# Planning Commission Radnor Township Wayne, Delaware County, Pennsylvania

Monday December 1, 2014 7:00 P.M.

# <u>Agenda</u>

# Minutes of the November 3, 2014 meeting

2014-D-09 (Preliminary-Final) Villanova University 800 E. Lancaster Ave.

Demolish existing Butler Annex Building of 9,600 sq. ft. and construct a new structure in same footprint with an addition of approximately 5,000 sq. ft.

**Public Participation** 

PLO Discussion: Steve Gabriel of Rettew Associates

Public Participaton

Next regular scheduled Planning Commission Tuesday, January 6, 2015

# Radnor Township Planning Commission Minutes of the Meeting of November 3, 2014 301 Iven Ave., Wayne, Pa

Chair Julia Hurle called the meeting to order at 7 PM with the following Commission members present: Kathy Bogosian, Steve Cooper, Skip Kunda, John Lord, Regina Majercak, Doug McCone, Elizabeth Springer, and Susan Stern. Attendance included: Roger Phillips, PE, Township Engineer; Amy Kaminski, PE, Township Traffic Engineer; John Rice, Esq., Stephen Norcini, PE, Director of Public Works and Township Planner Stephen Gabriel.

### Minutes of the October 6, 2014 meeting

Doug McCone requested that the discussion between Susan Stern and John Snyder regarding the heights of the trees in the buffer zone be added to the minutes. Susan Stern moved to approve as amended by Doug McCone. Seconded by John Lord, the motion passed.

# 2014-D-02 (Preliminary) BMR – 145 King of Prussia Road, LP (BioMed)

# Demolition of existing office/research buildings and redevelopment of property with proposed office buildings and associated parking

The applicant's plan is to transform the site into an economic generator like it used to be many years ago. King of Prussia Road will be widened to four (4) lanes in the area of the buildings to comply with the SALDO. The 27 acre site was built out to comply with the Township's PLO zoning requirements. 1,801 parking spaces are required and they are supplying 1,914 on both surface and sub-surface parking.

A traffic signal is proposed at the most southern intersection closest to Lancaster Avenue. There was concern about the required off-sets for buildings at the proposed lengths. The underground parking will be supplied with the next submission. A question was posed as to whether or not there were enough entrances and exits to the underground parking considering the number of vehicles that could be there at any given time with special emphasis on emergency vehicle access.

Roger Phillips and Steve Gabriel read through their comments as presented.

Amy Kaminski is not in agreement with the proposed signal location and would prefer to see the signal located at Raider Road. The 15% transit deduction the applicant took is too high. The traffic study was comparing what 'was' or what 'would have been' had the existing building been used at full capacity. Since the building usage has been seriously depleted in recent years, it was noted that a full capacity site will generate more traffic that what the public is presently used to.

The subject of sidewalks and pedestrian connectivity was a matter of subject from both Amy Kaminski and Steve Gabriel.

### Public comment -

George Broseman on behalf of Brandywine Realty Trust questioned the building lengths vs off-sets and the number of buildings on the sites. The plans for the parking garages have not been submitted and questioned if the party walls that are proposed to separate the buildings also apply to the garage space.

Due to some un-answered questions, it is possible that this plan is not in fact a by-right plan. He also disagrees with the parking calculations.

Susan Stern questioned the total number of buildings on the site and the statement that underground parking structures are supposed to take the place of eliminating surface parking.

Julia Hurle feels the buildings are too large and not the correct structures for the gateway into Radnor. Traffic circulation looks too congested. She also feels there are too many issues with this plan and traffic report as submitted to consider this plan at this time.

Kathy Bogosian moved to recommend denial of the application based on the discussion tonight and the comments raised. Seconded by John Lord, the motion passed.

# 2014-D-11 (Preliminary) 115 Strafford Avenue, LLC

Consolidate two lots and convert an existing nonconforming commercial building back to a single family detached dwelling, construct two new single family detached dwellings and construct four single-family semidetached homes at 120/124 Bloomingdale Avenue, Wayne, Pa

The applicant and this plan has already appeared before the HARB (Historical Architectural Review Board) and the BoC with their plans and proposals for the site. Original drawings showed nine residences. They've reduced it down to seven. An access route for emergency purposes has been shown as requested. Overflow parking has also been added per the positive comments. The plans were detailed and the stormwater management system that would be installed on the site will reduce run-off by 68%.

Susan Stern questioned the construction of a small residential community with numerous residences consisting of different types on one lot.

Roger Phillips and Steve Gabriel read through their comments as presented.

Public comment -

Greg Pritchard mentioned that 124 Bloomingdale Ave. is an historical issue and HARB will be considering this.

Eileen Ware of Bloomingdale Ave. lives across the street and feels the residential character should be retained. She endorses the overall project.

Drew Saunders from Newman Saunders Gallery supports the project. This development would bring the family structure back to the area. He also read several neighbor's letters supporting the development.

Ken Brown, Mrs. Ware's realtor, feels this development will entice more residential development to this area.

Baron Gemmer, the next door neighbor, stated that brining residential back into the area is good. The heights of the buildings weren't shown. The parking spaces are not drawn to code. Steep slopes need to be indicated and removed out of the building area and shouldn't be disturbed. He feels this will remove much of the build out area out of the equation and feels the plans need to be redrawn to comply with code.

Kathy Bogosian likes the plan; however, she has issues with impervious cover numbers. Julia Hurle likes the plan, but they're trying to put too much onto it. She also has questions on the steep slope issues. The loop road should continue through for safety sake as per staff's suggestion. John Rice stated that the plan has to go back to square one if there are steep slopes involved. Steve Cooper likes the layout of the plan but there are issues. Skip Kunda would like to remove one unit to solve impervious issue.

Susan Stern moved to recommend denial based on the zoning issues raised. Seconded by Skip Kunda, the motion passed.

2014-S-05 (Final)
Minor Subdivision
Boy Scouts of America / Ardrossan Farms
2.2 Acre Subdivision

## Subdivide a 2.2 acre parcel for the Boy Scouts of America

The paperwork for this application has not yet been officially submitted to the Township. The Boy Scouts are presently in discussion with the Township and the neighbors of Lawrence Lane regarding this site. Use of this site pre-dates any zoning. Deed restricting or use restricting of the site for the Scouts is their goal. They've been leasing the site since the 1960's, now they want to be the owners. The site will continue only as a Boy Scout use. The old school building is where they have their meetings, etc. The proposed 2.2 acre parcel will extend along Darby Paoli Road towards the steel barn pulling the scouting facilities away from Lawrence Lane.

John Rice explained that the Lawrence Lane neighbors are concerned with the parents dropping off and picking up the scouts on their street as well as parking of vehicles in the area. A new walking trail is proposed along the front of the Wheeler Tract. The Township will be going forward before the end of the year for their portion of the subdivision of the Ardrossan site. Any discussion regarding the Scouts area will be dealt with after this has occurred.

Steve Norcini distributed a plan to the members which showed several parking spaces for the Wheeler Tract for both the Boy Scouts and residents utilizing the trail, etc.

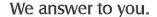
As discussion moves forward, a plan will be submitted for formal subdivision application.

#### Nominating Committee

John Lord and Susan Stern will be the Nominating Committee for the 2015 officers.

Respectfully submitted,

Suzan Jones





3020 Columbia Avenue, Lancaster, PA 17603 • Phone: (717) 394-3721

E-mail: rettew@rettew.com • Web site: rettew.com

Engineers

Planners

Surveyors

Landscape Architects

Environmental Consultants

November 12, 2014

Mr. Stephen F. Norcini, PE Public Works Director Radnor Township 301 Iven Avenue Wayne, PA 19087-5297

RE:

Villanova University

Proposed West End Zone Building – 800 Lancaster Avenue

Preliminary/Final Land Development Submission

Review No. 1

RETTEW Project No. 101442007

#### Dear Steve:

We have completed our review of the above referenced plan as prepared by Associated Engineering Consultants, Inc. Our review was of the following information received on October 31, 2014:

1. Thirteen (13) plan sheets dated October 29, 2014.

#### **Project Overview:**

Applicant:

Villanova University

Requested Action/Use:

Preliminary/Final Land Development Submission

Zoning District:

PI – Planned Institutional

Location and Size:

The plan proposes to demolish the existing 9,600 square foot Butler Annex Building and build a new structure in the exact same footprint as well as construct a 5,000 square foot addition on the east side of the existing Jake Nevin Fieldhouse, adjacent to the

Villanova Stadium.

**Existing Use:** 

Athletic facility (indoor gym)

Proposed Use:

New athletic performance center and facility, including, but not

limited to, a varsity athlete weight room, academic support

areas, and team locker rooms.

Parcel #:

36-04-02400-10



Page 2 of 3 Radnor Township November 12, 2014 RETTEW Project No. 101442007

Preliminary/Final Land Development Submission for Proposed West End Zone Building – 800 Lancaster Avenue

The plan proposes to demolish the existing 9,600 square foot Butler Annex Building and build a new structure in the exact same footprint as well as construct a 5,000 square foot addition on the east side of the existing Jake Nevin Fieldhouse, adjacent to the Villanova Stadium. The entire complex will contain a new athletic performance center and facility, including, but not limited to, a varsity athlete weight room, academic support areas, and team locker rooms.

We have performed a general compliance review of the Radnor Township Comprehensive Land Use Plan pertinent to this plan, as well as a general land use consistency review of this plan. We have the following comments for your consideration:

#### TOWNSHIP COMPREHENSIVE PLAN CONSISTENCY REVIEW

- 1. Section 8 Institutional Use mentions that one of the Recommended Actions of the Comprehensive Plan update is to "...limit expansion of institutional uses to areas within the present limits of campus areas which are zoned as Institutional Districts." (8-5) The proposed project will take place entirely within the PI Planned Institutional Zoning District, and an existing building footprint. The proposed use is consistent with the immediate surrounding area which includes the Jake Nevin Fieldhouse, the Pavilion, and the Villanova Stadium.
- 2. The proposed project features an underground detention basin for roof drain collection. This is consistent with the stormwater policy as laid out in Section 10 Existing Land Use and Land Use Plan of the Radnor Township Comprehensive Plan Update. The plan states the intent to design Business District elements "with subsurface stormwater infiltration systems, 'feeding' the new landscaping and overflowing into the groundwater." (10-22).

#### **GENERAL PLANNING REVIEW**

- 1. The applicant is requesting a waiver from § 255-20.B(5) of the SALDO requiring transportation impact studies for institutional developments. The applicant states that neither the student nor staff populations will increase as a result of this project. Upon review, the plan does not indicate an increase in parking spaces or change in existing traffic patterns, and the new building is intended to serve existing students, faculty, and staff.
- 2. Existing sheds and a trailer that currently sit in front of the Lancaster Avenue side of the existing Butler Annex are proposed to be removed. This will contribute to an improved streetscape along Lancaster Avenue in the project area.

Should you have any questions or require any additional information, please do not hesitate to contact us at any time.

Sincerely,

Stephen R. Gabriel, PP

**Township Planning Consultant** 



Page 3 of 3
Radnor Township
November 12, 2014
RETTEW Project No. 101442007
Preliminary/Final Land Development Submission for Proposed West End Zone Building – 800 Lancaster Avenue

copy: Suzan Jones (sjones@radnor.org)

Jennifer DeStefano (<u>idestefano@radnor.org)</u> Roger Phillips, PE (<u>rphillips@gfnet.com</u>)

Amy Kaminski, PE (akaminski@gilmore-assoc.com)

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### Excellence Delivered As Promised

Date: November 20, 2014

To: Radnor Township Planning Commission

From: Roger Phillips, PE

cc: Stephen Norcini, P.E. - Director of Public Works

Kevin W. Kochanski, RLA, CZO - Director of Community Development

Peter Nelson, Esq. – Grim, Biehn, and Thatcher Amy B. Kaminski, P.E. – Gilmore & Associates, Inc.

Suzan Jones - Radnor Township Engineering Department

William Miller – Radnor Township Codes Official Ray Daly – Radnor Township Codes Official

Steve Gabriel - Rettew

RE: Villanova University - Proposed West End Zone Building

Villanova University - Applicant

Date Accepted:

November 3, 2014

90 Day Review:

February 1, 2015

Gannett Fleming, Inc. has completed a review of the Villanova University – Proposed West End Zone Building Preliminary Plans for compliance with the Radnor Township Code. This Plan was reviewed for conformance with Zoning, Subdivision and Land Development, Stormwater Management, and other applicable codes of the Township of Radnor.

The applicant is proposing to change the existing building footprint of the Butler Annex. The existing building area of 10,773 SF is to be removed and replaced with a new building area of 16,072 SF. The total impervious coverage will increase by 5,339 SF. This project is located in the PI district of the Township.

The applicant has indicated that the following waivers will be requested from the Subdivision and Land Development Code:

 §255-20.B(5)— The applicant requests that the requirement to provide a transportation impact study be waived since neither the student or staff populations will increase as a result of this project.

It appears that the applicant is requesting consideration as a Preliminary/Final submission. Therefore, a waiver of §255-12 and §255-14 must be requested for consideration of approval in a single submission.



#### **Gannett Fleming**

Plans Prepared By:

Associated Engineering Consultants Incorporated

Dated:

10/29/2014

### I. Zoning

- 1. §280-69.D No building or permanent structure, other than a guardhouse or facility which provides controlled access to a property, shall be located less than 120 feet from the street right-of-way line. The existing building setback is 99 feet and the proposed building setback is 99 feet. This is an existing nonconformity that the applicant intends to continue.
- 2. §280-103 The applicant shall provide confirmation that sufficient parking exists to provide for the net increase of building area in conformance with this section.

# II. <u>Subdivision and Land Development</u>

- 1. §255-43.1.B(2) For all nonresidential subdivision and/or land developments, the amount of land to be dedicated for park and recreation area shall be 2,500 square feet per 4,000 square feet of building area.
- 2. §255-43.1.E(2) The fee for nonresidential subdivisions or land developments shall be \$3,307 per 4,000 square feet of building area. Since the additional square footage of building area is 5,339 square feet, the fee is lieu of would be \$4,414.

### III. Stormwater

- 1. The Applicant must demonstrate with calculations and/or supporting documentation that the existing stormwater management facilities (Basin "A" and Basin "B") are capable of managing the area of redevelopment occurring within those drainage areas with respect to the rate control and volume requirements of the current Ordinance. Only the area of redevelopment is subject to the current Ordinance and not the entire drainage area.
- 2. The Drainage and Impervious Area Ratios to Infiltration Area requirements set forth from PA BMP Manual (Dec. 2006) is not met. Maximum ratio of drainage area to infiltration area is 8:1 and maximum ratio of impervious area to infiltration area is 5:1.
- 3. Infiltration tests have not been completed or submitted at this time. Percolation tests must be provided to indicate that the stormwater facility will be able to drain within 96 hours. Final design and sizing of the stormwater facility should be based on the results of the percolation tests.

#### **Gannett Fleming**

4. A general note shall be added to the plans indicating that a grading plan and erosion sediment and control plans will be **submitted and approved** prior to issuing any building permits. Any revisions to the size or location of the individual structures or other features will be addressed at that time, and a final approval of the stormwater management plan will be required as part of the Grading Permit process.

## IV. General

- The applicant is proposing to remove the existing sanitary sewer and replace it under the proposed building. Details must be provided on how the sanitary sewer will be constructed under the proposed building. A profile view of the proposed sanitary sewer must also be provided.
- 2. The proposed sanitary sewer appears to be located 4 feet from the proposed gas line. This must be revised to provide 10 feet of horizontal separation.

Should the Planning Commission consider recommending approval of this project, we suggest that the recommendation be conditioned on requiring the applicant to satisfactorily address the above comments.

If you have any questions or require any additional information, please contact me.

Very truly yours,

GANNETT FLEMING, INC.

Roger A. Phillips, P.E. Senior Project Manager



#### MEMORANDUM

Date:

November 12, 2014

To:

Steve Norcini, P.E.

From:

Amy Kaminski, P.E., PTOE.

Department Manager of Transportation

Gilmore & Associates, Inc.

cc:

Roger Phillips, P.E., Gannett Fleming, Inc.

Steve Gabriel, P.P, Rettew

Damon Drummond, P.E., PTOE

Reference:

VU Butler Annex- 800 Lancaster Avenue

Radnor Township, Delaware County

Preliminary/Final Land Development Plan Review - Transportation

**Project No.:** 14-08006

Pursuant to your request, Gilmore & Associates, Inc. has reviewed the above-referenced project for Preliminary/Final Land Development Plan Approval and offers the following comments for consideration:

#### I. SUBMISSION

- A. Villanova University Proposed West End Zone Building, Preliminary/Final Land Development Plan, 13 sheets, dated October 29, 2014; prepared for Villanova University, prepared by Associated Engineering Consultants Inc.
- B. Villanova University West End Zone Building Stormwater Management Report, dated October 29, 2014, prepared by Associated Engineering Consultants Inc., prepared for Villanova University

#### II. PROJECT DESCRIPTION

The applicant intends to demolish the existing 9,600 s.f. Butler Annex Building and construct an addition on the eastside of the existing Jake Nevin Fieldhouse, adjacent to the Villanova Stadium. The proposed redevelopment will be approximately 5,000 s.f. and will be utilized as a varsity athlete weight room, team locker rooms, academic support areas, and space for coaches and staff to meet with athletes.

#### III. WAIVERS REQUESTED

§255.20.B(5)(c)[1][e]: The applicant is requesting a waiver from providing a transportation impact study required of all institutional developments; there is no net increase in student or

staff population as a result of this project.

# IV. REVIEW COMMENTS

We have no comments regarding this project.



October 23, 2014

Villanova University 800 Lancaster Avenue Villanova, PA 19085

Re:

Planning Waiver

West End Zone Building Addition DEP Code No. 1-09917-619-X Buckingham Township Delaware County

#### Ladies and Gentlemen:

This letter is in reference to your application for Sewage Facilities Planning Modules for the expansion of the locker room and training facility at the West End Zone athletic building. The project is located on the northeast corner of the intersection of Lancaster and North Ithan Avenues in Radnor Township, Delaware County.

This project does not meet the definition of a subdivision under the Pennsylvania Sewage Facilities Act. Therefore, no planning modules are required to be submitted to the Department of Environmental Protection (DEP).

If you have any questions or concerns, please contact Ms. Stefanie Rittenhouse at 484.250.5186.

Sincerely

Keith Dudley, P.E.

Environmental Engineer Manager

Municipal Planning and Finance Section

Clean Water

cc:

Delaware County Planning Department

Delaware County Conservation District

Mr. Zienkowski - Radnor Township

RHM

Mr. Fulton - Springfield Township

Upper Darby Township

**DCJA** 

**DELCORA** 

Mr. Ponert - City of Philadelphia Water Department

Planning Section

Re 30 (GJE14CLW)296-5

ELAINE P. SCHAEFER
President

JAMES C. HIGGINS Vice-President

WILLIAM A. SPINGLER

DONALD E. CURLEY

**JOHN FISHER** 

JOHN NAGLE

RICHARD F. BOOKER



RADNOR TOWNSHIP 301 IVEN AVENUE WAYNE, PENNSYLVANIA 19087-5297

> Phone (610) 688-5600 Fax (610) 971-0450 www.radnor.com

ROBERT A. ZIENKOWSKI

Township Manager Township Secretary

JOHN B. RICE, ESQ. Solicitor

JOHN E. OSBORNE Treasurer

November 4, 2014

Steven Hildebrand Villanova University 800 Lancaster Avenue Villanova, PA 19085

RE: Land Development Application #2014-D-09 Preliminary/Final Plan

Submission

West End Zone Building - Villanova University

Dear Mr. Hildebrand:

In accordance with Section 255-18 of the Subdivision of Land Code of the Township of Radnor, we have reviewed your preliminary/final plan application to application to demolish and construct the West End Zone Building at the abovementioned location, and have found it complete. Therefore, I have accepted the application for preliminary plan for review by the Township Staff, Shade Tree Commission, Planning Commission, and Board of Commissioners.

These plans are available for public viewing in the Engineering Department. These plans will be reviewed by the Planning Commission at their meeting on Monday, December 1, 2014. Subsequent to the Planning Commission meeting, your plan will be reviewed by the Board of Commissioners. You or your representative should plan to attend all scheduled meetings.

If the Planning Commission takes action, your plan will then be reviewed by the Board of Commissioners at a future meeting. These dates will be provided to you once it is placed on the agenda.

Sincerely,

Roger Phillips, P.E. Township Engineer

Cc: Associated Engineering Consultants, Inc.



Associated

#### Consultants Incorporated

485 Devon Park Drive Suite 113 Wayne Pennsylvania 19087 tel 610 688 3980 fax 610 688 4566

# **TRANSMITTAL**

To:

Sue Jones

From:

**Brenden Dorley** 

Company:

Radnor Township

Date:

10/30/14

Address:

301 Iven Avenue

Project Name:

VU - West End Zone Bldg

City, State, Zip:

Wayne, PA 19087

**Project Number:** 

0300.014

Phone:

610-688-5600

Re:

Prelim./Final Plan Submission

	For	Vour	Raviow	2.	Comment
ш	ı oı	i Out	ITCAICA	a	Comment

☐ For Your Information & Record

☐ For Your Use

☐ As Requested

If enclosures are not as noted, please notify us at once.

Quantity	Date	Description
25	10/29/14	Complete Sets of Site Plans (C0.0, C0.1, C0.2, C1.1, C1.2, C1.3, C2.1, C2.2, C3.0, C3.1, C3.2, C3.3, C3.4)
15	10/29/14	Complete Sets of Site Plans (11x17)
1	100 PT 10	Prelim./Final Plan Application
1		\$1,550 Application Fee
1		\$10,000 Escrow Fee
1		DCPC Application
1		\$1,375 DCPC Application Fee
2	10/29/14	Stormwater Management Calculations
1		CD with PDF's of all submission items
38	-	
	3,000,000	

Comments:

CC:

Jim Matthews - VU

Fire Protection

# RADNOR TOWNSHIP 301 IVEN AVE WAYNE PA 19087 P) 610 688-5600 F) 610 971-0450 WWW.RADNOR.COM

# SUBDIVISION ~ LAND DEVELOPMENT

Location of Property 800 Lancaster Avenue, Villano	va
Zoning District Pl App.	lication No
Zonnig District App.	lication No(Twp. Use)
	(1 wp. Obo)
Fee \$1,550 Ward No. 7-1 Is pr	operty in HARB District No
Applicant: (Choose one) Owner	Equitable Owner X
Name Villanova University	- view
Address 800 Lancaster Avenue, Villanova, PA 19	085
Telephone (610) 519-4589 Fax (610) 519	0-6903 Cell (610) 348-5349
Email steven.hildebrand@villanova.edu	a B
Designer: (Choose one) Engineer X	Surveyor
Name Associated Engineering Consultants, Inc.	
Address 485 Devon Park Drive, Suite 113, Wayne	, PA 19087
Telephone (610) 688-3980 Fax (610)	0) 688-4566
Email_kmcmanuels@aeceng.net	
Area of property 225 acres Area of dist	urbance 0.7 acres
Number of proposed buildings 1 Proposed us	e of property <u>Institutional</u>
Number of proposed lots0	
Plan Status: Sketch Plan Preliminary X Fin Are there any requirements of Chapter 255 (SALDO) that	nal X Revised If are not in compliance with?

Are there any requirements of Chapter 255 (SALDO) not being adhered to?  Explain the reason for noncompliance.  No.
Are there any infringements of Chapter 280 (Zoning), and if so what and why?  No.
Individual/Corporation/Partnership Name Villanova University
I do hereby certify that I am the owner, equitable owner or authorized representative of the property which is the subject of this application.
Signature
Print Name Steven Attachrand
Director of Engineering a Construction
By filing this application, you are hereby granting permission to Township officials to visit the site for review purposes.

All requirements of Chapter 255 (Subdivision of Lane) of the Code of the Township of Radnor must be complied with whether or not indicated in this

NOTE:

application.

# **DELAWARE COUNTY PLANNING COMMISSION**

# **APPLICATION FOR ACT 247 REVIEW**

Incomplete applications will be returned and will not be considered "received" until all required information is provided.

Please type or print legibly

Name Villanova Universit	у	E-mail steven	.hildebrand@villanova.edu	
		74	2	
Address 800 Lancaster	Avenue, Villanova	, PA 19085	Phone (610) 519	9-4589
		2	-	
Name of Development_	West End Zone Buildin	ng	546	*
Municipality Radnor Tow	nship	VI		
			80	
ARCHITECT, ENGIN	EER, OR SURV	EYOR	5	*
Name of Firm Associate	ed Engineering Con	sultants, Inc. Phon	e (610) 688-3980	
			3	
Address 485 Devon Pa	ırk Drive, Suite 11	3, Wayne, PA 19087	=	2
		9		*
Contact Karen McManuel	s	E-mail kmcr	nanuels@aeceng.net	
= 0		Utilities		
Type of Review	Plan Status	Existing	Proposed	Environmental
Zoning Change	Sketch	☑ Public Sewerage	☑ Public Sewerage	Characteristics
✓ Land Development	✓ Preliminary	Private Sewerage	☐ Private Sewerage	☐ Wetlands
☐ Subdivision		☑ Public Water	☑ Public Water	☐ Floodplain
☐ PRD	☐ Tentative	Private Water	☐ Private Water	☐ Steep Slopes
2				
Zoning District PI - Plan	ned Institutional	Ta	ax Map # 36 / 24 / 033	
		Tr.	ev Folio # 36 / 04 / 02400	/ 10

WRITING "SEE ATTACHED PL Existing and/or Proposed Use of S				
The proposed West End Zone Building w	-	for Villanova University's athletics n	rograms	100 No.
Neither the student nor staff populations			rograms.	<del></del> ,
Neither the student not stail populations	will increase as a resu	it of this project.		· ·
3 H			9 A	
Total Site Area	225	Acres		ê
Size of All Existing Buildings	1,274,565	Square Feet		
Size of All Proposed Buildings	16,072	Square Feet		
Size of Buildings to be Demolishe	d10,733	Square Veet		
Steven Hildebrand				
Print Developer's Name	/	Developer's Signature		
2 <sub>10</sub> N 2				
MINICIDAY CECTION	: 1	£	8	
MUNICIPAL SECTION ALL APPLICATIONS AND THE	EIR CONTENT AI	RE A MUNICIPAL RESPON	SIBILITY.	
Local Planning Commission	Regular Meeting	12/1/14		ä
Local Governing Body	Regular Meeting			a स
Municipal request for DCPD staff	comments prior to	DCPC meeting, to meet mur	nicipal meeting date:	
Actual Date Needed		·		
IMPORTANT: If previously subn	nitted, show assign	ed DCPD File #34-1522	L-77-83-90-C	72-93-94-96
(Munsling Small	- Propert	Dillos 97-98	3-99-00-01-	02-06
Print Name and Title of Designate	d Municipal Offic	ial F	Phone Number	
Official's Signature		N-U-Date	-14	
FOR DCPD USE ONLY				
Review Fee: Check	200	Amount \$ T	Date Received	

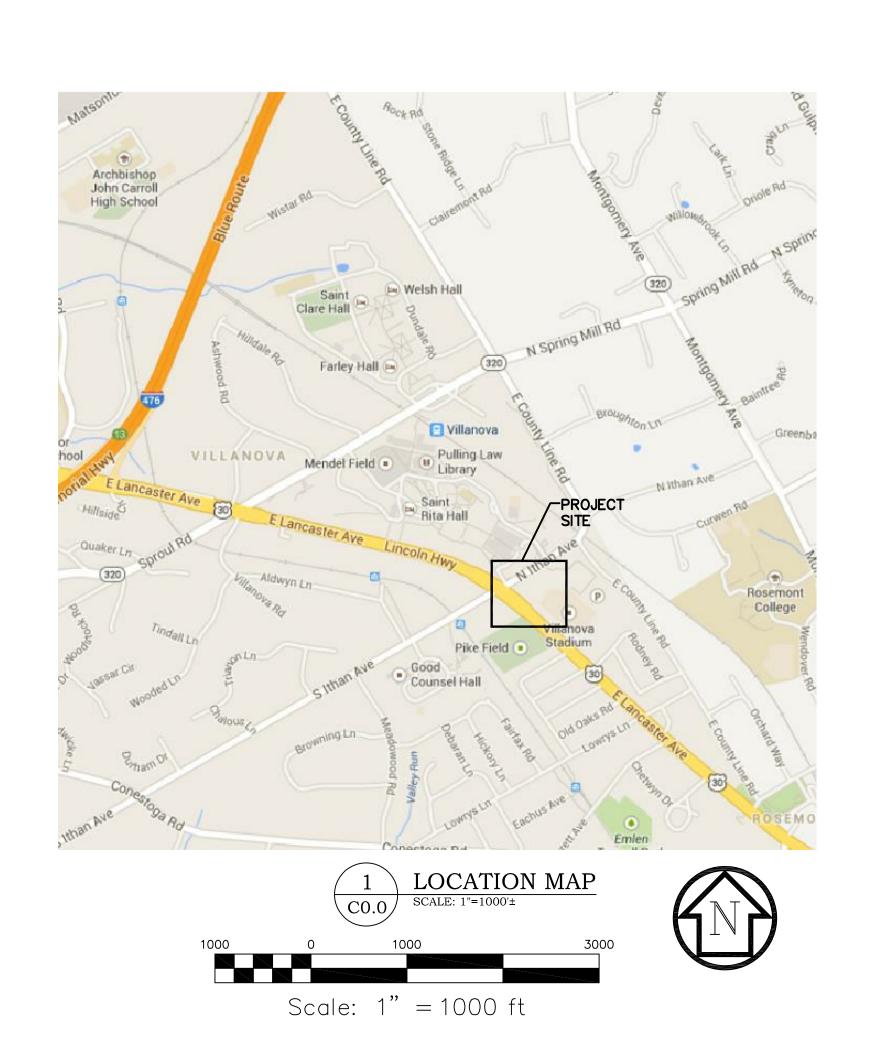
Applications with original signatures must be submitted to DCPD.

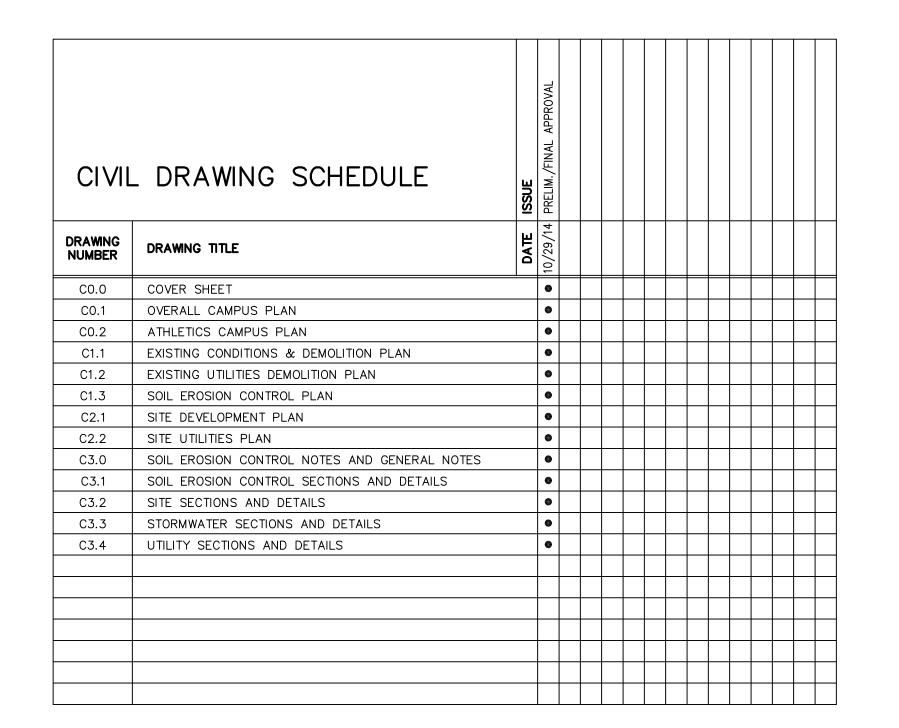
# VILLANOVA UNIVERSITY

# PROPOSED WEST END ZONE BUILDING

PRELIM./FINAL LAND DEVELOPMENT SUBMISSION

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





<u>WAIVER REQUESTED:</u>
THE FOLLOWING WAIVER IS BEING REQUESTED BY THE APPLICANT: 1. FROM 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.

- I. SITE OWNER: VILLANOVA UNIVERSITY
- 2. SITE ADDRESS: 800 LANCASTER AVENUE VILLANOVA, PA 19085
- 3. CONTACT INFORMATION: JIM MATTHEWS, PROJECT MANAGER
- (610) 519-4425 4. SITE TAX MAP INFORMATION: PORTION OF TAX MAP #36-24-033 PORTION OF PARCEL #36-04-02400-10

Commonwealth of Pennsylvania

On this, the \_\_\_\_, day of \_\_\_\_\_, 20\_\_\_, before me, the undersigned office, personally appeared \_ 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.

(Signature	of	Individ	dual)	
Notary Public	or	other	Officer	

Witness my hand and seal the day and date above written.

My Commission expires \_\_\_\_\_\_

PRELIM./FINAL APPROVAL

SHEET TITLE

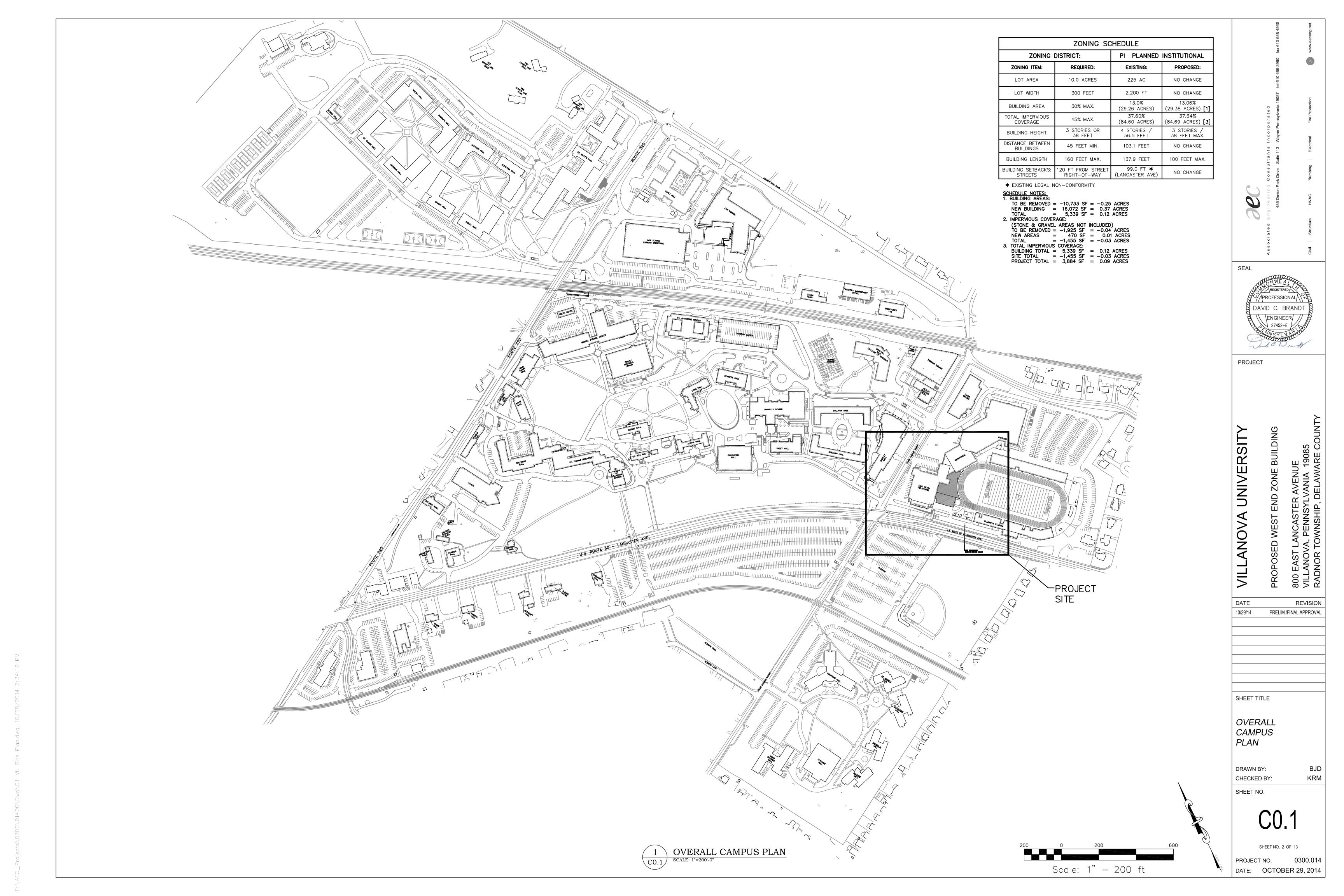
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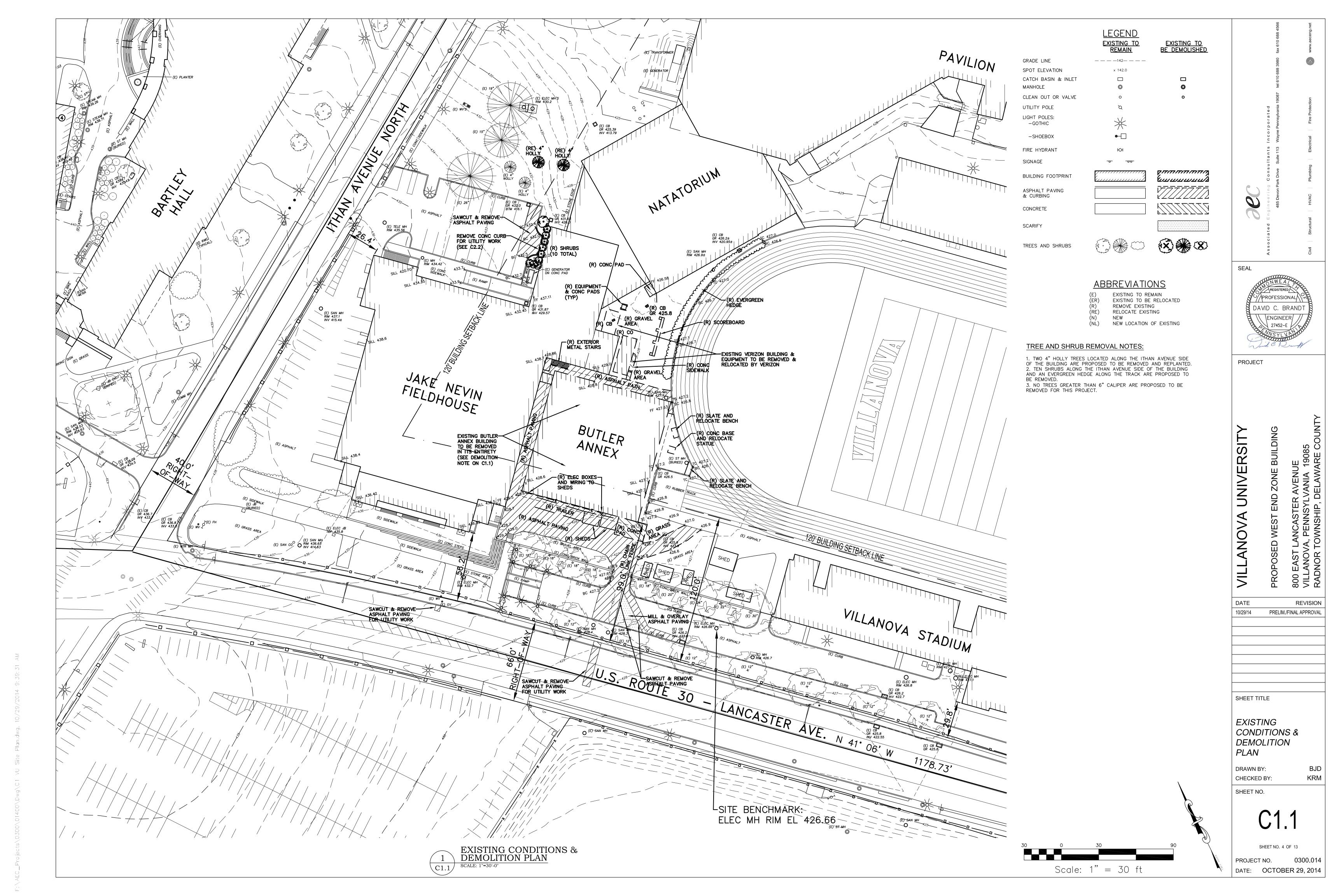
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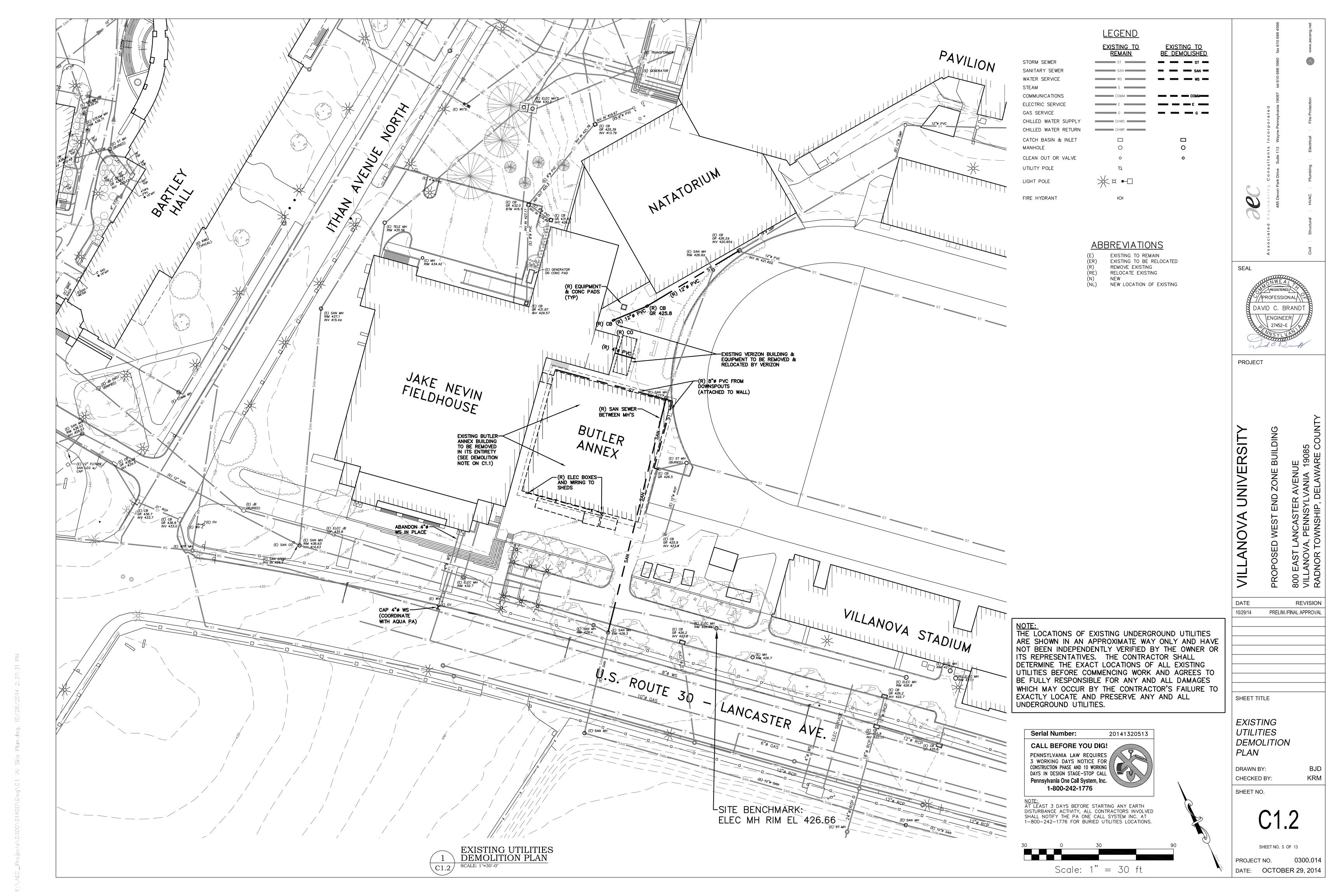
SHEET NO. 1 OF 13

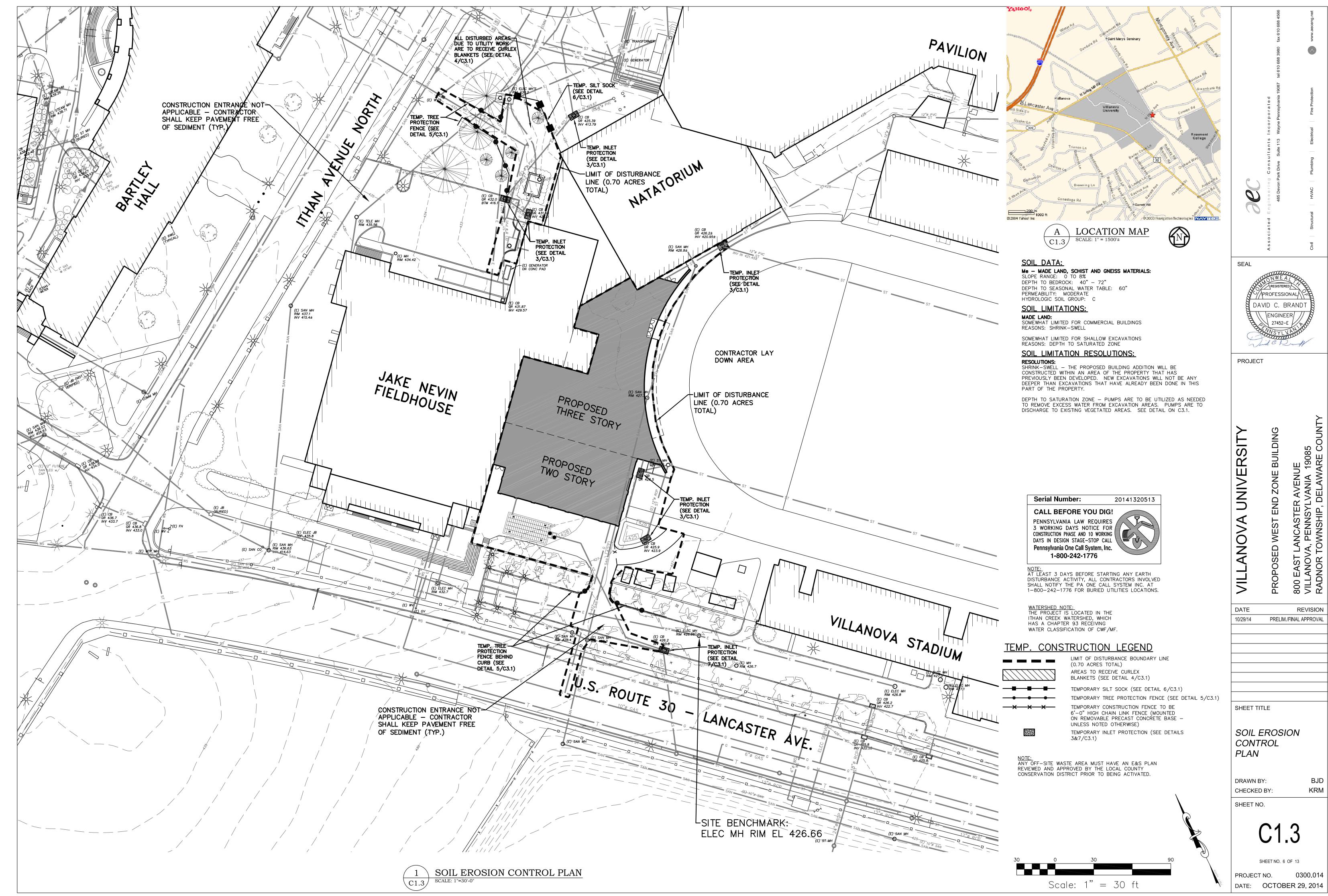
PROJECT NO. DATE: OCTOBER 29, 2014

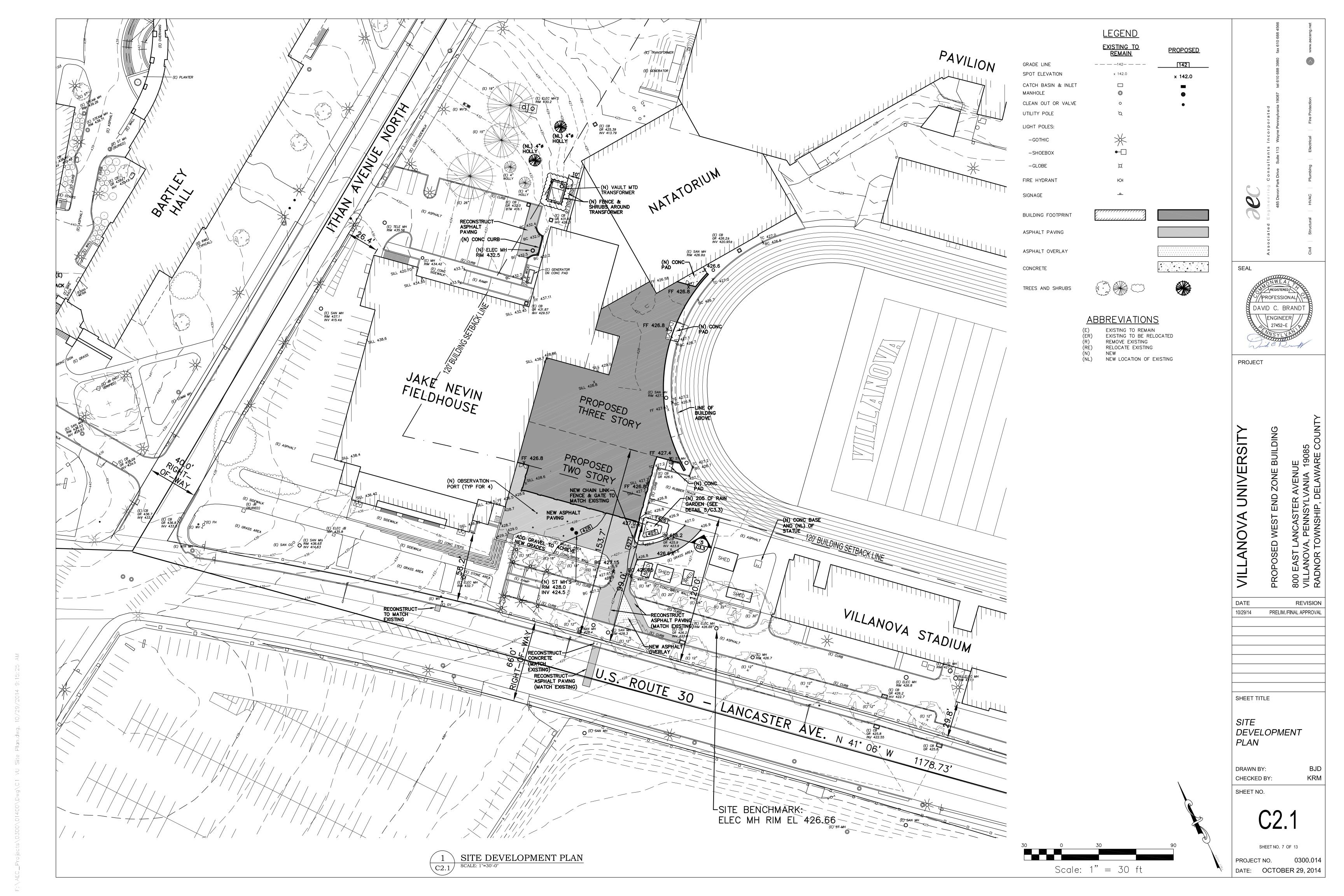


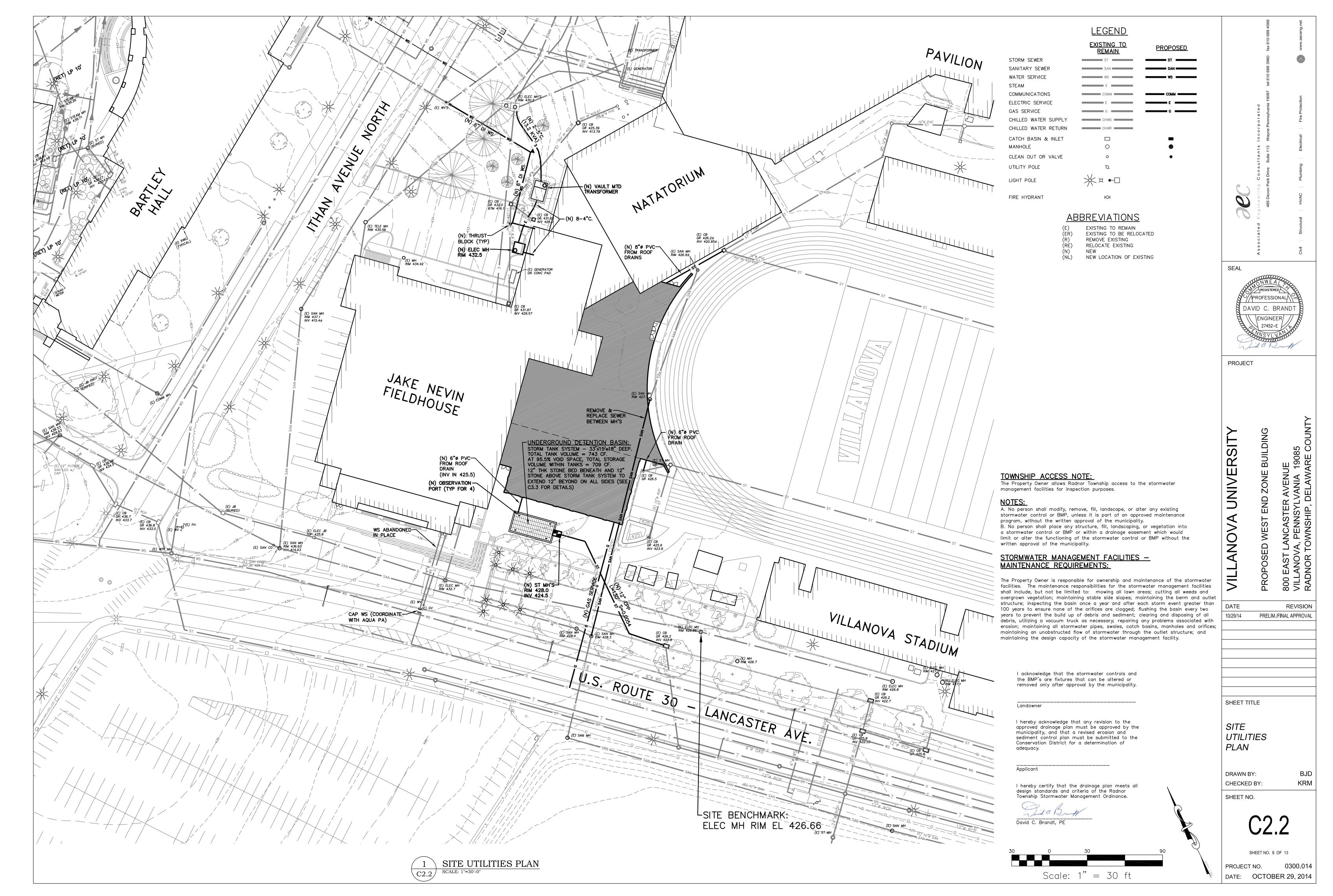
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plan is properly and completely implemented. 3. Until the site achieves final stabilization, the operator shall assure that the best management practices are implemented, operated and maintained properly and completely. Maintenance shall include inspections of all best management practice facilities. The operator shall maintain and make available to the Conservation District complete, written inspection logs of all those inspections. All maintenance work, including cleaning, repair, replacement, regrading and restabilization shall be performed immediately.

4. Immediately upon discovering unforeseen circumstances posing the potential for accelerated erosion and/or sediment pollution, the operator shall implement appropriate best management practices to eliminate potential for accelerated erosion and/or sediment pollution.

5. Before initiating any revisions to the approved erosion and sediment control plan or revisions to other plans which may affect the effectiveness of the approved E&S control plan, the operator must receive approval of the revisions from the local Conservation District.

6. The operator shall assure that an erosion and sediment control plan has been prepared, approved by the local Conservation District and is being implemented and maintained for all soil and/or rock spoil and borrow areas, regardless of their locations.

7. All pumping of sediment—laden water shall be through a sediment control BMP, such as a pumped water filter bag discharging over non-disturbed areas. 8. The operator is advised to become thoroughly familiar with the provisions of the Appendix 64. Erosion Control Rules and Regulations, Title 25. Part 1. Department of Environmental Protection, Subpart C, Protection of Natural Resources, Article III, Water Resources, Chapter 102, Erosion Control. 9. A copy of the approved erosion and sediment control plan must be

available at the project site at all times.

10. The E&S control plan mapping must display a PA ONE CALL SYSTEM INCORPORATED symbol including the site identification number. 11. Erosion and sediment BMP's must be constructed, stabilized and functional before site disturbance begins within the tributary areas of those BMP's. 12. After final site stabilization has been achieved, temporary erosion and sediment BMP controls must be removed. Areas disturbed during removal of the BMP's must be stabilized immediately.

13. At least 7 days before starting any earth disturbance activities, the operator shall invite all contractors involved in those activiites, the landowner, all appropriate municipal officials, the erosion and sedimentation control plan preparer, and a representative of the local Conservation District to an on-site meeting. Also, at least 3 days before starting any earth disturbance activities, all contractors involved in those activities shall notify the Pennsylvania One Call System, Incorporated at 1—800—242—1776 for buried

utilities locations. 14. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION. 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.

15. Immediately after earth disturbance activities cease, the operator shall stabilize any areas disturbed by the activities. During non-germinating periods, mulch must be applied at the specified rates. Disturbed areas which are not at finished grade and which will be redisturbed within 1 year must be stabilized in accordance with the permanent vegetative stabilization specifications. 16. An area shall be considered to have achieved final stabilization when it has a minimum uniform 70% perennial vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated surface erosion and subsurface characteristics sufficient to resist sliding and other movements. OTHER BMP's:

17. Sediment must be removed from storm water inlet protection after each runoff event.

TEMPORARY STABILIZATION & PERMANENT STABILIZATION: 18. Hay or straw mulch must be applied at 3.0 tons per acre. 19. Provide "Curlex Blankets" as manufactured by American Excelsior Co., or approved equal, on all slopes 3:1 and steeper.

20. Straw mulch shall be applied in long strands, not chopped or finely broken. 21. Until the site is stabilized, all erosion and sediment control BMP's must be naintained properly. Maintenance must include inspections of all erosion and sediment control BMP's after each runoff event and on a weekly basis. All preventative and remedial maintenance work, including clean out, repair, replacement, regrading, reseeding, remulching and renetting must be performed immediately. If erosion and sediment control BMP's fail to perform as expected, replacement BMP's, or modifications of those installed will be

22. Sediment removed from BMP's shall be disposed of in landscaped areas outside of steep slopes, wetlands, floodplains or drainage swales and immediately stabilized, or placed in topsoil stockpiles. 23. The operator shall remove from the site, recycle or dispose of all building materials and waste in accordance with PADEP's Solid Waste Management Regulations at 25 Pa. Code 260.1 et seq., 271.1 et seq., and 287.1 et seq. The contractor shall not illegally bury, dump or discharge any building material or wastes at the site.

24. The NPDES Boundary is equal to the outer perimeter boundary of the site, and any off—site areas within the limit of disturbance that are the responsibility of the developer to install. (Off-site facilities, such as: utilities and roadway improvements.)

# UTILITY LINE TRENCH EXCAVATION

1. Limit advanced clearing and grubbing operations to a distance equal to two times the length of the pipe installation that can be completed in one day. 2. Work crews and equipment for trenching, pipe installation and backfilling shall be self—contained and separate from clearing, grubbing, site restoration and stabilization operations.

3. All soil excavated from the trench shall be placed on the uphill side of the

4. Limit daily trench excavation to the length of pipe placement and backfilling that can be completed that same day. 5. Water which accumulates in the open trench shall be completely removed by pumping before pipe placement and/or backfilling begins. Water removed

from the trench shall be pumped through a filtration device. 6. On the day following pipe placement and backfilling, the disturbed area shall be graded to final contours and appropriate temporary erosion and sediment pollution control measures/facilities shall be installed. Stabilization shall be done immediately after the backfilling is complete.

# EROSION AND SEDIMENTATION CONTROL CONSTRUCTION NOTES:

1. SILT FENCE: Silt fences shall be installed downslope of all areas to be disturbed before any work begins. Silt fence shall be installed as near as

possible to the locations shown on the plan. Installation shall be as follows: a. Silt fencing must be installed parallel to existing contours or constructed level alignments. Both ends of each fence section must be extended at least 8 feet upslope at 45 degrees to the main fence b. Dig a 6" deep trench along the upslope side of the fence line.

c. Install fence posts 18" below the ground surface at 8' maximum

intervals on a slight angle toward the anticipated runoff source. d. Stretch and fasten filter fabric to the upslope side of the support stakes. Wherever reinforced fabric fence is installed, the reinforcement mesh shall be fastened to the stakes prior to the fabric. e. At fabric ends, both ends should be wrapped around the support stake and stapled. If the fabric comes already attached to the stakes, the end stakes shall be held together while the fabric is wrapped around the stakes at least one revolution prior to driving the stakes. f. The bottom of the fence shall be anchored by placing the fabric in

the bottom of the trench, and backfilling and compacting the fill material in the trench. g. Guy wires shall be attached to reinforced silt fence. An acceptable alternative is to stake straw bales on the downslope side of the fence. h. Silt fence shall be inspected weekly and after each runoff event. Needed repairs shall be performed immediately after the inspection. Damaged fences shall be immediately replaced. Rock filter outlets shall

be installed where fences have become overstressed due to sediment

2. Stormwater inlets must be protected until the tributary areas are stabilized. 3. Diversions, channels, sedimentation basins, sediment traps, and stockpiles must be mulched immediately. 4. STRUCTURAL AND CONSTRUCTION FILL: In all areas where structural or construction fill is to be placed, "grubbing" shall be carried out prior to placing any fill. All trees, brush and other vegetation within the construction

fill areas shall be removed from the site. 5. DUST CONTROL: To control dust generation on-site, the contractor shall wet construction traffic routes and staging areas. 6. TEMPORARY VEGETATION BY SITE CONTRACTOR: Upon completion of an earth disturbance activity or any stage or phase of an activity, the site shall be immediately seeded, mulched or otherwise protected from accelerated erosion and sedimentation. Temporary seeding shall be as follows:

1. Lime shall be evenly broadcast @ 190 lbs/1,000 sq. ft. (or as per soil test). 2. 10-25-25 Basic Fertilizer shall be evenly broadcast at the rate of

25 bs/1,000 sa. ft. 3. Seed with annual ryegrass at a rate of 1 lb/1,000 sq. ft. If the season prevents the establishment of a temporary vegetative cover, the disturbed areas will be mulched with straw, or equivalent material, at a rate of 140 pounds per 1000 square feet. Mulch should be applied regardless of the time of year.

7. EXISTING ROADWAY CLEANING: Contractor shall maintain a clean approach to the site. If the dirt and/or debris builds up on existing asphalt surfaces, the site cont become on become offictor shall professionally clean that surface to the satisfaction of the authority having jurisdiction. 8. Inlet protection sh become oall be applied, as detailed on the plan, to every inlet which has been constructed to the roadway subbase elevation. 9. All stabilized construction entrances shall be installed as near as possible to the location shown on the plan. Prior to final roadway construction, the aggregate shall be removed, and the roadway prepared and installed according to specifications.

10. Pollutants such as fuels, lubricants, bitumens, raw sewage and other harmful materials shall not be discharged into or near rivers, streams and impoundments or into natural or manmade channels leading thereto.

# FILL MATERIAL NOTES:

If the site will need to import or export material from the site, the responsibility for performing environmental due diligence and determination of clean fill will rest with the General Contractor.

Clean Fill is defined as: Uncontaminated, non-water soluble, non-decomposable, inert, solid material. The term includes soil, rock, stone, dredged material, used asphalt, and brick, block or concrete from construction and demolition activities that is separate from other waste and is recognizable as such. The term does not include materials placed in or on the waters of the Commonwealth unless otherwise authorized. (The term "used asphalt" does not include milled asphalt or asphalt that has been processed for

Clean Fill affected by a spill or release of a regulated substance: Fill materials affected by a spill or release of a regulated substance still qualifies as clean fill provided the testing reveals that the fill material contains concentrations of regulated substances that are below the residential limits in Tables FP-1a and FP-1b found in the Department's policy "Management of

Any person placing clean fill that has been affected by a spill or release of a regulated substance must use form FP-001 to certify the origin of the fill material and the results of the analytical testing to qualify the material as clean fill. Form FP-001 must be retained by the owner of the property receiving the fill. A copy of Form FP-001 can be found at the end of these

**Environmental due diligence**: The applicant must perform environmental due diligence to determine if the fill materials associated with the project qualify as clean fill. Environmental due diligence is defined as: Investigative techniques, including, but not limited to, visual property inspections, electronic data base searches, review of property ownership, review of property use history, Sanborn maps, environmental questionnaires, transaction screens, analytical testing, environmental assessments or audits. Analytical testing is not a required part of due diligence unless visual inspection and/or review of the past land use of the property indicates that the fill may have been subjected to a spill or release of regulated substance. If the fill may have been affected by a spill or release of a regulated substance, it must be tested to determine if it qualifies as clean fill. Testing should be performed in accordance with Appendix A of the Department's policy "Management of Fill".

Fill material that does not qualify as clean fill is regulated fill. Regulated fill is waste and must be managed in accordance with the Department's municipal or residual waste regulations based on 25 Pa. Code Chapters 287 Residual Waste Management or 271 Municipal Waste Management, whichever is applicable. These regulations are available on-line at <a href="https://www.pacode.com">www.pacode.com</a>.

# PERMANENT VEGETATION BY CONTRACTOR:

# GRADING AND SUB-SOIL PREPARATION

All areas that will receive permanent vegetation, such as, but not limited to, turf and planting beds, shall be prepared in the following manner:

A. Sub soils shall be native material free from any construction debris, stones larger than 3", organic material such as wood or dead plants larger than 2" in diameter. Any additional fill soil material brought onto site must be inspected by owner for suitability. B. Where Sub soils are backfilled or constructed in depths greater than 2 feet, each 2 foot lift shall be compacted to minimize subsidence. C. Sub grade to be graded to within 6" of contours called for on plan, to provide proper drainage and be free of standing water. D. Sub soils to be scarified and loosened to relieve surface compaction prior to

E. After approval of subsoil grading, no additional equipment or vehicles may be driven on the area approved, except for equipment used in landscape operations. Any compaction or depressions must be corrected to reestablish proper sub grade as previously approved, prior to installation of topsoil and plant material.

# TOPSOIL APPLICATION AND TREATMENT:

placement of topsoil.

A. After topsoil (6" minimum thickness) is graded to the proper elevations, the following materials shall be applied and tilled (mixed) into the top 4" of the surface:

1. Lime shall be evenly broadcast @ 190 lbs/1,000 sq. ft. (or as per soil test).

2. Soil Conditioner shall be evenly broadcast @ 50 lbs/1,000

3. 10-25-25 Basic Fertilizer shall be evenly broadcast at the rate of 25 lbs/1,000 sq. ft.

4. Soil Amendment (Axis or Isolite) is evenly mixed into the top 4" of the field surface.

B. After incorporation of the above materials, the topsoil shall be re-firmed by dry-rolling (topsoil moisture content must be near zero percent) with a five (5) ton roller on a dual flotation tired agricultural tractor. C. The surface grades shall be surveyed and any undulations or irregularities resulting from applications and soil structuring shall be corrected. D. Any stones larger than 2 inches in any dimension, shall be removed from the

top 3" utilizing a mechanical rock picker. E. Final grading shall be accomplished utilizing an automatic draft sensing hydraulic land plane attached to a flotation tired agricultural tractor. F. Cultivate and restructure the topsoil to a depth of 3-4". Grade tolerance shall be held to 1/4" per foot.

subsurface conditions). H. Re-grade, re-firm and rake the soil surface. This is a smoothing and leveling operation to establish the final crown contours and elevations. I. Final stone pick the surface of any stones larger than 1" in any dimension.

G. Cultivate and till the soil to a depth of 4-6" (depth may be limited by

# SEEDING AND MULCHING:

A. Only Flotation Tire Equipment will be permitted after final grade approval. B. Drill seeding shall be accomplished by utilizing a 4' wide seeder constructed with 16 rows of steel slicers spaced 3" or less on center and capable of placing seed 1/4" into the surface at a rate of 8 lbs. per 1000 square feet. C. Seed shall be Villanova Mixture Lot No. L20M-4-FSVSM-2, as supplied by Fisher and Son Co., Inc.: 237 King Street, Malvern, PA 19355 D. Mulching — The Contractor shall mulch all newly seeded areas with salt hay, at the rate of 140 pounds per 1,000 square feet in accordance with DEP specifications.

E. Provide manufacturer's fabric and straw combination to all seeded areas on banks 3 to 1 or steeper and where potential erosion may take place.

# MAINTENANCE:

A. Seeded lawn maintenance shall be for not less than 60 days after substantial completion.

a. If seeded in fall and not given full 60 days of maintenance, or if not considered acceptable at that time, continue maintenance the following spring until acceptable lawn is established.

B. Maintain lawns by watering, fertilizing, weeding, mowing, trimming and other operations such as rolling, regrading and replanting, as required, to establish a smooth, acceptable lawn; free of eroded or bare areas. C. When seeding is completed, including maintenance, Owner will make an inspection to determine acceptability.

D. When it becomes necessary, the Owner shall inform the Contractor of unsatisfactory conditions of erosion and sediment devices, at such time the Contractor shall improve the conditions of said devices to meet with the approval of the Owner.

. Should unforeseen erosive conditions develop during construction the Contractor shall take action to remedy such conditions and to prevent damage to adjacent properties as a result of increased runoff and/or sediment displacement. F. Seeded areas that have been washed away shall be filled and graded as necessary and then reseeded. This procedure shall be repeated after each storm or until no more signs of erosion are evident.

# **GENERAL NOTES**

# **GENERAL ITEMS:**

1. The CAD documents produced for this project are not to be used for survey datum. 2. Horizontal and vertical controls shall be taken from the dimensional plans. 3. Any dimensions not shown on the drawings can be scaled.

# EXISTING CONDITIONS AND DEMOLITION:

1. All dimensions and existing conditions are to be field—verified before the commencement of any work. Any discrepancies shall be reported to the Engineer immediately, prior to proceeding.

2. The Contractor shall take all necessary precautions to insure the safety of all excavations. The Contractor shall construct and maintain all shoring, bracing and supports as required to preserve stability and prevent movement, settlement or collapse of construction to remain, and to prevent the unexpected or uncontrolled

movement or collapse of construction being demolished. 3. The Contractor shall assume all responsibility at the site, concerning safety of the workmen and the personnel of the Owner. At no time shall any non-construction worker be allowed free access to the site. 4. All demolition work shall be performed in strict accordance with the Project

Specifications. All items to be reused or salvaged, shall be handled with care so as not to be damaged during the operation. 5. If items are handed over by The Owner to the Contractor for reinstallation, then

those items should be thoroughly inspected and not accepted by the Contractor unless they are in usable condition. Damaged items should be pointed out to the Representative of The Owner and documented in writing 6. All project specifications should be read and adhered to, concerning manufacturers and their requirements for installation on the project.

7. Temporary construction requirements for the County Soil Conservation District are extremely important to follow closely. A Representative from the Soil Conservation District may visit the project without warning and stop the progression of the project, until items are corrected. 8. The locations of existing underground utilities are shown in an approximate way

only and have not been independently verified by the Owner or its Representative. 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 might be occasioned by the Contractor's failure to exactly locate and preserve any and all underground utilities.

9. The Contractor is responsible for the repair or replacement of any existing improvements damaged by him or his subcontractors during the construction of the 10. Obtain proper authorization from the Owner in writing 48 hours prior to any and all shutdowns of existing utilities.

11. Remove waste material, including unsatisfactory soil, trash and debris, and legally dispose of it off Owner's property as per local authorities having jurisdiction.

# CUT AND FILL:

1. The contractor must visit the site and verify all existing conditions, prior to commencing any construction operation. Any discrepancies between the conditions and the documents must be reported to the Engineer for resolution, prior to the commencement of construction. 2. Topsoil is to be stripped from all areas requiring a cut and fill operation. The

topsoil will be stockpiled by the Site Contractor and reused for areas under the landscape requirements. Additional topsoil shall be imported as per Specifications for 3. All trees, roots, large rocks and construction debris must be removed from all fill

4. All fill is to be compacted in eight to twelve inch (8" to 12") lifts, to ninety-five percent (95%) at optimum moisture content under paving areas and ninety percent (90%) at optimum moisture content under grass surfaces. 5. All fill operations shall be in accordance with the specifications and under strict auidance of the aeotechnical—testing agent.

6. All disturbed surfaces not receiving impervious cover shall be prepared and seeded according to the specifications.

# **GENERAL NOTES (CONTINUED)**

# FOUNDATIONS, CONCRETE AND REINFORCING STEEL:

1. All concrete shall be four thousand (4,000) psi at twenty-eight (28) days with an gir content of five percent (5%) ± one percent (1%). 2. All reinforcing steel shall meet the requirements of ASTM A-615, Grade 60, epoxy

3. All concrete shall be reinforced and placed in accordance with the building requirements for reinforced concrete, as adapted by ACI 318 and Local Codes. 4. All concrete work shall conform to ACI 301 Standard Specification for Reinforced

5. All concrete reinforcing steel shall be detailed and placed in strict accordance with the latest ACI Building Code.

6. All details, reinforcement and accessories shall be fabricated and provided in accordance with the manual of Standard Practice for Detailing Reinforced Concrete. 7. All bars shall be lapped with a minimum of thirty—six (36) bar diameter at splices. unless noted otherwise on the Drawings. Welded-wire fabric sheets shall be lapped eight—inch (8") minimum, unless noted otherwise on the Drawings. 8. Welded—wire fabric shall meet the requirements of ASTM A—818. 9. Before placing concrete, the Mechanical and Electrical Subcontractors shall provide location and sizes of all openings, sleeves, anchors and any other requirements by

10. All precast concrete shall be constructed from a minimum of five thousand (5,000) 11. All precast concrete catch basin inlets, manholes, hand holes and walls shall be submitted for approval and shall meet all PENNDOT Specifications for HS20 loading. 12. All exposed horizontal concrete walking surfaces shall receive broom finish as per

# PIPING REQUIREMENTS:

1. All corrugated polyethylene pipe to be as manufactured by Advanced Drainage Systems, Inc., or approved equal.

2. All corrugated polyethylene tubing and fittings shall meet ASTM F405. All 12"ø and 15"ø corrugated polyethylene tubing to be ASTM F667. 4. All corrugated polyethylene drainage tubing to be AASHTO M252. 5. All eight—inch (8") diameter and larger CPP gravity pipe, shall be smooth interior

and fittings shall meet ASTM Standard D 3350 and AASHTO M 294 Type S 6. All six—inch (6") diameter and smaller CPP gravity pipe shall be corrugated interior and shall be supplied and installed in strict accordance with the manufacturer's recommendations. All joints shall be made of watertight, non-corrosive materials as

recommended by the manufacturer. All ductile iron pipes shall meet the classification of AWWA C151, Thickness Class 56. The lining for the ductile iron pipe shall meet the classification of AWWA C 104, Cement Mortar, Seal-Coated. 8. All PVC piping shall schedule 40. All fittings shall meet the classification of ASTM

F 679, Type 1, Bell and Sprigot, for elastomeric gasket joints. 9. All asphalt coated corrugated metal pipe shall be galvanized and shall have a minimum gage of 14. 10. All galvanized sheets used for pipe fabrication shall meet ASTM A444-81.

11. All corrugated metal pipe and pipe arches shall be galvanized and are to be a minimum of 12 gage  $(2 2/3" \times 1/2" \text{ corrugations})$ . 12. All pipe to be backfilled a minimum of 6" all around with sand or screenings

# ASPHALT PAVING:

1. All asphalt paving shall be plant mixed and hot-laid, in accordance with ASTM D 3515, in strict accordance with all PENNDOT requirements. 2. All installation requirements shall be in accordance with the Project Specification. 3. All lane markings shall be in accordance with AASHTO M 248, Type N or F. 4. All parking areas are to have a 3" wide, PADOT approved, painted white parking 5. At all high points and low points in asphalt paving and concrete curbing, provide gradual, rounded transition between opposing grades. 6. All proposed concrete curb radii shall be 5 feet minimum.

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SEAL //PROFESSIONAL/ DAVID C. BRANDT \ENGINEER/ 27452-E L

**PROJECT** 

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DATE

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PRELIM./FINAL APPROVAL

REVISION

KRM

SHEET TITLE

SOIL EROSION CONTROL **NOTES AND** GENERAL NOTES

DRAWN BY: CHECKED BY:

SHEET NO.

SHEET NO. 9 OF 13

0300.014 PROJECT NO. DATE: OCTOBER 29, 2014

# **CONSTRUCTION SEQUENCE KINTERRA:**

A. 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. B. At least 7 days before starting any earth disturbance activities, the Contractor shall invite all subcontractors involved in those activites, the Owner, the Civil Engineer, all appropriate municipal officials, and a representative of the Delaware County Conservation District to an on-site pre-construction meeting. C. Township engineer shall be notified 48 hours prior to the start of earthmoving activities and prior to the installation of the underground detention basin.

# SEQUENCE OF CONSTRUCTION:

1. Install erosion control measures as shown on the 'Soil Erosion Control Plan' Sheet C1.3. The erosion control measures shall include: the temporary inlet protection, the temporary silt sock, the temporary tree protection fence and temporary construction

2. Install the new water and electric services along the Ithan Avenue side of the building, removing the trees, shrubs, asphalt paving and concrete curbing as necessary. Backfill the trenches and stabilize the disturbed areas. Install erosion control blankets on all disturbed areas not receiving impervious cover.

3. Remove the existing Butler Annex and Verizon buildings. Remove the existing site improvements in the project area beyond the track. 4. Remove and replace the sanitary sewer between the two manholes.

5. Excavate for and install the underground detention system and backfill. See

additional notes below for information regarding Underground Detention Basin and Infiltration Trench Construction. 6. Construct the building addition. 7. Perform final grading throughout the site and install new site improvements around

8. Construct the rain garden and plant landscaping, trees and permanent vegetation. 9. Once the site is stabilized to 70% uniform coverage of permanent vegetation and the building has been completed, remove the remaining temporary control measures throughout the site. Stabilize all areas that are disturbed due to the removal of the temporary control measures.

1. Due to the nature of construction sites, subsurface infiltration should be installed toward the end of the construction period, if possible. 2. Install and maintain adequate erosion and sediment control measures during 3. The existing subgrade under the bed should NOT be compacted or subject to excessive construction equipment traffic prior to geotextile and stone bed

<u>UNDERGROUND DETENTION BASIN/SUBSURFACE</u>
<u>INFILTRATION CONSTRUCTION NOTES:</u>

4. Where erosion of subgrade has caused accumulation of fine materials and/or surface ponding, this material should be removed with light equipment and the underlying soils scarified to a minimum depth of 6 inches with a York rake (or equivalent) and light tractor. All fine grading should be done by hand. All bed bottoms should be at level grade.

5. Install upstream and downstream control structures, cleanouts, perforated piping, and all other necessary stormwater structures. Geotextile and bed aggregate should be placed immediately after approval of subgrade preparation and installation of structures. Geotextile should be placed in accordance with manufacturer's standards and recommendations. Adjacent strips of geotextile should overlap a minimum of 16 inches. It should also be secured at least 4 feet outside of bed in order to prevent any runoff or sediment from entering the storage bed. This edge strip should remain in place until all bare soils contigous to beds are stabilized and vegetated. As the site is fully stabilized, excess geotextile along bed edges can be cut back to the edge of the

7. Clean—washed, uniformly graded aggregate should be placed in maximum 8

inch lifts. Prior to installation, the stone shall be checked by the design or site engineer. Each layer should be lightly compacted, with construction equipment kept off the bed bottom as much as possible. 8. In the event that sediment has entered the detention basin, the sediment shall be cleaned from the fabric, stone, bed, etc. If the amount of sediment that has entered the infiltration bed prohibits the in place cleaning of the fabric, stone or bed, then the fabric and stone shall be replaced. 9. If unfavorable conditions (such as, but not limited to, groundwater and/or

bedrock, etc.) are encountered during the excavation for the pipes, then the Engineer is to be contacted immediately prior to proceeding with the excavation. 10. Approved soil media should be placed over infiltration bed in maximum 6 inch 11. Seed and stabilize topsoil.

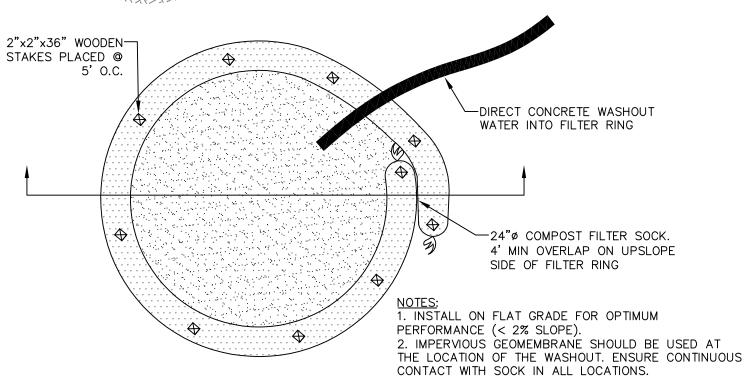
12. Do not remove inlet protection or other erosion and sediment control measures until site is fully stabilized. Critical Stages of Underground Detention Basin Construction:

- When basin bottom is excavated to proper depth

- When geotextile is being folded and secured over the basin NOTE: SEE C3.1 FOR EROSION &

SEDIMENTATION CONTROL DETAILS.

- When stone and modules are being placed into basin



3. 18"ø FILTER SOCK MAY BE STACKED ONTO DOUBLE

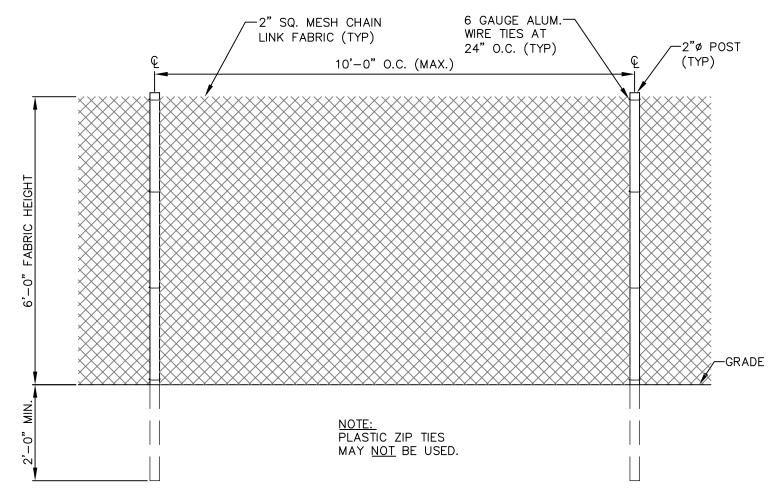
24" Ø SOCKS IN PYRAMIDAL CONFIGURATION FOR

4. RELOCATE WASHOUT THROUGHOUT SITE AS

ADDED HEIGHT

# CONCRETE WASHOUT DETAIL SCALE: NOT TO SCALE

<u>PLAN</u>

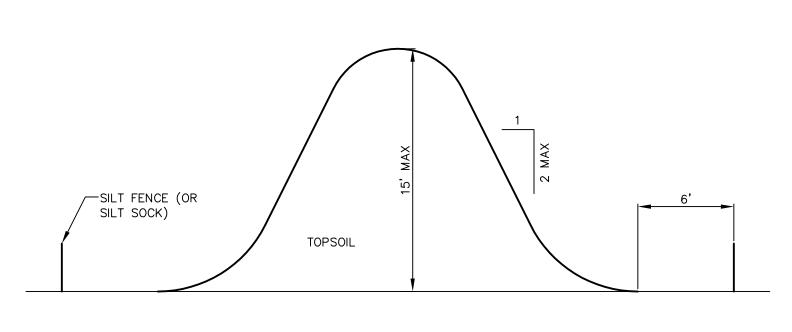


TREE PROTECTION BARRIER FENCING DETAIL SCALE: 1/2" = 1'-0" C3.1/

(LOCATION SHOWN THUS — • ON PLAN)

NOTES:

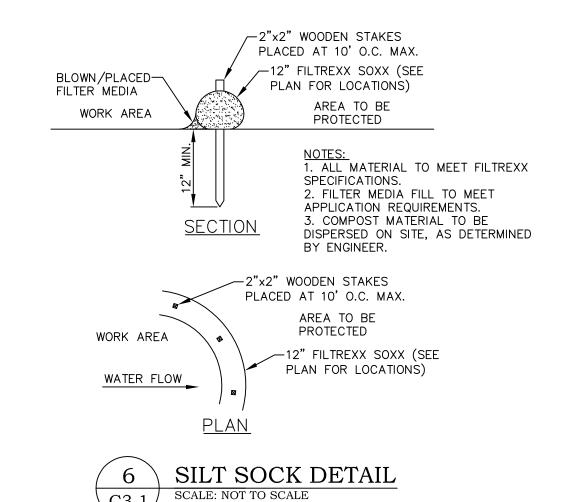
1. PROTECTION BARRIERS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE WORK AT THE SITE. 2. ADDITIONAL WARNING SIGNS SHOULD ALSO BE PLACED ON THE FENCING AND IN APPROPRIATE AREAS NEAR THE WORK ZONE. 3. TREE PROTECTION FENCE SHALL BE INSPECTED BY THE OWNER OR CONTRACTOR AT THE END OF EVERY DAY FOR THE DURATION OF THE PROJECT. THE FENCE SHALL BE REPAIRED WHERE NECESSARY.



TYPICAL SOIL STOCKPILE CROSS SECTION SCALE: NOT TO SCALE C3.1

REDISTRIBUTED ON THE SITE.

. SILT FENCE OR SILT SOCK MUST COMPLETELY ENCIRCLE STOCKPILES. . TOPSOIL SHALL NOT BE REMOVED FROM THE DEVELOPMENT SITE OR USED AS FILL. . TOPSOIL SHALL BE REMOVED FROM THE AREAS OF CONSTRUCTION AND STORED 4. THE TOPSOIL SHALL BE STABILIZED TO MINIMIZE EROSION DURING STORAGE. 5. UPON COMPLETION OF CONSTRUCTION, THE TOPSOIL SHALL BE UNIFORMLY



C3.1

SILT SOCK NOTES: The Silt Sock is to be laid on top of the ground along the down—slope areas and along side—slope areas as required to prevent or reduce erosion. 2. The Silt Sock can either be lapped or butted at the ends to create a

continuous line of defense. 3. Socks placed on earthen slopes should be anchored with stakes driven through the center of the sock at intervals recommended by the manufacturer. Where socks are placed on paved surfaces, heavy concrete blocks should be used immediately down slope of the socks to help hold the sock in place. 4. Traffic shall not be permitted to cross Silt Sock. If the Silt Sock is deformed due to being driven over or dragged, then it is to be re—contoured by hand if applicable. If not, the silt sock shall be repaired (see repair notes below). 5. If the Silt Sock rolls due to hydraulic force, then it is to be repositioned and

6. If the Silt Sock loses ground contact, then fill in the depressions and back-grout with chips from damaged section.

If sediment accumulates to half of the sock height, then remove the sediment by hand. It may be necessary to install a second row of sock positioned on top f or up slope of the original sock. 8. If holes, rips or tears develop in the sock, then small holes or narrow rips shorter than 12 inches may be stitched closed using plastic zip ties. Tears longer

than 12 inches require the sock to be replaced. Repairs or replacement shall occur within 24 hours of inspection. 9. If a pinch or localized diameter reduction of more than half of the original diameter develops in the sock, then a new section of sock is to be installed upslope of the damaged section.

10. Silt Socks shall be inspected weekly and after each runoff event. 11. Biodegradable filter socks shall be replaced after 6 months; photodegradable socks after 1 year. Polypropylene socks shall be replaced according to the manufacturer's recommendations.

12. Silt Socks shall be removed upon stabilization of the area tributary to the

13. LOCATION SHOWN THUS — ON PLAN C1.3.

✓INLET GRATE -SANDBAG, FILTER LOG, COMPOST SOCK, OR FILTER TUBE IN. REBAR FOR EXPANSION RESTRAINT BAG REMOVAL FROM (1 IN. NYLON ROPE) INLET -2 IN X 2 IN. X 3/4 IN. RUBBER BLOCK INSTALLATION DETAIL EXTEND BERM OVER CURB IF RUNOFF IS BYPASSING INLET ∠2:1 MAX ON LANDWARD SIDE PLAN VIEW <u>SECTION VIEW</u> TYPE 'C' INLET - FILTER BAG PROTECTION DETAIL SCALE: NOT TO SCALE C3.1

NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

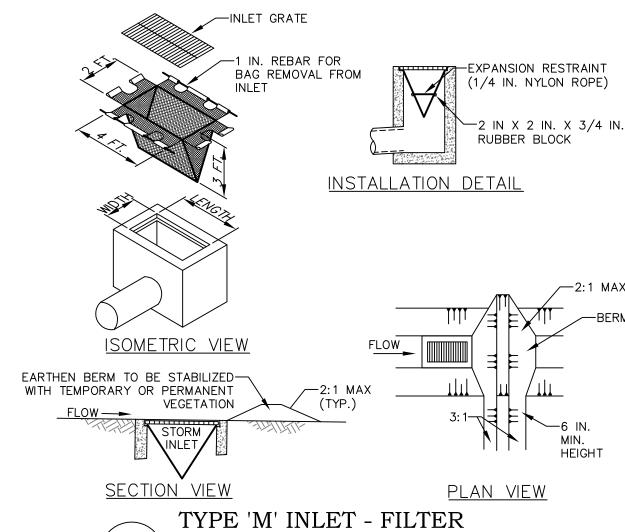
INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT.

AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS, A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A

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

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



BAG PROTECTION DETAIL SCALE: NOT TO SCALE C3.1

NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

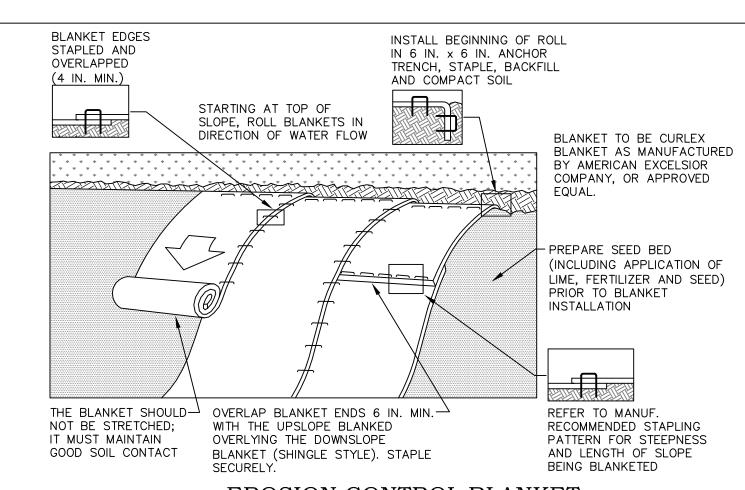
INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

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

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

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

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



EROSION CONTROL BLANKET INSTALLATION DETAIL SCALE: NOT TO SCALE C3.1/

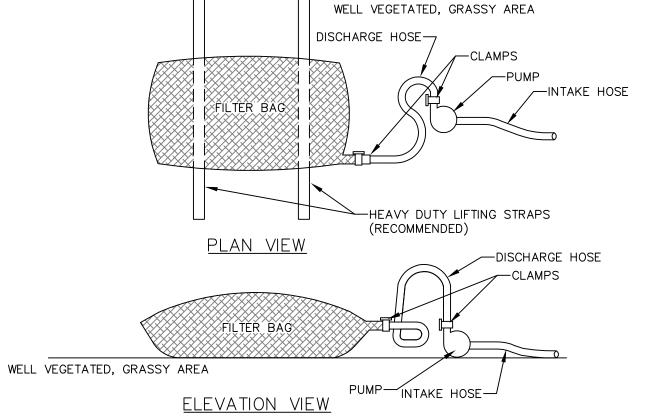
SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.

BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT

THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

ON PLAN C1.3.



PUMPED WATER FILTER BAG DETAIL SCALE: NOT TO SCALE C3.1

NOTES:

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

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

SEAL //PROFESSIONAL/ DAVID C. BRAND \ENGINEER/ √ 27452-E

PROJECT

Q,

NCASTER / PENNSYLV WNSHIP, D

REVISION 10/29/14 PRELIM./FINAL APPROVAL

SHEET TITLE

SOIL EROSION CONTROL SECTIONS AND **DETAILS** 

DRAWN BY: CHECKED BY:

SHEET NO.

KRM

SHEET NO. 10 OF 13

0300.014 PROJECT NO. DATE: OCTOBER 29, 2014

1. PROVIDE ½" EXPANSION JOINT THRU CURB @ 20'-0" O.C. w/½" PREM. FILLER IN JOINT. STOP REINF. ON EACH SIDE OF JOINT. 2. WEARING COURSE TO BE 2" MIN. SUPERPAVE ASPHALT MIXTURE DESIGN, HMA WEARING COURSE, PG 64-22, 3.0 TO 10.0 MILLION ESALS, 9.5 MM MIXTURE, SRL-E. 3. BASE COURSE TO BE 2" MIN. SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BINDER COURSE, PG 64-22, 3.0 TO 10.0 MILLION ESALS, 19 MM MIXTURE. 4. ASPHALT TO BE DELIVERED & INSTALLED AS PER PENNDOT REQUIREMENTS. 5. LOCATION SHOWN THUS ON PLANS.

SLOPE TO BLEND WITH --(N) HOT PITCH JOINT TYP. @ ÀLL VERT SURFACES & WHERE (N) MEETS (E) (N) 2" SUPERPAVE ASPHALT WÉARING COURSE, 9.5 MM 64-22 (TYP) ∠ (N) TACK COAT — (E) BIT. BINDER COURSE ← (E) SCREENING ]<del> (</del>E) BALLAST (TYP) (E) SUBGRADE -

TYPICAL ASPHALT OVERLAY DETAIL SCALE: 1/2"=1'-0" C3.2

> I. SCARIFY 1½" MIN. OFF EXISTING PAVEMENT. 2. OLD WEARING SURFACE TO NEW WEARING SURFACE MUST BE SEALED 100% WITH HOT\_ASPHALT. 3. LOCATION SHOWN THUS

THE SLOPE AND CONFIGURATION OF SURROUNDING PAVING SAWCUT, TACK & SEAL ALL EDGES WITH PG ∠2" SUPERPAVE ASPHALT WEARING COURSE, 9.5 MM MIX ASPHALT BASE COURSE, 25 MM MIX (E) WEARING & -6" CRUSHED STONE BASE BINDER COURSES AND SUBBASE CHOKED W/ SCREENINGS AND COMPACTED TRENCH BACKFILL. MATERIAL (SEE JNDISTURBED DETAIL 1/C3.2) EARTH TRENCH WIDTH

TYPICAL PAVEMENT RECONSTRUCTION DETAIL SCALE: NOT TO SCALE C3.2

NEW PAVEMENT THICKNESSES

TO MATCH EXISTING.

6"-4000 PSI AIR -6"x6" 2.9x2.9 W.W.F. TO — ENTRAINED CONC. BE DISCONTINUED @ SIDEWALK (SEE EACH EXPANSION JOINT PLAN FOR WIDTH) FINISHED-SLOPE 1/4"/FT. GRADE \_\_\_\_\_x \_\_\_x \_\_\_x 4 4 4 4 4" OF 34" OF COMPACTED CRUSHED STONE SIDEWALK CONSTRUCTION DETAIL

SCALE: 1" = 1'-0" C3.2 ALL SIDEWALKS TO BE SCORED EVERY 5'-0" & 1/2" PREM.

FILLER EXPANSION JOINTS TO OCCUR @ 20'-0" O.C.

ALL MATERIAL AS SPECIFIED -PRUNE AS DIRECTED -2 PLY GARDEN HOSE DOUBLE STRAND 12 GA GALV WIRE. BOTH STRANDS THROUGH HOSE & AROUND STAKE. TWIST TIGHT. -CEDAR STAKE MIN 2 1/2"ø. BASE OF PLANT TO BE 1" ABOVE GRADE - 2" MULCH - PLANT SAUCER - REMOVE BURLAP FROM TOP 1/3 OF BALL - BACKFILL WITH NATIVE SOIL TYPICAL DECIDUOUS TREE PLANTING DETAIL

- PRUNE AS DIRECTED -RUBBER HOSE -WIRE GUYS -TURNBUCKLES - BASE OF PLANT TO BE 1" ABOVE GRADE 2" MULCH -PLANT SAUCER -REMOVE BURLAP FROM TOP 1/3 OF BALL -BACKFILL WITH NATIVE SOIL ALL MATERIAL AS SPECIFIED TYPICAL EVERGREEN

- PRUNE AS DIRECTED BASE OF PLANT TO BE 1" ABOVE GRADE " MULCH - PLANT SAUCER -REMOVE BURLAP FROM TOP 1/3 OF BALL -BACKFILL WITH NATIVE SOIL ALL SIDES ALL MATERIAL AS SPECIFIED TYPICAL SHRUB PLANTING DETAIL SCALE: NOT TO SCALE

6 TREE PLANTING DETAIL C3.2 SCALE: NOT TO SCALE

Provide trees and shrubs as shown and specified. The work a. Soil preparation. b. Trees and shrubs.

SCALE: NOT TO SCALE

c. Mulch and planting accessories. 2. Comply with sizing and grading standards of the latest edition of "American Standard for Nursery Stock." A plant shall be dimensioned as it stands in its natural position. 3. Stock furnished shall be at least the minimum size indicated. Larger stock is acceptable, at no additional cost, and providing that the larger plants will not be cut back to size indicated. Provide plants indicated by two measurements so that only a maximum of 25% are of the minimum size indicated and 75% are of the maximum size indicated.

4. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind—tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of exterior plants during delivery. Do not drop exterior plants during delivery. 5. Deliver exterior plants after preparations for planting have been completed and install immediately. If planting is delayed more than six hours after delivery, set exterior plants trees in shade, protect from weather and mechanical damage, and keep roots moist. 6. Warrant plant material (except annuals) to remain alive and be in healthy, vigorous condition for a period of 1 year after completion and acceptance of entire project.

7. Replace, in accordance with the drawings and specifications, all plants that are dead or, as determined by the Owner's Representative, are in an unhealthy or unsightly condition, and have lost their natural shape due to dead branches, or other causes due to the Contractor's negligence. The cost of such replacement(s) is at Contractor's expense. Warrant all replacement plants for 1 year

after installation. 8. Plants: Provide plants typical of their species or variety; with normal, densely—developed branches and vigorous, fibrous root systems. Provide only sound, healthy, vigorous plants free from defects, disfiguring knots, sun scald injuries, frost cracks, abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestations. All plants shall have a fully developed form without voids and open spaces. Plants held in storage will be rejected if they show signs of growth during storage. 9. Dig balled and burlapped plants with firm, natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Provide ball sizes complying with the latest edition of the

"American Standard for Nursery Stock." Cracked or mushroomed balls are not acceptable. 10. The height of the trees, measured from the crown of the roots to the top of the top branch, shall not be less than the minimum size designated in the plant list. The caliper of the trees, measured 12" from the root ball for trees 4" Caliper and up, and 6" from the base for those up to 4" Caliper, shall not be less than the minimum size designated in the plant list.

11. Shrubs shall meet the requirements for spread and height indicated in the plant list.

plant as a whole well-bushed to the gound.

a. The measurements for height shall be taken from the ground level to the height of the top of the plant and not the longest branch. b. Single stemmed or thin plants will not be accepted. c. Side branches shall be generous, well—twigged, and the

d. Plants shall be in a moist, vigorous condition, free from dead wood, bruises, or other root or branch injuries. 12. Do not cut the leader of evergreen tree species. 13. Planting mix for shrub beds shall be sandy loam with added material to create a light and airy well—drained growing medium. Acceptable additives include Canadian peat moss, sphagnum moss, vermiculite, perlite, coarse sand, porous aggregates such as expanded slate, topsoil or decomposed bark humus, and composted leaf mold. Recommended composition: 10% fine sand; 10% coarse sand (.05 millimeter to .1 millimeter builder's sand); 30% topsoil: 25% clay; 25% organic matter (peat moss, bark humus, and/or leaf mold). The pH shall be between 5.5 and 6.8. If necessary, the Contractor may adjust pH by adding aluminum sulfate or

agricultural ground limestone. a. Planting mixture is to be mixed off—site, analyzed and approved prior to delivery. 14. Topsoil: Fertile, friable, natural topsoil of loamy character, without admixture of subsoil material, obtained from a well-drained arable site, reasonably free from clay, lumps, coarse sands, stones, plants, roots, sticks, and other foreign materials, with acidity range

of between pH 6.0 and 6.5. a. Provide topsoil free of substances harmful to the plants that will be grown in the soil. b. If necessary, the Contractor may adjust pH by adding aluminum sulfate or agricultural ground limestone. After the

addition of the additive, a sample of the mixture shall again be analyzed to determine that its incorporation has corrected the pH to meet the specification. The contractor shall furnish a one cubic foot sample of the corrected topsoil to the Landscape Architect at least two weeks prior to the

anticipated use of the topsoil. 15. Wood Mulch: 6 month old well rotted double shredded native hardwood bark mulch not larger than 4" in length and 1/2" in width, free of woodchips and sawdust. 16. Fertilizer

a. Plant Fertilizer Type "A": Commercial type, containing 5% nitrogen, 10% phosphoric acid, and 5% potash by weight, 1/4 of nitrogen in the form of nitrates, 1/4 in the form of ammonia salt, and 1/2 in form of organic nitrogen. b. Plant Fertilizer Type "B": Approved acid-base fertilizer. Granular, non-burning product composed of not less than 50% organic slow acting, guaranteed analysis professional

— Starter fertilizer containing 20% nitrogen, 26% phosphoric acid, and 6% potash by weight, or similar approved 17. Anti-Desiccant: Protective film emulsion providing a protective film over plant surfaces; permeable to permit transpiration, such as "Wilt—Pruf" manufactured by Nursery Products Specialties, Co., Croton Falls, New York. Mixed and applied in accordance with manufacturer's instructions.

18. Water: Free of substances harmful to plant and seed growth. Hoses or other methods of transportation furnished by Contractor unless agreed to by Owner.

19. Stakes for Staking tree: Hardwood, 2"x2"x8'-0" long. 20. Staking and Guying Hose: webbed flexible type, i.e. as available from CAMB GUARDS, part #92-113, from Keslick & Son, M/A Products (610)696-5353, or ARBORTAPE from NEPTCO (John Caprio) (800)354-5445 Ext. 298.

21. Examine finish surfaces, grades, topsoil quality, and depth. Examine proposed planting areas and conditions of installation. Do not start planting work until unsatisfactory conditions are corrected. 22. Locate plants as indicated or as approved in the field after staking by the Contractor. If obstructions are encountered that are not shown on the drawings, do not proceed with planting operations until alternate plant locations have been selected. 23. Excavate plant pits as noted on the details, except for plants specifically indicated to be planted in planters. Provide shrub pits at least 8" greater than the diameter of the root system and 18" greater for the tree. Depth of pit shall accommodate the root system. Provide undisturbed subgrade to hold root ball at nursery grade as shown on the drawings. If excavated materials are suitable for reuse on site, place at a location as directed by the Owner's Representative. If unsuitable or not able to be used, remove excavated materials from the site.

24. Provide pre-mixed planting mixture for use around the balls and roots of the plants consisting of planting topsoil and 1/2 lb. plant fertilizer Type "A" for each cu. yd. of mixture. 25. Set plant material in the planting pit to proper grade and alignment. Set plants upright, plumb, and faced to give the best appearance or relationship to each other or adjacent structure. Set plant material 1"-2" above the finish grade. No filling will be permitted around trunks or stems. Backfill the pit with planting mixture. Do not use frozen or muddy mixtures for backfilling. 26. After balled and burlapped plants are set, muddle planting soil mixture around bases of balls and fill all voids. a. Remove all burlap, ropes, and wires from the tops of balls. 27. Mulching: Mulch tree and shrub beds with required mulching material 2" deep immediately after planting. Thoroughly water mulched areas. After watering, rake mulch to provide a uniform finished surface.

28. Guying and staking: a. When high winds or other conditions that may effect tree survival or appearance occur, the Owner's Representative may require immediate staking or guying. b. Stake and guy the deciduous trees which are over 3"

29. Pruning: a. Prune branches of deciduous trees, after planting, to balance the loss of roots and preserve the natural character appropriate to the particular plant requirements. In general, remove 1/4 to 1/3 of the leaf bearing buds. Remove or cut back broken, damaged, and unsymmetrical growth of new wood. Do not cut leader. b. Prune evergreens only to remove broken or damaged

30. Maintain planting for a period of at least 60 days after completion of planting operations or until all plants are sufficiently recovered from transplanting and in a healthy growing condition accceptable to the Owner's Representative. 31. Maintenance shall include pruning, cultivating, weeding, watering, and application of appropriate insecticides and fungicides necessary

to maintain plants free of insects and disease. a. Re—set settled plants to proper grade and position. o. Tighten and repair guy wires and stakes as required. c. Correct defective work as soon as possible after deficiencies become apparent and weather and season permit. d. Water tree and shrubs within the first 24 hours of initial

planting, and not less than twice per week until acceptance at the end of the maintenance period. 32. Perform cleaning during installation of the work and upon completion of the work. Remove from site all excess materials, soils, debris, and equipment. Repair damage resulting from planting

\ENGINEER √ 27452-E PROJECT  $\Delta$ 

//PROFESSIONAL

DAVID C. BRAND

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SEAL

REVISION PRELIM./FINAL APPROVAL

NCASTER / PENNSYLV WNSHIP, D

SHEET TITLE

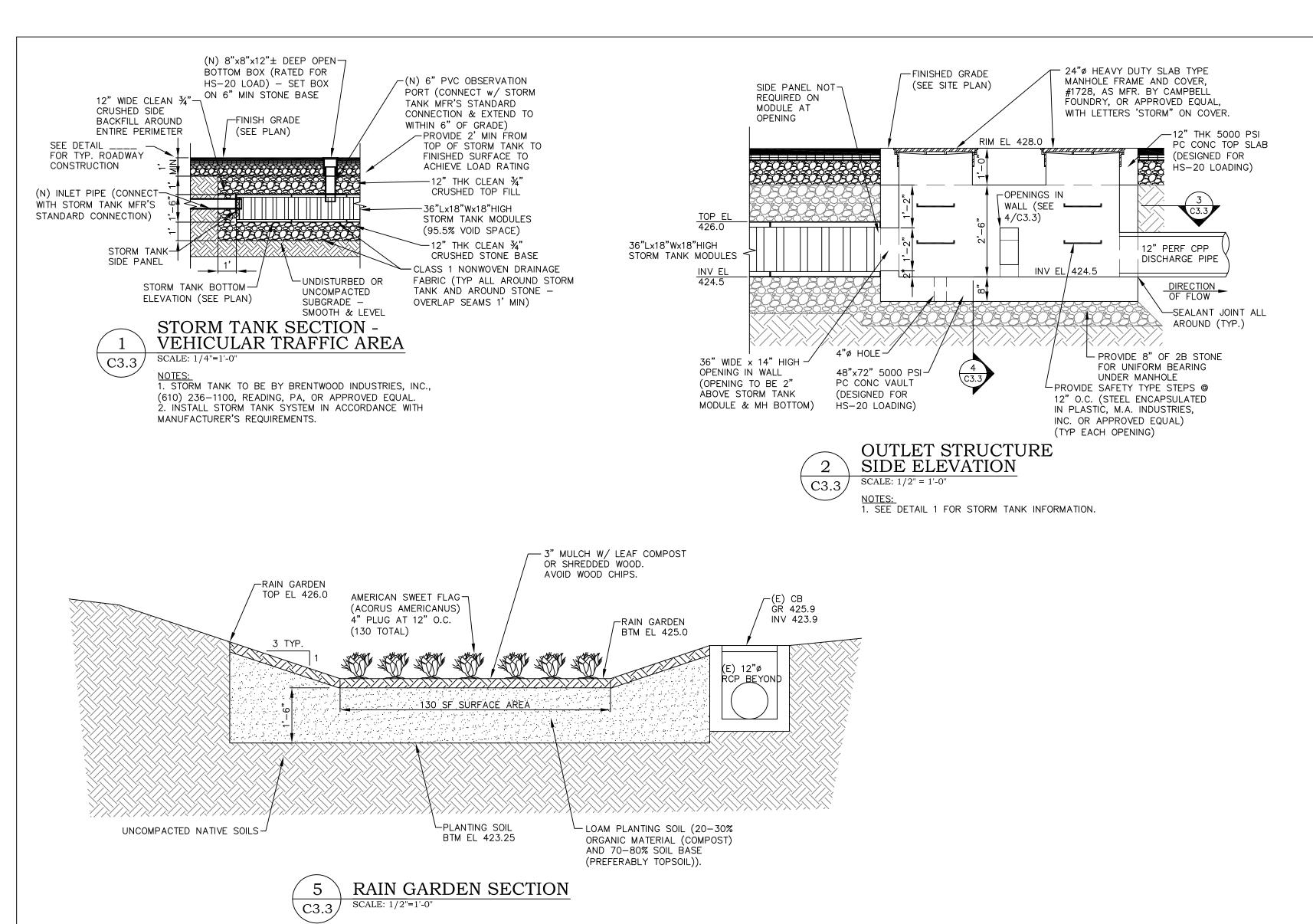
SECTIONS AND **DETAILS** 

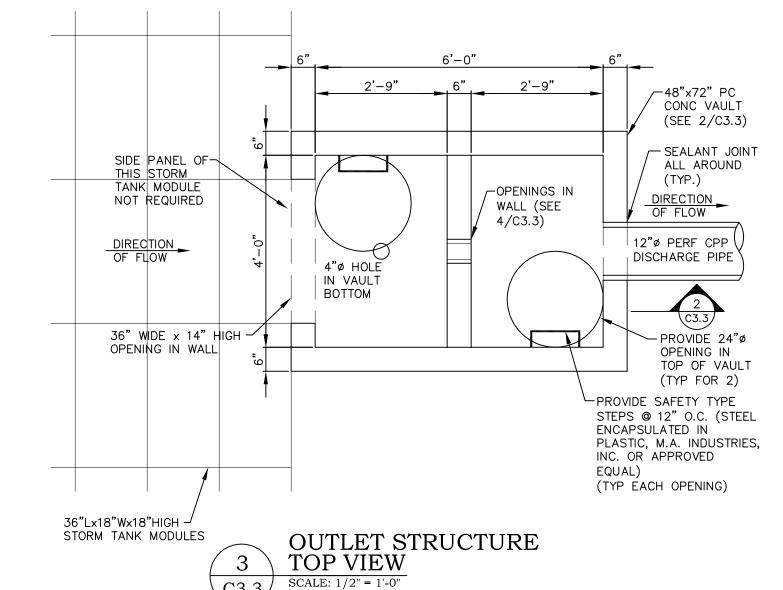
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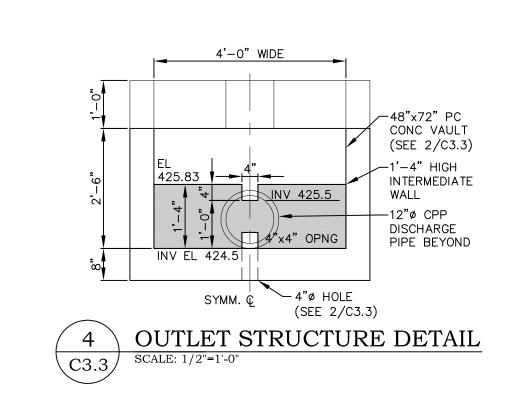
SHEET NO.

SHEET NO. 11 OF 13

0300.014 PROJECT NO. DATE: OCTOBER 29, 2014







Associated Engineering Consultants Incorporated
485 Devon Park Drive Suite 113 Wayne Pennsylvania 19087 tel 610 688 :

PROFESSIONAL

DAVID C. BRANDT

ENGINEER

27452-E

WSYLVE

PROJECT

END ZONE BUILDING FER AVENUE

PROPOSED WEST END ZONE I 300 EAST LANCASTER AVENUI 7ILLANOVA, PENNSYLVANIA 1

REVISION
PRELIM./FINAL APPROVAL

SHEET TITLE

STORMWATER SECTIONS AND DETAILS

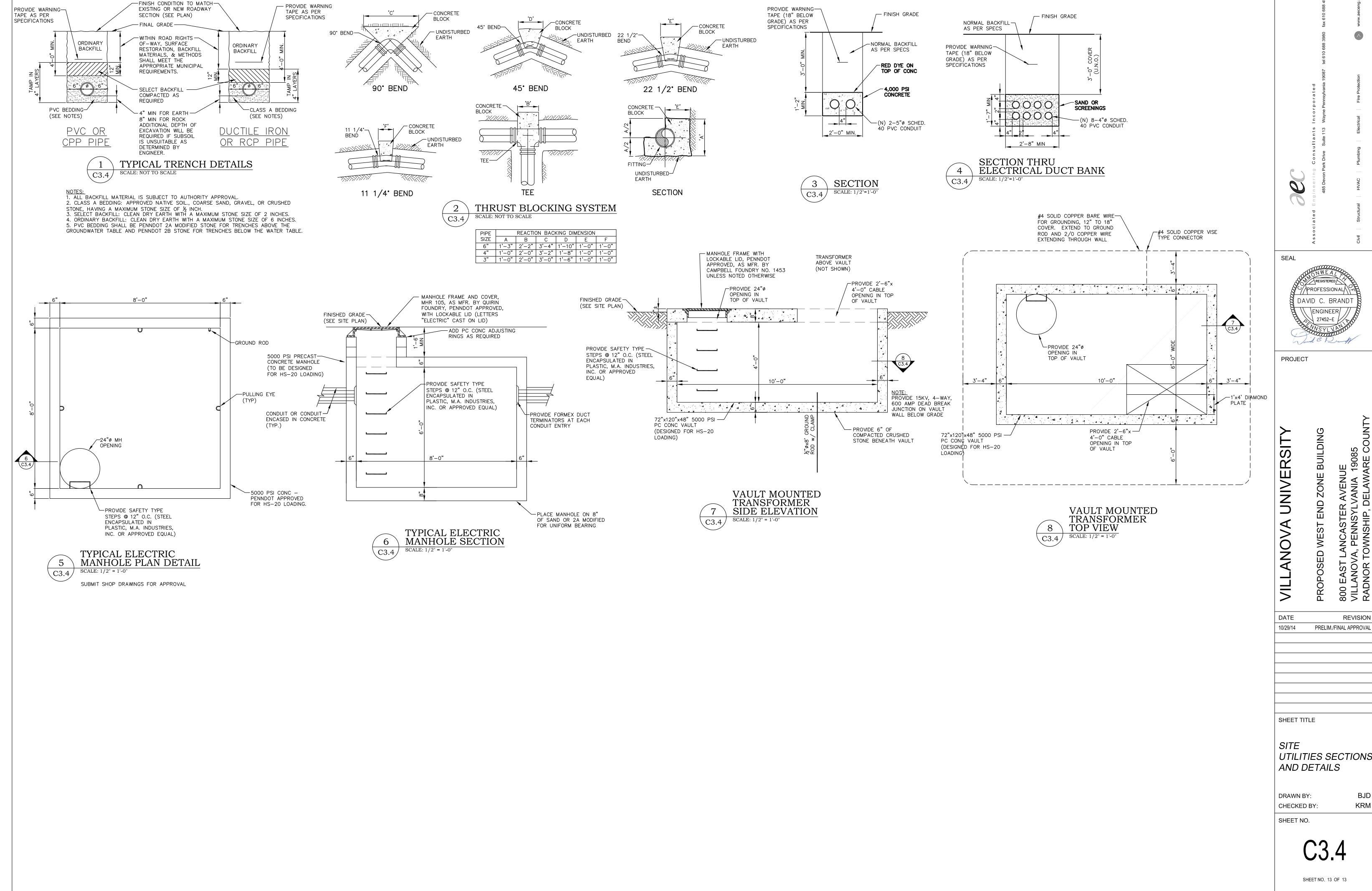
DRAWN BY: CHECKED BY:

SHEET NO.

C3.3

SHEET NO. 12 OF 13

DATE: OCTOBER 29, 2014



REVISION PRELIM./FINAL APPROVAL

UTILITIES SECTIONS

0300.014 PROJECT NO. DATE: OCTOBER 29, 2014