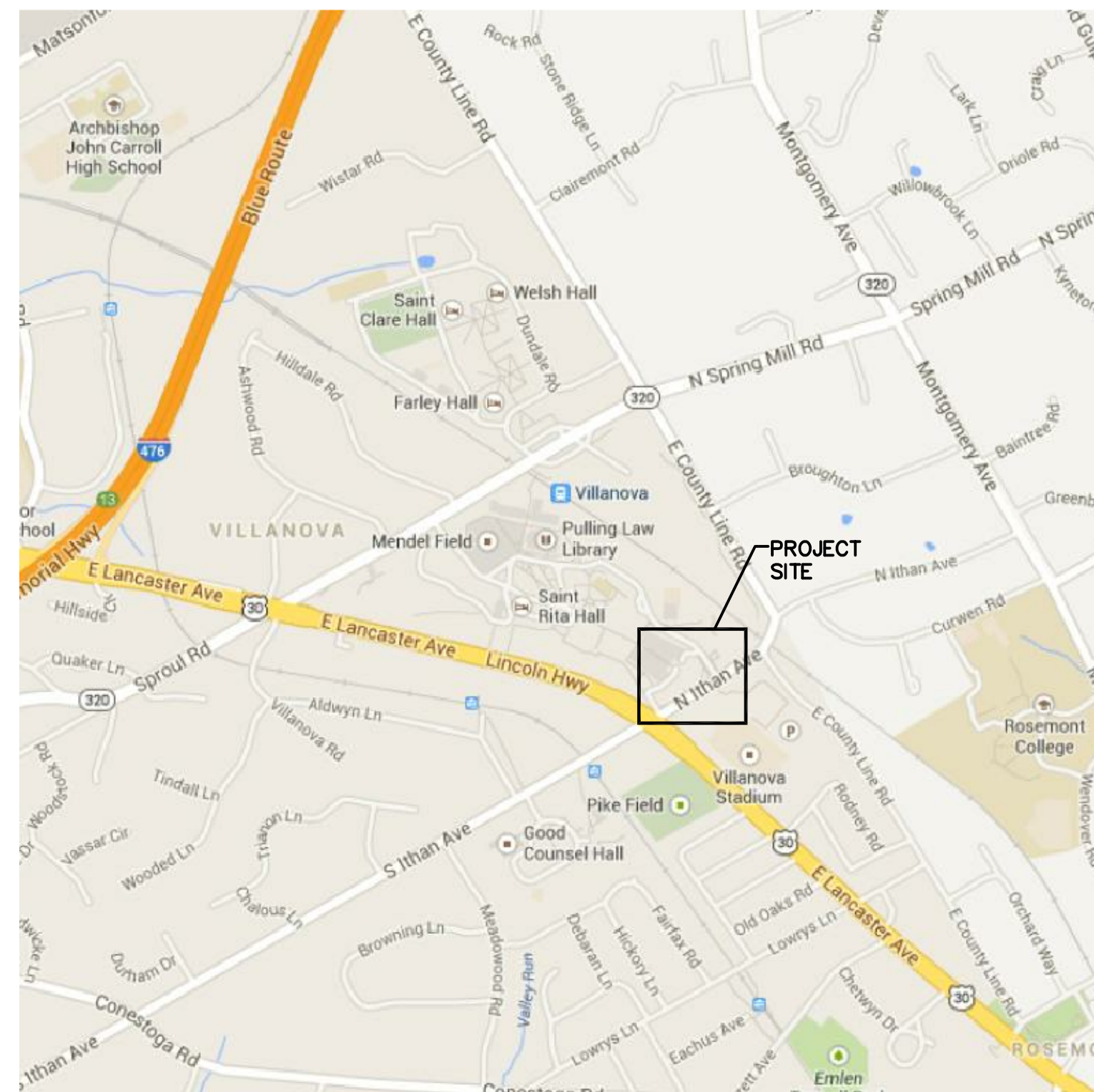


VILLANOVA UNIVERSITY

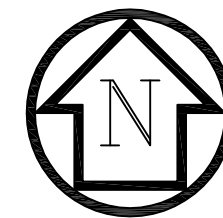
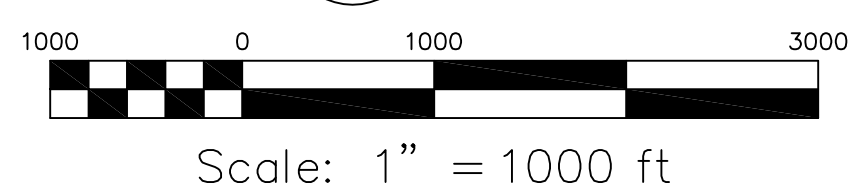
BARTLEY EXCHANGE + ENTRANCE PLAZA

PRELIM./FINAL LAND DEVELOPMENT SUBMISSION

800 EAST LANCASTER AVENUE
 VILLANOVA, PENNSYLVANIA 19085
 RADNOR TOWNSHIP, DELAWARE COUNTY



1 LOCATION MAP
 C0.0 SCALE: 1"=1000'



CIVIL DRAWING SCHEDULE		
DRAWING NUMBER	DRAWING TITLE	DATE ISSUED FOR PRELIM./FINAL APPROVAL
C0.0	COVER SHEET	11/04/15
C0.1	OVERALL CAMPUS PLAN	
C1.1	EXISTING CONDITIONS & DEMOLITION PLAN	
C1.2	EXISTING UTILITIES DEMOLITION PLAN	
C1.3	SOIL EROSION CONTROL PLAN	
C2.1	SITE DEVELOPMENT PLAN	
C2.2	SITE UTILITIES PLAN	
C2.3	SITE LIGHTING PLAN	
C3.0	SOIL EROSION CONTROL NOTES AND GENERAL NOTES	
C3.1	SOIL EROSION CONTROL SECTIONS AND DETAILS	
C3.2	SITE SECTIONS AND DETAILS	
C3.3	SITE UTILITIES SECTIONS AND DETAILS	
L1.1	LANDSCAPING PLANS	

WAIVERS REQUESTED:

THE FOLLOWING WAIVERS ARE BEING REQUESTED BY THE APPLICANT:
 1. SECTION 245-22.A.2.C OF THE STORMWATER ORDINANCE REGARDING GROUNDWATER RECHARGE REQUIREMENTS. THE APPLICANT REQUESTS THAT THE REQUIREMENT TO INFILTRATE RUNOFF FROM THE IMPERVIOUS AREAS BE WAIVED SINCE THE INFILTRATION RATE AT THE SITE HAS BEEN TESTED AND FOUND TO BE ZERO.
 2. SECTION 245-25.B OF THE STORMWATER ORDINANCE REGARDING PEAK RATE CONTROL STANDARDS. THE APPLICANT REQUESTS THAT THE REQUIREMENT TO REDUCE THE PEAK RATE OF THE PROPOSED CONDITION 2-YEAR AND 5-YEAR STORMS TO THE PRESENT CONDITION 1-YEAR AND 2-YEAR STORMS BE WAIVED. SINCE THE PROJECT AREA IS SO SMALL, THE PROPOSED CONDITION 2-YEAR STORM IS 0.44 CFS AND THE PRESENT CONDITION 1-YEAR STORM IS 0.39 CFS. THE PROPOSED CONDITION 5-YEAR STORM IS 0.61 CFS AND THE PRESENT CONDITION 2-YEAR STORM IS 0.57 CFS. ALL OTHER DESIGN STORMS MEET THE PEAK RATE CONTROL STANDARDS IN THE CODE.
 3. SECTION 255-12.A OF THE SALDO CODE REGARDING LAND DEVELOPMENT SUBMISSION PROCEDURES. THE APPLICANT REQUESTS THAT THE REQUIREMENT TO OBTAIN SEPARATE PRELIMINARY AND FINAL LAND DEVELOPMENT APPROVALS BE WAIVED SINCE THIS PROPOSED PROJECT IS A MINOR LAND DEVELOPMENT PROJECT.
 4. SECTION 255-20.B.5 OF THE SALDO CODE REGARDING TRANSPORTATION IMPACT STUDIES. THE APPLICANT REQUESTS THAT THE REQUIREMENT TO PROVIDE A TRANSPORTATION IMPACT STUDY BE WAIVED SINCE NEITHER THE STUDENT NOR STAFF POPULATIONS WILL INCREASE AS A RESULT OF THIS PROJECT.

PROPERTY NOTES:

- SITE OWNER: VILLANOVA UNIVERSITY
- SITE ADDRESS: 800 EAST LANCASTER AVENUE VILLANOVA, PA 19085
- CONTACT INFORMATION: LEO KOB, PROJECT MANAGER (610) 519-4156
- SITE TAX MAP INFORMATION: PORTION OF TAX MAP #36-24-033 PORTION OF PARCEL #36-04-02400-10

Commonwealth of Pennsylvania SS
 County of _____
 On this, the ____ day of _____, 20____, before me, the undersigned office, personally appeared _____ who being duly sworn according to law, deposes and says that he is the owner or equitable owner of the property shown on this plan, that the land development plan thereof was made at his direction and that he acknowledges the same to be his act and plan and desires the same to be recorded as such according to law.
 Witness my hand and seal the day and date above written.

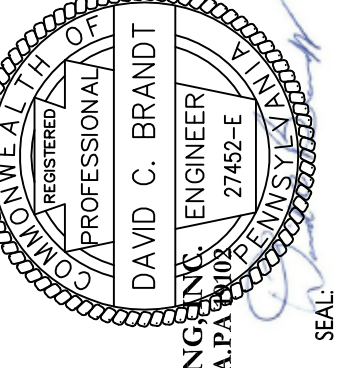
 (Signature of Individual)

 Notary Public or other Officer
 My Commission expires _____

ALL DIMENSIONS AND DISTANCES CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE.
 THIS DRAWING IS TO BE USED ONLY WITH APPLICABLE CODES AND REGULATIONS OF GOV. JURISDICTION.
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REVISIONS:	No.	DATE	BY:	DESCRIPTION:
	1	11/04/15	AEC	PRELIM/FINAL SUB.

CONSULTANTS:
 MEP/Structural/Civil Engineers:
 Associated Engineering Consultants Incorporated
 485 Down Park Drive, Suite 113, Wayne Township, PA 19088
 Tel: (610) 688-8900 Fax: (610) 688-6066
 www.aecinc.com



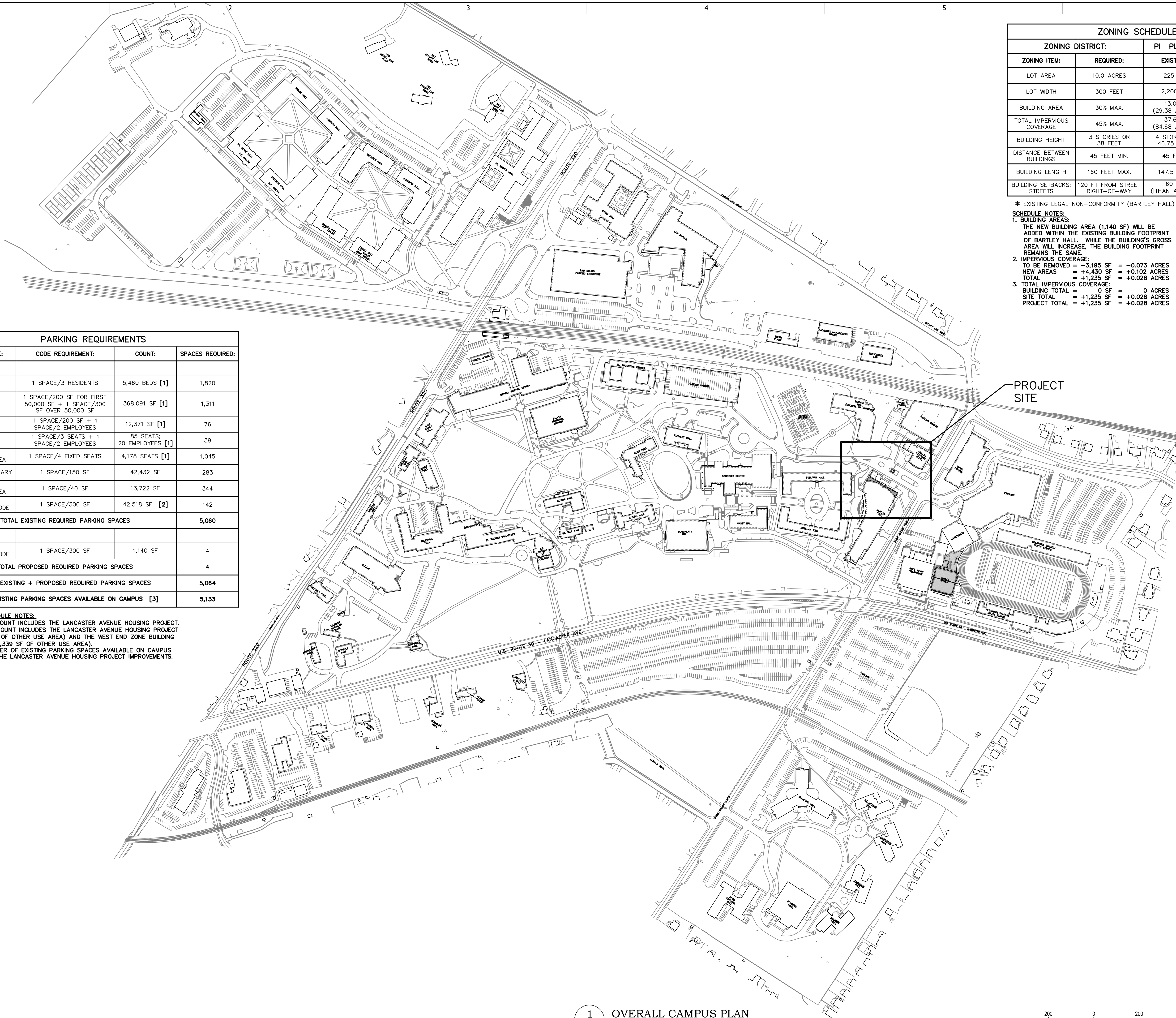
CICCADA
 ARCHITECTURE/PLANNING INC.
 1520 LOCUST STREET, 702 PHILADELPHIA, PA 19102
 P: 215.247.1430 F: 215.247.1435
 www.ciccadaarchitecture.com

Bartley Exchange + Entrance Plaza
 Villanova University
 Villanova, PA

PROJECT:
COVER SHEET
 SHEET TITLE:
 PROJECT NO.: 479.000 / AEC PROJECT NO. 0031.003

SCALE AS NOTED
 DRAWN BY: BJD
 APPROVED BY: KRM
 DATE: 11/04/15
 DRAWING NO.:
C0.0
 SHEET 1 OF 13

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ZONING SCHEDULE			
ZONING DISTRICT:		PI PLANNED INSTITUTIONAL	
ZONING ITEM:	REQUIRED:	EXISTING:	PROPOSED:
LOT AREA	10.0 ACRES	225 AC	NO CHANGE
LOT WIDTH	300 FEET	2,200 FT	NO CHANGE
BUILDING AREA	30% MAX.	13.06% (29.38 ACRES)	NO CHANGE [1]
TOTAL IMPERVIOUS COVERAGE	45% MAX.	37.63% (84.68 ACRES)	37.65% (84.71 ACRES) [3]
BUILDING HEIGHT	3 STORIES OR 38 FEET	4 STORIES / 46.75 FEET *	NO CHANGE
DISTANCE BETWEEN BUILDINGS	45 FEET MIN.	45 FEET	NO CHANGE
BUILDING LENGTH	160 FEET MAX.	147.5 FEET	NO CHANGE
BUILDING SETBACKS: STREETS	120 FT FROM STREET RIGHT-OF-WAY	60 FT * (THAN AVENUE)	NO CHANGE

* EXISTING LEGAL NON-CONFORMITY (BARTLEY HALL)

SCHEDULE NOTES:
 1. BUILDING AREAS:
 THE NEW BUILDING AREA (1,140 SF) WILL BE ADDED WITHIN THE EXISTING BUILDING FOOTPRINT OF BARTLEY HALL. WHILE THE BUILDING'S GROSS AREA WILL INCREASE, THE BUILDING FOOTPRINT REMAINS THE SAME.
 2. IMPERVIOUS COVERAGE:
 TO BE REMOVED = -3,195 SF = -0.073 ACRES
 NEW AREAS = +4,430 SF = +0.102 ACRES
 TOTAL = +1,235 SF = +0.028 ACRES
 3. TOTAL IMPERVIOUS COVERAGE:
 BUILDING TOTAL = 0 SF
 SITE TOTAL = +1,235 SF = +0.028 ACRES
 PROJECT TOTAL = +1,235 SF = +0.028 ACRES

PARKING REQUIREMENTS			
BUILDING/USE:	CODE REQUIREMENT:	COUNT:	SPACES REQUIRED:
EXISTING:			
DORMITORY	1 SPACE/3 RESIDENTS	5,460 BEDS [1]	1,820
OFFICE	1 SPACE/200 SF FOR FIRST 50,000 SF + 1 SPACE/300 SF OVER 50,000 SF	368,091 SF [1]	1,311
RETAIL	1 SPACE/200 SF + 1 SPACE/2 EMPLOYEES	12,371 SF [1]	76
RESTAURANT	1 SPACE/3 SEATS + 1 SPACE/2 EMPLOYEES	85 SEATS; 20 EMPLOYEES [1]	39
LARGEST ASSEMBLY AREA	1 SPACE/4 FIXED SEATS	4,178 SEATS [1]	1,045
GYMNASIUM/LIBRARY	1 SPACE/150 SF	42,432 SF	283
LARGEST ASSEMBLY AREA	1 SPACE/40 SF	13,722 SF	344
OTHER THAN SPECIFIED IN CODE	1 SPACE/300 SF	42,518 SF [2]	142
TOTAL EXISTING REQUIRED PARKING SPACES			5,060
PROPOSED:			
OTHER THAN SPECIFIED IN CODE	1 SPACE/300 SF	1,140 SF	4
TOTAL PROPOSED REQUIRED PARKING SPACES			4
TOTAL EXISTING + PROPOSED REQUIRED PARKING SPACES			5,064
TOTAL EXISTING PARKING SPACES AVAILABLE ON CAMPUS [3]			5,133

PARKING SCHEDULE NOTES:
 1. AREA/USE COUNT INCLUDES THE LANCASTER AVENUE HOUSING PROJECT.
 2. AREA/USE COUNT INCLUDES THE LANCASTER AVENUE HOUSING PROJECT (37,179 SF OF OTHER USE AREA) AND THE WEST END ZONE BUILDING PROJECT (5,339 SF OF OTHER USE AREA).
 3. TOTAL NUMBER OF EXISTING PARKING SPACES AVAILABLE ON CAMPUS INCLUDES THE LANCASTER AVENUE HOUSING PROJECT IMPROVEMENTS.

ALL DIMENSIONS AND DISTANCES SHOWN ON THIS PLAN SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE. ANY DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT IMMEDIATELY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND REGULATIONS OF GOV. AGENCIES AND AGENCIES HAVING JURISDICTION. © 2015 CICCADA ARCHITECTURE/PLANNING, INC.

REVISIONS:
 No. DATE DESCRIPTION
 1 11/04/15

CONSULTANTS:
 MEPS/Structural/Civil Engineers
 Associated Engineering Consultants Incorporated
 400 Down Park Circle, Suite 113, Myrtle Beach, SC 29577
 Tel: 843.666.8888 Fax: 843.666.8889
 www.aecengineers.com

CICCADA
 ARCHITECTURE/PLANNING
 1520 LOCUST STREET, PHILADELPHIA, PA 19102
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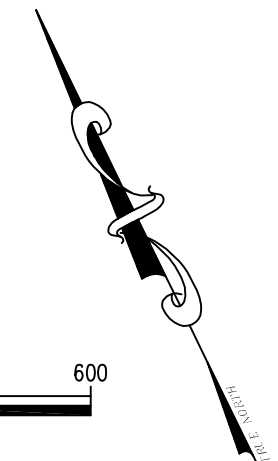
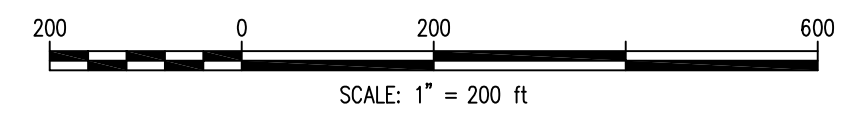
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 Villanova University
 Villanova, PA

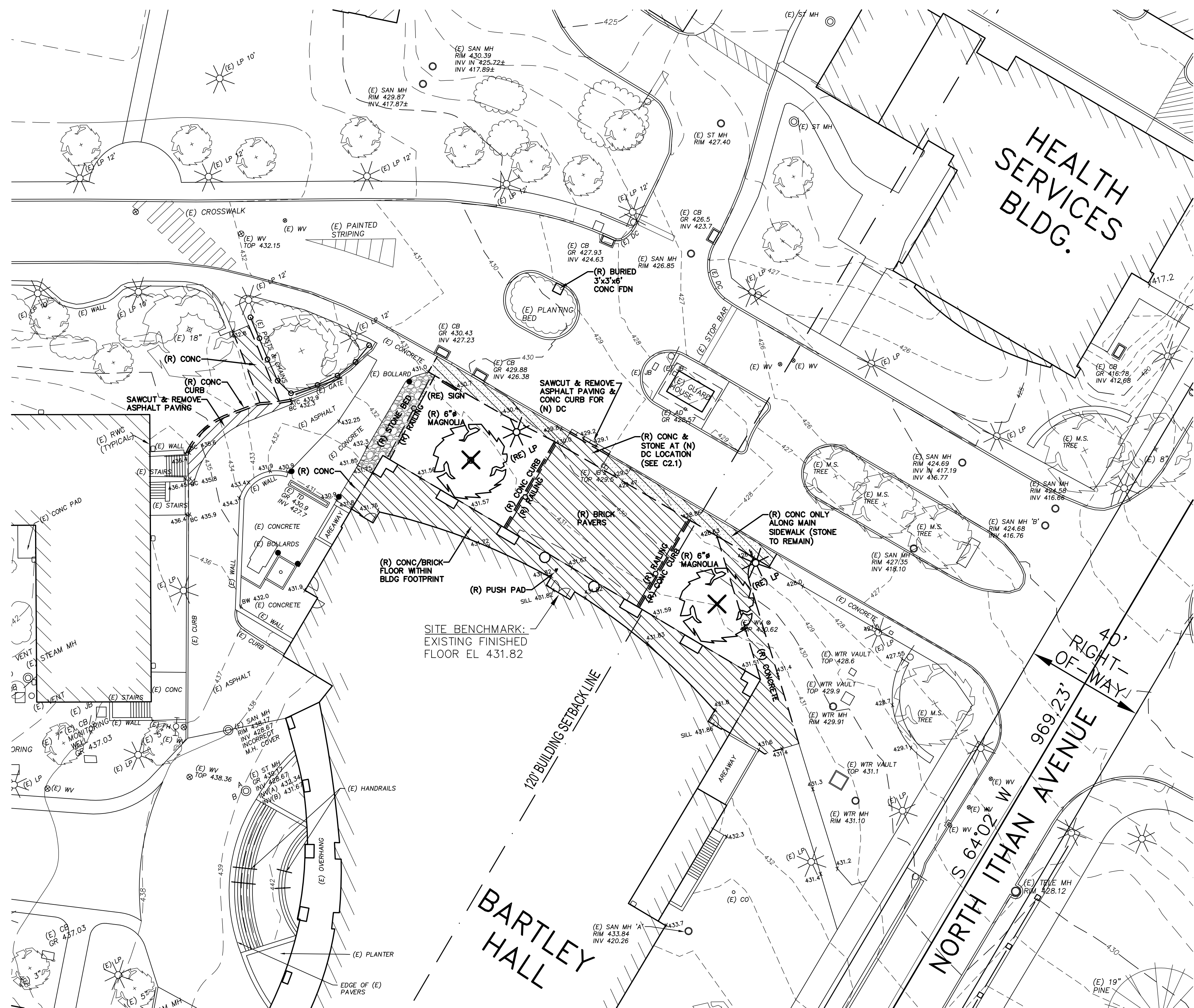
PROJECT:
OVERALL CAMPUS PLAN

PROJECT NO. 479.00 / AEC PROJECT NO. 031.003
 SHEET TITLE:
C0.1
 SHEET 2 OF 13

SCALE AS NOTED
 DRAWN BY: BJD
 APPROVED: KRM
 DATE: 11/04/15
 DRAWING NO.

1
C0.1 OVERALL CAMPUS PLAN
 SCALE: 1"=200'-0"





1
C1.1
EXISTING CONDITIONS & DEMOLITION PLAN
SCALE: 1"=20'-0"

LEGEND

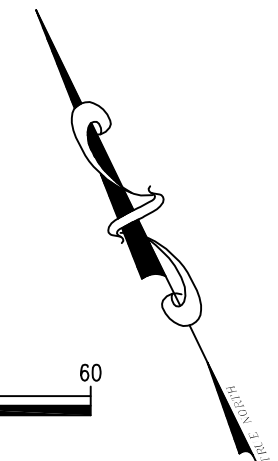
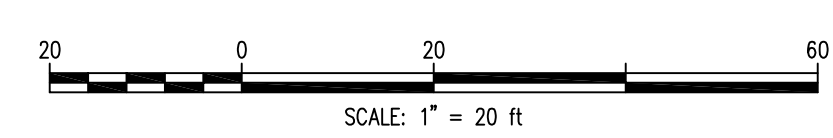
GRADE LINE	-142-	EXISTING TO REMAIN		EXISTING TO BE DEMOLISHED
SPOT ELEVATION	x 142.0			
CATCH BASIN & INLET	⊕			
MANHOLE	⊙			
CLEAN OUT OR VALVE	○			
UTILITY POLE	⊕			
LIGHT POLES:				
-GOTHIC	⊕			
-SHOEBOX	⊕			
FIRE HYDRANT	⊕			
SIGNAGE	⊕			
BUILDING FOOTPRINT	[Hatched Box]			
ASPHALT PAVING & CURBING	[Hatched Box]			
CONCRETE	[Hatched Box]			
GRAVEL AREAS	[Hatched Box]			
TREES	[Tree Symbols]			

ABBREVIATIONS

(E) EXISTING TO REMAIN
 (ER) EXISTING TO BE RELOCATED
 (R) REMOVE EXISTING
 (RE) RELOCATE EXISTING
 (N) NEW
 (NL) NEW LOCATION OF EXISTING

TREE REMOVAL SCHEDULE:

SIZE AND QUANTITY OF TREES TO BE REMOVED:	TOTAL BEING REMOVED	TOTAL REQUIRED TO BE PLANTED
6 - 18" DIAMETER 1 NEW PER EACH REMOVED	2	2
19 - 29" DIAMETER 3 NEW PER EACH REMOVED, INCL. 2 LARGE CANOPY	0	0
30"+ DIAMETER 6 NEW PER EACH REMOVED, INCL. 4 LARGE CANOPY	0	0
TOTAL NUMBER OF TREES TO BE REMOVED	2	
NUMBER OF NEW TREES REQUIRED TO BE PLANTED		2



ALL DIMENSIONS AND DISTANCES SHOWN ON THIS DRAWING ARE TO BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS OF GOV. AGENCIES AND AGENCIES HAVING JURISDICTION OVER THE PROJECT. © 2015 CIVIL ENGINEERING, INC. PLANNING, INC.

DESCRIPTION:	PRELIM/FINAL SUB.
BY:	AEC
DATE:	11/04/15
NO.:	1

REVISIONS:

CONSULTANTS:

CICADA
 ARCHITECTURE/PLANNING/ENGINEERING
 1520 LOCUST ST. SUITE 700 PHILADELPHIA, PA 19102
 P: 215.547.1438 F: 215.247.1435
 www.cicadachitecture.com

DAVID C. BRANDT
 PROFESSIONAL ENGINEER
 LICENSE NO. 27492-E

Bartley Exchange Plaza + Entrance Plaza
 Villanova University
 Villanova, PA

EXISTING CONDITIONS & DEMOLITION PLAN

PROJECT NO. 479.00 / AEC PROJECT NO. 031.003

SCALE: AS NOTED

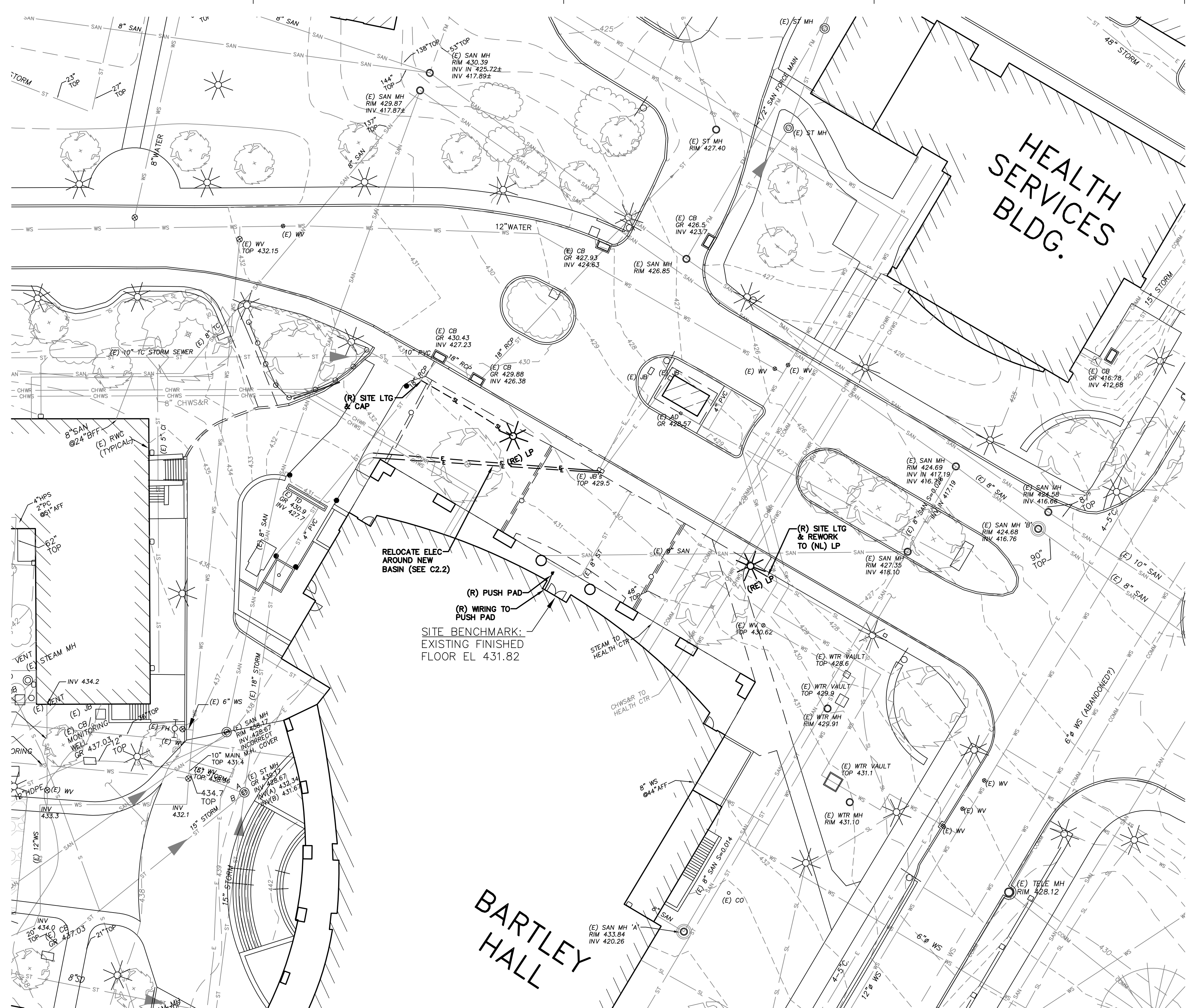
DRAWN BY: BJD

APPROVED: KRM

DATE: 11/04/15

DRAWING NO.:

C1.1
 SHEET 3 OF 13



1
C1.2
EXISTING UTILITIES
DEMOLITION PLAN
SCALE: 1"=20'-0"

LEGEND

EXISTING TO REMAIN	EXISTING TO BE DEMOLISHED
STORM SEWER (ST)	STORM SEWER (ST)
SANITARY SEWER (SAN)	SANITARY SEWER (SAN)
WATER SERVICE (WS)	WATER SERVICE (WS)
STEAM (S)	STEAM (S)
COMMUNICATIONS (COMM)	COMMUNICATIONS (COMM)
ELECTRIC SERVICE (E)	ELECTRIC SERVICE (E)
SITE LIGHTING (SL)	SITE LIGHTING (SL)
GAS SERVICE (G)	GAS SERVICE (G)
CHILLED WATER SUPPLY (CHWS)	CHILLED WATER SUPPLY (CHWS)
CHILLED WATER RETURN (CHWR)	CHILLED WATER RETURN (CHWR)
CATCH BASIN & INLET MANHOLE (CB)	CATCH BASIN & INLET MANHOLE (CB)
CLEAN OUT OR VALVE (O)	CLEAN OUT OR VALVE (O)
UTILITY POLE (P)	UTILITY POLE (P)
LIGHT POLE (LP)	LIGHT POLE (LP)
FIRE HYDRANT (FH)	FIRE HYDRANT (FH)

ABBREVIATIONS

(E)	EXISTING TO REMAIN
(R)	EXISTING TO BE RELOCATED
(RE)	REMOVE EXISTING
(NL)	RELOCATE EXISTING
(R)	NEW
(NL)	NEW LOCATION OF EXISTING

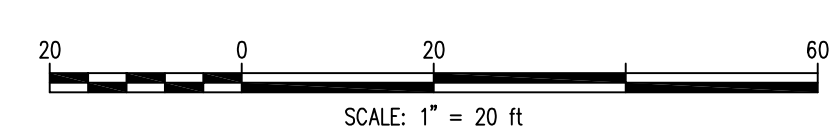
NOTE:
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVES. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

Serial Number: 20150210968

CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL Pennsylvania One Call System, Inc. 1-800-242-1776

NOTE:
AT LEAST 3 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITY, ALL CONTRACTORS INVOLVED SHALL NOTIFY THE PA ONE CALL SYSTEM INC. AT 1-800-242-1776 FOR BURIED UTILITIES LOCATIONS.

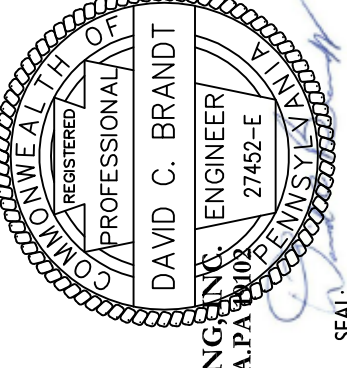


REVISIONS

No.	DATE	DESCRIPTION
1	11/04/15	PRELIM/FINAL SUB.

CONSULTANTS:

MEP/Structural/Civil Engineers:
Associated Engineering Consultants Incorporated
1200 Locust St., Suite 113, Philadelphia, PA 19104
Tel: 215-547-1430 Fax: 215-547-1435
www.aec.com



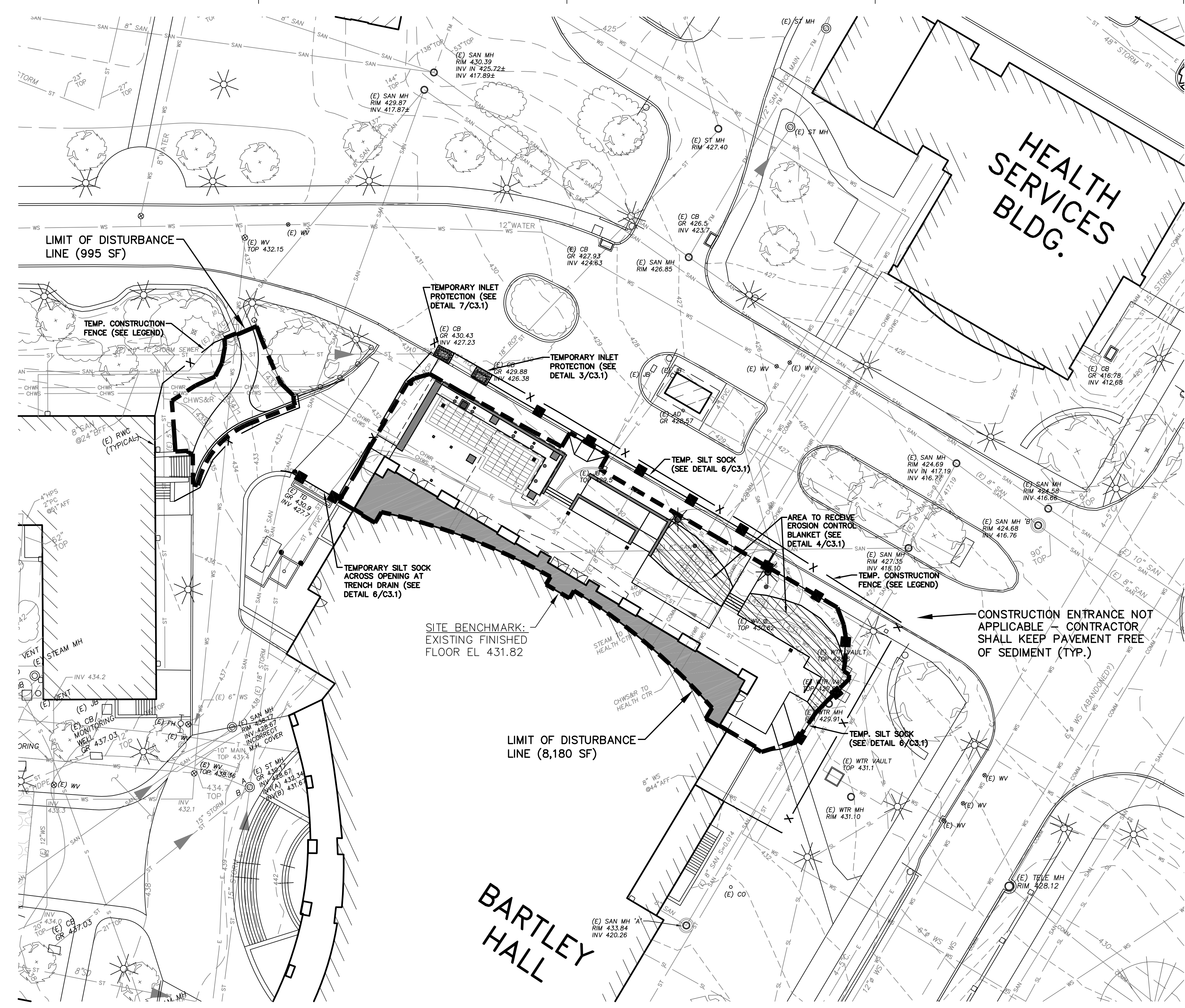
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ARCHITECTURE/PLANNING/ENGINEERING
1520 LOCUST ST. STE. 702 PHILADELPHIA, PA 19102
www.cicadainc.com

Bartley Exchange Plaza + Entrance Plaza
Villanova University
Villanova, PA

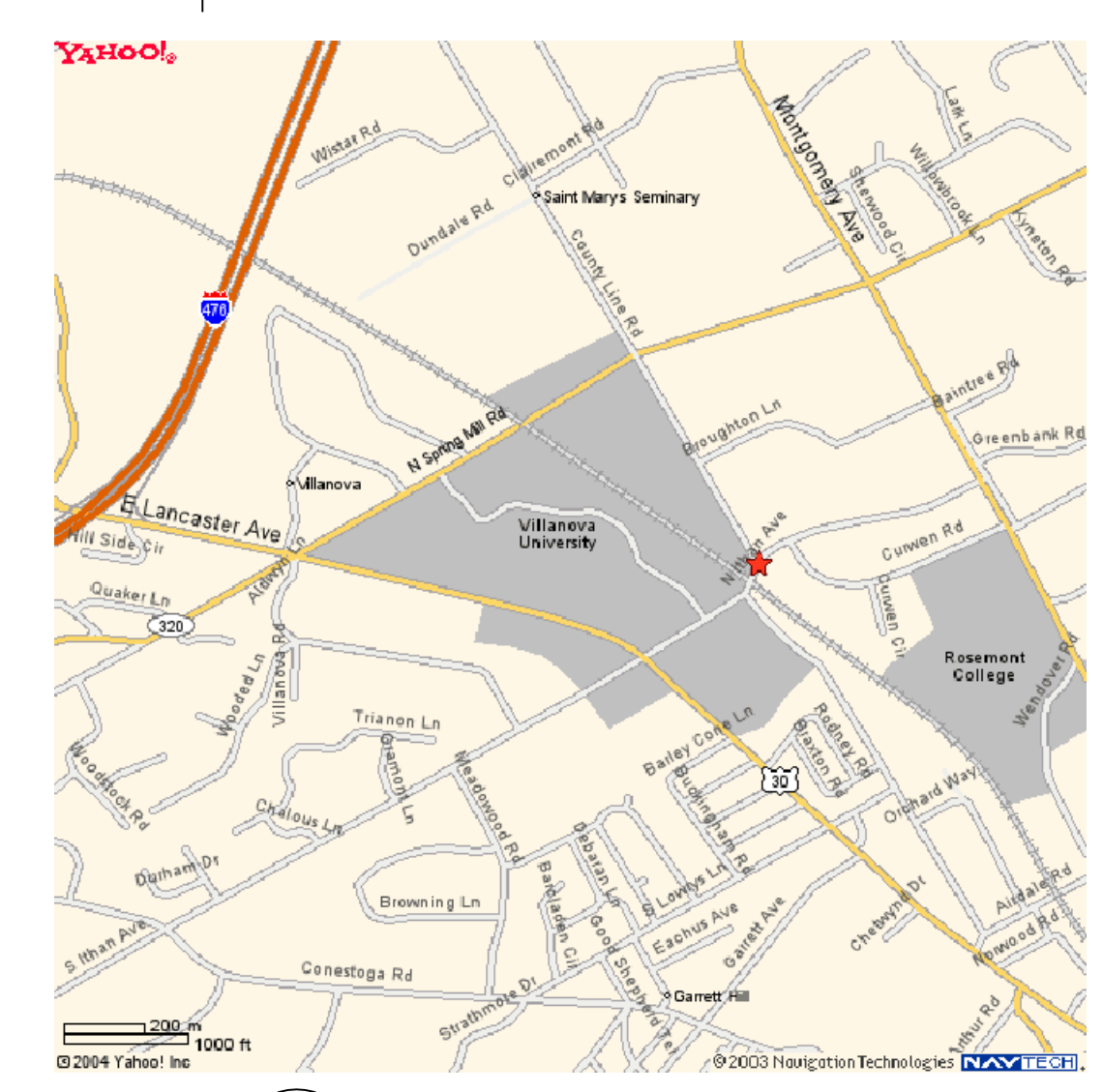
EXISTING UTILITIES DEMOLITION PLAN

PROJECT NO. 479.000 / AEC PROJECT NO. 031.003

C1.2
SHEET 4 OF 13



1 SOIL EROSION CONTROL PLAN
 SCALE: 1"=20'-0"



A LOCATION MAP
 C1.3 SCALE: 1" = 1500'

SOIL DATA:
 Me - MADE LAND, SCHIST AND GNEISS MATERIALS:
 SLOPE RANGE: 0 TO 8%
 DEPTH TO BEDROCK: 40" - 72"
 DEPTH TO SEASONAL WATER TABLE: 60"
 PERMEABILITY: MODERATE
 HYDROLOGIC SOIL GROUP: C

SOIL LIMITATIONS:
 MADE LAND:
 SOMEWHAT LIMITED FOR SHALLOW EXCAVATIONS
 REASONS: DEPTH TO SATURATED ZONE

SOIL LIMITATION RESOLUTIONS:
 RESOLUTIONS:
 DEPTH TO SATURATION ZONE - WHILE NO WATER WAS ENCOUNTERED IN A TEST HOLE DUG TO 6 FEET DEEP, PUMPS ARE TO BE UTILIZED AS NEEDED TO REMOVE EXCESS WATER FROM EXCAVATION AREAS. PUMPS ARE TO DISCHARGE TO EXISTING VEGETATED AREAS. SEE DETAIL ON C.3.1.

Serial Number: 20150210968

CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL Pennsylvania One Call System, Inc. 1-800-242-1776

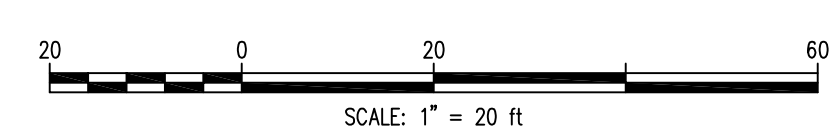
NOTE:
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WATERSHED NOTE:
 THE PROJECT IS LOCATED IN THE MILL CREEK WATERSHED, WHICH HAS A CHAPTER 93 RECEIVING WATER CLASSIFICATION OF TSF/MF.

TEMP. CONSTRUCTION LEGEND

	LIMIT OF DISTURBANCE BOUNDARY LINE (9,175 SF / 0.21 ACRES TOTAL)
	AREAS TO RECEIVE CURLEX BLANKETS (SEE DETAIL 4/C3.1)
	TEMPORARY SILT SOCK (SEE DETAIL 6/C3.1)
	TEMPORARY TREE PROTECTION FENCE (SEE DETAIL 5/C3.1)
	TEMPORARY CONSTRUCTION FENCE TO BE 6'-0" HIGH CHAIN LINK FENCE (MOUNTED ON REMOVABLE PRECAST CONCRETE BASE - UNLESS NOTED OTHERWISE)
	TEMPORARY INLET PROTECTION (SEE DETAILS 3&7/C3.1)

NOTE:
 ANY OFF-SITE WASTE AREA MUST HAVE AN E&S PLAN REVIEWED AND APPROVED BY THE LOCAL COUNTY CONSERVATION DISTRICT PRIOR TO BEING ACTIVATED.



ALL DIMENSIONS AND DISTANCES SHOWN ON THIS PLAN SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND REGULATIONS OF GOV. AGENCIES AND AGENCIES HAVING JURISDICTION OVER THE PROJECT. © 2015 CIVIL ENGINEERING, INC. VILLANOVA, PA

REVISIONS:	DATE:	BY:	DESCRIPTION:
No.	11/04/15	AEC	PRELIM/FINAL SUB.

CONSULTANTS:
 MEPS/Structural/Civil Engineers:
 Associated Engineering Consultants Incorporated
 440 Down Town Circle, Suite 113, Villanova University, Villanova, PA 19380
 Cell: 610-261-1100 Fax: 610-261-1100 www.aecinc.com

PROFESSIONAL SEAL
 DAVID C. BRANDT
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 www.davidcbrandt.com

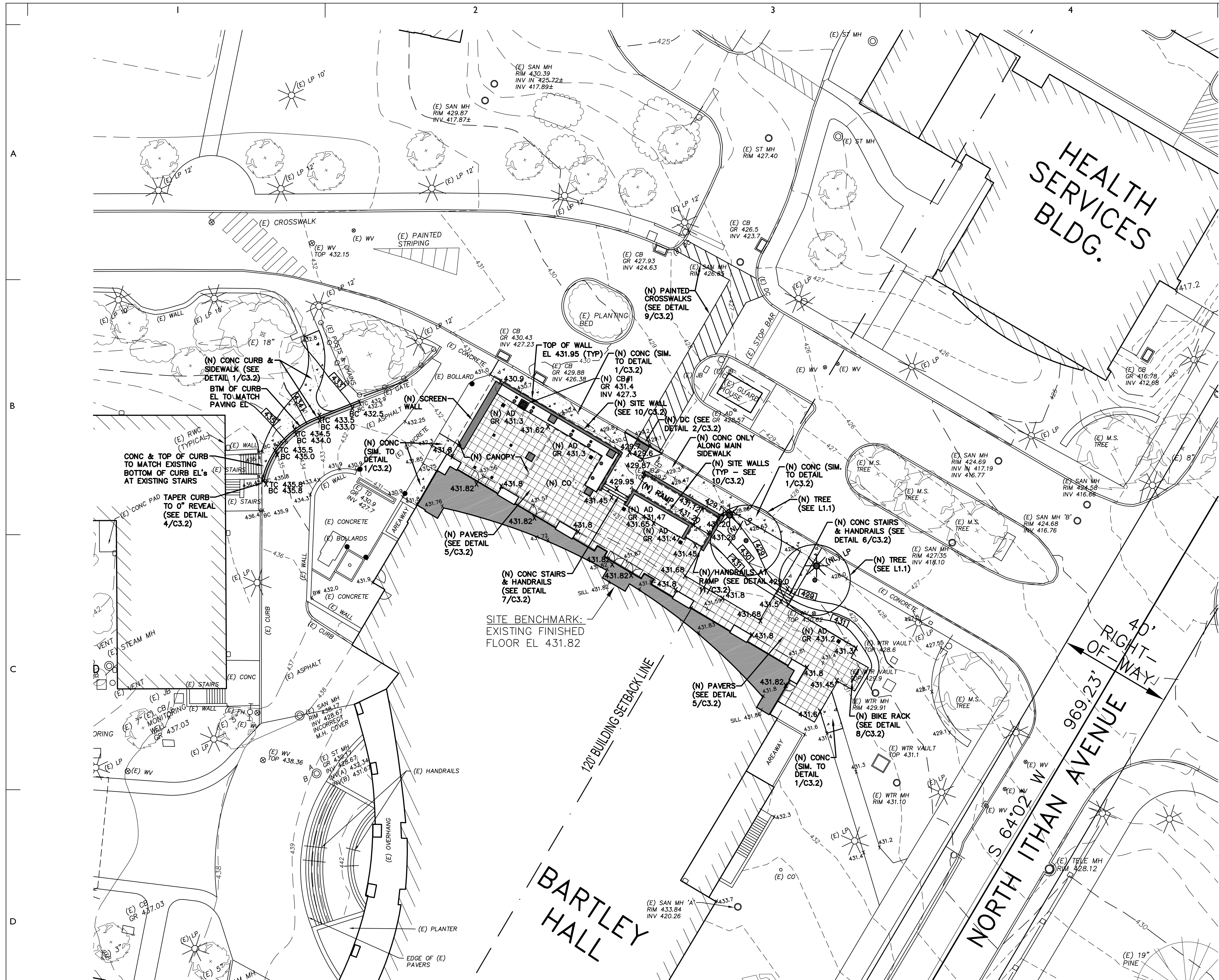
PROJECT:
Bartley Exchange Plaza + Entrance Plaza
 Villanova University
 Villanova, PA

SHEET TITLE:
SOIL EROSION CONTROL PLAN

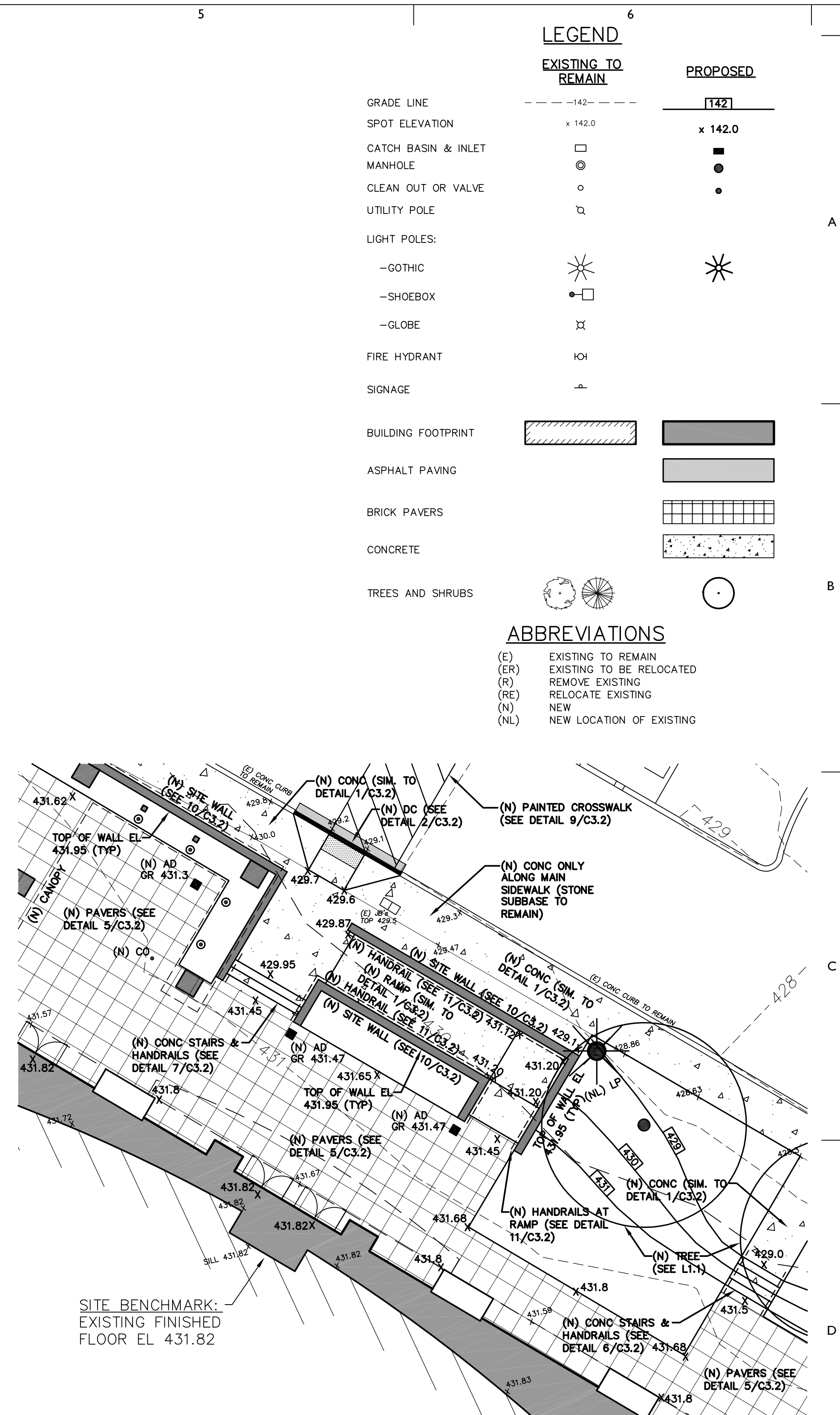
PROJECT NO.: 479.000 / AEC PROJECT NO. 0031.003

SCALE AS NOTED
DRAWN BY: BJD
APPROVED: KRM
DATE: 11/04/15
DRAWING NO.:

C1.3
 SHEET 5 OF 13

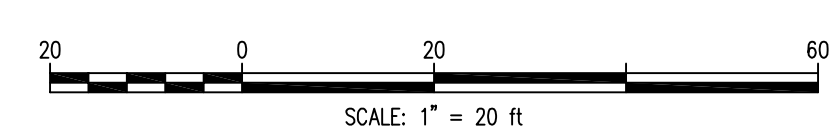


1 SITE DEVELOPMENT PLAN
SCALE: 1"=20'-0"



2 ENLARGED PLAN AT ENTRANCE PLAZA
SCALE: 1"=10'-0"

NOTE:
A GRADING PLAN AND EROSION AND SEDIMENT CONTROL PLAN SHALL BE SUBMITTED AND APPROVED PRIOR TO ISSUANCE OF THE BUILDING PERMIT.



LEGEND

	EXISTING TO REMAIN	PROPOSED
GRADE LINE	- - - - - 142.0	[142]
SPOT ELEVATION	x 142.0	x 142.0
CATCH BASIN & INLET	□	●
MANHOLE	⊙	●
CLEAN OUT OR VALVE	⊙	●
UTILITY POLE	⊙	●
LIGHT POLES:		
-GOTHIC	⊙	⊙
-SHOEBOX	⊙	⊙
-GLOBE	⊙	⊙
FIRE HYDRANT	⊙	⊙
SIGNAGE	⊙	⊙
BUILDING FOOTPRINT	[Hatched Box]	[Solid Box]
ASPHALT PAVING	[Hatched Box]	[Solid Box]
BRICK PAVERS	[Hatched Box]	[Solid Box]
CONCRETE	[Hatched Box]	[Solid Box]
TREES AND SHRUBS	[Tree Symbol]	[Tree Symbol]

ABBREVIATIONS

(E)	EXISTING TO REMAIN
(ER)	EXISTING TO BE RELOCATED
(R)	REMOVE EXISTING
(RE)	RELOCATE EXISTING
(N)	NEW
(NL)	NEW LOCATION OF EXISTING

ALL DIMENSIONS AND DISTANCES SHOWN ON THIS DRAWING SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND REGULATIONS OF GOV. AGENCIES AND AGENCIES HAVING JURISDICTION OVER THE PROJECT. © 2015 C/CAD/CAD ARCHITECTURE/PLANNING, INC.

REVISIONS:	DATE:	BY:	DESCRIPTION:
No.	11/04/15	AEC	PRELIM/FINAL SUB.

CONSULTANTS:

CICADA
ARCHITECTURE/PLANNING/ENGINEERING
1520 LOCUST STREET, PHILADELPHIA, PA 19102
PH: 215.247.1430 FAX: 215.247.1435
www.cicadainc.com

PROFESSIONAL SEAL: DAVID C. BRANDT, ENGINEER, No. 27492-E

PROJECT: Bartley Exchange Plaza + Entrance Plaza, Villanova University, Villanova, PA

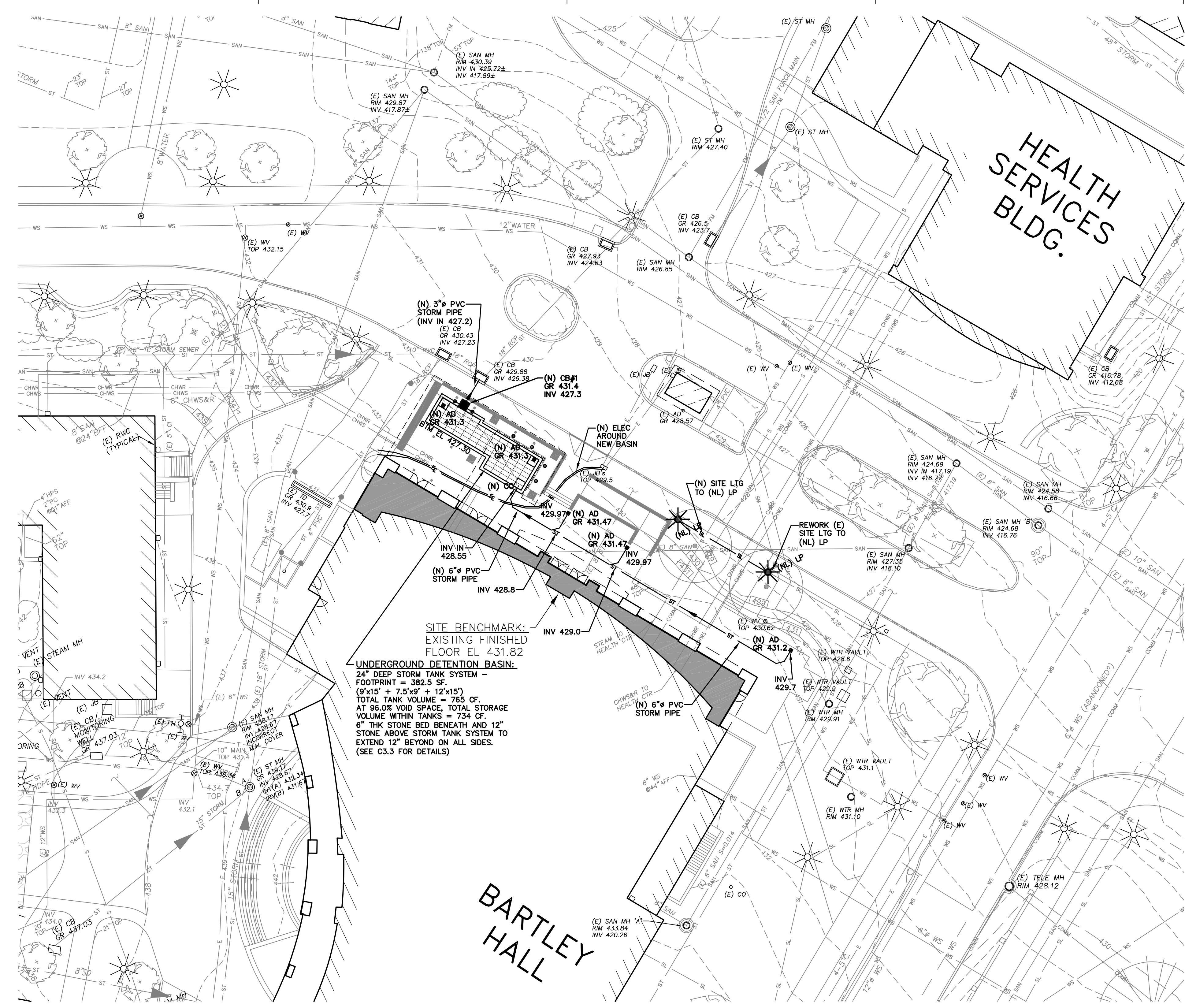
SHEET TITLE: SITE DEVELOPMENT PLAN

PROJECT NO.: 479.000 / AEC PROJECT NO. 0031.003

SCALE AS NOTED

DRAWN BY:	BJD
APPROVED:	KRM
DATE:	11/04/15
DRAWING NO.:	C2.1

SHEET 6 OF 13



SITE BENCHMARK:
EXISTING FINISHED FLOOR EL 431.82

UNDERGROUND DETENTION BASIN:
24" DEEP STORM TANK SYSTEM -
FOOTPRINT = 382.5 SF
(9'x15' + 7.5'x9' + 12'x15')
TOTAL TANK VOLUME = 765 CF.
AT 96.0% VOID SPACE, TOTAL STORAGE VOLUME WITHIN TANKS = 734 CF.
6" THK STONE BED BENEATH AND 12" STONE ABOVE STORM TANK SYSTEM TO EXTEND 12" BEYOND ON ALL SIDES.
(SEE C3.3 FOR DETAILS)

1 SITE UTILITIES PLAN
SCALE: 1"=20'-0"

NOTE:
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVES. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

LEGEND

	EXISTING TO REMAIN	PROPOSED
STORM SEWER	ST	ST
SANITARY SEWER	SAN	SAN
WATER SERVICE	WS	WS
STEAM	S	S
COMMUNICATIONS	COMM	COMM
ELECTRIC SERVICE	E	E
SITE LIGHTING	SL	SL
GAS SERVICE	G	G
CHILLED WATER SUPPLY	CHWS	CHWS
CHILLED WATER RETURN	CHWR	CHWR
CATCH BASIN & INLET	□	■
MANHOLE	○	●
CLEAN OUT OR VALVE	o	o
UTILITY POLE	⊗	⊗
LIGHT POLE	⊗	⊗
FIRE HYDRANT	⊕	⊕

ABBREVIATIONS

(E)	EXISTING TO REMAIN
(ER)	EXISTING TO BE RELOCATED
(R)	REMOVE EXISTING
(RE)	RELOCATE EXISTING
(N)	NEW
(NL)	NEW LOCATION OF EXISTING

TOWNSHIP ACCESS NOTE:

The Property Owner allows Radnor Township access to the stormwater management facilities for inspection purposes.

NOTES:

- A. No person shall modify, remove, fill, landscape, or alter any existing stormwater control or BMP, unless it is part of an approved maintenance program, without the written approval of the municipality.
- B. No person shall place any structure, fill, landscaping, or vegetation into a stormwater control or BMP or within a drainage easement which would limit or alter the functioning of the stormwater control or BMP without the written approval of the municipality.

STORMWATER MANAGEMENT FACILITIES - MAINTENANCE REQUIREMENTS:

The Property Owner is responsible for ownership and maintenance of the stormwater facilities. The maintenance responsibilities for the stormwater management facilities shall include, but not be limited to: mowing all lawn areas; cutting all weeds and overgrown vegetation; maintaining stable side slopes; maintaining the berm and outlet structure; inspecting the basin once a year and after each storm event greater than 100 years to ensure none of the orifices are clogged; flushing the basin every two years to prevent the build up of debris and sediment; clearing and disposing of all debris, utilizing a vacuum truck as necessary; repairing any problems associated with erosion; maintaining all stormwater pipes, swales, catch basins, manholes and orifices; maintaining an unobstructed flow of stormwater through the outlet structure; and maintaining the design capacity of the stormwater management facility.

I acknowledge that the stormwater controls and the BMP's are fixtures that can be altered or removed only after approval by the municipality.

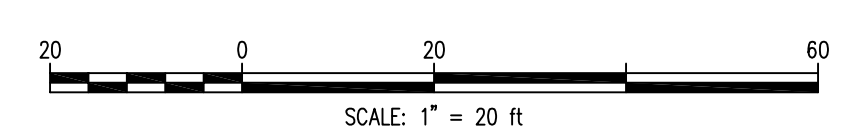
Landowner _____

I hereby acknowledge that any revision to the approved drainage plan must be approved by the municipality, and that a revised erosion and sediment control plan must be submitted to the Conservation District for a determination of adequacy.

Applicant _____

I hereby certify that the drainage plan meets all design standards & criteria of the Radnor Township Stormwater Management Ordinance.

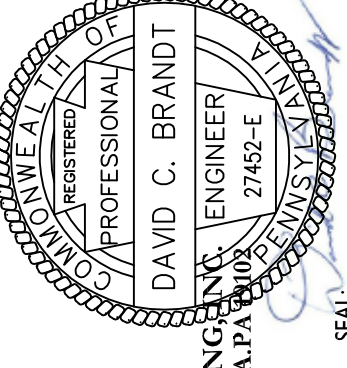
David C. Brandt, PE



REVISIONS:

No.	DATE	DESCRIPTION
1	11/04/15	PRELIM/FINAL SUB.

ALL DIMENSIONS AND DISTANCES SHOWN ON THIS DRAWING SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE TIME OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND REGULATIONS OF GOV. AGENCIES AND AGENCIES HAVING JURISDICTION. © 2015 CICADA ARCHITECTURE/PLANNING, INC. PHILADELPHIA, PA



CICADA
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1520 LOCUST STREET, 702 PHILADELPHIA, PA 19104
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Bartley Exchange Plaza + Entrance Plaza
Villanova University
Villanova, PA

SITE UTILITIES PLAN

PROJECT NO. 479.000 / AEC PROJECT NO. 0031.003

SCALE: AS NOTED

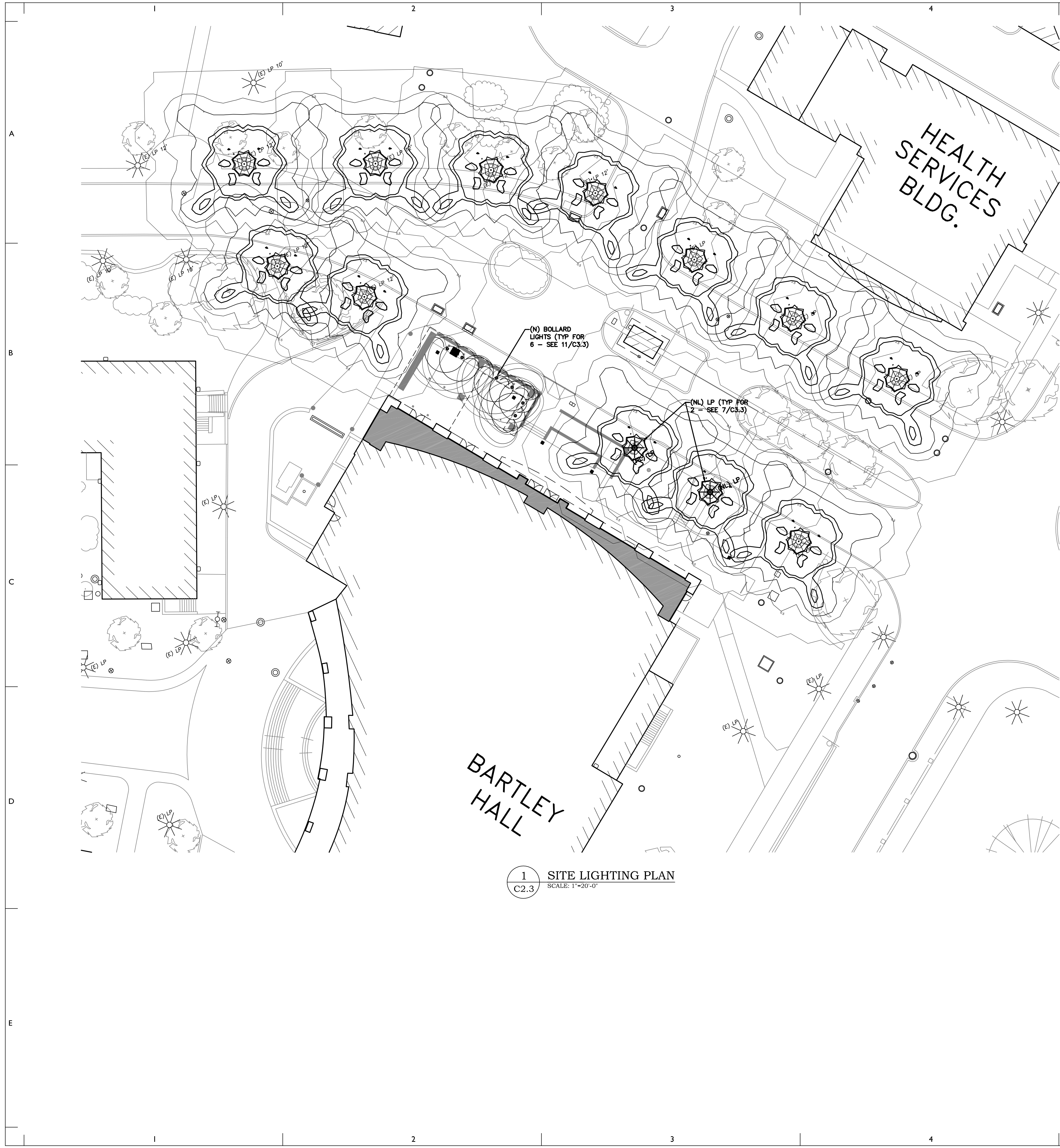
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APPROVED: KRM

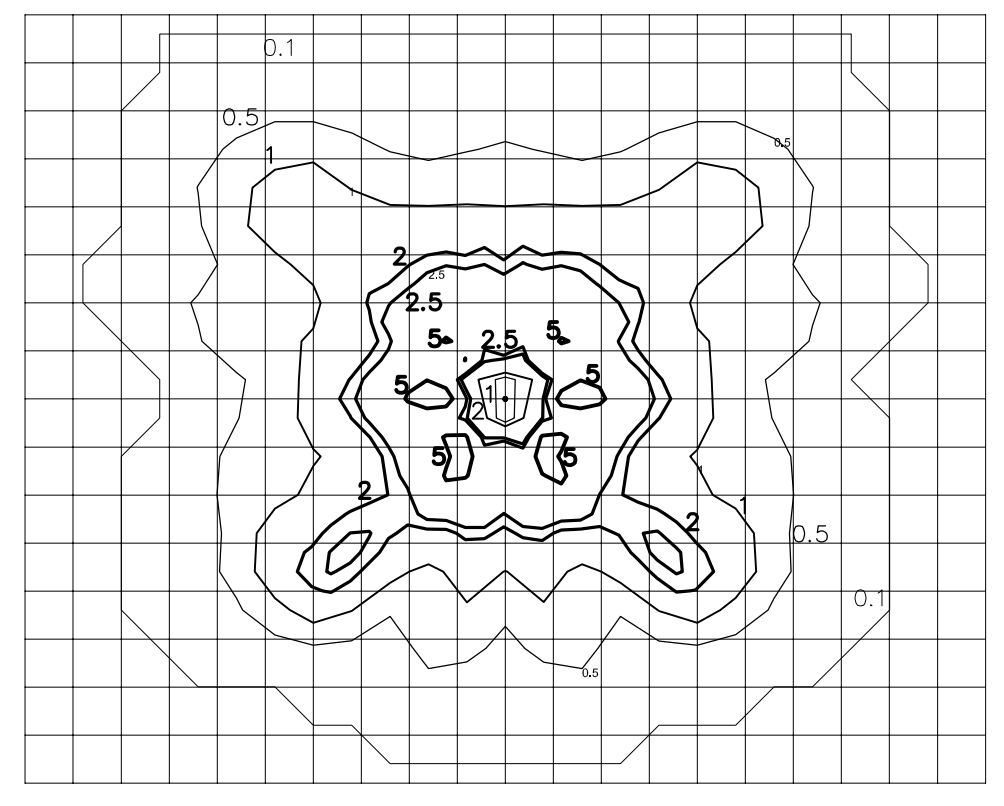
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DRAWING NO. **C2.2**

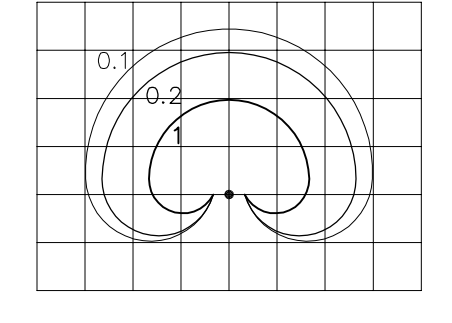
SHEET 7 OF 13



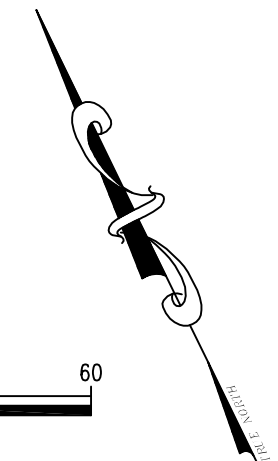
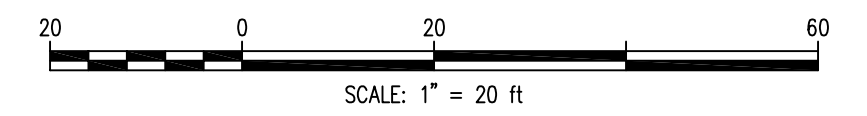
1 SITE LIGHTING PLAN
SCALE: 1"=20'-0"



2 LIGHT FIXTURE (12')
SCALE: 1"=20'-0"
NOTE:
SEE DETAIL 7/C3.3.



3 BOLLARD LIGHT FIXTURE
SCALE: 1"=20'-0"
NOTE:
SEE DETAIL 11/C3.3.



ALL DIMENSIONS AND DISTANCES SHOWN ON THIS DRAWING ARE TO BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THE SITE. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS OF GOV. JURISDICTION. © 2015 CICADA ARCHITECTURE/PLANNING INC. PHILADELPHIA, PA

NO.	DATE	BY	DESCRIPTION
1	11/04/15	AEC	PRELIM/FINAL SUB.

CONSULTANTS:
MEP/Structural/Civil Engineers:
Associated Engineering Consultants Incorporated
Civil, Structural, Fire, Planning, Electrical, Mechanical, Environmental, Acoustical, Energy

PROFESSIONAL SEAL:
DAVID C. BRANDT
REGISTERED PROFESSIONAL ENGINEER
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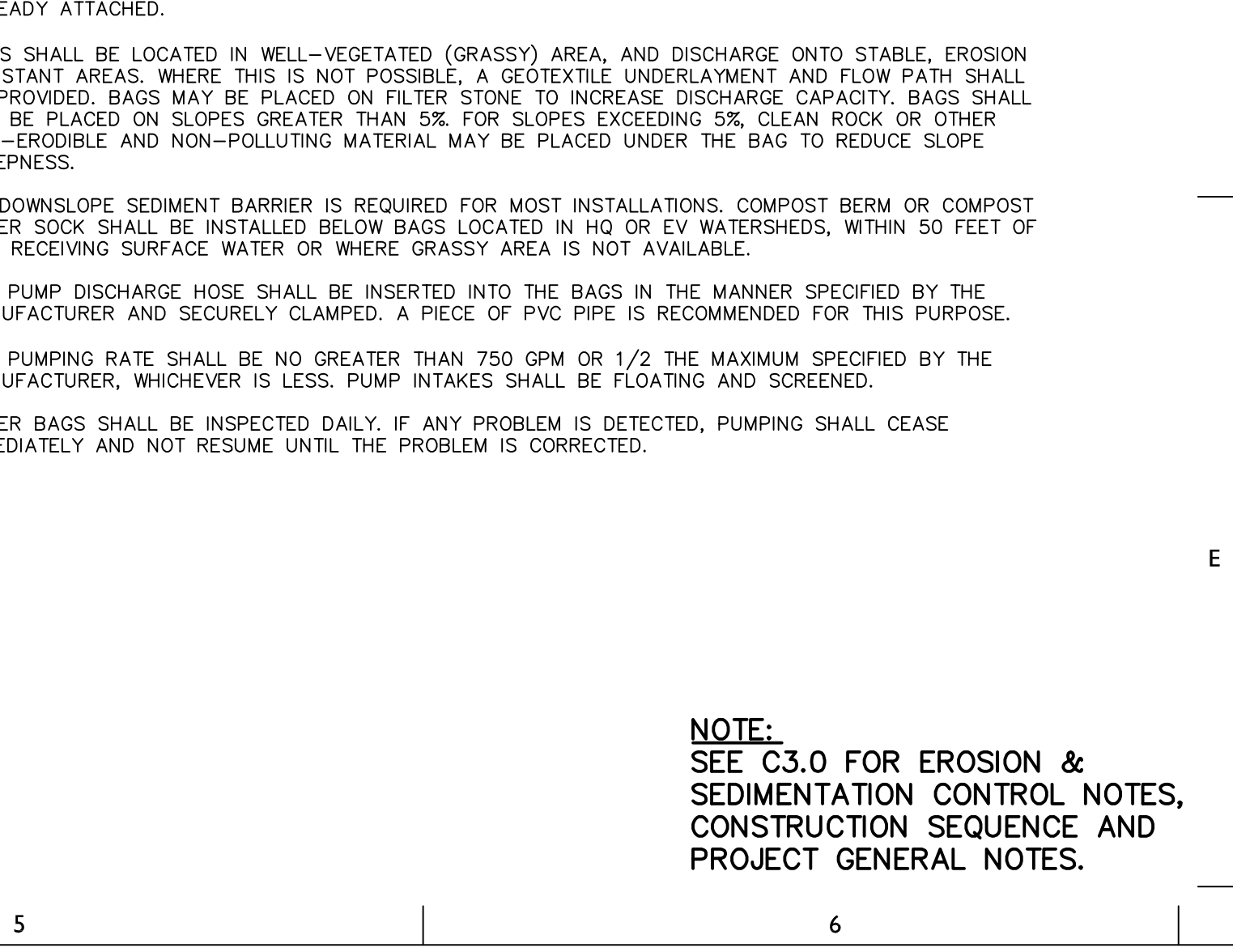
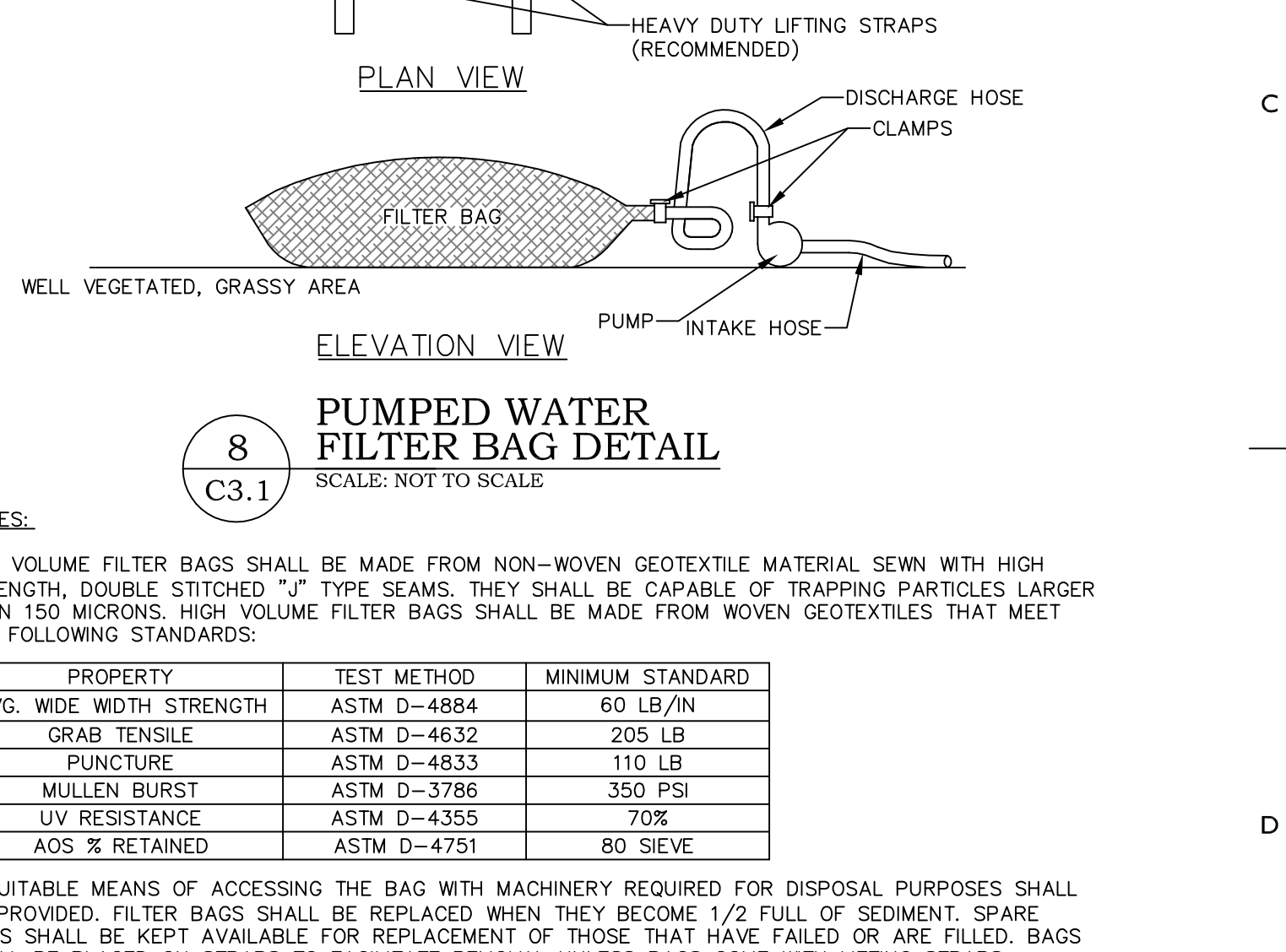
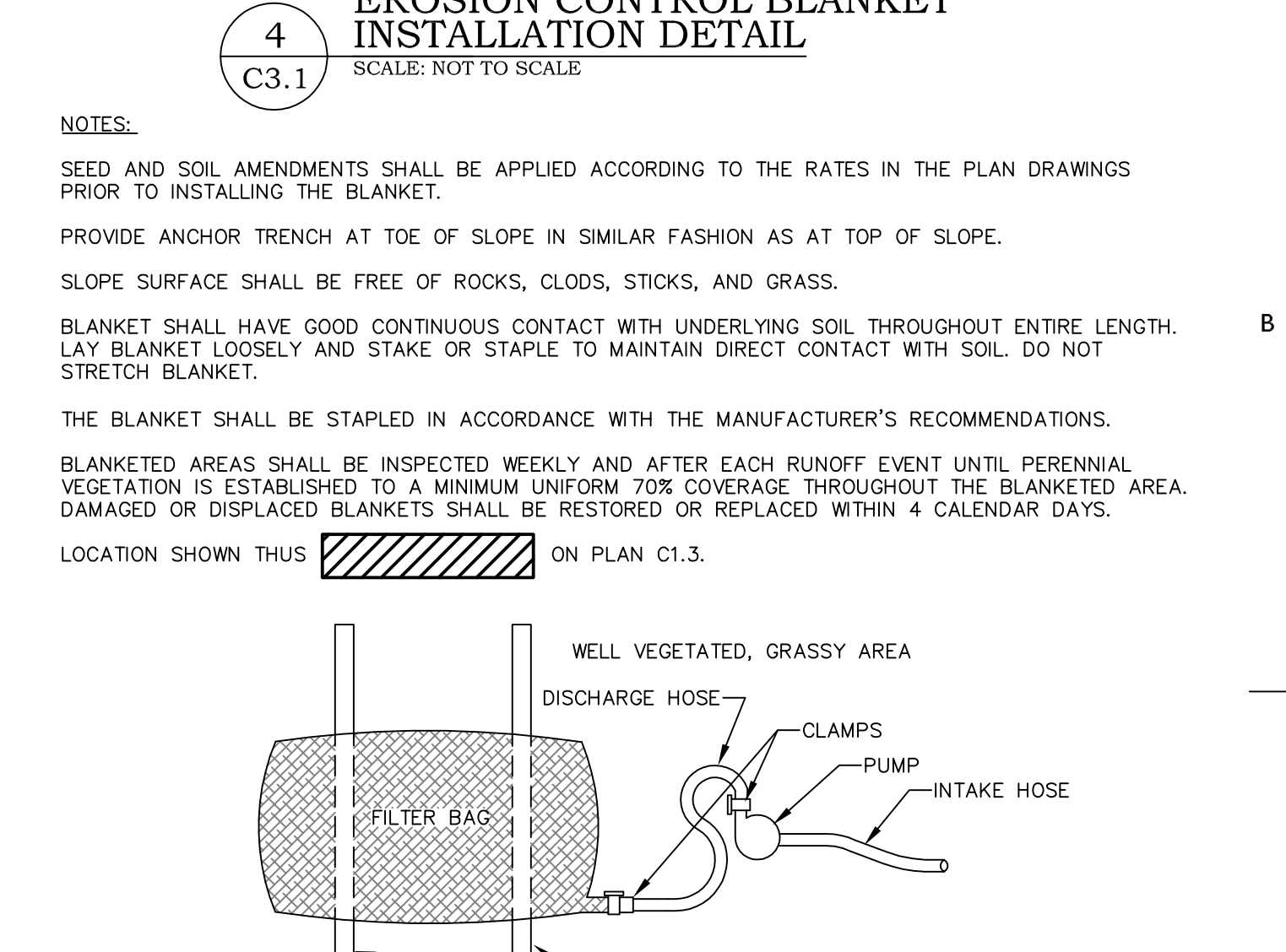
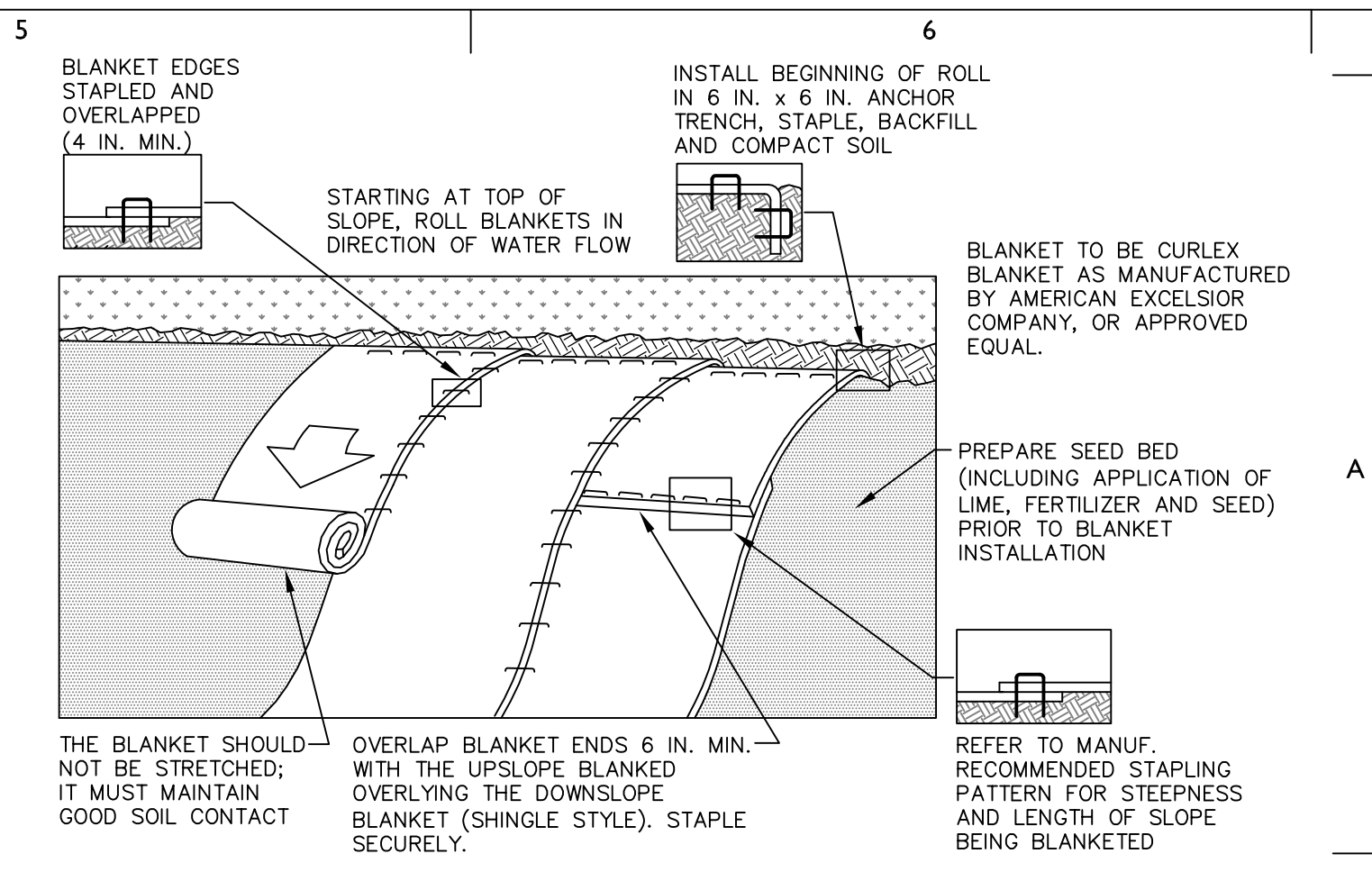
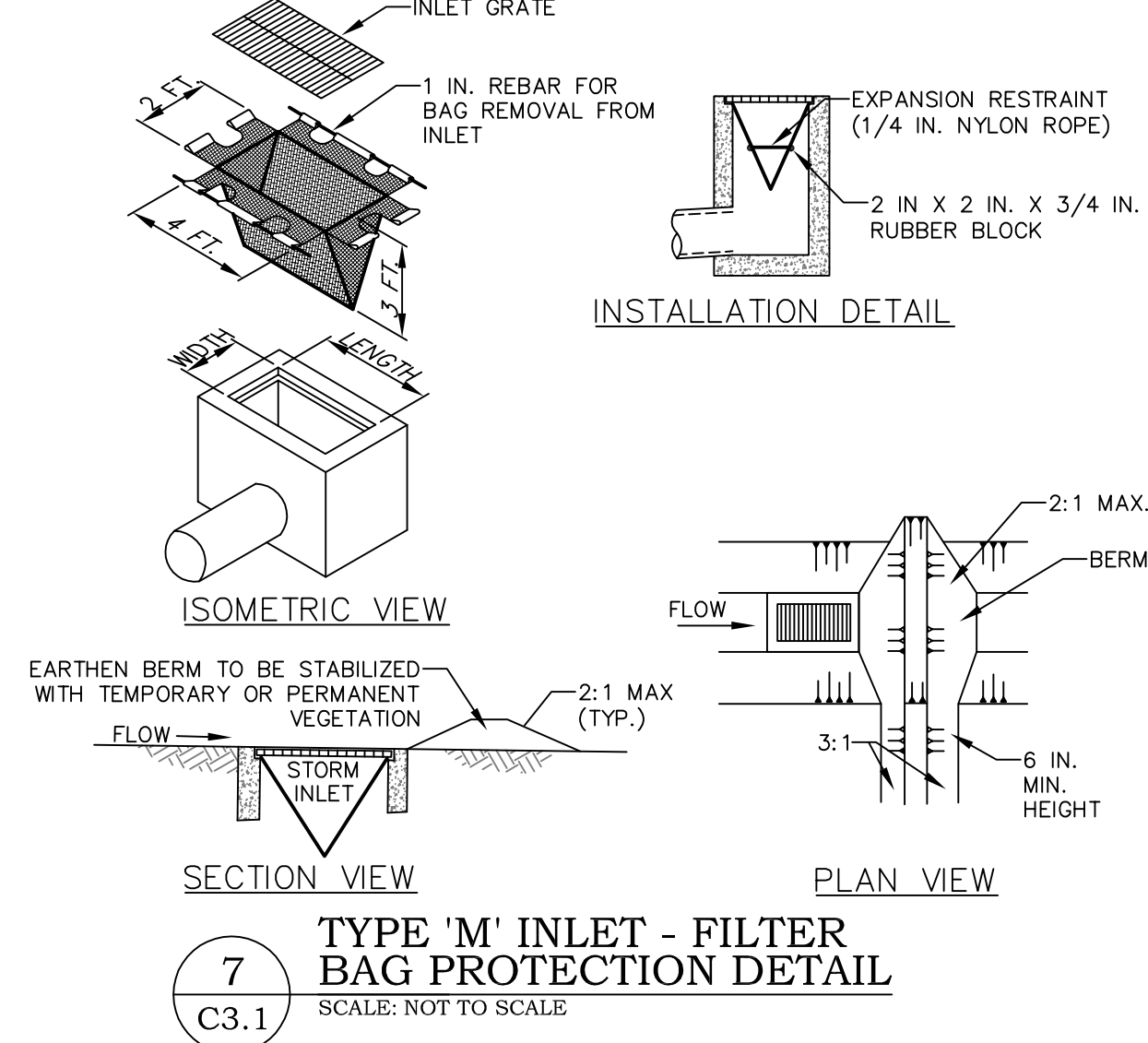
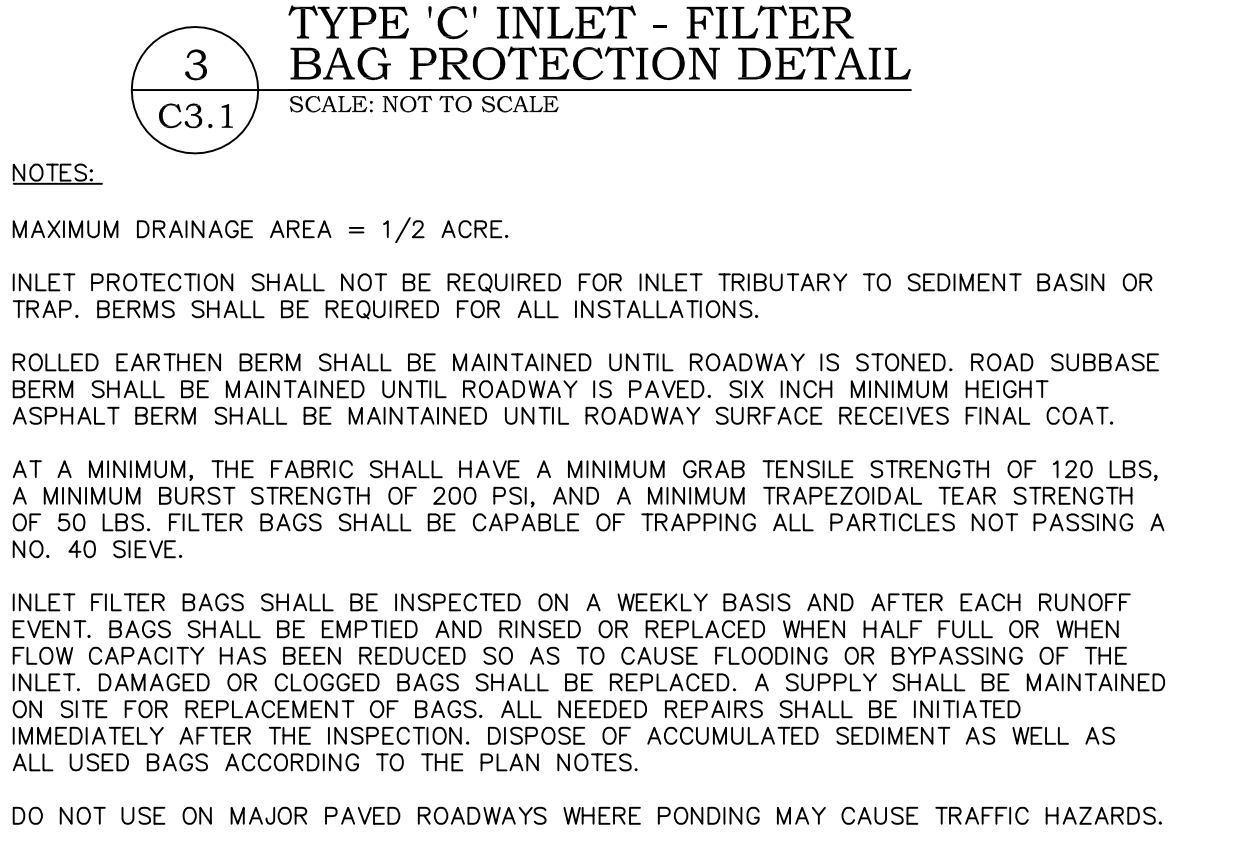
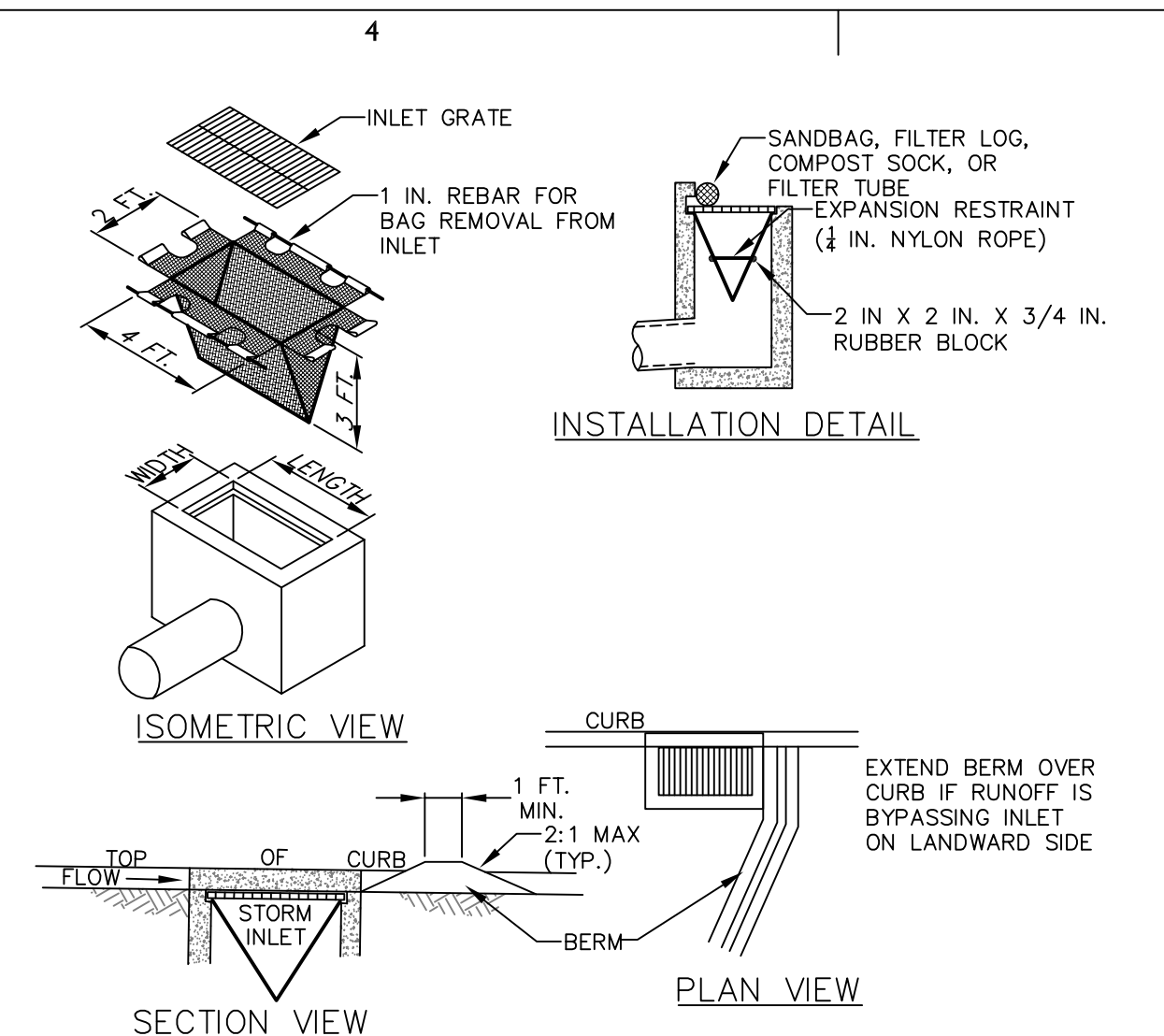
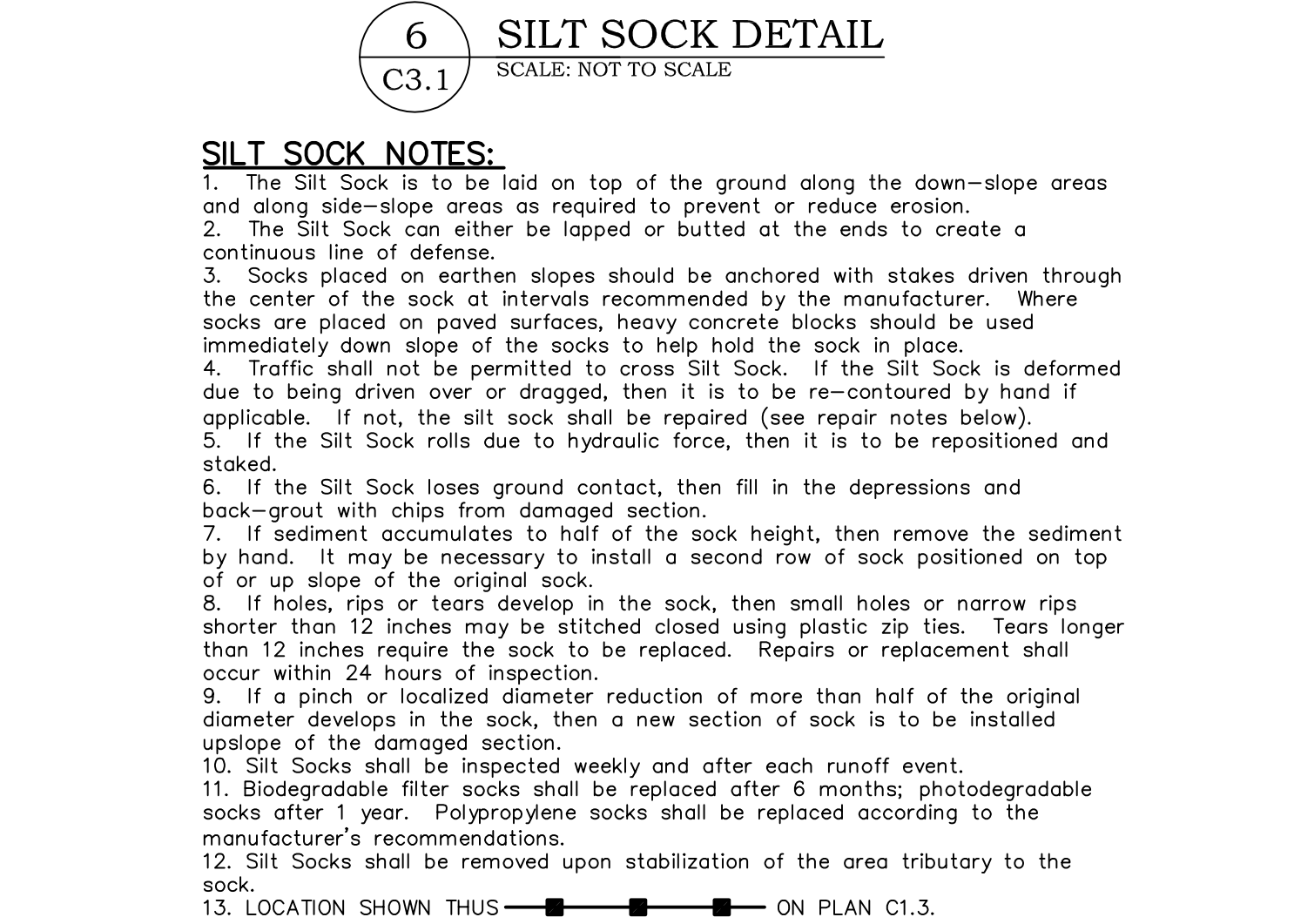
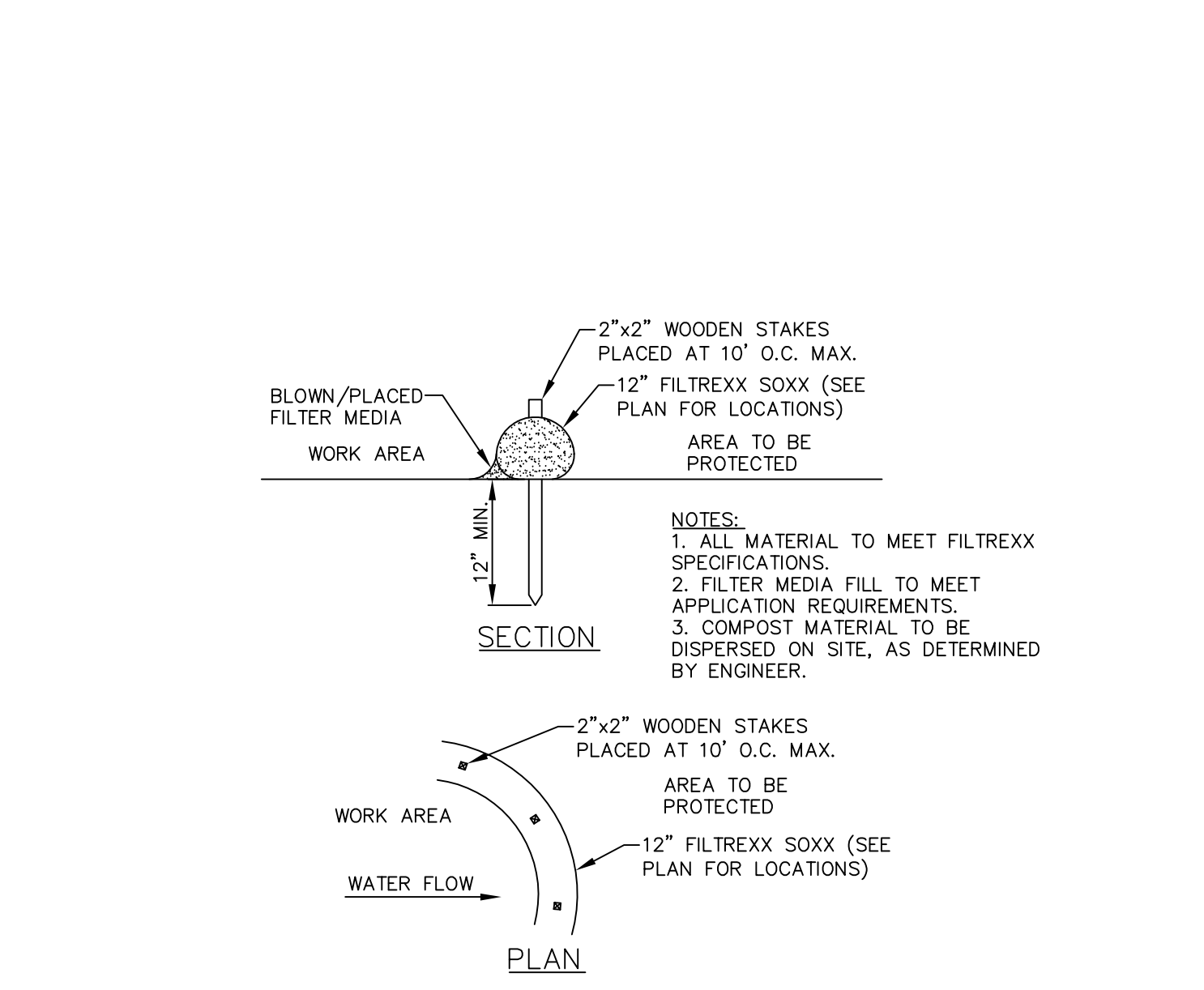
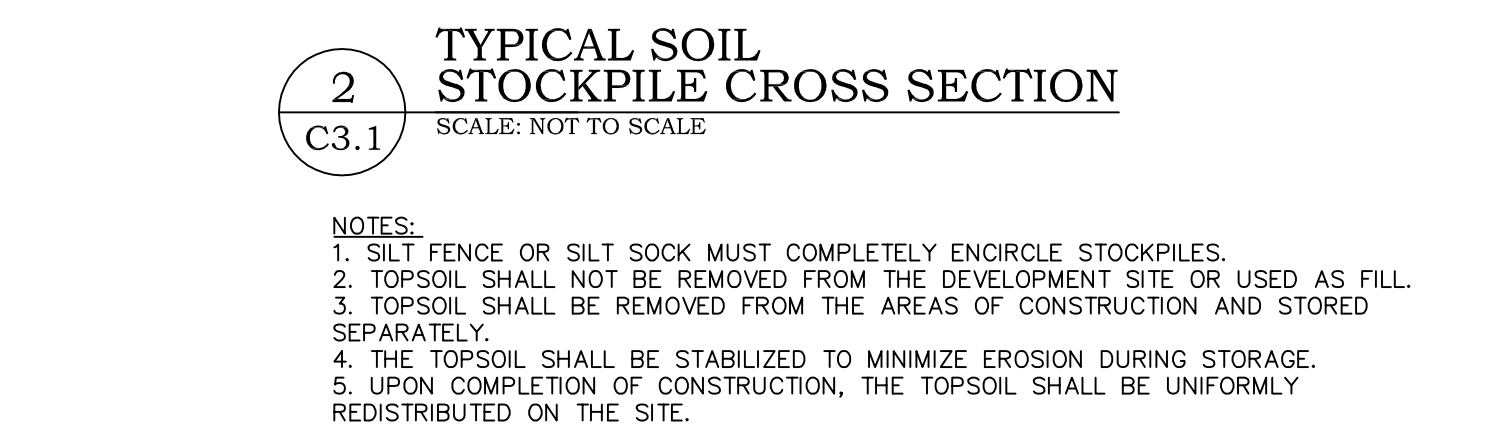
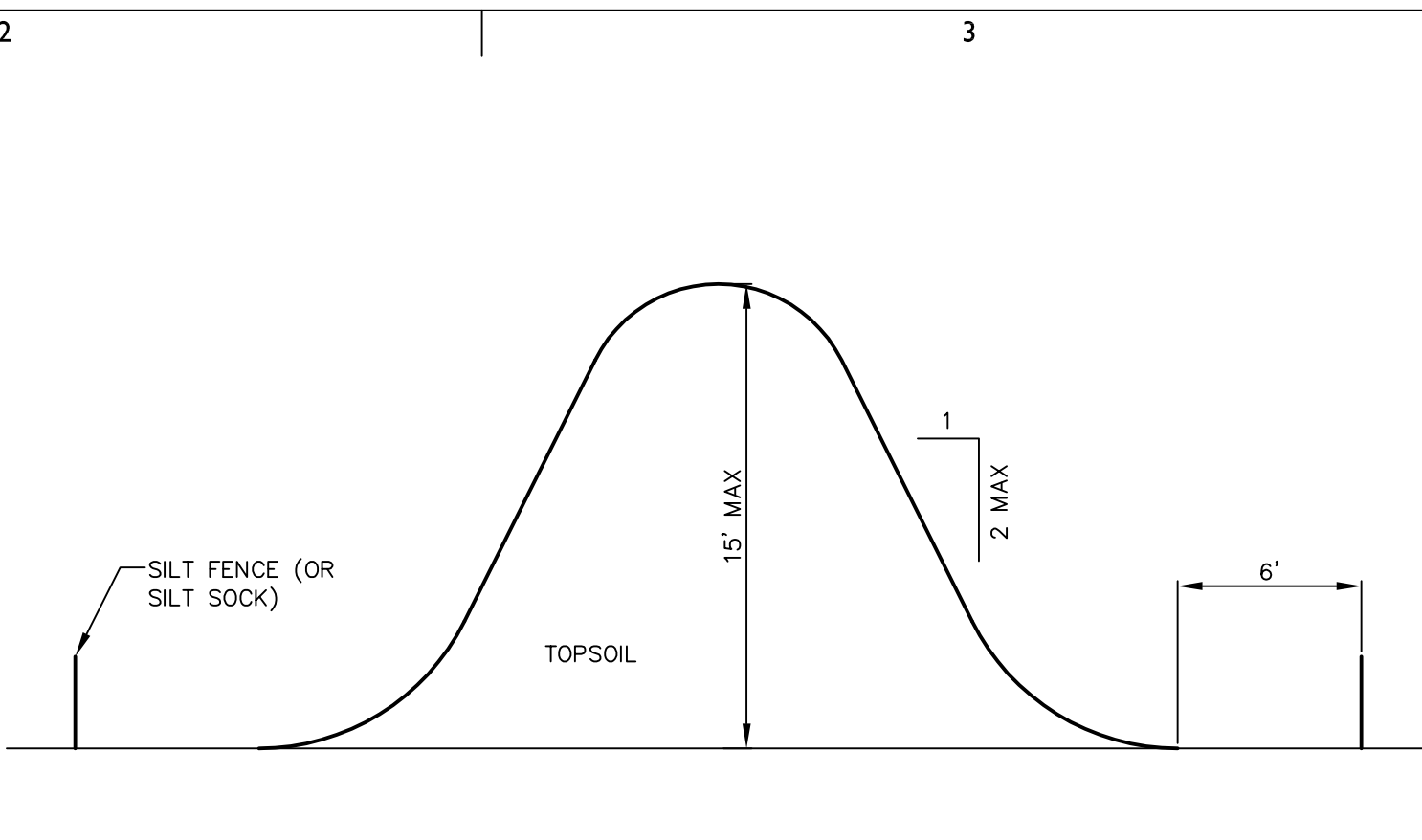
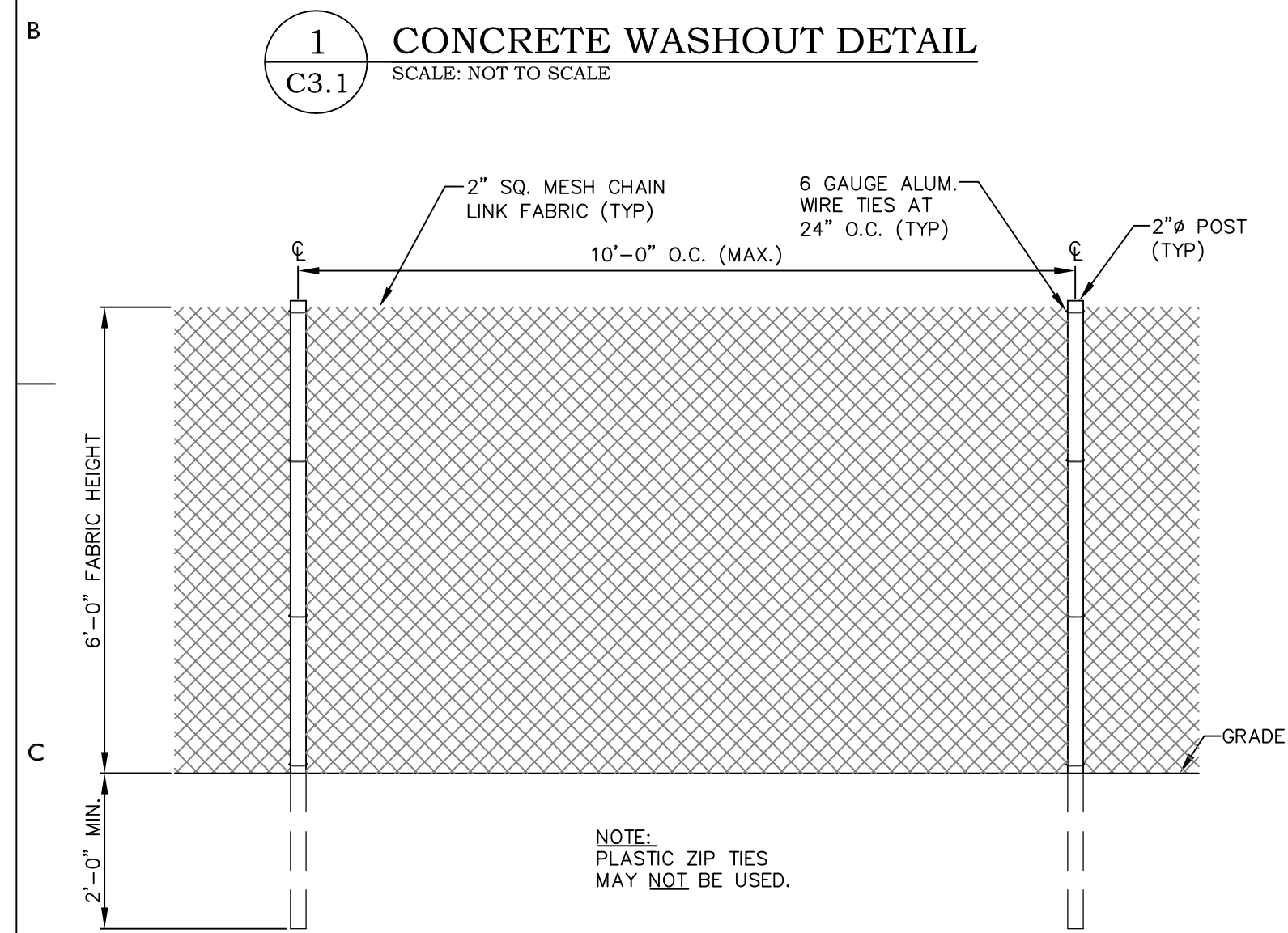
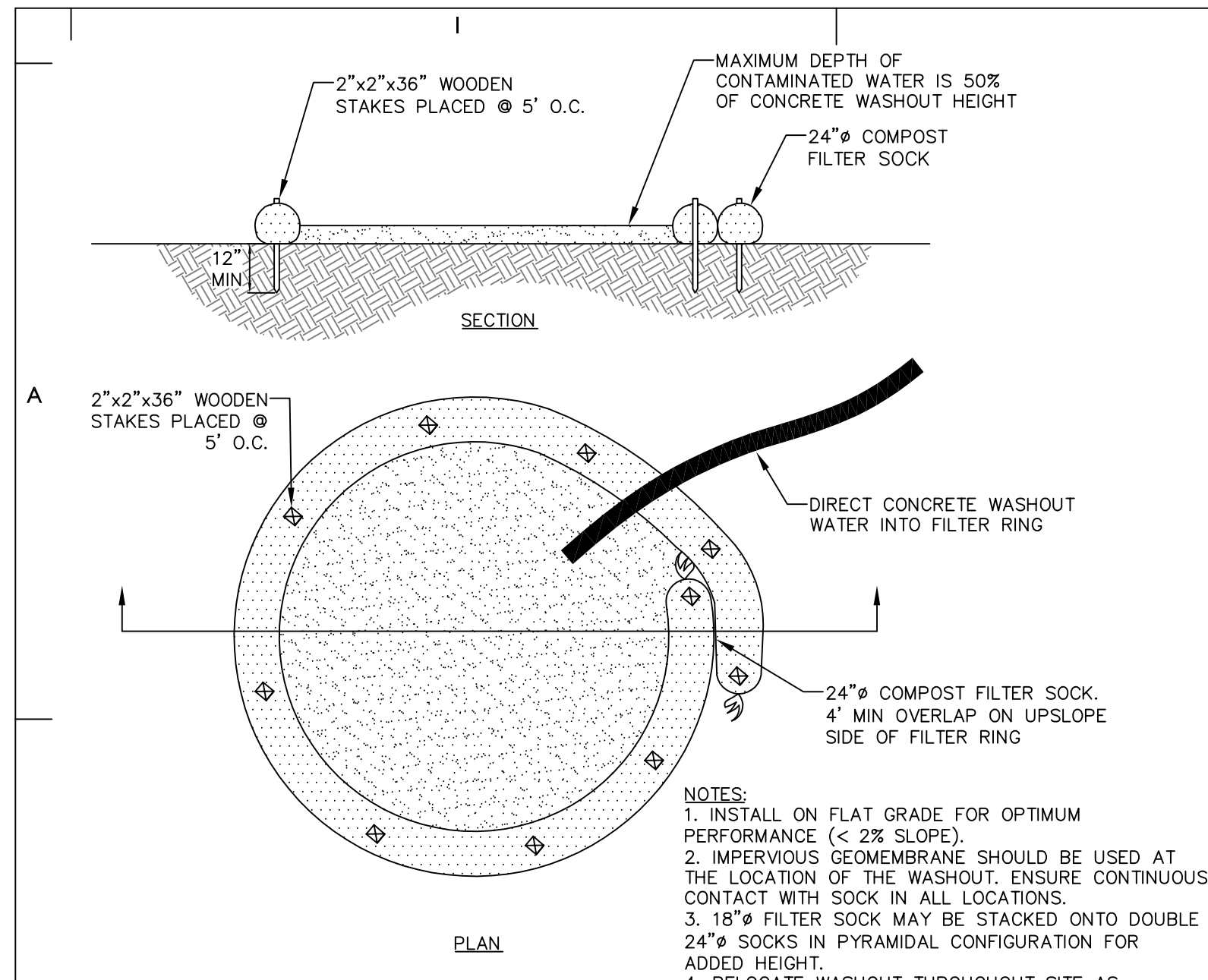
PROJECT:
Bartley Exchange Plaza + Entrance Plaza
Villanova University
Villanova, PA

SHEET TITLE:
SITE LIGHTING PLAN

PROJECT NO.: 479.00 / AEC PROJECT NO. 031.003

SCALE:	AS NOTED
DRAWN BY:	BJD
APPROVED:	KRM
DATE:	11/04/15
DRAWING NO.:	C2.3

SHEET 8 OF 13



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REVISIONS:	DESCRIPTION:	BY:	DATE:
No. 1	PRELIM/FINAL SUB.	AEC	11/04/15

CONSULTANTS:

MEP/Structural/Civil Engineers:
Associated Engineering Consultants Incorporated
4450 Downer Pike, Suite 113, Wayne, Pennsylvania 19381
Tel: 610.686.0806 Fax: 610.686.0808
www.aecinc.com

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www.cicadainc.com

PROJECT: **Bartley Exchange Plaza + Entrance Plaza**
Villanova University
Villanova, PA

SHEET TITLE: **SOIL EROSION CONTROL SECTIONS AND DETAILS**

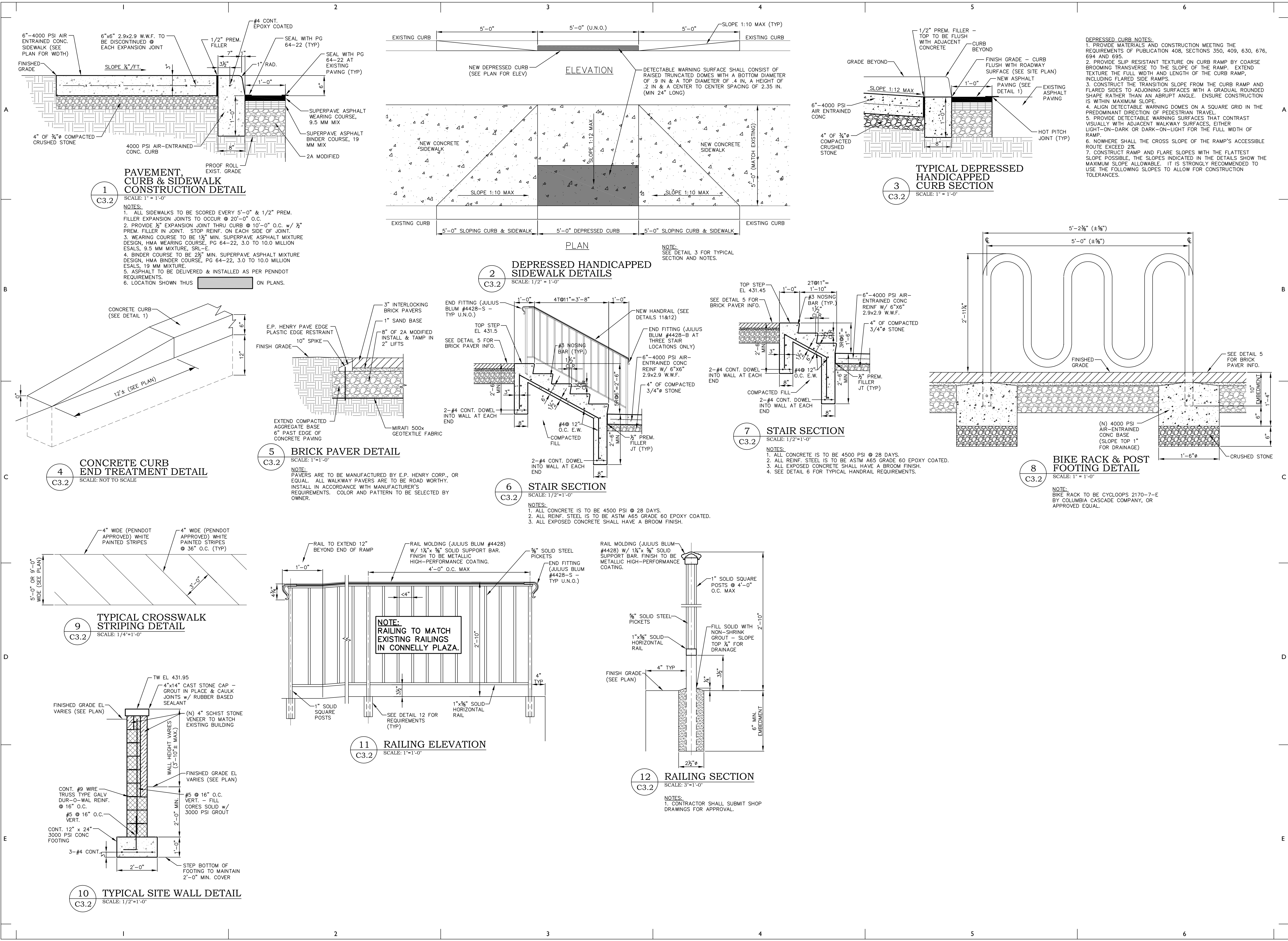
PROJECT NO. 479.000 / AEC PROJECT NO. 0031.003

SCALE: AS NOTED

DRAWN BY:	BJD
APPROVED:	KRM
DATE:	11/04/15
DRAWING NO.:	C3.1

C3.1
SHEET 10 OF 13

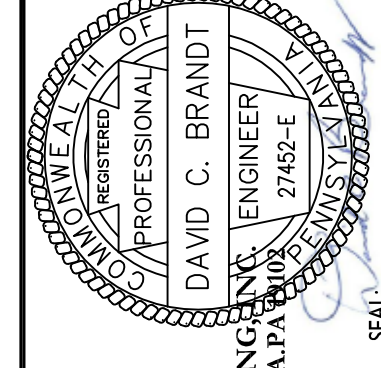
NOTE:
SEE C3.0 FOR EROSION & SEDIMENTATION CONTROL NOTES, CONSTRUCTION SEQUENCE AND PROJECT GENERAL NOTES.



ALL DIMENSIONS AND DET. CHECKED AND VERIFIED BY THE CONTRACTOR AT THE WORK SITE. VERIFY ALL DIMENSIONS WITH APPLICABLE CODES AND REGULATIONS OF GOV. JURISDICTION. CONSULTATION: © 2010 CIVIL ARCHITECTURE/PLANNING INC.

REVISIONS:	No.	DATE:	BY:	DESCRIPTION:
	1	11/04/15	AEC	PRELIM/FINAL SUB.

CONSULTANTS:
MEPCivil Engineers
Associated Engineering Consultants Incorporated
1400 Down Town Circle, Suite 113, Wayne Township, NJ 07092
Tel: 908.980.1000 Fax: 908.980.1001
www.aecinc.com



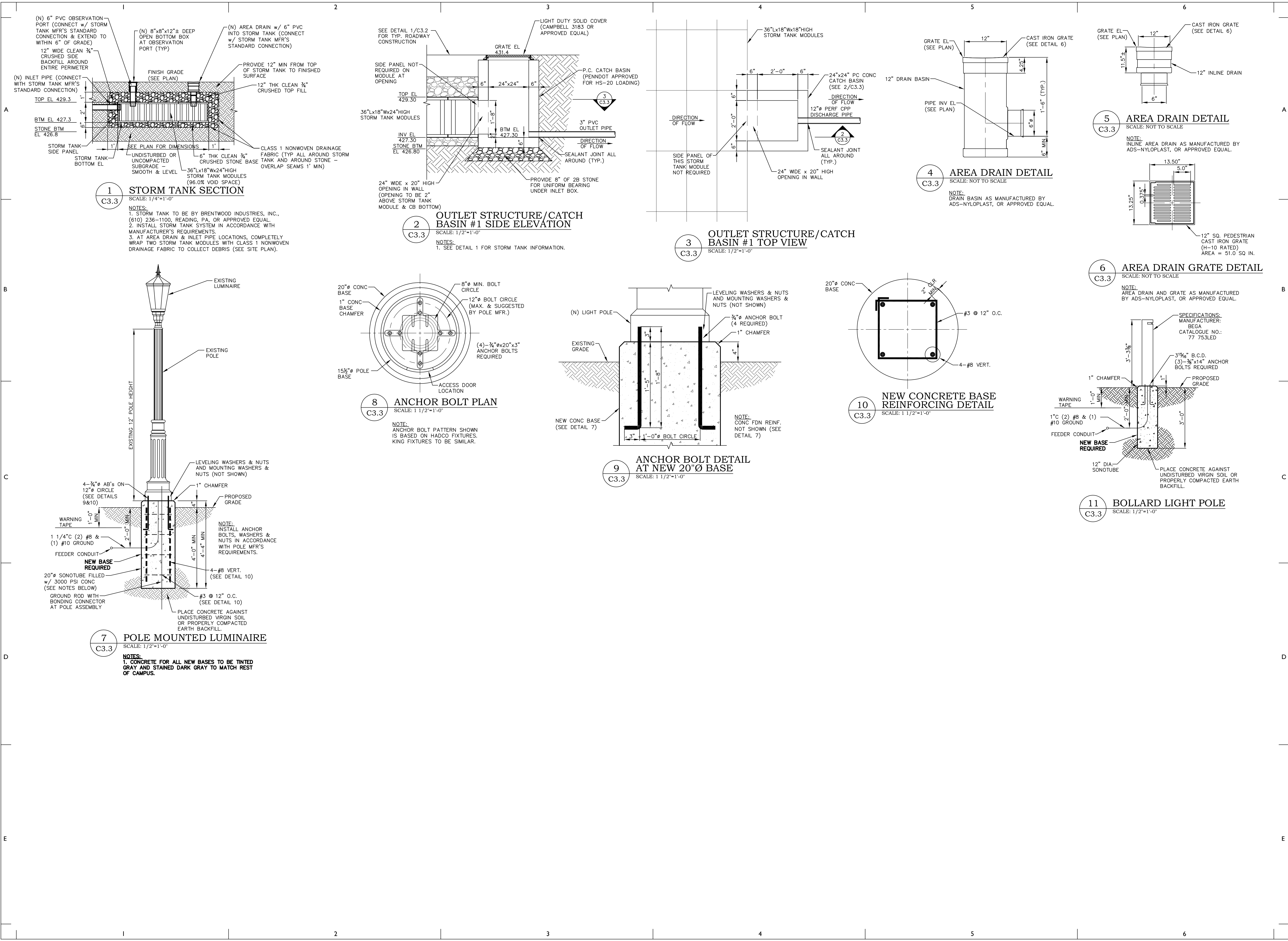
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ARCHITECTURE/PLANNING INC.
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Tel: 215.247.1430 Fax: 215.247.1435
www.cicadainc.com

Bartley Exchange Plaza + Entrance Plaza
Villanova University
Villanova, PA

SITE SECTIONS AND DETAILS

PROJECT NO. 479.000 / AEC PROJECT NO. 031.003

SCALE:	AS NOTED
DRAWN BY:	BJD
APPROVED:	KRM
DATE:	11/04/15
DRAWING No.:	C3.2
	SHEET 11 OF 13



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REVISIONS:	DESCRIPTION:
No.	DATE
1	11/04/15

BY: AEC

DATE: 11/04/15

PROJECT: SITE UTILITIES SECTIONS AND DETAILS

PROJECT NO. 479.00 / AEC PROJECT NO. 0031.003

SCALE: AS NOTED

DRAWN BY: BJD

APPROVED: KRM

DATE: 11/04/15

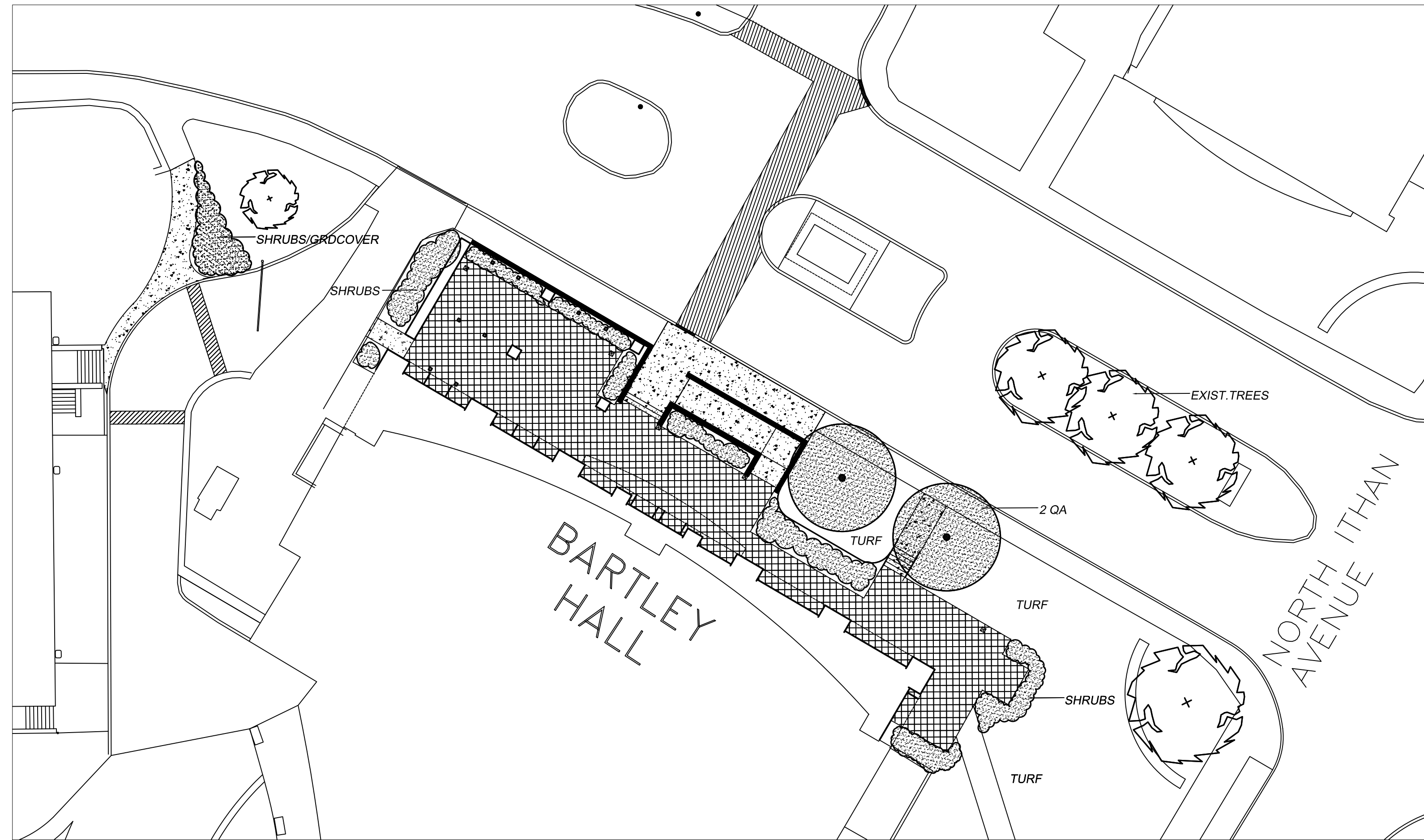
C3.3 SHEET 12 OF 13

CONSULTANTS: MEPS Structural/Civil Engineers

DAVID C. BRANDT
PROFESSIONAL ENGINEER
PHILADELPHIA, PA
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1520 LOCUST STREET, PHILADELPHIA, PA
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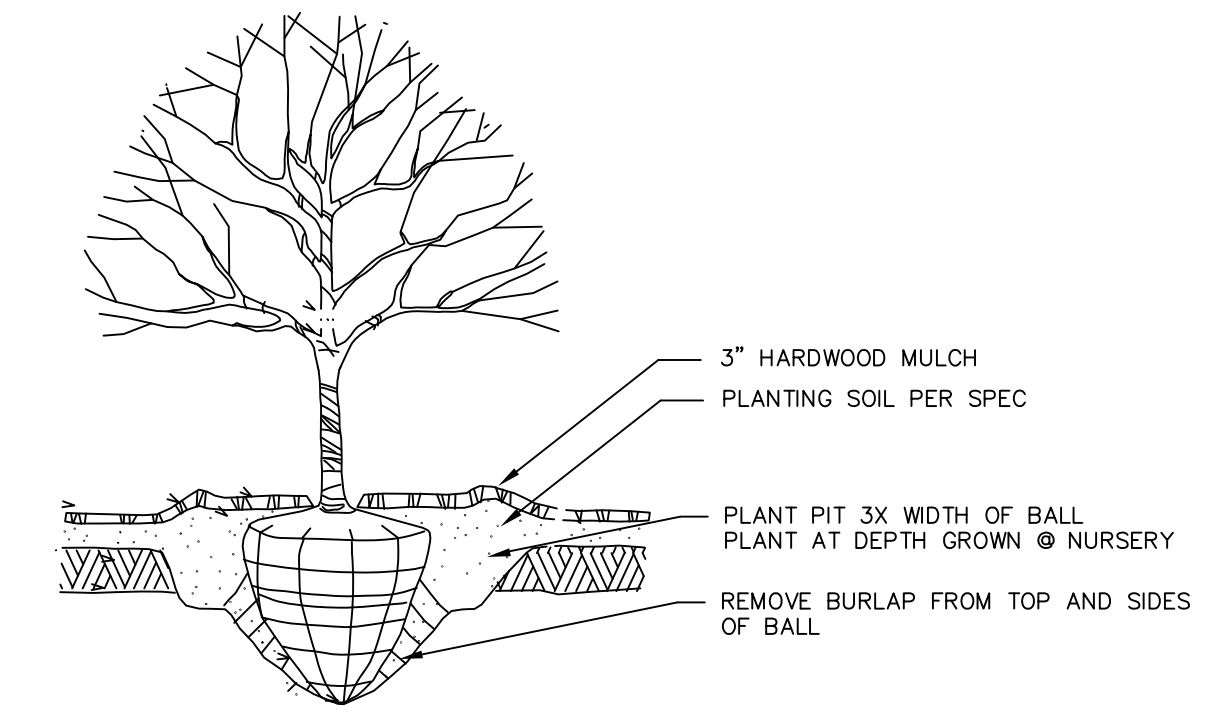
Bartley Exchange Plaza + Entrance Plaza
Villanova University
Villanova, PA



Tree Removals
6-23" cal 2 trees

Township Planting Requirements
TREE REPLACEMENT 2 TOTAL
1 tree/6-18" cal. tree removal (2)

Deciduous Canopy
Quercus acutissima Sawtooth Oak QA 2 1/2-3" cal. 2



TREE PLANTING DETAIL

Planting Soil

Soil for all on-grade planting shall be composed of three parts topsoil and one part processed compost or equal organic matter. It shall be mixed dry to a uniform texture without lumps and containing no stones, sticks, roots, or other foreign material. Fertilizer and other soil amendments shall be applied and incorporated, at amounts and rates determined by the topsoil analysis. Planting Soil shall have a pH range from 6 to 7, which will be confirmed by an analysis of the soil mix by an accredited soils laboratory, provided at the Contractor's cost. In all planting areas, planting soil shall be placed so that bed surface will be at finished grade when mixture has settled to normal compaction.

Topsoil stripped and stockpiled on the site may be used providing that it meets the requirements specified herein. The Contractor shall be responsible for removing from the stockpiled topsoil any of the deleterious admixtures as listed herein. Topsoil provided by the Contractor from off the site areas shall be obtained from naturally well drained areas and installed by the Contractor at no additions to the contract price.

Topsoil shall consist of natural friable loam soil capable of sustaining normal plant growth. It shall be of uniform quality, free from brush, weeds, hard clods, stiff clay, sods, stone, stumps, roots etc. larger than 1/2" in diameter, toxic substances and any material or substance harmful to plant growth or that would be a hindrance to planting and maintenance operations. Topsoil shall be without admixture of subsoil, refuse, or any foreign material.

Topsoil shall contain not less the 6% organic matter and not more than 10% organic matter determined by loss of ignition of moisture-free samples dried in accordance with the current method of the Association of Official Agricultural Chemists.

Plants

All plants shall be the kind and size indicated on the plant list and shall be true to name. Grading of all plants shall be in accordance with the code of standards as stated in the current issue of the American Standard for Nursery Stock published by the American Association of Nurseryman. All plants shall have been nursery grown with the same USDA hardiness zone as the project site. All plants shall be sound, healthy, vigorous nursery stock with a normal habit of growth, shall have been subjected to nursery root and top spraying, transplanting, etc., and shall have been inspected and approved for sale, transporting and transplanting by all governmental agencies authorized to administer such control. All plants shall be subject to inspection and approval by the Landscape Architect throughout the contract period. Plants shall be true to measurement specified except that plants larger than specified may be used if approved by the Landscape Architect and at no addition to the Contract Price. Substitutions of plants will not be permitted unless reviewed and approved by the Landscape Architect prior to commencement of the work.

Planting

Excavation of Plant Pits: All plant pit excavation shall be according to the following requirements:

1. Trees with a ball of earth less than four feet in diameter shall be planted in a pit three times as wide as the diameter of the root ball and equal to the depth of the ball. At the conclusion of planting, the root flare shall be visible at finished grade.
2. In no case shall the distance from the ball to the side of the pit be less than twelve inches. The minimum depth of pits for shrubs shall be equal to the depth of the container or rootball.

Burlap, plastic, twine and metal cages shall be removed prior to planting.

Trees shall be staked only in areas of steep slopes (>5:1), high wind, or as directed by Landscape Architect.

All planting areas shall be covered to a uniform loose depth of 3" with finely shredded hardwood bark mulch, unless otherwise indicated.

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REVISIONS:
No. DATE BY DESCRIPTION
1 11/04/15 MB PRELIMINAL SUB.

CONSULTANTS:
MECHANICAL/CIVIL ENGINEERS:
AEC ENGINEERS, LLC, Suite 117
1100 N. 10TH ST.
PHILADELPHIA, PA 19107
M. J. BARRY & CO. Landscape Architecture
700 N. 10TH ST., 10TH FLOOR
PHILADELPHIA, PA 19107
313.847.4333
mjbarrycorp.com

PROJECT: Bartley Exchange Expansion & Renovation
Villanova University
Villanova, PA

SHEET TITLE: Planting Plan
PROJECT NO.: 47930

SCALE: 1"=20'

DRAWN BY: mjb
APPROVED:
DATE: 11/04/2015
DRAWING NO. L1.1