DENTATUM	X	2-3' HIGH	8' O.C.; SEE PLAN
	24	NEW ENGLAND ASTER	ASTER NOVAE-ANGLIAE	X	1 GAL. CONT.	4' O.C.; SEE PLAN
	30	CHOKEBERRY	ARONIA ARBUTIFOLIA	X	2-3' HIGH	6' O.C.; SEE PLAN
	5	RIVER BIRCH	BETULA NIGRA (CLUMP FORM)	X	5-6' HIGH	SEE PLAN

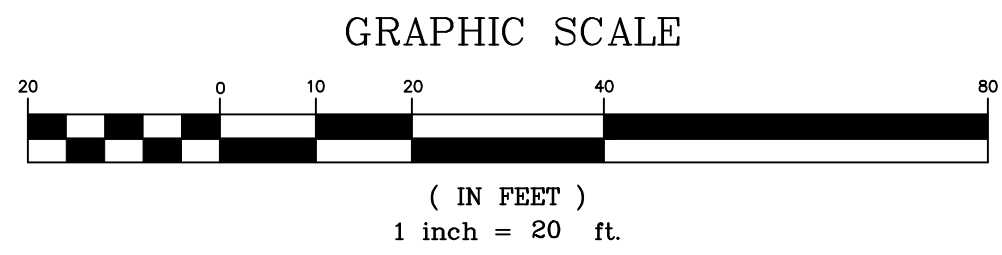
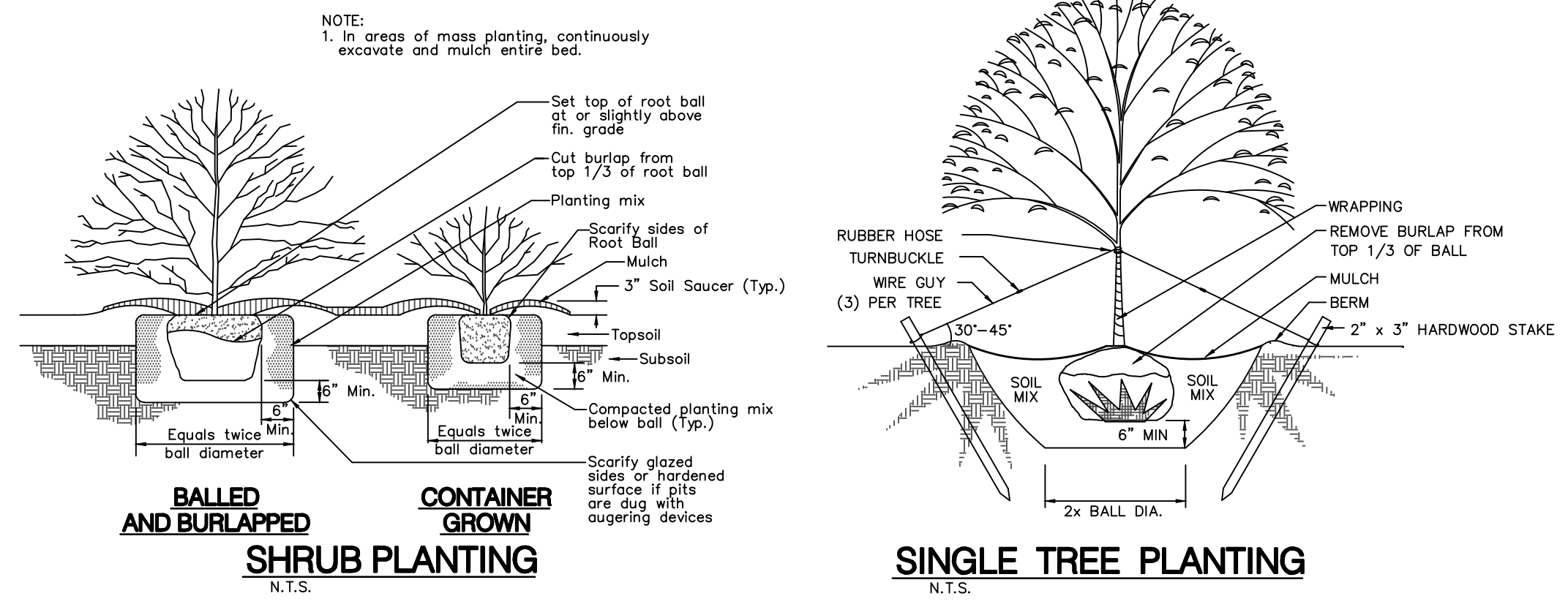


PLANT SCHEDULE FOR RAIN GARDEN #1

SYMBOL	QTY.	COMMON NAME	BOTANICAL NAME	NATIVE (if X)	MIN. SIZE (at planting time)	SPACING & LOCATION
	20	SWEET SHRUB	CALYCANTHUS FLORIDUS	X	2-3' HIGH	8' O.C.; SEE PLAN
	14	ARROW WOOD VIBURNUM	VIBURNUM DENTATUM	X	2-3' HIGH	8' O.C.; SEE PLAN
	23	WINTER BERRY	ILEX VERTICILLATA (pl. 1 male in each rain garden)	X	3-4' HIGH	8' O.C.; SEE PLAN
	10	RIVER BIRCH	BETULA NIGRA (CLUMP FORM)	X	5-6' HIGH	SEE PLAN



- INSTALLATION NOTES**—
- SEE DETAILED GRADING AND PLANTING PLAN FOR EACH RAIN GARDEN.
  - RAIN GARDEN SOIL, PLANTINGS AND MULCH SHALL ONLY BE INSTALLED AFTER THE WATERSHED DRAINING TO THE GARDEN IS PERMANENTLY STABILIZED PER THE EROSION CONTROL PLAN.
  - PREPARED SOIL SHOULD BE MIXED AND TESTED FOR PH PRIOR TO PLACEMENT IN THE GARDEN DEPRESSION.
  - SEE RAIN GARDEN SEEDING SCHEDULE IN EROSION CONTROL NOTES.
- MAINTENANCE NOTES**—
- WHILE VEGETATION IS BEING ESTABLISHED, PRUNE AND WEEDING MAY BE REQUIRED. PERENNIAL FLOWERS AND GRASSES SHOULD BE CUT TO THE BASE BETWEEN THE END OF A GROWING SEASON TO THE BEGINNING OF A GROWING SEASON (GENERALLY BETWEEN NOVEMBER AND FEBRUARY).
  - DETritus MAY NEED TO BE REMOVED APPROXIMATELY TWICE PER YEAR; SCATTER IN MULCHED LANDSCAPE BEDS ON THE PROPERTY. INSPECT GARDENS AT LEAST ONCE PER YEAR FOR SEDIMENT BUILDUP.
  - REPLENISH MULCH ONCE PER YEAR UNTIL VEGETATION COVERS SOIL.
  - WATER GARDENS DURING PERIODS OF EXTENDED DROUGHT IF VEGETATION SHOWS OBVIOUS STRESS.
  - PRUNE TREES AND SHRUBS AS NECESSARY PER ACCEPTED HORTICULTURAL PRACTICES, TO ENHANCE PLANT HEALTH AND AESTHETICS.



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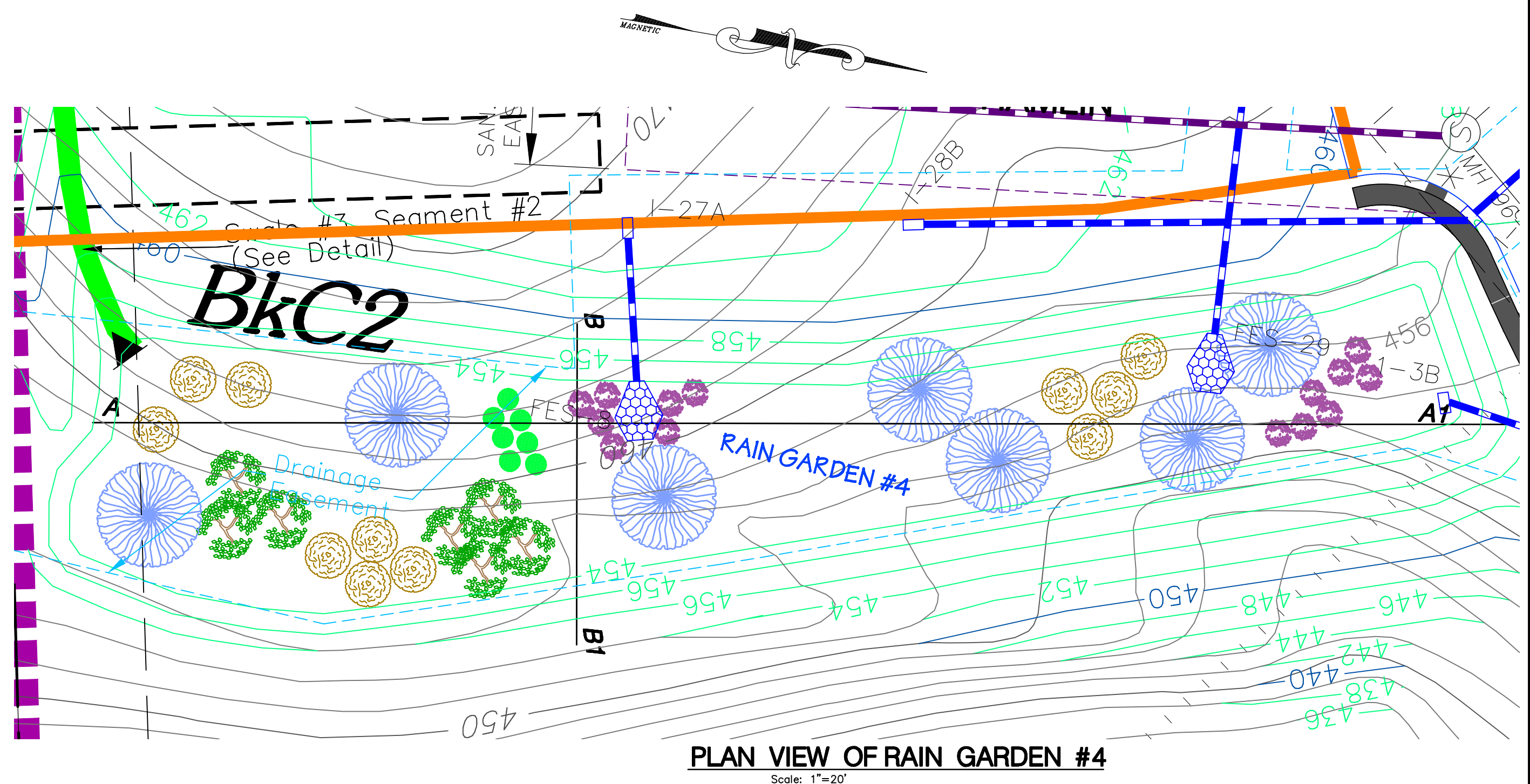
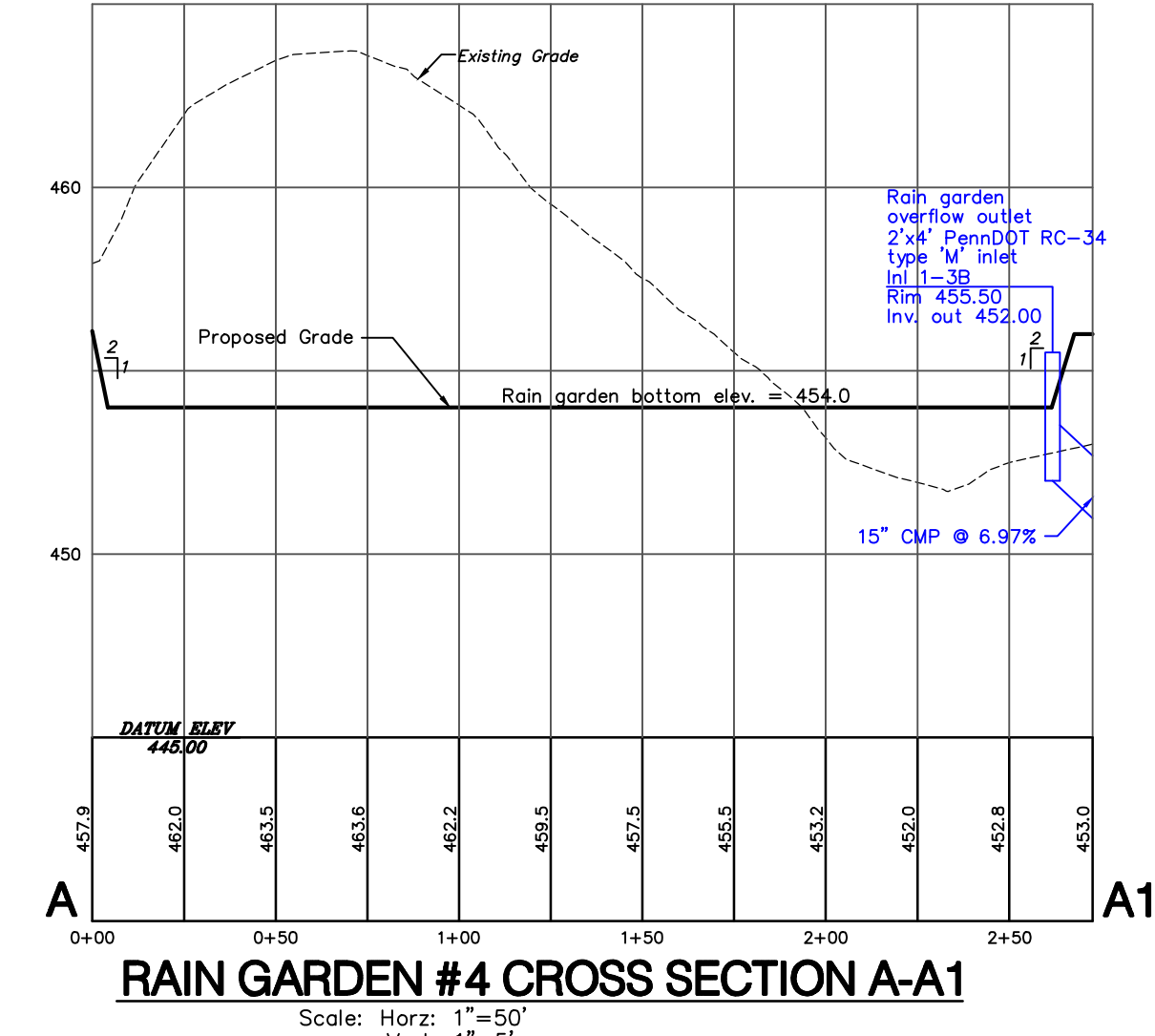
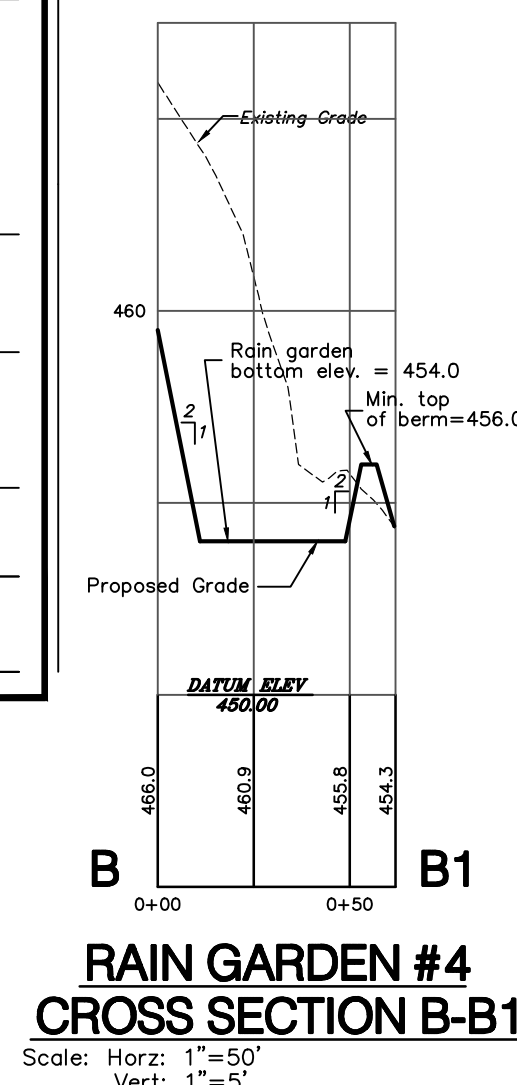
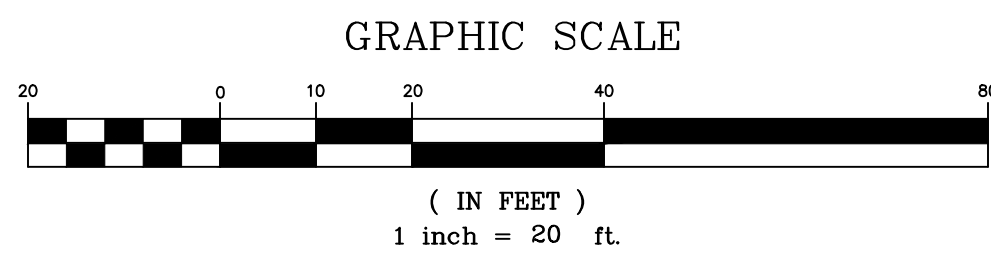
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 1546 BRIDGE STREET, NEW CUMBERLAND, PA. 17070  
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**RAIN GARDEN PLAN**  
 FOR  
**PHASE 2A**  
 OF  
**THE TOWNES AT MARGARET'S GROVE**  
 LOCATED IN  
 SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA.

DRAWING ID: 212017-RAINGARDEN  
 DATE: 6/07/19  
 SHEET 9 OF 12

PLANT SCHEDULE FOR RAIN GARDEN #4						
SYMBOL	QTY	COMMON NAME	BOTANICAL NAME	NATIVE (if X)	MIN. SIZE (at planting time)	SPACING & LOCATION
	7	RIVER BIRCH	BETULA NIGRA (CLUMP FORM)	X	5'-6" HIGH	SEE PLAN
	11	ARROW WOOD	VIBURNUM DENTATUM	X	2'-3" HIGH	8' O.C.; SEE PLAN
	7	WINTER BERRY	ILEX VERTICILLATA (put 1 male in each rain garden)	X	3'-4" HIGH	8' O.C.; SEE PLAN
	7	NEW ENGLAND ASTER	ASTER NOVAE-ANGLIAE	X	1 GAL. CONT.	4' O.C.; SEE PLAN
	14	CHOKEBERRY	ARONIA ARBUTIFOLIA	X	2'-3" HIGH	6' O.C.; SEE PLAN



**POST-CONSTRUCTION STORMWATER MANAGEMENT (PSCM) PLAN**

The storm water volume and quality control Best Management Practices (BMPs) constructed for Margaret's Grove Phases 2, 3 and 4 will be maintained to function as designed, and shall implement the procedures described below, this shall be in the homeowners association documents. The owner of the lot on which facilities are located shall own the facility, but the homeowners association for the development will be responsible for the maintenance of facilities as shown on the drawings. The facilities are to be permanent, and can only be removed or altered after approval by PA D.E.P. The tasks outlined herein shall be accomplished by the homeowners association, possibly via a contractor, once the homeowners association is in effect. Until such time, the developer shall be responsible for all maintenance.

The following physical facilities outside of the dedicated and accepted street right-of-way shall be maintained to the original design and dimensions shown on the design plans until such time as an amended plan is approved by the Township and/or PA D.E.P.:

- stormwater pipes.
- riprap aprons.
- drain inlets, manholes and open pipe ends.
- rain gardens.
- the natural stream (an unnamed tributary to Paxton Creek).
- designated numbered permanent swales shown on the grading plan.
- drainage easements associated with the above.

For any structural facility (pipe, inlet, manhole), it must be repaired or replaced if damaged more than superficially, in a way that is a safety hazard, if structurally unsound, or if not substantially performing as it is intended per the original design. The homeowners association shall keep a record of any repaired or replaced facility, including costs, dates, materials removed, materials placed, and the contractor(s) information.

**Rain Garden inspection and maintenance tasks**

- inspect annually at a minimum.
- open, sunny areas can be maintained as mowed grass, maintained meadow, or natural brush succession, per the aesthetic and budget desires of the homeowners association.
- Remove grit if it accumulates to a depth of 3" or more, so that storage volume is maintained. Removal of sediment/debris shall take place when the area has dried, if possible, and shall be done without the use of heavy equipment that would compact the soil (unless the soil is dried hard or frozen hard). Man-made trash shall be disposed of properly in containers collected by a licensed commercial trash hauler. Grit and gravel can be stockpiled and re-used for winter traction, or for other uses such as walks. Organic debris can be spread discreetly into the woods and brush that remain in common areas on the site. Soil sediments can be placed in flower, garden or landscape beds.
- trim planted shrubs for visual, aesthetic appeal.
- Undesirable weeds and growth can be removed to the homeowners association's aesthetic and budget needs. These areas shall not be fertilized other than the initial planting.
- Per the landscape plan, specified trees or shrubs that die shall be replaced, in kind or with something similar in character and function in the landscape.

**The natural stream (an unnamed tributary to Paxton Creek) inspection and maintenance tasks**

- inspect annually at a minimum.
- Remove man-made trash and dispose of properly.
- Remove logs or other significant obstructions to free flow of the stream.

**Riprap Aprons inspection and maintenance tasks**

Remove any accumulated debris and trash, and dispose of properly. Dislodged rock should be reset in place. Any scouring of earth at or below the apron should be re-stabilized with rock, or seeding (seed, mulch and matting), or sod that is watered until established; rock should be placed in non-growing seasons, even if temporary.

**Stormwater pipes and inlets, and designated swales inspection and maintenance tasks**

- Remove man-made trash and dispose of properly.
- Examine inlet bottoms via grates, for accumulated debris. Remove accumulated grit and other debris that would cause disruption of water flow in a manner not designed for the facility, such as sediment, vegetation, wood, sand, and debris. Such facilities shall also be kept cleansed of spent liquids such as oils, fuels, petroleum products, antifreeze, and grease. Man-made trash shall be disposed of properly in containers collected by a licensed commercial trash hauler.
- Examine swales for obstructions and erosion. Any scouring of earth should be re-stabilized with rock, or seeding (seed, mulch and matting), or sod that is watered until established; rock should be placed in non-growing seasons, even if temporary. Any erosion shall be corrected with an appropriate groundcover material to prevent such in the future.

**POST-CONSTRUCTION STABILIZATION OF PERMANENT BMPs**

Permanent seeding schedule--

Species: For rain gardens:  
100% Tall Fescue, varieties such as K-31, Altra or other recently released dwarf variety tolerant of wetness.

Species: For non-retention area / general lawn planting:  
30% Kentucky bluegrass  
40% Pennlawn Creeping Red Fescue  
20% Norlea Perennial ryegrass  
10% annual ryegrass

% Pure live seed: 98%  
Application rate: 6 lbs./1000 sq. ft.  
Fertilizer type: general purpose granular, 10-20-20  
Fertilizer application rate: 11 lbs./1000 sq. yds.  
Liming rate: per soil test; minimum of 6 tons per acre  
Seeding dates: between 4/1 and 10/15  
Strawbale mulching rate: 3 tons per acre.

Erosion control matting must be placed on slopes exceeding 3:1. Matting can be North American Green S75, jute, or approved equal.

All seeded area shall receive a minimum 4" depth of topsoil before seeding.

Maintenance procedure:

- 1) Maintain a minimum 70% uniform soil surface coverage with grass, meadow vegetation and/or mulch.
- 2) If a washout, slope failure or similar disturbance occurs, correct drainage problem if necessary, then reapply soil to the proper grade, reapply soil amendments, seed and mulch.

<b>R. J. FISHER &amp; ASSOCIATES, INC.</b> CIVIL ENGINEERING & LAND SURVEYS 1546 BRIDGE STREET, NEW CUMBERLAND, PA. 17070 PHONE: (717) 774-7534 FAX: (717) 774-7190 WWW.RJFISHERENGINEERING.COM	No. 1 2 3 4	REVISION    	DATE    
	<b>RAIN GARDEN PLAN FOR PHASES 2A OF THE TOWNES AT MARGARET'S GROVE</b> LOCATED IN SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA.		
	DRAWING ID: 212017-RAINGARDEN DATE: 6/07/19 SHEET 10 OF 12		
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**OUTDOOR LIGHTING**



**ACORN**

- LUMINAIRE:** Acorn, black or green  
**LAMP SIZE:** 5,800 lumen (70 watt) or 9,500 lumen (100 watt)  
**LAMP TYPE:** High-pressure sodium  
**POLE:** 11 or 13 foot black or green fiberglass, boulevard style, mounted on a concrete foundation  
**ALTERNATE POLE:** 14 foot round black steel or spun aluminum  
**ELECTRIC SUPPLY:** Underground  
**RATE:** Low-mount underground, high-pressure sodium (SHS)

Want to know more about the PPL Electric Utilities Outdoor Lighting Program? Call your PPL Electric Utilities representative or PPL Electric Utilities Customer Service Answer Line at 800-342-5775 (DIALPPL) during business hours 8 a.m. to 5 p.m.

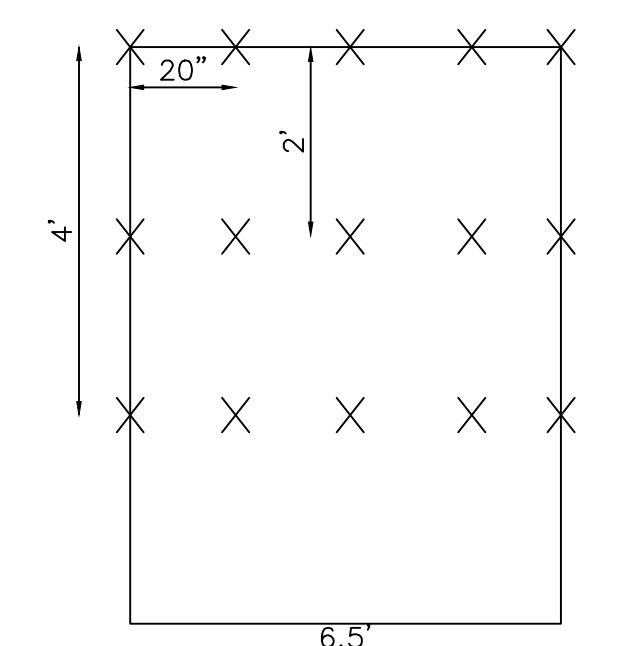
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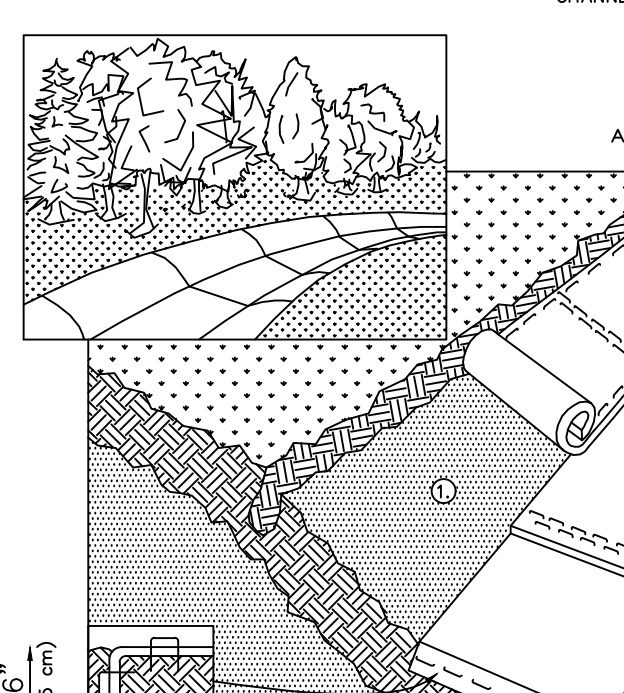
PPL Electric Utilities

**LIGHTING DETAIL**

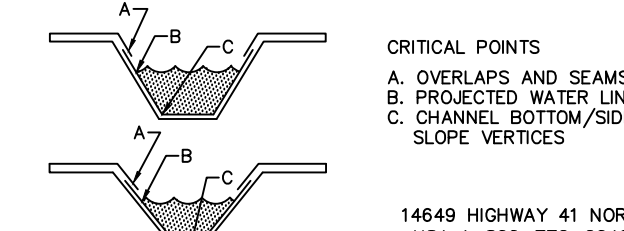
N.T.S.



**STAPLE PATTERN D**



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
4. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4"-6" (10cm-15cm) OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10cm) APART AND 4" (10cm) ON CENTER TO SECURE BLANKETS.
5. FULL LENGTH EDGE OF BLANKETS AT TOP OF SLOPE MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
6. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 2'-6" (76cm-12.5cm) (DEPENDENT ON BLANKET TYPE) AND STAPLED. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE BLANKET BEING OVERLAPPED.
7. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30 TO 40 FT (9m-12m) INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" (10cm) APART AND 4" (10cm) ON CENTER OVER ENTIRE WIDTH OF THE CHANNEL.
8. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN A 6" (15cm) DEEP X 6" (15cm) WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.



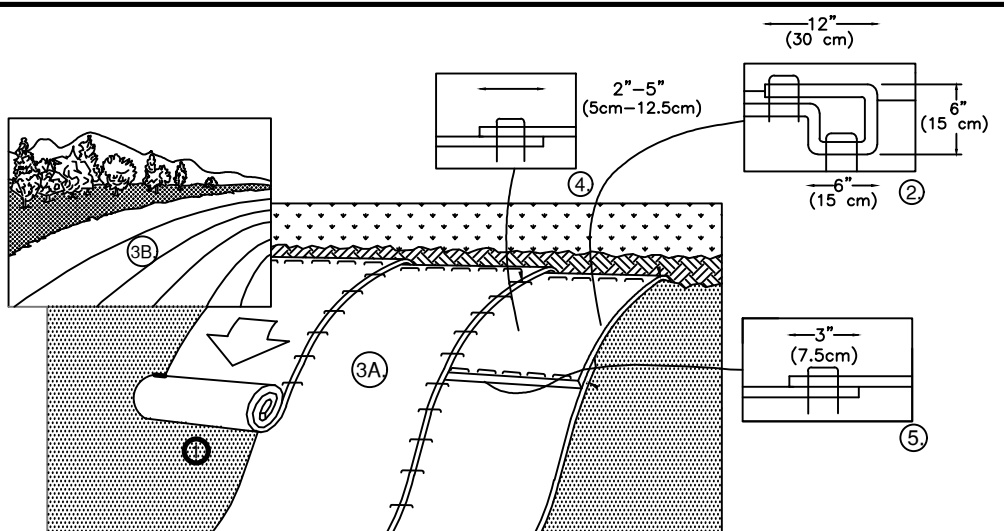
**CHANNEL LINING INSTALLATION DETAIL**

N.T.S.

14649 HIGHWAY 41 NORTH, EVANSVILLE, INDIANA 47725  
 USA 1-800-772-2040 CANADA 1-800-448-2040  
 www.pplenergy.com

**CONCRETE SIDEWALK DETAIL**

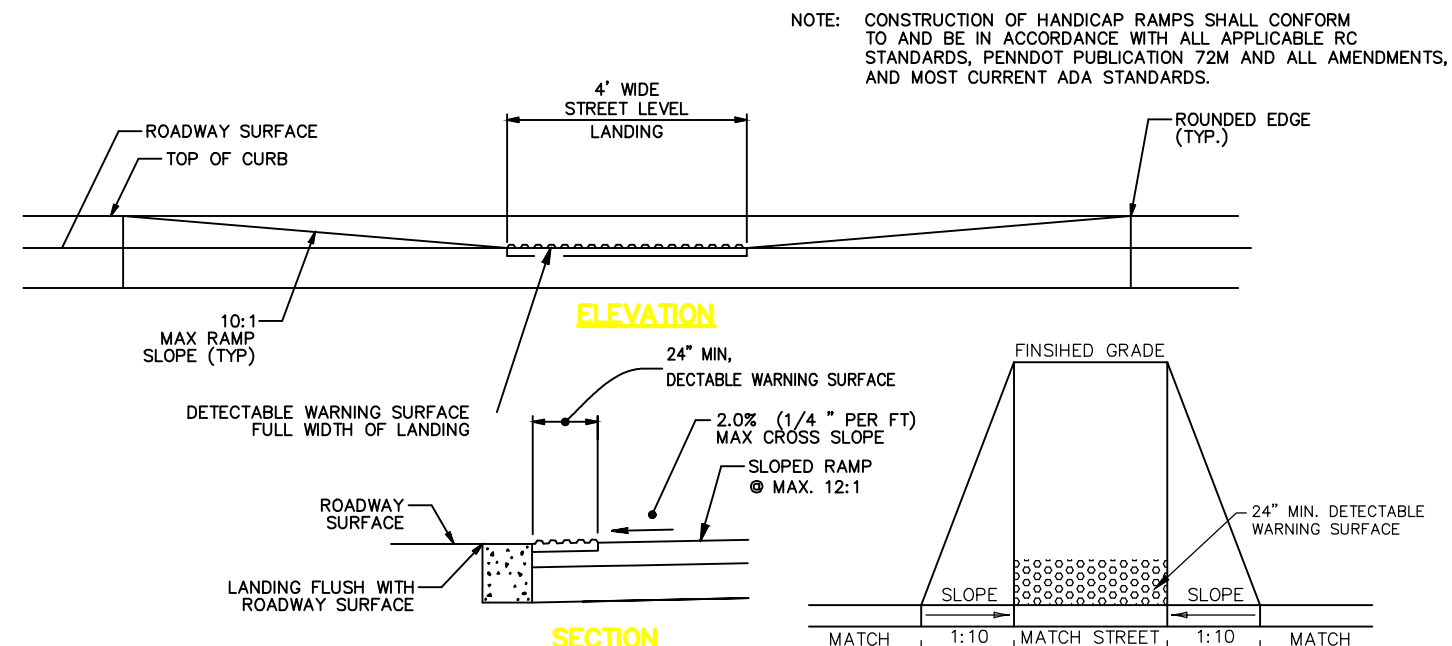
N.T.S.



- NOTE:**
1. MINIMUM CROSS SLOPE TOWARD THE STREET: 1/4" FT. OR AS NOTED ON THE SITE PLAN.
  2. ALL CONCRETE SHALL BE CLASS A.
  3. CURB RAMP MUST BE INSTALLED WHERE INDICATED ON THE SITE PLAN, PER ADA REQUIREMENTS.
  4. SIDEWALK SHALL BE 4" THICK EXCEPT AT DRIVEWAYS WHERE A MINIMUM 6" OF CONCRETE IS REQUIRED.

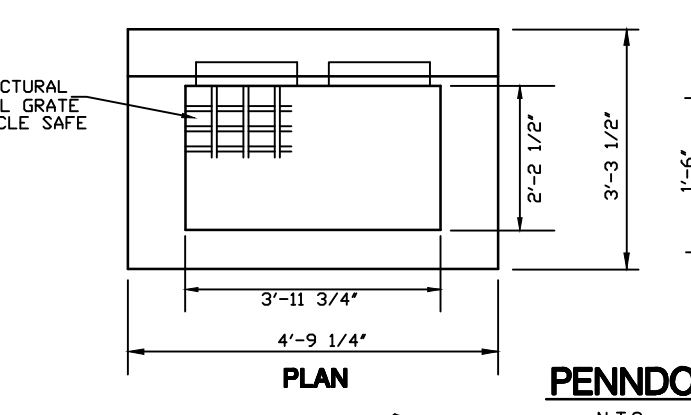
**EROSION CONTROL MATTING ON SLOPE**

N.T.S.



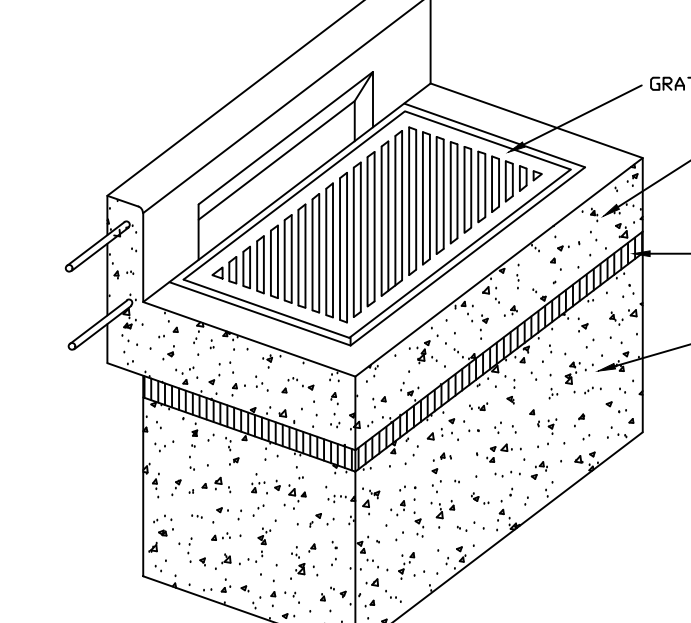
**CONCRETE CURB RAMP FOR HANDICAP ACCESS**

N.T.S.



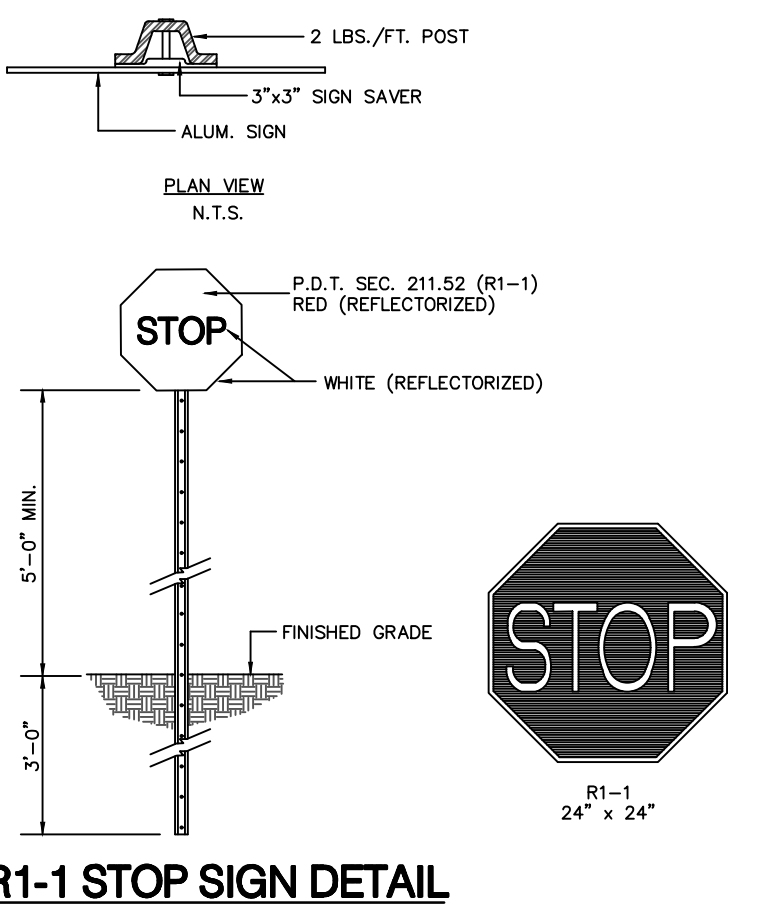
**PENNDOT TYPE 'C' INLET TOP**

N.T.S.



**PADOT TYPE 'C' INLET**

N.T.S.



**R1-1 STOP SIGN DETAIL**

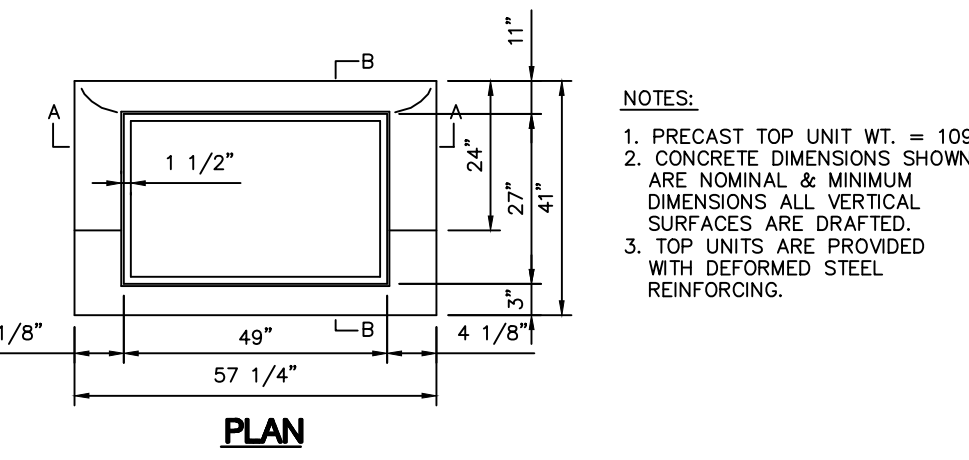
N.T.S.



**R2-1 SPEED LIMIT SIGN DETAIL**

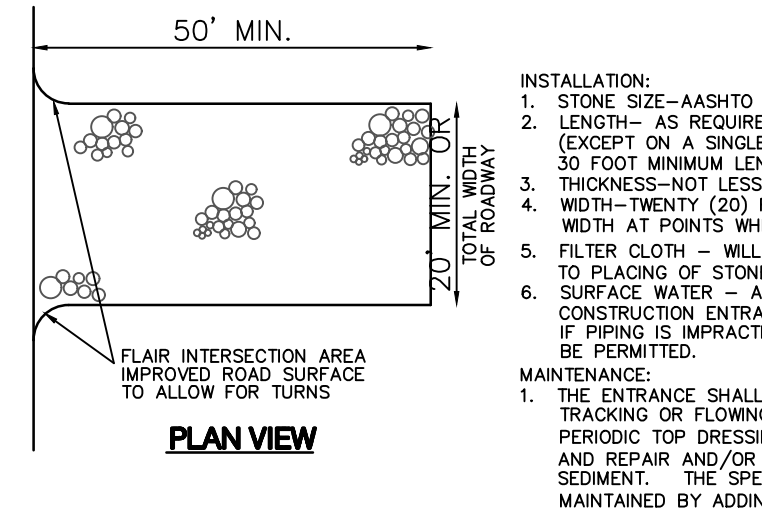
N.T.S.

NOTE: SPEED LIMIT POST SIZE IS THE SAME AS THE ADJOINING STOP SIGN DETAIL.



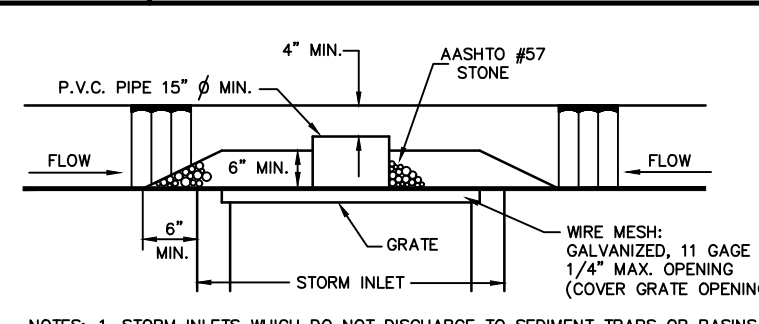
**ROLLED CURB INLET TOP DETAIL**

N.T.S.

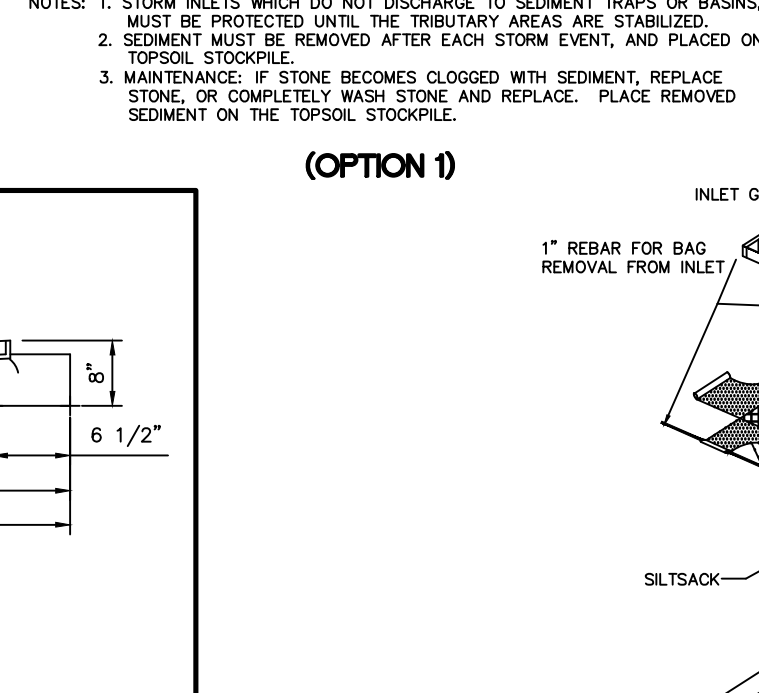


**STABILIZED CONSTRUCTION ENTRANCE**

N.T.S.

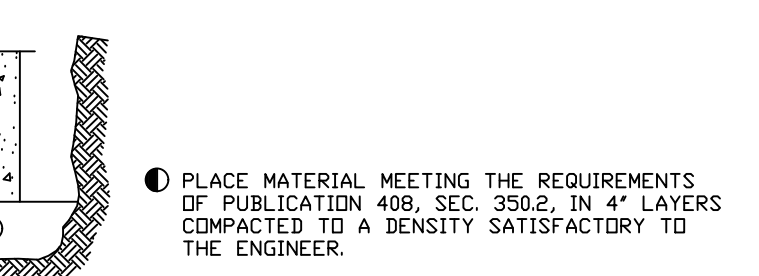


**(OPTION 1)**



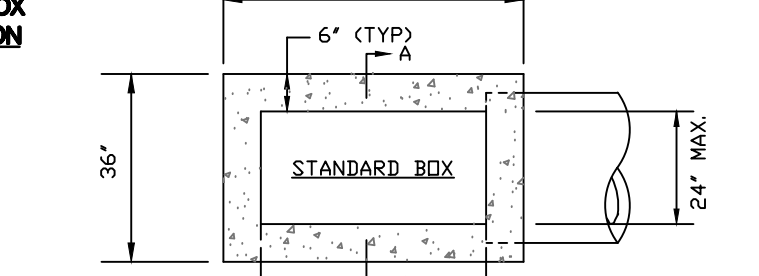
**TEMPORARY STORM INLET PROTECTION DETAIL**

N.T.S.



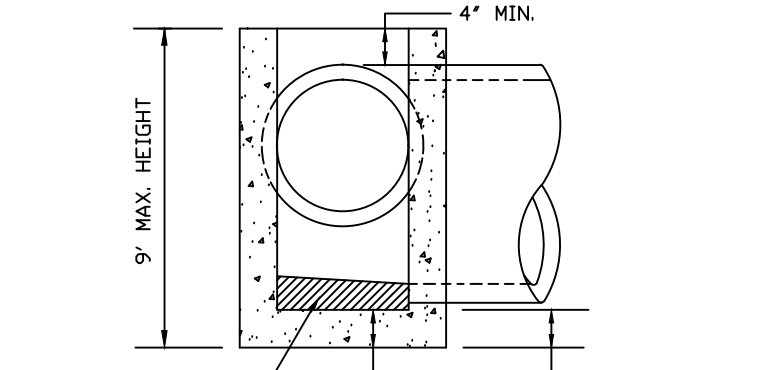
**PRECAST INLET BOX BASE PREPARATION**

N.T.S.



**STANDARD BOX**

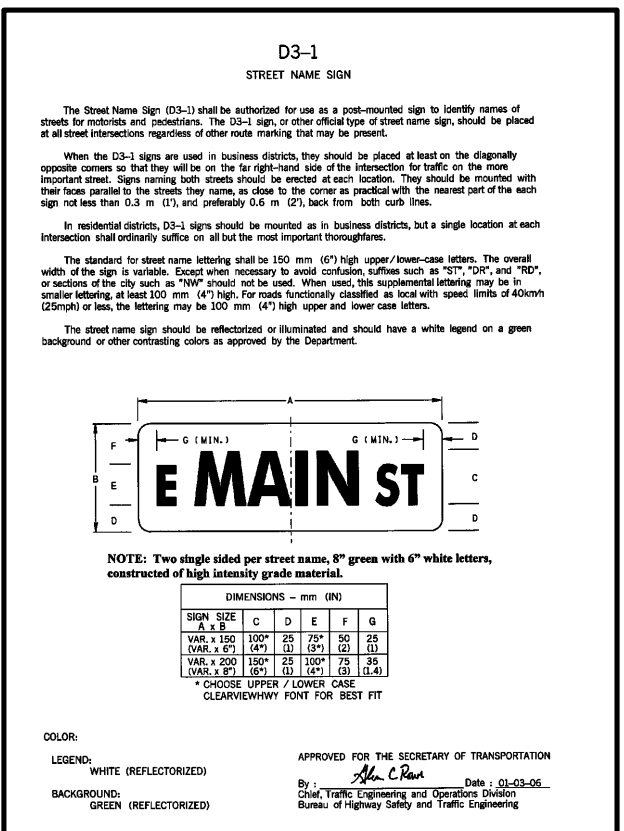
N.T.S.



**TRENCH DETAIL**

N.T.S.

NOTE: CONSTRUCTION SHALL CONFORM TO AND BE IN ACCORDANCE WITH ALL APPLICABLE RC STANDARDS, PENNDOT PUBLICATION 72M AND ALL AMENDMENTS.



**D3-1 STREET SIGN DETAIL**

N.T.S.

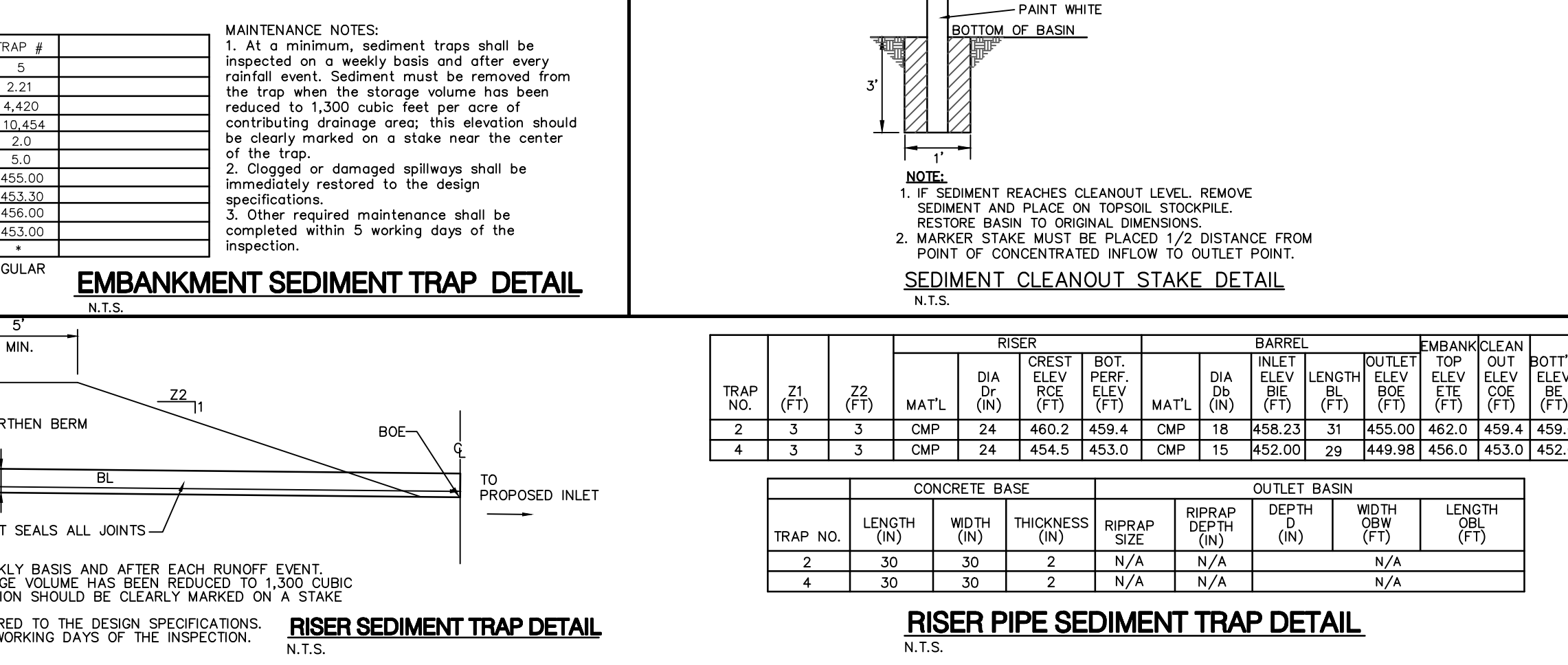
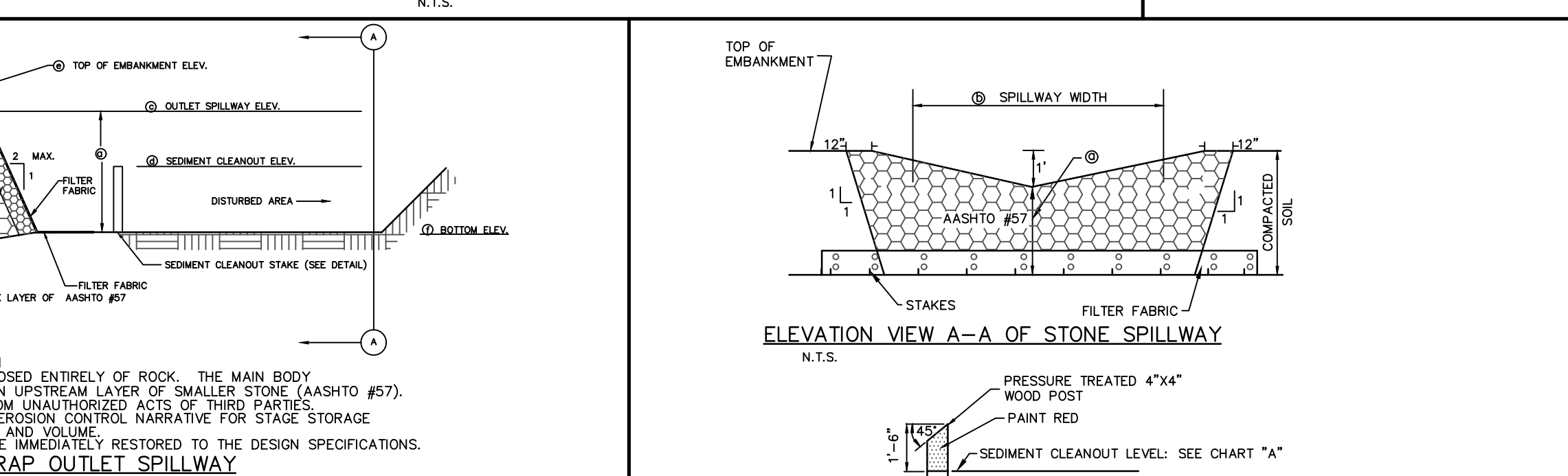
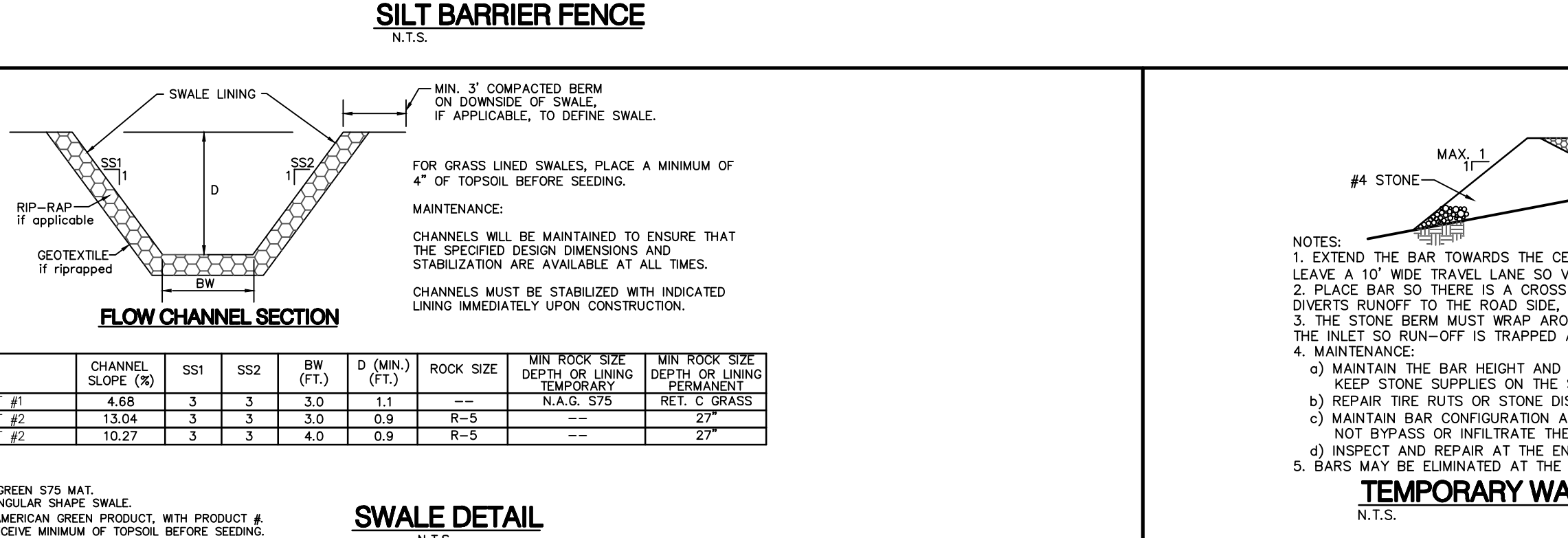
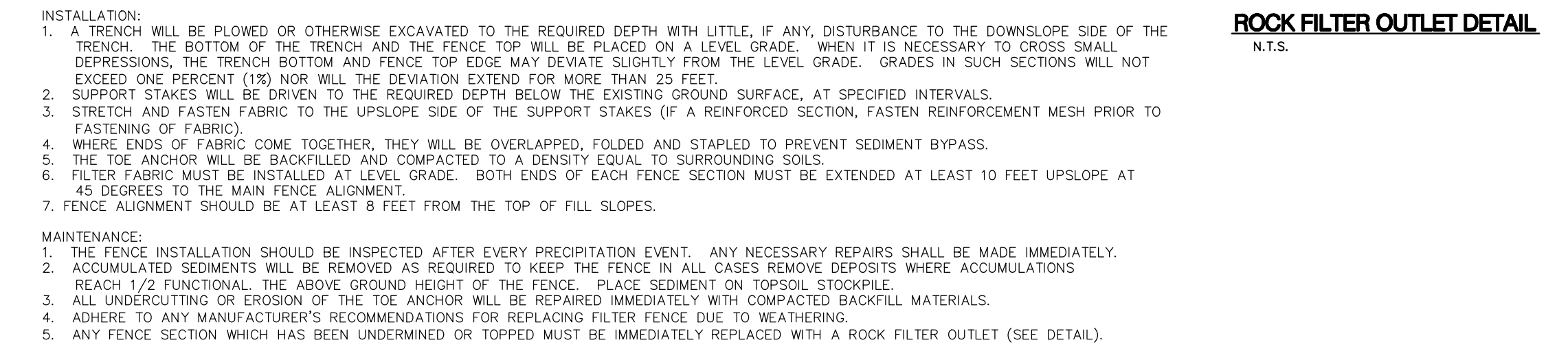
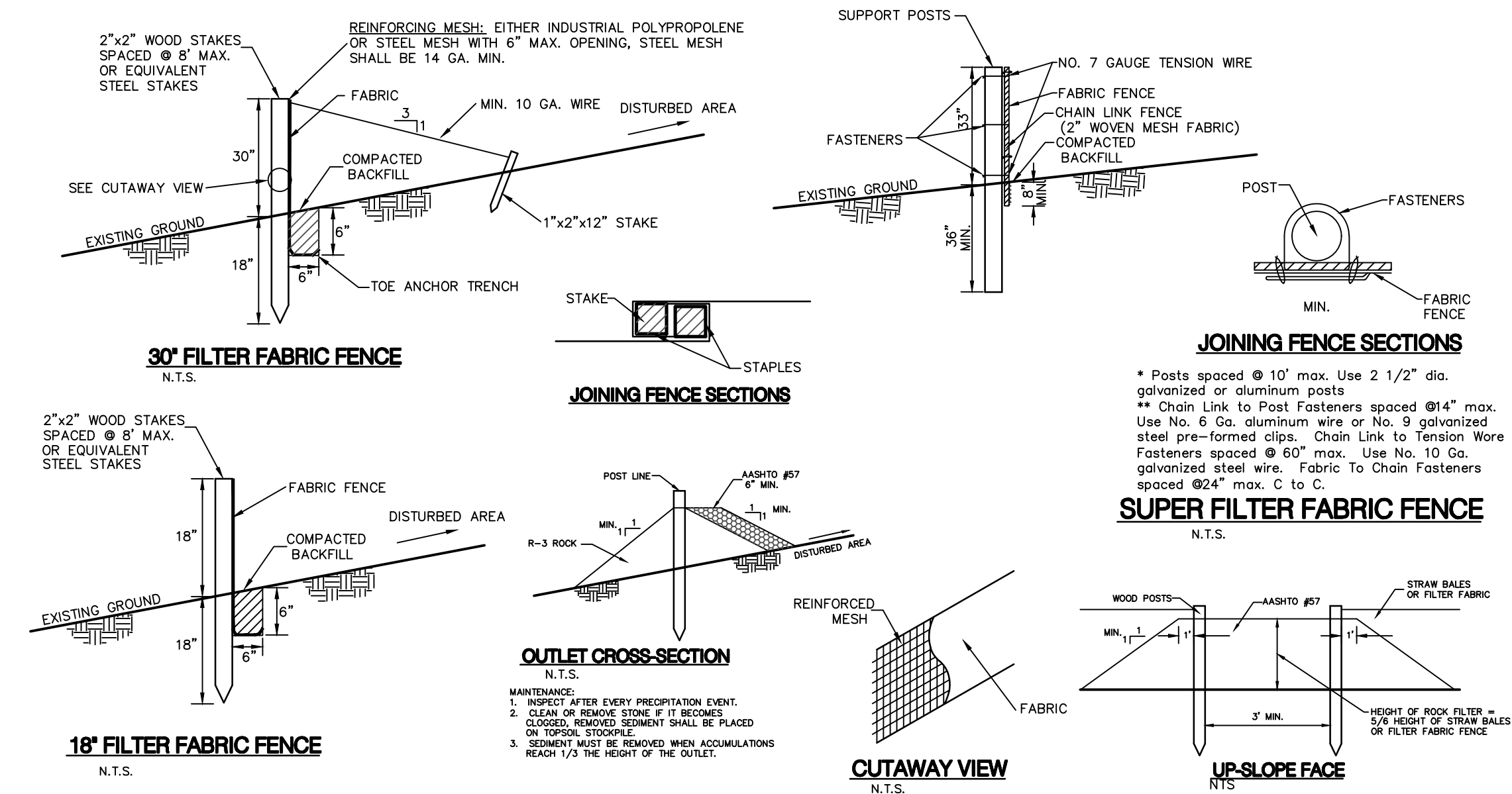
DATE	REVISION	No.
		1
		2
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 CIVIL ENGINEERING & LAND SURVEYS  
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**MISCELLANEOUS DETAILS**  
 FOR  
**PHASE 2A**  
 OF  
**THE TOWNES AT MARGARET'S GROVE**  
 LOCATED IN  
 SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA.

DRAWING ID: 212017-PH2A-Cov-Dtls  
 DATE: 6/07/19  
 SHEET 11 OF 12



### EROSION CONTROL PLAN

#### GENERAL NOTES

- The site contractor and their designers shall familiarize themselves with this Erosion Control Plan.
- The site contractor shall be responsible for implementing this Erosion Control Plan.
- The site contractor shall not disturb more area than is necessary for the task to be done, so that potential for erosion is minimized.
- Erosion and sedimentation controls must be constructed, stabilized, and functional before site disturbance within the tributary areas to the controls.
- At least 7 days before starting any earth disturbance activities, the owner and/or operator shall invite all contractors involved in those activities, the landowner, all appropriate municipal officials, and a representative of the Dauphin County Conservation District to an on-site pre-construction meeting.
- A copy of the approved Erosion and Sediment Control Plan must be available at the project site during all times.
- Topsoil stockpile heights shall not exceed 35 feet. Stockpile side slopes must be 2:1 or flatter.
- After final site permanent stabilization has been achieved, temporary erosion and sedimentation controls must be removed. Area disturbed during removal of the controls must be stabilized immediately.
- Vegetated areas shall be considered "permanently stabilized" when a uniform 70% vegetative cover of erosion resistant perennial species has been achieved over the entire watershed tributary to the control measure, or the disturbed area is covered with an acceptable BMP which permanently minimizes accelerated erosion and sedimentation. Until such time as this standard is achieved, interim stabilization measures and temporary erosion and sediment control BMPs that are used to treat project runoff may not be removed.
- Only limited disturbance will be permitted to initially access and acquire borrow to construct control facilities, before general site operation begins.
- The contractor will be responsible for the removal of any excess material and make sure the site(s) receiving the excess has an approved erosion and sediment control plan that meets the conditions of Chapter 102 and/or other State or Federal regulations.
- Solids, trash and other pollutants shall be removed in accordance with federal and state regulations in order to prevent any pollutant in such materials from adversely affecting the environment. All building materials and wastes must be removed from the site and recycled or disposed in accordance with the Department of Environmental Protection's Solid Waste Management regulations. No building materials or wastes or unused building materials shall be buried, dumped, or discharged at the site.
- The Permittee and Co-permittee shall take all reasonable steps to minimize or prevent any discharge violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- The Permittee and Co-permittee shall take all reasonable steps to minimize or prevent any discharge violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.
- If fuel or other dangerous chemicals are stored on site, then a Preparedness, Prevention and Contingency (PPC) Plan must be developed and kept on site.
- Prior to commencement of earth disturbance activities for additional phase or portion of the project, the Permittee or Co-permittee shall submit an erosion and sediment control plan for each additional phase or portion of the project for review and authorization by the Dauphin County Conservation District.
- At least 3 days before starting any earth disturbance activities, all contractors involved in those activities shall notify the Pennsylvania One Call system Incorporated at 1-800-242-1776 for the location of existing underground utilities.
- Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall implement appropriate best management practices to eliminate the potential for accelerated erosion and/or sediment pollution.
- Upon completion of all earth disturbance activities and permanent stabilization of all disturbed areas, the owner and/or operators shall contact the Dauphin County Conservation District for a final inspection prior to the removal of BMPs.
- An erosion control blanket must be installed on all disturbed slopes steeper than 3:1, and all areas with concentrated flows.
- Immediately after earth disturbance activities cease, the operator shall stabilize the disturbed areas. During non-germinating periods, mulch must be applied at the specified rates. Disturbed areas which are not at finished grade and which will be re-disturbed within 1 year must be stabilized in accordance with the temporary seeding vegetative stabilization specifications. Disturbed areas which are not at final grade or which will not be re-disturbed within 1 year must be stabilized in accordance with the permanent seeding vegetative stabilization specifications.
- The NPDES Permit covers the "moving, depositing, stockpiling, or storing of soil rock or earth materials." Use the check boxes to identify the fill activities at the site: must be imported from another location, imported from an off site location, the responsibility for performing environmental due diligence and the determination of clean fill will in most cases reside with the Operator. The designer must include a note on the drawings to identify the Operator's responsibility and provide the definition of Clean Fill and Environmental Due Diligence. If the site will have excess fill that will need to be exported to an off site location, the responsibility of clean fill determination and the environmental due diligence rests on the applicant. This information should be submitted to permit application. If all off site fill materials will be used on the site, a clean fill determination is not required by the operator unless there is a belief that a spill or release of a regulated substance occurred on site. Applicants and/or operators must use environmental due diligence to ensure that the fill material associated with this project qualifies as Clean Fill. Definitions of Clean Fill and Environmental Due Diligence are provided below. All fill material must be used in accordance with the Department's policy. Management of Fill, document number 258-2182-773. A copy of this policy is available online at [www.depweb.state.pa.us](http://www.depweb.state.pa.us).
- Under the heading Quick Access on the left side of the screen, click on "Forms and Publications." On the left side of the screen click on "Technical Guidance Documents- Final." Then type the document number 258-2182-773 into the search window and conduct the search. Click on "Management of Fill." Clean fill is defined as: Uncorroded, non-water soluble, non-decomposable, inert, solid material. The term includes soil, rock, stone, graded material, used asphalt, and brick block or concrete from construction and demolition activities that is separate from other waste and is recognizable as such. The term does not include materials placed in or on the waters of the Commonwealth unless otherwise authorized. (The term "used asphalt" does not include milled asphalt or asphalt that has been processed for re-use.) Clean fill affected by a spill or release of a regulated substance: Fill materials affected by a spill or release of a regulated substance still qualifies as clean fill provided the testing reveals that the fill material contains concentrations of regulated substances that are below the residential limits in Tables FP-1a and FP-1b found in the Department's policy "Management of Fill." Any person placing clean fill that has been affected by a spill or release of a regulated substance must use Form FP-001 to certify the origin of the fill material and the results of the analytical testing of quality the material as clean fill. Form FP-001 must be retained by the owner of the property receiving the fill. A copy of Form FP-001 can be found at the end of these instructions. Environmental due diligence: Investigative techniques, including, but not limited to, visual property inspection, electronic data base searches, review of property ownership, review of property use history, Sanborn maps, environmental questionnaires, transaction search, analytical testing, environmental assessments or audits. Analytical testing is not a required part of due diligence unless visual inspection and/or review of the past land use of the property indicates that the fill may have been subjected to a spill or release of regulated substance. If the fill may have been affected by a spill or release of a regulated substance, it must be tested to determine if it qualifies as clean fill. Testing should be performed in accordance with Appendix A of the Department's policy "Management of Fill." Fill material that does not qualify as clean fill is regulated fill. Regulated fill is waste and must be managed in accordance with the Department's municipal or residual waste regulations based on 25 Pa. Code Chapters 287 Residual Waste Management and 271 Municipal Waste Management, whichever is applicable.

#### MAINTENANCE PLAN

- Until the site is stabilized, all erosion and sediment control BMPs must be maintained properly. Responsibility for implementing and maintaining erosion and sediment control measures shall be designated to a minimum of one individual who will be present at the project site each working day. Maintenance must include inspections of all erosion and sediment control BMPs after each runoff event and on a weekly basis, to ensure that they are in place, stable, and functioning properly. All preventive and remedial maintenance work, including clean out, repair, replacement, re-grading, reseeding, re-mulching, and re-netting must be performed immediately to restore the control measures to their original design. If erosion and sediment control BMPs fail to perform as expected, replacement BMPs, or modifications of those installed, will be required.
- Any sediment removed from BMPs during construction will be returned to upland areas within the project area, and incorporated into the site grading.
- See the construction details and seeding specifications for maintenance procedures for the various control measures.
- Mud must be removed from vehicle tires before they exit the site. Washing the paved roadway, or sweeping the mud deposits into roadway ditches, sewers, culverts, or other drainage ways is not acceptable.

#### TEMPORARY SEEDING SCHEDULE

The contractor shall temporarily stabilize any rough graded area, topsoil stockpile or unused excavated fill material that will be left idle for less than 1 year. The grass will provide interim protection against the impact of precipitation, running water and wind. Permanently seed any area that will be idle for more than 1 year.

Temporary seeding schedule is as follows:  
Species: annual rye grass  
% Live Seed: 98%  
Application rate: 10 lbs./1,000 sq. yds. general purpose granular, 5-5-5  
Fertilizer application rate: 11 lbs./1,000 sq. yds. per soil test; minimum of 6 tons per acre  
Liming rate: 3 tons per acre  
Seedling dates: any time

When seeding is not possible due to the time of year or other limitations, disturbed area shall be mulched with straw/bales at the rate above. An erosion control blanket must be installed on all disturbed slopes steeper than 3:1, and all areas with concentrated flows. Matting can be North American Green 575, jute, or approved equal.

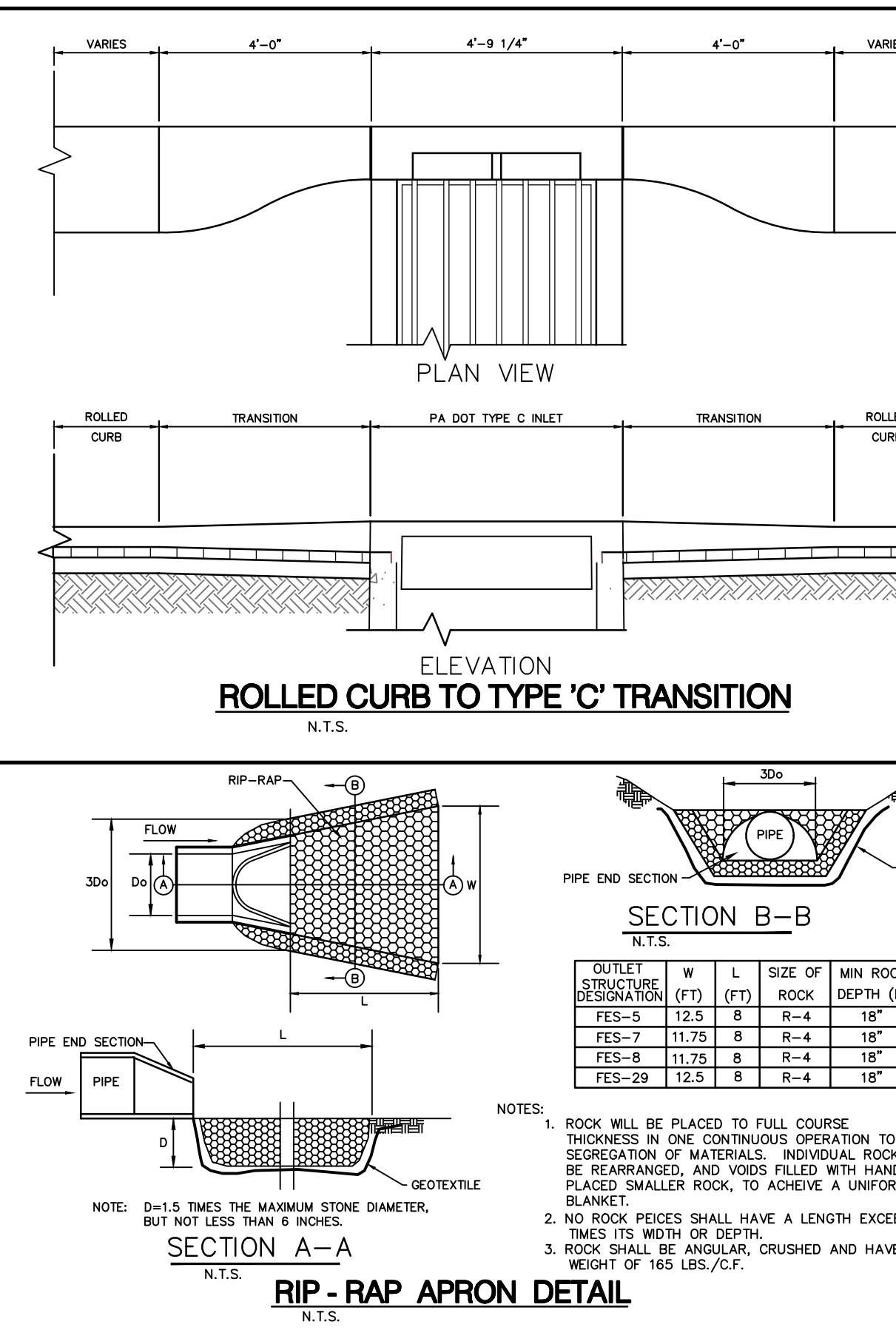
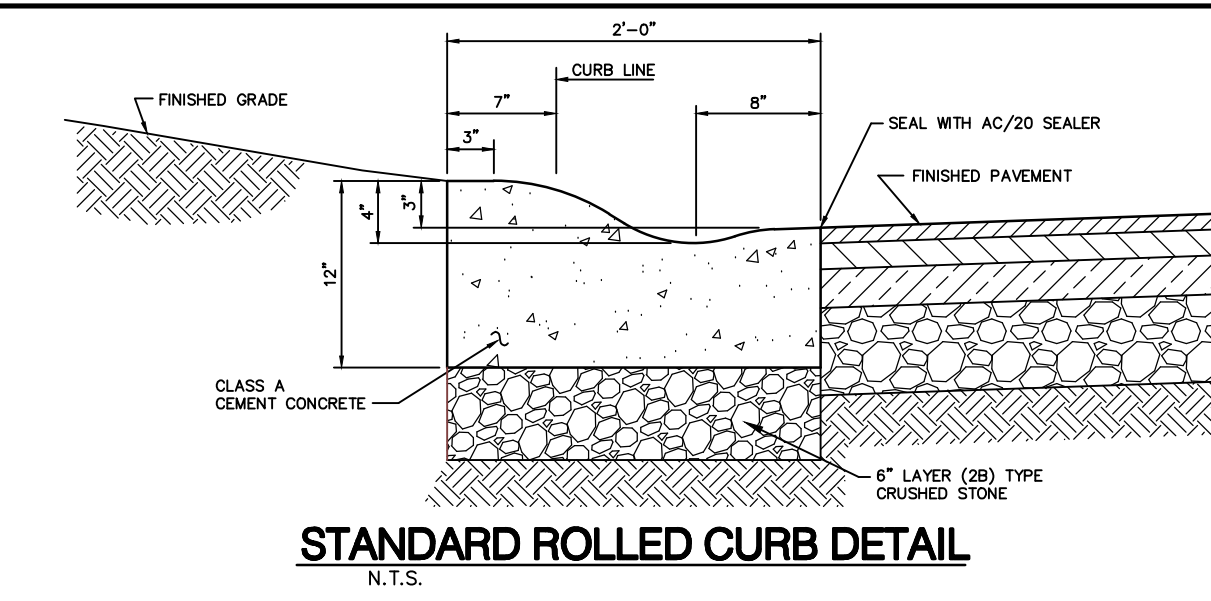
Maintenance procedure:  
1) Maintain a minimum 70% soil surface coverage with grass and/or mulch.  
2) If a washout, slope failure or similar disturbance occurs, correct drainage problem if necessary, then reapply soil to the proper grade, reapply soil amendments, seed and mulch.

#### PERMANENT SEEDING SCHEDULE

All disturbed soil not to be covered with impervious surfaces, riprap or landscaping mulch shall be permanently seeded to provide protection against the impact of precipitation, running water and wind. Permanent seeding schedule for the general project area is as follows:  
Species:  
For rain gardens:  
100% Tall Fescue, varieties such as K-31, Altira or other recently released dwarf variety tolerant of wetness.  
For non-retention area / general lawn planting:  
Species: 30% Kentucky bluegrass, 40% Perennial Creeping Red Fescue, 20% Noria Perennial ryegrass, 10% annual ryegrass  
% Pure live seed: 98%  
Application rate: 6 lbs./1,000 sq. ft. general purpose granular, 10-20-20  
Fertilizer type:  
Fertilizer application rate: 11 lbs./1,000 sq. yds. per soil test; minimum of 6 tons per acre  
Seeding dates: between 4/1 and 10/15  
Straw/bale mulching rate: 3 tons per acre  
Erosion control matting must be placed on slopes exceeding 3:1. Matting can be North American Green 575, jute, or approved equal.

#### STAGING OF EARTH MOVING ACTIVITIES

General Notes on sequencing of any work:  
A. At least 3 days before starting any earth disturbance activities, all contractors involved in those activities shall notify the Pennsylvania One Call system Incorporated at 1-800-242-1776 for the location of existing underground utilities.  
B. All earth disturbance activities shall proceed in accordance with the following sequence. Each stage shall be completed and immediately stabilized before any following stage is initiated. Clearing, grubbing and topsoil stripping shall be limited only to those areas described in each stage.  
C. Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall implement appropriate best management practices to eliminate the potential for accelerated erosion and/or sediment pollution.  
D. At least 7 days before starting any earth disturbance activities, the owner and/or operator shall invite all contractors involved in those activities, the landowner, all appropriate municipal officials, and a representative of the Dauphin County Conservation District to an on-site pre-construction meeting.  
E. Immediately after earth disturbance activities cease, the operator shall stabilize the disturbed areas. During non-germinating periods, mulch must be applied at the specified rates. Disturbed areas which are not at finished grade and which will be re-disturbed within 1 year must be stabilized in accordance with the temporary seeding vegetative stabilization specifications. Disturbed areas which are not at final grade or which will not be re-disturbed within 1 year must be stabilized in accordance with the permanent seeding vegetative stabilization specifications.  
F. All piling of sediment laden water shall be through a sediment control BMP, such as a pumped water filter bag or equivalent sediment removal facility, over undisturbed vegetated areas.



MISCELLANEOUS DETAILS  
FOR PHASE 2A OF THE TOWNES AT MARGARET'S GROVE  
LOCATED IN DAUPHIN COUNTY, PA.  
SUSQUEHANNA TOWNSHIP, DAUPHIN COUNTY, PA.

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