

SECRETARY
PLANNING DEPARTMENT CERTIFICATION:
COUNTY PLANNING DEPARTMENT

SHIP ZONING OFFICER CERTIFICATION:
TOWNSHIP ZONING OFFICER,
20__

ORDER OF DEEDS
RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS
IN MEDIA, DELAWARE COUNTY,
PENNSYLVANIA, IN PLAN BOOK _____, PAGE _____,
ON _____ DAY OF _____, 20__

APPROVED
GRADING PERMIT # 15-205
FEB 22 2016
[Signature]
Township Engineer

(DUTY) RECORDER OF DEEDS

CERTIFICATE OF OWNERSHIP
AND ACKNOWLEDGEMENT OF PLAN

THIS, THE _____ DAY OF _____, 20__, BEFORE ME, THE
undersigned officer, PERSONALLY APPEARED _____

(NAME OF OWNER)

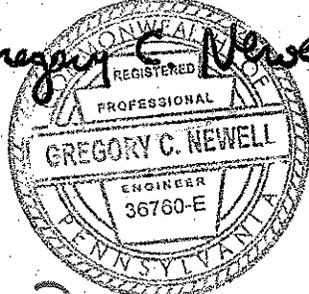
WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT HE/SHE IS THE OWNER
AND/OR EQUITABLE OWNER OF THE PROPERTY SHOWN ON THIS PLAN, AND THAT HE/SHE
ACKNOWLEDGES THE SAME TO BE HIS/HER ACT AND PLAN AND DESIRES THE SAME BE RECORDED
AS SUCH ACCORDING TO LAW.

WITNESS MY HAND AND SEAL THE DAY AND DATE ABOVE WRITTEN.

MY COMMISSION EXPIRES:

(NOTARY PUBLIC OR OTHER OFFICER)

RECEIVED
FEB 22 2016
BY: _____

Gregory C. Newell

15-205

GRADING PERMIT
SUBMISSION

Revision #8 February 10, 2016
Date March 6, 2015
Title Title Sheet
Scale As Noted
Drawn By DWN

C0.0

Sheet No. _____

1 of _____

Contractor to verify all dimensions in field and inform
Architect of any discrepancies before starting work

GRADING PERMIT SUBMISSION FOR PIKE FIELD GARAGE

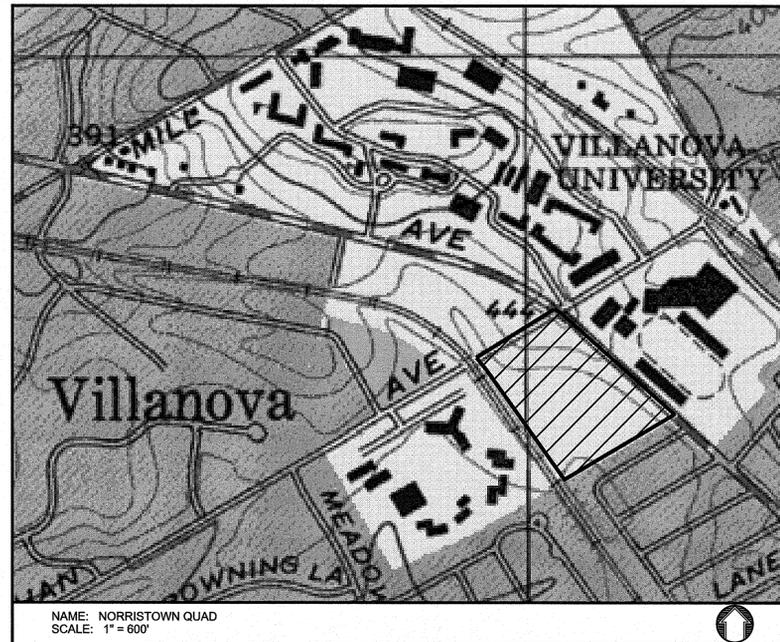
Villanova University

SITUATED IN RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA



PLAN INDEX

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23 OF 37	C5.4	EROSION & SEDIMENTATION CONTROL DETAIL SHEET	MARCH 6, 2015	JANUARY 29, 2016
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3 OF 3	C8.3	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN	NOVEMBER 20, 2015	FEBRUARY 10, 2016



OWNER / APPLICANT
VILLANOVA UNIVERSITY
800 E LANCASTER AVE
VILLANOVA, PA 19085
610-519-4500

ENGINEER CERTIFICATION

I HEREBY CERTIFY THAT THE PLAN SHOWN AND DESCRIBED HEREON IS TRUE AND CORRECT TO THE ACCURACY REQUIRED BY RADNOR TOWNSHIP SUBDIVISION AND LAND DEVELOPMENT ORDINANCE.

DATE: _____

GREGORY C. NEWELL, PE
PENNSYLVANIA LICENSE NO. PE 36760-E

RADNOR TOWNSHIP ENGINEER CERTIFICATION:

REVIEWED BY RADNOR TOWNSHIP ENGINEER,
THIS _____ DAY OF _____, 20____.

RADNOR TOWNSHIP BOARD OF SUPERVISORS CERTIFICATION:

APPROVED BY RADNOR TOWNSHIP BOARD OF SUPERVISORS,
THIS _____ DAY OF _____, 20____.

DELAWARE COUNTY PLANNING DEPARTMENT CERTIFICATION:

REVIEWED BY THE DELAWARE COUNTY PLANNING DEPARTMENT,
THIS _____ DAY OF _____, 20____.

RADNOR TOWNSHIP ZONING OFFICER CERTIFICATION:

REVIEWED BY THE RADNOR TOWNSHIP ZONING OFFICER,
THIS _____ DAY OF _____, 20____.

RECORDER OF DEEDS

RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS IN MEDIA, DELAWARE COUNTY, PENNSYLVANIA, IN PLAN BOOK _____, PAGE _____ ON THE _____ DAY OF _____, 20____.

(DEPUTY) RECORDER OF DEEDS

CERTIFICATE OF OWNERSHIP AND ACKNOWLEDGEMENT OF PLAN

ON THIS, THE _____ DAY OF _____, 20____, BEFORE ME, THE UNDERSIGNED OFFICER, PERSONALLY APPEARED _____

(NAME OF OWNER)
WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT HE/SHE IS THE OWNER AND/OR EQUITABLE OWNER OF THE PROPERTY SHOWN ON THIS PLAN, AND THAT HE/SHE ACKNOWLEDGES THE SAME TO BE HIS/HER ACT AND PLAN AND DESIRES THE SAME BE RECORDED AS SUCH ACCORDING TO LAW.

WITNESS MY HAND AND SEAL THE DAY AND DATE ABOVE WRITTEN.

MY COMMISSION EXPIRES: _____

(NOTARY PUBLIC OR OTHER OFFICER)

Villanova University
Pike Field Garage
Lancaster and Ithan Avenues
Villanova PA 19085

VMA
RAMSA

ARCHITECT-OF-RECORD
Voith & Mactavish Architects LLP
2401 Walnut Street, 6th Floor
Philadelphia, PA 19103
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fax: 215-545-3299
www.voithandmactavish.com

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fax: 212-967-5388
www.ramsa.com

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fax: 610-265-4299
www.navenewell.com

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mobile phone: 610-334-0974
fax: 610-337-3359
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phone main: 856-433-6380
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www.sikora-wa.com

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GRADING PERMIT SUBMISSION

Revision #8 February 10, 2016
Date March 6, 2015
Title Title Sheet

Scale As Noted
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C0.0

Sheet No. 1 of 37

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.

**VMA
 RAMSA**

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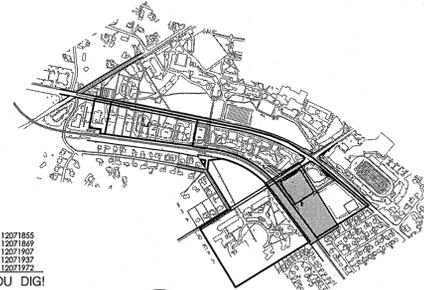
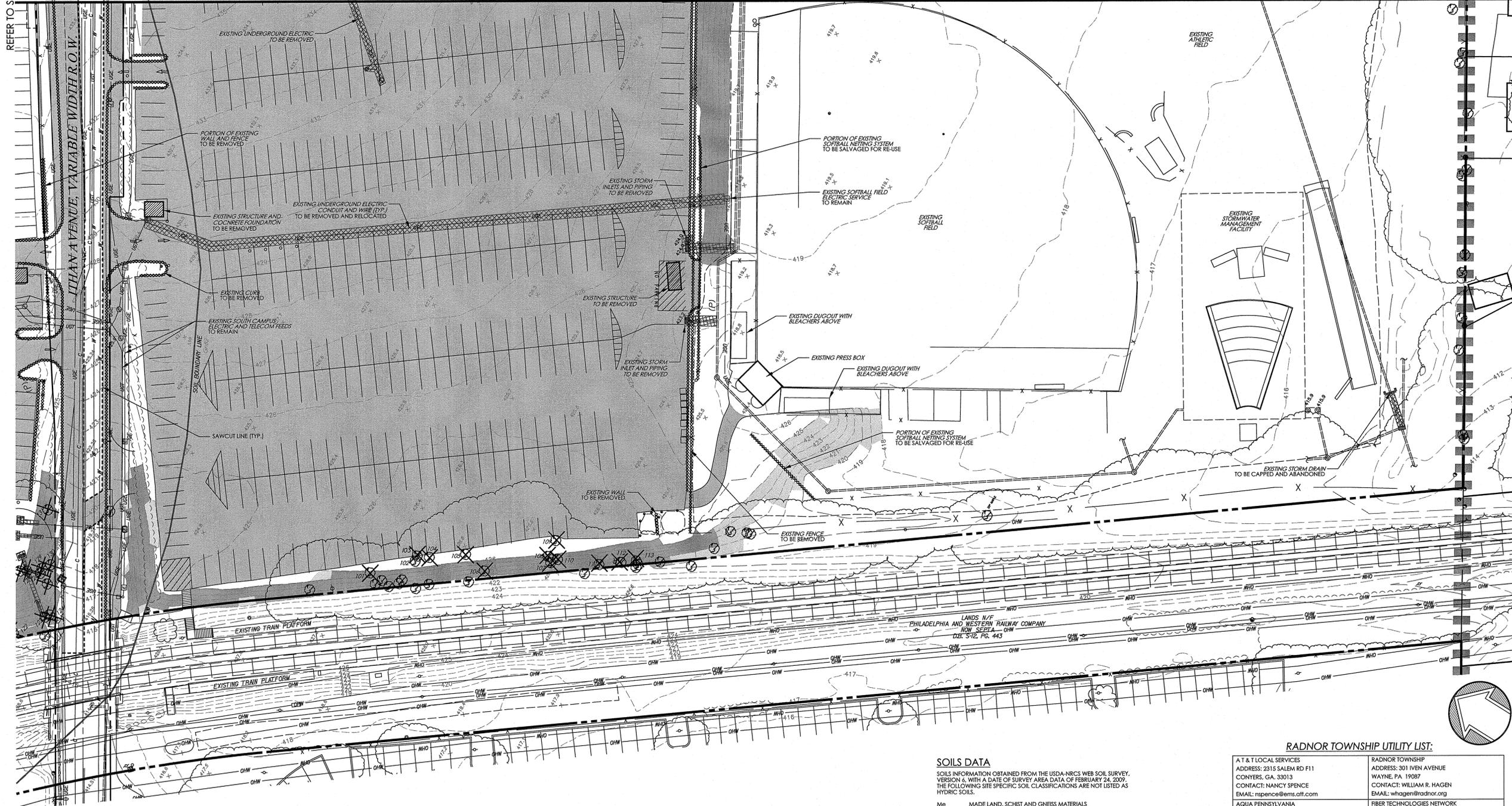
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REFER TO SHEET C1.3

MATCH TO SHEET C1.2

MATCH TO SHEET C1.2

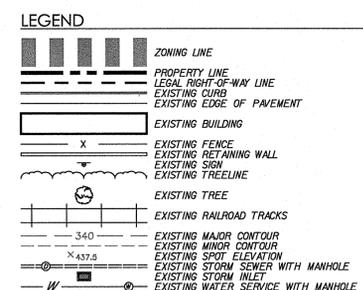


20112071855
 20112071869
 20112071907
 20112071937
 20112071972
 PROJECT SERIAL NO.
 CALL BEFORE YOU DIG!
 PENNSYLVANIA LAW REQUIRES
 3 WORKING DAYS NOTICE FOR
 CONSTRUCTION PHASE AND 10 WORKING
 DAYS IN DESIGN STAGE - STOP CALL
 Pennsylvania One Call System, Inc.
 1-800-242-1776

KEY MAP
 SCALE 1" = 1,000'

EXISTING TREE REMOVAL CHART

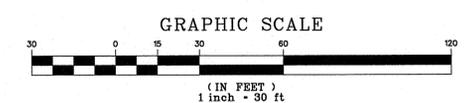
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102	WAL	20	122	CHR	18
103	CHR	4	123	MAP	8
104	WAL	20	124	CHR	10
105	MAP	18	125	CHR	15
106	CHR	10	126	CHR	15
107	CHR	12	127	CHR	10
108	MAP	12	128	LOC	6
109	TREE	36	129	CHR	15
110	CHR	12	130	CHR	15
111	TREE	10	131	CHR	15
112	MAP	12	132	GIN	14
113	CHR	8	133	GIN	14
			134	GIN	14
			135	GIN	18
			136	GIN	20
			137	GIN	14
			138	GIN	14



SOILS DATA
 SOILS INFORMATION OBTAINED FROM THE USDA-NRCS WEB SOIL SURVEY, VERSION 6, WITH A DATE OF SURVEY AREA DATA OF FEBRUARY 24, 2009. THE FOLLOWING SITE SPECIFIC SOIL CLASSIFICATIONS ARE NOT LISTED AS HYDRIC SOILS.
 Me MADE LAND, SCHIST AND GNEISS MATERIALS
 GrB2 GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED

RADNOR TOWNSHIP UTILITY LIST:

A T & T LOCAL SERVICES ADDRESS: 2315 SALEM RD F11 CONYERS, GA. 30013 CONTACT: NANCY SPENCE EMAIL: nspence@atts.com	RADNOR TOWNSHIP ADDRESS: 301 IVEN AVENUE WAYNE, PA 19087 CONTACT: WILLIAM R. HAGEN EMAIL: whagen@radnor.org
AQUA PENNSYLVANIA ADDRESS: 742 LANCASTER AVENUE BRYN MAWR, PA. 19010 CONTACT: STEVE PIZZI	FIBER TECHNOLOGIES NETWORK ADDRESS: 300 MERIDIAN CENTRE ROCHESTER, NY 14618 CONTACT: ROBERT FREED
COMCAST CABLE COMMUNICATIONS ADDRESS: 110 SPRINGBROOKE BLVD ASTON, PA 19014 CONTACT: PAUL DABALDO EMAIL: paul.dabaldo@cable.comcast.com	PECO ENERGY ADDRESS: C/O SIS LLC 1004 W. 8TH AVE KING OF PRUSSIA, PA. 19406 CONTACT: WAYNE VINCENT EMAIL: wvincent@stus.net
ABOVENET COMMUNICATIONS INC ADDRESS: 387 CIRCLE OF PROGRESS DR POTTSTOWN, PA. 19444 CONTACT: CHRIS RICCIUTI EMAIL: chris.ricciuti@abovenet	LEVEL 3 COMMUNICATIONS ADDRESS: 1025 ELDERADO BLVD BLDG BROOMFIELD, CO 80021 CONTACT: LEVEL 3 OPERATOR EMAIL: level3networkrelocations@level3.com
VERIZON PENNSYLVANIA INC ADDRESS: 900 RACE STREET, 6TH FLOOR PHILADELPHIA, PA. 19107 CONTACT: SUZETTE WALKER EMAIL: suzette.e.walker@verizon.com	SOUTHEAST PA TRANSPORTATION AUTHORITY ADDRESS: 123 MARKET ST. 12TH FLOOR PHILADELPHIA, PA. 19107 CONTACT: DAVID MONTIVYDAS EMAIL: dmontiv@septa.org



**GRADING PERMIT
 SUBMISSION**

Revision #6 November 20, 2015
 Date March 6, 2015
 Title Existing Features / Demolition Plan
 Scale 1" = 30'
 Drawn By DWN

C1.1
 Sheet No. 2 of 37
 Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.

VMA RAMSA

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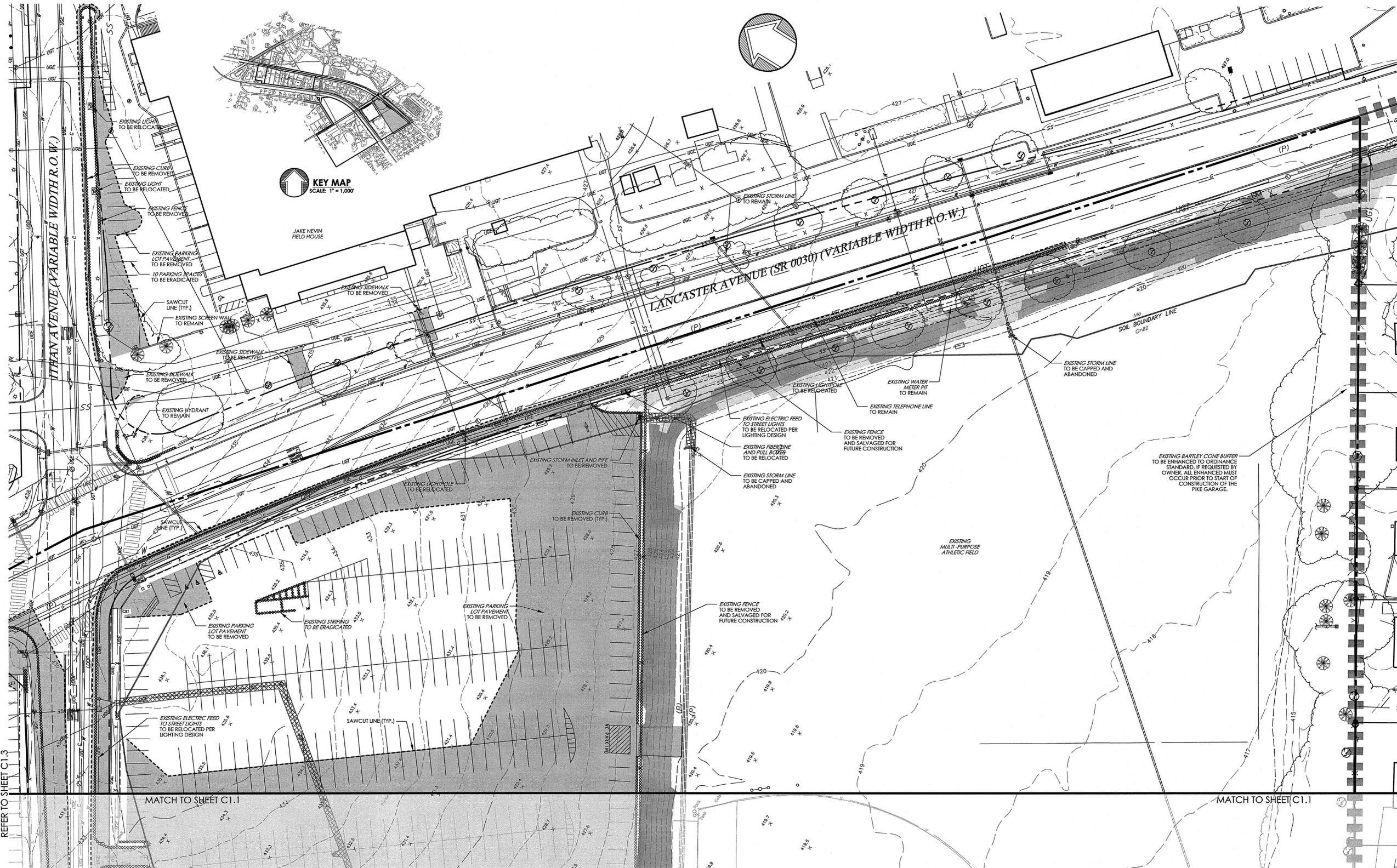
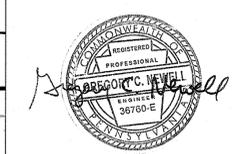
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JAKE NEVIN
FIELD HOUSE

REFER TO SHEET C1.3

MATCH TO SHEET C1.1

MATCH TO SHEET C1.1

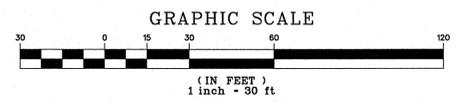
LEGEND

- | | | | |
|--|--------------------------------------|--|--------------------------------------|
| | ZONING LINE | | SAWCUT LINE |
| | PROPERTY LINE | | EXISTING BUILDING |
| | LEGAL RIGHT-OF-WAY LINE | | EXISTING FENCE |
| | EXISTING EASEMENT LINE | | EXISTING RETAINING WALL |
| | EXISTING EDGE OF PAVEMENT | | EXISTING SIGN |
| | EXISTING BUILDING | | EXISTING TREELINE |
| | EXISTING FENCE | | EXISTING TREE |
| | EXISTING RETAINING WALL | | EXISTING MAJOR CONTOUR |
| | EXISTING SIGN | | EXISTING MINOR CONTOUR |
| | EXISTING TREELINE | | EXISTING SPOT ELEVATION |
| | EXISTING TREE | | EXISTING SANITARY SEWER WITH MANHOLE |
| | EXISTING MAJOR CONTOUR | | EXISTING STORM SEWER WITH MANHOLE |
| | EXISTING MINOR CONTOUR | | EXISTING STORM INLET |
| | EXISTING SPOT ELEVATION | | EXISTING WATER SERVICE WITH MANHOLE |
| | EXISTING SANITARY SEWER WITH MANHOLE | | EXISTING WATER VALVE |
| | EXISTING STORM SEWER WITH MANHOLE | | |
| | EXISTING STORM INLET | | |
| | EXISTING WATER SERVICE WITH MANHOLE | | |
| | EXISTING WATER VALVE | | |

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GRADING PERMIT SUBMISSION

Revision #6 November 20, 2015
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 Demolition Plan
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 Drawn By DWN

C1.2

Sheet No. 3 of 37

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.

CAMPUS-WIDE ZONING DATA

CLASSIFICATION:	REQUIRED	EXISTING	PROPOSED
PLANNED INSTITUTIONAL DISTRICT (PI)			
BUILDING AREA	30% MAX.	13.0% (29.26 ACRES) (c)	14.3% (32.25 ACRES) (b)
TOTAL IMPERVIOUS COVERAGE	45% MAX.	37.6% (84.60 ACRES) (c)	36.4% (81.85 ACRES) (c)

NOTES:
 a. DATA OBTAINED FROM LAST CAMPUS DEVELOPMENT APPROVAL SHOWN ON A PLAN ENTITLED "VILLANOVA UNIVERSITY WEST CAMPUS PROPOSED SOCCER FIELD RECONSTRUCTION" PLAN DATED OCTOBER 4, 2013, LAST REVISED MAY 6, 2014, PREPARED BY ASSOCIATED ENGINEERING CONSULTANTS INCORPORATED (AEC).
 b. DORMITORY BUILDING 1 1.05 ACRES (1A: 0.42 + 1B: 0.19 + 1C: 0.44)
 DORMITORY BUILDING 2 1.17 ACRES (2A: 0.32 + 2B: 0.37 + 2C: 0.48)
 PERFORMING ARTS CENTER 0.77 ACRES
 TOTAL 2.99 ACRES (PROPOSED BUILDING AREA)
 EXISTING BUILDING AREA 29.26 ACRES
 PROPOSED BUILDING AREA 29.29 ACRES
 TOTAL 58.55 ACRES
 c. EXISTING IMPERVIOUS 84.60 ACRES
 CIDC REDUCTION -2.65 ACRES
 BRIDGE & VISITOR LOT REDUC. 0.10 ACRES
 TOTAL 81.85 ACRES

CAMPUS PARKING ANALYSIS

EXISTING REQUIRED PARKING SPACES

AREA USE DESCRIPTION	AREA USE QUANTITY	REQUIRED PARKING
DORMITORY	4,322 BEDS	1,441
OFFICE (NET SF)	365,851 SF (2)	1,303
RETAIL	6,250 SF (6)	44
RESTAURANT	-	-
LARGEST ASSEMBLY AREA	3,778 FIXED SEATS	945
GYMNASIUM / LIBRARY	42,432 SF	283
LARGEST ASSEMBLY AREA	13,722 SF	344
UNSPECIFIED AREA	30,929 SF	104
TOTAL SPACES		4,464 SPACES
PARKING AVAILABILITY		5,130 SPACES
SURPLUS		666 SPACES

PROPOSED REQUIRED PARKING SPACES

AREA USE DESCRIPTION	AREA USE QUANTITY	REQUIRED PARKING
DORMITORY	5,460 BEDS (1)	1,820
OFFICE (NET SF)	368,091 SF (2)	1,311
RETAIL	12,371 SF (3)	76
RESTAURANT	85 SEATS (4)	39
LARGEST ASSEMBLY AREA	4,178 FIXED SEATS (5)	1,045
GYMNASIUM / LIBRARY	42,432 SF	283
LARGEST ASSEMBLY AREA	13,722 SF	344
UNSPECIFIED AREA	37,179 SF (6)	124
TOTAL SPACES		5,042 SPACES
PARKING AVAILABILITY		5,126 SPACES
SURPLUS		84 SPACES

PROPOSED PARKING TABULATION

AREA USE DESCRIPTION	EXISTING	PROPOSED
MAIN LOT	1,176	62
PIKE LOT	577	1,289
VISITOR LOT	80	45
W. LANCASTER LOT	79	240
ST. AUGUSTINE CENTER	271	494
NEVIN FIELD HOUSE	48	47
UNAFECTED CAMPUS SPACES	2949	2949
TOTAL	5,130 SPACES	5,126 SPACES

- (1) 1,138 BEDS PROPOSED WITHIN DORMITORIES 1A-2C
- (2) 2,240 SF OFFICE PROPOSED WITHIN THE PERFORMING ARTS CENTER
- (3) 9,369 SF BOOKSTORE, 2,877 SF CONVENIENCE STORE, 125 SF RETAIL WITHIN THE PERFORMING ARTS CENTER & 27 EMPLOYEES
- (4) 85 SEATS & 20 EMPLOYEES WITHIN PROPOSED BISTRO
- (5) 400 SEAT THEATER WITHIN THE PERFORMING ARTS CENTER
- (6) CONVERSION OF EXISTING BOOKSTORE TO UNSPECIFIED AREA

ZONING DATA

COMPREHENSIVE INTEGRATED COLLEGE DEVELOPMENT DISTRICT (CIDC)

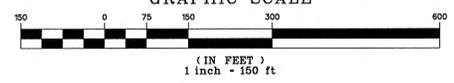
CLASSIFICATION:	REQUIRED	PROPOSED
MINIMUM CAMPUS AREA	75 ACRES	225 ACRES (PI ZONING DISTRICT)
MINIMUM/MAXIMUM CIDC AREA	>10 / <15 ACRES	15 ACRES (CO ZONING DISTRICT) 240 ACRES (TOTAL CAMPUS) 13.81 GROSS ACRES 11.71 NET ACRES
MAXIMUM BUILDING LENGTH	180'	171'
MINIMUM BUILDING SEPARATION		
BETWEEN BUILDING AND BUILDING	45'	45'
BETWEEN BUILDING AND PARKING STRUCTURE	30'	30'
MAXIMUM BUILDING HEIGHT		
ACADEMIC AND PERFORMANCE FACILITIES	50'	49.9'
FLY LOFT	65'	64.1'
HOUSING AND SOCIAL FACILITIES	45'	44.9' BLDG. 1, 44.8' BLDG. 2
PARKING BUILDING HEIGHT	38'	37.9'
MAXIMUM BUILDING COVERAGE - TOTAL (INCLUDES PARKING STRUCTURE)	30%	35.5%*
MAXIMUM BUILDING COVERAGE - INDIVIDUAL		
RESIDENCE HALL 1 (1.05 ACRES)	10%	7.6%
RESIDENCE HALL 2 (1.17 ACRES)	10%	8.5%
PERFORMING ARTS CENTER (0.77 ACRES)	10%	5.6%
MAXIMUM RETAIL SQUARE FOOTAGE	5% OF GSF	2.9% OF GSF***
MINIMUM FACILITY SETBACK FROM SINGLE FAMILY RESIDENTIAL USE	100'	227.8'
MINIMUM ELEVATOR/STAIR TOWER ON PARKING STRUCTURE SETBACK	10'	41.4'
MAXIMUM LENGTH OF ELEVATOR/STAIR TOWER PROJECTION	50'	5'
MINIMUM LOADING AREA SETBACK	50'	62.5'
RIPARIAN BUFFER SETBACK		
MAXIMUM IMPERVIOUS AREA	82%**	69%

* BUILDING COVERAGE EXCEEDING 30% SHALL REQUIRE TWO SQUARE FEET OF OPEN SPACE DEDICATION PER ONE SQUARE FOOT COVER 30%. 33.106 SF EXCEEDING 30% BUILDING COVERAGE REQUIRES 66.212 SF OPEN SPACE DEDICATION. (87,120 SF PROVIDED) (REFER TO THIS SHEET FOR LOCATION OF PRESERVATION AREA)
 ** PROPOSED IMPERVIOUS CONDITIONS MUST BE A MINIMUM 10% REDUCTION FROM EXISTING IMPERVIOUS AREA
 MAIN LOT: 6.8 AC + PIKE LOT: 4.0 AC = 10.8 AC / 11.71 AC = 92% EXISTING IMPERVIOUS COVERAGE - 10% = 82%
 *** 5,101 SF (2A) + 9,369 SF (2B) + 125 SF (PAC) = 14,595 SF = 2.9% OF GSF
 194,558 SF (BUILDING 1) + 223,376 SF (BUILDING 2) = 417,934 SF

SETBACK CHART

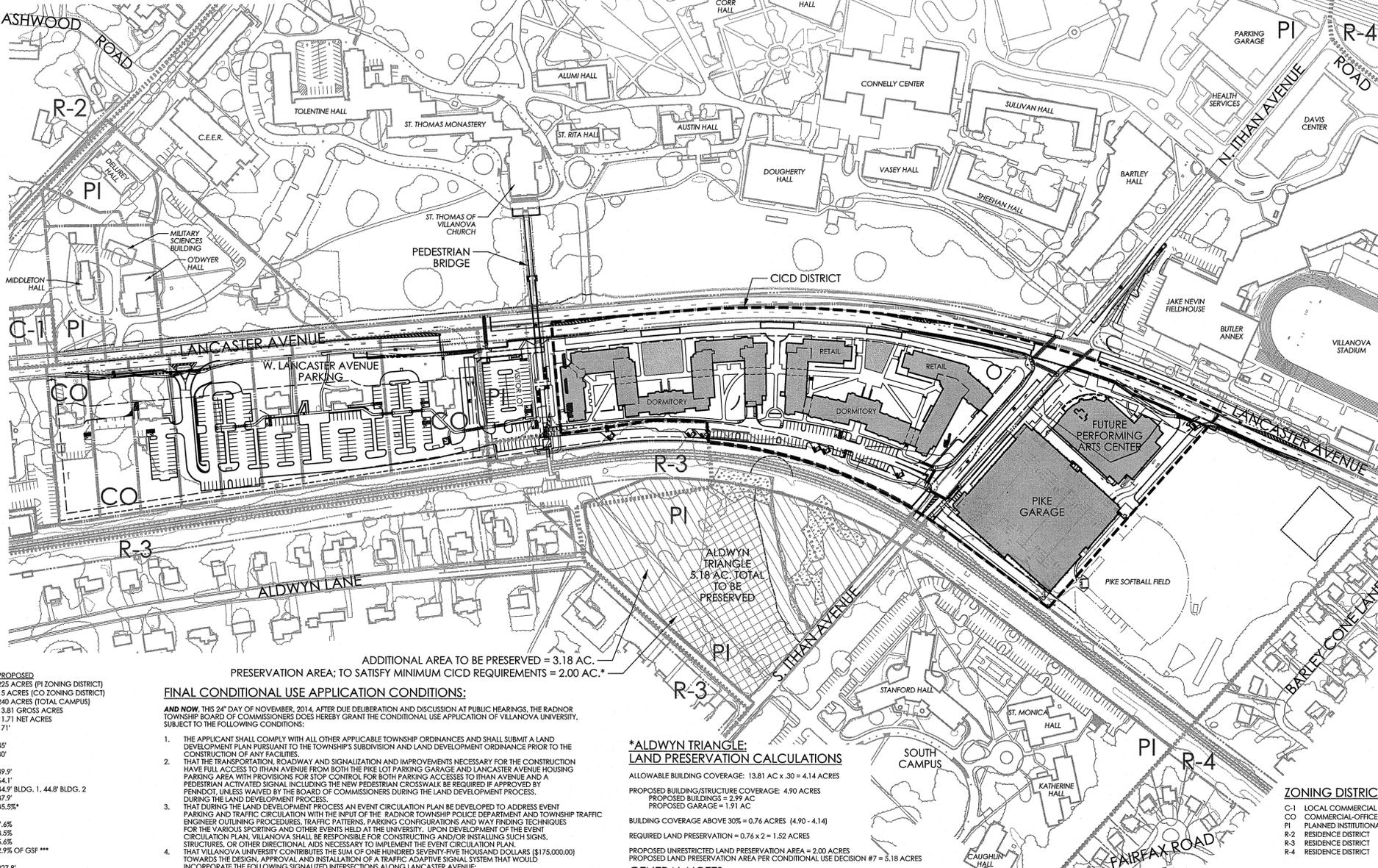
PERFORMANCE AND SOCIAL FACILITIES	ARTERIAL STREETS		MINOR COLLECTORS		RAILROAD RIGHTS-OF-WAY	
	REQUIRED	PROPOSED	REQUIRED	PROPOSED	REQUIRED	PROPOSED
HOUSING FACILITIES	35'	39'	30'	30'	50'	61.6'
PARKING STRUCTURES	120'	169.5'	20'	21'	30'	30'
SURFACE PARKING LOTS	60'	237.7'	60'	103'	5'	12'
RETAIL SUBORDINATE USES	35'	39'	30'	30'	50'	234.4'

GRAPHIC SCALE



VILLANOVA BUILDING HEIGHT CALCULATIONS

LOCATION	AVERAGE EXG GRADE	BUILDING FLOOR LEVEL	HEIGHT FROM FLOOR	TOTAL
BUILDING 1A	438.5	439.0	43.4	
BUILDING 1B	435.0	437.0	44.6	
BUILDING 1C	436.7	436.0	44.9	
BUILDING 1	436.7	437.3	44.3	44.9 (-4.5)
BUILDING 2A	433.8	435.1	43.2	
BUILDING 2B	430.8	430.0	43.9	
BUILDING 2C	432.2	435.0	44.0	
BUILDING 2	432.3	433.3	43.7	44.8 (-4.5)
PIKE GARAGE	427.8	421.7	44.0	37.9 (-3.8)
PERF. ARTS CENTER	432.0	434.5	47.3	49.9 (-5.0)
PAC FLY TOWER	432.0	434.5	41.5	44.1 (-5.5)



ADDITIONAL AREA TO BE PRESERVED = 3.18 AC.
 PRESERVATION AREA; TO SATISFY MINIMUM CIDC REQUIREMENTS = 2.00 AC.*

FINAL CONDITIONAL USE APPLICATION CONDITIONS:

- AND NOW, THIS 24TH DAY OF NOVEMBER, 2014, AFTER DUE DELIBERATION AND DISCUSSION AT PUBLIC HEARINGS, THE RADNOR TOWNSHIP BOARD OF COMMISSIONERS DOES HEREBY GRANT THE CONDITIONAL USE APPLICATION OF VILLANOVA UNIVERSITY, SUBJECT TO THE FOLLOWING CONDITIONS:
- THE APPLICANT SHALL COMPLY WITH ALL OTHER APPLICABLE TOWNSHIP ORDINANCES AND SHALL SUBMIT A LAND DEVELOPMENT PLAN PURSUANT TO THE TOWNSHIP'S SUBDIVISION AND LAND DEVELOPMENT ORDINANCE PRIOR TO THE CONSTRUCTION OF ANY FACILITIES.
 - THAT THE TRANSPORTATION, ROADWAY AND SIGNALIZATION AND IMPROVEMENTS NECESSARY FOR THE CONSTRUCTION HAVE FULL ACCESS TO ITHAN AVENUE FROM BOTH THE PIKE LOT PARKING GARAGE AND LANCASTER AVENUE HOUSING PARKING AREA WITH PROVISIONS FOR STOP CONTROL FOR BOTH PARKING ACCESS TO ITHAN AVENUE AND A PEDESTRIAN ACTIVATED SIGN INCLUDING THE NEW PEDESTRIAN CROSSWALK BE REQUIRED IF APPROVED BY PENNDOT, UNLESS WAIVED BY THE BOARD OF COMMISSIONERS DURING THE LAND DEVELOPMENT PROCESS.
 - THAT DURING THE LAND DEVELOPMENT PROCESS AN EVENT CIRCULATION PLAN BE DEVELOPED TO ADDRESS EVENT PARKING AND TRAFFIC CIRCULATION WITH THE INPUT OF THE RADNOR TOWNSHIP POLICE DEPARTMENT AND TOWNSHIP TRAFFIC ENGINEER OUTLINING PROPOSED TRAFFIC PATTERNS, PARKING CONFIGURATIONS AND WAY FINDING TECHNIQUES FOR THE VARIOUS SPORTING AND OTHER EVENTS HELD AT THE UNIVERSITY. UPON DEVELOPMENT OF THE EVENT CIRCULATION PLAN, VILLANOVA SHALL BE RESPONSIBLE FOR CONSTRUCTING AND/OR INSTALLING SUCH SIGNS, STRUCTURES, OR OTHER DIRECTIAL AIDS NECESSARY TO IMPLEMENT THE EVENT CIRCULATION PLAN.
 - THAT VILLANOVA UNIVERSITY CONTRIBUTES THE SUM OF ONE HUNDRED SEVENTY-FIVE THOUSAND DOLLARS (\$175,000.00) TOWARDS THE DESIGN, APPROVAL AND INSTALLATION OF A TRAFFIC ADAPTIVE SIGNAL SYSTEM THAT WOULD INCORPORATE THE FOLLOWING SIGNALIZED INTERSECTIONS ALONG LANCASTER AVENUE:
 - A. SPROUL ROAD / SPRING MILL ROAD; ALDWYN LANE / KENILWORTH STREET
 - B. CHURCH WALK
 - C. ITHAN AVENUE
 - D. LOWRY'S LANE
 - E. AIRDALE ROAD
 - F. COUNTY LINE ROAD
 - THAT DURING THE LAND DEVELOPMENT PROCESS AN EMERGENCY EVACUATION PLAN FOR THE NEW STUDENT HOUSING BE DEVELOPED.
 - THAT APPROPRIATE FENCING BE PROVIDED ON BOTH THE NORTH AND SOUTH SIDES OF LANCASTER AVENUE IN THE AREA OF THE CHURCH WALK PEDESTRIAN BRIDGE IN AN EFFORT TO RESTRICT PEDESTRIAN TRAFFIC FROM ACCESSING THE CAMPUS. A GATE SHALL BE PROVIDED FOR VEHICULAR AND PEDESTRIAN ACCESS DURING CHURCH EVENTS IF APPROVED BY THE BOARD OF COMMISSIONERS DURING THE LAND DEVELOPMENT APPROVAL PROCESS.
 - THAT THE UNIVERSITY PROVIDE THE AREA KNOWN AS THE ALDWYN TRIANGLE AND RESTRICT IT AS OPEN SPACE EXCEPT FOR THAT PORTION OF THE AREA NECESSARY TO PROVIDE PEDESTRIAN ACTIVITY AND HANDICAP ACCESSIBILITY IMPROVEMENTS FOR THE ADJACENT SEPTA RAIL LINE.
 - THAT A LANDSCAPE AND BUFFER PLAN BE DEVELOPED TO COMPLY WITH SECTION 280-68.1.D.(3)(b) OF THE ZONING ORDINANCE.
 - THAT VILLANOVA SEEK PERMISSION FROM PECO TO PLANT SCREENING ON THE SOUTH SIDE OF THE PECO R-100 LINE TO VISUALLY SCREEN THE SEPTA BRIDGE FROM THE ADJACENT RESIDENTIAL NEIGHBORS. PROVIDED THAT THE APPLICANT RECEIVES PERMISSION, VILLANOVA SHALL PROVIDE AN INSTALLATION AND MAINTENANCE PLAN OF THE VEGETATION NECESSARY FOR THIS SCREENING DURING LAND DEVELOPMENT.
 - VILLANOVA SHALL PROVIDE RADNOR TOWNSHIP A LIST OF CONTRACTORS, SUBCONTRACTORS AND VENDORS AND THEIR ADDRESSES WITHIN TWENTY (20) DAYS OF THE EXECUTION OF ANY CONTRACTS BY VILLANOVA IN CONNECTION WITH THE DEVELOPMENT AND/OR CONSTRUCTION OF THE PROPOSED PROJECT. THE PURPOSE OF THIS LIST IS TO PERMIT THE TOWNSHIP TO AUDIT FOR REQUIRED BUSINESS TRAVEL/COMMERCIAL TAXES.
 - DURING THE LAND DEVELOPMENT PROCESS, THE APPLICANT SHALL USE ITS BEST EFFORTS TO DEVELOP AND CONSTRUCT STORMWATER MANAGEMENT FACILITIES, INCLUDING GREEN INFRASTRUCTURE PRACTICES AND COMPONENTS THAT MEET OR EXCEED INFILTRATION OR RETENTION REQUIREMENTS AS CURRENTLY REQUIRED BY THE RADNOR TOWNSHIP STORMWATER MANAGEMENT ORDINANCE. THE APPLICANT SHALL CONDUCT SOIL TESTING AS NECESSARY TO DETERMINE WHETHER THE SITE CAN ACCOMMODATE THE VOLUME MANAGEMENT OF EXCESS OF 1-INCH OF RUN-OFF FROM ALL IMPERVIOUS SURFACES RESULTING FROM THE PROJECT. IF SOIL TESTING INDICATES THAT IT IS POSSIBLE TO PROVIDE VOLUME MANAGEMENT IN EXCESS OF 1-INCH OF RUN-OFF, THE APPLICANT SHALL CONSTRUCT SUCH NECESSARY STORMWATER FACILITIES ON THE SITE TO ACCOMMODATE THIS INCREASED VOLUME.
 - THE APPLICANT SHALL OBTAIN REVISIONS TO BOTH THE RADNOR TOWNSHIP AND LOWER MERION TOWNSHIP ACT 537 PLANS IN ORDER TO ACCOMMODATE THE INCREASED WASTEWATER DISPOSAL GENERATED BY THE PROJECT.
 - THE APPLICANT SHALL DEVELOP A TRAFFIC PLAN DURING THE LAND DEVELOPMENT PROCESS DELINEATING THE PATHS BY WHICH THE EXISTING POPULATION OF COMMUTING AND PART-TIME STUDENTS WILL BE DIRECTED TO AND FROM PARKING FOR EACH PHASE OF THE CONSTRUCTION.
 - THE APPLICANT SHALL PERMIT PARISHIONERS TO PARK, ON A SPACE AVAILABLE BASIS, ON THE NORTH SIDE OF LANCASTER AVENUE ON EXISTING VILLANOVA PROPERTY ADJACENT TO THE CHURCH FOR RELATED EVENTS.
 - THE APPLICANT SHALL PROVIDE ACCESS FROM THE PROPOSED PROJECT SITE TO THE EXISTING CHURCH AT THE PRESENT CHURCH WALK LOCATION IF APPROVED BY PENNDOT.
 - THE APPLICANT SHALL INSURE THAT NO UNAPPLIED MUSIC OR OTHER EXCESSIVE NOISE SHALL EMANATE FROM ANY OF THE SOUTH FACING DORMITORIES. DURING THE LAND DEVELOPMENT PROCESS, THE TOWNSHIP AND APPLICANT SHALL ESTABLISH A PERMISSIBLE SOUND LEVEL AT THE PROPERTY BOUNDARY OF THE ALDWYN LANE RESIDENTIAL USES.
 - THE APPLICANT'S LAND DEVELOPMENT PLANS SHALL BE SUBSTANTIAL CONFORMITY WITH THE CONDITIONAL USE PLANS DATED MAY 2, 2014 AS AMENDED DURING THE HEARINGS.

***ALDWYN TRIANGLE: LAND PRESERVATION CALCULATIONS**

ALLOWABLE BUILDING COVERAGE: 13.81 AC x 30 = 4.14 ACRES
 PROPOSED BUILDING/STRUCTURE COVERAGE: 4.90 ACRES
 PROPOSED GARAGE = 1.91 AC
 BUILDING COVERAGE ABOVE 30% = 0.76 ACRES (4.90 - 4.14)
 REQUIRED LAND PRESERVATION = 0.76 x 2 = 1.52 ACRES
 PROPOSED UNRESTRICTED LAND PRESERVATION AREA = 2.00 ACRES
 PROPOSED LAND PRESERVATION AREA PER CONDITIONAL USE DECISION #7 = 3.18 ACRES

GENERAL NOTES:

- THIS PLAN IS BASED ON A SURVEY CONDUCTED IN THE FIELD BY NAVE NEWELL, INC., AND COMPLETED AUGUST 8, 2011.
- PROPERTY AS SHOWN IS IN NON-FLOOD PRONE COMMUNITY AS DEFINED ON THE FEDERAL EMERGENCY AGENCY FIRM FLOOD INSURANCE RATE MAP COMMUNITY PANEL NO. 42045C0050 PER NO. 42045CIND04, MAP REVISED NOVEMBER 18, 2009.
- LOCATIONS OF EXISTING UTILITIES AS SHOWN HEREIN HAVE BEEN DEVELOPED FROM EXISTING UTILITY RECORDS, PLANS BY OTHERS AND/OR ABOVE GROUND EXAMINATION OF SITE. THE COMPLETENESS OR ACCURACIES OF THE LOCATIONS ARE NOT GUARANTEED. SHOULD ANY NEW CONSTRUCTION BE PROPOSED, THE CONTRACTOR MUST VERIFY LOCATIONS AND DEPTHS OF ALL UTILITIES BEFORE START OF WORK.
- NO REVIEW OF THE PROPERTY REGARDING THE PRESENCE OF HAZARDOUS MATERIAL WAS ACCOMPLISHED AS A PART OF THIS SURVEY EXCEPT WHERE SHOWN.
- THE PROPOSED USES ARE TO BE SERVICED BY PUBLIC SEWER (LOWER MERION TOWNSHIP) AND PUBLIC WATER (AQUA PA). ALL PROPOSED UTILITIES IN CONNECTION WITH THIS SITE SHALL BE PLACED UNDERGROUND.
- PURSUANT TO SECTION 420 OF THE ACT OF JUNE 1, 1945, (PL1242, NO. 428), KNOWN AS THE "STATE HIGHWAY LAW", PENNDOT HIGHWAY OCCUPANCY PERMITS ARE REQUIRED FOR ANY PROPOSED CONSTRUCTION WITHIN THE RIGHT-OF-WAY OF LANCASTER AVENUE, S.R. 0050.
- ALL CONSTRUCTION IS TO BE IN COMPLIANCE WITH THE STANDARDS AND SPECIFICATIONS OF RADNOR TOWNSHIP.
- THE PROPOSED BUILDING FOOTPRINTS NOTED ON THE PLAN ARE SCHEMATIC. THE ACTUAL ARCHITECTURAL PLANS SHALL BE UTILIZED FOR BUILDING CONSTRUCTION AND MUST BE NO LARGER THAN SCHEMATIC FOOTPRINT SHOWN. THE PROPOSED GRADING AND UTILITY CONNECTIONS ARE TO BE COORDINATED WITH THE ARCHITECTURAL PLANS, PRIOR TO CONSTRUCTION.
- CONTRACTOR TO PROVIDE TEMPORARY LIGHTING, AS NEEDED, FOR CONTRACTOR STAGING AREA. ALL TEMPORARY LIGHTING MUST BE SHIELDED FROM VIEW OF THE SURROUNDING RESIDENTIAL NEIGHBORS.
- THE INTENDED USE OF THE PROPOSED BUILDINGS ARE FOR STUDENT HOUSING AND ASSOCIATED RETAIL.
- ULTIMATE RIGHT-OF-WAY OF ITHAN AVENUE, AS SHOWN, IS OFFERED FOR DEDICATION TO RADNOR TOWNSHIP AS PART OF THIS PLAN.
- GRADING AND EROSION CONTROL PLANS MUST BE SUBMITTED AND APPROVED PRIOR TO ISSUANCE OF BUILDING PERMITS.
- CONTRACTOR TO PROVIDE OPAQUE SCREENING ACROSS OPENINGS IN GARAGE DURING CONSTRUCTION TO SCREEN VISIBILITY OF CONSTRUCTION LIGHTING.
- CONTRACTOR TO PROVIDE TEMPORARY LIGHTING, AS NEEDED, FOR CONTRACTOR STAGING AREA. ALL TEMPORARY LIGHTING MUST BE SHIELDED FROM VIEW OF THE SURROUNDING RESIDENTIAL NEIGHBORS.
- NOISE EMANATING FROM THE SOUTH-FACING DORMS SHALL NOT BE AT NIGHTTIME AT THE PROPERTY BOUNDARY OF THE ALDWYN LANE RESIDENTIAL USES.
- THE PROPERTY OWNER SHALL MAINTAIN FIRE LANE ACCESSIBILITY AFTER SNOW EVENTS BY UTILIZING SNOW BLOW DEVICES TO PRESERVE THE GRASS PAVERS WHILE ALSO LIMITING SNOW ACCUMULATION WITHIN THE LIMITS OF THE FIRE LANE TO A MAXIMUM 2'.
- CONTRACTOR MUST PROVIDE TEMPORARY PEDESTRIAN FACILITIES AT LANCASTER AVENUE AND ITHAN AVENUE AS REQUIRED BY PENNDOT PUBLICATION 13M DESIGN MANUAL 2, HIGHWAY DESIGN CHARTER 6, PEDESTRIAN FACILITIES AND THE AMERICANS WITH DISABILITIES ACT, §6.9.D.11 AND 6.14 TEMPORARY ALTERNATE CIRCULATION PATHS AT CONSTRUCTION SITES, AND AS SHOWN ON THE PENNDOT HOP DRAWINGS.

LEGEND

	PROPERTY LINE
	BUILDING SETBACK LINE
	PARKING SETBACK LINE
	LEGAL RIGHT-OF-WAY LINE
	EXISTING CURB
	EXISTING EDGE OF PAVEMENT
	EXISTING BUILDING
	EXISTING FENCE
	EXISTING RETAINING WALL
	EXISTING RAILROAD TRACKS
	EXISTING WETLANDS
	LIMITS OF CIDC DISTRICT
	PROPOSED RIGHT-OF-WAY LINE
	PROPOSED CURB
	PROPOSED EDGE OF PAVEMENT
	PROPOSED BUILDING / STRUCTURE
	PROPOSED DECORATIVE FENCE
	PROPOSED RETAINING WALL
	MINIMUM REQUIRED PRESERVATION AREA
	ADDITIONAL PRESERVATION AREA PROVIDED

ZONING DISTRICT TABLE

C-1	LOCAL COMMERCIAL DISTRICT
CO	COMMERCIAL-OFFICE DISTRICT
PI	PLANNED INSTITUTIONAL DISTRICT
R-2	RESIDENCE DISTRICT
R-3	RESIDENCE DISTRICT
R-4	RESIDENCE DISTRICT

Villanova University
 Pike Field Garage
 Lancaster and Ithan Avenues
 Villanova PA 19085

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GRADING PERMIT SUBMISSION

Revision #6 November 20, 2015
 Date March 6, 2015
 Title Composite Site Plan
 Scale 1" = 150'
 Drawn By DWN

C2.0

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.

**VMA
 RAMSA**

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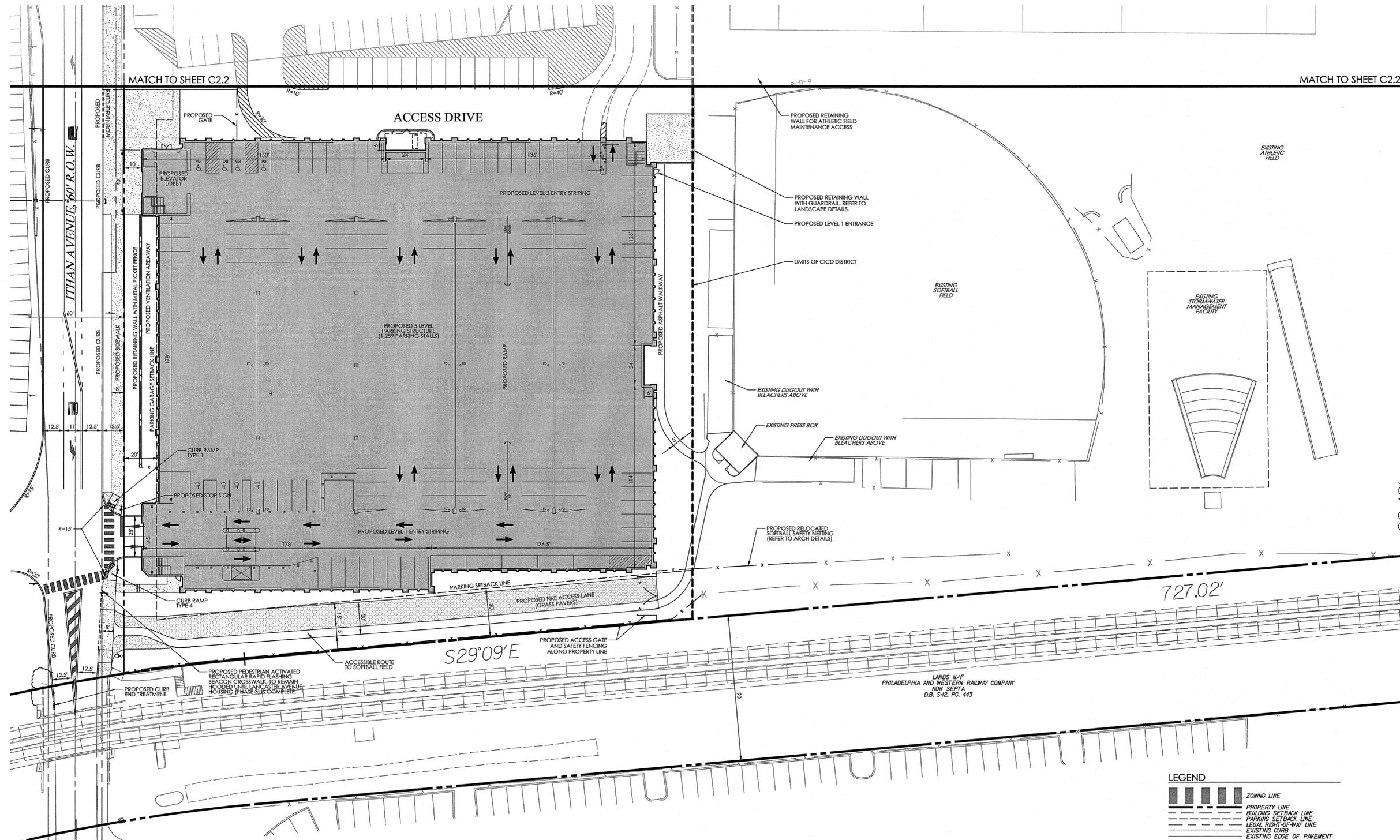
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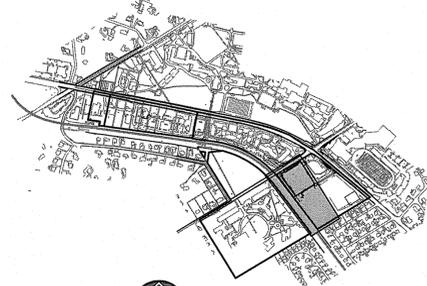
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666.93'
 62.48'

727.02'

APPLICATION TO INSTALL A PEDESTRIAN
 ACTIVATED RECTANGULAR RAPID FLASHING
 BEACON AT THE ALDWIN LANE / SOUTH
 CAMPUS CROSSWALK ALONG ITHAN AVENUE

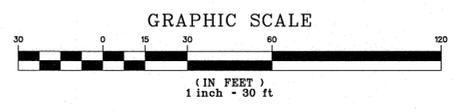


PROJECT SERIAL NO.
 20112071855
 20112071869
 20112071907
 20112071937
 20112071972
 CALL BEFORE YOU DIG!
 PENNSYLVANIA LAW REQUIRES
 3 WORKING DAYS NOTICE FOR
 CONSTRUCTION PHASE AND 10 WORKING
 DAYS IN DESIGN STAGE - STOP CALL
 Pennsylvania One Call System, Inc.
 1-800-242-1776

KEY MAP
 SCALE: 1" = 1,000'

LEGEND

	ZONING LINE
	PROPERTY LINE
	BUILDING SETBACK LINE
	PARKING SETBACK LINE
	LEGAL RIGHT-OF-WAY LINE
	EXISTING CURB
	EXISTING EDGE OF PAVEMENT
	EXISTING BUILDING
	EXISTING CONC. SIDEWALK OR PAD
	EXISTING FENCE
	EXISTING RETAINING WALL
	EXISTING SIGN
	EXISTING RAILROAD TRACKS
	EXISTING WETLANDS
	EXISTING LIGHT STANDARDS
	EXISTING TRAFFIC SIGNAL MAST ARM
	LIMITS OF CCID DISTRICT
	PROPOSED RIGHT-OF-WAY LINE
	PROPOSED CURB
	PROPOSED DEPRESSED OR MOUNTABLE CURB
	PROPOSED EDGE OF PAVEMENT
	PROPOSED STRUCTURE
	PROPOSED CONCRETE SIDEWALK OR PAD
	PROPOSED SAFETY FENCE
	PROPOSED RETAINING WALL
	PROPOSED SIGN
	PROPOSED ADA PARKING SPACE
	PROPOSED STORMWATER MANAGEMENT AREA (SWM)
	TOP OF CURB
	BOTTOM OF CURB
	PROPOSED SPOT ELEVATION



**GRADING PERMIT
 SUBMISSION**

Revision #6 November 20, 2015
 Date March 6, 2015
 Title Site Plan

Scale 1" = 30'
 Drawn By DWN

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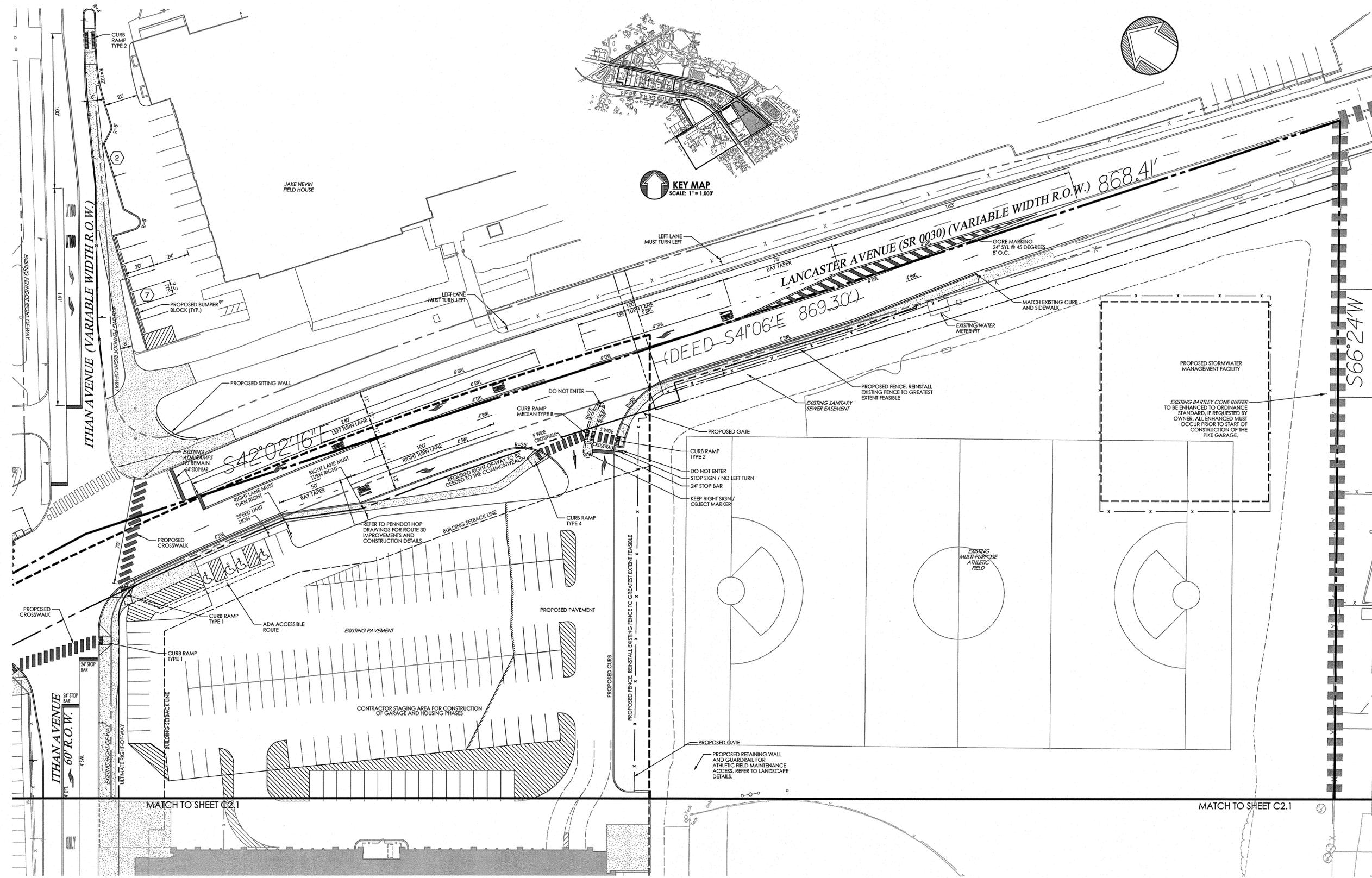
Revision #6 November 20, 2015
 Date March 6, 2015
 Title Site Plan

Scale 1" = 30'
 Drawn By DWN

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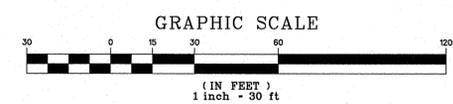
Sheet No. 7 of 37

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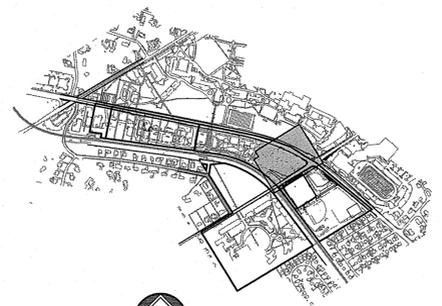
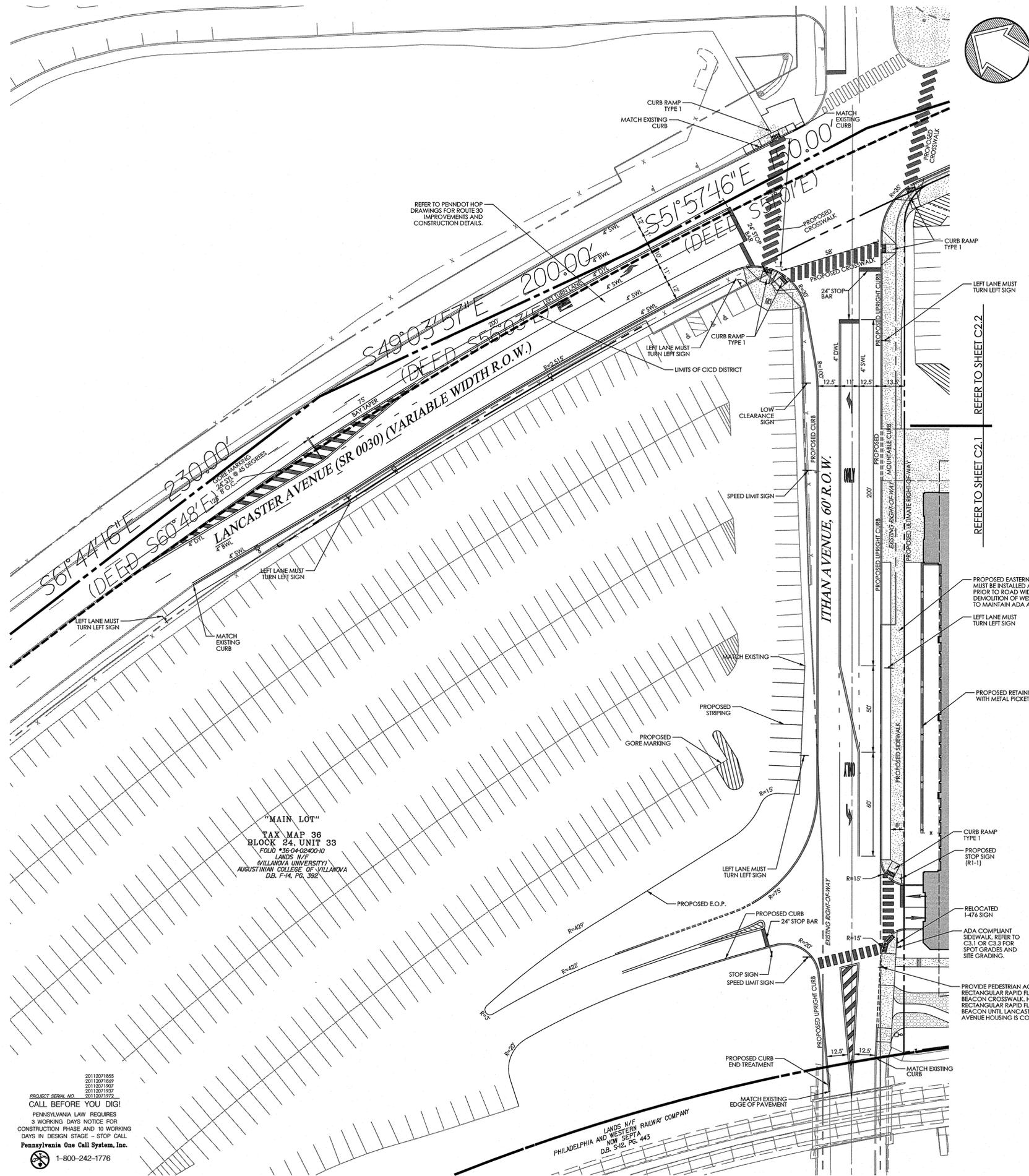


LEGEND

- | | | | |
|--|---------------------------|--|--------------------------------------|
| | ZONING LINE | | LIMITS OF CID DISTRICT |
| | PROPERTY LINE | | PROPOSED RIGHT-OF-WAY LINE |
| | BUILDING SETBACK LINE | | PROPOSED CURB |
| | LEGAL RIGHT-OF-WAY LINE | | PROPOSED DEPRESSED OR MOUNTABLE CURB |
| | EXISTING CURB | | PROPOSED EDGE OF PAVEMENT |
| | EXISTING EDGE OF PAVEMENT | | PROPOSED STRUCTURE |
| | EXISTING TREE | | PROPOSED CONCRETE SIDEWALK OR PAD |
| | EXISTING FENCE | | PROPOSED SAFETY FENCE |
| | EXISTING RETAINING WALL | | PROPOSED RETAINING WALL |
| | EXISTING SIGN | | PROPOSED SIGN |
| | | | PROPOSED ADA PARKING SPACE |
| | | | PROPOSED BUMPER BLOCK |



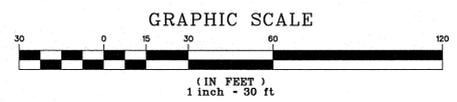
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KEY MAP
SCALE: 1" = 1,000'

LEGEND

	ZONING LINE
	PROPERTY LINE
	PARKING SETBACK LINE
	LEGAL RIGHT-OF-WAY LINE
	EXISTING CURB
	EXISTING EDGE OF PAVEMENT
	EXISTING BUILDING
	EXISTING CONC. SIDEWALK OR PAD
	EXISTING FENCE
	EXISTING RETAINING WALL
	EXISTING SIGN
	EXISTING RAILROAD TRACKS
	EXISTING LIGHT STANDARDS
	EXISTING TRAFFIC SIGNAL MAST ARM
	LIMITS OF CICD DISTRICT
	PROPOSED RIGHT-OF-WAY LINE
	PROPOSED CURB
	PROPOSED DEPRESSED OR MOUNTABLE CURB
	PROPOSED EDGE OF PAVEMENT
	PROPOSED STRUCTURE
	PROPOSED CONCRETE SIDEWALK OR PAD
	PROPOSED FENCE
	PROPOSED RETAINING WALL
	PROPOSED SIGN



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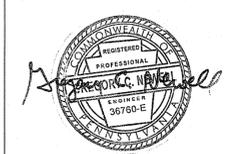
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Revision #7 January 29, 2016
Date March 6, 2015
Title Site Plan

Scale 1" = 30'
Drawn By DWN

C2.3

Sheet No. 8 of 37

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.

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20112071937
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"MAIN LOT"
TAX MAP 36
BLOCK 24, UNIT 33
FDJL *35-04-0240-10
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D.B. F-14, PG. 392

LANDS N/E
PHILADELPHIA AND WESTERN RAILWAY COMPANY
NOW PART A
D.B. 512, PG. 443

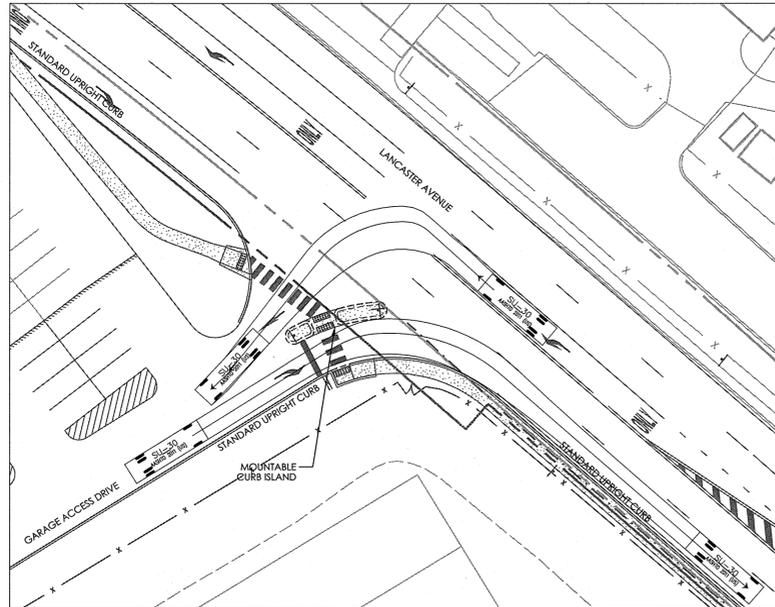


EXHIBIT 1: LANCASTER AVENUE TO GARAGE ACCESS DRIVE - LEFT TURN & GARAGE ACCESS DRIVE TO LANCASTER AVENUE - RIGHT TURN (SU-30)

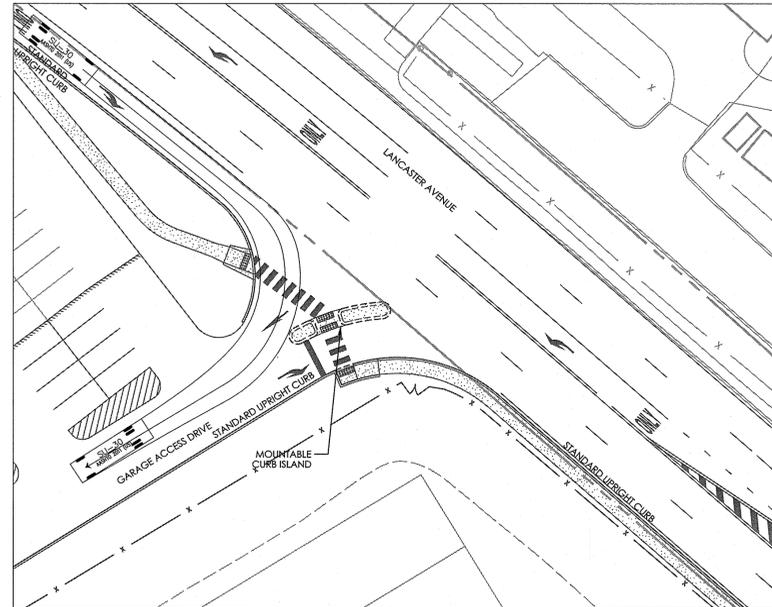


EXHIBIT 2: LANCASTER AVENUE TO GARAGE ACCESS DRIVE - RIGHT TURN (SU-30)

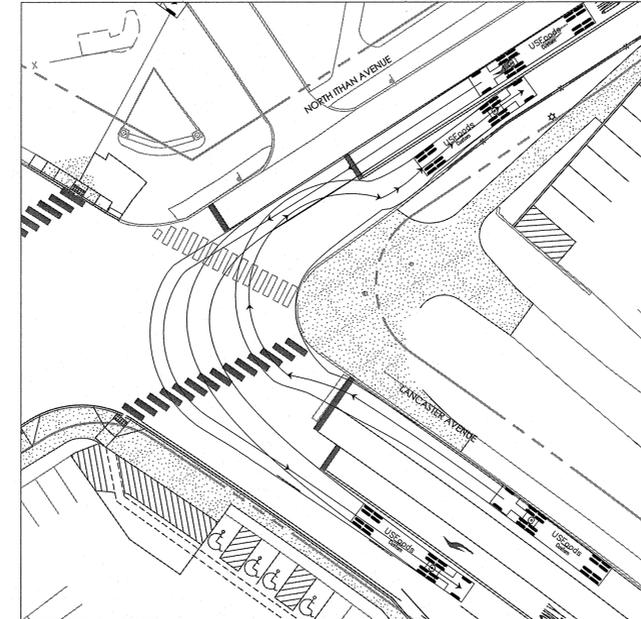


EXHIBIT 3: NORTH ITHAN TO EASTBOUND LANCASTER AVENUE - LEFT TURN (US FOODS)
LANCASTER AVENUE TO NORTH ITHAN AVENUE - RIGHT TURN (US FOODS)

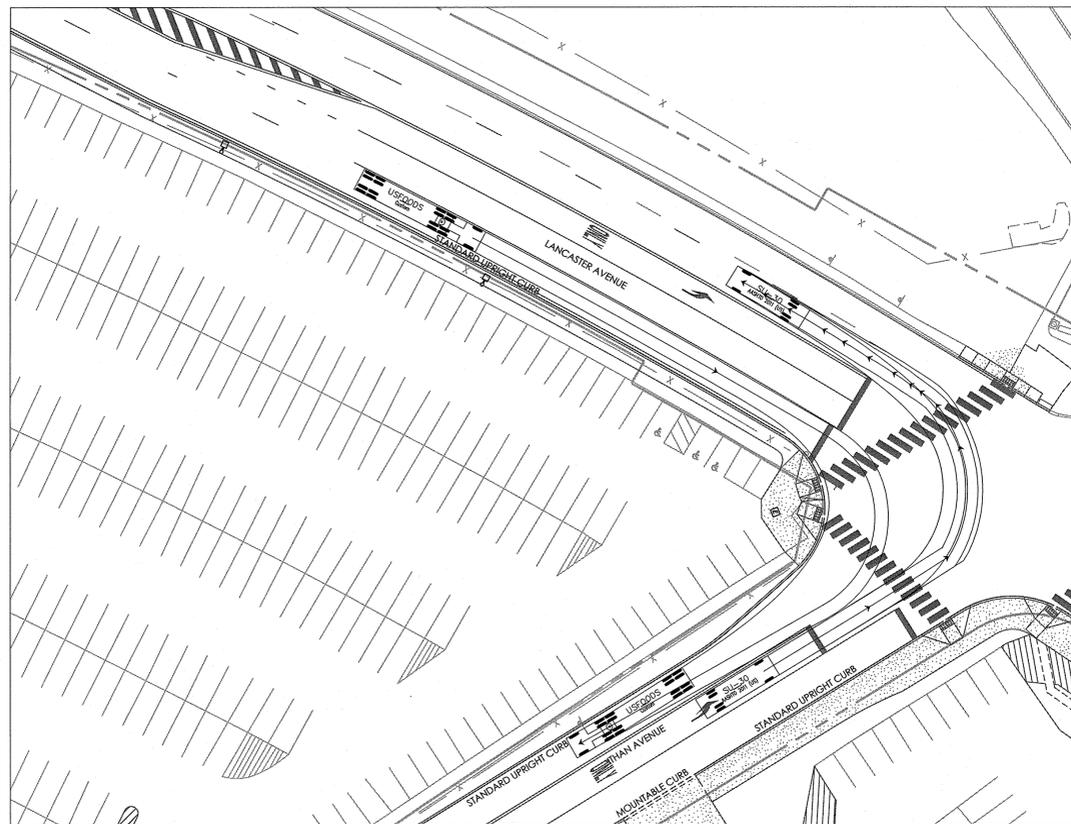


EXHIBIT 4: LANCASTER AVENUE TO SOUTH ITHAN AVENUE - RIGHT TURN (US FOODS)
SOUTH ITHAN AVENUE TO LANCASTER AVENUE - LEFT TURN (US FOODS)

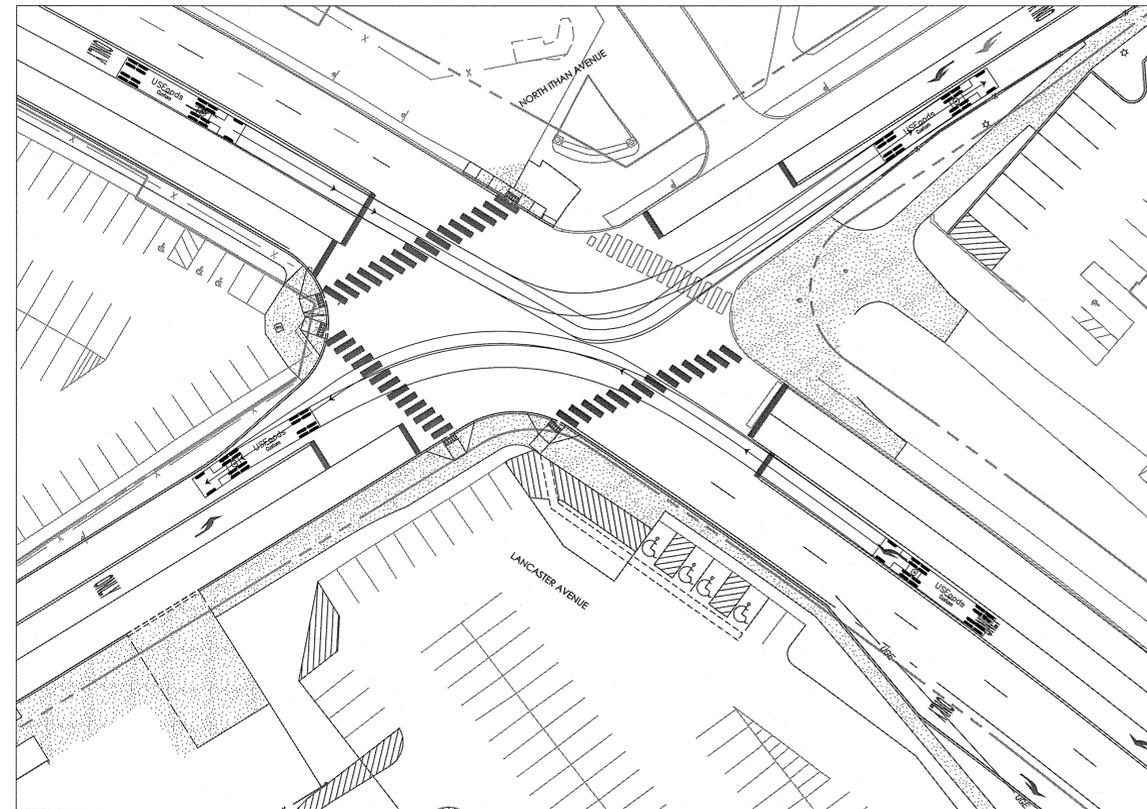
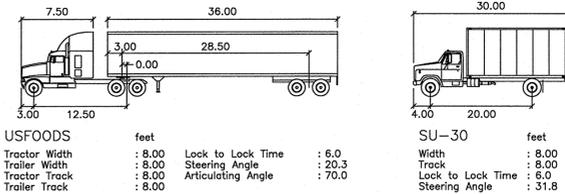


EXHIBIT 5: EASTBOUND LANCASTER AVENUE TO NORTH ITHAN AVENUE - LEFT TURN (US FOODS)
WESTBOUND LANCASTER AVENUE TO SOUTH ITHAN AVENUE - LEFT TURN (US FOODS)



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Revision #6 November 20, 2015
Date March 6, 2015
Title Truck Turning Plan

Scale 1" = 30'
Drawn By DWN

C2.4

Sheet No. 9 of 37

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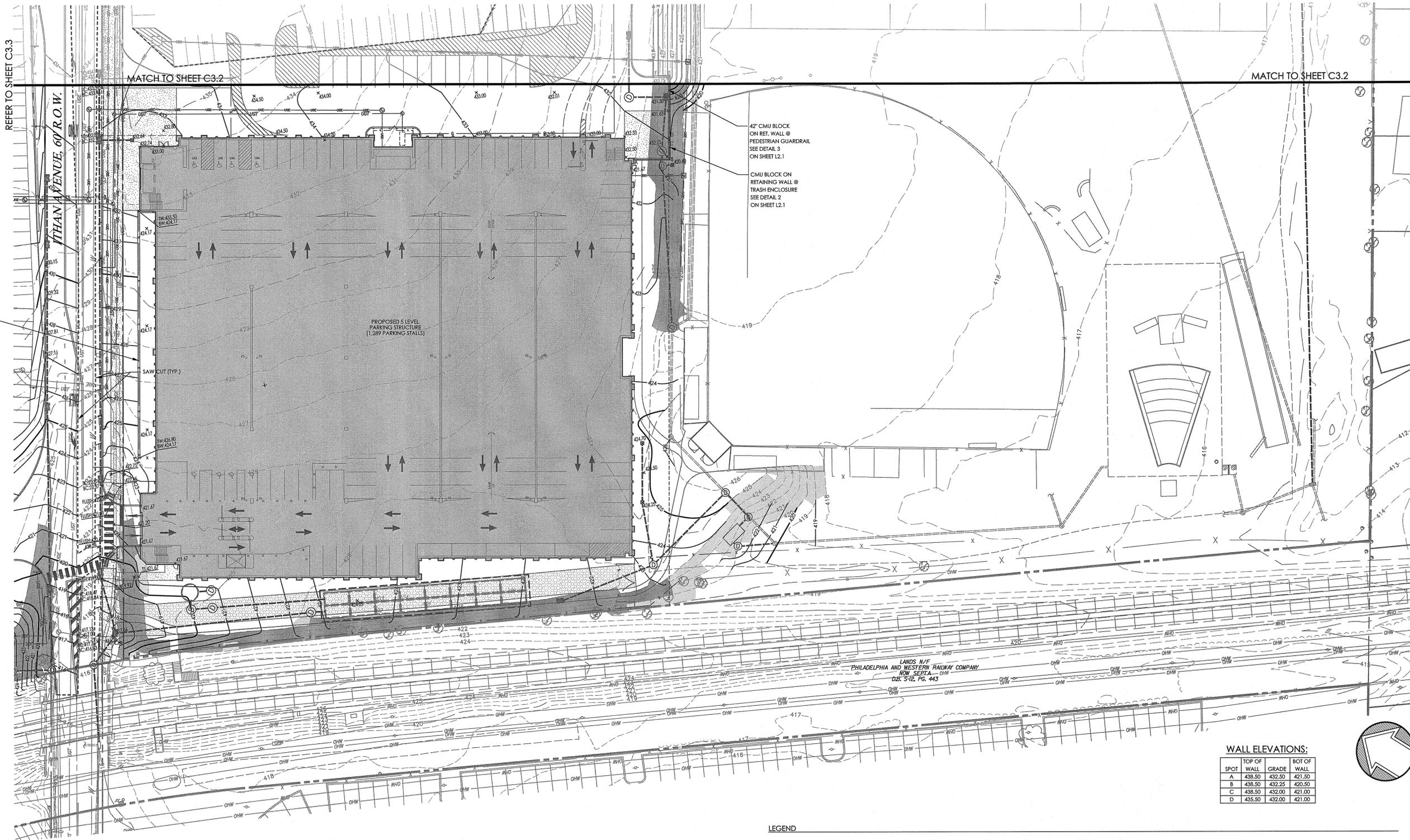
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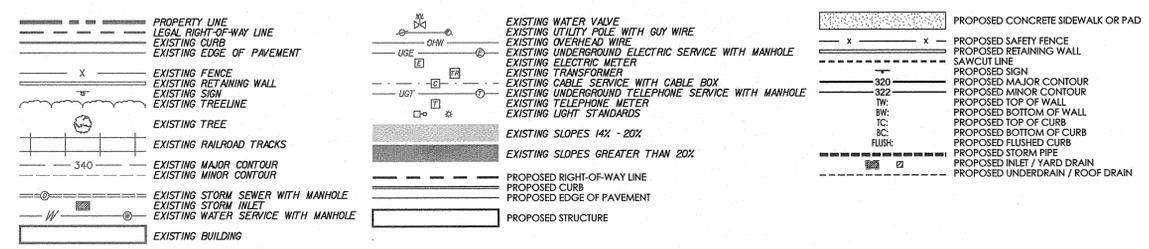
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WALL ELEVATIONS:

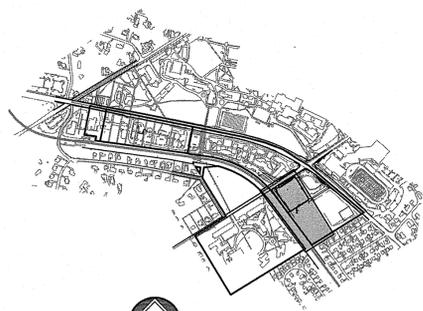
SPOT	TOP OF WALL	GRADE	BOT OF WALL
A	438.50	432.50	421.50
B	438.50	432.25	420.50
C	438.50	432.00	421.00
D	435.50	432.00	421.00

LEGEND



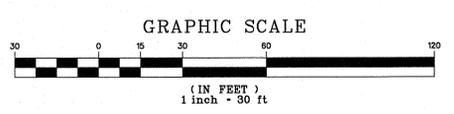
GRADING NOTES:

- REFER TO SITE PLAN FOR ADDITIONAL NOTES.
- IN CASE OF DISCREPANCIES BETWEEN PLANS, THE SITE PLAN WILL SUPERSEDE IN ALL CASES. NOTIFY ENGINEER OF RECORD OF ANY CONFLICT.
- SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING WITH SUITABLE MATERIALS. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR MAXIMUM DENSITY PER A.S.T.M. TEST D-1557. MOISTURE CONTENT AT THE TIME OF PLACEMENT SHALL BE NO MORE THAN 2% ABOVE OR 3% BELOW OPTIMUM. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT, PREPARED BY A QUALIFIED SOILS ENGINEER, REGISTERED WITH THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS.
- SUBBASE MATERIAL FOR SIDEWALKS, OR ASPHALT SHALL BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DETERMINED UNSUITABLE, SUBBASE IS TO BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL AND COMPACTED TO 95% OPTIMUM DENSITY (AS DETERMINED BY MODIFIED PROCTOR METHOD).
- CONTRACTOR TO UTILIZE APPROPRIATE CONSTRUCTION TECHNIQUES TO PROTECT THE PROPOSED INFILTRATION PRACTICE OF THE STORMWATER BASIN. UNDER NO CIRCUMSTANCES IS THE INFILTRATION AREA TO BE COMPACTED, ROLLED, OR HAVE HEAVY EQUIPMENT OPERATING WITHIN THE EXCAVATED PERIMETER.
- PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION AND/OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS BY ALL OF THE PERMITTING AUTHORITIES.
- SITE CLEARING SHALL INCLUDE THE LOCATION AND REMOVAL OF ALL UNDERGROUND TANKS, PIPES, VALVES, ETC.
- ALL EXCAVATED UNSUITABLE MATERIAL MUST BE TRANSPORTED TO AN APPROVED DISPOSAL LOCATION.
- CONTRACTOR IS RESPONSIBLE FOR ALL SHORING REQUIRED DURING EXCAVATION AND SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS, AS WELL AS ADDITIONAL PROVISIONS TO ASSURE STABILITY OF CONTIGUOUS STRUCTURES, AS FIELD CONDITIONS DICTATE.
- CONTRACTOR SHALL ADHERE TO ALL SAFETY REGULATIONS AS REQUIRED BY "OSHA", THE PROPERTY OWNER, OR ANY LOCAL, STATE & FEDERAL AUTHORITY.
- CONTRACTOR TO ENSURE COMPLIANCE WITH A.D.A. REGULATIONS.
- CONTRACTOR TO TAR SEAL ALL PAVEMENT INTERSECTIONS.



KEY MAP
 SCALE: 1" = 1,000'

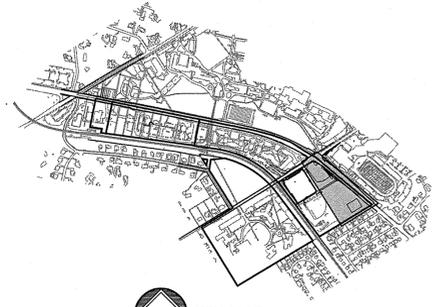
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 Revision #7 January 29, 2016
 Date March 6, 2015
 Title Grading Plan

Scale 1" = 30'
 Drawn By DWN

C3.1
 Sheet No. 10 of 37
 Contractor to verify all dimensions in field and inform
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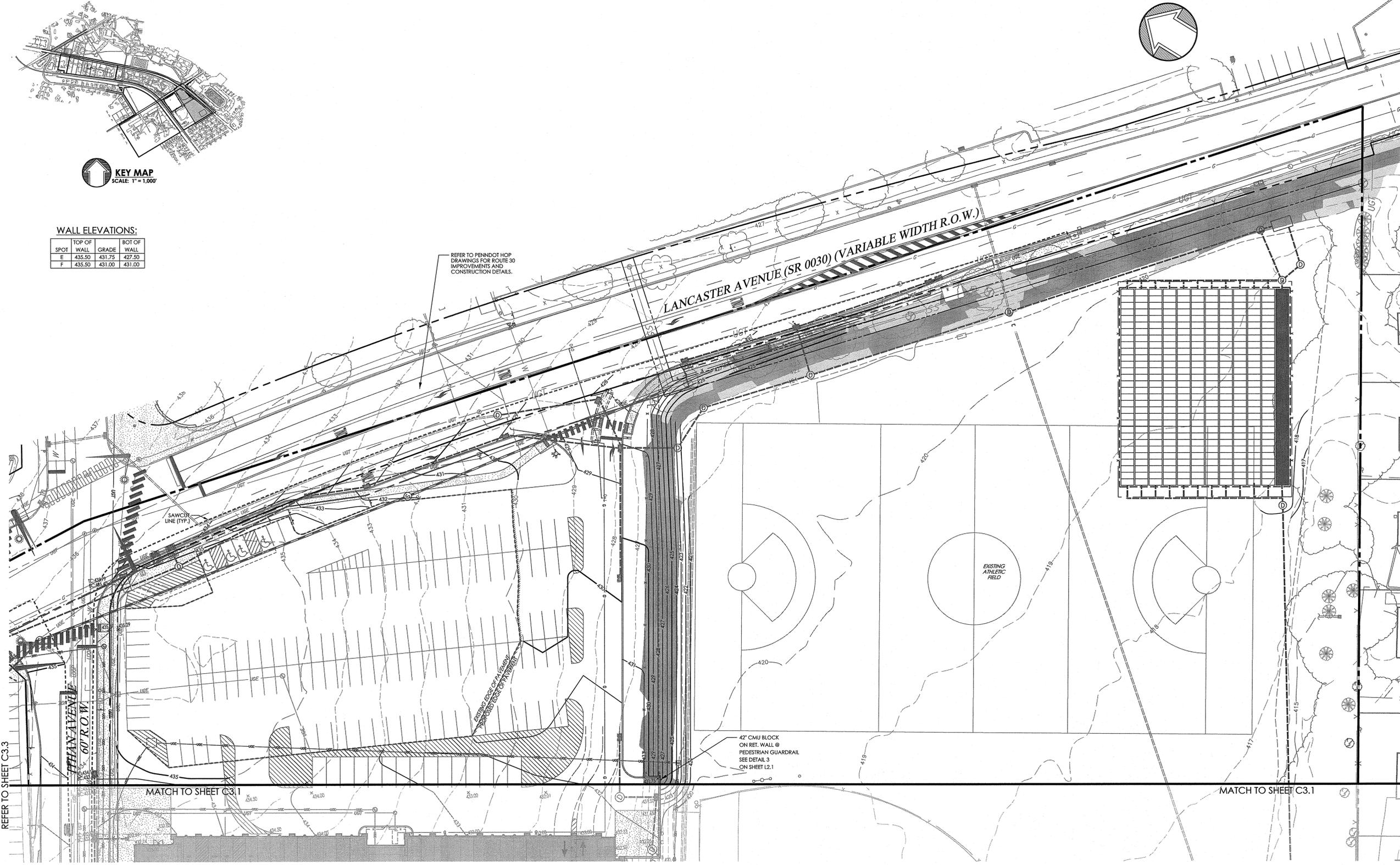


KEY MAP
SCALE: 1" = 1,000'

WALL ELEVATIONS:

SPOT	TOP OF WALL	GRADE	BOT OF WALL
E	435.50	431.75	427.50
F	435.50	431.00	431.00

REFER TO PENNDOT HOP DRAWINGS FOR ROUTE 30 IMPROVEMENTS AND CONSTRUCTION DETAILS.



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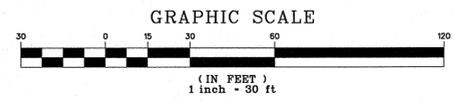


LEGEND

<p>--- PROPERTY LINE --- LEGAL RIGHT-OF-WAY LINE --- EXISTING EASEMENT LINE --- EXISTING CURB --- EXISTING EDGE OF PAVEMENT</p> <p>X --- EXISTING FENCE --- EXISTING RETAINING WALL --- EXISTING SIGN</p> <p>○ --- EXISTING TREE</p> <p>--- EXISTING TREELINE</p> <p>340 --- EXISTING MAJOR CONTOUR --- EXISTING MINOR CONTOUR</p> <p>--- EXISTING STORM SEWER WITH MANHOLE --- EXISTING STORM INLET --- EXISTING WATER SERVICE WITH MANHOLE --- EXISTING SANITARY SEWER WITH MANHOLE</p>	<p>--- EXISTING BUILDING</p> <p>--- EXISTING WATER VALVE --- EXISTING UTILITY POLE WITH GUY WIRE --- EXISTING UNDERGROUND ELECTRIC SERVICE WITH MANHOLE --- EXISTING ELECTRIC METER --- EXISTING GAS VALVE --- EXISTING CABLE SERVICE WITH CABLE BOX --- EXISTING UNDERGROUND TELEPHONE SERVICE WITH MANHOLE --- EXISTING TELEPHONE METER --- EXISTING LIGHT STANDARDS --- EXISTING TRAFFIC SIGNAL MAST ARM</p> <p>--- EXISTING SLOPES 14% - 20% --- EXISTING SLOPES GREATER THAN 20%</p> <p>--- PROPOSED RIGHT-OF-WAY LINE --- PROPOSED CURB --- PROPOSED EDGE OF PAVEMENT</p> <p>--- PROPOSED STRUCTURE</p>	<p>--- PROPOSED CONCRETE SIDEWALK OR PAD</p> <p>X --- PROPOSED SAFETY FENCE --- PROPOSED RETAINING WALL --- SAWCUT LINE</p> <p>320 --- PROPOSED SIGN --- PROPOSED MAJOR CONTOUR --- PROPOSED MINOR CONTOUR TW --- PROPOSED TOP OF WALL BW --- PROPOSED BOTTOM OF WALL TC --- PROPOSED TOP OF CURB BC --- PROPOSED BOTTOM OF CURB FLUSH --- PROPOSED FLUSH CURB</p> <p>--- PROPOSED SANITARY MAIN --- PROPOSED STORM PIPE --- PROPOSED INLET / YARD DRAIN --- PROPOSED UNDERDRAIN / ROOF DRAIN</p>
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20112071907
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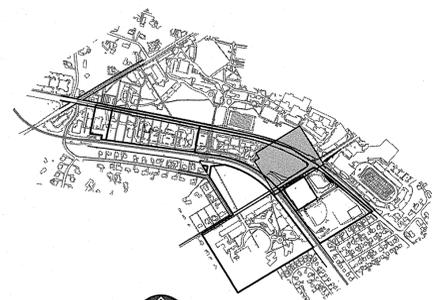
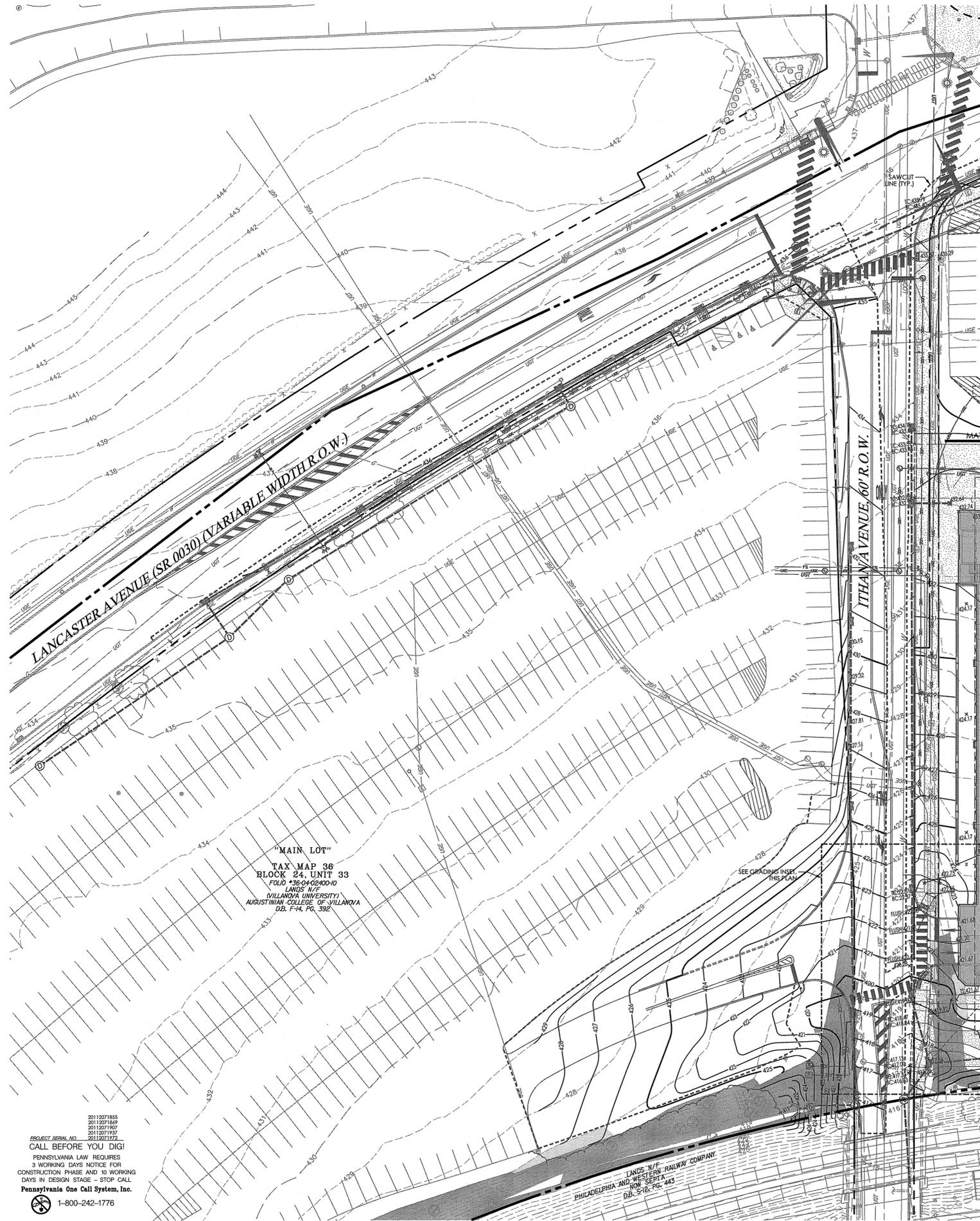
Revision #7 January 29, 2016
Date March 6, 2015
Title Grading Plan

Scale 1" = 30'
Drawn By DWN

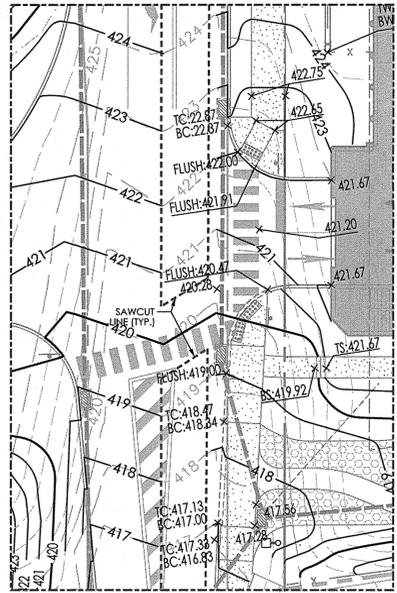
C3.2

Sheet No. 11 of 37

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.



KEY MAP
SCALE: 1" = 1,000'

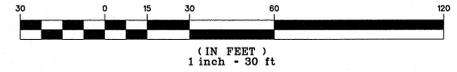


GRADING INSET
SCALE: 1" = 20'

LEGEND

- PROPERTY LINE
- LEGAL RIGHT-OF-WAY LINE
- EXISTING CURB
- EXISTING EDGE OF PAVEMENT
- EXISTING FENCE
- EXISTING RETAINING WALL
- EXISTING SIGN
- EXISTING TREELINE
- EXISTING TREE
- EXISTING RAILROAD TRACKS
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING STORM SEWER WITH MANHOLE
- EXISTING STORM INLET
- EXISTING WATER SERVICE WITH MANHOLE
- EXISTING WATER VALVE
- EXISTING GAS VALVE
- EXISTING UTILITY POLE WITH GUY WIRE
- EXISTING UNDERGROUND ELECTRIC SERVICE WITH MANHOLE
- EXISTING ELECTRIC METER
- EXISTING TRANSFORMER
- EXISTING CABLE SERVICE WITH CABLE BOX
- EXISTING UNDERGROUND TELEPHONE SERVICE WITH MANHOLE
- EXISTING TELEPHONE METER
- EXISTING LIGHT STANDARDS
- EXISTING TRAFFIC SIGNAL MAST ARM
- EXISTING SLOPES 1:4X - 2:0X
- EXISTING SLOPES GREATER THAN 2:0X
- PROPOSED RIGHT-OF-WAY LINE
- PROPOSED CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED STRUCTURE
- PROPOSED CONCRETE SIDEWALK OR PAD
- PROPOSED SAFETY FENCE
- PROPOSED RETAINING WALL
- PROPOSED SIGN
- 320 --- PROPOSED MAJOR CONTOUR
- 322 --- PROPOSED MINOR CONTOUR
- TW --- PROPOSED TOP OF WALL
- BW --- PROPOSED BOTTOM OF WALL
- TC --- PROPOSED TOP OF CURB
- BC --- PROPOSED BOTTOM OF CURB
- FLUSH --- PROPOSED FLUSHED CURB
- PROPOSED SANITARY MAIN
- PROPOSED STORM PIPE
- PROPOSED INLET / YARD DRAIN
- PROPOSED UNDERDRAIN / ROOF DRAIN

GRAPHIC SCALE



REFER TO SHEET C3.1
REFER TO SHEET C3.2

"MAIN LOT"
TAX MAP 36
BLOCK 24, UNIT 33
FILE # 36-020400-10
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AUGUSTINIAN COLLEGE OF VILLANOVA
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Revision #6 November 20, 2015
Date March 6, 2015
Title Grading Plan

Scale 1" = 30'
Drawn By DWN

C3.3

Sheet No. 12 of 37

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.

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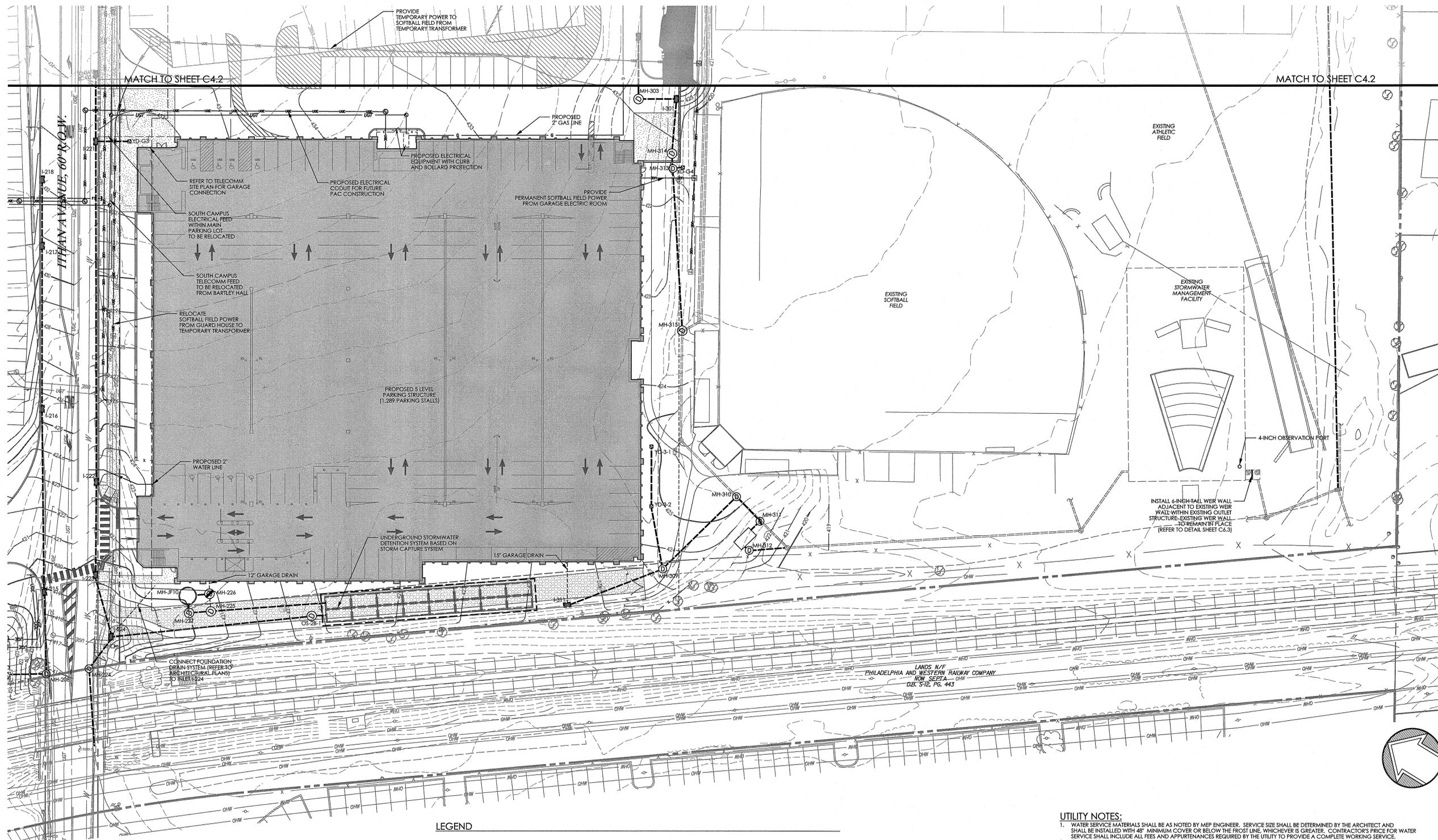
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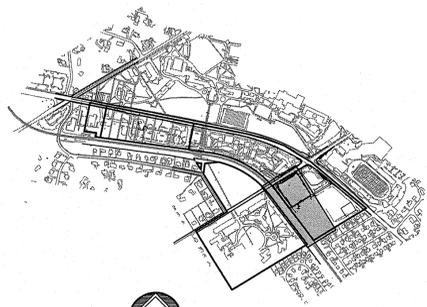
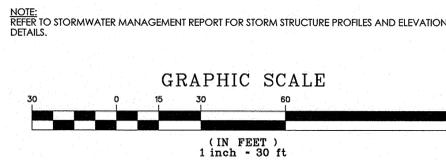


LEGEND

	PROPERTY LINE		PROPOSED RIGHT-OF-WAY LINE
	LEGAL RIGHT-OF-WAY LINE		PROPOSED CURB
	EXISTING EDGE OF PAVEMENT		PROPOSED EDGE OF PAVEMENT
	EXISTING BUILDING		PROPOSED STRUCTURE
	EXISTING FENCE		PROPOSED CONCRETE SIDEWALK OR PAD
	EXISTING RETAINING WALL		PROPOSED SAFETY FENCE
	EXISTING SIGN		PROPOSED RETAINING WALL
	EXISTING TREE LINE		PROPOSED SIGN
	EXISTING TREE		PROPOSED MAJOR CONTOUR
	EXISTING RAILROAD TRACKS		PROPOSED MINOR CONTOUR
	EXISTING MAJOR CONTOUR		PROPOSED SANITARY MAIN
	EXISTING MINOR CONTOUR		PROPOSED STORM PIPE/MANHOLE
	EXISTING STORM SEWER WITH MANHOLE		PROPOSED INLET/YARD DRAIN
	EXISTING STORM INLET		PROPOSED UNDERDRAIN/ROOF DRAIN
	EXISTING WATER SERVICE WITH MANHOLE		PROPOSED TRENCH DRAIN
	EXISTING WATER VALVE		
	EXISTING FIRE HYDRANT		
	EXISTING GAS VALVE		
	EXISTING UTILITY POLE WITH GUY WIRE		
	EXISTING OVERHEAD WIRE		
	EXISTING UNDERGROUND ELECT. SERVICE W/MANHOLE		
	EXISTING ELECTRIC METER		
	EXISTING TRANSFORMER		
	EXISTING CABLE SERVICE WITH CABLE BOX		
	EXISTING UNDERGROUND TELE. SERVICE W/MANHOLE		
	EXISTING TELEPHONE METER		
	EXISTING LIGHT STANDARDS		
	EXISTING TRAFFIC SIGNAL MAST ARM		
	SOILS BOUNDARY LINE		

UTILITY NOTES:

1. WATER SERVICE MATERIALS SHALL BE AS NOTED BY MEP ENGINEER. SERVICE SIZE SHALL BE DETERMINED BY THE ARCHITECT AND SHALL BE INSTALLED WITH 48" MINIMUM COVER OR BELOW THE FROST LINE, WHICHEVER IS GREATER. CONTRACTOR'S PRICE FOR WATER SERVICE SHALL INCLUDE ALL FEES AND APPROPRIATE PERMITS REQUIRED BY THE UTILITY TO PROVIDE A COMPLETE WORKING SERVICE.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHY INFORMATION AND UTILITY INVERT ELEVATIONS. PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION, ANY DISCREPANCIES THAT MAY AFFECT PUBLIC SAFETY AND/OR PROJECT COST MUST BE IDENTIFIED IMMEDIATELY TO THE ENGINEER OF RECORD IN WRITING. PROCEEDING WITH CONSTRUCTION WITH DESIGN DISCREPANCIES IS DONE SO AT THE CONTRACTOR'S OWN RISK.
3. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND INSTALLATIONS SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS. SERVICE SIZE TO BE DETERMINED BY ARCHITECT.
5. CONTRACTOR TO CONFIRM THE HORIZONTAL LOCATION AND VERTICAL ELEVATION OF UTILITIES BEING CROSSED OR CONNECTED TO. PRIOR TO CONSTRUCTION, THE ENGINEER SHALL BE INFORMED IN WRITING OF ANY DISCREPANCIES OR CLEARANCE ISSUES PRIOR TO PROCEEDING WITH CONSTRUCTION.
6. ALL ON-SITE STORM WATER PIPING SHALL BE HDPE. ALL LANCASTER AVENUE STORM WATER PIPING SHALL BE REINFORCED CONCRETE PIPE (RCP).
7. CLEAN OUTS AND CURB BOXES WITHIN THE PAVED AREAS MUST HAVE TRAFFIC LOADING FRAMES AND COVERS.
8. ALL INLET GRATES SHALL BE BICYCLE SAFE GRATES.
9. CONTRACTOR TO UTILIZE APPROPRIATE CONSTRUCTION TECHNIQUES TO PROTECT THE PROPOSED INFILTRATION PRACTICE OF THE STORMWATER BASIN. UNDER NO CIRCUMSTANCE IS THE INFILTRATION AREA TO BE COMPACTED, ROLLED, OR HAVE HEAVY EQUIPMENT OPERATING WITHIN THE EXCAVATED PERIMETER.
10. ALL BUILDINGS AND ASSOCIATED UTILITY CONNECTIONS, AS SHOWN, HAVE BEEN BASED UPON SCHEMATIC ARCHITECTURAL PLANS. CONTRACTOR SHALL REFER TO ARCHITECT'S FINAL PLANS FOR EXACT BUILDING DIMENSIONS AND UTILITY CONNECTION POINTS FOR SIZING.
11. ALL STORM DRAINAGE AND STORMWATER MANAGEMENT FACILITIES ON-SITE ARE TO BE OWNED AND MAINTAINED BY THE PROPERTY OWNER.
12. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION AND/OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS BY ALL OF THE PERMITTING AUTHORITIES.
13. LOCATIONS OF EXISTING UTILITIES DEPICTED HEREON HAVE BEEN DEVELOPED FROM EXISTING UTILITY RECORDS, PLANS BY OTHERS, AND/OR GROUND EXAMINATION OF SITE. COMPLETENESS OR ACCURACY OF THE LOCATIONS OF SAID UTILITIES IS NOT GUARANTEED.
14. ALL UTILITIES AND STRUCTURES WITHIN PUBLIC RIGHTS-OF-WAY OR EASEMENTS SHALL REMAIN UNLESS OTHERWISE NOTED.
15. CONTRACTOR SHALL ADHERE TO ALL SAFETY REGULATIONS AS REQUIRED BY "OSHA", THE PROPERTY OWNER, OR ANY LOCAL, STATE & FEDERAL AUTHORITY.
16. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE SITE AND VERIFY EXISTING SITE CONDITIONS TO HIS SATISFACTION.
17. PRIOR TO STARTING CONSTRUCTION, ALL UTILITY SERVICES IN THE AREA ARE TO BE LOCATED, THE USER NOTIFIED AND MEASURES TAKEN TO PROTECT THE LINES IN ACCORDANCE WITH PA ACT 287, AS AMENDED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT PA "ONE-CALL" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION OR DEMOLITION ON-SITE.
18. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY UTILITY "ONE-CALL" NUMBER 72 HOURS PRIOR TO ANY EXCAVATION/DEMOLITION ON THIS SITE. CONTRACTOR SHALL ALSO NOTIFY LOCAL WATER AND SEWER DEPARTMENTS TO MARK OUT THEIR UTILITIES.



KEY MAP
 SCALE: 1" = 1,000'

20112071855
 20112071866
 20112071907
 20112071927
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 20112071972
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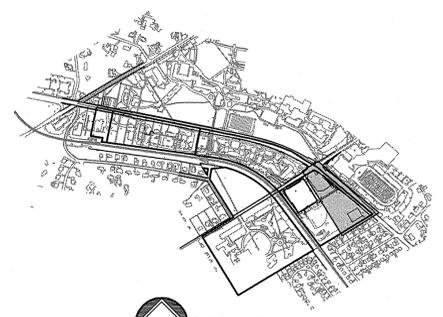
Revision #6 November 20, 2015
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 Title Utility Plan

Scale 1" = 30'
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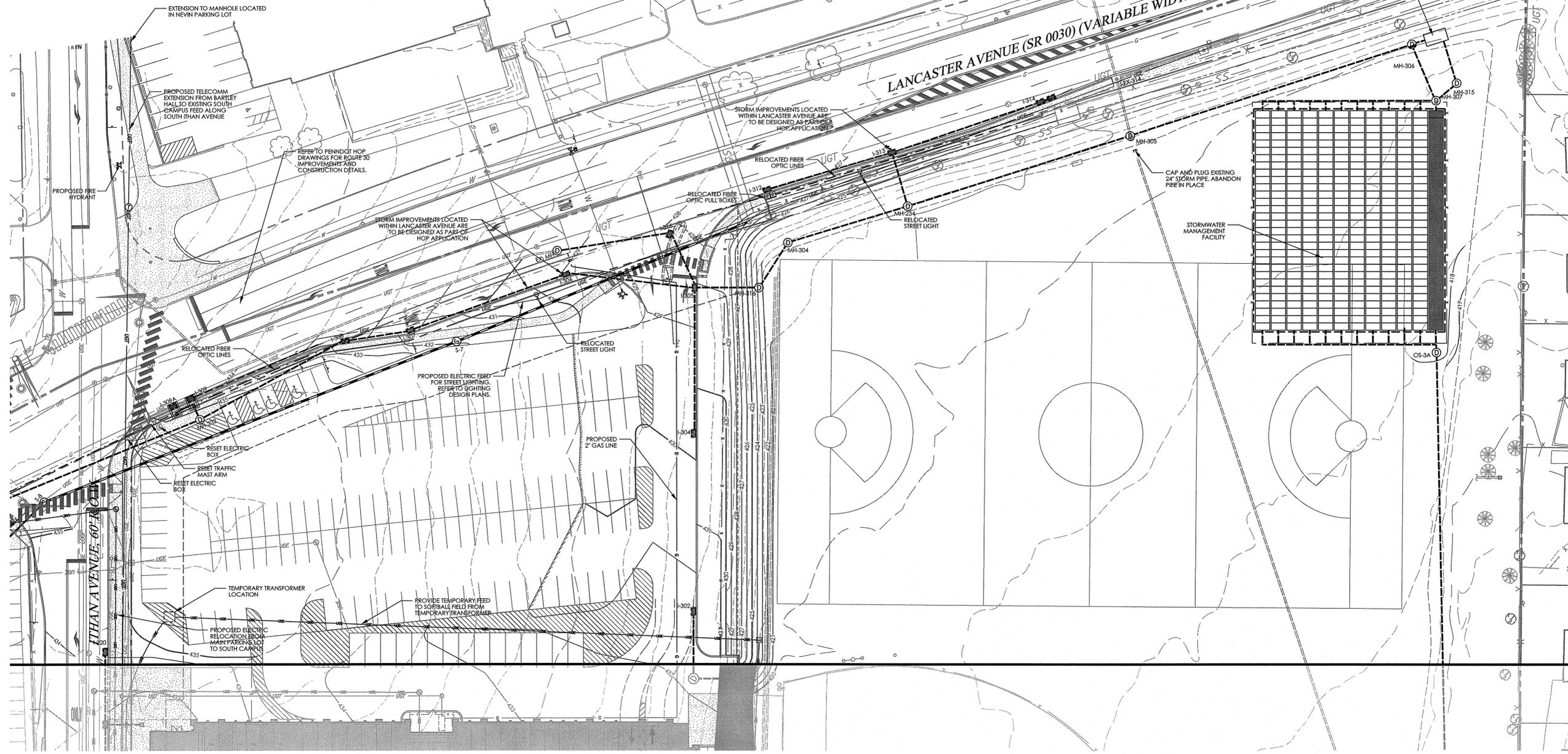
C4.1

Sheet No. 13 of 37

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.



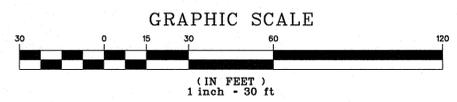
KEY MAP
SCALE: 1" = 1,000'



LEGEND

<p>--- PROPERTY LINE --- LEGAL RIGHT-OF-WAY LINE --- EXISTING EASEMENT LINE --- EXISTING CURB --- EXISTING EDGE OF PAVEMENT --- EXISTING FENCE --- EXISTING RETAINING WALL --- EXISTING SIGN --- EXISTING TREE --- EXISTING TREELINE --- 340 --- EXISTING MAJOR CONTOUR --- EXISTING MINOR CONTOUR --- EXISTING STORM SEWER WITH MANHOLE --- EXISTING STORM WILET --- EXISTING WATER SERVICE WITH MANHOLE --- EXISTING SANITARY SEWER WITH MANHOLE</p>	<p>--- EXISTING BUILDING --- EXISTING WATER VALVE --- EXISTING UTILITY POLE WITH GUY WIRE --- EXISTING UNDERGROUND ELECTRIC SERVICE WITH MANHOLE --- EXISTING ELECTRIC METER --- EXISTING GAS VALVE --- EXISTING CABLE SERVICE WITH CABLE BOX --- EXISTING UNDERGROUND TELEPHONE SERVICE WITH MANHOLE --- EXISTING TELEPHONE METER --- EXISTING LIGHT STANDARDS --- EXISTING TRAFFIC SIGNAL MAST ARM --- PROPOSED RIGHT-OF-WAY LINE --- PROPOSED CURB --- EXISTING MINOR CONTOUR --- PROPOSED STRUCTURE --- PROPOSED CONCRETE SIDEWALK OR PAD --- PROPOSED SAFETY FENCE --- PROPOSED RETAINING WALL --- SAWCUT LINE</p>	<p>--- PROPOSED SIGN --- PROPOSED MAJOR CONTOUR --- PROPOSED MINOR CONTOUR --- PROPOSED SANITARY MAIN --- PROPOSED STORM PIPE/MANHOLE --- PROPOSED INLET / YARD DRAIN --- PROPOSED UNDERDRAIN / ROOF DRAIN --- PROPOSED FIBER LINE</p>
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20112071907
20112071937
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Revision #6 November 20, 2015
Date March 6, 2015
Title Utility Plan
Scale 1" = 30'
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C4.2
Sheet No. 14 of 37

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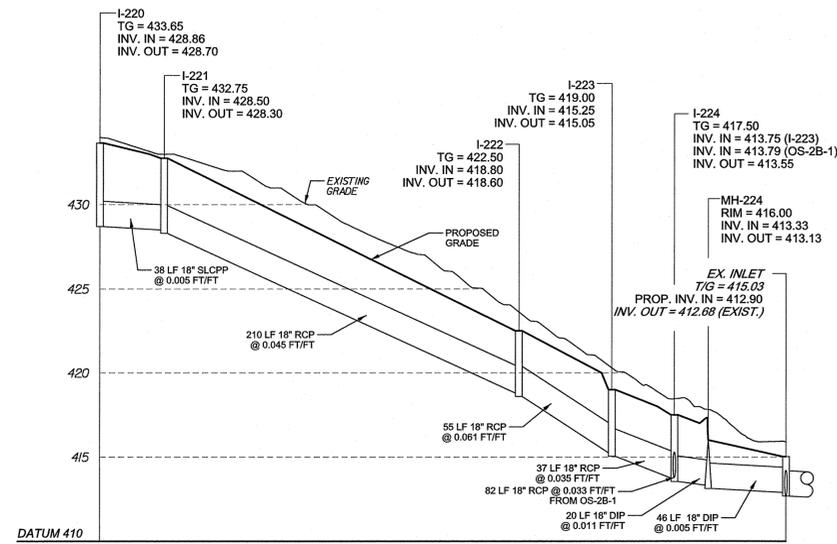


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 Date March 6, 2015
 Title Utility Profiles
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C4.4

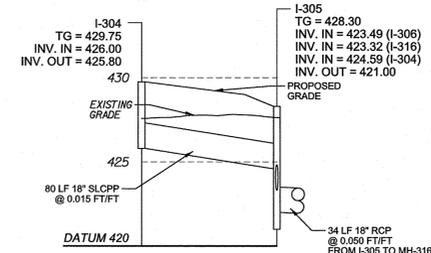
Sheet No. 16 of 37

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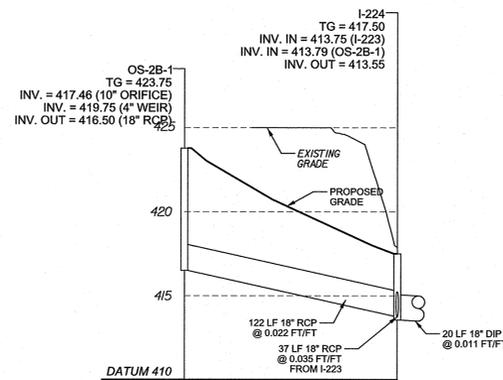
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 I-220 TO I-224**

SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'



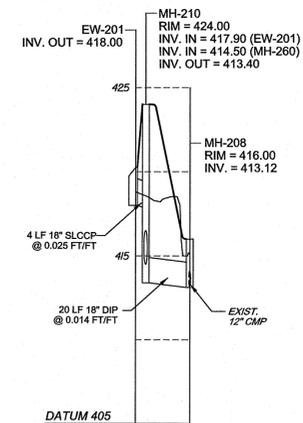
**STORM PROFILE -
 I-304 TO I-305**

SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'



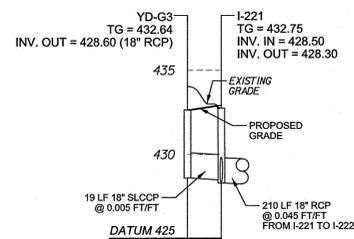
**STORM PROFILE -
 OS-2B-1 TO I-224**

SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'



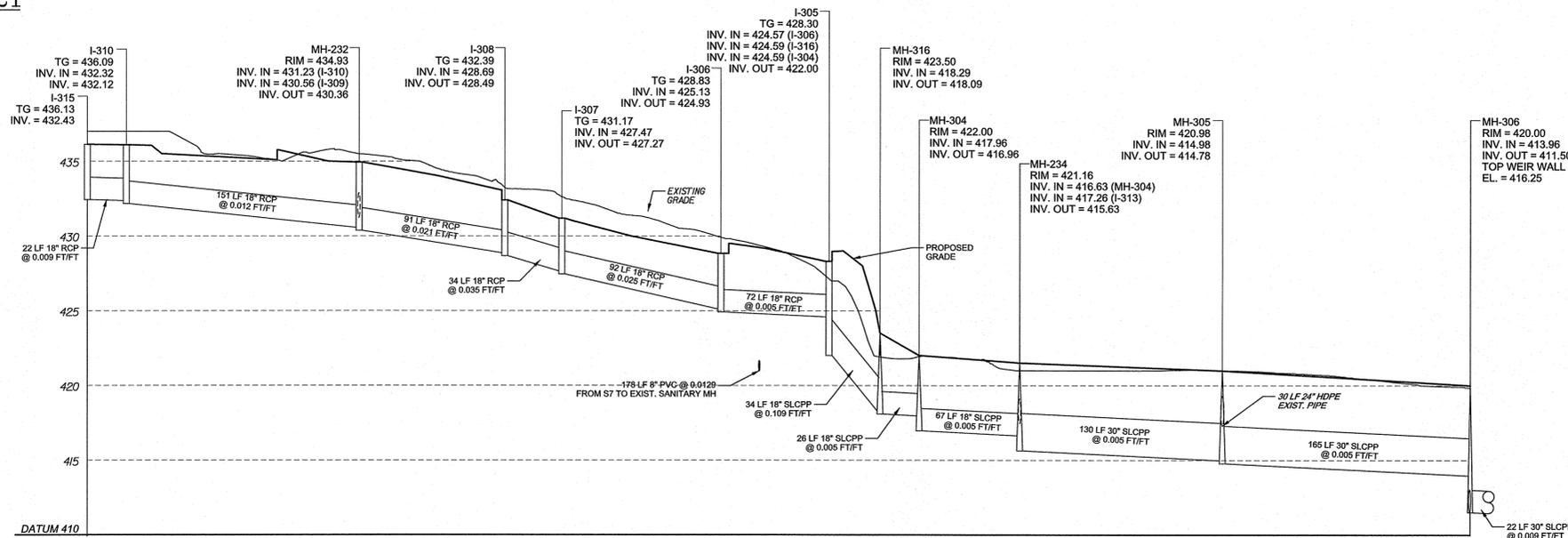
**STORM PROFILE -
 EW-201 TO MH-208**

SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'



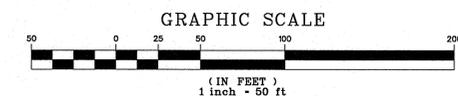
**STORM PROFILE -
 YD-G3 TO I-221**

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 VERTICAL 1" = 5'

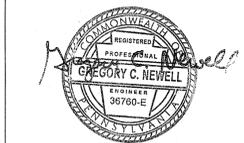


**STORM PROFILE -
 I-315 TO MH-306**

SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'



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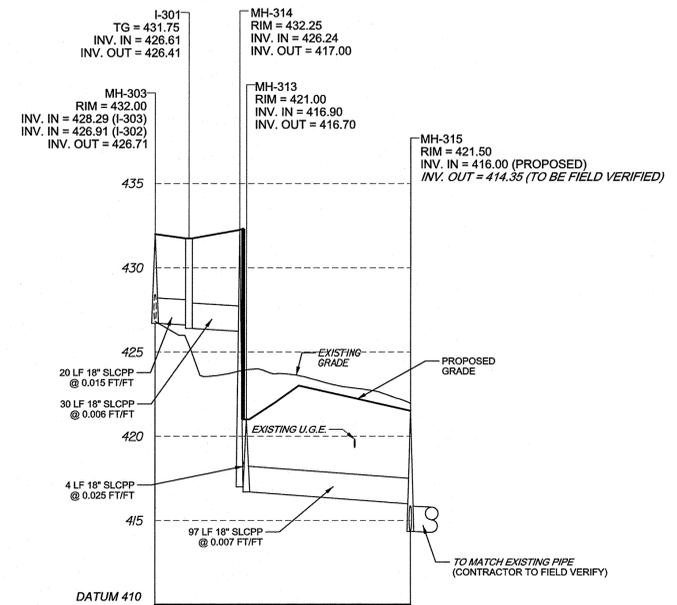
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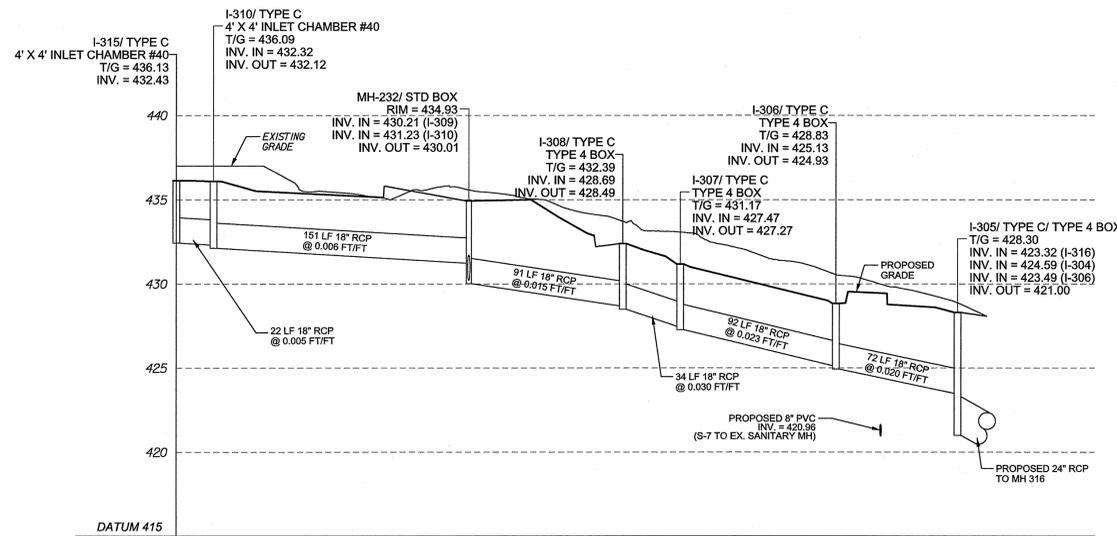
Sheet No. 17 of 37

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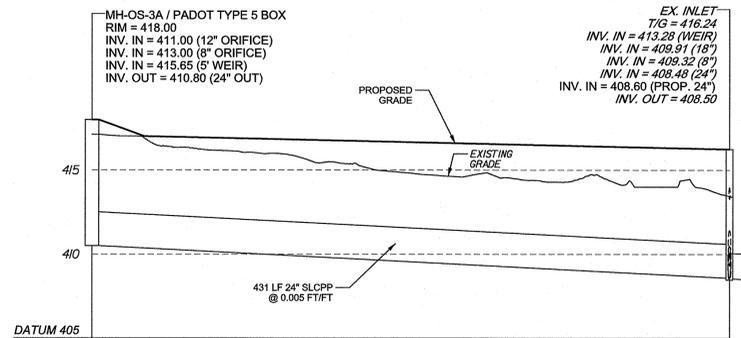
**STORM PROFILE -
 MH-303 TO MH-315**

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 VERTICAL 1" = 5'



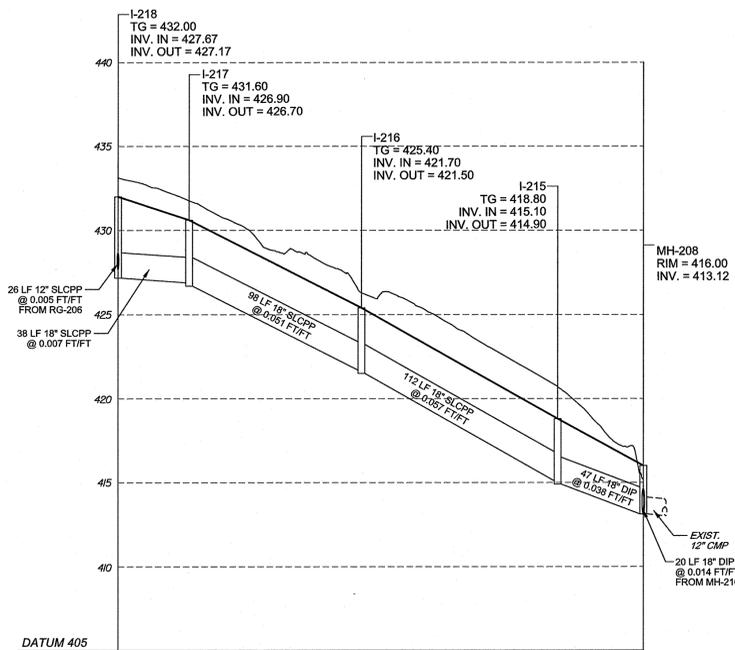
**STORM PROFILE -
 I-315 TO I-305**

SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'



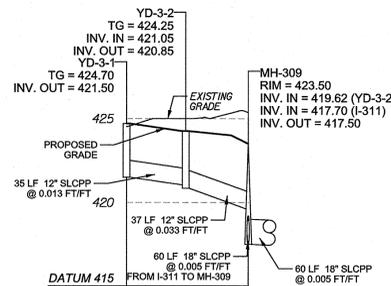
**STORM PROFILE -
 OS-3A TO EX. I-1**

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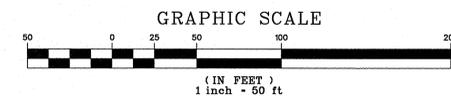
**STORM PROFILE -
 I-218 TO MH-208**

SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'



**STORM PROFILE -
 YD-3-1 TO MH-309**

SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'



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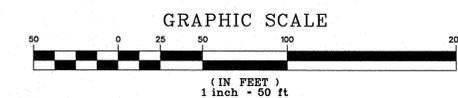
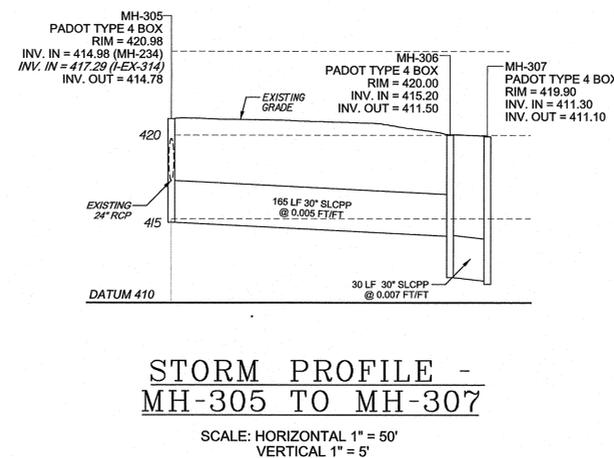
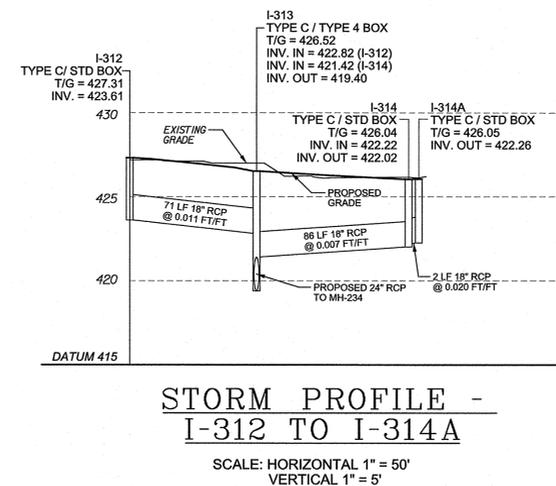
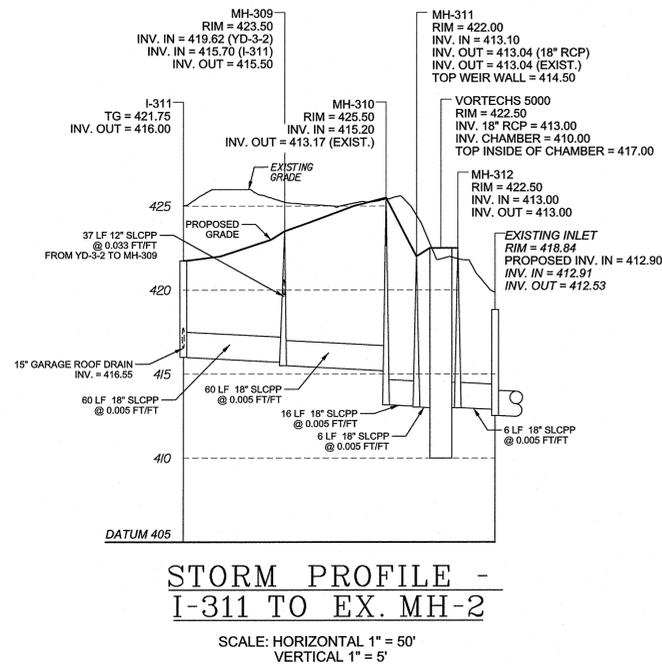
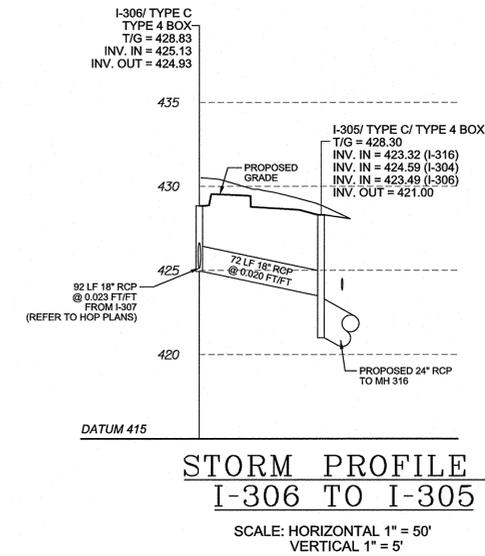
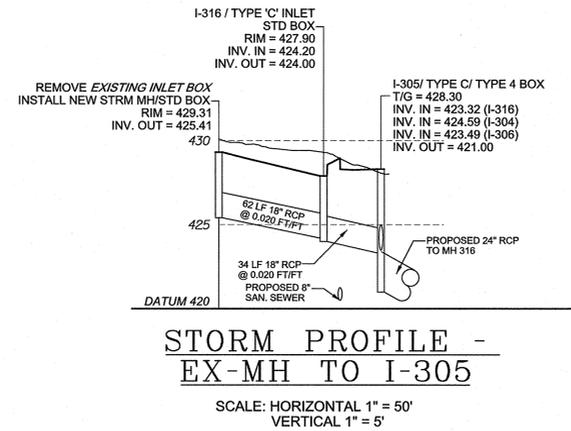
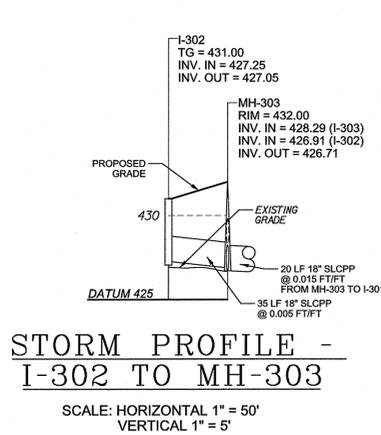
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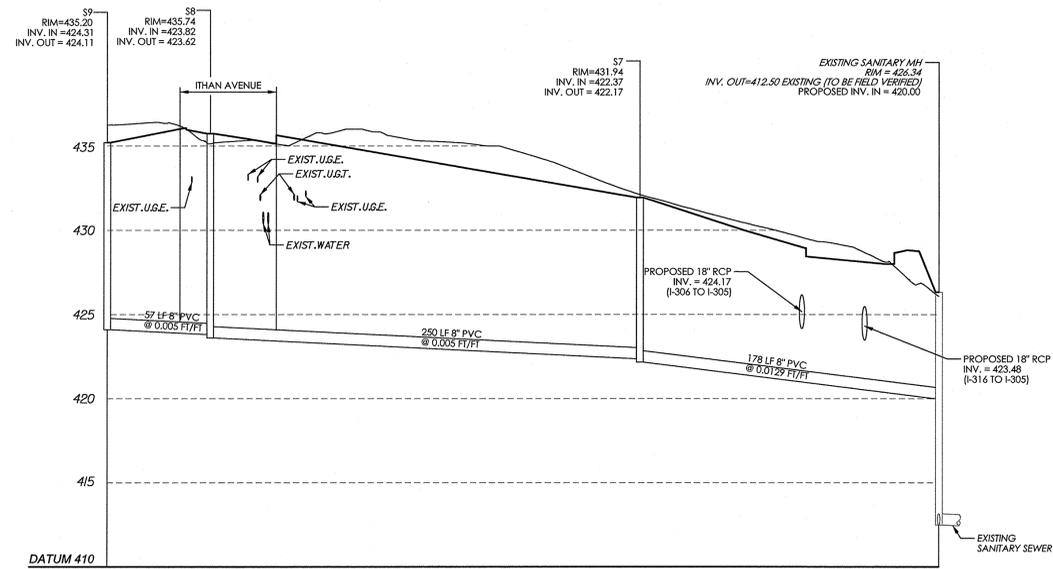
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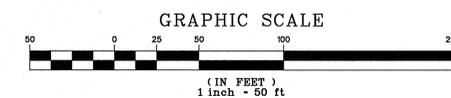
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 phone: 610-667-1717
 fax: 610-667-0216



**SANITARY PROFILE -
 S9 - EXISTING SANITARY MH**

SCALE: HORIZONTAL 1" = 50'
 VERTICAL 1" = 5'

20112071855
 20112071869
 20112071907
 20112071997
 20112073272
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 Date March 6, 2015
 Title Utility Profiles
 Scale As Noted
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C4.7

VMA RAMSA

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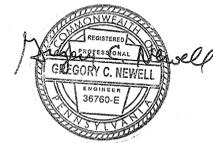
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 Revision #7 January 29, 2016
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 Title Erosion & Sedimentation
 Control Plan
 Scale 1" = 30'
 Drawn By DWN

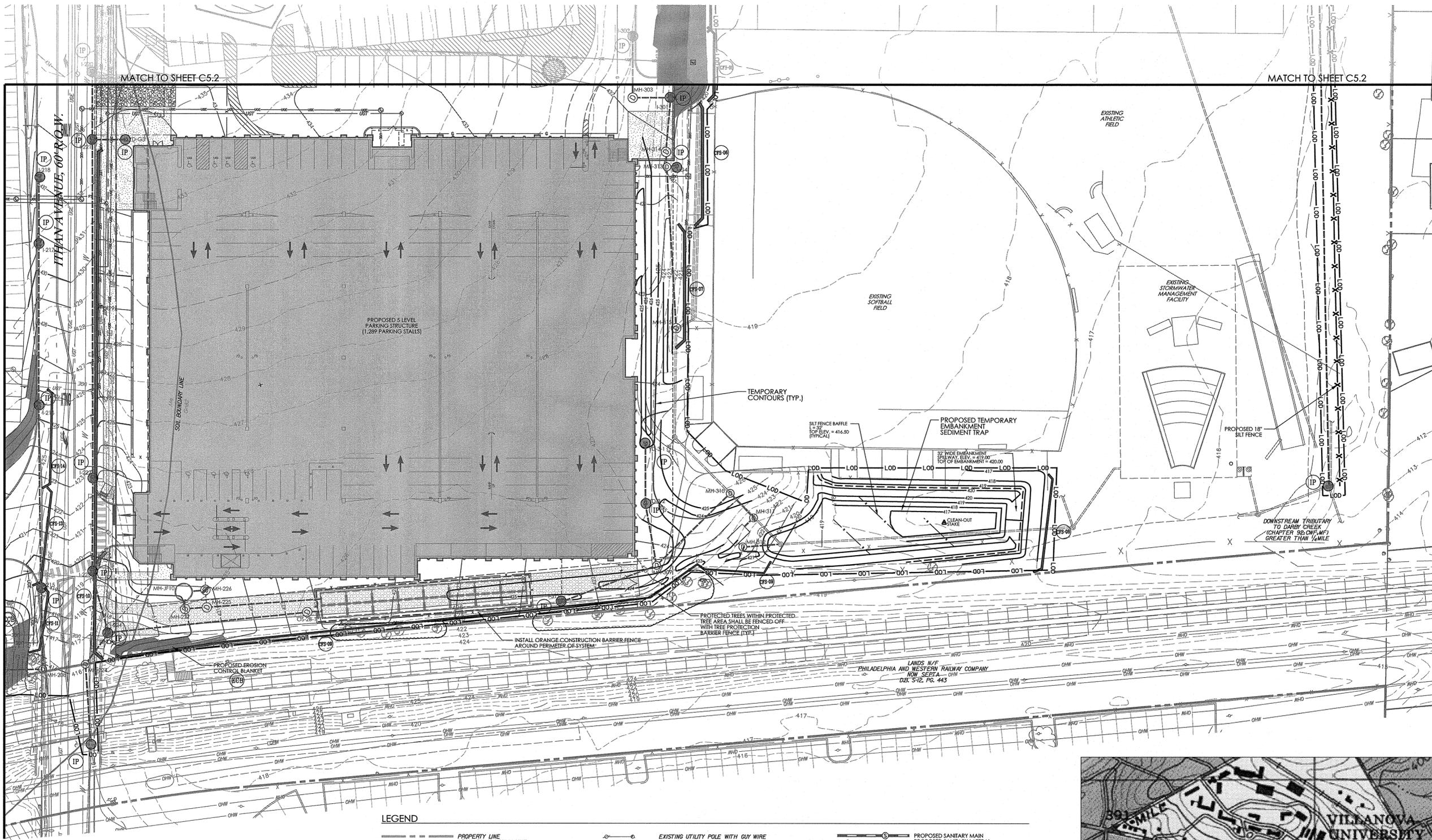
C5.1

Sheet No. 20 of 37

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.



NAME: NORRISTOWN QUAD
 SCALE: 1" = 600'



LEGEND

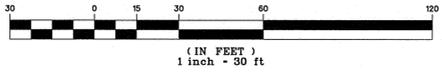
- PROPERTY LINE
- LEGAL RIGHT-OF-WAY LINE
- EXISTING UNDERGROUND ELECTRIC SERVICE WITH MANHOLE
- EXISTING CABLE SERVICE WITH CABLE BOX
- EXISTING TELEPHONE SERVICE WITH MANHOLE
- EXISTING TRANSFORMER
- EXISTING LIGHT STANDARDS
- EXISTING TELEPHONE METER
- EXISTING UNDERGROUND TELEPHONE SERVICE WITH MANHOLE
- EXISTING SOILS BOUNDARY LINE
- PROPOSED RIGHT-OF-WAY LINE
- PROPOSED CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED STRUCTURE
- PROPOSED CONCRETE SIDEWALK OR PAD
- PROPOSED SAFETY FENCE
- PROPOSED RETAINING WALL
- PROPOSED SIGN
- PROPOSED ADA PARKING SPACE
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED SANITARY MAIN
- PROPOSED SANITARY LATERAL
- PROPOSED STORM PIPE
- PROPOSED INLET / YARD DRAIN
- PROPOSED LIMIT OF DISTURBANCE
- PROPOSED COMPOST FILTER SOCK
- PROPOSED ROCK CONSTRUCTION ENTRANCE
- PROPOSED INLET PROTECTION
- EROSION CONTROL BLANKET, NAG S150 ERONET
- 18" SILT FENCE

COMPOST FILTER SOCK SCHEDULE

SOCK NO.	SIZE (IN.)
6	18
7	18
8	12
9	12
11	12
13	12
14	12

SOILS DATA
 REFER TO SHEET C5.2 FOR SOILS LEGEND, USE AND LIMITATIONS

GRAPHIC SCALE



2011201855
 2011201869
 2011201907
 2011201937
 2011202172

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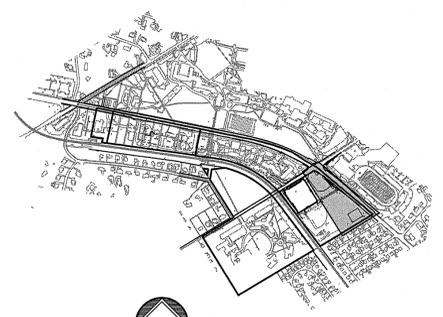


KEY MAP
 SCALE: 1" = 1,000'

MATCH TO SHEET C5.3

MATCH TO SHEET C5.2

MATCH TO SHEET C5.2



KEY MAP
SCALE: 1" = 1,000'

SOILS DATA

SOILS INFORMATION OBTAINED FROM THE USDA-NRCS WEB SOIL SURVEY, VERSION 8, WITH A DATE OF SURVEY AREA DATA OF SEPTEMBER 30, 2014.

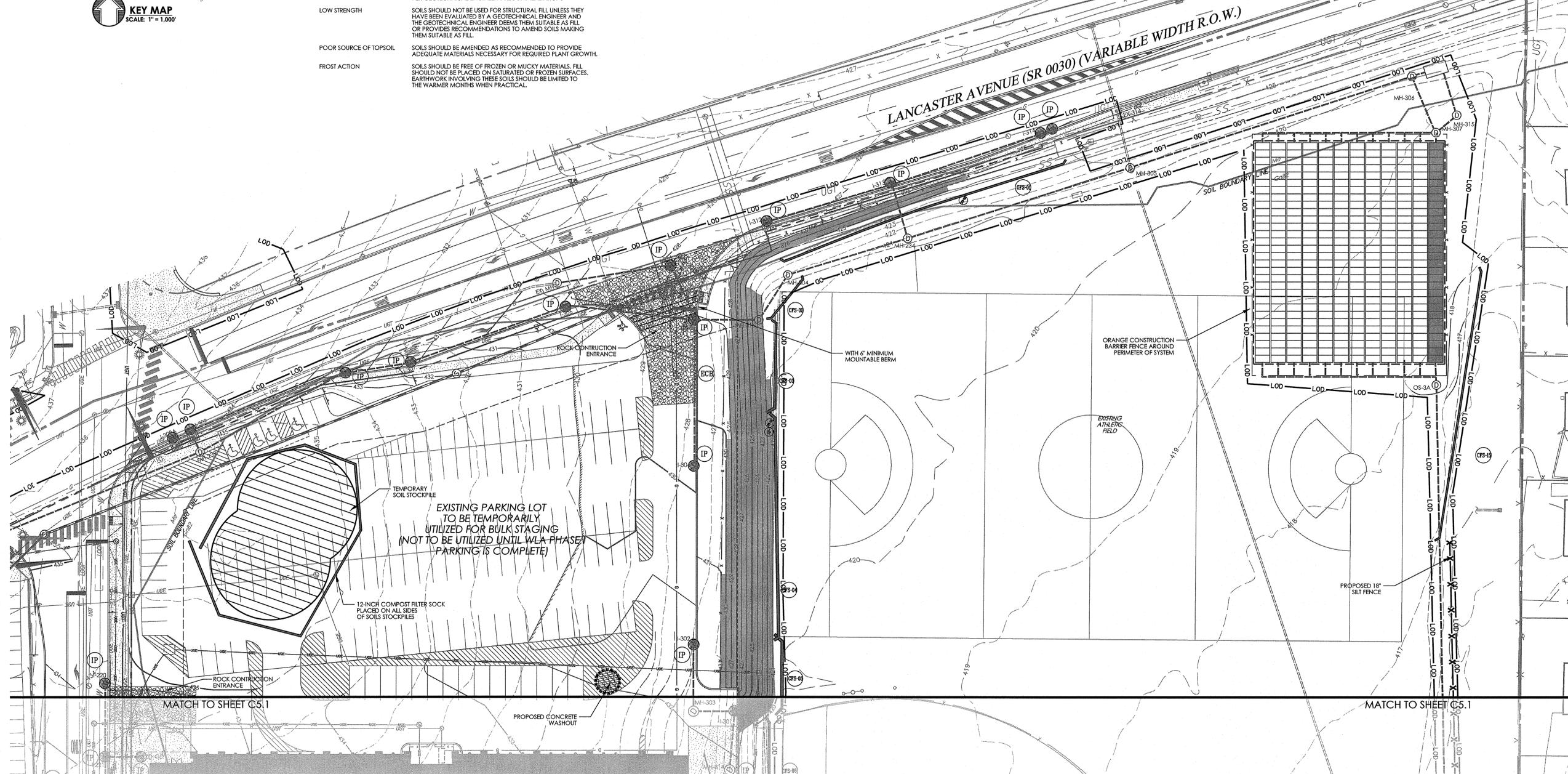
Me MADE LAND, SCHIST AND GNEISS MATERIALS
GnB2 GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES, MODERATELY ERODED

SOILS LIMITATIONS

GnB2 THE SOIL HAS LOW STRENGTH CHARACTERISTICS. IS POTENTIALLY LIMITED BY THE DEPTH TO SATURATED ZONE. IS SUSCEPTIBLE TO EXCAVATIONS SLOUGHING AND FROST ACTION AND IS A POTENTIALLY A POOR SOURCE FOR TOP SOIL.
Me LIMITATIONS ARE NOT LISTED.

SOILS RESOLUTIONS

EXCAVATION SLOUGHING PROVIDE APPROPRIATE BENCHING AND/OR SHORING IN AREAS OF EXCAVATION.
DEPTH TO SATURATED ZONE SOILS SHOULD BE EVALUATED FOR WETNESS PRIOR TO USE IN SITE WORK. IF GEOTECHNICAL ENGINEER DEEMS SOILS TOO WET FOR SITE WORK, THEN SOILS SHALL BE AMENDED OR DRIED PER GEOTECHNICAL ENGINEER'S RECOMMENDATIONS
LOW STRENGTH SOILS SHOULD NOT BE USED FOR STRUCTURAL FILL UNLESS THEY HAVE BEEN EVALUATED BY A GEOTECHNICAL ENGINEER AND THE GEOTECHNICAL ENGINEER DEEMS THEM SUITABLE AS FILL OR PROVIDES RECOMMENDATIONS TO AMEND SOILS MAKING THEM SUITABLE AS FILL
POOR SOURCE OF TOPSOIL SOILS SHOULD BE AMENDED AS RECOMMENDED TO PROVIDE ADEQUATE MATERIALS NECESSARY FOR REQUIRED PLANT GROWTH.
FROST ACTION SOILS SHOULD BE FREE OF FROZEN OR MUCKY MATERIALS. FILL SHOULD NOT BE PLACED ON SATURATED OR FROZEN SURFACES. EARTHWORK INVOLVING THESE SOILS SHOULD BE LIMITED TO THE WARMER MONTHS WHEN PRACTICAL.



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fax: 212-967-5588
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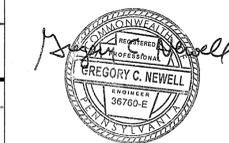
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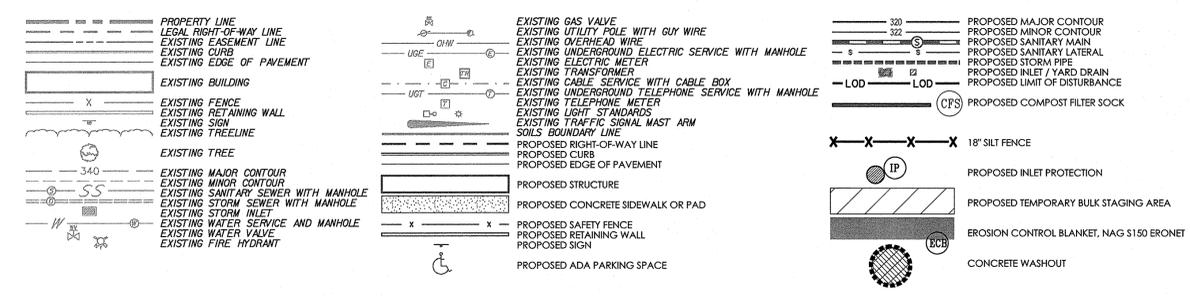
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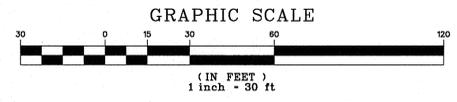


LEGEND



COMPOST FILTER SOCK SCHEDULE

SOCK NO.	SIZE (IN)
2	12
3	12
4	18
5	12
15	12



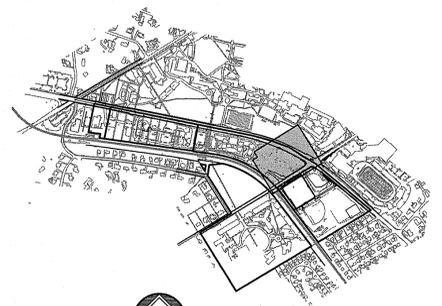
20112071855
20112071869
20112071907
20112071937
20112072122
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THIS PLAN FOR EROSION AND SEDIMENTATION CONTROL PURPOSES ONLY.

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SUBMISSION
Revision #7 January 29, 2016
Date March 6, 2015
Title Erosion & Sedimentation Control Plan
Scale 1" = 30'
Drawn By DWN

C5.2
Sheet No. 21 of 37

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.



KEY MAP
SCALE: 1" = 1,000'

LEGEND

- PROPERTY LINE
- LEGAL RIGHT-OF-WAY LINE
- EXISTING CURB
- EXISTING EDGE OF PAVEMENT
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING RETAINING WALL
- EXISTING SIGN
- EXISTING TREELINE
- EXISTING TREE
- EXISTING RAILROAD TRACKS
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING STORM SEWER WITH MANHOLE
- EXISTING STORM INLET
- EXISTING WATER SERVICE WITH MANHOLE
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING GAS VALVE
- EXISTING UTILITY POLE WITH GUY WIRE
- EXISTING OVERHEAD WIRE
- EXISTING UNDERGROUND ELECTRIC SERVICE WITH MANHOLE
- EXISTING TRANSFORMER
- EXISTING CABLE SERVICE WITH CABLE BOX
- EXISTING UNDERGROUND TELEPHONE SERVICE WITH MANHOLE
- EXISTING TELEPHONE METER
- EXISTING LIGHT STANDARDS
- EXISTING TRAFFIC SIGNAL MAST ARM
- EXISTING SOILS BOUNDARY LINE
- PROPOSED RIGHT-OF-WAY LINE
- PROPOSED CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED STRUCTURE
- PROPOSED CONCRETE SIDEWALK OR PAD
- PROPOSED SAFETY FENCE
- PROPOSED RETAINING WALL
- PROPOSED SIGN
- PROPOSED ADA PARKING SPACE
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED SANITARY MAIN
- PROPOSED SANITARY LATERAL
- PROPOSED TRUNK PIPE
- PROPOSED INLET / YARD DRAIN
- PROPOSED LIMIT OF DISTURBANCE
- (CFS) PROPOSED COMPOST FILTER SOCK
- PROPOSED ROCK CONSTRUCTION ENTRANCE
- PROPOSED INLET PROTECTION
- PROPOSED TEMPORARY BULK STAGING AREA
- (RCB) EROSION CONTROL BLANKET, NAG S150 ERONET

REFER TO SHEET C5.1

REFER TO SHEET C5.2

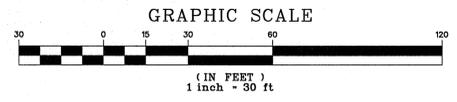
"MAIN LOT"
TAX MAP 36
BLOCK 24, UNIT 33
FOLIO 36-04-02-00-10
LANDS W/F
VILLANOVA UNIVERSITY
AUGUSTINIAN COLLEGE OF VILLANOVA
D.B. F-14, P. 392

PROPOSED PLYWOOD
BOX RISER MOUNTED ON
EXISTING MANHOLE
RISER CREST ELEV = 410.00

SOILS DATA
REFER TO SHEET C5.2 FOR SOILS LEGEND, USE AND LIMITATIONS

COMPOST FILTER SOCK SCHEDULE

SOCK NO.	SIZE (IN.)
10	18
11	18
12	18
13	18
14	18



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20112071927
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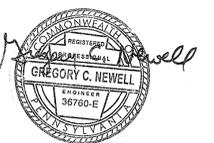
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**GRADING PERMIT
SUBMISSION**

Revision #7 January 29, 2016
Date March 6, 2015
Title Erosion & Sedimentation
Control Plan
Scale 1" = 30'
Drawn By DWN

C5.3

Sheet No. 22 of 37

THIS PLAN FOR EROSION AND SEDIMENTATION CONTROL PURPOSES ONLY.

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.

GENERAL CONSERVATION NOTES AND SPECIFICATIONS

INTENT OF CONSERVATION PROGRAM: THE INTENT OF THIS PROGRAM IS TO PREVENT ACCELERATED EROSION OF THE EXPOSED SITE SOILS DURING THE CONSTRUCTION AND PERMANENT LIFE PERIODS OF THE DEVELOPMENT...

SURFACE STABILIZATION CRITERIA: ALL DENuded SOIL SURFACES, INCLUDING SOIL STOCKPILES, ARE SUBJECT TO EROSION AND SHALL BE STABILIZED EITHER TEMPORARILY OR PERMANENTLY...

SEEDING & MULCHING SPECIFICATIONS

- TEMPORARY: SEEDING SHALL BE COMMON REE GRASS APPLIED AT 45 LBS. PER ACRE... LIVING TO BE APPLIED AT 1 TONS/ACRE...
PERMANENT: SEEDING SHALL BE 15% KENTUCKY BLUEGRASS, 35% KENTUCKY 31 FESCUE, 25% CHEWINGS FESCUE, 15% PERENNIAL RYE GRASS...

THE NON-GERMINATING PERIODS ARE BETWEEN 6/15 THROUGH 8/15 AND 9/30 THROUGH 4/15. AREAS DISTURBED DURING THESE PERIODS MUST BE MOWED, FERTILIZED, SEEDED AND MULCHED IMMEDIATELY FOLLOWING THE END OF THOSE PERIODS...

MAINTENANCE PROGRAM FOR TEMPORARY SEDIMENTATION CONTROL STRUCTURES

MAINTENANCE OF ALL TEMPORARY SEDIMENTATION CONTROL STRUCTURES SHALL BE THE RESPONSIBILITY OF THE DEVELOPER AND AS STATED BELOW:

- 1. SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH ONE-HALF THE EFFECTIVE HEIGHT OF COMPOST FILTER SOCKS.
2. SEDIMENT MUST BE REMOVED FROM ROCK FILTERS WHEN COLLECTED SEDIMENT BEGINS TO AFFECT THE FILTER'S FUNCTION.
3. INLET PROTECTION FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RAINFALL EVENT...

MAINTENANCE OF TEMPORARY SEDIMENTATION CONTROL STRUCTURES

MAINTENANCE OF ALL TEMPORARY SEDIMENTATION CONTROL STRUCTURES SHALL BE IN ACCORDANCE WITH THESE PLANS AND THE EROSION AND CONTROL NARRATIVE. INSPECTION AND MAINTENANCE OF ALL FACILITIES SHALL BE MADE AFTER EACH RAIN STORM EVENT AND ON A WEEKLY BASIS.

SEDIMENT DISPOSAL

SILT REMOVED FROM TEMPORARY SEDIMENT CONTROL STRUCTURES SHALL BE DISPOSED OF ON-SITE IN LANDSCAPED AREAS LOCATED OUTSIDE OF FLOOD PLAINS, WETLANDS, STEEP SLOPES, AND DRAINAGE SWALES...

DUST CONTROL

DUST AND OTHER PARTICULATES SHALL BE KEPT WITHIN TOLERABLE LIMITS BY USING WATER. APPLICATION SHALL BE AS NEEDED OR AS DIRECTED BY THE TOWNSHIP ENGINEER OR THE CONSERVATION DISTRICT.

CRITICAL VEGETATION AREAS (C.V.A.)

CRITICAL VEGETATION AREAS ARE TO BE GRADED, HYDROSEEDED AND MULCHED WITHIN 10 DAYS OF THE BEGINNING OF EXCAVATION. IN GENERAL, CRITICAL VEGETATION AREAS ARE DEFINED AS CUT SLOPES STEEPER THAN 3:1...

OTHER BMPs

- 1. SEDIMENT SHALL BE REMOVED FROM STORM WATER INLET PROTECTION AFTER EACH RUNOFF EVENT.

VISUAL INSPECTIONS

THE PERMITTEE AND CO PERMITEE(S) MUST ENSURE THAT VISUAL SITE INSPECTIONS ARE CONDUCTED WEEKLY, AND WITHIN 24 HOURS AFTER EACH MEASURABLE RAINFALL EVENT THROUGHOUT THE DURATION OF CONSTRUCTION AND UNTIL THE RECEIPT AND ACKNOWLEDGEMENT OF THE NOT BY THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT...

- 1. A SUMMARY OF SITE CONDITIONS, ERS BMP AND PCSM BMP, IMPLEMENTATION AND MAINTENANCE AND COMPLIANCE ACTIONS.
2. THE DATE, TIME, NAME AND SIGNATURE OF THE PERSON CONDUCTING THE INSPECTION.

NON-COMPLIANCE REPORTING

WHERE ERS, PCSM OR PPC BMPs ARE FOUND TO BE INOPERATIVE OR INEFFECTIVE DURING AN INSPECTION, OR ANY OTHER TIME, THE PERMITTEE AND COPERMITEE(S) SHALL, WITHIN 24 HOURS, CONTACT THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT, BY PHONE OR PERSONAL CONTACT...

- 1. ANY CONDITION ON THE PROJECT SITE WHICH MAY ENDANGER PUBLIC HEALTH, SAFETY, OR THE ENVIRONMENT, OR INVOLVE INCIDENTS WHICH CAUSE OR THREATEN POLLUTION.
2. THE PERIOD OF NON-COMPLIANCE, INCLUDING EXACT DATES AND TIMES AND/OR REPORTED TIMES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE.
3. STEPS BEING TAKEN TO REDUCE, ELIMINATE, AND PREVENT RECURRENT OF THE NON-COMPLIANCE AND, AND IDENTIFYING REMEDIES FOR CORRECTING NON-COMPLIANCE CONDITIONS.

REDUCTION, LOSS, OR FAILURE OF THE BMPs

UPON REDUCTION, LOSS, OR FAILURE OF THE BMPs, THE PERMITTEE AND CO PERMITEE SHALL TAKE IMMEDIATE ACTION TO RESTORE THE BMPs OR PROVIDE AN ALTERNATIVE METHOD OF TREATMENT, SUCH RESTORED BMPs OR ALTERNATIVE TREATMENT SHALL BE AT LEAST AS EFFECTIVE AS THE ORIGINAL BMPs.

TERMINATION OF COVERAGE

NOT: UPON PERMANENT STABILIZATION OF EARTH DISTURBANCE ACTIVITIES ASSOCIATED WITH CONSTRUCTION ACTIVITY THAT ARE AUTHORIZED BY THIS PERMIT AND WHEN BMPs IDENTIFIED IN THE PCSM PLAN HAVE BEEN PROPERLY INSTALLED, THE PERMITTEE AND/OR CO PERMITEE OF THE FACILITY MUST SUBMIT A NOT FORM THAT IS SIGNED IN ACCORDANCE WITH PART 8, SECTION 1.C. SIGNATORY REQUIREMENTS OF THIS PERMIT...

COMPLETION CERTIFICATE AND FINAL PLANS

WITHIN 30 DAYS AFTER THE COMPLETION OF EARTH DISTURBANCE ACTIVITIES AUTHORIZED BY THIS PERMIT, INCLUDING THE PERMANENT STABILIZATION OF THE SITE AND PROPER INSTALLATION OF PCSM BMPs IN ACCORDANCE WITH THE APPROVED PCSM PLAN, OR UPON SUBMISSION OF THE COMPLETION CERTIFICATE AND FINAL PLANS TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT A STATEMENT SIGNED BY A LICENSED PROFESSIONAL AND BY THE PERMITTEE CERTIFYING THAT WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THIS PERMIT AND THE APPROVED ERS AND PCSM PLANS.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

- 1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE EROSION AND SEDIMENTATION CONTROL PLAN...
2. AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER SHALL INVITE ALL CONTRACTORS, THE DEVELOPER, APPROPRIATE MUNICIPAL OFFICIALS, THE ERS PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING...
3. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1774 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES...
4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS, DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION...
5. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBSTRUCTIONS...
6. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE...
7. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS...
8. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE STOCKPILED AT THE LOCATION(S) TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAPS...
9. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENTATION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT...
10. 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 ERS CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE DELAWARE COUNTY CONSERVATION DISTRICT...
11. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 2601. ET SEQ. 271.1 AND 287.1 ET SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR OTHERWISE DISPOSED AT THE SITE...
12. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN ERS PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED...
13. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A CLEAN FILL ON SITE IS CLEAN FILL FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE...
14. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURES DESCRIBED IN THIS PLAN...
15. VEHICLES AND EQUIPMENT MAY NEITHER ENTER NOR EXIT DIRECTLY FROM THE PROJECT SITE ONTO WEST LANCASTER AVENUE...
16. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION BMPs MUST BE MAINTAINED PROPERLY...
17. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE SITE IMMEDIATELY...
18. ALL SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS...
19. AREAS WHICH ARE TO BE TOP SOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES...
20. ALL FILLS SHALL BE COMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION...
21. ALL EARTH FILLS SHALL BE PLACED IN LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS...
22. FILL MATERIALS SHALL BE FREE OF BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS...
23. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE...
24. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS...
25. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER...
26. ERS BMPs SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED...
27. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE ERS BMPs...
28. FAILURE TO CORRECTLY INSTALL ERS BMPs, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESTORE FAILURE OF ERS BMPs...
29. UPON THE INSTALLATION OR STABILIZATION OF ALL PERIMETER SEDIMENT CONTROL BMPs AND AT LEAST 3 DAYS PRIOR TO PROCEEDING WITH THE BULK EARTH DISTURBANCE ACTIVITIES...
30. CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS...
31. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION...
32. FAILURE TO CORRECTLY INSTALL ERS BMPs, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE...
33. SHOULD ANY MEASURES CONTAINED WITHIN THIS PLAN PROVE INCAPABLE OF ADEQUATELY REMOVING SEDIMENT FROM ON-SITE FLOOD PLAINS...
34. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, COMPLIANCE WITH ENVIRONMENTAL PROTECTION SUB-PART C, PROTECTION OF NATURAL RESOURCES, ARTICLE 6, WATER RESOURCES, CHAPTER 102, EROSION CONTROL...
35. THE PROPOSED CONSERVATION MEASURES MUST BE IN COMPLIANCE WITH PADEP CHAPTER 102 REGULATIONS...
36. THE PROJECT'S NEAREST SURFACE WATER IS AN UNNAMED TRIBUTARY TO DARBY CREEK...
37. UPON THE INSTALLATION OR STABILIZATION OF ALL PERIMETER SEDIMENT CONTROL BMPs AND AT LEAST 3 DAYS PRIOR TO PROCEEDING WITH THE BULK EARTH DISTURBANCE ACTIVITIES...
38. CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS...
39. THE PERMITTED CONSERVATION MEASURES MUST BE IN COMPLIANCE WITH PADEP CHAPTER 102 REGULATIONS...
40. EXCAVATED MATERIAL SHOULD BE STAGED ON THE UPSTREAM SIDE OF A TRENCH...

GENERAL NOTES FOR UTILITY CONSTRUCTION

- 1. EXCAVATED MATERIAL SHOULD BE STAGED ON THE UPSTREAM SIDE OF A TRENCH.
2. THE DAILY EXTENT OF TRENCHING SHOULD NOT EXCEED WHAT CAN BE BACKFILLED AND STABILIZED IN ONE WORKING DAY.
3. LIMIT ADVANCED CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY.
4. WORK CREWS AND EQUIPMENT FROM TRENCHING, PLACEMENT OF PIPE, AND BACKFILLING WILL BE SELF CONTAINED AND SEPARATE FROM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.
5. WATER WHICH ACCUMULATES IN TRENCHES WHICH ARE TO BE PUMPED MUST BE PUMPED THROUGH A FILTRATION DEVICE.
6. ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND IMMEDIATELY STABILIZED.
7. SOILS EXCAVATED FROM EXISTING UNDERLAYER SHOULD BE STOCKPILED SEPARATELY AND RETURNED AS FINAL SURFACE LAYER FOLLOWING TRENCH BACKFILLING.

ANTICIPATED ERS BMP RELATED CONSTRUCTION WASTES AND DISPOSAL PROCEDURES

Table with 2 columns: Material Type and Disposal Method. Includes Sediment, Trash & Litter, Concrete Washwater.

NOTE: ANY APPLICABLE MATERIAL SHALL BE RECYCLED IN ACCORDANCE TO THE APPROPRIATE REGULATIONS.

EROSION AND SEDIMENT CONTROL NOTES

THE PROJECT WILL MINIMIZE THE EXTENT AND DURATION OF DISTURBANCE BY SEQUENCING THE CONSTRUCTION SUCH THAT THE ENTIRE SITE IS NOT DISTURBED AT ONE TIME AND BY STABILIZING DISTURBANCE AS SOON AS PRACTICAL.

THE ERS PLAN UTILIZES EROSION AND SEDIMENT CONTROLS SUCH AS A TEMPORARY SEDIMENT TRAP FILTER SOCKS, AND DISTURBED EARTH STABILIZATION TO ASSIST IN MAINTAINING THE INTEGRITY OF THE EXISTING DRAINAGE FEATURES, REDUCING EROSION AND SEDIMENTATION AND MINIMIZING/ MITIGATING THERMAL IMPACTS...

THE PLAN MINIMIZES SOIL COMPACTION TO THE EXTENT PRACTICAL BY MINIMIZING THE LIMIT OF DISTURBANCE AND AREA UTILIZED TEMPORARILY FOR CONSTRUCTION ACCESS.

THE SEQUENCE OF CONSTRUCTION WILL LIMIT THE AMOUNT OF EXPOSED SOILS AT ANY GIVEN TIME. THE EXISTING DRIVEWAYS STATED TO BE REMOVED WILL BE SEEDED AND ESTABLISHED AS LAWN IMMEDIATELY AFTER DISTURBANCE.

THE PLAN DISTURBANCE RUNOFF THROUGH EXISTING TREE CANOPIES AND PROPOSED COMPOST SOCKS TO AVOID/MINIMIZE OR MITIGATE THERMAL IMPACTS.

SEQUENCE OF CONSTRUCTION

PHASE 1

- 1. AT LEAST 7 DAYS BEFORE ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROVED MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, AND THE DELAWARE COUNTY CONSERVATION DISTRICT TO AN ON-SITE PRE-CONSTRUCTION MEETING...
2. 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 ERS CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE DELAWARE COUNTY CONSERVATION DISTRICT...
3. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS...
4. PLACE PERIMETER EROSION AND SEDIMENT CONTROLS AS SHOWN ON EROSION AND SEDIMENT CONTROL PLAN...
5. INSTALL STABILIZATION AND SEDIMENT CONTROL ENTRANCE...
6. EXCAVATE FOR FOUNDATION CONSTRUCTION OF GARAGE AND INSTALL FOOTINGS...
7. BEGIN CONSTRUCTION OF GARAGE AND DRIVEWAYS...
8. BEGIN CONSTRUCTION OF DRIVEWAYS...
9. BEGIN CONSTRUCTION OF DRIVEWAYS...
10. BEGIN CONSTRUCTION OF DRIVEWAYS...
11. INSTALL STORM DRAINS FROM EXISTING INLET TO MH-224 WITH STUB CONNECTION TO OS-281...
12. ROUGH GRADE ITHAN AVENUE WIDENING AND THE RECONFIGURED ACCESS FROM ITHAN AVENUE TO THE EXISTING STUDENT PARKING LOT...
13. INSTALL STORMWATER CONVEYANCE FROM DOWNSTREAM EXISTING INLET TO OS-3A...
14. INSTALL INFILTRATION SYSTEM...
15. INSTALL STORMWATER CONVEYANCE SYSTEM FROM MH-311, VORTECHNICS UNIT, MH-312 TO EXISTING INLET...
16. INSTALL STORMWATER CONVEYANCE SYSTEM FROM MH-311, VORTECHNICS UNIT, MH-312 TO EXISTING INLET...
17. INSTALL INLETS 1-304, 1-305 WITH STUBS FOR FUTURE CONNECTION TO 1-306 AND 1-316...
18. PROVIDE INLET PROTECTION UNTIL CONTRIBUTING DRAINAGE AREAS ARE STABILIZED...
19. WHEN GARAGE IS SUBSTANTIALLY COMPLETE, INSTALL CONCRETE SIDEWALKS...
20. PROVIDE STABILIZATION OF ALL CONSTRUCTED PARKING AREAS AND DRIVEWAYS TO MINIMUM OF STONE SUBBASE AND COMPLETION OF ALL GRADING AND UTILITY INSTALLATION...
21. PROVIDE STABILIZATION OF ALL CONSTRUCTED PARKING AREAS AND DRIVEWAYS TO MINIMUM OF STONE SUBBASE AND COMPLETION OF ALL GRADING AND UTILITY INSTALLATION...
22. ALL INLETS CONTRIBUTING TO THE INFILTRATION BASIN SHALL BE PROTECTED UNTIL DRAINAGE AREAS ARE STABILIZED...
23. MODIFY EXISTING INFILTRATION SYSTEM OUTLET STRUCTURE...
24. INSTALL GRASS PAVES FIRE ACCESS AND INSTALL BITUMINOUS SIDEWALK FROM ITHAN AVENUE AND FRONT GARAGE TO SOFTBALL FIELD...
25. PROVIDE STABILIZATION OF ALL CONSTRUCTED PARKING AREAS AND DRIVEWAYS TO MINIMUM OF STONE SUBBASE AND COMPLETION OF ALL GRADING AND UTILITY INSTALLATION...
26. PERFORM FINAL STABILIZATION OF DISTURBED AREAS...
27. AFTER AN ON-SITE INSPECTION AND APPROVAL BY A REPRESENTATIVE OF THE DELAWARE COUNTY CONSERVATION DISTRICT, REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES...
28. CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS...
29. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION...
30. FAILURE TO CORRECTLY INSTALL ERS BMPs, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE...
31. SHOULD ANY MEASURES CONTAINED WITHIN THIS PLAN PROVE INCAPABLE OF ADEQUATELY REMOVING SEDIMENT FROM ON-SITE FLOOD PLAINS...
32. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, COMPLIANCE WITH ENVIRONMENTAL PROTECTION SUB-PART C, PROTECTION OF NATURAL RESOURCES, ARTICLE 6, WATER RESOURCES, CHAPTER 102, EROSION CONTROL...
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40. EXCAVATED MATERIAL SHOULD BE STAGED ON THE UPSTREAM SIDE OF A TRENCH...

PHASE 2

- 1. INSTALL STORM DRAINS FROM EXISTING INLET TO MH-224 WITH STUB CONNECTION TO OS-281...
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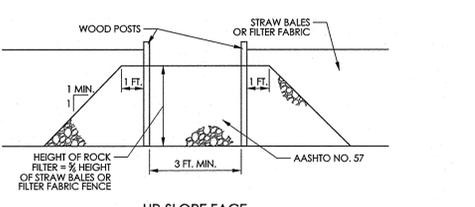
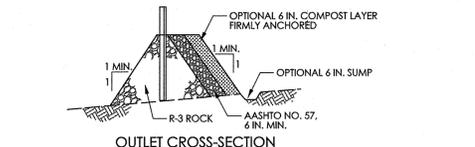
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17. AFTER AN ON-SITE INSPECTION AND APPROVAL BY A REPRESENTATIVE OF THE DELAWARE COUNTY CONSERVATION DISTRICT, REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES...
18. CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS...
19. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION...
20. FAILURE TO CORRECTLY INSTALL ERS BMPs, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE...
21. SHOULD ANY MEASURES CONTAINED WITHIN THIS PLAN PROVE INCAPABLE OF ADEQUATELY REMOVING SEDIMENT FROM ON-SITE FLOOD PLAINS...
22. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, COMPLIANCE WITH ENVIRONMENTAL PROTECTION SUB-PART C, PROTECTION OF NATURAL RESOURCES, ARTICLE 6, WATER RESOURCES, CHAPTER 102, EROSION CONTROL...
23. THE PROPOSED CONSERVATION MEASURES MUST BE IN COMPLIANCE WITH PADEP CHAPTER 102 REGULATIONS...
24. THE PROJECT'S NEAREST SURFACE WATER IS AN UNNAMED TRIBUTARY TO DARBY CREEK...
25. UPON THE INSTALLATION OR STABILIZATION OF ALL PERIMETER SEDIMENT CONTROL BMPs AND AT LEAST 3 DAYS PRIOR TO PROCEEDING WITH THE BULK EARTH DISTURBANCE ACTIVITIES...
26. CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS...
27. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT TO SCHEDULE A FINAL INSPECTION...
28. FAILURE TO CORRECTLY INSTALL ERS BMPs, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE...
29. SHOULD ANY MEASURES CONTAINED WITHIN THIS PLAN PROVE INCAPABLE OF ADEQUATELY REMOVING SEDIMENT FROM ON-SITE FLOOD PLAINS...
30. EXCAVATED MATERIAL SHOULD BE STAGED ON THE UPSTREAM SIDE OF A TRENCH...

*DENOTES A CRITICAL STAGE WHEN A LICENSED PROFESSIONAL IS TO BE PRESENT ON-SITE.



OUTLET CROSS-SECTION

UP-SLOPE FACE

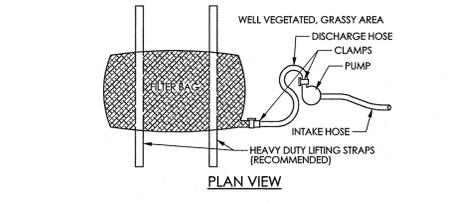
NOTE: A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A SILT FENCE OR STRAW BAILE BARRIER HAS OCCURRED DUE TO ONE OR MORE OF THE FOLLOWING: 1. FAILURE OF THE STRAW BAILE OR FILTER FABRIC FENCE... 2. FAILURE OF THE STRAW BAILE OR FILTER FABRIC FENCE...

SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE HEIGHT OF THE OUTLET.

STANDARD CONSTRUCTION DETAIL #4-6

ROCK FILTER OUTLET

NOT TO SCALE



PLAN VIEW



ELEVATION VIEW

NOTE: 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:

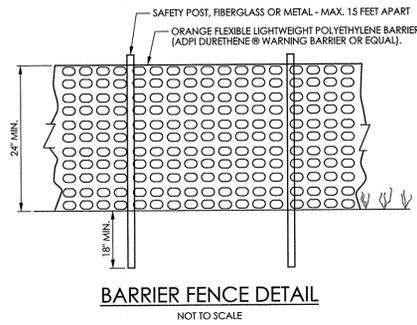
Table with 4 columns: Property, Test Method, Minimum Standard, and Units. Lists properties like Avg. Weib Width, Strength, Tear, Puncture, Mullen Burst, IV Retention, and ACS % Retained.

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 STRAITS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

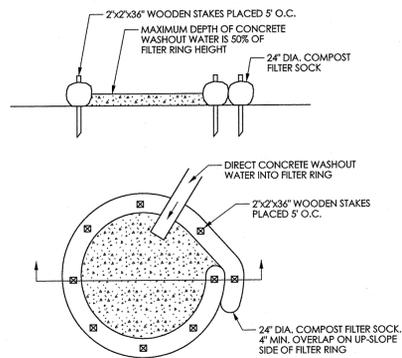
BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS, WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PAITH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER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

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 BAG 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 FLOWING AND SCREENED.

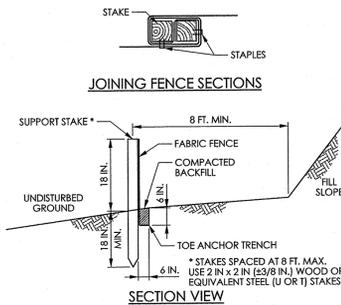


BARRIER FENCE DETAIL
NOT TO SCALE



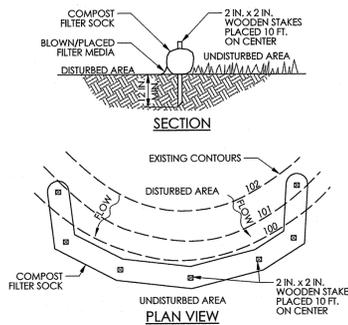
- NOTES:
1. A SUITABLE IMPERVIOUS GEO-MEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS.
 2. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.
 3. 18" DIAMETER FILTER SOCKS MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.
 4. ALL CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY. DAMAGED OR LEAKING WASHOUTS SHOULD BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY.

CONTROLLED NON-DISCHARGE CONCRETE WASHOUT
NOT TO SCALE



- NOTES:
- FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS SHOWN IN TABLE 4.3 OF THE PA DEP EROSION CONTROL MANUAL.
- FABRIC WIDTH SHALL BE 30 IN. MINIMUM. STAKES SHALL BE HARDWOOD OR EQUIVALENT STEEL (U OR T) STAKES.
- SILT FENCE SHALL BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE FENCE SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.
- SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE ABOVE GROUND HEIGHT OF THE FENCE.
- ANY SECTION OF SILT FENCE WHICH HAS BEEN UNDERMINED OR TOPPED SHALL BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET (STANDARD CONSTRUCTION DETAIL # 4-6).
- FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN TRIBUTARY AREA IS PERMANENTLY STABILIZED.

STANDARD CONSTRUCTION DETAIL #4-7 STANDARD SILT FENCE (18" HIGH)
NOT TO SCALE

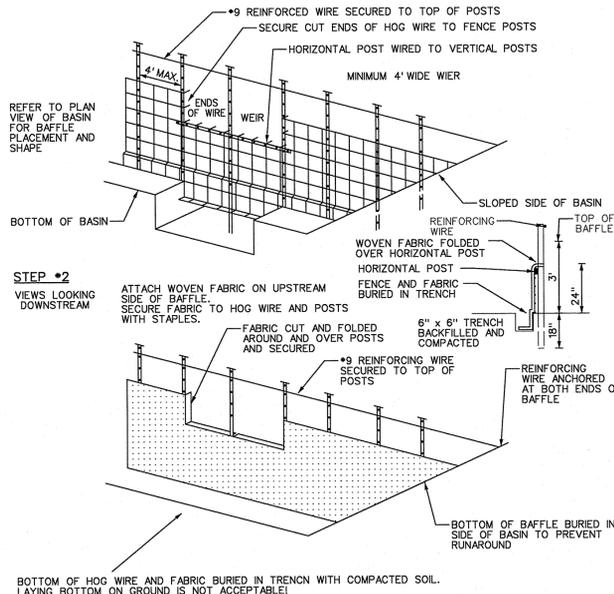


ORGANIC MATTER CONTENT	25% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5 - 8.5
MOISTURE CONTENT	30% - 60%
PARTICLE SIZE	80% - 95% PASS THROUGH 3/8" SIEVE
SOLUBLE SALT CONCENTRATION	5.0 LB/TON (IMP/TON) MAXIMUM

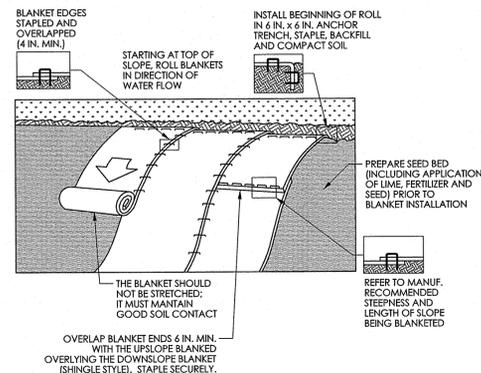
- NOTES:
- SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.
- COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.
- TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
- ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
- COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
- BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.
- WHERE SOCKS ARE PLACED ON PAVED SURFACES, CONCRETE BLOCKS SHOULD BE USED IMMEDIATELY DOWNSLOPE OF THE SOCKS (AT THE SAME INTERVALS RECOMMENDED FOR THE STAKES) TO HELP HOLD THE SOCK IN PLACE.

STANDARD CONSTRUCTION DETAIL #4-1 COMPOST FILTER SOCK
NOT TO SCALE

- STEP #1**
- LAYOUT BAFFLE LOCATION AND DIG A 6" x 6" TRENCH ALONG THE BOTTOM AND SIDES OF THE BASIN. DRIVE STEEL FENCE POSTS 18" INTO THE GROUND AND PLACE THE POSTS NO MORE THAN 4' APART.

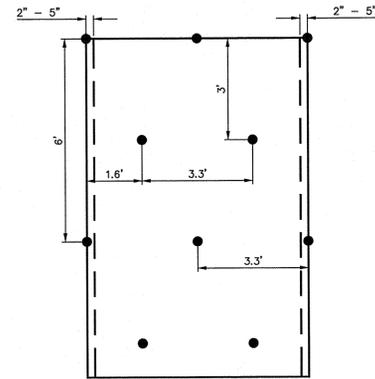


SILT FENCE BAFFLE CONSTRUCTION
N.T.S.



- NOTES:
- 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, CLOUDS, 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 STRETCH BLANKET.
- 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.

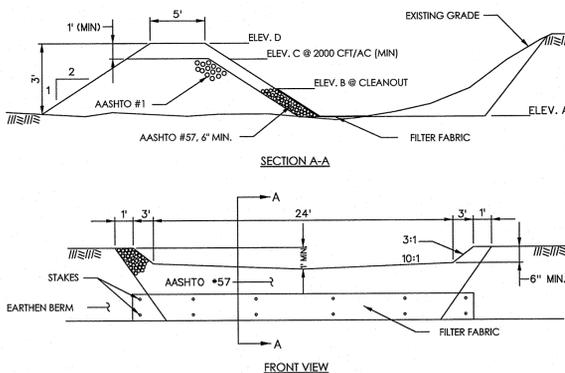
STANDARD CONSTRUCTION DETAIL #11-1 EROSION CONTROL BLANKET INSTALLATION
NOT TO SCALE



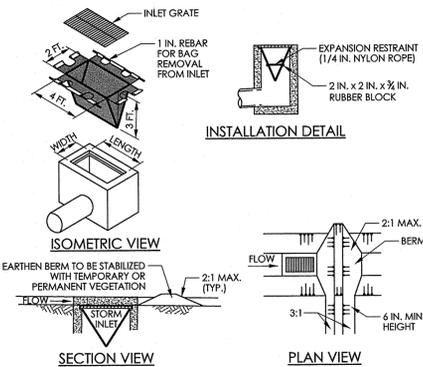
EROSION CONTROL BLANKET STAPLE PATTERN
NOT TO SCALE

DESIGNATION	ELEV. A	ELEV. B	ELEV. C	ELEV. D
TRAP 1	417.00	418.05	419.00	420.00

- NOTE: SEDIMENT MUST BE REMOVED FROM TRAPS WHEN STORAGE CAPACITIES ARE REDUCED TO 1,334 CUBIC FEET PER TRIBUTARY ACRE.

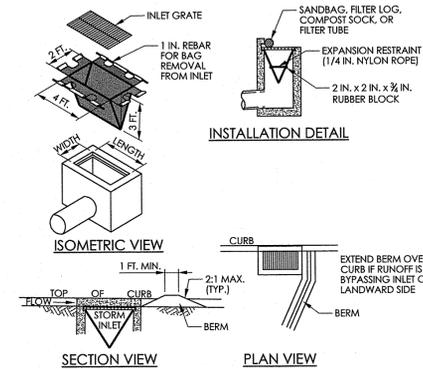


TYP. SEDIMENT TRAP DETAIL (EMBANKMENT TYPE) #8-1
N.T.S.



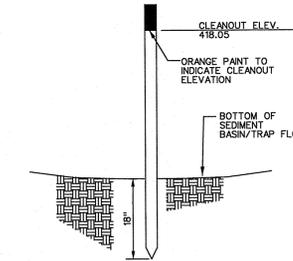
- NOTES:
- MAXIMUM DRAINAGE AREA = 1/2 ACRE.
- INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.
- ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENT.
- AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.
- INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.
- DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

STANDARD CONSTRUCTION DETAIL #4-16 FILTER BAG INLET PROTECTION - TYPE M INLET
NOT TO SCALE



- 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 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 NO. 40 SIEVE.
- INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.
- DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

STANDARD CONSTRUCTION DETAIL #4-15 FILTER BAG INLET PROTECTION - TYPE C INLET
NOT TO SCALE



- NOTES:
1. STAKES SHALL BE 2"x2" PRESSURE TREATED WOOD POSTS OR APPROVED EQUIVALENT.
 2. SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH THE CLEANOUT ELEVATION INDICATED BY ORANGE PAINT.

STANDARD SEDIMENT BASIN/TRAP CLEANOUT STAKE
N.T.S.

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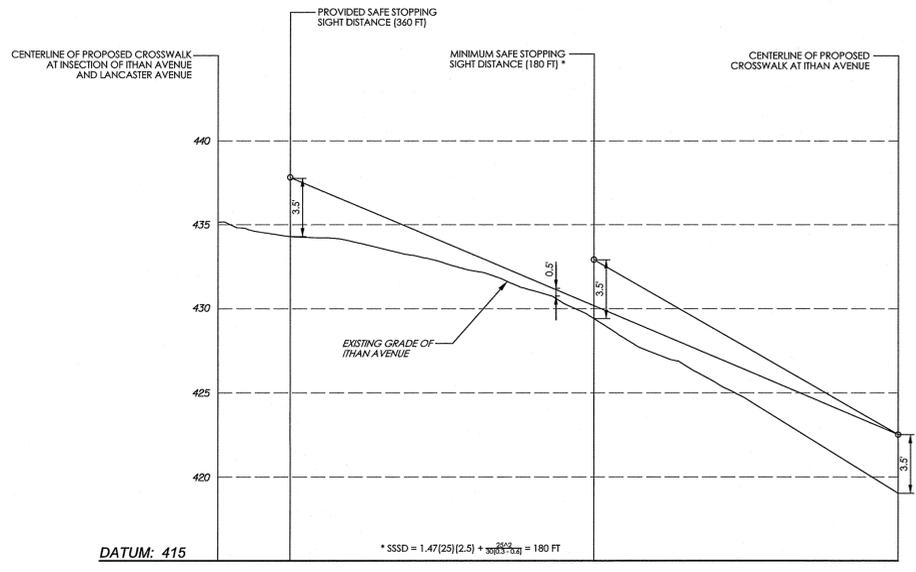
GRADING PERMIT SUBMISSION

Revision #7 January 29, 2016
Date March 6, 2015
Title Erosion & Sedimentation Control Detail Sheet
Scale N.T.S.
Drawn By DWN

C5.5

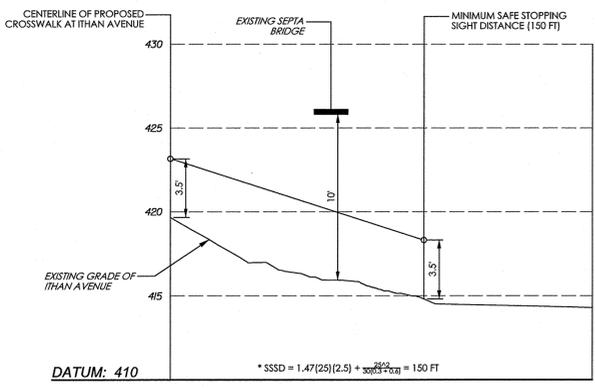
Sheet No. 24 of 37

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.



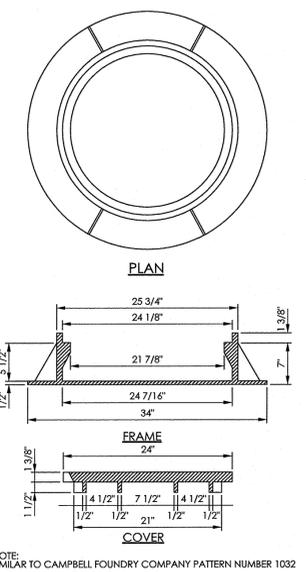
PEDESTRIAN CROSSWALK SIGHT DISTANCE PROFILE

SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 50'

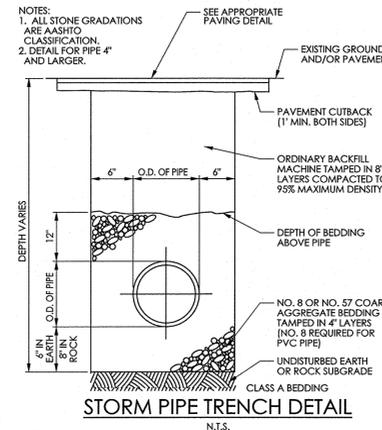


PEDESTRIAN CROSSWALK SIGHT DISTANCE PROFILE

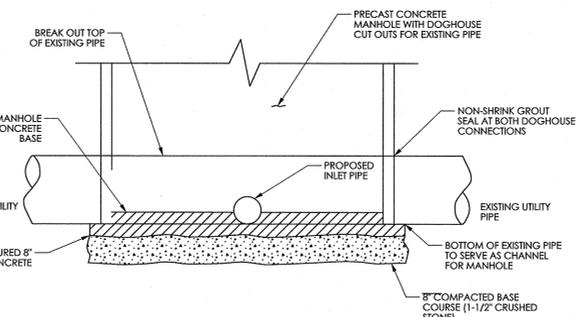
SCALE: HORIZONTAL 1" = 50'
VERTICAL 1" = 50'



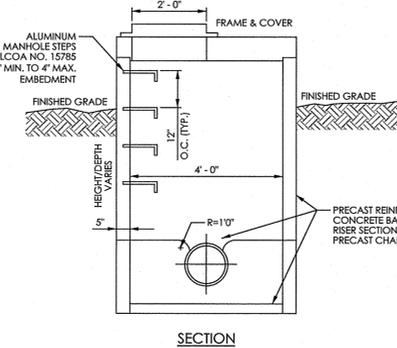
STANDARD MANHOLE FRAME AND COVER
N.T.S.



STORM PIPE TRENCH DETAIL
N.T.S.



DOGHOUSE MANHOLE CONNECTION TO EXISTING UTILITY LINE
N.T.S.

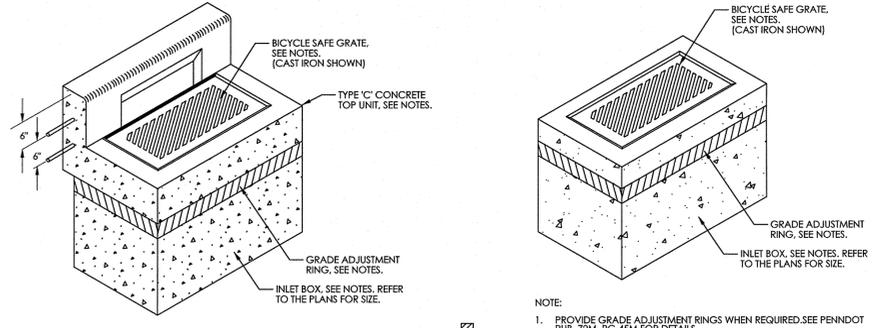


FLAT TOP MANHOLE
N.T.S.

- NOTES:
1. PIPES SHALL PROTRUDE A MAXIMUM 1" INSIDE WALL.
 2. STEEL TEMPLATE TO BE SUPPLIED BY MANHOLE MFR. IN ORDER TO FORM PROPER RECESS IN CONCRETE.
 3. RISERS TO BE OF 1'-0" MULTIPLE LENGTHS OF 1'-0" IN ORDER TO SUIT VARIATIONS IN ELEVATION.
 4. THE INTERIOR OF ALL MANHOLES SHALL BE COATED WITH PENNSYLVANIA WHITE PENN-CHEM POLYAMID H-B EPOXY COATING, 2 COATS, TOTAL 12 MIL DRY THICKNESS.
 5. ENTIRE OUTER SURFACE COATED WITH TWO (2) COATS OF BITUMASTIC PAINT, TOTAL 24 MIL DRY THICKNESS.
 6. SHALLOW MANHOLE MAY HAVE A PRECAST OR POURED BASE DEPENDING ON APPLICATION. A POURED BASE MUST BE APPROVED BY THE AUTHORITY.

- NOTES:
1. SURFACE DRAINAGE INLETS SHALL INCLUDE THE DRAIN BASIN SIZE AND TYPE AS INDICATED ON THE DRAWINGS. THE DUCTILE IRON GRATES FOR EACH OF THESE FITTINGS ARE TO BE CONSIDERED AN INTEGRAL PART OF THE SURFACE DRAINAGE INLET AND SHALL BE FURNISHED BY THE SAME MANUFACTURER. THE SURFACE DRAINAGE INLETS SHALL BE AS MANUFACTURED BY NYLOPLAST, A DIVISION OF ADVANCED DRAINAGE SYSTEMS, INC., OR PRIOR APPROVED EQUIV.
 2. REFER TO MANUFACTURERS MATERIAL AND PRODUCT INSTALLATION SPECIFICATIONS FOR ALL BASIN, GRATE, AND BACKFILL MATERIAL SPECIFICATIONS.
 3. ALL PIPING JOINTS ON SITE ARE TO BE WATER TIGHT.

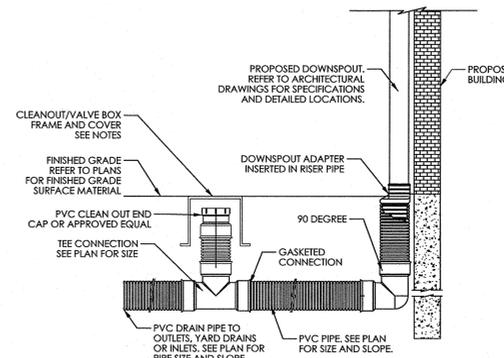
NYLOPLAST DRAIN BASIN / CLEANOUT
N.T.S.



- NOTE:
1. PROVIDE GRADE ADJUSTMENT RINGS WHEN REQUIRED. SEE PENNDOT PUB. 72M, RC-46M FOR DETAILS.
 2. REFER TO PENNDOT PUB. 72M, RC-45M AND RC-46M FOR INLET BOX, INLET TOP, AND BICYCLE GRATE SPECIFICATIONS AND REINFORCEMENT SCHEDULE.

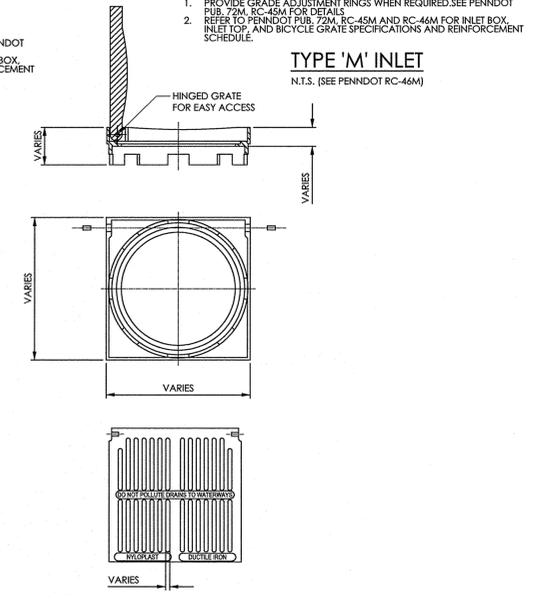
TYPE 'C' INLET
N.T.S. (SEE PENNDOT RC-46M)

TYPE 'M' INLET
N.T.S. (SEE PENNDOT RC-46M)



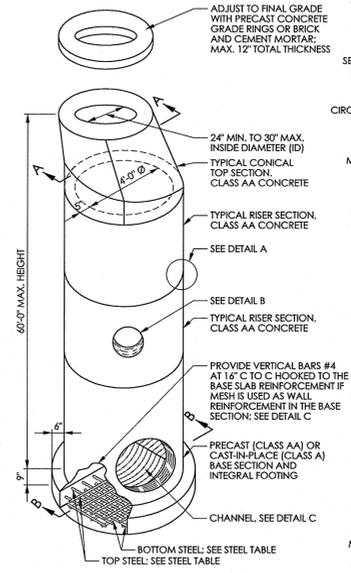
- NOTES:
1. ALL JOINTS ARE TO BE WATER TIGHT.
 2. CLEANOUTS LOCATED IN PAVED AREAS SUBJECT TO TRAFFIC LOADS SHALL HAVE A HS-25 RATED CLEAN OUT / VALVE BOX FRAME AND COVER.

ROOF DRAIN DETAIL
N.T.S.



TYPICAL NYLOPLAST GRATE DETAIL
N.T.S.

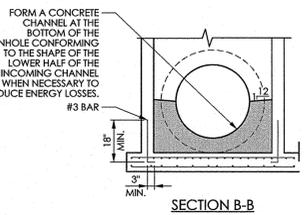
- NOTES:
1. REFER TO MANUFACTURERS DETAILED DRAWINGS AND SPECIFICATIONS FOR EXACT DIMENSIONS.
 2. REFER TO PLANS OR PROFILES FOR STANDARD GRATE SIZES AND LOCATIONS.



PRECAST MANHOLE HEIGHT	TOP STEEL REQUIREMENTS	BOTTOM STEEL REQUIREMENTS
0'-0" TO 30'-0"	#4 BARS AT 6" C TO C OR 0.33 IN/FT WWF 6" MAX. SPACING	#4 BARS AT 12" C TO C OR 0.16 IN/FT WWF 6" MAX. SPACING
> 30'-0" TO 60'-0"	#5 BARS AT 6" C TO C OR 0.56 IN/FT WWF 6" MAX. SPACING	#4 BARS AT 6" C TO C OR 0.27 IN/FT WWF 6" MAX. SPACING

- NOTES:
1. CAST-IN-PLACE MANHOLES, MEETING THE REQUIREMENTS OF PUB. 408, SEC. 714, AND PENNDOT RC-39M, MAY BE SUBSTITUTED FOR PRECAST MANHOLES.
 2. PROVIDE WELDED WIRE FABRIC MEETING THE REQUIREMENTS OF PUB. 408, SEC. 709.3.
 3. PROVIDE 12" MINIMUM HORIZONTAL CLEARANCE BETWEEN OPENINGS LOCATED AT THE SAME DEPTH. LOCATE PIPES NOT AT THE SAME DEPTH VERTICALLY AT LEAST ONE HALF THE MAXIMUM OPENING DIAMETER APART.
 4. ALL PRECAST REINFORCED CONCRETE CIRCULAR MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM-C478M.

STANDARD PRECAST MANHOLE
FOR PIPES 30" INSIDE DIAMETER AND LESS.
N.T.S. (SEE PENNDOT RC-39M)



STEP WITHOUT HOOKS
SEE NOTE C

STEP WITH HOOKS
SEE NOTE A

- MANHOLE STEPS NOTES:
1. PROVIDE MANHOLE STEPS MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 605.2(C). ALTERNATE CONFIGURATIONS AND DIMENSIONS, AS APPROVED BY THE ENGINEER, MAY BE USED.
 2. PROVIDE MINIMUM 1" SECTION DIMENSION FOR METAL STEPS. PROVIDE MINIMUM 3/4" SECTION DIMENSION FOR NON-DETERIORATING MATERIAL STEPS.
 3. MECHANICAL ANCHOR REQUIRED FOR INSTALLATION OF STEPS WITHOUT HOOKS.

TYPICAL STEP CONFIGURATION - MANHOLE STEPS
SEE NOTE A

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Voith & Mactavish Architects LLP
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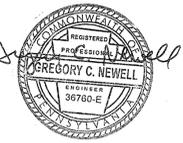
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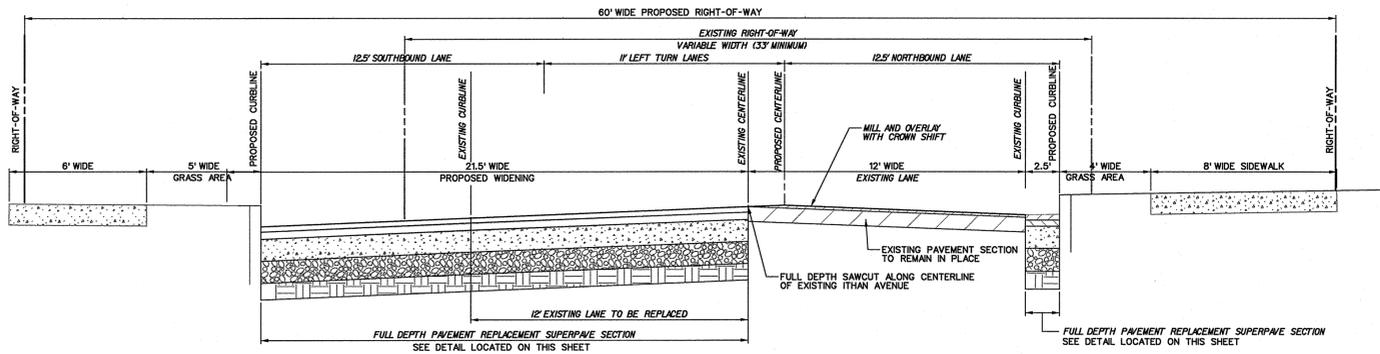
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phone dir: 856-433-6377
phone main: 856-433-6380
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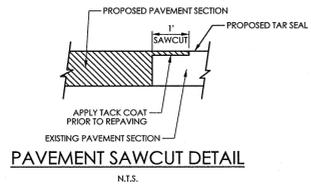
GRADING PERMIT SUBMISSION

Revision #6 November 20, 2015
Date March 6, 2015
Title Construction Detail Sheet
Scale N.T.S.
Drawn By DWN

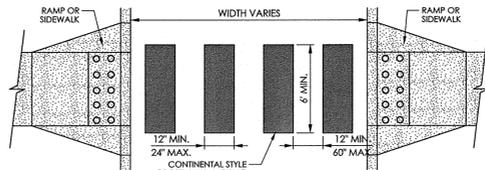


ITHAN AVENUE TYPICAL WIDENING DETAIL

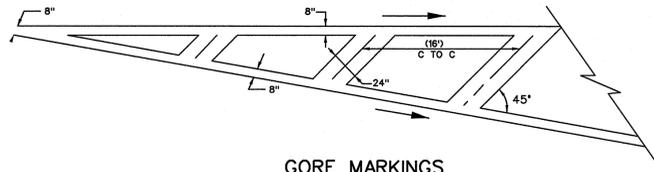
NOTE: CONTRACTOR SHALL TAR SEAL SEAMS AND GUTTER LINES.



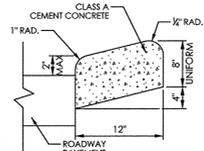
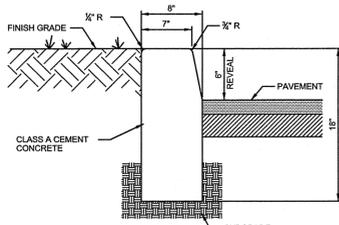
PAVEMENT SAWCUT DETAIL
N.T.S.



CROSSWALK DETAIL
N.T.S.



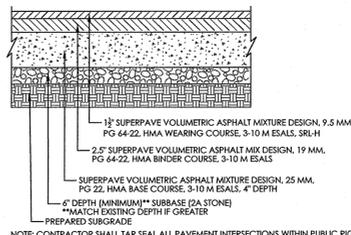
GORE MARKINGS
N.T.S.



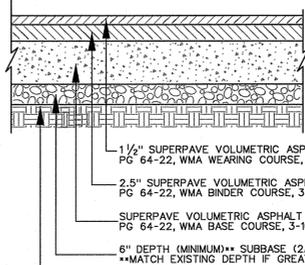
NOTES:

1. PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 633.
2. SPACE CONTRACTION JOINTS IN UNIFORM LENGTHS OR SECTIONS AND SEAL AS SPECIFIED IN SECTION 501.3 (I), PUB. 408.
3. PLACE PREMOULDED EXPANSION JOINT FILLER MATERIAL 1/2" THICK AND POLYSTYRENE BOND BREAKER 6 (1/2)" THICK ADJACENT TO CURBS AND OTHER STRUCTURES AND AT THE END OF THE WORK DAY. CUT MATERIAL TO CONFORM TO AREA ADJACENT TO CURB OR TO CONFORM TO CROSS SECTIONAL AREA OF CURB.
4. PROVIDE ELONGATED ISLANDS NOT LESS THAN 4'-0" WIDE AND 20'-0" LONG, EXCEPT IN SPECIAL CASES WHERE SPACE IS SEVERELY LIMITED.
5. REFER TO PENNDOT PUBLICATION RC-45.

CONCRETE MOUNTABLE CURB
N.T.S.



SUPERPAVE PAVEMENT SECTION OUTSIDE PENNDOT RIGHT-OF-WAY
N.T.S.

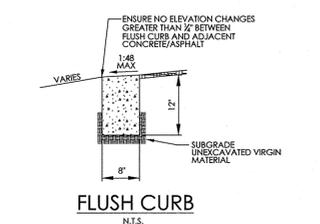


FULL PAVEMENT REPLACEMENT PENNDOT PAVEMENT SECTION
N.T.S.

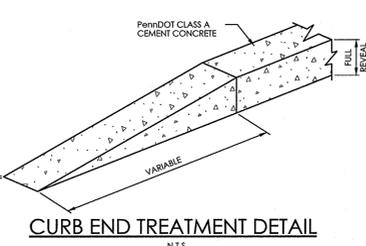
- NOTES:
1. ANY EXCAVATION BELOW DESIRED GRADE DUE TO OVER EXCAVATION OR WET SOIL CONDITIONS SHALL BE BACKFILLED WITH 3/4" CLEAN CRUSHED STONE. ALL SUBGRADES SHALL BE APPROVED BY THE TOWNSHIP ENGINEER PRIOR TO POURING.
 2. EXPANSION JOINTS SHALL BE PROVIDED AT EQUAL DISTANCES OF NOT MORE THAN 20' AND AT ALL STORM SEWER INLETS. JOINTS SHALL BE FILLED WITH PREFORMED EXPANSION JOINT FILLER, 1/2" THICK, CONFORMING TO PENNSYLVANIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION. CONTRACTION JOINTS SHALL BE PROVIDED EVERY 10'. THE JOINT SHALL BE RECESSED 1/8" FROM THE TOP AND FRONT OF THE CONCRETE CURB.
 3. CURB SHALL BE TEMPORARILY BACKFILLED TO FINISHED GRADE WITH SOIL, BEING AND STONE ON THE ROAD SIDE AS SOON AS IT HAS ATTAINED SUFFICIENT SUPPORTING STRENGTH OR WITHIN 24 HOURS OF POURING (WHICHEVER IS LESS).
 4. WHEN NEW CURB IS INSTALLED ALONG AN EXISTING PAVED AREA, THE EXISTING PAVEMENT SHALL BE CUT 2 FEET IN FRONT OF THE NEW CURB FACE IN A STRAIGHT LINE AT A 45 DEGREE ANGLE WITH A CUTTING WHEEL OR PNEUMATIC HAMMER. THE NEW PAVEMENT SHALL BE TACKED AND BUTTED TO THE EXISTING PAVEMENT, IN ACCORDANCE WITH PAVEMENT WIDENING DETAIL.
 5. THE GENERAL CONTRACTOR OR OWNER IS RESPONSIBLE FOR MAINTAINING ALL CURB UNTIL FORMALLY ACCEPTED BY THE TOWNSHIP. ALL CURB THAT IS BROKEN, CRACKED, OR OUT OF ALIGNMENT SHALL BE REPLACED PRIOR TO FINAL PAVING AND/OR ACCEPTANCE. CURB REPLACEMENT SHALL BE FROM EXPANSION JOINT TO EXPANSION JOINT ONLY.

ONSITE CONCRETE CURB

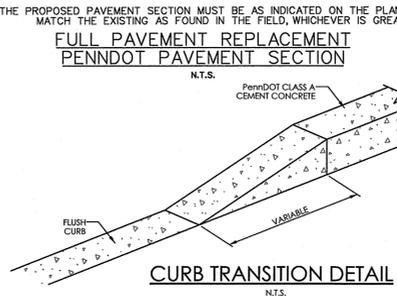
N.T.S.



FLUSH CURB
N.T.S.



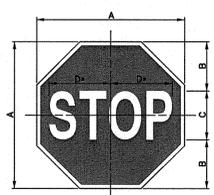
CURB END TREATMENT DETAIL
N.T.S.



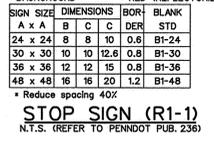
CURB TRANSITION DETAIL
N.T.S.

NO LEFT TURN SIGN (R3-2)

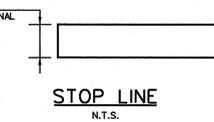
N.T.S. (REFER TO PENNDOT PUB. 67)



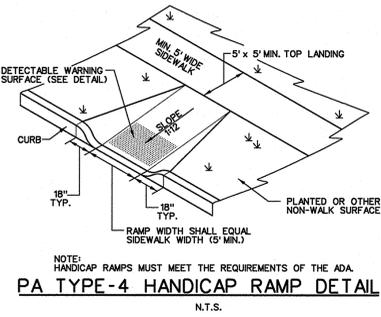
NO LEFT TURN SIGN (R3-2)
N.T.S.



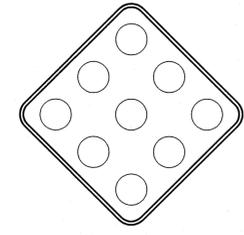
STOP SIGN (R1-1)
N.T.S. (REFER TO PENNDOT PUB. 236)



STOP LINE
N.T.S.



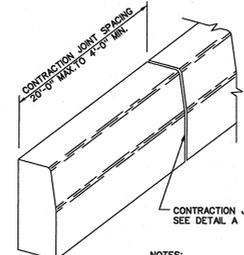
PA TYPE-4 HANDICAP RAMP DETAIL
N.T.S.



OBJECT MARKER (OM1-1)
N.T.S. (REFER TO PENNDOT PUB. 236M)

OBJECT MARKER (OM1-1)

N.T.S. (REFER TO PENNDOT PUB. 236M)

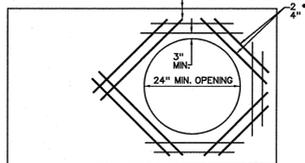
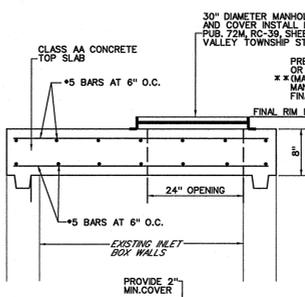


NOTES:

1. PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 630 FOR PLAIN CONCRETE CURB AND DERESSED CURB, SECTION 640 FOR PLAIN CONCRETE CURB AND FOR PLAIN CONCRETE CURB GUTTER.
2. SPACE CONTRACTION JOINTS IN UNIFORM LENGTHS OR SECTIONS.
3. PLACE 3/4" HIGH PREMOULDED EXPANSION JOINT FILLER MATERIAL AT STRUCTURES AND AT THE END OF THE WORK DAY. CUT MATERIAL TO CONFORM TO AREA ADJACENT TO CURB OR TO CONFORM TO CROSS SECTIONAL AREA OF CURB.
4. SEE RC-50 FOR PLAIN CONCRETE CURB SLOPED TOP TREATMENT AT END OF STRUCTURES.

PLAIN CONCRETE CURB LANCASTER AVENUE EXPANSION

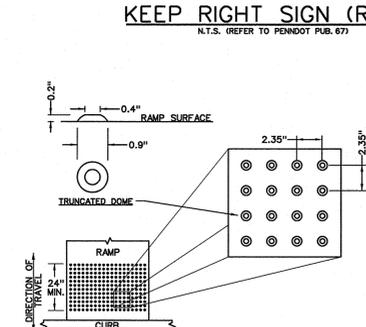
N.T.S. - REFER TO PENNDOT PUB. 72, RC-64 FOR NOTES AND DETAILS



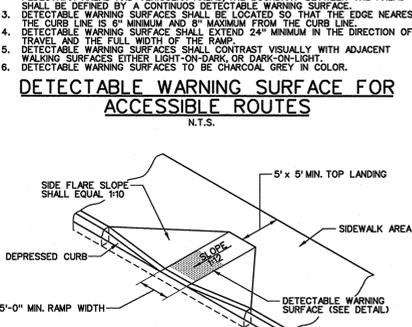
CONVERSION OF INLET TO STORM MANHOLE
N.T.S.

KEEP RIGHT SIGN (R4-7)
N.T.S. (REFER TO PENNDOT PUB. 67)

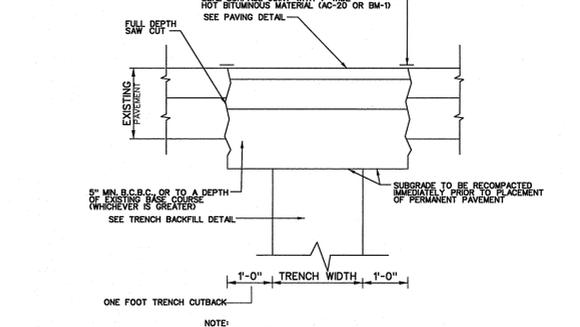
SIGN SIZE	DIMENSIONS (INCHES)													MAR. GIN	BOR. DER.			
	A	B	C	D	E	F	G	H	J	K	L	M						
18 x 24	18	24	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2
24 x 30	24	30	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2
36 x 48	36	48	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2
48 x 60	48	60	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2	8 1/2



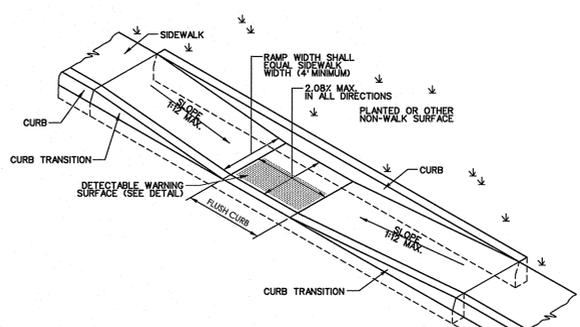
DETECTABLE WARNING SURFACE FOR ACCESSIBLE ROUTES
N.T.S.



PA TYPE-1 HANDICAP RAMP DETAIL
N.T.S.



FLEXIBLE PAVEMENT RESTORATION
N.T.S.



PA TYPE-2 HANDICAP RAMP DETAIL
N.T.S.

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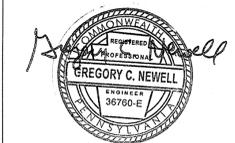
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Revision #6 November 20, 2015
Date March 6, 2015
Title Construction Detail Sheet

Scale N.T.S.
Drawn By DWN



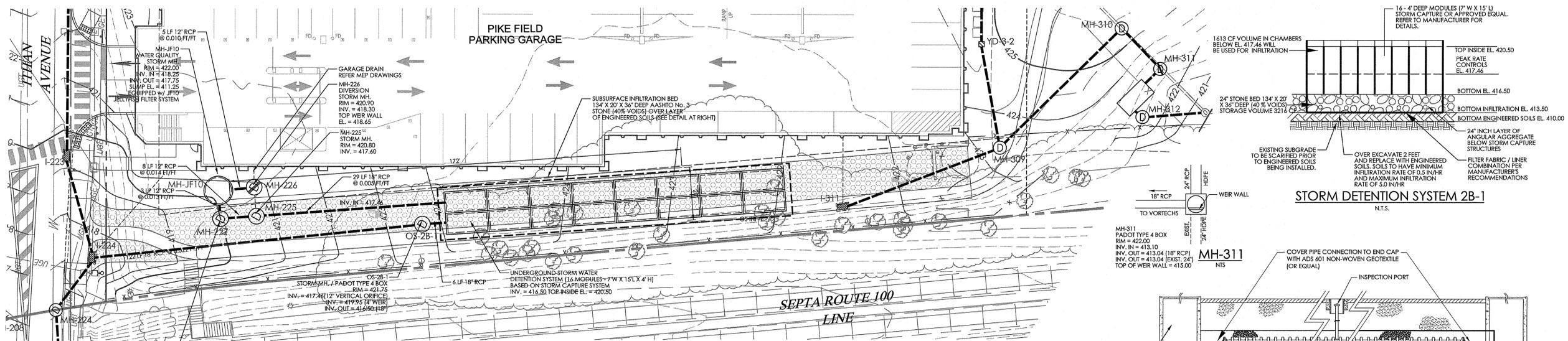
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SUBMISSION
Revision #7 January 29, 2016
Date March 6, 2015
Title Construction Detail Sheet

Scale AS NOTED
Drawn By DWN

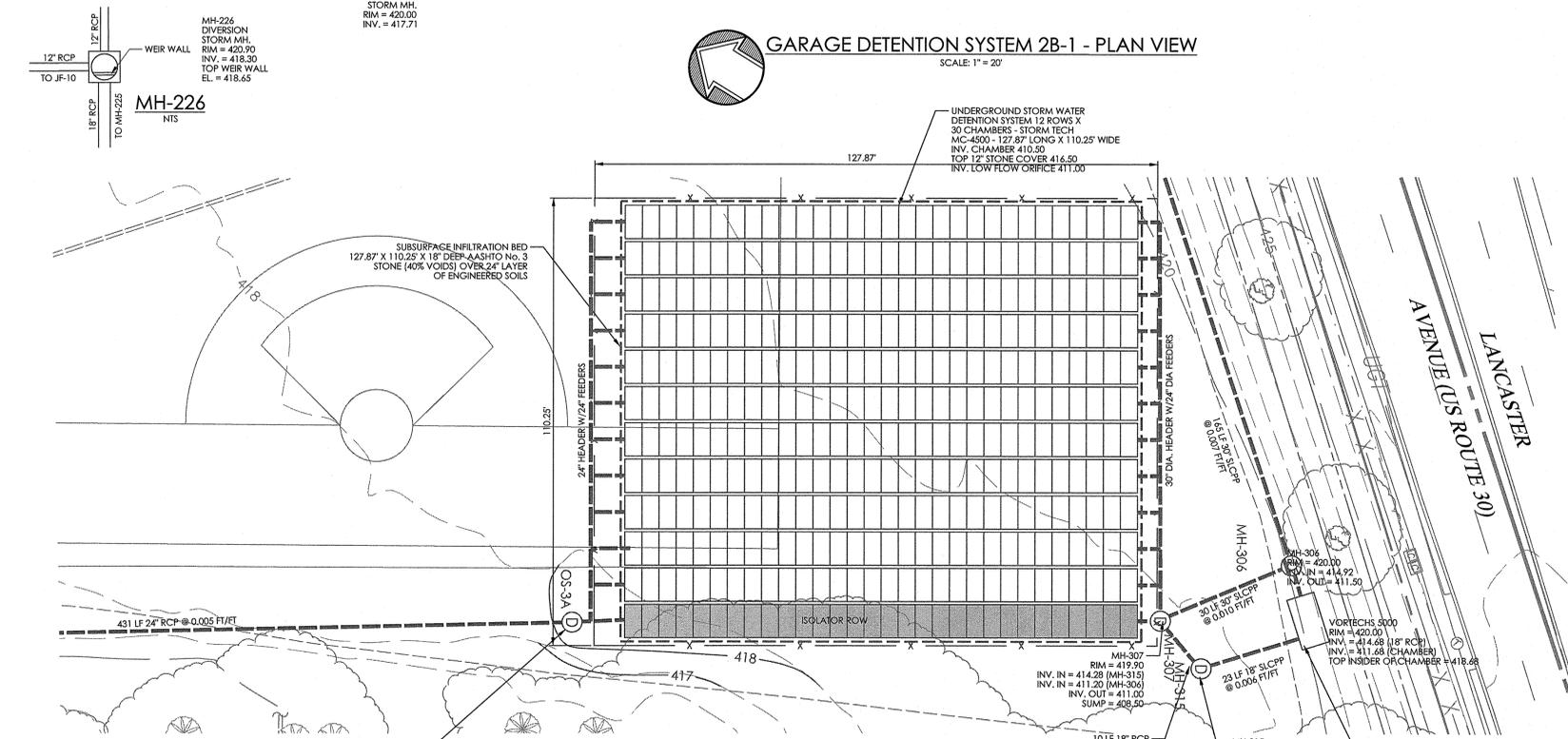
C6.4

Sheet No. 28 of 37

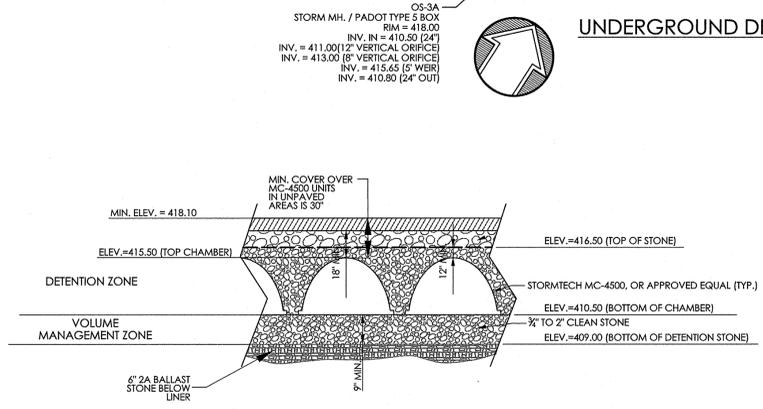
Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.



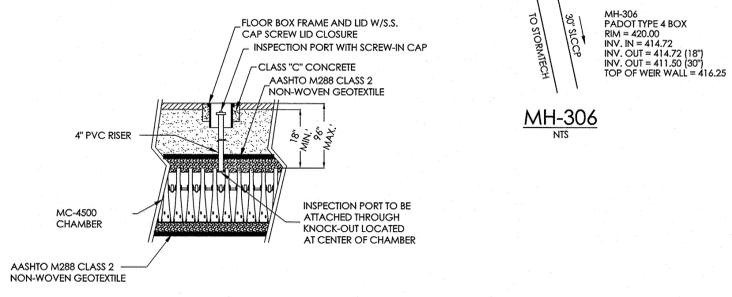
GARAGE DETENTION SYSTEM 2B-1 - PLAN VIEW
SCALE: 1" = 20'



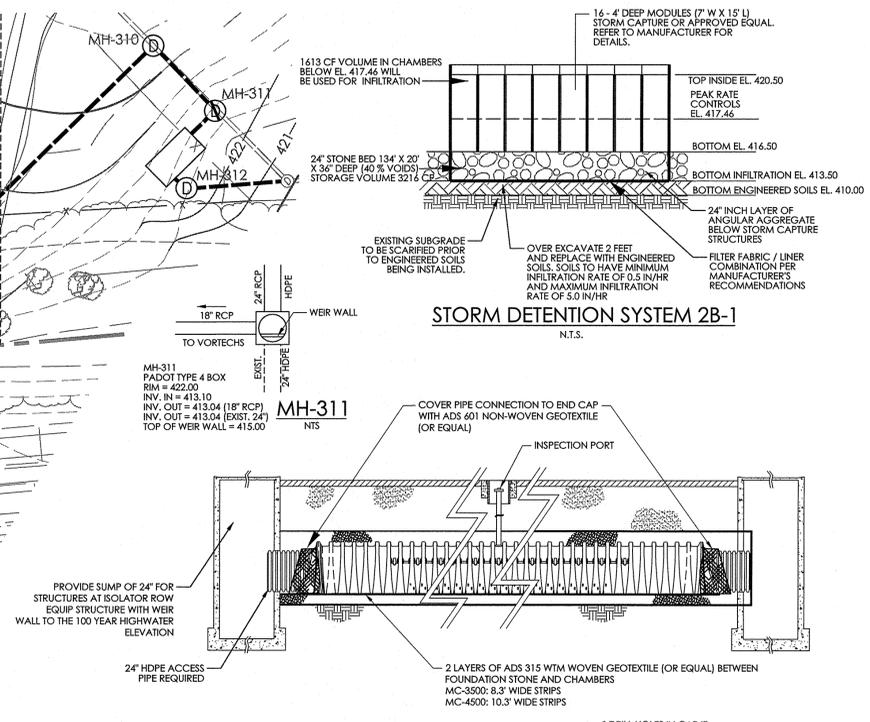
UNDERGROUND DETENTION SYSTEM 3A - PLAN VIEW
SCALE: 1" = 20'



TYPICAL SECTION THROUGH DETENTION SYSTEM No. 3A
N.T.S.



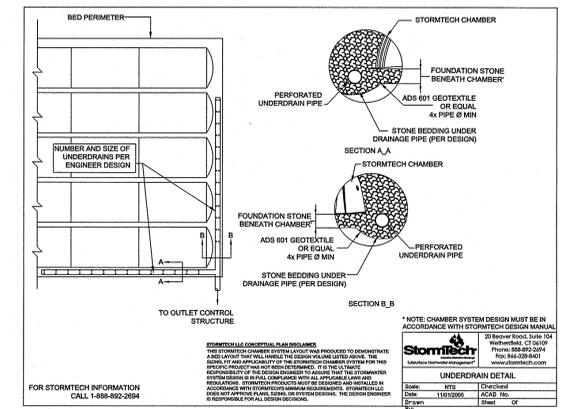
TYPICAL SECTION: MC-4500 INSPECTION PORT
N.T.S.
NOTE: PROVIDE INSPECTION PORTS PER MANUFACTURE REQUIREMENTS



STORM DETENTION SYSTEM 2B-1
N.T.S.



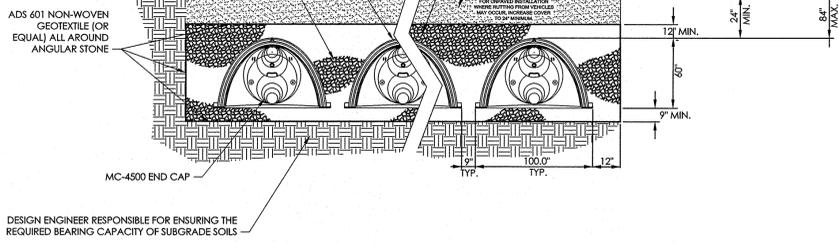
TYPICAL SECTION: MC-4500 ISOLATOR ROW
N.T.S.



CHAMBERS SHALL MEET ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS"

NOMINAL 3/4" - 2" CLEAN, CRUSHED ANGULAR STONE (AASHTO M43 #3 & #4 STONE SIZES ALLOWED)

CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS"



TYPICAL SECTION: MC-4500 CROSS SECTION
N.T.S.

DESIGN ENGINEER RESPONSIBLE FOR ENSURING THE REQUIRED BEARING CAPACITY OF SUBGRADE SOILS

**Villanova University
Pike Field Garage**

Lancaster and Ithan Avenues
Villanova, PA 19085

**VMA
RAMSA**

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**FINAL LAND DEVELOPMENT
PLANS**

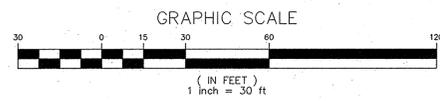
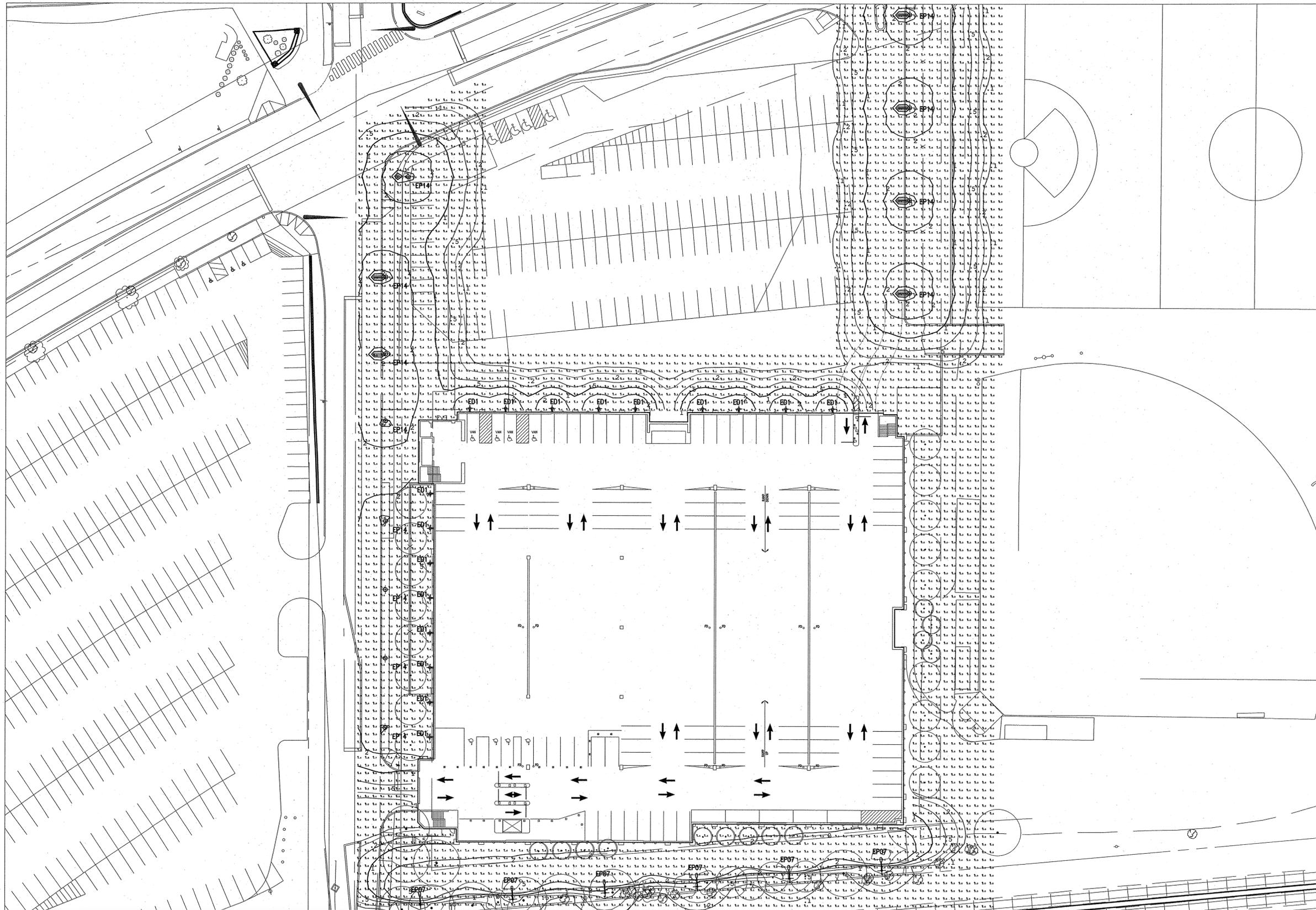
Revision August 10, 2015
Date March 6, 2015
Title Site Lighting Plan

Scale 1" = 30'
Drawn By JO/JL

C7.1

Sheet No. 29 of 37

Contractor to verify all dimensions in field and inform
Architect of any discrepancies before starting work.



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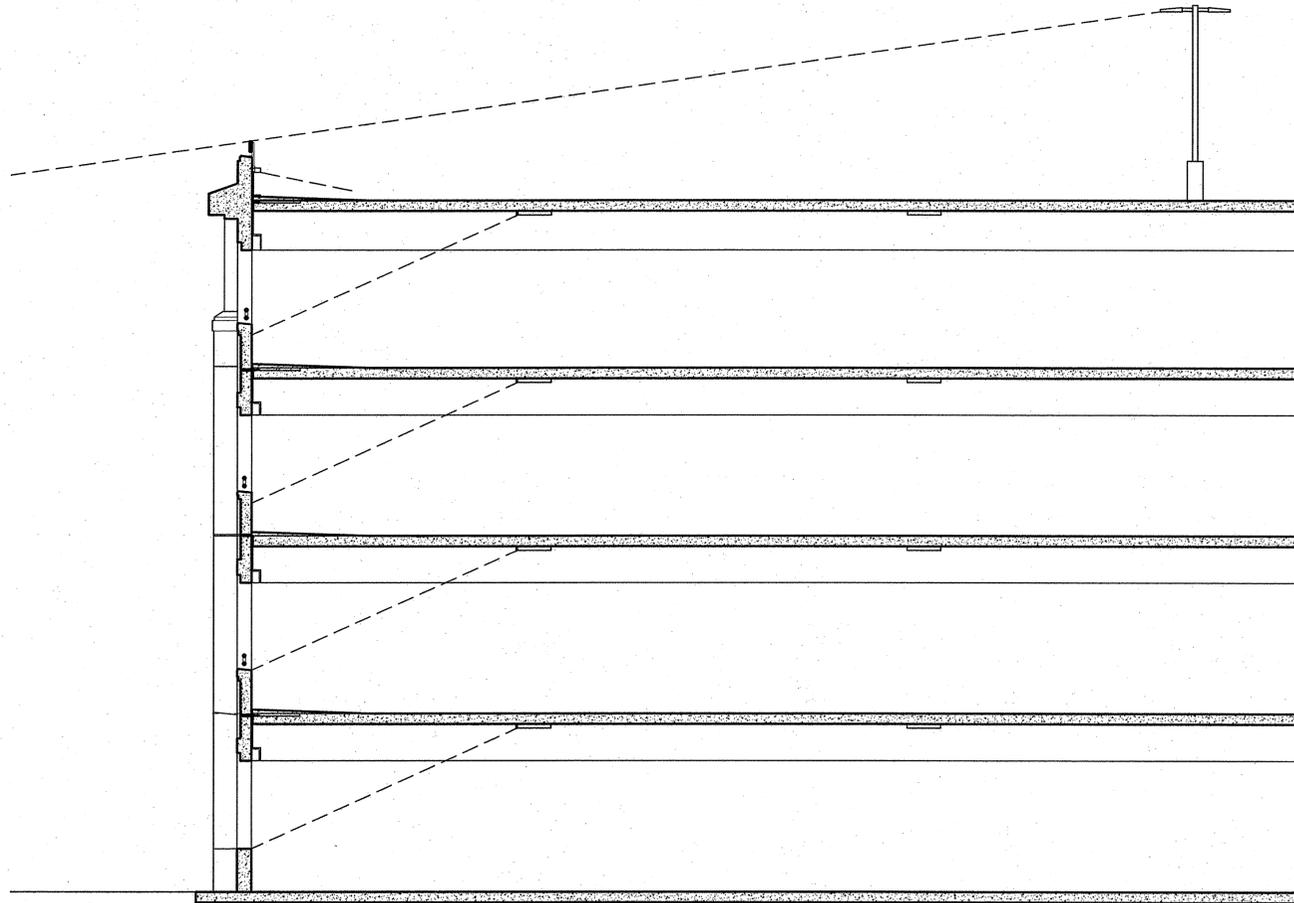
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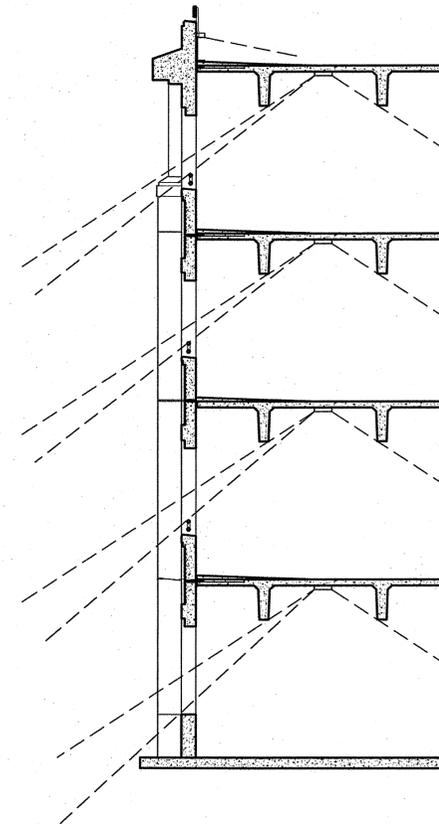
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TYPICAL LONGITUDINAL CROSS SECTION THROUGH GARAGE



TYPICAL TRANSVERSE CROSS SECTION THROUGH GARAGE



FINAL LAND DEVELOPMENT
 PLANS

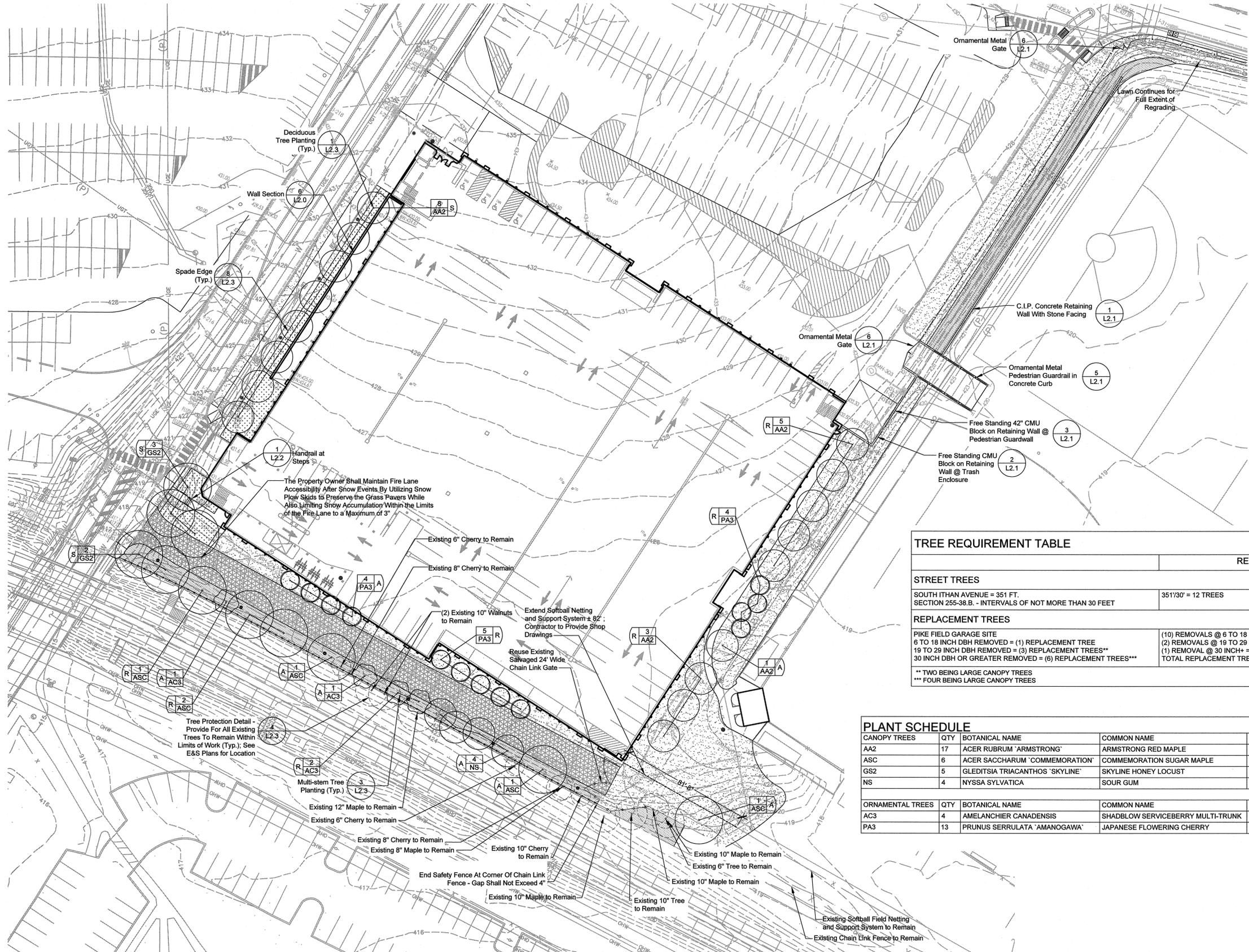
Revision August 10, 2015
 Date March 6, 2015
 Title Building Lighting Diagram

Scale 3/16" = 1'-0"
 Drawn By JO/JL

C7.3

Sheet No. 31 of 37

Contractor to verify all dimensions in field and inform
 Architect of any discrepancies before starting work.



- Legend: Pike Field Garage**
- Reinforced Turf Fire Lane with Sod (4 L2.0)
 - Lawn (7 L2.3)
 - Planting Beds
 - "No Mow" Seed Mix (7 L2.3)
 - Pole Light: See Lighting Plans and Details
 - Litter Receptacle (1 L2.0)
 - Bicycle Rack (2 L2.0)
 - 6' Ht. Safety Fence (5 L2.0)
 - 6' Ht. Chain Link Fence (3 L2.0)
 - Ornamental Metal Picket Fence (4 L2.1)
 - Existing Tree To Remain
 - Street Tree (3 AA2 S)
 - Replacement Tree (3 AA2 R)
 - Replacement Tree for W. Lancaster Ave. Parking Project; see W. Lancaster Ave. Parking Tree Requirement Table (3 AA2 A)

- Notes:**
- See Site Plans for all proposed paving information.
 - See Sheet L1.0 in the Barley Cone Lane Buffer Project for a supplemental landscape plan for the buffer area along the Barley Cone Lane neighboring residents' property lines. Any landscaping to be installed on Villanova property along the Barley Cone Lane properties, shall be installed during Phase 1 construction activities and before the start of Pike Field Garage construction in Phase 2A.

	REQUIRED	PROPOSED
STREET TREES		
SOUTH ITHAN AVENUE = 351 FT. SECTION 255-38.B. - INTERVALS OF NOT MORE THAN 30 FEET	351/30' = 12 TREES	13 TREES
REPLACEMENT TREES		
PIKE FIELD GARAGE SITE 6 TO 18 INCH DBH REMOVED = (1) REPLACEMENT TREE 18 TO 29 INCH DBH REMOVED = (3) REPLACEMENT TREES** 30 INCH DBH OR GREATER REMOVED = (6) REPLACEMENT TREES***	(10) REMOVALS @ 6 TO 18 INCH = 10 REPLACEMENTS (2) REMOVALS @ 18 TO 29 INCH = (3)X2= 6 REPLACEMENTS (1) REMOVAL @ 30 INCH+ = (6)X1= 6 REPLACEMENTS TOTAL REPLACEMENT TREES REQUIRED = 22 TREES	LARGE CANOPY TREES = 11 TREES ORNAMENTAL TREES = 11 TREES
** TWO BEING LARGE CANOPY TREES *** FOUR BEING LARGE CANOPY TREES		

PLANT SCHEDULE							
CANOPY TREES	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	REMARKS
AA2	17	ACER RUBRUM 'ARMSTRONG'	ARMSTRONG RED MAPLE	B & B	2 1/2" - 3"		MATCHED SPECIMENS
ASC	6	ACER SACCHARUM 'COMMEMORATION'	COMMEMORATION SUGAR MAPLE	B & B	2" - 2 1/2"		FULL HEAD
GS2	5	GLEDITSIA TRIACANTHOS 'SKYLINE'	SKYLINE HONEY LOCUST	B & B	2 1/2" - 3"		MATCHED SPECIMENS; FULL HEAD
NS	4	NYSSA SYLVATICA	SOUR GUM	B & B	2"-2-1/2"		SPECIMEN QUALITY
ORNAMENTAL TREES	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE	REMARKS
AC3	4	AMELANCHIER CANADENSIS	SHADBLOW SERVICEBERRY MULTI-TRUNK	B & B		8'-10' HT.	FULL SPECIMENS; MIN. 5 STEMS
PA3	13	PRUNUS SERRULATA 'AMANOGAWA'	JAPANESE FLOWERING CHERRY	B & B	2" - 2 1/2"		MATCHED SPECIMENS; FULL HEAD



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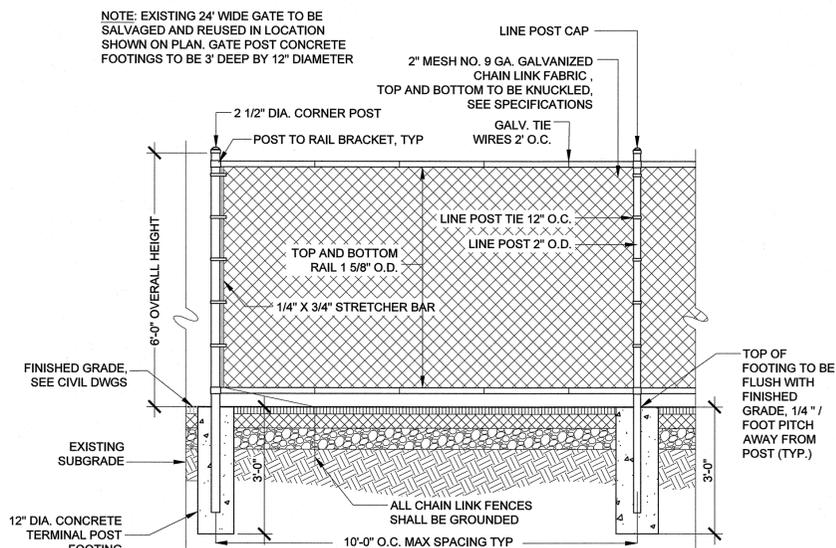
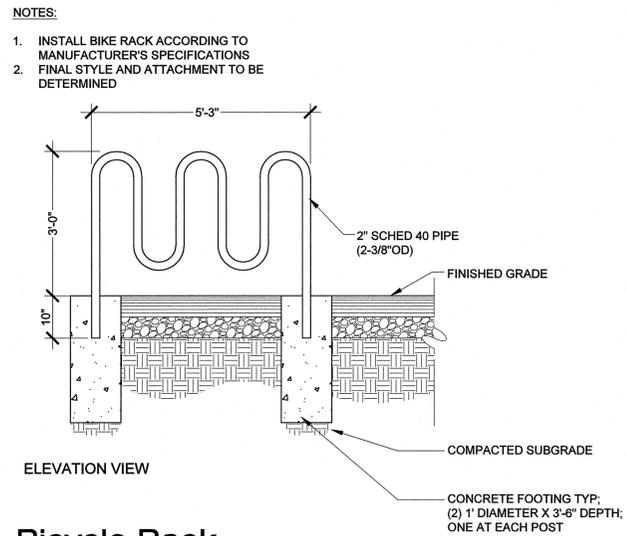
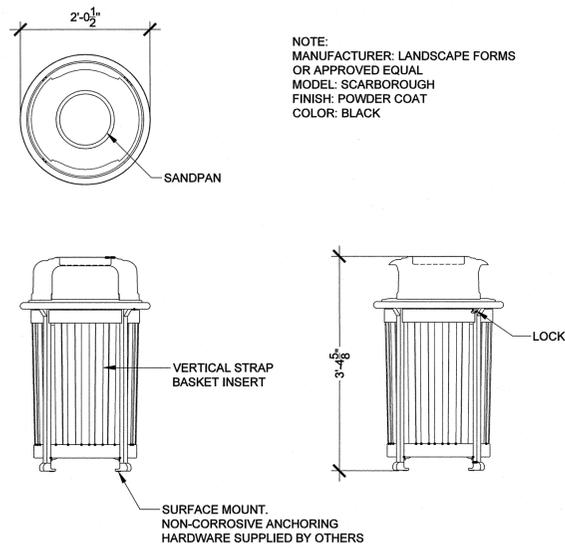
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**FINAL LAND DEVELOPMENT
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Revision August 10, 2015
Date March 6, 2015
Title Planting Plan and Schedule
Scale 1" = 30'-0"
Drawn By RM



1 Litter Receptacle

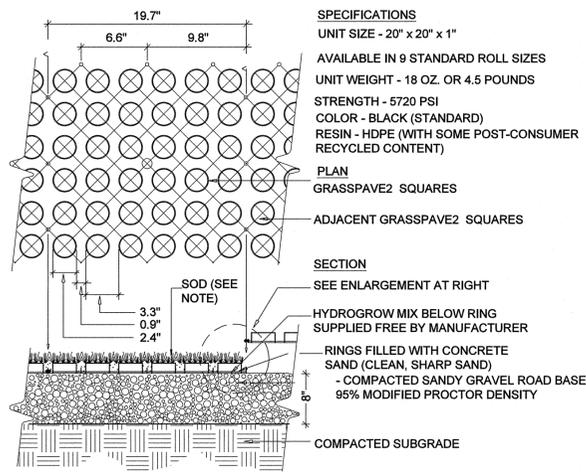
L2.0 N.T.S.

2 Bicycle Rack

L2.0 N.T.S.

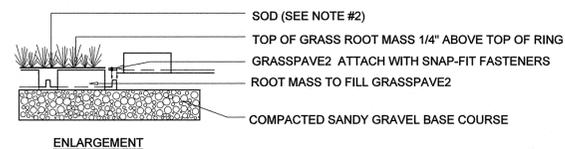
3 6' Ht. Chain Link Fence

L2.0 Scale: 0 1' 2' 4' Scale: 1/2" = 1'-0"



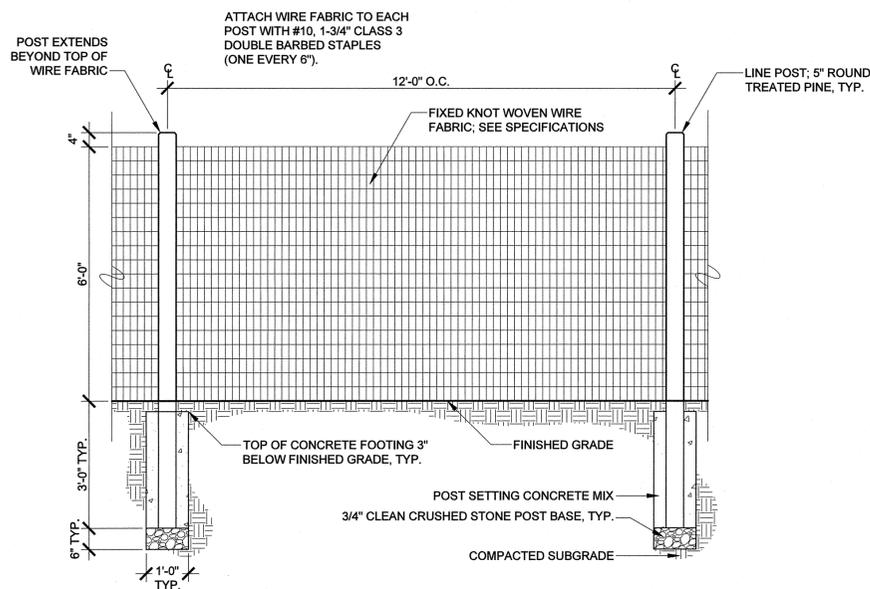
- NOTES:
1. ALL REINFORCED TURF AREAS TO BE IRRIGATED WITH AUTOMATED, UNDERGROUND SPRAYHEAD SPRINKLER SYSTEM.
 2. SOD MUST CONTAIN VERY LITTLE SOIL WHICH MAY COMPACT AND KILL THE GRASS WITH USE. SOD MUST BE WASHED, CUT THIN (1/2 INCH), OR GROWN IN SAND OR SANDY LOAM.

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*OR APPROVED EQUAL
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GOLDEN, COLORADO 80401
800-233-1510 OR 303-233-8383
FAX: 800-233-1522 OR 303-233-8282
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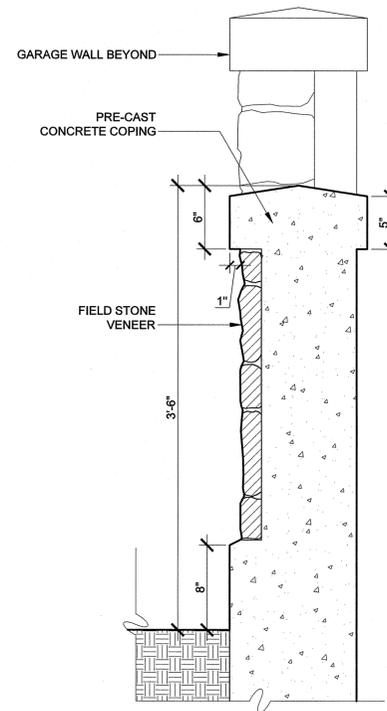
4 Reinforced Turf Fire Lane, Typ.

L2.0 N.T.S.



5 6' Ht. Safety Fence

L2.0 Scale: 0 1' 2' 4' Scale: 1/2" = 1'-0"



6 Wall Section

L2.0 Scale: 0 4" 8" 1'-4" Scale: 1-1/2" = 1'-0"

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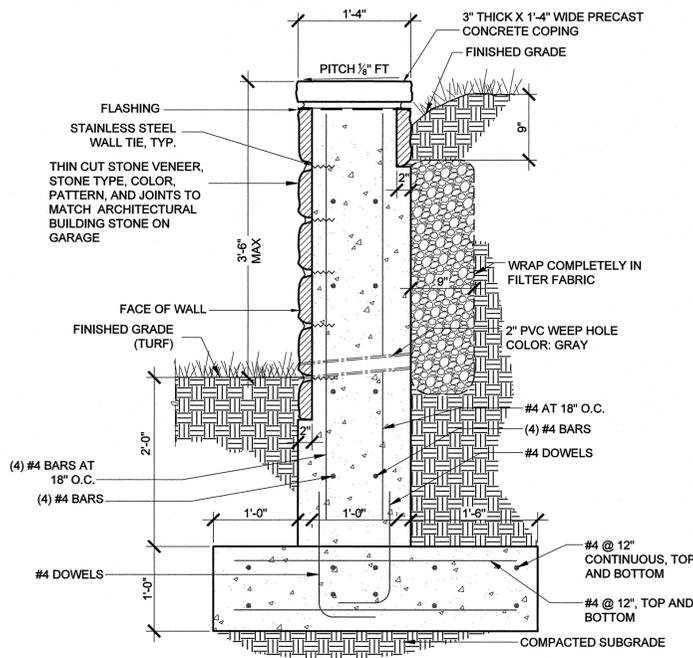


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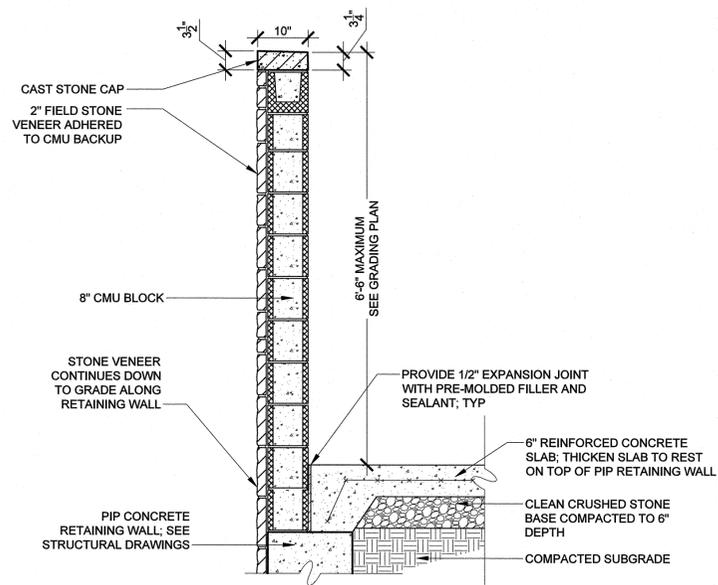
**FINAL LAND DEVELOPMENT
SUBMISSION**

Revision August 10, 2015
Date March 6, 2015
Title Landscape Details

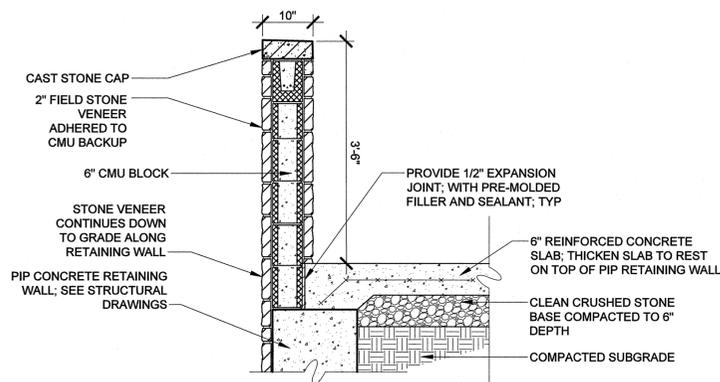
Scale As Indicated
Drawn By RM



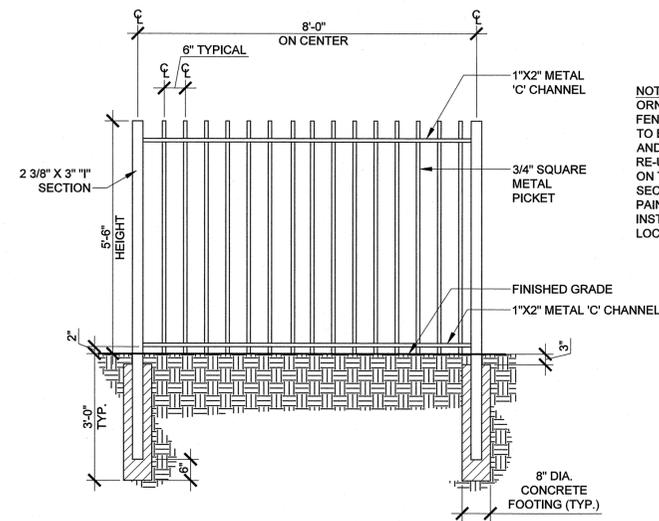
1 C.I.P. Concrete Retaining Wall With Stone Facing
 L2.1 Scale: 0 6" 1' 2' Scale: 1" = 1'-0"



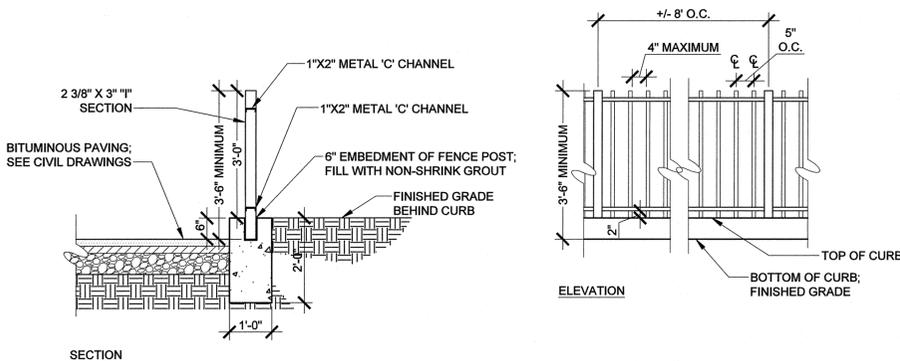
2 Free Standing CMU Block on Retaining Wall @ Trash Enclosure
 L2.1 Scale: 0 8" 1'-4" 2'-8" Scale: 3/4" = 1'-0"



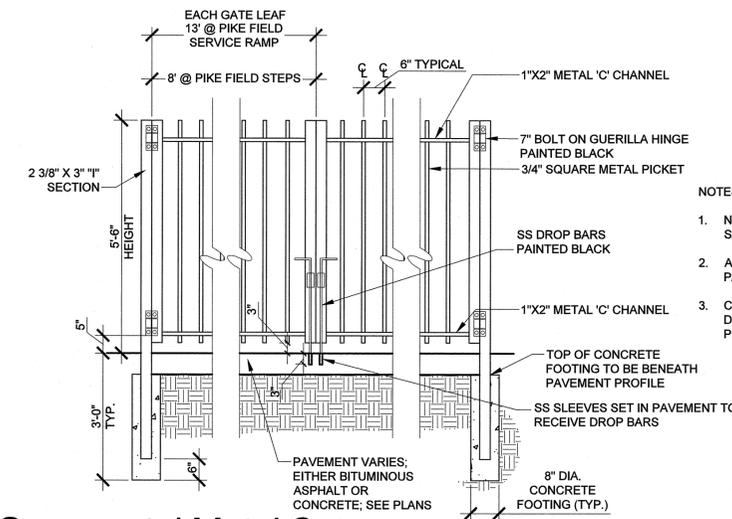
3 Free Standing 42" CMU Block on Retaining Wall @ Pedestrian Guardwall
 L2.1 Scale: 0 8" 1'-4" 2'-8" Scale: 3/4" = 1'-0"



4 Ornamental Metal Picket Fence
 L2.1 Scale: 0 1' 2' 4' Scale: 1/2" = 1'-0"



5 Ornamental Metal Pedestrian Guardrail in Concrete Curb
 L2.1 Scale: 0 1' 2' 4' Scale: 1/2" = 1'-0"



6 Ornamental Metal Gate
 L2.1 Scale: 0 1' 2' 4' Scale: 1/2" = 1'-0"

- NOTES:**
- ALL GUARDRAIL MEMBERS TO BE GALVANIZED, PAINTED STEEL (COLOR: BLACK).
 - CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

- NOTES:**
- NEW GATE: STYLE TO MATCH EXISTING SALVAGED FENCE SECTIONS.
 - ALL GATE MEMBERS TO BE GALVANIZED, PAINTED STEEL, COLOR: BLACK.
 - CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.



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L2.1

Sheet No. 35 of 37

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.

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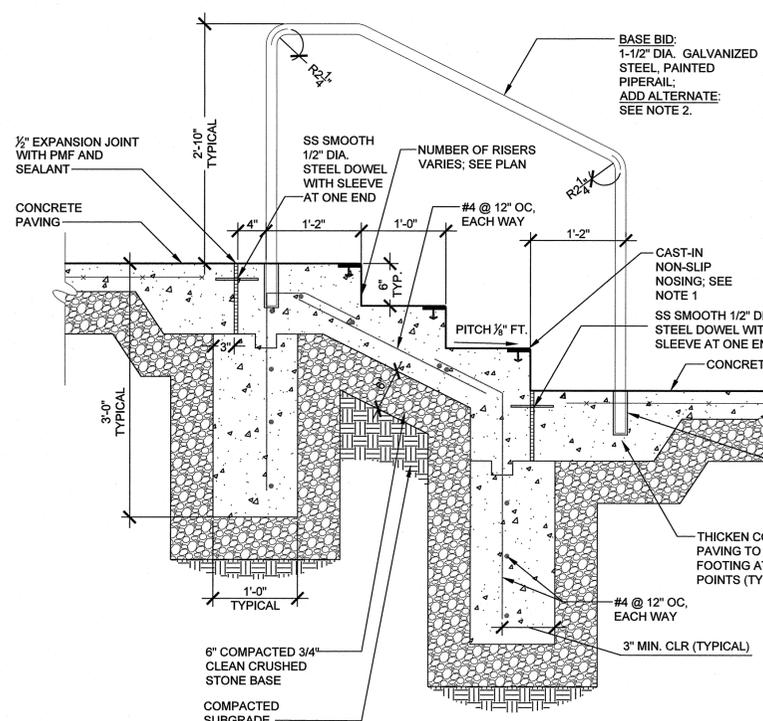
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NOTES:

1. CAST-IN NON-SLIP NOSING:
 - 1.A. MANUFACTURER: WOOSTER PRODUCTS INC. OR APPROVED EQUAL, 1000 SPRUCE ST. WOOSTER, OH
 - 1.B. PRODUCT: SUPERGRIT SAFETY TREADS OR APPROVED EQUAL
 - 1.C. TYPE: 231BF WITH EXTRUDED ALUMINUM BASE TYPE: 6063-T5
 - 1.D. COLOR: BLACK
2. HANDRAIL ADD ALTERNATE: IN LIEU OF GALVANIZED STEEL PAINTED PIPE RAIL, PROVIDE AND INSTALL THE FOLLOWING:
 - 2.A. POSTS: GALVANIZED AND PAINTED 1" SOLID SQUARE STEEL @ 4'-0" O.C. UNLESS NOTED OTHERWISE.
 - 2.B. HANDRAIL: RAIL MouldING: JULIUS BLUM #4428 WITH #4428V END FITTINGS. FINISH SHALL BE METALLIC HIGH PERFORMANCE COATING.
3. NUMBER OF RISERS VARIES; SEE PLAN.

1 Handrail at Steps
 L2.2 Scale: 0 6" 1' 2' Scale: 1" = 1'-0"



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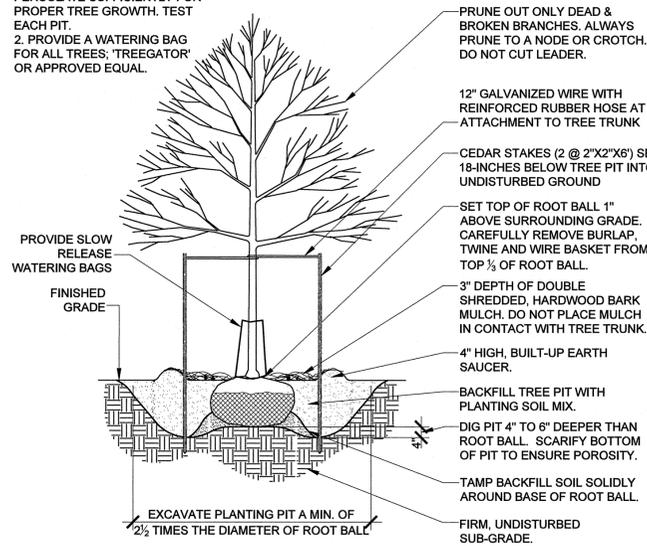
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L2.2

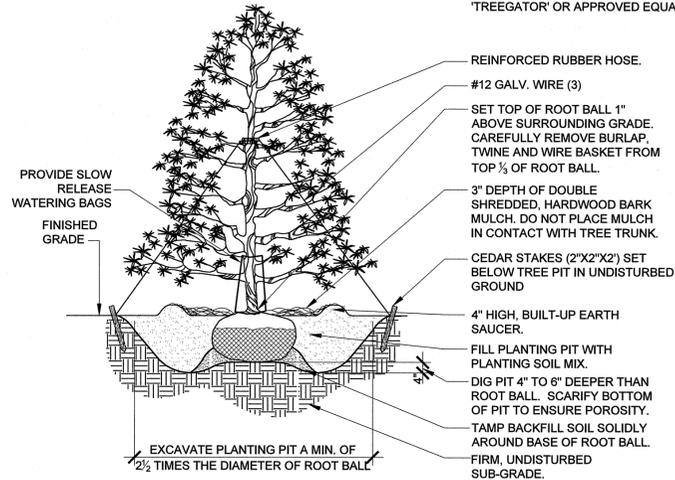
Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.

NOTES:
 1. ALL TREE PITS SHALL PERCOLATE SUFFICIENTLY FOR PROPER TREE GROWTH. TEST EACH PIT.
 2. PROVIDE A WATERING BAG FOR ALL TREES; 'TREEGATOR' OR APPROVED EQUAL.



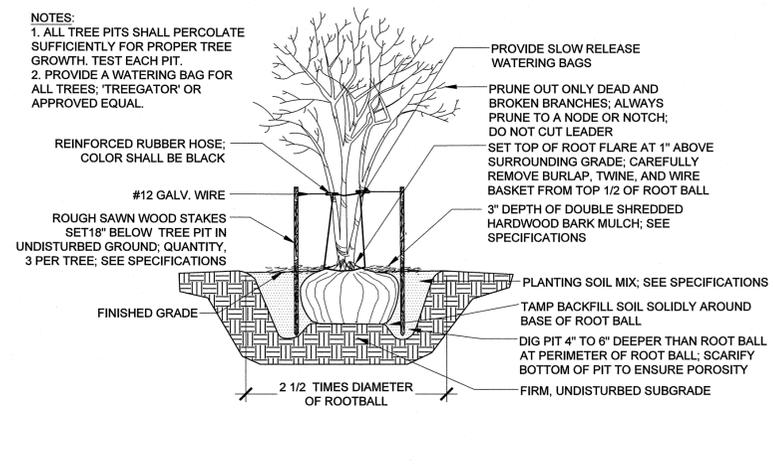
1 Deciduous Tree Planting
 L2.3 N.T.S.

NOTES:
 1. ALL TREE PITS SHALL PERCOLATE SUFFICIENTLY FOR PROPER TREE GROWTH. TEST EACH PIT.
 2. PROVIDE A WATERING BAG FOR ALL TREES; 'TREEGATOR' OR APPROVED EQUAL.

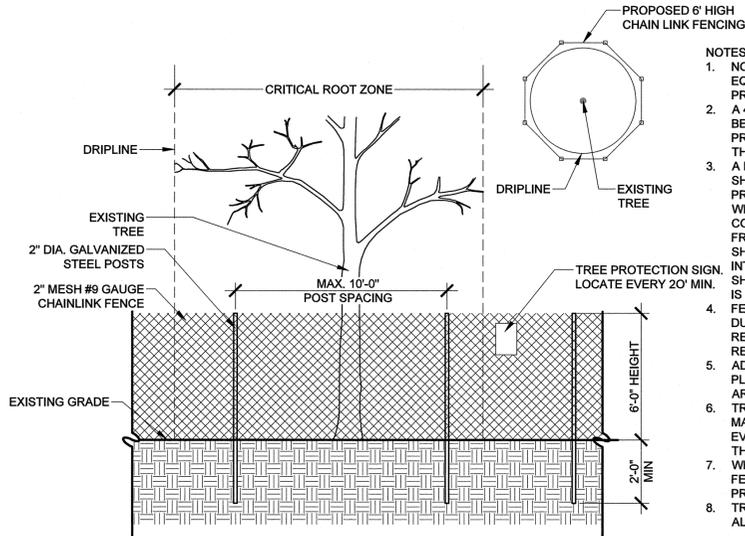


2 Evergreen Tree Planting
 L2.3 N.T.S.

NOTES:
 1. ALL TREE PITS SHALL PERCOLATE SUFFICIENTLY FOR PROPER TREE GROWTH. TEST EACH PIT.
 2. PROVIDE A WATERING BAG FOR ALL TREES; 'TREEGATOR' OR APPROVED EQUAL.

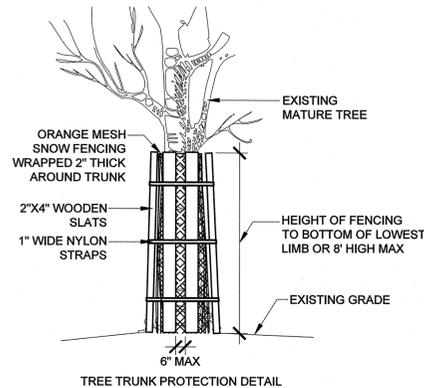


3 Multi-Stem Tree Planting
 L2.3 Scale: 0 1' 2' 4' Scale: 1/2"=1'-0"

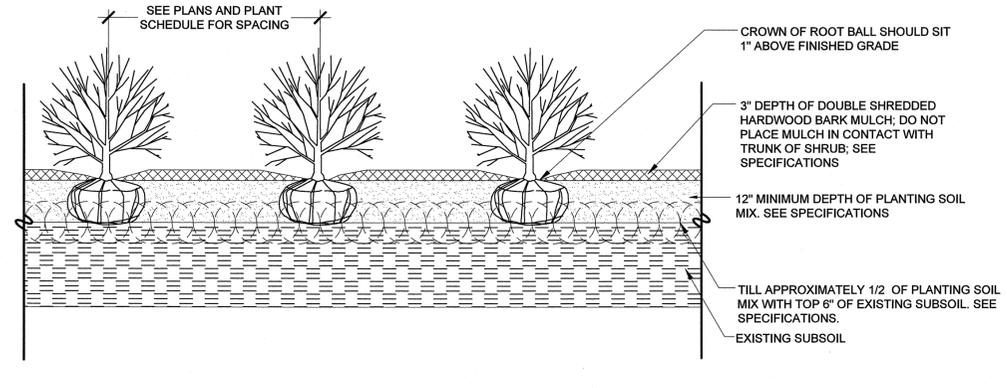


NOTES:
 1. NO STORAGE OF MATERIALS OR OPERATION OF EQUIPMENT SHALL BE PERMITTED WITHIN TREE PROTECTION FENCING.
 2. A 4\"/>

4 Tree Protection Detail
 L2.3 Scale: 0 2' 4' 8' Scale: 1/4"=1'-0"

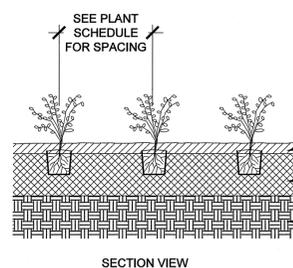


5 Shrub Planting
 L2.3 Scale: 0 1' 2' 4' Scale: 1/2"=1'-0"

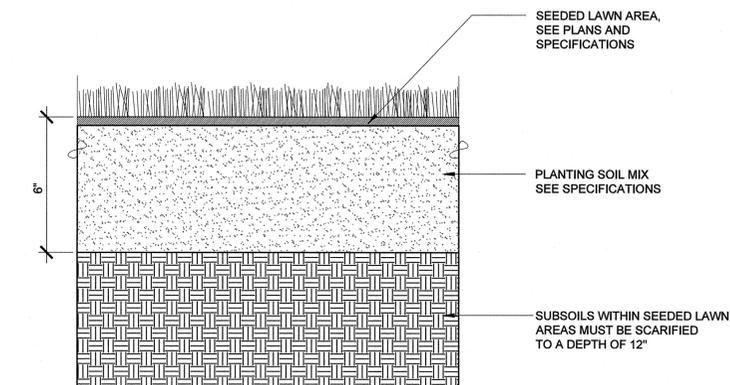


A O.C. SPACING	B O.C. SPACING
8"	7"
9"	7 3/4"
10"	8 5/8"
12"	10 1/2"
15"	13"
18"	15 1/2"
24"	21"

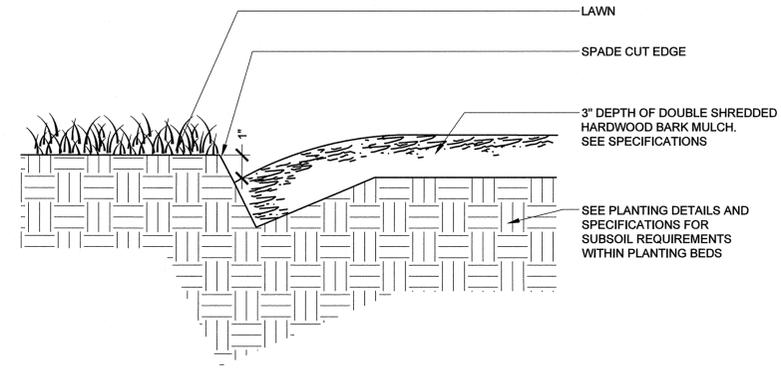
NOTES:
 1. PRIOR TO BACKFILLING CUT POT-BOUND ROOTS. AFTER PLANTING, THE ENTIRE BED SHALL BE EDGED AND THOROUGHLY WATERED.
 2. SEE SPECIFICATIONS FOR LANDSCAPE BED PREPARATION



6 Groundcover Planting
 L2.3 N.T.S.



7 Seed Planting
 L2.3 N.T.S.



8 Spade Edge
 L2.3 N.T.S.

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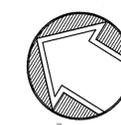


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Villanova University
Pike Field Garage
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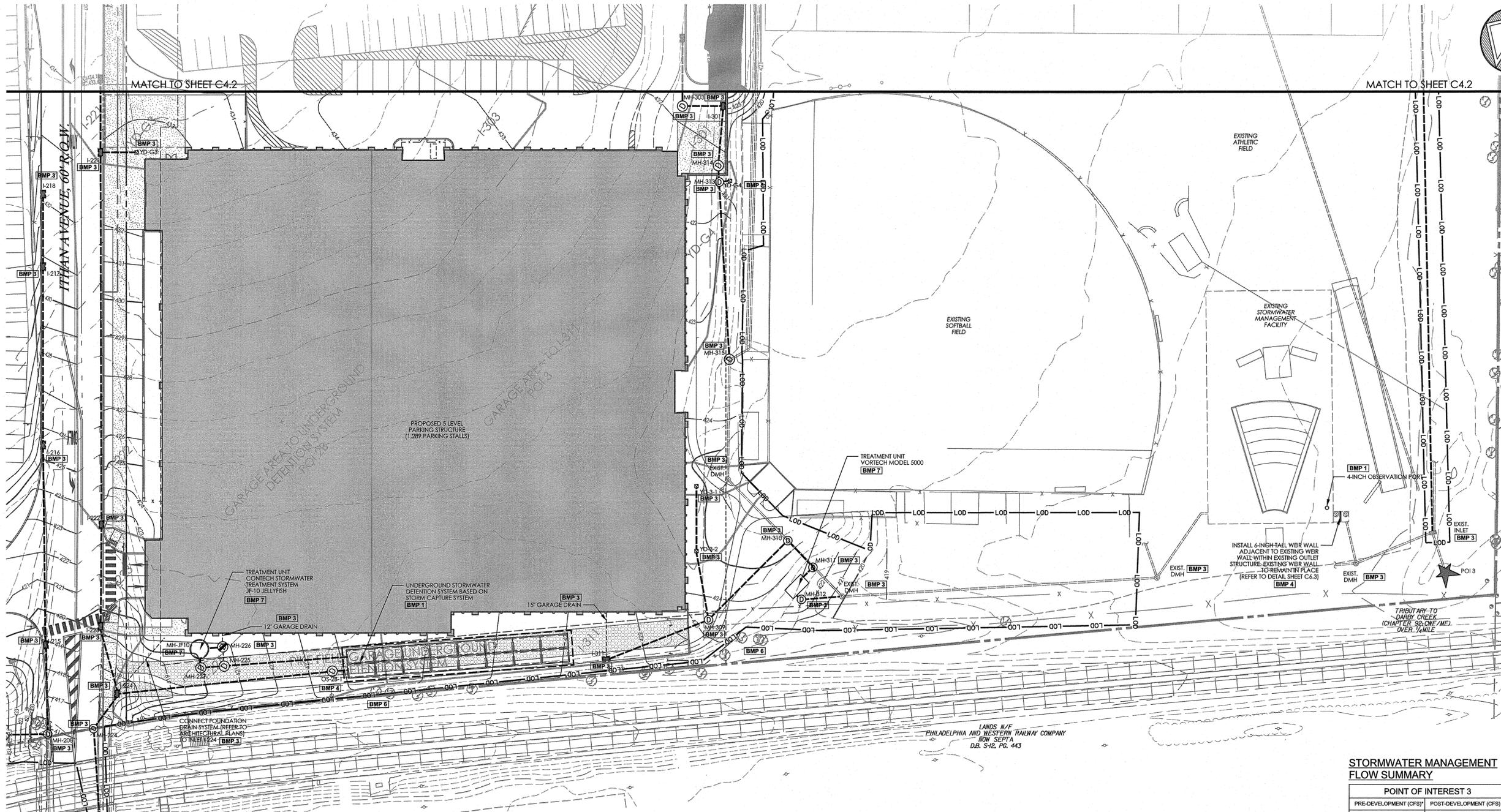
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STORMWATER MANAGEMENT FLOW SUMMARY

POINT OF INTEREST 3	
PRE-DEVELOPMENT (CFS)	POST-DEVELOPMENT (CFS)
2 YR = 17.97	2 YR = 13.52
5 YR = 27.41	5 YR = 22.59
10 YR = 39.63	10 YR = 31.06
25 YR = 42.09	25 YR = 38.72
50 YR = 54.00	50 YR = 48.82
100 YR = 88.25	100 YR = 61.07

* PEAK FLOW WITH REDUCTIONS

PCSMM LONG TERM OPERATIONS AND MAINTENANCE REQUIREMENTS

UNTIL THE PERMITTEE OR CO-PERMITTEE HAS RECEIVED WRITTEN APPROVAL OF A NOTICE OF TERMINATION, THE PERMITTEE OR CO-PERMITTEE WILL REMAIN RESPONSIBLE FOR COMPLIANCE WITH THE PERMIT TERMS AND CONDITIONS INCLUDING LONG-TERM OPERATION AND MAINTENANCE OF ALL PCSMM BMP'S ON THE PROJECT SITE AND IS RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE.

THE PERMITTEE OR CO-PERMITTEE SHALL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF PCSMM BMP'S UNLESS A DIFFERENT PERSON IS IDENTIFIED IN THE NOTICE OF TERMINATION AND HAS AGREED TO LONG-TERM OPERATION AND MAINTENANCE OF PCSMM BMP'S.

FOR ANY PROPERTY CONTAINING A PCSMM BMP, THE PERMITTEE OR CO-PERMITTEE SHALL RECORD AN INSTRUMENT WITH THE RECORDER OF DEEDS WHICH WILL ASSURE DISCLOSURE OF THE PCSMM BMP AND THE RELATED OBLIGATIONS IN THE ORDINARY COURSE OF A TITLE SEARCH OF THE PROPERTY. THE RECORDED INSTRUMENT MUST IDENTIFY THE PCSMM BMP, PROVIDE FOR NECESSARY ACCESS RELATED TO LONG-TERM OPERATION AND MAINTENANCE FOR PCSMM BMP'S AND PROVIDE NOTICE THAT THE RESPONSIBILITY FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSMM BMP IS A COVENANT THAT RUNS WITH THE LAND THAT IS BINDING UPON AND ENFORCEABLE BY SUBSEQUENT GRANTEEES, AND PROVIDE PROOF OF FILING WITH THE NOTICE OF TERMINATION UNDER CHAPTER 102-7(B)(1) (RELATING TO PERMIT TERMINATION).

THE PERSON RESPONSIBLE FOR PERFORMING LONG-TERM OPERATION AND MAINTENANCE MAY ENTER INTO AN AGREEMENT WITH ANOTHER PERSON INCLUDING A CONSERVATION DISTRICT, NONPROFIT ORGANIZATION, MUNICIPALITY, AUTHORITY, PRIVATE CORPORATION, OR OTHER PERSON, TO TRANSFER THE RESPONSIBILITY FOR PCSMM BMP'S OR TO PERFORM LONG-TERM OPERATION AND MAINTENANCE AND PROVIDE NOTICE THEREOF TO THE DEPARTMENT.

A PERMITTEE OR CO-PERMITTEE THAT FAILS TO TRANSFER LONG-TERM OPERATION AND MAINTENANCE OF THE PCSMM BMP OR OTHERWISE FAILS TO COMPLY WITH THIS REQUIREMENT SHALL REMAIN JOINTLY AND SEVERALLY RESPONSIBLE WITH THE LANDOWNER FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSMM BMP'S LOCATED ON THE PROPERTY.

NOTE: REFER TO STORMWATER MANAGEMENT REPORT FOR STORM STRUCTURE PROFILES AND ELEVATION DETAILS.

ANTICIPATED PCSMM BMP RELATED WASTES AND DISPOSAL PROCEDURES

- SEDIMENT**: SEDIMENT REMOVED FROM PCSMM BMP'S AND/OR FACILITIES SHALL BE DISPOSED OF ON-SITE IN LANDSCAPED/LAWN AREAS LOCATED OUTSIDE OF FLOOD PLANS, WETLANDS, STEEP SLOPES, AND DRAINAGE SWALES AND STABILIZED IMMEDIATELY. SEDIMENT CATEGORIZED AS CONTAMINATED SHALL BE DISPOSED OF PER THE APPLICABLE REGULATIONS.
 - TRASH & LITTER**: TRASH AND LITTER SHALL BE REMOVED FROM PCSMM BMP'S AND DISPOSED OF IN APPROPRIATE SOLID WASTE FACILITIES.
- NOTE: ANY APPLICABLE MATERIAL SHALL BE RECYCLED IN ACCORDANCE TO THE APPROPRIATE REGULATIONS.

LEGEND

- PROPERTY LINE
- LEGAL RIGHT-OF-WAY LINE
- EXISTING CURB
- EXISTING EDGE OF PAVEMENT
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING RETAINING WALL
- EXISTING SIGN
- EXISTING TREELINE
- EXISTING TREE
- EXISTING RAILROAD TRACKS
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING STORM SEWER WITH MANHOLE
- EXISTING STORM INLET
- EXISTING WATER SERVICE WITH MANHOLE
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING GAS VALVE
- EXISTING OVERHEAD WIRE
- EXISTING UNDERGROUND ELECT. SERVICE W/MANHOLE
- EXISTING UNDERGROUND TELE. SERVICE W/MANHOLE
- EXISTING TRANSFORMER
- EXISTING CABLE SERVICE WITH CABLE BOX
- EXISTING UNDERGROUND TELE. SERVICE W/MANHOLE
- EXISTING TELEPHONE METER
- EXISTING LIGHT STANDARDS
- EXISTING TRAFFIC SIGNAL MAST ARM
- SOILS BOUNDARY LINE
- PROPOSED RIGHT-OF-WAY LINE
- PROPOSED CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED STRUCTURE
- PROPOSED CONCRETE SIDEWALK OR PAD
- PROPOSED SAFETY FENCE
- PROPOSED RETAINING WALL
- PROPOSED SIGN
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED SANITARY MAIN
- PROPOSED STORM PIPE/MANHOLE
- PROPOSED INLET / YARD DRAIN
- PROPOSED UNDERDRAIN / ROOF DRAIN
- PROPOSED TRENCH DRAIN

SOILS DATA

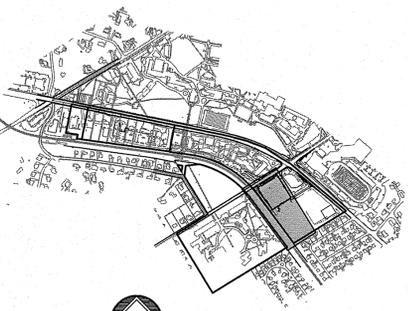
SOILS INFORMATION OBTAINED FROM THE USDA-NRCS WEB SOIL SURVEY, VERSION 6, WITH A DATE OF SURVEY AREA DATA OF NOVEMBER 19, 2015. THE FOLLOWING SITE SPECIFIC SOIL CLASSIFICATIONS ARE NOT LISTED AS HYDRIC SOILS.

Me MADE LAND, SCHST AND GNESS MATERIALS
 Gm82 GLENVILLE SILT LOAM, 3 TO 8 PERCENT SLOPES

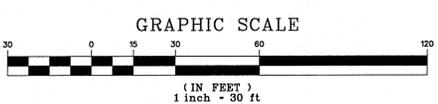
NO GEOLOGIC FORMATIONS OR SOIL CONDITIONS ARE KNOWN TO BE PRESENT THAT WILL REQUIRE SPECIFIC BMP'S TO MINIMIZE POLLUTION EFFECTS ASSOCIATED WITH SAID FEATURES

CRITICAL STAGES NOTE:

THE PERMITTEE SHALL PROVIDE ENGINEERING CONSTRUCTION OVERSIGHT FOR THE PROPOSED STORMWATER BMP'S. A LICENSED PROFESSIONAL ENGINEER KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF STORMWATER BMP'S, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.

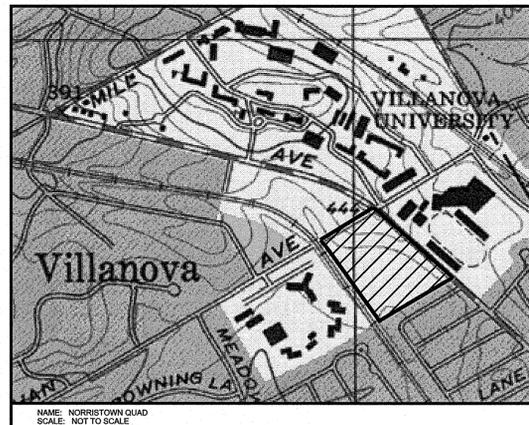


KEY MAP
SCALE: 1" = 1,000'



20112071855
 20112071860
 20112071907
 20112071992
 20112072122

PROJECT SERIAL NO.
 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



Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.

PCSM REPORTING AND RECORD KEEPING

THE PCSM PLAN, INSPECTION REPORTS AND MONITORING RECORDS SHALL BE AVAILABLE FOR REVIEW AND INSPECTION BY THE DEPARTMENT OR THE CONSERVATION DISTRICT.

PCSM FINAL CERTIFICATION

THE PERMITTEE SHALL INCLUDE WITH THE NOTICE OF TERMINATION 'RECORD DRAWINGS' WITH A FINAL CERTIFICATION STATEMENT FROM A LICENSED PROFESSIONAL, WHICH READS AS FOLLOWS:

"I (NAME) DO HEREBY CERTIFY PURSUANT TO THE PENALTIES OF 18 PA. C.S.A. CHAPTER 4904 TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THE ACCOMPANYING RECORD DRAWINGS ACCURATELY REFLECT THE AS-BUILT CONDITIONS, ARE TRUE AND CORRECT, AND ARE IN CONFORMANCE WITH CHAPTER 102 OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THAT THE PROJECT SITE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PCSM PLAN, ALL APPROVED PLAN CHANGES AND ACCEPTED CONSTRUCTION PRACTICES."

- (1) THE PERMITTEE SHALL RETAIN A COPY OF THE RECORD DRAWINGS AS A PART OF THE APPROVED PCSM PLAN.
- (2) THE PERMITTEE SHALL PROVIDE A COPY OF THE RECORD DRAWINGS AS A PART OF THE APPROVED PCSM PLAN TO THE PERSON IDENTIFIED IN THIS SECTION AS BEING RESPONSIBLE FOR THE LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP'S.

PCSM NOTES

PROCEDURES THAT ENSURE THAT THE PROPER MEASURES FOR RECYCLING OR DISPOSAL OF MATERIALS ASSOCIATED WITH OR FROM THE PROJECT SITE WILL BE UNDERTAKEN IN ACCORDANCE WITH DEPARTMENT REGULATIONS. INDIVIDUALS RESPONSIBLE FOR EARTH DISTURBANCE ACTIVITIES MUST ENSURE THAT PROPER MECHANISMS ARE IN PLACE TO CONTROL WASTE MATERIALS. EXAMPLES OF CONSTRUCTION WASTE INCLUDES (BUT IS NOT LIMITED TO) EXCESS SOIL MATERIALS, DAMAGED NETTING, SANITARY WASTES, AND GENERAL TRASH THAT COULD ADVERSELY AFFECT WATER QUALITY. MEASURES SHOULD BE PLANNED AND IMPLEMENTED FOR HOUSEKEEPING OF THE SITE, MATERIALS MANAGEMENT, AND LITTER CONTROL. RECYCLING OF EXCESS MATERIAL RATHER THAN DISPOSAL IS PREFERRED WHENEVER POSSIBLE. SEDIMENT RETAINED FROM EROSION CONTROL MEASURES OR FACILITIES AND OTHER SOLS DEEMED UNSUITABLE FOR USE AS FILL SHALL BE STABILIZED AND DISPOSED OFF SITE AT AN APPROVED FACILITY. ALL CONCRETE WASH WATER SHALL BE DISPOSED OFF SITE. OFF SITE DISPOSAL MUST COMPLY WITH ALL LOCAL, COUNTY, STATE, AND FEDERAL RULES, REGULATIONS, AND LAWS.

PCSM NOTICE OF TERMINATION

UPON PERMANENT STABILIZATION OF THE EARTH DISTURBANCE ACTIVITY UNDER CHAPTER 102.22(i)(2) (RELATING TO PERMANENT STABILIZATION), AND INSTALLATION OF BMP'S IN ACCORDANCE WITH AN APPROVED PLAN PREPARED AND IMPLEMENTED IN ACCORDANCE WITH CHAPTERS 102.4 AND 102.8 (RELATING TO EROSION AND SEDIMENT CONTROL REQUIREMENTS; AND PCSM REQUIREMENTS), THE PERMITTEE OR CO-PERMITTEE SHALL SUBMIT A NOTICE OF TERMINATION TO THE DEPARTMENT OR CONSERVATION DISTRICT.

- THE NOTICE OF TERMINATION (NOT) MUST INCLUDE:
- (1) THE FACILITY NAME, ADDRESS AND LOCATION.
 - (2) THE OPERATOR NAME AND ADDRESS.
 - (3) THE PERMIT NUMBER.
 - (4) THE REASON FOR PERMIT TERMINATION.
 - (5) IDENTIFICATION OF THE PERSONS WHO HAVE AGREED TO AND WILL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP'S IN ACCORDANCE WITH CHAPTER 102.8(m) AND PROOF OF COMPLIANCE WITH CHAPTER 102.8(m)(2).

PRIOR TO ACCEPTING THE NOT, THE DEPARTMENT AND/OR CONSERVATION DISTRICT STAFF WILL PERFORM A FINAL INSPECTION AND APPROVE OR DENY THE NOTICE OF TERMINATION.

CRITICAL STAGES NOTE:

THE PERMITTEE SHALL PROVIDE ENGINEERING CONSTRUCTION OVERSIGHT FOR THE PROPOSED STORMWATER BMP'S. A LICENSED PROFESSIONAL ENGINEER KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF STORMWATER BMP'S, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.

BMP NUMBER	ACTIVITY/SCHEDULE	CORRECTIVE ACTION
BMP 1	UNDERGROUND INFILTRATION AND/OR DETENTION SYSTEMS (BED & TRENCHES) FOR THE FIRST YEAR OF OPERATION, THE SYSTEM CHAMBERS/PIPES SHALL BE INSPECTED EVERY 6 MONTHS. AFTER THE FIRST YEAR, THE CHAMBER ROWS SHALL BE INSPECTED AT A MINIMUM OF EVERY YEAR, OR ADJUSTED MORE FREQUENTLY DEPENDING ON THE RESULTS OF THE PREVIOUS INSPECTIONS, AND AFTER SIGNIFICANT STORM EVENTS. VISUALLY INSPECT THE ROWS FOR SEDIMENT. WHEN THE SEDIMENT IS MEASURED AT A DEPTH OF MORE THAN 3 INCHES THROUGHOUT THE LENGTH OF THE ROW, CLEANOUT SHALL BE PERFORMED.	MAINTENANCE IS ACCOMPLISHED WITH THE 'JETVAC' PROCESS, USING HIGH PRESSURED WATER NOZZLE TO PROFEL, ITSELF DOWN THE ISOLATOR ROW OR PIPE, SCOURING AND SUSPENDING SOLIDS. AS THE NOZZLE IS RETRIEVED, THE CAPTURED POLLUTANTS ARE FLUSHED BACK INTO THE MANHOLE(S) FOR VACUUMING. APPLY MULTIPLE PASSES OF 'JETVAC' UNTIL BACKFLUSH WATER IS CLEAN. VACUUM MANHOLE SUMP AS REQUIRED.
BMP 2	UNDERGROUND STORMWATER INFILTRATION AND/OR DETENTION SYSTEM CHAMBERS - ISOLATOR ROW FOR THE FIRST YEAR OF OPERATION, THE ISOLATOR ROW SHALL BE INSPECTED EVERY 6 MONTHS. AFTER THE FIRST YEAR, THE ISOLATOR ROW SHALL BE INSPECTED AT A MINIMUM OF EVERY YEAR, OR ADJUSTED MORE FREQUENTLY DEPENDING ON THE RESULTS OF THE PREVIOUS INSPECTIONS, AND AFTER SIGNIFICANT STORM EVENTS. VISUALLY INSPECT THE ISOLATOR ROW FOR SEDIMENT. WHEN THE SEDIMENT IS MEASURED AT A DEPTH OF MORE THAN 3 INCHES THROUGHOUT THE LENGTH OF THE ISOLATOR ROW, CLEANOUT SHALL BE PERFORMED.	MAINTENANCE IS ACCOMPLISHED WITH THE 'JETVAC' PROCESS, USING HIGH PRESSURED WATER NOZZLE TO PROFEL, ITSELF DOWN THE ISOLATOR ROW, SCOURING AND SUSPENDING SOLIDS. AS THE NOZZLE IS RETRIEVED, THE CAPTURED POLLUTANTS ARE FLUSHED BACK INTO THE MANHOLE(S) FOR VACUUMING. APPLY MULTIPLE PASSES OF 'JETVAC' UNTIL BACKFLUSH WATER IS CLEAN. VACUUM MANHOLE SUMP AS REQUIRED. REPAIR CRACKS WITH SEALANT; SEAL POTENTIAL LEAKS; REPLACE HOOD IF BROKEN. REPAIR PAVEMENT CRACKS AND DEPRESSIONS AS REQUIRED.
BMP 3	YARD DRAINS, MANHOLES, CATCH BASINS, ROOF DRAINS (EXISTING AND PROPOSED) FOR THE FIRST YEAR OF OPERATION, THE INLET STRUCTURES SHALL BE INSPECTED EVERY 6 MONTHS, AND AFTER SIGNIFICANT STORM EVENTS. INSPECT THE GRATES FOR LITTER AND/OR DEBRIS AROUND THE INLET. INSPECT THE INSIDE OF THE STRUCTURE FOR SEDIMENT AND DEBRIS BUILD-UP. INSPECT PIPE CONNECTIONS FOR LEAKS. INSPECT THE GRASS OR HARD SURFACE AROUND THE STRUCTURE FOR EROSION OR DETERIORATION. AFTER THE FIRST YEAR, THE INLET STRUCTURES SHALL BE INSPECTED AT A MINIMUM OF EVERY 6 MONTHS, AND AFTER SIGNIFICANT STORM EVENTS. THIS SHALL BE ADJUSTED MORE FREQUENTLY DEPENDING ON THE RESULTS OF THE PREVIOUS INSPECTIONS.	REMOVE LITTER AND DEBRIS AROUND INLET GRATES. VACUUM MANHOLE SEDIMENT AS REQUIRED. SEAL POTENTIAL LEAKS. MAINTAIN GRASS AND LANDSCAPED AREAS AROUND INLETS GRATES. REPAIR CRACKS OR DETERIORATED PAVEMENT AROUND INLETS OR MANHOLE COVERS.
BMP 4	INFILTRATION AND DETENTION SYSTEM OUTLET STRUCTURES FOR THE FIRST YEAR OF OPERATION, THE OUTLET STRUCTURE SHALL BE INSPECTED EVERY 6 MONTHS, AND AFTER SIGNIFICANT STORM EVENTS. INSPECT THE INSIDE OF THE STRUCTURE FOR SEDIMENT AND DEBRIS BUILD-UP. INSPECT TO MAKE SURE THEY ARE FUNCTIONING PROPERLY (NO CLOGS OR LEAKS). INSPECT PIPE CONNECTIONS FOR LEAKS. INSPECT PAVEMENT AROUND COVERS FOR CRACKS, DEPRESSIONS, DETERIORATION. AFTER THE FIRST YEAR, THE OUTLET STRUCTURE SHALL BE INSPECTED AT A MINIMUM OF EVERY 6 MONTHS, AND AFTER SIGNIFICANT STORM EVENTS. THIS SHALL BE ADJUSTED MORE FREQUENTLY DEPENDING ON THE RESULTS OF THE PREVIOUS INSPECTIONS.	REMOVE LITTER AND/OR DEBRIS. VACUUM SEDIMENT FROM STRUCTURE IF THE DEPTH EXCEEDS 2 INCHES. SEAL POTENTIAL LEAKS. REPAIR PAVEMENT AROUND COVERS) WHEN NECESSARY.
BMP 5*	OUTLET / INLET PROTECTION / ENDWALLS INSPECT THE OUTLET PROTECTION STONE EVERY 6 MONTHS FOR DEBRIS, EXCESS SEDIMENT OR EROSION.	REMOVE LITTER, DEBRIS AT OUTLET, REMOVE SEDIMENT AS REQUIRED. MAINTAIN UNIFORM RIP-RAP COVERAGE; REPLENISH AS NEEDED.
BMP 6	PROTECT EXISTING NATIVE TREES (4" CALIPER MIN.) AND PROPOSED NATIVE TREES (MIN. 2" CALIPER HEIGHT) OBSERVE CONDITION OF TREES ANNUALLY AND AFTER MAJOR STORM EVENTS	PRUNE TREES FOR SAFETY PURPOSES ONLY UNLESS NEAR A BUILDING FOR THE LIFE OF THE PROJECT (50 YRS) OR UNTIL REDEVELOPMENT OCCURS. REPLACE ANY PROTECTED TREE THAT DIES WITHIN 5 YEARS** OF CONSTRUCTION. DEAD TREES MUST BE REPLACED WITHIN 6 MONTHS. REACTIVE TRASH AND DEBRIS.
BMP 7	CONTECH STORMWATER TREATMENT SYSTEM: JF10 JELLYFISH™ CONDUCT A MINIMUM OF TWO INSPECTIONS DURING THE FIRST YEAR TO ENSURE PROPER FUNCTIONING OF THE SYSTEM. AFTER THE FIRST YEAR, THE JF10 SHALL BE INSPECTED AT A MIN. OF ONCE PER YEAR AND AFTER MAJOR STORM EVENTS. OBSERVE IF STANDING WATER IS PRESENT, CHECK FOR FLOATABLES, DEBRIS AND OIL SHEEN. INSPECT FOR ANY PHYSICAL DAMAGE TO THE DECK OR CARTRIDGE LIDS. INSPECT AMOUNT OF DEBRIS IN THE MAINTENANCE ACCESS WALL (MAW)	REMOVE SEDIMENTS WHEN DEPTH OF SEDIMENT IS 12 INCHES OR GREATER, OR WITHIN 3 YEARS OF MOST RECENT CLEANER. REPLACE MISSING OR DAMAGED CARTRIDGE LIDS. REPAIR CRACKS OR BROKEN COMPONENTS (MAW, CARTRIDGE DECK, AND BACKWASH POOL). RINSE FILTER CARTRIDGES AS REQUIRED PER INSPECTION RESULTS, OR WITHIN 12 MONTHS OF THE MOST RECENT FILTER RINSE, WHOEVER OCCURS FIRST. REPLACE CARTRIDGE IF RINSING DOES NOT REMOVE SEDIMENT FROM TENTACLES OR IF TENTACLES ARE DAMAGED OR MISSING. TENTACLES SHOULD REMAIN IN SERVICE NO LONGER THAN 5 YEARS BEFORE REPLACEMENT. AFTER UPSTREAM OIL, FUEL, OR CHEMICAL SPILL, THE UNIT MUST BE CLEANED OUT AND FILTER CARTRIDGES RINSED OR REPLACED IF DAMAGED BY THE SPILL.
BMP 8	VORTECH 5000 THE VORTECH UNIT SHALL BE INSPECTED TWICE PER YEAR AND MORE OFTEN IF WINTER SANDING OPERATIONS ARE COMMONPLACE.	REMOVE FLOATABLES. VACUUM SEDIMENT FROM STRUCTURE WHEN DEBRIS HAS ACCUMULATED WITHIN 12 TO 18 INCHES OF THE DRY WEATHER WATER SURFACE ELEVATION. MAINTAIN SECURELY SEALED MANHOLE COVERS TO PREVENT LEAKAGE OF RUNOFF INTO SYSTEM.
BMP 9	SOIL RESTORATION & AMENDMENT	EVERY 3 YEARS, INSPECT AMENDED AREA FOR EXCESS COMPACTION AND LOSS OF RECHARGE CAPACITY. TO RESTORE CAPACITY ADDITIONAL TILLING AND COMPOST AMENDMENTS CAN BE PERFORMED. THE APPLICANT SHALL PREPARE AN ANNUAL WRITTEN INSPECTION REPORT THAT MUST BE KEPT ON FILE.

* JET VAC REQUIREMENTS - FIXED NOZZLES DESIGNED FOR QUARTERS OR LARGE DIAMETER PIPE CLEANING ARE PREFERABLE. REAR FACING JETS WITH AN EFFECTIVE SPREAD OF 45 INCHES ARE BEST.
** ESCROW SHALL BE PROVIDED FOR REPLACEMENT OF BMP TREES THAT DIE WITHIN 5 YEARS OF CONSTRUCTION.
*** REFERENCE THE JELLYFISH FILTER OWNERS MANUAL FOR COMPLETE PRODUCT INFORMATION AND INSPECTION MAINTENANCE LOG.
* TREE REQUIREMENT IN THE MILL CREEK WATERSHED (2 DECIDUOUS AND 10 EVERGREEN) CAN BE PLANTED ANYWHERE WITHIN THE CONTRIBUTORY DRAINAGE AREA.

STORMWATER MANAGEMENT FLOW SUMMARY

POINT OF INTEREST 2B	
PRE-DEVELOPMENT (CFS)*	POST-DEVELOPMENT (CFS)
2 YR. = 13.94	2 YR. = 10.28
5 YR. = 18.21	5 YR. = 13.62
10 YR. = 23.27	10 YR. = 16.91
25 YR. = 25.02	25 YR. = 20.14
50 YR. = 30.05	50 YR. = 23.32
100 YR. = 42.83	100 YR. = 27.30

*PEAK FLOW WITH REDUCTIONS

STORMWATER BMP'S CRITICAL STAGES OF CONSTRUCTION

- * UPON COMPLETION OF STORM DRAIN INSTALLATION, WATER QUALITY INLETS SHALL BE INSTALLED WITH OVERSIGHT BY THE LICENSED PROFESSIONAL.

INFILTRATION/DETENTION SYSTEM 2B AND 3

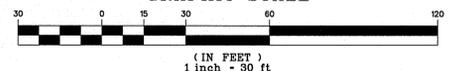
- CLEAR FOR ACCESS TO SYSTEMS AND CONSTRUCTION AREAS, INCLUDING STOCKPILING, BORROW, AND FILL AREAS NECESSARY TO CONSTRUCT SYSTEMS. STRIP TOPSOIL, STOCKPILE, BORROW, AND FILL AREAS. CARE SHOULD BE TAKEN NOT TO COMPACT THE INFILTRATION AREA. A LICENSED PROFESSIONAL OR PRESENTATION SHALL BE PRESENT FOR CONSTRUCTION ACTIVITIES PERTAINING TO THE INFILTRATION BED FOR SYSTEMS 101, 102, 103 AND 104.
- TOPSOIL STOCKPILES NOT SUBJECT TO BARRIERS CONSTRUCTION SHALL BE STABILIZED. SILT FENCE TO BE INSTALLED AROUND THE DOWN SLOPE SIDE OF ALL FILES.
- EXCAVATE AREA OF UNDERGROUND INFILTRATION BED TO SUBGRADE ELEVATION. CONTRACTOR SHALL TAKE CARE TO AVOID COMPACTION OF THE SOIL IN THE SUBGRADE AREA. A LICENSED PROFESSIONAL SHALL BE PRESENT FOR CONSTRUCTION OF THE INFILTRATION BED. IF ANY UNFAVORABLE CONDITIONS ARE ENCOUNTERED DURING THE INSTALLATION OF THE INFILTRATION BED THE OWNER'S ENGINEER SHALL BE NOTIFIED AND THE PROPOSED INFILTRATION BED SHALL BE RELOCATED TO A MORE SUITABLE LOCATION.
- PLACE GEOTEXTILE FABRIC IN EXCAVATION TAKING CARE TO INSURE NO FOREIGN MATERIAL REMAINS IN THE OPENING THAT MIGHT CONTAMINATE THE INFILTRATION MEDIA. PLACE GEOTEXTILE MATERIAL AND INFILTRATION MEDIA IN BED (BOTTOM AND SIDES) AREA AVOIDING INTRUSION OF FOREIGN MATERIAL THAT MIGHT CONTAMINATE THE INFILTRATION BED.
- INSTALL STORM TECH OR APPROVED EQUAL DETENTION MODULES OVER INFILTRATION BED AREA.
A. PLACE PERFORATED PIPE IN INFILTRATION TRENCH.
B. COVER STORM TECH BEDS AND INFILTRATION TRENCH MEDIA WITH GEOTEXTILE.
C. PLACE PAVED SUB-BASE OVER SYSTEMS. AVOID COMPACTION OVER THE INFILTRATION BED.

NOTE: PROTECT STORMWATER BMP'S FROM SEDIMENT AT ALL TIMES DURING CONSTRUCTION. HAY BALS, DIVERSION BERMS AND/OR OTHER APPROPRIATE MEASURES SHALL BE USED AT THE TOE OF SLOPES THAT ARE ADJACENT TO BMP'S TO PREVENT SEDIMENT FROM WASHING INTO THESE AREAS DURING SITE DEVELOPMENT.

LEGEND

- PROPERTY LINE
- LEGAL RIGHT-OF-WAY LINE
- EXISTING CURB
- EXISTING EDGE OF PAVEMENT
- EXISTING FENCE
- EXISTING RETAINING WALL
- EXISTING SIGN
- EXISTING TREELINE
- EXISTING TREE
- EXISTING RAILROAD TRACKS
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- EXISTING STORM SEWER WITH MANHOLE
- EXISTING STORM INLET
- EXISTING WATER SERVICE WITH MANHOLE
- EXISTING WATER VALVE
- EXISTING GAS VALVE
- EXISTING UTILITY POLE WITH GUY WIRE
- EXISTING UNDERGROUND ELECTRIC SERVICE WITH MANHOLE
- EXISTING ELECTRIC METER
- EXISTING TRANSFORMER
- EXISTING CABLE SERVICE WITH CABLE BOX
- EXISTING UNDERGROUND TELEPHONE SERVICE WITH MANHOLE
- EXISTING TELEPHONE METER
- EXISTING LIGHT STANDARDS
- PROPOSED RIGHT-OF-WAY LINE
- PROPOSED CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED STRUCTURE
- PROPOSED CONCRETE SIDEWALK OR PAD
- PROPOSED SAFETY FENCE
- PROPOSED RETAINING WALL
- PROPOSED SIGN
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED SANITARY MAIN
- PROPOSED STORM PIPE/MANHOLE
- PROPOSED INLET / YARD DRAIN
- PROPOSED UNDERDRAIN / ROOF DRAIN
- PROPOSED ELECTRIC LINE

GRAPHIC SCALE



PCSM NOTES

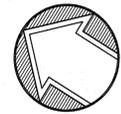
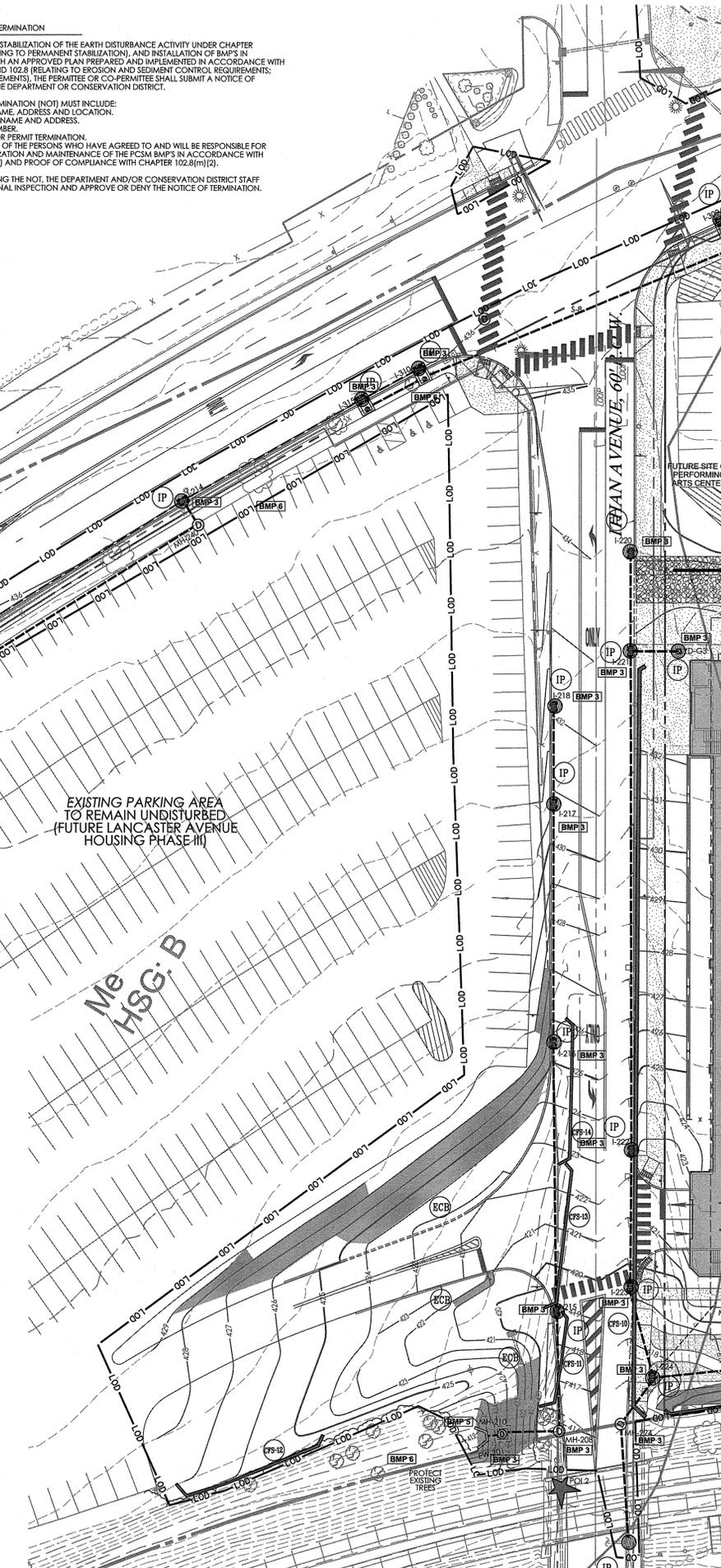
- THE WESTERN HALF OF THE EXISTING PARKING AREA DRAINS OVERLAND TO A STORM DRAINAGE SYSTEM IN ITHAN AVENUE. THE BMP'S PROPOSED ARE TREATING RUN-OFF WITH WATER QUALITY UNITS PRIOR TO INFILTRATION SYSTEMS. THE EASTERN HALF DRAINS TOWARDS THE PIKE SOFTBALL FIELD AND IS MANAGED BY THE EXISTING UNDERGROUND STORMWATER BASIN INSTALLED FOR FIELD PRESS BOX IMPROVEMENTS. VOLUME AND PEAK RATE ARE LESS THAN IN PRE-DEVELOPMENT CONDITIONS. THE SITE WAS ESSENTIALLY VOID OF WATER QUALITY TREATMENT BMP'S. THE IMPLEMENTATION OF BMP'S PROPOSED WILL MAINTAIN AND PROTECT THE BIOLOGICAL AND CHEMICAL QUALITIES OF THE RECEIVING STREAM.
- TWO PROPOSED UNDERGROUND INFILTRATION/DETENTION BEDS, AND ONE EXISTING UNDERGROUND INFILTRATION/DETENTION SYSTEM CONTROLS THE PEAK RATE OF RUN-OFF TO LESS THAN THE PRE-DEVELOPMENT CONDITION. THE PCSM STORMWATER MANAGEMENT REPORT SHOWS THAT THE POST DEVELOPMENT CONDITIONS WILL NOT HAVE ANY ADVERSE EFFECT OF THE RECEIVING STREAMS OR DOWNGRADE PROPERTIES.
- TWO PROPOSED UNDERGROUND INFILTRATION/DETENTION BEDS, AND ONE EXISTING UNDERGROUND INFILTRATION/DETENTION SYSTEM, AND MORE THAN SIXTY NEW TREES ARE PROPOSED TO REDUCE THE TWO-YEAR RUNOFF VOLUME FROM THE PRE-DEVELOPMENT TO POST-DEVELOPMENT CONDITION.
- THE PROJECT MINIMIZES IMPERVIOUS AREA TO THE GREATEST EXTENT POSSIBLE.
- POST-CONSTRUCTION RUNOFF FROM THE PROPOSED IMPROVEMENTS WILL BE ROUTED THROUGH BMP'S TO REDUCE RUNOFF VOLUME AND RATE. REDUCTION IN POST-DEVELOPMENT VOLUMES AND RATES WILL ASSIST IN MAINTAINING THE INTEGRITY OF THE EXISTING DRAINAGE FEATURES. THE PLAN PROPOSES TO MINIMIZE THE LIMIT OF DISTURBANCE AND PROTECT EXISTING VEGETATION TO MAXIMUM EXTENT PRACTICAL.
- THE LIMIT OF EARTH DISTURBANCE (INCLUDING GRADING AND LAND CLEARING) IS LIMITED TO THE EXTENT WHERE EXISTING IMPERVIOUS SURFACES ARE REMOVED, AND PROPOSED IMPERVIOUS SURFACES ARE BEING CONSTRUCTED. THE EXISTING FRONT YARDS OF THE STRUCTURES WILL NOT BE DISTURBED EXCEPT WHERE THE DRIVEWAYS ARE BEING REMOVED AND RE-SEEDED AND FOR TEMPORARY DISTURBANCE FOR UTILITY TRENCHING.
- THE PLAN MINIMIZES SOIL COMPACTION TO THE EXTENT PRACTICAL BY MINIMIZING THE LIMIT OF DISTURBANCE AND AREA UTILIZED TEMPORARILY FOR CONSTRUCTION ACCESS.
- THE PROJECT WILL USE INFILTRATION/DETENTION BMP'S TO MINIMIZE CHANGES IN STORMWATER RUNOFF RATE AND VOLUME.
- THE PERMITTEE SHALL PROVIDE ENGINEERING CONSTRUCTION OVERSIGHT FOR THE PROPOSED STORMWATER BMP'S. A LICENSED PROFESSIONAL ENGINEER KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF STORMWATER BMP'S, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.
- A NOTICE OF TERMINATION (NOT) WILL BE REQUIRED TO BE SUBMITTED FOLLOWING APPROVAL OF THE FINAL AS-BUILT PLANS. PRIOR TO ACCEPTING THE NOT, THE DEPARTMENT AND/OR CONSERVATION DISTRICT STAFF WILL PERFORM A FINAL INSPECTION TO ENSURE SITE STABILIZATION AND VERIFY ADEQUATE INSTALLATION AND FUNCTION OF THE STORMWATER BMP'S.
- NO RUNOFF SHALL ENTER ANY INFILTRATION BMP'S UNTIL FINAL SITE STABILIZATION IS ACHIEVED IN THE TRIBUTARY DRAINAGE AREA. 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 SOILING AND OTHER MOVEMENTS.
- THE SCHEMATIC LOCATION OF THE PROPOSED LANDSCAPING AS BASIS FOR THE LANDSCAPE RESTORATION/REPLACEMENT CREDIT IS SHOWN ON STORMWATER MANAGEMENT PLAN. REFER TO THE LANDSCAPE PLAN FOR MORE DETAILS ON THE PROPOSED SPECIES AND QUANTITIES.
- REFER TO E&S PLAN AND DETAIL SHEET FOR SEQUENCE OF CONSTRUCTION AND CONSTRUCTION DETAILS FOR PROPOSED STORMWATER BMP'S.
- AS-BUILT PLANS OF THE STORMWATER BMP'S FOR EACH PROJECT PHASE SHALL BE PROVIDED WITHIN SIX MONTHS FOLLOWING THE COMPLETION OF EACH PHASE. THE AS-BUILT PLANS SHALL BE SIGNED AND SEALED BY A PA REGISTERED PROFESSIONAL ENGINEER.

20112071855
20112071900
20112071907
20112071972
PROJECT SERIAL NO. 20112071972

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GRADING PERMIT SUBMISSION

Revision #8 February 10, 2016
Date November 20, 2015
Title Post Construction Stormwater Management
Scale 1" = 30'
Drawn By KAQ

C8.3

Sheet No. 3 of 3

Contractor to verify all dimensions in field and inform Architect of any discrepancies before starting work.