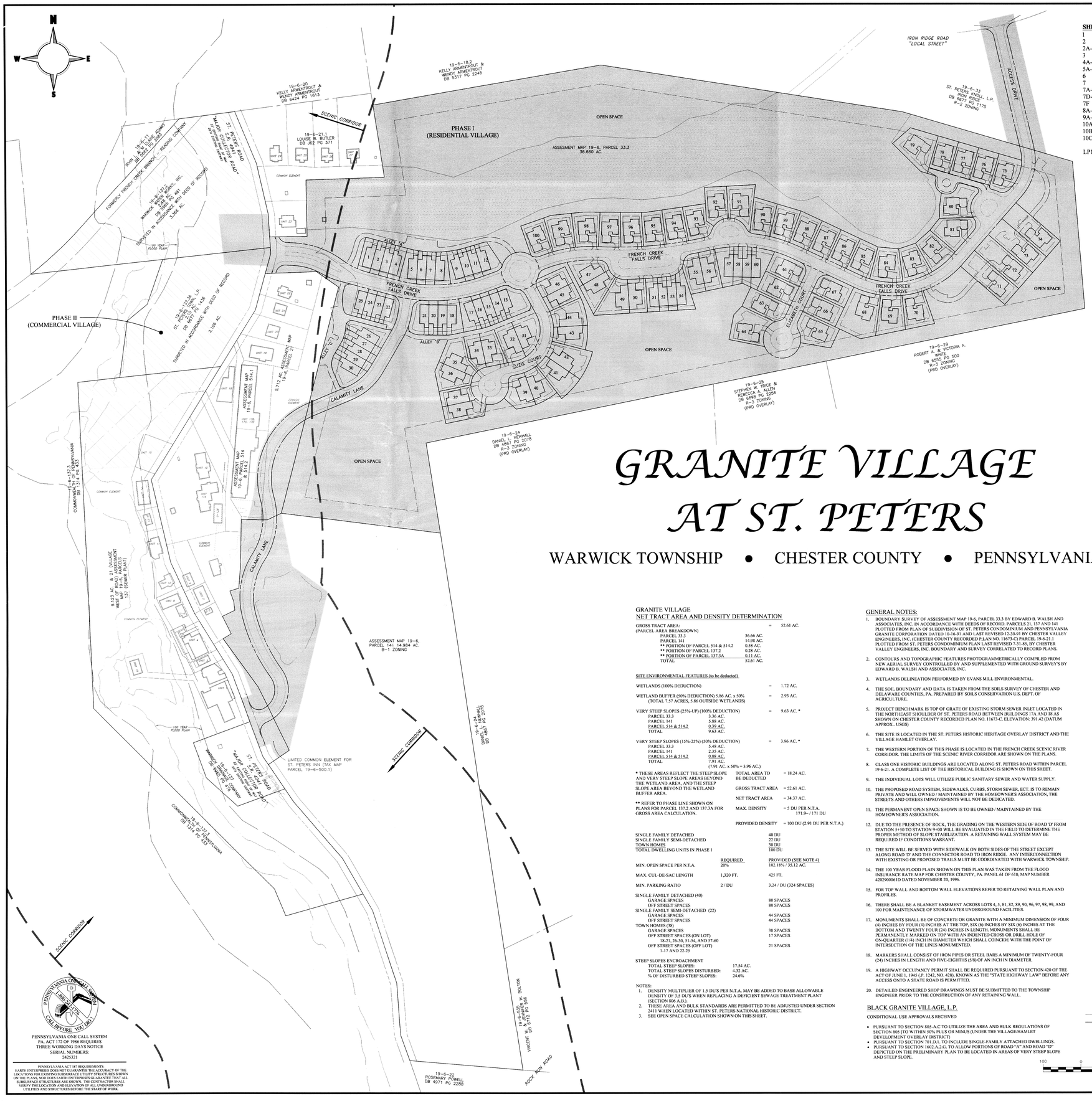
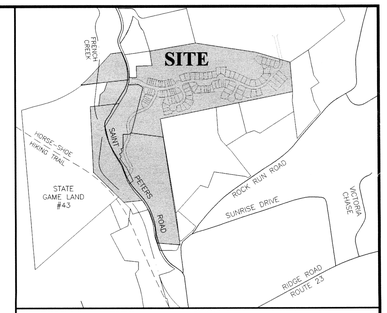


GRANITE VILLAGE AT ST. PETERS

WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

SHEET INDEX

1	COVER SHEET
2	OVERALL TITLE PLAN
2A-C	TITLE PLANS
3	OPEN SPACE PLAN
4A-C	EXISTING CONDITIONS PLANS
5A-C	GRADING & UTILITIES PLANS
6	NPDES MASTER PLAN
7	OVERALL EROSION & SEDIMENTATION CONTROL PLAN
7A-C	EROSION & SEDIMENTATION CONROL PLANS
7D-E	EROSION & SEDIMENTATION CONROL PLANS ON LOT CONTROLS
7F	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
8A-D	EROSION & SEDIMENTATION CONTROLNOTES & DETAILS
9A-D	PROFILE SHEETS
10A	CONSTRUCTION DETAILS AND OFF ROAD SANITARY SEWER PROFILES
10B	CONSTRUCTION DETAILS
10C-D	CONSTRUCTION DETAILS (WALL DETAILS)
LP1-2	LANDSCAPING PLANS (BY OTHERS)



LOCATION MAP

SCALE: 1" = 800'

OWNERSHIP AS TO TAX PARCEL 19-6-21 AND EASEMENT THEREON

ON THIS, THE ____ DAY OF _____, A.D., 2006 BEFORE ME, THE UNDERSIGNED OFFICER, A NOTARY PUBLIC OF THE COMMONWEALTH OF PENNSYLVANIA PERSONALLY APPEARED _____, THE _____ OF THE ST. PETERS CONDOMINIUM ASSOCIATION, OWNER OF TAX PARCEL NO. 19-6-21

_____,
SIGNATURE OF OWNER (AGENT)/TITLE

WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT HE/SHE, IN THE ABOVE CAPACITY IS THE OWNER AND/OR EQUITABLE OWNER'S AGENT OF TAX PARCEL 19-6-21 SHOWN ON THIS PLAN AND IS AWARE OF THE PLAN TO BE RECORDED CONTAINING SUCH LAND ALONG WITH THE EASEMENT THEREON

WITNESS MY HAND AND SEAL THE DAY AND YEAR ABOVE WRITTEN

MY COMMISSION EXPIRES

_____ __ __ _____
(NOTARY PUBLIC)

OWNERSHIP AS TO TAX PARCEL 19-6-514 & 514.2 AND EASEMENT THEREON

ON THIS, THE _____ DAY OF _____, A.D., 2006 BEFORE ME, THE UNDERSIGNED OFFICER, A NOTARY PUBLIC OF THE COMMONWEALTH OF PENNSYLVANIA PERSONALLY APPEARED _____, THE _____ OF THE ST. PETERS TOWN, L.P., A PENNSYLVANIA LIMITED PARTNERSHIP, OWNER OF TAX PARCEL NO. 19-6-514&514.2

_____,
SIGNATURE OF OWNER (AGENT)/TITLE

WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT HE/SHE, IN THE ABOVE CAPACITY IS THE OWNER AND/OR EQUITABLE OWNER'S AGENT OF TAX PARCEL 19-6-514&514.2 SHOWN ON THIS PLAN AND IS AWARE OF THE PLAN TO BE RECORDED CONTAINING SUCH LAND ALONG WITH THE EASEMENT THEREON

WITNESS MY HAND AND SEAL THE DAY AND YEAR ABOVE WRITTEN

MY COMMISSION EXPIRES

OWNERSHIP AS TO TAX PARCEL 19-6-500.1 AND EASEMENT THEREON

ON THIS, THE _____ DAY OF _____, A.D., 2006 BEFORE ME, THE UNDERSIGNED OFFICER, A NOTARY PUBLIC OF THE COMMONWEALTH OF PENNSYLVANIA PERSONALLY APPEARED _____, THE _____ OF THE ST. PETERS TOWN, L.P., A PENNSYLVANIA LIMITED PARTNERSHIP, OWNER OF TAX PARCEL NO. 19-6-500.1

_____,
SIGNATURE OF OWNER (AGENT)/TITLE

WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT HE/SHE, IN THE ABOVE CAPACITY IS THE OWNER AND/OR EQUITABLE OWNER'S AGENT OF TAX PARCEL 19-6-500.1 SHOWN ON THIS PLAN AND IS AWARE OF THE PLAN TO BE RECORDED CONTAINING SUCH LAND ALONG WITH THE EASEMENT THEREON

WITNESS MY HAND AND SEAL THE DAY AND YEAR ABOVE WRITTEN

MY COMMISSION EXPIRES

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF CHESTER

ON THE _____ DAY OF _____, A.D. 20__ BEFORE ME, THE SUBSCRIBER, A NOTARY PUBLIC OF THE COMMONWEALTH OF PENNSYLVANIA, RESIDING IN _____ PERSONALLY APPEARED THOMAS G. DRAUSCHAK JR. WHO ACKNOWLEDGES HIMSELF TO BE THE PRESIDENT OF BLACK GRANITE VILLAGE G.P., INC., A CORPORATION AND GENERAL PARTNER OF THE OWNER, AND THAT AS SUCH TO DO SO, HE EXECUTED THE FOREGOING PLAN BY SIGNING THE NAME OF THE SAID CORPORATION BY HIMSELF AS PRESIDENT, THAT THE SAID CORPORATION IS THE OWNER OF THE DESIGNATED LAND, THAT ALL NECESSARY APPROVAL OF THE PLAN HAS BEEN OBTAINED AND IS ENDORSED THEREON AND THAT THE SAID CORPORATION DESIRES THAT THE FOREGOING PLAN MAY BE DULY RECORDED.

_____
THOMAS G. DRAUSCHAK, JR. (PRESIDENT BLACK GRANITE VILLAGE G.P., INC.)

_____
NOTARY PUBLIC

MY COMMISSION EXPIRES: _____

REVIEWED BY THE PLANNING COMMISSION OF WARWICK TWP., CHESTER CO., PA., THIS _____ DAY OF _____, 20__.

_____,
_____,
_____.

APPROVED BY THE BOARD OF SUPERVISORS OF WARWICK TWP., CHESTER CO., PA., THIS _____ DAY OF _____, 20__.

_____,
_____,
_____.

REVIEWED BY THE PLANNING COMMISSION OF CHESTER COUNTY, PENNSYLVANIA THIS _____ DAY OF _____, 20__.

_____.
(SECRETARY)

REVIEWED BY THE WARWICK TOWNSHIP ENGINEER;

_____ _____.
(ENGINEER) (DATE)

RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS OF CHESTER COUNTY AT WEST CHESTER, PENNSYLVANIA IN PLAN BOOK _____, PAGE _____ ON THE _____ DAY OF _____, 20__.

PAI011506076A-1
(DEPUTY) RECORDER OF DEEDS

CERTIFICATE OF CONFORMANCE:

I HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, THESE PLANS ARE IN CONFORMITY WITH ENGINEERING, ZONING, BUILDING, SANITATION AND OTHER APPLICABLE TOWNSHIP ORDINANCES AND REGULATIONS.

_____ _____.
CHARLES A. DODSON, P.E
(LIC. #PE049197E) (DATE)

SURVEY CERTIFICATION:

CERTIFICATION BY SURVEYOR THAT THE SURVEY AND PLAN ARE CORRECT:

I CERTIFY THAT THE SURVEY AND PLAT ARE CORRECT

_____ _____.
(SURVEYOR) (DATE)

I HEREBY CERTIFY THAT I AM THE AGENT FOR THE OWNER AND/OR EQUITABLE OWNER OF THE LAND HEREIN SUBDIVIDED (OR DEVELOPED), AND THAT I DO HEREBY ADOPT THIS PLAN AND DESIRE THE SAME TO BE RECORDED.

BY:_____

CERTIFICATE OF OWNERSHIP AND ACKNOWLEDGMENT OF PLAN

ON THIS, THE ____ DAY OF _____, A.D., 2006 BEFORE ME, THE UNDERSIGNED OFFICER, A NOTARY PUBLIC OF THE COMMONWEALTH OF PENNSYLVANIA PERSONALLY APPEARED _____

_____,
SIGNATURE OF OWNER (AGENT)

WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT HE/SHE, IN THE ABOVE CAPACITY IS THE OWNER AND/OR EQUITABLE OWNER'S AGENT OF THE PROPERTY SHOWN ON THIS PLAN, AND THAT HE/SHE ACKNOWLEDGES THE SAME TO BE HIS/HER ACT AND PLAN AND DESIRES THE SAME TO BE RECORDED AS SUCH ACCORDING TO LAW

WITNESS MY HAND AND SEAL THE DAY AND YEAR ABOVE WRITTEN

MY COMMISSION EXPIRES: _____

Applicant Copy

THIS PLAN HAS BEEN REVIEWED
for the Department of Environmental Protection
By: CCCD
Date: 5-12-07
and determined to adequately satisfy the purpose and requirements of 25 PA Code Chapter 102, to minimize the potential for accelerated erosion and sedimentation to the waters of the Commonwealth.

RECEIVED
MAR - 5 200
C.C.C.D.
D. GREIG

NPDES # PAI011506076A-1

GRANITE VILLAGE
NET TRACT AREA AND DENSITY DETERMINATION

GROSS TRACT AREA:		=	52.61 AC.
(PARCEL AREA BREAKDOWN)			
PARCEL 33.3	36.66 AC.		
PARCEL 141	14.98 AC.		
** PORTION OF PARCEL 514 & 514.2	0.58 AC.		
** PORTION OF PARCEL 137.2	0.28 AC.		
** PORTION OF PARCEL 137.3A	0.11 AC.		
TOTAL	52.61 AC.		
SITE ENVIRONMENTAL FEATURES (to be deducted)			
WETLANDS (100% DEDUCTION)		=	1.72 AC.
WETLAND BUFFER (50% DEDUCTION) (TOTAL 7.57 ACRES, 5.86 OUTSIDE WETLANDS)	5.86 AC. x 50%	=	2.93 AC.
VERY STEEP SLOPES (25%-UP) (100% DEDUCTION)		=	9.63 AC. *
PARCEL 33.3	3.36 AC.		
PARCEL 141	5.88 AC.		
PARCEL 514 & 514.2	0.39 AC.		
TOTAL	9.63 AC.		
VERY STEEP SLOPES (15%-25%) (50% DEDUCTION)		=	3.96 AC. *
PARCEL 33.3	5.48 AC.		
PARCEL 141	2.35 AC.		
PARCEL 514 & 514.2	0.08 AC.		
TOTAL	7.91 AC.		
	(7.91 AC. x 50% = 3.96 AC.)		

* THESE AREAS REFLECT THE STEEP SLOPE AND VERY STEEP SLOPE AREAS BEYOND THE WETLAND AREA, AND THE STEEP SLOPE AREA BEYOND THE WETLAND BUFFER AREA.

** REFER TO PHASE LINE SHOWN ON PLANS FOR PARCEL 137.2 AND 137.3A FOR GROSS AREA CALCULATION.

TOTAL AREA TO BE DEDUCTED	= 18.24 AC.
GROSS TRACT AREA	= 52.61 AC.
NET TRACT AREA	= 34.37 AC.
MAX. DENSITY	= 5 DU PER N.T.A. 171.9~ / 171 DU
PROVIDED DENSITY	= 100 DU (2.91 DU PER N.T.A.)

SINGLE FAMILY DETACHED	40 DU
SINGLE FAMILY SEMI-DETACHED	22 DU
TOWN HOMES	38 DU
TOTAL DWELLING UNITS IN PHASE 1	100 DU

	REQUIRED	PROVIDED (SEE NOTE 4)
MIN. OPEN SPACE PER N.T.A.	20%	102.18% / 35.12 AC.
MAX. CUL-DE-SAC LENGTH	1,320 FT.	425 FT.
MIN. PARKING RATIO	2 / DU	3.24 / DU (324 SPACES)
SINGLE FAMILY DETACHED (40)		
GARAGE SPACES		80 SPACES
OFF STREET SPACES		80 SPACES
SINGLE FAMILY SEMI-DETACHED (22)		
GARAGE SPACES		44 SPACES
OFF STREET SPACES		44 SPACES
TOWN HOMES (38)		
GARAGE SPACES		38 SPACES
OFF STREET SPACES (ON LOT) 18-21, 26-30, 51-54, AND 57-60		17 SPACES
OFF STREET SPACES (OFF LOT) 1-17 AND 22-25		21 SPACES
STEEP SLOPES ENCROACHMENT		
TOTAL STEEP SLOPES:	17.54 AC.	
TOTAL STEEP SLOPES DISTURBED:	4.32 AC.	
% OF DISTURBED STEEP SLOPES:	24.6%	

NOTES:
1. DENSITY MULTIPLIER OF 1.5 DU'S PER N.T.A. MAY BE ADDED TO BASE ALLOWABLE DENSITY OF 3.5 DU'S WHEN REPLACING A DEFICIENT SEWAGE TREATMENT PLANT (SECTION 806 A.B.).
2. THESE AREA AND BULK STANDARDS ARE PERMITTED TO BE ADJUSTED UNDER SECTION 2411 WHEN LOCATED WITHIN ST. PETERS NATIONAL HISTORIC DISTRICT.
3. SEE OPEN SPACE CALCULATION SHOWN ON THIS SHEET.

GENERAL NOTES:

1. BOUNDARY SURVEY OF ASSESSMENT MAP 19-6, PARCEL 33.3 BY EDWARD B. WALSH AND ASSOCIATES, INC. IN ACCORDANCE WITH DEEDS OF RECORD. PARCELS 21, 137 AND 141 PLOTTED FROM PLAN OF SUBDIVISION OF ST. PETERS CONDOMINIUM AND PENNSYLVANIA GRANITE CORPORATION DATED 10-16-91 AND LAST REVISED 12-30-91 BY CHESTER VALLEY ENGINEERS, INC. (CHESTER COUNTY RECORDED PLAN NO. 11673-C) PARCEL 19-6-21.1 PLOTTED FROM ST. PETERS CONDOMINIUM PLAN LAST REVISED 7-31-85, BY CHESTER VALLEY ENGINEERS, INC. BOUNDARY AND SURVEY CORRELATED TO RECORD PLANS.
2. CONTOURS AND TOPOGRAPHIC FEATURES PHOTOGRAMMETRICALLY COMPILED FROM NEW AERIAL SURVEY CONTROLLED BY AND SUPPLEMENTED WITH GROUND SURVEY'S BY EDWARD B. WALSH AND ASSOCIATES, INC.
3. WETLANDS DELINEATION PERFORMED BY EVANS MILL ENVIRONMENTAL.
4. THE SOIL BOUNDARY DATA IS TAKEN FROM THE SOILS SURVEY OF CHESTER AND DELAWARE COUNTIES, PA. PREPARED BY SOILS CONSERVATION U.S. DEPT. OF AGRICULTURE.
5. PROJECT BENCHMARK IS TOP OF GRATE OF EXISTING STORM SEWER INLET LOCATED IN THE NORTHEAST SHOULDER OF ST. PETERS ROAD BETWEEN BUILDINGS 17A AND 18 AS SHOWN ON CHESTER COUNTY RECORDED PLAN NO. 11673-C. ELEVATION: 391.42 (DATUM APPROX.. USGS)
6. THE SITE IS LOCATED IN THE ST. PETERS HISTORIC HERITAGE OVERLAY DISTRICT AND THE VILLAGE HAMLET OVERLAY.
7. THE WESTERN PORTION OF THIS PHASE IS LOCATED IN THE FRENCH CREEK SCENIC RIVER CORRIDOR. THE LIMITS OF THE SCENIC RIVER CORRIDOR ARE SHOWN ON THE PLANS.
8. CLASS ONE HISTORIC BUILDINGS ARE LOCATED ALONG ST. PETERS ROAD WITHIN PARCEL 19-6-21. A COMPLETE LIST OF THE HISTORICAL BUILDING IS SHOWN ON THIS SHEET.
9. THE INDIVIDUAL LOTS WILL UTILIZE PUBLIC SANITARY SEWER AND WATER SUPPLY.
10. THE PROPOSED ROAD SYSTEM, SIDEWALKS, CURBS, STORM SEWER, ECT. IS TO REMAIN PRIVATE AND WILL OWNED / MAINTAINED BY THE HOMEOWNER'S ASSOCIATION, THE STREETS AND OTHERS IMPROVEMENTS WILL NOT BE DEDICATED.
11. THE PERMANENT OPEN SPACE SHOWN IS TO BE OWNED / MAINTAINED BY THE HOMEOWNER'S ASSOCIATION.
12. DUE TO THE PRESENCE OF ROCK, THE GRADING ON THE WESTERN SIDE OF ROAD 'D' FROM STATION 5+50 TO STATION 9+00 WILL BE EVALUATED IN THE FIELD TO DETERMINE THE PROPER METHOD OF SLOPE STABILIZATION. A RETAINING WALL SYSTEM MAY BE REQUIRED IF CONDITIONS WARRANT.
13. THE SITE WILL BE SERVED WITH SIDEWALK ON BOTH SIDES OF THE STREET EXCEPT ALONG ROAD 'D' AND THE CONNECTOR ROAD TO IRON RIDGE. ANY INTERCONNECTION WITH EXISTING OR PROPOSED TRAILS MUST BE COORDINATED WITH WARWICK TOWNSHIP.
14. THE 100 YEAR FLOOD PLAIN SHOWN ON THIS PLAN WAS TAKEN FROM THE FLOOD INSURANCE RATE MAP FOR CHESTER COUNTY, PA. PANEL 61 OF 610, MAP NUMBER 42026006ID DATED NOVEMBER 20, 1996.
15. FOR TOP WALL AND BOTTOM WALL ELEVATIONS REFER TO RETAINING WALL PLAN AND PROFILES.
16. THERE SHALL BE A BLANKET EASEMENT ACROSS LOTS 4, 5, 81, 82, 89, 90, 96, 97, 98, 99, AND 100 FOR MAINTENANCE OF STORMWATER UNDERGROUND FACILITIES.
17. MONUMENTS SHALL BE OF CONCRETE OR GRANITE WITH A MINIMUM DIMENSION OF FOUR (4) INCHES BY FOUR (4) INCHES AT THE TOP, SIX (6) INCHES BY SIX (6) INCHES AT THE BOTTOM AND TWENTY FOUR (24) INCHES IN LENGTH. MONUMENTS SHALL BE PERMANENTLY MARKED ON TOP WITH AN INDENTED CROSS OR DRILL HOLE OF ON-QUARTER (1/4) INCH IN DIAMETER WHICH SHALL CONCIDE WITH THE POINT OF INTERSECTION OF THE LINES MONUMENTED.
18. MARKERS SHALL CONSIST OF IRON PIPES OR STEEL BARS A MINIMUM OF TWENTY-FOUR (24) INCHES IN LENGTH AND FIVE-EIGHTHS (5/8) OF AN INCH IN DIAMETER.
19. A HIGHWAY OCCUPANCY PERMIT SHALL BE REQUIRED PURSUANT TO SECTION 420 OF THE ACT OF JUNE 1, 1945 (.P. 1242, NO. 428), KNOWN AS THE "STATE HIGHWAY LAW" BEFORE ANY ACCESS ONTO A STATE ROAD IS PERMITTED.
20. DETAILED ENGINEERED SHOP DRAWINGS MUST BE SUBMITTED TO THE TOWNSHIP ENGINEER PRIOR TO THE CONSTRUCTION OF ANY RETAINING WALL.

BLACK GRANITE VILLAGE, L.P.

CONDITIONAL USE APPROVALS RECEIVED

- PURSUANT TO SECTION 805-A.C TO UTILIZE THE AREA AND BULK REGULATIONS OF SECTION 805 [TO WITHIN 50% PLUS OR MINUS (UNDER THE VILLAGE/HAMLET DEVELOPMENT OVERLAY DISTRICT]
- PURSUANT TO SECTION 701.D.1. TO INCLUDE SINGLE-FAMILY ATTACHED DWELLINGS.
- PURSUANT TO SECTION 1602.A.2.G. TO ALLOW PORTIONS OF ROAD "A" AND ROAD "D" DEPICTED ON THE PRELIMINARY PLAN TO BE LOCATED IN AREAS OF VERY STEEP SLOPE AND STEEP SLOPE.

HISTORICAL BUILDINGS

UNIT # (SEE PLAN)	NATIONAL REGISTER #	DESCRIPTION
UNIT #1	B-1	ST. PETER'S INN (HOTEL OR EXCURSION HOUSE)
UNIT #1B	B-4	PAVILIION (ON THE ROCKS)
UNIT #3	B-2	LITTLE STORE
UNIT #4	B-3	GENERAL STORE
UNIT #5	B-12	SMALL BUILDING
UNIT #6	B-5	FRAME HOUSE (BUTCHER SHOP)
UNIT #7	B-13	FRAME BUILDING (ONE ROOM RETAIL)
UNIT #8	B-6	FRAME BUILDING (HARNESS SHOP / ICE CREAM PARLOR)
UNIT #9	B-14	GRANARY / FEED STORE
UNIT #10	B-7	FRAME HOUSE (COBLER'S SHOP)
UNIT #11	B-8	DBL. FRAME HOUSE (BARBER SHOP)
UNIT #12	B16,17	FRENCH CREEK QUARTERS
UNIT #13	B-9	BUILDING FRAME (ONE ROOM SHOP)
UNIT #14	B-10	MULE & WAGON BARN
UNIT #15	B-11	BOARDING HOUSE
UNIT #17	B-19	BUILDING (ONE ROOM RETAIL)
UNIT #18	B-20	POLISHING SHED
UNIT #19	B-21	ENGINE ROOM (GRANITE COMPANY)
UNIT #20	B-22	BOARDING HOUSE (CIGAR FACTORY)
UNIT #21	B-23	STONE DWELLING
UNIT #22	B-24	STONE DWELLING
UNIT #23	B-25	STONE DWELLING
UNIT #24	B-28	TOWN HOUSE
UNIT #25	B-29	SINGLE FRAME HOUSE
UNIT #26	B-30	SINGLE FRAME HOUSE
UNIT #27	B-31	SINGLE FRAME HOUSE

PERMITS, APPROVALS AND AGREEMENTS REQUIRED FOR DEVELOPMENT OF THIS PLAN ARE AS FOLLOWS:

1. CONDITIONAL USE APPROVAL
2. WARWICK TOWNSHIP SUBDIVISION APPROVAL
3. CHESTER COUNTY CONSERVATION DISTRICT APPROVAL
4. N.P.D.E.S. PERMIT APPROVAL
5. D.E.P. ACT 537 PLANNING MODULE APPROVAL
6. PENNDOT HIGHWAY OCCUPANCY PERMIT APPROVAL

REQUESTED WAIVERS:

1. SECTION 802.A.16 AND 802.C.3 : RELIEF IS REQUESTED TO NOT PROVIDE CURB ALONG THE EDGE OF THE ALLEYS.
2. SECTION 802.C.7 : RELIEF IS REQUESTED TO REDUCE THE LEVELING AREA FROM 75' TO PROPOSED LENGTHS AS FOLLOWS:
   A. ROAD 'A' AT ST. PETERS ROAD = 50'
   B. ROAD 'D' AT ST. PETERS ROAD = 50'
   C. ROAD 'C' AT ROAD 'A' = 50'
   D. ROAD 'B' AT ROAD 'A' = 55'
   E. ROAD 'D' AT ROAD 'A' = 63.65'
3. SECTION 802.C.10: RELIEF IS REQUESTED TO REDUCE THE ALGEBRAIC DIFFERENCE IN GRADE FOR CREST AND SAGS ON VERTICAL CURVES FROM 25 TIMES AS FOLLOWS:
   A. ROAD 'B' PVI STA. 2+90 = 20.00
   B. ROAD 'C' PVI STA. 1+00 = 16.00
   C. ROAD 'C' PVI STA. 1+80 = 12.00
4. SECTION 802.C.11 : RELIEF IS REQUESTED TO ALLOW FOR REVERSE CURVE FOR THE HORIZONTAL ALIGNMENT ON ROAD 'A' AT STATION 1+50 TO 2+00, AND STATION 9+00 TO 10+00, AND STATION 11+00 TO 12+00; AND ROAD 'D' AT STATION 5+00 TO 6+00 AND STATION 6+00 TO 7+00.
5. SECTION 804.B: RELIEF IS REQUESTED FOR SHARED DRIVEWAY WIDTH TO BE REDUCED FROM 20' AT THE STREET LINE TO 20' FOR LOTS: 34, 35, 36, 37, 40, 41, 44, 45, 48, AND 49.
6. SECTION 807.B.7: RELIEF IF REQUESTED TO ALLOW PARKING AREA ALONG ALLEY 'C' WITHIN THE 25' SETBACK FROM EXISTING PROPERTY LINE.
7. SECTION 802.C.11: RELIEF IS REQUESTED TO REDUCE THE 150 FT. CENTERLINE RADIUS TO 75 FT. FOR ROAD 'D' AT STATION 0+50 TO 1+50.

LEGEND:

EXISTING RIGHT OF WAY LINE
PROPOSED RIGHT OF WAY LINE
WETLANDS BUFFER

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100'

OWNER / APPLICANT
BLACK GRANITE VILLAGE L.P.
3441 SAINT PETERS ROAD
SAINT PETERS, PA 19470
PHN (610) 469-6390
FAX (610) 469-0575

Rev.	Date	Description
5	03/05/2007	REVISION PER CCCD LETTER DATED 02/20/2007
4	01/30/2007	REVISION PER CCCD LETTER DATED 01/23/2007
3	11/30/2006	REVISION PER TOWNSHIP LETTER DATED 11/9/2006
2	10/06/2006	NPDES PHASE II SUBMISSION
1	10/05/2006	REV PER TWP. ENGR. LTR DATED 9/4/2006 & TWP. PLANNER LTR. DATED 9/5/2006

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
CHARLES A. DODSON
No. 049197-E
Chuck Dodson PE 049197-E

FINAL COVER SHEET

PLAN OF SUBDIVISION FOR GRANITE VILLAGE AT SAINT PETERS

WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

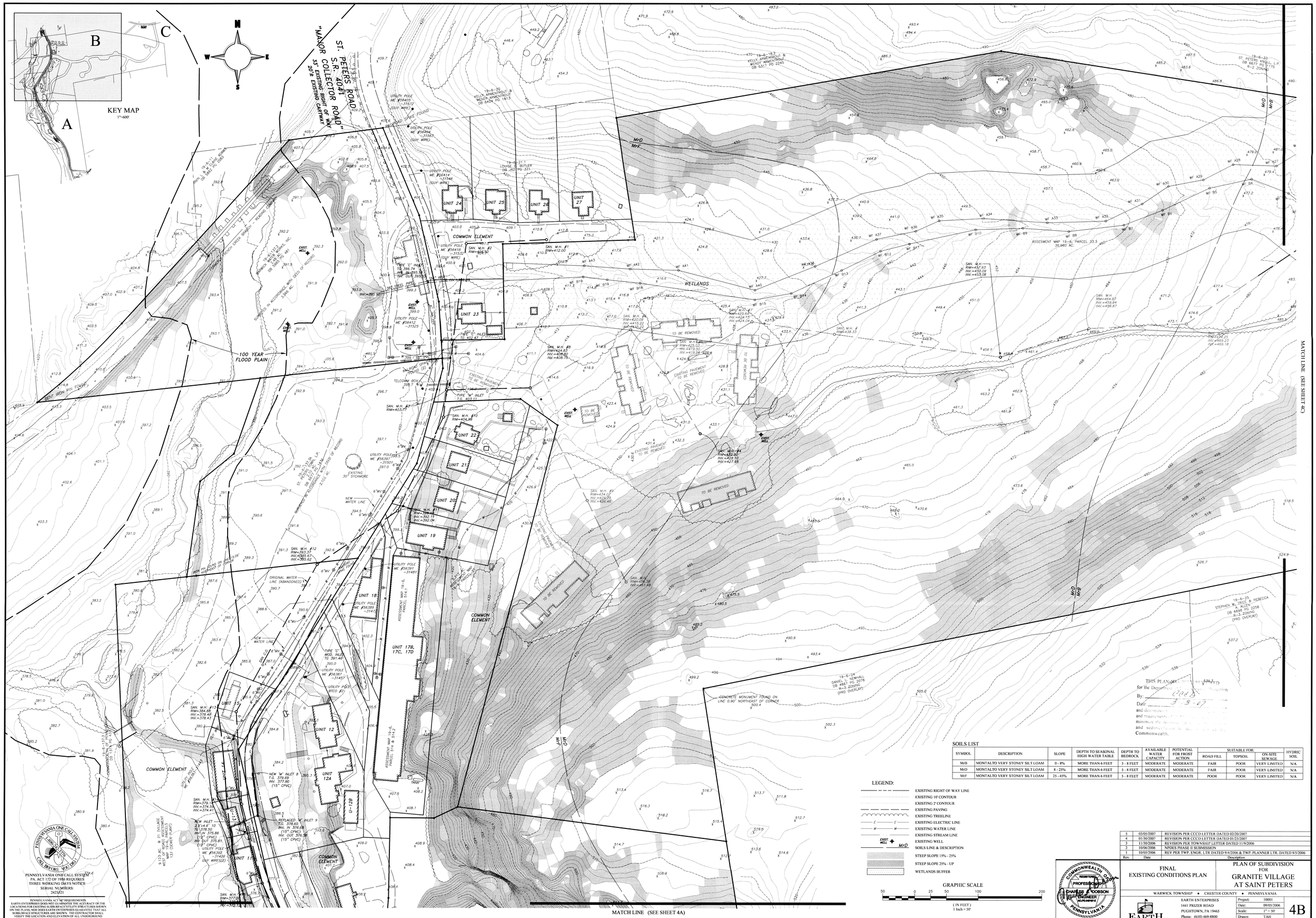
EARTH ENTERPRISES
1441 PRIZER ROAD
PUGHTOWN, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

Project:	10001
Date:	09/05/2006
Scale:	1" = 100'
Drawn:	TAH
Checked:	CAD

1 OF 32

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE
SERIAL NUMBERS:
2425321

PENNSYLVANIA ACT 187 REQUIREMENTS:
EARTH ENTERPRISES DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS FOR EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN ON THE PLANS, NOR DOES EARTH ENTERPRISES GUARANTEE THAT ALL SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.



THIS PLAN HAS BEEN APPROVED
for the Department of Environmental Protection
By: _____
Date: 3-3-07
and determination
and requirements
minimize the
and sedimentation
Commonwealth.

SOILS LIST

SYMBOL	DESCRIPTION	SLOPE	DEPTH TO SEASONAL HIGH WATER TABLE	DEPTH TO BEDROCK	AVAILABLE WATER CAPACITY	POTENTIAL FOR FROST ACTION	SUITABLE FOR: ROAD FILL	TOPSOIL	ON-SITE SEWAGE	HYDRIC SOIL
MrB	MONTALTO VERY STONEY SILT LOAM	0 - 8%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE	MODERATE	FAIR	POOR	VERY LIMITED	N/A
MrD	MONTALTO VERY STONEY SILT LOAM	8 - 25%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE	MODERATE	FAIR	POOR	VERY LIMITED	N/A
MrF	MONTALTO VERY STONEY SILT LOAM	25 - 45%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE	MODERATE	POOR	POOR	VERY LIMITED	N/A

LEGEND:

- EXISTING RIGHT OF WAY LINE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING PAVING
- EXISTING TREELINE
- EXISTING ELECTRIC LINE
- EXISTING WATER LINE
- EXISTING STREAM LINE
- EXIST. WELL — EXISTING WELL
- MrD — SOILS LINE & DESCRIPTION
- STEEP SLOPE 15% - 25%
- STEEP SLOPE 25% - UP
- WETLANDS BUFFER

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50'

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE:
SERIAL NUMBERS:
24252521

PENNSYLVANIA ACT 187 REQUIREMENTS
EARTH ENTERPRISES DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS FOR EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN ON THE PLANS, NOR DOES EARTH ENTERPRISES GUARANTEE THAT ALL SUBSURFACE UTILITY STRUCTURES ARE SHOWN. IT IS THE BIDDER'S TO VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.

Rev.	Date	Description
5	03/05/2007	REVISION PER CCCD LETTER DATED 02/20/2007
4	01/30/2007	REVISION PER CCCD LETTER DATED 01/23/2007
3	11/30/2006	REVISION PER TOWNSHIP LETTER DATED 11/9/2006
2	10/06/2006	NPDES PHASE II SUBMISSION
1	10/05/2006	REV PER TWP. ENGR. LTR DATED 9/4/2006 & TWP. PLANNER LTR. DATED 9/5/2006

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHARLES E. DOBSON
CIVIL ENGINEER
No. 049197-E
Chuck Dobson PE 049197-E

FINAL
EXISTING CONDITIONS PLAN

PLAN OF SUBDIVISION
FOR
GRANITE VILLAGE
AT SAINT PETERS

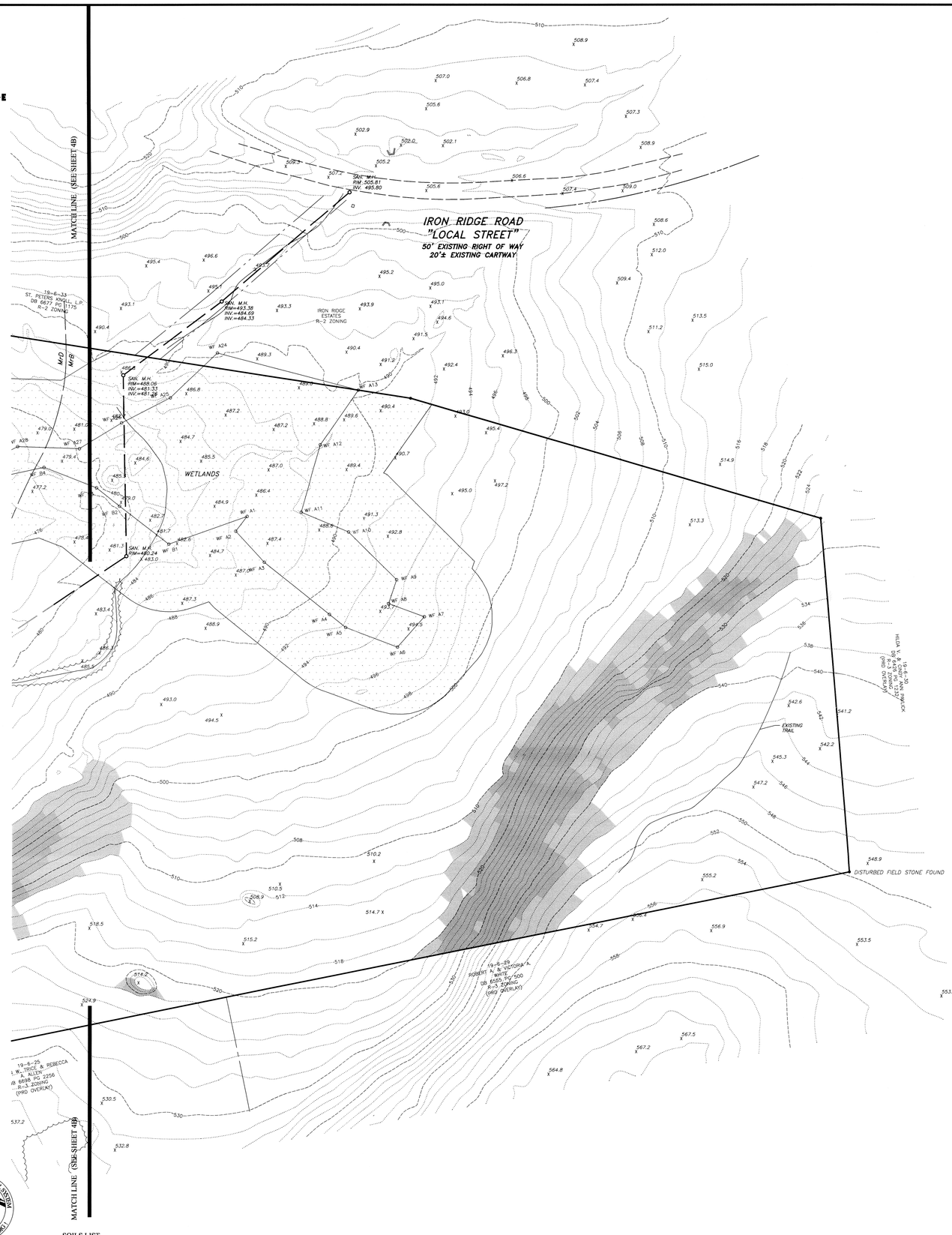
WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

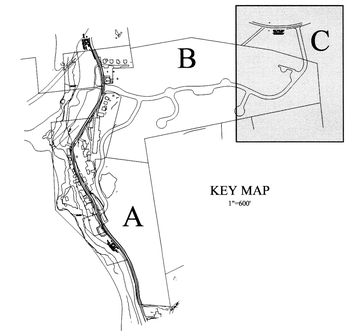
EARTH ENTERPRISES

EARTH ENTERPRISES
1441 PRIZER ROAD
PUGHTOWN, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

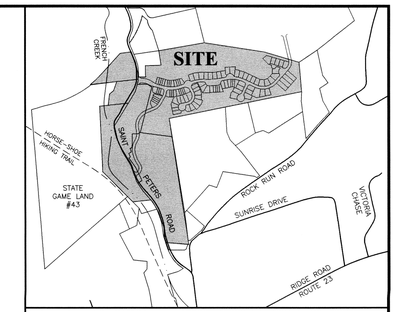
Project:	10001
Date:	09/05/2006
Scale:	1" = 50'
Drawn:	TAH
Checked:	CAD

4B
OF 32





KEY MAP
1"=600'



LOCATION MAP

SCALE: 1" = 800'

LEGEND:

- EXISTING RIGHT OF WAY LINE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING PAVING
- EXISTING TREELINE
- EXISTING ELECTRIC LINE
- EXISTING WATER LINE
- EXISTING STREAM LINE
- EXISTING WELL
- SOILS LINE & DESCRIPTION
- STEEP SLOPE 15% - 25%
- STEEP SLOPE 25% - UP
- WETLANDS BUFFER

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 Inch = 50'

THIS PLAN HAS BEEN REVIEWED
for the Department of Environmental Protection
By: CCCD
Date: 3-19-07
and determined to adequately satisfy the purpose and requirements of the Pennsylvania Act 167 to minimize the potential for accelerated erosion and sedimentation to the subject of the Commonwealth.

SOILS LIST

SYMBOL	DESCRIPTION	SLOPE	DEPTH TO SEASONAL HIGH WATER TABLE	DEPTH TO BEDROCK	AVAILABLE WATER CAPACITY	POTENTIAL FOR FROST ACTION	SUITABLE FOR: ROAD FILL	TOPSOIL	ON-SITE SEWAGE	HYDRIC SOIL
MrB	MONTALTO VERY STONEY SILT LOAM	0 - 8%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE	MODERATE	FAIR	POOR	VERY LIMITED	N/A
MrD	MONTALTO VERY STONEY SILT LOAM	8 - 25%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE	MODERATE	FAIR	POOR	VERY LIMITED	N/A
MrF	MONTALTO VERY STONEY SILT LOAM	25 - 45%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE	MODERATE	POOR	POOR	VERY LIMITED	N/A

PENNSYLVANIA ONE CALL SYSTEM
1-800-242-1776
CALL BEFORE YOU DIG!!

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE
SERIAL NUMBERS:
2425321

PENNSYLVANIA ACT 187 REQUIREMENTS:
EARTH ENTERPRISES DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS FOR EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN ON THIS PLAN. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.

Rev.	Date	Description
5	03/05/2007	REVISION PER CCCD LETTER DATED 02/20/2007
4	01/30/2007	REVISION PER CCCD LETTER DATED 01/23/2007.
3	11/30/2006	REVISION PER TOWNSHIP LETTER DATED 11/9/2006
2	10/06/2006	NPDES PHASE II SUBMISSION
1	10/05/2006	REV PER TWP. ENGR. LTR DATED 9/4/2006 & TWP. PLANNER LTR. DATED 9/5/2006

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHASE E. JACOBSON
ENGINEER
Chuck Dobson PE 049197-E

FINAL
EXISTING CONDITIONS PLAN

PLAN OF SUBDIVISION
FOR
GRANITE VILLAGE
AT SAINT PETERS

WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

EARTH ENTERPRISES
1441 PRIZER ROAD
PUGHTOWN, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

Project:	10001
Date:	09/05/2006
Scale:	1" = 50'
Drawn:	TAH
Checked:	CAD

4C
OF 32

SOILS LIST

SYMBOL	DESCRIPTION	SLOPE	DEPTH TO SEASONAL HIGH WATER TABLE	DEPTH TO BEDROCK	AVAILABLE WATER CAPACITY	POTENTIAL FOR FROST ACTION	SUITABLE FOR: ROAD FILL	TOPSOIL	ON SITE SEWAGE	HYDRIC SOIL
MrB	MONTALTO VERY STONEY SILT LOAM	0 - 8%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE:	MODERATE:	FAIR	POOR	VERY LIMITED	N/A
MrD	MONTALTO VERY STONEY SILT LOAM	8 - 25%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE:	MODERATE:	FAIR	POOR	VERY LIMITED	N/A
MrF	MONTALTO VERY STONEY SILT LOAM	25 - 45%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE:	MODERATE:	POOR	POOR	VERY LIMITED	N/A

LEGEND:

- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- PROPOSED UPRIGHT CURB
- PROPOSED MOUNTABLE CURB
- 25 26 27 — PROPOSED STORM STRUCTURES & PIPE
- 12 — PROPOSED SANITARY MANHOLE & PIPE
- L — PROPOSED SANITARY LATERAL
- W — PROPOSED WATER LINE
- N-1 — TEST PIT LOCATION AND NUMBER
- WETLANDS BUFFER
- STEEP SLOPE 25% - UP

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50'

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE
SERIAL NUMBERS:
24253211

PENNSYLVANIA ACT 287 REQUIREMENTS:
EARTH ENTERPRISES DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS FOR EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN ON THE PLANS, NOR DOES EARTH ENTERPRISES GUARANTEE THAT ALL SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH TO VERIFY ALL AFOREMENTIONED UTILITIES AND STRUCTURES BEFORE THE START OF WORK.

Rev.	Date	Description
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2	10/06/2006	NPDES PHASE II SUBMISSION
1	10/05/2006	REV PER TWP. ENGR. LTR DATED 9/4/2006 & TWP. PLANNER LTR. DATED 9/5/2006

COMMONWEALTH OF PENNSYLVANIA
REGISTERED
PROFESSIONAL
CHARLES A. DOBSON
ENGINEER
No. 049197-E
PENNSYLVANIA
Chuck Dobson PE 049197-E

FINAL
GRADING & UTILITY PLAN

PLAN OF SUBDIVISION FOR GRANITE VILLAGE AT SAINT PETERS

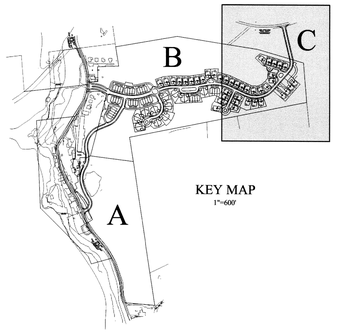
WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

EARTH ENTERPRISES
1441 PRIZER ROAD
PUGHTOWN, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

Project:	10001
Date:	09/05/2006
Scale:	1" = 50'
Drawn:	TAH
Checked:	CAD

5B

OF 32



Infiltration Test Field Report
Wheeler Environmental Services
In cooperation with Environmental Design Service, Inc.

Client: Earth Enterprises

Site Location: St. Peters Village — Subdivision Name: Black Granite Village at St. Peters

Municipality: Warwick Township — County: Chester — State: PA

Staff: Ross Wolford/ Soil Scientist — Date: 8-11-06 & 12-05-06

Test Method: hydraulic conductivity - 24" head — Samples taken 12-05-06 are marked with *

Weather Conditions: ☐ Below 40 ☑ Above 40° ☐ Precipitation Last 24 hrs

Soil Conditions: ☐ Wet ☑ Dry ☐ Frozen

Test Hole #	Rdg Int.	Hole Depth	Rdg #1	Rdg #2	Rdg#3	Rdg#4	Rdg#5	Rdg#6	Rdg#7	Rdg #8	Final Drop	Perc Rate	Drainage Class
N-1	30min	78"	1'2"	1'8"	0"	0"	0"				0"		SPD
N-2	30min	60"	5 1'2"	3 1'8"	2 1'2"	2 1'2"	2 1'4"	2 1'4"			2 1'4"	4 1'2"	WD
N-3A	unsuitable												PD
* N-3B 1	30min	36"	18 3'4"	16 1'2"	15 3'4"	15"	13 1'4"	11 3'4"	12 1'4"	12 1'8"	12 1'8"	24 1'4"	WD
* N-3B 2	30min	36"	2 5'8"	1 1'4"	1 1'4"	1 1'8"	1"	7/8"	1"		1"	2"	WD
Average N-3B 1 + N-3B 2 = 6.56" for 30 min interval 13 1'4" / hour													
N-4	30min	48"	1 1'4"	3/4"	5/8"	1/2"	1/2"				1/2"	1"	SPD
N-5	unsuitable												SPD
N-6	unsuitable												SPD
N-7	30 min	22"	1 1'4"	1"	7/8"	7/8"	3/4				3/4"	1 1'2"	WD
N-8	unsuitable												SPD
N-9	30 min	36"	1 1'8"	7/8"	7/8"	3/4"	3/4"				3/4"	1 1'2"	MWD
N-10	30 min	36"	1"	7/8"	3/4"	1/2"	1/2"				1/2"	1"	MWD
N-11	30 min	72"	3/4"	1/2"	3/8"	3/8"					3/8"	3/4"	SPD

Infiltration Test Field Report
Wheeler Environmental Services

Client: Earth Enterprises

Site Location: St. Peters Village — Subdivision Name: Black Granite Village at St. Peters

Municipality: Warwick Township — County: Chester — State: PA

WES Staff: Stephen Wheeler / Robert Davis — Date: 7-14 to 7-18-06

Test Method: hydraulic conductivity - 24" head

Weather Conditions: ☐ Below 40 ☑ Above 40° ☐ Precipitation Last 24 hrs

Soil Conditions: ☐ Wet ☑ Dry ☐ Frozen

Test Hole #	Rdg Int.	Hole Depth	Rdg #1	Rdg #2	Rdg#3	Rdg#4	Rdg#5	Rdg#6	Rdg#7	Rdg #8	Final Drop	Perc Rate	Drainage Class
95	30min	32"	2 1'4"	1 3'4"	1 1'2"	1 1'4"	1 1'4"				1 1'4"	2 1'2"	WD
96	30min	32"	1 1'8"	7/8"	3/4"	1/2"	3/8"	3/8"			3/8"	3/4"	SPD
97	30min	32"	1 1'4"	1"	3/8"	3/4"	1/2"	1/2"			1/2"	1"	MWD
98	unsuitable												
99	30min	36"	1 1'4"	3/4"	5/8"	1/2"	1/2"				1/2"	1"	MWD
100	30min	36"	1 7/8"	1 1/8"	7/8"	7/8"	1/2"	1/2"			1/2"	1"	MWD
101	30 min	32"	1 3/8"	7/8"	5/8"	3/8"	1/4"	1/4"			1/4"	1/2"	SPD
102	30min	37"	1"	1/2"	3/8"	1/4"	1/4"	1/4"			1/4"	1/2"	SPD
103	30 min	31"	3/4"	1/2"	1/2"	1/2"	1/4"	1/8"			1/8"	1/4"	PD
104	30 min	36"	2 1/4"	1 1/2"	1/2"	1/2"	1/4"	1/4"			1/4"	1/2"	SPD
105	30 min	31"	1 1/8"	1"	7/8"	3/4"	1/2"	1/2"			1/2"	1"	MWD
106	30min	30"	6"	4 1/2"	3"	3"					3"	6"	WD
107	30min	34"	7"	6 1/8"	6"	6"					6"	12"	ED
108	30min	34"	1/2"	1/4"	1/4"	1/8"	0"	0"			0"	0	PD
109	unsuitable												

THIS PLAN HAS BEEN REVIEWED
for the Department of Environmental Protection
By: CADD
Date: 3-3-07
and determined to adequately meet the requirements of 25 PA Code Chapter 102, to minimize the potential for accelerated erosion and sedimentation to the waters of the Commonwealth.

LEGEND:

- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- PROPOSED UPRIGHT CURB
- PROPOSED MOUNTABLE CURB
- PROPOSED STORM STRUCTURES & PIPE
- PROPOSED SANITARY MANHOLE & PIPE
- PROPOSED SANITARY LATERAL
- PROPOSED WATER LINE
- TEST PIT LOCATION AND NUMBER
- WETLANDS BUFFER
- STEEP SLOPE 25% - UP

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50'

PENNSYLVANIA ONE-CALL SYSTEM
1-800-242-1776
CALL BEFORE YOU DIG!

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE
SERIAL NUMBERS:
2425321

PENNSYLVANIA ACT 187 REQUIREMENTS
EARTH ENTERPRISES DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS FOR GAS, WATER, SEWER, ELECTRIC, TELEPHONE, OR OTHER SERVICES SHOWN ON THE PLANS, NOR DOES EARTH ENTERPRISES GUARANTEE THAT ALL SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.

SOILS LIST

SYMBOL	DESCRIPTION	SLOPE	DEPTH TO SEASONAL HIGH WATER TABLE	DEPTH TO BEDROCK	AVAILABLE WATER CAPACITY	POTENTIAL FOR FROST ACTION	SUITABLE FOR: ROAD FILL	TOPSOIL	ON-SITE SEWAGE	HYDRIC SOIL
MrB	MONTALTO VERY STONEY SILT LOAM	0 - 8%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE	MODERATE	FAIR	POOR	VERY LIMITED	N/A
MrD	MONTALTO VERY STONEY SILT LOAM	8 - 25%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE	MODERATE	FAIR	POOR	VERY LIMITED	N/A
MrF	MONTALTO VERY STONEY SILT LOAM	25 - 65%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE	MODERATE	POOR	POOR	VERY LIMITED	N/A

Rev.	Date	Description
5	03/05/2007	REVISION PER CCCD LETTER DATED 02/20/2007
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2	10/06/2006	NPDES PHASE II SUBMISSION
1	10/05/2006	REV PER TWP. ENGR. LTR DATED 9/4/2006 & TWP. PLANNER LTR. DATED 9/5/2006

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHARLES A. DOBSON
CIVIL ENGINEER
No. PE-049197-E
Chuck Dobson PE 049197-E

FINAL
GRADING & UTILITY PLAN

PLAN OF SUBDIVISION
FOR
GRANITE VILLAGE
AT SAINT PETERS

WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

EARTH ENTERPRISES
1441 PRIZER ROAD
PUGHTOWN, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

Project:	10001
Date:	09/05/2006
Scale:	1" = 50'
Drawn:	TAH
Checked:	CAD

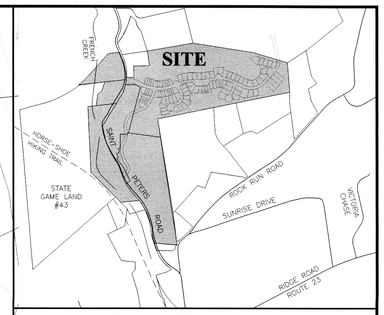
5C
OF 32

NPDES PHASE IV
(ST. PETERS VILLAGE
COMMERCIAL DISTRICT)

NPDES PHASE II
(GRANITE VILLAGE AT
ST. PETERS)

NPDES PHASE I
(ST. PETERS VILLAGE)

NPDES PHASE III
(ST. PETERS
WASTEWATER
TREATMENT PLANT)



LOCATION MAP

SCALE: 1" = 800'

N
W E
S

THIS PLAN HAS BEEN REVIEWED
for the Department of Environmental Protection
By: [illegible]
Date: 3-13-07
and determined [illegible] and requirements of [illegible] to minimize the potential [illegible] and sedimentation to the waters of the Commonwealth.

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE
SERIAL NUMBERS:
2425321

PENNSYLVANIA ACT 187 REQUIREMENTS:
EARTH ENTERPRISES DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS FOR EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN ON THE PLANS, NOR DOES EARTH ENTERPRISES GUARANTEE THAT ALL SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.

GRAPHIC SCALE
200 0 100 200 400 800
(IN FEET)

Rev.	Date	Description
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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
CHARLES A. DOBSON
No. 049197-E

Chuck Dobson PE 049197-E

FINAL
ST. PETERS VILLAGE OVERALL
NPDES MASTER PLAN

PLAN OF SUBDIVISION
FOR
GRANITE VILLAGE
AT SAINT PETERS

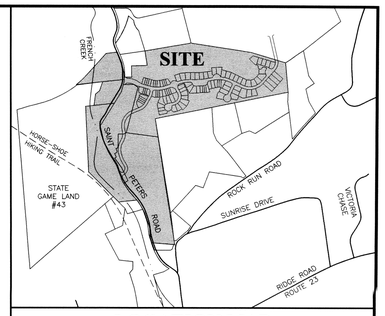
WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

EARTH ENTERPRISES

EARTH ENTERPRISES
1441 PRIZER ROAD
PLUMSTEADVILLE, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

Project:	10001
Date:	09/05/2006
Scale:	1" = 200'
Drawn:	TAH
Checked:	CAD

6
OF 32



LOCATION MAP

SCALE: 1" = 800'

THIS PLAN HAS BEEN REVIEWED
for the Department of Environmental Protection
By: _____
Date: 3-13-07
and determine [illegible] and requirements [illegible] minimize the potential [illegible] and sedimentation to the waters of the Commonwealth.

LEGEND:

- EXISTING RIGHT OF WAY LINE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING PAVING
- EXISTING TREELINE
- EXISTING ELECTRIC LINE
- EXISTING WATER LINE
- EXISTING STREAM LINE
- MrD — SOILS LINE & DESCRIPTION
- STEEP SLOPE 25% - UP
- WETLANDS BUFFER
- PROPOSED RIGHT OF WAY
- PROPOSED SIDEWALK
- PROPOSED CURB
- 18" SILT FENCE
- 30" SILT FENCE
- SUPER SILT FENCE
- LIMIT OF DISTURBANCE
- ROCK CONSTRUCTION ENTRANCE
- EROSION CONTROL BLANKET

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100'

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE
SERIAL NUMBERS:
2425321

PENNSYLVANIA ACT 187 REQUIREMENTS:
EARTH ENTERPRISES DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS FOR EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN ON THE PLANS, NOR DOES EARTH ENTERPRISES GUARANTEE THAT ALL SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.

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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
CHARLES E. DODSON
No. PE-049197-E

Chuck Dodson PE 049197-E

FINAL OVERALL STAGING, EROSION & SEDIMENTATION CONTROL PLAN

PLAN OF SUBDIVISION FOR GRANITE VILLAGE AT SAINT PETERS

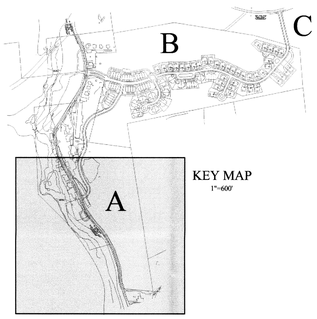
WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

EARTH ENTERPRISES
1441 PRIZER ROAD
PUGHTOWN, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

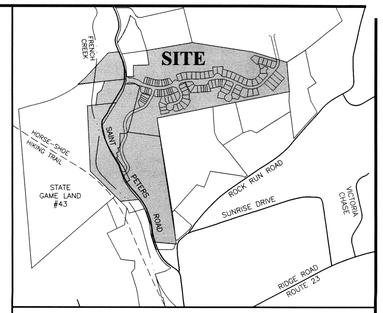
Project:	10001
Date:	09/05/2006
Scale:	1" = 100'
Drawn:	TAH
Checked:	CAD

MATCH LINE (SEE SHEET 7B)

MATCH LINE (SEE SHEET 7B)



KEY MAP
1"=600'



LOCATION MAP
SCALE: 1" = 800'

STAGE MAP
1"=600'

STORM STRUCTURE TOP OF GRATE ELEVATIONS

STRUCTURE NO.	T.G.	STRUCTURE NO.	T.G.	STRUCTURE NO.	T.G.
2	390.15	31	436.00	59	497.54
3	390.15	32	446.23	60	497.69
4	401.80	33	453.95	61	497.69
5	406.22	34	453.95	62	501.29
6	405.94	35	455.60	63	508.66
7	405.94	36	456.70	64	508.66
8	407.70	37	456.70	65	498.53
9	411.38	38	462.05	66	498.53
10	411.38	39	470.52	67	503.11
11	421.12	40	470.52	68	505.00
12	421.12	41	478.90	69	512.85
13	419.80	42	481.05	70	512.85
14	420.30	43	485.00	71	519.08
15	430.85	44	456.58	72	517.03
16	432.35	45	457.50	73	517.03
17	432.35	46	458.68	74	513.76
18	435.50	47	460.00	75	513.76
19	434.00	47A	460.75	76	403.25
20	429.50	48	459.12	77	403.25
21	425.80	49	461.59	79	410.46
22	437.45	50	464.31	80	410.46
23	438.20	51	463.74	81	418.50
24	450.00	52	465.50	82	418.50
25	440.00	53	471.25	83	424.00
26	447.20	54	477.88	84	426.00
27	455.50	55	477.88	85	509.00
28	433.98	56	486.09	86	509.10
29	433.90	57	489.23	87	509.10
30	436.00	58	489.23		

SEE PLAN AND PROFILE SHEETS 9A-9D
FOR FINAL TOP OF GRATE INFORMATION.

THIS PLAN HAS BEEN REVIEWED
for the Department of Environmental Protection
By: CCCD
3-13-07
Determined to adequately satisfy the purpose and requirements of 25 PA Code Chapter 102 to minimize the potential for accelerated erosion and sedimentation to the waters of the Commonwealth.

LEGEND:

- EXISTING RIGHT OF WAY LINE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING PAVING
- EXISTING TREELINE
- EXISTING ELECTRIC LINE
- EXISTING WATER LINE
- EXISTING STREAM LINE
- SOILS LINE & DESCRIPTION
- STEEP SLOPE 25% - UP
- WETLANDS BUFFER
- PROPOSED RIGHT OF WAY
- PROPOSED SIDEWALK
- PROPOSED CURB
- 18" SILT FENCE
- 30" SILT FENCE
- SUPER SILT FENCE
- ORANGE CONSTRUTION FENCE
- LIMIT OF DISTURBANCE
- FILTER SOCK
- VEGETATIVE FILTER BERM
- ROCK CONSTRUCTION ENTRANCE
- EROSION CONTROL BLANKET FOR SLOPES
- SWALE LINING (SEE DETAIL ON SHEET 8B FOR TYPE)
- INLET SEDIMENT FILTER
- INLET DEFLECTOR BERM

NOTE: EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL SLOPES 3:1 OR GREATER.

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE
SERIAL NUMBERS:
2425321

PENNSYLVANIA ACT 187 REQUIREMENTS:
EARTH ENTERPRISES DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS FOR EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN ON THIS PLAN. THE CONTRACTOR SHALL ASSUME THAT ALL UTILITIES AND SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.

SOILS LIST

SYMBOL	DESCRIPTION	SLOPE	DEPTH TO SEASONAL HIGH WATER TABLE	DEPTH TO BEDROCK	AVAILABLE WATER CAPACITY	POTENTIAL FOR FROST ACTION	SUITABLE FOR: ROAD FILL	TOPSOIL	ON-SITE SEWAGE	HYDRIC SOIL
MrB	MONTALTO VERY STONEY SILT LOAM	0 - 8%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE	MODERATE	FAIR	POOR	VERY LIMITED	N/A
MrD	MONTALTO VERY STONEY SILT LOAM	8 - 25%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE	MODERATE	FAIR	POOR	VERY LIMITED	N/A
MrF	MONTALTO VERY STONEY SILT LOAM	25 - 45%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE	MODERATE	POOR	POOR	VERY LIMITED	N/A

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50'

OVERALL SITE CONSTRUCTION

Rev.	Date	Description
5	03/05/2007	REVISION PER CCCD LETTER DATED 02/20/2007
4	01/30/2007	REVISION PER CCCD LETTER DATED 01/23/2007
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1	10/05/2006	REV PER TWP. ENGR. LTR DATED 9/4/2006 & TWP. PLANNER LTR. DATED 9/5/2006

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
CHARLES A. DOBSON
No. PE-049197-E
Chuck Dobson PE 049197-E

FINAL
EROSION AND SEDIMENTATION CONTROL PLAN

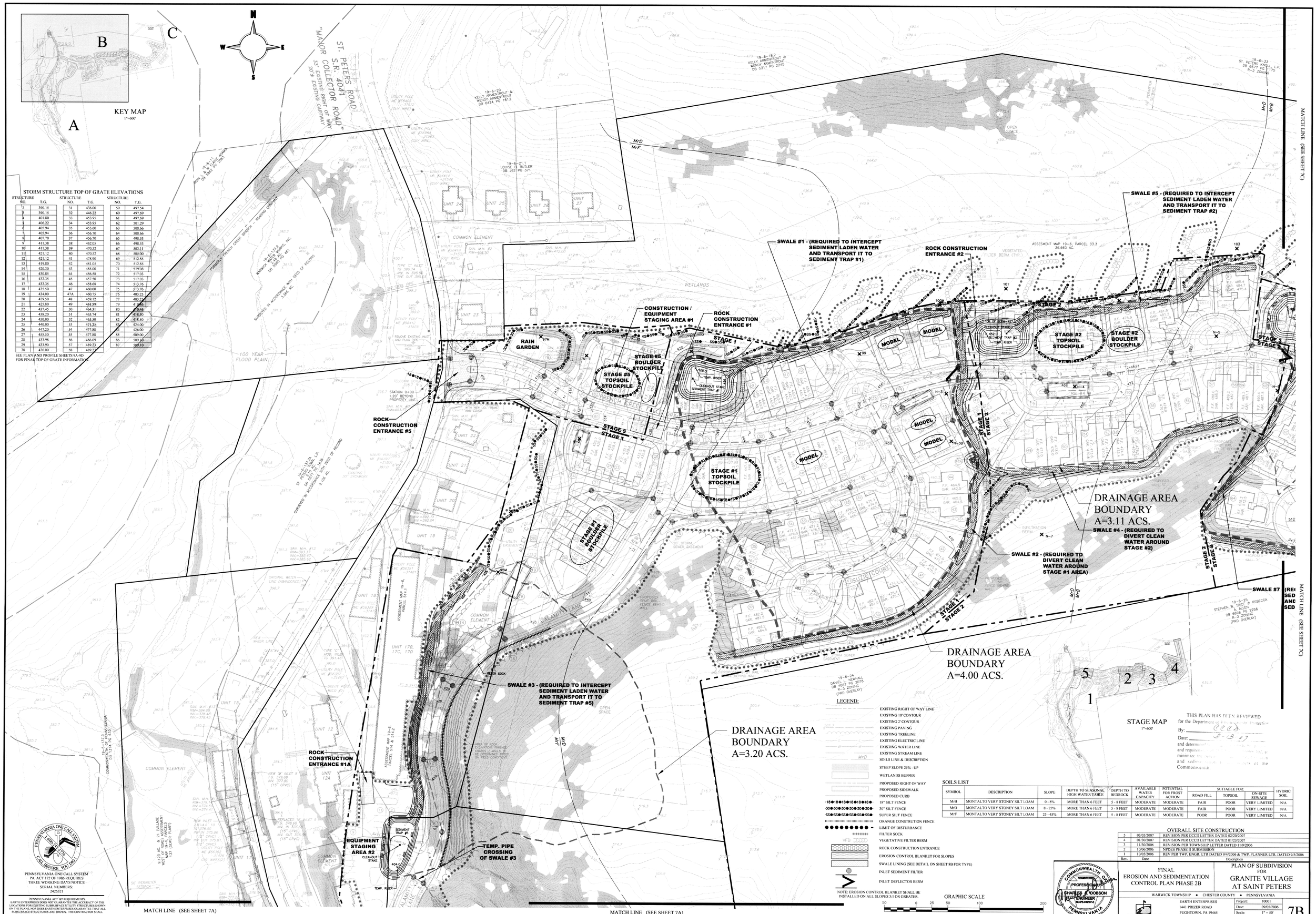
PLAN OF SUBDIVISION
FOR
GRANITE VILLAGE AT SAINT PETERS

WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

EARTH ENTERPRISES
1441 PRIZER ROAD
PUGHTOWN, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

Project:	10001
Date:	09/05/2006
Scale:	1" = 50'
Drawn:	TAH
Checked:	CAD

7A
OF 32



STORM STRUCTURE TOP OF GRATE ELEVATIONS

STRUCTURE NO.	T.G.	STRUCTURE NO.	T.G.	STRUCTURE NO.	T.G.
1	390.15	31	436.00	59	497.54
3	390.15	32	446.22	60	497.69
4	401.80	33	453.95	61	497.69
5	406.22	34	453.95	62	501.29
6	405.94	35	455.60	63	508.66
7	405.94	36	456.70	64	508.66
8	407.70	37	456.70	65	498.53
9	411.38	38	462.05	66	498.53
10	411.38	39	470.52	67	503.11
11	421.12	40	470.52	68	505.00
12	421.12	41	479.90	69	512.85
13	419.80	42	481.05	70	512.85
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20	429.50	48	459.12	77	403.25
21	423.80	49	481.99	79	410.66
22	437.45	50	464.31	80	410.66
23	438.20	51	463.74	81	418.50
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29	433.90	57	489.23	87	509.10
30	436.00	58	489.23		

SEE PLAN AND PROFILE SHEETS 9A-9E FOR FINAL TOP OF GRATE INFORMATION

LEGEND:

- EXISTING RIGHT OF WAY LINE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
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- EXISTING TREELINE
- EXISTING ELECTRIC LINE
- EXISTING WATER LINE
- EXISTING STREAM LINE
- SOILS LINE & DESCRIPTION
- STEEP SLOPE 25% - UP
- WETLANDS BUFFER
- PROPOSED RIGHT OF WAY
- PROPOSED SIDEWALK
- PROPOSED CURB
- 18" SILT FENCE
- 30" SILT FENCE
- SUPER SILT FENCE
- ORANGE CONSTRUTION FENCE
- LIMIT OF DISTURBANCE
- FILTER SOCK
- VEGETATIVE FILTER BERM
- ROCK CONSTRUCTION ENTRANCE
- EROSION CONTROL BLANKET FOR SLOPES
- SWALE LINING (SEE DETAIL ON SHEET 8B FOR TYPE)
- INLET SEDIMENT FILTER
- INLET DEFLECTOR BERM

NOTE: EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL SLOPES 3:1 OR GREATER.

GRAPHIC SCALE

50 0 25 50 100 200

(IN FEET)
1 inch = 50'

SOILS LIST

SYMBOL	DESCRIPTION	SLOPE	DEPTH TO SEASONAL HIGH WATER TABLE	DEPTH TO BEDROCK	AVAILABLE WATER CAPACITY	POTENTIAL FOR FROST ACTION	SUITABLE FOR: ROAD FILL	TOPSOIL	ON-SITE SEWAGE	HYDRIC SOIL
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MrD	MONTALTO VERY STONEY SILT LOAM	8 - 25%	MORE THAN 6 FEET	30" SILT FENCE	MODERATE	MODERATE	FAIR	POOR	VERY LIMITED	N/A
MrF	MONTALTO VERY STONEY SILT LOAM	25 - 45%	MORE THAN 6 FEET	SUPER SILT FENCE	MODERATE	MODERATE	POOR	POOR	VERY LIMITED	N/A

THIS PLAN HAS BEEN REVIEWED for the Department of Environmental Protection

By: _____

Date: _____

and determined [illegible] and requirements [illegible] minimize the [illegible] and sediment control [illegible] at the Commonwealth.

OVERALL SITE CONSTRUCTION

Rev.	Date	Description
5	03/05/2007	REVISION PER CCCD LETTER DATED 02/20/2007
4	01/30/2007	REVISION PER CCCD LETTER DATED 01/23/2007
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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
CHARLES E. DOBSON
No. 049197-E
Chuck Dobson PE 049197-E

FINAL EROSION AND SEDIMENTATION CONTROL PLAN PHASE 2B

PLAN OF SUBDIVISION FOR GRANITE VILLAGE AT SAINT PETERS

WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

EARTH ENTERPRISES
1441 PRIZER ROAD
PLIGHTOWN, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

Project:	10001
Date:	09/05/2006
Scale:	1" = 50'
Drawn:	TAH
Checked:	CAD

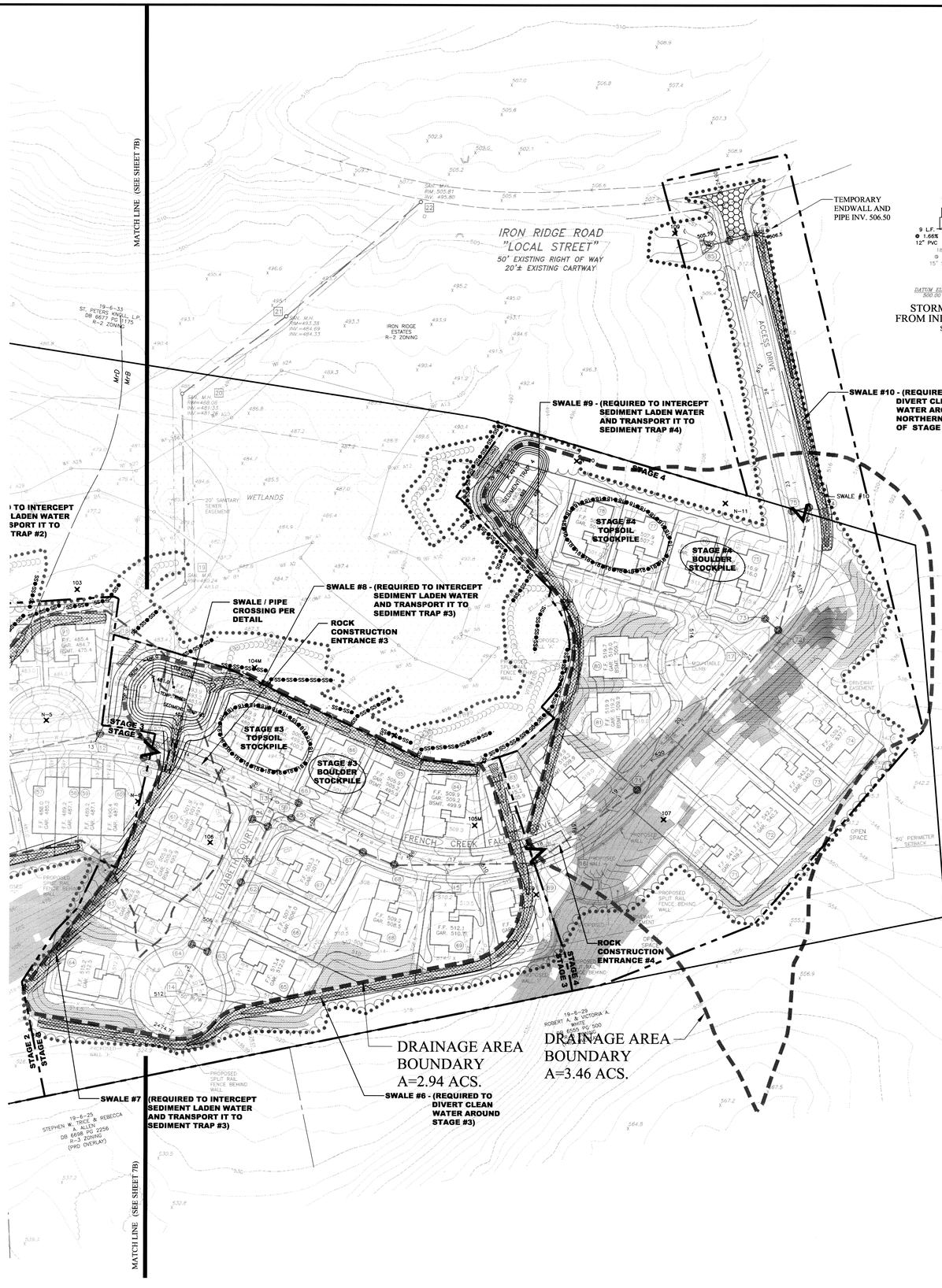
7B

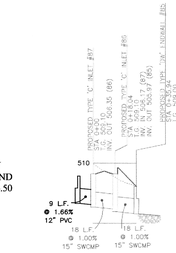
OF 32

PENNSYLVANIA ONE CALL SYSTEM
1-800-242-1776
CALL BEFORE YOU DIG!

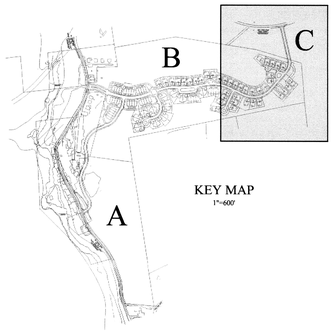
PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE
SERIAL NUMBERS:
2425321

PENNSYLVANIA ACT 187 REQUIREMENTS:
EARTH ENTERPRISES DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS FOR EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN ON THE PLANS, NOR DOES EARTH ENTERPRISES GUARANTEE THAT ALL SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.

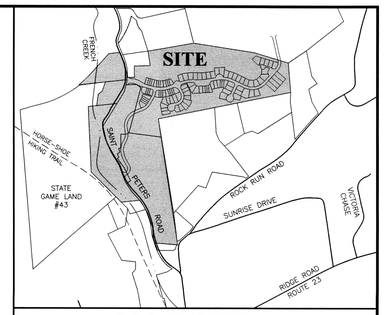




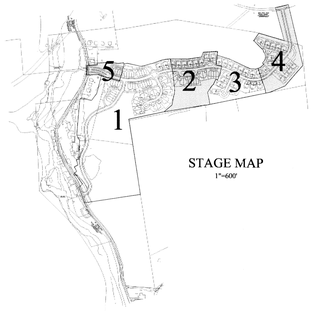
STORM SEWER PROFILE
FROM INLET #87 TO INLET #85
SCALE: HOR. 1"=50'
VER. 1"=5'



KEY MAP
1"=600'



LOCATION MAP
SCALE: 1" = 800'



STAGE MAP
1"=600'

STORM STRUCTURE TOP OF GRATE ELEVATIONS

STRUCTURE NO.	T.G.	STRUCTURE NO.	T.G.	STRUCTURE NO.	T.G.
2	390.15	31	436.00	59	497.54
3	390.15	32	446.22	60	497.69
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29	433.90	57	489.23	87	509.10
30	436.00	58	489.23		

SEE PLAN AND PROFILE SHEETS 9A-9D
FOR FINAL TOP OF GRATE INFORMATION.

THIS PLAN HAS BEEN REVIEWED
for the Department of Environmental Protection
By: CCCD
Date: 3-13-07
and determined [illegible]
and requirements [illegible]
minimize the [illegible]
and sediment [illegible]
Commonwealth.

LEGEND:

- EXISTING RIGHT OF WAY LINE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- EXISTING PAVING
- EXISTING TREELINE
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NOTE: EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL SLOPES 3:1 OR GREATER.

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE
SERIAL NUMBERS:
2425321

PENNSYLVANIA ACT 187 REQUIREMENTS.
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SOILS LIST

SYMBOL	DESCRIPTION	SLOPE	DEPTH TO SEASONAL HIGH WATER TABLE	DEPTH TO BEDROCK	AVAILABLE WATER CAPACITY	POTENTIAL FOR FROST ACTION	SUITABLE FOR: ROAD FILL	TOPSOIL	ON-SITE SEWAGE	HYDRIC SOIL
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MrD	MONTALTO VERY STONEY SILT LOAM	8 - 25%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE	MODERATE	FAIR	POOR	VERY LIMITED	N/A
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GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50'

OVERALL SITE CONSTRUCTION

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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
CHARLES E. DOBSON
No. PE-049197-E
Chuck Dobson PE 049197-E

FINAL
EROSION AND SEDIMENTATION CONTROL PLAN PHASE 2B

PLAN OF SUBDIVISION
FOR
GRANITE VILLAGE
AT SAINT PETERS

WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

EARTH ENTERPRISES
1441 PRIZER ROAD
PUGHTOWN, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

Project:	10001
Date:	09/05/2006
Scale:	1" = 50'
Drawn:	TAH
Checked:	CAD

7C
OF 32

LEGEND:

- EXISTING RIGHT OF WAY LINE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
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- WETLANDS BUFFER
- PROPOSED RIGHT OF WAY
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- LIMIT OF DISTURBANCE
- ROCK CONSTRUCTION ENTRANCE
- EROSION CONTROL BLANKET
- INLET SEDIMENT FILTER
- TEMPORARY TOPSOIL STOCK PILE

NOTE: EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL SLOPES 3:1 OR GREATER.

SOILS LIST

SYMBOL	DESCRIPTION	SLOPE	DEPTH TO SEASONAL HIGH WATER TAIBLE	DEPTH TO BEDROCK	AVAILABLE WATER CAPACITY	POTENTIAL FOR FROST ACTION	SUITABLE FOR: ROAD FILL	TOPSOIL	ON-SITE SEWAGE	HYDRIC SOIL
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ON LOT EROSION CONTROL

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FINAL
EROSION AND SEDIMENTATION
CONTROL PLAN

PLAN OF SUBDIVISION
FOR
GRANITE VILLAGE
AT SAINT PETERS

WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

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Project:	10001
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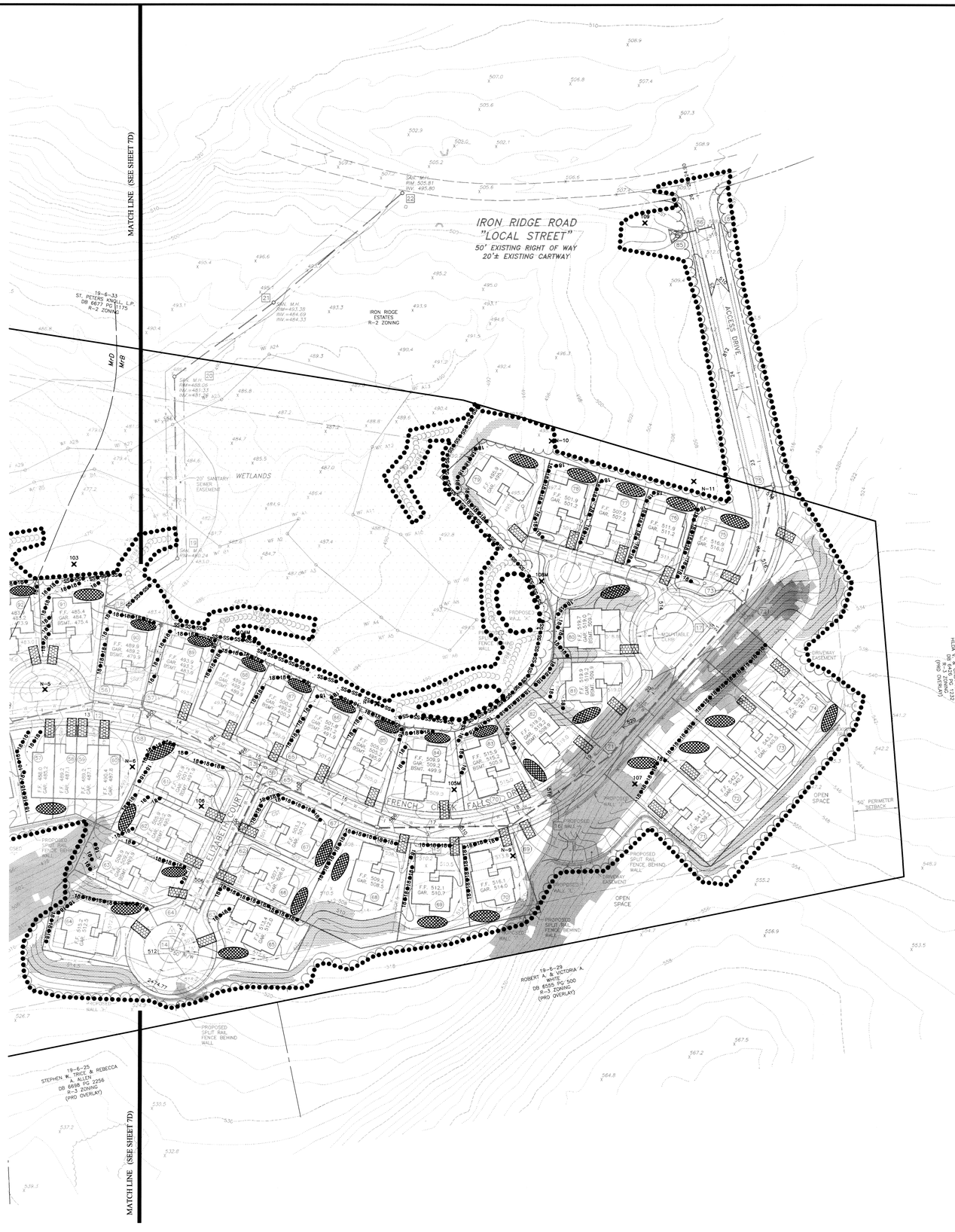
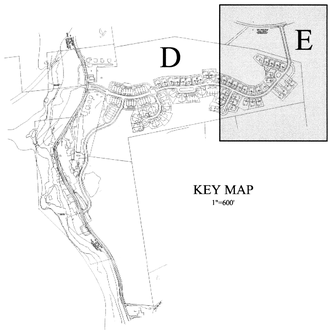
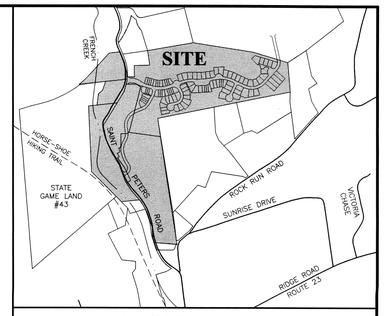
7D

OF 32





KEY MAP
1"=600'



LOCATION MAP
SCALE: 1" = 800'

LEGEND:

- EXISTING RIGHT OF WAY LINE
- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
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- EXISTING ELECTRIC LINE
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THIS PLAN HAS BEEN REVIEWED
for the Department of Environmental Protection
By: _____
Date: 3-13-07
and determined to be adequate for the erosion and sedimentation control purposes and requirements of Chapter 102 to minimize the potential for accelerated erosion and sedimentation to the waters of the Commonwealth.

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE
SERIAL NUMBERS:
2423321

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SOILS LIST

SYMBOL	DESCRIPTION	SLOPE	DEPTH TO SEASONAL HIGH WATER TABLE	DEPTH TO BEDROCK	AVAILABLE WATER CAPACITY	POTENTIAL FOR FROST ACTION	SUITABLE FOR: ROAD FILL	TOPSOIL	ON-SITE SEWAGE	HYDRIC SOIL
MrB	MONTALTO VERY STONEY SILT LOAM	0 - 8%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE	MODERATE	FAIR	POOR	VERY LIMITED	N/A
MrD	MONTALTO VERY STONEY SILT LOAM	8 - 25%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE	MODERATE	FAIR	POOR	VERY LIMITED	N/A
MrF	MONTALTO VERY STONEY SILT LOAM	25 - 45%	MORE THAN 6 FEET	5 - 8 FEET	MODERATE	MODERATE	POOR	POOR	VERY LIMITED	N/A

GRAPHIC SCALE
50 0 25 50 100 200
(IN FEET)
1 inch = 50'

ON LOT EROSION CONTROL

Rev.	Date	Description
5	03/05/2007	REVISION PER CCCD LETTER DATED 02/20/2007
4	01/30/2007	REVISION PER CCCD LETTER DATED 01/23/2007
3	11/30/2006	REVISION PER TOWNSHIP LETTER DATED 11/9/2006
2	10/06/2006	NPDES PHASE II SUBMISSION
1	10/05/2006	REV PER TWP. ENGR. LTR DATED 9/4/2006 & TWP. PLANNER LTR. DATED 9/5/2006

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
CHARLES A. DODSON
No. 049197-E
Chuck Dodson PE 049197-E

FINAL
EROSION AND SEDIMENTATION CONTROL PLAN

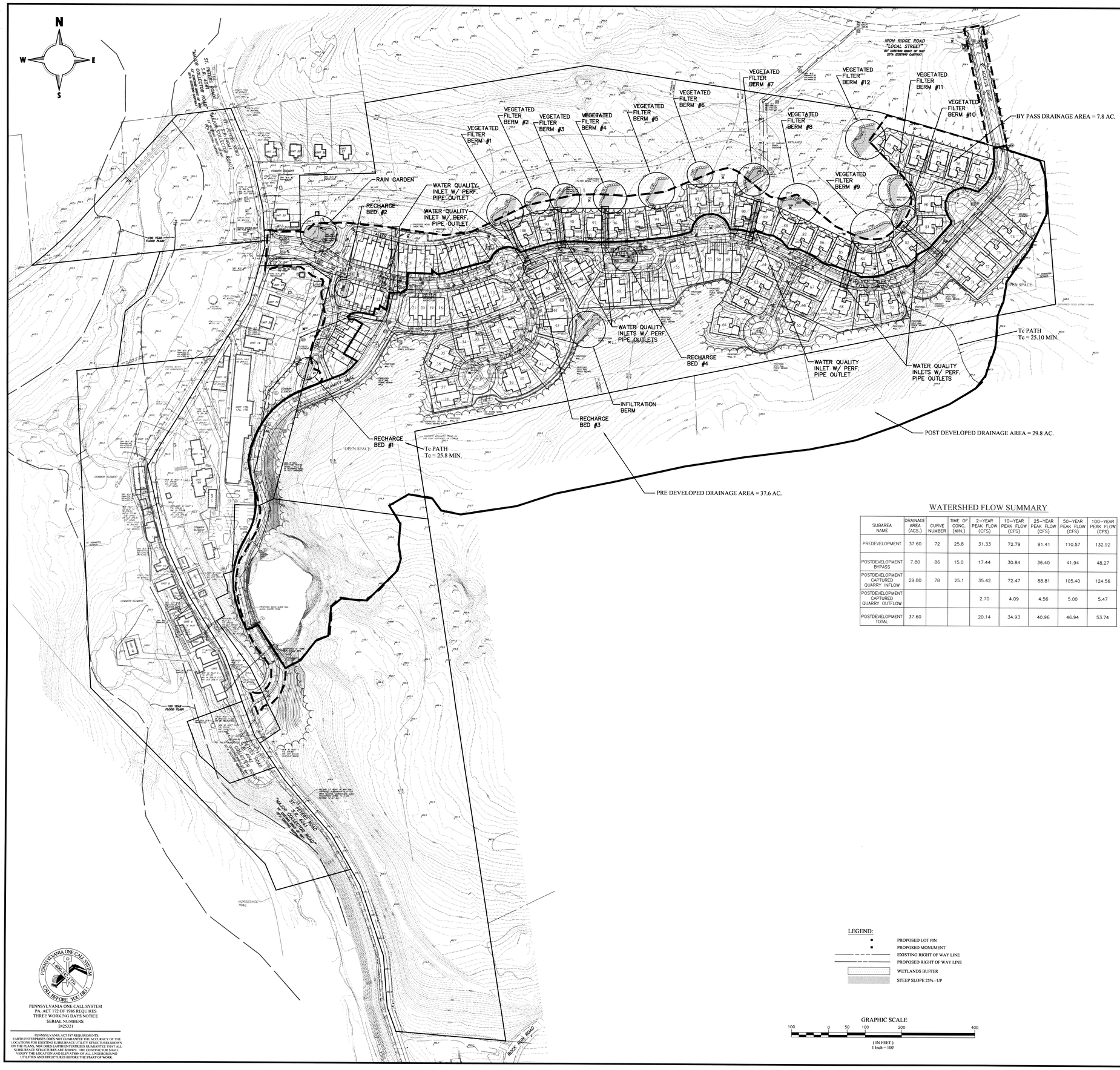
PLAN OF SUBDIVISION
FOR
GRANITE VILLAGE AT SAINT PETERS

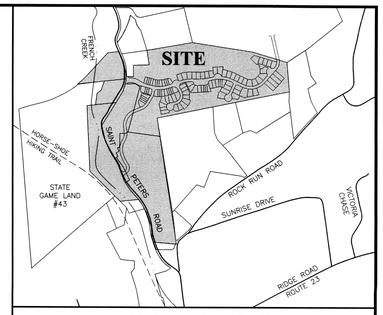
WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

EARTH ENTERPRISES
1441 PRIZER ROAD
PUGHTOWN, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

Project:	10001
Date:	09/05/2006
Scale:	1" = 50'
Drawn:	TAH
Checked:	CAD

7E
OF 32





LOCATION MAP

SCALE: 1" = 800'

BMP OPERATION AND MAINTENANCE PROCEDURES

THE PERMITTEE SHALL ALSO BE RESPONSIBLE FOR THE PROPER CONSTRUCTION, OPERATION AND MAINTENANCE OF ALL POST CONSTRUCTION STORMWATER MANAGEMENT BMPS IDENTIFIED IN THE APPROVED PCSWM PLAN.

THE OPERATION AND MAINTENANCE REQUIREMENTS FOR THE POST CONSTRUCTION STORMWATER MANAGEMENT BMP'S FOR THIS PROJECT INCLUDE THE FOLLOWING:

1. QUARRY – SHALL BE INSPECTED QUARTERLY AND AFTER MAJOR RAINFALL EVENTS. THE PURPOSE OF THE INSPECTION IS TO ASCERTAIN THE OPERATIONAL CONDITION AND SAFETY OF THE THE FACILITY, PARTICULARLY THE CONDITION OF THE OUTLET STRUCTURE, OUTLET PIPING, AND OTHER SAFETY RELATED ITEMS. OUTLET STRUCTURES AND OUTLET PIPING SHALL BE CLEARED IMMEDIATELY OF ALL DEBRIS THAT PREVENT THE PROPER OPERATION OF THE OUTLET CONTROLS.
2. RAIN GARDEN – RAIN GARDENS SHOULD BE INSPECTED TWICE A YEAR FOR SEDIMENT BUILDUP, EROSION, AND VEGETATIVE CONDITIONS. WHILE VEGETATION IS BEING ESTABLISHED, PRUNING AND WEEDING MAY BE REQUIRED. ONCE VEGETATION HAS BEEN ESTABLISHED WEEDS SHOULD BE REMOVED BY HAND AND ALL DETRITUS SHOULD BE REMOVED. TREES AND SHRUBS SHOULD BE INSPECTED TO EVALUATE HEALTH. AT THE END OF THE GROWING SEASON, PERENNIAL PLANTINGS MAY BE CUT DOWN. MULCH SHOULD BE RE-SPREAD WHEN EROSION IS EVIDENT AND BE REPLENISHED ANNUALLY. ONCE EVERY 2 TO 3 YEARS, THE ENTIRE AREA MAY REQUIRE MULCH REPLACEMENT. RAIN GARDENS SHOULD NOT BE MOWED ON A REGULAR BASIS AND MY REQUIRE WATERING DURING PERIODS OF EXTENDED DROUGHT.
3. RECHARGE BEDS – UNDERGROUND RECHARGE BEDS SHALL BE INSPECTED QUARTERLY AND AFTER RAINFALL EVENTS TO ENSURE THAT THEY ARE WORKING PROPERLY AND THAT DEBRIS AND/OR SEDIMENT HAS NOT ENTERED THE SYSTEM. IF THE INSPECTION REVEALS THAT THE RECHARGE BED HAS BEEN CONTAMINATED WITH SILT, THE SYSTEM WILL BE REPAIRED. ACCUMULATED SILT AND DEBRIS THAT HAS DEPOSITED IN THE BOTTOM OF ALL INLETS AND MANHOLES UPSTREAM AND WITHIN THE SYSTEM WILL BE REMOVED ON A QUARTERLY BASIS. VEHICULAR ACCESS ON RECHARGE BED AREAS SHOULD BE PROHIBITED AND CARE SHOULD BE TAKEN TO AVOID EXCESSIVE COMPACTION BY MOWERS.
4. INFILTRATION BERM – INFILTRATION BERM SHOULD BE INSPECTED QUARTERLY TO ENSURE THAT BED IS INFILTRATING AND TO ENSURE PROPER FUNCTIONALITY AND STABILITY OF STRUCTURAL COMPONENTS. DRAWDOWN TIME SHOULD BE MONITORED AFTER MAJOR STORM EVENTS. TREES AND SHRUBS MAY REQUIRE ANNUAL MULCHING. IF BED IS PLANTED IN TURF GRASS, MAINTAIN WITH REGULAR MOWING. IF BED IS PLANTED WITH MEADOW PLANTINGS, ANNUAL MOWING AND CLIPPINGS REMOVAL IS REQUIRED. PESTICIDES AND FERTILIZERS SHOULD NOT BE APPLIED AROUND INFILTRATION STRUCTURES. TRASH, DEBRIS, AND INVASIVE PLANTS SHOULD BE REMOVED REGULARLY. INSPECT FOR SIGNS OF FLOW CHANNELIZATION AND RESTORE LEVEL GRADIENT IMMEDIATELY AFTER OBSERVING DEFICIENCIES.
5. VEGETATED FILTER BERM – VEGETATED BERM SHOULD BE INSPECTED TWICE A YEAR AND AFTER MAJOR RAINFALL EVENTS TO EVALUATE INTEGRITY AND STABILITY OF BIO-LOG INSTALLATION AND TO EVALUATE HEALTH OF WETLAND PLANTINGS. CORRECTIVE MEASURES SHALL BE TAKEN TO ENSURE FILTER BERM IS FUNCTIONING PROPERLY. TRASH, DEBRIS, AND INVASIVE PLANTS SHOULD BE REMOVED AND DRAWDOWN TIMES AFTER MAJOR STORM EVENTS SHOULD BE MONITORED. INFILTRATION AREAS ASSOCIATED WITH THE VEGETATED FILTER BERM SHOULD NOT BE MOWED OR DISTURBED BY ANY VEHICULAR TRAFFIC.
6. WTAER QUALITY INLETS – WATER QUALITY INLETS SHALL BE INSPECTED QUARTERLY AND AFTER MAJOR RAINFALL EVENTS TO EVALUATE CONDITION AND PROPER INSTALLATION OF "INCEPTOR" FILTERS, AND TO REMOVE SEDIMENT AND DEBRIS FROM BOTTOM OF INLET. "INCEPTOR" FILTERS SHOULD BE REPLACED AT LEAST TWICE A YEAR.

INFLOW AND OUTFLOW POINTS INTO THE STORMWATER BMP SYSTEMS SHOULD BE KEPT CLEAR OF LEAVES AND OTHER DEBRIS. ANY LEAVES OR DEBRIS WILL NEGATIVELY IMPACT THE PERFORMANCE OF THESE SYSTEMS. ALL DOWNSPOUTS AND OVERFLOW PIPES SHOULD BE KEPT IN GOOD WORKING ORDER.

ALL INSPECTIONS OF POSTCONSTRUCTION STORMWATER MANAGEMENT BMPs SHALL BE PERFORMED BY THE APPOINTED REPRESENTATIVE OF THE PROPERTY OWNER.

WATERSHED FLOW SUMMARY

SUBAREA NAME	DRAINAGE AREA (ACS.)	CURVE NUMBER	TIME OF CONC. (MIN.)	2-YEAR PEAK FLOW (CFS)	10-YEAR PEAK FLOW (CFS)	25-YEAR PEAK FLOW (CFS)	50-YEAR PEAK FLOW (CFS)	100-YEAR PEAK FLOW (CFS)
PREDEVELOPMENT	37.60	72	25.8	31.33	72.79	91.41	110.57	132.92
POSTDEVELOPMENT BYPASS	7.80	86	15.0	17.44	30.84	36.40	41.94	48.27
POSTDEVELOPMENT CAPTURED QUARRY INFLOW	29.80	78	25.1	35.42	72.47	88.81	105.40	124.56
POSTDEVELOPMENT CAPTURED QUARRY OUTFLOW				2.70	4.09	4.56	5.00	5.47
POSTDEVELOPMENT TOTAL	37.60			20.14	34.93	40.96	46.94	53.74

POST CONSTRUCTION INFILTRATION TABULATION

REQUIRED INFILTRATION
64,828 cu. ft.

PROVIDED INFILTRATION

INFILTRATION BERM #1:	6,650 cu. ft.
RECHARGE BED #1:	6,224 cu. ft.
RECHARGE BED #2:	4,604 cu. ft.
RECHARGE BED #3:	2,788 cu. ft.
RECHARGE BED #4:	3,147 cu. ft.
RAIN GARDEN:	7,500 cu. ft.
VEGETATED FILTER BERM #1:	6,479 cu. ft.
VEGETATED FILTER BERM #2:	3,074 cu. ft.
VEGETATED FILTER BERM #3:	3,526 cu. ft.
VEGETATED FILTER BERM #4:	3,230 cu. ft.
VEGETATED FILTER BERM #5:	2,726 cu. ft.
VEGETATED FILTER BERM #6:	1,290 cu. ft.
VEGETATED FILTER BERM #7:	2,110 cu. ft.
VEGETATED FILTER BERM #8:	3,126 cu. ft.
VEGETATED FILTER BERM #9:	1,672 cu. ft.
VEGETATED FILTER BERM #10:	618 cu. ft.
VEGETATED FILTER BERM #11:	1,310 cu. ft.
VEGETATED FILTER BERM #12:	5,754 cu. ft.
TOTAL:	65,828 cu. ft.

THIS PLAN HAS BEEN REVIEWED
for the Department of Environmental Protection
By: CDB
Date: 3-19-07
and determined to be complete enough to meet the intent and requirements of the Environmental Protection Act and minimize the potential for pollution of the environment and sedimentation to the waters of the Commonwealth.

LEGEND:

- PROPOSED LOT PIN
- PROPOSED MONUMENT
- EXISTING RIGHT OF WAY LINE
- PROPOSED RIGHT OF WAY LINE
- WETLANDS BUFFER
- STEEP SLOPE 25% - UP

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100'

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE
SERIAL NUMBERS:
2425321

PENNSYLVANIA ACT 187 REQUIREMENTS:
EARTH ENTERPRISES DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS FOR EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN ON THE PLANS, NOR DOES EARTH ENTERPRISES GUARANTEE THAT ALL SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.

Rev.	Date	Description
5	03/05/2007	REVISION PER CCCD LETTER DATED 02/20/2007
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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
CHARLES A. DOBSON
No. PE-049197-E
Chuck Dobson PE 049197-E

FINAL
POST CONSTRUCTION
STORMWATER MANAGEMENT

PLAN OF SUBDIVISION
FOR
GRANITE VILLAGE
AT SAINT PETERS

WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

EARTH ENTERPRISES
1441 PRIZER ROAD
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Phone: (610) 469-8800
Fax: (610) 469-8900

Project:	10001
Date:	09/05/2006
Scale:	1" = 100'
Drawn:	TAH
Checked:	CAD

7F
OF 32

NPDES Phase II - Granite Village at St. Peters
Sequence of Construction
NPDES Permit No. PAI011506076

Introduction
This Sequence of Construction has been broken down into 5 separate stages. It is noted that the construction of each stage must be completed prior to moving on with the next stage shown on the sequence. The construction sequence of each stage is as follows:
All earth disturbance activities shall proceed in accordance with the following sequence. Each stage shall be completed before any following stage is initiated. Clearing and grubbing shall be limited only to those areas described in each stage. At least 7 days prior to the start of any earth moving activities, the developer shall invite all contractors involved in those activities including but not limited to the landowner, appropriate municipal officials, and a representative of the Chester County Conservation District.
Prior to any earth disturbance, staked the limits of disturbance around the perimeter of the property using yellow ribbon. Orange construction fence should not be installed until final limit of tree clearing has been approved based on site inspection.
Initial construction shall be staged from the property adjacent to the Townhouses as shown on the plan. This staging area is already paved and stabilized and shall not be disturbed by construction until the start of Construction Stage 5. Equipment staging area staging area #2 may be used during the construction of stage 1 but shall be eliminated after the removal of stockpile located on lots 77 and 78.

Stage 1 - Construction of French Creek Falls Road from Station 3+50 to 8+50, Calamity Lane from French Creek Falls Road to Station 5+00 and Suzie Court
1. Install the rock construction entrance #1 on French Creek Falls Road at station 3+00 and rock construction entrance #1A as detailed on the plans. Rock construction entrance #1 shall be used for equipment access required for the construction of the bulk of stage #1. Rock Construction entrance #1A shall only be used for equipment needed to bring Calamity Lane to rough subgrade from Station 5+00 to Station 12+00 during the initial construction stage. The equipment to be used to complete this work shall be located at equipment staging area #2 As soon as Calamity Lane has reached subgrade and equipment staging area #2 is no longer needed, rock construction entrance #1A shall be removed.
2. Stake out the limits of disturbance for Stage 1 as shown on the plan. Inspect Stage 1 limits and adjust fencing as required to save large trees at the perimeter of construction.

NOTE: Stage 1 limits shall not be exceeded until authorized by the Chester County Conservation District as verified by the Construction Stage Completion Checklist.

3. Install tree protection fencing at the base of large trees that can be saved within the limits of construction. Also install protective fencing around the limits of rechargeable beds #1, #2, and #3. No disturbance to these recharge bed areas shall be permitted until it is time to install the recharge bed in accordance with this sequence.
4. Install silt fencing at the locations within Stage 1 as shown on the plans. Clear vegetation and strip topsoil from areas of swale #1, swale #2 and swale #3 and sediment trap #1.
5. Placed stripped topsoil in stockpile location on lots 18 through 21 as shown on the plan. Protect topsoil stockpile with silt fence according to the detail.
6. Install sediment trap #1 and sediment trap #5 as shown on the plan and according to the details. Install installation of the temporary sediment basin #1 (riser(s), an immediate inspection of the riser(s) shall be conducted by a qualified site representative and the Chester County Conservation District shall be notified in writing that the proper riser is installed and sealed, per plan. Sediment basins must be protected from unauthorized acts of third parties. Install swales #1, #2 and #3 as shown on the plans and according to the detail. The outlet of sediment trap #5 shall include the installation of inlets #6 and #7 and endwall #5.
7. Clear vegetation from the remainder of stage 1 as shown on the plans. All remaining timber shall be chipped on site. Wood chips shall be stockpiled on site and used for stabilization as needed. Removal of trees and other vegetation shall be limited to each stage as it is constructed. No advanced clearing of trees or vegetation in future stages shall be permitted.
8. Strip topsoil from the remainder of stage 1 area and stockpile on lots 18 through 21 as shown on the plan. Begin bulk earthmoving to remove material from the area of Suzie Court and transfer it to French Creek Falls Road lot areas 9 through 12 and 99 and 100. Begin excavation of Calamity Lane. In the event the excavation of Calamity Lane requires blasting, all required protocols for blasting shall be followed. Rubble resulting from blasting and boulders unearthed by excavation shall be sorted according to size. Larger boulders (over 24" diameter) shall be placed in the boulder stockpile located on lot 26 through 30 and used for the downslope protection of swale #5 and sediment trap #2.
9. Continue work on bulk earth moving and bring French Creek Falls Road to rough subgrade. Install installation of storm sewer including inlets 16, inlet 17, storm manhole 18, recharge bed #1, storm manhole 19 and connection to storm manhole 15. Recharge Bed #1 shall be installed according to the detail shown on the plan. Inlets 16 and 17 (flowing to Recharge Bed #1) shall be blocked until the site has been fully stabilized. This will prevent the deposition of sediment into recharge bed #1.
10. Complete the construction of Calamity Lane within Stage 1 including curbing, stone subbase and paving binder course. The construction of units 26 through 30 may be started as soon as the stone subbase has been placed on Calamity Lane. All inlets shall be set flush with the binder course and be fitted with inlet sediment filters according to the details shown on the plans. Paved inlet diversion berms shall be placed on the roadway at each inlet location according to the details shown on the plans. Once Calamity Lane has been paved with binder course and all inlets have been protected redistribute the topsoil on all non paved areas. Place seeding and mulch and erosion control blanket as required to fully stabilize all disturbed areas.

NOTE: The contractor shall ensure that all inlet filters are inspected and cleaned after each rain event as required.

11. Upon completion of French Creek Falls Road within the limits of Stage 2, finish rough grading of all lots within the stage. Redistribute the topsoil stockpiled on Lots 95 and 96 within the limits of stage 2. All disturbed areas shall be stabilized immediately with erosion control blanket according to the seeding specifications shown on the plans. All areas that are 3:1 slope shall be stabilized immediately with erosion control blanket according to the details shown on the plans. Alternate stabilization methods including sod shall be permitted
12. Once all disturbed areas have been stabilized, start construction of retaining walls F and G. Construction of Retaining Wall F shall start from the eastern end of the wall behind lot 60 and continue westward. Swale #4 shall be regraded and removed as the construction of retaining wall F progresses westward.
13. Upon the completion of Retaining Walls F and G install the infiltration berm as shown on the plan and according to the details. The contractor shall take care not to compact the soils at the bottom elevation of the berm.
14. Vegetated filter berms shall be installed only after the bulk grading for the lot areas has been completed. Complete the installation of vegetated filter berms #4, #5 and #6 as shown on the plans and according to the Vegetated Filter Berm construction sequence shown on the plans.
15. Once proper vegetated cover has been established within the limits of Stage 2, swale #5 and sediment trap #2 shall be removed and inlet 52 shall be unblocked. All areas disturbed by the removal of sediment trap #2 and swale #5 shall be stabilized as required. Silt fence used for the downslope protection of swale #5 and sediment trap #2 shall remain in place until the vegetated filter berms have started germinating and the construction of all units on the north side of French Creek Falls Road have been completed as shown on the "On Lot Erosion Control Plans".
16. Install landscaping within stage 2 upon the completion of all public improvements. Remove rock construction entrance #2. Complete paving according to the plans to connect French Creek Falls Road from stage 1 to stage 2.
17. Rigorous maintenance of tree protection and the construction limit fence will be required during construction to prevent sediment discharge into the quarry or French Creek.

Stage 2 - Construction of French Creek Falls Road from Station 8+50 to 13+75
1. Install the rock construction entrance #2 on French Creek Falls Road at station 8+50 as detailed on the plans.
2. Stake out the limits of disturbance for Stage 2 as shown on the plan. Inspect Stage 2 limits and adjust fencing as required to save large trees at the perimeter of construction. Place protective fencing around the area of Recharge Bed #4 and maintain fencing until Recharge Bed #4 is ready for construction.

NOTE: Stage 2 limits shall not be exceeded until authorized by the Chester County Conservation District as verified by the Construction Stage Completion Checklist.

3. Install tree protection fencing at the base of large trees that can be saved within the limits of construction.
4. Install silt fencing at the locations within Stage 2 as shown on the plans. Clear vegetation and strip topsoil from areas of swale #4 and swale #5 and sediment trap #2.
5. Placed stripped topsoil in stockpile location on lots 95 and 96 as shown on the plan. Protect topsoil stockpile with silt fence according to the detail.
6. Install sediment trap #2 as shown on the plan and according to the details. Upon installation of the temporary sediment basin riser, an immediate inspection of the riser shall be conducted by a qualified site representative and the Chester County Conservation District shall be notified in writing that the proper riser is installed and sealed, per plan. Sediment basins must be protected from unauthorized acts of third parties. Install swales #4 and #5 as shown on the plans and according to the detail. Swale #4 shall discharge into inlet 47A as shown on the plan.
7. Clear vegetation from the remainder of stage 2 as shown on the plans. All remaining timber shall be chipped on site. Wood chips shall be stockpiled on site and used for stabilization as needed. Removal of trees and other vegetation shall be limited to each stage as it is constructed. No advanced clearing of trees or vegetation in future stages shall be permitted.
8. Strip topsoil from Stage 2 area and stockpile on lots 95 and 96 as shown on the plan. Begin bulk earthmoving to remove material from the south side of French Creek Falls Road and transfer it to the north side of French Creek Falls Road. In the event the excavation of French Creek Falls Road requires blasting, all required protocols for blasting shall be followed. Rubble resulting from blasting and boulders unearth by excavation shall be sorted according to size. Larger boulders (over 24" diameter) shall be placed in the boulder stockpile located on lot 94 and used for the construction of boulder retaining walls. Smaller rubble (under 24" diameter) shall be used for outlet protection, swale lining and slope stabilization as required.
9. Continue work on bulk earth moving and bring French Creek Falls Road to rough subgrade. Start installation of storm sewer along French Creek Falls Road from inlet 46, including inlet 49, inlets 50, 51 (water quality inlet), and 52, inlet 53, inlets 54 and 55 and inlets 57 (water quality inlet) and 58. Also install Recharge Bed #4 as shown on the plans and according to the details. Inlet 52 shall be blocked until the site has been stabilized.
10. Coordinate the installation of other utilities including, sanitary sewer and water within French Creek Falls Road to the limits of Stage 2. Complete the construction of French Creek Falls Road within the limits of Stage 2 including curbing, stone subbase, and paving binder course. The construction of the units fronting on French Creek Falls Road within Stage 2 may be started as soon as the stone subbase has been placed on French Creek Falls Road. All inlets shall be set flush with binder course and be fitted with inlet sediment filters according to the details shown on the plans. Paved inlet diversion berms shall be placed on the roadway at each inlet location according to the details shown on the plans. Once French Creek Falls Road has been paved with binder course and all inlets have been protected redistribute the topsoil stockpiled on all non disturbed areas. Place seeding and mulch and erosion control blanket as required to fully stabilize all disturbed areas.

NOTE: The contractor shall ensure that all inlet filters are inspected and cleaned after each rain event as required.

11. Upon completion of French Creek Falls Road within the limits of Stage 2, finish rough grading of all lots within the stage. Redistribute the topsoil stockpiled on Lots 95 and 96 within the limits of stage 2. All disturbed areas shall be stabilized immediately with erosion control blanket according to the seeding specifications shown on the plans. All areas that are 3:1 slope shall be stabilized immediately with erosion control blanket according to the details shown on the plans. Alternate stabilization methods including sod shall be permitted
12. Once all disturbed areas have been stabilized, start construction of retaining walls F and G. Construction of Retaining Wall F shall start from the eastern end of the wall behind lot 60 and continue westward. Swale #4 shall be regraded and removed as the construction of retaining wall F progresses westward.
13. Upon the completion of Retaining Walls F and G install the infiltration berm as shown on the plan and according to the details. The contractor shall take care not to compact the soils at the bottom elevation of the berm.
14. Vegetated filter berms shall be installed only after the bulk grading for the lot areas has been completed. Complete the installation of vegetated filter berms #4, #5 and #6 as shown on the plans and according to the Vegetated Filter Berm construction sequence shown on the plans.
15. Once proper vegetated cover has been established within the limits of Stage 2, swale #5 and sediment trap #2 shall be removed and inlet 52 shall be unblocked. All areas disturbed by the removal of sediment trap #2 and swale #5 shall be stabilized as required. Silt fence used for the downslope protection of swale #5 and sediment trap #2 shall remain in place until the vegetated filter berms have started germinating and the construction of all units on the north side of French Creek Falls Road have been completed as shown on the "On Lot Erosion Control Plans".
16. Install landscaping within stage 2 upon the completion of all public improvements. Remove rock construction entrance #2. Complete paving according to the plans to connect French Creek Falls Road from stage 1 to stage 2.
17. Rigorous maintenance of tree protection and the construction limit fence will be required during construction to prevent sediment discharge into the quarry or French Creek.

Stage 3 - Construction of French Creek Falls Road from Station 13+75 to 17+75 and Elizabeth Court
1. Install the rock construction entrance #3 on French Creek Falls Road at station 13+75 as detailed on the plans.
2. Stake out the limits of disturbance for Stage 3 as shown on the plan. Inspect Stage 3 limits and adjust fencing as required to save large trees at the perimeter of construction.

NOTE: Stage 3 limits shall not be exceeded until authorized by the Chester County Conservation District as verified by the Construction Stage Completion Checklist.

3. Install tree protection fencing at the base of large trees that can be saved within the limits of construction.
4. Install silt fencing at the locations within Stage 3 as shown on the plans. Clear vegetation and strip topsoil from areas of swale #6, swale #7, swale #8 and sediment trap #3.
5. Place stripped topsoil in stockpile location on lots 87 and 88 as shown on the plan. Protect topsoil stockpile with silt fence according to the detail.
6. Install swale #6 according to the detail on the plan.
7. Install sediment trap #3 as shown on the plan and according to the details. Upon installation of the temporary sediment basin riser, an immediate inspection of the riser shall be conducted by a qualified site representative and the Chester County Conservation District shall be notified in writing that the proper riser is installed and sealed, per plan. Sediment basins must be protected from unauthorized acts of third parties. Install swales #7, #8 as shown on the plans and according to the detail.
8. Clear vegetation from the remainder of Stage 3 as shown on the plans. All remaining timber shall be chipped on site. Wood chips shall be stockpiled on site and used for stabilization as needed. Removal of trees and other vegetation shall be limited to each stage as it is constructed. No advanced clearing of trees or vegetation in future stages shall be permitted.
9. Strip topsoil from Stage 3 area and stockpile on lots 87 and 88 as shown on the plan. Begin bulk earthmoving to remove material from the area of Elizabeth Court and transfer it to French Creek Falls Road and lot areas 84, 85, and 86.
10. Begin rough grading of French Creek Falls Road and Elizabeth Court. In the event the excavation of French Creek Falls Road or Elizabeth Court requires blasting, all required protocols for blasting shall be followed. Rubble resulting from blasting and boulders unearthed during excavation shall be sorted according to size. Larger boulders (over 24" diameter) shall be placed in the boulder stockpile located on lot 86 and used for the construction of boulder retaining walls. Smaller rubble (under 24" diameter) shall be used for outlet protection, swale lining and slope stabilization as required.
11. Continue work on bulk earth moving and bring French Creek Falls Road and Elizabeth Court to rough subgrade. Start installation of storm sewer along French Creek Falls Road from inlet 57 (water quality inlet) including storm manhole 59, inlets 65 and 66, inlet 67, inlet 68 (water quality inlet) and storm sewer up to station 17+75.
12. Start installation of storm sewer along Elizabeth Court from storm manhole 59 including inlets 60 and 61, inlet 62, and inlets 63 and 64.
13. Complete the construction of French Creek Falls Road and Elizabeth Court within Stage 3 including curbing, stone subbase and paving binder course. The construction of the units fronting on French Creek Falls Road and Elizabeth Court within Stage 3. All inlets shall be set flush with the binder course and be fitted with inlet sediment filters according to the details shown on the plans. Paved inlet diversion berms shall be placed on the roadway at each inlet location according to the details shown on the plans. Once French Creek Falls Road and Elizabeth Court have been paved with binder course and all inlets have been protected, redistribute the topsoil on all non paved areas. Place seeding and mulch and erosion control blanket as required to fully stabilize all disturbed areas.

NOTE: The contractor shall ensure that all inlet filters are inspected and cleaned after each rain event as required.

14. Once French Creek Falls Road and Elizabeth Court have been paved with binder course and all inlets have been protected, complete earth moving and pad out all lots within Stage 3. Redistribute topsoil stockpiles on Lots 87 and 88 and stabilize the entire area according to the specifications shown on the plan.
15. Begin construction of Retaining Wall H at the end of Elizabeth Court. Construction of the wall shall be completed from the west end of the wall and proceed eastward. Swale #6 shall be regraded and removed as the construction of retaining wall H proceeds eastward. Upon completion of installation of retaining wall H continue with the removal of Swale #6 once new vegetation on Stage 3 has reached 70% cover. Areas disturbed by the construction of Retaining Wall H and removal swale #6 shall be stabilized immediately according to the details shown on the plans.
16. Once proper vegetated cover has been established within the limits of Stage 3, swales #7 and #8 and sediment trap #3 shall be removed. All areas disturbed by the removal of sediment trap #3 and swales #7 and #8 shall be stabilized as required.
17. Vegetated filter berms shall be installed only after the bulk grading for the lot areas has been completed. Install vegetated filter berms #8 and #9 at the location shown on the plans and according to the vegetated filter berm construction sequence. Silt fence used for the downslope protection of swale #8 shall remain in place until the vegetated filter berms have started germinating and the construction of all units on the north side of French Creek Falls Road have been completed as shown on the "On Lot Erosion Control Plans". Vegetated filter berm #9 shall not be installed until after the removal of swale #6 and the swale outlet have been removed and restabilized. This is required to prevent the washing out of vegetated filter berm #9 due to concentrated flows.
18. Install Landscaping within stage 3 upon the completion of all public improvements. Remove rock construction entrances 1 and 3A. Place binder course at the location of rock construction entrance #1 and provide transition between Staging Area #1 and French Creek Falls Road. This transition shall be maintained until the start of Stage 5.
19. Rigorous maintenance of tree protection and the construction limit fence will be required during construction to prevent sediment discharge into the quarry or French Creek.

Stage 4 - Construction of French Creek Falls Road from Station 17+75 to Iron Ridge Road
1. Install the rock construction entrance #4 on French Creek Falls Road at station 17+75 as detailed on the plans.
2. Stake out the limits of disturbance for Stage 4 as shown on the plan. Inspect Stage 4 limits and adjust fencing as required to save large trees at the perimeter of construction.

NOTE: Stage 4 limits shall not be exceeded until authorized by the Chester County Conservation District as verified by the Construction Stage Completion Checklist.

3. Install tree protection fencing at the base of large trees that can be saved within the limits of construction.
4. Install silt fencing at the locations within Stage 4 as shown on the plans. Clear vegetation and strip topsoil from areas of swale #10. Stockpile topsoil on lots 77 and 78 as shown on the plan. Protect topsoil stockpile with silt fence according to the detail. Install swale #10 as shown on the plans and according to the details. Install storm sewer from endwall #5 to inlet 86 and inlet 87 to act as part of swale #10.
5. Remove vegetation and strip topsoil from the area of swale #9 and sediment trap #4.
6. Placed stripped topsoil in stockpile location on lots 77 and 78 as shown on the plan. Protect topsoil stockpile with silt fence.
7. Install sediment trap #4 as shown on the plans and according to the details. Upon installation of the temporary sediment basin riser, an immediate inspection of the riser shall be conducted by a qualified site representative and the Chester County Conservation District shall be notified in writing that the proper riser is installed and sealed, per plan. Sediment basins must be protected from unauthorized acts of third parties. Install swale #9 as shown on the plans and according to the details. Install storm sewer from endwall #5 to inlet 86 and inlet 87 to act as part of swale #10.
8. Clear vegetation from the remainder of Stage 4 as shown on the plans. All remaining timber shall be chipped on site. Wood chips shall be stockpiled on site and used for stabilization as needed. Removal of trees and other vegetation shall be limited to each stage as it is constructed. No advanced clearing of trees or vegetation in future stages shall be permitted.
9. Strip topsoil from Stage 4 area and stockpile on lots 77 and 78 as shown on the plans. Begin bulk earthmoving to remove material from the south side of French Creek Falls Road and transfer it to French Creek Falls Road. In the event the excavation of French Creek Falls Road requires blasting, all required protocols for blasting shall be followed. Rubble resulting from blasting and boulders unearth by excavation shall be sorted according to size. Larger boulders (over 24" diameter) shall be placed in the boulder stockpile located on lot 94 and used for the construction of boulder retaining walls. Smaller rubble (under 24" diameter) shall be used for outlet protection, swale lining and slope stabilization as required.
10. Continue work on bulk earth moving and bring French Creek Falls Road to rough subgrade. Start installation of storm sewer along French Creek Falls Road from inlet 46, including inlet 49, inlets 50, 51 (water quality inlet), and 52, inlet 53, inlets 54 and 55 and inlets 57 (water quality inlet) and 58. Also install Recharge Bed #4 as shown on the plans and according to the details. Inlet 52 shall be blocked until the site has been stabilized.
11. Coordinate the installation of other utilities including, sanitary sewer and water within French Creek Falls Road to the limits of Stage 2. Complete the construction of French Creek Falls Road within the limits of Stage 2 including curbing, stone subbase, and paving binder course. The construction of the units fronting on French Creek Falls Road within Stage 2 may be started as soon as the stone subbase has been placed on French Creek Falls Road. All inlets shall be set flush with binder course and be fitted with inlet sediment filters according to the details shown on the plans. Paved inlet diversion berms shall be placed on the roadway at each inlet location according to the details shown on the plans. Once French Creek Falls Road has been paved with binder course and all inlets have been protected redistribute the topsoil stockpiled on all non disturbed areas. Place seeding and mulch and erosion control blanket as required to fully stabilize all disturbed areas.

NOTE: The contractor shall ensure that all inlet filters are inspected and cleaned after each rain event as required.

12. Upon completion of French Creek Falls Road within the limits of Stage 2, finish rough grading of all lots within the stage. Redistribute the topsoil stockpiled on Lots 95 and 96 within the limits of stage 2. All disturbed areas shall be stabilized immediately with erosion control blanket according to the seeding specifications shown on the plans. All areas that are 3:1 slope shall be stabilized immediately with erosion control blanket according to the details shown on the plans. Alternate stabilization methods including sod shall be permitted
13. Once all disturbed areas have been stabilized, start construction of retaining walls F and G. Construction of Retaining Wall F shall start from the eastern end of the wall behind lot 60 and continue westward. Swale #4 shall be regraded and removed as the construction of retaining wall F progresses westward.
14. Upon the completion of Retaining Walls F and G install the infiltration berm as shown on the plan and according to the details. The contractor shall take care not to compact the soils at the bottom elevation of the berm.
15. Vegetated filter berms shall be installed only after the bulk grading for the lot areas has been completed. Complete the installation of vegetated filter berms #4, #5 and #6 as shown on the plans and according to the Vegetated Filter Berm construction sequence shown on the plans.
16. Once proper vegetated cover has been established within the limits of Stage 2, swale #5 and sediment trap #2 shall be removed and inlet 52 shall be unblocked. All areas disturbed by the removal of sediment trap #2 and swale #5 shall be stabilized as required. Silt fence used for the downslope protection of swale #5 and sediment trap #2 shall remain in place until the vegetated filter berms have started germinating and the construction of all units on the north side of French Creek Falls Road have been completed as shown on the "On Lot Erosion Control Plans".
17. Install Landscaping within stage 3 upon the completion of all public improvements. Remove rock construction entrances 1 and 3A. Place binder course at the location of rock construction entrance #1 and provide transition between Staging Area #1 and French Creek Falls Road. This transition shall be maintained until the start of Stage 5.
18. Rigorous maintenance of tree protection and the construction limit fence will be required during construction to prevent sediment discharge into the quarry or French Creek.

Stage 5 - Construction of French Creek Falls Road from Station 0+00 to Station 3+50
1. Install rock construction entrance #5 on French Creek Falls Road at station 0+00 as detailed on the plans.
2. Stake out the limits of disturbance for Stage 5 as shown on the plan. Inspect Stage 5 limits and adjust fencing as required to save large trees at the perimeter of construction.

NOTE: Stage 5 limits shall not be exceeded until authorized by the Chester County Conservation District as verified by the Construction Stage Completion Checklist.

3. Install tree protection fencing at the base of large trees that can be saved within the limits of construction.
4. Install silt fencing at the locations within Stage 5 as shown on the plans. Clear vegetation and strip topsoil from areas of swale #4 and swale #5 and sediment trap #2.
5. Placed stripped topsoil in stockpile location on lots 95 and 96 as shown on the plan. Protect topsoil stockpile with silt fence according to the detail.
6. Install sediment trap #2 as shown on the plan and according to the details. Upon installation of the temporary sediment basin riser, an immediate inspection of the riser shall be conducted by a qualified site representative and the Chester County Conservation District shall be notified in writing that the proper riser is installed and sealed, per plan. Sediment basins must be protected from unauthorized acts of third parties. Install swales #4 and #5 as shown on the plans and according to the detail. Swale #4 shall discharge into inlet 47A as shown on the plan.
7. Clear vegetation from the remainder of stage 2 as shown on the plans. All remaining timber shall be chipped on site. Wood chips shall be stockpiled on site and used for stabilization as needed. Removal of trees and other vegetation shall be limited to each stage as it is constructed. No advanced clearing of trees or vegetation in future stages shall be permitted.
8. Strip topsoil from Stage 2 area and stockpile on lots 95 and 96 as shown on the plan. Begin bulk earthmoving to remove material from the south side of French Creek Falls Road and transfer it to the north side of French Creek Falls Road. In the event the excavation of French Creek Falls Road requires blasting, all required protocols for blasting shall be followed. Rubble resulting from blasting and boulders unearth by excavation shall be sorted according to size. Larger boulders (over 24" diameter) shall be placed in the boulder stockpile located on lot 94 and used for the construction of boulder retaining walls. Smaller rubble (under 24" diameter) shall be used for outlet protection, swale lining and slope stabilization as required.
9. Continue work on bulk earth moving and bring French Creek Falls Road to rough subgrade. Start installation of storm sewer along French Creek Falls Road from inlet 46, including inlet 49, inlets 50, 51 (water quality inlet), and 52, inlet 53, inlets 54 and 55 and inlets 57 (water quality inlet) and 58. Also install Recharge Bed #4 as shown on the plans and according to the details. Inlet 52 shall be blocked until the site has been stabilized.
10. Coordinate the installation of other utilities including, sanitary sewer and water within French Creek Falls Road to the limits of Stage 2. Complete the construction of French Creek Falls Road within the limits of Stage 2 including curbing, stone subbase, and paving binder course. The construction of the units fronting on French Creek Falls Road within Stage 2 may be started as soon as the stone subbase has been placed on French Creek Falls Road. All inlets shall be set flush with binder course and be fitted with inlet sediment filters according to the details shown on the plans. Paved inlet diversion berms shall be placed on the roadway at each inlet location according to the details shown on the plans. Once French Creek Falls Road has been paved with binder course and all inlets have been protected redistribute the topsoil stockpiled on all non paved areas. Place seeding and mulch and erosion control blanket as required to fully stabilize all disturbed areas.

NOTE: The contractor shall ensure that all inlet filters are inspected and cleaned after each rain event as required.

11. Upon completion of French Creek Falls Road within the limits of Stage 2, finish rough grading of all lots within the stage. Redistribute the topsoil stockpiled on Lots 95 and 96 within the limits of stage 2. All disturbed areas shall be stabilized immediately with erosion control blanket according to the seeding specifications shown on the plans. All areas that are 3:1 slope shall be stabilized immediately with erosion control blanket according to the details shown on the plans. Alternate stabilization methods including sod shall be permitted
12. Once all disturbed areas have been stabilized, start construction of retaining walls F and G. Construction of Retaining Wall F shall start from the eastern end of the wall behind lot 60 and continue westward. Swale #4 shall be regraded and removed as the construction of retaining wall F progresses westward.
13. Upon the completion of Retaining Walls F and G install the infiltration berm as shown on the plan and according to the details. The contractor shall take care not to compact the soils at the bottom elevation of the berm.
14. Vegetated filter berms shall be installed only after the bulk grading for the lot areas has been completed. Complete the installation of vegetated filter berms #4, #5 and #6 as shown on the plans and according to the Vegetated Filter Berm construction sequence shown on the plans.
15. Once proper vegetated cover has been established within the limits of Stage 2, swale #5 and sediment trap #2 shall be removed and inlet 52 shall be unblocked. All areas disturbed by the removal of sediment trap #2 and swale #5 shall be stabilized as required. Silt fence used for the downslope protection of swale #5 and sediment trap #2 shall remain in place until the vegetated filter berms have started germinating and the construction of all units on the north side of French Creek Falls Road have been completed as shown on the "On Lot Erosion Control Plans". Vegetated filter berm #9 shall not be installed until after the removal of swale #6 and the swale outlet have been removed and restabilized.
16. Install Landscaping within stage 3 upon the completion of all public improvements. Remove rock construction entrances 1 and 3A. Place binder course at the location of rock construction entrance #1 and provide transition between Staging Area #1 and French Creek Falls Road. This transition shall be maintained until the start of Stage 5.
17. Rigorous maintenance of tree protection and the construction limit fence will be required during construction to prevent sediment discharge into the quarry or French Creek.

GENERAL EROSION AND SEDIMENTATION CONTROL NOTES

OWNER / DEVELOPER WILL BE RESPONSIBLE FOR THE PROPER EROSION, STABILIZATION, AND REPAIR OF ALL EROSION AND SEDIMENTATION CONTROLS AND RELATED ITEMS INCLUDED WITHIN THESE PLANS.

EROSION AND SEDIMENTATION CONTROLS MUST BE CONSTRUCTED, STABILIZED AND FUNCTIONAL BEFORE GENERAL SITE DISTURBANCE WITHIN THE TRIBUTARY OF THOSE CONTROLS BEGINS.

ONLY LIMITED UP SLOPE DISTURBANCE WILL BE PERMITTED TO PROVIDE ACCESS TO SEDIMENT TRAPS AND CHANNELS OF CONVEYANCE FOR GRADING AND ACQUIRING BORROW TO CONSTRUCT THOSE UNITS. THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION CONTROLS MUST BE PROPERLY MAINTAINED. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION CONTROLS AFTER EACH STORM EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND REINSTALL MUST BE PERFORMED IMMEDIATELY.

EROSION AND SEDIMENTATION CONTROLS SHALL BE MAINTAINED AS FOLLOWS:

ACCUMULATED SILT SHALL BE REMOVED ALONG SILT FENCING, REGRADED, AND STABILIZED ELSEWHERE ON THE SITE. SILT SHALL ALSO BE REMOVED FROM THE BASIN AT THE CLEANOUT ELEVATIONS. THE SILT SHALL BE SPREAD ELSEWHERE ON THE SITE AND SEEDED.

AFTER FINAL STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING THE REMOVAL OF THE CONTROLS MUST BE STABILIZED.

ANY DISTURBED AREA ON WHICH ACTIVITY HAS CEASED AND WHICH WILL REMAIN EXPOSED FOR MORE THAN 72 HOURS, MUST BE SEEDED AND MULCHED IMMEDIATELY. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT RECOMMENDED RATES.

DISTURBED AREAS WHICH ARE NOT AT FINISH GRADE AND WHICH WILL BE RE-DISTURBED WITHIN ONE YEAR MUST BE STABILIZED AND MULCHED WITH A TEMPORARY SEED MIXTURE AND MULCH. DISTURBED AREAS WHICH WILL REMAIN AT FINISH GRADE OR WILL NOT BE RE-DISTURBED WITHIN ONE YEAR MUST BE SEEDED WITH A PERMANENT SEED MIXTURE AND MULCHED.

SHOULD ANY MEASURES CONTAINED WITHIN THIS PLAN PROVE TO BE INCAPABLE OF ADEQUATELY REMOVING SEDIMENT FROM ON-SITE FLOWS PRIOR TO THE DISCHARGE OF OR STABILIZING DISTURBED AREAS, ADDITIONAL MEASURES SHALL BE IMPLEMENTED IMMEDIATELY BY THE OWNER/ DEVELOPER TO ELIMINATE SUCH PROBLEMS.

THE LIMITS OF WORK SHOWN ON THIS PLAN ARE THE AREAL EXTENT REQUIRED FOR CONSTRUCTION. THE CONTRACTOR SHALL ADHERE TO THESE LIMITS IN MINIMIZING DISTURBING NON-TARGET LAND. AREAS OUTSIDE THESE LIMITS SHALL BE CONSIDERED SENSITIVE.

TOPSOIL TAKEN FROM CONSTRUCTION AREAS SHALL BE SEEDED WITH A VEGETATIVE COVER AND STOCKPILED FOR REUSE IN FINISH GRADING. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2:1 OR FLATTER. SILT FENCING SHALL BE INSTALLED ON THE LOWER SIDE OF THE PILE. THERE SHALL BE NO EARTH DISTURBANCE WITHIN THE STOCKPILE AREA.

FILLS GREATER THAN 3:1 SLOPE AND CUTS GREATER THAN 2-1/2:1 SHALL BE SEEDED AND MULCHED, AND PROTECTED WITH CURLEX MESH (SEE INSTALLATION INSTRUCTIONS). SEDIMENTATION BASIN AND STOCKPILES SHALL BE SEEDED AND MULCHED IMMEDIATELY.

GRADED AREAS ARE TO BE TEMPORARILY SEEDED AND MULCHED IMMEDIATELY FOLLOWING EARTHMOVING PROCEDURES. TEMPORARY SEED SHALL BE ANNUAL RYE GRASS APPLIED AT THE RATES SPECIFIED. MULCH SHALL BE HAY OR STRAW APPLIED AT THE RATE OF AT LEAST 3 TONS.

LIME SHALL BE APPLIED TO ALL TEMPORARILY SEEDED AREAS AT A MINIMUM RATE AS SPECIFIED

ALL TEMPORARILY SEEDED AREAS SHALL HAVE 5-5-5 FERTILIZER APPLIED AT THE MINIMUM RATES

ESTABLISH PERMANENT SEEDING AS SOON AS POSSIBLE AFTER FINAL GRADING IS COMPLETED. PERMANENT SEEDING SHALL BE AT THE RATES SPECIFIED. FERTILIZER AND LIME SHALL BE APPLIED AT THE MINIMUM RATES SPECIFIED.

PERMANENTLY SEEDED AREAS SHALL HAVE HAY OR STRAW APPLIED AT THE RATE OF AT LEAST 3 TONS PER ACRE.

ANY AREAS WHERE HYDROSEED IS USED, MULCH IS NEEDED AT A MINIMUM RATE OF 3 TONS PER ACRE.

SILT FENCING IS TO BE MAINTAINED, AND REPLACED IF NECESSARY, DURING THE ENTIRE CONSTRUCTION PERIOD UNTIL A PERMANENT VEGETATIVE COVER IS ESTABLISHED.

THERE IS TO BE NO EARTH DISTURBANCE OR VEGETATIVE CLEARING IN AREAS OF STAKED (OR FENCED) WETLANDS. EARTH DISTURBANCE WITHIN THESE AREAS WITHOUT THE REQUIRED PERMITS WILL RESULT IN POTENTIAL VIOLATION OF COMMONWEALTH AND FEDERAL WETLANDS REGULATIONS.

CHANNELS, SEDIMENTATION BASINS, SEDIMENTATION TRAPS AND STOCKPILES MUST BE SEEDED AND MULCHED IMMEDIATELY.

DUST CONTROL SHALL BE PROVIDED BY THE CONTRACTOR AT ALL TIMES DURING CONSTRUCTION VEHICLES LEAVING THE SITE SHALL NOT DRIVE ON MATERIAL OUTSIDE OF THE PROJECT SITE BOUNDARIES AND/OR A PUBLIC RIGHT-OF-WAY. EROSION CONTROL MATTING SHALL BE APPLIED TO ALL 3:1 OR GREATER SLOPES

IF ANY SIGNIFICANT CHANGES OR ADDITIONS DUE TO THE EROSION AND SEDIMENTATION CONTROL PLAN, THE BUILDER OR LANDOWNER WILL CONTACT THE CHESTER COUNTY CONSERVATION DISTRICT AT (610) 696-5126 FOR THE ADEQUACY OF THESE CHANGES.

UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION REPORT LOG KEPT FOR THIS PURPOSE. THE COMPLETE ACTIONS AND THE DATE, TIME AND NAME WILL BE KEPT ON THE SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST.

ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND REINSTALL MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENTATION BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S OR MODIFICATIONS OF THOSE INSTALLED WILL BE NEEDED.

WHERE BMP'S ARE FOUND TO FAIL TO ALLEVIATE EROSION OR SEDIMENT POLLUTION THE PERMITTEE OR CO-PERMITTEE SHALL INCLUDE THE FOLLOWING INFORMATION:

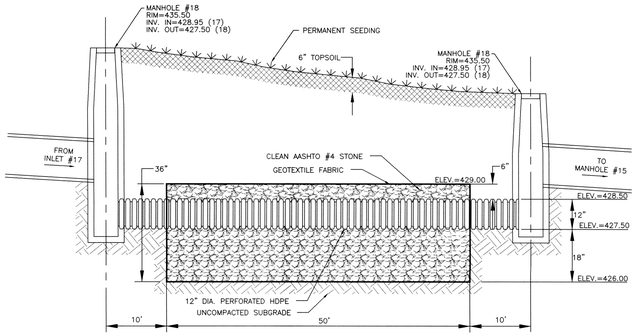
A. THE LOCATION AND SEVERITY OF THE BMP'S FAILURE AND ANY POLLUTION EVENTS.

B. ALL STEPS TAKEN TO, REDUCE, ELIMINATE AND PREVENT THE REC

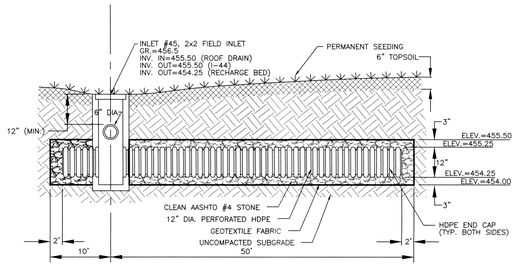
RECHARGE BED CONSTRUCTION SEQUENCE:

1. STAKE OUT THE LIMITS OF THE BED TO BE INSTALLED.
2. EXCAVATE UNDERGROUND INFILTRATION BED TO THE PROPOSED BOTTOM. EXCAVATION SHALL BE DONE IN A MANNER THAT DOES NOT DISTURB THE SOIL STRUCTURE OF THE INFILTRATION ZONE. INSTALL 18" SILT FENCE ALONG THE UPSLOPE PERIMETER OF THE EXCAVATED AREA TO PREVENT RUNOFF FROM UNSTABILIZED AREAS FROM ENTERING THE INFILTRATION AREA.
3. PLACE FILTER FABRIC IN THE EXCAVATION AND TACK IT UP TO THE SIDES. ALLOW SUFFICIENT FABRIC TO OVERLAP THE TOP OF THE BED.

   NOTE: INFILTRATION BED FILTER FABRIC AND STONE SHALL BE KEPT CLEAN OF SOIL/SEDIMENT DURING THE INSTALLATION PROCESS. IF INSPECTION INDICATES THAT SOIL SEDIMENT HAS ENTERED ANY OF THE INFILTRATION BEDS, APPROPRIATE MEASURES (I.E., CLEANING THE SOIL/SEDIMENT FROM THE FABRIC, STONE, BED, ETC. AN OR REPLACEMENT OF THE FABRIC AND STONE) SHALL BE TAKEN. PIECES OF FILTER FABRIC SHALL BE INSTALLED WITH A 12" OVERLAP ON ALL SEAMS.
4. PLACE AASHTO #4 STONE IN THE BOTTOM OF THE BED AND EVENLY DISTRIBUTE ON THE BOTTOM. CARE SHALL BE TAKEN TO ENSURE THAT THE FILTER FABRIC IN THE BED IS NOT TORN DURING INSTALLATION. ALL STONE SHALL BE UNIFORMLY GRADED, CLEAN WASHED AGGREGATE. THE STONE SHALL BE CHECKED AND APPROVED BY THE DESIGN OR SITE ENGINEER BEFORE INSTALLATION INTO SEEPAGE BEDS TO ENSURE THAT IT IS CLEAN WASHED STONE.
5. INSTALL THE DISTRIBUTION PIPE AS FOLLOWS: BACKFILL STONE IN THE BEDS TO THE LEVEL OF THE INFLOW PIPE(S). PROVIDE OPENING IN THE FILTER FABRIC FOR THE INFLOW PIPE AND INSTALL DISTRIBUTION PIPE.
6. COMPLETE PLACEMENT OF THE STONE IN THE INFILTRATION BED. OVERLAP FILTER FABRIC ON TOP OF THE INFILTRATION BED. BACKFILL OVER THE INFILTRATION AREA WITH SOIL TO FINISHED GRADE. STABILIZE AREA OVER UNDERGROUND BED WITH PERMANENT MEASURES AS STATED ON THE EROSION AND SEDIMENT CONTROL PLAN.
7. UPON COMPLETION OF HOUSE RAIN GUTTERS, CONNECT ALL DOWNSPOUTS INTO THE DISTRIBUTION PIPE.
8. THE INSTALLATION OF THE INFILTRATION BED SHALL BE DONE DURING NON-RAINY PERIODS TO PREVENT SEDIMENT DEPOSITION AND CLOGGING OF THE SOIL STRUCTURE. IF RAIN BEGINS AFTER THE EXCAVATION THE INFILTRATION BED HAS BEEN COMPLETED, FILTER FABRIC SHALL BE PLACED ON THE BED AREA. THE FILTER FABRIC SHALL BE REMOVED AND REPLACED IF SEDIMENT ACCUMULATES IN THE BED AREA.



RECHARGE BED #1 DETAIL
NOT TO SCALE



RECHARGE BED #3 DETAIL
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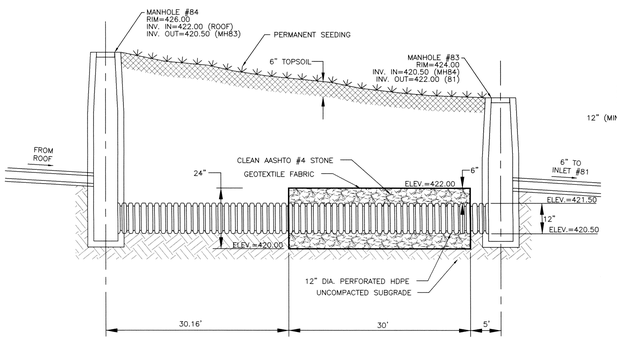

RECHARGE BED #2 DETAIL
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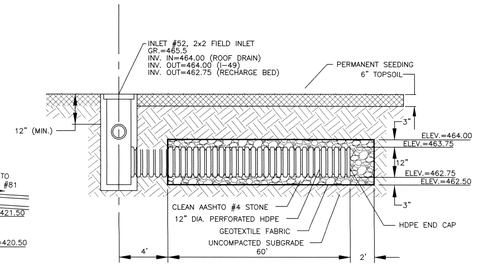
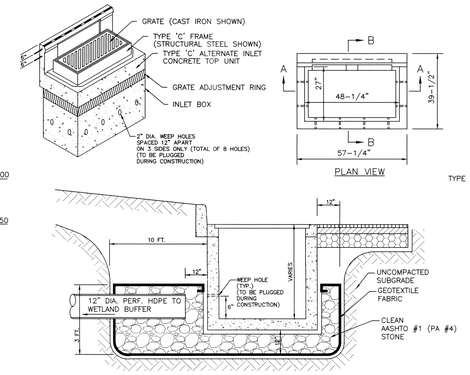
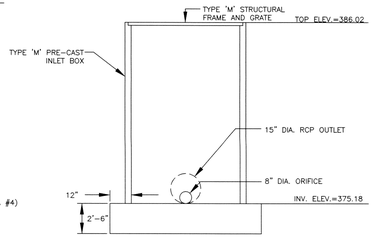


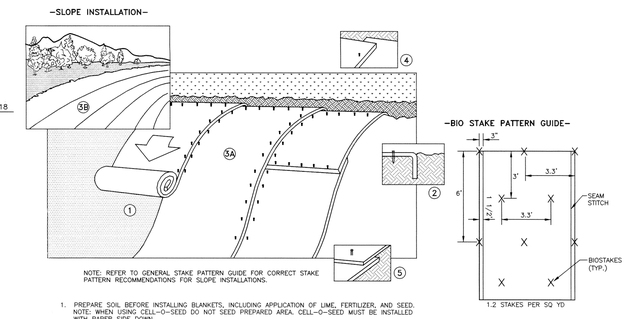
RECHARGE BED #4 DETAIL
NOT TO SCALE



TYPE 'C' WATER QUALITY INLET
NOT TO SCALE

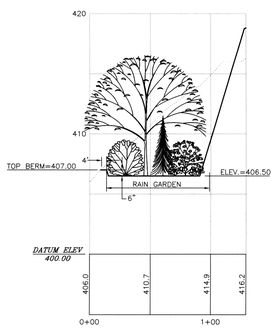


OUTLET STRUCTURE DETAIL - QUARRY
NOT TO SCALE

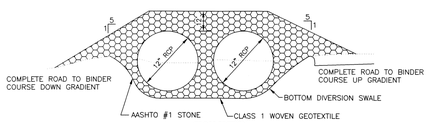


NOTE: REFER TO GENERAL STAKE PATTERN GUIDE FOR CORRECT STAKE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.

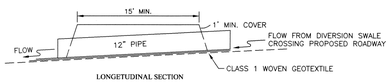
1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAKING.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAKED WITH APPROXIMATELY 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAKE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.



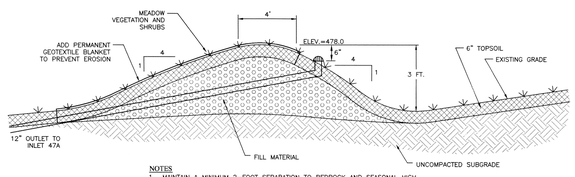
CROSS-SECTION THRU RAIN GARDEN
SCALE: HOR. 1"=50'
VER. 1"=5'



TEMPORARY EQUIPMENT CROSSING DETAIL FOR DIVERSION SWALE IN ROADWAY
NOT TO SCALE

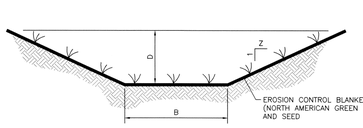


TEMPORARY EQUIPMENT CROSSING DETAIL FOR DIVERSION SWALE IN ROADWAY
NOT TO SCALE



NOTES
1. MAINTAIN A MINIMUM 2-FOOT SEPARATION TO BEDROCK AND SEASONAL HIGH WATER TABLE.
2. AVOID EARTH DISTURBANCE ON UPSTREAM SIDE OF INFILTRATION BERM.
3. BERMS SHOULD BE VEGETATED WITH TURF GRASS AS A MINIMUM, HOWEVER, MORE SUBSTANTIAL PLANTINGS SUCH AS MEADOW VEGETATION, SHRUBS, AND TREES ARE RECOMMENDED.

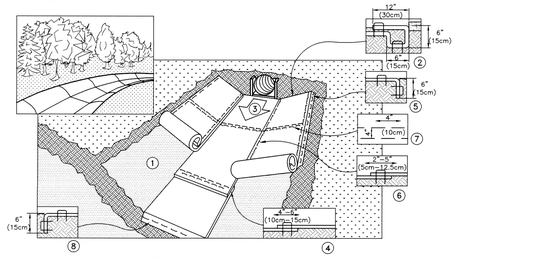
INFILTRATION BERM DETAIL
NOT TO SCALE



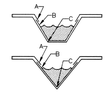
SWALE TABULATION

SWALE #	B	D	Z	A	CHANNEL TYPE
1	4'	2'	2	S150	INTERCEPTOR
2	4'	2'	2	C125	DIVERSION
3	4'	2'	2	S150	INTERCEPTOR
4	2'	2'	2	C125	DIVERSION
5	2'	2'	2	C125	INTERCEPTOR
6	2'	2'	2	C125	DIVERSION
7	2'	2'	2	S150	INTERCEPTOR
8	4'	2'	2	S150	INTERCEPTOR
9	2'	2'	2	S150	INTERCEPTOR
10	2'	2'	2	C125	DIVERSION

GRASS LINED SWALE DETAIL
NOT TO SCALE



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 CHANNEL 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. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM 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 SIDE SLOPES 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"-5" (5cm-12.5cm) (DEPENDING 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 FOOT (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.



CRITICAL POINTS
A. OVERLAPS AND SEAMS
B. PROJECTED WATER LINE
C. CHANNEL BOTTOM/SIDE SLOPE VERTICES

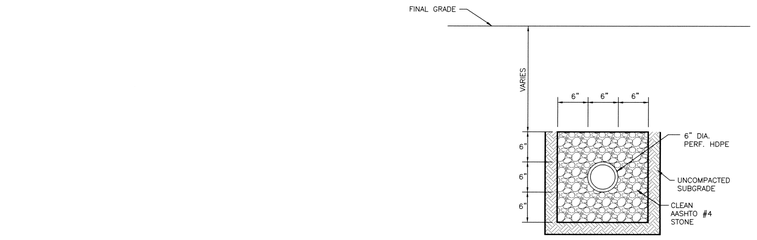
NOTE:
* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.

** IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 cm) MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKET.

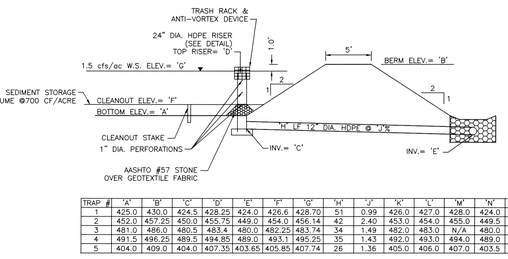
DETAIL PROVIDED BY:
NORTH AMERICAN GREEN
14649 HIGHWAY 41 NORTH, EVANSVILLE, INDIANA 47725
USA 1-800-772-2040 CANADA 1-800-448-2040
www.nagreen.com

NORTH AMERICAN GREEN MATTING DETAIL
NOT TO SCALE

REVIEWED
For the Department of Environmental Protection
By: _____
Date: 3-3-07
and determined [illegible] requirements of [illegible] to minimize the potential for [illegible] and sedimentation to the waters of the Commonwealth.



PIPE TRENCH DETAIL FOR WATER QUALITY INLET OUTFALLS
NOT TO SCALE

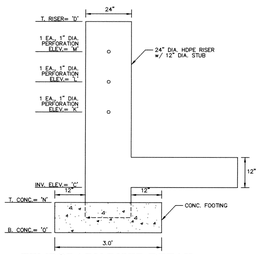


TRAP #	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'K'	'L'	'M'	'N'	'O'
1	425.0	430.0	424.5	428.25	424.0	426.6	428.70	51	0.99	426.0	427.0	428.0	424.0	423.0
2	452.0	457.25	450.0	455.75	449.0	454.0	456.14	42	2.40	453.0	454.0	455.0	449.5	448.5
3	481.0	486.0	480.5	483.4	480.0	482.25	483.74	34	1.49	482.0	483.0	N/A	480.0	479.0
4	491.5	496.25	489.5	494.85	489.0	493.1	495.25	35	1.43	492.0	493.0	494.0	489.0	488.0
5	404.0	409.0	404.0	407.35	403.65	405.85	407.74	26	1.36	405.0	406.0	407.0	403.5	402.5

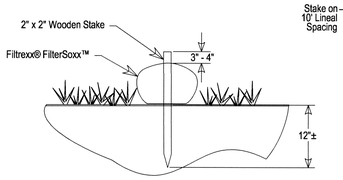
SEDIMENT TRAP DETAIL
NOT TO SCALE

CLEAN OUT STAKES MUST BE PLACED AT HALF DISTANCES FROM POINTS OF CONCENTRATED INFLOWS TO SEDIMENT TRAP OUTLETS. WHEN SEDIMENT HAS ACCUMULATED TO THE CLEAN OUT ELEVATION ON ANY STAKE, THE SEDIMENT MUST BE REMOVED TO RESTORE TRAP CAPACITIES.

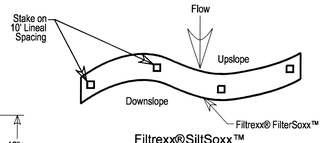
SEDIMENT TRAPS MUST BE PROTECTED FROM UNAUTHORIZED ACTS OF THIRD PARTIES.



TEMPORARY RISER DETAIL
SEDIMENT TRAP
NOT TO SCALE



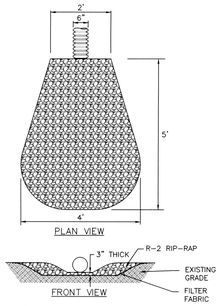
Filtrexx®FilterSoxx™ Section



Filtrexx®SiltSoxx™
Plan View

Notes:
1. All material to meet Filtrexx® specifications .
2. FilterSoxx™ compost/soil/rock/seed fill to meet application requirements.
3. Compost material to be dispersed on site, as determined by Engineer.

FILTER SOCK DETAIL
NOT TO SCALE



ENERGY DISSIPATOR DETAIL FOR WATER QUALITY INLET PIPE OUTFALL
NOT TO SCALE

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE
SERIAL NUMBERS:
2425321

PENNSYLVANIA ACT 187 REQUIREMENTS
EARTH ENTERPRISES DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS FOR EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN ON THE PLANS, NOR DOES EARTH ENTERPRISES GUARANTEE THAT ALL SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.

Rev.	Date	Description
5	03/05/2007	REVISION PER CCCD LETTER DATED 02/20/2007
4	01/30/2007	REVISION PER CCCD LETTER DATED 01/23/2007
3	11/30/2006	REVISION PER TOWNSHIP LETTER DATED 11/9/2006
2	10/06/2006	NPDES PHASE II SUBMISSION
1	10/05/2006	REV PER TWP. ENGR. LTR DATED 9/4/2006 & TWP. PLANNER LTR. DATED 9/5/2006

FINAL
EROSION AND SEDIMENTATION CONTROL NOTES / DETAILS

PLAN OF SUBDIVISION FOR GRANITE VILLAGE AT SAINT PETERS

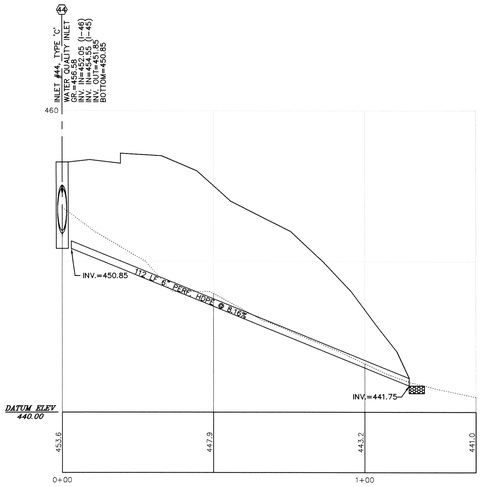
WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER CHARLES E. DOBSON PENNSYLVANIA
Chuck Dobson PE-049197-E

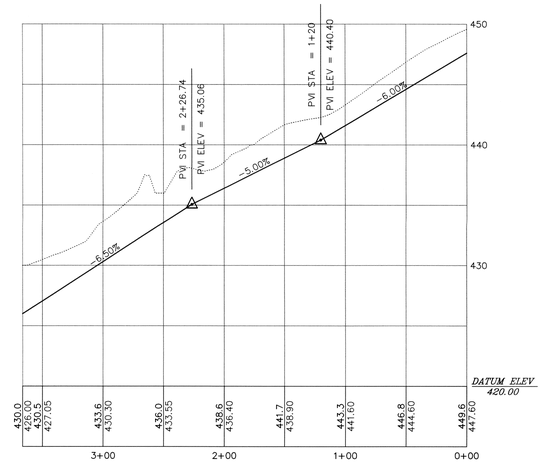
EARTH ENTERPRISES
1441 PRIZER ROAD
PUGHTOWN, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

Project:	10001
Date:	09/05/2006
Scale:	AS NOTED
Drawn:	TAH
Checked:	CAD

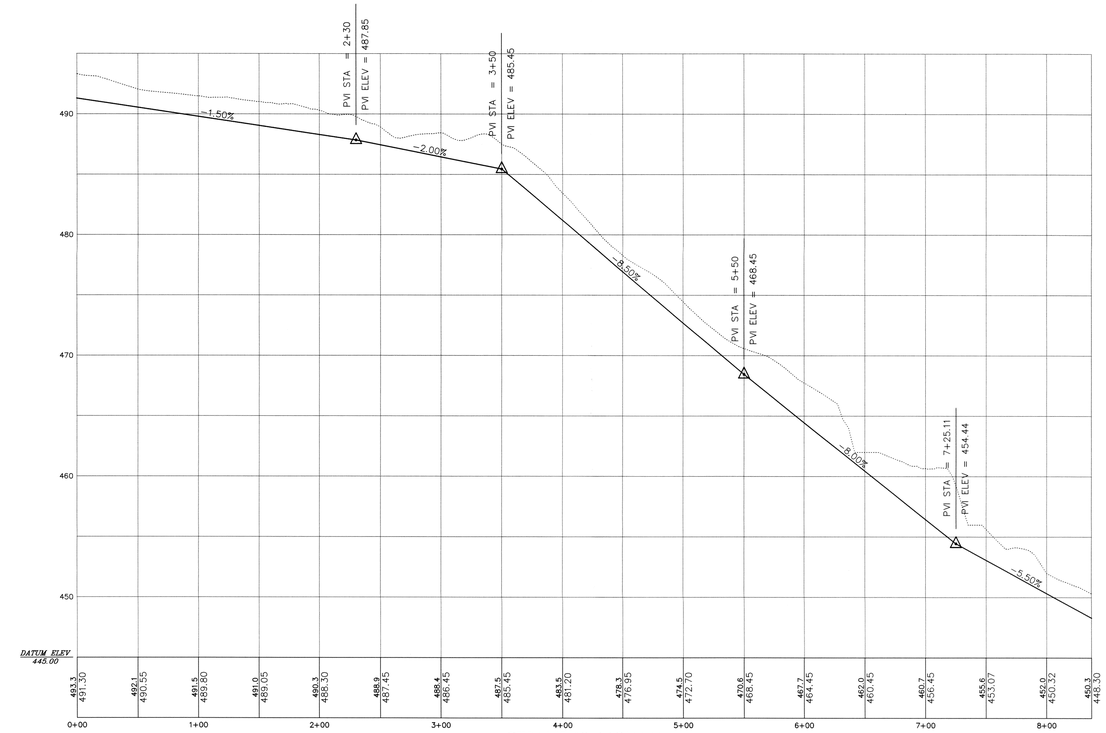
8B
OF 32



STORM SEWER PROFILE
FROM INLET #44 TO WETLAND BUFFER
SCALE: HOR. 1"=20'
VER. 1"=4'



SWALE #1 PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'



SWALE #2 PROFILE
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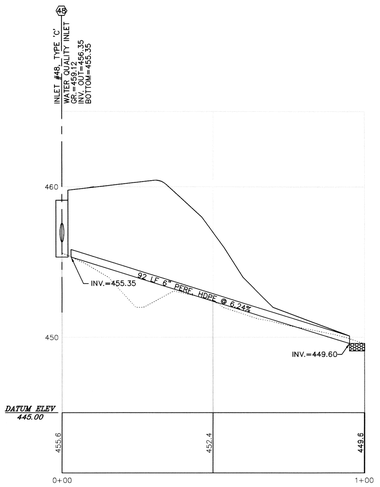
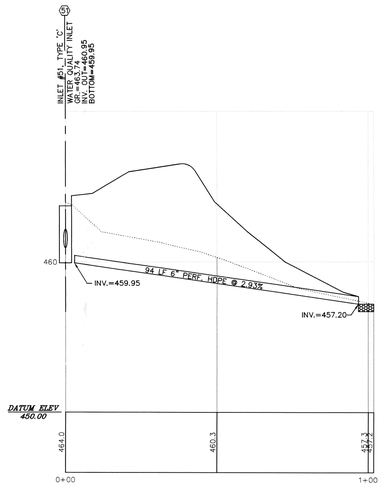
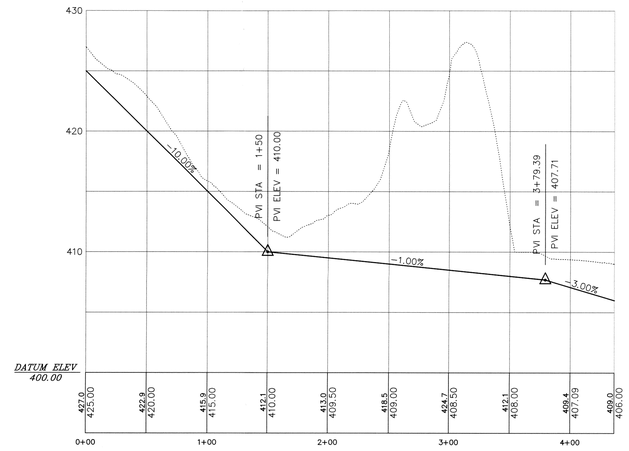
VER. 1"=5'



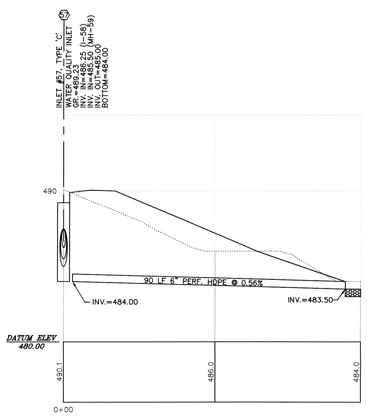
STORM SEWER PROFILE
FROM INLET #48 TO WETLAND BUFFER
SCALE: HOR. 1"=20'
VER. 1"=4'



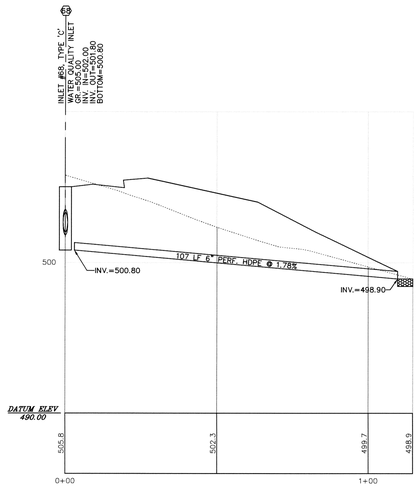
STORM SEWER PROFILE
FROM INLET #51 TO WETLAND BUFFER
SCALE: HOR. 1"=20'
VER. 1"=4'



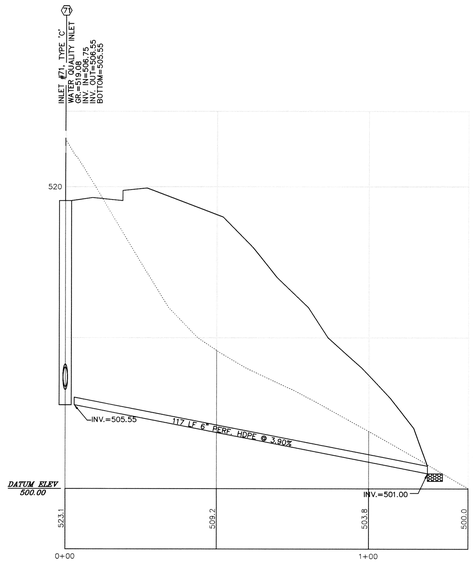
SWALE #3 PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'



STORM SEWER PROFILE
FROM INLET #57 TO WETLAND BUFFER
SCALE: HOR. 1"=20'
VER. 1"=4'



STORM SEWER PROFILE
FROM INLET #68 TO WETLAND BUFFER
SCALE: HOR. 1"=20'
VER. 1"=4'



STORM SEWER PROFILE
FROM INLET #71 TO WETLAND BUFFER
SCALE: HOR. 1"=20'
VER. 1"=4'

THIS PLAN HAS BEEN REVIEWED
for the Department of Environmental Protection
By: CCCD
Date: 3-13-07
and determined to adequately address the [illegible]
and requirements of 25 PA Code [illegible] to
minimize the potential for [illegible]
and sedimentation to the waters of the
Commonwealth.

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE
SERIAL NUMBERS:
2425321

PENNSYLVANIA ACT 187 REQUIREMENTS.
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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
CHARLES A. DOBSON
PE-049197-E
Chuck Dobson PE 049197-E

FINAL
EROSION AND SEDIMENTATION
CONTROL NOTES / DETAILS

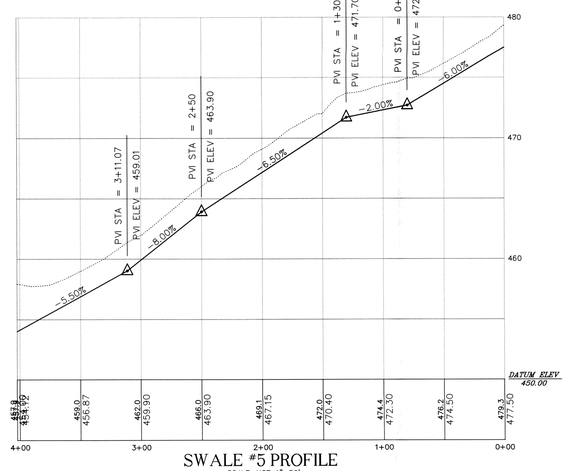
PLAN OF SUBDIVISION
FOR
GRANITE VILLAGE
AT SAINT PETERS

WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

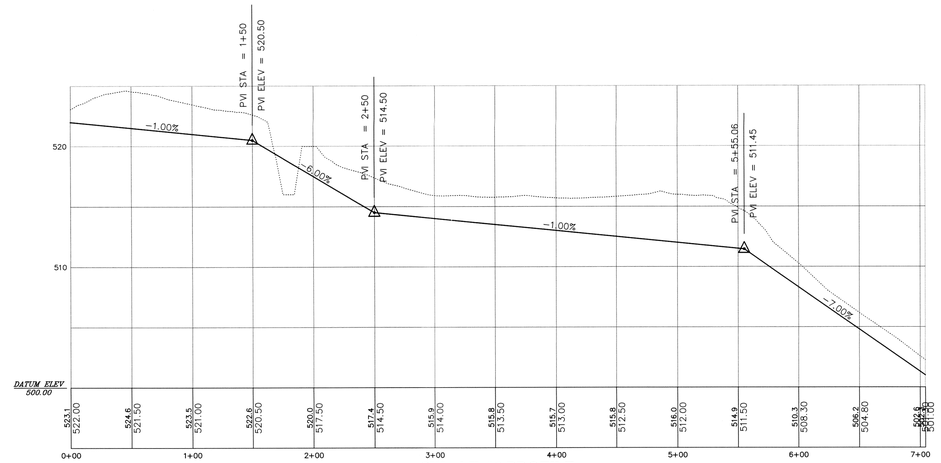
EARTH ENTERPRISES
1441 PRIZER ROAD
PUGHTOWN, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

Project:	10001
Date:	09/05/2006
Scale:	AS NOTED
Drawn:	TAH
Checked:	CAD

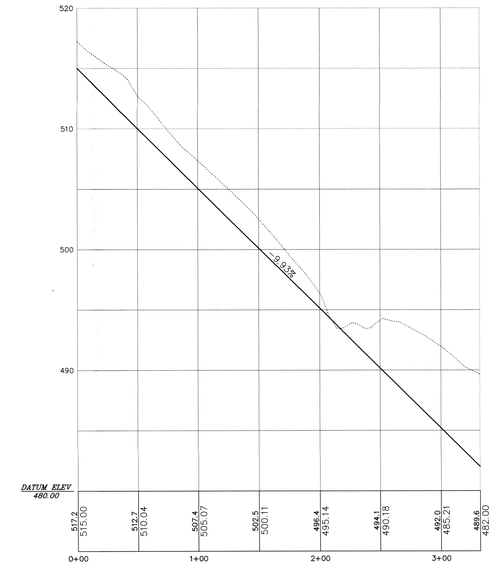
8C
OF 32



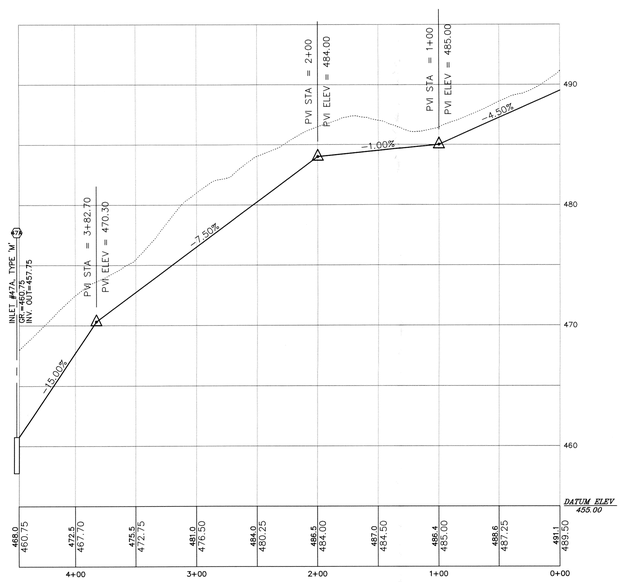
SWALE #5 PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'



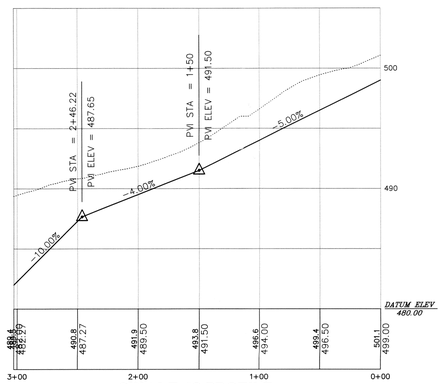
SWALE #6 PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'



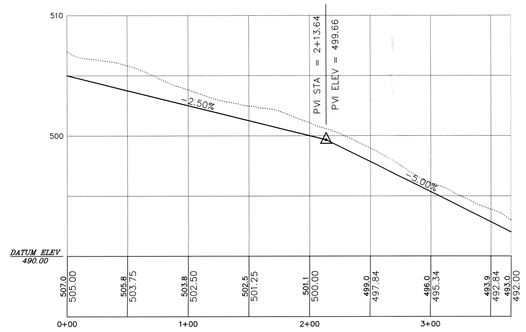
SWALE #7 PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'



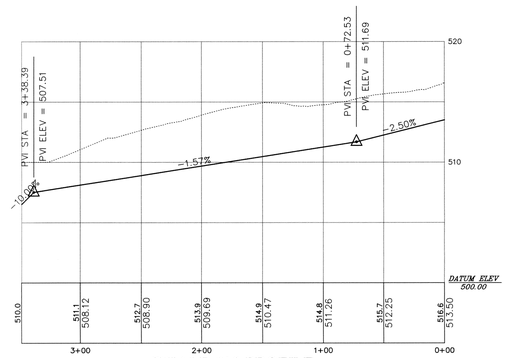
SWALE #4 PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'



SWALE #8 PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'



SWALE #9 PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'



SWALE #10 PROFILE
SCALE: HOR. 1"=50'
VER. 1"=5'

THIS PLAN HAS BEEN REVIEWED
for the Department of Environmental Protection
By: AAB
Date: 3-13-07
and determined [illegible]
and requirements of 25 PA Code
minimize the potential for accelerated erosion
and sediment pollution to the waters of the
Commonwealth.

PENNSYLVANIA ONE CALL SYSTEM
1-800-242-1776
CALL BEFORE YOU DIG!

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE
SERIAL NUMBERS:
2425321

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Rev.	Date	Description
5	03/05/2007	REVISION PER CCCD LETTER DATED 02/20/2007
4	01/30/2007	REVISION PER CCCD LETTER DATED 01/23/2007
3	11/30/2006	REVISION PER TOWNSHIP LETTER DATED 11/9/2006
2	10/06/2006	NPDES PHASE II SUBMISSION
1	10/05/2006	REV PER TWP. ENGR. LTR DATED 9/4/2006 & TWP. PLANNER LTR. DATED 9/5/2006

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
CHARLES A. DOBSON
No. 049197-E
Chuck Dobson PE 049197-E

FINAL
EROSION AND SEDIMENTATION
CONTROL NOTES / DETAILS

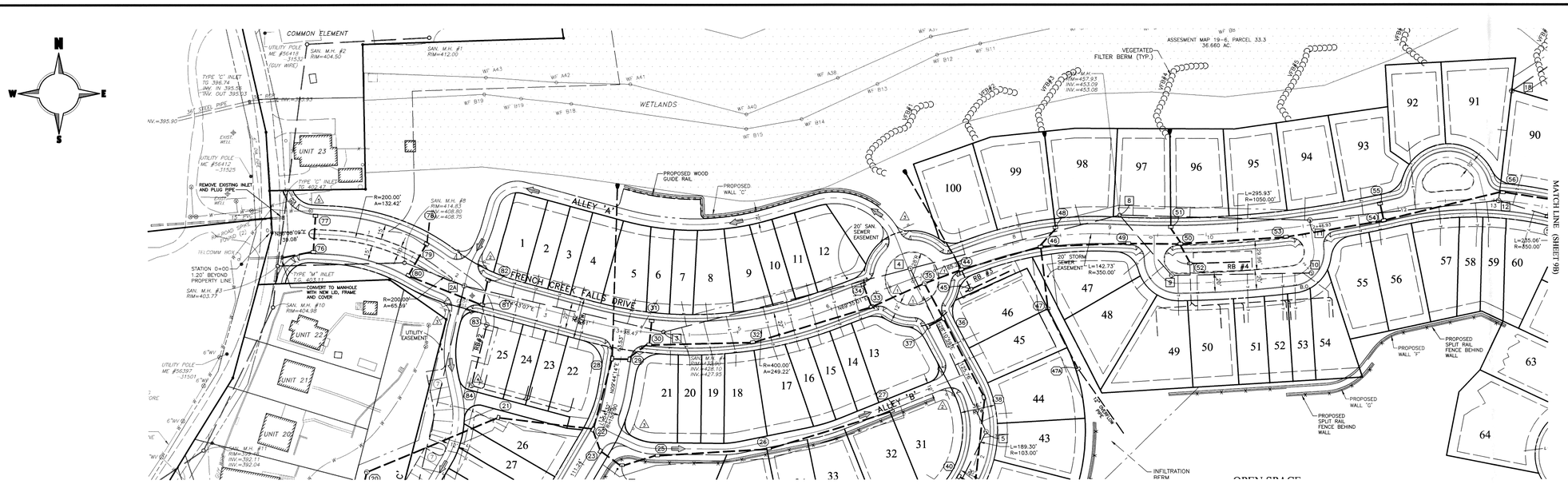
PLAN OF SUBDIVISION
FOR
GRANITE VILLAGE
AT SAINT PETERS

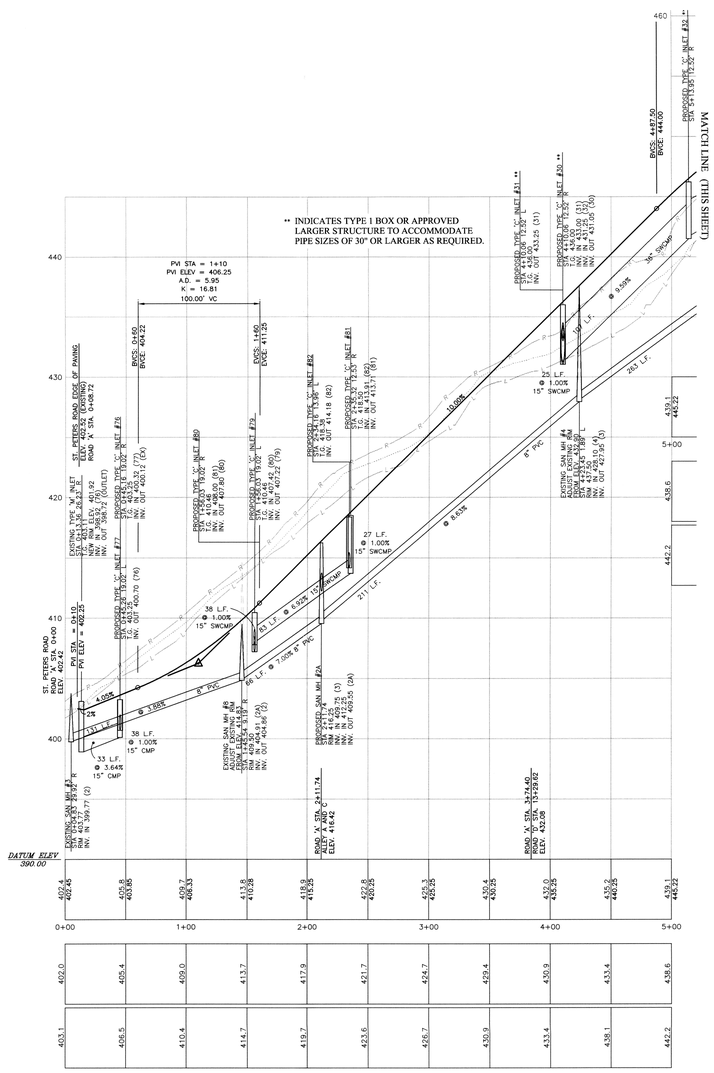
WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

EARTH ENTERPRISES
1441 PRIZER ROAD
PUGHTOWN, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

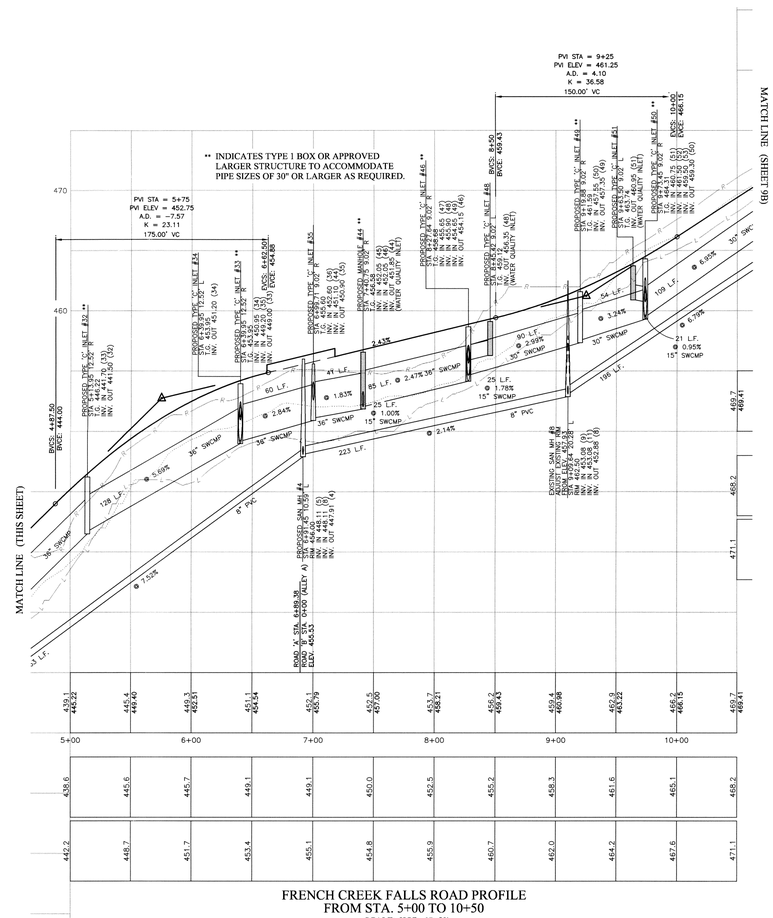
Project:	10001
Date:	09/05/2006
Scale:	AS NOTED
Drawn:	TAH
Checked:	CAD

8D
OF 32

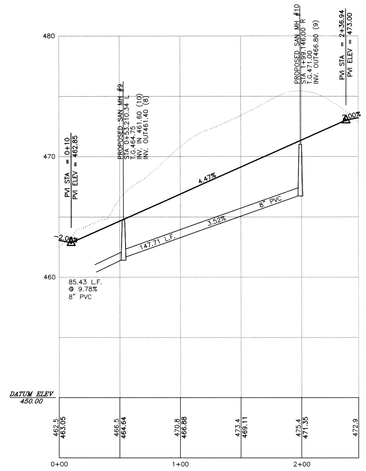




ROAD 'A' PROFILE
FROM STA. 0+00 TO 5+00
SCALE: HOR. 1"=50'
VER. 1"=5'



FRENCH CREEK FALLS ROAD PROFILE
FROM STA. 5+00 TO 10+50
SCALE: HOR. 1"=50'
VER. 1"=5'



FRENCH CREEK FALLS LOOP
FROM STA. 0+00 TO 2+46.93
SCALE: HOR. 1"=50'
VER. 1"=5'

THIS PLAN HAS BEEN REVIEWED
for the Departmental [illegible] Inspection
By: [illegible]
Date: 3-13-07
and determines [illegible]
and requirements of 25 PA Code [illegible]
minimize the potential [illegible]
and sedimentation to the
Commonwealth.

PENNSYLVANIA ONE CALL SYSTEM
1-800-242-1776
CALL BEFORE YOU DIG!!

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE
SERIAL NUMBERS:
2425321

PENNSYLVANIA ACT 187 REQUIREMENTS:
EARTH ENTERPRISES DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS FOR EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN ON THE PLANS. THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY THAT ALL SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.

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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
CHARLES E. JACOBSON
No. 049197-E
Chuck Dobson PE 049197-E

FINAL
PLAN AND PROFILE SHEET
ROAD 'A' 0+00 TO 10+50

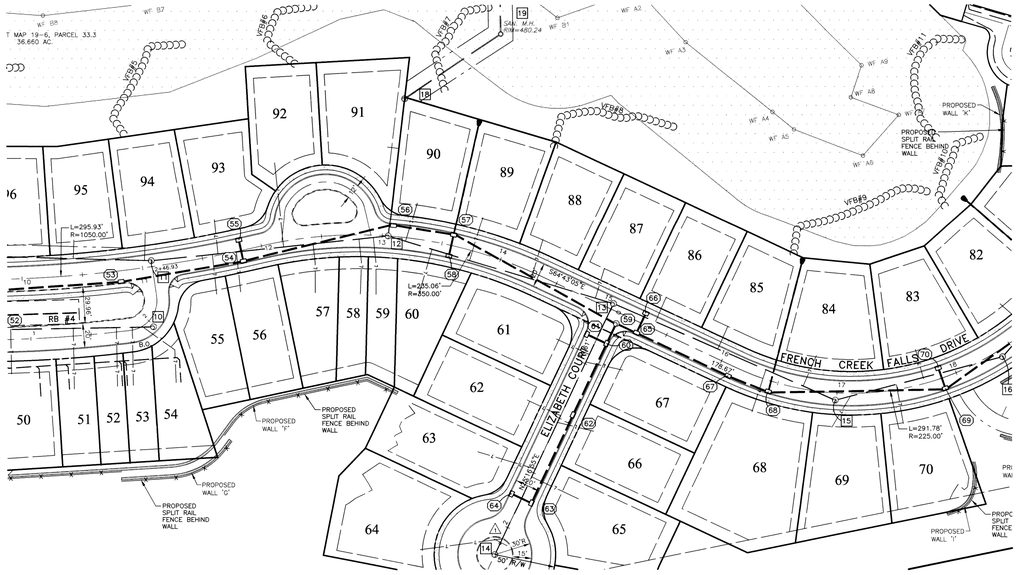
PLAN OF SUBDIVISION
FOR
GRANITE VILLAGE
AT SAINT PETERS

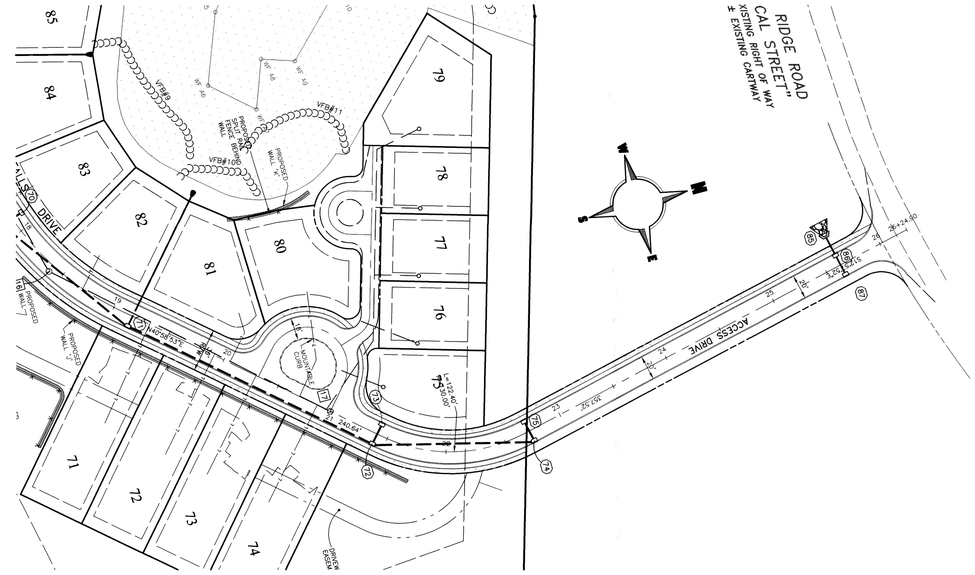
WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

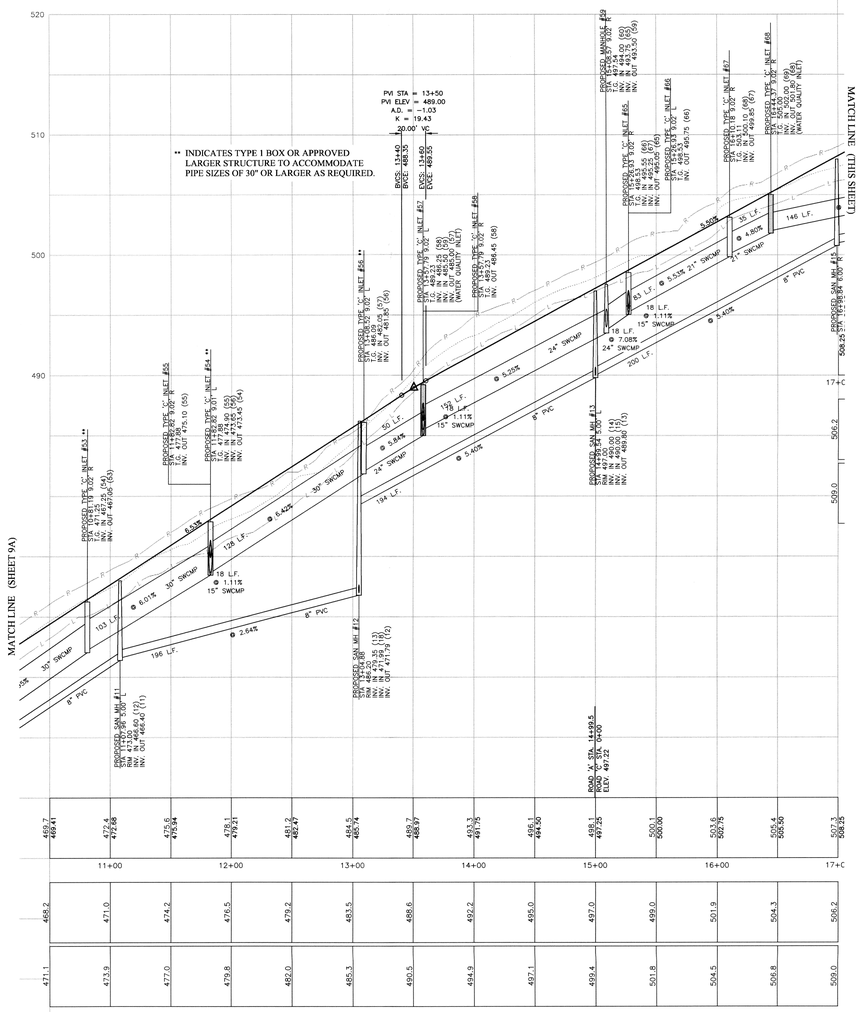
EARTH ENTERPRISES
1441 PRIZER ROAD
PUGHTOWN, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

Project:	10001
Date:	09/05/2006
Scale:	1" = 50'
Drawn:	TAH
Checked:	CAD

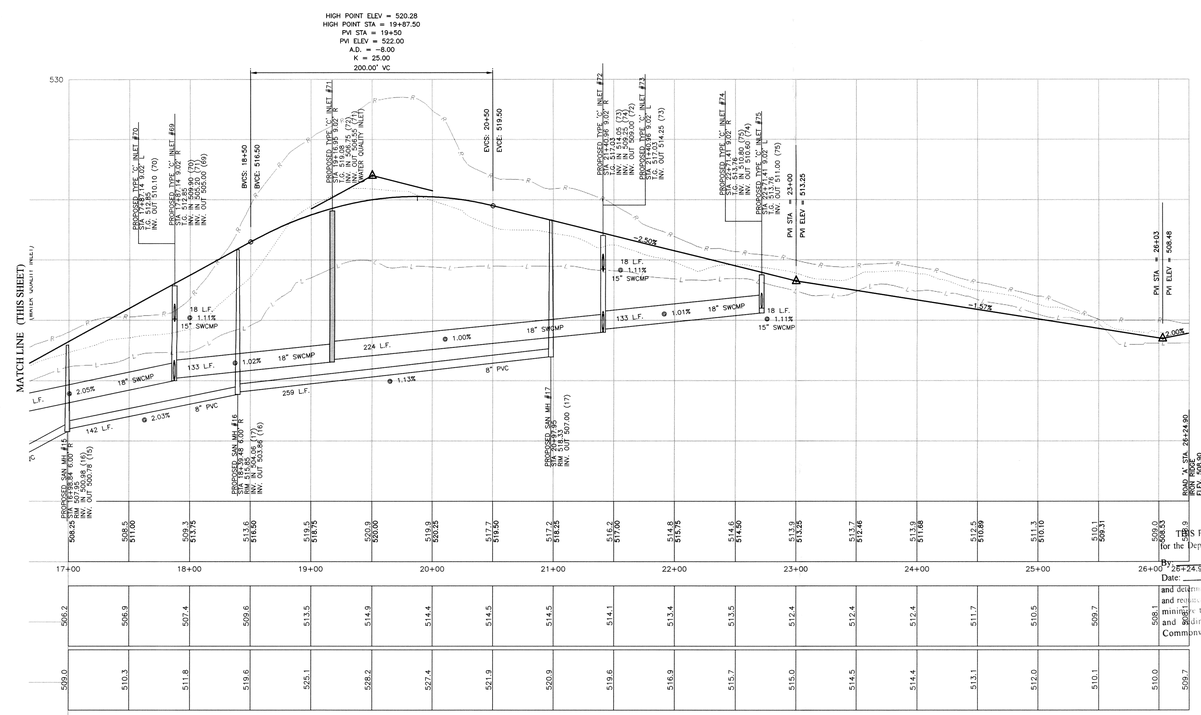
9A
OF 32







FRENCH CREEK FALLS ROAD PROFILE
FROM STA. 10+50 TO 17+00
SCALE: HOR. 1"=50'
VER. 1"=5'



FRENCH CREEK FALLS ROAD PROFILE
FROM STA. 17+00 TO 26+24.90
SCALE: HOR. 1"=50'
VER. 1"=5'

THIS PLAN HAS BEEN REVIEWED
for the Department of Environmental Protection
By: [illegible]
Date: 3-13-07
and determine compliance with the [illegible] and regulations [illegible] mining the [illegible] related civil and sediment [illegible] matters of this Commonwealth.

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE
SERIAL NUMBERS:
2425321

PENNSYLVANIA ACT 187 REQUIREMENTS:
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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
CHARLES E. DOBSON
No. 049197-E
Chuck Dobson PE-049197-E

FINAL
PLAN AND PROFILE SHEET
ROAD 'A' 10+50 TO 26+24.09

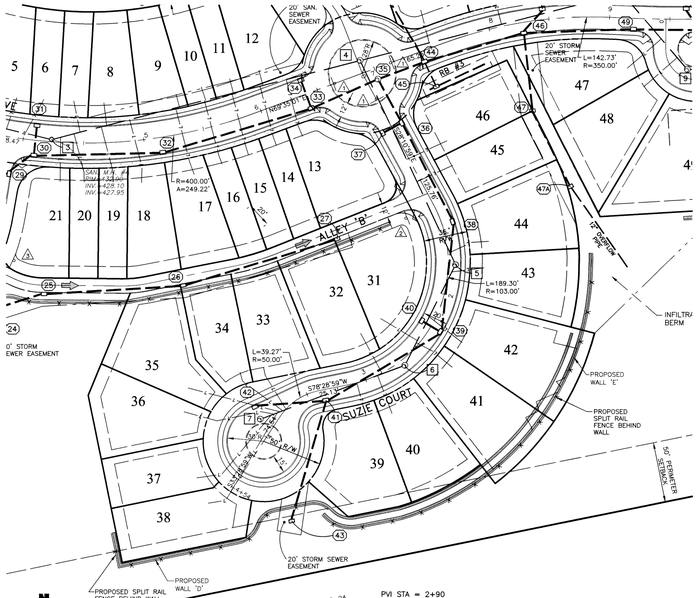
PLAN OF SUBDIVISION
FOR
GRANITE VILLAGE
AT SAINT PETERS

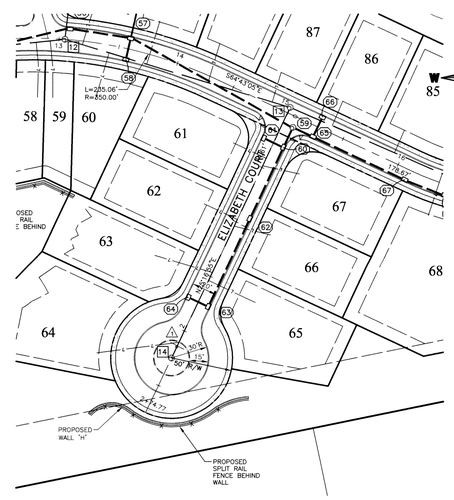
WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

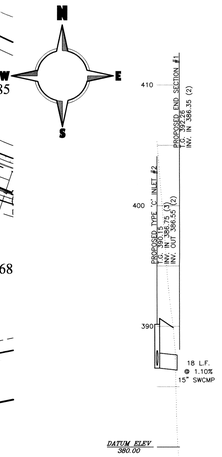
EARTH ENTERPRISES
1441 PRIZER ROAD
PLUMSTEADVILLE, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

Project:	10001
Date:	09/05/2006
Scale:	1"= 50'
Drawn:	TAH
Checked:	CAD

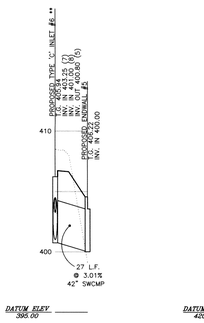
9B
OF 31



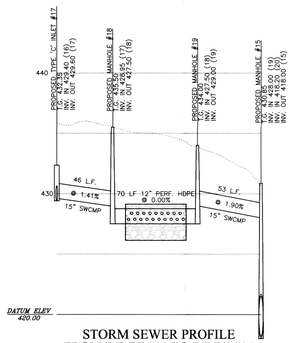




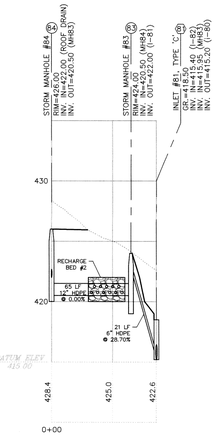
STORM SEWER PROFILE
FROM INLET #2 TO INLET #1
SCALE: HOR. 1"=50'
VER. 1"=5'



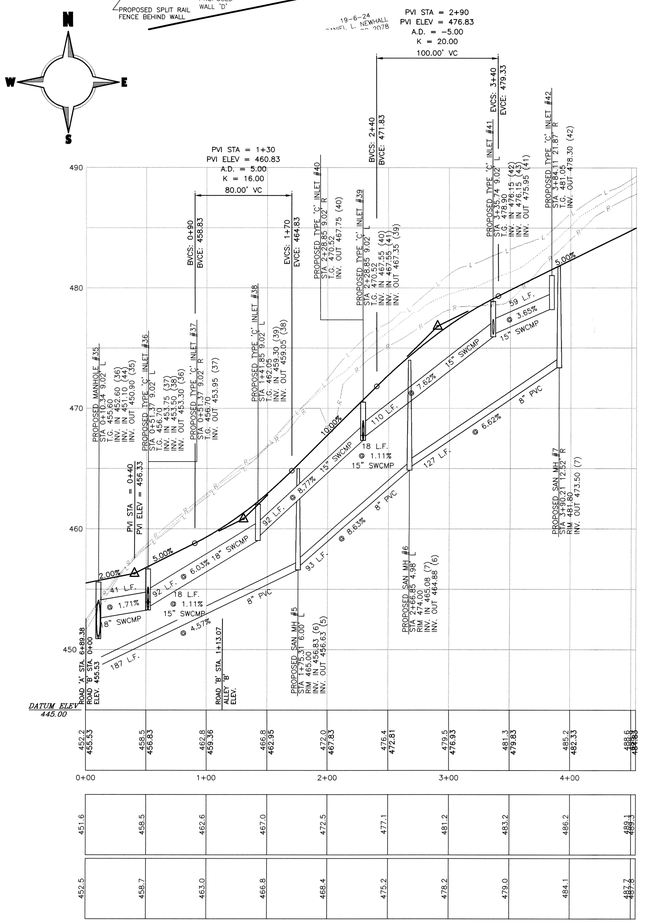
STORM SEWER PROFILE
FROM INLET #6 TO INLET #5
SCALE: HOR. 1"=50'
VER. 1"=5'



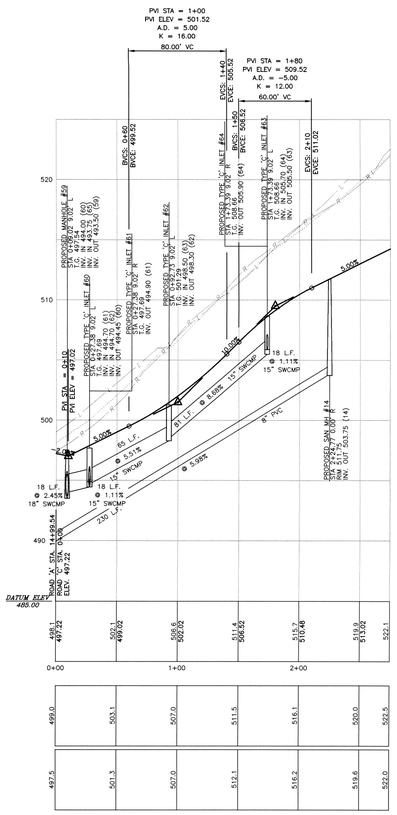
STORM SEWER PROFILE
FROM INLET #17 TO INLET #15
SCALE: HOR. 1"=50'
VER. 1"=5'



STORM SEWER PROFILE
FROM MANHOLE #84 TO INLET #81
SCALE: HOR. 1"=50'
VER. 1"=5'

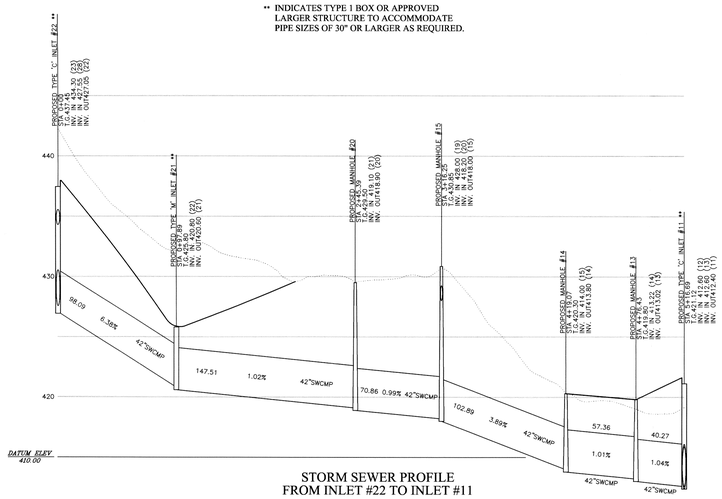


SUZIE COURT PROFILE
FROM STA. 0+00 TO 4+46.04
SCALE: HOR. 1"=50'
VER. 1"=5'

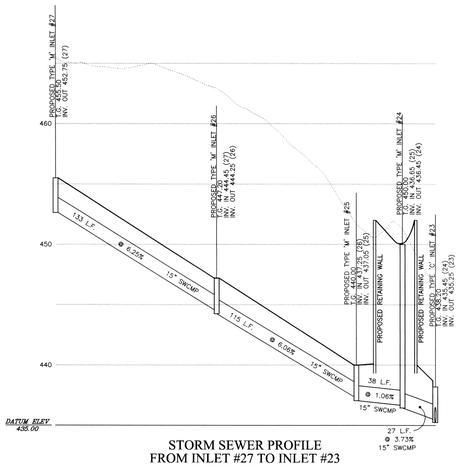


ELIZABETH COURT PROFILE
FROM STA. 0+00 TO 2+74.77
SCALE: HOR. 1"=50'
VER. 1"=5'

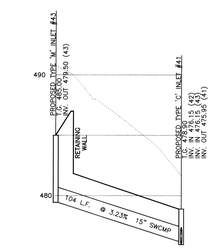
** INDICATES TYPE 1 BOX OR APPROVED LARGER STRUCTURE TO ACCOMMODATE PIPE SIZES OF 30" OR LARGER AS REQUIRED.



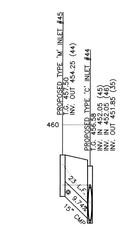
STORM SEWER PROFILE
FROM INLET #22 TO INLET #11
SCALE: HOR. 1"=50'
VER. 1"=5'



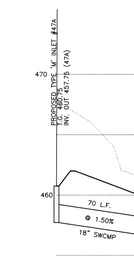
STORM SEWER PROFILE
FROM INLET #27 TO INLET #23
SCALE: HOR. 1"=50'
VER. 1"=5'



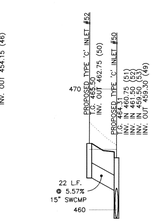
STORM SEWER PROFILE
FROM INLET #43 TO INLET #41
SCALE: HOR. 1"=50'
VER. 1"=5'



STORM SEWER PROFILE
FROM INLET #45 TO INLET #44
SCALE: HOR. 1"=50'
VER. 1"=5'

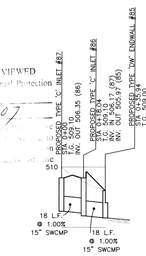


STORM SEWER PROFILE
FROM INLET #47A TO INLET #46
SCALE: HOR. 1"=50'
VER. 1"=5'



STORM SEWER PROFILE
FROM INLET #52 TO INLET #50
SCALE: HOR. 1"=50'
VER. 1"=5'

STORM SEWER PROFILE
FROM INLET #79 TO INLET #78
SCALE: HOR. 1"=50'
VER. 1"=5'



STORM SEWER PROFILE
FROM INLET #87 TO INLET #85
SCALE: HOR. 1"=50'
VER. 1"=5'

THIS PLAN HAS BEEN REVIEWED
BY the Department of Environmental Protection
Date 3-13-07

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE
SERIAL NUMBERS:
2423521

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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER CHARLES E. DODSON
Chuck Dobson PE 049197-E

FINAL
PLAN AND PROFILE SHEET
ROAD 'B' AND ROAD 'C'

PLAN OF SUBDIVISION
FOR
GRANITE VILLAGE
AT SAINT PETERS

WARWICK TOWNSHIP ■ CHESTER COUNTY ■ PENNSYLVANIA

EARTH ENTERPRISES
1441 PRIZER ROAD
PUGHTOWN, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

Project:	10001
Date:	09/05/2006
Scale:	1" = 50'
Drawn:	TAH
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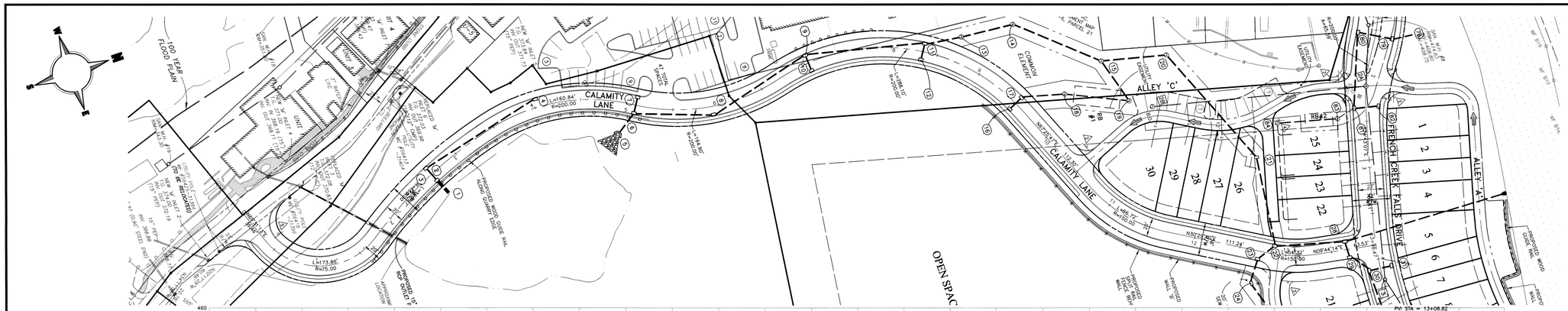
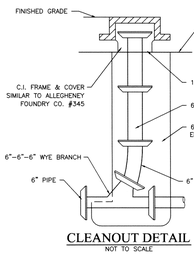
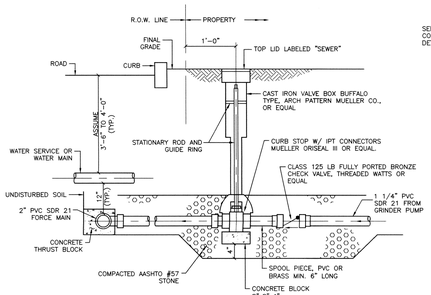
9C
OF 32

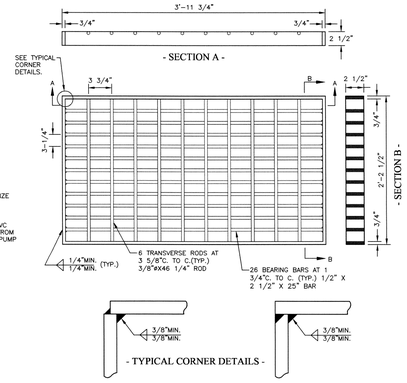

100 YEAR FLOOD PLAIN
CALAMITY LANE
COMMON ELEMENT
ALLEY 'C'
FRENCH CREEK FALLS DRIVE
ALLEY 'A'
OPEN SPACE
PROPOSED 18" RCP OUTLET
PROPOSED 100% GEOTEC RIP-RAP ALONG WATER EDGE
PROPOSED 100% GEOTEC RIP-RAP ALONG WATER EDGE
PROPOSED CURB
PROPOSED 6' HIGH VINYL PRIVACY FENCE
PROPOSED 6' HIGH VINYL PRIVACY FENCE
PROPOSED 6' HIGH VINYL PRIVACY FENCE



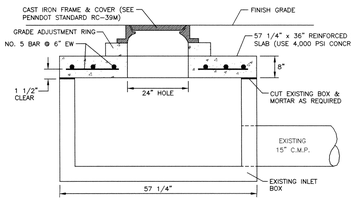
CLEANOUT DETAIL
NOT TO SCALE



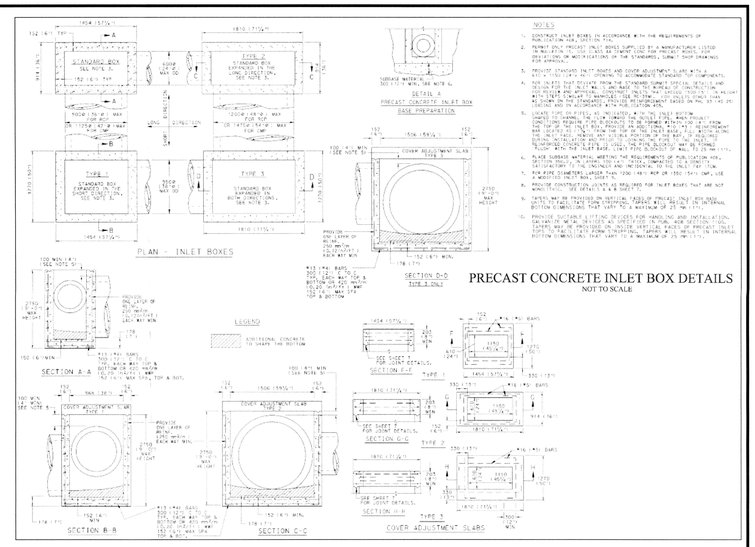
SERVICE VALVE DETAIL
NOT TO SCALE



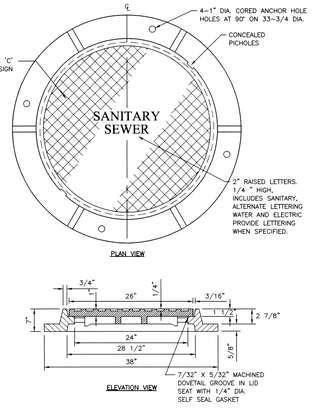
STRUCTURAL STEEL GRATE DETAIL
(BICYCLE SAFE)
NOT TO SCALE



EXISING INLET CONVERTED TO MANHOLE
NOT TO SCALE

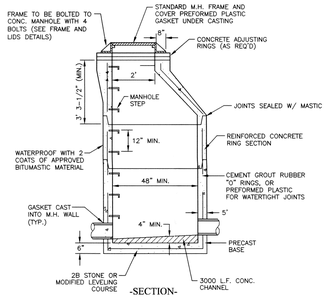


PRECAST CONCRETE INLET BOX DETAILS
NOT TO SCALE

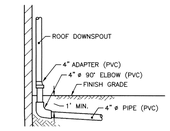


NEENAH FOUNDRY CO. R-1642 OR EQUAL
(TYPE "C" LID SELF-SEALING)

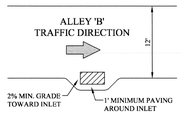
STANDARD MANHOLE FRAME & LID
NOT TO SCALE



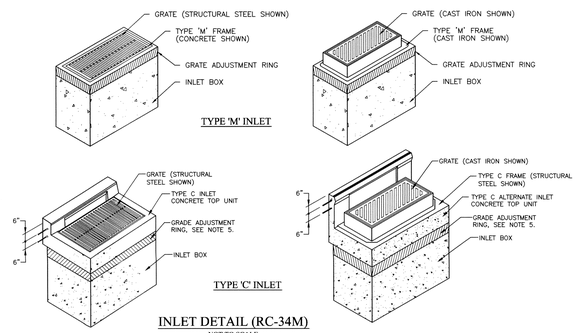
PRECAST CONCRETE MANHOLE
NOT TO SCALE



TYPICAL ROOF DRAIN CONNECTION
NOT TO SCALE



DETAIL FOR INLET'S 25, 26 AND 27
NOT TO SCALE



INLET DETAIL (RC-34M)
NOT TO SCALE

NOTES

1. CONSTRUCTION REQUIREMENTS:
   A. CONSTRUCT IN ACCORDANCE WITH PUBLICATION 408, SECTIONS 605, 606, AND 714, AND AS MODIFIED HEREIN.
   B. MINIMUM CONCRETE CLASS:
      CAST-IN-PLACE — CLASS A
      PRE-CAST — CLASS AA
   C. PROVIDE STEEL REINFORCEMENT IN ACCORDANCE WITH PUBLICATION 408, SECTION 709, PROVIDE MINIMUM YIELD STRENGTH OF 400 MPa (60,000 PSI).
   D. CLEAR COVER FOR STEEL:

WALL	CAST-IN-PLACE	(2")
	PRE-CAST	(1-1/2")
FOOTINGS	CAST-IN-PLACE	(3-1/2") TOP BARS
		(3") BOTTOM BARS
		(2") SIDE COVERS
SLAB	CAST-IN-PLACE	(2") TOP BARS
		(1-1/2") BOTTOM BARS
		(1-1/2") SIDE COVERS

2. THIS SHEET DEPICTS THE VARIOUS COMPONENTS REQUIRED FOR COMPLETE INLET ASSEMBLIES. FOR INDIVIDUAL COMPONENTS AND OTHER SPECIAL DETAILS. SEE THE FOLLOWING:

RC-34M, SHEET 2 OF 10	CONCRETE TOP UNITS
RC-34M, SHEET 3, 4, & 5 OF 10	GRATES AND GRADE ADJUSTMENT RINGS
RC-34M, SHEET 6 OF 10	FRAMES
RC-34M, SHEET 7 OF 10	STANDARD INLET BOXES (CAST-IN-PLACE)
RC-34M, SHEET 8 OF 10	STANDARD INLET BOXES (PRE-CAST)
RC-34M, SHEET 9 OF 10	MODIFIED INLET BOXES
RC-34M, SHEET 10 OF 10	TYPE D-H INLET

3. EACH TYPE OF INLET SHOWN IS SUITED FOR A PARTICULAR SITUATION AS FOLLOWS:
   - TYPE C INLET IS DESIGNATED FOR INSTALLATION WITH NON-MOUNTABLE CURBS.
   - TYPE M INLET IS DESIGNATED FOR INSTALLATION IN MEDIAN AREAS AND MOUNTABLE CURBS.
   - TYPE S INLET IS DESIGNATED FOR INSTALLATION IN SHOULDER SWALE AREAS.
4. THE SECTION COMPONENTS TO ACHIEVE A SPECIFIED INLET ASSEMBLY IS THE CONTRACTOR'S RESPONSIBILITY.
5. USE PRE-CAST CONCRETE OR STEEL GRADE ADJUSTMENT RINGS WHEN REQUIRED.
6. FOR WALL REINFORCEMENT, BOTH DIRECTIONS, USE 10" 2/m MIN. EACH WAY, EACH FACE 6" MAX. SPACING.
7. FOR FOOTING REINFORCEMENT, TOP AND BOTTOM, USE #4 BARS AT 12" CENTERS EACH WAY OR 17" 2/m WWF 6" MAX. SPACING.
8. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
9. PROVIDE WEEP HOLES ON INLET BOXES WHEN REQUIRED.
10. PIPES MAY BE CONNECTED TO DRAINAGE STRUCTURES (PRE-CAST INLETS, ETC..) WITH MORTAR OR WATERTIGHT RUBBER FLEXIBLE CONNECTORS.

TABLE A
2:1 EMBANKMENT SLOPES

PIPE DIAMETER	SKEWA= 90° TO 60° θ = 30°						SKEWA= 55° θ = 35°						SKEWA= 50° θ = 40°						SKEWA= 45° θ = 45°						SKEWA= 40° θ = 50°						SKEWA= 30° θ = 60°						SKEWA= 20° θ = 80°						SKEWA= 10° θ = 80°							
ø	L	S	W1	L	S	W1	L	S	W1	L	S	W1	L	S	W1	L	S	W1	L	S	W1	L	S	W1	L	S	W1	L	S	W1	L	S	W1	L	S	W1	L	S	W1	L	S	W1	L	S	W1	W2	A
(in.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(FT.)	(in.)
36	5.8	0	4.6	6.0	.33	4.9	6.2	.5	5.2	6.5	.67	5.7	7.0	.75	6.2	8.3	1.33	6.8	11.1	1.0	75	11.7	0.9	6.5	0.5	23.0	4.6	12
42	6.3	0	5.8	6.6	.33	6.1	6.9	.5	6.5	7.3	.67	7.1	7.8	.75	7.8	9.3	1.33	10.0	12.5	1.0	75	14.6	22.5	5.0	28.8	5.8	12
48	6.9	0	6.9	7.2	.33	7.3	7.5	.5	7.8	8.0	.67	8.5	8.5	.75	9.4	10.0	1.33	12.0	14.0	1.0	75	17.5	25.5	5.0	34.6	6.9	12
54	7.5	0	8.0	7.8	.33	8.5	8.2	.5	9.1	8.7	.67	9.9	9.3	.75	10.9	11.1	1.33	14.0	15.5	1.0	75	20.5	28.2	5.0	40.3	8.0	12
60	8.1	0	9.2	8.4	.33	9.8	8.8	.5	10.4	9.4	.67	11.3	10.1	.75	12.5	12.3	1.33	16.0	16.9	1.0	75	23.4	31.1	5.0	46.0	9.2	15
72	9.2	0	11.5	9.6	.33	12.2	10.1	.5	13.0	10.8	.67	14.1	11.7	.75	15.6	14.1	1.33	20.0	19.8	1.0	75	29.2	36.9	5.0	57.6	11.5	15

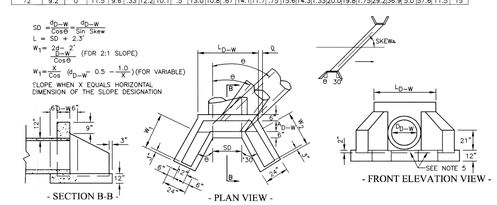
$$SD = \frac{d_{D-W} - d_{D-W}}{\cos\theta} \quad SD = \text{Skew}$$

$$L = SD + 2.3'$$

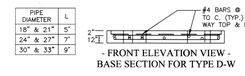
$$W_1 = \frac{2d - 2'}{\cos\theta} \text{ (FOR 2:1 SLOPE)}$$

$$W_1 = \frac{2}{\cos\theta}\left(d_{D-W} - 0.5 - \frac{1.0}{S}\right) \text{(FOR VARIABLE)}$$

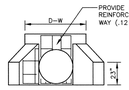
SLOPE WHEN X EQUALS HORIZONTAL DIMENSION OF THE SLOPE DESIGNATION



1. PROVIDE MATERIALS AND WORKMANSHIP IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408 SPECIFICATIONS, SECTION SECTION 714.
2. THIS STANDARD DEPICTS THE SHAPE AND DIMENSIONS REQUIRED FOR UNIFORMITY AND COMPATABILITY. IT DOES NOT INCLUDE DETAILS REQUIRED FOR MANUFACTURING AND HANDLING PRECAST UNITS. ONLY ITEMS SUPPLIED BY A MANUFACTURER LISTED IN BULLETIN 15 WILL BE PERMITTED.
3. CHAMFER EXPOSED EDGES ONE INCH.
4. PROVIDE PIPE OPENING SIZE IN PRECAST UNITS AT LEAST 2 INCHES BUT NOT MORE THAN 4 INCHES LARGER THAN THE OUTSIDE DIAMETER OF THE PIPE.
5. PROVIDE NON-SHRINK EPOXY GROUT THROUGHOUT THE CONTACT SURFACE WHEN CONNECTING WING AND HEADWALL SECTION TO BASE SECTION. PROVIDE JOINT SEALANT MATERIAL ALONG INTERFACE BETWEEN WING AND HEADWALL SECTION AND BASE SECTION.
6. PROVIDE REINFORCEMENT MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 709.



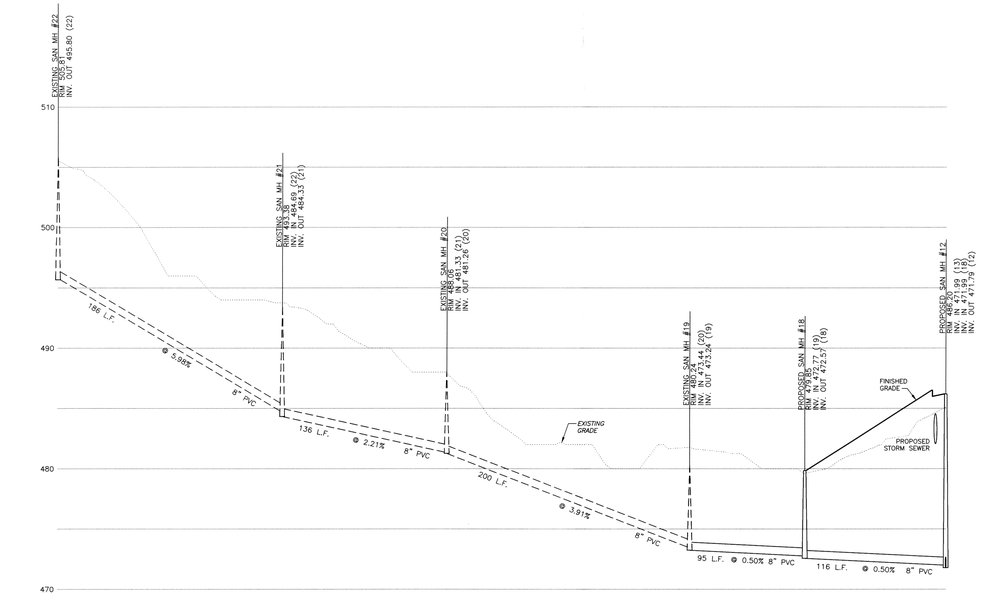
- FRONT ELEVATION VIEW -
BASE SECTION FOR TYPE D-W



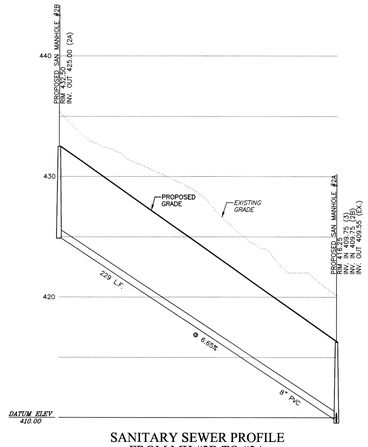
- FRONT ELEVATION VIEW -
HEAD & WINGWALL SEC. FOR TYPE D-W

TYPE D-W ENDWALL
NOT TO SCALE

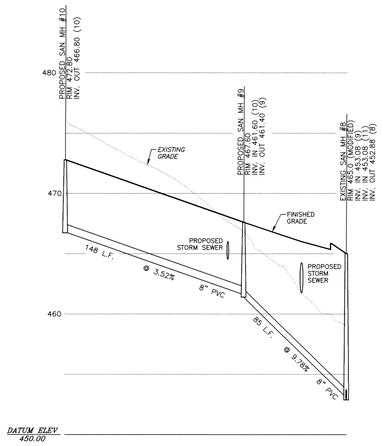
THIS PLAN HAS BEEN REVIEWED
for the Department of Environmental Protection
By: _____
Date: 3-13-07
and determine [illegible] to
and requirements [illegible] to
minimize the potential [illegible] and
and sewage [illegible] of the
[illegible]



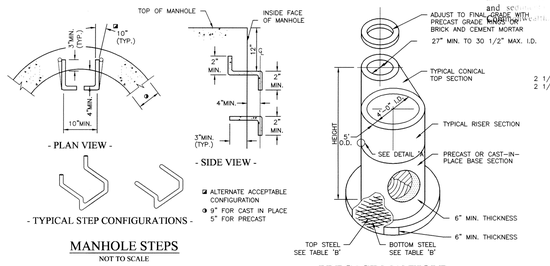
SANITARY SEWER PROFILE
FROM MH #22 TO #12
SCALE: HOR. 1"=50'
VER. 1"=5'



SANITARY SEWER PROFILE
FROM MH #2B TO #2A
SCALE: HOR. 1"=50'
VER. 1"=5'



SANITARY SEWER PROFILE
FROM MH #10 TO #8
SCALE: HOR. 1"=50'
VER. 1"=5'



MANHOLE STEPS
NOT TO SCALE

PRECAST MANHOLE
NOT TO SCALE

TABLE B

PRECAST MANHOLE HEIGHT	TOP STEEL REQUIREMENTS	BOTTOM STEEL REQUIREMENTS
< 30'-0"	#5 BARS @ 12" ℄ TO ℄ OR 0.18 IN²/FT. WWF	#4 BARS @ 12" ℄ TO ℄ OR 0.28 IN²/FT. WWF *
> 30'-0" TO 60'-0"	#6 BARS @ 12" ℄ TO ℄ OR 0.15 IN²/FT. WWF *	#4 BARS @ 6" ℄ TO ℄ OR 0.24 IN²/FT. WWF *

* PROVIDE WELDED WIRE FABRIC MEETING THE REQUIREMENTS OF PUBLICATION 408 SPECIFICATIONS, SECTION 709.3.

NOTES

1. PRECAST MANHOLES MEETING THE REQUIREMENTS OF PUBLICATION 408 SPECIFICATIONS, SECTION 605.2(C), MAY BE SUBSTITUTED FOR TYPE 'A' AND 'B' MANHOLES.
2. PROVIDE MANHOLE STEPS MEETING THE REQUIREMENTS OF PUBLICATION 408 SPECIFICATIONS, SECTION 605.2(C). ALTERNATE CONFIGURATIONS AND DIMENSIONS, AS APPROVED BY THE ENGINEER, MAY BE USED.

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE
SERIAL NUMBERS:
2425321

PENNSYLVANIA ACT 187 REQUIREMENTS:
EARTH ENTERPRISES DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS FOR EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN ON THE PLANS, NOR DOES EARTH ENTERPRISES GUARANTEE THAT ALL SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.

Rev.	Date	Description
5	03/05/2007	REVISION PER CCCD LETTER DATED 02/20/2007
4	01/30/2007	REVISION PER CCCD LETTER DATED 01/23/2007
3	11/30/2006	REVISION PER TOWNSHIP LETTER DATED 11/9/2006
2	10/06/2006	NPDES PHASE II SUBMISSION
1	10/05/2006	REV PER TWP. ENGR. LTR DATED 9/4/2006 & TWP. PLANNER LTR. DATED 9/5/2006

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER CHARLES J. DODSON
Chuck Dobson - PE-049197-E

FINAL
CONSTRUCTION DETAILS AND
OFF ROAD SANITARY PROFILES

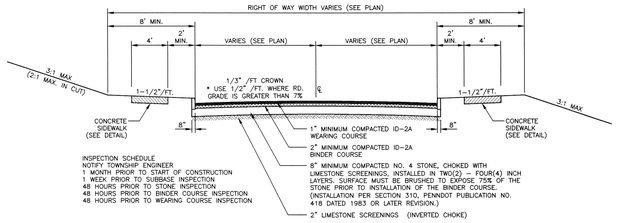
PLAN OF SUBDIVISION
FOR
GRANITE VILLAGE
AT SAINT PETERS

WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

EARTH ENTERPRISES
1441 PRIZER ROAD
PUGHTOWN, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

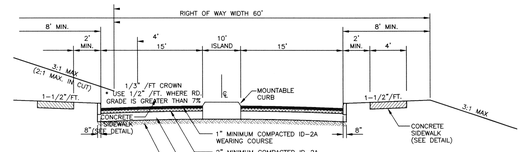
Project:	10001
Date:	09/05/2006
Scale:	1" = 50'
Drawn:	TAH
Checked:	CAJD

10A
Of 32



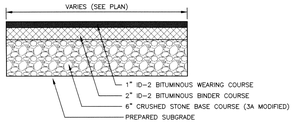
INSPECTION SCHEDULE
NOTIFY TOWNSHIP ENGINEER
1 MONTH PRIOR TO START OF CONSTRUCTION
1 WEEK PRIOR TO SUBBASE INSPECTION
48 HOURS PRIOR TO STONE INSPECTION
48 HOURS PRIOR TO BINDER COURSE INSPECTION
48 HOURS PRIOR TO WEARING COURSE INSPECTION

TYPICAL ROAD CROSS SECTION
NOT TO SCALE

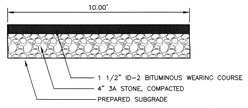


INSPECTION SCHEDULE
NOTIFY TOWNSHIP ENGINEER
1 MONTH PRIOR TO START OF CONSTRUCTION
1 WEEK PRIOR TO SUBBASE INSPECTION
48 HOURS PRIOR TO STONE INSPECTION
48 HOURS PRIOR TO BINDER COURSE INSPECTION
48 HOURS PRIOR TO WEARING COURSE INSPECTION

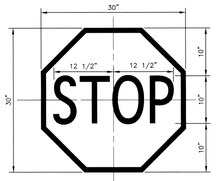
ROAD 'A' ENTRANCE CROSS SECTION
NOT TO SCALE



TYPICAL ALLEY / PARKING LOT SECTION
NOT TO SCALE

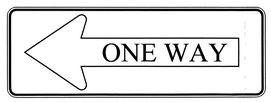


TYPICAL DRIVEWAY SECTION
NOT TO SCALE



COLOR : LEGEND AND BORDER WHITE (REFLECTORIZED)
BACKGROUND RED (REFLECTORIZED)

STOP SIGN DETAIL
NOT TO SCALE

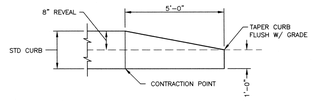


ONEWAY SIGN (R6-1L)
36" x 12"

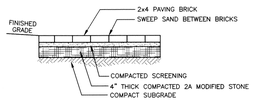
ONEWAY SIGN (R6-1R)
36" x 12"

BEGIN ONE WAY SIGN (R6-12)
24" x 30"

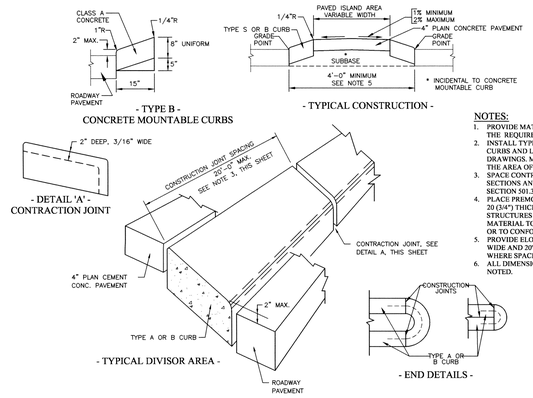
DO NOT ENTER (R5-1)
36" x 36"



CURB END TREATMENT DETAIL
NOT TO SCALE

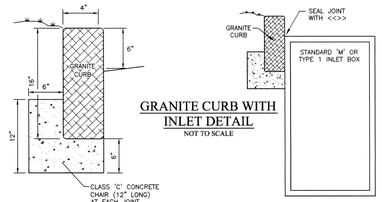


TYPICAL BRICK SIDEWALK SECTION
NOT TO SCALE



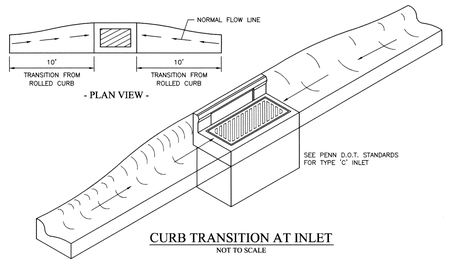
NOTES:
1. PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 633.
2. INSTALL TYPE M INLET WITH CONCRETE MOUNTABLE CURBS AND LOCATE INLET AS SHOWN ON THE DRAWINGS. MAKE THE BACKSLOPE TRAVERSABLE IN THE AREA OF THE INLET AS INDICATED.
3. SPACE CONTRACTION JOINTS IN UNIFORM LENGTHS OR SECTIONS AND SEAL AS SPECIFIED IN PUBLICATION 408, SECTION 501.3.
4. PLACE PREMOLDED EXPANSION JOINT FILLER MATERIAL 20 (3/4") THICK ADJACENT TO CURBS AND OTHER STRUCTURES AND AT THE END OF THE WORK DAY. CUT MATERIAL TO CONFORM TO AREA ADJACENT TO CURB OR TO CONFORM TO CROSS SECTIONAL AREA TO CURB.
5. PROVIDE ELONGATED ISLANDS NOT LESS THAN 4'-0" WIDE AND 20'-0" LONG, EXCEPT IN SPECIAL CASES WHERE SPACE IS SEVERELY LIMITED.
6. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

CONCRETE MOUNTABLE CURB DETAIL (RC-65M)
NOT TO SCALE

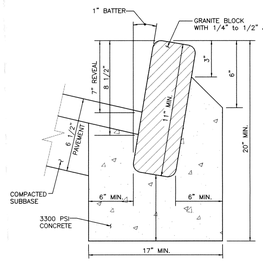


GRANITE CURB WITH INLET DETAIL
NOT TO SCALE

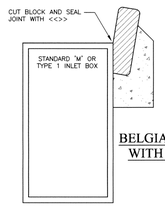
STANDARD GRANITE CURB DETAIL (OPTION 1)
NOT TO SCALE



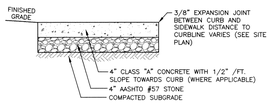
CURB TRANSITION AT INLET
NOT TO SCALE



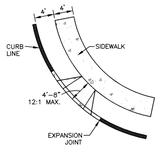
GRANITE (BELGIAN) BLOCK CURB (OPTION 2)
NOT TO SCALE



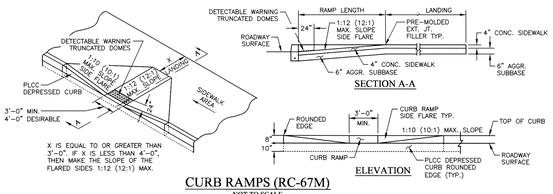
BELGIAN BLOCK CURB WITH INLET DETAIL
NOT TO SCALE



TYPICAL SIDEWALK SECTION
NOT TO SCALE

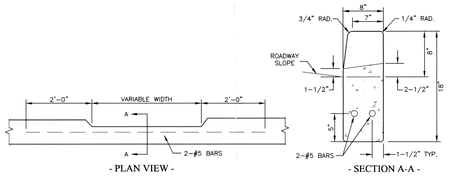


TYPICAL SIDEWALK RAMP AT INTERSECTION
NOT TO SCALE

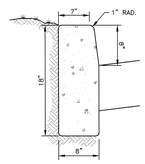


CURB RAMPS (RC-67M)
NOT TO SCALE

NOTES
1. PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTIONS 350, 420, 630, AND 676.
2. PROVIDE EXPANSION JOINT MATERIAL 1/2" THICK WHERE CURB RAMP ADJOINS ANY RIGID PAVEMENT, SIDEWALK OR STRUCTURE WITH THE TOP OF JOINT FILLER FLUSH WITH ADJACENT CONCRETE SURFACE.
3. IF PEDESTRIAN CROSSWALKS ARE NOT WIDE ENOUGH TO PROVIDE MINIMUM 4'-0" WIDE WHEELCHAIR OVERRUN ZONE AT THE BOTTOM OF THE RAMP, POSITION CROSSWALK AS INDICATED IN DETAIL A, ON RC-67M SHEET 2.
4. SEAL JOINTS WITH AN APPROVED SEALING MATERIAL.
5. PROVIDE SLIP RESISTANT TEXTURE ON CURB RAMP BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP. EXTEND TEXTURE THE FULL WIDTH AND LENGTH OF THE CURB RAMP INCLUDING FLARED SIDE RAMP.
6. MODIFY CONSTRUCTION DETAILS TO ADAPT DIMENSIONS TO EXISTING CURB ALTERATIONS WHERE THE CURB IS LESS THAN THE STANDARD 8" HEIGHT.
7. CURB RAMP AND SIDE FLARE LENGTHS ARE VARIABLE AND BASED ON CURB HEIGHT AND THE SIDEWALK PITCH.
8. MEASURE AND PAY FOR THE DEPRESSED CURBING ACCORDANCE WITH PUBLICATION 408, SECTION 630.4.
9. WHENEVER POSSIBLE, CONSTRUCT THE TRANSITION SLOPE FROM THE CURB RAMP AND FLARE SIDES TO ADJOINING SURFACES WITH A GRADUAL CURVE RATHER THAN AN ABRUPT ANGLE.
10. CONSTRUCT BUILT UP CURB RAMP OF BITUMINOUS MATERIAL AS INDICATED, INCLUDING SURFACE PREPARATION AND TACK COAT, AS REQUIRED.
11. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
12. ALIGN DETECTABLE WARNING DOMES ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN THE DOMES.
13. PROVIDE DETECTABLE WARNING SURFACES THAT CONTRAST (70%) IN LIGHT REFLECTANCE WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT OR SAFETY YELLOW.

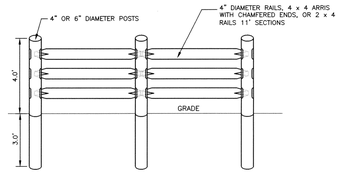


DEPRESSED CURB FOR DRIVES
NOT TO SCALE



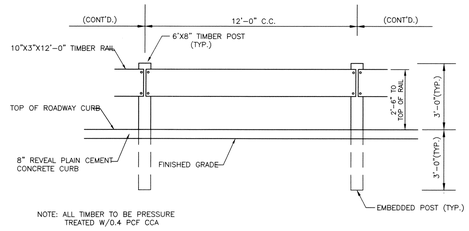
STANDARD STRAIGHT CONCRETE CURB DETAIL (OPTION 3)
NOT TO SCALE

NOTES
1. CONCRETE TO BE CLASS A 3500 PSI 28-DAY STRENGTH AIR ENTRAINED.
2. SLOPE TOP SURFACE OF CURB BACK TO FRONT AT 1/4" PER FOOT
3. CURB TO BE CONSTRUCTED IN 10' SECTIONS WITH STEEL PLATE SEPARATIONS, STEEL PLATES TO BE REMOVED AFTER CONCRETE SETS UP. EXPANSION JOINTS OF 3/4" BITUMINOUS IMPREGNATED FELT TO BE INSTALLED EVERY 30 FEET.



SPLIT RAIL FENCE
NOT TO SCALE

NOTES
1. UNTREATED WOOD MATERIALS SUCH AS WHITE OAK OR TAMARACK CAN LAST UP TO 10 YEARS; CYPRESS, REDWOOD, AND SASSAFRAS UP TO 15 YEARS; RED AND WHITE CEDAR UP TO 20 YEARS; AND BLACK LOCUST AND OSAGE ORANGE UP TO 25 YEARS. WEATHER AND INSECT PRESERVATIVE TREATMENTS CAN EXTEND THE USEFUL LIFE TO 25 TO 30 YEARS FOR MOST SPECIES.
2. FASTENERS SHOULD BE MADE OF NONCORROSIVE MATERIALS SUCH AS ALUMINUM ALLOYS OR STAINLESS STEEL; HIGH QUALITY DIPPED GALVANIZED STEEL IS ACCEPTABLE. METAL FLANGES, CLEATS, BOLTS, AND SCREWS ARE PREFERABLE TO COMMON NAILS.



NOTE: ALL TIMBER TO BE PRESSURE TREATED W/0.4 PCF CCA

TYPICAL TIMBER GUIDE RAIL ELEVATION
NOT TO SCALE

THIS PLAN HAS BEEN REVIEWED
for the Department of Environmental Protection
By: _____
Date: 3-12-07
and determined to adequately address the [illegible] and requirements of 25 PA [illegible] to minimize the potential for [illegible] and sedimentation to the waters of the Commonwealth.

Rev.	Date	Description
5	03/05/2007	REVISION PER CCCD LETTER DATED 02/20/2007
4	01/30/2007	REVISION PER CCCD LETTER DATED 01/23/2007
3	11/30/2006	REVISION PER TOWNSHIP LETTER DATED 11/9/2006
2	10/06/2006	NPDES PHASE II SUBMISSION
1	10/05/2006	REV PER TWP. ENGR. LTR DATED 9/4/2006 & TWP. PLANNER LTR. DATED 9/5/2006

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
CHARLES A. DODSON
No. PE-049197-E
Chuck Dobson PE 049197-E

FINAL CONSTRUCTION DETAILS

PLAN OF SUBDIVISION FOR GRANITE VILLAGE AT SAINT PETERS

WARWICK TOWNSHIP • CHESTER COUNTY • PENNSYLVANIA

EARTH ENTERPRISES
1441 PRIZER ROAD
PUGHTOWN, PA 19465
Phone: (610) 469-8800
Fax: (610) 469-8900

Project:	10001
Date:	09/05/2006
Scale:	1" = 50'
Drawn:	TAH
Checked:	CAD

10B
Of 32

PENNSYLVANIA ONE CALL SYSTEM
PA. ACT 172 OF 1986 REQUIRES
THREE WORKING DAYS NOTICE:
SERIAL NUMBERS:
2423521

PENNSYLVANIA ACT 187 REQUIREMENTS:
EARTH ENTERPRISES DOES NOT GUARANTEE THE ACCURACY OF THE LOCATIONS FOR EXISTING SUBSURFACE UTILITY STRUCTURES SHOWN ON THE PLANS, NOR DOES EARTH ENTERPRISES GUARANTEE THAT ALL SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES BEFORE THE START OF WORK.