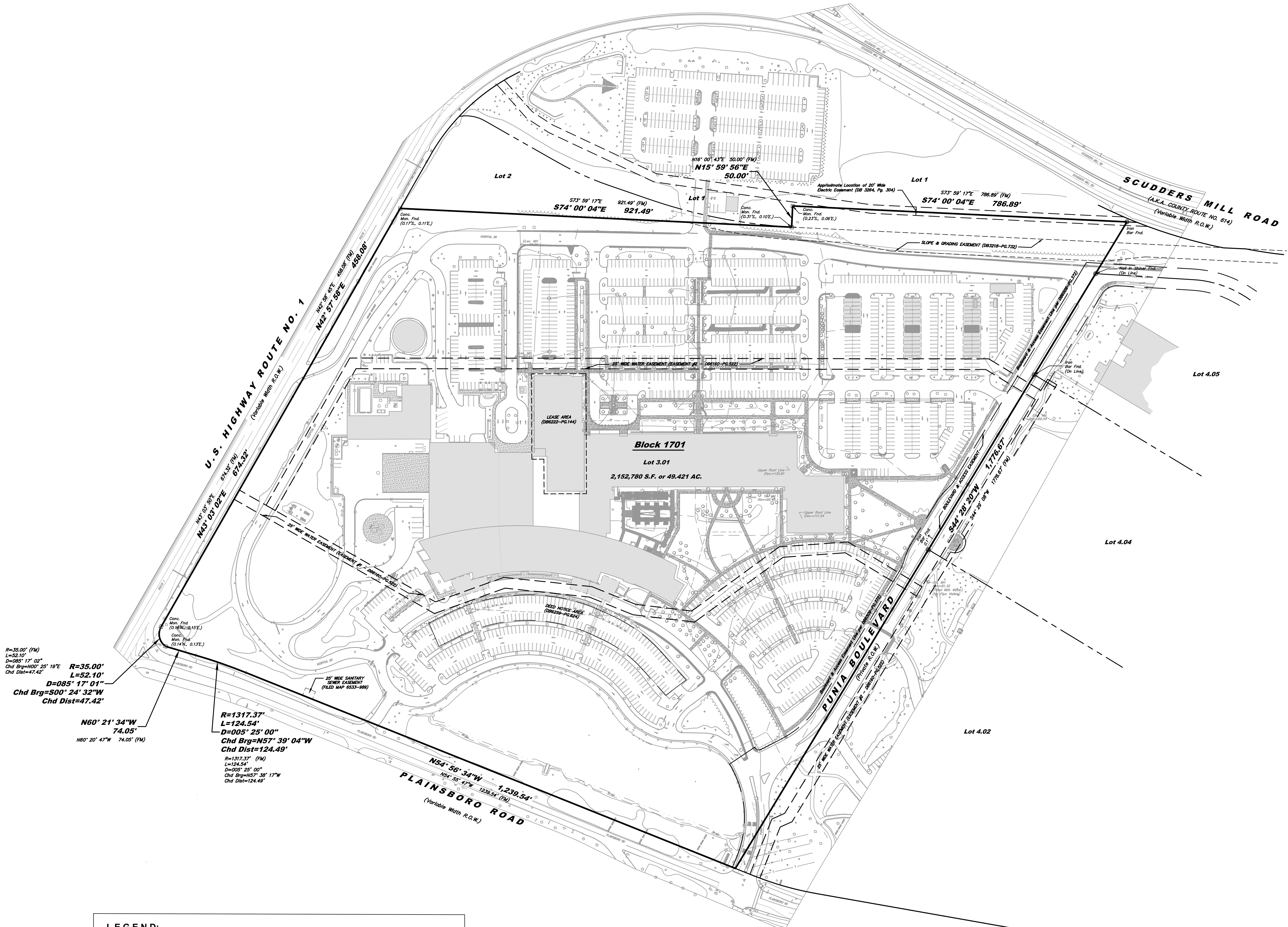


NOTES:

1. THIS SURVEY HAS BEEN PREPARED WITH THE BENEFIT OF A TITLE REPORT ISSUED BY FIRST AMERICAN TITLE INSURANCE COMPANY, FILE NO. NCS-1137584-NJ, COMMITMENT DATE JUNE 21, 2022 AND IS SUBJECT TO RECORDED AND UNRECORDED EASEMENTS AND ANY OTHER PERTINENT FACTS WHICH A COMPLETE AND ACCURATE TITLE SEARCH MIGHT DISCLOSE.
2. TOPOGRAPHIC INFORMATION SHOWN HEREON WAS OBTAINED BY FRENCH & PARRELLO ASSOCIATES WITH VARIOUS FIELD SURVEYS PERFORMED BETWEEN JULY 5TH AND AUGUST 4TH, 2022.
3. THE HORIZONTAL AND VERTICAL DATUM REFERENCED ON THIS SURVEY ARE BASED ON GPS OBSERVATIONS AND ARE RELATIVE TO NAD 83/NAVD 88 ADJUSTMENT.
4. THE NORTH ARROW AND METES AND BOUNDS INDICATED ON THIS PLAN ARE BASED ON GPS OBSERVATIONS AND ARE RELATIVE TO THE NEW JERSEY PLANE COORDINATE SYSTEM (NAD83); THESE MAY DIFFER FROM THE METES AND BOUNDS OF THE INDIVIDUAL PROPERTY DEED DESCRIPTIONS.
5. ANY UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON ABOVE GROUND OBSERVATIONS, UTILITY MARKING FOUND IN THE FIELD AND/OR INFORMATION SUPPLIED BY THE UTILITY COMPANIES. SINCE NO PHYSICAL LOCATION OF THE UNDERGROUND FACILITIES HAVE BEEN MADE BY THE UNDERSIGNED, NO GUARANTEE IS BEING MADE FOR THEIR COMPLETENESS OR ACCURACY.
6. THE UNDERSIGNED PROFESSIONAL IS NOT QUALIFIED TO MAKE ANY DETERMINATION AS TO THE EXISTENCE OR NON-EXISTENCE OF WETLANDS AND/OR HAZARDOUS MATERIALS. THEREFORE, NO STATEMENT IS BEING MADE OR IMPLIED HEREON, NOR SHOULD IT BE ASSUMED OR CONSTRUED THAT ANY STATEMENT IS BEING MADE BY THE FACT THAT NO EVIDENCE OF WETLANDS AND/OR HAZARDOUS MATERIALS IS PORTRAYED HEREON. THE CLIENT SHOULD PURSUE THESE MATTERS SEPARATE AND APART FROM THIS SURVEY.
7. IF THIS DOCUMENT DOES NOT CONTAIN THE RAISED SEAL OF THE UNDERSIGNED PROFESSIONAL, IT IS NOT A VALID COPY OF THE SURVEY AND NO LIABILITY IS ASSUMED FOR THE INFORMATION SHOWN HEREON.
8. THIS SURVEY AND THE INFORMATION SHOWN HEREON IS PRIVILEGED AND HAS BEEN PREPARED FOR THE EXCLUSIVE USE OF PENN MEDICINE FOR DESIGN PURPOSES ONLY. THIS SURVEY AND THE INFORMATION CONTAINED HEREON CANNOT BE USED FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN PERMISSION OF THE UNDERSIGNED PROFESSIONAL.

MAP REFERENCES:

1. MAP ENTITLED, "REDEVELOPMENT - PRINCETON HEALTHCARE FINAL SUBDIVISION PLAT, LOTS 3 & 4, BLOCK 1701, LOTS 1, 2, & 3, BLOCK 1703, LOT 1, BLOCK 1704, TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, N.J.", PREPARED BY STIRES ASSOCIATES, P.A., DATED FEBRUARY 12, 2008, REVISED TO JANUARY 8, 2009, AND FILED IN THE MIDDLESEX COUNTY CLERK'S OFFICE ON FEBRUARY 5, 2009 AS MAP NO. 6533, FILE NO. 989, SHEETS 1 AND 2.
2. THE OFFICIAL TAX MAPS FOR THE TOWNSHIP OF PLAINSBORO, SHEET NO. 17.

DEED REFERENCES:

DEED BOOK 5929 - PAGE 527: VESTING DEED INTO CURRENT LOT 3.01, BLOCK 1701

LEGEND:

× 123.45	SPOT ELEVATION		FIRE HYDRANT	— — 81 — —	MINOR CONTOUR
× TC=123.45	TOP OF CURB		WATER METER	— — 80 — —	MAJOR CONTOUR
× BC=123.45	BOTTOM OF CURB	GV	GAS VALVE		CHAINLINK FENCE
× TW=123.45	TOP OF WALL		GAS METER		WOOD FENCE
× F.F.=123.4	FINISHED FLOOR ELEVATION		SIGN		UNDERGROUND STORM DRAINAGE PIPE
	CURB DRAINAGE INLET	UP	UTILITY POLE		UNDERGROUND SANITARY PIPE
	DRAINAGE INLET		GUY WIRE		OVERHEAD ELECTRIC LINE
Ⓓ	DRAINAGE MANHOLE		ELECTRIC METER		GAS LINE MARKOUT
Ⓢ	SANITARY SEWER MANHOLE		ELECTRIC BOX		WATER LINE MARKOUT
Ⓤ	UTILITY MANHOLE		LIGHT POST		ELECTRIC LINE MARKOUT
Ⓔ	ELECTRICAL MANHOLE		FLAG POLE	—T—T—	TELEPHONE LINE MARKOUT
Ⓣ	TELEPHONE MANHOLE	•	STEEL BOLLARD	(FM)	FILED MAP INFORMATION
CO	SANITARY CLEANOUT	○	IRON BAR FOUND		
WV	WATER VALVE		MONUMENT FOUND		
			TREE		
			BUSH		

THE USE OF THIS SURVEY IN ITS PRESENT FORMAT IS SUBJECT TO THE STATE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS ADMINISTRATIVE RULES AND REGULATIONS TITLE 13 CHAPTER 40 SUBCHAPTER 8 SECTION 13:40-8.2(e) ``NO PERSON SHALL REMOVE A TITLE BLOCK FROM ANY PRINT OR REPRODUCTION" AND SECTION 13:40-8.3(a)5 ``THE HANDWRITTEN SIGNATURE OF THE PERSON(S) IN RESPONSIBLE CHARGE AND DATE WHEN SIGNED".

No.	Date	Revision	Revised By	Checked By

100' 0 100' 200'
SCALE: 1" = 100 '
SCALE IN U.S. SURVEY FEET

FPA FRENCH & PARRELLO ASSOCIATES
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

Corporate Office:
1800 Route 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com

THOMAS J. ERTLE, PLS
PROFESSIONAL LAND SURVEYOR, NJ LIC. No. 24GS03583400

BOUNDARY SURVEY

PENN MEDICINE PRINCETON MEDICAL CENTER AT PLAINSBORO

LOT 3.01, BLOCK 1701

SITUATED IN THE

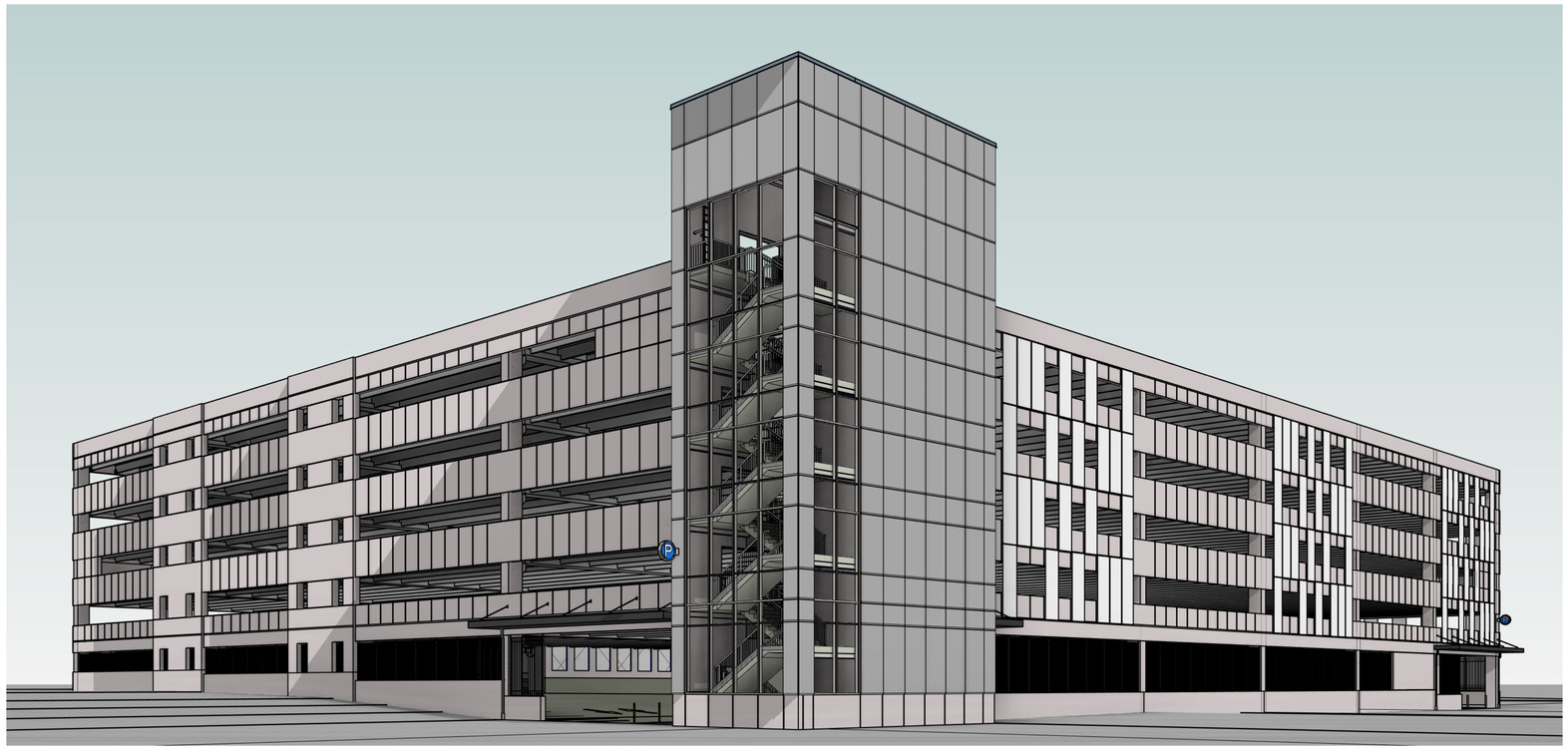
TOWNSHIP OF PLAINSBORO
MIDDLESEX COUNTY, NEW JERSEY

DATE:	DESIGNED BY:	SCALE:	PROJECT NUMBER:
08-04-2022		1" = 100'	06C028T.003
DRAWN BY: J.C.L.	CHECKED BY: T.J.E.	FIELD BOOK	SHEET: 1 of 1

L:\SU.SEC\CE\2006\06C028T.003 – PENN MEDICAL CENTER BOUNDARY\200 – CADD\06C028T.003 BNDY–L3.01.DWG (30X42)

COPYRIGHT © 2022, FRENCH & PARRELLO ASSOCIATES, – THE COPYING OR REUSE OF THIS DOCUMENT, OR PORTIONS THEREOF, WITHOUT THE WRITTEN PERMISSION OF FRENCH & PARRELLO ASSOCIATES, PA IS PROHIBITED.
DUE TO INHERENT ERRORS IN REPRODUCTION METHODS, ERRORS MAY OCCUR WHEN SCALING THIS DRAWING

Penn Medicine Princeton Health Cancer Center Garage



DRAWING LIST

SHEET NO.		10/21/22 P/C BID SET	12/16/22 IDP SUBMISSION	04/10/23 SITE PLAN SUBMISSION	06/19/23 SITE PLAN SUB. REV.	07/25/23 SITE PLAN SUB. REV.
ARCHITECTURAL						
A0.0	COVER	•	•	•	•	•
A0.1	CODE ANALYSIS		•			
A0.2	LIFE SAFETY		•			
A0.3	LIFE SAFETY		•			
A0.4	OPENNESS ANALYSIS		•			
A1.1	1ST TIER ARCHITECTURAL PLAN	•	•	•	•	•
A1.2	2ND TIER ARCHITECTURAL PLAN	•	•	•	•	•
A1.3	3RD TIER ARCHITECTURAL PLAN	•	•	•	•	•
A1.4	4TH TIER ARCHITECTURAL PLAN	•	•	•	•	•
A1.5	5TH TIER ARCHITECTURAL PLAN	•	•	•	•	•
A1.6	6TH TIER ARCHITECTURAL PLAN	•	•	•	•	•
A1.7	ENLARGED ARCHITECTURAL PLANS	•	•			
A1.8	ARCHITECTURAL PLAN DETAILS		•			
A2.1	BUILDING ELEVATIONS - FACADE FINISHES	•	•	•	•	•
A2.2	FACADE ASSEMBLY ELEVATIONS	•	•	•		
A2.3	BUILDING ELEVATIONS - PRECAST	•	•	•		
P 004	EXTERIOR ELEVATIONS - SOUTH & WEST					
P 005	EXTERIOR ELEVATORS - NORTH & EAST					
A2.4	ENLARGED BUILDING SHEAR WALL ELEVATIONS	•	•			
A2.5	GARAGE FACADE DESIGN INTENT		•			
A3.1	WALL SECTIONS AND DETAILS	•	•			
A3.2	LINE OF SIGHT DIAGRAM -NORTH & SOUTH ELEVATION					•
A3.3	LINE OF SIGHT DIAGRAM -EAST & WEST ELEVATION					•
A4.1	DOOR & ROOM FINISH SCHEDULES		•			
A4.2	WALL TYPE DETAILS	•	•			
A4.3	STOREFRONT SECTIONS AND DETAILS					
A4.4	CURTAIN WALL SECTION AND DETAILS					
A4.5	CANOPY PLANS SECTIONS AND DETAILS	•	•			
A4.6	METAL PANEL DETAILS					
AS1.1	STAIR/ELEVATOR TOWER A PLANS	•	•			
AS1.2	STAIR/ELEVATOR TOWER A PLANS	•	•			
AS1.3	STAIR/ELEVATOR TOWER A ELEVATIONS	•	•			
AS1.4	STAIR/ELEVATOR TOWER A ELEVATIONS		•			
AS1.5	STAIR/ELEVATOR TOWER A SECTIONS	•	•			
AS1.6	STAIR/ELEVATOR TOWER A FINISH PLANS					
AS2.1	STAIR TOWER B PLANS & ELEVATIONS	•	•			
AS2.2	STAIR TOWER B ELEVATIONS	•	•			
AS2.3	STAIR TOWER B SECTIONS AND DETAILS	•	•			
AS2.4	STAIR TOWER B FINISH PLANS					
AS3.1	STAIR AND ELEVATOR DETAILS	•	•			
AS3.2	STAIR AND ELEVATOR DETAILS	•	•			

DRAWING LIST

SHEET NO.		10/21/22 P/C BID SET	12/16/22 IDP SUBMISSION	04/10/23 SITE PLAN SUBMISSION	06/19/23 SITE PLAN SUB. REV.	07/25/23 SITE PLAN SUB. REV.
G1.1	SIGNAGE SCHEDULE, NOTES AND DETAILS		•			
G1.2	SIGNAGE AND GRAPHICS DETAILS		•			
G1.3	SIGNAGE AND GRAPHICS DETAILS		•			
G1.4	SIGNAGE AND GRAPHICS DETAILS		•			
VT01	GENERAL ELEVATOR INFORMATION					
VT02	PLANS AND HOISTWAY - ELEVATORS PK1 - PK3					
STRUCTURAL						
S0.1	GENERAL STRUCTURAL NOTES	•	•			
S0.2	GENERAL DETAILS	•	•			
S0.3	WATERPROOFING DETAILS	•	•			
S1.0	FOUNDATION PLAN	•	•			
S1.1	GROUND TIER STRUCTURAL PLAN	•	•			
S1.2	SECOND TIER STRUCTURAL PLAN	•	•			
S1.3	THIRD TIER STRUCTURAL PLAN	•	•			
S1.4	FOURTH TIER STRUCTURAL PLAN	•	•			
S1.5	FIFTH TIER STRUCTURAL PLAN	•	•			
S1.6	SIXTH TIER STRUCTURAL PLAN	•	•			
S2.1	FOUNDATION DETAILS	•	•			
S2.2	FOUNDATION SECTIONS	•	•			
S3.1	PRECAST TEE DETAILS	•	•			
S3.2	COLUMN PLANS	•	•			
S3.3	PRECAST SECTIONS	•	•			
S3.4	PRECAST SECTIONS	•	•			
S3.5	SOLAR ARRAY LOADING	•	•			
S3.6	SOLAR ARRAY DETAILS	•	•			
S4.1	PRECAST DETAILS	•	•			
MECHANICAL						
M0.00	HVAC LEGEND AND SCOPE NOTES		•			
M0.01	HVAC SHEET LIST		•			
M1.01	GROUND TIER - OVERALL MECHANICAL PLAN		•			
M1.02	2ND TIER - OVERALL MECHANICAL PLAN		•			
M1.03	3RD TIER - OVERALL MECHANICAL PLAN		•			
M1.04	4TH TIER - OVERALL MECHANICAL PLAN		•			
M1.05	5TH TIER - OVERALL MECHANICAL PLAN		•			
M1.06	TOP TIER - OVERALL MECHANICAL PLAN		•			
M1.07	STAIR TOWER ROOF - OVERALL MECHANICAL PLAN		•			
M2.00	MECHANICAL SCHEDULES		•			
ELECTRICAL						
E0.00	ELECTRICAL LEGEND		•			
E0.01	ELECTRICAL SHEET LIST		•			
E1.00	ELECTRICAL SITE PLAN		•			
E2.01	GROUND TIER - LIGHTING PLAN		•			

DRAWING LIST

SHEET NO.		10/21/22 P/C BID SET	12/16/22 IDP SUBMISSION	04/10/23 SITE PLAN SUBMISSION	06/19/23 SITE PLAN SUB. REV.	07/25/23 SITE PLAN SUB. REV.
E2.02	2ND TIER - LIGHTING PLAN		•			
E2.03	3RD TIER - LIGHTING PLAN		•			
E2.04	4TH TIER - LIGHTING PLAN		•			
E2.05	5TH TIER - LIGHTING PLAN		•			
E2.06	TOP TIER - LIGHTING PLAN		•			
E2.07	STAIR TOWER A - LIGHTING SECTION		•			
E2.08	STAIR TOWER B - LIGHTING SECTION		•			
E3.01	GROUND TIER - POWER PLAN		•			
E3.02	2ND TIER - POWER PLAN		•			
E3.03	3RD TIER - POWER PLAN		•			
E3.04	4TH TIER - POWER PLAN		•			
E3.05	5TH TIER - POWER PLAN		•			
E3.06	TOP TIER - POWER PLAN		•			
E4.00	ELECTRICAL RISER DIAGRAM		•			
E4.10	LIGHTING CONTROL ONE LINE DIAGRAM		•			
E5.00	ELECTRICAL PANEL SCHEDULES		•			
E5.10	LIGHTING FIXTURE SCHEDULE		•			
E7.00	ELECTRICAL DETAILS		•			
E7.01	ELECTRICAL DETAILS		•			
PLUMBING						
P0.00	PLUMBING LEGEND		•			
P0.01	PLUM SHEET LIST		•			
P1.00	FOUNDATION - NEW PLUMBING PLAN		•			
P1.01	GROUND TIER - NEW PLUMBING PLAN		•			
P1.02	2ND TIER - NEW PLUMBING PLAN		•			
P1.03	3RD TIER - NEW PLUMBING PLAN		•			
P1.04	4TH TIER - NEW PLUMBING PLAN		•			
P1.05	5TH TIER - NEW PLUMBING PLAN		•			
P1.06	6TH TIER - NEW PLUMBING PLAN		•			
P2.01	PLUMBING PART PLANS		•			
P3.00	PLUMBING DETAILS		•			
P4.00	PLUMBING DOMESTIC WATER RISER DIAGRAM		•			
P4.01	PLUMBING SANITARY RISER DIAGRAM		•			
P4.02	PLUMBING RAINWATER RISER DIAGRAM		•			
FIRE PROTECTION						
FP0.00	FIRE PROTECTION LEGEND		•			
FP1.00	FOUNDATION - NEW FIRE PROTECTION PLAN		•			
FP1.01	GROUND TIER - NEW FIRE PROTECTION PLAN		•			
FP1.02	2ND TIER - NEW FIRE PROTECTION PLAN		•			
FP1.03	3RD TIER - NEW FIRE PROTECTION PLAN		•			
FP1.04	4TH TIER - NEW FIRE PROTECTION PLAN		•			
FP1.05	5TH TIER - NEW FIRE PROTECTION PLAN		•			

DRAWING LIST

SHEET NO.		10/21/22 P/C BID SET	12/16/22 IDP SUBMISSION	04/10/23 SITE PLAN SUBMISSION	06/19/23 SITE PLAN SUB. REV.	07/25/23 SITE PLAN SUB. REV.
FP1.06	TOP TIER - NEW FIRE PROTECTION PLAN		•			
FP2.00	FIRE PROTECTION PART PLANS		•			
FP3.00	FIRE PROTECTION DETAILS		•			
FP4.00	FIRE PROTECTION RISER DIAGRAM		•			
FIRE ALARM						
FA0.00	FIRE ALARM LEGEND		•			
FA0.01	FIRE ALARM SHEET LIST		•			
FA1.01	GROUND TIER - FIRE ALARM PLAN		•			
FA1.02	2ND TIER - FIRE ALARM PLAN		•			
FA1.03	3RD TIER - FIRE ALARM PLAN		•			
FA1.04	4TH TIER - FIRE ALARM PLAN		•			
FA1.05	5TH TIER - FIRE ALARM PLAN		•			
FA1.06	TOP TIER - FIRE ALARM PLAN		•			
FA2.00	FIRE ALARM RISER DIAGRAM		•			
FA3.00	FIRE ALARM DETAILS		•			
SECURITY						
SE0.01	SECURITY LEGEND		•			
SE2.01	GROUND TIER - NEW SECURITY PLAN		•			
SE2.02	2ND TIER - NEW SECURITY PLAN		•			
SE2.03	3RD TIER - NEW SECURITY PLAN		•			
SE2.04	4TH TIER - NEW SECURITY PLAN		•			
SE2.05	5TH TIER - NEW SECURITY PLAN		•			
SE2.06	TOP TIER - NEW SECURITY PLAN		•			
SE2.07	STAIR TOWER ROOM		•			
SE5.01	SECURITY DETAILS		•			
SE5.02	SECURITY DETAILS		•			
SE5.03	SECURITY DETAILS		•			
TECH						
T0.01	COMMUNICATIONS LEGEND		•			
T0.02	TECH SHEET LIST		•			
T2.01	GROUND TIER - NEW COMMUNICATIONS PLAN		•			
T2.02	2ND TIER - NEW COMMUNICATIONS PLAN		•			
T2.03	3RD TIER - NEW COMMUNICATIONS PLAN		•			
T2.04	4TH TIER - NEW COMMUNICATIONS PLAN		•			
T2.05	5TH TIER - NEW COMMUNICATIONS PLAN		•			
T2.06	TOP TIER - NEW COMMUNICATIONS PLAN		•			
T4.01	COMMUNICATIONS GARAGE TDR PART PLAN AND ELEVATIONS		•			
T5.01	COMMUNICATION FACEPLATE DETAILS		•			
T5.02	COMMUNICATION DETAILS		•			
T6.01	COMMUNICATIONS CONDUIT RISER DIAGRAM		•			
T6.02	COMMUNICATIONS FIBER BACKBONE RISER DIAGRAM		•			
T6.03	COMMUNICATIONS VOICE BACKBONE RISER DIAGRAM		•			
T6.04	COMMUNICATIONS GROUNDING RISER DIAGRAM		•			

Princeton Forward

Penn Medicine
Princeton Health

1 Plainsboro Road
Plainsboro, NJ 08536
T:609.853.7000
princetonhcs.org

Owner

LF Driscoll/Balfour Beatty

401 City Avenue, Suite 500
Philadelphia, PA 19004
T:610.668.0950
https://stobuildinggroup.com/lf-driscoll/

Contractor

SHEPLEY BULFINCH

99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com

Design Architect

THA Consulting, Inc.

550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com

Architect / Structural Engineer / Parking Consultant

FRENCH & PARRELLO ASSOCIATES

1800 Route 34, Suite 101
Wall, NJ 07719

Civil Engineering

BR+A Consulting Engineers

105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0660
brplusa.com

Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

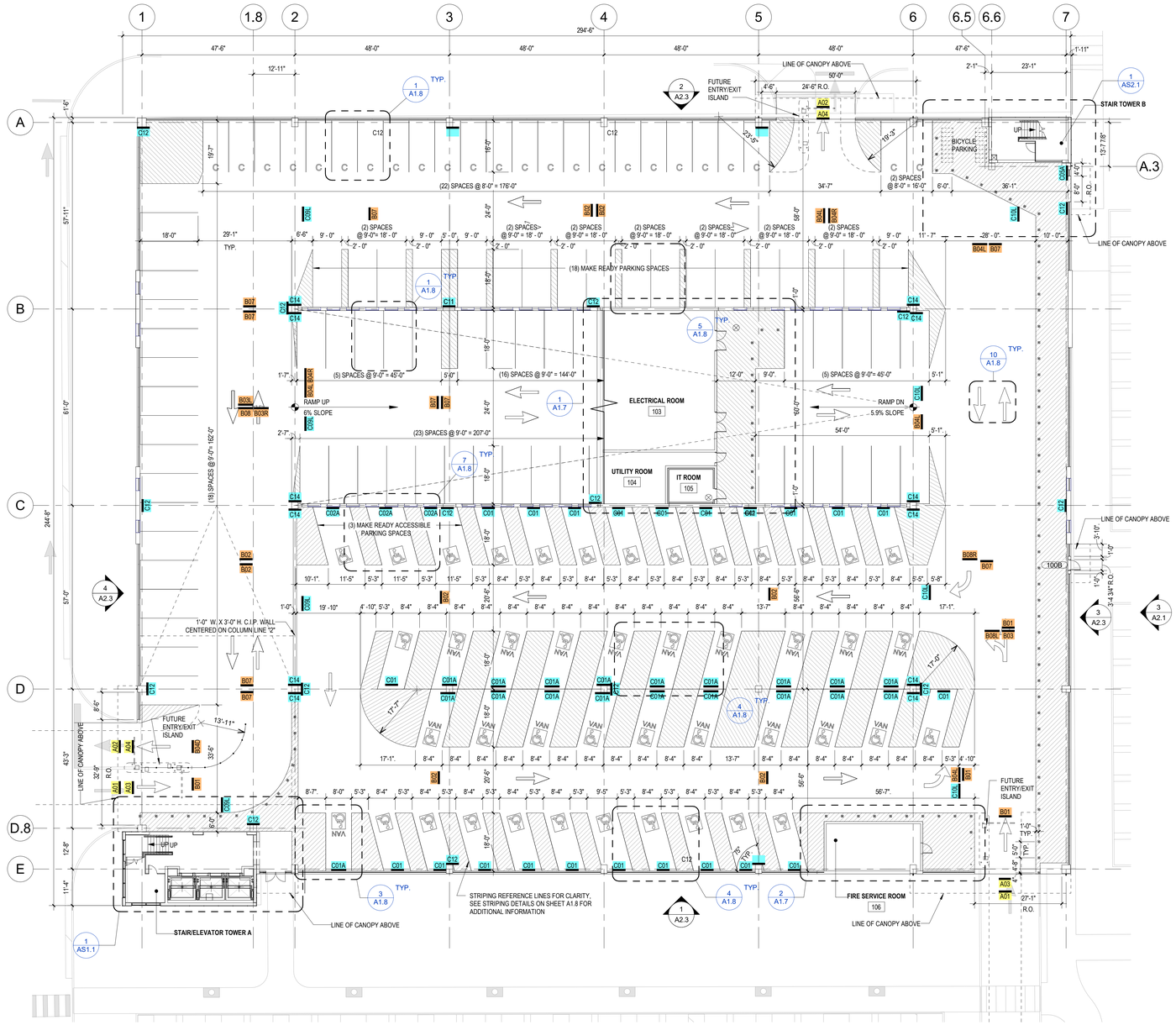
Street Map

1 Plainsboro Rd,
Princeton, NJ 08540

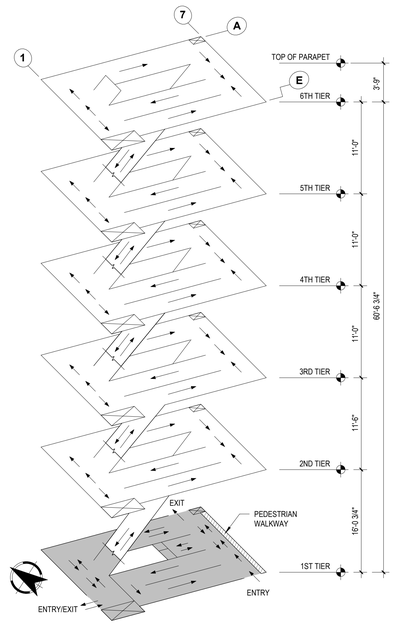
THA CONSULTING

07/25/2023
SITE PLAN SUBMISSION
REVISIONS

© SHEPLEY BULFINCH



1 A1.1 1ST TIER ARCHITECTURAL PLAN
1/16" = 1'-0"



ISOMETRIC

PARKING SPACE TABULATION							
GARAGE TIER	COMPACT	STANDARD	ADA VAN	ADA	MAKE READY ACCESSIBLE PARKING SPACE	MAKE READY PARKING SPACE	TOTAL
TOP TIER	0	200	0	0	0	0	**200**
5TH TIER	0	188	0	18	0	0	**206**
4TH TIER	0	190	0	18	0	0	**208**
3RD TIER	0	189	0	19	0	0	**208**
2ND TIER	0	156	1	20	0	26	**203**
GROUND TIER	24	50	19	22	3	18	**136**
TOTAL SPACES	**24**	**973**	**20**	**97**	**3**	**44**	**1161**

NOTES:

1. THE PLANS INCLUDE OVER 4% MAKE-READY ELECTRIC VEHICLE (EV) SPACES AS NEEDED TO MEET THE STATE AND LOCAL ORDINANCE FOR A NON- RESIDENTIAL GARAGE. ELECTRICAL PROVISIONS ARE PROVIDED FOR LEVEL 2 CHARGERS. EV CHARGERS WILL BE INSTALLED BASED ON DEMAND. WHEN EV CHARGERS ARE INSTALLED THE CORRESPONDING SIGNAGE AND PAVEMENT MARKINGS WILL BE MODIFIED BY THE OWNER TO ASSURE COMPLIANCE WITH THE STATE AND TOWNSHIP ORDINANCE REQUIREMENTS FOR EV AND ACCESSIBLE EV CHARGER PARKING SPACES.
2. THE PARKING DIMENSION EXCEPTION AS DESCRIBED IN ADDENDUM #3 TO FORM NO. 4 OF THE SITE PLAN APPLICATION APPLIES TO THE ANGLED PARKING SPACES WITHIN THE TWO-BAYS SOUTH OF GRIDLINE 'C' THAT HAVE 20'-6" WIDE ACCESS AISLES. THIS APPLIES TO EACH TIER OF THE GARAGE AND AFFECTS LESS THAN 50% OF THE PARKING SPACES.
3. THE BICYCLE PARKING INCLUDES RACKS FOR 16 BICYCLES: DERO ULTRA SPACE SAVER BIKE RACKS OR EQUAL, CONSISTING OF SINGLE SIDED FLOOR MOUNTED RACKS. THE FINISH SHALL BE HOT DIP GALVANIZED. PROVIDE THE OPTIONAL WHEEL STOPS TO PREVENT ROTATION OF THE HANGING BIKES. PROVIDE THE OPTIONAL CANE STOPS AT THE BASE OF THE RACKS TO MEET ACCESSIBILITY REQUIREMENTS. NOTE: IF DEMAND INCREASES IN THE FUTURE, RACKS FOR 16 ADDITIONAL BICYCLES CAN BE ADDED BY DELETING 1 COMPACT SPACE. THIS WOULD INCLUDE SHIFTING THE EXISTING WESTERN RACK TO THE WEST AND ADDING A NEW DOUBLE-SIDED RACK BETWEEN THE 2 EXISTING SINGLE SIDED RACKS.

GROSS BUILDING AREA	
TOP TIER	63,505 SF
5TH TIER	68,568 SF
4TH TIER	68,568 SF
3RD TIER	68,568 SF
2ND TIER	68,568 SF
GROUND TIER	68,568 SF
GROSS TOTAL	**406,346 SF**

BUILDING AREAS

Gross Area per Level (1st to 5th Tier) ..... 68,568 sf
Gross Area Top Tier..... 63,505 sf

Gross Building Area..... 406,346 sf

Net Parking Area (Typical Tier)..... 66,385 sf
Parking Efficiency (Typical Tier...66,385 sf / 206 spaces = 322 sf per space

PLAN LEGEND	
	PIPE BOLLARD
	PRECAST BOLLARD
	ACCESSIBLE PARKING SPACE
	4" WIDE STRIPES PAINTED YELLOW @ 1'-6" O.C.
	PAINTED FLOOR ARROW
102	DOOR NUMBER, SEE DOOR SCHEDULE
	WALL TAG
	RATED WALL TAG
C	COMPACT PARKING SPACE - PAINTED
XXX XXX	SIGNAGE KEYNOTE, SEE SHEETS G1.1- G1.4 FOR SCHEDULE AND RELATED DETIALS

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

STAMP

KEVIN CARRIGAN, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No GE56462

ISSUANCES

NO.	DATE	DESCRIPTION
6	07/25/23	SITE PLAN SUBMISSION REVISIONS
5	06/30/23	FOR PRICING
4	06/19/23	SITE PLAN SUBMISSION REVISIONS
3	04/10/23	SITE PLAN SUBMISSION
2	12/16/22	IDP
1	10/21/22	PRECAST BID SET

PROJECT INFORMATION

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR22119.00

DRAWING INFORMATION

1ST TIER ARCHITECTURAL PLAN

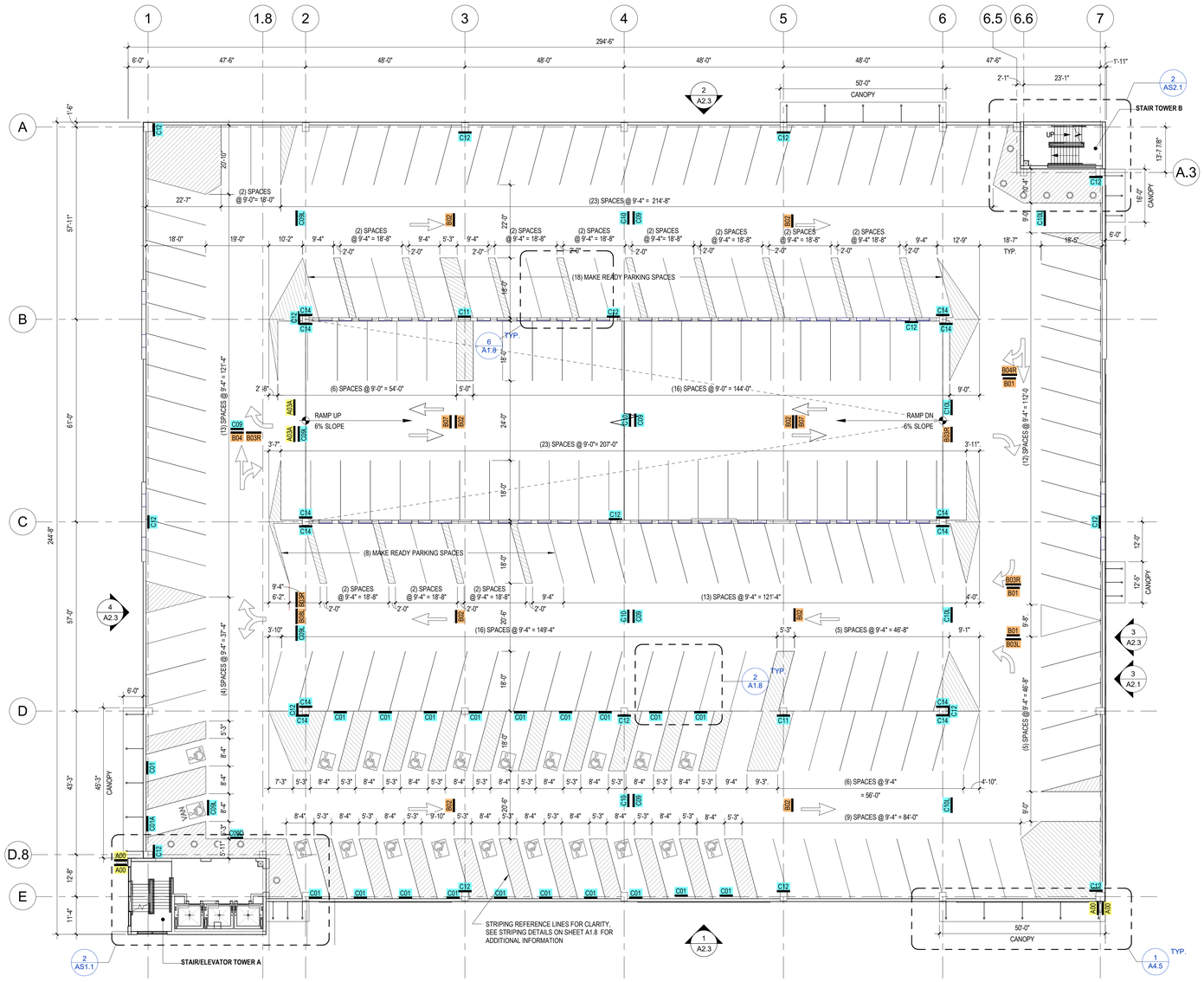
A1.1

07/25/2023 SITE PLAN SUBMISSION

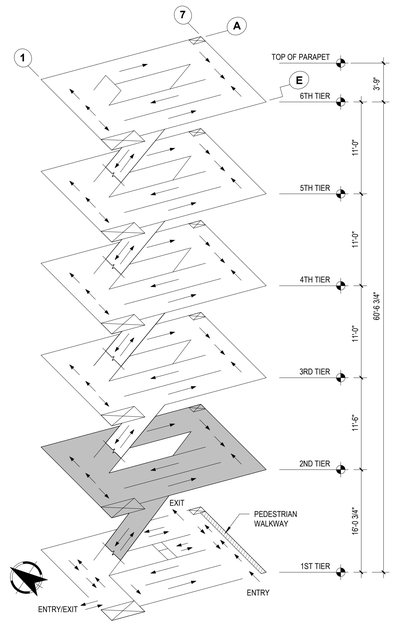
7/25/2023 6:46:52 PM
Autodesk Docs://1527 Penn Medicine Princeton Health/CPHS-PMPH-GAR.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

©SHEPLEY BULFINCH



1 A1.2 2ND TIER ARCHITECTURAL PLAN
1/16" = 1'-0"



ISOMETRIC

PLAN LEGEND

	PIPE BOLLARD
	PRECAST BOLLARD
	ACCESSIBLE PARKING SPACE
	4" WIDE STRIPES PAINTED YELLOW @ 1'-6" O.C.
	PAINTED FLOOR ARROW
102	DOOR NUMBER, SEE DOOR SCHEDULE
	WALL TAG
	RATED WALL TAG
C	COMPACT PARKING SPACE - PAINTED
XXX XXX	SIGNAGE KEYNOTE, SEE SHEETS G1.1- G1.4 FOR SCHEDULE AND RELATED DETIALS

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
sheplevbulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

STAMP

KEVIN CARRIGAN, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No GE56462

ISSUANCES

NO.	DATE	DESCRIPTION
6	07/25/23	SITE PLAN SUBMISSION REVISIONS
5	06/30/23	FOR PRICING
4	06/19/23	SITE PLAN SUBMISSION REVISIONS
3	04/10/23	SITE PLAN SUBMISSION
2	12/16/22	IDP
1	10/21/22	PRECAST BID SET

PROJECT INFORMATION

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR2119.00

DRAWING INFORMATION

2ND TIER ARCHITECTURAL PLAN

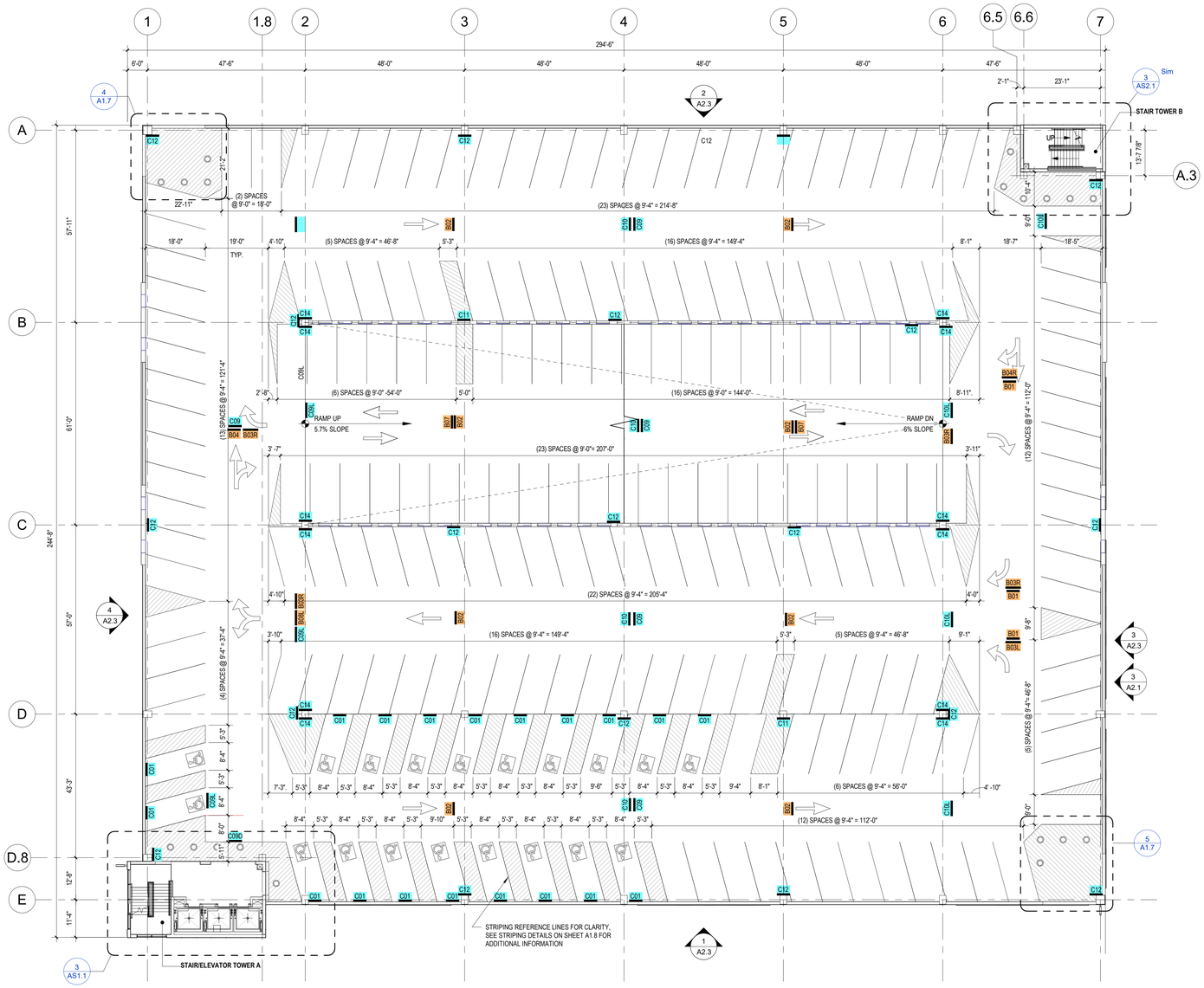
A1.2

07/25/2023 SITE PLAN SUBMISSION

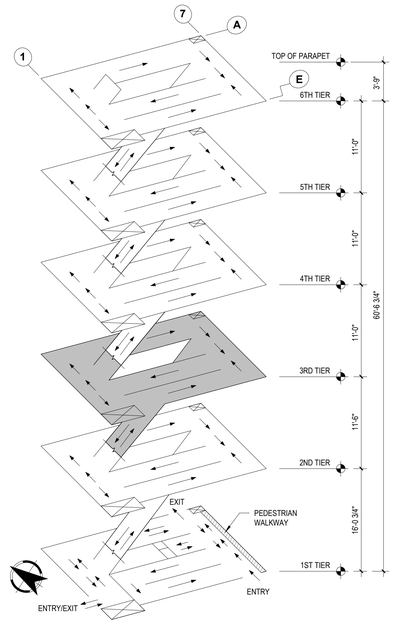
7/25/2023 5:17:15 PM
Autodesk Docs://2021 Penn Medicine Princeton Health/21PHS-PMPHC-GAR.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

©SHEPLEY BULFINCH



1 A1.3 3RD TIER ARCHITECTURAL PLAN
1/16" = 1'-0"



ISOMETRIC

PLAN LEGEND

- PIPE BOLLARD
- PRECAST BOLLARD
- ACCESSIBLE PARKING SPACE
- 4" WIDE STRIPES PAINTED YELLOW @ 1'-6" O.C.
- PAINTED FLOOR ARROW
- 102 — DOOR NUMBER, SEE DOOR SCHEDULE
- WALL TAG
- RATED WALL TAG
- C — COMPACT PARKING SPACE - PAINTED
- XXX / XXX — SIGNAGE KEYNOTE, SEE SHEETS G1.1- G1.4 FOR SCHEDULE AND RELATED DETIALS

Princeton Forward

Penn Medicine
Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

STAMP

KEVIN CARRIGAN, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No GE56462

ISSUANCES

NO.	DATE	DESCRIPTION
6	07/25/23	SITE PLAN SUBMISSION REVISIONS
5	06/30/23	FOR PRICING
4	06/19/23	SITE PLAN SUBMISSION REVISIONS
3	04/10/23	SITE PLAN SUBMISSION
2	12/16/22	IDP
1	10/21/22	PRECAST BID SET

PROJECT INFORMATION

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

DRAWING INFORMATION

3RD TIER ARCHITECTURAL PLAN

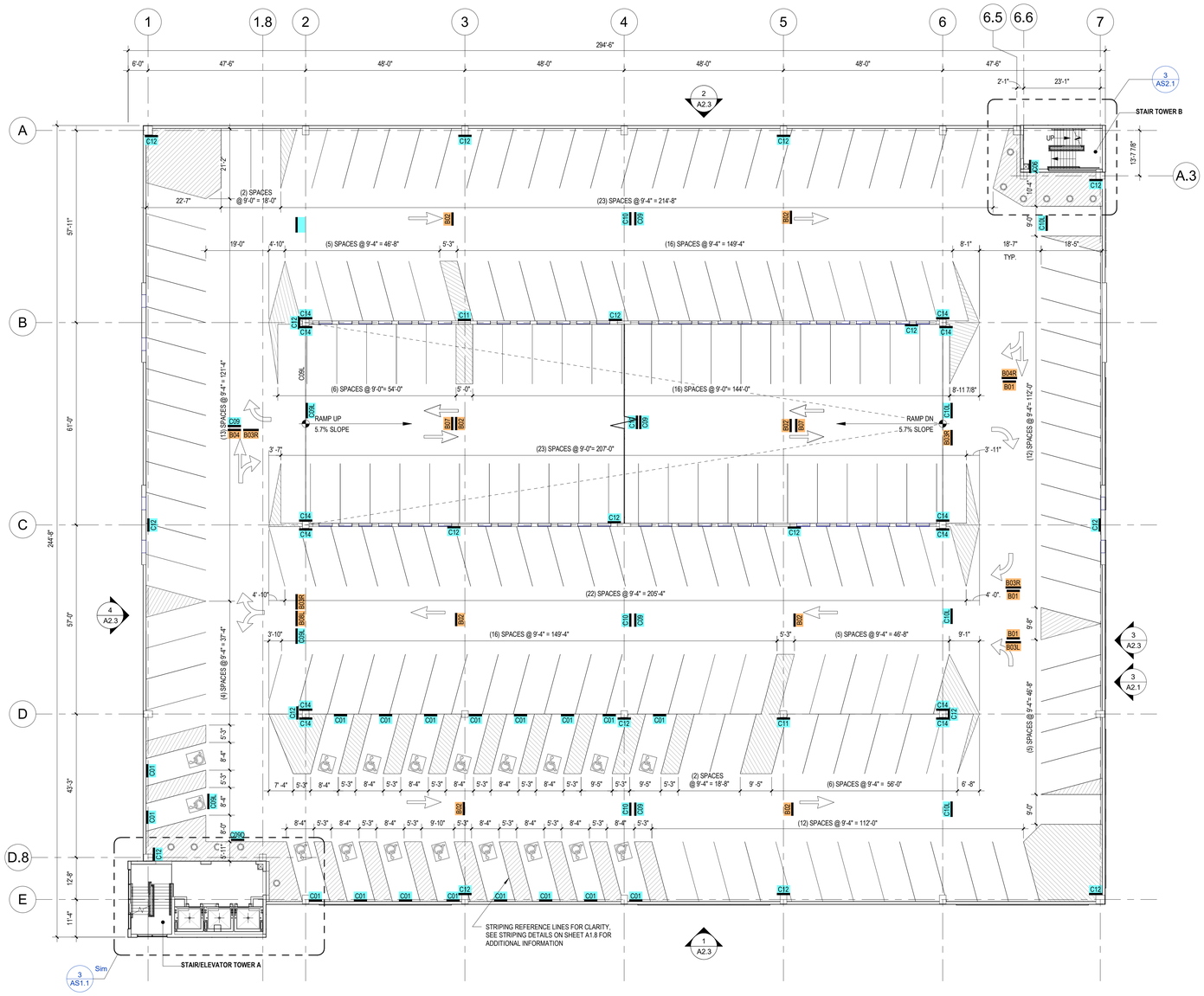
A1.3

07/25/2023 SITE PLAN SUBMISSION

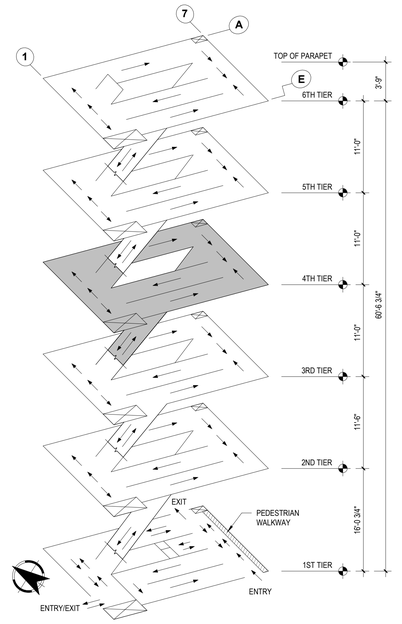
7/25/2023 5:17:13 PM
Autodesk Docs://S2F Penn Medicine Princeton Health/UPHS-PMPH-CAM-A1.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

© SHEPLEY BULFINCH



1 A1.4 4TH TIER ARCHITECTURAL PLAN
1/16" = 1'-0"



ISOMETRIC

PLAN LEGEND

- PIPE BOLLARD
- PRECAST BOLLARD
- ACCESSIBLE PARKING SPACE
- 4" WIDE STRIPES PAINTED YELLOW @ 1'-6" O.C.
- PAINTED FLOOR ARROW
- 102 — DOOR NUMBER, SEE DOOR SCHEDULE
- WALL TAG
- RATED WALL TAG
- C — COMPACT PARKING SPACE - PAINTED
- XXX / XXX — SIGNAGE KEYNOTE, SEE SHEETS G1.1- G1.4 FOR SCHEDULE AND RELATED DETIALS

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
sheplevbulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

STAMP

KEVIN CARRIGAN, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No GE56462

ISSUANCES

NO.	DATE	DESCRIPTION
6	07/25/23	SITE PLAN SUBMISSION REVISIONS
5	06/30/23	FOR PRICING
4	06/19/23	SITE PLAN SUBMISSION REVISIONS
3	04/10/23	SITE PLAN SUBMISSION
2	12/16/22	IDP
1	10/21/22	PRECAST BID SET

PROJECT INFORMATION

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR22119.00

DRAWING INFORMATION

4TH TIER ARCHITECTURAL PLAN

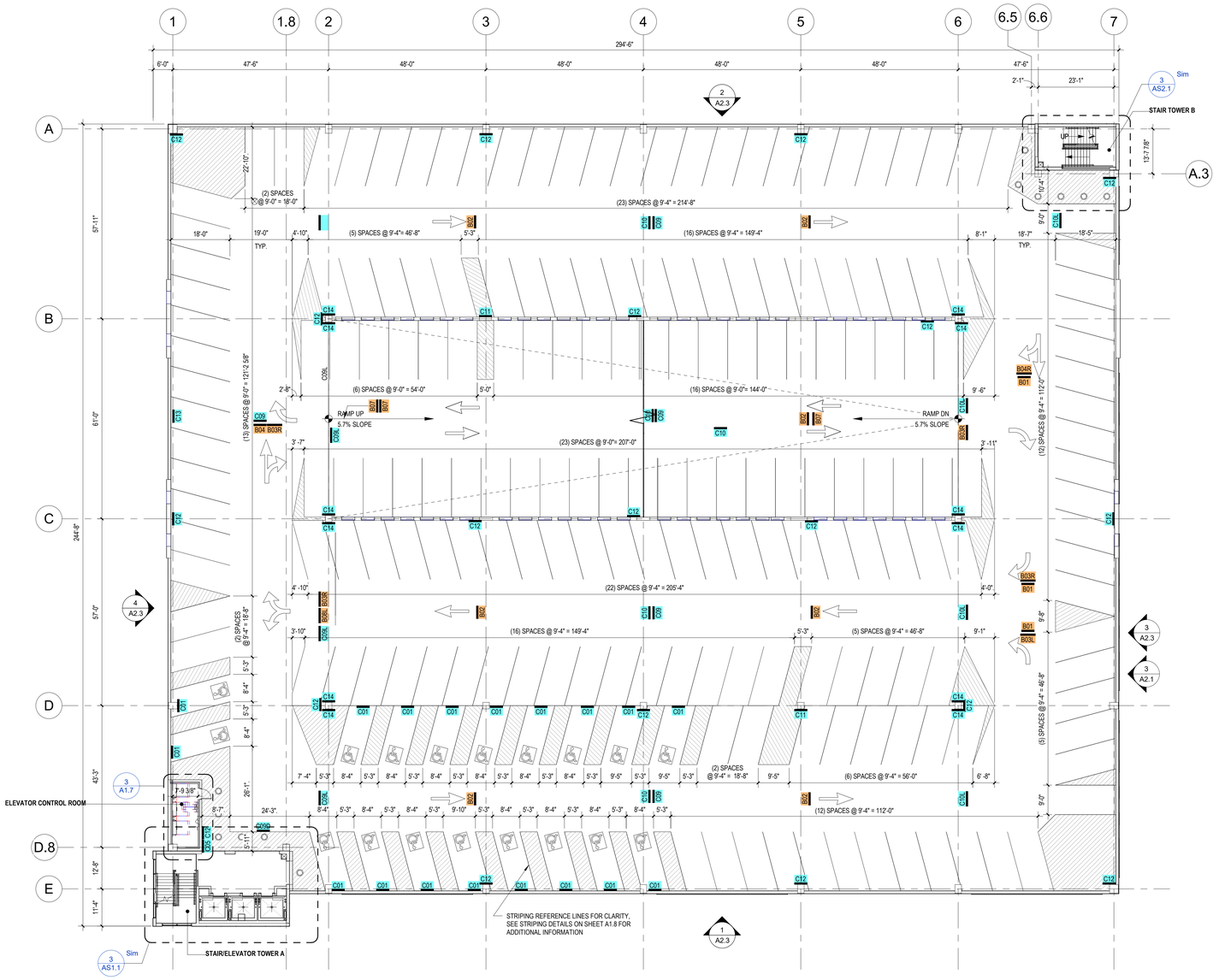
A1.4

07/25/2023 SITE PLAN SUBMISSION

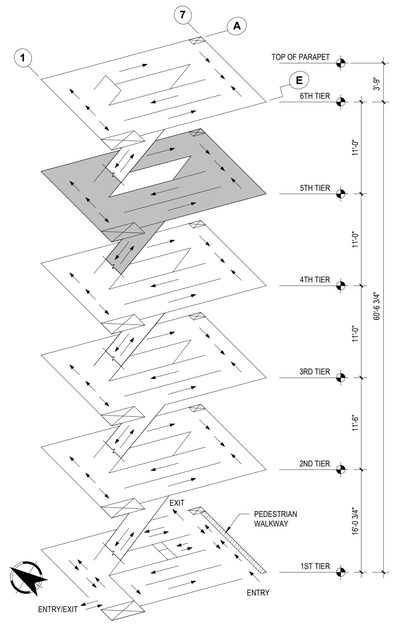
7/25/2023 5:17:21 PM
Autodesk Docs://SDF Penn Medicine Princeton Health/UPHS-PMPH-CAM.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

©SHEPLEY BULFINCH



1 A1.5 5TH TIER ARCHITECTURAL PLAN
1/16" = 1'-0"



ISOMETRIC

PLAN LEGEND	
	PIPE BOLLARD
	PRECAST BOLLARD
	ACCESSIBLE PARKING SPACE
	4" WIDE STRIPES PAINTED YELLOW @ 1'-6" O.C.
	PAINTED FLOOR ARROW
102	DOOR NUMBER, SEE DOOR SCHEDULE
	WALL TAG
	RATED WALL TAG
C	COMPACT PARKING SPACE - PAINTED
XXX XXX	SIGNAGE KEYNOTE, SEE SHEETS G1.1- G1.4 FOR SCHEDULE AND RELATED DETIALS

Princeton Forward

Penn Medicine
Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
sheplevbulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA
FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

STAMP

KEVIN CARRIGAN, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No GE56462

ISSUANCES

NO.	DATE	DESCRIPTION
6	07/25/23	SITE PLAN SUBMISSION REVISIONS
5	06/30/23	FOR PRICING
4	06/19/23	SITE PLAN SUBMISSION REVISIONS
3	04/10/23	SITE PLAN SUBMISSION
2	12/16/22	IDP
1	10/21/22	PRECAST BID SET

PROJECT INFORMATION

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

DRAWING INFORMATION

5TH TIER ARCHITECTURAL PLAN

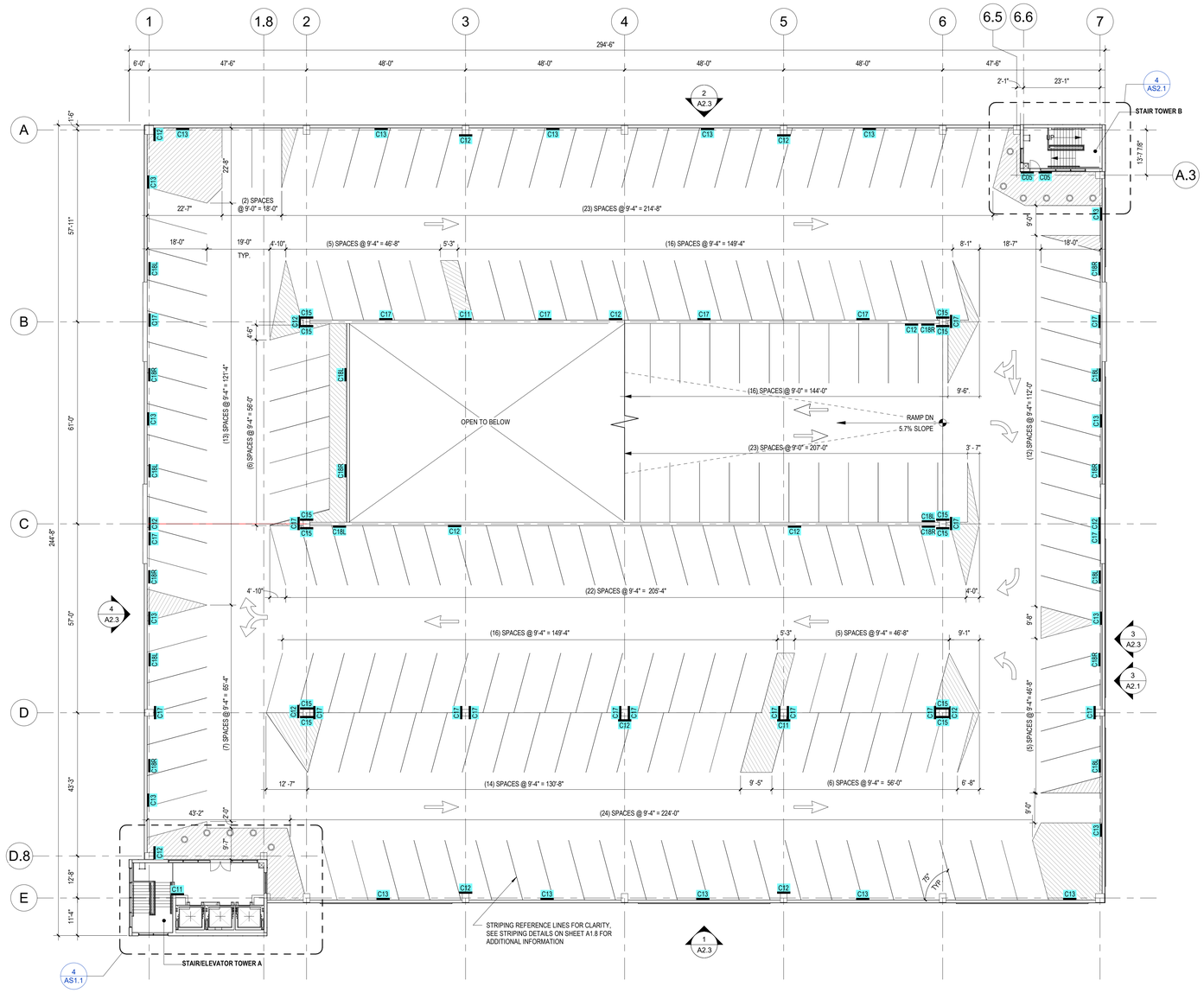
A1.5

07/25/2023 SITE PLAN SUBMISSION

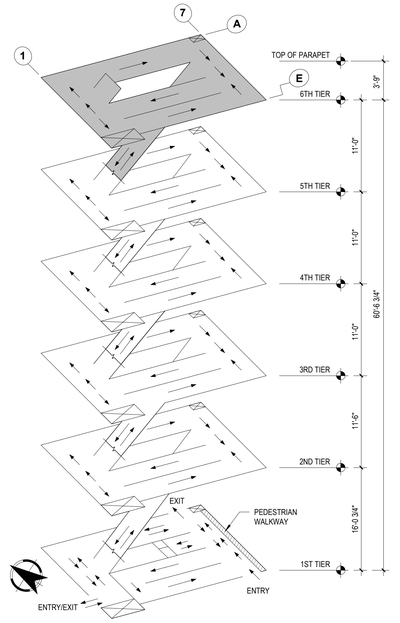
7/25/2023 8:17:24 PM
Autodesk Docs://S2ET Penn Medicine Princeton Health/UPHS.PMPH-CANR.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

©SHEPLEY BULFINCH



1 A1.6 6TH TIER ARCHITECTURAL PLAN
1/16" = 1'-0"



ISOMETRIC

PLAN LEGEND

	PIPE BOLLARD
	PRECAST BOLLARD
	ACCESSIBLE PARKING SPACE
	4" WIDE STRIPES PAINTED YELLOW @ 1'-6" O.C.
	PAINTED FLOOR ARROW
102	DOOR NUMBER, SEE DOOR SCHEDULE
	WALL TAG
	RATED WALL TAG
C	COMPACT PARKING SPACE - PAINTED
XXX XXX	SIGNAGE KEYNOTE, SEE SHEETS G1.1- G1.4 FOR SCHEDULE AND RELATED DETIALS

Princeton Forward

Penn Medicine
Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA
FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

STAMP

KEVIN CARRIGAN, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No GE56462

ISSUANCES

NO.	DATE	DESCRIPTION
6	07/25/23	SITE PLAN SUBMISSION REVISIONS
5	06/30/23	FOR PRICING
4	06/19/23	SITE PLAN SUBMISSION REVISIONS
3	04/10/23	SITE PLAN SUBMISSION
2	12/16/22	IDP
1	10/21/22	PRECAST BID SET

PROJECT INFORMATION

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

DRAWING INFORMATION

6TH TIER ARCHITECTURAL PLAN

A1.6

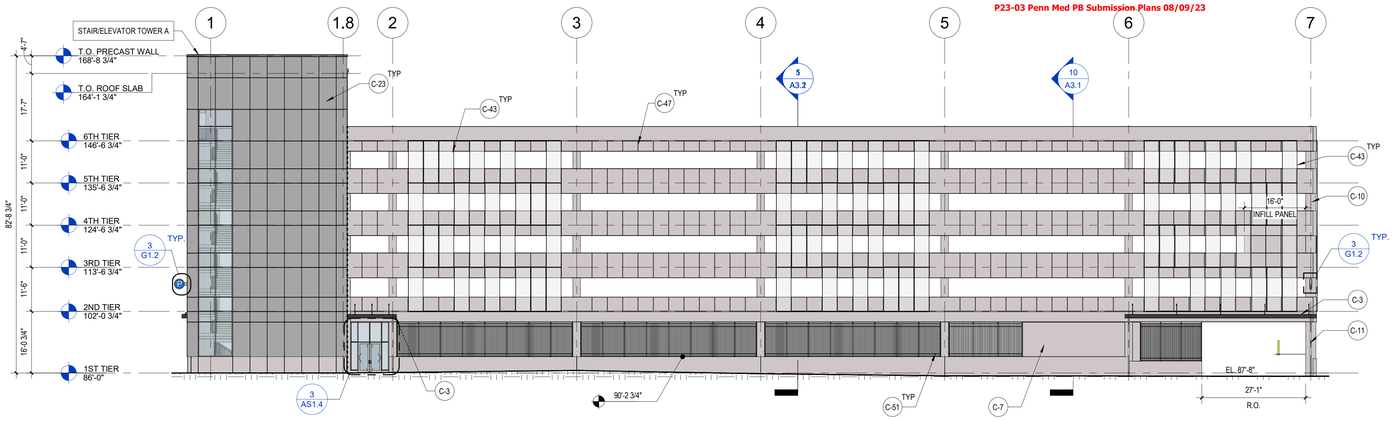
07/25/2023 SITE PLAN SUBMISSION

7/25/2023 5:17:29 PM
Autodesk Docs://1587 Penn Medicine Princeton Health/LVPHS-PMPH-GARAGE.rvt
Penn Medicine Princeton Health Cancer Center Garage

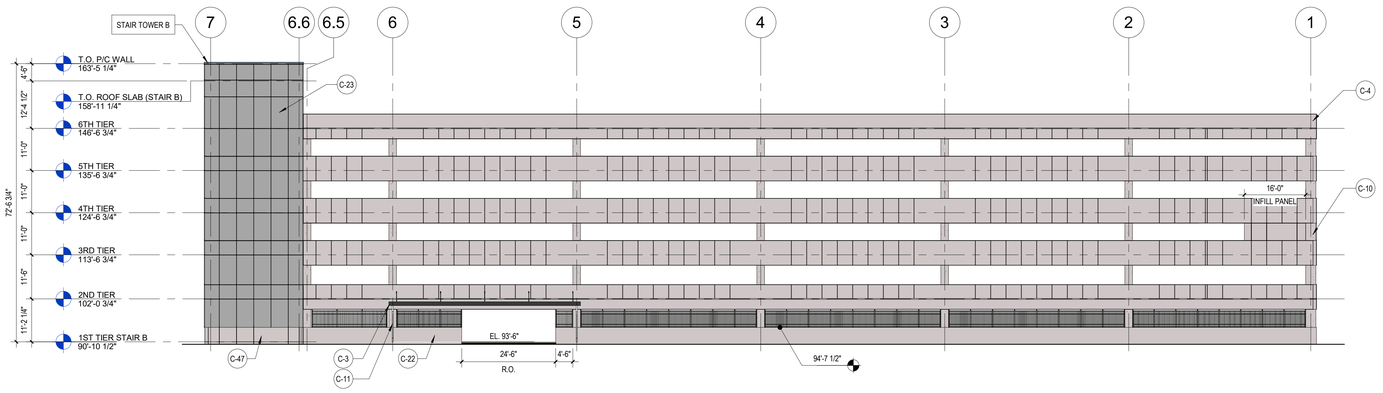
THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

P23-03 Penn Med PB Submission Plans 08/09/23

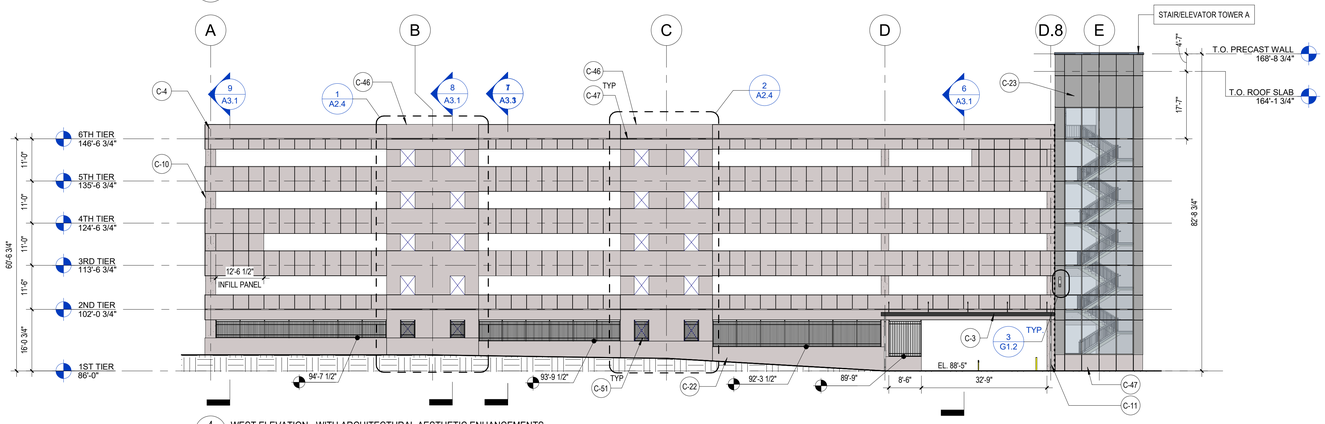
©SHEPLEY BULFINCH



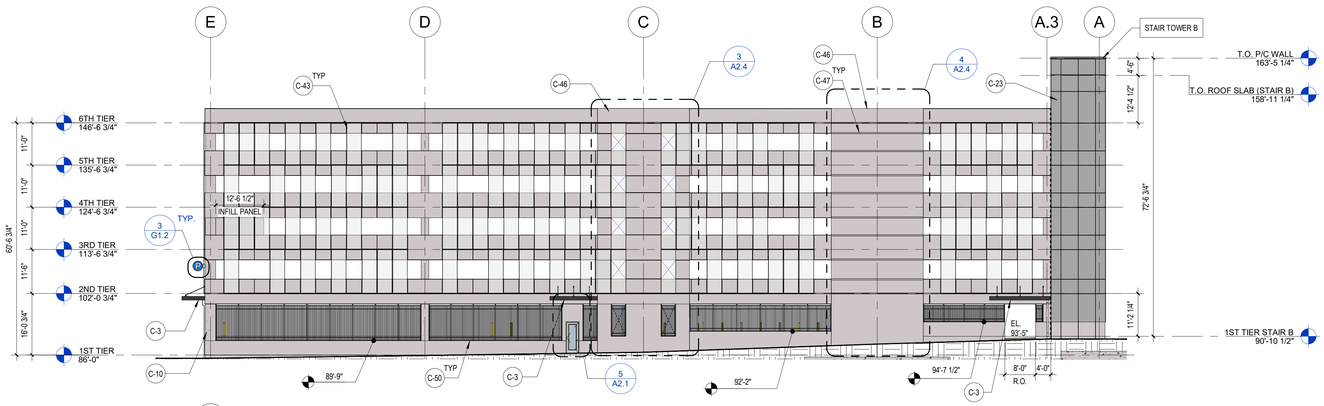
1 A2.1 SOUTH ELEVATION - WITH ARCHITECTURAL AESTHETIC ENHANCEMENTS
1/16" = 1'-0"



2 A2.1 NORTH ELEVATION - WITH ARCHITECTURAL AESTHETIC ENHANCEMENTS
1/16" = 1'-0"



4 A2.1 WEST ELEVATION - WITH ARCHITECTURAL AESTHETIC ENHANCEMENTS
1/16" = 1'-0"



3 A2.1 EAST ELEVATION - WITH ARCHITECTURAL AESTHETIC ENHANCEMENTS
1/16" = 1'-0"

ARCHITECTURAL KEYNOTES

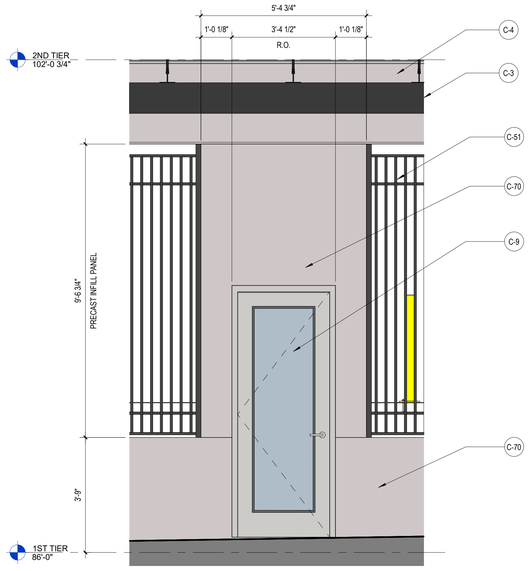
C-3	METAL CANOPY
C-4	ARCHITECTURAL PRECAST CONCRETE SPANDREL TYP.
C-7	ARCHITECTURAL PRECAST CONCRETE INFILL PANEL
C-9	ALUM. STOREFRONT SYSTEM WITH CLEAR 1" INSULATED LOW-E GLAZING, TYP. (GRAY ALUM. FINISH TO MATCH THOSE ON CAMPUS)
C-10	ARCHITECTURAL PRECAST CONCRETE COLUMN
C-11	CANOPY DOWNSPOUT
C-22	ARCHITECTURAL PRECAST GRADE SPRANDEL
C-23	ARIA METAL PANELS -B SERIES
C-43	TENSIONED FABRIC MESH, TYP.
C-46	PRECAST SHEAR WALL
C-47	PRECAST REVEAL
C-50	DECORATIVE SECURITY FENCE
C-51	SECURITY METAL FENCING
C-70	APPLY LIQUID VAPOR BARRIER TO ALL INTERIOR WALLS OF UNINSULATED ROOMS.

SHEET NOTES:

1. REFER TO DIVISION 10 SECTION "DECORATIVE FACADE SCREEN STRUCTURE" FOR PERFORMANCE DESIGN OF DECORATIVE FACADE SCREEN STRUCTURE THAT IS ANCHORED TO AND EXERTS LOADS ON THE PRECAST STRUCTURE.

2. REFER TO DIVISION 10 SECTION "ALUMINUM CANOPY SYSTEMS" FOR PERFORMANCE DESIGN OF CANOPIES THAT ARE ANCHORED TO AND EXERTS LOADS ON THE PRECAST STRUCTURE.

3. BASIS OF DESIGN: TENSIONED FABRIC MESH
   a. TYPE 2A -VENTILATED "PTFE" COATED FIBERGLASS MESH
   b. MANUFACTURER: VERSEIDAG
   c. PRODUCT: GFM 4000-52-SILVER
   d. OPEN AREA: 52% +/- 2%
   e. COLOR: SILVER
   f. NON-COMBUSTIBLE -PASSING ASTM E 136
   g. FABRIC MESH ATTACHED AT TOP AND BOTTOM TO CONTINUOUS ALUMINUM EXTRUSION (CLEAR) ANODIZED) WITH 3/4" CAPPED REVEAL.
   h. SUPPLIER: STRUCTUREFLEX LLC



5 A2.1 ENTRY DOOR - EAST ELEVATION
1/2" = 1'-0"

KEYNOTE LEGEND

C-#	CONSTRUCTION KEYNOTE TAG
ST-#	STRUCTURAL KEYNOTE TAG
FM-#	TENSION FABRIC MESH TAG
<G-#>	GLAZING TAG
-	WALL TAG

Princeton Forward

Penn Medicine
Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
sheplevbulfinch.com
Design Architect

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

STAMP

KEVIN CARRIGAN, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No GE56462

ISSUANCES

NO.	DATE	DESCRIPTION
6	07/25/23	SITE PLAN SUBMISSION REVISIONS
5	06/30/23	FOR PRICING
3	04/10/23	SITE PLAN SUBMISSION
2	12/16/22	IDP
1	10/21/22	PRECAST BID SET

PROJECT INFORMATION

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

DRAWING INFORMATION

BUILDING ELEVATIONS - FACADE FINISHES

A2.1

07/25/2023 SITE PLAN SUBMISSION

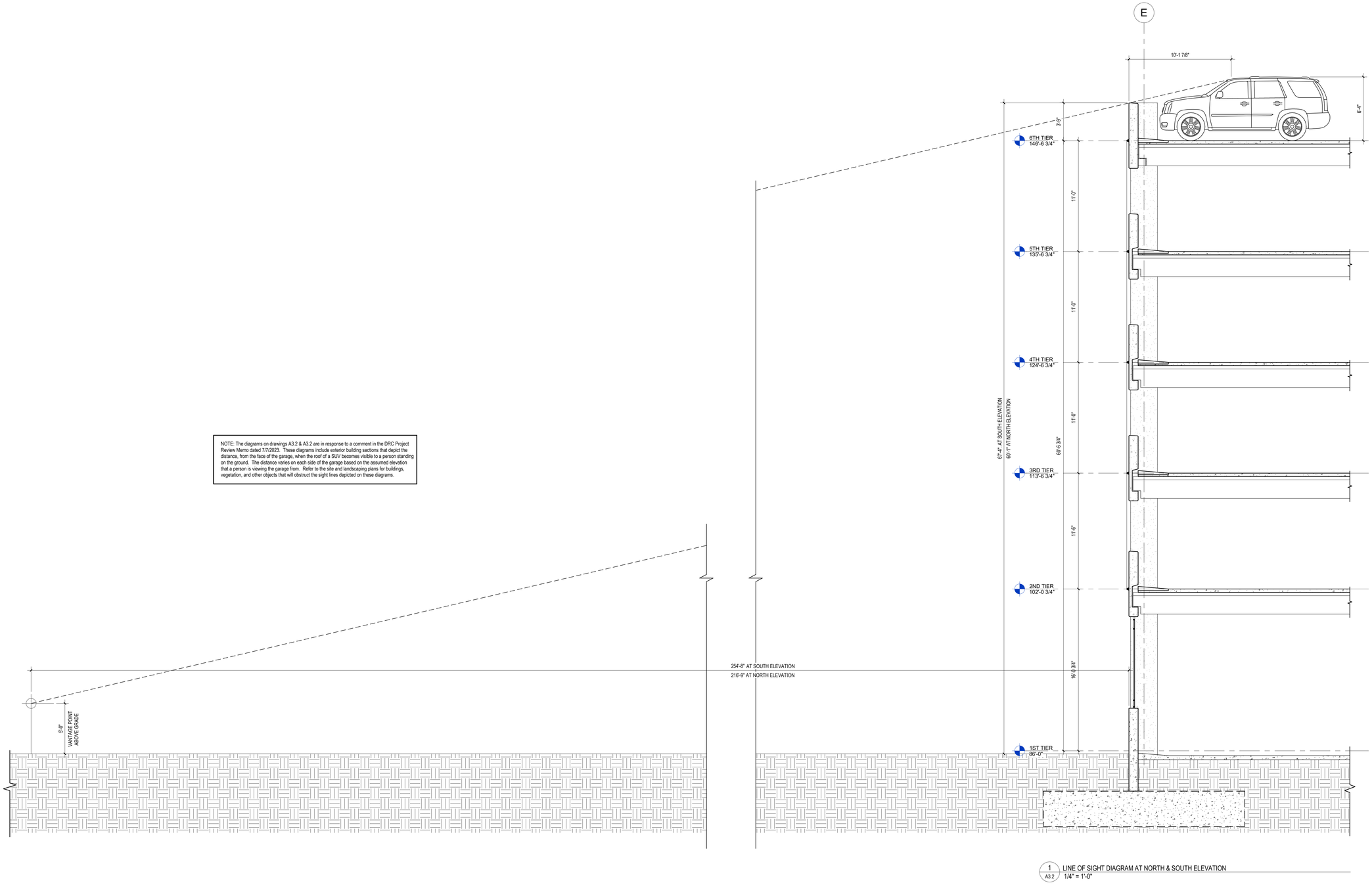
7/25/2023 5:17:36 PM
Autodesk Docs://5267 Penn Medicine Princeton Health/PHS-PMPHS-CAR-A01.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

© SHEPLEY BULFINCH

Author
Checker
Approver

NOTE: The diagrams on drawings A3.2 & A3.2 are in response to a comment in the DRC Project Review Memo dated 7/7/2023. These diagrams include exterior building sections that depict the distance, from the face of the garage, when the roof of a SUV becomes visible to a person standing on the ground. The distance varies on each side of the garage based on the assumed elevation that a person is viewing the garage from. Refer to the site and landscaping plans for buildings, vegetation, and other objects that will obstruct the sight lines depicted on these diagrams.



1 / A3.2 LINE OF SIGHT DIAGRAM AT NORTH & SOUTH ELEVATION
1/4" = 1'-0"

Princeton Forward

Penn Medicine
Princeton Health

1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH

99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
sheplevbulfinch.com
Design Architect

THA

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA
FRENCH & PARRELLO
ASSOCIATES

Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800

FPAengineers.com

New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

STAMP

KEVIN CARRIGAN, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No GE56462

ISSUANCES

NO.	DATE	DESCRIPTION
6	07/25/23	SITE PLAN SUBMISSION REVISIONS

PROJECT INFORMATION

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

DRAWING INFORMATION

LINE OF SIGHT DIAGRAM -NORTH & SOUTH ELEVATION

A3.2

07/25/2023 SITE PLAN SUBMISSION

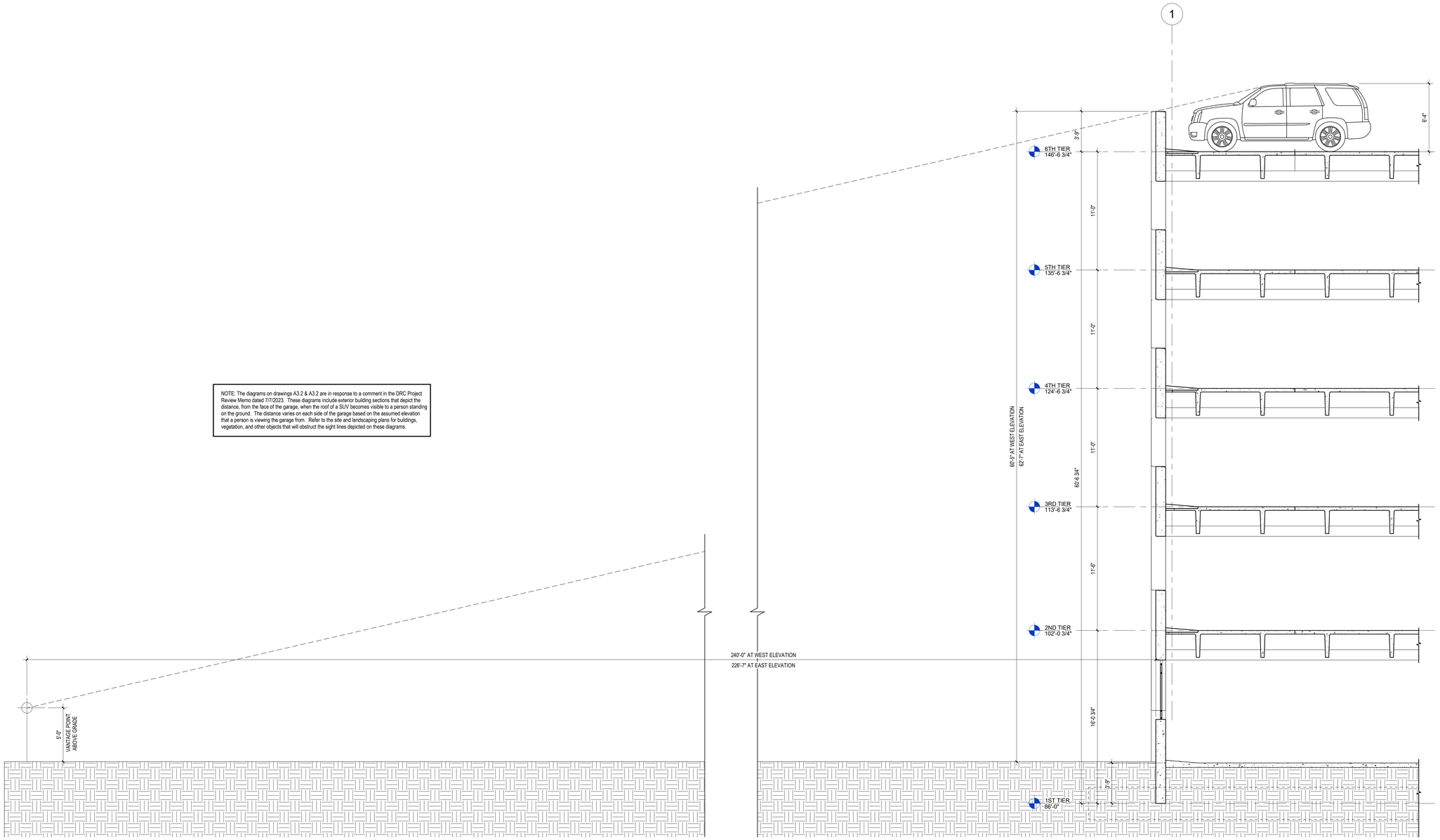
7/25/2023 5:17:37 PM
Autodesk Docs://2021 Penn Medicine Princeton Health/PHS-PMPHS-CAR.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

©SHEPLEY BULFINCH

Author
Checker
Approver

NOTE: The diagrams on drawings A3.2 & A3.2 are in response to a comment in the DRC Project Review Memo dated 7/7/2023. These diagrams include exterior building sections that depict the distance, from the face of the garage, when the roof of a SUV becomes visible to a person standing on the ground. The distance varies on each side of the garage based on the assumed elevation that a person is viewing the garage from. Refer to the site and landscaping plans for buildings, vegetation, and other objects that will obstruct the sight lines depicted on these diagrams.



1 / A3.3 LINE OF SIGHT DIAGRAM AT EAST & WEST ELEVATION
1/4" = 1'-0"

Princeton Forward

Penn Medicine
Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA
FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

STAMP
KEVIN CARRIGAN, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No GE56462

ISSUANCES

NO	DATE	DESCRIPTION
6	07/25/23	SITE PLAN SUBMISSION REVISIONS

PROJECT INFORMATION

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

DRAWING INFORMATION

LINE OF SIGHT DIAGRAM -EAST & WEST ELEVATION

A3.3

07/25/2023 SITE PLAN SUBMISSION

7/25/2023 5:17:37 PM
Autodesk Docs://P23P Penn Medicine Princeton Health/PHS-PMPH-GARAGE.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

PMPH – Cancer Center Parking Garage

Façade Design

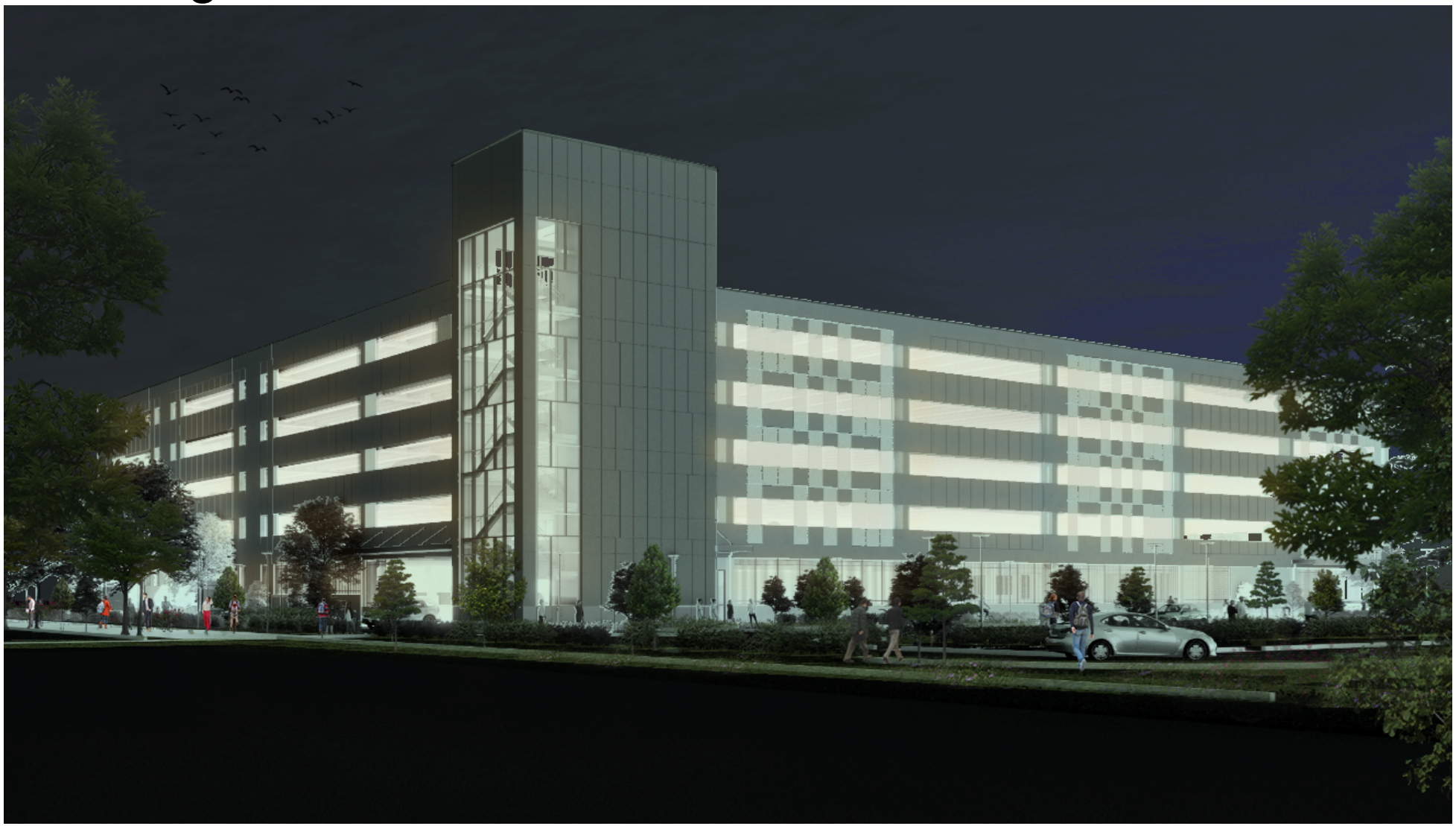
Princeton Forward

June 12, 2023

Daytime rendering – **SW Corner**

PMPH – Cancer Center Parking Garage

Façade Design



Princeton Forward

June 12, 2023

Night-time rendering – **SW Corner**

PMPH – Cancer Center Parking Garage

Façade Design

Daytime rendering – **NE Corner**

P23-03 Penn Med PB Submission Plans 08/09/23

Façade Design

Night-time rendering – **NE Corner**

Façade Design

View from **Route 1** (Context photo taken **September 2019**)

Façade Design

View from **Route 1** (Context photo taken **December 2021**)

B23-03 Penn Med PB Submission Plans 08/09/23

Façade Design

View from Punia Blvd.

PRELIMINARY AND FINAL MAJOR SITE PLAN
FOR
PENN MEDICINE PRINCETON HEALTH
CANCER CENTER GARAGE

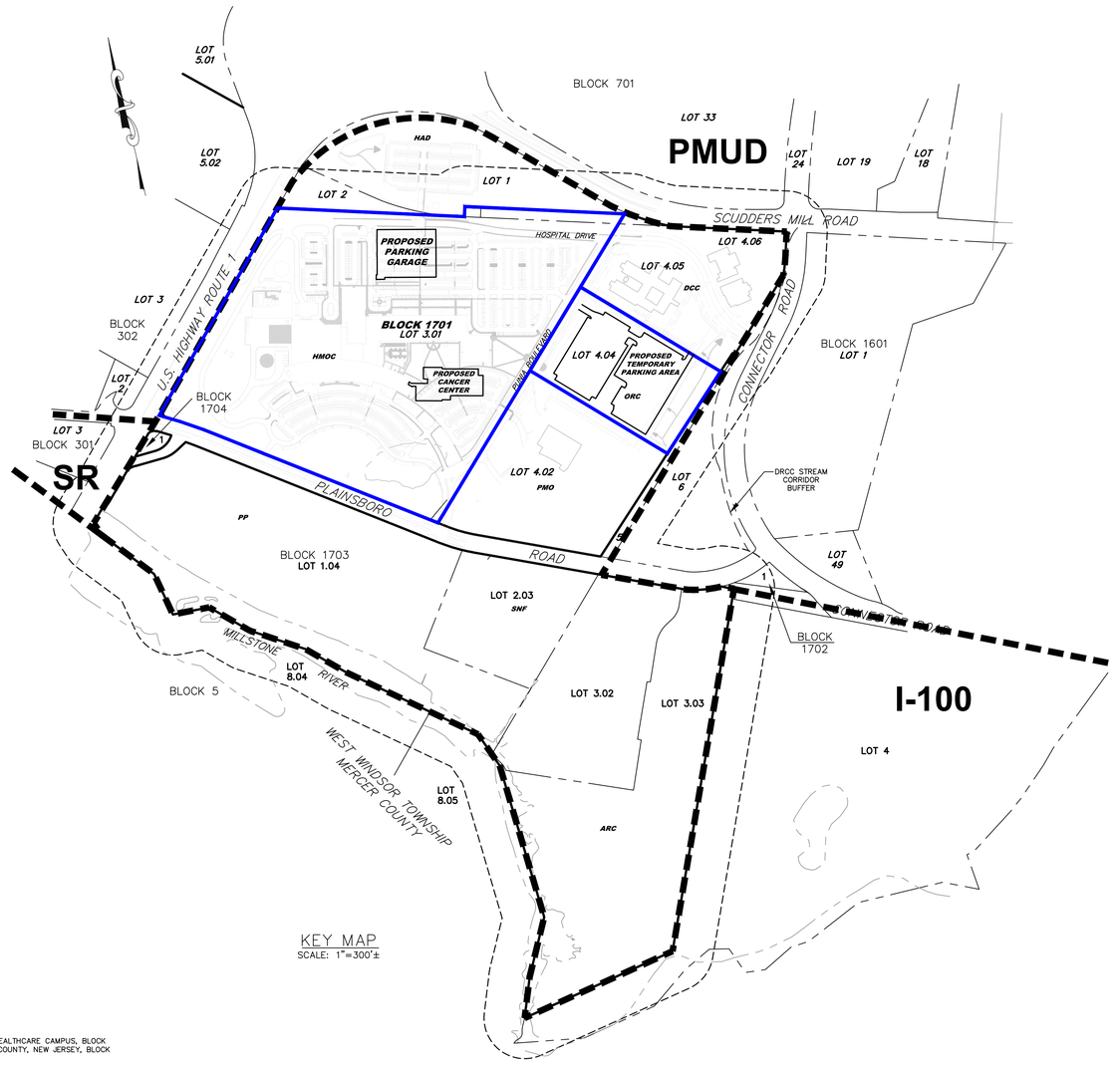
BLOCK 1701, LOTS 3.01 & 4.04

TOWNSHIP OF PLAINSBORO
MIDDLESEX COUNTY, NEW JERSEY

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
C.1.01	OVERALL COVER SHEET
C.1.02	PHASING PLAN
TEMPORARY PARKING AREA - PHASE 1A:	
C.1A.01	COVER SHEET
C.1A.02	EXISTING CONDITIONS PLAN
C.1A.03	SITE LAYOUT AND DIMENSION PLAN
C.1A.04	GRADING AND DRAINAGE PLAN
C.1A.05	STORM SEWER PROFILES
C.1A.06	TEMPORARY ACCESSIBLE PARKING RELOCATION PLAN
C.1A.07	SOIL EROSION AND SEDIMENT CONTROL PLAN
C.1A.08	SOIL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
C.1A.09	LIGHTING PLAN
C.1A.10	LIGHTING DETAILS
C.1A.11	CONSTRUCTION DETAILS - 1
C.1A.12	CONSTRUCTION DETAILS - 2
UTILITY RELOCATION - PHASE 1B	
C.1B.01	EXISTING CONDITIONS PLAN
C.1B.02	DEMOLITION PLAN FOR PARKING GARAGE
C.1B.03	ELECTRICAL AND TELECOMMUNICATIONS RELOCATION PLAN PARKING GARAGE
C.1B.04	SOIL EROSION AND SEDIMENT CONTROL PLAN
C.1B.05	SOIL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
C.1B.06	CONSTRUCTION DETAILS - 1
PARKING GARAGE - PHASE 1C	
C.1C.01	COVER SHEET
C.1C.02	EXISTING CONDITIONS AND DEMOLITION PLAN
C.1C.03	SITE AND LAYOUT PLAN
C.1C.04	UTILITY PLAN
C.1C.05	GRADING AND DRAINAGE PLAN
C.1C.06	STORMWATER PROFILES
C.1C.07	SOIL EROSION AND SEDIMENT CONTROL PLAN
C.1C.08	SOIL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
C.1C.09	EXISTING LIGHTING PLAN
C.1C.10	PROPOSED LIGHTING PLAN
C.1C.11	LIGHTING DETAIL
C.1C.12	LANDSCAPING PLAN
C.1C.13	LANDSCAPING DETAILS - 1
C.1C.14	LANDSCAPING DETAILS - 2
C.1C.15	WOODLAND MAANAGEMENT PLAN
C.1C.16	MOTOR VEHICLE SURFACE REMOVAL PLAN
C.1C.17	CONSTRUCTION DETAILS - 1
C.1C.18	CONSTRUCTION DETAILS - 2
C.1C.19	CONSTRUCTION DETAILS - 3

MIDDLESEX COUNTY GENERAL NOTES:

1. A STORMWATER MAINTENANCE AGREEMENT WILL BE FILED WHICH SETS FORTH DOCUMENTATION THAT ANY PROPOSED DRAINAGE SYSTEM AND ANY AND ALL STORMWATER (DRAINAGE WALES/DETENTION/RETENTION/RECHARGE FACILITIES) WILL BE ADEQUATELY MAINTAINED IN ACCORDANCE WITH THE STANDARDS OF MIDDLESEX COUNTY. REFER TO THE PARAGRAPH IN THE STORMWATER MAINTENANCE AGREEMENT ENTITLED 'RIGHT OF COUNTY OF MIDDLESEX TO MAINTAIN DRAINAGE BASINS'. CONDITIONS THAT AFFECT NON-COUNTY FACILITIES SHOULD BE REVIEWED AND APPROVED BY THE APPROPRIATE JURISDICTIONAL AGENCY.
2. SHOULD ANY WORK BE CONTEMPLATED WITHIN THE COUNTY RIGHT-OF-WAY AND/OR ANY SPECIFIC AREA UNDER THE MIDDLESEX COUNTY'S JURISDICTION, A COUNTY ROAD OPENING PERMIT SHALL BE OBTAINED FROM THE MIDDLESEX COUNTY DEPARTMENT OF HIGHWAYS AND BRIDGES.



KEY MAP
SCALE: 1"=300'±

MAP REFERENCES:

1. A PLAN ENTITLED, A PLAN ENTITLED, "PRELIMINARY AND FINAL MAJOR SITE PLAN OF PRINCETON HEALTHCARE SYSTEM, HEALTHCARE CAMPUS, BLOCK 1701, LOT 3.01, BLOCK 1703, LOT 1.01, BLOCK 1704, LOT 1, TAX MAP SHEET 17, TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY, BLOCK 1701 LOT 3.01", PREPARED BY FRENCH & PARRELLO ASSOCIATES DATED 08/21/2007 AND LAST REVISED 09/11/2009.
2. A PLAN ENTITLED, "UTILITY ASBUILT (UNIVERSITY MEDICAL CENTER) AT PRINCETON, PLAINSBORO, NEW JERSEY, BLOCK 1701 LOT 3.01", PREPARED BY VOLLERS EXCAVATING & CONSTRUCTING, INC. DATED 06/28/2011.
3. A PLAN ENTITLED, "UTILITY EXHIBIT PLAN FOR PRELIMINARY AND FINAL MAJOR SITE PLAN OF MAPLEWOOD AT PRINCETON ON THE PRINCETON HEALTHCARE CAMPUS, BLOCK 1701, LOT 4.05, TAX MAP SHEET NO. 17, TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY, , PREPARED BY FRENCH & PARRELLO ASSOCIATES DATED 07/25/2016.
4. MAP ENTITLED, "PROPOSED PSE&G EASEMENT ON LOTS 4.04, 4.05, & 4.06, BLOCK 1701, TAX MAP SHEET NO. 17, TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY", PREPARED BY FRENCH & PARRELLO ASSOCIATES , DATED JULY 13, 2016.
5. MAP ENTITLED, "REDEVELOPMENT – PRINCETON HEALTHCARE FINAL SUBDIVISION PLAT, LOTS 3 & 4, BLOCK 1701, LOTS 1, 2, & 3, BLOCK 1703, LOT 1, BLOCK 1704, TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, N.J.", PREPARED BY STIRES ASSOCIATES, P.A., DATED FEBRUARY 12, 2008, REVISED TO JANUARY 8, 2009, AND FILED IN THE MIDDLESEX COUNTY CLERK'S OFFICE ON FEBRUARY 5, 2009 AS MAP NO. 6533, FILE NO. 989, SHEETS 1 AND 2.
6. MAP ENTITLED, "FINAL MAJOR SUBDIVISION OF LOT 4.03, BLOCK 1701, TAX MAP SHEET NO. 17, TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY", PREPARED BY FRENCH & PARRELLO ASSOCIATES , DATED NOVEMBER 13, 2013, REVISED NOVEMBER 24, 2014, AND FILED IN THE MIDDLESEX COUNTY CLERK'S OFFICE ON JUNE 24, 2015 AS MAP NO. 6708, FILE NO. 989.
7. THE OFFICIAL TAX MAP SHEET OF THE TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY SHEET NO. 17.

ZONING AREAS: -

REDEVELOPMENT AREA	-	FMC CORPORATION / PRINCETON HEALTHCARE SYSTEM REDEVELOPMENT AREA
SR	-	SERVICE RESIDENTIAL
PMUD	-	PLANNED UNIT DEVELOPMENT
I-100	-	LIMITED INDUSTRIAL

GENERAL NOTES:

APPLICANT/OWNER:

PRINCETON HEALTHCARE SYSTEM
A NEW JERSEY NON-PROFIT CORPORATION
D/B/A PENN MEDICINE PRINCETON HEALTH
1 PLAINSBORO ROAD
PLAINSBORO, NJ 08536
(609) 430-7101

I HEREBY CERTIFY THAT I AM THE OWNER OF RECORD OF THE PROPERTY HEREIN DEPICTED AND THAT I CONCUR WITH THE FILING OF THIS PLAN.

MR. JAMES DEMETRIADES, PRESIDENT OF PENN MEDICINE PRINCETON HEALTH

1. THE PROJECT TRACT IS KNOWN AS BLOCK 1701, LOTS 3.01 & 4.04, LOCATED IN THE TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY. LOT 3.01 CONTAINS APPROXIMATELY 49.42 +/- ACRES AND CURRENTLY CONTAINS THE HOSPITAL WITH ASSOCIATED PARKING LOTS. LOT 4.04 CONTAINS APPROXIMATELY 8.80 +/- ACRES AND IS CURRENTLY VACANT.
2. TOPOGRAPHIC INFORMATION SHOWN TAKEN FROM MAPS ENTITLED "TOPOGRAPHIC SURVEY PENN MEDICINE PRINCETON MEDICAL CENTER AT PLAINSBORO LOTS 3.01 & 4.04, BLOCK 1701 SITUATED IN THE TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY," PREPARED BY FRENCH AND PARRELLO ASSOCIATES, DATED 08/04/2022. REVISED TO 09/06/2022. THE VERTICAL DATUM IS NAVD 88.
3. BOUNDARY INFORMATION SHOWN TAKEN FROM MAPS ENTITLED "BOUNDARY SURVEY PENN MEDICINE PRINCETON MEDICAL CENTER AT PLAINSBORO LOT 3.01, BLOCK 1701 SITUATED IN THE TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY," PREPARED BY FRENCH AND PARRELLO ASSOCIATES, DATED 08/04/2022.
4. THIS PROPERTY IS LOCATED IN THE HMOC (HOSPITAL/MEDICAL OFFICE COMPLEX), AND ORC, OFFICE AND RESIDENTIAL COMPLEX ZONES, AS PER THE "AMENDED REDEVELOPMENT PLAN FOR THE PRINCETON HEALTHCARE SYSTEM AT PLAINSBORO SITE" PREPARED BY PHILLIPS PREISS GRYGIEL LLC, ADOPTED MARCH 13, 2013. ALSO, THE PROPERTY HAS BEEN DESIGNATED FOR REDEVELOPMENT BY THE TOWNSHIP OF PLAINSBORO AS PER THE JANUARY 23, 2008 REPORT PREPARED BY PHILLIPS PREISS SHAPIRO ASSOCIATES, INC. PLANNING AND REAL ESTATE CONSULTANTS.
5. PENN MEDICINE PRINCETON HEALTHCARE SYSTEM IS DEVELOPING A PLAN FOR A NEW CANCER CENTER AS PART OF THE SECOND PHASE OF DEVELOPMENT OF THE HMOC SITE. THE APPLICANT IS PROPOSING TO PHASE THE WORK FOR THE CANCER CENTER AND PARKING GARAGE INTO TWO SEPARATE SITE PLAN APPLICATIONS, ONE TO ADDRESS THE NEW PARKING STRUCTURE AND ONE TO ADDRESS THE NEW CANCER CENTER. THE PURPOSE OF SEPARATING THE OVERALL PROJECT INTO TWO SITE PLAN APPLICATIONS IS TO ALLOW THE CONSTRUCTION SEQUENCING OF THE PARKING GARAGE FIRST AND THEN THE CANCER CENTER TO MINIMIZE THE IMPACT ON THE EXISTING OPERATION OF THE HMOC. THIS SITE PLAN APPLICATION IS FOR THE PROPOSED CANCER CENTER PARKING GARAGE ON LOT 3.01 AND THE UTILITY RELOCATION WORK ON LOT 3.01 TO FACILITATE THE CONSTRUCTION OF THE PARKING GARAGE. ALSO, THE APPLICANT IS PROPOSING A TEMPORARY PARKING AREA ON LOT 4.04 TO MANAGE THE PARKING THAT SHALL BE DISPLACED DURING THE CONSTRUCTION OF THE CANCER CENTER PARKING GARAGE. TO MITIGATE THE IMPACT OF THE CONSTRUCTION ACTIVITIES ON THE EXISTING HOSPITAL OPERATIONS, THE APPLICANT IS PROPOSING TO PHASE THE CONSTRUCTION AND HAS DEVELOPED A PHASING PLAN TO DETAIL THE SPECIFIC SEQUENCE OF CONSTRUCTION WHICH INCLUDES THE TEMPORARY PARKING AREA ON LOT 4.04, RELOCATION OF THE EXISTING UTILITIES AND THEN THE CONSTRUCTION OF THE PARKING GARAGE. A SEPARATE SITE PLAN APPLICATION WILL BE SUBMITTED TO THE TOWNSHIP FOR THE CANCER CENTER.

ZONING DATA TABLE - CANCER CENTER

BULK STANDARDS BASED ON REDEVELOPMENT PLAN	REQUIREMENTS HOSPITAL/MEDICAL OFFICE COMPLEX	EXISTING HOSPITAL/MEDICAL OFFICE COMPLEX	PROPOSED PARKING GARAGE
MINIMUM LOT AREA	40 ACRES	49.42 ACRES	NO CHANGE
MINIMUM LOT FRONTAGE	700 FEET	1,438.13 FEET	NO CHANGE
MINIMUM BUILDING SETBACKS FROM PERIMETER LOT LINES	75 FEET	116.83 FEET	69.0 FEET*
MINIMUM SETBACK OF BUILDING TO DRIVEWAYS AND PARKING LOTS	5 FEET	5 FEET	N/A
MINIMUM SETBACK OF PARKING AREAS FROM PERIMETER LOT LINES: -ROUTE 1, PLAINSBORO ROAD AND PUNIA BOULEVARD -OTHER LOT LINES	50 FEET 25 FEET	100 FEET 50 FEET	> 50 FEET 69.0 FEET
MINIMUM SETBACKS BETWEEN BUILDINGS AND PARKING GARAGE	10 FEET	N/A	67.6 FEET
MAXIMUM BUILDING HEIGHT (FEET/STORIES)	175 FEET/10 STORIES	121 FEET/7 STORIES	N/A
MAXIMUM FLOOR AREA RATIO (FAR)	0.60	0.39 (TOTAL 846,652)	NO CHANGE
MAXIMUM IMPERVIOUS COVERAGE ON LOT	60%	56.21% (27.78 AC)	57.16% (28.25 AC)
MAXIMUM PERMITTED HEIGHT OF PARKING GARAGE (LEVELS/FEET)	6 LEVELS/75 FEET	N/A	6 LEVELS/61.25 FEET

*DEVIATION REQUIRED

BUILDING COVERAGE

EXISTING BUILDING COVERAGE FOR LOT 3.01 = 5.58 A.C. (243,037.72 S.F.) 11.3%

PROPOSED BUILDING COVERAGE FOR LOT 3.01 WITH PARKING GARAGE = 7.15 A.C. (311,626.69 S.F.) 14.48%

6. PARKING REQUIREMENTS

   DISPLACED PARKING FROM CANCER CENTER PROJECT: 167 SPACES
   DISPLACED PARKING FROM PARKING GARAGE: 182 SPACES
   TOTAL DISPLACED: 349 SPACES
   REQUIRED PARKING FOR CANCER CENTER PROJECT (TO ESTABLISH THE NUMBER OF PROPOSED GARAGE SPACES:
   4 PER 1,000 SF OF GFA
   151,555 GFA REQUIRES 606 SPACES
   TOTAL REQUIRED = 349 + 606 = 955 SPACES
   TOTAL PARKING SPACES PROVIDED IN THE GARAGE 1,161 SPACES

   THE PARKING GARAGE WILL PROVIDE A TOTAL OF 117 ADA ACCESSIBLE PARKING SPACES. THE DISPLACED SURFACE ADA ACCESSIBLE SPACES WILL BE RELOCATED WITHIN SURFACE PARKING LOTS. SURFACE PARKING PROPOSED = 140 SPACES. ADA SPACES REQUIRED = 10% = 14. ADA SPACES PROVIDED = 23
7. ALL UTILITIES ARE TO BE PLACED UNDERGROUND IN ACCORDANCE WITH SECTION 85-29 OF TOWNSHIP ORDINANCE. ALSO ALL UTILITIES SHALL BE INSTALLED UNDERGROUND PRIOR TO THE PLACEMENT OF THE FINAL PAVEMENT.
8. ALL STORM SEWER SHALL BE RCP CLASS III UNLESS OTHERWISE NOTED.
9. THE SITE IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH ADA AND NEW JERSEY BARRIER FREE CODE REQUIREMENTS.
10. ALL CONSTRUCTION SHALL CONFORM WITH TOWNSHIP OF PLAINSBORO REQUIREMENTS.
11. SOIL EROSION AND SEDIMENT CONTROL SHALL FALL UNDER THE JURISDICTION OF THE FREEHOLD SOIL CONSERVATION DISTRICT.
12. ALL EASEMENTS ARE DEDICATED TO THE TOWNSHIP OF PLAINSBORO UNLESS OTHERWISE NOTED.
13. ALL SIGNS SHALL BE DESIGNED IN ACCORDANCE WITH "THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" FOR STREETS AND HIGHWAYS.
14. THIS SET OF PLANS HAS BEEN PREPARED FOR THE PURPOSE OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED ON THE DRAWINGS AND EACH DRAWING HAS BEEN REVISED TO INDICATE "ISSUED FOR CONSTRUCTION".
15. ALL DESIGN FEATURES DEPICTED HEREON WERE BASED ON CONSTRAINTS AND REGULATIONS IN EFFECT AT THE TIME OF PREPARATION AND INITIAL PRESENTATION OF THIS PLAN. ALL CURRENT DEVELOPMENT CONSTRAINTS SHOULD BE INVESTIGATED PRIOR TO COMMENCEMENT OF ANY ACTIVITY BASED ON THIS PLAN.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE RESPECTIVE UTILITY COMPANIES FOR GAS, ELECTRIC, PHONE AND TV SERVICE LOCATIONS. LOCATION OF UTILITIES AS SHOWN ON THESE PLANS ARE PLOTTED FROM AVAILABLE DATA ON FILE WITH THE UTILITY COMPANIES AND IS NOT GUARANTEED AS TO EXACTNESS. THE CONTRACTOR IS TO CONTACT UTILITY COMPANIES 72 HOURS PRIOR TO CONSTRUCTION TO DETERMINE EXACT LOCATION. THE CONTRACTOR SHALL USE THE UTILITY LOCATIONS SHOWN AS AN AID IN DETERMINING EXACT LOCATIONS ONLY. CONTRACTOR SHALL CALL "NJ ONE CALL" 811 OR (800-272-1000) PRIOR TO CONSTRUCTION.
17. SANITARY SEWER LINES SHALL BE SEPARATED FROM WATER MAINS BY A DISTANCE OF AT LEAST 10 FEET HORIZONTALLY OR THE PIPES SHALL BE IN SEPARATE TRENCHES WITH THE SEWER AT LEAST 18 INCHES BELOW THE WATER MAIN. WHERE APPROPRIATE SEPARATION FROM THE WATER MAIN IS NOT POSSIBLE, THE SEWER SHALL BE ENCASED IN CONCRETE OR CONSTRUCTED OF DUCTILE IRON PIPE USING MECHANICAL OR SLIP-ON JOINTS FOR A DISTANCE OF AT LEAST 10 FEET ON EITHER SIDE OF THE CROSSING. IN ADDITION, ONE FULL LENGTH OF SEWER PIPE SHOULD BE LOCATED SO BOTH JOINTS WILL BE AS FAR AWAY FROM THE WATER LINE AS POSSIBLE.
18. TRASH AND WASTE DISPOSAL SHALL BE MANAGED BY THE OWNER THE SAME AS THE CURRENT OPERATION. THE EXISTING LOADING AREA ON TEH WEST SIDE OF THE HOSPITAL SHALL BE USED FOR THE PICKUP AND MANAGEMENT OF TRASH AND WASTE DISPOSAL. TRASH AND WASTE DISPOSAL SHALL COMPLY WITH APPLICABLE REQUIREMENTS OF THE TOWNSHIP OF PLAINSBORO. TRASH AND WASTE DISPOSAL SHALL BE PROVIDED BY A PRIVATE CARRIER.
19. ALL PROPOSED SOD AND LAWN AREAS MUST BE GRADED WITH LIGHTWEIGHT CONSTRUCTION EQUIPMENT.
20. ALL GRADING SHALL BE A MINIMUM OF 2% AND A MAXIMUM OF 3' HORIZONTALLY TO 1' VERTICALLY ACROSS ALL LAWN AREAS AND AWAY FROM THE PROPOSED BUILDING. ALL STREET AND ACCESS DRIVES SHALL HAVE A MINIMUM CROSS SLOPE (CROWN) OF 2%.
21. ALL SIDEWALKS ADJACENT TO 90 DEGREE PARKING SHALL BE TWO (2) FEET FROM CURB LINE OR 6 FEET IN WIDTH.
22. A DETAILED SEQUENCE OF CONSTRUCTION AND CONTRACTOR'S STAGING PLAN SHALL BE PROVIDED TO SEPARATE AND MANAGE CONSTRUCTION TRAFFIC AND PUBLIC TRAFFIC. THIS WILL FURTHER ESTABLISH CONTRACTOR'S WORK AND STAGING AREAS FOR EACH PHASE OF CONSTRUCTION, AND SHALL INCLUDE BUT NOT BE LIMITED TO ITEMS RELATED TO THE PLACEMENT OF CONSTRUCTION OFFICE AND/OR CONSTRUCTION TRAILERS, OUTDOOR EQUIPMENT AND MATERIALS STORAGE, SAFETY AND SECURITY FENCING, VEHICULAR AND PEDESTRIAN CIRCULATION, INSTALLATION OF UNDERGROUND UTILITIES, PARKING AREA CONSTRUCTION AND CONSTRUCTION RELATED SIGNAGE.
23. A HAULING PLAN SHALL BE SUBMITTED TO THE TOWNSHIP FOR REVIEW AND APPROVAL FOR THE MOVEMENT OF ANY CONSTRUCTION MATERIALS OR DEMOLITION DEBRIS ON ROADWAYS LEADING FROM THE TOWNSHIP BORDER AND VICE VERSA.

APPROVED AS A PRELIMINARY AND FINAL MAJOR SITE PLAN BY THE MIDDLESEX COUNTY OFFICE OF PLANNING ON

COUNTY PLANNING BOARD _____ DATE _____

SECRETARY _____ DATE _____

PLANNING DIRECTOR _____ DATE _____

SCALE IN FEET: 300 0 300 600

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1600 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
2	7.25.23	Revised Per DRC, DRCC and FSCD Comments
1	6.14.23	Revised East Temporary Lot

N

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

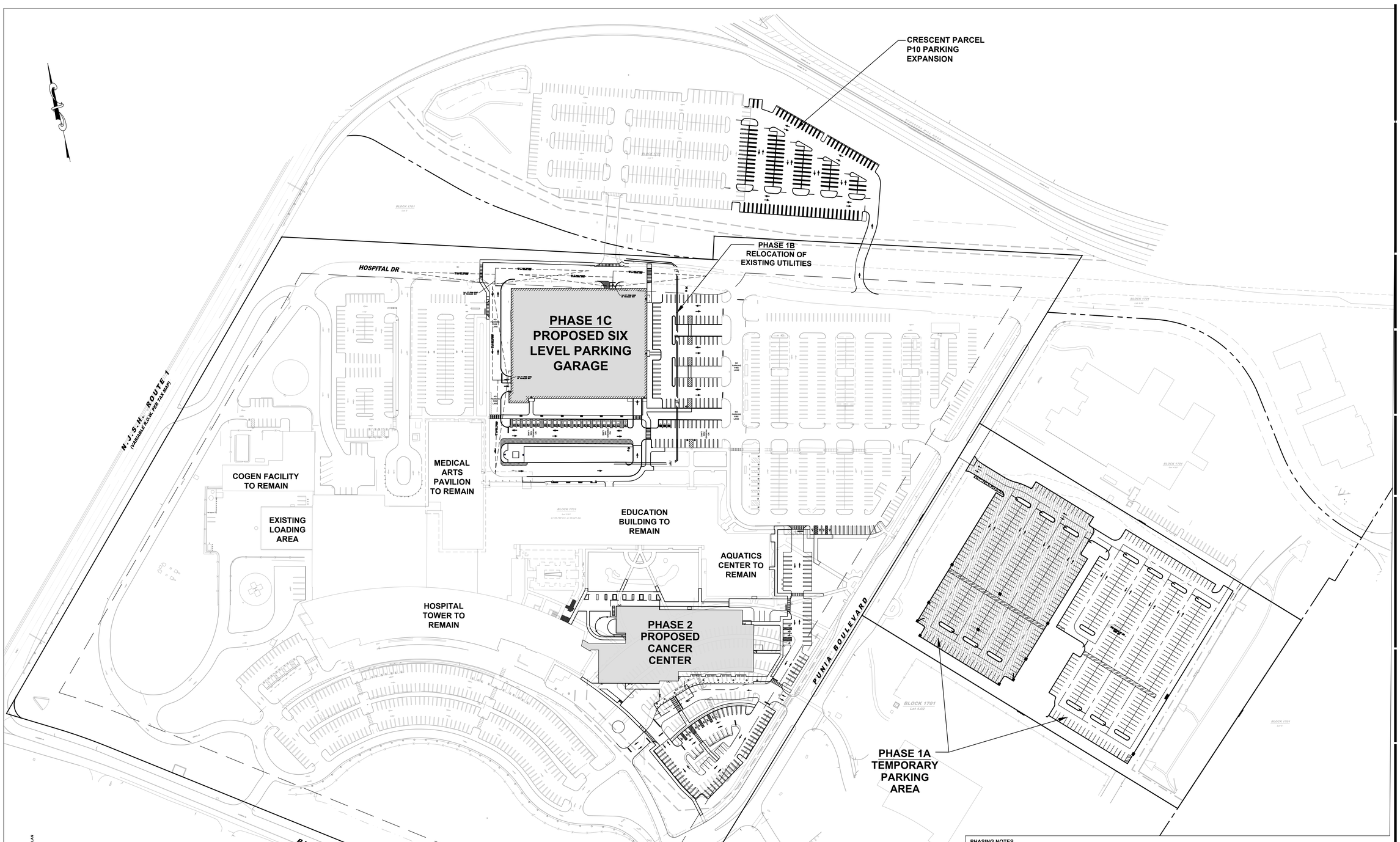
OVERALL COVER SHEET

C.1.01

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:56 AM
O:\CE\2006980\CSET - Concept Cruise\NG\CSET.001 - Penn Medical Cancer Center\CAD\DWG\06CSET - Overall\NG\CSET.001 - CVR Overall.dwg CVR
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.



PHASING NOTES

THE PROPOSED CANCER CENTER AND PARKING GARAGE PROJECT IS CONSISTENT WITH PHASE II OF THE AMENDED REDEVELOPMENT PLAN. DURING THE CONSTRUCTION OF THE PARKING GARAGE AND CANCER CENTER, PARKING SPACES WILL BE DISPLACED AS A RESULT OF THE CONSTRUCTION ACTIVITIES AND TEMPORARY STAGING AREAS. THE CONSTRUCTION OF THE PARKING GARAGE AND CANCER CENTER WILL BE PHASED TO MINIMIZE THE IMPACT ON THE OPERATION OF THE HOSPITAL AND OTHER USES. THE HOSPITAL WANTS TO COMMENCE THE CONSTRUCTION OF THE PARKING GARAGE SO THAT ADEQUATE PARKING CAN BE PROVIDED BEFORE THE CANCER CENTER IS OPENED. THEREFORE, SITE PLAN APPROVAL IS SOUGHT FIRST FOR THE TEMPORARY PARKING LOT OFF PUNIA BOULEVARD, UTILITY RELOCATIONS IN THE PARKING GARAGE PROJECT AREA AND THE PARKING GARAGE.

PHASE 1A – TARGET START: AUGUST 2023, TARGET FINISH: OCTOBER 2023
A TEMPORARY PARKING AREA SHALL BE CONSTRUCTED ON THE VACANT LOT, KNOWN AS LOT 4.04, THAT IS LOCATED ON THE EAST SIDE OF PUNIA BOULEVARD.THE TEMPORARY PARKING AREA WILL CONSIST OF APPROXIMATELY 600 PARKING SPACES AND WILL BE PROVIDED WITH TEMPORARY SITE LIGHTING AND STORMWATER MANAGEMENT IMPROVEMENTS. PEDESTRIAN WALKWAYS SHALL BE PROVIDED FOR THE TEMPORARY PARKING AREA AND SHALL DIRECT THE PEDESTRIAN TO THE EXISTING CROSSING ON PUNIA BOULEVARD WHICH CONNECTS TO THE EXISTING WALKWAYS ON THE HOSPITAL SITE. THE FRONT PORTION OF THE TEMPORARY PARKING AREA SHALL BE USED BY STAFF AND EMPLOYEES OF PENN MEDICINE PRINCETON HEALTH AND THE REAR PORTION OF THE TEMPORARY PARKING AREA SHALL BE USED BY CONTRACTORS AND OTHER EMPLOYEES WORKING ON THE CANCER CENTER AND PARKING GARAGE PROJECT. AS PART OF A SEPARATE APPROVAL, THE APPLICANT WILL BE PROCEEDING WITH THE EXPANSION OF THE P10 PARKING LOT (PERMANENT OVERFLOW PARKING) WHICH IS ANTICIPATED TO BE STARTED IN THE SUMMER OF 2023.

PHASE 1B – TARGET START: OCTOBER 2023, TARGET FINISH: NOVEMBER 2023
EXISTING UTILITIES LOCATED WITHIN THE PROPOSED PARKING GARAGE AREA WILL BE RELOCATED TO ACCOMMODATE THE PROPOSED CONSTRUCTION OF THE PARKING GARAGE IMPROVEMENTS. THE EXISTING UTILITIES NEED TO BE RELOCATED PRIOR TO THE CONSTRUCTION OF THE PARKING GARAGE STRUCTURE. THE PHASE 1B IMPROVEMENTS NEAR THE PARKING GARAGE AREA WILL BE LIMITED TO UTILITY RELOCATION AND SITE RESTORATION WORK ONLY. TO MINIMIZE THE DISPLACEMENT OF PARKING SPACES SO THAT THERE IS MINIMAL IMPACT ON THE OPERATION OF THE EXISTING USES.

PHASE 1C – TARGET START: DECEMBER 2023, TARGET FINISH: MARCH 2025
AFTER PHASE 1A AND 1B IMPROVEMENTS ARE COMPLETE THEN THE CONSTRUCTION OF THE PARKING GARAGE CAN BE STARTED.

PHASE 2 – AFTER PHASE 1A, 1B, AND 1C IMPROVEMENTS ARE COMPLETED AND THE SITE PLAN APPROVAL FOR THE CANCER CENTER IS OBTAINED, THEN THE CONSTRUCTION OF THE NEW CANCER CENTER CAN BE STARTED. AFTER COMPLETION OF THE CANCER CENTER, THEN THE TEMPORARY PARKING AREA ON LOT 4.04 WILL BE REMOVED AND RESTORED TO ITS CONDITION THAT EXISTED PRIOR TO CONSTRUCTION.

80 0 80 160
SCALE IN FEET

3/14/2023 10:55:08 AM
O:\CE\20660\60C02ST - Cancer Center\60C02ST.001 - Penn Medical Cancer Center\CAD\DWG\60C02ST - Overall\60C02ST.001 - CD.dwg PHASING PLAN

Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

Princeton Forward

Penn Medicine
Princeton Health

1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH

99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA
FRENCH & PARRELLO ASSOCIATES

Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800

FPAengineers.com

New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
2	7.25.23	Revised Per DRC, DRCC and FSCD Comments
1	6.14.23	Revised East Temporary Lot

N

Penn Medicine Princeton Health Cancer Center Garage

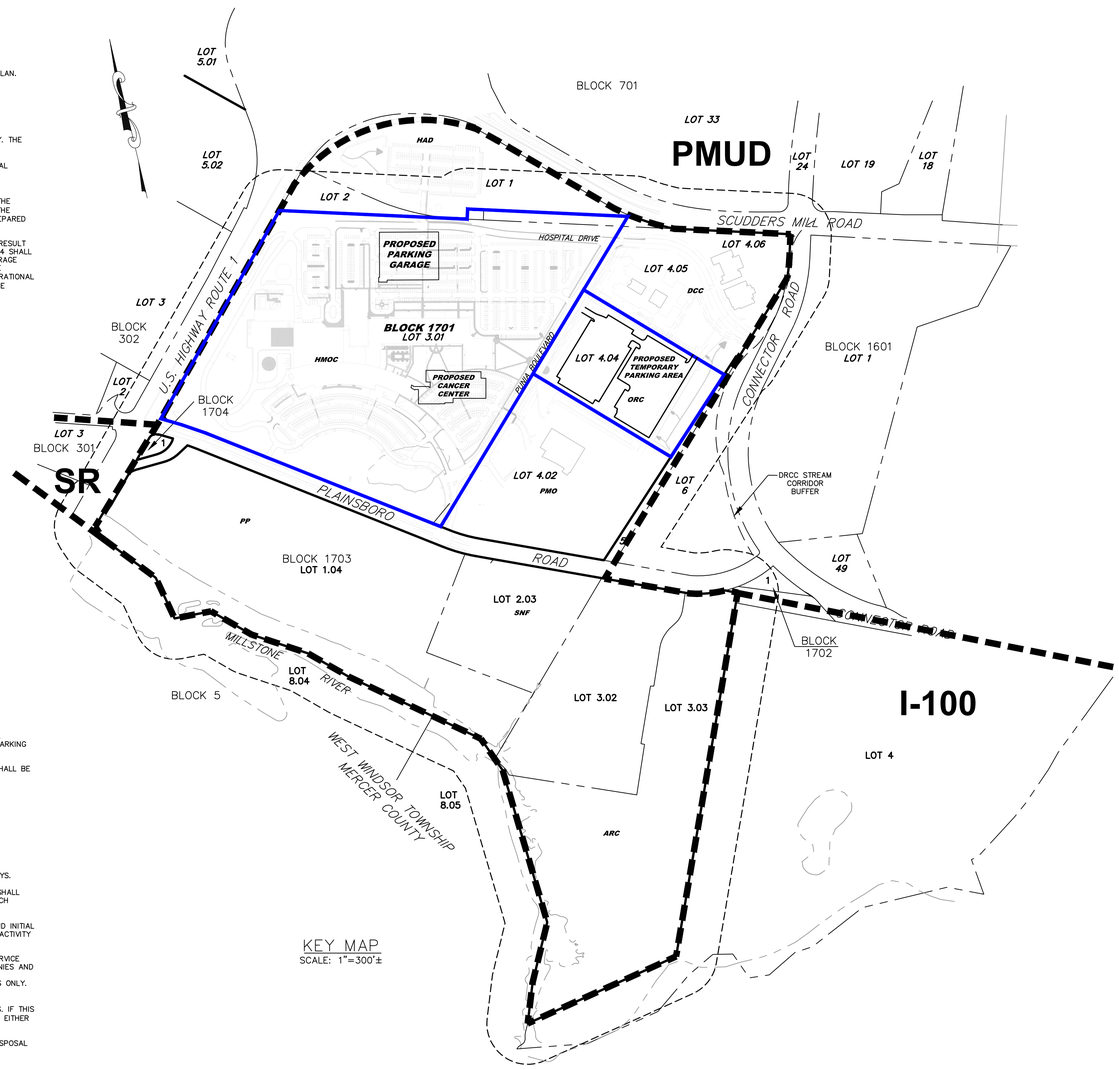
1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASING PLAN

C.1.02

04/14/2023 SITE PLAN SUBMISSION

PRELIMINARY AND FINAL MAJOR SITE PLAN
FOR
PENN MEDICINE PRINCETON HEALTH
PUNIA BOULEVARD PARKING
BLOCK 1701, LOTS 3.01 & 4.04
TOWNSHIP OF PLAINSBORO
MIDDLESEX COUNTY, NEW JERSEY



KEY MAP
SCALE: 1"=300'±

GENERAL NOTES:

APPLICANT/OWNER:

PRINCETON HEALTHCARE SYSTEM
A NEW JERSEY NONPROFIT CORPORATION
D/B/A PENN MEDICINE PRINCETON HEALTH
1 PLAINSBORO ROAD
PLAINSBORO, NJ 08536
(609) 430-7101

I HEREBY CERTIFY THAT I AM THE OWNER OF RECORD OF THE PROPERTY HEREIN DEPICTED AND THAT I CONCUR WITH THE FILING OF THIS PLAN.

MR. JAMES DEMETRIADES, PRESIDENT OF PENN MEDICINE PRINCETON HEALTH

1. THE PROJECT TRACT IS KNOWN AS BLOCK 1701, LOT 4.04, LOCATED IN THE TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY. THE PROJECT TRACT CONTAINS APPROXIMATELY 8.80 +/- ACRES AND IS CURRENTLY OPEN SPACE.

2. BOUNDARY & TOPOGRAPHIC INFORMATION SHOWN TAKEN FROM MAPS ENTITLED "TOPOGRAPHIC SURVEY PENN MEDICINE PRINCETON MEDICAL CENTER AT PLAINSBORO LOTS 3.01 & 4.04, BLOCK 1701 SITUATED IN THE TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY," PREPARED BY FRENCH AND PARRELLO ASSOCIATES, DATED 08/04/2022. REVISED TO 09/06/2022. THE VERTICAL DATUM IS NAVD 88.

3. THIS PROPERTY IS LOCATED IN THE ORC, OFFICE AND RESIDENTIAL COMPLEX ZONE, AS PER THE "AMENDED REDEVELOPMENT PLAN FOR THE PRINCETON HEALTHCARE SYSTEM AT PLAINSBORO SITE" PREPARED BY PHILLIPS PREISS GRYGIEL LLC, ADOPTED MARCH 13, 2013. ALSO, THE PROPERTY HAS BEEN DESIGNATED FOR REDEVELOPMENT BY THE TOWNSHIP OF PLAINSBORO AS PER THE JANUARY 23, 2008 REPORT PREPARED BY PHILLIPS PREISS SHAPIRO ASSOCIATES, INC. PLANNING AND REAL ESTATE CONSULTANTS.

4. THE APPLICANT IS PROPOSING TO CONSTRUCT A TEMPORARY PARKING LOT TO MANAGE THE DISPLACEMENT OF EXISTING PARKING AS A RESULT OF THE CONSTRUCTION OF THE PROPOSED CANCER CENTER AND PARKING GARAGE PROJECT. THE TEMPORARY PARKING AREA IN LOT 4.04 SHALL BE USED BY EMPLOYEES OF PENN MEDICINE AND PERSONNEL THAT ARE WORKING ON THE PROPOSED CANCER CENTER AND PARKING GARAGE PROJECT. ON LOT 3.01 THE APPLICANT IS PROPOSING TO PROVIDE HANDICAP PARKING TO OFFSET THE HANDICAP PARKING THAT WILL BE DISPLACED BY THE CONSTRUCTION OF THE CANCER CENTER AND PARKING GARAGE. THE 304 SPACE "FRONT" PARKING LOT WILL BE OPERATIONAL FOR THE DURATION OF THE PARKING GARAGE AND CANCER CENTER CONSTRUCTION. THE 324 SPACE "REAR" STONE PARKING LOT WILL BE OPERATIONAL FOR LESS THAN 5 MONTHS.

ZONING DATA TABLE

BULK STANDARDS BASED ON REDEVELOPMENT PLAN	REQUIREMENTS OFFICE AND RESIDENTIAL COMPLEX	PROPOSED TEMPORARY PARKING LOT 4.04
MINIMUM LOT AREA	4 ACRES	NO CHANGE
MINIMUM LOT FRONTAGE	250 FEET	NO CHANGE
MINIMUM BUILDING SETBACKS FROM: -CENTERLINE OF PUNIA BOULEVARD -CENTERLINE OF HOSPITAL DRIVE -OTHER LOT LINES	50 FEET	N/A
MINIMUM SETBACK OF BUILDING TO DRIVEWAYS AND PARKING LOTS	5 FEET	N/A
MINIMUM SETBACK OF PARKING AREAS FROM: -CENTERLINE OF PUNIA BOULEVARD -CENTERLINE OF HOSPITAL DRIVE -OTHER LOT LINES	50 FEET 25 FEET	107.52 FEET 25.6 FEET
MINIMUM SETBACKS BETWEEN BUILDINGS AND PARKING GARAGE	10 FEET	N/A
MAXIMUM BUILDING HEIGHT (FEET/STORIES)	175 FEET/10 STORIES	N/A
MAXIMUM FLOOR AREA RATIO (FAR)	0.60	N/A
MAXIMUM IMPERVIOUS COVERAGE ON LOT	60%	23.94% (2.107 AC)

5. PARKING REQUIREMENTS

DISPLACED PARKING FROM CANCER CENTER PROJECT:	167 SPACES
DISPLACED PARKING FROM PARKING GARAGE:	182 SPACES
TOTAL DISPLACED:	349 SPACES
PARKING PROVIDED:	628 SPACES

6. HANDICAP PARKING AS A RESULT OF THE CONSTRUCTION OF THE CANCER CENTER AND PARKING GARAGE PROJECTS, THERE SHALL BE A DISPLACEMENT OF 19 EXISTING HANDICAP PARKING SPACES. THEREFORE THE APPLICANT IS PROPOSING TO PROVIDE 20 NEW HANDICAP PARKING SPACES INCLUDING NEW HANDICAP STRIPING, MARKING AND SIGNAGE ON LOT 3.01. PLEASE SEE SHEET 5 OF 11.

7. ALL UTILITIES ARE TO BE PLACED UNDERGROUND IN ACCORDANCE WITH SECTION 85-29 OF TOWNSHIP ORDINANCE. ALSO ALL UTILITIES SHALL BE INSTALLED UNDERGROUND PRIOR TO THE PLACEMENT OF THE FINAL PAVEMENT.

8. ALL STORM SEWER SHALL BE RCP CLASS III UNLESS OTHERWISE NOTED.

9. THE SITE IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH ADA AND NEW JERSEY BARRIER FREE CODE REQUIREMENTS.

10. ALL CONSTRUCTION SHALL CONFORM WITH TOWNSHIP OF PLAINSBORO REQUIREMENTS.

11. SOIL EROSION AND SEDIMENT CONTROL SHALL FALL UNDER THE JURISDICTION OF THE FREEHOLD SOIL CONSERVATION DISTRICT.

12. ALL EASEMENTS ARE DEDICATED TO THE TOWNSHIP OF PLAINSBORO UNLESS OTHERWISE NOTED.

13. ALL SIGNS SHALL BE DESIGNED IN ACCORDANCE WITH "THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" FOR STREETS AND HIGHWAYS.

14. THIS SET OF PLANS HAS BEEN PREPARED FOR THE PURPOSE OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED ON THE DRAWINGS AND EACH DRAWING HAS BEEN REVISED TO INDICATE "ISSUED FOR CONSTRUCTION".

15. ALL DESIGN FEATURES DEPICTED HEREON WERE BASED ON CONSTRAINTS AND REGULATIONS IN EFFECT AT THE TIME OF PREPARATION AND INITIAL PRESENTATION OF THIS PLAN. ALL CURRENT DEVELOPMENT CONSTRAINTS SHOULD BE INVESTIGATED PRIOR TO COMMENCEMENT OF ANY ACTIVITY BASED ON THIS PLAN.

16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE RESPECTIVE UTILITY COMPANIES FOR GAS, ELECTRIC, PHONE AND TV SERVICE LOCATIONS. LOCATION OF UTILITIES AS SHOWN ON THESE PLANS ARE PLOTTED FROM AVAILABLE DATA ON FILE WITH THE UTILITY COMPANIES AND IS NOT GUARANTEED AS TO EXACTNESS. THE CONTRACTOR IS TO CONTACT UTILITY COMPANIES 72 HOURS PRIOR TO CONSTRUCTION TO DETERMINE EXACT LOCATION. THE CONTRACTOR SHALL USE THE UTILITY LOCATIONS SHOWN AS AN AID IN DETERMINING EXACT LOCATIONS ONLY. CONTRACTOR SHALL CALL "NJ ONE CALL" 811 OR (800-272-1000) PRIOR TO CONSTRUCTION.

17. A MINIMUM OF ONE AND ONE-HALF (1 1/2) FEET OF CLEARANCE SHALL BE PROVIDED AT ALL WATER MAIN AND SEWER MAIN CROSSINGS. IF THIS CLEARANCE CANNOT BE MAINTAINED, THE WATER AMIN SHALL BE ENCASED IN CONCRETE. CONCRETE ENCASEMENT SHALL EXTEND 10' ON EITHER SIDE.

18. TRASH AND WASTE DISPOSAL SHALL COMPLY WITH APPLICABLE REQUIREMENTS OF THE TOWNSHIP OF PLAINSBORO. TRASH AND WASTE DISPOSAL SHALL BE PROVIDED BY A PRIVATE CARRIER.

19. ALL PROPOSED SOD AND LAWN AREAS MUST BE GRADED WITH LIGHTWEIGHT CONSTRUCTION EQUIPMENT.

20. ALL GRADING SHALL BE A MINIMUM OF 2% AND A MAXIMUM OF 3' HORIZONTALLY TO 1' VERTICALLY ACROSS ALL LAWN AREAS AND AWAY FROM THE PROPOSED BUILDING. ALL STREET AND ACCESS DRIVES SHALL HAVE A MINIMUM CROSS SLOPE (CROWN) OF 2%.

21. ALL SIDEWALKS ADJACENT TO 90 DEGREE PARKING SHALL BE TWO (2) FEET FROM CURB LINE OR 6 FEET IN WDTH.

22. ANY IMPORTED FILL SHALL MEET THE NJDEP'S TECHNICAL REQUIREMENTS FOR SITE REMEDIATION'S DEFINITION OF CLEAN FILL (AS FOUND AT N.J.A.C. 7:26E-1.8).

23. A DETAILED SEQUENCE OF CONSTRUCTION AND CONTRACTOR'S STAGING PLAN SHALL BE PROVIDED TO SEPARATE AND MANAGE CONSTRUCTION TRAFFIC AND PUBLIC TRAFFIC. THIS WILL FURTHER ESTABLISH CONTRACTOR'S WORK AND STAGING AREAS FOR EACH PHASE OF CONSTRUCTION, AND SHALL INCLUDE BUT NOT BE LIMITED TO ITEMS RELATED TO THE PLACEMENT OF CONSTRUCTION OFFICE AND/OR CONSTRUCTION TRAILERS, OUTDOOR EQUIPMENT AND MATERIALS STORAGE, SAFETY AND SECURITY FENCING, VEHICULAR AND PEDESTRIAN CIRCULATION, INSTALLATION OF UNDERGROUND UTILITIES, PARKING AREA CONSTRUCTION AND CONSTRUCTION RELATED SIGNAGE.

24. A HAULING PLAN SHALL BE SUBMITTED TO THE TOWNSHIP FOR REVIEW AND APPROVAL FOR THE MOVEMENT OF ANY CONSTRUCTION MATERIALS OR DEMOLITION DEBRIS ON ROADWAYS LEADING FROM THE TOWNSHIP BORDER AND VICE VERSA.

ZONING AREAS: -

REDEVELOPMENT AREA	-	FMC CORPORATION / PRINCETON HEALTHCARE SYSTEM REDEVELOPMENT AREA
SR	-	SERVICE RESIDENTIAL
PMUD	-	PLANNED UNIT DEVELOPMENT
I-100	-	LIMITED INDUSTRIAL

SHEET INDEX	
DRAWING NUMBER	DRAWING TITLE
C.1A.01	COVER SHEET
C.1A.02	EXISTING CONDITIONS PLAN
C.1A.03	SITE LAYOUT AND DIMENSION PLAN
C.1A.04	GRADING AND DRAINAGE PLAN
C.1A.05	STORM SEWER PROFILES
C.1A.06	TEMPORARY ACCESSIBLE PARKING RELOCATION PLAN
C.1A.07	SOIL EROSION AND SEDIMENT CONTROL PLAN
C.1A.08	SOIL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
C.1A.09	LIGHTING PLAN
C.1A.10	LIGHTING DETAILS
C.1A.11	CONSTRUCTION DETAILS-1
C.1A.12	CONSTRUCTION DETAILS-2

MIDDLESEX COUNTY GENERAL NOTES:

1. A STORMWATER MAINTENANCE AGREEMENT WILL BE FILED WHICH SETS FORTH DOCUMENTATION THAT ANY PROPOSED DRAINAGE SYSTEM AND ANY AND ALL STORMWATER (DRAINAGE WALES/DETENTION/RETENTION/RECHARGE FACILITIES) WILL BE ADEQUATELY MAINTAINED IN ACCORDANCE WITH THE STANDARDS OF MIDDLESEX COUNTY. REFER TO THE PARAGRAPH IN THE STORMWATER MAINTENANCE AGREEMENT ENTITLED 'RIGHT OF COUNTY OF MIDDLESEX TO MAINTAIN DRAINAGE BASINS'. CONDITIONS THAT AFFECT NON-COUNTY FACILITIES SHOULD BE REVIEWED AND APPROVED BY THE APPROPRIATE JURISDICTIONAL AGENCY.

2. SHOULD ANY WORK BE CONTEMPLATED WITHIN THE COUNTY RIGHT-OF-WAY AND/OR ANY SPECIFIC AREA UNDER THE MIDDLESEX COUNTY'S JURISDICTION, A COUNTY ROAD OPENING PERMIT SHALL BE OBTAINED FROM THE MIDDLESEX COUNTY DEPARTMENT OF HIGHWAYS AND BRIDGES.

APPROVED AS A PRELIMINARY AND FINAL MAJOR SITE PLAN BY THE MIDDLESEX COUNTY OFFICE OF PLANNING ON

COUNTY PLANNING BOARD — DATE

SECRETARY — DATE

PLANNING DIRECTOR — DATE

300 0 300 600
SCALE IN FEET

Princeton Forward

Penn Medicine
Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA
FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
2.	7.25.23	Revised Per DRC, DRCC and FSCD Comments
1.	6.14.23	Revised East Lot

N

Penn Medicine Princeton Health Temporary Parking Lot

1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1A

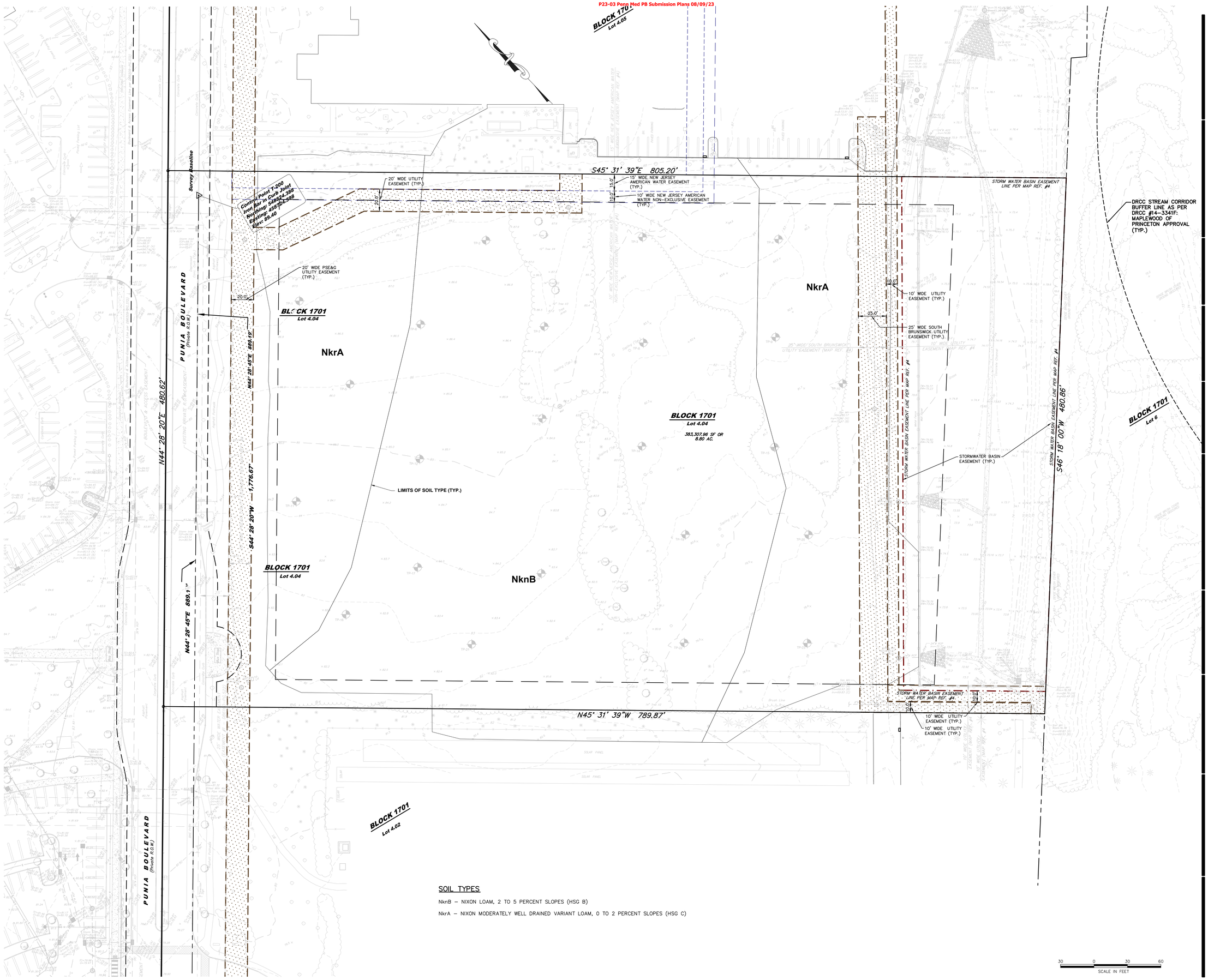
COVER SHEET

C.1A.01

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:58 AM
O:\ECS\2000\NBC\DWT - Cancer Center\NBC\DWT\NBC-Penn Medical Cancer Center\CAD\Drawings\NBC\DWT - Temporary Parking Lot\NBC\DWT-NBC-CVR.dwg C.1A.01 COVER SHEET
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.



SOIL TYPES

NknB – NIXON LOAM, 2 TO 5 PERCENT SLOPES (HSG B)

NkrA – NIXON MODERATELY WELL DRAINED VARIANT LOAM, 0 TO 2 PERCENT SLOPES (HSG C)

3/14/2023 15:55:59 AM
O:\C2200\06\C2287 Cancer Center\RC\2287.RC - Penn Medical Cancer Center\CAD\DWG\RC2287 - Temporary Parking Lot\RC2287.RC01 - SP-TPL.dwg C.1A.02 EXISTING CONDITIONS PLAN
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

Princeton Forward

Penn Medicine
Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA
FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
2.	7.25.23	Revised Per DRC, DRCC and FSCD Comments
1.	6.14.23	Revised East Lot

Penn Medicine Princeton Health Temporary Parking Lot

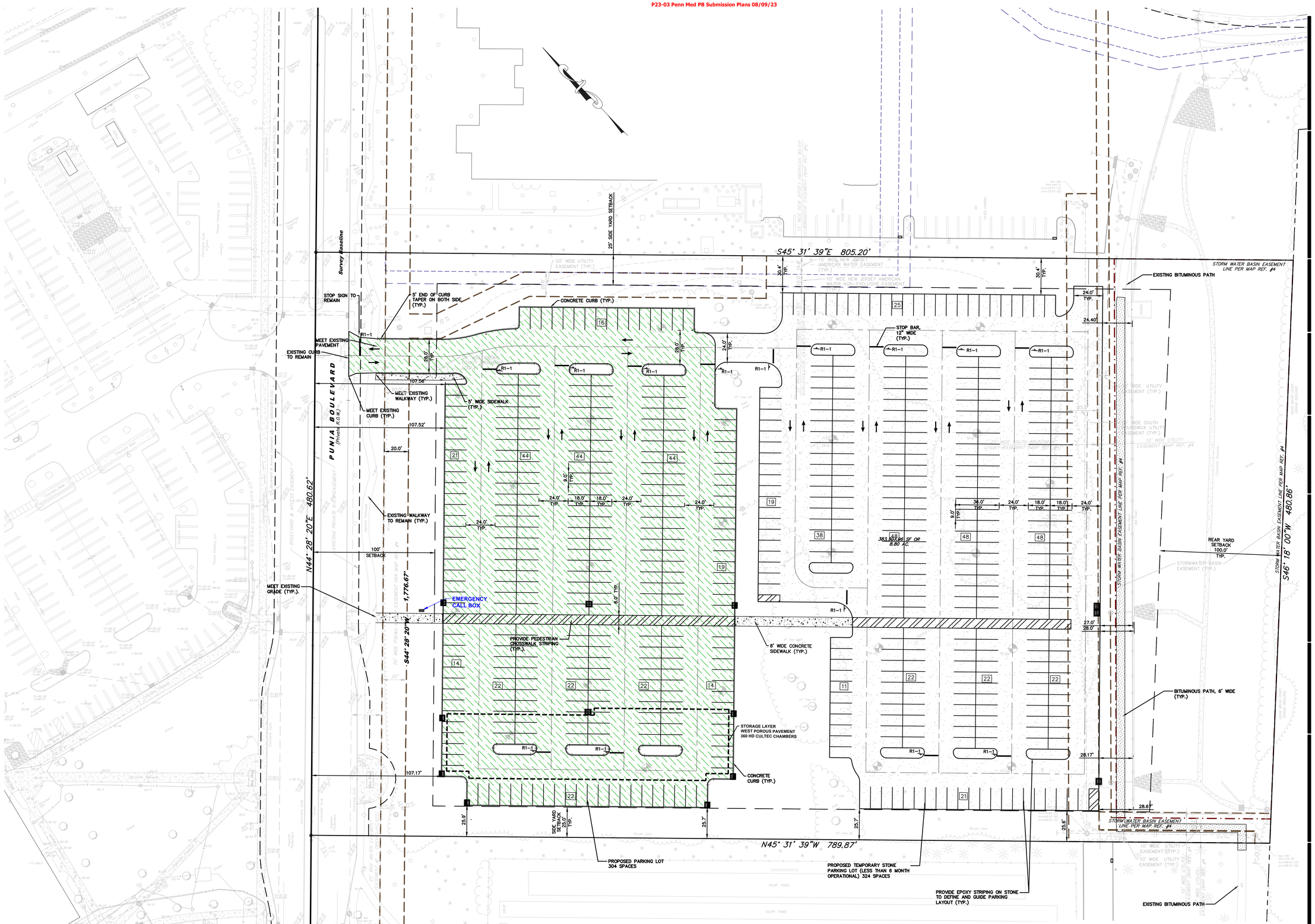
1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1A

EXISTING CONDITIONS PLAN

C.1A.02

04/14/2023 SITE PLAN SUBMISSION



NOTES:

1. THE CONTRACTOR SHALL INSTALL THE SOIL EROSION AND SEDIMENT CONTROL MEASURES AS SHOWN ON THE PLANS, INCLUDING STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, TREE PROTECTION AND INLET PROTECTION AS APPLICABLE. THE SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED THROUGHOUT THE DURATION OF THE CONSTRUCTION UNTIL THE PROJECT SITE IS FULLY STABILIZED AND APPROVED BY THE SOIL CONSERVATION DISTRICT.
2. THE CONTRACTOR SHALL STRIP THE EXISTING VEGETATION FROM THE SURFACE WITHIN THE PROJECT LIMIT OF DISTURBANCE. THE STRIPPED VEGETATION SHALL BE REMOVED AND DISPOSED OF OFF-SITE AS APPLICABLE.
3. THE CONTRACTOR SHALL STRIP AND STOCKPILE THE TOPSOIL LAYER. THE TOPSOIL SHALL BE USED TO CREATE THE BERMS SHOWN ON THE GRADING AND DRAINAGE PLAN. THE BERMS SHALL BE CAREFULLY CONSTRUCTED TO PROVIDE A SMOOTH SURFACE WITH A LOW MAINTENANCE GRASS SEED MIXTURE. THE EXCESS TOPSOIL SHALL BE REMOVED FROM THE PROJECT SITE. ANY SOIL TESTING, TRUCKING, HAULING, PERMITS OR OTHER WORK REQUIRED TO LOAD AND REMOVE THE EXCESS TOPSOIL FROM THE PROJECT SITE IS THE RESPONSIBILITY OF THE CONTRACTOR.
4. THE CONTRACTOR SHALL PERFORM EARTHWORK AND SITE PREPARATION AS REQUIRED TO CONSTRUCT AND INSTALL THE PROPOSED SITE IMPROVEMENTS. THE EXCESS SOIL MATERIAL SHALL BE REMOVED FROM THE PROJECT SITE. ANY SOIL TESTING, TRUCKING, HAULING, PERMITS OR OTHER WORK REQUIRED TO LOAD AND REMOVE THE EXCESS SOIL MATERIAL FROM THE PROJECT SITE IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. THE CONTRACTOR SHALL INSTALL THE PROPOSED DRAINAGE IMPROVEMENTS, SUBGRADE FOR THE PROPOSED PAVEMENT AND CONCRETE CURB.
6. THE CONTRACTOR SHALL INSTALL THE SITE LIGHTING, INCLUDING FOUNDATIONS, ELECTRICAL SUPPLY AND CONTROL SYSTEM.
7. THE CONTRACTOR SHALL INSTALL THE FINAL PAVEMENT SURFACE, CONCRETE SIDEWALK, STRIPING, TRAFFIC CONTROL SIGNAGE AND SEEDING OF ALL DISTURBED AREAS. THE CONTRACTOR SHALL INSTALL THE STONE FOR THE TEMPORARY 324 SPACES ON THE EAST SIDE OF PROPERTY.
8. UPON STABILIZATION OF THE PROJECT SITE, CONTRACTOR SHALL REMOVE THE SOIL EROSION AND SEDIMENT CONTROL MEASURES.

30 0 30 60
SCALE IN FEET

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

3/14/2023 10:55:08 AM
O:\CES\2006\06C0287 - Cancer Center\06C0287.001 - Penn Medical Cancer Center\CAD\DWG\06C0287 - Temporary Parking Lot\06C0287.001 - SP-TPL.dwg BP
Penn Medicine Princeton Health Cancer Center Garage

Princeton Forward

Penn Medicine
Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
2.	7.25.23	Revised Per DRC, DRCC and FSCD Comments
1.	6.14.23	Revised East Lot

N

Penn Medicine Princeton Health Temporary Parking Lot

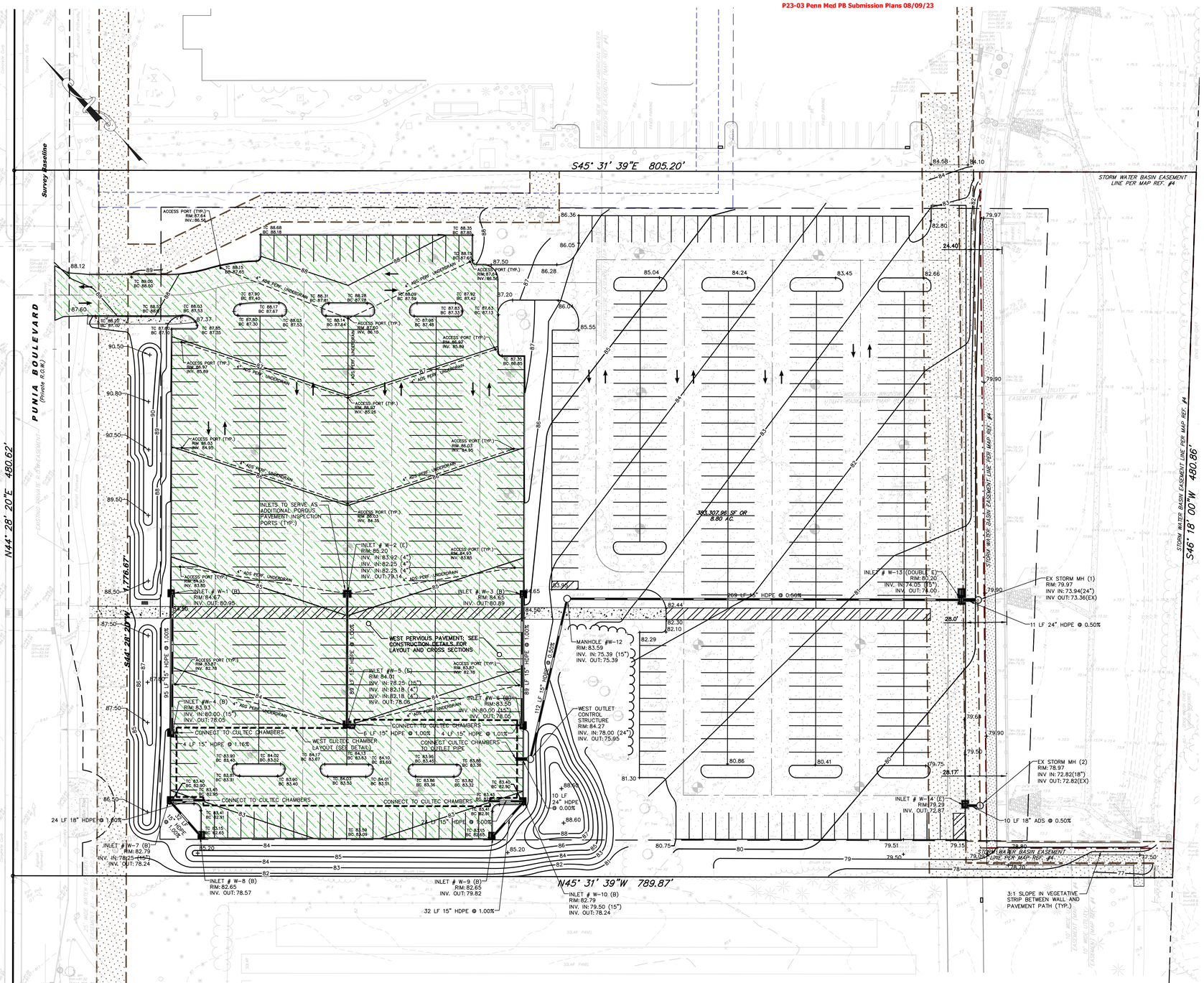
1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO. NBR22119.00

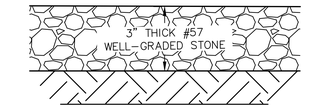
PHASE 1A

SITE LAYOUT AND DIMENSION PLAN

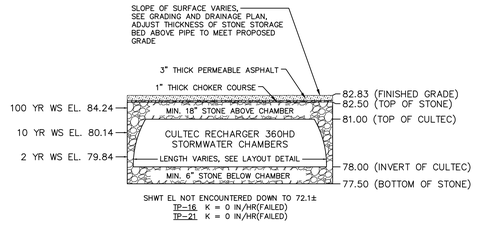
C.1A.03

04/14/2023 SITE PLAN SUBMISSION

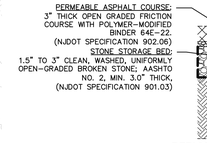




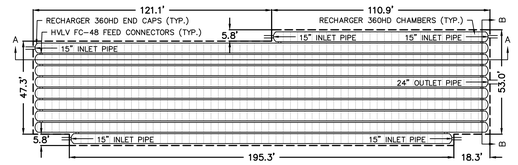
TEMPORARY STONE PARKING LOT DETAIL
NOT TO SCALE



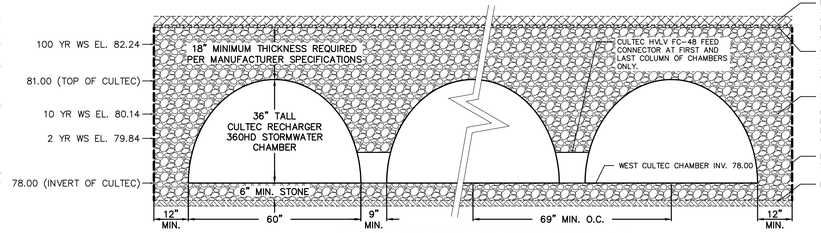
WEST CULTEC CHAMBERS CROSS SECTION A–A
NOT TO SCALE



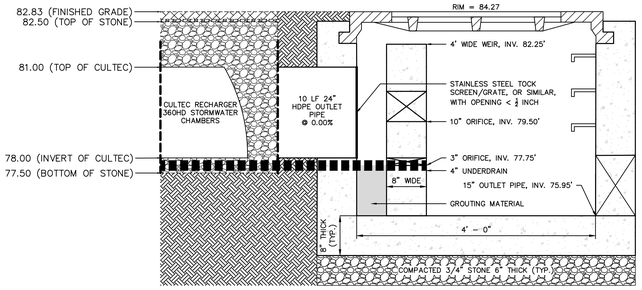
PERVIOUS PAVEMENT CROSS SECTION
NOT TO SCALE



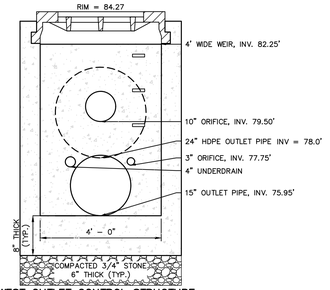
WEST CULTEC CHAMBER LAYOUT
NOT TO SCALE



CULTEC CHAMBERS GENERAL CROSS SECTION B–B
NOT TO SCALE



WEST OUTLET CONTROL STRUCTURE – CROSS SECTION C–C
NOT TO SCALE



WEST OUTLET CONTROL STRUCTURE – CROSS SECTION D–D
NOT TO SCALE

30 0 30 60
SCALE IN FEET

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

3/14/2023 10:55:56 AM
O:\CES\06062025PT - Cancer Center\06062025PT.093 - Penn Medical Cancer Center\ADD\DWG\06062025PT - Temporary Parking Lot\06062025PT.093 - GN-TPL-GPT1.dwg GR

Penn Medicine Princeton Health Cancer Center Garage

Princeton Forward

Penn Medicine
Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
2.	7.25.23	Revised Per DRC, DRCC and FSCD Comments
1.	6.14.23	Revised East Lot

N

Penn Medicine Princeton Health Temporary Parking Lot

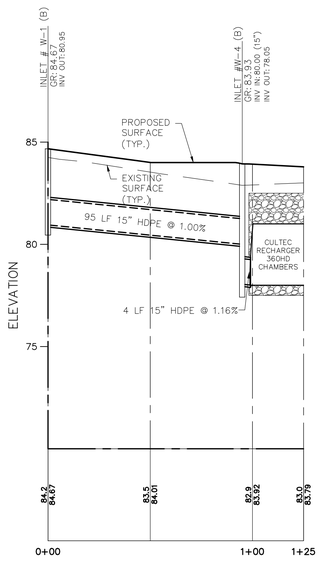
1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1A

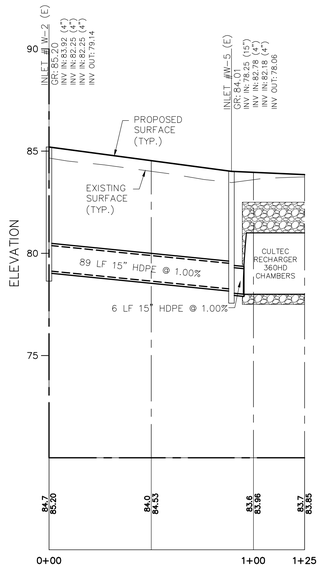
GRADING AND DRAINAGE PLAN

C.1A.04

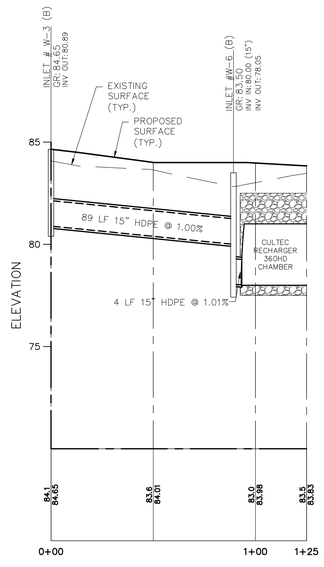
04/14/2023 SITE PLAN SUBMISSION



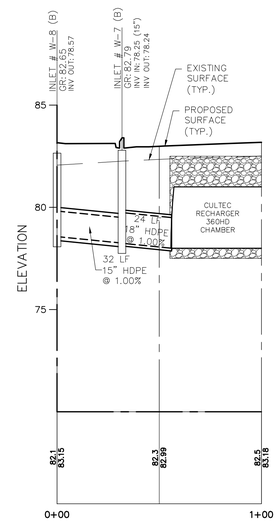
INLET #W-1 TO CULTEC CHAMBERS



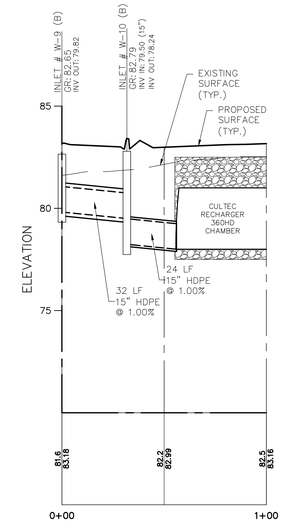
INLET #W-2 TO CULTEC CHAMBERS



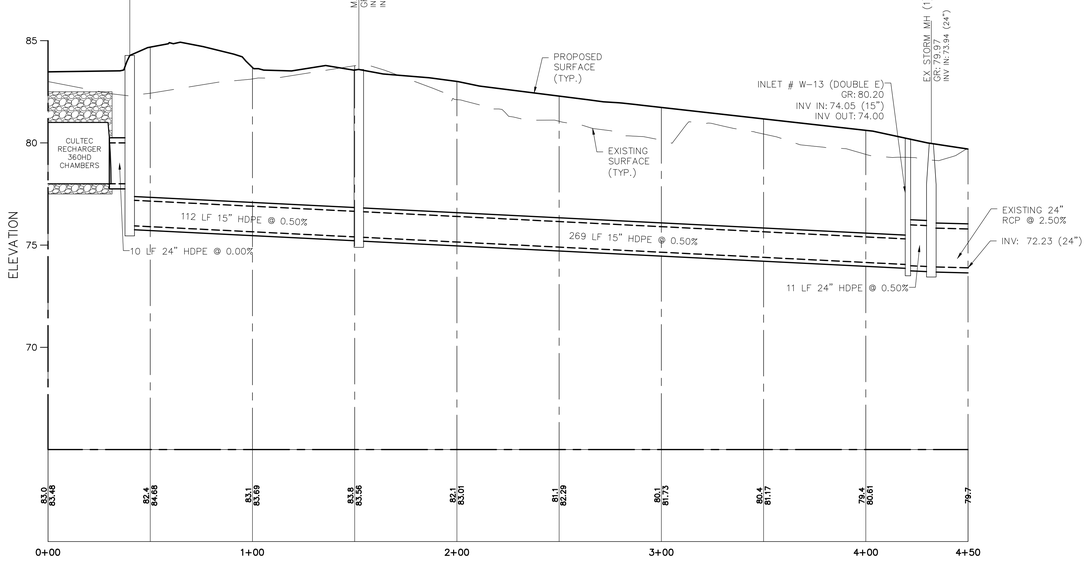
INLET #W-3 TO CULTEC CHAMBERS



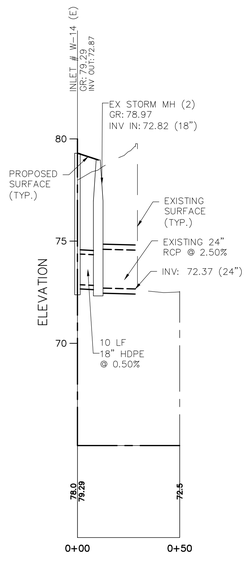
INLET #W-8 TO CULTEC CHAMBERS



INLET #W-9 TO CULTEC CHAMBERS



CULTEC CHAMBERS TO EX STORM MANHOLE



INLET #W-14 TO EXISTING BASIN

30 0 30 60
SCALE IN FEET

3/14/2023 10:55:58 AM
O:\ES2\0695\C02ST - Cancer Center\0695C02ST.001 - Penn Medical Cancer Center\CAD\02WWS\0695C02ST - Temporary Parking Lot\0695C02ST.001 - PSOT-TPL.dwg PSOT

Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

Princeton Forward

Penn Medicine
Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA
FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
2.	7.25.23	Revised Per DRC, DRCC and FSCD Comments
1.	6.14.23	Revised East Lot

N

Penn Medicine Princeton Health Temporary Parking Lot

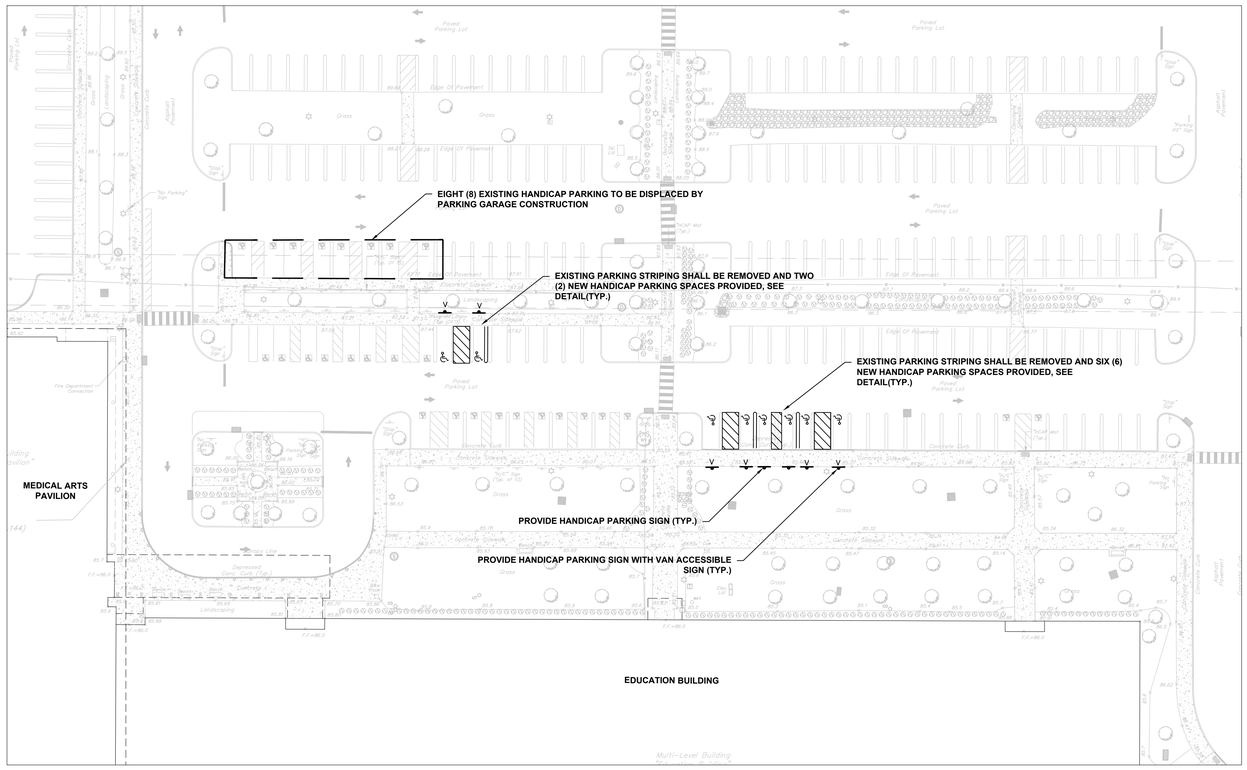
1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO. NBR22119.00

PHASE 1A

STORM SEWER PROFILES

C.1A.05

04/14/2023 SITE PLAN SUBMISSION



PARKING GARAGE AREA

HANDICAP PARKING MUST BE RELOCATED AND OPERATIONAL PRIOR TO REMOVAL OF DISPLACED HANDICAP PARKING SPACES.

CANCER CENTER AREA

HANDICAP PARKING MUST BE RELOCATED AND OPERATIONAL PRIOR TO REMOVAL OF DISPLACED HANDICAP PARKING SPACES.

NOTES:
1. THE PAVEMENT SURFACE SLOPE OF THE PROPOSED HANDICAP PARKING MUST NOT EXCEED 2% IN ANY DIRECTION.
2. TEMPORARY HANDICAP ACCESSIBLE PARKING TO BE REMOVED UPON COMPLETION AND OPERATION OF THE CANCER CENTER & PARKING GARAGE PROJECT

TEMPORARY H/C ACCESSIBLE PARKING SPACES: 20 TOTAL

30 0 30 60
SCALE IN FEET

3/14/2023 10:55:58 AM
O:\CE\20000\20633BT - Cancer Center\REDSET.MD - Penn Medical Cancer Center\CAD\DWG\MD\20633BT - Temporary Parking Lot\REDSET.MD3 - TYPCP-TPL.dwg MCP
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

Princeton Forward

Penn Medicine Princeton Health

1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH

99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0080
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES

Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800

FPAengineers.com

New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
2.	7.25.23	Revised Per DRC, DRCC and FSCD Comments
1.	6.14.23	Revised East Lot

N

Penn Medicine Princeton Health Temporary Parking Lot

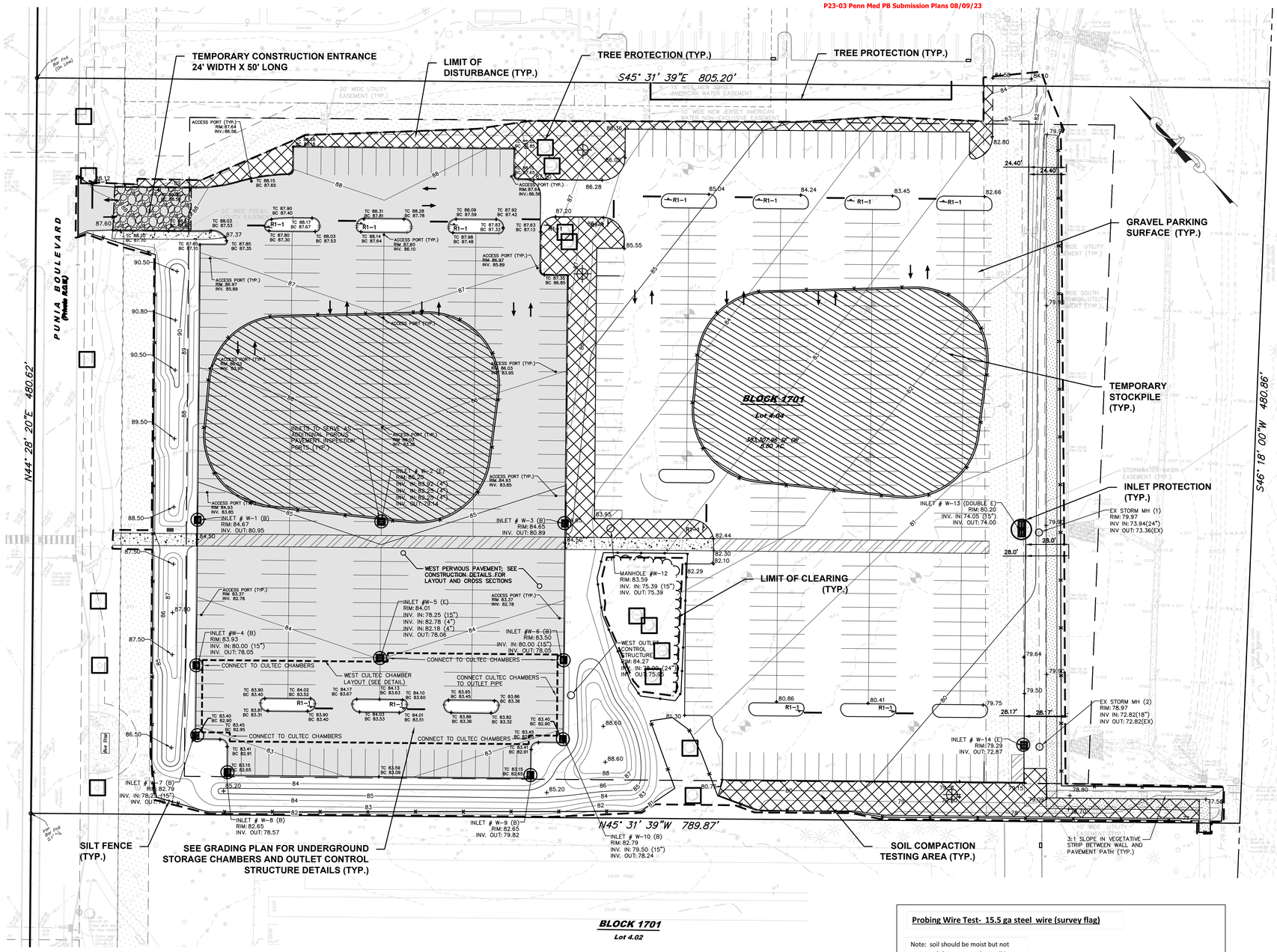
1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR22119.00

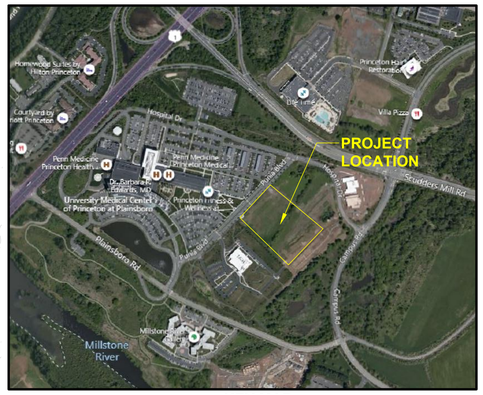
PHASE 1A

TEMPORARY ACCESSIBLE PARKING RELOCATION PLAN

C.1A.06

04/14/2023 SITE PLAN SUBMISSION





KEY MAP
NTS

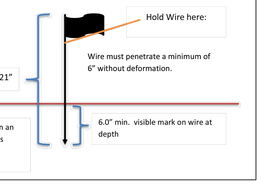
LEGEND

- LIMIT OF DISTURBANCE
- SILT FENCE
- LIMIT OF CLEARING
- INLET PROTECTION
- TREE PROTECTION
- RECOMMENDED SOIL COMPACTION TESTING SITE
- SOIL COMPACTION TESTING AREA
- PERVIOUS PAVEMENT SURFACE
- GRAVEL SURFACE
- TEMPORARY STOCKPILE
- STABILIZED CONSTRUCTION ENTERANCE

AREA OF DISTURBANCE:
268,508 S.F. = 6.160 AC

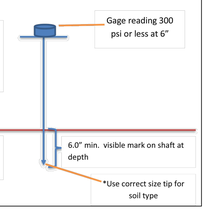
Probing Wire Test- 15.5 ga steel wire (survey flag)

Note: soil should be moist but not saturated. Do not test when soil is excessively dry or subject to freezing temperatures. Slow, steady downward pressure used to advance the wire.



Handheld Soil Penetrometer Test

Note: soil should be moist but not saturated. Do not test when soil is excessively dry or subject to freezing temperatures. Slow, steady downward pressure used to advance the probe. Probe must penetrate at least 6" with less than 300 psi reading on the gage.



Soil De-compaction and Testing Requirements

Soil Compaction Testing Requirements

1. Subgrade soils **prior to the application of topsoil** (see permanent seeding and stabilization notes for topsoil requirements) shall be free of excessive compaction to a depth of 6.0 inches to enhance the establishment of permanent vegetative cover.

2. Areas of the site which are subject to compaction testing and/or mitigation are **graphically denoted** on the certified soil erosion control plan.

3. **Compaction testing locations** are denoted on the plan. A copy of the plan or portion of the plan shall be used to mark locations of tests, and attached to the compaction remediation form, available from the local soil conservation district. This form must be filled out and submitted prior to receiving a certificate of compliance from the district.

4. In the event that testing indicates compaction in excess of the maximum thresholds indicated for the simplified testing methods (see details below), the contractor/owner shall have the option to perform either (1) compaction mitigation over the entire mitigation area denoted on the plan (excluding exempt areas), or (2) perform additional, more detailed testing to establish the limits of excessive compaction whereupon only the excessively compacted areas would require compaction mitigation. Additional detailed testing shall be performed by a trained, licensed professional.

Compaction Testing Methods

A. Probing Wire Test (see detail)
B. Hand-held Penetrometer Test (see detail)
C. Tube Bulk Density Test (licensed professional engineer required
D. Nuclear Density Test (licensed professional engineer required)

Note: Additional testing methods which conform to ASTM standards and specifications, and which produce a dry weight, soil bulk density measurement may be allowed subject to District approval.

Soil compaction testing is not required if/when subsoil compaction remediation (scarification/tillage (6" minimum depth) or similar) is proposed as part of the sequence of construction.

Procedures for Soil Compaction Mitigation

Procedures shall be used to mitigate excessive soil compaction **prior to placement of topsoil** and establishment of permanent vegetative cover.

Restoration of compacted soils shall be through deep scarification/tillage (6" minimum depth) where there is no danger to underground utilities (cables, irrigation systems, etc.). In the alternative, another method as specified by a New Jersey Licensed Professional Engineer maybe substituted subject to District Approval.

30 0 30 60
SCALE IN FEET

Princeton Forward

Penn Medicine
Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
2.	7.25.23	Revised Per DRC, DRCC and FSCD Comments
1.	6.14.23	Revised East Lot

Penn Medicine Princeton Health Temporary Parking Lot

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1A

SOIL EROSION AND SEDIMENT CONTROL PLAN

C.1A.07

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:56 AM
O:\CES\2000\NCC\SIT - Cancer Center\NCCSIT.003 - Penn Medicine Cancer Center\CAD\DWG\NCCSIT - Temporary Parking Lot\NCCSIT.003 - SCS.dwg SCS
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE FREEHOLD SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY SOIL DISTURBING ACTIVITY.
2. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
3. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RE-CERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
4. N.J.S.A 4:24-39 ET. SEQ. REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THE DISTRICT DETERMINES THAT A PROJECT OR PORTION THEREOF IS IN FULL COMPLIANCE WITH THE CERTIFIED PLAN AND STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY AND A REPORT OF COMPLIANCE HAS BEEN ISSUED. UPON WRITTEN REQUEST FROM THE APPLICANT, THE DISTRICT MAY ISSUE A REPORT OF COMPLIANCE WITH CONDITIONS ON A LOT-BY-LOT OR SECTION-BY-SECTION BASIS, PROVIDED THAT THE PROJECT OR PORTION THEREOF IS IN SATISFACTORY COMPLIANCE WITH THE SEQUENCE OF DEVELOPMENT AND TEMPORARY MEASURES FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN IMPLEMENTED, INCLUDING PROVISIONS FOR STABILIZATION AND SITE WORK.
5. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN SIXTY (60) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF 2 TO 2 ½ TONS PER ACRE, ACCORDING TO STATE STANDARD FOR STABILIZATION WITH MULCH ONLY.
6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AND A MULCH ANCHOR, IN ACCORDANCE WITH STATE STANDARDS.
7. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS, AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN FIFTEEN (15) DAYS OF THE PRELIMINARY GRADING.
8. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A PAD OF CLEAN CRUSHED STONE AT POINTS WHERE TRAFFIC WILL BE ACCESSING THE CONSTRUCTION SITE. AFTER INTERIOR ROADWAYS ARE PAVED, INDIVIDUAL LOTS REQUIRE A STABILIZED CONSTRUCTION ENTRANCE CONSISTING OF ONE INCH TO TWO INCH (1" - 2") STONE FOR A MINIMUM LENGTH OF TEN FEET (10') EQUAL TO THE LOT ENTRANCE WIDTH. ALL OTHER ACCESS POINTS SHALL BE BLOCKED OFF.
9. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAYS WILL BE REMOVED IMMEDIATELY.
10. PERMANENT VEGETATION IS TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.
11. AT THE TIME THAT SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
12. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS/ACRE, (OR 450 LBS/SQ FT OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12" OF SETTLED SOIL WITH A PH OF 5 OR MORE, OR 24" WHERE TREES OR SHRUBS ARE TO BE PLANTED.
13. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
14. UNFILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR DEWATERING.
15. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET, TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED AS REQUIRED BY THE STANDARD FOR DUST CONTROL.
16. STOCKPILE AND STAGING LOCATIONS ESTABLISHED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STAGING AND STOCKPILES NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN. CERTIFICATION OF A NEW SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED FOR THESE ACTIVITIES IF AN AREA GREATER THAN 5,000 SQUARE FEET IS DISTURBED.
17. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6.
18. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.

FREEHOLD SOIL CONSERVATION DISTRICT
4000 KOZLOSKI ROAD
FREEHOLD NEW JERSEY 07728
(732) 683-8500

ACID SOILS NOTES

IN ORDER TO PROVIDE SUITABLE CONDITIONS FOR GROWTH AND VEGETATION AND TO PREVENT THE ACIDIFYING OF DRAINAGE WATER IN THOSE AREAS UNDERLAIN WITH ACID FORMATIONS WITH A ph BELOW 4.0 THE FOLLOWING REQUIREMENT SHALL BE MET:

1. LIMIT THE EXCAVATION AREA AND EXPOSURE TIME WHEN HIGH ACID PRODUCING SOILS ARE ENCOUNTERED.
2. TOPSOIL STRIPPED FROM THE SITE SHALL BE STORED SEPARATELY FROM TEMPORARILY STOCKPILED HIGH ACID PRODUCING SOILS.
3. STOCKPILES OF HIGH ACID PRODUCING SOIL SHOULD BE LOCATED ON LEVEL LAND TO MINIMIZE ITS MOVEMENT, ESPECIALLY WHEN THIS MATERIAL HAS A HIGH CLAY CONTENT.
4. TEMPORARILY STOCKPILED HIGH ACID PRODUCING SOIL MATERIAL TO BE STORED MORE THAN 48 HOURS SHOULD BE COVERED WITH PROPERLY ANCHORED, HEAVY GRADE SHEETS OF POLYETHYLENE WHERE POSSIBLE. IF NOT POSSIBLE, STOCKPILES SHALL BE COVERED WITH A MINIMUM OF 3 TO 6 INCHES OF WOOD CHIPS TO MINIMIZE EROSION OF THE STOCKPILE. SILT FENCE SHALL BE INSTALLED AT THE TOE OF SLOPE TO CONTAIN MOVEMENT OF THE STOCKPILED MATERIAL. TOPSOIL SHALL NOT BE APPLIED TO THE STOCKPILES TO PREVENT TOPSOIL CONTAMINATION WITH HIGH ACID PRODUCING SOIL.
5. HIGH ACID PRODUCING SOILS WITH A pH OF 4 OR LESS, OR CONTAINING IRON SULFIDE, (INCLUDING BORROW FROM CUTS OR DREDGED SEDIMENT) SHALL BE ULTIMATELY PLACE OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS PER ACRE (OR 450 POUNDS PER 1,000 SQUARE FEET OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12 INCHES OF SETTLED SOIL WITH A pH OF 5 OR MORE EXCEPT AS FOLLOWS:
   A. AREAS WHERE TREES OR SHRUBS ARE PLANTED SHALL BE COVERED WITH A MINIMUM OF 24 INCHES OF SOIL WITH A pH OF 5 OR MORE.
   B. DISPOSAL AREAS SHALL NOT BE LOCATED WITHIN 24" OF ANY SURFACE OF A SLOPE OR BANK, SUCH AS BERMS, STREAM BANKS, DITCHES AND OTHERS TO PREVENT POTENTIAL LATERAL LEACHING DAMAGES.
6. EQUIPMENT USED FOR MOVEMENT OF HIGH ACID-PRODUCING SOILS SHOULD BE CLEANED AT THE END OF EACH DAY TO PREVENT SPREADING OF HIGH ACID-PRODUCING SOIL MATERIALS TO OTHER PARTS OF THE SITE, INTO STREAMS OR STORMWATER CONVEYANCES, AND TO PROTECT MACHINERY FROM ACCELERATED RUSTING.
7. NON-VEGETATIVE EROSION CONTROL PRACTICES (STONE TRACKING PADS, STRATEGICALLY PLACED LIMESTONE CHECK DAM, SEDIMENT BARRIER, WOOD CHIPS) SHOULD BE INSTALLED TO LIMIT THE MOVEMENT OF HIGH ACID-PRODUCING SOILS FROM, AROUND, OR OFF THE SITE.
8. FOLLOWING BURIAL OR REMOVAL OF HIGH ACID-PRODUCING SOIL, TOPSOILING AND SEEDING OF THE SITE (SEE TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION, PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION, AND TOPSOILING), MONITORING MUST CONTINUE FOR A MINIMUM OF 6 MONTHS TO ENSURE THERE IS ADEQUATE STABILIZATION AND THAT NO HIGH ACID-PRODUCING SOIL PROBLEMS EMERGE. IF PROBLEMS STILL EXIST, THE AFFECTED AREA MUST BE TREATED AS INDICATED ABOVE TO CORRECT THE PROBLEM.

CONSTRUCTION SCHEDULE AND PROCEDURE FOR IMPLEMENTATION OF SOIL EROSION AND SEDIMENT CONTROL MEASURES

1. PROVIDE TEMPORARY STABILIZATION OF ALL DISTURBED AREAS AND INSTALL SILT FENCE, STABILIZED CONSTRUCTION ENTRANCE AND ALL OTHER NECESSARY SOIL EROSION MEASURES. (2 DAYS)
2. PERFORM SITE CLEARING. (4 WEEKS)
3. CLEAR AND ESTABLISH ROUGH GRADES AS NECESSARY TO CONSTRUCT TEMPORARY PARKING LOT AND SITE IMPROVEMENTS. (2 WEEKS)
4. INSTALL STORM DETENTION SYSTEM, INLETS AND CONNECTING PIPES (3 WEEKS)
5. INSTALL ALL UNDERGROUND UTILITIES INCLUDING TEMPORARY ELECTRICAL LINE TO SERVICE PROPOSED LIGHTING (2 WEEKS)
6. INSTALL CURB, POROUS PAVEMENT STONE, AND PAVEMENT BASE COURSE (3 WEEKS)
7. ESTABLISH FINISHED GRADE, AND PROVIDE PERMANENT VEGETATIVE COVER. (2 WEEKS)
8. PAVE DRIVEWAYS, ACCESS DRIVE AND COMPLETE LIGHTING. (3 WEEKS)
9. REMOVE ACCESS PROTECTION, AND SILT FENCE AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED. (1 WEEK)

THE ABOVE SCHEDULE IS FOR THE IMPLEMENTATION AND INSTALLATION OF SOIL EROSION AND SEDIMENT CONTROL MEASURES ONLY. CONTRACTOR MAY MODIFY AND/OR CREATE HIS OWN SCHEDULE. IF THE CONSTRUCTION SCHEDULE IS MODIFIED, A REVISION TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED.

PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

1. SITE PREPARATION
   A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS, FOR LAND GRADING.
   B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOILING APPLICATION, THE SUBSOIL SHALL BE EVALUATED FOR COMPACTION IN ACCORDANCE WITH THE STANDARD FOR LAND GRADING.
   C. TOPSOIL SHOULD BE HANDLED ONLY WHEN ITS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE. A UNIFORM APPLICATION TO A DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED ON ALL SITES. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING.
   D. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.
2. SEEDBED PREPARATION
   A. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO TOPSOIL WHICH HAS BEEN SPREAD AND FIRMED, ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES (HTTP://NJAES.RUTGERS.EDU/COUNTY/). FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 S.F. OF 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ONE-HALFTHE RATE DESCRIBED ABOVE DURING THE SEEDBED PREPARATION AND REPEAT ANOTHER ONE-HALF RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING.
   B. WORK LIME AND FERTILIZER INTO THE TOPSOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
   C. HIGH ACID PRODUCING SOIL. SOILS HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE BEFORE INITIATING SEEDBED PREPARATION. SEE ACID SOIL NOTES.
3. SEEDING
   A. SEEDING DATES AND MIXTURES: PERMANENT SEEDING SHALL CONSISTING OF THE FOLLOWING MIXES OR APPROVED EQUAL - ACCEPTABLE SEEDING DATES ARE BETWEEN MARCH 1 THRU APRIL 30 AND OPTIMAL SEEDING DATES ARE AUGUST 15 THRU OCTOBER 15 (SUMMER SEEDING IS ALSO ACCEPTABLE BUT SHOULD ONLY BE CONDUCTED WHEN THE SITE IS IRRIGATED BETWEEN MAY 1 THRU AUGUST 14):

      HARD FESCUE @ 4.0#/1,000 S.F.
      PERENNIAL RYEGRASS @ 1.0#/1,000 S.F.
      KENTUCKY BLUEGRASS @ 1.0#/1,000 S.F.

      PERMANENT SEEDING SHALL BE PROVIDED ON ALL THE DETENTION BASIN SIDE SLOPES AND BASIN BOTTOM. THE SEED MIX SHALL BE SEED MIXTURE 17 AND CONSIST OF THE FOLLOWING MIXTURE OR APPROVED EQUAL - ACCEPTABLE SEEDING DATES ARE BETWEEN MARCH 1 THRU APRIL 30 AND OPTIMAL SEEDING DATES ARE AUGUST 15 THRU OCTOBER 15 (SUMMER SEEDING IS ALSO ACCEPTABLE BUT SHOULD ONLY BE CONDUCTED WHEN THE SITE IS IRRIGATED BETWEEN MAY 1 THRU AUGUST 14):

      CREEPING BENTGRASS @1#/1,000 S.F.
      CREEPING RED FESCUE @1#/1,000 S.F.
      ALKALI SALTGRASS @1#/1,000 S.F.

      PLEASE NOTE THAT OTHER SEED MIXTURES CAN BE USED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
   B. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF ¼ TO ½ INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE ¼ INCH DEEPER ON COARSE-TEXTURED SOIL.
   C. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.
   D. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK, OR TRAILER-MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER, AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT-FINERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. WHEN POOR SEED TO SOIL CONTACT OCCURS, THERE IS A REDUCED SEED GERMINATION AND GROWTH.
4. MULCHING

   MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS REQUIREMENT.
   A. STRAW OR HAY. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, APPLIED AT THE RATE OF 1 ½ TO 2 TONS ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO PRESENCE OF WEED SEED.

      APPLICATION- SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 95% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTION 70 TO 90 POUNDS WITHIN EACH SECTION.

      ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.

1. PEG AND TWINE. DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRECHING TWINE BETWEEN PEGS IN A CRIS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
2. MULCH NETTING. STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTING TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.
3. CRIMPER (MULCH ANCHORING COULTER TOOL) - A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.
4. LIQUID MULCH BINDERS-MAY BE USED TO ANCHOR SALT HAY OR STRAW MULCH.
   A. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.
   B. USE ONE OF THE FOLLOWING:
1. ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.
2. SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

   NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A COMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.
3. WOOD-FIBER OR PAPER-FIBER MULCH. SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS, USED AT THE RATE OF 1,500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. THIS MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.
4. PELLETIZED MULCH. COMPRESSED AND EXTRUDE PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDED AREA AND WATERED, FORMA MULCH MAT. PELLETIZED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75LBS/1,000 SQUARE FEET WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS, SEED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE.

   APPLY THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETIZED MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.
5. IRRIGATION (WHERE FEASIBLE)

   IF SOIL MOISTURE IS DEFICIENT, AND MULCH IS NOT USED, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER (A MINIMUM OF 1/4 INCH APPLIED UP TO TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.

STABILIZATION WITH MULCH

METHODS AND MATERIALS

1. SITE PREPARATION
   A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS, FOR LAND GRADING.
   B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.
2. PROTECTIVE MATERIALS
   A. UN-ROTTED SMALL-GRAIN STRAW, OR SALT HAY AT 2.0 TO 2.5 TONS PER ACRE IS SPREAD UNIFORMLY AT 90 TO 115 POUNDS PER 1,000 SQUARE FEET AND ANCHORED WITH A MULCH ANCHORING TOOL, LIQUID MULCH BINDERS, OR NETTING TIE DOWN. OTHER SUITABLE MATERIALS MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT. THE APPROVED RATES ABOVE HAVE BEEN MET WHEN THE MULCH COVERS THE GROUND COMPLETELY UPON VISUAL INSPECTION, ie. THE SOIL CAN NOT BE BELOW THE MULCH.
   B. ASPHALT EMULSION IS RECOMMENDED AT THE RATE OF 600 TO 1,200 GALLONS PER ACRE. THIS IS SUITABLE FOR A LIMITED PERIOD OF TIME WHERE TRAVEL BY PEOPLE, ANIMALS OR MACHINES IS NOT A PROBLEM.
   C. SYNTHETIC OR ORGANIC SOIL STABILIZERS MAY BE USED UNDER SUITABLE CONDITIONS AND IN QUANTITIES AS RECOMMENDED BY THE MANUFACTURER.
   D. WOOD-FIBER OR PAPER-FIBER MULCH AT THE RATE OF 1,500 POUNDS PER ACRE (OR ACCORDING TO THE MANUFACTURER'S REQUIREMENTS) MAY BE APPLIED BY A HYROSEEDER.
   E. MULCH NETTING, SUCH AS PAPER JUTE, EXCELSIOR, COTTON, OR PLASTIC, MAY BE USED.
   F. WOODCHIPS APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 2 INCHES MAY BE USED. WOODCHIPS WILL NOT BE USED ON AREAS WHERE FLOWING WATER COULD WHERE FLOWING WATER COULD WASH THEM INTO AN INLET AND PLUG IT.
   G. GRAVEL, CRUSHED STONE, OR SAG AT THE RATE OF 9 CUBIC YARDS PER 1,000 SQ. FT. APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 3 INCHES MAY BE USED. SIZE 2 OR 3 (ASTM-C-33) IS RECOMMENDED.
3. MULCH ANCHORING - SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA AND STEEPNESS OF SLOPES.
   A. PEG AND TWINE - DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRIS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
   B. MULCH NETTING - STAPLE PAPER, COTTON, OR PLASTIC NETTINGS OVER MULCH. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED. NETTING IS USUALLY AVAILABLE IN ROLLS 4 FEET WIDE AND UP TO 300 FEET LONG.
   C. CRIMPER MULCH ANCHORING COULTER TOOL - A TRACTOR-DAWN IMPLEMENT ESPECIALLY DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SURFACE. THIS PRACTICE AFFORDS MAXIMUM EROSION CONTROL, BUT IS USE IS LIMITED TO THOSE SLOPES UPON WHICH THE TRACTOR CAN OPERATE SAFELY. SOIL PENETRATION SHOULD BE ABOUT 3 TO 4 INCHES. ON SLOPING LAND, THE OPERATION SHOULD BE ON THE CONTOUR.
   D. LIQUID MULCH -BINDERS
      1. APPLICATION SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.
      2. USE ONE OF THE FOLLOWING:
   A. ORGANIC AND VEGETABLE BASED BINDER - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. VEGETABLE BASED GELS SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.
      B. SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

STANDARD FOR TOPSOILING

DEFINITION

TOPSOILING ENTAILS THE DISTRIBUTION OF SUITABLE QUALITY SOIL ON AREAS TO BE VEGETATED.

PURPOSE

TO IMPROVE THE SOIL MEDIUM FOR PLANT ESTABLISHMENT AND MAINTENANCE.

WATER QUALITY ENHANCEMENT

GROWTH AND ESTABLISHMENT OF A VIGOROUS VEGETATIVE COVER IS FACILITATED BY TOPSOIL, PREVENTING SOIL LOSS BY WIND AND RAIN OFFSITE AND INTO STREAMS AND OTHER STORMWATER CONVEYANCES.

WHERE APPLICABLE

TOPSOIL SHALL BE USED WHERE SOILS ARE TO BE DISTURBED AND WILL BE REVEGETATED.

METHODS AND MATERIALS

1. MATERIALS
   A. TOPSOIL SHOULD BE FRIABLE, LOAMY, FREE OF DEBRIS, OBJECTIONABLE WEEDS AND STONES, AND CONTAIN NO TOXIC SUBSTANCE OR ADVERSE CHEMICAL OR PHYSICAL CONDITION THAT MAY BE HARMFUL TO PLANT GROWTH. SOLUBLE SALTS SHOULD NOT BE EXCESSIVE (CONDUCTIVITY LESS THAN 0.5 MILLIMHOS PER CENTIMETER. MORE THAN 0.5 MILLIMHOS MAY DESICCATE SEEDLINGS AND ADVERSELY IMPACT GROWTH). IMPORTED TOPSOIL SHALL HAVE A MINIMUM ORGANIC MATTER CONTENT OF 2.75 PERCENT. ORGANIC MATTER CONTENT MAY BE RAISED BY ADDITIVES.
   B. TOPSOIL SUBSTITUTE IS A SOIL MATERIAL WHICH MAY HAVE BEEN AMENDED WITH SAND, SILT, CLAY, ORGANIC MATTER, FERTILIZER OR LIME AND HAS THE APPEARANCE OF TOPSOIL. TOPSOIL SUBSTITUTES MAY BE UTILIZED ON SITES WITH INSUFFICIENT TOPSOIL FOR ESTABLISHING PERMANENT VEGETATION. ALL TOPSOIL SUBSTITUTE MATERIALS SHALL MEET THE REQUIREMENTS OF TOPSOIL NOTED ABOVE. SOIL TESTS SHALL BE PERFORMED TO DETERMINE THE COMPONENTS OF SAND, SILT, CLAY, ORGANIC MATTER, SOLUBLE SALTS AND PH LEVEL.
2. STRIPPING AND STOCKPILING
   A. FIELD EXPLORATION SHOULD BE MADE TO DETERMINE WHETHER QUANTITY AND OR QUALITY OF SURFACE SOIL JUSTIFIES STRIPPING.
   B. STRIPPING SHALL BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA.
   C. WHERE FEASIBLE, LIME MAY BE APPLIED BEFORE STRIPPING AT A RATE DETERMINED BY SOIL TESTS TO BRING THE SOIL PH TO APPROXIMATELY 6.5.
   D. A 4-6 INCH STRIPPING DEPTH IS COMMON, BUT MAY VARY DEPENDING ON THE PARTICULAR SOIL.
   E. STOCKPILES OF TOPSOIL SHOULD BE SITUATED SO AS NOT TO OBSTRUCT NATURAL DRAINAGE OR CAUSE OFF-SITE ENVIRONMENTAL DAMAGE.
   F. STOCKPILES SHOULD BE VEGETATED IN ACCORDANCE WITH STANDARDS PREVIOUSLY DESCRIBED HEREIN; SEE STANDARDS FOR PERMANENT (PG. 4-1) OR TEMPORARY (PG.7-1) VEGETATIVE COVER FOR SOIL STABILIZATION. WEEDS SHOULD NOT BE ALLOWED TO GROW ON STOCKPILES.
3. SITE PREPARATION
   A. GRADE AT THE ONSET OF THE OPTIMAL SEEDING PERIOD SO AS TO MINIMIZE THE DURATION AND AREA OF EXPOSURE OF DISTURBED SOIL TO EROSION. IMMEDIATELY PROCEED TO ESTABLISH VEGETATIVE COVER IN ACCORDANCE WITH THE SPECIFIED SEED MIXTURE. TIME IS OF THE ESSENCE
   B. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE.
   SEE THE STANDARD FOR LAND GRADING, PG. 19-1.
   C. AS GUIDANCE FOR IDEAL CONDITIONS, SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT. LIMESTONE, IF NEEDED, SHOULD BE APPLIED TO BRING SOIL TO A PH OF APPROXIMATELY 6.5 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES.
   D. PRIOR TO TOPSOILING, THE SUBSOIL SHALL BE IN COMPLIANCE WITH THE STANDARD FOR LAND GRADING, PG. 19-1.
   E. EMPLOY NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENTATION BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.
4. APPLYING TOPSOIL
   A. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE; I.E., LESS THAN FIELD CAPACITY (SEE GLOSSARY).
   B. A UNIFORM APPLICATION TO AN AVERAGE DEPTH OF 5.0 INCHES, FIRMED IN PLACE IS REQUIRED. ALTERNATIVE DEPTHS MAY BE CONSIDERED WHERE SPECIAL REGULATORY AND/OR INDUSTRY DESIGN STANDARDS ARE APPROPRIATE SUCH AS ON GOLF COURSES, SPORTS FIELDS, LANDFILL CAPPING, ETC.. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE, IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOIL (PG. 1-1).
   C. PURSUANT TO THE REQUIREMENTS IN SECTION 7 OF THE STANDARD FOR PERMANENT VEGETATIVE STABILIZATION, THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT PERMANENT VEGETATIVE COVER BECOMES ESTABLISHED ON AT LEAST 80% OF THE SOILS TO BE STABILIZED WITH VEGETATION. FAILURE TO ACHIEVE THE MINIMUM COVERAGE MAY REQUIRE ADDITIONAL WORK TO BE PERFORMED BY THE CONTRACTOR TO INCLUDE SOME OR ALL OF THE FOLLOWING: SUPPLEMENTAL SEEDING, RE-APPLICATION OF LIME AND FERTILIZERS, AND/OR THE ADDITION OF ORGANIC MATTER (I.E. COMPOST) AS A TOP DRESSING. SUCH ADDITIONAL MEASURES SHALL BE BASED ON SOIL TESTS SUCH AS THOSE OFFERED BY RUTGERS COOPERATIVE EXTENSION SERVICE OR OTHER APPROVED LABORATORY FACILITIES QUALIFIED TO TEST SOIL SAMPLES FOR AGRONOMIC PROPERTIES.

TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

1. SITE PREPARATION
   A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS, FOR LAND GRADING.
   B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.
   C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.)
2. SEEDBED PREPARATION
   A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 S.F. OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. APPLY LIMESTONE AT THE RATE AS ESTABLISHED BY SOIL TESTING. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES.
   B. WORK LIME AND FERTILIZER INTO THE TOPSOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
   C. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RECTIFIED IN ACCORDANCE WITH THE ABOVE.
   D. SOILS HIGH IN SULFIDES OR HAVING A PH OF 4 OR LESS, SEE ACID SOIL NOTES.
3. SEEDING
   A. TEMPORARY SEEDING SHALL CONSISTING OF THE FOLLOWING SEED SELECTIONS OR APPROVED EQUAL:

      COOL SEASON GRASSES (ZONE 6B SEEDING DATES MARCH 1 THRU MAY 15 OR AUGUST 15 THRU OCTOBER 1)

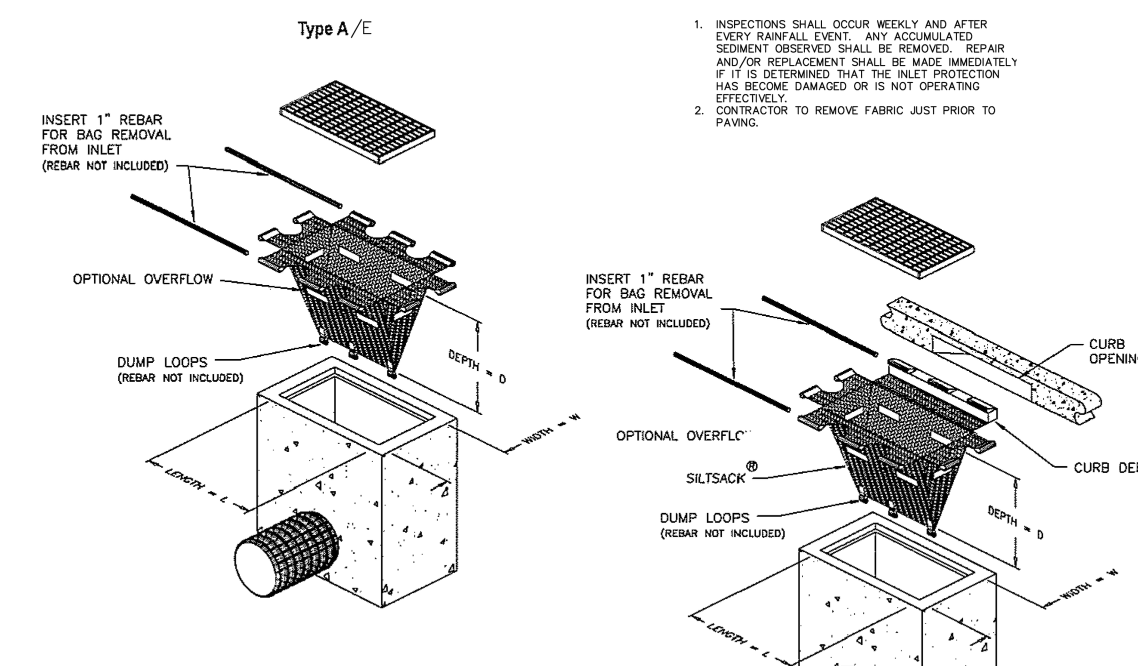
      PERENNIAL RYEGRESS @ 1.0#/1,000 S.F., WITH OPTIMUM SEED DEPTH OF 0.5 INCH
      SPRING OATS @ 2.0#/1,000 S.F., WITH OPTIMUM SEED DEPTH OF 1.0 INCH

      WARM SEASON GRASSES (ZONE 6B SEEDING DATES MAY 15 THRU AUGUST 15)

      PEARL MILLET @ 0.5#/1,000 S.F. WITH OPTIMUM SEED DEPTH OF 1.0 INCH

      PLEASE NOTE THAT OTHER SEED SELECTIONS CAN BE USED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.
   B. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF ¼ TO ½ INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE ¼ INCH DEEPER ON COARSE-TEXTURED SOIL.
   C. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK, OR TRAILER-MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER, AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT-FINERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. WHEN POOR SEED TO SOIL CONTACT OCCURS, THERE IS A REDUCED SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.
   D. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.
4. MULCHING

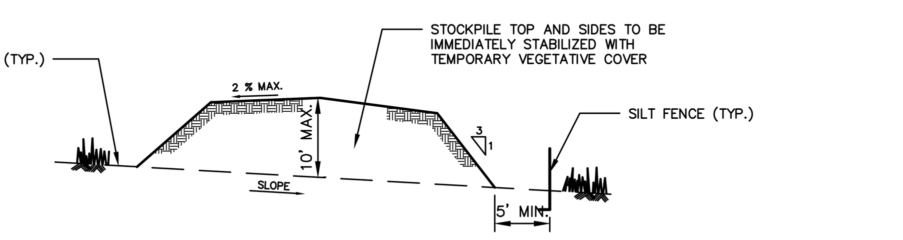
   REFER TO THE MULCH NOTES, NOTE 4 UNDER THE PERMANENT VEGETATIVE COVER SECTION.



1. INSPECTIONS SHALL OCCUR WEEKLY AND AFTER EVERY RAINFALL EVENT. ANY ACCUMULATED SEDIMENT OBSERVED SHALL BE REMOVED. REPAIR AND/OR REPLACEMENT SHALL BE MADE IMMEDIATELY IF IT IS DETERMINED THAT THE INLET PROTECTION HAS BECOME DAMAGED OR IS NOT OPERATING EFFECTIVELY.
2. CONTRACTOR TO REMOVE FABRIC JUST PRIOR TO PAVING.

INLET PROTECTION DETAIL

NOT TO SCALE

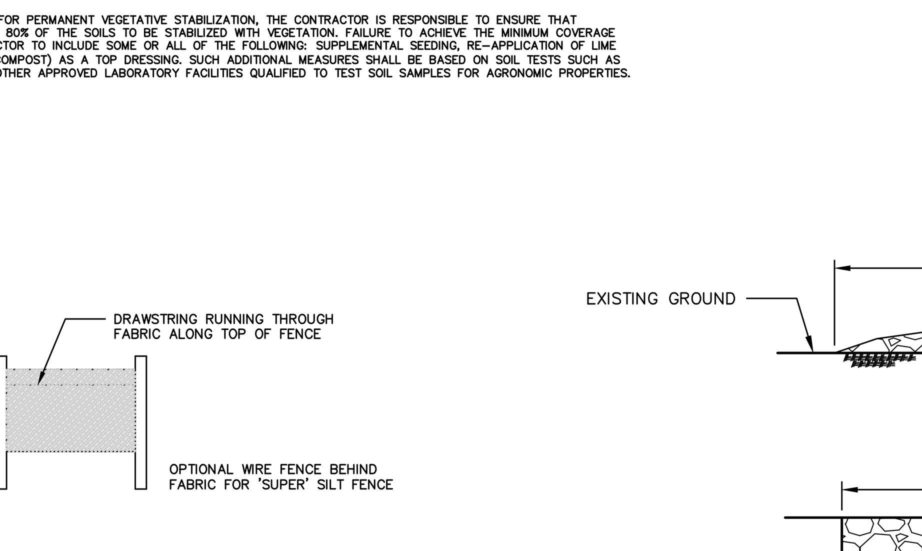


NOTES:

1. TOPSOIL STOCKPILES TO BE PLACED AS DETERMINED IN THE FIELD.
2. STOCKPILE NOT TO BE PLACED IN AREA WITH CONCENTRATED FLOW, WETLANDS, EXTREME SLOPE OR WITHIN 100' OF A NATURAL STREAM.

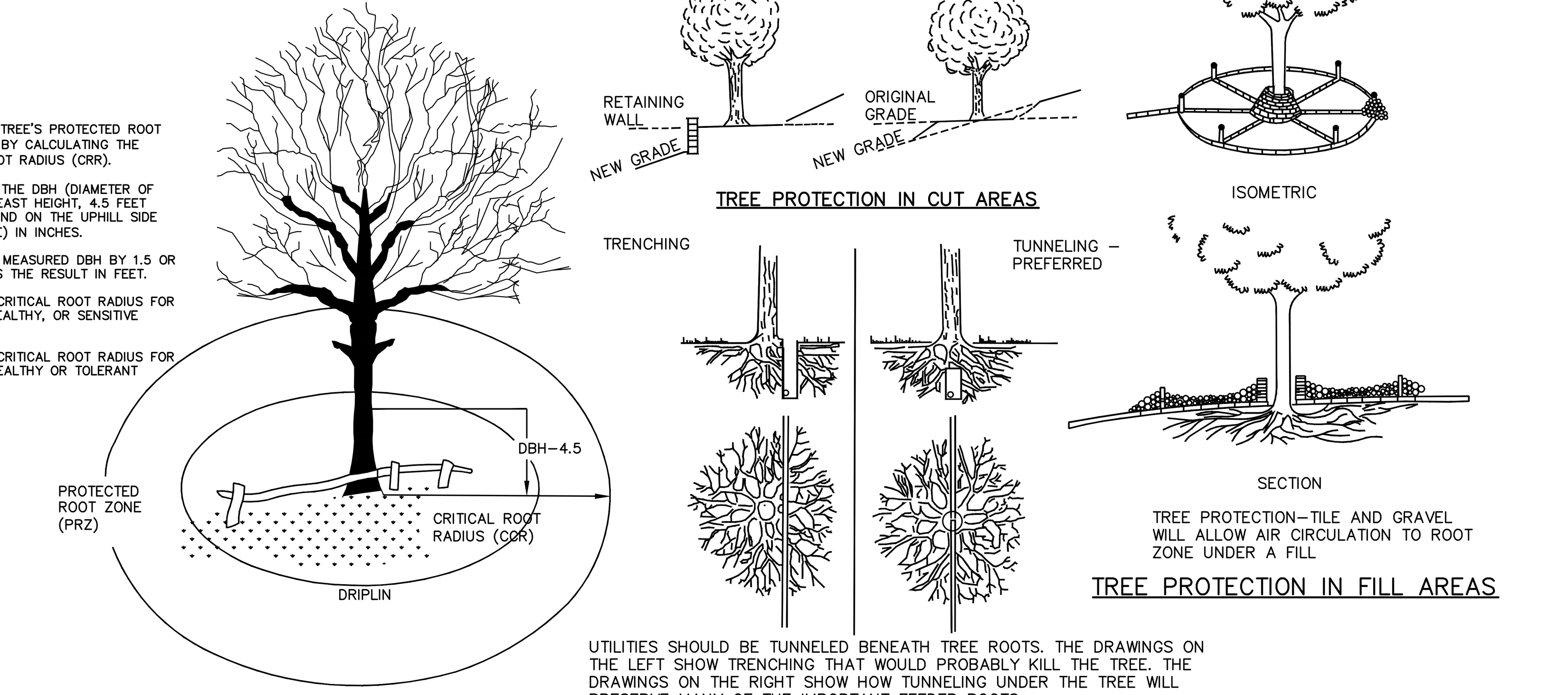
TEMPORARY STOCKPILE

NOT TO SCALE



TREE PROTECTION FENCE

A RETAINING WALL PROTECTS A TREE FROM A LOWERED GRADE



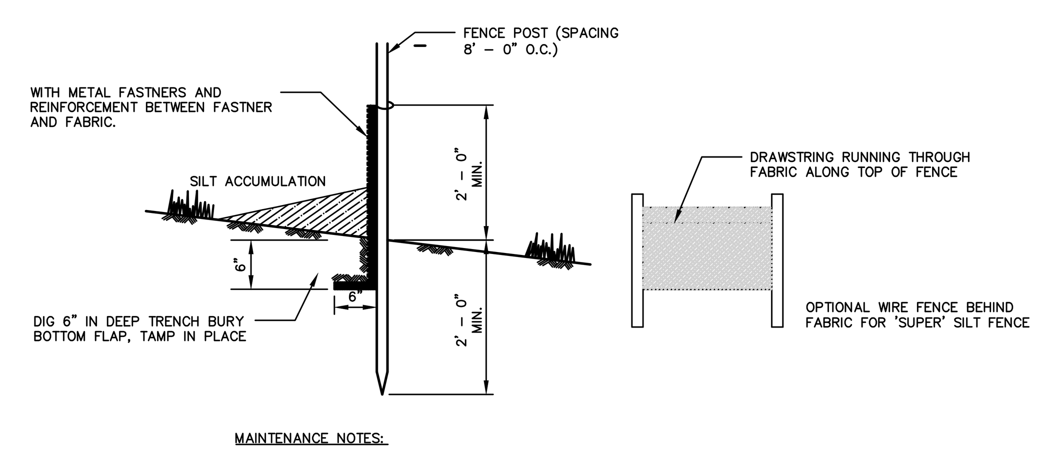
UTILITIES SHOULD BE TUNNELED BENEATH TREE ROOTS. THE DRAWINGS ON THE LEFT SHOW TRENCHING THAT WOULD PROBABLY KILL THE TREE. THE DRAWINGS ON THE RIGHT SHOW HOW TUNNELING UNDER THE TREE WILL PRESERVE MANY OF THE IMPORTANT FEEDER ROOTS.

ROOT PROTECTION DURING CONSTRUCTION GUIDE

TREE PROECTION-UNDERGROUND UTILITY INSTALLATION

TREE PROTECTION DETAIL

NOT TO SCALE

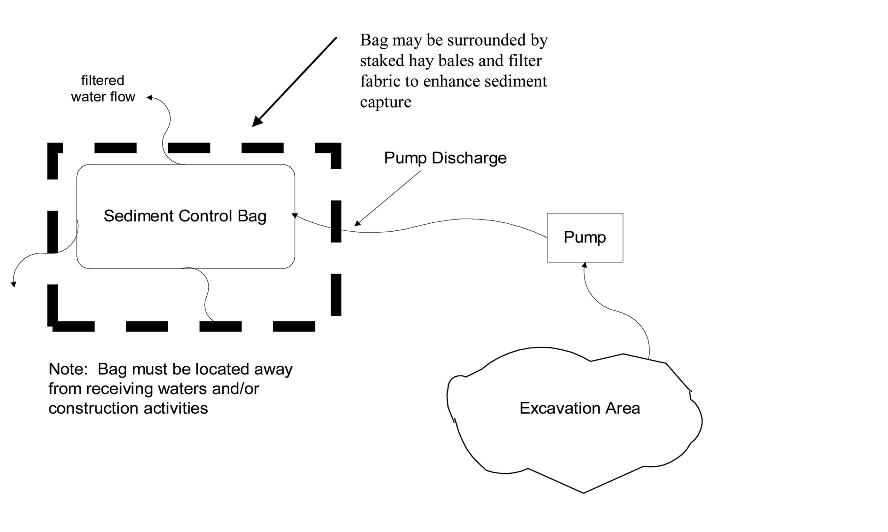


MAINTENANCE NOTES:

1. SEDIMENT SHALL BE REMOVED FROM THE UPSTREAM FACE OF THE BARRIER WHEN IT HAS REACHED A DEPTH OF ½ THE BARRIER HEIGHT.
2. REPAIR OR REPLACE BARRIER (FABRIC, POSTS, BALES ETC.) WHEN DAMAGED.
3. BARRIERS SHALL BE INSPECTED DAILY FOR SIGNS OF DETERIORATION AND SEDIMENT REMOVAL.

SILT FENCE

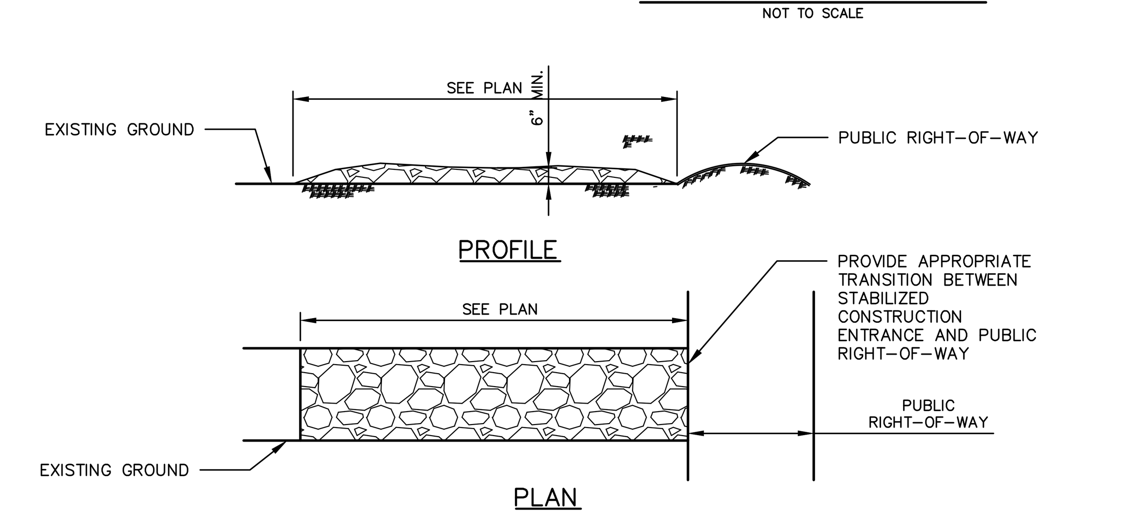
NOT TO SCALE



Bags must be disposed of according to manufacturer's instructions. Bags may not be reused.

DEWATERING DETAIL

NOT TO SCALE



PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED	
	COURSE GRAINED SOILS	FINE GRAINED SOILS
0 TO 2%	50 FEET	100 FEET
2% TO 5%	100 FEET	200 FEET
>5%	ENTIRE SURFACE STABILIZED WITH HOT MIX ASPHLAT BASE COURSE, MIX I-2	

NOTES:

1. STONE SIZE - USE ASTM C-33, SIZE NO. 2 (2½ TO 1½ IN.) OR 3 (2 TO 1 IN.). USE CLEAN CRUSHED ANGULAR STONES. CRUSHED CONCRETE OF SIMILAR SIZE MAY BE SUBSTITUTED BUT WILL REQUIRE MORE FREQUENT UPGRADING AND MAINTENANCE.
2. LENGTH - 50 FEET MINIMUM WHERE SOILS ARE COURSE GRAINED (SAND OR GRAVEL), OR 100 FEET MINIMUM WHERE SOILS ARE FINE GRAINED (CLAYS OR SILTS), EXCEPT WHERE THE TRAVEL LENGTH IS LESS THAN 50 OR 100 FEET RESPECTIVELY. THESE LENGTHS MAY BE INCREASED WHERE FIELD CONDITIONS DICTATE. STORMWATER FROM UP-SLOPE AREAS SHALL BE DIVERTED AWAY FROM THE STABILIZED PAD (SEE STANDARD FOR DIVERSIONS). WHERE DIVERSION IS NOT POSSIBLE, THE LENGTH OF THE STABILIZED PAD SHALL BE SHOWN AS IN TABLE ABOVE. WHERE THE SLOPE OF THE ACCESS ROAD EXCEEDS 5%, A STABILIZED BASE OF HOT MIX ASPHALT BASE COURSE, MIX I-2, SHALL BE INSTALLED. THE TYPE AND THICKNESS OF THE BASE COURSE AND USE OF A DENSE GRADED AGGREGATE SUB-BASE SHALL BE AS PRESCRIBED BY LOCAL MUNICIPAL ORDINANCE OR OTHER GOVERNING AUTHORITY.

   AT POORLY DRAINED LOCATIONS, SUBSURFACE DRAINAGE GRAVEL FILTER OR GEOTEXTILE SHALL BE INSTALLED BEFORE INSTALLING THE STABILIZED CONSTRUCTION ENTRANCE.

   WHERE A STABILIZED CONSTRUCTION ENTRANCE EXIT TRAVERSES BETWEEN TWO BUILDINGS, IT SHALL BE STONED THE ENTIRE LENGTH OF THE RIGHT-OF-WAY. MOUNTABLE STONE BERMS PLACED ACROSS THE WIDTH OF THE EXIT MAY ALSO BE REQUIRED AT THE TRANSITION POINT BETWEEN PAVED AND NON-PAVED AREAS TO TRAP SEDIMENTS WHICH ARE CARRIED BY STORMWATER FLOWING ALONG THE CURBLINE.
3. THICKNESS - NOT LESS THAN 6 INCHES.
4. WIDTH - NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. TIRE WASHING - IF SPACE IS LIMITED, VEHICLE TIRES MAY BE WASHED WITH CLEAN WATER BEFORE ENTERING A PAVED AREA. A WASH STATION MUST BE LOCATED SUCH THAT WATER WILL NOT FLOW ONTO PAVED ROADWAYS OR INTO UNPROTECTED STORM DRAINAGE SYSTEMS.

   WHEN THE CONSTRUCTION ACCESS EXITS ONTO A MAJOR ROADWAY, A PAVED TRANSITION AREA MAY BE INSTALLED BETWEEN THE MAJOR ROADWAY AND THE STONED ENTRANCE TO PREVENT LOOSE STONES FROM BEING TRANSPORTED OUT ONTO THE ROADWAY BY THE HEAVY EQUIPMENT ENTERING OR LEAVING THE SITE.
6. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS (PRIVATE OR PUBLIC) OR OTHER IMPERVIOUS SURFACES MUST BE REMOVED IMMEDIATELY.

   WHERE ACCUMULATION OF DUST/SEDIMENT IS INADEQUATELY CLEANED OR REMOVED BY CONVENTIONAL METHODS, A POWER BROOM OR STREET SWEEPER WILL BE REQUIRED TO CLEAN PAVED OR IMPERVIOUS SURFACES. ALL OTHER ACCESS POINTS WHICH ARE NOT STABILIZED SHALL BE BLOCKED OFF.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

SCALE IN FEET

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
2.	7.25.23	Revised Per DRC, DRCC and FSCD Comments
1.	6.14.23	Revised East Lot

N

Penn Medicine Princeton Health Temporary Parking Lot

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

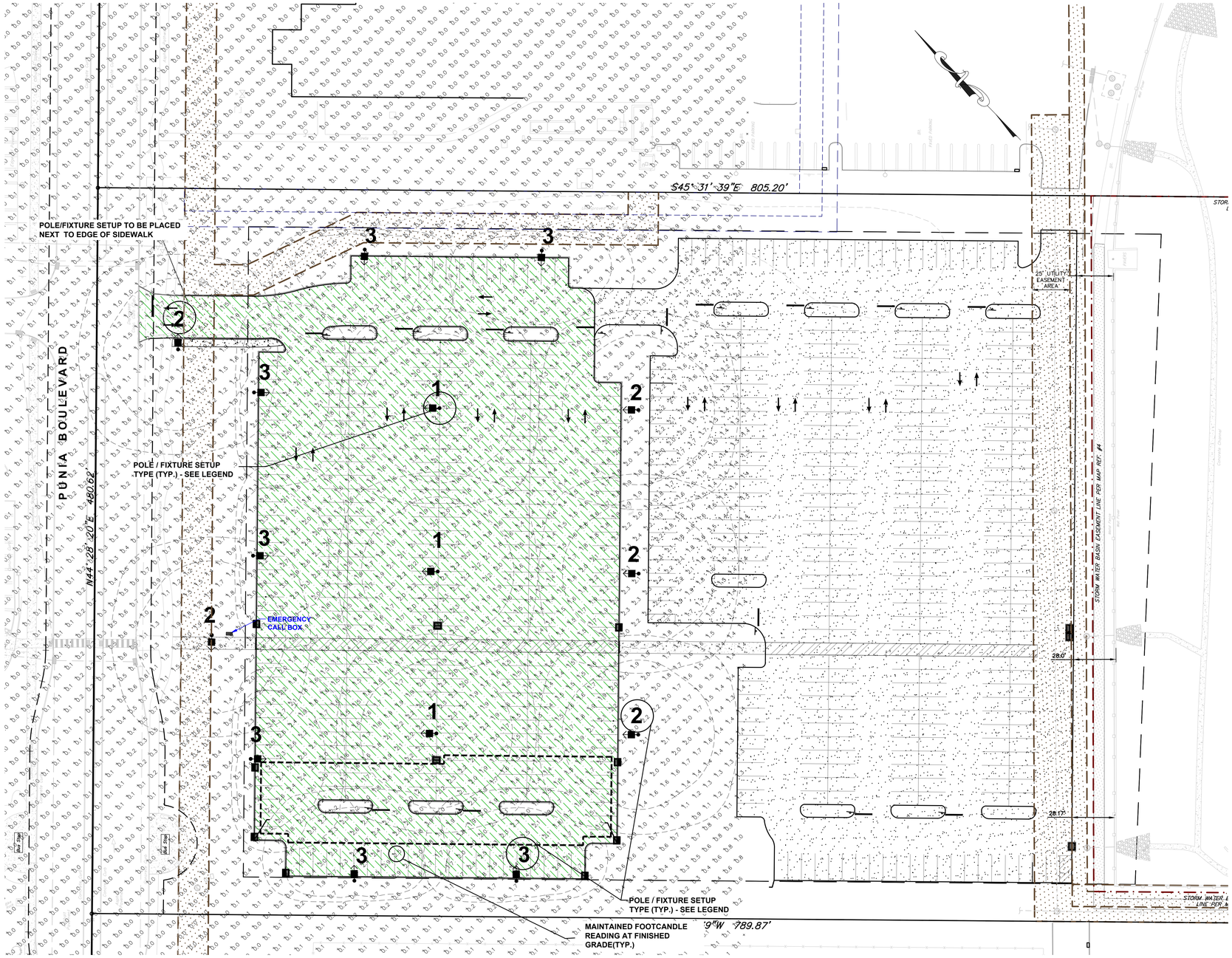
PHASE 1A

SOIL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

C.1A.08

04/14/2023 SITE PLAN SUBMISSION

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

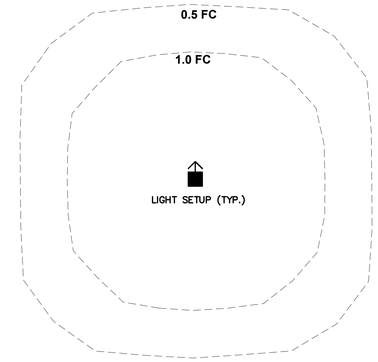


LEGEND:

SETUP TYPE 1	FIXTURE TYPE A WITH POLE TYPE A (CONCRETE PEDESTAL FOOTING INSTALLATION)
SETUP TYPE 2	FIXTURE TYPE A WITH POLE TYPE B (DIRECT BURIAL INSTALLATION)
SETUP TYPE 3	FIXTURE TYPE B WITH POLE TYPE B (DIRECT BURIAL INSTALLATION)

LIGHTING NOTES

1. DO NOT INSTALL PROPOSED LIGHTS ON TOP OF ANY PROPOSED OR EXISTING UNDERGROUND UTILITIES. FIELD ADJUST LIGHTS AS NEEDED AS DIRECTED BY THE PROJECT PROFESSIONAL TO ACCOMMODATE ANY POTENTIAL CONFLICTS.
2. SETUP TYPE 1 SHALL HAVE 2.5' CONCRETE PEDESTALS.
3. SETUP TYPE 2 AND 3 SHALL BE PLACED IN CENTERS OF ISLANDS OR 5' MINIMUM FROM THE BACK OF THE CURB OR TO THE FACE OF THE POLE UNLESS OTHERWISE NOTE.D
4. COLOR AND FINISH OF PROPOSED LIGHTS AND POLES SHALL BE SELECTED FROM AVAILABLE STANDARD COLOR BY OWNER. FINISHES OF THE POLE AND LIGHT FIXTURE SHALL MATCH.
5. COLOR OF LED LIGHT SOURCE TO MATCH COLOR RENDITION OF EXISTING CAMPUS LIGHTS.
6. THE CONTRACTOR MUST PROVIDE CONTROL SYSTEM INCLUDING ALL WIRING, CONDUITS, CONNECTIONS AND SWITCHES FOR THE OWNER TO ACTIVATE AND OPERATE THE NIGHTTIME LIGHTING SEQUENCE (DIMMING) FROM A REMOTE LOCATION . CONTRACTOR MUST PROVIDE SHOP DRAWINGS OF THE COMPLETE WORKING CONTROL SYSTEM.
7. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT SHOP DRAWINGS AND FINISH/COLOR SAMPLES OF ALL LIGHT FIXTURES AND POLES FOR REVIEW AND APPROVAL BY THE APPROPRIATE ENTITIES PRIOR TO ORDERING OF MATERIAL.
8. IN THE EVENT LIGHTING BECOMES REQUIRED FOR THE EAST STONE PARKING LOT, CONTRACTOR SHALL PROVIDE TEMPORARY LIGHTING.



TYPICAL LIGHTING FOOTCANDLES VALUES SHOWN FOR ALL SETUPS

NOT TO SCALE

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Area	Illuminance	Fc	0.7	3.9	0.0	N.A.	N.A.
Parking and Drive Lane	Illuminance	Fc	1.9	3.9	1.0	1.9	3.9

Luminaire Schedule					
Symbol	Label	Description	Arr. Watts	Arr. Lum. Lumens	LLF
	1	STREETWORKS #USSL-XL-C047-D-U-T5-SA-BK, 25' MOUNTING HEIGHT WITH POLE TYPE A (CONCRETE PEDESTAL)	176	28129	0.900
	2	STREETWORKS #USSL-XL-C047-D-U-T5-SA-BK, 25' MOUNTING HEIGHT WITH POLE TYPE B (DIRECT BURIAL)	176	28129	0.900
	3	STREETWORKS #USSL-C029-D-U-T4-SA-BK-HSS. 25' MOUNTING HEIGHTWITH POLE TYPE B (DIRECT BURIAL)	131	15518	0.900

LOCAL REP FOR PRODUCTS: ENTERPRISE LIGHTING SALES (ANDY CHILDERS) WOODBRIDGE, NJ (ACHILDERS@ENTERELS.COM/732-425-5287)

SCALE IN FEET

NOTE: THIS PLAN SHALL BE USED FOR LIGHTING PURPOSES ONLY.

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
sheppleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
2.	7.25.23	Revised Per DRC, DRCC and FSCD Comments
1.	6.14.23	Revised East Lot

N

Penn Medicine Princeton Health Temporary Parking Lot

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1A

LIGHTING PLAN

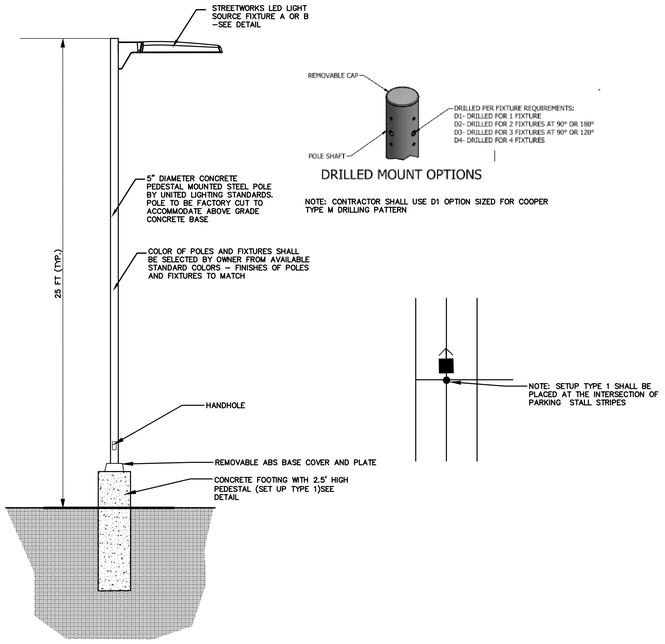
C.1A.09

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:56 AM
O:\CD\2008\DC028T - Cancer Center\DC028T-283 - Penn Medical Cancer Center\CAD\DWG\DC028T - Temporary Parking Lot\DC028T-283 - LSTPL.dwg lighting

Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

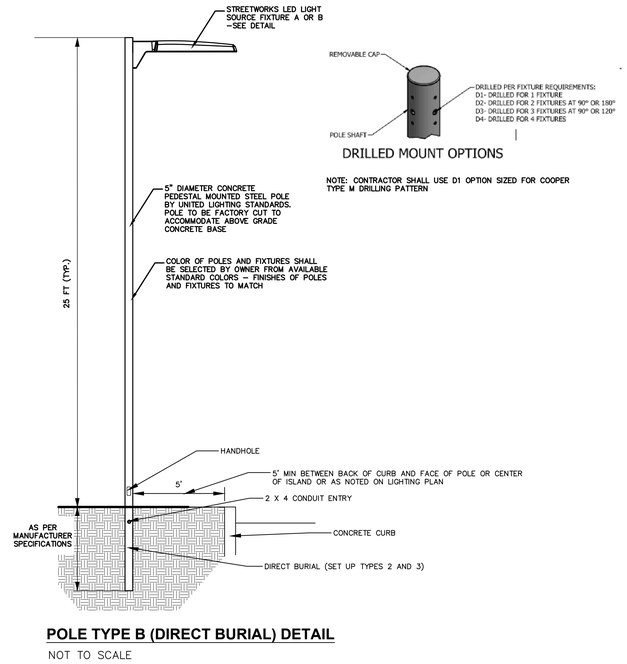


POLE TYPE A (CONCRETE PEDESTAL) DETAIL

NOT TO SCALE

NOTES:

1. POLE A (CONCRETE PEDESTAL OPTION) SHALL BE MANUFACTURED BY UNITED LIGHTING STANDARDS, WARREN, MICHIGAN.
2. POLES SHALL HAVE COAL TAR EPOXY COATING OPTION FOR EMBEDDED PORTION PLUS 6 INCHES OF THE POLE SHAFT
3. LOCAL PRODUCT REP: ENTERPRISE LIGHTING SALES (ANDY CHILDERS), WOODBRIDGE, NJ (ACHILDERS@ENTERELS.COM/732-425-5287)

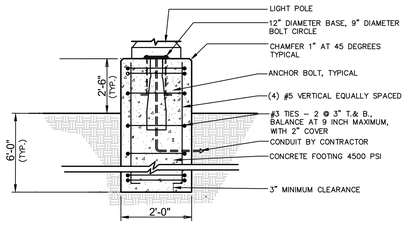


POLE TYPE B (DIRECT BURIAL) DETAIL

NOT TO SCALE

NOTES:

1. POLE TYPE B (DIRECT BURIAL OPTION) SHALL BE MANUFACTURED BY UNITED LIGHTING STANDARDS, WARREN, MICHIGAN. CONTRACTOR SHALL INSTALL POLES VIA DIRECT BURIAL METHODS BASED ON MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
2. POLES SHALL HAVE COAL TAR EPOXY COATING OPTION FOR EMBEDDED PORTION PLUS 6 INCHES OF THE POLE SHAFT
3. LOCAL PRODUCT REP: ENTERPRISE LIGHTING SALES (ANDY CHILDERS), WOODBRIDGE, NJ (ACHILDERS@ENTERELS.COM/732-425-5287)



CONCRETE FOOTING WITH PEDESTAL DETAIL (FOR POLE TYPE A)

NOT TO SCALE

FIXTURE TYPE A

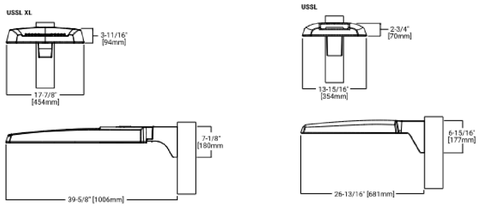
FIXTURE TYPE B

Streetworks

USSL LED

Area / Site Luminaire

Product Features



FIXTURE TYPE A - USSL XL

FIXTURE TYPE B - USSL

FIXTURES TYPE A AND B DETAILS

NOT TO SCALE

NOTES:

1. FIXTURES SHALL BE STYLE "STREETWORKS" USSL LED MANUFACTURED BY COOPER LIGHTING SOLUTIONS, PEACHTREE, GA. CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
2. COLOR SHALL BE SELECTED FROM STANDARD AVAILABLE COLORS AS APPROVED BY OWNER. COLOR AND FINISH SHALL MATCH PROPOSED POLES.
3. LOCAL PRODUCT REP: ENTERPRISE LIGHTING SALES (ANDY CHILDERS), WOODBRIDGE, NJ (ACHILDERS@ENTERELS.COM/732-425-5287)

LEGEND:

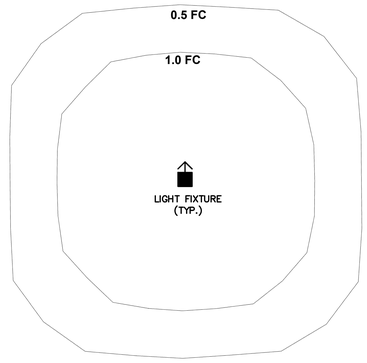
SETUP TYPE 1 — **FIXTURE TYPE A WITH POLE TYPE A (CONCRETE PEDESTAL FOOTING INSTALLATION)**

SETUP TYPE 2 — **FIXTURE TYPE A WITH POLE TYPE B (DIRECT BURIAL INSTALLATION)**

SETUP TYPE 3 — **FIXTURE TYPE B WITH POLE TYPE B (DIRECT BURIAL INSTALLATION)**

LIGHTING NOTES

1. DO NOT INSTALL PROPOSED LIGHTS ON TOP OF ANY PROPOSED OR EXISTING UNDERGROUND UTILITIES. FIELD ADJUST LIGHTS AS NEEDED AS DIRECTED BY THE PROJECT PROFESSIONAL TO ACCOMMODATE ANY POTENTIAL CONFLICTS.
2. SETUP TYPE 1 SHALL HAVE 2.5' CONCRETE PEDESTALS.
3. SETUP TYPE 2 AND 3 SHALL BE PLACED IN CENTERS OF ISLANDS OR 5' MINIMUM FROM THE BACK OF THE CURB OR TO THE FACE OF THE POLE UNLESS OTHERWISE NOTE.D
4. COLOR AND FINISH OF PROPOSED LIGHTS AND POLES SHALL BE SELECTED FROM AVAILABLE STANDARD COLOR BY OWNER. FINISHES OF THE POLE AND LIGHT FIXTURE SHALL MATCH.
5. COLOR OF LED LIGHT SOURCE TO MATCH COLOR RENDITION OF EXISTING CAMPUS LIGHTS.
6. THE CONTRACTOR MUST PROVIDE CONTROL SYSTEM INCLUDING ALL WIRING, CONDUITS, CONNECTIONS AND SWITCHES FOR THE OWNER TO ACTIVATE AND OPERATE THE NIGHTTIME LIGHTING SEQUENCE (DIMMING) FROM A REMOTE LOCATION . CONTRACTOR MUST PROVIDE SHOP DRAWINGS OF THE COMPLETE WORKING CONTROL SYSTEM.
7. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT SHOP DRAWINGS AND FINISH/COLOR SAMPLES OF ALL LIGHT FIXTURES AND POLES FOR REVIEW AND APPROVAL BY THE APPROPRIATE ENTITIES PRIOR TO ORDERING OF MATERIAL.



TYPICAL LIGHTING FOOTCANDLES VALUES SHOWN FOR ALL FIXTURES

NOT TO SCALE

SCALE IN FEET

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
sheplеybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
2.	7.25.23	Revised Per DRC, DRCC and FSCD Comments
1.	6.14.23	Revised East Lot

Penn Medicine Princeton Health Temporary Parking Lot

1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR22119.00

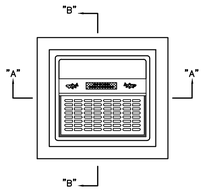
PHASE 1A

LIGHTING DETAILS

C.1A.10

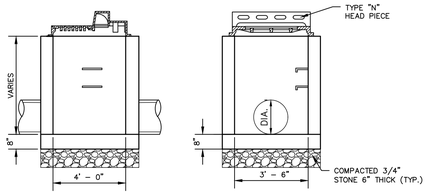
04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:56 AM
O:\CE2000\06C0287.X03 - Cancer Center\06C0287.X03 - Penn Medical Cancer Center\CAD\DWG\06C0287 - Temporary Parking Lot\06C0287.X03 - LS-PL.dwg b+bell
Penn Medicine Princeton Health Cancer Center Garage
THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.



NOTES:

1. FOOTING TO BE N.J.D.O.T., CLASS "B"
2. INVERT TO BE CLASS "B"
3. IF WALL CONSTRUCTION IS OTHER THAN PRECAST CONCRETE, THE WALLS SHALL BE PLASTERED BOTH INSIDE AND OUTSIDE WITH 1/2" THICK CEMENT PLASTER
4. FRAME AND GRATE TO BE No. 2618 AS MANUFACTURED BY CAMPBELL FOUNDRY CO. OR APPROVED EQUAL. TYPE "N" ECO HEAD PIECE.
5. PROVIDE ALUMINUM LADDER RUNGS @ 12" CENTER TO CENTER
6. WHEN ADDITIONAL DEPTH IS SCHEDULE WALLS BELOW THE DEPTH OF 8'-0" MEASURED FROM THE INLET GUTTER TO THE INVERT, SHALL BE 12" THICK. THE FOUNDATION DIMENSIONS SHALL BE INCREASED TO 12" WIDTH AND TO 12" IN DEPTH.
7. FOUNDATION AND INVERT TO BE CONSTRUCTED IN 2 STAGES. TOP SURFACE OF STAGE 1 TO BE LEFT ROUGH.
8. CONTRACTOR SHALL ORDER PRECAST INLET 1' SHORTER THAN ANTICIPATED TO ACCOMMODATE FOR UNCONFIRMED PIPE INVERTS UNLESS INVERTS HAVE BEEN CONFIRMED DURING THE PRE-CONSTRUCTION INVESTIGATION.

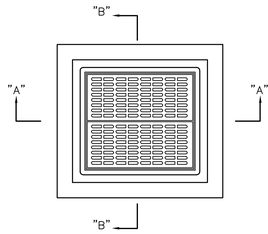


SECTION B–B
"THROUGH" INVERT DETAIL

SECTION A–A
"TERMINAL" INVERT DETAIL

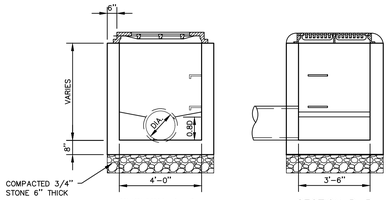
TYPE "B" INLET DETAIL

NOT TO SCALE



NOTES:

1. FOOTING TO BE N.J.D.O.T., CLASS "C"
2. INVERT TO BE CLASS "C"
3. IF WALL CONSTRUCTION IS OTHER THAN PRECAST CONCRETE, THE WALL SHALL BE PLASTERED BOTH INSIDE AND OUTSIDE WITH 1/2" THICK CEMENT PLASTER
4. FRAME AND GRATE TO BE NO. 3425 AS MANUFACTURED BY CAMPBELL FOUNDRY CO. OR AN APPROVED EQUAL.
5. PROVIDE ALUMINUM LADDER RUNGS @ 12" CENTER TO CENTER
6. WHEN ADDITIONAL DEPTH IS SCHEDULE WALLS BELOW THE DEPTH OF 8'-0" MEASURED FROM THE INLET GUTTER TO THE INVERT, SHALL BE 12" THICK. THE FOUNDATION DIMENSIONS SHALL BE INCREASED TO 12" WIDTH AND TO 12' IN DEPTH.

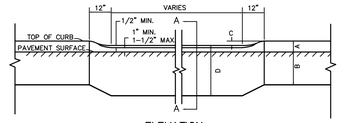


SECTION A–A
"THROUGH" INVERT DETAIL

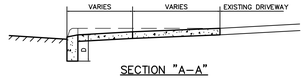
SECTION B–B
"TERMINAL" INVERT DETAIL

TYPE 'E' INLET DETAIL

NOT TO SCALE



ELEVATION

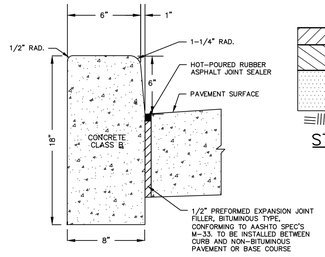


SECTION "A–A"

	A	B	C	D
CONCRETE CURB TYPE I	6"	12"	4" MIN., 4-1/2" MAX.	18"
CONCRETE CURB TYPE II	6"	12"	4" MIN., 4-1/2" MAX.	18"
CONCRETE CURB TYPE III	8"	12"	6" MIN., 6-1/2" MAX.	20"
CONCRETE CURB TYPE IV	8"	12"	6" MIN., 6-1/2" MAX.	20"
CONCRETE CURB TYPE V	8"	12"	6" MIN., 6-1/2" MAX.	20"

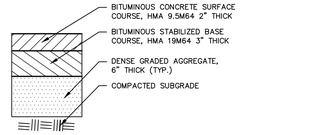
METHOD OF DEPRESSING CURB AT DRIVEWAY DETAIL

NOT TO SCALE



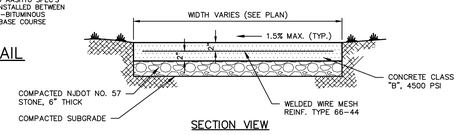
CONCRETE VERTICAL CURB DETAIL

NOT TO SCALE



STANDARD PAVEMENT SECTION DETAIL

NOT TO SCALE



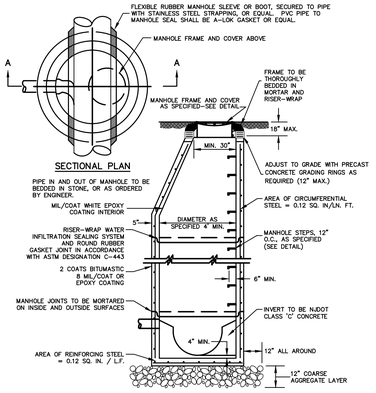
SECTION VIEW

NOTES:

1. PREFORMED BITUMINOUS CELLULAR JOINT FILLERS 1/2" THICK, SHALL BE PLACED AT INTERVALS NOT EXCEEDING TWENTY (20) FEET. DUMMY (FORMED) JOINTS SHALL BE CUT INTO THE CONCRETE SIDEWALK BETWEEN THE EXPANSION JOINTS AT EQUAL INTERVALS NOT EXCEEDING THE WIDTH OF THE SIDEWALK.
2. THE SIDEWALK SUBGRADE SHALL BE NJDOT NO. 57 STONE, 6" THICK OR MATERIAL APPROVED BY THE TOWNSHIP ENGINEER, AND COMPACTED PRIOR TO THE PLACEMENT OF ANY SIDEWALK.
3. THE SIDEWALK SECTION SHALL BE 6" THICK WITH WELDED WIRE FABRIC AT DRIVEWAYS.
4. SIDEWALK SHALL BE 4' WIDE, EXCEPT WHERE ADJACENT TO VEHICLE PARKING AREAS WHERE THE SIDEWALK SHALL BE 6' WIDE.

CONCRETE SIDEWALK, 4" THICK DETAIL

NOT TO SCALE



SECTIONAL PLAN

SECTION A–A

CONSTRUCTION NOTES:

1. PRECAST MANHOLE SECTIONS TO BE IN ACCORDANCE WITH LATEST ASTM DESIGNATION C-478, MINIMUM COMPRESSION STRENGTH TO BE 4000 PSI
2. FLEXIBLE RUBBER BOOT SHALL BE USED FOR CONNECTION OF PVC PIPE TO MANHOLE.
3. PRECAST CHANNELS SHALL NOT BE USED FOR BENDS GREATER THAN 45°. POURED CONCRETE LONG RADIUS CHANNELS SHALL BE CONSTRUCTED.
4. WHEN DESIGN CALLS FOR REGULAR OR LOCKING MANHOLE FRAME AND COVER, INSTALL CONE SECTION WITH 30" OPENING. FOR A WATERTIGHT FRAME AND COVER, INSTALL CONE SECTION WITH 24" OPENING.
5. RISER-WRAP WATER INFILTRATION SYSTEM TO BE INSTALLED AT ALL MANHOLE JOINTS AND FRAME BASE.

STANDARD PRECAST SANITARY MANHOLE

N.T.S.

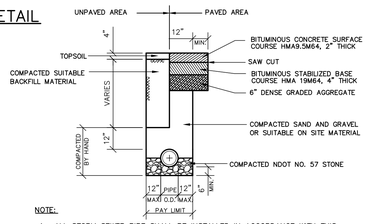
TRENCH WIDTH	PIPE DIAMETER
3'-0	6", 8", 10", 12"
3'-8"	14", 15", 16"
4'-0	18"
4'-3"	20", 21"
4'-6"	24"
4'-10"	27"
5'-0	30"
5'-6"	33"
5'-8"	36"

NOTES:

1. THE BEDDING SHALL BE PROVIDED IN ACCORDANCE WITH STORM PIPE BEDDING DETAIL ON THIS SHEET.
2. THE CONTRACTORS SHALL PROVIDE BEDDING IN ACCORDANCE WITH THE PIPE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

STORM TRENCH WIDTH DETAIL

NOT TO SCALE

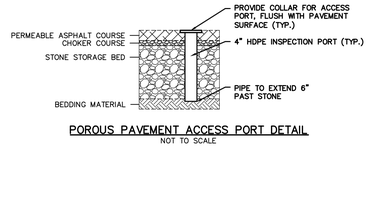


NOTE:

1. ALL STORM SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THIS DETAIL AND THE PIPE MANUFACTURER'S SPECIFICATIONS.

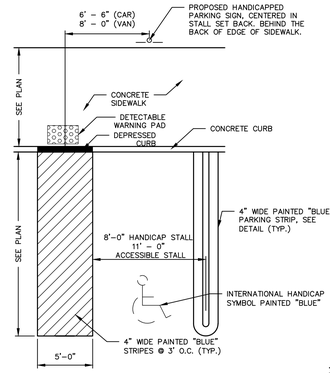
TYPICAL STORM PIPE TRENCH DETAIL

NOT TO SCALE



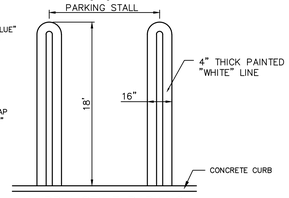
POROUS PAVEMENT ACCESS PORT DETAIL

NOT TO SCALE



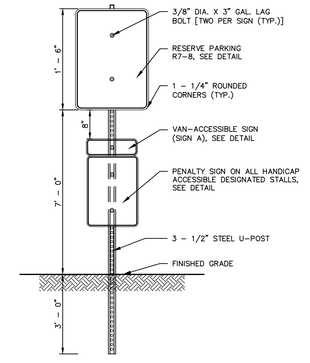
ADA COMPLIANT PARKING STALL DETAIL

NOT TO SCALE



HAIRPIN STYLE PARKING LOT STRIPING DETAIL

NOT TO SCALE

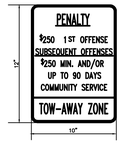


NOTES:

1. ALL SIGNS TO CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
2. OUTSIDE EDGE OF CLOSEST TO ROADWAY SHALL BE A MINIMUM DISTANCE OF 2'
3. THE CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO PURCHASE OF ANY MATERIALS.
4. ALL SIGNS MUST BE BREAKAWAY WITH LAP SPLICE AS SHOWN ON DETAIL

ADA COMPLIANT PARKING SIGN AND SIGN POST DETAIL

NOT TO SCALE



NOTES :
1. BLACK LEGEND ON WHITE REFLECTORIZED BACKGROUND
2. ALL DIMENSIONS ARE IN INCHES.

PENALTY SIGN
R7-8P

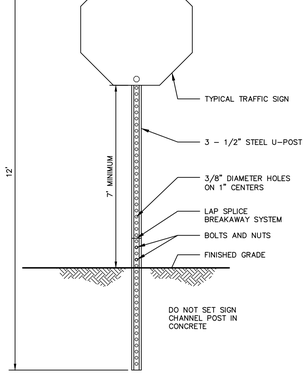
R7-8
12" x 18"

HANDICAPPED PARKING SIGN DETAIL

NOT TO SCALE

NOTES :
1. BLACK LEGEND ON WHITE REFLECTORIZED BACKGROUND
2. ALL DIMENSIONS ARE IN INCHES.

VAN ACCESSIBLE SIGN
NOT TO SCALE

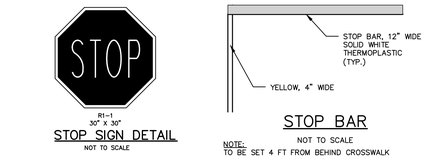


NOTES:

1. ALL REGULATORY AND WARNING SIGNS SHALL BE HIGH INTENSITY REFLECTIVE SHEETING
2. ALL SIGNS SHALL BE FABRICATED USING DG3 SHEETING
3. ALL SIGNS SHALL CONFORM TO THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION
4. ALL U CHANNEL POSTS ARE TO BE 3 LBS GALVANIZED FINISHED
5. ALL SIGNS MUST BE BREAKAWAY WITH LAP SPLICE AS SHOWN ON DETAIL
6. ALL SIGN AND STRIPING MUST BE IN ACCORDANCE WITH THE LATEST MUTCO

STOP SIGN POST DETAIL

NOT TO SCALE



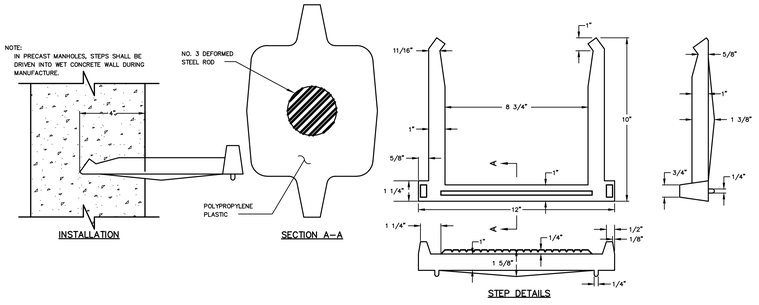
STOP SIGN DETAIL

NOT TO SCALE

STOP BAR

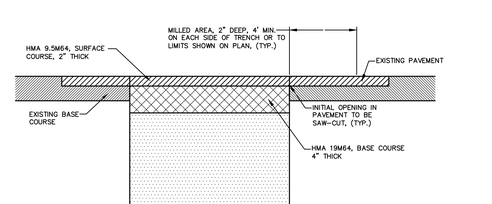
NOT TO SCALE

NOTE:
TO BE SET 4 FT FROM BEHIND CROSSWALK



POLYPROPYLENE MANHOLE STEPS

N.T.S.

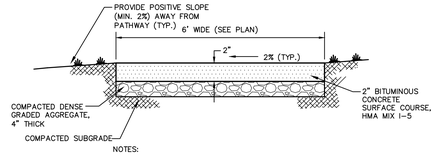


NOTE:

1. TEMPORARY PAVEMENT TO BE MAINTAINED BY CONTRACTOR. NO PERMANENT REPAIR TO BE MADE WITHOUT SPECIFIC APPROVAL OF THE TOWNSHIP ENGINEER AND COUNTY.

PAVEMENT REPAIR DETAIL

NOT TO SCALE



NOTES:

1. THE SIDEWALK SUBGRADE SHALL BE DENSE GRADED AGGREGATE, 4" THICK OR MATERIAL APPROVED BY THE TOWNSHIP ENGINEER, AND COMPACTED PRIOR TO THE PLACEMENT OF ANY PATHWAY. THE AGGREGATE SHALL BE COMPACTED A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM TEST METHOD D-15-57, THE MODIFIED PROCTOR.
2. CONTRACTOR MUST PROVIDE A 2% MINIMUM CROSS SLOPE FOR THE BITUMINOUS COMBINED BIKE/WALKWAY AND FOR GRADED SLOPES TO AND FROM THE EDGE OF PATHWAY. IN ADDITION, THE RUN SLOPE FOR THE COMBINED BIKE/WALKWAY AND/OR WALKWAY ONLY MUST BE LESS THAN 5% AND COMPLY WITH ADA ACCESSIBLE REQUIREMENTS.

ASPHALT PATHWAY DETAIL

NOT TO SCALE

SCALE IN FEET

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
sheppleybulfinch.com
Design Architect

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0066
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

2.	7.25.23	Revised Per DRC, DRCC and FSCD Comments
1.	6.14.23	Revised East Lot
NO.	DATE	DESCRIPTION

N

Penn Medicine Princeton Health Temporary Parking Lot

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1A

CONSTRUCTION DETAILS-1

C.1A.11

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:56 AM
O:\CE\2019\19032307 - Cancer Center\06CD\07 093 - Penn Medical Cancer Center\CAD\DWG\06232307 - Temporary Parking Lot\06CD\07 093-C01.dwg CONSTRUCTION DETAILS - 1
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

TALK A PHONE
Creating Communications Solutions

OUTDOOR EMERGENCY PHONES

ETP-400 – Single Button Emergency Phone

ETP-400

Description
The **ETP-400** is an outdoor-rated, ADA-compliant hands-free Emergency Phone for use in locations such as: parking facilities, college campuses, controlled access gates, medical centers and industrial parks.

Features
- Cast metal raised letter and Braille signage for ADA compliance
- Vandal resistant stainless steel faceplate and metal button
- Uses regular phone lines or PBX
- Phone line powered: no power supply or battery back-up needed
- Circuit boards are conformally coated for water protection
- LED indicator for hearing impaired
- Auxiliary input and outputs to integrate with CCTV, Blue Light Strobe, Scream Alert™ and other devices
- Built-in auto-dialer can dial two numbers: if first number doesn't answer or is busy, dials second number
- Auto-answer allows security to monitor and initiate calls with Emergency Phone
- Options available that offer the ability to automatically identify attendant of location of calling phone by recorded message and digital display

Specifications
Construction:	12 gauge (2.8mm) #4 brushed stainless steel faceplate
Dimensions:	Front Panel: 9.5(241) W x 11.75(298) H in(mm) Back Box: 6.63(168) W x 9.75(248) H x 2.5(64) D in(mm)
Weight:	8 lbs. (3.6kg)
Operating Temperature:	-4°F to +149°F (-20°C to +65°C)
Mounting:	Flush mounts (surface mount options available)
Communication:	2-way hands-free communication
Digit Capacity:	Up to 18 digits, including pauses, for each of two phone numbers
Dialing Speed:	Approximately 10 tones per second
Power Source:	Phone line powered (requires 20mA at 24 v off-hook)
Connection:	Parallel tip and ring connected to RJ11 connector for quick installation
Circuit Protection:	Varistor lightening suppressed and full wave polarity guarded
Programming:	Non-volatile EEPROM programming can be done from any telephone No battery back up is needed
"On Time":	Programmable from 1-4270 minutes in 1-minute increments
Recommended Wiring:	1 twisted-shielded pair
Compliance:	CSA Certified to UL Standard 60950

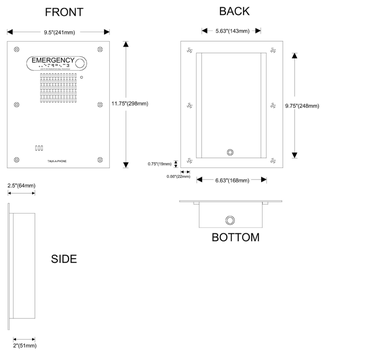
Options & Accessories
Voice Location Identifier:	Model **ETP-400V** includes the capability to record a message identifying the location of the call. Message is recorded and duration set during programming.
"TO CALL" Casting:	Use Model **ETP-400C** for a button that reads **TO CALL** instead of **EMERGENCY**
8-Line Consolidator:	Model **EC-8** allows connection of up to 8 phones on one phone line while retaining ability to call each phone individually. Can also create a closed system without need for any phone lines
Monitoring/Diagnostic Software Package:	Talk-A-Lert®, model **ETP-TAL,** automatically polls each Emergency Phone, reports incoming calls and keeps permanent records of all events
Faceplate Camera:	Add "OP3" to model number to add a color pinhole camera mounted discreetly behind the faceplate. Add "OP3BW" for a b/w camera

Copyright 2009 Talk-A-Phone Co. All rights reserved.

Talk-A-Phone Co. • 7530 North Natchez Avenue • Niles, Illinois 60714-3804 Rev. 10/28/09
Phone 773.539.1100 • Fax 773.539.1241 • info@talkaphone.com • www.talkaphone.com
All prices and specifications are subject to change without notice.
Talk-A-Phone, Talk-A-Lert, Scream Alert and WEBS are registered trademarks of Talk-A-Phone Co.

ETP-400 – Single Button Outdoor Emergency Phone

Dimensions



Copyright 2009 Talk-A-Phone Co. All rights reserved.

Talk-A-Phone Co. • 7530 North Natchez Avenue • Niles, Illinois 60714-3804
Phone 773.539.1100 • Fax 773.539.1241 • info@talkaphone.com • www.talkaphone.com
All prices and specifications are subject to change without notice.
Talk-A-Phone, Talk-A-Lert, Scream Alert and WEBS are registered trademarks of Talk-A-Phone Co.

TALK A PHONE
Creating Communications Solutions

EMERGENCY PHONE MOUNTS

ETP-MT – Emergency Phone Tower

Description
Vandal-resistant Emergency Phone Tower systems provide exceptional clarity, performance and a sense of security. Towers are often used in college campuses, parking facilities, shopping malls, medical centers and industrial campuses.

Features
- Attention-getting blue light strobe included and mounted atop unit: blue light is continuously lit, strobe is activated when **EMERGENCY** button is pressed and flashes for duration of call.
- Faceplate is lit at all times by ultrabright LEDs
- Designed to resist extreme weather conditions
- A variety of lettering, signage and color choices are available
- Talk-A-Phone 400-Series flush mounting Emergency/Information Phone mounts easily into unit (order separately)
- ADA-compliant

Specifications
Dimensions:	10.0(254) W x 8.0(203) D x 114.2(2901) H in(mm)
Weight:	280 lbs. (127 kg)
Construction:	0.25 in (6.3 mm) steel with multi-coat rust inhibitive coating
Lighting:	Strobe: 1.5 million candlepower, 70 flashes per minute Blue Light: 7 watt high efficiency, 10,000 hour compact fluorescent Faceplate Light: Ultrabright LEDs, 100,000 hour lifetime
Lettering:	3.25 in (82.5 mm) high reflective white letters, also available in other colors and with other wording
Power:	Blue light strobe and faceplate light require 120VAC (170mA for each light, 2 amps for each 5 millisecond flash of strobe), available in 12VDC/24VAC/24VDC
Mounting:	Mounts into concrete foundation using included hardware (shipped in advance). Mounting options available for pre-poured decks.
Compliance:	CSA Certified to UL Standard 60950

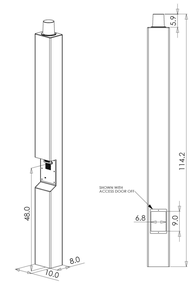
Communication Options
Emergency Phone:	Model **ETP-400** has a standard red **EMERGENCY** button
Emergency/Info Phone:	Model **ETP-400D** has a red **EMERGENCY** button and a black **INFO** button to allow two different types of locations to be called
Emergency/Keypad Phone:	Model **ETP-400K** has a red **EMERGENCY** button as well as a black **CALL** button, which allows access to the built-in keypad
RF Interface:	Models **VOIP-RF** and **VOIP-1** when used in conjunction with a phone listed above creates a Radio Frequency Emergency Phone. (Note: other RF equipment is required for a complete system)
Cellular Interface:	Model **ETP-CI** when used in conjunction with a phone listed above creates a stand-alone cellular Emergency Phone Tower

Options & Accessories
Fixed CCTV Option:	Model **ETP-MT OP 3** includes a Silent Witness fixed b/w camera
CCTV Housing Option:	Model **ETP-MT OP 2** includes a housing for mounting your own fixed CCTV
Parking Deck Mounting Kit:	Order model **ETP-PDMK-2** to mount on pre-poured parking deck

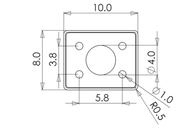
Talk-A-Phone Co. • 5013 North Kedzie Avenue • Chicago, Illinois 60625-4988 Rev. 10/19/06
Phone 773.539.1100 • Fax 773.539.1241 • info@talkaphone.com • www.talkaphone.com
All prices and specifications are subject to change without notice.

ETP-MT – Emergency Phone Tower

Dimensions

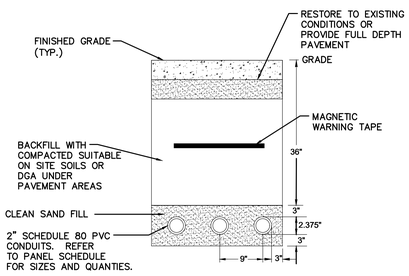


Footprint Dimensions

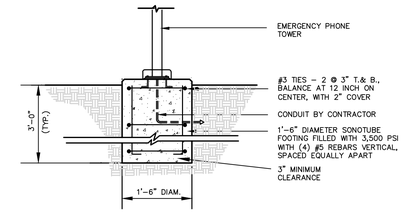


All dimensions are in inches

Talk-A-Phone Co. • 5013 North Kedzie Avenue • Chicago, Illinois 60625-4988
Phone 773.539.1100 • Fax 773.539.1241 • info@talkaphone.com • www.talkaphone.com
All prices and specifications are subject to change without notice.



TYPICAL CONDUIT DUCTBANK DETAIL
NOT TO SCALE



NOTES:

1. CONTRACTOR SHALL COORDINATE WITH THE OWNER TO CONFIRM THE EMERGENCY PHONE TOWER SPECIFICATIONS SO THAT THE ANCHOR BOLTS AND TIES ARE CONSISTENT WITH THE MANUFACTURER OF THE EMERGENCY PHONE CALL TOWER.
2. CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL CONDUIT DUCT BANK SYSTEM WITH PULL STRING AND FOUNDATION FOR EMERGENCY CALL BOX.
3. EMERGENCY PHONE CALL TOWER AND WIRING SHALL BE INSTALLED BY SELECTED VENDOR OF PENN MEDICINE.

EMERGENCY PHONE TOWER FOOTING DETAIL
NOT TO SCALE

SCALE IN FEET

Princeton Forward

Penn Medicine
Princeton Health

1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH

99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA
FRENCH & PARRELLO ASSOCIATES
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
2.	7.25.23	Revised Per DRC, DRCC and FSCD Comments
1.	6.14.23	Revised East Lot

N

Penn Medicine Princeton Health Temporary Parking Lot

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

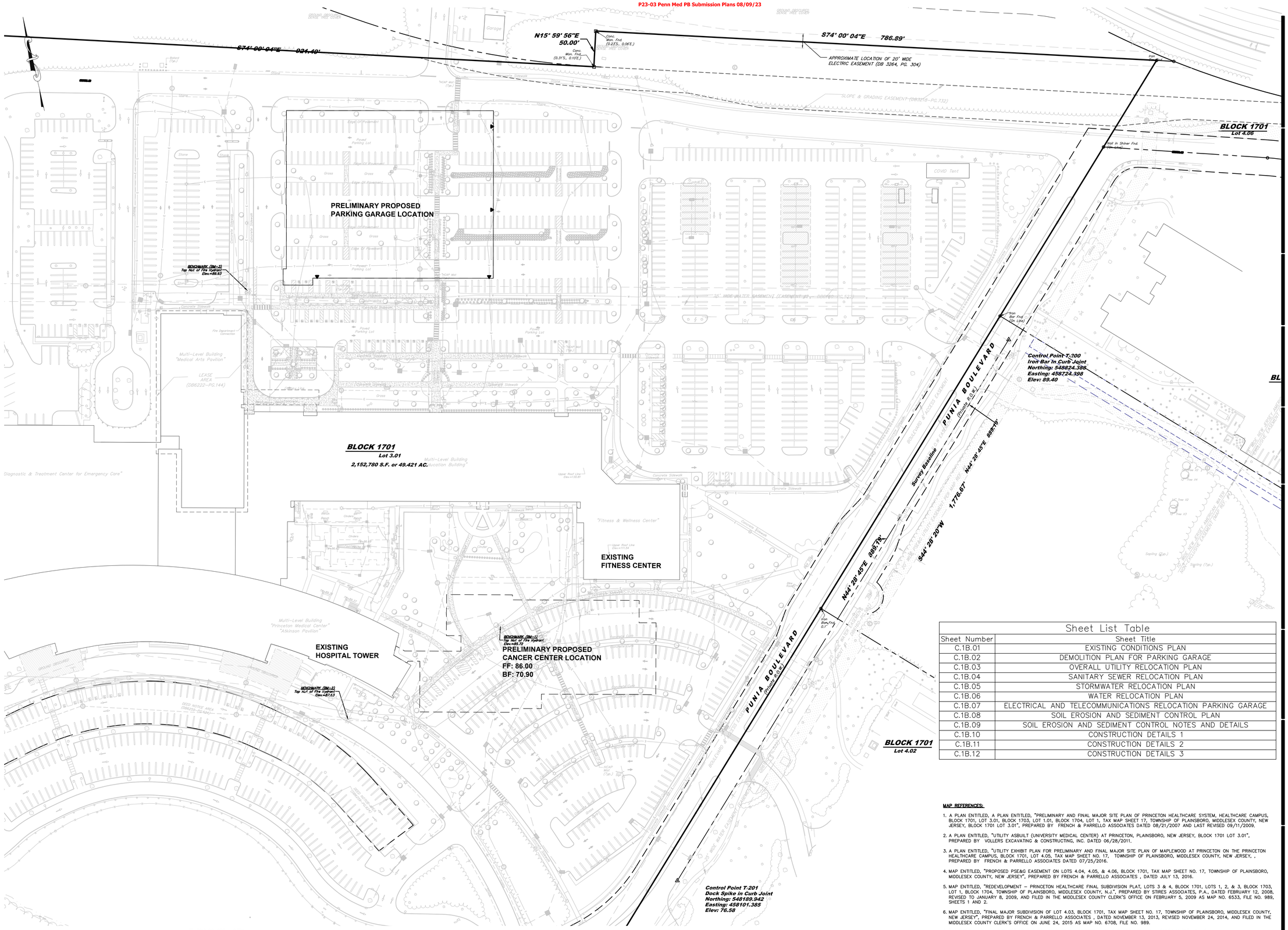
PHASE 1A

CONSTRUCTION DETAILS-2

C.1A.12

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:56 AM
O:\CE\20666\DWG\SET - Cancer Center\NBR22SET.001 - Penn Medicine Cancer Center\CAD\DWG\04\C1SET - Temporary Parking Lot\NBR22SET.001-C01.dwg CONSTRUCTION DETAILS - 2
Penn Medicine Princeton Health Cancer Center Garage
THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.



Sheet List Table	
Sheet Number	Sheet Title
C.1B.01	EXISTING CONDITIONS PLAN
C.1B.02	DEMOLITION PLAN FOR PARKING GARAGE
C.1B.03	OVERALL UTILITY RELOCATION PLAN
C.1B.04	SANITARY SEWER RELOCATION PLAN
C.1B.05	STORMWATER RELOCATION PLAN
C.1B.06	WATER RELOCATION PLAN
C.1B.07	ELECTRICAL AND TELECOMMUNICATIONS RELOCATION PARKING GARAGE
C.1B.08	SOIL EROSION AND SEDIMENT CONTROL PLAN
C.1B.09	SOIL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
C.1B.10	CONSTRUCTION DETAILS 1
C.1B.11	CONSTRUCTION DETAILS 2
C.1B.12	CONSTRUCTION DETAILS 3

LEGEND

- W — WATER MAIN LINE
- T — TELECOMMUNICATIONS LINE
- E — ELECTRICAL SERVICE LINE
- SANITARY SEWER LINE
- STORMWATER LINE
- G — GAS LINE

TRAFFIC CONTROL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE TO INSURE THE SAFE, ORDERLY AND EXPEDITIOUS CIRCULATION OF VEHICULAR AND PEDESTRIAN TRAFFIC FLOW AT ALL TIMES. THE CONTRACTOR SHALL MAINTAIN A MINIMUM 12 FEET WIDE, TRAVEL LANE FOR EACH DIRECTION OF TRAFFIC FLOW ALONG THE ADJACENT ROADWAYS, AT ALL TIMES DURING HIS CONSTRUCTION ACTIVITIES, TO ALLOW LOCAL AND EMERGENCY TRAFFIC ACCESS.
2. WATCHMEN AND FLAGMEN SHALL BE EMPLOYED BY THE CONTRACTOR FOR THE PROTECTION OF ANY EQUIPMENT ENTERING, LEAVING OR CROSSING ACTIVE TRAFFIC LANES, OR AS MAY BE REQUIRED FOR ROUTING OF ANY TRAFFIC AROUND OR THROUGH THE CONSTRUCTION. WATCHMEN AND FLAGMEN WILL BE EMPLOYED BY THE CONTRACTOR AT HIS OWN EXPENSE.
3. ALL TRAFFIC CONTROL, MEASURES, DEVICES SIGNAGE, ETC., SHALL BE PER THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
4. THE CONTRACTOR SHALL PROVIDE ANY/ALL TEMPORARY ADVISORY AND WAY FINDING SIGNAGE TO DIRECT TRAFFIC AND PEDESTRIANS AROUND CONSTRUCTION ACTIVITIES AND/OR TO RELOCATED DESTINATIONS (BUILDINGS, EXITS, ETC.).

UTILITY NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE RESPECTIVE UTILITY COMPANIES PRIOR TO DEMOLITION OR CONSTRUCTION ACTIVITIES TO DETERMINE THE EXACT LOCATIONS AS NECESSARY. THE LOCATION AND TYPE OF THE EXISTING UTILITIES SHOWN ON THESE PLANS IS NOT GUARANTEED TO BE ACCURATE NOR ALL INCLUSIVE. THE CONTRACTOR SHALL USE THE EXISTING UTILITY LOCATIONS SHOWN AS AN AID IN DETERMINING EXACT LOCATIONS. THE CONTRACTOR MUST CONTACT THE"ONE CALL SYSTEM" AT 1-800-272-1000 AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION, DEMOLITION AND/OR CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL DIG TEST PITS TO VERIFY THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES PRIOR TO BID, DEMOLITION, OR CONSTRUCTION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING EXISTING ABANDONED UTILITIES IN THE PATH OF NEW UTILITY CONSTRUCTION, SITE IMPROVEMENTS, AND/OR BUILDING CONSTRUCTION.

NOTES:

1. BOUNDARY AND TOPOGRAPHIC INFORMATION TAKEN FROM A PLAN ENTITLED "TOPOGRAPHIC SURVEY PENN MEDICINE PRINCETON MEDICAL CENTER AT PLAINSBORO LOTS 3.01 & 4.04, BLOCK 1701 SITUATED IN THE TOWNSHIP OF PLAINSBORO MIDDLESEX COUNTY, NEW JERSEY", DATED 08-04-2022
2. ANY UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON ABOVE GROUND OBSERVATIONS, UTILITY MARKING FOUND IN THE FIELD AND/OR INFORMATION SUPPLIED BY THE UTILITY COMPANIES. SINCE NO PHYSICAL LOCATION OF THE UNDERGROUND FACILITIES HAVE BEEN MADE BY THE UNDERSIGNED, NO GUARANTEE IS BEING MADE FOR THEIR COMPLETENESS OR ACCURACY.
3. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE AND OBTAIN SERVICE CONNECTIONS FROM EACH OF THE APPLICABLE UTILITY COMPANIES.

MAP REFERENCES:

1. A PLAN ENTITLED, A PLAN ENTITLED, "PRELIMINARY AND FINAL MAJOR SITE PLAN OF PRINCETON HEALTHCARE SYSTEM, HEALTHCARE CAMPUS, BLOCK 1701, LOT 3.01, BLOCK 1703, LOT 1.01, BLOCK 1704, LOT 1, TAX MAP SHEET 17, TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY, BLOCK 1701 LOT 3.01", PREPARED BY FRENCH & PARRELLO ASSOCIATES DATED 08/21/2007 AND LAST REVISED 09/11/2009.
2. A PLAN ENTITLED, "UTILITY ASBUILT (UNIVERSITY MEDICAL CENTER) AT PRINCETON, PLAINSBORO, NEW JERSEY, BLOCK 1701 LOT 3.01", PREPARED BY VOLLERS EXCAVATING & CONSTRUCTING, INC. DATED 06/28/2011.
3. A PLAN ENTITLED, "UTILITY EXHIBIT PLAN FOR PRELIMINARY AND FINAL MAJOR SITE PLAN OF MAPLEWOOD AT PRINCETON ON THE PRINCETON HEALTHCARE CAMPUS, BLOCK 1701, LOT 4.05, TAX MAP SHEET NO. 17, TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY, , PREPARED BY FRENCH & PARRELLO ASSOCIATES DATED 07/25/2016.
4. MAP ENTITLED, "PROPOSED PSE&G EASEMENT ON LOTS 4.04, 4.05, & 4.06, BLOCK 1701, TAX MAP SHEET NO. 17, TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY", PREPARED BY FRENCH & PARRELLO ASSOCIATES , DATED JULY 13, 2016.
5. MAP ENTITLED, "REDEVELOPMENT – PRINCETON HEALTHCARE FINAL SUBDIVISION PLAT, LOTS 3 & 4, BLOCK 1701, LOTS 1, 2, & 3, BLOCK 1703, LOT 1, BLOCK 1704, TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, N.J.", PREPARED BY STIRES ASSOCIATES, P.A., DATED FEBRUARY 12, 2008, REVISED TO JANUARY 8, 2009, AND FILED IN THE MIDDLESEX COUNTY CLERK'S OFFICE ON FEBRUARY 5, 2009 AS MAP NO. 6533, FILE NO. 989, SHEETS 1 AND 2.
6. MAP ENTITLED, "FINAL MAJOR SUBDIVISION OF LOT 4.03, BLOCK 1701, TAX MAP SHEET NO. 17, TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY", PREPARED BY FRENCH & PARRELLO ASSOCIATES , DATED NOVEMBER 13, 2013, REVISED NOVEMBER 24, 2014, AND FILED IN THE MIDDLESEX COUNTY CLERK'S OFFICE ON JUNE 24, 2015 AS MAP NO. 6708, FILE NO. 989.
7. THE OFFICIAL TAX MAP SHEET OF THE TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY SHEET NO. 17.

APPROVED AS A PRELIMINARY AND FINAL MAJOR SITE PLAN BY THE TOWNSHIP OF PLAINSBORO PLANNING BOARD ON

CHAIRMAN _____ DATE _____

SECRETARY _____ DATE _____

50 0 50 100
SCALE IN FEET

Princeton Forward

Penn Medicine Princeton Health

1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH

99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES

Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800

FPAengineers.com

New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
2	12/16/22	IDP
1	10/21/22	PRECAST BID SET

N

Penn Medicine Princeton Health Utility Relocation Plan

1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1B

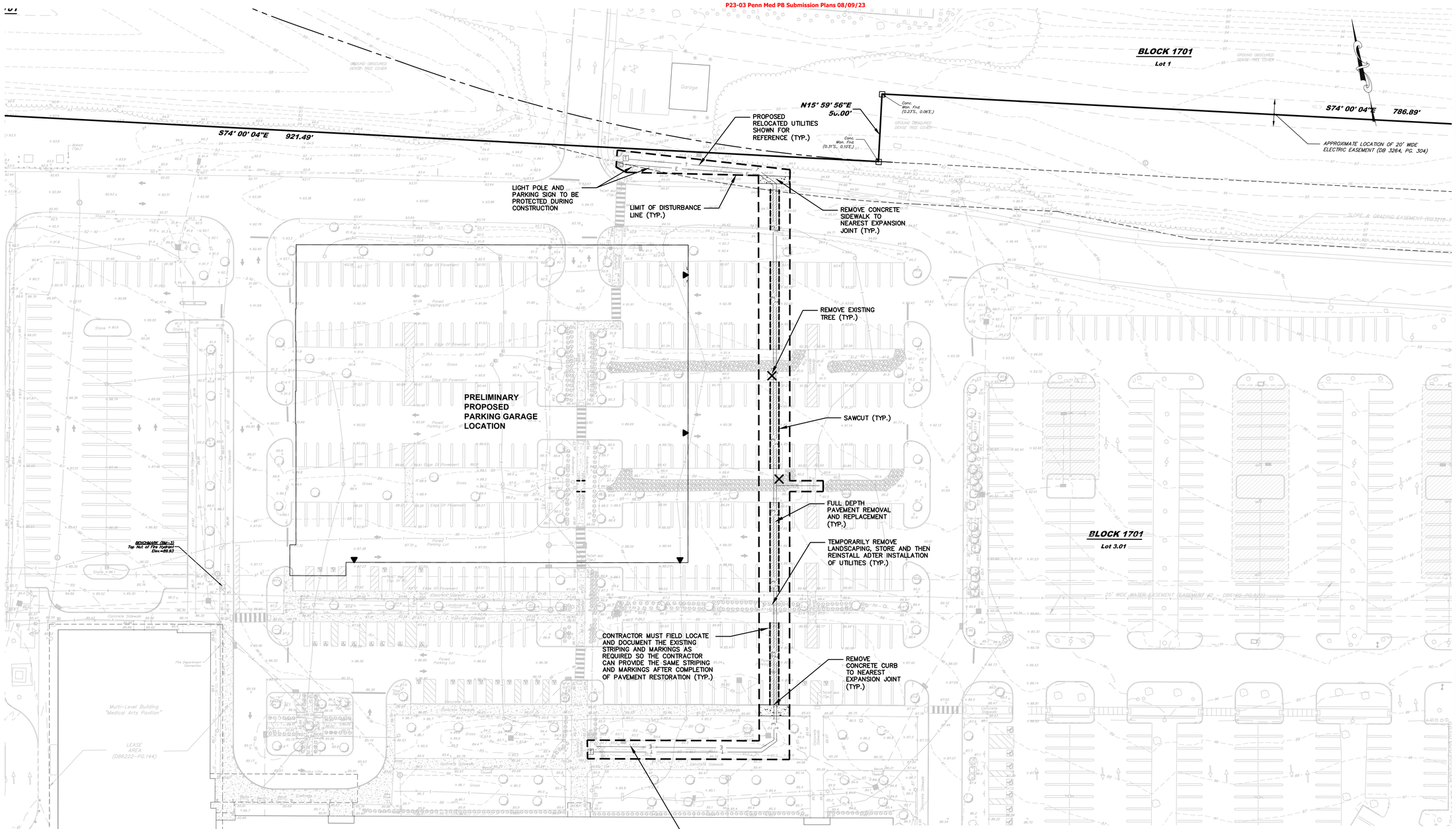
EXISTING CONDITIONS PLAN

C.1B.01

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:56 AM
O:\CE\2020\NBR22\SHT - Cancer Center\NBR22SHT.DWG - Penn Medicine Cancer Center\CAD\DWG\NBR22SHT - Utility Plans\NBR22SHT 202 - DEMO.dwg EXISTING CONDITIONS
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.



BLOCK 1701
Lot 3.01
2,152,780 S.F. or 49.421 AC.

LEGEND:

- LIMITS OF FULL DEPTH PAVEMENT REMOVAL AND REPLACEMENT
- LIMITS OF CONCRETE SIDEWALK REMOVAL AND REPLACEMENT
- REMOVE AND REPLACE CONCRETE CURB
- SAWCUT
- REMOVE EXISTING TREE
- LIMIT OF DISTURBANCE
- RELOCATE EXISTING TREE
- RELOCATED TREE

DEMOLITION NOTES:

1. ALL EXISTING SITE FEATURES AND STRUCTURES SHALL BE DEMOLISHED AND REMOVED SHALL BE DONE IN SUCH A MANNER SO AS TO MINIMIZE DISTURBANCE TO THE SURROUNDING PROPERTIES, NO DUST, PARTICLES OF DEBRIS OR WATER FROM THE DUST CONTROL SHALL BE PERMITTED OUTSIDE OF THE DESIGNATED WORK AREAS.
2. ALL EXISTING SITE FEATURES AND STRUCTURES SHALL BE DEMOLISHED IN THEIR ENTIRETY, OR AS REQUIRED TO CONSTRUCT SITE IMPROVEMENT ELEMENTS. THE CONTRACTOR IS RESPONSIBLE TO FILL EXCAVATED VOIDS WITH DENSE GRADED AGGREGATE WHICH MUST BE PLACED AND COMPACTED PER THE SPECIFICATIONS. ALL DISTURBED AREAS MUST BE FINE GRADED, COVERED WITH A MINIMUM OF 5" OF TOPSOIL AND THEN SEEDED IN ACCORDANCE WITH SPECIFICATIONS.
3. DURING ALL DEMOLITION AND CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL INSTALL A SILT FENCE AND HAY BALE SEDIMENT BARRIERS AROUND THE PERIMETERS OF THE WORK AREAS TO MAINTAIN ADEQUATE SILT AND SOIL EROSION CONTROL AND ADEQUATE WATER DRAINAGE AROUND DISTURBED AREAS TO MAINTAIN ADEQUATE CONTROL UNTIL BACKFILLING AND REGRADING OPERATIONS ARE COMPLETED AND THE AREA IS STABILIZED.
4. UPON COMPLETION OF THE CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL REMOVE ALL MATERIALS AND DEBRIS FROM THE PROJECT SITE AND AS DIRECTED BY THE OWNER. THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR FERTILIZING AND SEEDING ALL EXPOSED AREAS IN THE PROJECT SITE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL DEBRIS, CONCRETE, ASPHALT, STONE, SOIL MATERIALS, TOPSOIL, VEGETATION AND ANY MATERIALS GENERATED DURING HIS DEMOLITION AND CONSTRUCTION ACTIVITIES. ALL EXCESS DEBRIS AND MATERIALS MUST BE REMOVED TO A NJDEP APPROVED LANDFILL. NO ON-SITE BURIAL OF DEBRIS WILL BE ALLOWED.

UTILITY NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE RESPECTIVE UTILITY COMPANIES PRIOR TO DEMOLITION OR CONSTRUCTION ACTIVITIES TO DETERMINE THE EXACT LOCATIONS AS NECESSARY AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. UTILITY LOCATIONS SHOWN ON THESE PLANS ARE FROM ABOVE-GROUND OBSERVATIONS. IN ADDITION, THE LOCATION AND TYPE OF THE EXISTING UTILITIES SHOWN ON THESE PLANS IS NOT GUARANTEED TO BE ACCURATE NOR ALL INCLUSIVE. THE CONTRACTOR SHALL USE THE EXISTING UTILITY LOCATIONS SHOWN AS AN AID IN DETERMINING EXACT LOCATIONS. THE CONTRACTOR MUST CONTACT THE "ONE CALL SYSTEM" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION, DEMOLITION AND/OR CONSTRUCTION ACTIVITIES.
2. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE EXACT LOCATION OF THE EXISTING UTILITIES, AS REQUIRED TO PERFORM THE DEMOLITION AND CONSTRUCTION ACTIVITIES WHICH MAY INCLUDE EXCAVATION OF TEST PITS, HAND EXCAVATION, RETAIN THE SERVICES OF AN UNDERGROUND UTILITY LOCATION CONTRACTOR, PERFORMING GROUND PENETRATION RADAR OR OTHER MEANS AND METHODS AS REQUIRED BY THE CONTRACTOR TO LOCATE AND PROTECT THE UTILITIES AS INDICATED ON THE PLANS AND SPECIFICATIONS FROM DAMAGE OR DISRUPTION BY HIS ACTIVITIES.
3. IF ANY UTILITY FACILITIES ARE DISRUPTED OR DAMAGED DURING THE CONSTRUCTION WORK ASSOCIATED WITH THIS PROJECT, THE CONTRACTOR IS RESPONSIBLE FOR RESTORING THE UTILITY FACILITIES BY THE END OF THE WORKING DAY AT NO ADDITIONAL EXPENSE TO THE OWNER.
4. THE CONTRACTOR SHALL PROCURE ALL NECESSARY PERMITS AND LICENSES REQUIRED TO CARRY OUT HIS WORK IN FULL ACCORDANCE WITH REQUIREMENTS OF ALL REGULATIONS AND AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS AND ALL CODES, RULES AND REGULATIONS OF HEALTH, PUBLIC OR OTHER AUTHORITY CONTROLLING OR LIMITING THE METHODS, MATERIAL TO BE USED, OR THE ACTIONS OF OF THOSE EMPLOYED IN WORK OF THIS KIND. ALL WORK, LABOR OR MATERIAL NECESSARY TO COMPLY WITH THESE LAWS, CODES, RULES AND REGULATIONS SHALL BE PERFORMED AND FURNISHED BY THE CONTRACTOR.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FERTILIZING AND SEEDING ALL AREAS DISTURBED BY HIS ACTIVITIES WITHIN THE LIMITS OF THE PROJECT SITE. PAVEMENT REPLACEMENT AND ALL OTHER SITE RESTORATION WORK WITHIN THE PROJECT SITE SHALL MEET THE REQUIREMENTS OUTLINED IN THE SPECIFICATIONS AND CONTRACT PLANS.
6. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL NECESSARY EQUIPMENT AND METHODS TO KEEP EXCAVATIONS FREE OF WATER AND PROTECT WORK AND ADJACENT STRUCTURES FROM DAMAGE BY WATER DURING ALL STAGES OF HIS ACTIVITIES. NO SEPARATE PAYMENT WILL BE MADE FOR DEWATERING OPERATIONS AND ALL COSTS THEREOF SHALL BE INCLUDED IN THE PRICE BID FOR THIS PROJECT.
7. THE CONTRACTOR SHALL FURNISH, PLACE AND MAINTAIN SHEETING, BRACING, SHORING AND OTHER SUPPORTS REQUIRED BY HIS WORK AND TO PROTECT ADJACENT STRUCTURES. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND ALL COSTS THEREOF SHALL BE INCLUDED IN THE PRICE BID FOR THIS PROJECT.
8. CONTRACTOR IS RESPONSIBLE TO PROVIDE ANY AND ALL SAFETY BARRIERS TO PROPERLY SECURE HIS PROJECT WORK AREA. THE SAFETY STANDARDS MUST INCLUDE BUT ARE NOT LIMITED TO SAFETY CONES, SNOW PLASTIC FENCE, TEMPORARY FENCING, BARRICADES, SIGNAGE AND FLAGMAN AS REQUIRED TO MAINTAIN A SAFE AND SECURE WORK AREA.
9. CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE OWNER TO ASSIST WITH SECURING THE PARKING, ACCESS DRIVEWAYS AND/OR WALKWAYS AS MAY BE REQUIRED TO PERFORM THE UTILITY AND RESTORATION WORK.

30 0 30 60
SCALE IN FEET

3/14/2023 10:55:06 AM
O:\CD\2099\C02ST - Cancer Center\02CS\ST-SK5 - Penn Medical Center\CAD\2099\02CS\ST - Utility Plans\02CS\ST-SK2 - DEMOLprog DEMOLITION PLAN 1
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

Princeton Forward

Penn Medicine
Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brpiusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA
FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
2	12/16/22	IDP
1	10/21/22	PRECAST BID SET

N

Penn Medicine Princeton Health Utility Relocation Plan

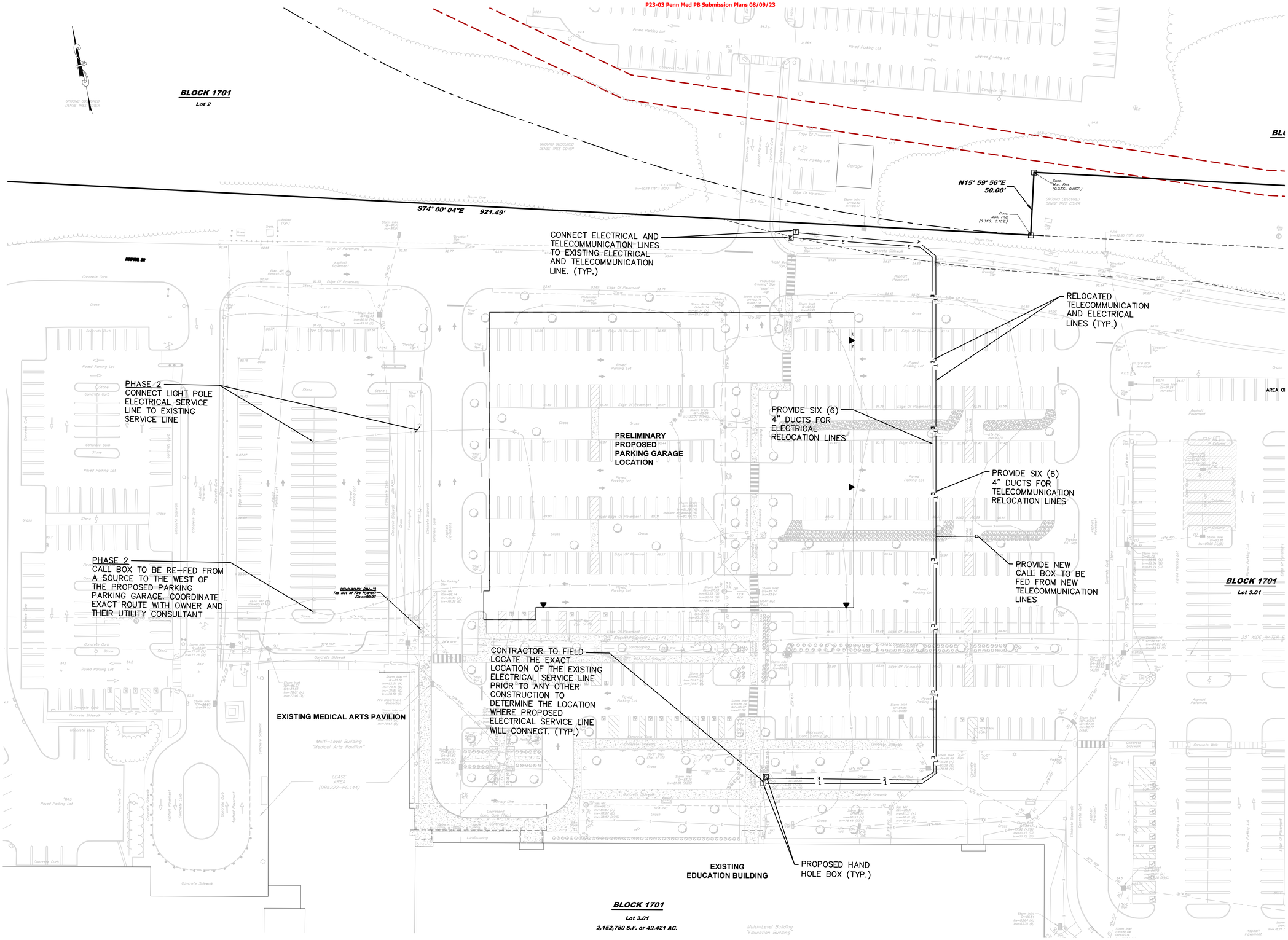
1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1B

DEMOLITION PLAN FOR PARKING GARAGE

C.1B.02

04/14/2023 SITE PLAN SUBMISSION



LEGEND

- W — WATER MAIN LINE
- T — TELECOMMUNICATIONS LINE
- E — ELECTRICAL SERVICE LINE
- SANITARY SEWER LINE
- STORMWATER LINE
- G — GAS LINE

TELECOMMUNICATIONS LINE OWNERS

1. CARRIER ZAYO FIBER
   KEVIN NEVITT – ACCOUNT EXECUTIVE
   KEVIN.NEVITT@ZAYO.COM
   O: 212-803-5603 M: 610-984-3523

NOTES

1. CONTRACTOR SHALL COORDINATE WITH THE COMMUNICATIONS VENDORS (ZAYO FIBER) TO CONFIRM CONDUIT SIZE AND HAND HOLE BOX REQUIREMENTS.
2. CONTRACTOR SHALL INSTALL CONDUIT DUCTBANK SYSTEM WITH PULL STRINGS AND HAND HOLE BOXES AS PER VENDOR SPECIFICATIONS
3. CONTRACTOR IS RESPONSIBLE TO RESTORE THE EXISTING SITE CONDITIONS, I.E. PAVEMENT, CURB, WALKWAYS, STRIPING, SIGNAGE AND LAWN. LANDSCAPE AREAS.

PHASING NOTES

1. ALL PROPOSED WORK SHALL FALL UNDER PHASE 1 UNLESS OTHERWISE NOTED.

30 0 30 80
SCALE IN FEET

3/14/2023 10:55:58 AM
O:\ES\2000\BRC0287 - Cancer Center\BRC0287.003 - Penn Medicine Cancer Center\CAD\02WRD\BRC0287_-Utility Plans\BRC0287.003 - UTILITY.dwg ELEC TELE 1 (ARCH)

Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
2	12/16/22	IDP
1	10/21/22	PRECAST BID SET

Penn Medicine Princeton Health Utility Relocation Plan

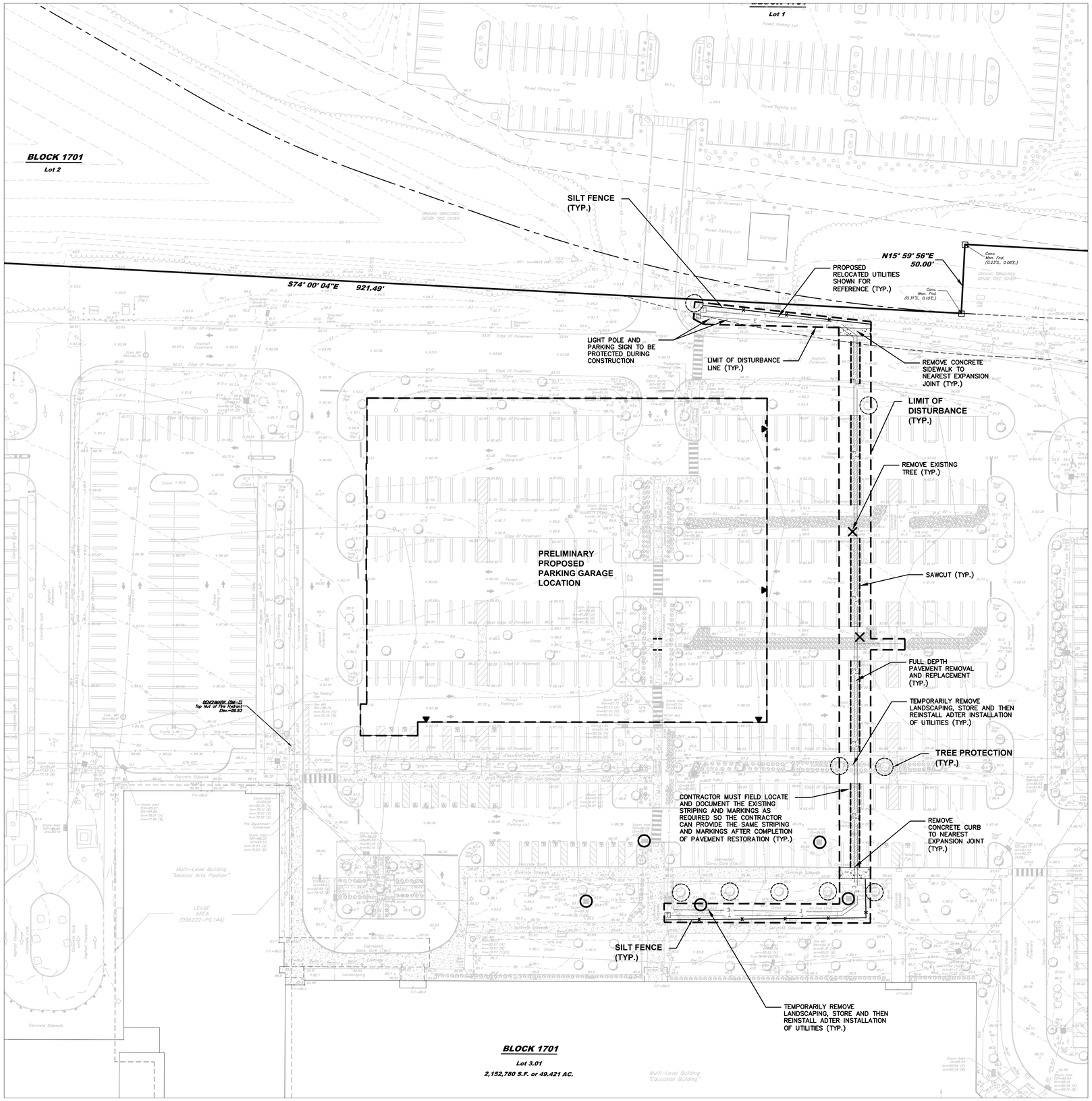
1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR22119.00

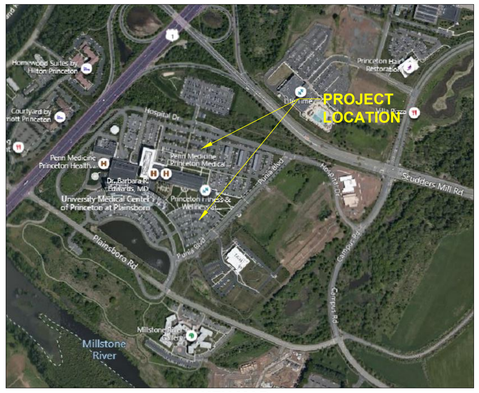
PHASE 1B

ELECTRICAL AND TELECOMMUNICATIONS RELOCATION PARKING GARAGE

C.1B.03

04/14/2023 SITE PLAN SUBMISSION





KEY MAP
NTS

LEGEND

- W — WATER MAIN LINE
- T — TELECOMMUNICATIONS LINE
- E — ELECTRICAL SERVICE LINE
- SANITARY SEWER LINE
- STORMWATER LINE
- G — GAS LINE
- LIMITS OF FULL DEPTH PAVEMENT REMOVAL AND REPLACEMENT
- LIMITS OF CONCRETE SIDEWALK REMOVAL AND REPLACEMENT
- REMOVE AND REPLACE CONCRETE CURB
- SAWCUT
- REMOVE EXISTING TREE
- LIMIT OF DISTURBANCE
- RELOCATE EXISTING TREE
- RELOCATED TREE
- TREE PROTECTION
- INLET PROTECTION

LIMIT OF DISTURBANCE
13,127 S.F. +/-
0.301 AC +/-

THIS PLAN IS USED FOR SOIL EROSION AND SEDIMENT CONTROL PURPOSES ONLY

30 0 30 80
SCALE IN FEET

3/14/2023 10:55:58 AM
O:\CE\20660\90CSDT - Cancer Center\ADCSDT.001 - Penn Medical Cancer Center\CAD\SDW\90CSDT - Utility Plans\90CSDT.002 - SCS.dwg Layout1

Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION

N

Penn Medicine Princeton Health Utility Relocation Plan

1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1B

SOIL EROSION AND SEDIMENT CONTROL PLAN

C.1B.04

04/14/2023 SITE PLAN SUBMISSION

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE FREEHOLD SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY SOIL DISTURBING ACTIVITY.
2. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
3. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RE-CERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
4. N.J.S.A 4:24-39 ET. SEQ. REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THE DISTRICT DETERMINES THAT A PROJECT OR PORTION THEREOF IS IN FULL COMPLIANCE WITH THE CERTIFIED PLAN AND STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY AND A REPORT OF COMPLIANCE HAS BEEN ISSUED. UPON WRITTEN REQUEST FROM THE APPLICANT, THE DISTRICT MAY ISSUE A REPORT OF COMPLIANCE WITH CONDITIONS ON A LOT-BY-LOT OR SECTION-BY-SECTION BASIS, PROVIDED THAT THE PROJECT OR PORTION THEREOF IS IN SATISFACTORY COMPLIANCE WITH THE SEQUENCE OF DEVELOPMENT AND TEMPORARY MEASURES FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN IMPLEMENTED, INCLUDING PROVISIONS FOR STABILIZATION AND SITE WORK.
5. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN SIXTY (60) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF 2 TO 2 ½ TONS PER ACRE, ACCORDING TO STATE STANDARD FOR STABILIZATION WITH MULCH ONLY.
6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AND A MULCH ANCHOR, IN ACCORDANCE WITH STATE STANDARDS.
7. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS, AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN FIFTEEN (15) DAYS OF THE PRELIMINARY GRADING.
8. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A PAD OF CLEAN CRUSHED STONE AT POINTS WHERE TRAFFIC WILL BE ACCESSING THE CONSTRUCTION SITE. AFTER INTERIOR ROADWAYS ARE PAVED, INDIVIDUAL LOTS REQUIRE A STABILIZED CONSTRUCTION ENTRANCE CONSISTING OF ONE INCH TO TWO INCH (1" - 2") STONE FOR A MINIMUM LENGTH OF TEN FEET (10') EQUAL TO THE LOT ENTRANCE WIDTH. ALL OTHER ACCESS POINTS SHALL BE BLOCKED OFF.
9. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAYS WILL BE REMOVED IMMEDIATELY.
10. PERMANENT VEGETATION IS TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.
11. AT THE TIME THAT SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
12. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS/ACRE, (OR 450 LBS/SQ FT OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12" OF SETTLED SOIL WITH A PH OF 5 OR MORE, OR 24" WHERE TREES OR SHRUBS ARE TO BE PLANTED.
13. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
14. UNFILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR DEWATERING.
15. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET, TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED AS REQUIRED BY THE STANDARD FOR DUST CONTROL.
16. STOCKPILE AND STAGING LOCATIONS ESTABLISHED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STAGING AND STOCKPILES NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN. CERTIFICATION OF A NEW SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED FOR THESE ACTIVITIES IF AN AREA GREATER THAN 5,000 SQUARE FEET IS DISTURBED.
17. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6.
18. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.

FREEHOLD SOIL CONSERVATION DISTRICT
4000 KOZLOSKI ROAD
FREEHOLD NEW JERSEY 07728
(732) 683-8500

ACID SOILS NOTES

IN ORDER TO PROVIDE SUITABLE CONDITIONS FOR GROWTH AND VEGETATION AND TO PREVENT THE ACIDIFYING OF DRAINAGE WATER IN THOSE AREAS UNDERLAIN WITH ACID FORMATIONS WITH A ph BELOW 4.0 THE FOLLOWING REQUIREMENT SHALL BE MET:

1. LIMIT THE EXCAVATION AREA AND EXPOSURE TIME WHEN HIGH ACID PRODUCING SOILS ARE ENCOUNTERED.
2. TOPSOIL STRIPPED FROM THE SITE SHALL BE STORED SEPARATELY FROM TEMPORARILY STOCKPILED HIGH ACID PRODUCING SOILS.
3. STOCKPILES OF HIGH ACID PRODUCING SOIL SHOULD BE LOCATED ON LEVEL LAND TO MINIMIZE ITS MOVEMENT, ESPECIALLY WHEN THIS MATERIAL HAS A HIGH CLAY CONTENT.
4. TEMPORARILY STOCKPILED HIGH ACID PRODUCING SOIL MATERIAL TO BE STORED MORE THAN 48 HOURS SHOULD BE COVERED WITH PROPERLY ANCHORED, HEAVY GRADE SHEETS OF POLYETHYLENE WHERE POSSIBLE. IF NOT POSSIBLE, STOCKPILES SHALL BE COVERED WITH A MINIMUM OF 3 TO 6 INCHES OF WOOD CHIPS TO MINIMIZE EROSION OF THE STOCKPILE. SILT FENCE SHALL BE INSTALLED AT THE TOE OF SLOPE TO CONTAIN MOVEMENT OF THE STOCKPILED MATERIAL. TOPSOIL SHALL NOT BE APPLIED TO THE STOCKPILES TO PREVENT TOPSOIL CONTAMINATION WITH HIGH ACID PRODUCING SOIL.
5. HIGH ACID PRODUCING SOILS WITH A pH OF 4 OR LESS, OR CONTAINING IRON SULFIDE, (INCLUDING BORROW FROM CUTS OR DREDGED SEDIMENT) SHALL BE ULTIMATELY PLACE OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS PER ACRE (OR 450 POUNDS PER 1,000 SQUARE FEET OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12 INCHES OF SETTLED SOIL WITH A pH OF 5 OR MORE EXCEPT AS FOLLOWS:
   A. AREAS WHERE TREES OR SHRUBS ARE PLANTED SHALL BE COVERED WITH A MINIMUM OF 24 INCHES OF SOIL WITH A pH OF 5 OR MORE.
   B. DISPOSAL AREAS SHALL NOT BE LOCATED WITHIN 24" OF ANY SURFACE OF A SLOPE OR BANK, SUCH AS BERMS, STREAM BANKS, DITCHES AND OTHERS TO PREVENT POTENTIAL LATERAL LEACHING DAMAGES.
6. EQUIPMENT USED FOR MOVEMENT OF HIGH ACID-PRODUCING SOILS SHOULD BE CLEANED AT THE END OF EACH DAY TO PREVENT SPREADING OF HIGH ACID-PRODUCING SOIL MATERIALS TO OTHER PARTS OF THE SITE, INTO STREAMS OR STORMWATER CONVEYANCES, AND TO PROTECT MACHINERY FROM ACCELERATED RUSTING.
7. NON-VEGETATIVE EROSION CONTROL PRACTICES (STONE TRACKING PADS, STRATEGICALLY PLACED LIMESTONE CHECK DAM, SEDIMENT BARRIER, WOOD CHIPS) SHOULD BE INSTALLED TO LIMIT THE MOVEMENT OF HIGH ACID-PRODUCING SOILS FROM, AROUND, OR OFF THE SITE.
8. FOLLOWING BURIAL OR REMOVAL OF HIGH ACID-PRODUCING SOIL, TOPSOILING AND SEEDING OF THE SITE (SEE TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION, PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION, AND TOPSOILING), MONITORING MUST CONTINUE FOR A MINIMUM OF 6 MONTHS TO ENSURE THERE IS ADEQUATE STABILIZATION AND THAT NO HIGH ACID-PRODUCING SOIL PROBLEMS EMERGE. IF PROBLEMS STILL EXIST, THE AFFECTED AREA MUST BE TREATED AS INDICATED ABOVE TO CORRECT THE PROBLEM.

CONSTRUCTION SCHEDULE AND PROCEDURE FOR IMPLEMENTATION OF SOIL EROSION AND SEDIMENT CONTROL MEASURES

1. INSTALL SILT FENCE, INLET PROTECTION, HAYBALE SEDIMENT BARRIERS AND ALL OTHER NECESSARY SOIL EROSION MEASURES. (2 WEEKS)
2. SAWCUT PAVEMENT, REMOVE CONCRETE CURB, REMOVE FULL DEPTH PAVEMENT, REMOVE TREES, REMOVE CONCRETE SIDEWALK AND OTHER ASSOCIATED IMPROVEMENTS. (2 WEEKS)
3. INSTALL ALL ASSOCIATED UTILITIES . (4 WEEKS)
4. PAVE ALL ROADWAYS AND PARKING AREAS. (1 WEEK)
5. PAINT AND STRIPE PAVEMENT (1 DAY)
6. REMOVE ACCESS PROTECTION, INLET PROTECTION, AND SILT FENCE AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED (ON GOING).

THE ABOVE SCHEDULE IS FOR THE IMPLEMENTATION AND INSTALLATION OF SOIL EROSION AND SEDIMENT CONTROL MEASURES ONLY. CONTRACTOR MAY MODIFY AND/OR CREATE HIS OWN SCHEDULE. IF THE CONSTRUCTION SCHEDULE IS MODIFIED, A REVISION TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED.

PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

1. SITE PREPARATION
   A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS, FOR LAND GRADING.
   B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOILING APPLICATION, THE SUBSOIL SHALL BE EVALUATED FOR COMPACTION IN ACCORDANCE WITH THE STANDARD FOR LAND GRADING.
   C. TOPSOIL SHOULD BE HANDLED ONLY WHEN ITS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE. A UNIFORM APPLICATION TO A DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED ON ALL SITES. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING.
   D. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.
2. SEEDBED PREPARATION
   A. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO TOPSOIL WHICH HAS BEEN SPREAD AND FIRMED, ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES (HTTP://NJAES.RUTGERS.EDU/COUNTY/). FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 S.F. OF 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ONE-HALFTHE RATE DESCRIBED ABOVE DURING THE SEEDBED PREPARATION AND REPEAT ANOTHER ONE-HALF RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING.
   B. WORK LIME AND FERTILIZER INTO THE TOPSOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
   C. HIGH ACID PRODUCING SOIL. SOILS HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE BEFORE INITIATING SEEDBED PREPARATION. SEE ACID SOIL NOTES.
3. SEEDING
   A. PERMANENT SEEDING SHALL CONSISTING OF THE FOLLOWING MIXES OR APPROVED EQUAL - ACCEPTABLE SEEDING DATES ARE BETWEEN MARCH 1 THRU APRIL 30 AND OPTIMAL SEEDING DATES ARE AUGUST 15 THRU OCTOBER 15:

HARD FESCUE	@ 4.0#/1,000 S.F.
PERENNIAL RYEGRASS	@ 1.0#/1,000 S.F.
KENTUCKY BLUEGRASS	@ 1.0#/1,000 S.F.

PERMANENT SEEDING SHALL BE PROVIDED ON ALL THE DETENTION BASIN SIDE SLOPES AND BASIN BOTTOM. THE SEED MIX SHALL BE SEED MIXTURE 17 AND CONSIST OF THE FOLLOWING MIXTURE OR APPROVED EQUAL - ACCEPTABLE SEEDING DATES ARE BETWEEN MARCH 1 THRU AUGUST 14 AND OPTIMAL SEEDING DATES ARE AUGUST 15 THRU OCTOBER 1:

CREEPING BENTGRASS	@1#/1,000 S.F.
CREEPING RED FESCUE	@1#/1,000 S.F.
ALKALI SALTGRASS	@1#/1,000 S.F.

PLEASE NOTE THAT OTHER SEED MIXTURES CAN BE USED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.

   B. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF ¼ TO ½ INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE ¼ INCH DEEPER ON COARSE-TEXTURED SOIL.
   C. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.
   D. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK, OR TRAILER-MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER, AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT-FINERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. WHEN POOR SEED TO SOIL CONTACT OCCURS, THERE IS A REDUCED SEED GERMINATION AND GROWTH.
4. MULCHING

MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS REQUIREMENT.

   A. STRAW OR HAY. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, APPLIED AT THE RATE OF 1 ½ TO 2 TONS ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO PRESENCE OF WEED SEED.

   APPLICATION- SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 95% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTION 70 TO 90 POUNDS WITHIN EACH SECTION.

   ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.

1. PEG AND TWINE. DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRECHING TWINE BETWEEN PEGS IN A CRIS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
2. MULCH NETTING. STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTING TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.
3. CRIMPER (MULCH ANCHORING COULTER TOOL) - A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.
4. LIQUID MULCH BINDERS-MAY BE USED TO ANCHOR SALT HAY OR STRAW MULCH.
   A. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.
   B. USE ONE OF THE FOLLOWING:
1. ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.
2. SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

   NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A COMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.
3. WOOD-FIBER OR PAPER-FIBER MULCH. SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS, USED AT THE RATE OF 1,500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. THIS MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.
4. PELLETIZED MULCH. COMPRESSED AND EXTRUDE PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDED AREA AND WATERED, FORMA MULCH MAT. PELLETIZED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75LBS/1,000 SQUARE FEET WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS, SEED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE.

   APPLY THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETIZED MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.
5. IRRIGATION (WHERE FEASIBLE)

   IF SOIL MOISTURE IS DEFICIENT, AND MULCH IS NOT USED, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER (A MINIMUM OF 1/4 INCH APPLIED UP TO TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.

STABILIZATION WITH MULCH

METHODS AND MATERIALS

1. SITE PREPARATION
   A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS, FOR LAND GRADING.
   B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.
2. PROTECTIVE MATERIALS
   A. UN-ROTTED SMALL-GRAIN STRAW, OR SALT HAY AT 2.0 TO 2.5 TONS PER ACRE IS SPREAD UNIFORMLY AT 90 TO 115 POUNDS PER 1,000 SQUARE FEET AND ANCHORED WITH A MULCH ANCHORING TOOL, LIQUID MULCH BINDERS, OR NETTING TIE DOWN. OTHER SUITABLE MATERIALS MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT. THE APPROVED RATES ABOVE HAVE BEEN MET WHEN THE MULCH COVERS THE GROUND COMPLETELY UPON VISUAL INSPECTION, ie. THE SOIL CAN NOT BE BELOW THE MULCH.
   B. ASPHALT EMULSION IS RECOMMENDED AT THE RATE OF 600 TO 1,200 GALLONS PER ACRE. THIS IS SUITABLE FOR A LIMITED PERIOD OF TIME WHERE TRAVEL BY PEOPLE, ANIMALS OR MACHINES IS NOT A PROBLEM.
   C. SYNTHETIC OR ORGANIC SOIL STABILIZERS MAY BE USED UNDER SUITABLE CONDITIONS AND IN QUANTITIES AS RECOMMENDED BY THE MANUFACTURER.
   D. WOOD-FIBER OR PAPER-FIBER MULCH AT THE RATE OF 1,500 POUNDS PER ACRE (OR ACCORDING TO THE MANUFACTURER'S REQUIREMENTS) MAY BE APPLIED BY A HYROSEEDER.
   E. MULCH NETTING, SUCH AS PAPER JUTE, EXCELSIOR, COTTON, OR PLASTIC, MAY BE USED.
   F. WOODCHIPS APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 2 INCHES MAY BE USED. WOODCHIPS WILL NOT BE USED ON AREAS WHERE FLOWING WATER COULD WHERE FLOWING WATER COULD WASH THEM INTO AN INLET AND PLUG IT.
   G. GRAVEL, CRUSHED STONE, OR SAG AT THE RATE OF 9 CUBIC YARDS PER 1,000 SQ. FT. APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 3 INCHES MAY BE USED. SIZE 2 OR 3 (ASTM-C-33) IS RECOMMENDED.
3. MULCH ANCHORING - SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA AND STEEPNESS OF SLOPES.
   A. PEG AND TWINE - DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRIS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
   B. MULCH NETTING - STAPLE PAPER, COTTON, OR PLASTIC NETTINGS OVER MULCH. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED. NETTING IS USUALLY AVAILABLE IN ROLLS 4 FEET WIDE AND UP TO 300 FEET LONG.
   C. CRIMPER MULCH ANCHORING COULTER TOOL - A TRACTOR-DAWN IMPLEMENT ESPECIALLY DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SURFACE. THIS PRACTICE AFFORDS MAXIMUM EROSION CONTROL, BUT IS USE IS LIMITED TO THOSE SLOPES UPON WHICH THE TRACTOR CAN OPERATE SAFELY. SOIL PENETRATION SHOULD BE ABOUT 3 TO 4 INCHES. ON SLOPING LAND, THE OPERATION SHOULD BE ON THE CONTOUR.
   D. LIQUID MULCH -BINDERS
      1. APPLICATION SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.
      2. USE ONE OF THE FOLLOWING:
   A. ORGANIC AND VEGETABLE BASED BINDER - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. VEGETABLE BASED GELS SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.
      B. SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

1. SITE PREPARATION
   A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS, FOR LAND GRADING.
   B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.
   C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.)
2. SEEDBED PREPARATION
   A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 S.F. OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. APPLY LIMESTONE AT THE RATE AS ESTABLISHED BY SOIL TESTING. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES.
   B. WORK LIME AND FERTILIZER INTO THE TOPSOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
   C. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RECTIFIED IN ACCORDANCE WITH THE ABOVE.
   D. SOILS HIGH IN SULFIDES OR HAVING A PH OF 4 OR LESS, SEE ACID SOIL NOTES.
3. SEEDING
   A. TEMPORARY SEEDING SHALL CONSISTING OF THE FOLLOWING SEED SELECTIONS OR APPROVED EQUAL:

COOL SEASON GRASSES

SPRING OATS	@ 2.0#/1,000 S.F., WITH OPTIMUM SEED DEPTH OF 1.0 INCH
WINTER CEREAL RYE	@ 2.8#/1,000 S.F., WITH OPTIMUM SEED DEPTH OF 1.0 INCH

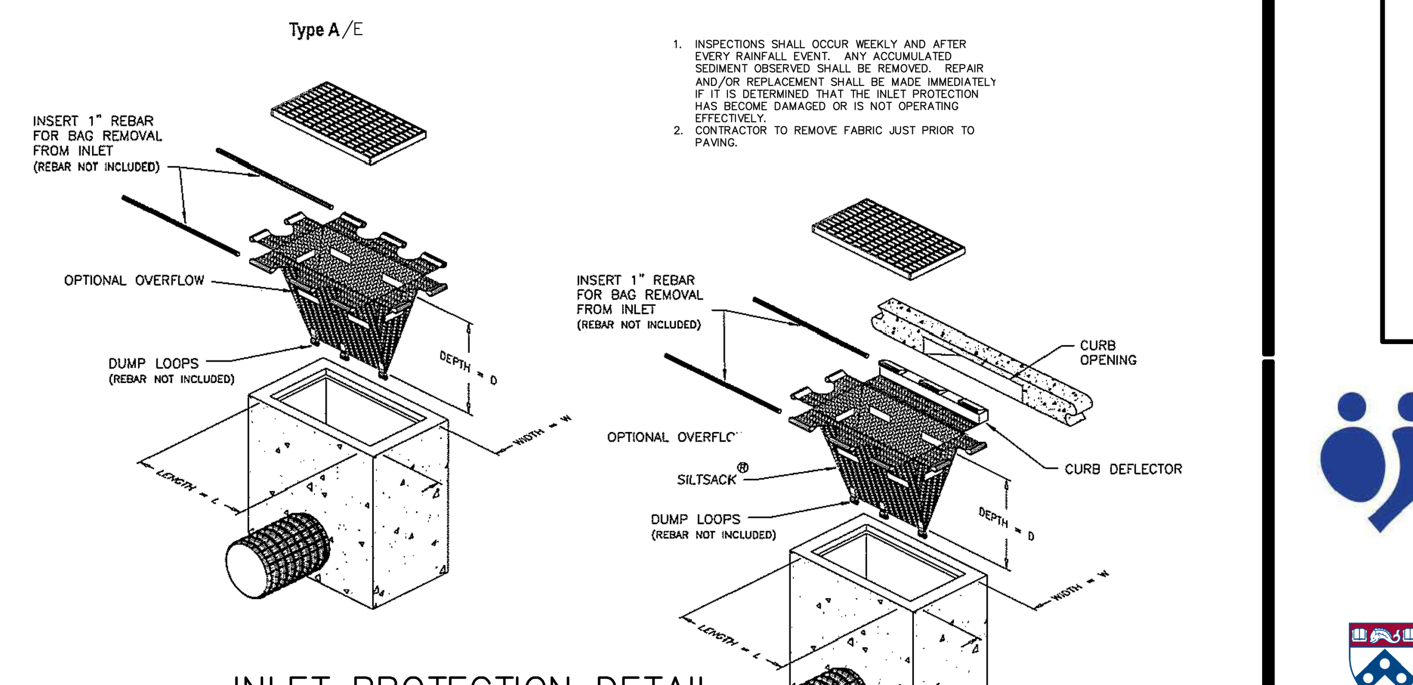
WARM SEASON GRASSES

PEARL MILLET	@ 0.5#/1,000 S.F. WITH OPTIMUM SEED DEPTH OF 1.0 INCH

PLEASE NOTE THAT OTHER SEED SELECTIONS CAN BE USED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.

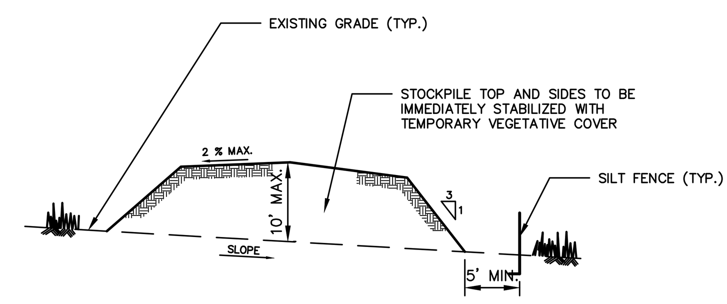
   B. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF ¼ TO ½ INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE ¼ INCH DEEPER ON COARSE-TEXTURED SOIL.
   C. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK, OR TRAILER-MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER, AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT-FINERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. WHEN POOR SEED TO SOIL CONTACT OCCURS, THERE IS A REDUCED SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.
   D. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.
4. MULCHING

   REFER TO THE MULCH NOTES, NOTE 4 UNDER THE PERMANENT VEGETATIVE COVER SECTION.



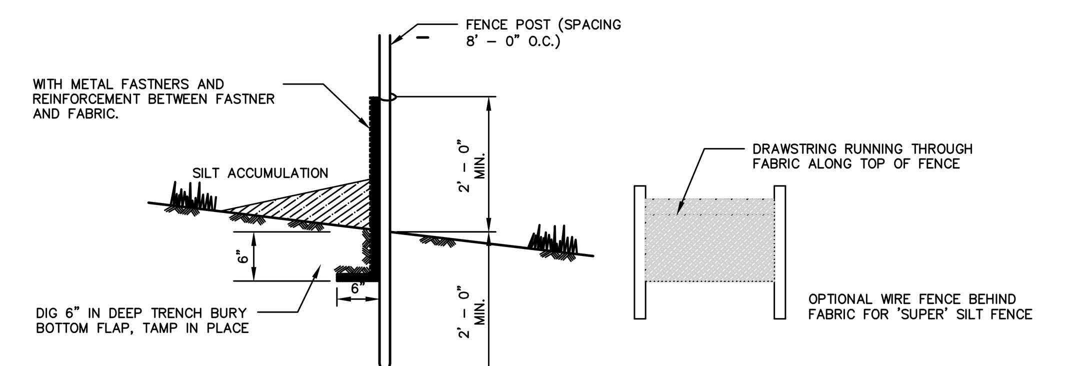
1. INSPECTIONS SHALL OCCUR WEEKLY AND AFTER EVERY RAINFALL EVENT. ANY ACCUMULATED SEDIMENT OBSERVED SHALL BE REMOVED. REPAIR AND/OR REPLACEMENT SHALL BE MADE IMMEDIATELY IF IT IS DETERMINED THAT THE INLET PROTECTION HAS BECOME DAMAGED OR IS NOT OPERATING EFFECTIVELY.
2. CONTRACTOR TO REMOVE FABRIC JUST PRIOR TO PAVING.

INLET PROTECTION DETAIL
NOT TO SCALE

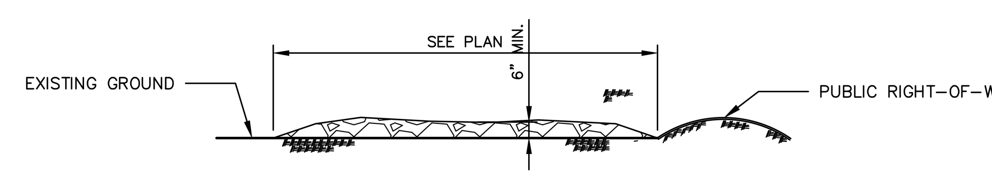


NOTES:
1. TOPSOIL STOCKPILES TO BE PLACED AS DETERMINED IN THE FIELD.
2. STOCKPILE NOT TO BE PLACED IN AREA WITH CONCENTRATED FLOW, WETLANDS, EXTREME SLOPE OR WITHIN 100' OF A NATURAL STREAM.

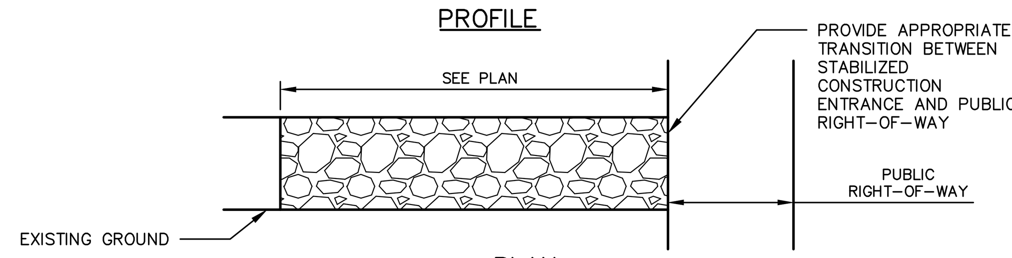
TEMPORARY STOCKPILE
NOT TO SCALE



SILT FENCE



PROFILE



PLAN

PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED	
	COURSE GRAINED SOILS	FINE GRAINED SOILS
0 TO 2%	50 FEET	100 FEET
2% TO 5%	100 FEET	200 FEET
>5%	ENTIRE SURFACE STABILIZED WITH HOT MIX ASPHLAT BASE COURSE, MIX I-2	

NOTES:

1. STONE SIZE - USE ASTM C-33, SIZE NO. 2 (2½ TO 1½ IN.) OR 3 (2 TO 1 IN.). USE CLEAN CRUSHED ANGULAR STONES. CRUSHED CONCRETE OF SIMILAR SIZE MAY BE SUBSTITUTED BUT WILL REQUIRE MORE FREQUENT UPGRADING AND MAINTENANCE.
2. LENGTH - 50 FEET MINIMUM WHERE SOILS ARE COURSE GRAINED (SAND OR GRAVEL), OR 100 FEET MINIMUM WHERE SOILS ARE FINE GRAINED (CLAYS OR SILTS), EXCEPT WHERE THE TRAVEL LENGTH IS LESS THAN 50 OR 100 FEET RESPECTIVELY. THESE LENGTHS MAY BE INCREASED WHERE FIELD CONDITIONS DICTATE. STORMWATER FROM UP-SLOPE AREAS SHALL BE DIVERTED AWAY FROM THE STABILIZED PAD (SEE STANDARD FOR DIVERSIONS). WHERE DIVERSION IS NOT POSSIBLE, THE LENGTH OF THE STABILIZED PAD SHALL BE SHOWN AS IN TABLE ABOVE. WHERE THE SLOPE OF THE ACCESS ROAD EXCEEDS 5%, A STABILIZED BASE OF HOT MIX ASPHALT BASE COURSE, MIX I-2, SHALL BE INSTALLED. THE TYPE AND THICKNESS OF THE BASE COURSE AND USE OF A DENSE GRADED AGGREGATE SUB-BASE SHALL BE AS PRESCRIBED BY LOCAL MUNICIPAL ORDINANCE OR OTHER GOVERNING AUTHORITY.

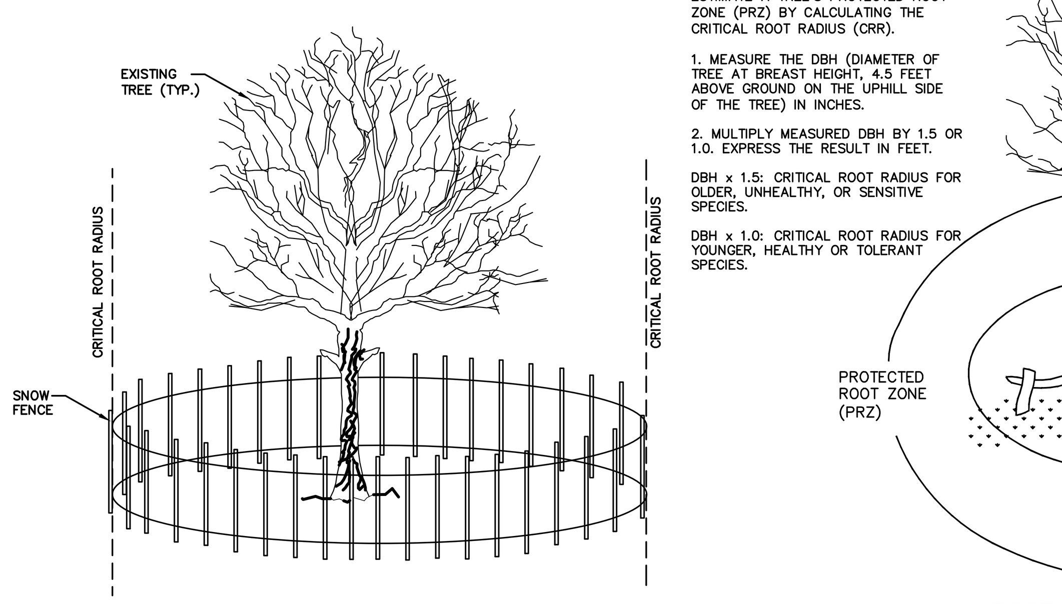
   AT POORLY DRAINED LOCATIONS, SUBSURFACE DRAINAGE GRAVEL FILTER OR GEOTEXTILE SHALL BE INSTALLED BEFORE INSTALLING THE STABILIZED CONSTRUCTION ENTRANCE.

   WHERE A STABILIZED CONSTRUCTION ENTRANCE EXIT TRAVERSES BETWEEN TWO BUILDINGS, IT SHALL BE STONED THE ENTIRE LENGTH OF THE RIGHT-OF-WAY. MOUNTABLE STONE BERMS PLACED ACROSS THE WIDTH OF THE EXIT MAY ALSO BE REQUIRED AT THE TRANSITION POINT BETWEEN PAVED AND NON-PAVED AREAS TO TRAP SEDIMENTS WHICH ARE CARRIED BY STORMWATER FLOWING ALONG THE CURBLINE.
3. THICKNESS - NOT LESS THAN 6 INCHES.
4. WIDTH - NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. TIRE WASHING - IF SPACE IS LIMITED, VEHICLE TIRES MAY BE WASHED WITH CLEAN WATER BEFORE ENTERING A PAVED AREA. A WASH STATION MUST BE LOCATED SUCH THAT WATER WILL NOT FLOW ONTO PAVED ROADWAYS OR INTO UNPROTECTED STORM DRAINAGE SYSTEMS.

   WHEN THE CONSTRUCTION ACCESS EXITS ONTO A MAJOR ROADWAY, A PAVED TRANSITION AREA MAY BE INSTALLED BETWEEN THE MAJOR ROADWAY AND THE STONED ENTRANCE TO PREVENT LOOSE STONES FROM BEING TRANSPORTED OUT ONTO THE ROADWAY BY THE HEAVY EQUIPMENT ENTERING OR LEAVING THE SITE.
6. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS (PRIVATE OR PUBLIC) OR OTHER IMPERVIOUS SURFACES MUST BE REMOVED IMMEDIATELY.

   WHERE ACCUMULATION OF DUST/SEDIMENT IS INADEQUATELY CLEANED OR REMOVED BY CONVENTIONAL METHODS, A POWER BROOM OR STREET SWEEPER WILL BE REQUIRED TO CLEAN PAVED OR IMPERVIOUS SURFACES. ALL OTHER ACCESS POINTS WHICH ARE NOT STABILIZED SHALL BE BLOCKED OFF.

STABILIZED CONSTRUCTION ENTRANCE



TREE PROTECTION FENCE

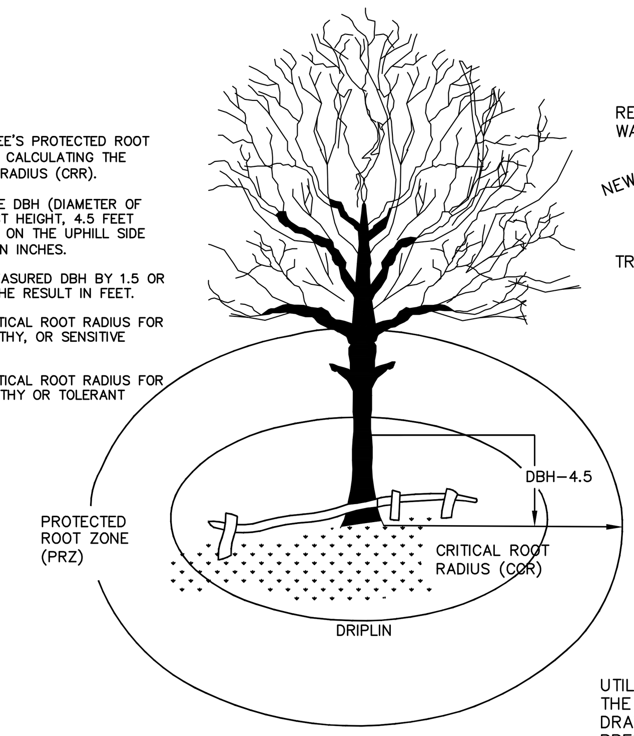
ESTIMATE A TREE'S PROTECTED ROOT ZONE (PRZ) BY CALCULATING THE CRITICAL ROOT RADIUS (CRR).

1. MEASURE THE DBH (DIAMETER OF TREE AT BREAST HEIGHT, 4.5 FEET ABOVE GROUND ON THE UPHILL SIDE OF THE TREE) IN INCHES.

2. MULTIPLY MEASURED DBH BY 1.5 OR 1.0. EXPRESS THE RESULT IN FEET.

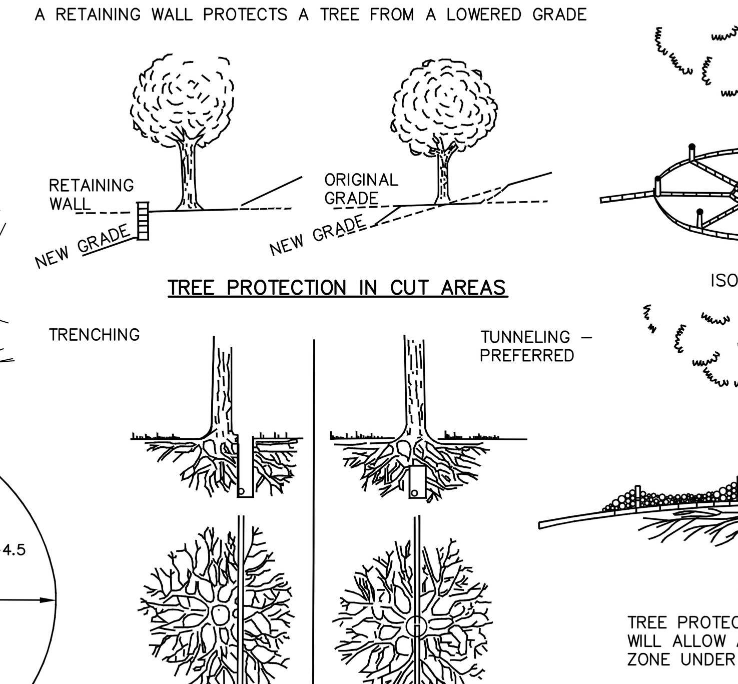
DBH x 1.5: CRITICAL ROOT RADIUS FOR OLDER, UNHEALTHY, OR SENSITIVE SPECIES.

DBH x 1.0: CRITICAL ROOT RADIUS FOR YOUNGER, HEALTHY OR TOLERANT SPECIES.



ROOT PROTECTION DURING CONSTRUCTION GUIDE

A RETAINING WALL PROTECTS A TREE FROM A LOWERED GRADE



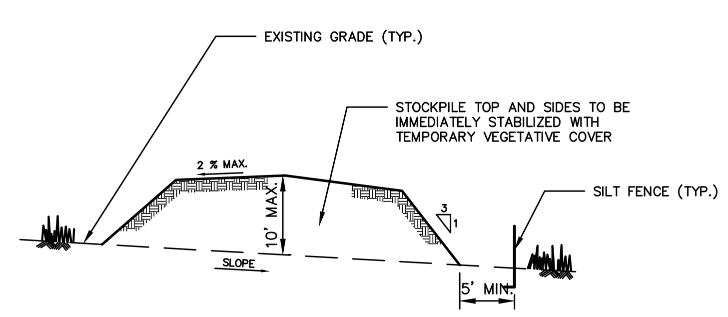
TREE PROTECTION-TILE AND GRAVEL WILL ALLOW AIR CIRCULATION TO ROOT ZONE UNDER A FILL

TREE PROTECTION IN FILL AREAS

UTILITIES SHOULD BE TUNNELED BENEATH TREE ROOTS. THE DRAWINGS ON THE LEFT SHOW TRENCHING THAT WOULD PROBABLY KILL THE TREE. THE DRAWINGS ON THE RIGHT SHOW HOW TUNNELING UNDER THE TREE WILL PRESERVE MANY OF THE IMPORTANT FEEDER ROOTS.

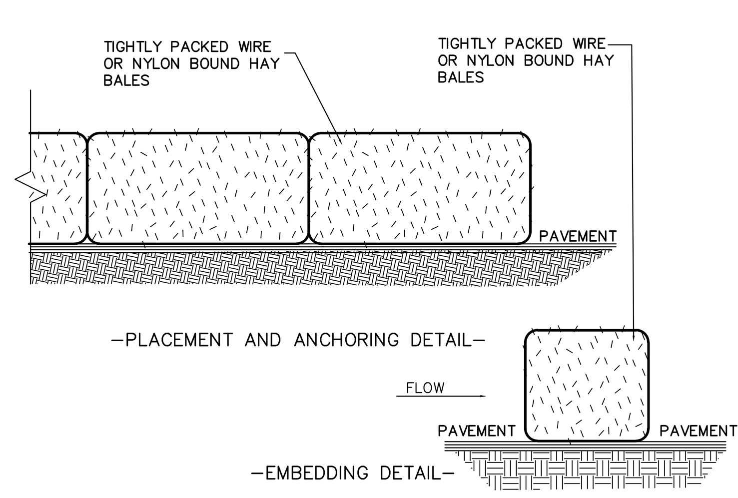
TREE PROECTION-UNDERGROUND UTILITY INSTALLATION

TREE PROTECTION DETAIL
NOT TO SCALE



NOTES:
1. TOPSOIL STOCKPILES TO BE PLACED AS DETERMINED IN THE FIELD.
2. STOCKPILE NOT TO BE PLACED IN AREA WITH CONCENTRATED FLOW, WETLANDS, EXTREME SLOPE OR WITHIN 100' OF A NATURAL STREAM.

TEMPORARY STOCKPILE
NOT TO SCALE



HAY BALE SEDIMENT BARRIERS
N.T.S.

THIS PLAN IS USED FOR SOIL EROSION AND SEDIMENT CONTROL PURPOSES ONLY

SCALE IN FEET

Princeton Forward

Penn Medicine
Princeton Health

1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA
FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
2	12/16/22	IDP
1	10/21/22	PRECAST BID SET

N

Penn Medicine Princeton Health Utility Relocation Plan

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1B

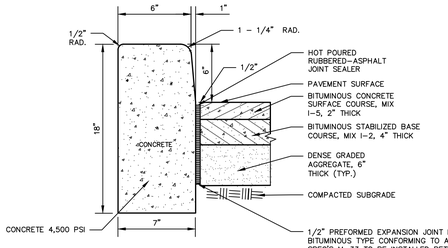
SOIL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

C.1B.05

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:56 AM
O:\CE\2006\06C028T - Cancer Center\06C028T.003 - Penn Medical Cancer Center\CADD\DWG\06C028T - Utility Plans\06C028T.002 - SCS.dwg SED (ARCH)
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

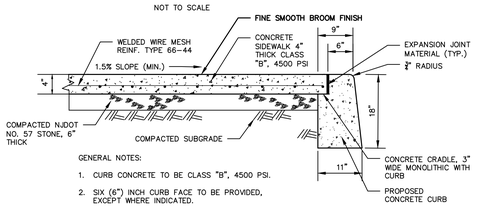


NOTE:

1. TRANSVERSE JOINTS 1/2" WIDE SHALL BE INSTALLED IN THE CURB 20'–0" APART AND SHALL BE FILLED WITH PREFORMED BITUMINOUS–IMPREGNATED FIBER JOINT FILLER COMPLYING WITH THE REQUIREMENTS OF A.A.S.H.T.O. SPEC. M–213, RECESSED 1/4" IN FROM FRONT FACE AND TOP OF CURB. EXPANSION JOINTS THRU AND ADJACENT TO THE CURB SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CURB.

CONCRETE VERTICAL CURB

NOT TO SCALE

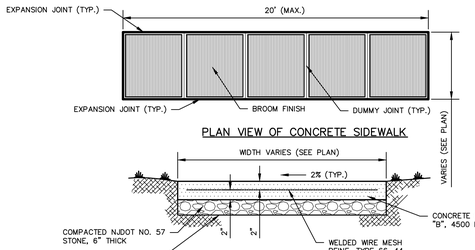


GENERAL NOTES:

1. CURB CONCRETE TO BE CLASS "B", 4500 PSI.
2. SIX (6") INCH CURB FACE TO BE PROVIDED, EXCEPT WHERE INDICATED.
3. PROVIDE PERFORMED BITUMINOUS FIBER EXPANSION JOINTS, 1/2" THK. AT 20'–0" (MAX.) INTERVALS, PROVIDE DUMMY JOINTS (FORMED) WHERE INDICATED BETWEEN EXPANSION JOINTS.
4. ALL SIDEWALK ADJACENT TO 90 DEGREE PARKING SHALL BE TWO (2) FEET FROM CURB LINE OR SIX (6) FEET IN WIDTH.

CURB AND SIDEWALK DETAIL

NOT TO SCALE



PLAN VIEW OF CONCRETE SIDEWALK

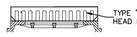
SECTION VIEW

NOTES:

1. PREFORMED BITUMINOUS CELLULAR JOINT FILLERS 1/2" THICK, SHALL BE PLACED AT INTERVALS NOT EXCEEDING TWENTY (20) FEET. DUMMY (FORMED) JOINTS SHALL BE CUT INTO THE CONCRETE SIDEWALK BETWEEN THE EXPANSION JOINTS AT EQUAL INTERVALS NOT EXCEEDING THE WIDTH OF THE SIDEWALK.
2. THE SIDEWALK SUBGRADE SHALL BE NJDOT NO. 57 STONE, 6" THICK OR MATERIAL APPROVED BY THE TOWNSHIP ENGINEER, AND COMPACTED PRIOR TO THE PLACEMENT OF ANY SIDEWALK.
3. THE SIDEWALK SECTION SHALL BE 6" THICK WITH WELDED WIRE FABRIC AT DRIVEWAYS.

CONCRETE SIDEWALK, 4" THICK

NOT TO SCALE

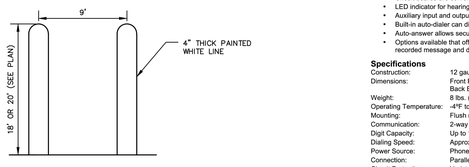


NOTE:

1. ECO TYPE CURB PIECES FOR THIS PROJECT SHALL BE TYPE "N".

TYPE "N–ECO" CURB PIECE

NOT TO SCALE

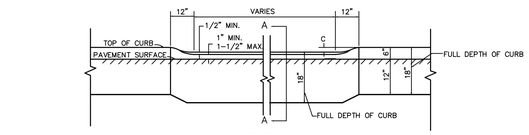


HAIRPIN STYLE PARKING LOT STRIPING DETAIL

NOT TO SCALE

NOTES:

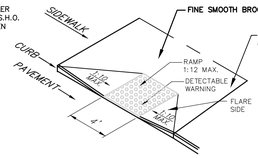
1. THE FIRE LANE SHALL BE IDENTIFIED BY THE CONTRACTOR PAINTING THE CURB YELLOW AND/OR PROVIDING A YELLOW STRIPE, 4" WIDE, WITHIN THE ENTIRE ACCESS DRIVE, AFTER FINAL PAVEMENT WORK IS COMPLETE.
2. THE LETTERING "NO PARKING FIRE LANE" SHALL BE 18" HIGH PAINTED YELLOW AND CENTERED WITHIN THE DESIGNATED FIRE LANE AT THE SAME LOCATION AS SHOWN ON THE PLANS OR AS APPROVED BY THE FIRE OFFICIAL.
3. IF NOT OTHERWISE INDICATED PAVEMENT STRIPING SHALL CONFORM TO THE FOLLOWING:
   - A. PARKING STRIPES: 4" WIDE WHITE LINES
   - B. LANE AND CENTER LINES: 4" WIDE WHITE LINES SPACED AS SHOWN
   - C. STOP LINES: 12" WIDE WHITE LINES (4' MINIMUM FROM CROSSWALK)
   - D. "LETTERING": 18" HIGH PAINTED WHITE, UNLESS OTHERWISE SPECIFIED
   - E. HANDICAPPED RAMPS: SAFETY RED MOISTURE CURED POLYURETHANE COATING WITH SELF–CONTAINE WHITE RUBBER GRIT OR PERFORMED PLASTIC MARKING TAPE AS PER NJDOT STANDARDS.
4. ALL STRIPING SHOULD BE EPOXY BASED PAINT. ALL PAVEMENT MARKINGS (ARROWS, STOP BARS, CROSSWALKS, ETC.) SHOULD BE EXTRUDED THERMOPLASTIC.



ELEVATION

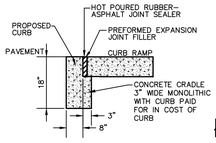
METHOD OF DEPRESSING CURB AT DRIVEWAY

NOT TO SCALE



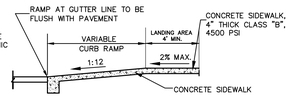
PLAN VIEW OF RAMP TYPE 1

N.T.S.



DETAIL THROUGH CURB RAMP

N.T.S.



SECTION THROUGH RAMP

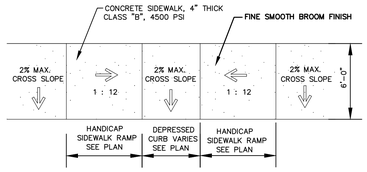
N.T.S.

HANDICAP SIDEWALK RAMP DETAIL

NOT TO SCALE

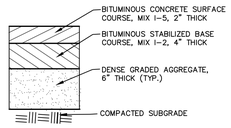
GENERAL NOTES:

1. LANDING AREA, APPROACH SIDEWALK TRANSITIONS, AND CURB RAMP SHALL BE KEPT CLEAR OF OBSTRUCTIONS.
2. CURB (DEPRESSED CURB) GUTTERLINE TO BE FLUSH WITH ROADWAY PAVEMENT 4' WIDE AT ALL CURB RAMPS.
3. SIDEWALK AND CURB RAMP TO BE PAID FOR AS CONCRETE SIDEWALK OF THE APPROPRIATE ADJACENT THICKNESS.
4. CONCRETE TO BE N.J.D.O.T., CLASS "B"
5. THE CONTRACTOR SHALL PROVIDE DETECTABLE WARNING ON ALL HANDICAP SIDEWALK RAMPS. THE DETECTABLE WARNING SHALL BE STRONGWARN TACTILE WARNING SURFACE, 2000 AS MANUFACTURED BY STRONGWALL INDUSTRIES, INC. (1–800–535–0668) OR APPROVED EQUIVALENT THAT CONFORMS TO ADA REQUIREMENTS. THE COLOR OF DETECTABLE WARNING MUST BE APPROVED BY THE ARCHITECT FROM AVAILABLE COLORS.
6. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,500 PSI.



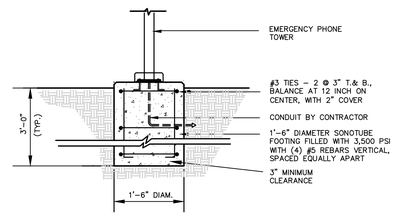
HANDICAP SIDEWALK RAMP TYPE 2

N.T.S.



FULL DEPTH BITUMINOUS PAVEMENT SECTION

NOT TO SCALE

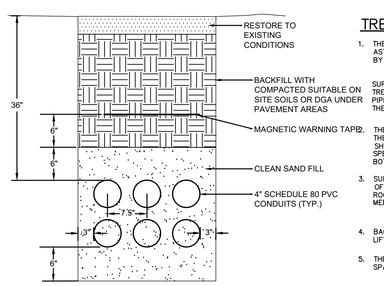


NOTES:

1. CONTRACTOR SHALL COORDINATE WITH THE OWNER TO CONFIRM THE EMERGENCY PHONE TOWER SPECIFICATIONS SO THAT THE ANCHOR BOLTS AND TIES ARE CONSISTENT WITH THE MANUFACTURER OF THE EMERGENCY PHONE CALL TOWER.
2. CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL CONDUIT DUCT BANK SYSTEM WITH PULL STRING AND FOUNDATION FOR EMERGENCY CALL BOX.
3. EMERGENCY PHONE CALL TOWER AND WIRING SHALL BE INSTALLED BY SELECTED VENDOR OF PENN MEDICINE.

EMERGENCY PHONE TOWER FOOTING DETAIL

NOT TO SCALE



NOTE:

1. DUCTBANK DETAIL IS FOR BOTH ELECTRICAL SERVICE LINES AND TELECOMMUNICATIONS LINES

TYPICAL CONDUIT DUCTBANK DETAIL

N.T.S.

TRENCH EXCAVATION AND BACKFILL NOTES

1. THE MAXIMUM DRY DENSITIES SHALL BE DETERMINED IN ACCORDANCE WITH ASTM DESIGNATION D1557. THE MINIMUM PERCENTAGE OF COMPACTION TO BE ACHIEVED BY THE CONTRACTOR IN THE VARIOUS ZONES IS AS FOLLOWS:

	PIPE MATERIAL	LOCATION	INITIAL COMPACTION
SURFACE ZONE:	ALL	ALL	95%
TRENCH BACKFILL ZONE:			90%
PIPE EMBEDMENT ZONE:			95%

THE MINIMUM COMPACTION IN EMBANKMENTS SHALL BE 90%

2. THE PIPE EMBEDMENT ZONE WIDTH AND THE MAXIMUM TRENCH WIDTH SHALL NOT EXCEED THE PERMISSABLE WIDTHS SHOWN. IF THE PERMISSABLE WIDTH IS EXCEEDED, THE PIPE SHALL BE INSTALLED IN A HIGHER CLASS BEDDING THAN SHOWN ON THE DRAWINGS OR THE SPECIFIED PIPE SHALL BE REPLACED WITH PIPE OF GREATER CRUSHING STRENGTH OR BOTH, TO ACHIEVE SUITABLE CONDITIONS.
3. SUITABLE MATERIAL FROM EXCAVATIONS SHALL BE FREE FROM OBJECTIONABLE QUANTITIES OF ORGANIC MATTER, CLAYS, TREES, STUMPS, FROZEN MATERIAL, RUBBLE, REFUSE, CINDERS, ROCK AND OTHER MATERIALS CONSIDERED DELETERIOUS BY THE AUTHORITY AND SHALL MEET THE REQUIREMENTS AS SPECIFIED WITHIN THE GEOTECHNICAL REPORT FOR THIS PROJECT.
4. BACKFILL TO BE MECHANICALLY COMPACTED IN TWELVE INCH LIFTS TO THE SATISFACTION OF THE ENGINEER.
5. THE CONTRACTOR MUST COMPLY WITH ALL STATE AND FEDERAL CONFINED SPACE RULES, AND ALL APPLICABLE O.S.H.A. REQUIREMENTS.

TALK A PHONE
Creating Communications Solutions

OUTDOOR EMERGENCY PHONES

ETP-400 – Single Button Emergency Phone

ETP-400

Description

The **ETP-400** is an outdoor-rated, ADA-compliant hands-free Emergency Phone for use in locations such as: parking facilities, college campuses, controlled access gates, medical centers and industrial parks.

Features

- Cast metal raised letter and Braille signage for ADA compliance
- Vandal resistant stainless steel faceplate and metal button
- Uses regular phone lines or PBX
- Phone line powered: no power supply or battery back-up needed
- Circuit boards are conformally coated for water protection
- LED indicator for hearing impaired
- Auxiliary input and outputs to integrate with CCTV, Blue Light Strobe, Scream Alert™ and other devices
- Built-in auto-dialer can dial two numbers: if first number doesn't answer or is busy, dials second number
- Auto-answer allows security to monitor and initiate calls with Emergency Phone
- Options available that offer the ability to automatically identify attendant of location of calling phone by recorded message and digital display

Specifications

Construction:	12 gauge (2.8mm) #4 brushed stainless steel faceplate
Dimensions:	Front Panel: 9.5(241) W x 11.75(298) H (mm) Back Box: 6.63(168) W x 9.75(248) H x 2.5(64) D in(mm)
Weight:	8 lbs. (3.6kg)
Operating Temperature:	-4°F to +149°F (-20°C to +65°C)
Mounting:	Flush mounts (surface mount options available)
Communication:	2-way hands-free communication
Digit Capacity:	Up to 18 digits, including pauses, for each of two phone numbers
Dialing Speed:	Approximately 10 tones per second
Power Source:	Phone line powered (requires 20mA at 24 v off-hook)
Connection:	Parallel tip and ring connected to RJ11 connector for quick installation
Circuit Protection:	Varistor lightening suppressed and full wave polarity guarded
Programming:	Non-volatile EEPROM programming can be done from any telephone No battery back up is needed
"On Time":	Programmable from 1-4270 minutes in 1-minute increments
Recommended Wiring:	1 twisted-shielded pair
Compliance:	CSA Certified to UL Standard 60950

Options & Accessories

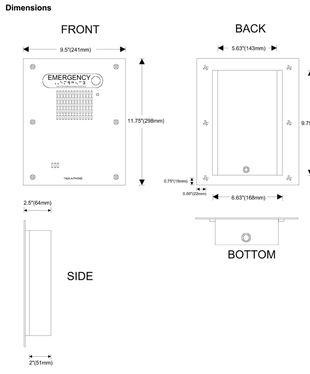
Voice Location Identifier:	Model **ETP-400V** includes the capability to record a message identifying the location of the call. Message is recorded and duration set during programming
"TO CALL" Casting:	Use Model **ETP-400C** for a button that reads **TO CALL** instead of **EMERGENCY**
8-Line Consolidator:	Model **EC-8** allows connection of up to 8 phones on one phone line while retaining ability to call each phone individually. Can also create a closed system without need for any phone lines
Monitoring/Diagnostic Software Package:	Talk-A-Lert®, model **ETP-TAL**, automatically polls each Emergency Phone, reports incoming calls and keeps permanent records of all events
Faceplate Camera:	Add "OP3" to model number to add a color pinhole camera mounted discreetly behind the faceplate. Add "OP3BW" for a b/w camera

Copyright 2009 Talk-A-Phone Co. All rights reserved.

Talk-A-Phone Co. • 7530 North Natchez Avenue • Niles, Illinois 60714-3804 Rev. 10/28/09
Phone 773.539.1100 • Fax 773.539.1241 • info@talkaphone.com • www.talkaphone.com
All prices and specifications are subject to change without notice.
Talk-A-Phone, Talk-A-Lert, Scream Alert and WEBS are registered trademarks of Talk-A-Phone Co.

ETP-400 – Single Button Outdoor Emergency Phone

Dimensions



Copyright 2009 Talk-A-Phone Co. All rights reserved.

Talk-A-Phone Co. • 7530 North Natchez Avenue • Niles, Illinois 60714-3804
Phone 773.539.1100 • Fax 773.539.1241 • info@talkaphone.com • www.talkaphone.com
All prices and specifications are subject to change without notice.
Talk-A-Phone, Talk-A-Lert, Scream Alert and WEBS are registered trademarks of Talk-A-Phone Co.

TALK A PHONE
Creating Communications Solutions

EMERGENCY PHONE MOUNTS

ETP-MT – Emergency Phone Tower

Description

Vandal-resistant Emergency Phone Tower systems provide exceptional clarity, performance and a sense of security. Towers are often used in college campuses, parking facilities, shopping malls, medical centers and industrial campuses.

Features

- Attention-getting blue light strobe included and mounted atop unit: blue light is continuously lit, strobe is activated when **EMERGENCY** button is pressed and flashes for duration of call.
- Faceplate is lit at all times by ultrabright LEDs
- Designed to resist extreme weather conditions
- A variety of lettering, signage and color choices are available
- Talk-A-Phone 400-Series flush mounting Emergency/Information Phone mounts easily into unit (order separately)
- ADA-compliant

Specifications

Dimensions:	10.0(254) W x 8.0(203) D x 114.2(2901) H in(mm)
Weight:	280 lbs. (127 kg)
Construction:	0.25 in (6.3 mm) steel with multi-coat rust inhibitive coating
Lighting:	Strobe: 1.5 million candlepower, 70 flashes per minute Blue Light: 7 watt high efficiency, 10,000 hour compact fluorescent Faceplate Light: Ultrabright LEDs, 100,000 hour lifetime
Lettering:	3.25 in (82.5 mm) high reflective white letters, also available in other colors and with other wording
Power:	Blue light strobe and faceplate light require 120VAC (170mA for each light, 2 amps for each 5 millisecond flash of strobe), available in 12VDC/24VAC/24VDC
Mounting:	Mounts into concrete foundation using included hardware (shipped in advance). Mounting options available for pre-poured decks.
Compliance:	CSA Certified to UL Standard 60950

Communication Options

Emergency Phone:	Model **ETP-400** has a standard red **EMERGENCY** button
Emergency/Info Phone:	Model **ETP-400D** has a red **EMERGENCY** button and a black **INFO** button to allow two different types of locations to be called
Emergency/Keypad Phone:	Model **ETP-400K** has a red **EMERGENCY** button as well as a black **CALL** button, which allows access to the built-in keypad
RF Interface:	Models **VOIP-RF** and **VOIP-1** when used in conjunction with a phone listed above creates a Radio Frequency Emergency Phone. (Note: other RF equipment is required for a complete system)
Cellular Interface:	Model **ETP-C1** when used in conjunction with a phone listed above creates a stand-alone cellular Emergency Phone Tower

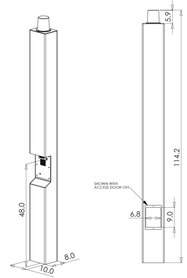
Options & Accessories

Fixed CCTV Option:	Model **ETP-MT OP 3** includes a Silent Witness fixed b/w camera
CCTV Housing Option:	Model **ETP-MT OP 2** includes a housing for mounting your own fixed CCTV
Parking Deck Mounting Kit:	Order model **ETP-PDMK-2** to mount on pre-poured parking deck

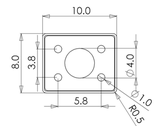
Talk-A-Phone Co. • 5013 North Kedzie Avenue • Chicago, Illinois 60625-4988 Rev. 10/19/06
Phone 773.539.1100 • Fax 773.539.1241 • info@talkaphone.com • www.talkaphone.com
All prices and specifications are subject to change without notice.

ETP-MT – Emergency Phone Tower

Dimensions



Footprint Dimensions



All dimensions are in inches

Talk-A-Phone Co. • 5013 North Kedzie Avenue • Chicago, Illinois 60625-4988
Phone 773.539.1100 • Fax 773.539.1241 • info@talkaphone.com • www.talkaphone.com
All prices and specifications are subject to change without notice.

SCALE IN FEET

Princeton Forward

Penn Medicine
Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
2	12/16/22	IDP
1	10/21/22	PRECAST BID SET

N

Penn Medicine Princeton Health Utility Relocation Plan

1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: N8R22119.00

PHASE 1B CONSTRUCTION DETAILS 1

C.1B.06

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:16 AM
O:\C0200\N8R22119\T-Cancer Center\NCS\ST\ST-DES - Penn Medical Cancer Center\CAD\2020\NCS2ST - Utility Plans\NCS2ST_PEC - CD.dwg CD-1 (ARCH)

Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

PRELIMINARY AND FINAL MAJOR SITE PLAN
FOR
PENN MEDICINE PRINCETON HEALTH
PARKING GARAGE
BLOCK 1701, LOT 3.01
TOWNSHIP OF PLAINSBORO
MIDDLESEX COUNTY, NEW JERSEY

GENERAL NOTES:

APPLICANT/OWNER:

PRINCETON HEALTHCARE SYSTEM
A NEW JERSEY NONPROFIT CORPORATION
D/B/A PENN MEDICINE PRINCETON HEALTH
1 PLAINSBORO ROAD
PLAINSBORO, NJ 08536
(609) 430-7101

I HEREBY CERTIFY THAT I AM THE OWNER OF RECORD OF THE PROPERTY HEREIN DEPICTED AND THAT I CONCUR WITH THE FILING OF THIS PLAN.

MR. JAMES DEMETRIADES, PRESIDENT OF PENN MEDICINE PRINCETON HEALTH

1. THE PROJECT TRACT IS KNOWN AS BLOCK 1701, LOT 3.01, LOCATED IN THE TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY. THE PROJECT TRACT CONTAINS APPROXIMATELY 49.42 +/- ACRES AND CURRENTLY CONTAINS THE HOSPITAL WITH ASSOCIATED PARKING LOTS.
2. TOPOGRAPHIC INFORMATION SHOWN TAKEN FROM MAPS ENTITLED "TOPOGRAPHIC SURVEY PENN MEDICINE PRINCETON MEDICAL CENTER AT PLAINSBORO LOTS 3.01 & 4.04, BLOCK 1701 SITUATED IN THE TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY," PREPARED BY FRENCH AND PARRELLO ASSOCIATES, DATED 08/04/2022. REVISED TO 09/06/2022. THE VERTICAL DATUM IS NAVD 88.
3. BOUNDARY INFORMATION SHOWN TAKEN FROM MAPS ENTITLED "BOUNDARY SURVEY PENN MEDICINE PRINCETON MEDICAL CENTER AT PLAINSBORO LOT 3.01, BLOCK 1701 SITUATED IN THE TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY," PREPARED BY FRENCH AND PARRELLO ASSOCIATES, DATED 08/04/2022.
4. THIS PROPERTY IS LOCATED IN THE HMOC, HEALTH/MEDICAL OFFICE COMPLEX ZONE, AS PER THE "AMENDED REDEVELOPMENT PLAN FOR THE PRINCETON HEALTHCARE SYSTEM AT PLAINSBORO SITE" PREPARED BY PHILLIPS PREISS GRYGIEL LLC, ADOPTED MARCH 13, 2013. ALSO, THE PROPERTY HAS BEEN DESIGNATED FOR REDEVELOPMENT BY THE TOWNSHIP OF PLAINSBORO AS PER THE JANUARY 23, 2008 REPORT PREPARED BY PHILLIPS PREISS SHAPIRO ASSOCIATES, INC. PLANNING AND REAL ESTATE CONSULTANTS.
5. THE APPLICANT IS PROPOSING TO CONSTRUCT A PARKING GARAGE TO SUPPORT THE PROPOSED CANCER CENTER.

ZONING DATA TABLE - PARKING GARAGE

BULK STANDARDS BASED ON REDEVELOPMENT PLAN	REQUIREMENTS HOSPITAL/MEDICAL OFFICE COMPLEX	EXISTING HOSPITAL/ MEDICAL OFFICE COMPLEX	PROPOSED PARKING GARAGE
MINIMUM LOT AREA	40 ACRES	49.42 ACRES	NO CHANGE
MINIMUM LOT FRONTAGE	700 FEET	1,438.13 FEET	NO CHANGE
MINIMUM BUILDING SETBACKS FROM PERIMETER LOT LINES	75 FEET	116.83 FEET	69.0 FEET*
MINIMUM SETBACK OF BUILDING TO DRIVEWAYS AND PARKING LOTS	5 FEET	5 FEET	N/A
MINIMUM SETBACK OF PARKING AREAS FROM: –ROUTE 1, PLAINSBORO ROAD AND PUNIA BLVD –OTHER LOT LINES	 50 FEET 25 FEET	50 FEET	 > 50 FEET 69.0 FEET
MINIMUM SETBACKS BETWEEN BUILDINGS AND PARKING GARAGE	10 FEET	N/A	67.6 FEET
MAXIMUM BUILDING HEIGHT (FEET/STORIES)	175 FEET/10 STORIES	121 FEET/7 STORIES	N/A
MAXIMUM FLOOR AREA RATIO (FAR)	0.60	0.39 (TOTAL 846,652 SF)	NO CHANGE
MAXIMUM IMPERVIOUS COVERAGE ON LOT	60%	56.21% (27.78 AC)	57.16% (28.25 AC)
MAXIMUM PERMITTED HEIGHT OF PARKING GARAGE (LEVELS/FEET)	6 LEVELS/75 FEET	N/A	6 LEVELS/61.25 FEET

*DEVIATION REQUIRED

6. PARKING REQUIREMENTS

DISPLACED PARKING FROM CANCER CENTER PROJECT: 167 SPACES
DISPLACED PARKING FROM PARKING GARAGE: 182 SPACES
TOTAL DISPLACED: 349 SPACES

REQUIRED PARKING FOR CANCER CENTER PROJECT (TO ESTABLISH THE NUMBER OF PROPOSED GARAGE SPACES:
4 PER 1,000 SF OF GFA
151,555 GFA REQUIRES 606 SPACES
TOTAL REQUIRED = 349 + 606 = 955 SPACES
TOTAL PARKING SPACES PROVIDED IN THE GARAGE 1,161 SPACES

PARKING GARAGE 1,161 SPACES
STANDARD SPACES 994
ADA SPACES 117 (REQUIRED 10% OF TOTAL PROVIDED, 117)
TOTAL EV READY SPACES 50 (REQUIRED 4% OF TOTAL PROVIDED, 47)
ADA EV READY SPACES 3 (REQUIRED 5% OF TOTAL EV PROVIDED, 3)
STANDARD EV READY SPACES 47

BASED ON ORDINANCE 101-13.8.E.(2), EV OR EV READY SPACES "SHALL COUNT AS AT LEAST TWO PARKING SPACES FOR THE PURPOSE OF COMPLYING WITH A MINIUM PARKING SPACE REQUIREMENT. THIS SHALL RESULT IN A REDUCTION OF NO MORE THAN 10% OF THE TOTAL REQUIRED PARKING."

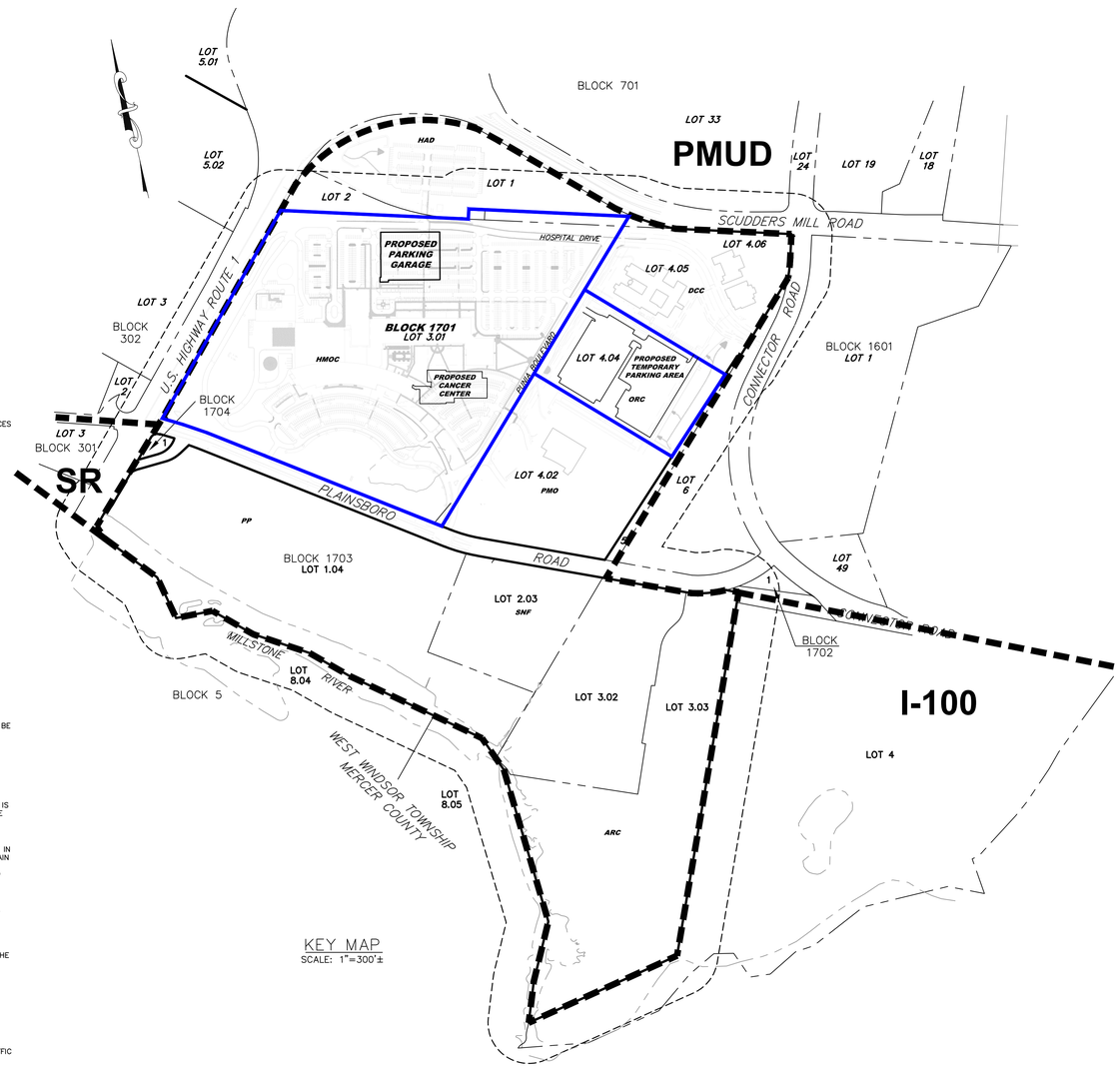
THE PARKING GARAGE WILL PROVDE A TOTAL OF 117 ADA ACCESIBLE PARKING SPACES. THE DISPLACED SURFACE ADA ACCESSIBLE SPACES WILL BE RELOCATED WITHIN SURFACE PARKING LOTS. SURFACE PARKING PROPOSED = 140 SPACES. ADA SPACES REQUIRED = 10% = 14. ADA SPACES PROVIDED = 23

RECONFIGURED SURFACE LOT NEAR PARKING GARAGE 140 SPACES
STANDARD SPACES 115
ADA SPACES 25 (REQUIRED 10% OF TOTAL PROVIDED, 14)
TOTAL EV READY SPACES 4 (REQUIRED 4 SPACES)
ADA EV READY 1 (REQUIRED 1 OF 4 TOTAL)
STANDARD EV READY 3

TEMPORARY RELOCATION OF ADA SPACES FROM P6 PARKING LOT

8 ADA SPACES WILL BE REMOVED FROM P6 LOT, WHILE PARKING GARAGE IS UNDER CONSTRUCTION. 8 NEW ADA SPACES WILL BE STRIPED IN LOT P6, NEAR THE PATIENT DROP OFF AREA, WHICH WILL REMAIN OPERATIONAL DURING CONSTRUCTION. THE SPACES WILL BE REMOVED WHEN THE PARKING GARAGE IS COMPLETED.

7. ALL UTILITIES ARE TO BE PLACED UNDERGROUND IN ACCORDANCE WITH SECTION 85-29 OF TOWNSHIP ORDINANCE. ALSO ALL UTILITIES SHALL BE INSTALLED UNDERGROUND PRIOR TO THE PLACEMENT OF THE FINAL PAVEMENT.
8. ALL STORM SEWER SHALL BE RCP CLASS III UNLESS OTHERWISE NOTED.
9. THE SITE IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH ADA AND NEW JERSEY BARRIER FREE CODE REQUIREMENTS.
10. ALL CONSTRUCTION SHALL CONFORM WITH TOWNSHIP OF PLAINSBORO REQUIREMENTS.
11. SOIL EROSION AND SEDIMENT CONTROL SHALL FALL UNDER THE JURISDICTION OF THE FREEHOLD SOIL CONSERVATION DISTRICT.
12. ALL EASEMENTS ARE DEDICATED TO THE TOWNSHIP OF PLAINSBORO UNLESS OTHERWISE NOTED.
13. ALL SIGNS SHALL BE DESIGNED IN ACCORDANCE WITH "THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" FOR STREETS AND HIGHWAYS.
14. THIS SET OF PLANS HAS BEEN PREPARED FOR THE PURPOSE OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED ON THE DRAWINGS AND EACH DRAWING HAS BEEN REVISED TO INDICATE "ISSUED FOR CONSTRUCTION".
15. ALL DESIGN FEATURES DEPICTED HEREON WERE BASED ON CONSTRAINTS AND REGULATIONS IN EFFECT AT THE TIME OF PREPARATION AND INITIAL PRESENTATION OF THIS PLAN. ALL CURRENT DEVELOPMENT CONSTRAINTS SHOULD BE INVESTIGATED PRIOR TO COMMENCENMENT OF ANY ACTIVITY BASED ON THIS PLAN.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE RESPECTIVE UTILITY COMPANIES FOR GAS, ELECTRIC, PHONE AND TV SERVICE LOCATIONS. LOCATION OF UTILITIES AS SHOWN ON THESE PLANS ARE PLOTTED FROM AVAILABLE DATA ON FILE WITH THE UTILITY COMPANIES AND IS NOT GUARANTEED AS TO EXACTNESS. THE CONTRACTOR IS TO CONTACT UTILITY COMPANIES 72 HOURS PRIOR TO CONSTRUCTION TO DETERMINE EXACT LOCATION. THE CONTRACTOR SHALL USE THE UTILITY LOCATIONS SHOWN AS AN AID IN DETERMINING EXACT LOCATIONS ONLY. CONTRACTOR SHALL CALL "NJ ONE CALL" 811 OR (800-272-1000) PRIOR TO CONSTRUCTION.
17. SANITARY SEWER LINES SHALL BE SEPARATED FROM WATER MAINS BY A DISTANCE OF AT LEAST 10 FEET HORIZONTALLY OR THE PIPES SHALL BE IN SEPARATE TRENCHES WITH THE SEWER AT LEAST 18 INCHES BELOW THE WATER MAIN. WHERE APPROPRIATE SEPARATION FROM THE WATER MAIN IS NOT POSSIBLE, THE SEWER SHALL BE ENCASED IN CONCRETE OR CONSTRUCTED OF DUCTILE IRON PIPE USING MECHANICAL OR SLIP-ON JOINTS FOR A DISTANCE OF AT LEAST 10 FEET ON EITHER SIDE OF THE CROSSING. IN ADDITION, ONE FULL LENGTH OF SEWER PIPE SHOULD BE LOCATED SO BOTH JOINTS WILL BE AS FAR AWAY FROM THE WATER LINE AS POSSIBLE.
18. TRASH AND WASTE DISPOSAL SHALL BE MANAGED BY THE OWNER THE SAME AS THE CURRENT OPERATION. THE EXISTING LOADING AREA ON THE WEST SIDE OF THE HOSPITAL SHALL BE USED FOR THE PICK-UP AND MANAGEMENT OF TRASH AND WASTE DISPOSAL. TRASH AND WASTE DISPOSAL SHALL COMPLY WITH APPLICABLE REQUIREMENTS OF THE TOWNSHIP OF PLAINSBORO.
19. ALL PROPOSED SOD AND LAWN AREAS MUST BE GRADED WITH LIGHTWEIGHT CONSTRUCTION EQUIPMENT.
20. ALL GRADING SHALL BE A MINIMUM OF 2% AND A MAXIMUM OF 3' HORIZONTALLY TO 1' VERTICALLY ACROSS ALL LAWN AREAS AND AWAY FROM THE PROPOSED BUILDING. ALL STREET AND ACCESS DRIVES SHALL HAVE A MINIMUM CROSS SLOPE (CROWN) OF 2%.
21. ALL SIDEWALKS ADJACENT TO 90 DEGREE PARKING SHALL BE TWO (2) FEET FROM CURB LINE OR 6 FEET IN WIDTH.
22. ANY IMPORTED FILL SHALL MEET THE NJDEP'S TECHNICAL REQUIREMENTS FOR SITE REMEDIATIONSDEFINITION OF CLEAN FILL(AS REQUIRED BY N.J.A.C.7:26E-1.8).
23. ALL STRUCTURES INCLUDING RETAINING WALLS ARE SUBJECT TO REVIEW BY THE TOWNSHIP CONSTRUCTION OFFICIAL.
24. A DETAILED SEQUENCE OF CONSTRUCTION AND CONTRACTOR'S STAGING PLAN SHALL BE PROVIDED TO SEPARATE AND MANAGE CONSTRUCTION TRAFFIC AND PUBLIC TRAFFIC. THIS WILL FURTHER ESTABLISH CONTRACTOR'S WORK AND STAGING AREAS FOR EACH PHASE OF CONSTRUCTION, AND SHALL INCLUDE BUT NOT BE LIMITED TO ITEMS RELATED TO THE PLACEMENT OF CONSTRUCTION OFFICE AND/OR CONSTRUCTION TRAILERS, OUTDOOR EQUIPMENT AND MATERIALS STORAGE, SAFETY AND SECURITY FENCING, VEHICULAR AND PEDESTRIAN CIRCULATION, INSTALLATION OF UNDERGROUND UTILITIES, PARKING AREA CONSTRUCTION AND CONSTRUCTION RELATED SIGNAGE.
25. A HAULING PLAN SHALL BE SUBMITTED TO THE TOWNSHIP FOR REVIEW AND APPROVAL FOR THE MOVEMENT OF ANY CONSTRUCTION MATERIALS OR DEMOLITION DEBRIS ON ROADWAYS LEADING FROM THE TOWNSHIP BORDER AND VICE VERSA.



KEY MAP
SCALE: 1"=300'±

SHEET INDEX	
DRAWING NUMBER	DRAWING NAME
C.1C.01	COVER SHEET
C.1C.02	EXISTING CONDITIONS DEMOLITION PLAN
C.1C.03	SITE AND LAYOUT PLAN
C.1C.04	UTILITY PLAN
C.1C.05	GRADING AND DRAINAGE PLAN
C.1C.06	STORMWATER PROFILES
C.1C.07	SOIL EROSION AND SEDIMENT CONTROL PLAN
C.1C.08	SOIL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
C.1C.09	EXISTING LIGHTING PLAN
C.1C.10	PROPOSED LIGHTING PLAN
C.1C.11	LIGHTING DETAIL
C.1C.12	LANDSCAPING PLAN
C.1C.13	LANDSCAPING DETAILS (1)
C.1C.14	LANDSCAPING DETAILS (2)
C.1C.15	WOODLAND MANAGEMENT PLAN
C.1C.16	CONSTRUCTION DETAILS (1)
C.1C.17	CONSTRUCTION DETAILS (2)
C.1C.18	CONSTRUCTION DETAILS (3)

MIDDLESEX COUNTY GENERAL NOTES:

1. A STORMWATER MAINTENANCE AGREEMENT WILL BE FILED WHICH SETS FORTH DOCUMENTATION THAT ANY PROPOSED DRAINAGE SYSTEM AND ANY AND ALL STORMWATER (DRAINAGE WALES/DETENTION/RETENTION/RECHARGE FACILITIES) WILL BE ADEQUATELY MAINTAINED IN ACCORDANCE WITH THE STANDARDS OF MIDDLESEX COUNTY. REFER TO THE PARAGRAPH IN THE STORMWATER MAINTENANCE AGREEMENT ENTITLED 'RIGHT OF COUNTY OF MIDDLESEX TO MAINTAIN DRAINAGE BASINS'. CONDITIONS THAT AFFECT NON-COUNTY FACILITIES SHOULD BE REVIEWED AND APPROVED BY THE APPROPRIATE JURISDICTIONAL AGENCY.
2. SHOULD ANY WORK BE CONTEMPLATED WITHIN THE COUNTY RIGHT-OF-WAY AND/OR ANY SPECIFIC AREA UNDER THE MIDDLESEX COUNTY'S JURISDICTION, A COUNTY ROAD OPENING PERMIT SHALL BE OBTAINED FROM THE MIDDLESEX COUNTY DEPARTMENT OF HIGHWAYS AND BRIDGES.

ZONING AREAS:

REDEVELOPMENT AREA	-	FMC CORPORATION / PRINCETON HEALTHCARE SYSTEM REDEVELOPMENT AREA
SR	-	SERVICE RESIDENTIAL
PMUD	-	PLANNED UNIT DEVELOPMENT
I-100	-	LIMITED INDUSTRIAL

APPROVED AS A PRELIMINARY AND FINAL MAJOR SITE PLAN BY THE MIDDLESEX COUNTY OFFICE OF PLANNING ON

COUNTY PLANNING BOARD — DATE
SECRETARY — DATE
PLANNING DIRECTOR — DATE

300 0 300 600
SCALE IN FEET

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated

N

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR22119.00

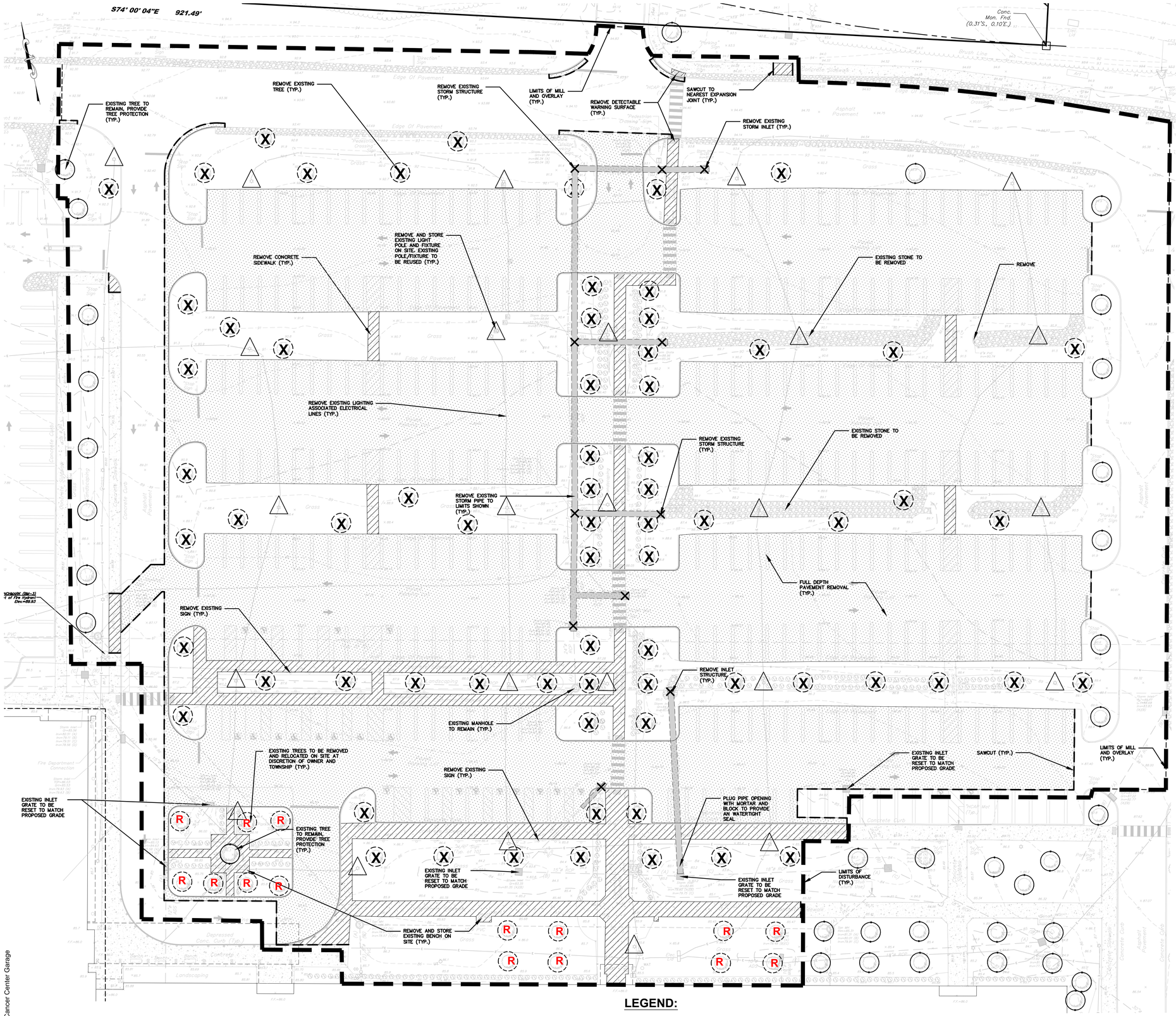
PHASE 1C

COVER SHEET

C.1C.01
04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:09 AM
Autodesk Docs://1267 Penn Medicine Princeton Health/UPMS-PMPH-SUM-AM.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.



DEMOLITION NOTES:

1. ALL EXISTING SITE FEATURES AND STRUCTURES SHALL BE DEMOLISHED AND REMOVED SHALL BE DONE IN SUCH A MANNER SO AS TO MINIMIZE DISTURBANCE TO THE SURROUNDING PROPERTIES, NO DUST, PARTICLES OF DEBRIS OR WATER FROM THE DUST CONTROL SHALL BE PERMITTED OUTSIDE OF THE DESIGNATED WORK AREAS.
2. ALL EXISTING SITE FEATURES AND STRUCTURES SHALL BE DEMOLISHED IN THEIR ENTIRETY, OR AS REQUIRED TO CONSTRUCT SITE IMPROVEMENT ELEMENTS. THE CONTRACTOR IS RESPONSIBLE TO FILL EXCAVATED VOIDS WITH DENSE GRADED AGGREGATE WHICH MUST BE PLACED AND COMPACTED PER THE SPECIFICATIONS. ALL DISTURBED AREAS MUST BE FINE GRADED, COVERED WITH A MINIMUM OF 5" OF TOPSOIL AND THEN SEEDED IN ACCORDANCE WITH SPECIFICATIONS.
3. DURING ALL DEMOLITION AND CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL INSTALL A SILT FENCE AND HAY BALE SEDIMENT BARRIERS AROUND THE PERIMETERS OF THE WORK AREAS TO MAINTAIN ADEQUATE SILT AND SOIL EROSION CONTROL AND ADEQUATE WATER DRAINAGE AROUND DISTURBED AREAS TO MAINTAIN ADEQUATE CONTROL UNTIL BACKFILLING AND REGRADING OPERATIONS ARE COMPLETED AND THE AREA IS STABILIZED.
4. UPON COMPLETION OF THE CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL REMOVE ALL MATERIALS AND DEBRIS FROM THE PROJECT SITE AND AS DIRECTED BY THE OWNER. THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR FERTILIZING AND SEEDING ALL EXPOSED AREAS IN THE PROJECT SITE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL DEBRIS, CONCRETE, ASPHALT, STONE, SOIL MATERIALS, TOPSOIL, VEGETATION AND ANY MATERIALS GENERATED DURING HIS DEMOLITION AND CONSTRUCTION ACTIVITIES. ALL EXCESS DEBRIS AND MATERIALS MUST BE REMOVED TO A NJDEP APPROVED LANDFILL. NO ON-SITE BURIAL OF DEBRIS WILL BE ALLOWED.

UTILITY NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTNG THE RESPECTIVE UTILITY COMPANIES PRIOR TO DEMOLITION OR CONSTRUCTION ACTIVITIES TO DETERMINE THE EXACT LOCATIONS AS NECESSARY AND IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. UTILITY LOCATIONS SHOWN ON THESE PLANS ARE FROM ABOVE-GROUND OBSERVATIONS. IN ADDITION, THE LOCATION AND TYPE OF THE EXISTING UTILITIES SHOWN ON THESE PLANS IS NOT GUARANTEED TO BE ACCURATE NOR ALL INCLUSIVE. THE CONTRACTOR SHALL USE THE EXISTING UTILITY LOCATIONS SHOWN AS AN AID IN DETERMINING EXACT LOCATIONS. THE CONTRACTOR MUST CONTACT THE "ONE CALL SYSTEM" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION, DEMOLITION AND/OR CONSTRUCTION ACTIVITIES.
2. THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE EXACT LOCATION OF THE EXISTING UTILITIES, AS REQUIRED TO PERFORM THE DEMOLITION AND CONSTRUCTION ACTIVITIES WHICH MAY INCLUDE EXCAVATION OF TEST PITS, HAND EXCAVATION, RETAIN THE SERVICES OF AN UNDERGROUND UTILITY LOCATION CONTRACTOR, PERFORMING GROUND PENETRATION RADAR OR OTHER MEANS AND METHODS AS REQUIRED BY THE CONTRACTOR TO LOCATE AND PROTECT THE UTILITIES AS INDICATED ON THE PLANS AND SPECIFICATIONS FROM DAMAGE OR DISRUPTION BY HIS ACTIVITIES.
3. IF ANY UTILITY FACILITIES ARE DISRUPTED OR DAMAGED DURING THE CONSTRUCTION WORK ASSOCIATED WITH THIS PROJECT, THE CONTRACTOR IS RESPONSIBLE FOR RESTORING THE UTILITY FACILITIES BY THE END OF THE WORKING DAY AT NO ADDITIONAL EXPENSE TO THE OWNER.
4. THE CONTRACTOR SHALL PROCURE ALL NECESSARY PERMITS AND LICENSES REQUIRED TO CARRY OUT HIS WORK IN FULL ACCORDANCE WITH REQUIREMENTS OF ALL REGULATIONS AND AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE AND LOCAL LAWS AND ALL CODES, RULES AND REGULATIONS OF HEALTH, PUBLIC OR OTHER AUTHORITY CONTROLLING OR LIMITING THE METHODS, MATERIAL TO BE USED, OR THE ACTIONS OF OF THOSE EMPLOYED IN WORK OF THIS KIND. ALL WORK, LABOR OR MATERIAL NECESSARY TO COMPLY WITH THESE LAWS, CODES, RULES AND REGULATIONS SHALL BE PERFORMED AND FURNISHED BY THE CONTRACTOR.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FERTILIZING AND SEEDING ALL AREAS DISTURBED BY HIS ACTIVITIES WITHIN THE LIMITS OF THE PROJECT SITE. PAVEMENT REPLACEMENT AND ALL OTHER SITE RESTORATION WORK WITHIN THE PROJECT SITE SHALL MEET THE REQUIREMENTS OUTLINED IN THE SPECIFICATIONS AND CONTRACT PLANS.
6. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL NECESSARY EQUIPMENT AND METHODS TO KEEP EXCAVATIONS FREE OF WATER AND PROTECT WORK AND ADJACENT STRUCTURES FROM DAMAGE BY WATER DURING ALL STAGES OF HIS ACTIVITIES. NO SEPARATE PAYMENT WILL BE MADE FOR DEWATERING OPERATIONS AND ALL COSTS THEREOF SHALL BE INCLUDED IN THE PRICE BID FOR THIS PROJECT.
7. THE CONTRACTOR SHALL FURNISH, PLACE AND MAINTAIN SHEETING, BRACING, SHORING AND OTHER SUPPORTS REQUIRED BY HIS WORK AND TO PROTECT ADJACENT STRUCTURES. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND ALL COSTS THEREOF SHALL BE INCLUDED IN THE PRICE BID FOR THIS PROJECT.
8. CONTRACTOR IS RESPONSIBLE TO PROVIDE ANY AND ALL SAFETY BARRIERS TO PROPERLY SECURE HIS PROJECT WORK AREA. THE SAFETY STANDARDS MUST INCLUDE BUT ARE NOT LIMITED TO SAFETY CONES, SNOW PLASTIC FENCE, TEMPORARY FENCING, BARRICADES, SIGNAGE AND FLAGMAN AS REQUIRED TO MAINTAIN A SAFE AND SECURE WORK AREA.
9. CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH THE OWNER TO ASSIST WITH SECURING THE PARKING, ACCESS DRIVEWAYS AND/OR WALKWAYS AS MAY BE REQUIRED TO PERFORM THE DEMOLITION.

LEGEND:

- LIMITS OF FULL DEPTH PAVEMENT REMOVAL
- LIMITS OF CONCRETE SIDEWALK/PATIO REMOVAL
- REMOVE CONCRETE CURB
- SAWCUT
- REMOVE EXISTING UTILITIES
- REMOVE
- LIMIT OF DISTURBANCE
- LIMITS OF MILL AND OVERLAY
- EXISTING TREE TO BE REMOVED
- EXISTING TREE TO REMAIN. PROVIDE TREE PROTECTION.
- EXISTING TREE TO BE REMOVED AND RELOCATED ON SITE
- REMOVE AND STORE EXISTING LIGHT POLE AND LIGHT FIXTURE ON SITE. EXISTING POLE/FIXTURE TO BE REUSED, SEE LIGHTING PLAN

20 0 20 40
SCALE IN FEET

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1C

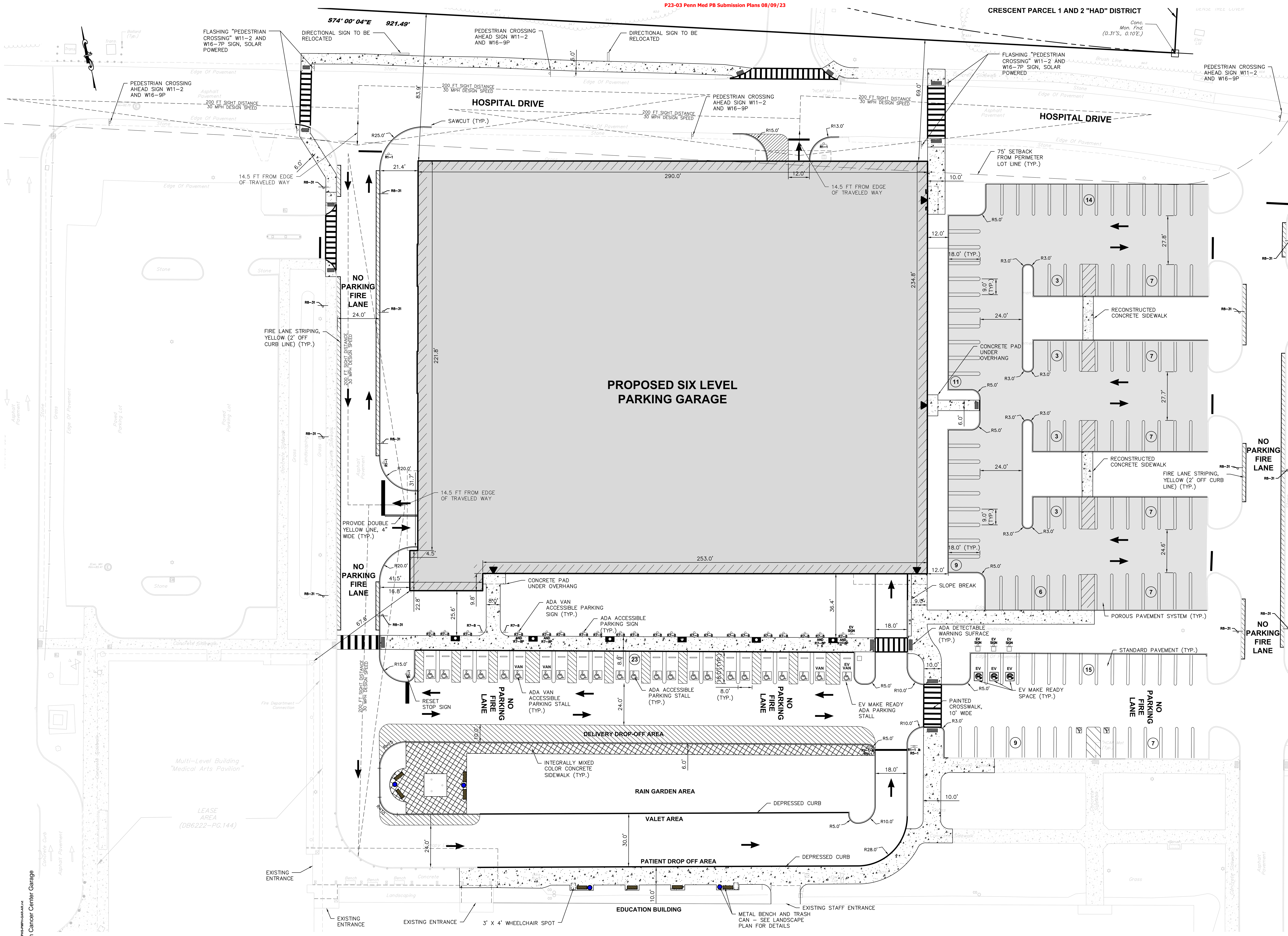
EXISTING CONDITIONS AND DEMOLITION PLAN

C.1C.02

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:59 AM
Autodesk Docs://2021 Penn Medicine Princeton Health/UPHS-PMPHCA-AR.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.



LEGEND:

(gray fill)	POROUS PAVEMENT
(stippled fill)	CONCRETE SIDEWALK

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1C

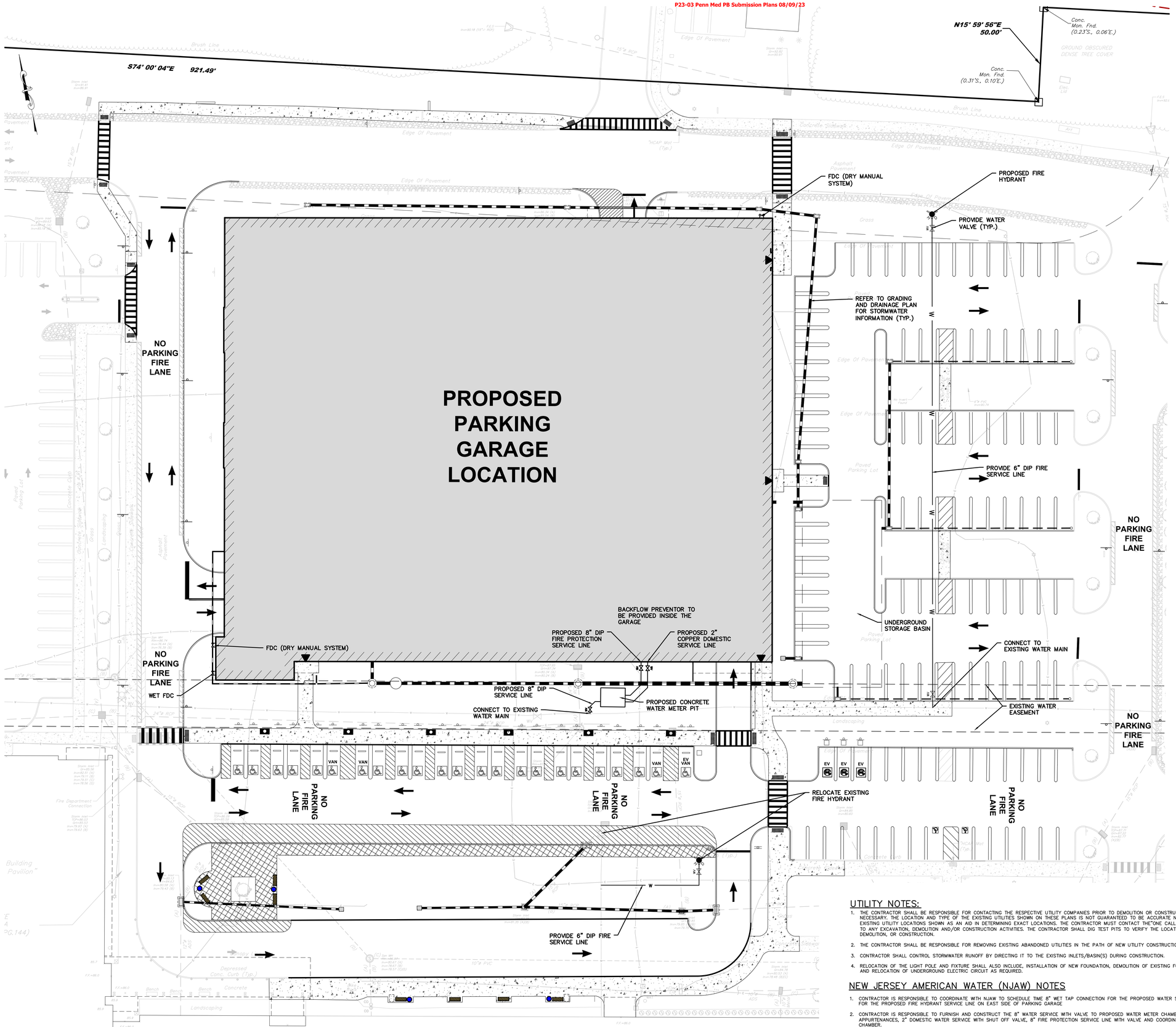
SITE AND LAYOUT PLAN

C.1C.03

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:56 AM
Autodesk Docs://5267 Penn Medicine Princeton Health/UPHS-PMPH-GAR-AR.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.



UTILITY NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE RESPECTIVE UTILITY COMPANIES PRIOR TO DEMOLITION OR CONSTRUCTION ACTIVITIES TO DETERMINE THE EXACT LOCATIONS AS NECESSARY. THE LOCATION AND TYPE OF THE EXISTING UTILITIES SHOWN ON THESE PLANS IS NOT GUARANTEED TO BE ACCURATE NOR ALL INCLUSIVE. THE CONTRACTOR SHALL USE THE EXISTING UTILITY LOCATIONS SHOWN AS AN AID IN DETERMINING EXACT LOCATIONS. THE CONTRACTOR MUST CONTACT THE"ONE CALL SYSTEM" AT 1-800-272-1000 AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION, DEMOLITION AND/OR CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL DIG TEST PITS TO VERIFY THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES PRIOR TO BID, DEMOLITION, OR CONSTRUCTION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING EXISTING ABANDONED UTILITIES IN THE PATH OF NEW UTILITY CONSTRUCTION, SITE IMPROVEMENTS, AND/OR BUILDING CONSTRUCTION.
3. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF BY DIRECTING IT TO THE EXISTING INLETS/BASIN(S) DURING CONSTRUCTION.
4. RELOCATION OF THE LIGHT POLE AND FIXTURE SHALL ALSO INCLUDE, INSTALLATION OF NEW FOUNDATION, DEMOLITION OF EXISTING FOUNDATION, RESTRIPING OF PARKING STALLS AS NECESSARY, AND RELOCATION OF UNDERGROUND ELECTRIC CIRCUIT AS REQUIRED.

NEW JERSEY AMERICAN WATER (NJAW) NOTES

1. CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH NJAW TO SCHEDULE TIME 8" WET TAP CONNECTION FOR THE PROPOSED WATER SERVICE TO PARKING GARAGE AND 6" WET TAP CONNECTION FOR THE PROPOSED FIRE HYDRANT SERVICE LINE ON EAST SIDE OF PARKING GARAGE
2. CONTRACTOR IS RESPONSIBLE TO FURNISH AND CONSTRUCT THE 8" WATER SERVICE WITH VALVE TO PROPOSED WATER METER CHAMBER, THE WATER METER CHAMBER AND THE APPURTENANCES, 2" DOMESTIC WATER SERVICE WITH SHUT OFF VALVE, 8" FIRE PROTECTION SERVICE LINE WITH VALVE AND COORDINATE WITH NJAW FOR METER SETTING WITH THE METER CHAMBER.
3. CONTRACTOR IS RESPONSIBLE TO FINISH AND CONSTRUCT THE 6" DIP FIRE SERVICE LINE INCLUDING ALL VALVES AND THE FIRE HYDRANTS SHOWN.
4. CONTRACTOR IS RESPONSIBLE TO PERFORM ALL TESTING REQUIRED BY NJAW AND OBTAIN NJAW ACCEPTANCE TO ALLOW WATER SERVICE LINES TO BE ACTIVE AND OPERATIONAL.

20 0 20 40
SCALE IN FEET

3/14/2023 10:55:58 AM
Autodesk Docs://2327 Penn Medicine Princeton Health/UPHS-PMPHC-CAAK.rvt
Penn Medicine Princeton Health Cancer Center Garage
THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brjusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1C

UTILITY PLAN

C.1C.04

04/14/2023 SITE PLAN SUBMISSION

S74° 00' 04"E 921.49'

Conc. Mon. Fnd (0.31'S., 0.10'E.)

PROPOSED SIX LEVEL PARKING GARAGE

NO PARKING FIRE LANE

INLET #A-1
GR: 93.03
INV. OUT: 89.00

INLET #A-2
GR: 93.02
INV. IN: 88.31 (15")
INV. OUT: 88.31

15" TRENCH DRAIN
ELEV: 93.40
4.7' DEEP

INLET #A-3
GR: 94.02
INV. IN: 87.93 (15")
INV. OUT: 87.93

INLET #A-4
GR: 93.29
INV. IN: 87.77 (15")
INV. OUT: 86.53

137 LF 15" HDPE @ 0.50%

17 LF 15" HDPE @ 0.50%

60 LF 15" HDPE @ 0.50%

31 LF 15" HDPE @ 0.52%

24" NYLOPLAST DRAIN BASIN W/ GRATE.
GR: 93.05
INV. IN: 87.90
INV. OUT: 86.35

MEET EXISTING GRADE

24" NYLOPLAST DRAIN BASIN W/ GRATE.
GR: 94.10
INV. IN: 89.30
INV. OUT: 88.38

4" ROOF LEADER FROM CANOPY, CONNECT TO 15" HDPE

24" NYLOPLAST DRAIN BASIN W/ GRATE.
GR: 93.40
INV. IN: 89.30
INV. OUT: 88.14

130 LF 15" RCP @ 1.00%

4" ADS PERFORATED UNDERDRAIN (TYP.) @ 1% SLOPE

INLET #B-1
GR: 91.65
INV. IN: 90.97 (4")
INV. OUT: 86.54

ACCESS PORT-1
RIM: 93.01
INV. OUT 91.93

SEE "ENLARGED AREA" FOR DETAILED GRADING, STORMWATER SYSTEM INVERTS, AND SIZING

INLET #A-5
GR: 88.63
INV. IN: 85.22 (15")
INV. OUT: 85.22

25 LF 15" RCP @ 1.03%

UP-FLO FILTER WITH SERIES 370 TIDEFLEX VALVE ON OUTFLOW PIPE
INV. IN: 84.73
INV. OUT: 81.73

INLET #A-6
GR: 88.15
INV. IN: 84.96 (15")
INV. OUT: 84.96

INV. OUT: 81.73
INV. IN: 81.67

88 LF 15" HDPE @ 1.00%

ACCESS PORT-1
RIM: 91.47
INV. OUT 90.39

NO PARKING FIRE LANE

INLET #B-2
GR: 88.84
INV. IN: 85.66 (15")
INV. IN: 85.42 (4")
INV. OUT: 81.49

CULTEC 360 HD
INV. 81.40

INLET #A-7
GR: 88.22
INV. IN: 84.17 (15")
INV. OUT: 84.17

OUTLET CONTROL STRUCTURE
GR: 87.97

5 LF 24" RCP @ 1.00%

ACCESS PORT-1
RIM: 90.20
INV. OUT 89.12

INLET #B-3
GR: 88.32
INV. IN: 87.88 (4")
INV. OUT: 81.48

36" NYLOPLAST DRAIN BASIN W/ GRATE
GR: 87.56
INV. IN: 89.35
INV. OUT: 89.85

MEET EXISTING GRADE (TYP.)

NO PARKING FIRE LANE

12" NYLOPLAST DRAIN BASIN W/ GRATE
GR: 89.40
INV. IN: 85.20
INV. OUT: 85.20

4" ROOF LEADER FROM CANOPY, CONNECT TO 6"HDPE

45 LF 6" HDPE @ 1.0%

12" NYLOPLAST DRAIN BASIN W/ GRATE
GR: 88.50
INV. IN: 84.75
INV. OUT: 84.75

4" ROOF LEADER FROM CANOPY, CONNECT TO 6"HDPE

12" NYLOPLAST DRAIN BASIN W/ GRATE
GR: 87.95
INV. IN: 84.50
INV. OUT: 84.50

5 LF 6" HDPE @ 1.0%

12" NYLOPLAST DRAIN BASIN W/ GRATE
GR: 88.45
INV. IN: 885.25(N)
INV. IN: 83.90(S)
INV. OUT: 81.53

12" NYLOPLAST DRAIN BASIN W/ GRATE
GR: 88.40
INV. IN: 83.95
INV. OUT: 83.95

11 LF 18" HDPE @ 0.50%

MANHOLE #C-1
RIM: 88.40
INV. IN: 80.97 (18")
INV. OUT: 80.95

13 LF 18" HDPE @ 1.00%

5' DIAMETER FIRST DEFENSE OPTIMUM (HYDRO INTERNATIONAL)
RIM: 88.34
INV. IN: 80.85 (18")
INV. OUT: 80.82

25 LF 6" HDPE @ 1.0%

YARD DRAIN
GR: 87.9
INV. OUT: 84.3

8 LF 15" RCP @ 1.01%

4" ROOF LEADER FROM CANOPY, CONNECT TO 24" RCP

36" NYLOPLAST DRAIN BASIN W/ GRATE
GR: 87.90
INV. IN: 84.35
INV. OUT: 84.65

96 LF 18" HDPE @ 0.50%

114 LF 24" RCP @ 0.50%

55 LF 6" HDPE @ 1.0%

28 LF 6" HDPE @ 2.0%

EXISTING 24" RCP TO REMAIN

MANHOLE #A-8
RIM: 87.59
INV. IN: 80.34 (18")
INV. IN: 80.34 (24")
INV. OUT: 80.17 (EX. 24")

INLET #B-2
GR: 85.91
INV. OUT: 81.52

HIGH POINT

YARD INLET #D-1
GR: 84.90
INV. OUT: 81.83

YARD INLET #E-1
GR: 84.90
INV. OUT: 81.00

40 LF 15" RCP @ 0.37%

63 LF 15" RCP @ 1.80%

INLET #D-5
GR: 84.80
INV. IN: 79.67 (15")
(EX) INV. OUT: 79.67

85 LF 12" HDPE @ 0.49%

56 LF 12" HDPE @ 0.50%

RECONSTRUCT EXISTING YARD INLET #D-3
GR: 84.50
INV. IN: 81.35 (12")
INV. IN: 81.35 (15")
INV. OUT: 81.35

RECONSTRUCT EXISTING YARD INLET #D-4
GR: 84.06
INV. IN: 79.85 (15")
(EX) INV. IN: 79.85
INV. OUT: 79.76

18 LF 15" RCP @ 0.50%

EXISTING INLET #E-2
GR: 84.63
INV. IN: 80.58 (12")
(EX) INV. IN: 80.58
(EX) INV. OUT: 79.43

ENLARGED AREA
SCALE: 1" = 10'

INLET #B-1
GR: 91.65
INV. IN: 90.97 (4")
INV. OUT: 86.54

130 LF 15" RCP @ 1.00%

88 LF 15" HDPE @ 1.00%

INLET #A-5
GR: 88.63
INV. IN: 85.22 (15")
INV. OUT: 85.22

2 LF 18" HDPE @ 0.96%

5 LF 18" HDPE @ 1.02%

4 LF 15" HDPE @ 1.00%

2 LF 15" RCP @ 1.00%

INLET #A-6
GR: 88.15
INV. IN: 84.96 (15")
INV. OUT: 84.96

INLET #B-2
GR: 88.84
INV. IN: 85.66 (15")
INV. IN: 89.42 (4")
INV. OUT: 81.49

CULTEC 360 HD
INV. 81.40

8 LF 15" HDPE @ 1.01%

INLET #A-7
GR: 88.22
INV. IN: 84.17 (15")
INV. OUT: 84.17

2 LF 15" RCP @ 1.00%

YARD INLET #A-7A
GR: 87.65
INV. OUT: 84.25

5 LF 24" RCP @ 0.00%

6 LF 10" HDPE @ 1.09%

OUTLET CONTROL STRUCTURE
GR: 87.97
INV. IN: 80.91 (24")
INV. OUT: 80.91

INLET #B-3
GR: 88.32
INV. IN: 87.88 (4")
INV. OUT: 81.48

ADA BARRIER FREE SIDEWALK NOTES:
1. ALL CONCRETE SIDEWALK MUST HAVE A CROSS SLOPE LESS THAN 2% AND RUNNING SLOPE LESS THAN 5%.
2. HANDICAP SIDEWALK RAMPS SHALL HAVE CROSS SLOPE LESS THAN 2% AND RAMPS MUST BE LESS THAN 8.3% SLOPE.
3. DETECTABLE WARNING SURFACE MUST BE THE FULL WIDTH OF DEPRESSED CURB.
4. LANDING AREA AT TOP AND BOTTOM OF HANDICAP SIDEWALK RAMP MUST BE LESS THAN 2% SLOPE IN ALL DIRECTIONS.

20 0 20 40
SCALE IN FEET

3/14/2023 10:55:06 AM
Autodesk Docs://SD7 Penn Medicine Princeton Health/PH52-P&PH-CAR-AR.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

Princeton Forward

Penn Medicine
Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA
FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated

N

Penn Medicine Princeton Health Cancer Center Garage

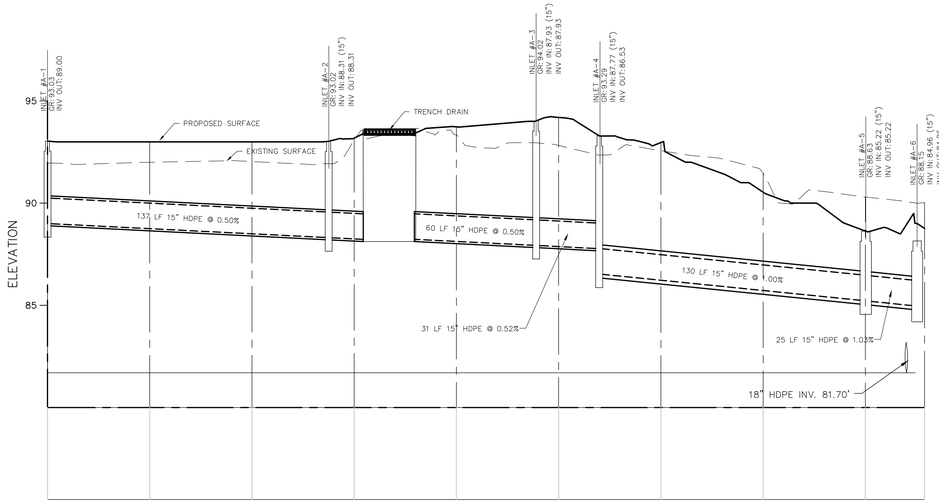
1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1C

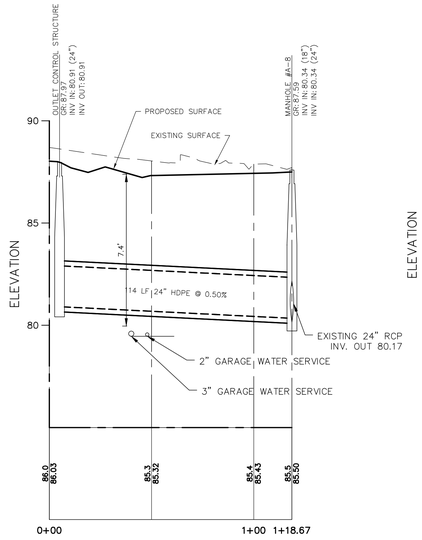
GRADING AND DRAINAGE PLAN

C.1C.05

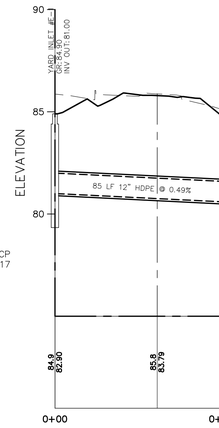
04/14/2023 SITE PLAN SUBMISSION



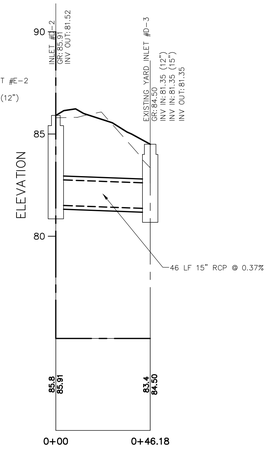
INLET #A-1TO #A-6



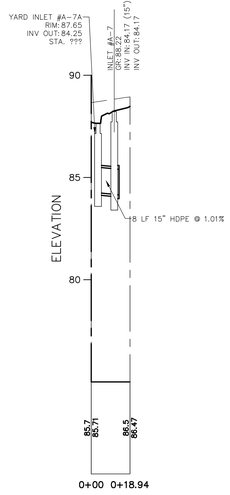
OUTLET CONTROL STRUCTURE TO MANHOLE #A-8



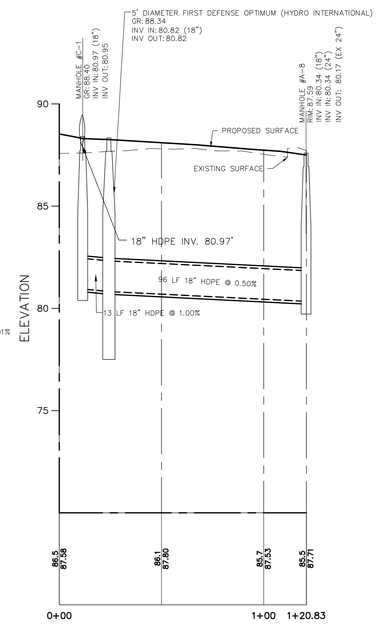
INLET #E-1 TO INLET #E-2



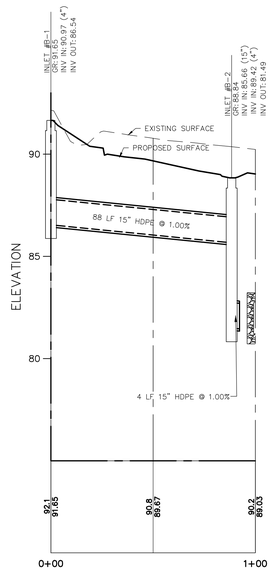
INLET #D-2 TO INLET #D-3



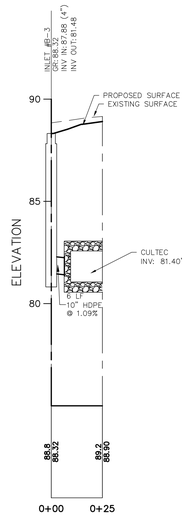
INLET #A-7A TO INLET #A7



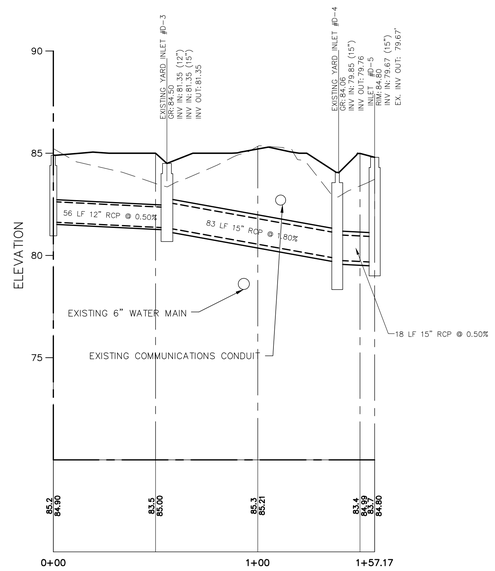
GARAGE ROOF LEADER TO MANHOLE #A-8



INLET #B-1 TO UNDERGROUND BASIN



INLET #B-3 TO UNDERGROUND BASIN



INLET #D-1 TO INLET #D-5

HOR: 1"= 30'
VER: 1" = 3'

30 0 30 60
SCALE IN FEET

3/14/2023 10:55:58 AM
Autodesk Docs://1287 Penn Medicine Princeton Health/UPHS-PNPH-GAR-XR.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

Princeton Forward

Penn Medicine
Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brpiusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA
FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated

N

Penn Medicine Princeton Health Cancer Center Garage

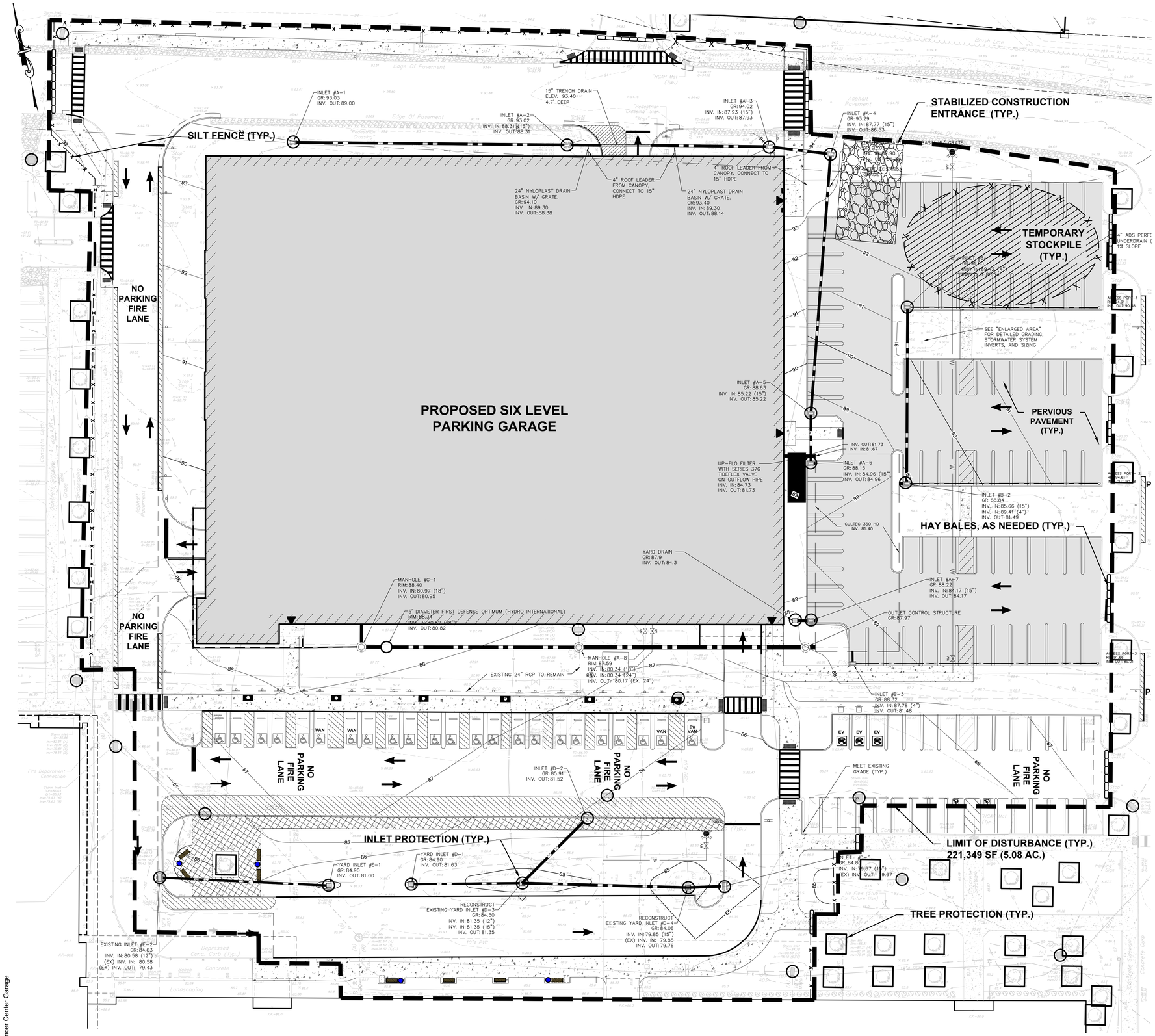
1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1C

STORMWATER PROFILES

C.1C.06

04/14/2023 SITE PLAN SUBMISSION



KEY MAP
NOT TO SCALE

LEGEND

- LIMIT OF DISTURBANCE
- SILT FENCE
- HAY BALE SEDIMENT BARRIER
- INLET PROTECTION
- TREE PROTECTION
- PERVIOUS PAVEMENT SURFACE
- TEMPORARY STOCKPILE
- CONSTRUCTION ENTRANCE

AREA OF DISTURBANCE:
222,458 S.F. = 5.107 AC

20 0 20 40
SCALE IN FEET

Penn Medicine Princeton Health Cancer Center Garage

3/14/2023 10:55:56 AM
Autodesk Docs://2307 Penn Medicine Princeton Health/PHS-PMPHC&GAR-ARP.rvt

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated

N

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1C

SOIL EROSION AND SEDIMENT CONTROL PLAN

C.1C.07

04/14/2023 SITE PLAN SUBMISSION

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. THE FREEHOLD SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY SOIL DISTURBING ACTIVITY.
2. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
3. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RE-CERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
4. N.J.S.A 4:24-39 ET. SEQ. REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THE DISTRICT DETERMINES THAT A PROJECT OR PORTION THEREOF IS IN FULL COMPLIANCE WITH THE CERTIFIED PLAN AND STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY AND A REPORT OF COMPLIANCE HAS BEEN ISSUED. UPON WRITTEN REQUEST FROM THE APPLICANT, THE DISTRICT MAY ISSUE A REPORT OF COMPLIANCE WITH CONDITIONS ON A LOT-BY-LOT OR SECTION-BY-SECTION BASIS, PROVIDED THAT THE PROJECT OR PORTION THEREOF IS IN SATISFACTORY COMPLIANCE WITH THE SEQUENCE OF DEVELOPMENT AND TEMPORARY MEASURES FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN IMPLEMENTED, INCLUDING PROVISIONS FOR STABILIZATION AND SITE WORK.
5. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN SIXTY (60) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF 2 TO 2 ½ TONS PER ACRE, ACCORDING TO STATE STANDARD FOR STABILIZATION WITH MULCH ONLY.
6. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AND A MULCH ANCHOR, IN ACCORDANCE WITH STATE STANDARDS.
7. A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS, ROADS, DRIVEWAYS, AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUB-BASE SHALL BE INSTALLED WITHIN FIFTEEN (15) DAYS OF THE PRELIMINARY GRADING.
8. THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A PAD OF CLEAN CRUSHED STONE AT POINTS WHERE TRAFFIC WILL BE ACCESSING THE CONSTRUCTION SITE. AFTER INTERIOR ROADWAYS ARE PAVED, INDIVIDUAL LOTS REQUIRE A STABILIZED CONSTRUCTION ENTRANCE CONSISTING OF ONE INCH TO TWO INCH (1" - 2") STONE FOR A MINIMUM LENGTH OF TEN FEET (10') EQUAL TO THE LOT ENTRANCE WIDTH. ALL OTHER ACCESS POINTS SHALL BE BLOCKED OFF.
9. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAYS WILL BE REMOVED IMMEDIATELY.
10. PERMANENT VEGETATION IS TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.
11. AT THE TIME THAT SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
12. IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS, ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS/ACRE, (OR 450 LBS/SQ FT OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12" OF SETTLED SOIL WITH A PH OF 5 OR MORE, OR 24" WHERE TREES OR SHRUBS ARE TO BE PLANTED.
13. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
14. UNFILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR DEWATERING.
15. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET, TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED AS REQUIRED BY THE STANDARD FOR DUST CONTROL.
16. STOCKPILE AND STAGING LOCATIONS ESTABLISHED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STAGING AND STOCKPILES NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN. CERTIFICATION OF A NEW SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED FOR THESE ACTIVITIES IF AN AREA GREATER THAN 5,000 SQUARE FEET IS DISTURBED.
17. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6.
18. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.

FREEHOLD SOIL CONSERVATION DISTRICT
4000 KOZLOSKI ROAD
FREEHOLD NEW JERSEY 07728
(732) 683-8500

ACID SOILS NOTES

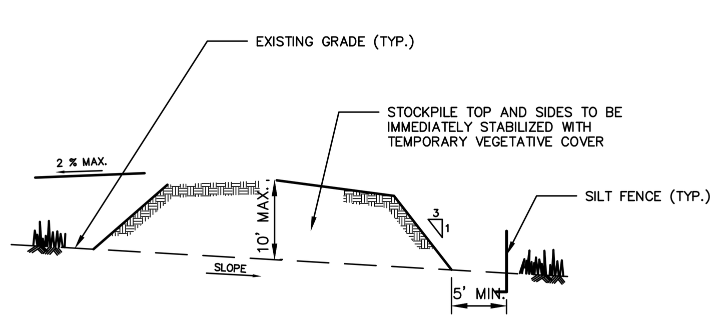
IN ORDER TO PROVIDE SUITABLE CONDITIONS FOR GROWTH AND VEGETATION AND TO PREVENT THE ACIDIFYING OF DRAINAGE WATER IN THOSE AREAS UNDERLAIN WITH ACID FORMATIONS WITH A ph BELOW 4.0 THE FOLLOWING REQUIREMENT SHALL BE MET:

1. LIMIT THE EXCAVATION AREA AND EXPOSURE TIME WHEN HIGH ACID PRODUCING SOILS ARE ENCOUNTERED.
2. TOPSOIL STRIPPED FROM THE SITE SHALL BE STORED SEPARATELY FROM TEMPORARILY STOCKPILED HIGH ACID PRODUCING SOILS.
3. STOCKPILES OF HIGH ACID PRODUCING SOIL SHOULD BE LOCATED ON LEVEL LAND TO MINIMIZE ITS MOVEMENT, ESPECIALLY WHEN THIS MATERIAL HAS A HIGH CLAY CONTENT.
4. TEMPORARILY STOCKPILED HIGH ACID PRODUCING SOIL MATERIAL TO BE STORED MORE THAN 48 HOURS SHOULD BE COVERED WITH PROPERLY ANCHORED, HEAVY GRADE SHEETS OF POLYETHYLENE WHERE POSSIBLE. IF NOT POSSIBLE, STOCKPILES SHALL BE COVERED WITH A MINIMUM OF 3 TO 6 INCHES OF WOOD CHIPS TO MINIMIZE EROSION OF THE STOCKPILE. SILT FENCE SHALL BE INSTALLED AT THE TOE OF SLOPE TO CONTAIN MOVEMENT OF THE STOCKPILED MATERIAL. TOPSOIL SHALL NOT BE APPLIED TO THE STOCKPILES TO PREVENT TOPSOIL CONTAMINATION WITH HIGH ACID PRODUCING SOIL.
5. HIGH ACID PRODUCING SOILS WITH A pH OF 4 OR LESS, OR CONTAINING IRON SULFIDE, (INCLUDING BORROW FROM CUTS OR DREDGED SEDIMENT) SHALL BE ULTIMATELY PLACE OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS PER ACRE (OR 450 POUNDS PER 1,000 SQUARE FEET OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12 INCHES OF SETTLED SOIL WITH A pH OF 5 OR MORE EXCEPT AS FOLLOWS:
   - A. AREAS WHERE TREES OR SHRUBS ARE PLANTED SHALL BE COVERED WITH A MINIMUM OF 24 INCHES OF SOIL WITH A pH OF 5 OR MORE.
   - B. DISPOSAL AREAS SHALL NOT BE LOCATED WITHIN 24" OF ANY SURFACE OF A SLOPE OR BANK, SUCH AS BERMS, STREAM BANKS, DITCHES AND OTHERS TO PREVENT POTENTIAL LATERAL LEACHING DAMAGES.
6. EQUIPMENT USED FOR MOVEMENT OF HIGH ACID-PRODUCING SOILS SHOULD BE CLEANED AT THE END OF EACH DAY TO PREVENT SPREADING OF HIGH ACID-PRODUCING SOIL MATERIALS TO OTHER PARTS OF THE SITE, INTO STREAMS OR STORMWATER CONVEYANCES, AND TO PROTECT MACHINERY FROM ACCELERATED RUSTING.
7. NON-VEGETATIVE EROSION CONTROL PRACTICES (STONE TRACKING PADS, STRATEGICALLY PLACED LIMESTONE CHECK DAM, SEDIMENT BARRIER, WOOD CHIPS) SHOULD BE INSTALLED TO LIMIT THE MOVEMENT OF HIGH ACID-PRODUCING SOILS FROM, AROUND, OR OFF THE SITE.
8. FOLLOWING BURIAL OR REMOVAL OF HIGH ACID-PRODUCING SOIL, TOPSOILING AND SEEDING OF THE SITE (SEE TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION, PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION, AND TOPSOILING), MONITORING MUST CONTINUE FOR A MINIMUM OF 6 MONTHS TO ENSURE THERE IS ADEQUATE STABILIZATION AND THAT NO HIGH ACID-PRODUCING SOIL PROBLEMS EMERGE. IF PROBLEMS STILL EXIST, THE AFFECTED AREA MUST BE TREATED AS INDICATED ABOVE TO CORRECT THE PROBLEM.

CONSTRUCTION SCHEDULE AND PROCEDURE FOR IMPLEMENTATION OF SOIL EROSION AND SEDIMENT CONTROL MEASURES

1. PROVIDE TEMPORARY STABILIZATION OF ALL DISTURBED AREAS AND INSTALL SILT FENCE, STABILIZED CONSTRUCTION ENTRANCE AND ALL OTHER NECESSARY SOIL EROSION MEASURES. (1 WEEK)
2. PERFORM SITE CLEARING. (2 WEEKS)
3. CLEAR AND ESTABLISH ROUGH GRADES AS NECESSARY TO CONSTRUCT PARKING GARAGE AND SITE IMPROVEMENTS. (2 WEEKS)
4. INSTALL STORM DETENTION SYSTEM, INLETS AND CONNECTING PIPES (5 WEEKS)
5. INSTALL ALL UNDERGROUND UTILITIES. (3 WEEKS)
6. INSTALL CURB, POROUS PAVEMENT STONE, AND PAVEMENT BASE COURSE (4 WEEKS)
7. CONSTRUCT PARKING GARAGE (12 WEEKS)
8. ESTABLISH FINISHED GRADE, AND PROVIDE PERMANENT VEGETATIVE COVER. (2 WEEKS)
9. PAVE DRIVEWAYS, ACCESS DRIVE AND COMPLETE LIGHTING. (3 WEEKS)
10. REMOVE ACCESS PROTECTION, AND SILT FENCE AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED. (1 WEEK)

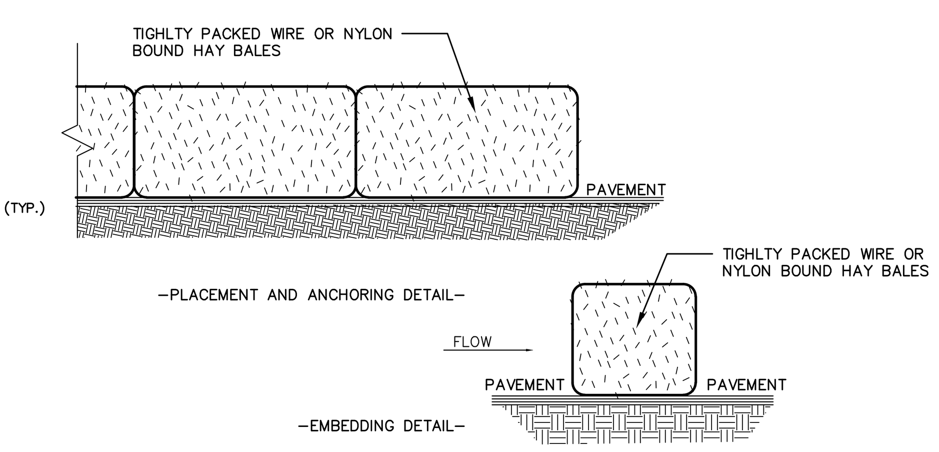
THE ABOVE SCHEDULE IS FOR THE IMPLEMENTATION AND INSTALLATION OF SOIL EROSION AND SEDIMENT CONTROL MEASURES ONLY. CONTRACTOR MAY MODIFY AND/OR CREATE HIS OWN SCHEDULE. IF THE CONSTRUCTION SCHEDULE IS MODIFIED, A REVISION TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED.



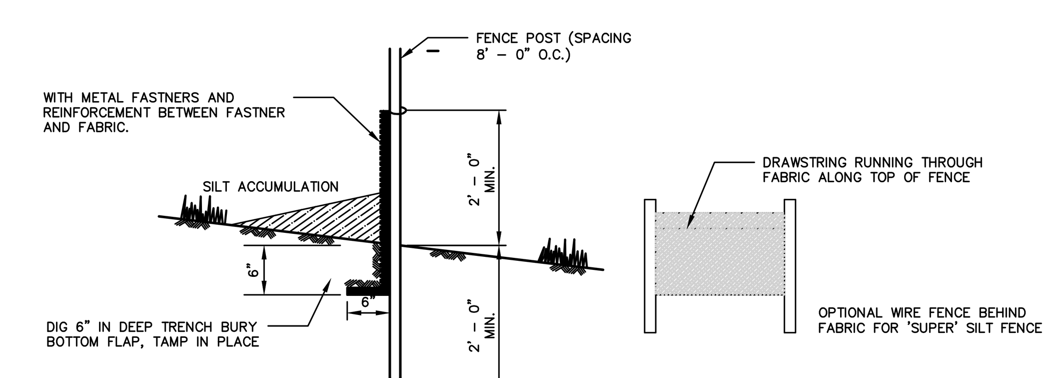
NOTES:

1. TOPSOIL STOCKPILES TO BE PLACED AS DETERMINED IN THE FIELD.
2. STOCKPILE NOT TO BE PLACED IN AREA WITH CONCENTRATED FLOW, WETLANDS, EXTREME SLOPE OR WITHIN 100' OF A NATURAL STREAM.

TEMPORARY STOCKPILE
NOT TO SCALE



HAY BALE SEDIMENT BARRIERS
NOT TO SCALE



SILT FENCE
NOT TO SCALE

MAINTENANCE NOTES:

1. SEDIMENT SHALL BE REMOVED FROM THE UPSTREAM FACE OF THE BARRIER WHEN IT HAS REACHED A DEPTH OF ½ THE BARRIER HEIGHT.
2. REPAIR OR REPLACE BARRIER (FABRIC, POSTS, BALES ETC.) WHEN DAMAGED.
3. BARRIERS SHALL BE INSPECTED DAILY FOR SIGNS OF DETERIORATION AND SEDIMENT REMOVAL.

PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION

1. SITE PREPARATION
   - A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS, FOR LAND GRADING.
   - B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOILING APPLICATION, THE SUBSOIL SHALL BE EVALUATED FOR COMPACTION IN ACCORDANCE WITH THE STANDARD FOR LAND GRADING.
   - C. TOPSOIL SHOULD BE HANDLED ONLY WHEN ITS DRY ENOUGH TO WORK WITHOUT DAMAGING THE SOIL STRUCTURE. A UNIFORM APPLICATION TO A DEPTH OF 5 INCHES (UNSETTLED) IS REQUIRED ON ALL SITES. TOPSOIL SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE STANDARD FOR TOPSOILING.
   - D. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.
2. SEEDBED PREPARATION
   - A. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO TOPSOIL WHICH HAS BEEN SPREAD AND FIRMED, ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES (HTTP://NJAES.RUTGERS.EDU/COUNTY/). FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 S.F. OF 10-10-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED, APPLY ONE-HALFTHE RATE DESCRIBED ABOVE DURING THE SEEDBED PREPARATION AND REPEAT ANOTHER ONE-HALF RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING.
   - B. WORK LIME AND FERTILIZER INTO THE TOPSOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
   - C. HIGH ACID PRODUCING SOIL. SOILS HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE BEFORE INITIATING SEEDBED PREPARATION. SEE ACID SOIL NOTES.
3. SEEDING
   - A. PERMANENT SEEDING SHALL CONSISTING OF THE FOLLOWING MIXES OR APPROVED EQUAL - ACCEPTABLE SEEDING DATES ARE BETWEEN MARCH 1 THRU APRIL 30 AND OPTIMAL SEEDING DATES ARE AUGUST 15 THRU OCTOBER 15:

HARD FESCUE	@ 4.0#/1,000 S.F.
PERENNIAL RYEGRASS	@ 1.0#/1,000 S.F.
KENTUCKY BLUEGRASS	@ 1.0#/1,000 S.F.

PERMANENT SEEDING SHALL BE PROVIDED ON ALL THE DETENTION BASIN SIDE SLOPES AND BASIN BOTTOM. THE SEED MIX SHALL BE SEED MIXTURE 17 AND CONSIST OF THE FOLLOWING MIXTURE OR APPROVED EQUAL - ACCEPTABLE SEEDING DATES ARE BETWEEN MARCH 1 THRU AUGUST 14 AND OPTIMAL SEEDING DATES ARE AUGUST 15 THRU OCTOBER 1:

CREEPING BENTGRASS	@1#/1,000 S.F.
CREEPING RED FESCUE	@1#/1,000 S.F.
ALKALI SALTGRASS	@1#/1,000 S.F.

PLEASE NOTE THAT OTHER SEED MIXTURES CAN BE USED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.

   - B. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF ¼ TO ½ INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE ¼ INCH DEEPER ON COARSE-TEXTURED SOIL.
   - C. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.
   - D. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK, OR TRAILER-MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER, AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT-FINERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. WHEN POOR SEED TO SOIL CONTACT OCCURS, THERE IS A REDUCED SEED GERMINATION AND GROWTH.
4. MULCHING

MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL INSURE AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS REQUIREMENT.

   - A. STRAW OR HAY. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, APPLIED AT THE RATE OF 1 ½ TO 2 TONS ACRE (70 TO 90 POUNDS PER 1,000 SQUARE FEET), EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT), THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO PRESENCE OF WEED SEED.

APPLICATION- SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 95% OF THE SOIL SURFACE WILL BE COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTION 70 TO 90 POUNDS WITHIN EACH SECTION.

ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.

1. PEG AND TWINE. DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRECHING TWINE BETWEEN PEGS IN A CRIS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
2. MULCH NETTING. STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTING TO THE SOIL SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED.
3. CRIMPER (MULCH ANCHORING COULTER TOOL) - A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED.
4. LIQUID MULCH BINDERS-MAY BE USED TO ANCHOR SALT HAY OR STRAW MULCH.
   - A. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.
   - B. USE ONE OF THE FOLLOWING:

1. ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.
2. SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

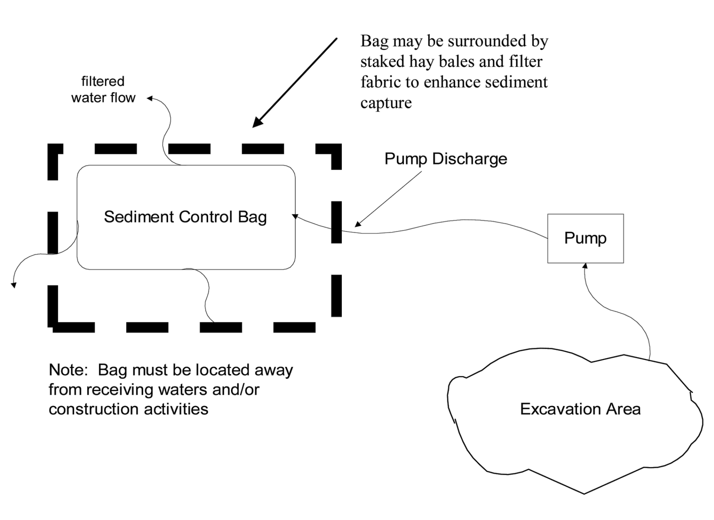
NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A COMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.

3. WOOD-FIBER OR PAPER-FIBER MULCH. SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS, USED AT THE RATE OF 1,500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. THIS MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.
4. PELLETIZED MULCH. COMPRESSED AND EXTRUDE PAPER AND/OR WOOD FIBER PRODUCT, WHICH MAY CONTAIN CO-POLYMERS, TACKIFIERS, FERTILIZERS AND COLORING AGENTS. THE DRY PELLETS, WHEN APPLIED TO A SEEDED AREA AND WATERED, FORMA MULCH MAT. PELLETIZED MULCH SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75LBS/1,000 SQUARE FEET WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS, SEED AREAS WHERE WEED-SEED FREE MULCH IS DESIRED OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE.

APPLY THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETIZED MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

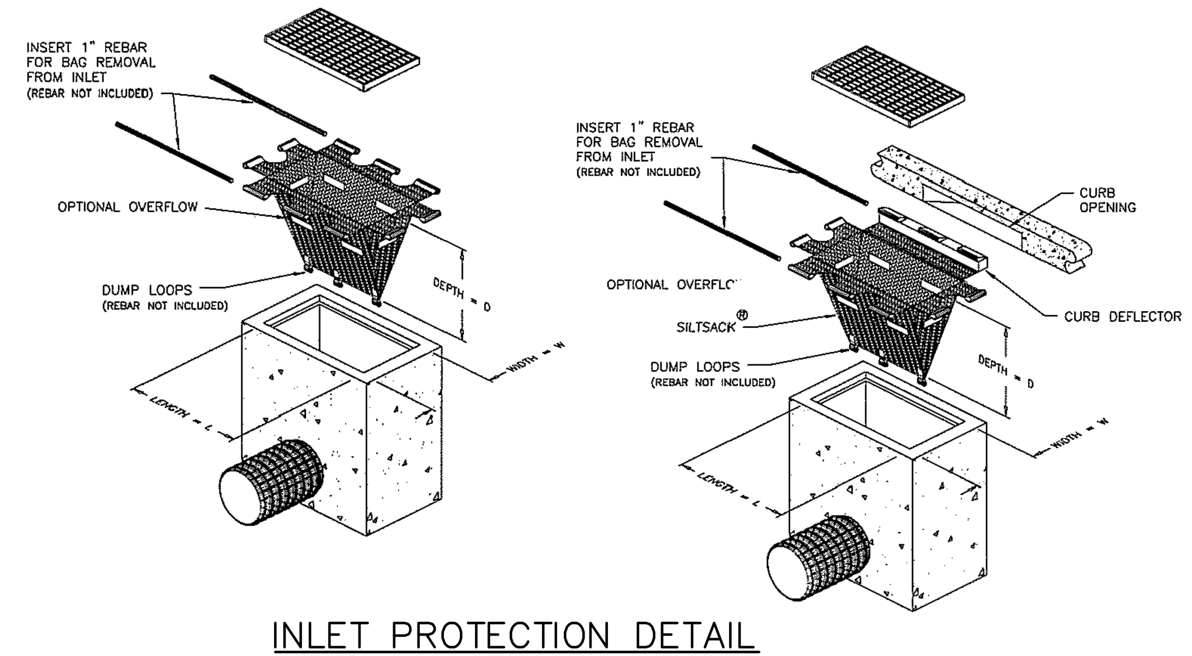
5. IRRIGATION (WHERE FEASIBLE)

IF SOIL MOISTURE IS DEFICIENT, AND MULCH IS NOT USED, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER (A MINIMUM OF 1/4 INCH APPLIED UP TO TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY SITES.



Bags must be disposed of according to manufacturer's instructions. Bags may not be reused.

DEWATERING DETAIL
NOT TO SCALE



INLET PROTECTION DETAIL
NOT TO SCALE

STABILIZATION WITH MULCH

METHODS AND MATERIALS

1. SITE PREPARATION
   - A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS, FOR LAND GRADING.
   - B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.
2. PROTECTIVE MATERIALS
   - A. UN-ROTTED SMALL-GRAIN STRAW, OR SALT HAY AT 2.0 TO 2.5 TONS PER ACRE IS SPREAD UNIFORMLY AT 90 TO 115 POUNDS PER 1,000 SQUARE FEET AND ANCHORED WITH A MULCH ANCHORING TOOL, LIQUID MULCH BINDERS, OR NETTING TIE DOWN. OTHER SUITABLE MATERIALS MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT. THE APPROVED RATES ABOVE HAVE BEEN MET WHEN THE MULCH COVERS THE GROUND COMPLETELY UPON VISUAL INSPECTION, ie. THE SOIL CAN NOT BE BELOW THE MULCH.
   - B. ASPHALT EMULSION IS RECOMMENDED AT THE RATE OF 600 TO 1,200 GALLONS PER ACRE. THIS IS SUITABLE FOR A LIMITED PERIOD OF TIME WHERE TRAVEL BY PEOPLE, ANIMALS OR MACHINES IS NOT A PROBLEM.
   - C. SYNTHETIC OR ORGANIC SOIL STABILIZERS MAY BE USED UNDER SUITABLE CONDITIONS AND IN QUANTITIES AS RECOMMENDED BY THE MANUFACTURER.
   - D. WOOD-FIBER OR PAPER-FIBER MULCH AT THE RATE OF 1,500 POUNDS PER ACRE (OR ACCORDING TO THE MANUFACTURER'S REQUIREMENTS) MAY BE APPLIED BY A HYROSEEDER.
   - E. MULCH NETTING, SUCH AS PAPER JUTE, EXCELSIOR, COTTON, OR PLASTIC, MAY BE USED.
   - F. WOODCHIPS APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 2 INCHES MAY BE USED. WOODCHIPS WILL NOT BE USED ON AREAS WHERE FLOWING WATER COULD WHERE FLOWING WATER COULD WASH THEM INTO AN INLET AND PLUG IT.
   - G. GRAVEL, CRUSHED STONE, OR SAG AT THE RATE OF 9 CUBIC YARDS PER 1,000 SQ. FT. APPLIED UNIFORMLY TO A MINIMUM DEPTH OF 3 INCHES MAY BE USED. SIZE 2 OR 3 (ASTM-C-33) IS RECOMMENDED.
3. MULCH ANCHORING - SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA AND STEEPNESS OF SLOPES.
   - A. PEG AND TWINE - DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRIS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
   - B. MULCH NETTING - STAPLE PAPER, COTTON, OR PLASTIC NETTINGS OVER MULCH. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED. NETTING IS USUALLY AVAILABLE IN ROLLS 4 FEET WIDE AND UP TO 300 FEET LONG.
   - C. CRIMPER MULCH ANCHORING COULTER TOOL - A TRACTOR-DAWN IMPLEMENT ESPECIALLY DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SURFACE. THIS PRACTICE AFFORDS MAXIMUM EROSION CONTROL, BUT IS USE IS LIMITED TO THOSE SLOPES UPON WHICH THE TRACTOR CAN OPERATE SAFELY. SOIL PENETRATION SHOULD BE ABOUT 3 TO 4 INCHES. ON SLOPING LAND, THE OPERATION SHOULD BE ON THE CONTOUR.
   - D. LIQUID MULCH -BINDERS
     1. APPLICATION SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.
     2. USE ONE OF THE FOLLOWING:
   - A. ORGANIC AND VEGETABLE BASED BINDER - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. VEGETABLE BASED GELS SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.
     - B. SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH, DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION

1. SITE PREPARATION
   - A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS, FOR LAND GRADING.
   - B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS.
   - C. IMMEDIATELY PRIOR TO SEEDING, THE SURFACE SHOULD BE SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION SYSTEMS, ETC.)
2. SEEDBED PREPARATION
   - A. APPLY GROUND LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST RECOMMENDATIONS SUCH AS OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES. FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER ACRE OR 11 POUNDS PER 1,000 S.F. OF 10-20-10 OR EQUIVALENT WITH 50% WATER INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. APPLY LIMESTONE AT THE RATE AS ESTABLISHED BY SOIL TESTING. CALCIUM CARBONATE IS THE EQUIVALENT AND STANDARD FOR MEASURING THE ABILITY OF LIMING MATERIALS TO NEUTRALIZE SOIL ACIDITY AND SUPPLY CALCIUM AND MAGNESIUM TO GRASSES AND LEGUMES.
   - B. WORK LIME AND FERTILIZER INTO THE TOPSOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES WITH A DISC, SPRING TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED.
   - C. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RECTIFIED IN ACCORDANCE WITH THE ABOVE.
   - D. SOILS HIGH IN SULFIDES OR HAVING A PH OF 4 OR LESS, SEE ACID SOIL NOTES.
3. SEEDING
   - A. TEMPORARY SEEDING SHALL CONSISTING OF THE FOLLOWING SEED SELECTIONS OR APPROVED EQUAL:

COOL SEASON GRASSES (ZONE 6B SEEDING DATES MARCH 1 THRU MAY 15 OR AUGUST 15 THRU OCTOBER 1)

PERENNIAL RYEGRESS	@ 1.0#/1,000 S.F., WITH OPTIMUM SEED DEPTH OF 0.5 INCH
SPRING OATS	@ 2.0#/1,000 S.F., WITH OPTIMUM SEED DEPTH OF 1.0 INCH

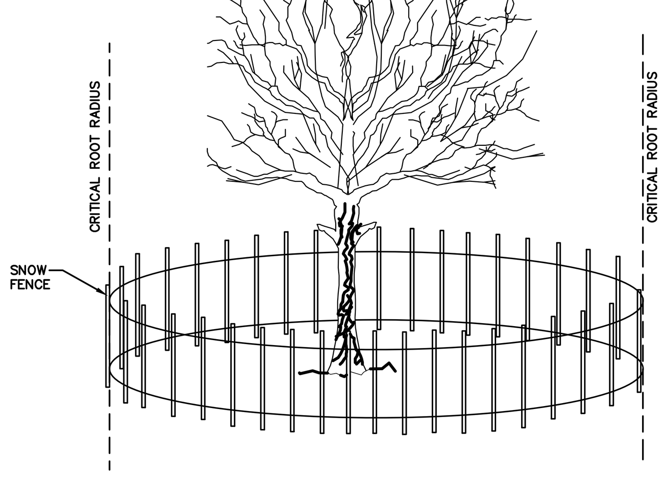
WARM SEASON GRASSES (ZONE 6B SEEDING DATES MAY 15 THRU AUGUST 15)

PEARL MILLET	@ 0.5#/1,000 S.F. WITH OPTIMUM SEED DEPTH OF 1.0 INCH

PLEASE NOTE THAT OTHER SEED SELECTIONS CAN BE USED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL IN NEW JERSEY.

   - B. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS, SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF ¼ TO ½ INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE ¼ INCH DEEPER ON COARSE-TEXTURED SOIL.
   - C. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK, OR TRAILER-MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED, WATER, AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDBED. MULCH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT-FINERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. WHEN POOR SEED TO SOIL CONTACT OCCURS, THERE IS A REDUCED SEED GERMINATION AND GROWTH. HYDROSEEDING MAY BE USED FOR AREAS TOO STEEP FOR CONVENTIONAL EQUIPMENT TO TRAVERSE OR TOO OBSTRUCTED WITH ROCKS, STUMPS, ETC.
   - D. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE. THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED.
4. MULCHING

REFER TO THE MULCH NOTES, NOTE 4 UNDER THE PERMANENT VEGETATIVE COVER SECTION.



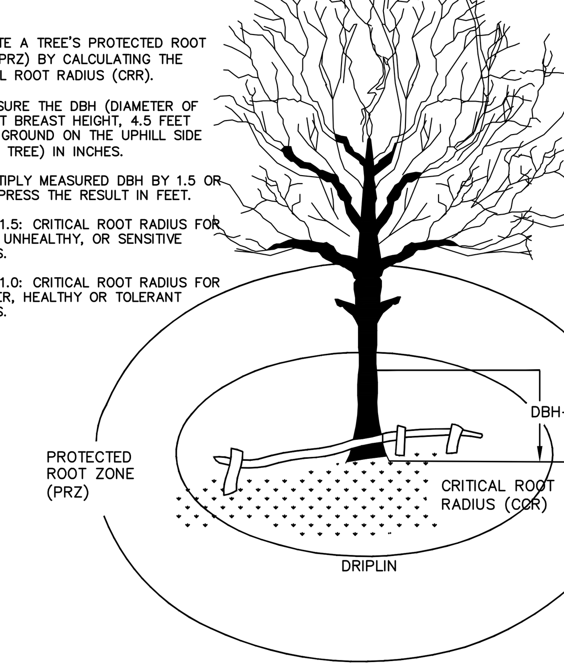
TREE PROTECTION FENCE

ESTIMATE A TREE'S PROTECTED ROOT ZONE (PRZ) BY CALCULATING THE CRITICAL ROOT RADIUS (CRR).

1. MEASURE THE DBH (DIAMETER OF TREE AT BREAST HEIGHT, 4.5 FEET ABOVE GROUND ON THE UPHILL SIDE OF THE TREE) IN INCHES.
2. MULTIPLY MEASURED DBH BY 1.5 OR 1.0. EXPRESS THE RESULT IN FEET.

DBH x 1.5: CRITICAL ROOT RADIUS FOR OLDER, UNHEALTHY, OR SENSITIVE SPECIES.

DBH x 1.0: CRITICAL ROOT RADIUS FOR YOUNGER, HEALTHY OR TOLERANT SPECIES.



ROOT PROTECTION DURING CONSTRUCTION GUIDE

STANDARD FOR TOPSOILING

DEFINITION

TOPSOILING ENTAILS THE DISTRIBUTION OF SUITABLE QUALITY SOIL ON AREAS TO BE VEGETATED.

PURPOSE

TO IMPROVE THE SOIL MEDIUM FOR PLANT ESTABLISHMENT AND MAINTENANCE.

WATER QUALITY ENHANCEMENT

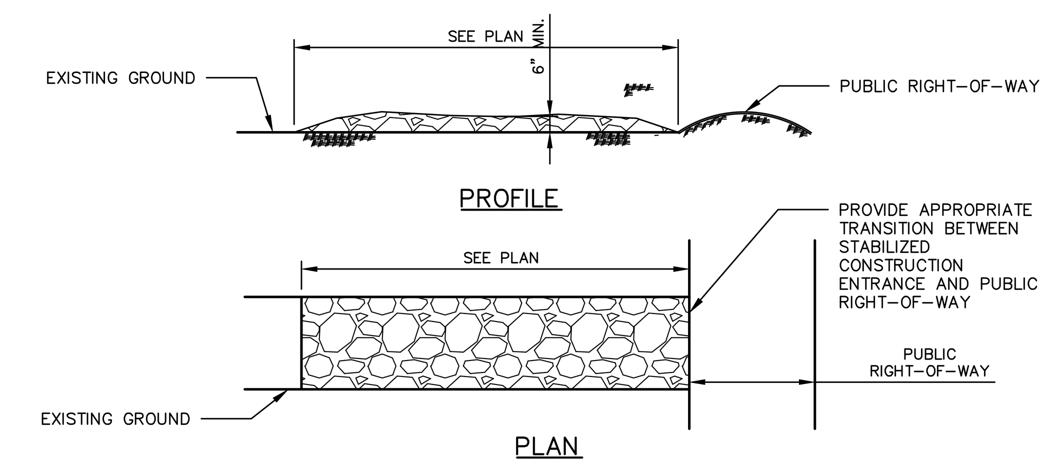
GROWTH AND ESTABLISHMENT OF A VIGOROUS VEGETATIVE COVER IS FACILITATED BY TOPSOIL, PREVENTING SOIL LOSS BY WIND AND RAIN OFFSITE AND INTO STREAMS AND OTHER STORMWATER CONVEYANCES.

WHERE APPLICABLE

TOPSOIL SHALL BE USED WHERE SOILS ARE TO BE DISTURBED AND WILL BE REVEGETATED.

METHODS AND MATERIALS

1. MATERIALS
   - A. TOPSOIL SHOULD BE FRIABLE, LOAMY, FREE OF DEBRIS, OBJECTIONABLE WEEDS AND STONES, AND CONTAIN NO TOXIC SUBSTANCE OR ADVERSE CHEMICAL OR PHYSICAL CONDITION THAT MAY BE HARMFUL TO PLANT GROWTH. SOLUBLE SALTS SHOULD NOT BE EXCESSIVE (CONDUCTIVITY LESS THAN 0.5 MILLIMHOS PER CENTIMETER. MORE THAN 0.5 MILLIMHOS MAY DESICCATE SEEDLINGS AND ADVERSELY IMPACT GROWTH). IMPORTED TOPSOIL SHALL HAVE A MINIMUM ORGANIC MATTER CONTENT OF 2.75 PERCENT. ORGANIC MATTER CONTENT MAY BE RAISED BY ADDITIVES.
   - B. TOPSOIL SUBSTITUTE IS A SOIL MATERIAL WHICH MAY HAVE BEEN AMENDED WITH SAND, SILT, CLAY, ORGANIC MATTER, FERTILIZER OR LIME AND HAS THE APPEARANCE OF TOPSOIL. TOPSOIL SUBSTITUTES MAY BE UTILIZED ON SITES WITH INSUFFICIENT TOPSOIL FOR ESTABLISHING PERMANENT VEGETATION. ALL TOPSOIL SUBSTITUTE MATERIALS SHALL MEET THE REQUIREMENTS OF TOPSOIL NOTED ABOVE. SOIL TESTS SHALL BE PERFORMED TO DETERMINE THE COMPONENTS OF SAND, SILT, CLAY, ORGANIC MATTER, SOLUBLE SALTS AND PH LEVEL.
2. STRIPPING AND STOCKPILING
   - A. FIELD EXPLORATION SHOULD BE MADE TO DETERMINE WHETHER QUANTITY AND OR QUALITY OF SURFACE SOIL JUSTIFIES STRIPPING.
   - B. STRIPPING SHALL BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA.
   - C. WHERE FEASIBLE, LIME MAY BE APPLIED BEFORE STRIPPING AT A RATE DETERMINED BY SOIL TESTS TO BRING THE SOIL PH TO APPROXIMATELY 6.5.
   - D. A 4-6 INCH STRIPPING DEPTH IS COMMON, BUT MAY VARY DEPENDING ON THE PARTICULAR SOIL.
   - E. STOCKPILES OF TOPSOIL SHOULD BE SITUATED SO AS NOT TO OBSTRUCT NATURAL DRAINAGE OR CAUSE OFF-SITE ENVIRONMENTAL DAMAGE.
   - F. STOCKPILES SHOULD BE VEGETATED IN ACCORDANCE WITH STANDARDS PREVIOUSLY DESCRIBED HEREIN; SEE STANDARDS FOR PERMANENT (PG. 4-1) OR TEMPORARY (PG.7-1) VEGETATIVE COVER FOR SOIL STABILIZATION. WEEDS SHOULD NOT BE ALLOWED TO GROW ON STOCKPILES.
3. SITE PREPARATION
   - A. GRADE AT THE ONSET OF THE OPTIMAL SEEDING PERIOD SO AS TO MINIMIZE THE DURATION AND AREA OF EXPOSURE OF DISTURBED SOIL TO EROSION. IMMEDIATELY PROCEED TO ESTABLISH VEGETATIVE COVER IN ACCORDANCE WITH THE SPECIFIED SEED MIXTURE. TIME IS OF THE ESSENCE
   - B. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND ANCHORING, AND MAINTENANCE. SEE THE STANDARD FOR LAND GRADING, PG. 19-1.
   - C. AS GUIDANCE FOR IDEAL CONDITIONS, SUBSOIL SHOULD BE TESTED FOR LIME REQUIREMENT. LIMESTONE, IF NEEDED, SHOULD BE APPLIED TO BRING SOIL TO A PH OF APPROXIMATELY 6.5 AND INCORPORATED INTO THE SOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4 INCHES.
   - D. PRIOR TO TOPSOILING, THE SUBSOIL SHALL BE IN COMPLIANCE WITH THE STANDARD FOR LAND GRADING, PG. 19-1.
   - E. EMPLOY NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENTATION BASINS, AND WATERWAYS. SEE STANDARDS 11 THROUGH 42.
4. APPLYING TOPSOIL
   - A. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE; I.E., LESS THAN FIELD CAPACITY (SEE GLOSSARY).
   - B. A UNIFORM APPLICATION TO AN AVERAGE DEPTH OF 5.0 INCHES, FIRMED IN PLACE IS REQUIRED. ALTERNATIVE DEPTHS MAY BE CONSIDERED WHERE SPECIAL REGULATORY AND/OR INDUSTRY DESIGN STANDARDS ARE APPROPRIATE SUCH AS ON GOLF COURSES, SPORTS FIELDS, LANDFILL CAPPING, ETC.. SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE, IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOIL (PG. 1-1).
   - C. PURSUANT TO THE REQUIREMENTS IN SECTION 7 OF THE STANDARD FOR PERMANENT VEGETATIVE STABILIZATION, THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT PERMANENT VEGETATIVE COVER BECOMES ESTABLISHED ON AT LEAST 80% OF THE SOILS TO BE STABILIZED WITH VEGETATION. FAILURE TO ACHIEVE THE MINIMUM COVERAGE MAY REQUIRE ADDITIONAL WORK TO BE PERFORMED BY THE CONTRACTOR TO INCLUDE SOME OR ALL OF THE FOLLOWING: SUPPLEMENTAL SEEDING, RE-APPLICATION OF LIME AND FERTILIZERS, AND/OR THE ADDITION OF ORGANIC MATTER (I.E. COMPOST) AS A TOP DRESSING. SUCH ADDITIONAL MEASURES SHALL BE BASED ON SOIL TESTS SUCH AS THOSE OFFERED BY RUTGERS COOPERATIVE EXTENSION SERVICE OR OTHER APPROVED LABORATORY FACILITIES QUALIFIED TO TEST SOIL SAMPLES FOR AGRONOMIC PROPERTIES.



PERCENT SLOPE OF ROADWAY	LENGTH OF STONE REQUIRED	
	COURSE GRAINED SOILS	FINE GRAINED SOILS
0 TO 2%	50 FEET	100 FEET
2% TO 5%	100 FEET	200 FEET
>5%	ENTIRE SURFACE STABILIZED WITH HOT MIX ASPHLAT BASE COURSE, MIX I-2	

NOTES:

1. STONE SIZE - USE ASTM C-33, SIZE NO. 2 (2½ TO 1½ IN.) OR 3 (2 TO 1 IN.). USE CLEAN CRUSHED ANGULAR STONES. CRUSHED CONCRETE OF SIMILAR SIZE MAY BE SUBSTITUTED BUT WILL REQUIRE MORE FREQUENT UPGRADING AND MAINTENANCE.
2. LENGTH - 50 FEET MINIMUM WHERE SOILS ARE COURSE GRAINED (SAND OR GRAVEL), OR 100 FEET MINIMUM WHERE SOILS ARE FINE GRAINED (CLAYS OR SILTS), EXCEPT WHERE THE TRAVEL LENGTH IS LESS THAN 50 OR 100 FEET RESPECTIVELY. THESE LENGTHS MAY BE INCREASED WHERE FIELD CONDITIONS DICTATE. STORMWATER FROM UP-SLOPE AREAS SHALL BE DIVERTED AWAY FROM THE STABILIZED PAD (SEE STANDARD FOR DIVERSIONS). WHERE DIVERSION IS NOT POSSIBLE, THE LENGTH OF THE STABILIZED PAD SHALL BE SHOWN AS IN TABLE ABOVE. WHERE THE SLOPE OF THE ACCESS ROAD EXCEEDS 5%, A STABILIZED BASE OF HOT MIX ASPHALT BASE COURSE, MIX I-2, SHALL BE INSTALLED. THE TYPE AND THICKNESS OF THE BASE COURSE AND USE OF A DENSE GRADED AGGREGATE SUB-BASE SHALL BE AS PRESCRIBED BY LOCAL MUNICIPAL ORDINANCE OR OTHER GOVERNING AUTHORITY.

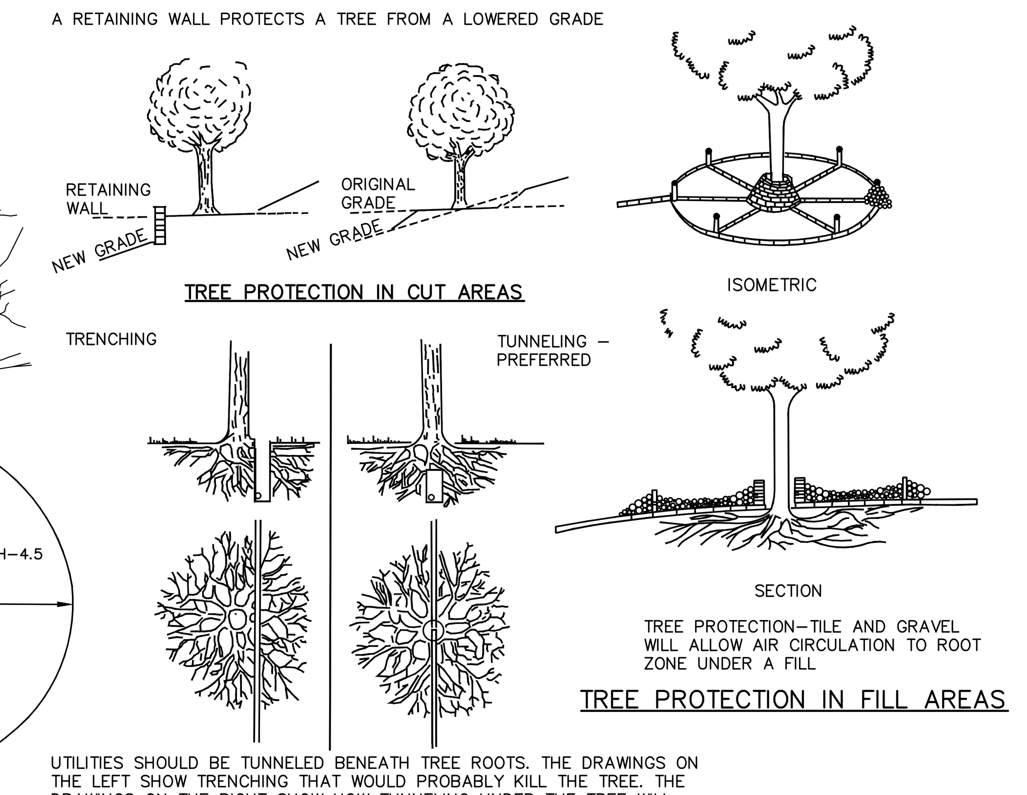
   AT POORLY DRAINED LOCATIONS, SUBSURFACE DRAINAGE GRAVEL FILTER OR GEOTEXTILE SHALL BE INSTALLED BEFORE INSTALLING THE STABILIZED CONSTRUCTION ENTRANCE.

   WHERE A STABILIZED CONSTRUCTION ENTRANCE EXIT TRAVERSES BETWEEN TWO BUILDINGS, IT SHALL BE STONED THE ENTIRE LENGTH OF THE RIGHT-OF-WAY. MOUNTABLE STONE BERMS PLACED ACROSS THE WIDTH OF THE EXIT MAY ALSO BE REQUIRED AT THE TRANSITION POINT BETWEEN PAVED AND NON-PAVED AREAS TO TRAP SEDIMENTS WHICH ARE CARRIED BY STORMWATER FLOWING ALONG THE CURBLINE.
3. THICKNESS - NOT LESS THAN 6 INCHES.
4. WIDTH - NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. TIRE WASHING - IF SPACE IS LIMITED, VEHICLE TIRES MAY BE WASHED WITH CLEAN WATER BEFORE ENTERING A PAVED AREA. A WASH STATION MUST BE LOCATED SUCH THAT WATER WILL NOT FLOW ONTO PAVED ROADWAYS OR INTO UNPROTECTED STORM DRAINAGE SYSTEMS.

   WHEN THE CONSTRUCTION ACCESS EXITS ONTO A MAJOR ROADWAY, A PAVED TRANSITION AREA MAY BE INSTALLED BETWEEN THE MAJOR ROADWAY AND THE STONED ENTRANCE TO PREVENT LOOSE STONES FROM BEING TRANSPORTED OUT ONTO THE ROADWAY BY THE HEAVY EQUIPMENT ENTERING OR LEAVING THE SITE.
6. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC ROADWAYS (PRIVATE OR PUBLIC) OR OTHER IMPERVIOUS SURFACES MUST BE REMOVED IMMEDIATELY.

   WHERE ACCUMULATION OF DUST/SEDIMENT IS INADEQUATELY CLEANED OR REMOVED BY CONVENTIONAL METHODS, A POWER BROOM OR STREET SWEEPER WILL BE REQUIRED TO CLEAN PAVED OR IMPERVIOUS SURFACES. ALL OTHER ACCESS POINTS WHICH ARE NOT STABILIZED SHALL BE BLOCKED OFF.

STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



UTILITIES SHOULD BE TUNNELED BENEATH TREE ROOTS. THE DRAWINGS ON THE LEFT SHOW TRENCHING THAT WOULD PROBABLY KILL THE TREE. THE DRAWINGS ON THE RIGHT SHOW HOW TUNNELING UNDER THE TREE WILL PRESERVE MANY OF THE IMPORTANT FEEDER ROOTS.

TREE PROECTION-UNDERGROUND UTILITY INSTALLATION

TREE PROTECTION DETAIL
NOT TO SCALE

SCALE IN FEET

Princeton Forward

Penn Medicine Princeton Health

1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated

N

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1C

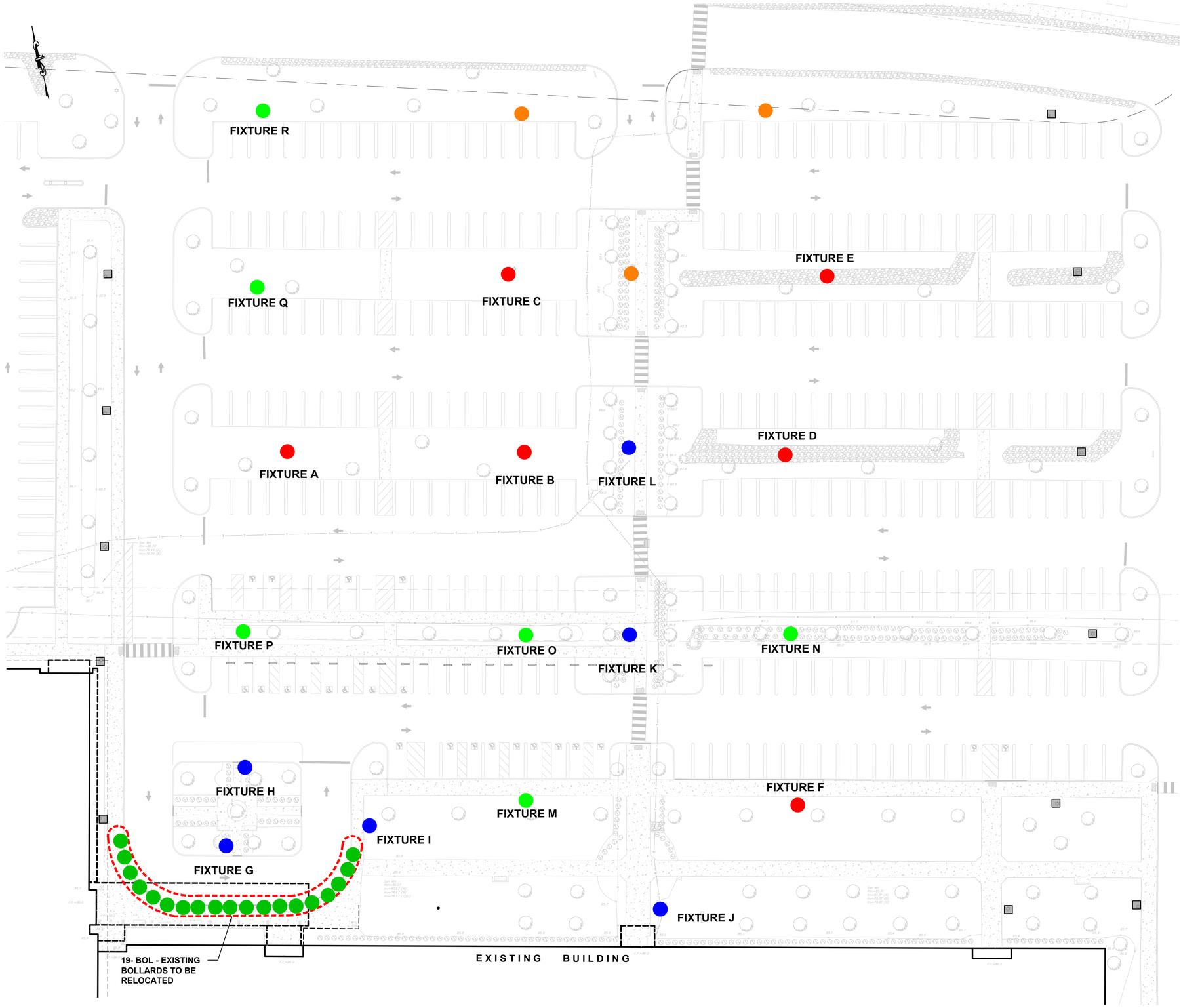
SOIL EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

C.1C.08

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:56 AM
Autodesk Docs://5267 Penn Medicine Princeton Health/UPHS-PMPH-GAR-AR.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.



LEGEND:

- EXISTING LIGHT FIXTURE AND POLE TO REMAIN
- EXISTING LIGHT FIXTURE AND POLE TO BE STORED FOR FUTURE USE
- REUSE/RELOCATE LIGHT FIXTURE AND 25' POLE (FIXTURES A THROUGH F)
- REUSE/RELOCATE LIGHT FIXTURE, STORE 14' POLE (FIXTURES G THROUGH L)
- REUSE/RELOCATE 25' POLE, STORE LIGHT FIXTURE FOR FUTURE USE (FIXTURES M THROUGH R)
- BOL — EXISTING BOLLARD TO BE REUSED/RELOCATED AS SHOWN ON PROPOSED LIGHTING PLAN (19 TOTAL)

LIGHTING NOTES:

1. THIS PLAN SHALL BE USED FOR THE LOCATIONS OF THE EXISTING EXTERIOR LIGHTING WITHIN THE PROPOSED CANCER CENTER LIMIT OF DISTURBANCE ONLY.
2. THE CONTRACTOR SHALL REMOVE ALL EXISTING LIGHT FIXTURES AS SHOWN FOR RE-USE AND/OR STORAGE. THE CONTRACTOR SHALL CONSULT WITH THE LIGHTING MANUFACTURER FOR DIRECTIONS FOR PROPER STORAGE OF THE EXISTING LIGHTS. THE STORAGE LOCATION SHALL BE DETERMINED BY THE OWNER.
3. ANY LIGHTS THAT ARE TO REMAIN SHALL BE PROPERLY PROTECTED FROM CONSTRUCTION ACTIVITIES. ANY DAMAGE THAT OCCURS TO THESE LIGHTS SHALL BE REMEDIED BY THE CONTRACTOR AT NO COST TO THE OWNER.
4. ANY DAMAGE THAT OCCURS TO IMPROPER STORAGE OF THE LIGHTS DURING CONSTRUCTION SHALL BE REMEDIED BY THE CONTRACTOR AT NO COST TO THE OWNER.

20 0 20 40
SCALE IN FEET

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated

N

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1C

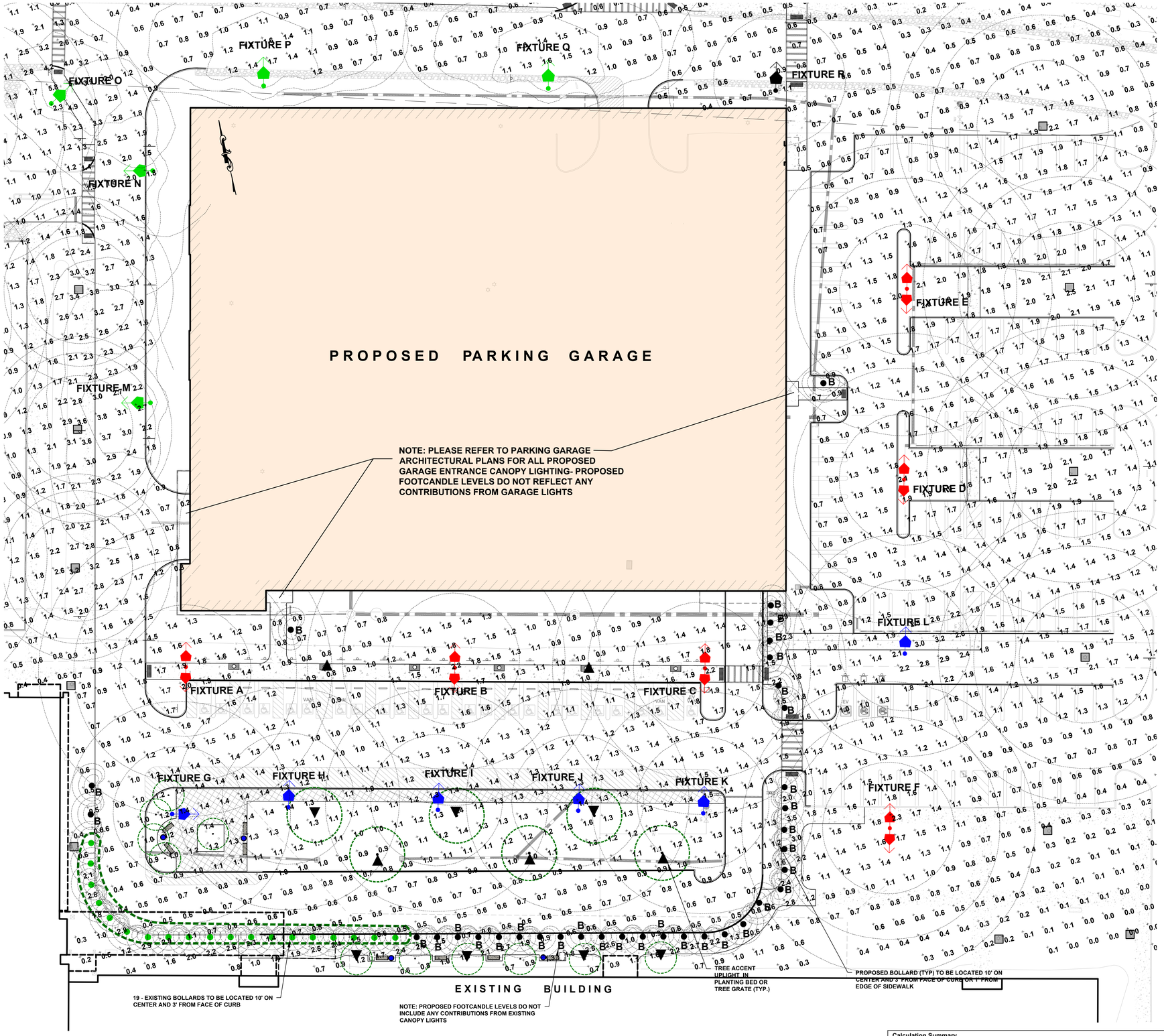
EXISTING LIGHTING PLAN

C.1C.09

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:56 AM
Autodesk Docs://2587 Penn Medicine Princeton Health/PMH-CAAA.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.



LIGHTING NOTES:

1. DO NOT INSTALL PROPOSED LIGHTS DIRECTLY ON TOP OF ANY PROPOSED OR EXISTING UNDERGROUND UTILITIES. THE CONTRACTOR SHALL FIELD VERIFY LOCATION OF UTILITIES AND ADJUST LIGHTS AS NEEDED AS DIRECTED BY THE PROJECT PROFESSIONAL TO ACCOMMODATE ANY POTENTIAL CONFLICTS.
2. ALL BOLLARDS AND POLE MOUNTED LIGHTS SHALL BE PLACED AS FOLLOWS:
   a. FACE OF BOLLARD SHALL BE PLACED 2 FT FROM THE FACE OF THE CURBLINE IN DROP OFF AREA. FACE OF BOLLARD SHALL BE PLACED 1.5 FROM EDGE OF SIDEWALKS.
   b. POLE MOUNTED LIGHTS SHALL BE INSTALLED IN THE CENTER OF ISLANDS OR AS INDICATED OR A MINIMUM OF 3.5' FROM THE BACK OF THE CURB OR EDGE OF SIDEWALK TO THE FACE OF THE POLE.
   c. THE CENTER OF ALL POLE MOUNTED LIGHTS LONG THE SIDEWALK TO THE SOUTH OF THE PARKING GARAGE SHALL BE PLACED ON THE SIDEWALK 1.5 FT FROM THE EDGE (SEE DETAIL.)
3. IN THE EVENT THAT THERE ARE DISCREPANCIES BETWEEN THE QUANTITIES SHOWN IN THE LIGHTING SCHEDULE AND THE PLAN, THE LIGHTING PLAN SHALL GOVERN.
4. THE HOSPITAL SHALL BE OPEN 24 HOURS PER DAY, 7 DAYS A WEEK. ALL EXTERIOR LIGHTS WILL REMAIN ON, HOWEVER, ALL DOUBLE FIXTURE LIGHTS SHALL BE DIMMED BY 50% BETWEEN THE HOURS OF MIDNIGHT AND 5 AM.
5. THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT SHOP DRAWINGS OF ALL LIGHT FIXTURES AND POLES FOR REVIEW AND APPROVAL BY THE APPROPRIATE ENTITIES.
6. THE APPLICANT WILL ENSURE THAT THE POLE/FIXTURE FINISH AND COLOR AND THE LIGHT SOURCE COLOR RENDITION OF ALL PROPOSED LIGHT FIXTURES AND POLES SHALL MATCH THE EXISTING POLES AND FIXTURES USED THROUGHOUT THE PENN MEDICINE CAMPUS. FINAL DETAILS AND COLORS SHALL BE SUBJECT TO REVIEW AND APPROVAL BY PLAINSBORO TOWNSHIP.

LEGEND:

- EXISTING LIGHT FIXTURE AND POLE TO REMAIN
- B — PROPOSED BOLLARD
- EXISTING RELOCATED BOLLARD
- REUSE/RELOCATED LIGHT FIXTURE AND 25' POLE (FIXTURES A THROUGH F)
- REUSE/RELOCATE LIGHT FIXTURE, STORE 14' POLE, PROVIDE NEW 25' POLE (FIXTURES G THROUGH L)
- REUSE/RELOCATE 25' POLE, STORE EXISTING LIGHT FIXTURE, PROVIDE NEW LIGHT FIXTURE (FIXTURES M THROUGH Q)
- REUSE/RELOCATE 25' POLE, STORE EXISTING LIGHT FIXTURE, PROVIDE NEW LIGHT FIXTURE (FIXTURES R)
- PROPOSED TREE ACCENT UPLIGHT

Diversifed NJ Luminaire Schedule

Symbol	Qty	Manufacturer	Light Fixture	CCT	Lum. Lumens	LLF	Lum. Watts	Pole / Bracket	AFG (FT)	Description
	5	ARCHITECTURAL AREA LIGHTING	M22-P-36L-615-3K7-3-CL-COLOR-CONFIRM EXISTING POLE DIA-VOLTS R56	3000k	7630	0.880	71.13	NEW FIXTURE ON EXISTING 25' POLE (LIGHT FIXTURE SETUPS M THROUGH Q)	25	SINGLE TYPE 3
	1	ARCHITECTURAL AREA LIGHTING	M22-P-36L-615-3K7-5W-CL-COLOR-X*_ODMNT VOLTS R56	3000k	7787	0.880	71.13	NEW FIXTURE ON EXISTING 25' POLE (LIGHT FIXTURE SETUP R)	25	SINGLE TYPE 3
B	34	FORMS+SURFACES	LBCB500/SECTOR180/VOLTS/COLOR/R56	3000K	539	0.880	21.1	NEW BOLLARD	3.5	BOLLARD
	6	ARCHITECTURAL AREA LIGHTING	M22-2P-36L-615-3K7-5W-CL-COLOR-X*_ODMNT VOLTS R56	3000k	7787	0.880	71.13	REUSE EXISTING FIXTURES AND 25' POLE (LIGHT FIXTURE SETUPS A THROUGH F)	25	TWIN TYPE 5
	6	ARCHITECTURAL AREA LIGHTING	M22-P-36L-615-3K7-5W-CL-COLOR-X*_ODMNT VOLTS R56	3000k	7787	0.880	71.13	REUSE EXISTING FIXTURE ON NEW 25' POLE (LIGHT FIXTURE SETUPS G THROUGH L)	25	SINGLE TYPE 5

*- SEE DETAIL SHEET FOR PROPOSED TREE UPLIGHTING INFORMATION

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
DROP OFF AREA	Illuminance	Fc	1.07	1.7	0.4	2.68	4.25
ON PAVEMENT AT GRADE	Illuminance	Fc	1.29	4.9	0.2	6.45	24.50
SIDEWALK AT GRADE_1	Illuminance	Fc	1.01	2.9	0.4	2.53	7.25
SIDEWALK AT GRADE_2	Illuminance	Fc	1.28	2.2	0.6	1.83	3.14
SIDEWALK AT GRADE_3	Illuminance	Fc	1.45	3.5	0.2	7.25	17.50

Project Contact Information:
Ryan M. Clarke I.E.S.
Senior Specification Sales Manager

55 Lane Rd., Ste. 360
Fairfield, NJ 07004
E-Mail: rclarke@divnj.com
Telephone: 973.439.1524
Mobile: 908.463.5095

20 0 20 40
SCALE IN FEET

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated

N

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

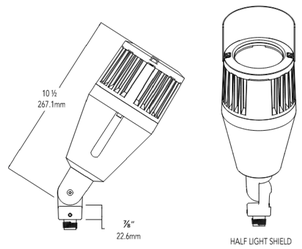
PHASE 1C

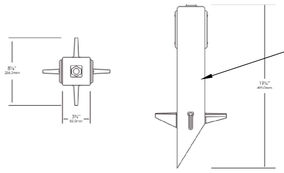
PROPOSED LIGHTING PLAN

C.1C.10

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:56 AM
Autodesk Docs://2587 Penn Medicine Princeton Health/PM0-FMPHC-ALR-ALR.rvt
Penn Medicine Princeton Health Cancer Center Garage
THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.





COMMERCIAL GRADE HEAVY DUTY PVC MOUNTING PEDESTAL MODEL CP-159 BY VISTA PROFESSIONAL OUTDOOR LIGHTING OR APPROVED EQUAL

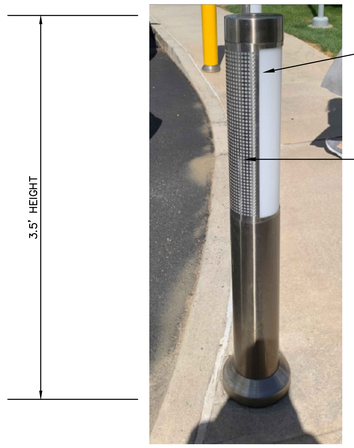
UPLIGHT MOUNTING PEDESTAL

TREE ACCENT LIGHT DETAIL

NOT TO SCALE

NOTES:

1. ACCENT LIGHT AND MOUNTING PEDESTAL SHALL BE MANUFACTURED BY VISTA PROFESSIONAL OUTDOOR LIGHTING OR APPROVED EQUAL.
2. HOUSING COLOR SHALL BE STANDARD COLOR BLACK AND SHALL HAVE HALF LIGHT SHIELD.



5" DIAMETER BOLLARD IN FINISH AND TEXTURE TO MATCH EXISTING CAMPUS BOLLARDS

PROVIDE SECTOR SHIELD WHERE BOLLARD FACES THE ROAD

FACE OF BOLLARD SHALL BE PLACED 2 FT FROM THE FACE OF THE CURBLINE IN FRONT PLAZA AREA.

ALL OTHER SIDEWALK BOLLARDS SHALL BE PLACED 2.5 FT FROM THE EDGE OF THE SIDEWALK TO THE FACE OF THE BOLLARD.

NOTES:

1. BOLLARD SHALL BE MODEL "LIGHT COLUMN" ILLUMINATED BOLLARD WITH LED LIGHT SOURCE BY FORMS AND SURFACES OR APPROVED EQUAL.
2. THE PORTION OF THE BOLLARD FACING THE ROAD SHALL HAVE THE "SECTOR SHIELD" OPTION, THE PORTION FACING THE BUILDING SHALL NOT HAVE A SHIELD AS SHOWN IN THE PHOTO ABOVE.
3. THE FINISH OF THE BOLLARD HOUSING AND COLOR RENDITION OF LIGHT SOURCE SHALL MATCH THE EXISTING CAMPUS BOLLARDS, CONTRACTOR TO SUBMIT SHOP DRAWINGS.

LIGHTED BOLLARD DETAIL (FIXTURE B)

NOT TO SCALE

LIGHT COLUMN BOLLARD

PRODUCT DATA

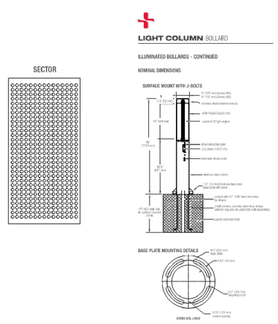
ILLUMINATED BOLLARDS

LAMP DESCRIPTIONS

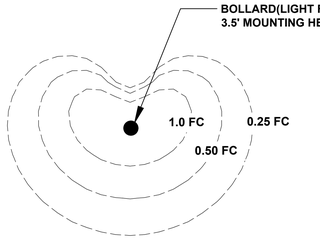
LAMP	DESCRIPTION	LUMINAIRE LUMENS*		B.U.G. RATING	LED STARTING TEMPERATURE °C
		500	600		
3000K LED	10W custom LED light engine	1000	960	BO-U3-G1	-30
4000K LED	10W custom LED light engine	1000	980	BO-U3-G1	-30
RGBW LED	78W custom LED light engine	varies	varies	varies	-30

*Luminaire lumens represents the absolute photometry for the luminaire, and indicates the lumens out of the entire fixture.

NOTE: Polar candela and isofootcandle plots can be found on the Light Column Bollard product page on our website.

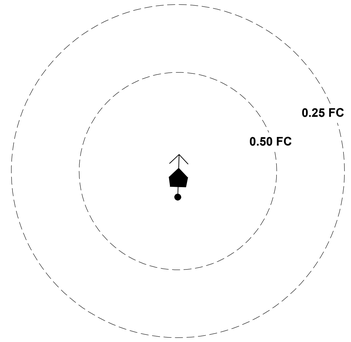


SECTOR



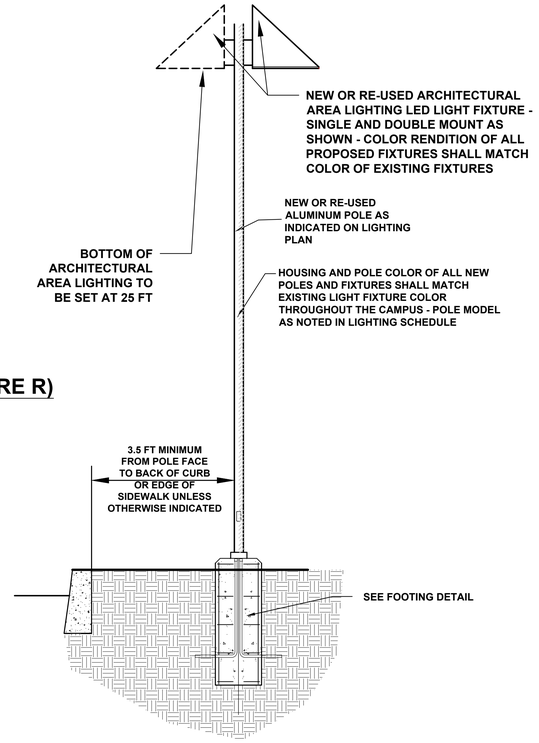
LIGHTED BOLLARD ISOLUX DETAIL(FIXTURE B)

SCALE: 1"=5'

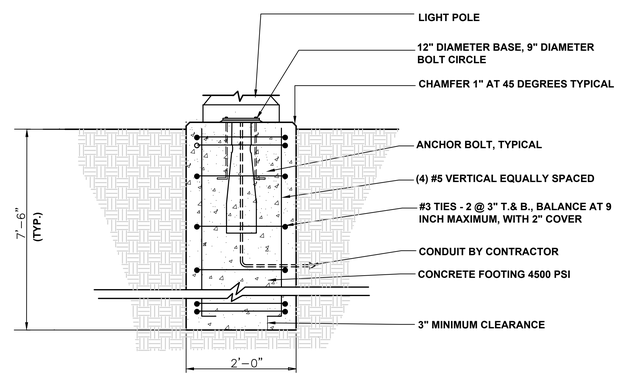


LIGHT FIXTURE ISOLUX DETAIL(FIXTURE R)

SCALE: 1"=20'

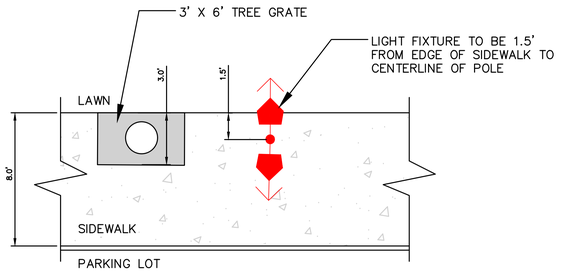


NOTE: THE CONTRACTOR IS ADVISED TO CONTACT THE MANUFACTURER TO OBTAIN INFORMATION REGARDING THE PROPER STORAGE OF EXISTING LIGHT POLES AND FIXTURES DURING CONSTRUCTION. ANY MATERIAL FOUND TO BE IN POOR SHAPE FROM IMPROPER STORAGE SHALL BE REPLACED AT NO COST TO THE OWNER



TYPICAL 25' HIGH POLE FOOTING DETAIL

NOT TO SCALE



NOTE: LIGHT POLES TO BE 1.5' FROM EDGE OF SIDEWALK FOR FIXTURES A, B, AND C LOCATED ON SIDEWALK SOUTH OF PARKING GARAGE

LIGHT FIXTURE INSTALLATION DETAIL - SIDEWALK SOUTH OF PARKING GARAGE

NOT TO SCALE

ARCHITECTURAL AREA LIGHTING

Mitre Medium - M22

The classic geometric form of the Mitre complements architectural expressions of precision, structure and line

COLOR AND TEXTURE TO MATCH EXISTING CAMPUS FIXTURES

Specifications

UV Output	590nm Amber
Lumen Range	1,588 - 9,051
Dimming Protocol	0-10V;10%Dusk to Dawn
CCT Offering	3000, 4000, 5000, 590nm Amber
CRI Offering	70
Mounting Options	Wall, Pole
Material - Housing	Aluminum
Wattage Range	32.3 - 71.2
Efficacy Range	49.1 - 135.3

Color Offering	BLT - Black Gloss Smooth, BLT - Black Matte Textured, DBS - Dark Bronze Gloss Smooth, DBT - Dark Bronze Matte Textured, GPT - Graphite Matte Textured, LG - Light Grey Matte Textured, MSV - Platinum Silver Gloss Smooth, VGT - Verde Green Matte Textured, WHS - White Gloss Smooth, WHT - White Matte Textured, CC - Custom Color
Optics & Distributions	Type II, Type III, Type IV Wide, Type V Square, Type V Wide
Certifications	ETL, CSA C22.2 No. 250.0-08
Ratings	TAA (Buy American S2.225-11), Wet
Operating Temp	-40 to 40

PARKING LOT AND SIDEWALK LIGHT FIXTURE AND POLE DETAIL

NOT TO SCALE

SCALE IN FEET

Princeton Forward

Penn Medicine Princeton Health

1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH

99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
sheplevbulfinch.com
Design Architect

THA

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES

Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated

N

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1C

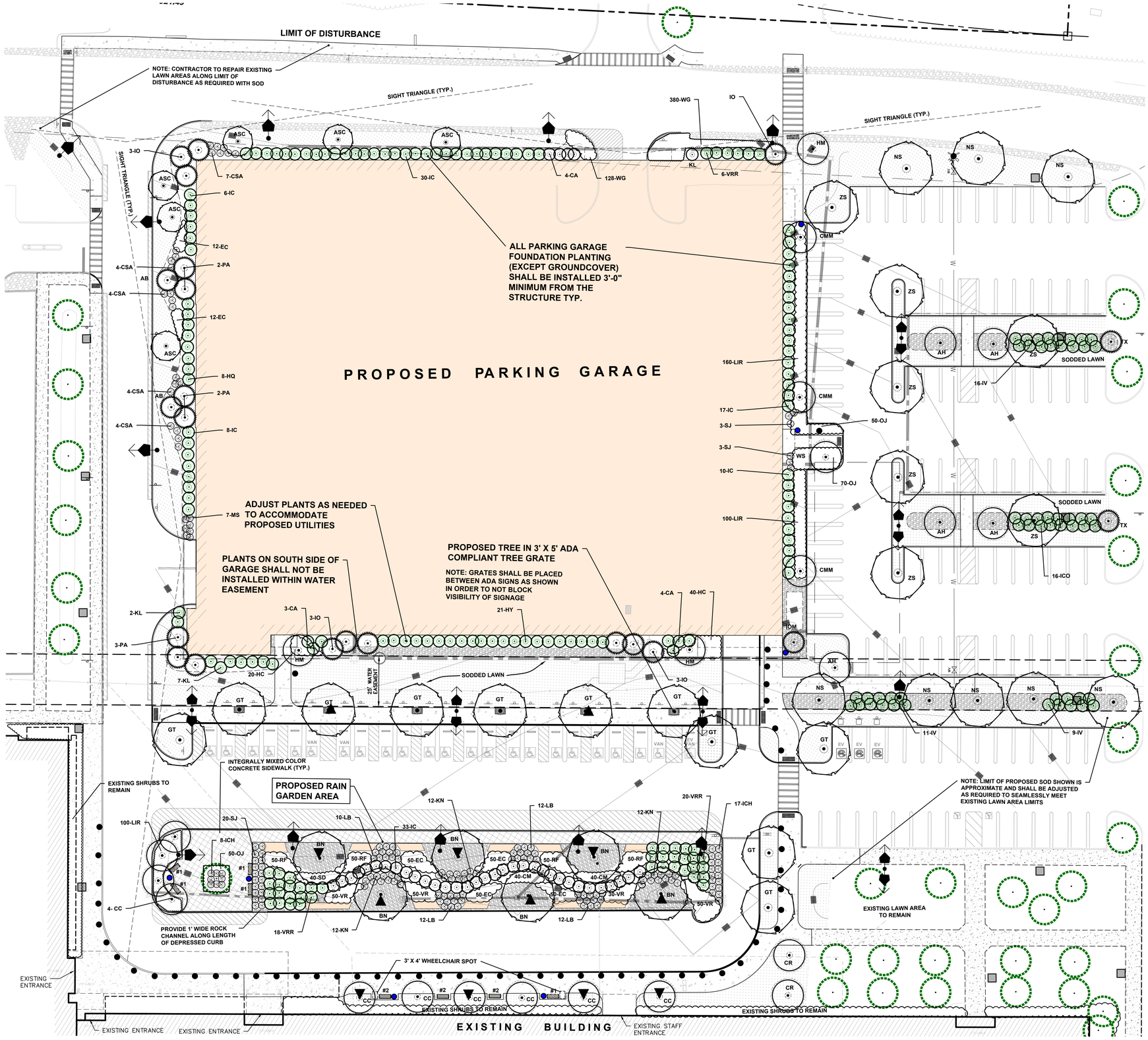
LIGHTING DETAIL

C.1C.11

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:56 AM
Autodesk Docs://2307 Penn Medicine Princeton Health/PPHS-PMPH-GAR-Arch1.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.



LEGEND:

- 4" THICK 2"-3" DIAMETER DELAWARE RIVER ROCK BED- COLOR TO MATCH EXISTING CAMPUS MATERIAL
- SODDED LAWN
- PROPOSED LIGHT FIXTURE
- EXISTING TREE TO REMAIN - PROTECTIVE FENCING/DEMARCATION TO BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AT THE DRIPLINE /CANOPY OF TREES
- APPROXIMATE CANOPY SIZE
- #1 EXISTING RELOCATED BENCH
- #2 PROPOSED BENCH
- PROPOSED TRASH CAN
- ANNUAL PLANTING BED
- PROPOSED PLANTS (APPROXIMATE CANOPY SIZE AT 20-25 YEARS GROWTH; APPROXIMATE SIZE AT INSTALLATION; APPROXIMATE CANOPY SIZE AT 20-25 YEARS GROWTH)

LANDSCAPE PLAN GENERAL NOTES:

1.) EXISTING TREES AND SHRUBS ALONG THE PERIPHERY OF THE CONSTRUCTION SHALL BE SELECTIVELY PRUNED AND THINNED AS REQUIRED BY A LICENSED LANDSCAPE PROFESSIONAL IN ORDER TO REMOVE ALL DISEASED AND DEAD LIMBS. BED LINES SHALL BE CREATED AS SHOWN AND MULCHED WITH 4" THICK WOOD MULCH.

2.) DO NOT INSTALL PROPOSED PLANT MATERIAL DIRECTLY ON TOP OF ANY PROPOSED OR EXISTING UNDERGROUND UTILITIES . FIELD ADJUST MATERIAL AS NEEDED FOR BOTH ABOVE AND BELOW GRADE FEATURES AS DIRECTED BY THE PROJECT PROFESSIONAL TO ACCOMMODATE ANY POTENTIAL CONFLICTS.

3.) A DRIP LINE IRRIGATION SYSTEM WILL BE PROVIDED WITHIN THE PROPOSED PROJECT AREA.

4.) ALL SHADE TREES SHALL BE LIMBED UP TO A HEIGHT OF 7 FT

20 0 20 40
SCALE IN FEET

3/14/2023 10:55:58 AM
Autodesk Docs://2587 Penn Medicine Princeton Health/PHS-PMPH-CAR-Arch.rvt
Penn Medicine Princeton Health Cancer Center Garage
THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

SARAH REBAR BISAHA, L.L.A., P.P.
LICENSED LANDSCAPE ARCHITECT, N.J. LIC. No. AS000639

NO.	DATE	DESCRIPTION
3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated

N

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1C

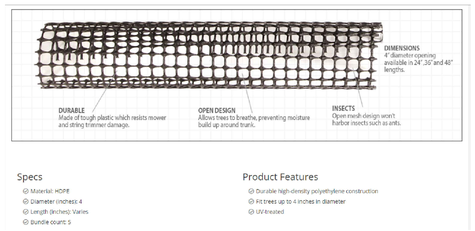
LANDSCAPING PLAN

C.1C.12

04/14/2023 SITE PLAN SUBMISSION

PLANTING NOTES

1. THE LANDSCAPE PLANS SHALL BE USED FOR LANDSCAPING PURPOSES ONLY. THE CONTRACTOR SHOULD EXAMINE ALL ENGINEERING DRAWINGS AND FIELD CONDITIONS FOR EXACT LOCATIONS OF UTILITIES, DRAINS, ETC., AND NOTIFY THE OWNER ABOUT ANY DISCREPANCIES BEFORE STARTING WORK.
2. ALL PLANTING SHALL BE IN CONFORMANCE WITH THE AMERICAN NURSERYMEN'S ASSOCIATION STANDARDS, CURRENT EDITION. ALL PLANT MATERIALS USED SHALL BE TRUE TO NAME AND SIZE IN CONFORMITY WITH THE CURRENT EDITION OF THE AMERICAN STANDARD OF NURSERY STOCK AND SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY. ALL PLANTS SHALL HAVE NORMAL, WELL-DEVELOPED BRANCHES AND VIGOROUS ROOT SYSTEMS. THEY SHALL BE SOUND, HEALTHY, VIGOROUS, FREE FROM DEFECTS, DISFIGURING KNOTS, ABRASIONS OF THE BARK, SUN SCALD INJURIES, PLANT DISEASES, INSECT EGGS, BORERS, AND ALL OTHER FORMS OF INFECTION. ALL PLANTS SHALL BE NURSERY GROWN. ALL PLANT MATERIAL SHALL BE TAGGED AT THE NURSERY SOURCE AND APPROVED BY THE PROJECT LANDSCAPE ARCHITECT PRIOR TO PLANTING.
3. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES CAUSED BY ANY PERSON, VEHICLE, EQUIPMENT, OR TOOLS RELATED TO THE EXECUTION OF THIS CONTRACT.
4. EXCAVATION NEAR EXISTING UTILITIES TO BE CAREFULLY PERFORMED BY HAND.
5. ALL PLANT MATERIAL SHALL BEAR THE SAME RELATION TO FINISHED GRADE AS IT BORE TO EXISTING GRADE AT THE NURSERY. ALL PLANT MATERIAL SHALL BE PLANTED SO THAT THE TOP OF THE ROOTBALL IS NO HIGHER OR LOWER THAN THE EXISTING/FINISHED GRADE DEPENDENT UPON SOIL CONDITIONS.
6. IN THE EVENT THAT PLANTING DISCREPANCIES OR MATERIAL OMISSIONS OCCUR IN THE PLANT MATERIALS LIST, THE LANDSCAPING PLAN SHALL GOVERN. THE USE AND PLANTING OF BARE ROOT MATERIAL SHALL BE PROHIBITED.
7. ANY SUBSTITUTIONS OF PLANT MATERIAL WITH REGARDS TO SIZE, SPECIES, VARIETY, ETC., SHALL BE SUBJECT TO APPROVAL BY PLAINSBORO TOWNSHIP.
8. PLANTS SHALL ONLY BE INSTALLED WHEN THE SOIL IS FROST FREE.
9. UNDER NO CIRCUMSTANCES SHOULD THE MAIN LEADER OF A DECIDUOUS OR EVERGREEN TREE BE TOPPED. DECIDUOUS TREES SHALL BE PRUNED BY REMOVAL OF 1/3 OF THE INTERIOR BRANCHING STRUCTURE WITHOUT ALTERING THE ORIGINAL BRANCHING FORM OF THE TREE.
10. ALL DISTURBED AREAS, NOT BEING PLANTED, SHALL BE TOPSOILED 4" THICK, FERTILIZED, SEEDED, AND MULCHED WITH APPROVED MULCH. TOPSOIL SHALL BE NATURAL FRIABLE, FERTILE SOIL CHARACTERISTIC OF PRODUCTIVE SOIL IN THE VICINITY. IT SHALL BE FREE OF LUMPS OF CLAY, STONES, ROOTS, AND OTHER FOREIGN MATTER.
11. CUT AND LOOSEN SISAL HEMP CHOKE TIE AROUND TREE TRUNK. ALL PLASTIC MATERIAL SHALL NOT BE PERMITTED. ALL WIRE BASKETS AND PLASTIC LINERS OF CONTAINER GROWN TREES AND SHRUBS MUST BE COMPLETELY REMOVED. NO CONTAINER GROWN MATERIAL WILL BE ACCEPTED IF IT IS ROOT BOUND AND NOT ROOT PRUNED. THE USE OF NYLON TWINE ON ROOT BALLS IS PROHIBITED.
12. THE DEPTH OF PLANT PITS SHALL BE INCREASED BY 12" THROUGH THE ADDITION OF LOOSE AGGREGATE (3/4" TO 1 1/2" DIAMETER) WHEREVER POOR DRAINAGE OCCURS OR WHERE DIRECTED BY THE TOWNSHIP.
13. GUY WIRES SHALL BE LOCATED SO THAT THEY WILL NOT PULL CROTCH APART. GUY WIRES TO SECOND BRANCH (MINIMUM ONE-THIRD HEIGHT OF TREE). USE THREE GUYS PER TREE UNLESS OTHERWISE INDICATED. ALL TREE STAKES, GUY WIRES, TREE WRAPPING AND SAUCERS SHALL BE REMOVED AFTER ONE GROWING SEASON.
14. PLANTS PLANTED IN ROWS SHALL BE MATCHED SPECIMENS AND BE UNIFORM IN SIZE AND FORM.
15. IN THE EVENT THAT EXISTING VEGETATION IS REMOVED BEYOND THE CLEARING LIMITS SHOWN ON THE PLANS, ADDITIONAL PLANTING MUST BE PROVIDED AS APPROVED BY THE TOWNSHIP AND AT NO COST TO THE OWNER.
16. PLANTING BACKFILL MIXTURE SHALL CONSIST OF ONE PART TOPSOIL, ONE PART NATIVE SOIL AND ONE PART PEAT MOSS. NOTE THAT PLANTING MIXTURE MAY CHANGE BASED UPON SOIL CONDITIONS.
17. MULCH, 4" IN DEPTH, SHALL BE TREATED SHREDDED HARDWOOD BARK NOT EXCEEDING 2" IN GREATEST DIMENSION. MULCH SHALL BE INSTALLED WITH A MAXIMUM OF ONE (1) INCH WITHIN ONE (1) FOOT ON THE TREE'S ROOT FLARE. A NON-PLASTIC WEED RETARDANT BARRIER SHALL BE USED IN ALL NON GRASSED AREAS. MULCH SHALL BE FINE GRADED FOR A PLEASING APPEARANCE. THE USE OF MARBLE OR PINE BARK CHIPS IS PROHIBITED. MULCH VOLCANOES ARE NOT PERMITTED.
18. ALL PLANT MATERIAL SHALL BE GIVEN A MINIMUM OF 5 GALLONS OF WATER AT THE TIME OF INSTALLATION AND SHALL BE WATERED AT INTERVALS DURING ESTABLISHMENT TO ENSURE ADAPTATION TO THE SITE. PRIOR TO THE INSTALLATION OF THE PLANT MATERIAL, THE CONTRACTOR SHALL FILL EACH PLANTING PIT WITH WATER AND ALLOW IT TO FULLY PERCOLATE INTO THE GROUND PRIOR TO PLACEMENT OF THE PLANT. THE CONTRACTOR SHALL NOTIFY EITHER THE TOWNSHIP OR PROJECT LANDSCAPE ARCHITECT OF ANY PERCOLATION PROBLEMS PRIOR TO INSTALLATION.
19. PREFERRED PLANTING TIME PERIODS ARE FROM SEPTEMBER 1 TO NOVEMBER 30 OR MARCH 20 TO MAY 31. NO PLANTING SHALL BE EXECUTED DURING ABNORMALLY HOT WEATHER NOR WHEN THE GROUND IS FROZEN.
20. THE CONTRACTOR SHALL REMOVE ALL DAMAGED BRANCHES AND NURSERY TAGS AT THE TIME OF INSTALLATION.
21. ALL TURF SHALL RECEIVE FERTILIZER CONSISTING OF 10-6-4 (50% ORGANIC) COMPOSITION, APPLIED AT 3 LB. PER 100 SQ. FT. SLOW RELEASE FERTILIZER TABLETS OR PACKETS OF 20-10-5 COMPOSITION SHALL BE ADDED TO ALL PLANTING PITS AT THE FOLLOWING RATIOS: 1 PER SHRUB, 2 PER DECIDUOUS OR EVERGREEN TREES UP TO 2" IN CALIPER AND 3 FOR DECIDUOUS AND EVERGREEN TREES ABOVE 2" IN CALIPER.
22. EACH TREE THAT IS PLANTED MUST BE TAGGED WITH A DURABLE LABEL BEARING THE GENUS, SPECIES, VARIETY, PLANT PATENT NUMBER (IF APPLICABLE) AND CULTURAL REQUIREMENTS AND MUST BE INSPECTED PRIOR TO REMOVAL.
23. ALL GROUPED SHRUBS SHALL BE MULCHED TOGETHER TO FORM ONE CONTINUOUS PLANTING BED.
24. CONTRACTOR TO BE RESPONSIBLE FOR SEEDING AREAS BEING DISTURBED BY CONSTRUCTION. SEED MIXTURE TO BE IN ACCORDANCE WITH SOIL CONSERVATION DISTRICT'S STANDARDS.
25. ALL TREES FOUR (4) FEET OR GREATER IN HEIGHT SHALL BE STAKED.
26. ALL SHRUBS SHALL BE INSTALLED A MINIMUM OF THREE (3) FEET BEHIND THE CURB.
27. ANY PLANT RELOCATIONS SHALL BE SUBMITTED TO PLAINSBORO TOWNSHIP FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
28. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR PERIOD OF TWO YEARS FROM THE TIME OF PLANTING.



TREE TRUNK PROTECTION DETAIL

NOT TO SCALE

NOTE:

4' LONG, 4" DIAMETER TREE TRUNK PROTECTION MESH SHALL BE MANUFACTURED BY A.M. LEONARD (https://www.amleo.com/leonard-rigid-plastic-mesh-tree-guards-4-inch-diameter/p/VP-BG/1) OR APPROVED EQUAL.

GENERAL AREAS PLANT LIST

DECIDUOUS SHADE AND ORNAMENTAL TREES

SYM	QTY	BOTANICAL NAME	COMMON NAME	INSTALLED SIZE	MATURE SIZE	REMARKS
D N* ASC	6	ACER RUBRUM COLUMNAR	COLUMNAR RED MAPLE	2.5" CALIPER	50'-70' HEIGHT, 15' SPREAD	B & B, BRILLIANT RED-ORANGE-YELLOW FALL COLOR, SINGLE TRUNK, NARROW CANOPY
D N* AH	5	OSTRYA VIRGINIANA	HOPHORNBEAM	2.5" CALIPER	20'-35' HEIGHT, 25'-35' SPREAD	B & B, ORANGE/RED/YELLOW FALL COLOR, SMOOTH TRUNK,MULTI TRUNK
N&#* BN	6	BETULA NIGRA 'HERITAGE'	HERITAGE RIVER BIRCH	2.5" CALIPER	50'-70' HEIGHT, 25'-35' SPREAD	B & B, YELLOW FALL COLOR, MULTI TRUNK
N* CC	10	CERCIS CANADENSIS 'FOREST PANSY'	FOREST PANSY REDBUD	8' HEIGHT	20'-30' HEIGHT AND SPREAD	B & B, MULTI-TRUNK, PINK FLOWERS, APRIL
D # CMM	3	LAGERSTROEMIA INDICA 'CATAWBA'	CATAWBA CREPE MYRTLE	6'-7' HEIGHT	10' -12' HEIGHT AND SPREAD	B & B, SMALL MULTI-TRUNK TREE , PURPLE FLOWERS SUMMER, MATCHED SPECIMENS
N* CR	2	MALUS "SUGAR TYME"	SUGAR TYME CRABAPPLE	2.5" CALIPER	20'-30' HEIGHT AND SPREAD	B & B, MULTI-TRUNK, PINK FLOWERS, APRIL
N #& GT	11	GLEDISTIA TRIACANTHOS INERMIS	THORNLESS HONEYLOCUST	2.5" CALIPER	50'-70' HEIGHT, 25'-35' SPREAD	B & B, YELLOW FALL COLOR, SINGLE TRUNK
D N # HM	3	HAMAMELIS VIRGINIANA 'ARNOLD'S PROMISE'	ARNOLD'S PROMISE WITCHAZEL	8' HEIGHT	15'-20' HEIGHT AND APREAD	B & B, MULTI TRUNK, DECIDUOUS TREE WITH YELLOW FLWRS, FEBRUARY
D N &* NS	8	NYSSA SYLVATICA	BLACK GUM	2.5" CALIPER	30'-40' HEIGHT, 20'-30' SPREAD	B & B, BRIGHT RED FALL COLOR, SINGLE TRUNK
N&* TX	2	TAXODIUM DISTICHUM	BALD CYPRESS	2.5" CALIPER	40'-50' HEIGHT AND SPREAD	B & B, DECIDUOUS TREE WITH NEEDLE FOLIAGE
N# WS	1	CORYLUS AVALLENA 'CONTORTA'	HENRY LAUDERS WALKING STICK	4' HEIGHT	6'-8' HEIGHT AND SPREAD	B & B, DECIDUOUS SHRUB WITH TWISTED BRANCHING
D #* ZS	6	ZELKOVA SERRATA	JAPANESE ZELKOVA	2.5" CALIPER	50'-70' HEIGHT, 25'-35' SPREAD	B & B, LIGHT GREY BARK, SINGLE TRUNK, SPECIMEN

EVERGREEN TREES

D N AB	2	ABIES CONCOLOR	WHITE FIR	8' HEIGHT	50'-70' HEIGHT, 25'-35' SPREAD	B & B, BLUE GREY FOLIAGE
D N&# IO	10	ILEX OPACA FEMALE	BERRIED AMERICAN HOLLY	8' HEIGHT	50'-70' HEIGHT, 25'-35' SPREAD	B & B, RED BERRIES IN THE WINTER
D N&# IOM	1	ILEX OPACA MALE	BERRIED AMERICAN HOLLY	8' HEIGHT	50'-70' HEIGHT, 25'-35' SPREAD	B & B
D # PA	7	PICEA ABIES	NORWAY SPRUCE	8' HEIGHT	50'-70' HEIGHT, 25'-35' SPREAD	B & B

SHRUBS

&# CA	11	CLETHRA ALNIFOLIA "CRYSTALINA"	CRYSTALINA SUMMERSWEET	3' HEIGHT	6'-8' HEIGHT AND SPREAD	#2 CONTAINERS, GREEN FOLIAGE, WHITE FLOWERS, JUNE
N & #* CSA	23	CORNUS SERICEA 'FLAVIRAMEA'	YELLOW TWIG DOGWOOD	4' HEIGHT	5'-6' HEIGHT AND SPREAD	B & B, YELLOW TWIGS IN THE WINTER
N& HQ	8	HYDRANGEA QUERCIFOLIA 'PEE WEE'	PEE WEE OAKLEAF HYDRANGEA	3' HEIGHT	4'-5' HEIGHT AND SPREAD	B & B, WHITE FLWRS, SUMMER, OAK LEAF SHAPED FOLIAGE
& HY	21	HYDRANGEA MACROPHYLLA 'LETS DANCE'	LETS DANCE HYDRANGEA	2.5' HEIGHT	3'-4' HEIGHT AND SPREAD	B & B, BLUE FLWRS, SUMMER, DECIDUOUS SHRUB
D & IC	72	ILEX CRENATA CONVEXA	CONVEX JAPANESE HOLLY	4' HEIGHT	4'-5' HEIGHT AND SPREAD	# 7 CONT., EVERGREEN SHRUB, MATCHED SPECIMENS ONLY
D & # ICH	25	ILEX CRENATA HELLERI	HELLER JAPANESE HOLLY	2' HEIGHT	3'-4' HEIGHT AND SPREAD	# 7 CONT., EVERGREEN SHRUB, MATCHED SPECIMENS ONLY
&# ICO	16	ILEX MESOG CHINA GIRL	CHINA GIRL HOLLY	4' HEIGHT	6'-8' HEIGHT AND SPREAD	B & B, RED BERRIES IN WINTER
D N & IGD	33	ILEX GLABRA DENSA	DENSE INKBERRY HOLLY	3' HEIGHT	4'-6' HEIGHT AND SPREAD	B&B, EVERGREEN WITH BLUE BERRIES
N# IV	36	ILEX VERTICILLATA	WINTERBERRY HOLLY	4' HEIGHT	6'-8' HEIGHT AND SPREAD	B & B, RED BERRIES IN WINTER
D N KL	10	KALMIA LATIFOLIA	MOUNTAIN LAUREL	4' HEIGHT	5'-6' HEIGHT AND SPREAD	B & B, WHT FLWRS, MAY, EVERGREEN
D # SJ	26	SPIRAEA JAPANICA 'GOLDMOUND'	GOLDMOUND JAPANESE SPIRAEA	1' HEIGHT	2'-3' HEIGHT AND SPREAD	B & B, LILAC FLOWERS, MAY, ORANGE-RED FALL COLORS
N & VRR	41	ITEA VIRGINICA SPRICH	LITTLE HENRY DWARF SWEETSPIRE	1' HEIGHT	2'-3- HEIGHT AND SPREAD	B & B, WHITE FLOWERS IN SPRING

GROUNDCOVERS, PERENNIALS AND ORNAMENTAL GRASSES

D N# CM	80	COREOPSIS VERTICILATA 'MOONBEAM'	MOONBEAM THREADLEAF COREOPSIS	6"-8" HEIGHT	12"-25" HEIGHT AND SPREAD	1 GAL CONT., PERENNIAL, YELLOW FLWRS, JUNE-AUG., INSTALL AT 2' ON CENTER
D N# EC	221	ECHINACEA PURPUREA 'POW WOW WHITE'	WHITE CONEFLOWER	6" HEIGHT	18" HEIGHT AND SPREAD	1 GAL. CONT, PERENNIAL, WHITE FLWRS. SUMMER INSTALL AT 2' ON CENTER
& HC	320	HEMEROCALLIS STELLA D' ORO	STELLA D'ORO DAYLILLY	6" HEIGHT	12"-18" HEIGHT, 2'-2.5' SPREAD	1 GAL, CONT, PERENNIAL, ORANGE FLOWERS, SUMMER INSTALL AT 2.5' ON CENTER
N # KN	46	GERANIUM MACULATUM	CRANESBILL GERANIUM	6" HEIGHT	1' HEIGHT AND SPREAD	1 GALLON CONT.,PERENNIAL, PURPLE FLOWERS MAY TO AUGUST
D N &# LB	46	SCHIZACHYRIUM SCOPARIUM 'CAROUSEL'	CAROUSEL LITTLE BLUESTEM	6" HEIGHT	1'-2' HEIGHT AND SPREAD	1 GAL. CONT, NATIVE DWARF ORNAMENTAL GRASS WITH LONG WHITE FRONDS, AUGUST-OCTOBER INSTALL AT 2.5' ON CENTER
D &# LIR	360	LIRIOPE MUSCARI 'BIG BLUE'	BIG BLUE LILYTURF	6" HEIGHT	12" HEIGHT AND SPREAD	1 GALLON CONT, GRNDCVR., BLUE FLOWERS, AUGUST, INSTALL AT 2' ON CENTER
&# OJ	200	OPHIOPOGON PLANISCAPUS NIGRESCENS	BLACK MONDO GRASS	6" HEIGHT	12" HEIGHT AND SPREAD	1 GALLON CONT, GRNDCVR.,WHITE FLWRS SUMMER, BLACK FOLIAGE, INSTALL AT 2' ON CENTER
D &# MS	7	SCHIZACHYRIUM SCOPARIUM 'STANDING OVATION'	STANDING OVATION LITTLE BLUESTEM	6"-8" HEIGHT	24"-36" HEIGHT AND SPREAD	1 GAL CONT., ORNAMENTAL GRASS WITH GREEN FRONDS, SILVER PINK TASSELS, RED ORANGE FRONDS IN FALL
D N# RF	200	RUDBEKIA FULGIDA	BLACK EYED SUSAN	1' HEIGHT	1'-1.5' HEIGHT AND SPREAD	2 GALLON CONTAINERS, PERENNIAL, YELLOW FLOWERS JULY TO AUGUST, INSTALL AT 2' ON CENTER
D N SD	40	LEUCANTHEMUM X SUPERBUM	SHASTA DAISY	6" HEIGHT	2'-3' HEIGHT AND SPREAD	1 GALLON CONTAINERS, PERENNIAL, WHITE FLOWERS JUNE TO AUGUST, INSTALL AT 1.5' ON CENTER
D N# VR	180	VERONICA BLUE SKYWALKER	BLUE SKYWALKER VERONICA	6" HEIGHT	1' HEIGHT AND SPREAD	1 GALLON CONTAINERS, PERENNIAL, BLUE FLOWER SPIKES JULY TO AUGUST, INSTALL AT 1' ON CENTER
N# WG	508	ASARUM CANADENSE	WILD GINGER	6" HEIGHT	6"-8" HEIGHT AND SPREAD	1 GALLON CONTAINERS, PERENNIAL, YELLOW FLOWERS JULY TO AUGUST, INSTALL AT 1' ON CENTER

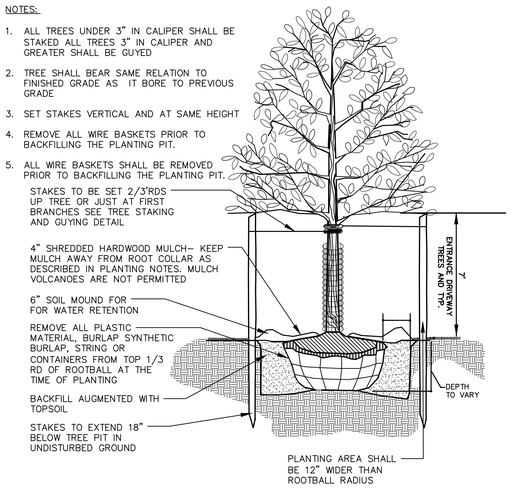
KEY:

N = NATIVE PLANT OF NORTH AMERICA
& = SALT SPRAY TOLERANT
*** = SPRING INSTALLATION ONLY**
 # = SELDOM OR RARELY DAMAGED BY DEER AS PER RUTGERS AG AGENCY (HTTP://NJAES.RUTGERS.EDU)

D = DROUGHT TOLERANT AS PER THE FOLLOWING SOURCES:
1. **NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION (WWW.NYGOVPARKS.ORG)**
2. **LANDSCAPING FOR WATER CONSERVATION BY RUTGERS COOPERATIVE EXTENSION (PUBLICATION E80)**
3. **RUTGERS MASTER GARDENERS OF MERCER COUNTY, NEW JERSEY (mgofmc.org)**

NOTES:

1. ALL TREES UNDER 3" IN CALIPER SHALL BE STAKED ALL TREES 3" IN CALIPER AND GREATER SHALL BE GUYED
2. TREE SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO PREVIOUS GRADE
3. SET STAKES VERTICAL AND AT SAME HEIGHT
4. REMOVE ALL WIRE BASKETS PRIOR TO BACKFILLING THE PLANTING PIT.
5. ALL WIRE BASKETS SHALL BE REMOVED PRIOR TO BACKFILLING THE PLANTING PIT.



DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE

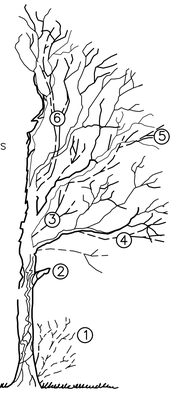
METAL BENCH AND TRASH CAN DETAIL

NOT TO SCALE

NOTES:

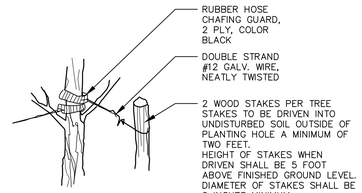
1. STEEL BENCH AND TRASH CAN SHALL BE MANUFACTURED BY LANDSCAPE FORMS OR APPROVED EQUAL, LOCAL REPRESENTATIVE MICHELLE HERTLER (MICHELLE@A-METRO.COM.)
2. BENCH STYLE SHALL BE PARK VUE, BACKED WITH ARMS, 26D" X 72L" X 36H" WITH SURFACE MOUNTING OPTION.

   TRASH CAN STYLE SHALL BE SCARBOROUGH, 25" DIAM X 33"H X 30 GALLON WITH SIDE OPENING AND SURFACE MOUNTED OPTIONS.
3. COLOR AND FINISH OF BENCHES AND TRASH CANS TO MATCH EXISTING CAMPUS FURNITURE. CONTRACTOR TO SUBMIT SHOP DRAWINGS AND COLOR SAMPLES FOR REVIEW AND APPROVAL.



TREE PRUNING DETAIL

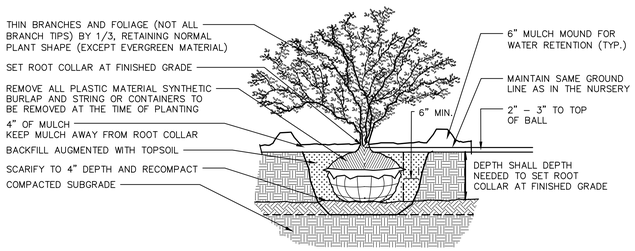
NOT TO SCALE



STAKING DETAIL

TREE STAKING DETAIL

NOT TO SCALE



SHRUB PLANTING DETAIL

NOT TO SCALE

NOTES:

1. CONTRACTOR TO PROVED A MULCHED PLANTING BED FOR SHRUBS GROUPED TOGETHER. MULCHED BEDS MAY VARY IN SHAPE AND SIZE TO CONFORM WITH SHRUB LAYOUT.
2. DO NOT PRUNE EVERGREEN SHRUBS EXCEPT TO REMOVE DEAD AND BROKEN BRANCHES

SCALE IN FEET

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

SARAH REBAR BISAHA, L.L.A., P.P.
LICENSED LANDSCAPE ARCHITECT, N.J. LIC. No. AS000639

NO.	DATE	DESCRIPTION
3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated

N

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1C

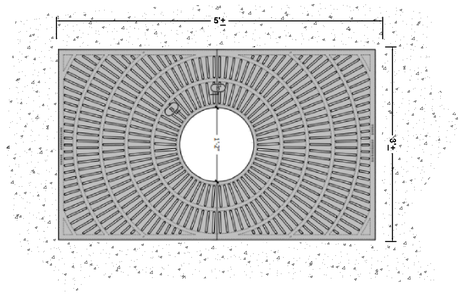
LANDSCAPING DETAILS (1)

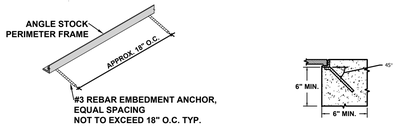
C.1C.13

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:59 AM
Autodesk Docs://CBT Penn Medicine Princeton Health/PRJ-PMPHCAR-ARCH.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.



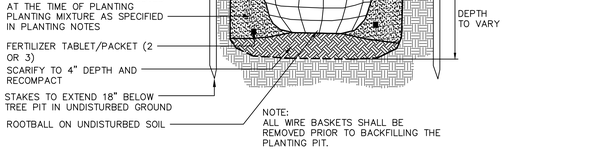


3' X 5' RECTANGULAR TREE GRATE DETAIL

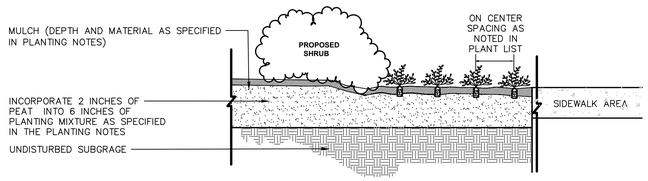
NOT TO SCALE

NOTES:

1. TREE GRATE SHALL BE MODEL "KIVA", 4' DIAM ROUND AND 4' SQUARE BY URBAN ACCESSORIES, TACOMA WASHINGTON OR APPROVED EQUAL.
2. GRATES SHALL CONFORM TO ADA ACCESSIBILITY GUIDELINES
3. MATERIAL SHALL BE 100% RECYCLED ALUMINUM PER ASTM B26 IN BRUSHED FINISH
4. GRATES SHALL BE INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS FOR CONCRETE SIDEWALKS, CONTRACTOR TO SUBMIT SHOP DRAWINGS



PLAN VIEW

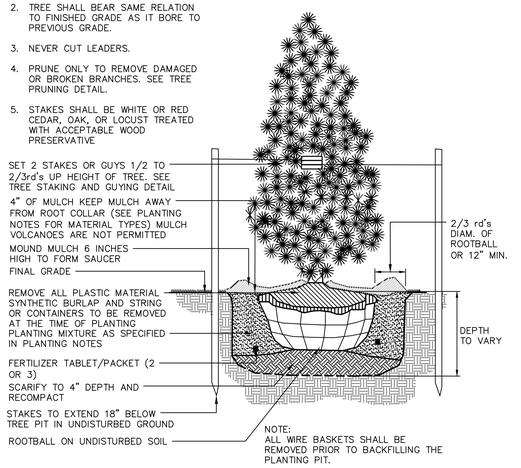


GROUNDCOVER PLANTING DETAIL

NOT TO SCALE

NOTES:

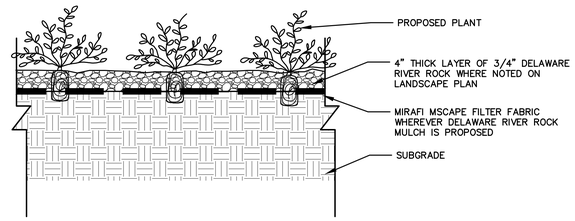
1. ALL EVERGREEN TREES TO BE STAKED AND/OR GUYED AS SPECIFIED IN THE DETAIL AND THE PLANTING NOTES
2. TREE SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO PREVIOUS GRADE.
3. NEVER CUT LEADERS.
4. PRUNE ONLY TO REMOVE DAMAGED OR BROKEN BRANCHES. SEE TREE PRUNING DETAIL.
5. STAKES SHALL BE WHITE OR RED CEDAR, OAK, OR LOCUST TREATED WITH ACCEPTABLE WOOD PRESERVATIVE



EVERGREEN TREE PLANTING DETAIL

NOT TO SCALE

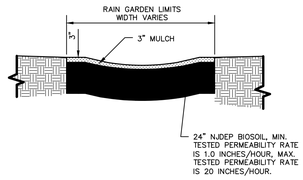
TYPICAL PLANTING BED PLAN VIEW



4" THICK DELAWARE RIVER ROCK IN PLANTING BED DETAIL

NOT TO SCALE

NOTE: CONTRACTOR TO REVIEW LANDSCAPE PLANS FOR DELAWARE RIVER ROCK LOCATIONS TO DETERMINE QUANTITIES



RAIN GARDEN TYPICAL SECTION DETAIL

NOT TO SCALE

RAIN GARDEN NOTES:

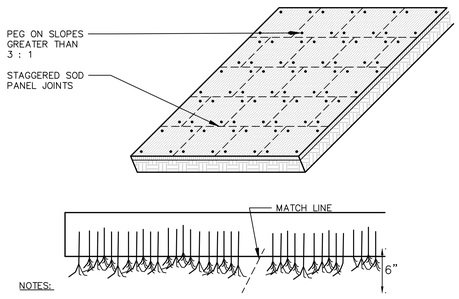
1. **GARDEN DESIGN AS PER THE RECOMMENDATIONS OF THE NATIVE PLANT SOCIETY OF NEW JERSEY.**
2. **GARDEN AREA SHALL RECEIVE A SOIL MIX CONSISTING THE FOLLOWING PROFILE:**

   A.) 3 INCHES THICK LAYER OF MULCH
   B.) 24 INCHES THICK LAYER OF NJDEP BIO BASIN SOIL MIX.

   SOIL MIX SHALL BE PLACED IN THE GARDEN SHOWN ON THE PLAN.
3. **ANY PLANT SUBSTITUTIONS SHALL BE SUBJECT TO REVIEW AND APPROVAL BY THE PROJECT LANDSCAPE ARCHITECT AND OWNER.**
4. **REFER TO LANDSCAPE NOTES AND DETAILS ON LANDSCAPE DETAIL SHEET FOR ADDITIONAL PLANTING REQUIREMENTS AND INFORMATION.**
5. **ALL GARDEN PLANTING SHALL BE INSTALLED BY HAND. CAUTION SHALL BE TAKEN WHEREVER PLANTS ARE TO BE INSTALLED NEAR UNDERGROUND UTILITY LINES**

TEMPORARY IRRIGATION NOTES FOR RAIN GARDEN AREA

1. **THE CONTRACTOR SHALL PROVIDE A TEMPORARY AUTOMATIC (TIMER WITH DAY, TIME AND DURATION) IRRIGATION SYSTEM TO ENSURE PLANT ESTABLISHMENT. ALL NEW PLANT MATERIAL SHALL BE WATERED DAILY FOR A PERIOD OF 3 MONTHS FOLLOWING INSTALLATION UNLESS THERE IS SIGNIFICANT RAINFALL. IRRIGATION SYSTEM SHALL BE BY SOAKER HOSE, DRIP AND/OR MICRO SPRAY ONLY.**
2. **WATERING SHALL BE DONE IN THE EARLY MORNING. CONTRACTOR WILL CONTROL LENGTH OF WATERING TIME VIA TIMERS AS DIRECTED BY PROJECT LANDSCAPE ARCHITECT.**
3. **DAILY WATERING PERIOD MAY BE EXTENDED IF EXTREME DRY CONDITIONS EXIST AT THE DIRECTION OF THE PROJECT LANDSCAPE ARCHITECT.**
4. **THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT SHOP DRAWINGS OF THE PROPOSED EQUIPMENT AND A SKETCH SHOWING THE PROPOSED LAYOUT OF THE SYSTEM.**
5. **THE CONTRACTOR MUST ENSURE THE LAYOUT OF THE PROPOSED TEMPORARY IRRIGATION LINES DO NOT CREATE TRIPPING HAZARDS.**



NOTES:

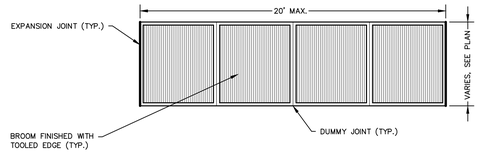
1. CULTIVATED SOD SHALL BE HARVESTED, DELIVERED AND INSTALLED WITHIN A PERIOD OF 36 HOURS.
2. APPLY FERTILIZER AT THE RATE OF 500 POUNDS PER ACRE USING 10-20-10 RATIO OR AS DETERMINED BY SOIL TESTING.
3. SUPPLY PULVERIZED DOLOMITIC LIMESTONE AT THE RATE OF 2 TONS PER ACRE OR AS DETERMINED BY SOIL TESTING.
4. APPLY 300 POUNDS 38-0-0 PER ACRE IN LIEU OF TOP DRESSING OR AS DETERMINED BY SOIL TESTING.
5. PLACE SOD STRIPS ON THE CONTOUR STARTING AT THE BOTTOM.
6. PLACE SOD WITH SNUG EVEN JOINTS THAT ARE STAGGERED.
7. ROLL OR TAMP SOD IMMEDIATELY FOLLOWING PLACEMENT.
8. ON SLOPES GREATER THAN 3 TO 1 SECURE SOD TO SURFACE SOIL WITH WOOD PEGS, WIRE STAPLES, OR SPLIT SHINGLES (8 TO 10 INCHES LONG BY 3/4 OF AN INCH).
9. ANCHOR SOD IN WATER CARRYING CHANNELS WITH HEAVY JUTE OR PLASTIC NETTING.
10. SOD SHOULD BE WATERED UNTIL MOISTURE PENETRATES THE SOIL LAYER BENEATH THE SOD TO A DEPTH OF 4 INCHES. MAINTAIN OPTIMUM MOISTURE FOR AT LEAST TWO WEEKS.

SOD INSTALLATION DETAIL

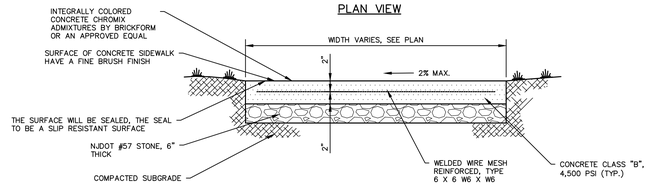
NOT TO SCALE

CONCRETE COLOR MANUFACTURER: BRICKFORM
4050 COLOR PLANT ROAD
SPRINGFIELD, IL 62702
PHONE NO.: 800-483-9628
WEB: WWW.BRICKFORM.COM

SUPPLIER: NOVACRETE OR AN APPROVED EQUAL
1866 ROUTE 35
SOUTH AMBOY, NJ 08879
PHONE NO.: 1-732-553-0280
FAX NO.: 1-732-553-0081
WEB: WWW.NOVACRETE.COM



PLAN VIEW



SECTION VIEW

NOTES:

1. PROVIDE 1/2" X 18" STAINLESS STEEL DOWEL PINS AT 2'-0" O.C. AT ALL EXPANSION JOINTS.
2. CONTROL JOINTS- CONVENTIONAL SAW-CUT JOINTS
   A.) DEPTH OF JOINT AT LEAST 1/4 OF SLAB DEPTH OR 1" MIN WHICHEVER IS GREATER
   B.) JOINTS ARE TO BE CUT AFTER THE SLAB HAS BEEN FINISHED- WITHIN 4 HOURS IN HOT WEATHER AND 12 HOURS IN COLD WEATHER
   C.) CUT 1/2 OF THE REINFORCING STEEL AT THE JOINT
3. REFORMED BITUMINOUS CELLULAR JOINT FILLERS 1/2" THICK SHALL BE PLACED AT INTERVALS NOT EXCEEDING TWENTY (20) FEET ON CENTER. DUMMY (FORMED) JOINTS SHALL BE CUT INTO THE CONCRETE SIDEWALK BETWEEN THE EXPANSION JOINTS AT EQUAL INTERVALS OF 5' AND/OR AS SHOWN OR NOT EXCEEDING THE WIDTH OF THE SIDEWALK
4. ALL CONCRETE TO HAVE BROOM FINISH WITH TOOLED EDGE.
5. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, INCLUDING THE MANUFACTURER'S SPECIFICATIONS AND COLOR CHART FOR SELECTION AND APPROVAL BY THE OWNER PRIOR TO ORDERING ANY CONSTRUCTION MATERIALS.
6. THE CONTRACTOR SHALL SUBMIT 12" X 12" COLOR SAMPLES FOR COLOR MIXTURE APPROVAL PRIOR TO ORDERING MIXTURE.
7. THE CONTRACTOR SHALL CONTACT THE SUPPLIER TO MAKE SURE MIXTURES WILL BE AVAILABLE. IF THERE ARE ANY DIFFICULTIES IN ACQUIRING THE MATERIAL CONTACT THE PROJECT ARCHITECT IMMEDIATELY.
8. THE SIDEWALK SUBGRADE SHALL BE NJDOT #57, 6" THICK OR MATERIAL APPROVED BY THE ENGINEER, AND COMPACTED PRIOR TO THE PLACEMENT OF ANY SIDEWALK. COMPACTION SHALL BE A MINIMUM OF 95% AND SHALL COMPLY WITH ASTM TEST METHOD D-15-57, THE MODIFIED PROCTOR.

INTEGRALLY MIXED COLOR CONCRETE SIDEWALK, 4" THICK

NOT TO SCALE

SEEDING/SOD NOTES:

1.) **SEED AND SOD NOTES - GENERAL LAWN AREAS:**

GENERAL LAWN AREAS - SHALL BE SEEDED/SODDED AS SHOWN WITH "ATHLETIC FIELD MIX - ERNMX- 106" BY ERNST CONSERVATION SEEDS, INC. SEED MIX SHALL INCLUDE:

- **30% BLACK CAT II PERENNIAL RYEGRASS**
- **30% RAPTOR II TALL FESCUE**
- **15% CLEARWATER KENTUCKY BLUEGRASS**
- **15% VOLT KENTUCKY BLUEGRASS**
- **10% ANNUAL RYEGRASS**

PREFERRED DATES FOR SEED/SOD INSTALLATION SHALL BE DURING THE PERIODS OF EITHER APRIL 1ST TO MAY 31ST OR AUGUST 15TH TO OCTOBER 16TH.

2.) **THE CONTRACTOR WILL BE RESPONSIBLE FOR RE-ESTABLISHING ALL AREAS DISTURBED BY CONSTRUCTION. THE SEEDING/SODDING WILL BE IN ACCORDANCE WITH FREEHOLD SOIL CONSERVATION DISTRICT STANDARDS.**

3.) **SLOPED AREAS 3:1 AND GREATER SHALL RECEIVE IN COMBINATION WITH THE ABOVE SPECIFIED GRASS MIXTURE AN EROSION CONTROL MATTING BY BONTERRA AMERICA, PINELANDS NURSERIES, COLUMBUS, NJ, MODEL # CS2 OR APPROVED EQUAL.**

SCALE IN FEET

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
sheppleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

SARAH REBAR BISAHA, L.L.A., P.P.
LICENSED LANDSCAPE ARCHITECT, N.J. LIC. No. AS000639

NO.	DATE	DESCRIPTION
3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated

N

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

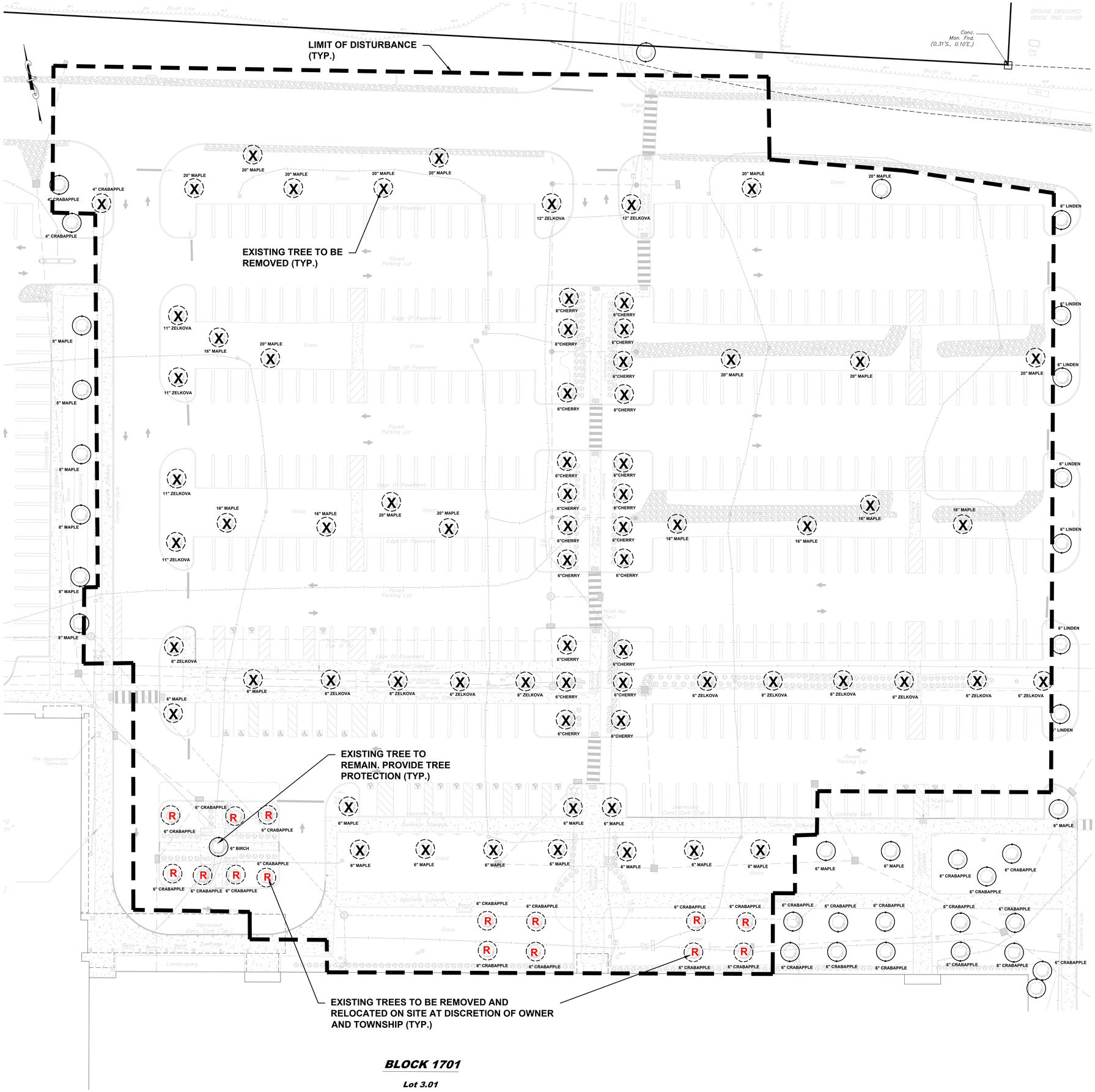
PHASE 1C

LANDSCAPING DETAILS (2)

C.1C.14

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:58 AM
Autodesk Docs://2587 Penn Medicine Princeton Health/PM-PRP1-ELR-A.rvt
Penn Medicine Princeton Health Cancer Center Garage
THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.



LEGEND

- (X) EXISTING TREE TO BE REMOVED TO REMAIN
- ( ) EXISTING TREE TO REMAIN. PROVIDE TREE PROTECTION.
- (R) EXISTING TREE TO BE REMOVED AND RELOCATED ON SITE

WOODLANDS MANAGEMENT PLAN NOTES:

1.) A TOTAL OF 70 TREES SHALL BE REMOVED AS SHOWN ON THE WOODLANDS MANAGEMENT PLAN AS FOLLOWS:

TREES TO BE REMOVED:
---- 0 EVERGREEN TREES
---- 70 DECIDUOUS SHADE TREES

70 TREES TOTAL TO BE REMOVED

2.) THE 70 TREES TO BE REMOVED SHALL BE REPLACED AT A 1:1 RATIO WITH NEW DECIDUOUS TREES INSTALLED AT 2.5" MINIMUM CALIPER OR EVERGREEN TREES WITH A MINIMUM INSTALLED HEIGHT OF 7 FEET AT SUGGESTED LOCATIONS AT THE DISCRETION OF THE OWNER AND TOWNSHIP. THE PROPOSED 70 REPLACEMENT SPECIES ARE AS FOLLOWS:

- 15 LIRIODENDRON TULIPIFERA (TULIPTREE) @ 2.5" CALIPER, B & B
- 15 ACER RUBRUM (RED MAPLE) @2.5" CALIPER, B & B
- 10 TILIA AMERICANA (AMERICAN LINDEN) @ 2.5" CALIPER, B & B
- 20 JUNIPERUS VIRGINIANA (EASTERN RED CEDAR) @ 7' HEIGHT, B & B
- 10 PINUS STROBUS (EASTERN WHITE PINE) @ 7' HEIGHT, B & B

3.) THE FOLLOWING IS THE BREAKDOWN OF THE REQUIRED REPLACEMENT TREES:

A.) 7 TREES OR 10% OF THE TOTAL PLANTINGS SIZED AT 2"-2.5" CALIPER

B.) 14 TREES OR 20% OF THE TOTAL PLANTINGS SIZED AT 1.75"-2" CALIPER, B&B

C.) 21 TREES OR 30% OF THE TOTAL PLANTINGS SIZED AT 1.25"-1.5" CALIPER, B&B

D.) 28 TREES OR 40% OF THE TOTAL PLANTINGS SIZED AT 6'-8' TALL WHIPS, B&B

TOTAL REQUIRED TREES = 70 TREES

NOTE:

THE LOCATION FOR THE PROPOSED REPLACEMENT TREES SHALL BE ON THE HEALTHCARE CAMPUS IN THE VICINITY OF THE CRESCENT PARKING LOT IN ORDER TO HELP VISUALLY ENHANCE THE AREA. THE EXACT LOCATION AS WELL AS SPECIFIC TREE SPECIES TO BE PLANTED SHALL BE DETERMINED BY THE OWNER AND PLAINSBORO TOWNSHIP AT A LATER DATE.

TREE RELOCATION NOTES:

1.) A TOTAL OF 15 6"-8" TREES (CRABAPPLE) SHALL BE RELOCATED ON SITE IN LOCATIONS TO BE DETERMINED BY THE OWNER AND TOWNSHIP. PLEASE SEE OVERALL SITE PLAN FOR SUGGESTED LOCATIONS.

2.) THE FINAL PLACEMENT OF THE RELOCATED TREES AND ANY PLANT SPECIES SUBSTITUTIONS INVOLVING THE REPLACEMENT TREES SHALL BE SUBJECT TO THE REVIEW AND APPROVAL OF THE PLANNING BOARD ENGINEERS OFFICE.

3.) ANY RELOCATED TREES THAT DO NOT SURVIVE SHALL BE REPLANTED IN KIND BY A SIMILAR TREE MEASURING A MINIMUM OF 2.5 CALIPER INCHES AT THE TIME OF PLANTING.

4.) THE 15 TREES TO BE RELOCATED SHALL BE MOVED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION. TREES SHALL BE RELOCATED T IN ACCORDANCE WITH THE FOLLOWING GUIDELINES/RECOMMENDATIONS:

A. TRANSPLANTING SHOULD BE EXECUTED BY A PROFESSIONAL TREE TRANSPLANTING SERVICE.

B. TRANSPLANTING SHALL BE DONE IN THE FALL OR EARLY SPRING OR DURING THE DORMANT SEASON PROVIDED THE GROUND IS NOT FROZEN.

C. ROOT PRUNE THE TREES AT LEAST SIX (6) MONTHS PRIOR TO THE TRANSPLANT.

D. THE DIAMETER OF THE CIRCULAR AREA TO BE DUG SHALL BE AT LEAST ONE FOOT ACROSS FOR EVERY INCH OF TREE TRUNK DIAMETER.

E. PERMANENT TREE PITS SHOULD BE THREE TIMES THE DIAMETER OF THE ROOT BALL. THE TOP OF THE ROOT BALL SHALL SIT AT OR SLIGHTLY ABOVE THE FINISHED GRADE. TREES SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANTING NOTES AND DETAILS SHOWN FOR THIS PROJECT.

BLOCK 1701

Lot 3.01

SCALE IN FEET

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

SARAH REBAR BISAHA, L.L.A., P.P.
LICENSED LANDSCAPE ARCHITECT, N.J. LIC. No. AS000639

NO.	DATE	DESCRIPTION
3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated

N

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1C

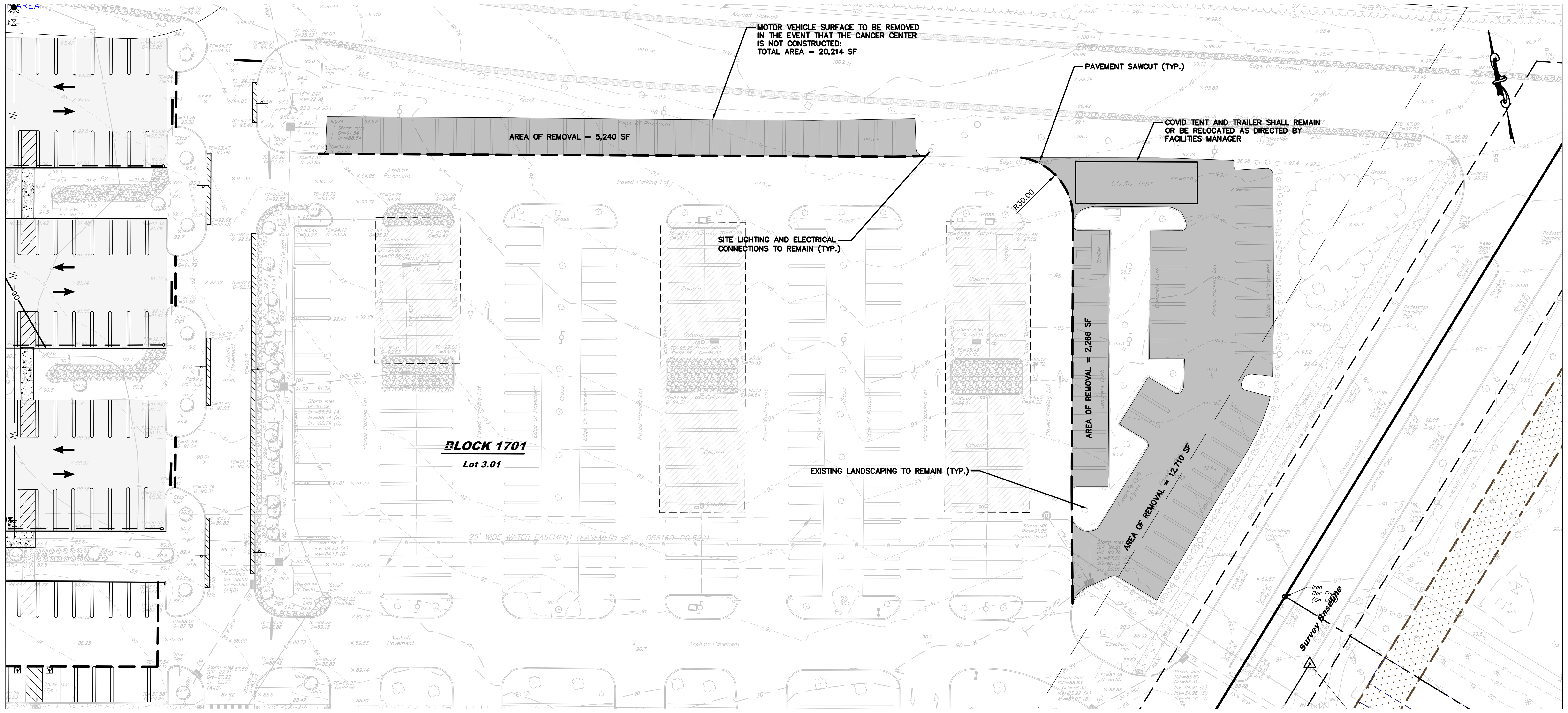
WOODLAND MANAGEMENT PLAN

C.1C.15

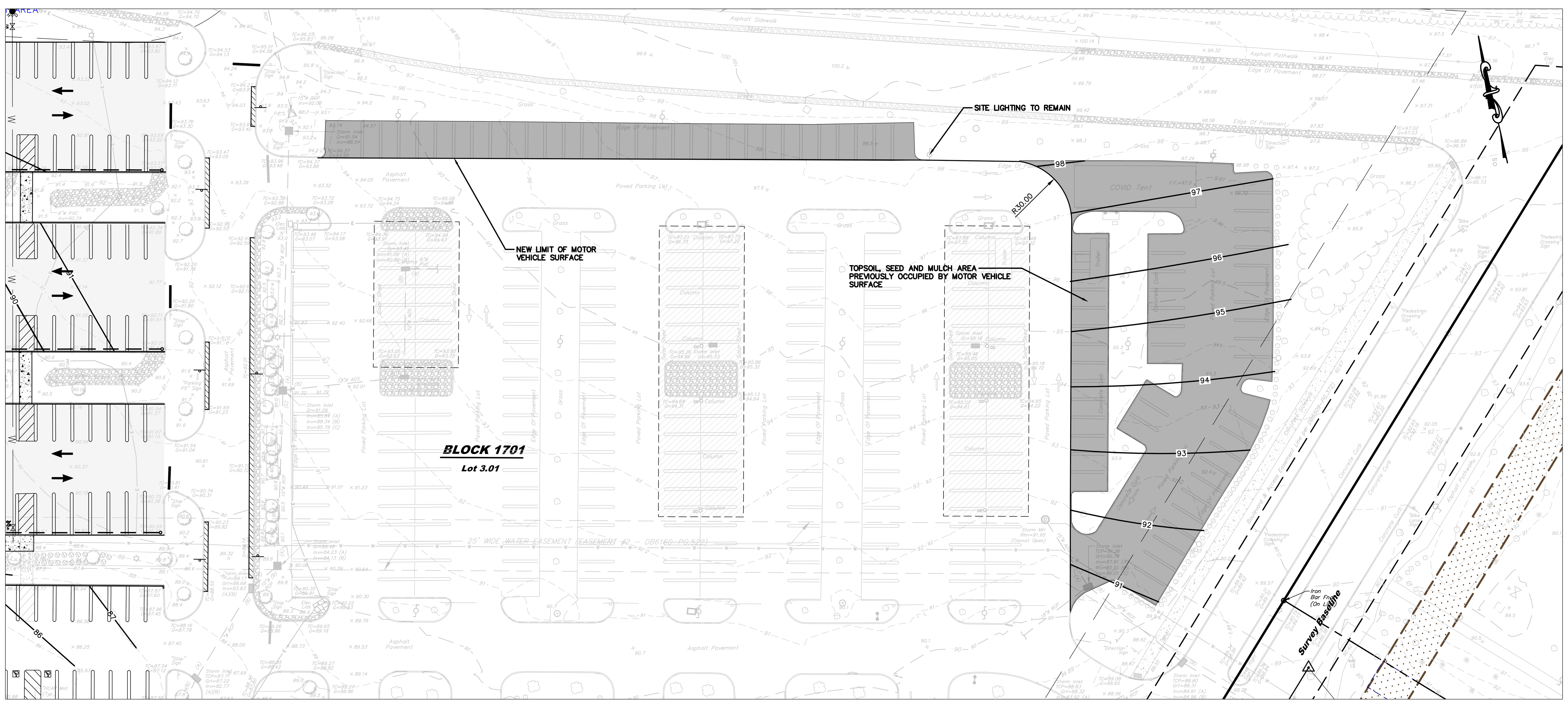
04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:56 AM
Autodesk Docs://CBT Penn Medicine Princeton Health/PHS-PMPHCA-AR.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.



MOTOR VEHICLE SURFACE REMOVAL
SCALE: 1" = 30'



SEEDING AREA
SCALE: 1" = 30'

30 0 30 60
SCALE IN FEET

3/14/2023 10:55:56 AM
Autodesk Docs://5267 Penn Medicine Princeton Health/UPHS-PMPH-GAR-AR.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

Princeton Forward

Penn Medicine
Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA
FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated
NO.	DATE	DESCRIPTION

N

Penn Medicine Princeton Health Cancer Center Garage

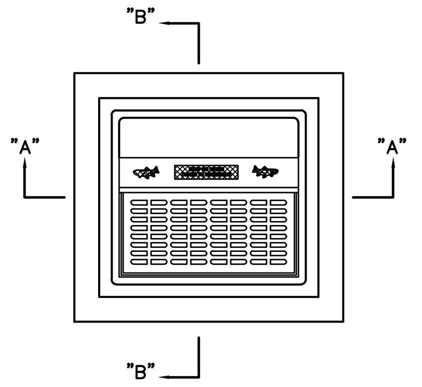
1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1C

MOTOR VEHICLE SURFACE REMOVAL PLAN

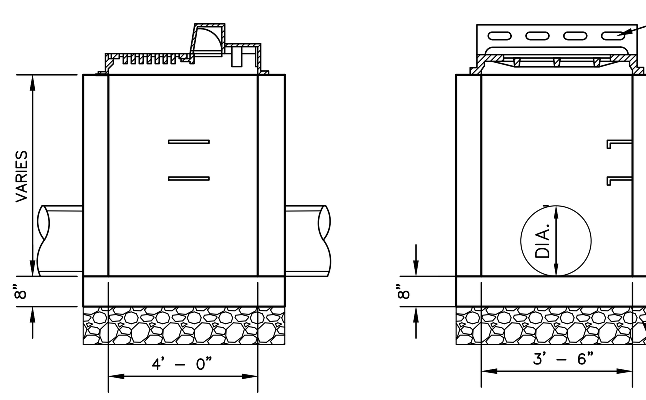
C1.C.16

04/14/2023 SITE PLAN SUBMISSION



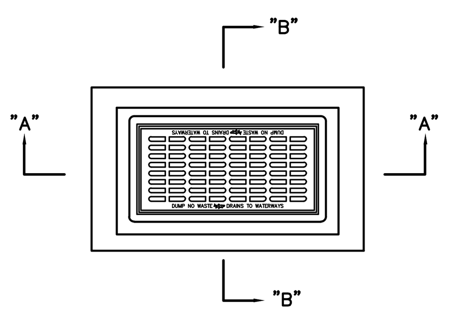
NOTES:

1. FOOTING TO BE N.J.D.O.T., CLASS "B"
2. INVERT TO BE CLASS "B"
3. IF WALL CONSTRUCTION IS OTHER THAN PRECAST CONCRETE, THE WALLS SHALL BE PLASTERED BOTH INSIDE AND OUTSIDE WITH 1/2" THICK CEMENT PLASTER
4. FRAME AND GRATE TO BE No. 2618 AS MANUFACTURED BY CAMPBELL FOUNDRY CO. OR APPROVED EQUAL. TYPE "N" ECO HEAD PIECE.
5. PROVIDE ALUMINUM LADDER RUNGS @ 12" CENTER TO CENTER
6. WHEN ADDITIONAL DEPTH IS SCHEDULE WALLS BELOW THE DEPTH OF 8'-0" MEASURED FROM THE INLET GUTTER TO THE INVERT, SHALL BE 12" THICK. THE FOUNDATION DIMENSIONS SHALL BE INCREASED TO 12" WIDTH AND TO 12' IN DEPTH.
7. FOUNDATION AND INVERT TO BE CONSTRUCTED IN 2 STAGES. TOP SURFACE OF STAGE 1 TO BE LEFT ROUGH.
8. CONTRACTOR SHALL ORDER PRECAST INLET 1' SHORTER THAN ANTICIPATED TO ACCOMMODATE FOR UNCONFIRMED PIPE INVERTS UNLESS INVERTS HAVE BEEN CONFIRMED DURING THE PRE-CONSTRUCTION INVESTIGATION.



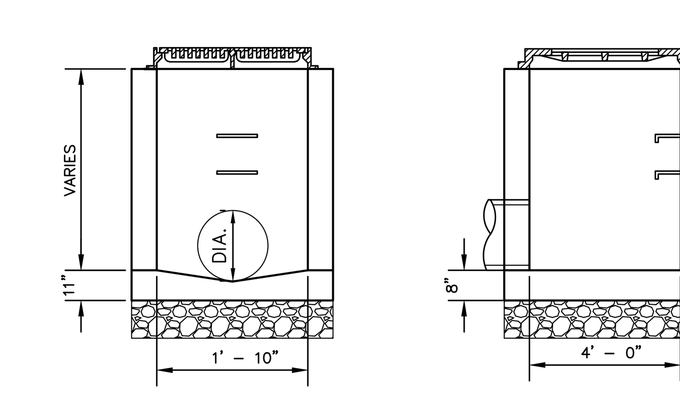
TYPE "B" INLET DETAIL

NOT TO SCALE



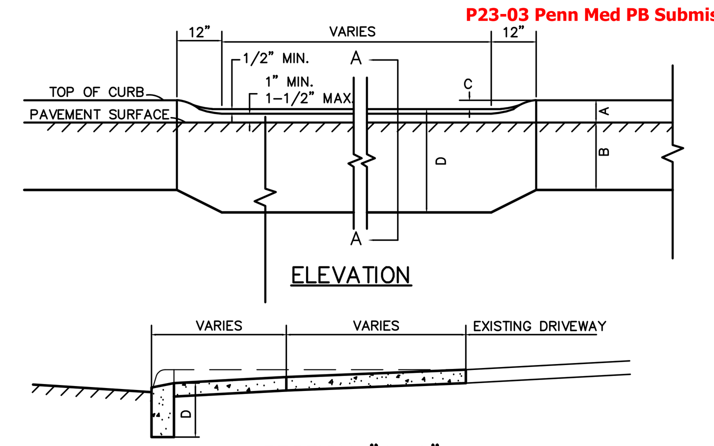
NOTES:

1. INVERT TO BE CLASS "C"
2. IF WALL CONSTRUCTION IS OTHER THAN PRECAST CONCRETE, THE WALLS SHALL BE PLASTERED BOTH INSIDE AND OUTSIDE WITH 1/2" THICK CEMENT PLASTER
3. FRAME AND GRATE (BICYCLE GRATE) TO BE No.3425 AS MANUFACTURED BY CAMPBELL FOUNDRY CO. OR APPROVED EQUAL.
4. PROVIDE POLYETHYLENE LADDER RUNGS @ 12" CENTER TO CENTER
5. WHEN ADDITIONAL DEPTH IS SCHEDULE WALLS BELOW THE DEPTH OF 8'-0" MEASURED FROM THE INLET GUTTER TO THE INVERT, SHALL BE 12" THICK. THE FOUNDATION DIMENSIONS SHALL BE INCREASED TO 12" WIDTH AND TO 12' IN DEPTH.



TYPE "A" INLET DETAIL

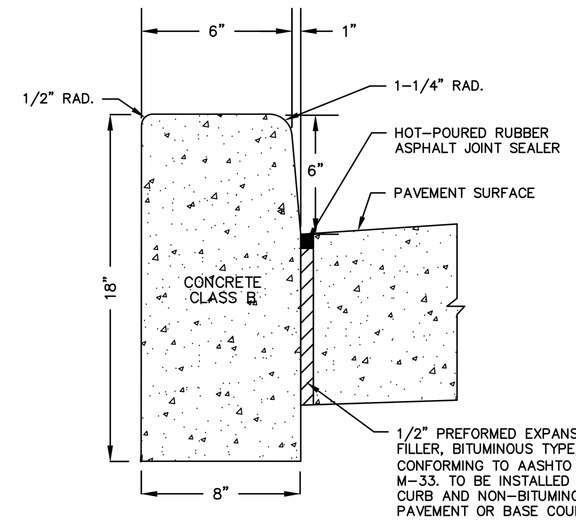
NOT TO SCALE



	A	B	C	D
CONCRETE CURB TYPE I	6"	12"	4" MIN., 4-1/2" MAX.	18"
CONCRETE CURB TYPE II	6"	12"	4" MIN., 4-1/2" MAX.	18"
CONCRETE CURB TYPE III	8"	12"	6" MIN., 6-1/2" MAX.	20"
CONCRETE CURB TYPE IV	8"	12"	6" MIN., 6-1/2" MAX.	20"
CONCRETE CURB TYPE V	8"	12"	6" MIN., 6-1/2" MAX.	20"

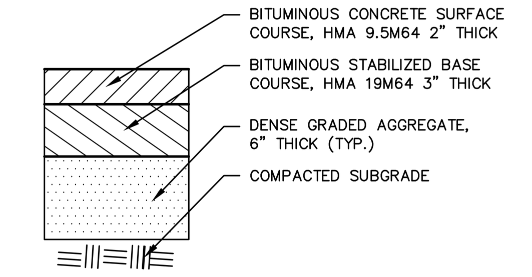
METHOD OF DEPRESSING CURB AT DRIVEWAY DETAIL

NOT TO SCALE



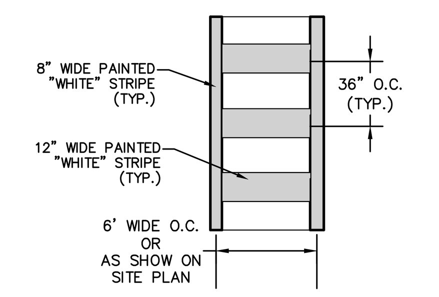
CONCRETE VERTICAL CURB DETAIL

NOT TO SCALE



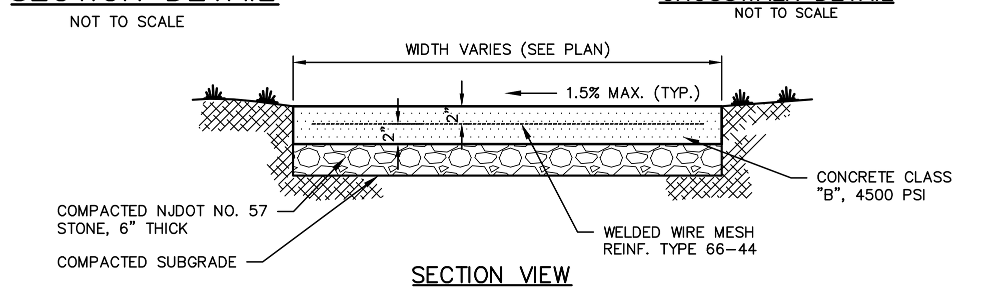
ROADWAY PAVEMENT SECTION DETAIL

NOT TO SCALE



STANDARD OFF–SITE CROSSWALK DETAIL

NOT TO SCALE

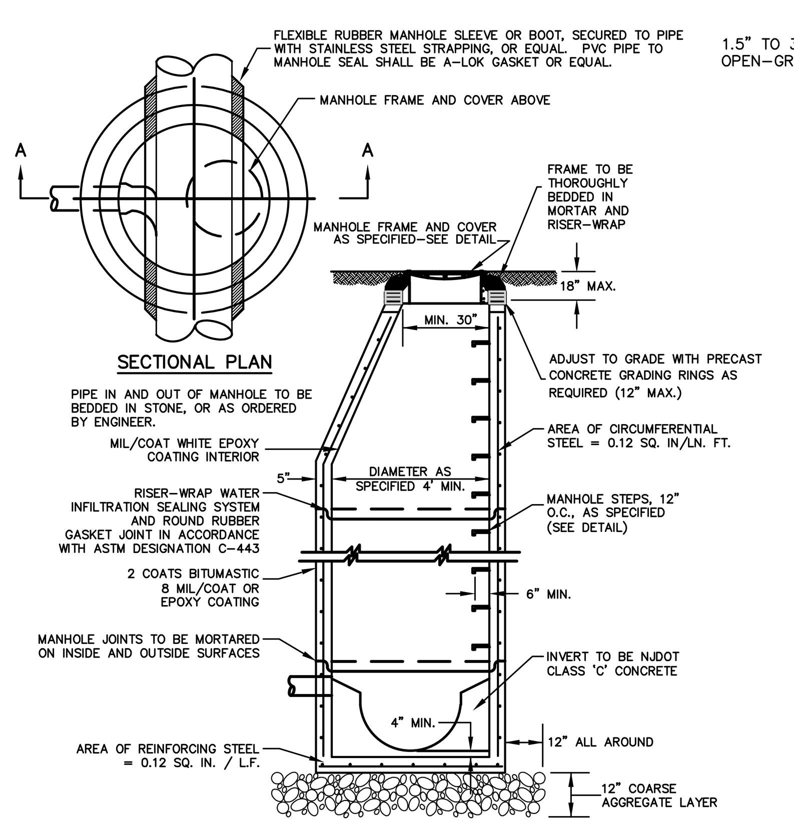


NOTES:

1. PREFORMED BITUMINOUS CELLULAR JOINT FILLERS 1/2" THICK, SHALL BE PLACED AT INTERVALS NOT EXCEEDING TWENTY (20) FEET. DUMMY (FORMED) JOINTS SHALL BE CUT INTO THE CONCRETE SIDEWALK BETWEEN THE EXPANSION JOINTS AT EQUAL INTERVALS NOT EXCEEDING THE WIDTH OF THE SIDEWALK.
2. THE SIDEWALK SUBGRADE SHALL BE NJDOT NO. 57 STONE, 6" THICK OR MATERIAL APPROVED BY THE TOWNSHIP ENGINEER, AND COMPACTED PRIOR TO THE PLACEMENT OF ANY SIDEWALK.
3. THE SIDEWALK SECTION SHALL BE 6" THICK WITH WELDED WIRE FABRIC AT DRIVEWAYS.
4. SIDEWALK SHALL BE 4' WIDE, EXCEPT WHERE ADJACENT TO VEHICLE PARKING AREAS WHERE THE SIDEWALK SHALL BE 6' WIDE.

CONCRETE SIDEWALK, 4" THICK DETAIL

NOT TO SCALE

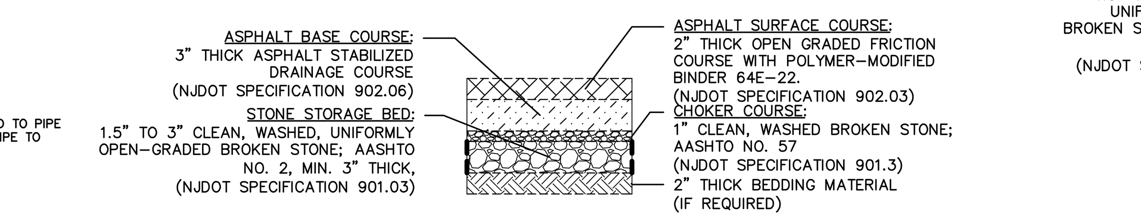


CONSTRUCTION NOTES:

1. PRECAST MANHOLE SECTIONS TO BE IN ACCORDANCE WITH LATEST ASTM DESIGNATION C–478, MINIMUM COMPRESSION STRENGTH TO BE 4000 PSI
2. FLEXIBLE RUBBER BOOT SHALL BE USED FOR CONNECTION OF PVC PIPE TO MANHOLE.
3. PRECAST CHANNELS SHALL NOT BE USED FOR BENDS GREATER THAN 45°. POURED CONCRETE LONG RADIUS CHANNELS SHALL BE CONSTRUCTED.
4. WHEN DESIGN CALLS FOR REGULAR OR LOCKING MANHOLE FRAME AND COVER, INSTALL CONE SECTION WITH 30" OPENING. FOR A WATERTIGHT FRAME AND COVER, INSTALL CONE SECTION WITH 24" OPENING.
5. RISER–WRAP WATER INFILTRATION SYSTEM TO BE INSTALLED AT ALL MANHOLE JOINTS AND FRAME BASE.

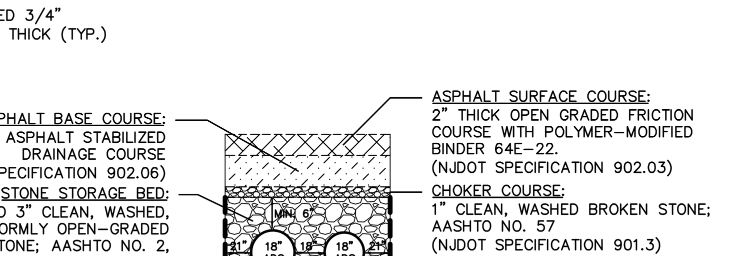
STANDARD PRECAST SANITARY MANHOLE

N.T.S.



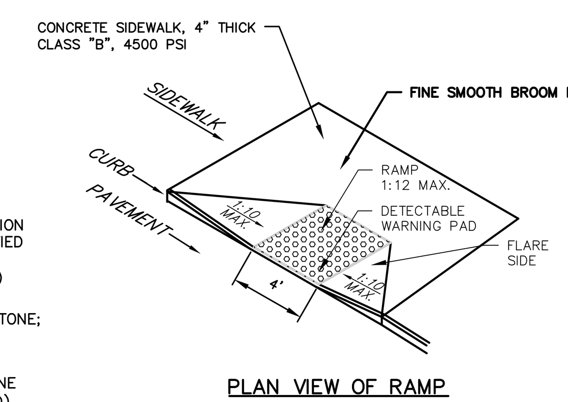
POROUS PAVEMENT GENERAL CROSS SECTION

NOT TO SCALE



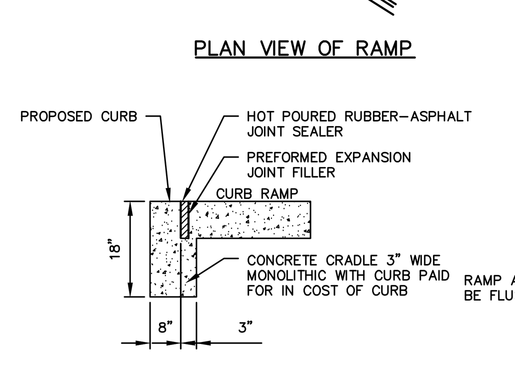
UNDERGROUND STORAGE AREA

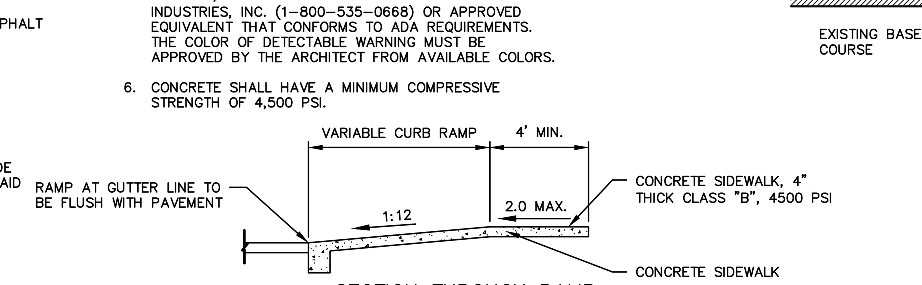
NOT TO SCALE



NOTES:

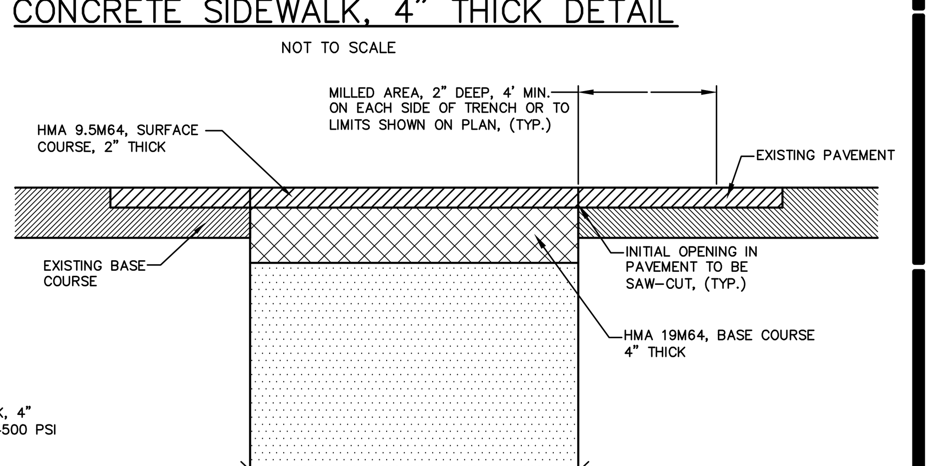
1. LANDING AREA, APPROACH SIDEWALK TRANSITIONS, AND CURB RAMP SHALL BE KEPT CLEAR OF OBSTRUCTIONS.
2. CURB (DEPRESSED CURB) GUTTERLINE TO BE FLUSH WITH ROADWAY PAVEMENT 4' WIDE AT ALL CURB RAMPS.
3. SIDEWALK AND CURB RAMP TO BE PAID FOR AS CONCRETE SIDEWALK OF THE APPROPRIATE ADJACENT THICKNESS.
4. CONCRETE TO BE N.J.D.O.T., CLASS "B" 6. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,500 PSI.
5. THE CONTRACTOR SHALL PROVIDE DETECTABLE WARNING ON ALL HANDICAP SIDEWALK RAMPS. THE DETECTABLE WARNING SHALL BE STRONGWARN TACTILE WARNING SURFACE, 2000 AS MANUFACTURED BY STRONGWALL INDUSTRIES, INC. (1–800–535–0668) OR APPROVED EQUIVALENT THAT CONFORMS TO ADA REQUIREMENTS. THE COLOR OF DETECTABLE WARNING MUST BE APPROVED BY THE ARCHITECT FROM AVAILABLE COLORS.
6. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,500 PSI.





ADA COMPLIANT SIDEWALK RAMP DETAIL

NOT TO SCALE

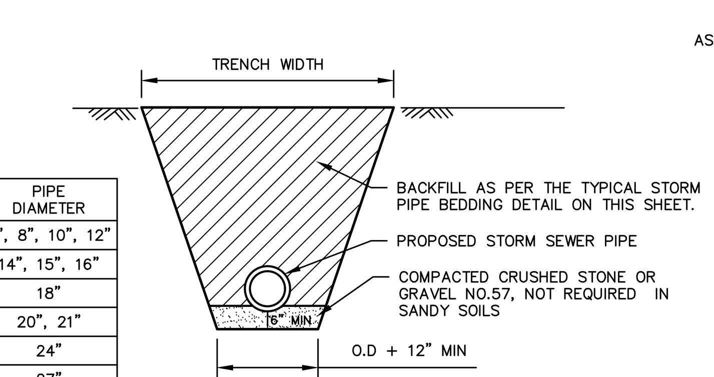


NOTE:

1. TEMPORARY PAVEMENT TO BE MAINTAINED BY CONTRACTOR. NO PERMANENT REPAIR TO BE MADE WITHOUT SPECIFIC APPROVAL OF THE TOWNSHIP ENGINEER AND COUNTY.

ROAD PAVEMENT REPAIR DETAIL

NOT TO SCALE



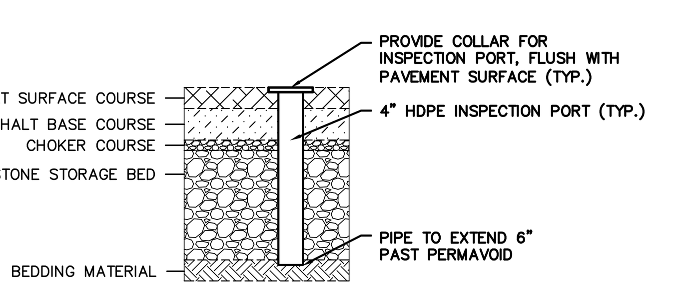
TRENCH WIDTH	PIPE DIAMETER
3'–0	6", 8", 10", 12"
3'–8"	14", 15", 16"
4'–0	18"
4'–3"	20", 21"
4'–6"	24"
4'–10"	27"
5'–0	30"
5'–6"	33"
5'–8"	36"

NOTES:

1. THE BEDDING SHALL BE PROVIDED IN ACCORDANCE WITH STORM PIPE BEDDING DETAIL ON THIS SHEET.
2. THE CONTRACTORS SHALL PROVIDE BEDDING IN ACCORDANCE WITH THE PIPE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

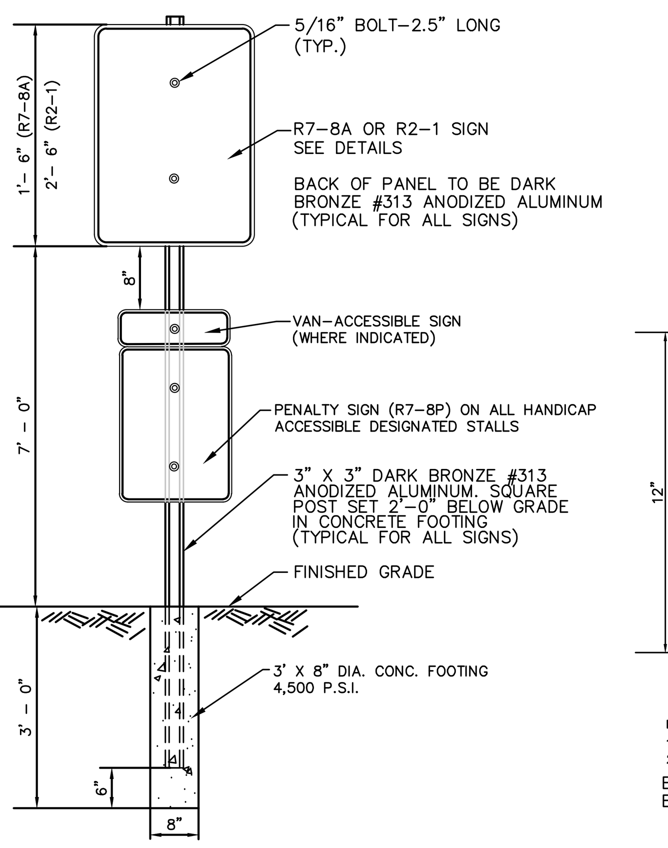
STORM TRENCH WIDTH DETAIL

NOT TO SCALE



POROUS PAVEMENT ACCESS PORT DETAIL

NOT TO SCALE



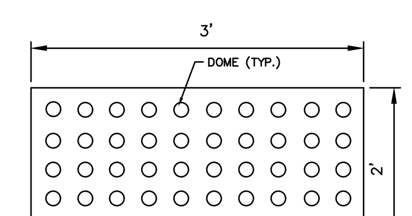
NOTES :

1. ALL SIGNS TO CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
2. SIGN TO BE LOCATED A MINIMUM OF 1.0 FOOT OFF OF THE EDGE OF ANY PROPOSED SIDEWALK.
3. THE MINIMUM MOUNTING HEIGHT OF THE PRIMARY SIGN WHERE PEDESTRIAN TRAFFIC IS PRESENT IS 7 FEET ABOVE FINISHED GRADE AS REQUIRED BY MUTCD.
4. THE USE OF THE TYPE A SIGN DETAIL IS APPLICABLE TO ALL DOUBLE SIDED SIGNS, TYPE B DETAIL SHALL BE USED FOR ALL OTHER SIGNS

TYPICAL TYPE "B" SIGN POST DETAIL

NOT TO SCALE

R7–8A
12" x 18"
BACK OF PANEL TO BE DARK BRONZE #313 ANODIZED ALUMINUM

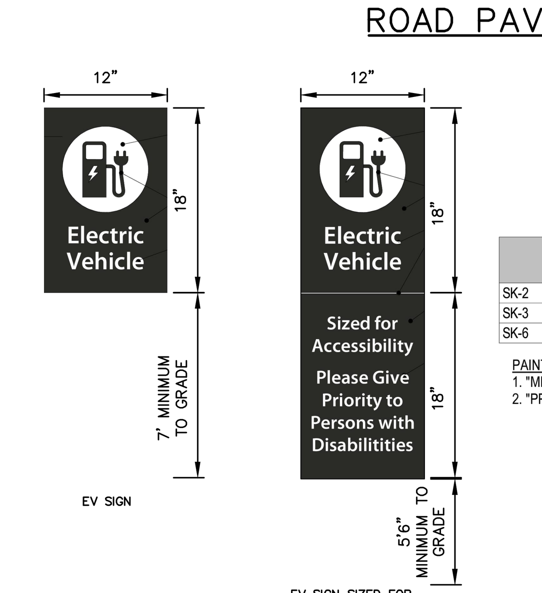


NOTE:

1. COLOR TO BE SAFETY RED

DETECTABLE WARNING PAD DETAIL

NOT TO SCALE



NOTE:

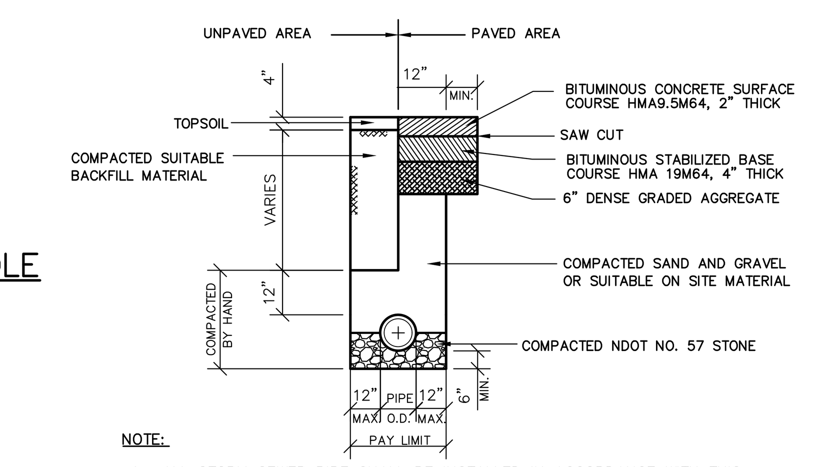
1. EV SIGN SHALL CONFORM TO MUTCD AND STATE STANDARDS
2. EV SIGN SHALL BE INSTALLED AFTER EV CHARGER HAS BEEN INSTALLED AND OPERATIONAL

EV SIGN DETAIL

NOT TO SCALE

SIGNAGE KEYNOTES	
SK-2	BLACK -COLOR TO MATCH MP99698
SK-3	EXTERIOR WHITE -COLOR TO MATCH MP31645 DESIGNER WHITE
SK-6	3M DIAMOND GRADE REFLECTIVE SHEETING -WHITE #4090

PAINT MANUFACTURER ABBREVIATIONS:
1. "MP" -MATTHEWS PAINT COMPANY
2. "PPG" -PPG INDUSTRIES

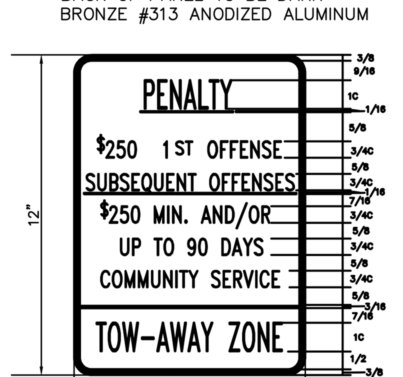


NOTE:

1. ALL STORM SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THIS DETAIL AND THE PIPE MANUFACTURER'S SPECIFICATIONS.

TYPICAL STORM PIPE TRENCH DETAIL

NOT TO SCALE

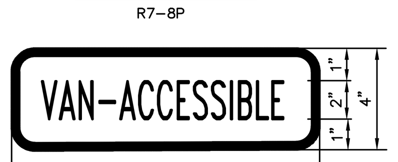


NOTES :
1. BLACK LEGEND ON WHITE REFLECTORIZED BACKGROUND
2. ALL DIMENSIONS ARE IN INCHES.

BACK OF PANEL TO BE DARK BRONZE #313 ANODIZED ALUMINUM

PENALTY SIGN

R7–8P



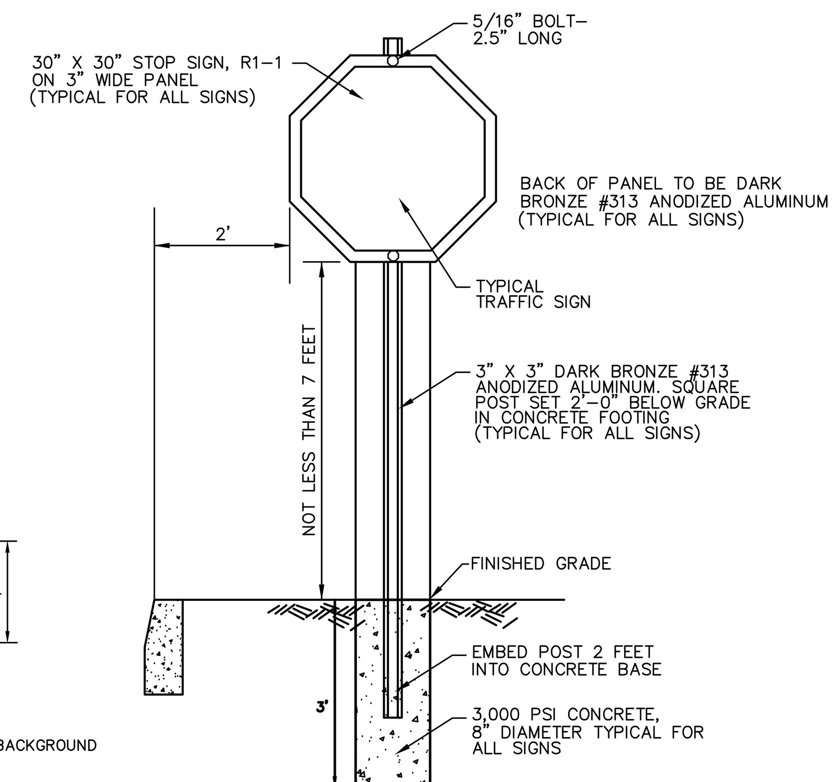
NOTES :

1. BLACK LEGEND ON WHITE REFLECTORIZED BACKGROUND
2. ALL DIMENSIONS ARE IN INCHES.

BACK OF PANEL TO BE DARK BRONZE #313 ANODIZED ALUMINUM

SIGN "A"

NOT TO SCALE

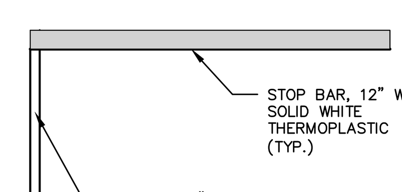


NOTES:

1. ALL REGULATORY AND WARNING SIGNS SHALL BE REFLECTIVE.
2. ALL SIGNS SHALL CONFORM TO THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.
3. POSTS TO BE BREAK–A–WAY
4. THE USE OF THE TYPE A SIGN DETAIL IS APPLICABLE TO ALL DOUBLE SIDED SIGNS, TYPE B DETAIL SHALL BE USED FOR ALL OTHER SIGNS

TYPICAL TYPE "A" SIGN POST DETAIL

NOT TO SCALE



STOP BAR

NOT TO SCALE

NOTE:
TO BE SET 4 FT FROM BEHIND CROSSWALK

NOTES:

1. ORIENTATION SHALL BE IN THE DIRECTION OF TRAVEL OR FOR COMMON ROADWAYS IN THE DIRECTION OF INCOMING TRAVEL.
2. ALL LETTERS SHALL BE YELLOW.
3. ALL TRAFFIC STRIPING AND PAVEMENT MARKINGS SHALL BE THEMOPHASTIC WITH GLASS BEADS OR APPROVED EQUAL.

FIRE LANE ROADWAY STENCIL DETAIL

NOT TO SCALE

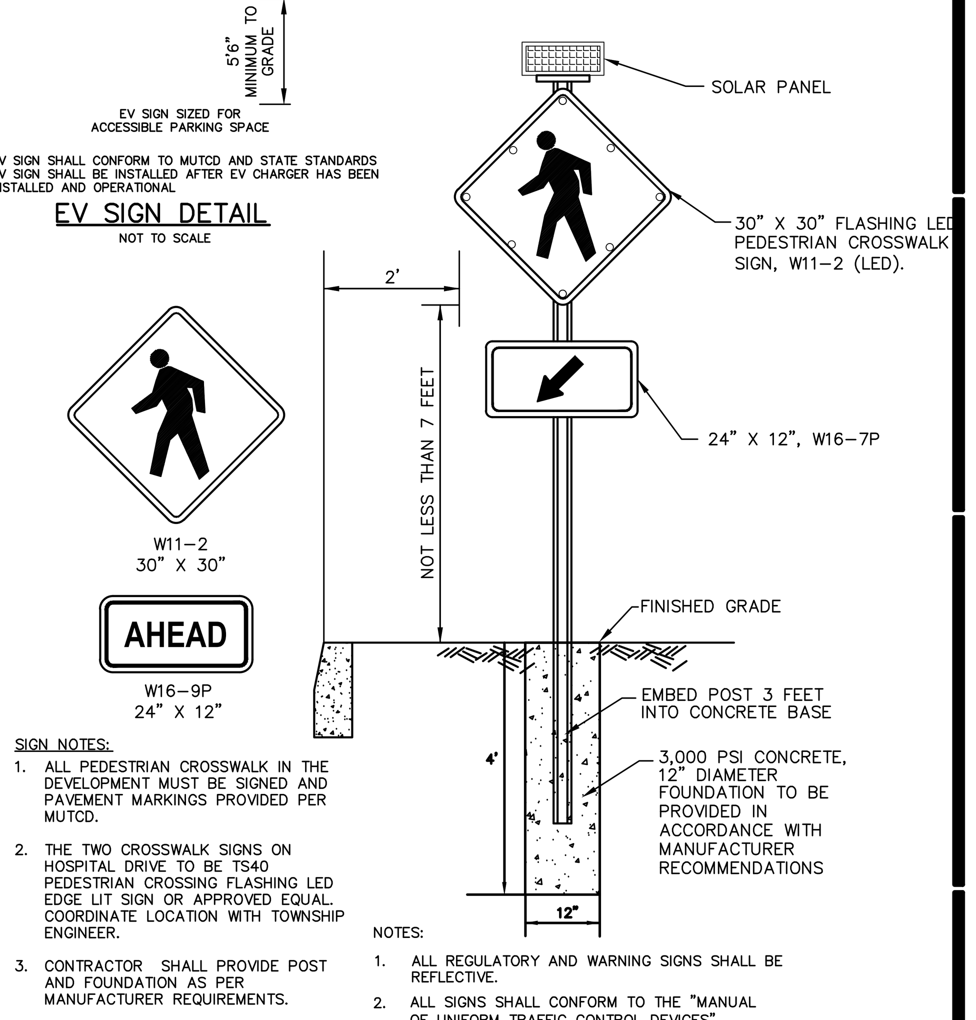
R8–31
12" X 18"

GENERAL NOTES:

1. BACK OF PANEL TO BE DARK BRONZE #313 ANODIZED ALUMINUM

NO PARKING FIRE LANE SIGN

NOT TO SCALE



SIGN NOTES:

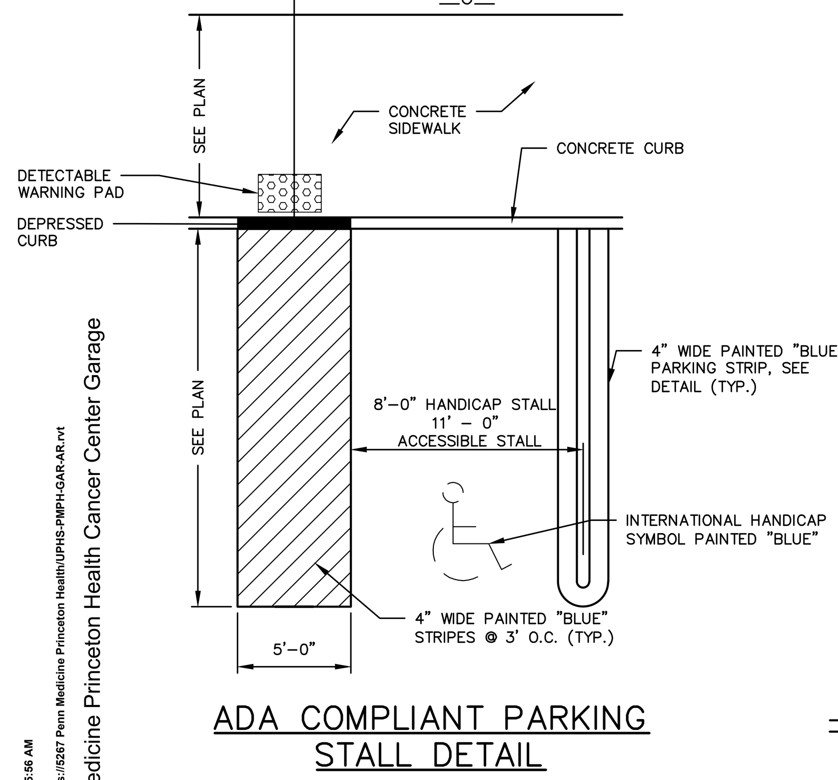
1. ALL PEDESTRIAN CROSSWALK IN THE DEVELOPMENT MUST BE SIGNED AND PAVEMENT MARKINGS PROVIDED PER MUTCD.
2. THE TWO CROSSWALK SIGNS ON HOSPITAL DRIVE TO BE TS40 PEDESTRIAN CROSSING FLASHING LED EDGE LIT SIGN OR APPROVED EQUAL. COORDINATE LOCATION WITH TOWNSHIP ENGINEER.
3. CONTRACTOR SHALL PROVIDE POST AND FOUNDATION AS PER MANUFACTURER REQUIREMENTS.
4. CONTRACTOR MUST SUBMIT SHOP DRAWING OR PEDESTRIAN CROSSING SIGNAGE FOR REVIEW AND APPROVAL.

NOTES:

1. ALL REGULATORY AND WARNING SIGNS SHALL BE REFLECTIVE.
2. ALL SIGNS SHALL CONFORM TO THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.
3. POSTS TO BE BREAK–A–WAY

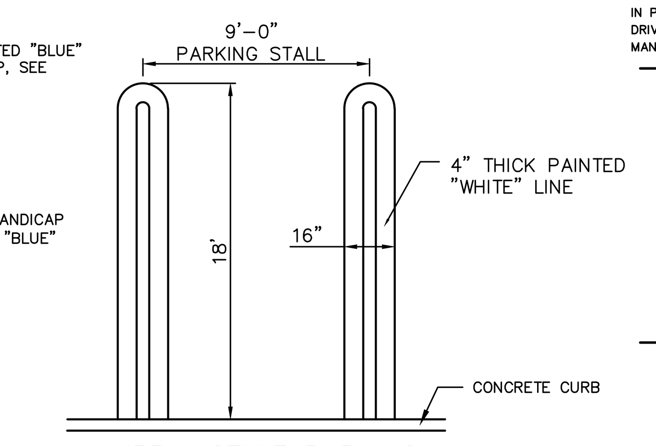
PEDESTRIAN CROSSING SIGNS AND FOUNDATION DETAIL

NOT TO SCALE



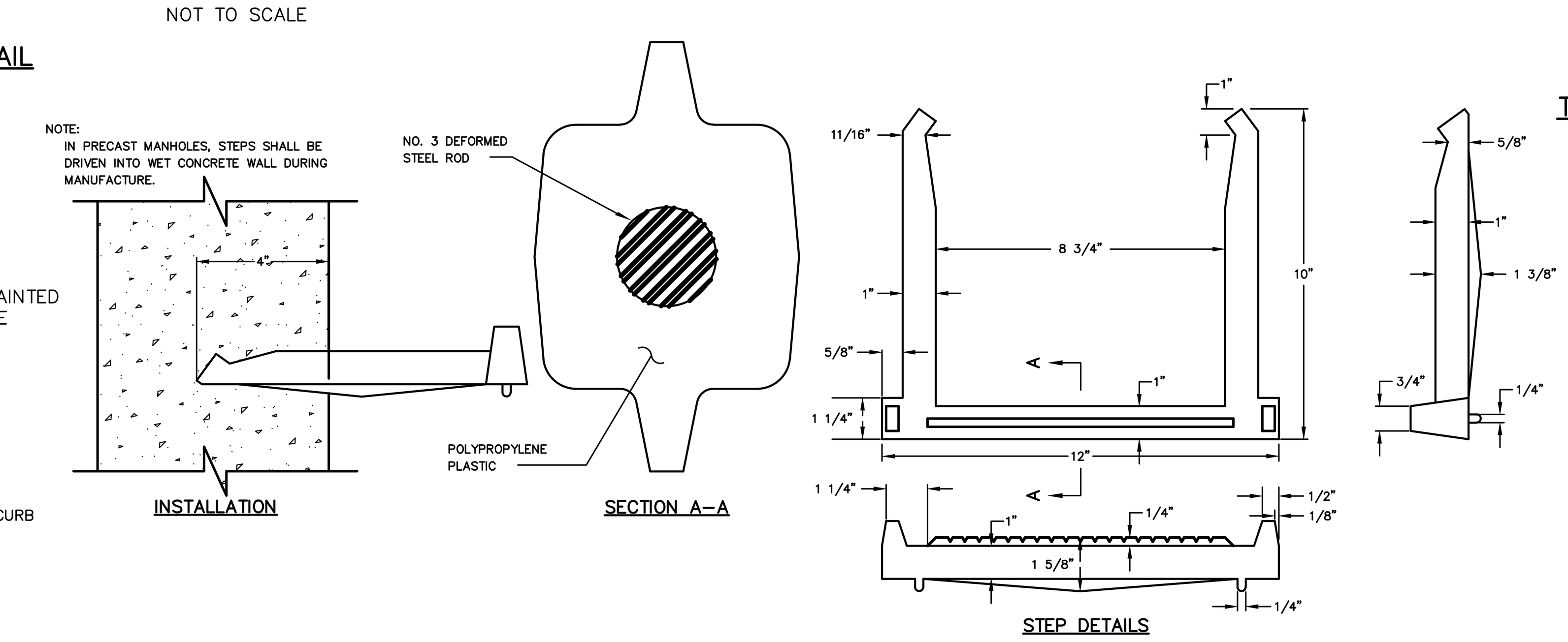
ADA COMPLIANT PARKING STALL DETAIL

NOT TO SCALE



HAIRPIN STYLE PARKING LOT STRIPING DETAIL

NOT TO SCALE



POLYPROPYLENE MANHOLE STEPS

N.T.S.

1. THE SIGNS USED FOR TRAFFIC CONTROL SHALL BE RETROFLECTIVE AND IN ACCORDANCE WITH TOWNSHIP STANDARD. IN ADDITION, BACK OF PANEL TO BE DARK BRONZE #313 ANODIZED ALUMINUM.

2. SIGNS SHALL BE A MAXIMUM PRACTICAL CLEARANCE FROM THE EDGE OF THE TRAVELLED WAY. THE SIGNS SHALL BE A MINIMUM 2 FEET FROM THE FACE OF CURB. WHERE THE SIDEWALK WIDTH IS LIMITED OR EXISTING POLES ARE CLOSE TO THE CURB, A 1 FOOT CLEARANCE FROM THE FACE OF CURB MAY BE USED. ALL SIGNS MUST CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL

3. DEVICES" (MUTCD) AND THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL SIGNAGE FOR APPROVAL BY THE ARCHITECT AND TOWNSHIP ENGINEER'S OFFICE. ALL REGULATORY SIGNS (E.G., STOP, NO PARKING, HANDICAP PARKING,

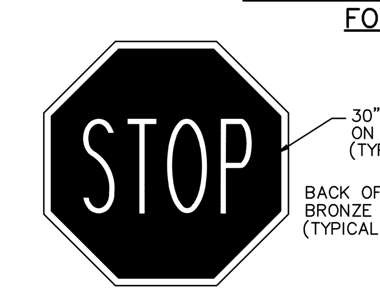
4. SHARE–THE–ROAD, BIKEWAY SIGNS) SHALL COMPLY WITH MUTCD REQUIREMENTS AND BE CONSISTENT WITH THE SIGN STANDARDS USED WITHIN THE PRINCETON FORRESTAL CENTER (PFC) AND ELSEWHERE IN THE TOWNSHIP. THE TYPE A PFC SIGN DETAIL SHALL BE UTILIZED FOR ALL STOP SIGNS AND TWO

5. SIDED MUTCD SIGNS. THE TYPE B PFC SIGN DETAIL SHALL BE USED FOR ALL OTHER MUTCD SIGNS. EXISTING NON–CONFORMING SPEED SIGNS ALONG THE PROPERTY FRONTAGE ON

6. HOSPITAL DRIVE SHALL BE REPLACED WITH PFC TYPE B CONFORMING SIGNS.

SIGNS

NOT TO SCALE



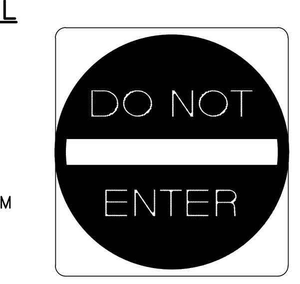
R1–1
30" X 30"

30" X 30" STOP SIGN, R1–1 ON 3" WIDE PANEL (TYPICAL FOR ALL SIGNS)

BACK OF PANEL TO BE DARK BRONZE #313 ANODIZED ALUMINUM (TYPICAL FOR ALL SIGNS)

STOP SIGN

NOT TO SCALE



R5–1
30" x 30"

GENERAL NOTES:

1. BACK OF PANEL TO BE DARK BRONZE #313 ANODIZED ALUMINUM

DO NOT ENTER SIGN

NOT TO SCALE

SCALE IN FEET

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated
NO.	DATE	DESCRIPTION

N

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1C

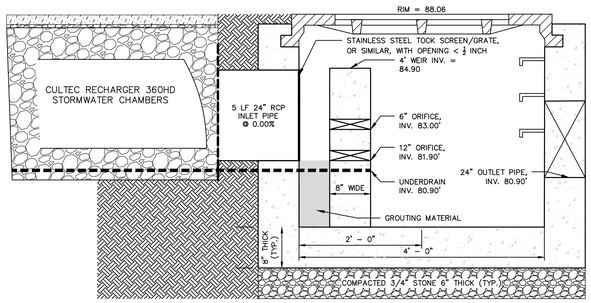
CONSTRUCTION DETAILS (1)

C.1C.17

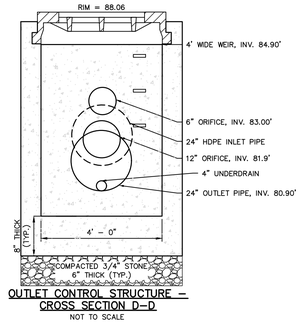
04/14/2023 SITE PLAN SUBMISSION

Penn Medicine Princeton Health Cancer Center Garage
Autodesk Docs://5267 Penn Medicine Princeton Health/UPHS-PMPH-GAR-AR.rvt
3/14/2023 10:55:56 AM

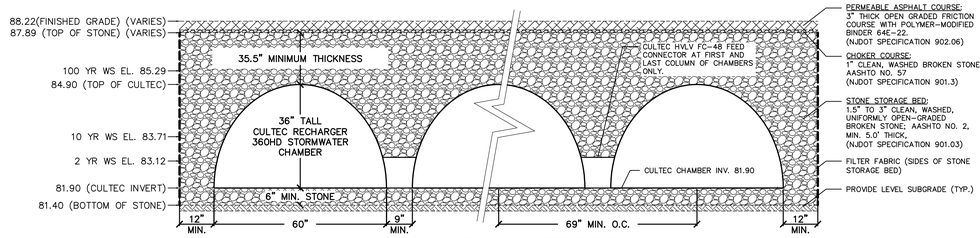
THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.



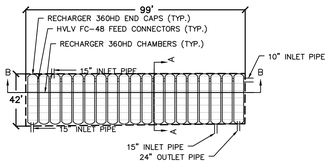
OUTLET CONTROL STRUCTURE
NOT TO SCALE



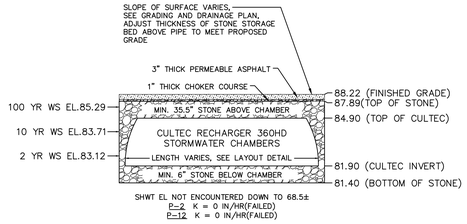
OUTLET CONTROL STRUCTURE – CROSS SECTION D–D
NOT TO SCALE



CULTEC RECHARGER 360HD END CAPS (TYP.)
HVLV FC-48 FEED CONNECTORS (TYP.)
CULTEC RECHARGER 360HD CHAMBERS (TYP.)

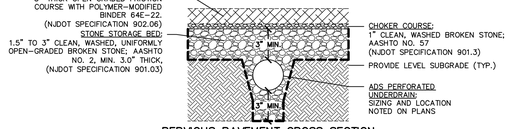


CULTEC CHAMBER LAYOUT
NOT TO SCALE

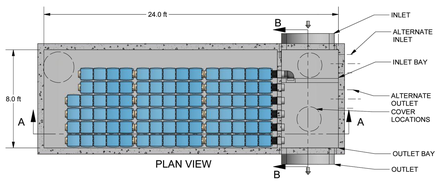


SHWT EL NOT ENCOUNTERED DOWN TO 68.5±
P–2 K = 0 IN/HR(FAILED)
P–12 K = 0 IN/HR(FAILED)

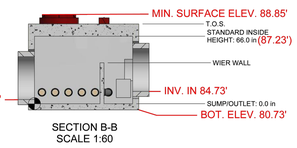
CULTEC CHAMBERS CROSS SECTION A–A
NOT TO SCALE



PERVIOUS PAVEMENT CROSS SECTION
NOT TO SCALE



PLAN VIEW



SECTION B-B
SCALE 1:60

SECTION A-A
ELEVATION VIEW

HYDRO FRAME AND COVER (INCLUDED)
GRADE RINGS BY OTHERS AS REQUIRED

CARTRIDGE HEIGHT (in)	TREATMENT FLOW PER CARTRIDGE (gpm)	TREATMENT AREA PER CARTRIDGE (ac)	RECOMMENDED HYDRAULIC DROP INVERT IN TO INVERT OUT (in)	MAXIMUM CARTRIDGES
18	5.4	0.05	18	100
27	8.9	0.08	27	95
36	12.4	0.12	36	88

ANY WARRANTY GIVEN BY HYDRO INTERNATIONAL WILL APPLY ONLY TO THOSE ITEMS SUPPLIED BY IT. ACCORDINGLY HYDRO INTERNATIONAL CANNOT ACCEPT ANY RESPONSIBILITY FOR ANY STRUCTURE, PLANT, OR EQUIPMENT, (OR THE PERFORMANCE THERE OF) DESIGNED, BUILT, MANUFACTURED, OR SUPPLIED BY ANY THIRD PARTY. HYDRO INTERNATIONAL HAVE A POLICY OF CONTINUOUS DEVELOPMENT AND RESERVE THE RIGHT TO AMEND THE SPECIFICATION. HYDRO INTERNATIONAL CANNOT ACCEPT LIABILITY FOR PERFORMANCE OF ITS EQUIPMENT, (OR ANY PART THEREOF), IF THE EQUIPMENT IS SUBJECT TO CONDITIONS OUTSIDE ANY DESIGN SPECIFICATION. HYDRO INTERNATIONAL OWNS THE COPYRIGHT OF THIS DRAWING, WHICH IS SUPPLIED IN CONFIDENCE. IT MUST NOT BE USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT IS SUPPLIED AND MUST NOT BE REPRODUCED, IN WHOLE OR IN PART, WITHOUT PRIOR PERMISSION IN WRITING FROM HYDRO INTERNATIONAL.

UP–FLO FILTER (80% TSS REMOVAL)
NOT TO SCALE

PROJECTION

IF IN DOUBT ASK

COMMENTS:

1. STRUCTURE WALL AND SLAB THICKNESS ARE NOT TO SCALE.

2. NOT FOR CONSTRUCTION CONTACT HYDRO FOR SITE SPECIFIC DRAWING

3. MINIMUM PERFORMANCE: 80% REMOVAL: NJDEP - NJDEP BLEND; NJCAT, Sil-Co-Sil 106 (d50 = 22 microns) AT THE PEAK TREATMENT FLOW

4. NOT ALL SIZES AVAILABLE IN ALL AREAS

5. CARTRIDGE SIZES AVAILABLE IN 18", 27" AND 36"

6. FOR INSIDE VAULT HEIGHTS UNDER 66.0 in CONTACT HYDRO

*Using the maximum number of cartridges may require an alternate configuration. Please contact techsupport@hydro-int.com

REVISION HISTORY			
REV	BY	DESCRIPTION	DATE
-	EHR	INITIAL RELEASE	3/30/2020

DATE: 3/30/2020
SCALE: 1:60

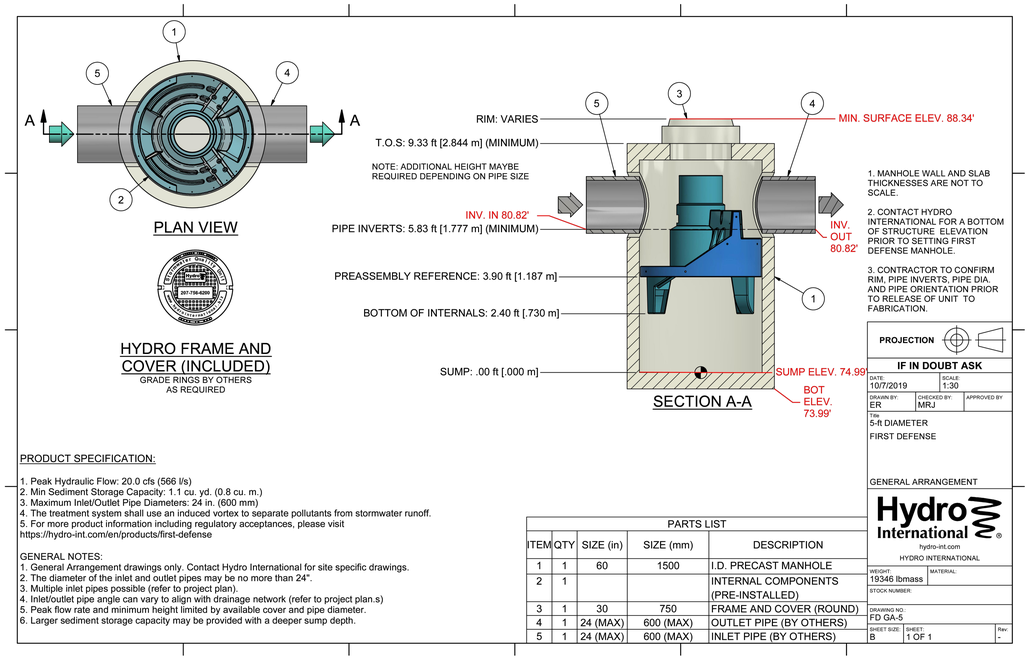
UP-FLO® FILTER EXTENDED MAINTENANCE CARTRIDGE

8ft X 24ft

GENERAL ARRANGEMENT

Hydro International®
94 Hutchins Drive
Portland, ME 04102
Tel: +1 (207) 756-6200
Fax: +1 (207) 756-6212
hydro-int.com

DRAWING NO.: UP-FLO® FILTER EMC
SHEET SIZE: B
SHEET: 1 OF 1
Rev: -



PLAN VIEW

HYDRO FRAME AND COVER (INCLUDED)
GRADE RINGS BY OTHERS AS REQUIRED

SECTION A-A

1. MANHOLE WALL AND SLAB THICKNESSES ARE NOT TO SCALE.

2. CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING FIRST DEFENSE MANHOLE.

3. CONTRACTOR TO CONFIRM RIM, PIPE INVERTS, PIPE DIA. AND PIPE ORIENTATION PRIOR TO RELEASE OF UNIT TO FABRICATION.

PRODUCT SPECIFICATION:

1. Peak Hydraulic Flow: 20.0 cfs (566 l/s)
2. Min Sediment Storage Capacity: 1.1 cu. yd. (0.8 cu. m.)
3. Maximum Inlet/Outlet Pipe Diameters: 24 in. (600 mm)
4. The treatment system shall use an induced vortex to separate pollutants from stormwater runoff.
5. For more product information including regulatory acceptances, please visit https://hydro-int.com/en/products/first-defense

GENERAL NOTES:

1. General Arrangement drawings only. Contact Hydro International for site specific drawings.
2. The diameter of the inlet and outlet pipes may be no more than 24".
3. Multiple inlet pipes possible (refer to project plan).
4. Inlet/outlet pipe angle can vary to align with drainage network (refer to project plan.s)
5. Peak flow rate and minimum height limited by available cover and pipe diameter.
6. Larger sediment storage capacity may be provided with a deeper sump depth.

PARTS LIST				
ITEM	QTY	SIZE (in)	SIZE (mm)	DESCRIPTION
1	1	60	1500	I.D. PRECAST MANHOLE
2	1			INTERNAL COMPONENTS (PRE-INSTALLED)
3	1	30	750	FRAME AND COVER (ROUND)
4	1	24 (MAX)	600 (MAX)	OUTLET PIPE (BY OTHERS)
5	1	24 (MAX)	600 (MAX)	INLET PIPE (BY OTHERS)

FIRST DEFENSE OPTIMUM (50% TSS REMOVAL)
NOT TO SCALE

PROJECTION

IF IN DOUBT ASK

DATE: 10/7/2019	SCALE: 1:30
DRAWN BY: ER	CHECKED BY: MRJ
APPROVED BY:	

Title: 5-ft DIAMETER FIRST DEFENSE

GENERAL ARRANGEMENT

Hydro International®
hydro-int.com
HYDRO INTERNATIONAL

WEIGHT: 19346 lbmass
MATERIAL:
STOCK NUMBER:

DRAWING NO.: FD GA-5
SHEET SIZE: B
SHEET: 1 OF 1
Rev: -

SCALE IN FEET

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated

N

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1C

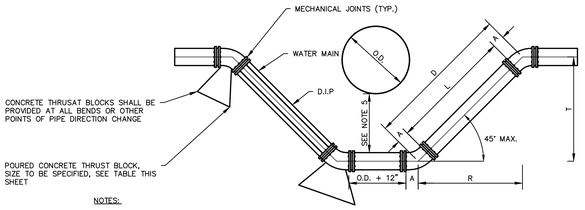
CONSTRUCTION DETAILS (2)

C.1C.18

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:58 AM
Autodesk Docs://5247 Penn Medicine Princeton Health/UPHS-PMPH-DAR.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.



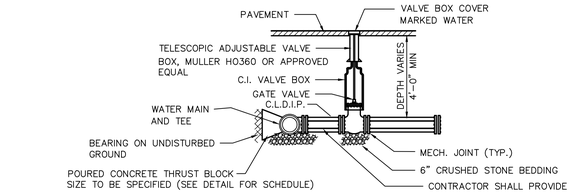
NOTES:

1. WATER MAIN MAY BE LOOPED ABOVE OBSTRUCTION, IF 3' MINIMUM COVER IS MAINTAINED ABOVE WATER MAIN
2. WATER MAIN MAY BE DUCTILE IRON CEMENT LINED PIPE ALL JOINTS SHALL BE MECHANICAL JOINT OR PUSH-ON AND ALL FITTINGS SHALL BE MECHANICAL JOINT CAST IRON
3. OFFSETS MAY BE SUBTITUTED FOR A OR T UP TO 24" IF APPROVED BY THE ENGINEER
4. CONCRETE THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS OR OTHER POINTS OF PIPE DIRECTION CHANGE
5. MINIMUM CLEARANCE BETWEEN OBSTRUCTING PIPE AND WATER MAIN SHALL BE 18" MINIMUM. CLEARANCE BETWEEN WATER MAIN AND OTHER OBSTRUCTIONS SHALL BE 6"
6. TIE RODS SHALL BE UTILIZED TO RESTRAIN PIPE JOINTS. DETAILS OF THE TIE ROD ASSEMBLY SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. TIE RODS SHALL BE SUFFICIENT TO RESTRAIN THE THRUST DEVELOPED AT 100 P.S.I. WORKING PRESSURE

MECHANICAL JOINTS			
ANGLE	"Q" EQUALS	"R" EQUALS	"L"* EQUALS
45°	Tx1.414	Tx1.000	D–2A
22 1/2°	Tx2.414	Tx2.414	D–2A
11 1/4°	Tx5.126	Tx5.027	D–2A

* CUT THE PIPE SOMEWHAT SHORTER THAN THEORETICAL TO ALLOW FOR SOME SLIGHT CLEARANCE IN THE JOINT

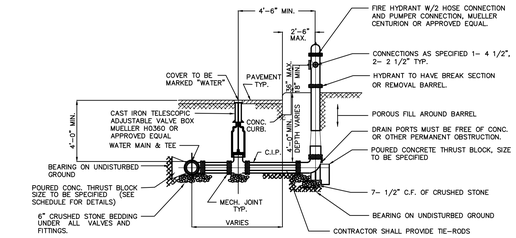
LOOPING WATER MAIN DETAIL
NOT TO SCALE



NOTES

1. SIZE AND BEARING FOR THRUST BLOCK SHALL CONFORM TO CURRENT A.W.W.A. STANDARDS, OR SHALL BE DESIGNATED ON THE PLANS.
2. CONCRETE FOR THE THRUST BLOCKS TO BE N.J.D.O.T., CLASS "C".
3. ALL CONNECTIONS TO BE MECHANICAL JOINT, OR LOCK RING TYPE JOINTS, AS SPECIFIED.

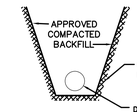
GATE VALVE ASSEMBLY
NOT TO SCALE



NOTES:

1. CONCRETE FOR THRUST BLOCKS TO BE NJDOT CLASS 'C'.
2. SIZE AND BEARING AREA FOR THRUST BLOCKS SHALL CONFORM TO CURRENT AWWA STANDARDS OR SHALL BE DESIGNATED ON THE PLANS.
3. FINISH PAINTING AND MARKING SHALL BE DESIGNATED ON THE PLANS OR CONTRACT DOCUMENTS OR SHALL BE AS DIRECTED BY THE ENGINEER.
4. TYPICAL HYDRANT LOCATION ADJACENT TO ROADWAY, FOR SPECIAL LOCATION REFER TO PLANS
5. SPECIAL HYDRANT ARRANGEMENT OR SETTINGS TO BE DETAILED BY CONTRACTOR AND SUBJECT TO THE ENGINEER;S APPROVAL.
6. ALL CONNECTIONS TO BE MECHANICAL JOINT OR LOCK RING TYPE JOINT AS SPECIFIED.

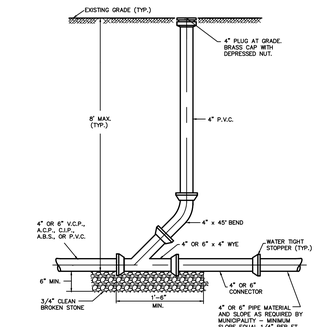
FIRE HYDRANT DETAIL
NOT TO SCALE



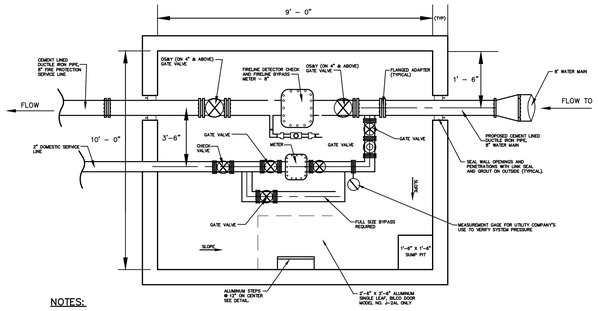
NOTES:

1. WHERE PIPE INVERTS ARE IN ROCK, EXCAVATE 6" BELOW INVERT OF PIPE AND FILL WITH 3/4" CRUSHED STONE.
2. WHERE PIPE INVERTS ARE IN SOFT ORGANIC SOIL AT LEAST 2 FEET OF CRUSHED STONE SHALL BE USED FOR BEDDING, UNDERLAIN BY A LAYER OF FILTER FABRIC SUCH AS MIRAFI OR EQUIVALENT AS DIRECTED BY THE ENGINEER.
3. COMPACTED BACKFILL SHALL BE AS A MINIMUM 90% OF MAXIMUM DRY DENSITY OF SOIL AS DETERMINED BY ASTM D–1557 (MODIFIED PROCTOR DENSITY).
4. COMPACTION OF THE TOP TWO FEET (2') OF THE TRENCH UNDER AREAS TO BE PAVED SHALL ACHIEVE AS A MINIMUM 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D–1557.
5. WHERE PIPES ARE WITHIN TOWNSHIP ROADS, THE ROAD PAVEMENT TRENCH REPAIR AND REPLACEMENT, AND ALL RESTORATION IN TOWNSHIP ROADS SHALL MEET THE REQUIREMENTS OF THE TOWNSHIP ENGINEER.
6. SUITABLE BACKFILL MATERIAL SHALL BE SELECT MATERIAL I2 (NJDOT) WHEN ON–SITE SUITABLE MATERIAL IS NOT AVAILABLE.
7. BACKFILL SHALL BE MECHANICALLY COMPACTED IN TWELVE INCH LIFTS IN ORDER TO MEET THE MINIMUM REQUIREMENTS STATED ABOVE AND THE APPROVAL OF THE ENGINEER.
8. A MINIMUM OF 4' OF COVER MUST BE PROVIDED FROM THE TOP OF THE PROPOSED WATER MAINS AND SERVICE LINES TO THE FINISHED GRADE.
9. THE CONTRACTOR MUST COMPLY WITH ALL STATE AND FEDERAL CONFINED SPACE RULES, AND ALL APPLICABLE O.S.H.A. REQUIREMENTS.

WATER MAIN BEDDING DETAIL
NOT TO SCALE



4" OR 6" PROFILE STANDARD CLEANOUT DETAIL
NOT TO SCALE



NOTES:

1. THE GENERAL CONTRACTOR SHALL PROVIDE THE CONCRETE WATER METER PIT CONCRETE WALLS ARE TO BE 8" REINFORCED CONCRETE OR 8" REINFORCED CONCRETE BLOCK WITH WALL RODS OR APPROVED EQUIVALENT.
2. THE CONCRETE WATER METER PIT SHALL MEET THE REQUIREMENTS OF ASTM C–913. THE CONCRETE WATER METER PIT SHALL BE INSTALLED WITHOUT COVER SLAB. COVER SLABS SHALL BE INSTALLED AFTER BOTH METERS HAVE BEEN INSTALLED AND APPROVED.
3. THE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI IN 28 DAYS. REINFORCING STEEL SHALL CONFORM TO ASTM A615 AND A185.
4. THE GENERAL CONTRACTOR SHALL PROVIDE A 2'–6" BY 2'–6" SINGLE LEAF, ALUMINUM BILCO DOOR MODEL NO. J–2AL.
5. THE GENERAL CONTRACTOR SHALL PROVIDE ADJUSTABLE PIPE SUPPORTS AS NECESSARY TO SECURE THE PROPOSED DOMESTIC AND FIRE SERVICE LINES AND THEIR APPURTENANCES WITHIN THE METER PIT.
6. THE PROPOSED WATER LINES SHALL BE INSTALLED WITH A 4'–0" MINIMUM COVER BETWEEN THE TOP OF THE PIPE AND THE FINISHED GRADE. THE HEIGHT OF THE METERS FROM THE FLOOR TO THE CENTERLINE OF THE PROPOSED PIPE IS 30" MAXIMUM AND 15" MINIMUM.
7. THE CONCRETE PIT BOTTOM, OR BASE SECTION, SHALL BE 12" THICK AND THE CONTRACTOR SHALL SLOPE FLOOR TO 1'–6" X 1'–6" BY 1'–0" DEEP SUMP PIT. IN ADDITION, THE CONTRACTOR SHALL PROVIDE A 12" THICK FOUNDATION BASE CONSISTING OF 3/4" CRUSHED STONE.
8. THE GENERAL CONTRACTOR SHALL PROVIDE A CENSUS FIRELINE WATER METER ASSEMBLY MODEL #SR720 WITH 1.5" SR BYPASS METER AND MXU FOR RADIO READ FOR THE 8" DIP WATER MAIN.
9. PRESSURE REDUCING VALVE MUST BE ADJUSTED TO PROVIDE 80 PSI, AT THE BUILDING ACCESS POINT OR AS REQUIRED BY BUILDING PLUMBING ENGINEER.
10. THE GATE VALVE AT THE CURB LINE MUST REMAIN OPEN PERMANENTLY AFTER SPRINKLER SYSTEM IS OPERATIONAL.
11. THE GENERAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, INCLUDING BUOYANCY CALCULATIONS FOR ANTI–FLOATATION RING SIZE, AND LAYOUT OF PIPES AND APPURTENANCES PRIOR TO ORDERING, FABRICATION AND/OR CONSTRUCTION OF THE CONCRETE WATER METER PIT FOR THE REVIEW AND APPROVAL BY NEW JERSEY AMERICAN WATER COMPANY AND TOWNSHIP ENGINEER.
12. THE GENERAL CONTRACTOR SHALL REFER TO THE PLUMBING PLANS FOR THE INTERNAL DOMESTIC PLUMBING AND FIRE SPRINKLER SYSTEM, INCLUDING BACKFLOW PREVENTION DEVICES, PRESSURE REDUCING VALVES AND OTHER REQUIRED APPURTENANCES.
13. BACKFLOW PROVENTER MUST BE LOCATED INSIDE THE BUILDING.

TYPICAL CONCRETE WATER METER PIT
NOT TO SCALE

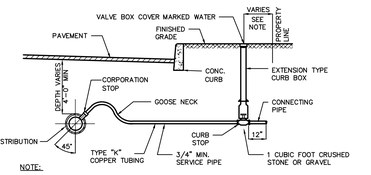
DIAMETER OF PIPE (d)	22 1/2° ELBOW "A"	45° ELBOW "A"	90° ELBOW "A"	TEE "A"	PLUG "A"
6"	0.5	1.1	2.0	1.4	1.4
8"	1.0	1.9	3.6	2.7	2.7
10"	1.5	3.0	5.5	4.2	4.2
12"	2.2	4.3	8.0	5.7	5.7
16"	4.5	7.7	14.2	10.0	10.0
20"	6.1	12.0	22.3	15.7	15.7
24"	8.8	17.2	32.0	22.7	22.7

"A" – CONTACT BEARING AREA OF BLOCK WITH EARTH, IN SQUARE FEET

NOTES:

1. BEARING AREAS ARE BASED ON UNDISTURBED SOIL WITH A BEARING CAPACITY OF 4000LBS. PER SQ. FT. FOR A LESSER SOIL BEARING CAPACITY, THESE AREAS SHALL BE INCREASED ACCORDINGLY.
2. ALL CONCRETE THRUST BLOCKS SHALL BE CLASS B.
3. THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED EARTH.
4. THE COST OF THRUST BLOCKS SHALL BE INCLUDED IN THE PRICE BID UNDER ITEM, WATER MAINS.
5. TEST PRESSURE = 150 P.S.I.

TABLE OF THRUST BLOCKS
NOT TO SCALE



NOTE:

1. CURB STOP TO BE LOCATED 8' FROM PROPERTY LINE ON 50' R.O.W OR AS DIRECTED.

HOUSE SERVICE CONNECTION DETAIL
NOT TO SCALE

SCALE IN FEET

Princeton Forward

Penn Medicine Princeton Health

1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

NO.	DATE	DESCRIPTION
3	07.25.23	Revised Per DRC, DRCC and FSCD Comments
2	06.14.23	Revised Surface at Island
1	05.05.23	Title Block Updated

Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd,
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASE 1C

CONSTRUCTION DETAILS (3)

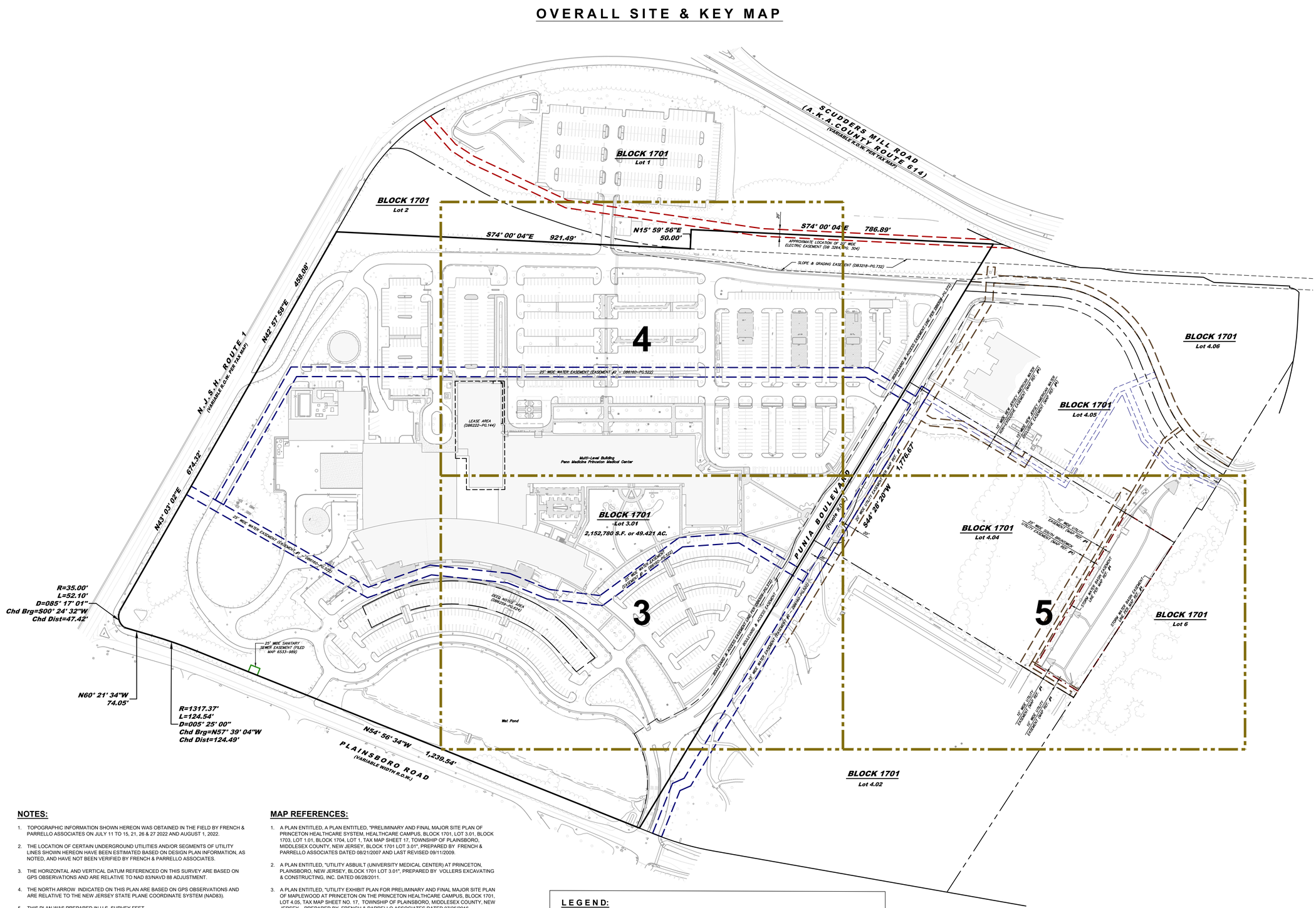
C.1C.19

04/14/2023 SITE PLAN SUBMISSION

3/14/2023 10:55:56 AM
Autodesk Docs://1837 Penn Medicine Princeton Health/DPHS-PMPH-GAR-AR.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

OVERALL SITE & KEY MAP



NOTES:

1. TOPOGRAPHIC INFORMATION SHOWN HEREON WAS OBTAINED IN THE FIELD BY FRENCH & PARRELLO ASSOCIATES ON JULY 11 TO 15, 21, 26 & 27 2022 AND AUGUST 1, 2022.
2. THE LOCATION OF CERTAIN UNDERGROUND UTILITIES AND/OR SEGMENTS OF UTILITY LINES SHOWN HEREON HAVE BEEN ESTIMATED BASED ON DESIGN PLAN INFORMATION, AS NOTED, AND HAVE NOT BEEN VERIFIED BY FRENCH & PARRELLO ASSOCIATES.
3. THE HORIZONTAL AND VERTICAL DATUM REFERENCED ON THIS SURVEY ARE BASED ON GPS OBSERVATIONS AND ARE RELATIVE TO NAD 83/NAVD 88 ADJUSTMENT.
4. THE NORTH ARROW INDICATED ON THIS PLAN ARE BASED ON GPS OBSERVATIONS AND ARE RELATIVE TO THE NEW JERSEY STATE PLANE COORDINATE SYSTEM (NAD83).
5. THIS PLAN WAS PREPARED IN U.S. SURVEY FEET.
6. ANY UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON ABOVE GROUND UTILITY. OBSERVATIONS, UTILITY MARKING FOUND IN THE FIELD AND/OR INFORMATION SUPPLIED BY THE UTILITY COMPANIES. SINCE NO PHYSICAL LOCATION OF THE UNDERGROUND FACILITIES HAVE BEEN MADE BY THE UNDERSIGNED, NO GUARANTEE IS BEING MADE FOR THEIR COMPLETENESS OR ACCURACY.
7. THE UNDERSIGNED PROFESSIONAL IS NOT QUALIFIED TO MAKE ANY DETERMINATION AS TO THE EXISTENCE OR NON-EXISTENCE OF WETLANDS AND/OR HAZARDOUS MATERIALS. THEREFORE, NO STATEMENT IS BEING MADE OR IMPLIED HEREON, NOR SHOULD IT BE ASSUMED OR CONSTRUED THAT ANY STATEMENT IS BEING MADE BY THE FACT THAT NO EVIDENCE OF WETLANDS AND/OR HAZARDOUS MATERIALS IS PORTRAYED HEREON. THE CLIENT SHOULD PURSUE THESE MATTERS SEPARATE AND APART FROM THIS SURVEY.
8. IF THIS DOCUMENT DOES NOT CONTAIN THE OF THE UNDERSIGNED RAISED SEAL PROFESSIONAL, IT IS NOT A VALID COPY OF THE SURVEY AND NO LIABILITY IS ASSUMED FOR THE INFORMATION SHOWN HEREON.
9. THIS SURVEY AND THE INFORMATION SHOWN HEREON IS PRIVILEGED AND HAS BEEN PREPARED FOR THE EXCLUSIVE USE OF PENN MEDICAL CENTER FOR DESIGN PURPOSES ONLY. THIS SURVEY AND THE INFORMATION CONTAINED HEREON CANNOT BE USED FOR ANY OTHER PURPOSE WITHOUT THE WRITTEN PERMISSION OF THE UNDERSIGNED PROFESSIONAL.

MAP REFERENCES:

1. A PLAN ENTITLED, A PLAN ENTITLED, "PRELIMINARY AND FINAL MAJOR SITE PLAN OF PRINCETON HEALTHCARE SYSTEM, HEALTHCARE CAMPUS, BLOCK 1701, LOT 3.01, BLOCK 1703, LOT 1.01, BLOCK 1704, LOT 1, TAX MAP SHEET 17, TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY, BLOCK 1701 LOT 3.01", PREPARED BY FRENCH & PARRELLO ASSOCIATES DATED 08/21/2007 AND LAST REVISED 09/11/2009.
2. A PLAN ENTITLED, "UTILITY ASBUILT (UNIVERSITY MEDICAL CENTER) AT PRINCETON, PLAINSBORO, NEW JERSEY, BLOCK 1701 LOT 3.01", PREPARED BY VOLLERS EXCAVATING & CONSTRUCTING, INC. DATED 06/28/2011.
3. A PLAN ENTITLED, "UTILITY EXHIBIT PLAN FOR PRELIMINARY AND FINAL MAJOR SITE PLAN OF MAPLEWOOD AT PRINCETON ON THE PRINCETON HEALTHCARE CAMPUS, BLOCK 1701, LOT 4.05, TAX MAP SHEET NO. 17, TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY, , PREPARED BY FRENCH & PARRELLO ASSOCIATES DATED 07/25/2016.
4. MAP ENTITLED, "PROPOSED PSE&G EASEMENT ON LOTS 4.04, 4.05, & 4.06, BLOCK 1701, TAX MAP SHEET NO. 17, TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY", PREPARED BY FRENCH & PARRELLO ASSOCIATES , DATED JULY 13, 2016.
5. MAP ENTITLED, "REDEVELOPMENT - PRINCETON HEALTHCARE FINAL SUBDIVISION PLAT, LOTS 3 & 4, BLOCK 1701, LOTS 1, 2, & 3, BLOCK 1703, LOT 1, BLOCK 1704, TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, N.J.", PREPARED BY STIRES ASSOCIATES, P.A., DATED FEBRUARY 12, 2008, REVISED TO JANUARY 8, 2009, AND FILED IN THE MIDDLESEX COUNTY CLERK'S OFFICE ON FEBRUARY 5, 2009 AS MAP NO. 6533, FILE NO. 989, SHEETS 1 AND 2.
6. MAP ENTITLED, "FINAL MAJOR SUBDIVISION OF LOT 4.03, BLOCK 1701, TAX MAP SHEET NO. 17, TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY", PREPARED BY FRENCH & PARRELLO ASSOCIATES , DATED NOVEMBER 13, 2013, REVISED NOVEMBER 24, 2014, AND FILED IN THE MIDDLESEX COUNTY CLERK'S OFFICE ON JUNE 24, 2015 AS MAP NO. 6708, FILE NO. 989.
7. THE OFFICIAL TAX MAP SHEET OF THE TOWNSHIP OF PLAINSBORO, MIDDLESEX COUNTY, NEW JERSEY SHEET NO. 17.

LEGEND:

× 123.45	SPOT ELEVATION	FIRE HYDRANT	81 MINOR CONTOUR
× TC=123.45	TOP OF CURB	WATER METER	80 MAJOR CONTOUR
× BC=123.45	BOTTOM OF CURB	GAS VALVE	CHAINLINK FENCE
× TW=123.45	TOP OF WALL	GAS METER	WOOD FENCE
× F.F.=123.4	FINISHED FLOOR ELEVATION	SIGN	UNDERGROUND STORM DRAINAGE PIPE
	CURB DRAINAGE INLET	UTILITY POLE	UNDERGROUND SANITARY PIPE
	DRAINAGE INLET	GUY WIRE	OVERHEAD ELECTRIC LINE
	DRAINAGE MANHOLE	ELECTRIC METER	GAS LINE MARKOUT
	SANITARY SEWER MANHOLE	ELECTRIC BOX	WATER LINE MARKOUT
	UTILITY MANHOLE	LIGHT POST	WATER LINE FROM MAP REF. #1
	ELECTRICAL MANHOLE	FLAG POLE	ELECTRIC LINE MARKOUT
	TELEPHONE MANHOLE	STEEL BOLLARD	TELEPHONE LINE MARKOUT
	SANITARY CLEANOUT	IRON BAR FOUND	
	WATER VALVE	MONUMENT FOUND	
		TREE	
		BUSH	

THE USE OF THIS SURVEY IN ITS PRESENT FORMAT IS SUBJECT TO THE STATE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS ADMINISTRATIVE RULES AND REGULATIONS TITLE 13 CHAPTER 40 SUBCHAPTER 8 SECTION 13:40-8.2(e) "NO PERSON SHALL REMOVE A TITLE BLOCK FROM ANY PRINT OR REPRODUCTION" AND SECTION 13:40-8.3(a)5 "THE HANDWRITTEN SIGNATURE OF THE PERSON(S) IN RESPONSIBLE CHARGE AND DATE WHEN SIGNED".

No.	Date	Revision	Revised By	Checked By
1	09/06/2022	EDITS PER 09/01/2022 SITE CONSULTATION MEETING	D.S.B.	T.J.E.

100' 0 100' 200'

SCALE: 1" = 100'
SCALE IN U.S. SURVEY FEET

FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Route 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

THOMAS J. ERTLE, PLS
PROFESSIONAL LAND SURVEYOR, NJ LIC. No. 24GS03583400

TOPOGRAPHIC SURVEY

PENN MEDICINE PRINCETON MEDICAL CENTER AT PLAINSBORO

LOTS 3.01 & 4.04, BLOCK 1701

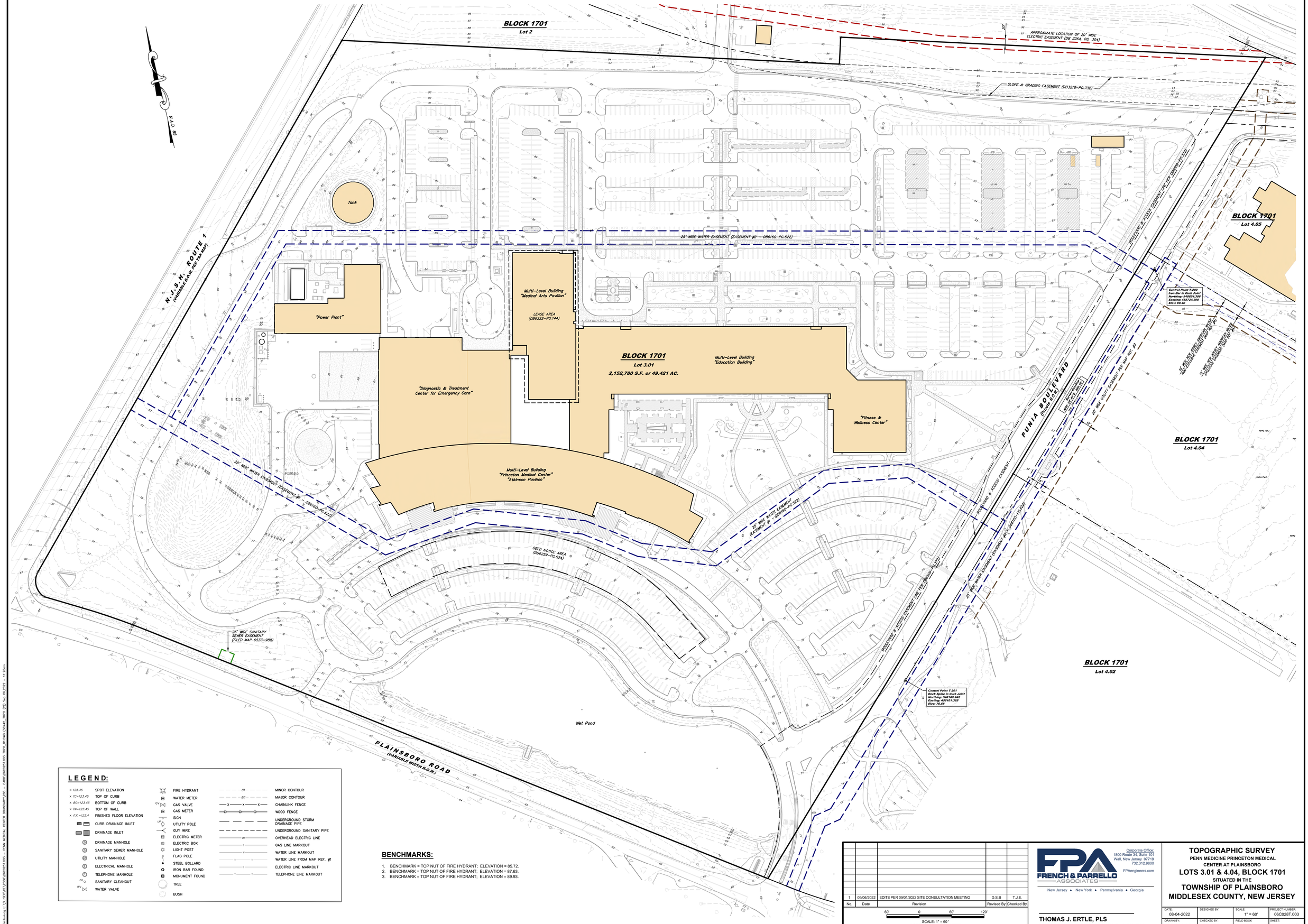
SITUATED IN THE

TOWNSHIP OF PLAINSBORO
MIDDLESEX COUNTY, NEW JERSEY

DATE:	DESIGNED BY:	SCALE:	PROJECT NUMBER:
08-04-2022		1" = 100'	06C028T.003
DRAWN BY:	CHECKED BY:	FIELD BOOK	SHEET:
D.S.B./ A.V.R.	T.J.E.		1 of 5

COPYRIGHT © 2022, FRENCH & PARRELLO ASSOCIATES, PA – THE COPYING OR REUSE OF THIS DOCUMENT, OR PORTIONS THEREOF, WITHOUT THE WRITTEN PERMISSION OF FRENCH & PARRELLO ASSOCIATES, PA IS PROHIBITED.
DUE TO INHERENT ERRORS IN REPRODUCTION METHODS, ERRORS MAY OCCUR WHEN SCALING THIS DRAWING

dsmith on hvng: L:\SU-SEC\CVE\2006\06C028T.003 – PENN MEDICAL CENTER BOUNDARY\200 – CAD\06C028T.003 TOPO_R1.DWG (ZENKL_TOPO (1)) Sep 06, 2022 – 11:18am



LEGEND:

× 123.45	SPOT ELEVATION		MINOR CONTOUR
× TC=123.45	TOP OF CURB		MAJOR CONTOUR
× BC=123.45	BOTTOM OF CURB	x x x	CHAINLINK FENCE
× TW=123.45	TOP OF WALL		WOOD FENCE
× F.F.=123.4	FINISHED FLOOR ELEVATION		UNDERGROUND STORM DRAINAGE PIPE
	CURB DRAINAGE INLET		UNDERGROUND SANITARY PIPE
	DRAINAGE INLET	OH	OVERHEAD ELECTRIC LINE
D	DRAINAGE MANHOLE	G	GAS LINE MARKOUT
S	SANITARY SEWER MANHOLE	W	WATER LINE MARKOUT
U	UTILITY MANHOLE	W	WATER LINE FROM MAP REF. #1
E	ELECTRICAL MANHOLE	E	ELECTRIC LINE MARKOUT
T	TELEPHONE MANHOLE	T	TELEPHONE LINE MARKOUT
CO	SANITARY CLEANOUT		
WV	WATER VALVE		
	FIRE HYDRANT		
	WATER METER		
GV	GAS VALVE		
	GAS METER		
SIGN			
UP	UTILITY POLE		
	GUY WIRE		
	ELECTRIC METER		
	ELECTRIC BOX		
	LIGHT POST		
	FLAG POLE		
	STEEL BOLLARD		
	IRON BAR FOUND		
	MONUMENT FOUND		
	TREE		
	BUSH		

BENCHMARKS:

1. BENCHMARK = TOP NUT OF FIRE HYDRANT; ELEVATION = 85.72.
2. BENCHMARK = TOP NUT OF FIRE HYDRANT; ELEVATION = 87.63.
3. BENCHMARK = TOP NUT OF FIRE HYDRANT; ELEVATION = 89.93.

No.	Date	Revision	Revised By	Checked By
1	09/06/2022	EDITS PER 09/01/2022 SITE CONSULTATION MEETING	D.S.B.	T.J.E.

60' 0 60' 120'
SCALE: 1" = 60'
SCALE IN U.S. SURVEY FEET

FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Route 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

THOMAS J. ERTLE, PLS
PROFESSIONAL LAND SURVEYOR, NJ LIC. No. 24GS03583400

TOPOGRAPHIC SURVEY

PENN MEDICINE PRINCETON MEDICAL CENTER AT PLAINSBORO

LOTS 3.01 & 4.04, BLOCK 1701

SITUATED IN THE

TOWNSHIP OF PLAINSBORO
MIDDLESEX COUNTY, NEW JERSEY

DATE:	DESIGNED BY:	SCALE:	PROJECT NUMBER:
08-04-2022		1" = 60'	06C028T.003
DRAWN BY:	CHECKED BY:	FIELD BOOK:	SHEET:
D.S.B./ A.V.R.	T.J.E.		2 of 5

COPYRIGHT © 2022, FRENCH & PARRELLO ASSOCIATES, PA — THE COPYING OR REUSE OF THIS DOCUMENT, OR PORTIONS THEREOF, WITHOUT THE WRITTEN PERMISSION OF FRENCH & PARRELLO ASSOCIATES, PA IS PROHIBITED.
DUE TO INHERENT ERRORS IN REPRODUCTION METHODS, ERRORS MAY OCCUR WHEN SCALING THIS DRAWING

C:\Users\tertle\Desktop\Penn Med PB Submission Plans 08-09-23\PENN MEDICAL CENTER BOUNDARY.DWG - (ACAD\2022\SUPPORT\en-US\PLOT STYLES\FPA.CTB, 1:1)Dec 06, 2022 - 11:20am

MATCH LINE - SEE SHEET 4 OF 5

MATCH LINE SEE SHEET 5 OF 5

BLOCK 1701
Lot 3.01
2,152,780 S.F. or 49.421 AC.

Multi-Level Building "Education Building"

"Fitness & Wellness Center"

Multi-Level Building "Princeton Medical Center" "Atkinson Pavilion"

Medical Oncology Annex

BLOCK 1701
Lot 4.04

BLOCK 1701
Lot 4.02

PUNIA BOULEVARD (Private R.O.W.)

BOULEVARD & ACCESS EASEMENT

EXISTING PRIVATE R.O.W. EASEMENT

20' WIDE PSE&G UTILITY EASEMENT PER MAP REF. #1

25' WIDE WATER EASEMENT (EASEMENT #1 – DB6160-PG.522)

Survey Baseline N44°28'45"E 889.19'

BENCHMARK (BM-1) Top Nut of Fire Hydrant Elev.=85.72

BENCHMARK (BM-2) Top Nut of Fire Hydrant Elev.=87.63

BENCHMARK (BM-3) Top Nut of Fire Hydrant Elev.=89.93

Control Point T-201
Dock Spike in Curb Joint
Northing: 548189.942
Easting: 459101.385
Elev: 76.58

Wet Pond

REED HOPE ARCH (DB5299-PG.6247)

Upper Roof Line Elev.=130.91

Upper Roof Line Elev.=111.54

LEGEND:

x 123.45	SPOT ELEVATION	FIRE HYDRANT	MINOR CONTOUR
x TC=123.45	TOP OF CURB	WATER METER	MAJOR CONTOUR
x BC=123.45	BOTTOM OF CURB	GAS VALVE	CHAINLINK FENCE
x TW=123.45	TOP OF WALL	GAS METER	WOOD FENCE
x FF=123.4	FINISHED FLOOR ELEVATION	SIGN	UNDERGROUND STORM DRAINAGE PIPE
	CURB DRAINAGE INLET	UTILITY POLE	GUY WIRE
	DRAINAGE INLET	ELECTRIC METER	UNDERGROUND SANITARY PIPE
D	DRAINAGE MANHOLE	ELECTRIC BOX	OVERHEAD ELECTRIC LINE
S	SANITARY SEWER MANHOLE	LIGHT POST	GAS LINE MARKOUT
P	UTILITY MANHOLE	FLAG POLE	WATER LINE MARKOUT
E	ELECTRICAL MANHOLE	STEEL BOLLARD	WATER LINE FROM MAP REF. #1
T	TELEPHONE MANHOLE	IRON BAR FOUND	ELECTRIC LINE MARKOUT
CO	SANITARY CLEANOUT	MONUMENT FOUND	TELEPHONE LINE MARKOUT
WV	WATER VALVE	TREE	
		BUSH	

BENCHMARKS:

1. BENCHMARK = TOP NUT OF FIRE HYDRANT; ELEVATION = 85.72.
2. BENCHMARK = TOP NUT OF FIRE HYDRANT; ELEVATION = 87.63.
3. BENCHMARK = TOP NUT OF FIRE HYDRANT; ELEVATION = 89.93.

No.	Date	Revision	Revised By	Checked By
1	09/06/2022	EDITS PER 09/01/2022 SITE CONSULTATION MEETING	D.S.B	T.J.E.

30' 0 30' 60'
SCALE: 1" = 30'
SCALE IN U.S. SURVEY FEET

THE USE OF THIS SURVEY IN ITS PRESENT FORMAT IS SUBJECT TO THE STATE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS ADMINISTRATIVE RULES AND REGULATIONS TITLE 13 CHAPTER 40 SUBCHAPTER 8 SECTION 13:40-8.2(e) "NO PERSON SHALL REMOVE A TITLE BLOCK FROM ANY PRINT OR REPRODUCTION" AND SECTION 13:40-8.3(a)5 "THE HANDWRITTEN SIGNATURE OF THE PERSON(S) IN RESPONSIBLE CHARGE AND DATE WHEN SIGNED".

FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Route 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

THOMAS J. ERTLE, PLS
PROFESSIONAL LAND SURVEYOR, NJ LIC. No. 24GS03583400

TOPOGRAPHIC SURVEY

PENN MEDICINE PRINCETON MEDICAL CENTER AT PLAINSBORO

LOTS 3.01 & 4.04, BLOCK 1701

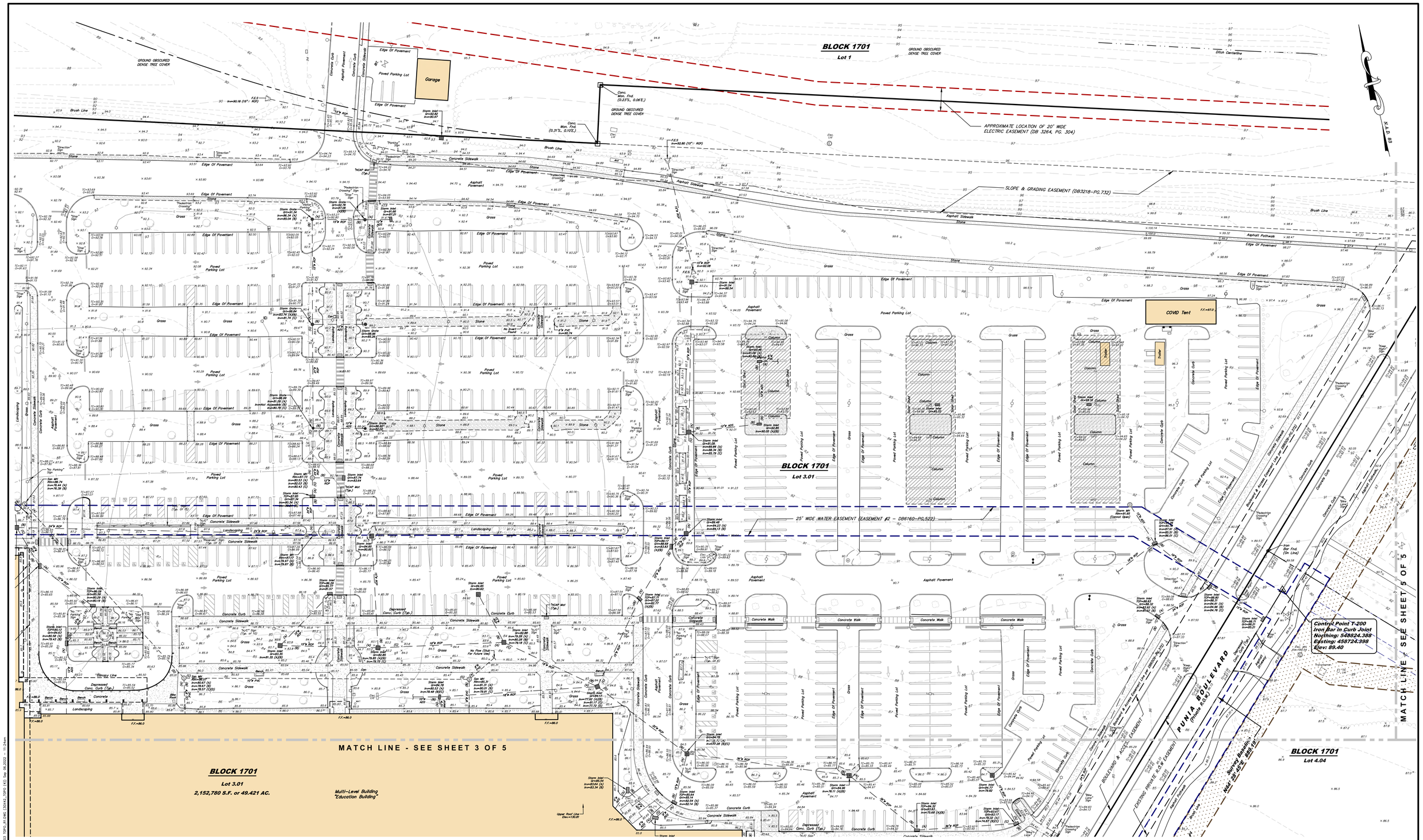
SITUATED IN THE

TOWNSHIP OF PLAINSBORO
MIDDLESEX COUNTY, NEW JERSEY

DATE:	DESIGNED BY:	SCALE:	PROJECT NUMBER:
08-04-2022		1" = 30'	06C028T.003
DRAWN BY:	CHECKED BY:	FIELD BOOK:	SHEET:
D.S.B. / A.V.R.	T.J.E.		3 of 5

COPYRIGHT © 2022, FRENCH & PARRELLO ASSOCIATES, PA – THE COPYING OR REUSE OF THIS DOCUMENT, OR PORTIONS THEREOF, WITHOUT THE WRITTEN PERMISSION OF FRENCH & PARRELLO ASSOCIATES, PA IS PROHIBITED.
DUE TO INHERENT ERRORS IN REPRODUCTION METHODS, ERRORS MAY OCCUR WHEN SCALING THIS DRAWING

C:\Users\tertle\Desktop\Working Folder\06C028T.003\Survey\06C028T.003 - PENN MEDICAL CENTER BRANDYWYLNE - CADD\06C028T.003 TOPO_R17.dwg, 24x36 (1), TOPO (3), Sep 06, 2022 - 11:22am



LEGEND:

× 123.45	SPOT ELEVATION	FIRE HYDRANT	MINOR CONTOUR
× TC=123.45	TOP OF CURB	WATER METER	MAJOR CONTOUR
× BC=123.45	BOTTOM OF CURB	GAS VALVE	CHAINLINK FENCE
× TW=123.45	TOP OF WALL	GAS METER	WOOD FENCE
× F.F.=123.4	FINISHED FLOOR ELEVATION	SIGN	UNDERGROUND STORM DRAINAGE PIPE
	CURB DRAINAGE INLET	UTILITY POLE	
	DRAINAGE INLET	GUY WIRE	UNDERGROUND SANITARY PIPE
	DRAINAGE MANHOLE	ELECTRIC METER	OVERHEAD ELECTRIC LINE
	SANITARY SEWER MANHOLE	ELECTRIC BOX	GAS LINE MARKOUT
	UTILITY MANHOLE	LIGHT POST	WATER LINE MARKOUT
	ELECTRICAL MANHOLE	FLAG POLE	WATER LINE FROM MAP REF. #1
	TELEPHONE MANHOLE	STEEL BOLLARD	ELECTRIC LINE MARKOUT
	SANITARY CLEANOUT	IRON BAR FOUND	TELEPHONE LINE MARKOUT
	WATER VALVE	MONUMENT FOUND	
		TREE	
		BUSH	

BENCHMARKS:

1. BENCHMARK = TOP NUT OF FIRE HYDRANT; ELEVATION = 85.72.
2. BENCHMARK = TOP NUT OF FIRE HYDRANT; ELEVATION = 87.63.
3. BENCHMARK = TOP NUT OF FIRE HYDRANT; ELEVATION = 89.93.

THE USE OF THIS SURVEY IN ITS PRESENT FORMAT IS SUBJECT TO THE STATE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS ADMINISTRATIVE RULES AND REGULATIONS TITLE 13 CHAPTER 40 SUBCHAPTER 8 SECTION 13:40-8.2(e) "NO PERSON SHALL REMOVE A TITLE BLOCK FROM ANY PRINT OR REPRODUCTION" AND SECTION 13:40-8.3(a)5 "THE HANDWRITTEN SIGNATURE OF THE PERSON(S) IN RESPONSIBLE CHARGE AND DATE WHEN SIGNED".

No.	Date	Revision	Revised By	Checked By
1	09/06/2022	EDITS PER 09/01/2022 SITE CONSULTATION MEETING	D.S.B	T.J.E.

SCALE: 1" = 30'
SCALE IN U.S. SURVEY FEET

FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Route 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

THOMAS J. ERTLE, PLS
PROFESSIONAL LAND SURVEYOR, NJ LIC. No. 24GS03583400

TOPOGRAPHIC SURVEY

PENN MEDICINE PRINCETON MEDICAL CENTER AT PLAINSBORO

LOTS 3.01 & 4.04, BLOCK 1701

SITUATED IN THE

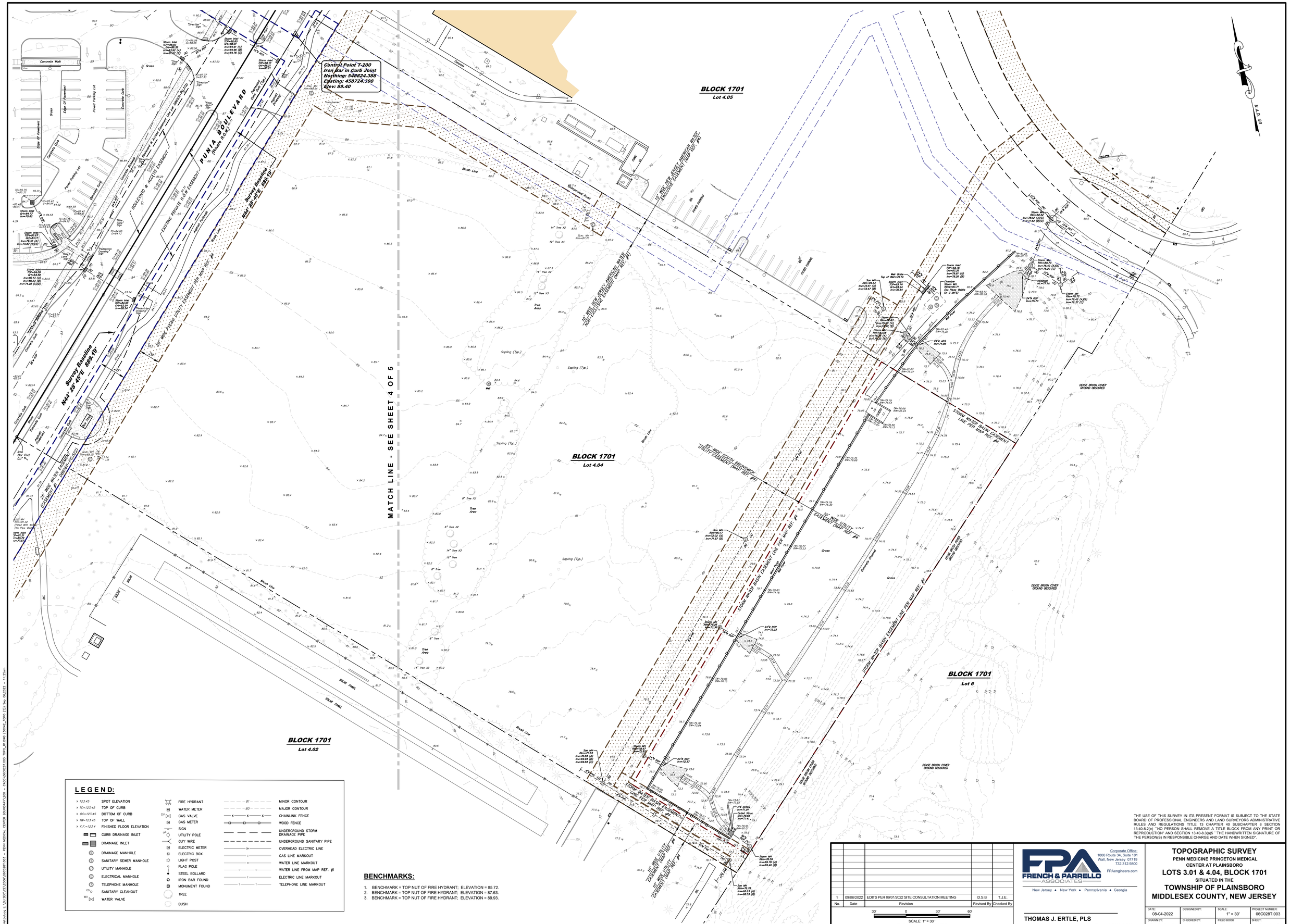
TOWNSHIP OF PLAINSBORO

MIDDLESEX COUNTY, NEW JERSEY

DATE:	DESIGNED BY:	SCALE:	PROJECT NUMBER:
08-04-2022		1" = 30'	06C028T.003
DRAWN BY:	CHECKED BY:	FIELD BOOK	SHEET:
D.S.B. / A.V.R.	T.J.E.		4 of 5

COPYRIGHT © 2022, FRENCH & PARRELLO ASSOCIATES, PA — THE COPYING OR REUSE OF THIS DOCUMENT, OR PORTIONS THEREOF, WITHOUT THE WRITTEN PERMISSION OF FRENCH & PARRELLO ASSOCIATES, PA IS PROHIBITED.
DUE TO INHERENT ERRORS IN REPRODUCTION METHODS, ERRORS MAY OCCUR WHEN SCALING THIS DRAWING

dwn:Autocg L:\SURVEY\2006\06C028T.003 - PENN MEDICAL CENTER BOUNDARY\200 - CAD\06C028T.003 TOPO_BT.DWG 12X42 ZOPO (43) Sep 06,2022 - 11:24am



LEGEND:

- SPOT ELEVATION
- TOP OF CURB
- BOTTOM OF CURB
- TOP OF WALL
- FINISHED FLOOR ELEVATION
- CURB DRAINAGE INLET
- DRAINAGE INLET
- DRAINAGE MANHOLE
- SANITARY SEWER MANHOLE
- UTILITY MANHOLE
- ELECTRICAL MANHOLE
- TELEPHONE MANHOLE
- SANITARY CLEANOUT
- WATER VALVE
- FIRE HYDRANT
- WATER METER
- GAS VALVE
- GAS METER
- SIGN
- UTILITY POLE
- GUY WIRE
- ELECTRIC METER
- ELECTRIC BOX
- LIGHT POST
- FLAG POLE
- STEEL BOLLARD
- IRON BAR FOUND
- MONUMENT FOUND
- TREE
- BUSH
- MINOR CONTOUR
- MAJOR CONTOUR
- CHAINLINK FENCE
- WOOD FENCE
- UNDERGROUND STORM DRAINAGE PIPE
- UNDERGROUND SANITARY PIPE
- OVERHEAD ELECTRIC LINE
- WATER LINE MARKOUT
- WATER LINE FROM MAP REF. #1
- ELECTRIC LINE MARKOUT
- TELEPHONE LINE MARKOUT

BENCHMARKS:

1. BENCHMARK = TOP NUT OF FIRE HYDRANT; ELEVATION = 85.72.
2. BENCHMARK = TOP NUT OF FIRE HYDRANT; ELEVATION = 87.63.
3. BENCHMARK = TOP NUT OF FIRE HYDRANT; ELEVATION = 89.93.

THE USE OF THIS SURVEY IN ITS PRESENT FORMAT IS SUBJECT TO THE STATE BOARD OF PROFESSIONAL ENGINEERS AND LAND SURVEYORS ADMINISTRATIVE RULES AND REGULATIONS TITLE 13 CHAPTER 40 SUBCHAPTER 8 SECTION 13:40-8.2(e) "NO PERSON SHALL REMOVE A TITLE BLOCK FROM ANY PRINT OR REPRODUCTION" AND SECTION 13:40-8.3(a)5 "THE HANDWRITTEN SIGNATURE OF THE PERSON(S) IN RESPONSIBLE CHARGE AND DATE WHEN SIGNED"

No.	Date	Revision	Revised By	Checked By
1	09/06/2022	EDITS PER 09/01/2022 SITE CONSULTATION MEETING	D.S.B	T.J.E.

30' 0 30' 60'
SCALE: 1" = 30'
SCALE IN U.S. SURVEY FEET

FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Route 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

THOMAS J. ERTLE, PLS
PROFESSIONAL LAND SURVEYOR, NJ LIC. No. 24GS03583400

TOPOGRAPHIC SURVEY

PENN MEDICINE PRINCETON MEDICAL CENTER AT PLAINSBORO

LOTS 3.01 & 4.04, BLOCK 1701

SITUATED IN THE

TOWNSHIP OF PLAINSBORO
MIDDLESEX COUNTY, NEW JERSEY

DATE:	DESIGNED BY:	SCALE:	PROJECT NUMBER:
08-04-2022		1" = 30'	06C028T.003
DRAWN BY:	CHECKED BY:	FIELD BOOK	SHEET:
D.S.B./ A.V.R.	T.J.E.		5 of 5

COPYRIGHT © 2022, FRENCH & PARRELLO ASSOCIATES, PA – THE COPYING OR REUSE OF THIS DOCUMENT, OR PORTIONS THEREOF, WITHOUT THE WRITTEN PERMISSION OF FRENCH & PARRELLO ASSOCIATES, PA IS PROHIBITED. DUE TO INHERENT ERRORS IN REPRODUCTION METHODS, ERRORS MAY OCCUR WHEN SCALING THIS DRAWING

dsmar.bullock, L:\SU-SE\CVL\2006\06C028T.003 – PENN MEDICAL CENTER BOUNDARY\3.003 – EXEC\06C028T.003 TOPO_81.DWG, 24X42_25PO (51), Sep 06, 2022 – 11:21am

Cloud Gehshan
Design

400 Market Street, Suite 300
Philadelphia, PA 19106

215 829 9414
cloudgehshan.com

Penn Medicine

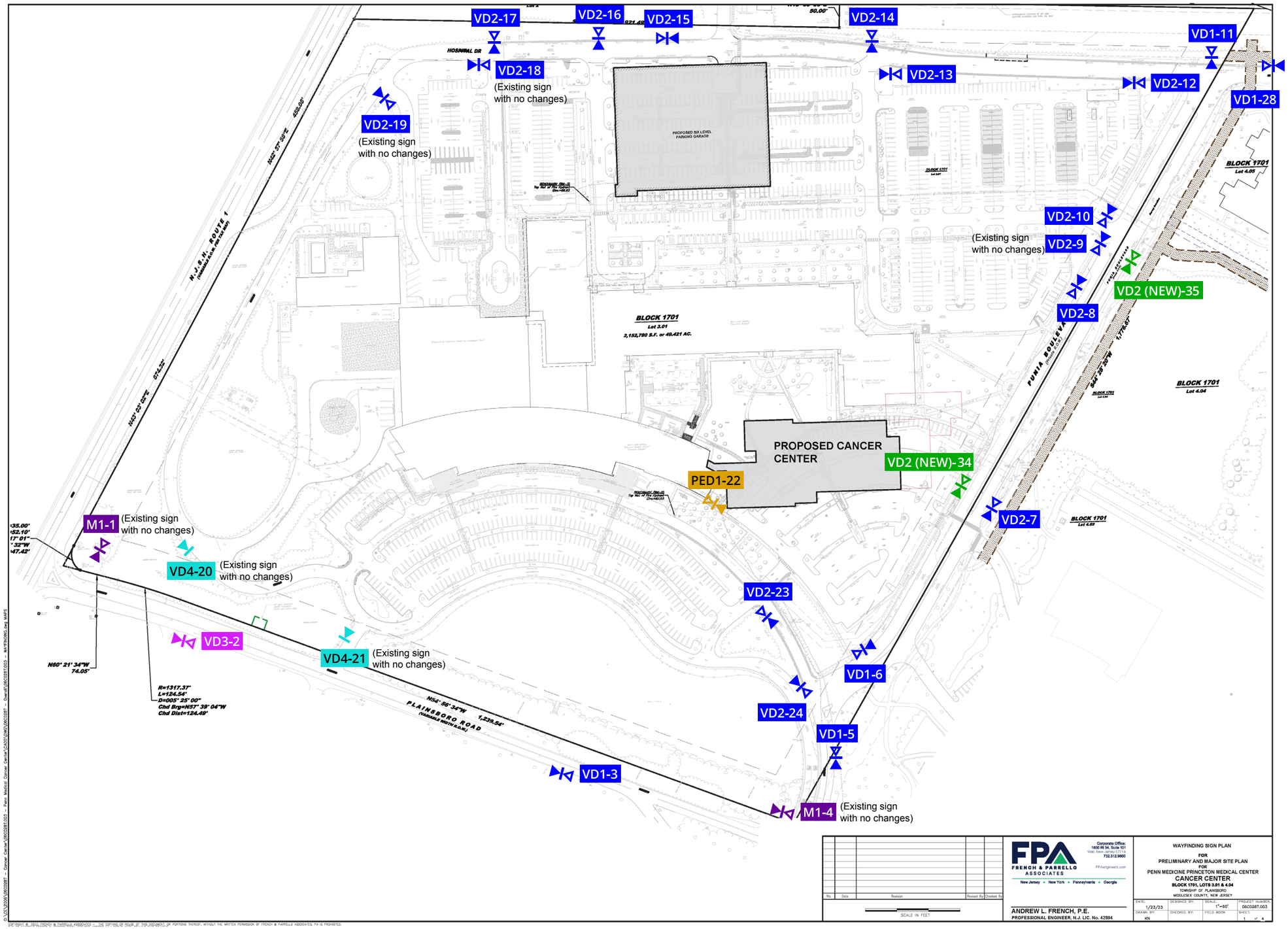
Penn Medicine Princeton Health Cancer Center

Exterior Wayfinding
(Programming)
April 14, 2023

Sign Location Plan – Exterior Directional Signs

P23-03 Penn Med PB Submission Plans 08/09/23

Penn Medicine



Signage Improvements:

The sign messages are revised to help direct patients/visitors to the new parking garage, and improve wayfinding for major destinations.

We are listing the destinations in alphabetical order as recommended by wayfinding best practices. The “Emergency” message is shown larger and as the first listing for quick identification.

The temporary “Punia Parking Lot” is a destination that will be removed pending permit allowance.

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office: 1800 Rt 34, Suite 101, Wall, New Jersey 07719, 732.312.9900, FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

ANDREW L. FRENCH, P.E.
PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

WAYFINDING SIGN PLAN
FOR
PRELIMINARY AND MAJOR SITE PLAN
FOR
PENN MEDICINE PRINCETON MEDICAL CENTER
CANCER CENTER
BLOCK 1701, LOTS 3.01 & 4.04
TOWNSHIP OF PLAINSBORO
MIDDLESEX COUNTY, NEW JERSEY

DATE	DESIGNED BY	SCALE	PROJECT NUMBER
1/23/23		1"=60'	06C028T.003
DRAWN BY	CHECKED BY	FIELD BOOK	SHEET
KN			1 of 4

SCALE IN FEET

Client/Project	Project No.	Date	Revisions	Scale	Page Number
Penn Medicine Princeton Health Cancer Ctr. Exterior Wayfinding	23UPM149006	4.14.23		As Noted	0.2

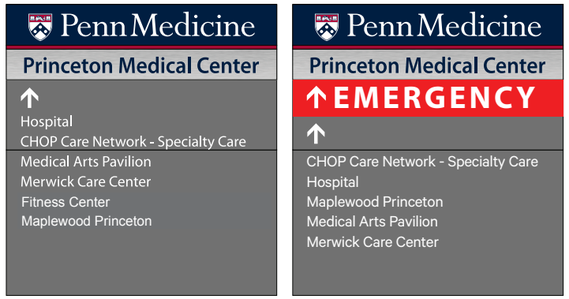
© 2023 Cloud Gehshan

Exterior Directional Sign Messages – Existing and Revised Message for Phase 1

Penn Medicine

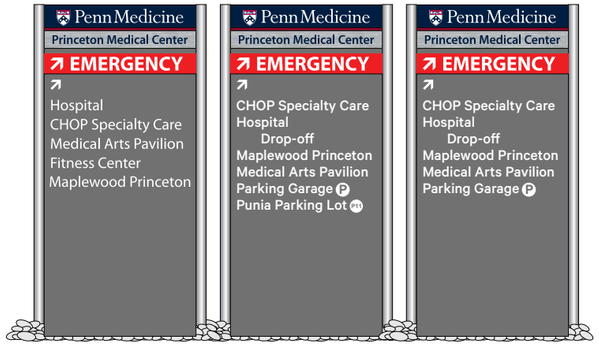
PROGRAMMING

VD3-2



SIGN 2 SIDE A (Existing) | SIGN 2 SIDE A (Phase 1)

VD1-3

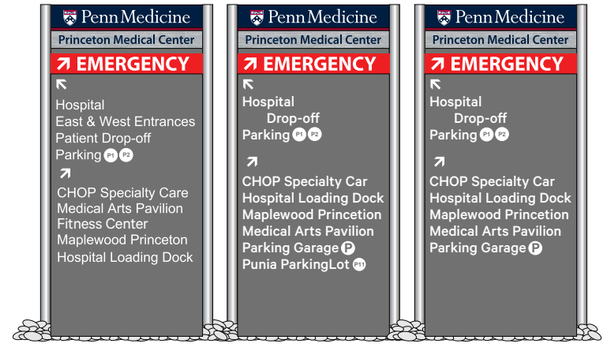


SIGN 3 SIDE A (Existing) | SIGN 3 SIDE A (Phase 1) | (After temporary "Punia Parking Lot" is removed)

VD1-5

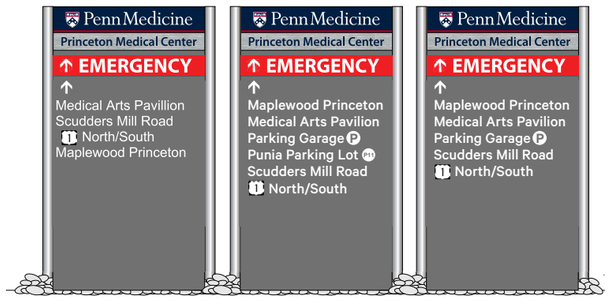
SIGN 5 SIDE A (Existing) | SIGN 5 SIDE A (Phase 1)

VD1-6



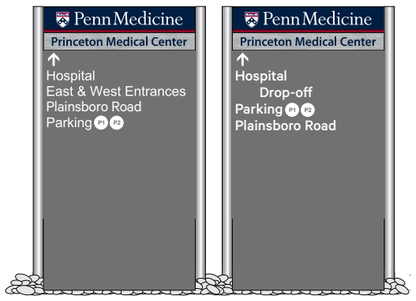
SIGN 6 SIDE A (Existing) | SIGN 6 SIDE A (Phase 1) | (After temporary "Punia Parking Lot" is removed)

VD2-7



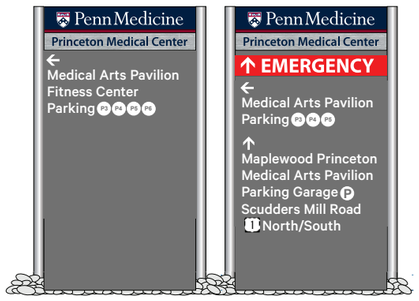
SIGN 7 SIDE A (Existing) | SIGN 7 SIDE A (Phase 1) | (After temporary "Punia Parking Lot" is removed)

VD2-8



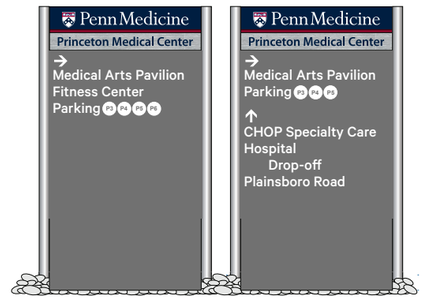
SIGN 8 SIDE A (Existing) | SIGN 8 SIDE A (Phase 1)

VD2-10



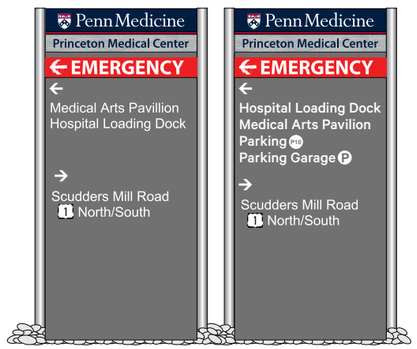
SIGN 10 SIDE A (Existing) | SIGN 10 SIDE A (Phase 1)

VD2-10



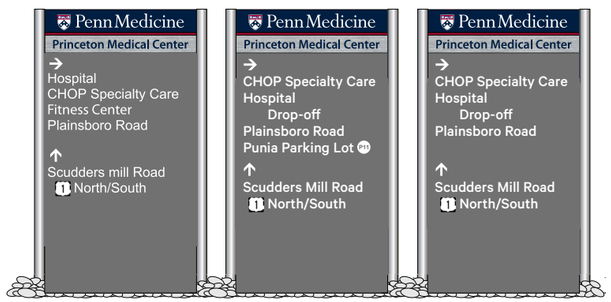
SIGN 10 SIDE B (Existing) | SIGN 10 SIDE B (Phase 1)

VD1-11



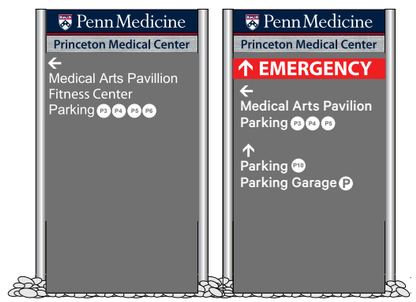
SIGN 11 SIDE A (Existing) | SIGN 11 SIDE A (Phase 1)

VD2-12



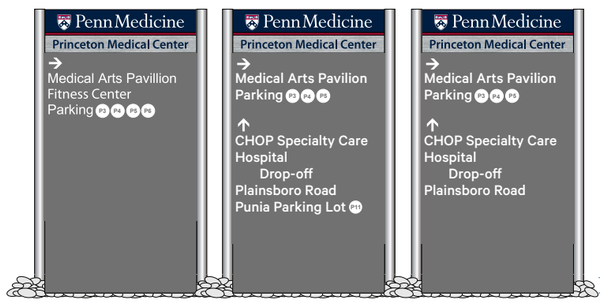
SIGN 12 SIDE A (Existing) | SIGN 12 SIDE A (Phase 1) | (After temporary "Punia Parking Lot" is removed)

VD2-13



SIGN 13 SIDE A (Existing) | SIGN 13 SIDE A (Phase 1)

VD2-13



SIGN 13 SIDE B (Existing) | SIGN 13 SIDE B (Phase 1) | (After temporary "Punia Parking Lot" is removed)

Client/Project	Project No.	Date	Revisions	Scale	Page Number
Penn Medicine Princeton Health Cancer Ctr. Exterior Wayfinding	23UPM149006	4.14.23		As Noted	0.3

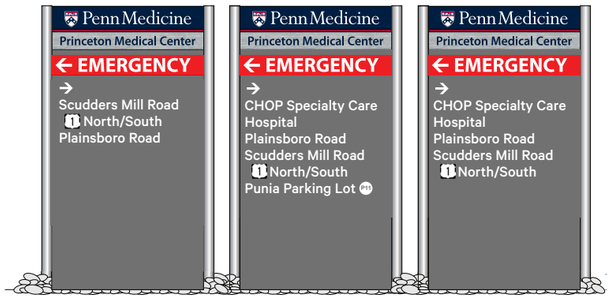
© 2023 Cloud Gehshan

Exterior Directional Sign Messages – Existing and Revised Message for Phase 1

Penn Medicine

PROGRAMMING

VD2-14

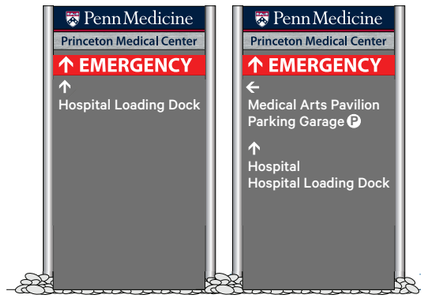


SIGN 14 SIDE A (Existing)

SIGN 14 SIDE A (Phase 1)

(After temporary "Punia Parking Lot" is removed)

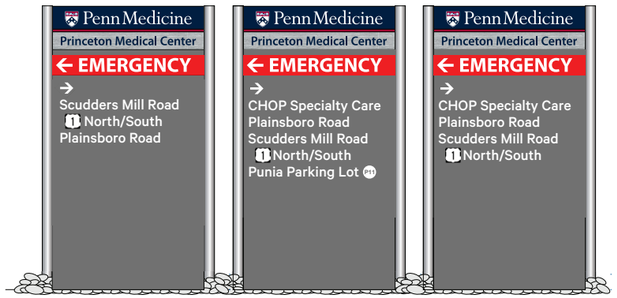
VD2-15



SIGN 15 SIDE A (Existing)

SIGN 15 SIDE A (Phase 1)

VD2-16

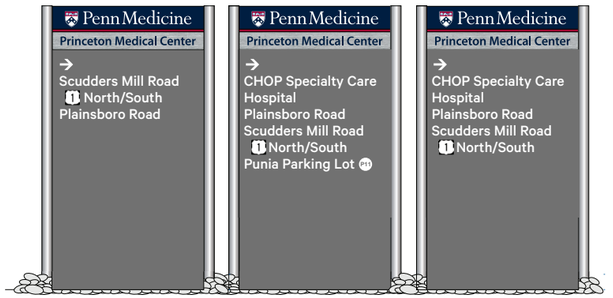


SIGN 16 SIDE A (Existing)

SIGN 16 SIDE A (Phase 1)

(After temporary "Punia Parking Lot" is removed)

VD2-17

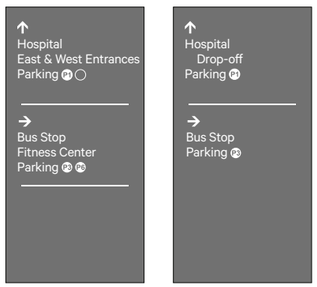


SIGN 17 SIDE A (Existing)

SIGN 17 SIDE A (Phase 1)

(After temporary "Punia Parking Lot" is removed)

PED1-22

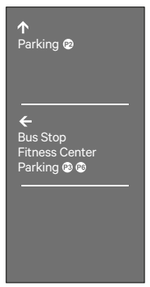


SIGN 22 SIDE A (Existing)

PED1-22

SIGN 22 SIDE A (Phase 1)

PED1-22

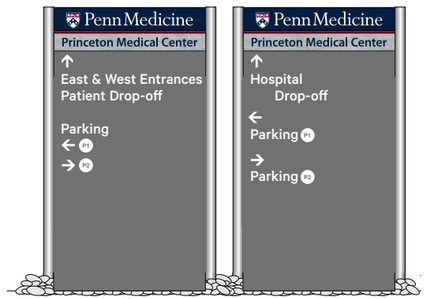


SIGN 22 SIDE B (Existing)

PED1-22

SIGN 22 SIDE B (Phase 1)

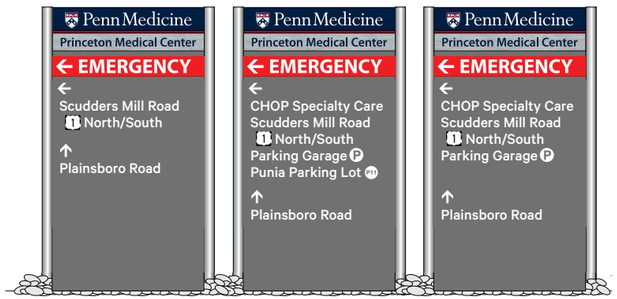
VD2-23



SIGN 23 SIDE A (Existing)

SIGN 23 SIDE A (Phase 1)

VD2-24

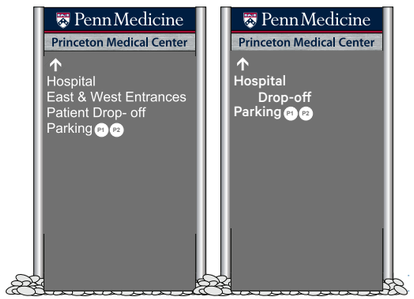


SIGN 24 SIDE A (Existing)

SIGN 24 SIDE A (Phase 1)

(After temporary "Punia Parking Lot" is removed)

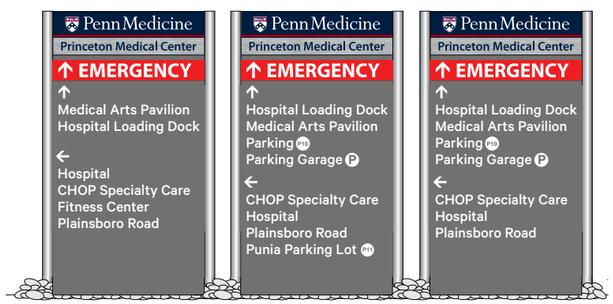
VD2-24



SIGN 24 SIDE B (Existing)

SIGN 24 SIDE B (Phase 1)

VD1-28

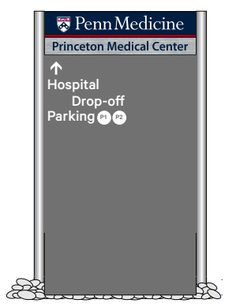


SIGN 28 SIDE A (Existing)

SIGN 28 SIDE A (Phase 1)

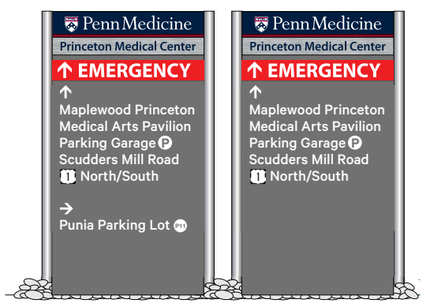
(After temporary "Punia Parking Lot" is removed)

VD2-34



SIGN 34 SIDE A (Phase 1, New)

VD2-35



SIGN 35 SIDE A (Phase 1, New)

(After temporary "Punia Parking Lot" is removed)

Client/Project	Project No.	Date	Revisions	Scale	Page Number
Penn Medicine Princeton Health Cancer Ctr. Exterior Wayfinding	23UPM149006	4.14.23		As Noted	0.4

© 2023 Cloud Gehshan

PHOTO No. 1

East facing view from next to building.

PHOTO No. 2

Northwest facing view of the parking area from building.

FRENCH & PARRELLO ASSOCIATES

PARKING GARAGE
ON THE PRINCETON HEALTHCARE CAMPUS
BLOCK 1703, LOT 3.01
PLAINSBORO TOWNSHIP, MIDDLESEX COUNTY, NEW JERSEY

SCALE:	DATE:	JOB No.	PHOTO No.
N.T.S.	**April 14, 2023**	**06C028T.003**	**1 & 2**

PHOTO No. 3

Overall View of Proposed Parking Garage Location

PHOTO No. 4

Northeast facing view of Temporary Parking Lot

FRENCH & PARRELLO ASSOCIATES

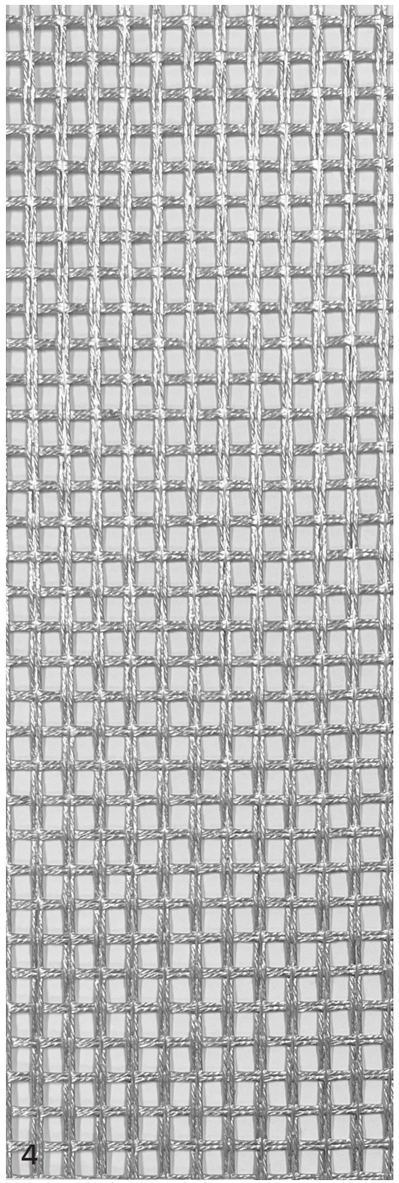
PARKING GARAGE
ON THE PRINCETON HEALTHCARE CAMPUS
BLOCK 1703, LOT 3.01
PLAINSBORO TOWNSHIP, MIDDLESEX COUNTY, NEW JERSEY

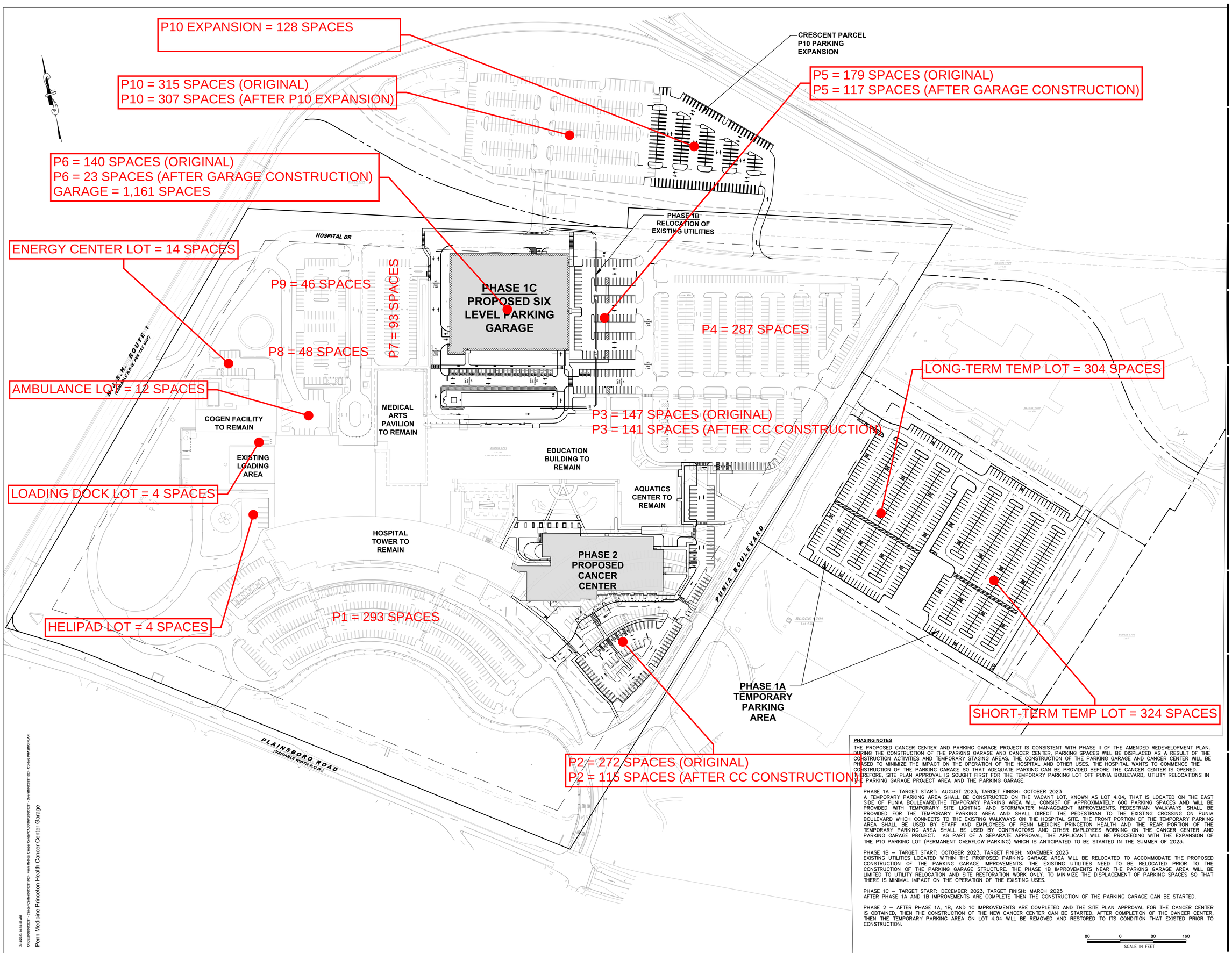
SCALE:	DATE:	JOB No.	PHOTO No.
N.T.S.	**April 14, 2023**	**06C028T.003**	**3 & 4**

Garage Material Palette

The exterior material palette grounds the Garage in the Penn Med Princeton Health campus through the use of materiality and color. The silver mesh, gray precast concrete, and metal panels along with the glazing match the materiality and color of the adjacent Medical Arts and Atkinson Pavilions.

1. Glazing: VRE1-46
    i. ¼" Clear HS
    ii. VRE1-46 #2
    iii. ¼" Clear HS
2. Metal Panel Coating to match MAP / Atkinson Pavilion
3. Grey Precast Concrete
4. Ventilated PTFE Coated Fiberglass mesh, Silver, 52% open





PHASING NOTES

THE PROPOSED CANCER CENTER AND PARKING GARAGE PROJECT IS CONSISTENT WITH PHASE II OF THE AMENDED REDEVELOPMENT PLAN. DURING THE CONSTRUCTION OF THE PARKING GARAGE AND CANCER CENTER, PARKING SPACES WILL BE DISPLACED AS A RESULT OF THE CONSTRUCTION ACTIVITIES AND TEMPORARY STAGING AREAS. THE CONSTRUCTION OF THE PARKING GARAGE AND CANCER CENTER WILL BE PHASED TO MINIMIZE THE IMPACT ON THE OPERATION OF THE HOSPITAL AND OTHER USES. THE HOSPITAL WANTS TO COMMENCE THE CONSTRUCTION OF THE PARKING GARAGE SO THAT ADEQUATE PARKING CAN BE PROVIDED BEFORE THE CANCER CENTER IS OPENED. THEREFORE, SITE PLAN APPROVAL IS SOUGHT FIRST FOR THE TEMPORARY PARKING LOT OFF PUNIA BOULEVARD, UTILITY RELOCATIONS IN THE PARKING GARAGE PROJECT AREA AND THE PARKING GARAGE.

PHASE 1A – TARGET START: AUGUST 2023, TARGET FINISH: OCTOBER 2023
A TEMPORARY PARKING AREA SHALL BE CONSTRUCTED ON THE VACANT LOT, KNOWN AS LOT 4.04, THAT IS LOCATED ON THE EAST SIDE OF PUNIA BOULEVARD.THE TEMPORARY PARKING AREA WILL CONSIST OF APPROXIMATELY 600 PARKING SPACES AND WILL BE PROVIDED WITH TEMPORARY SITE LIGHTING AND STORMWATER MANAGEMENT IMPROVEMENTS. PEDESTRIAN WALKWAYS SHALL BE PROVIDED FOR THE TEMPORARY PARKING AREA AND SHALL DIRECT THE PEDESTRIAN TO THE EXISTING CROSSING ON PUNIA BOULEVARD WHICH CONNECTS TO THE EXISTING WALKWAYS ON THE HOSPITAL SITE. THE FRONT PORTION OF THE TEMPORARY PARKING AREA SHALL BE USED BY STAFF AND EMPLOYEES OF PENN MEDICINE PRINCETON HEALTH AND THE REAR PORTION OF THE TEMPORARY PARKING AREA SHALL BE USED BY CONTRACTORS AND OTHER EMPLOYEES WORKING ON THE CANCER CENTER AND PARKING GARAGE PROJECT. AS PART OF A SEPARATE APPROVAL, THE APPLICANT WILL BE PROCEEDING WITH THE EXPANSION OF THE P10 PARKING LOT (PERMANENT OVERFLOW PARKING) WHICH IS ANTICIPATED TO BE STARTED IN THE SUMMER OF 2023.

PHASE 1B – TARGET START: OCTOBER 2023, TARGET FINISH: NOVEMBER 2023
EXISTING UTILITIES LOCATED WITHIN THE PROPOSED PARKING GARAGE AREA WILL BE RELOCATED TO ACCOMMODATE THE PROPOSED CONSTRUCTION OF THE PARKING GARAGE IMPROVEMENTS. THE EXISTING UTILITIES NEED TO BE RELOCATED PRIOR TO THE CONSTRUCTION OF THE PARKING GARAGE STRUCTURE. THE PHASE 1B IMPROVEMENTS NEAR THE PARKING GARAGE AREA WILL BE LIMITED TO UTILITY RELOCATION AND SITE RESTORATION WORK ONLY, TO MINIMIZE THE DISPLACEMENT OF PARKING SPACES SO THAT THERE IS MINIMAL IMPACT ON THE OPERATION OF THE EXISTING USES.

PHASE 1C – TARGET START: DECEMBER 2023, TARGET FINISH: MARCH 2025
AFTER PHASE 1A AND 1B IMPROVEMENTS ARE COMPLETE THEN THE CONSTRUCTION OF THE PARKING GARAGE CAN BE STARTED.

PHASE 2 – AFTER PHASE 1A, 1B, AND 1C IMPROVEMENTS ARE COMPLETED AND THE SITE PLAN APPROVAL FOR THE CANCER CENTER IS OBTAINED, THEN THE CONSTRUCTION OF THE NEW CANCER CENTER CAN BE STARTED. AFTER COMPLETION OF THE CANCER CENTER, THEN THE TEMPORARY PARKING AREA ON LOT 4.04 WILL BE REMOVED AND RESTORED TO ITS CONDITION THAT EXISTED PRIOR TO CONSTRUCTION.

80 0 80 160
SCALE IN FEET

3/14/2023 10:55:58 AM
O:\CE\2006\06CS05T - Cancer Center\06CS05T.001 - Penn Medical Cancer Center\CAD\DWG\06CS05T - Overall\06CS05T.001 - CD.dwg PHASING PLAN

Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

Princeton Forward

Penn Medicine
Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA
FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

NO.	DATE	DESCRIPTION

N

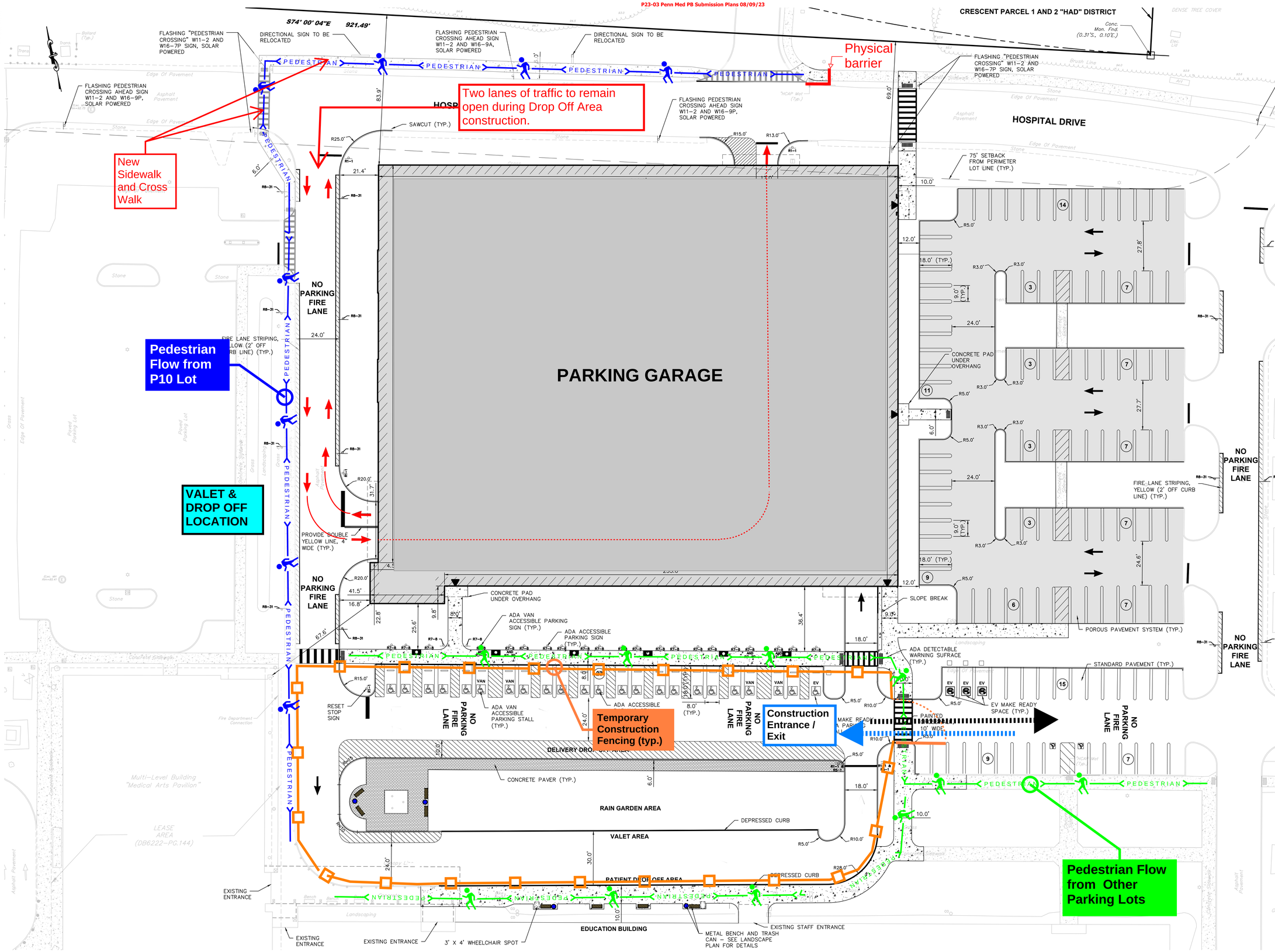
Penn Medicine Princeton Health Cancer Center Garage

1 Plainsboro Rd.
Princeton, NJ 08540
JOB NO: NBR22119.00

PHASING PLAN

C.1.02

04/10/2023 CURRENT PACKAGE



LEGEND:

- POROUS PAVEMENT
- CONCRETE SIDEWALK

SCALE IN FEET: 20 0 20 40

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia
CONSULTANT

NO.	DATE	DESCRIPTION
2	12/16/22	SDP
1	10/21/22	PRECAST BID SET

ISSUANCES

N

Penn Medicine Princeton Health

Vehicle and Pedestrian Flow During Drop Off Area Construction 7.25.23

PROJECT INFORMATION

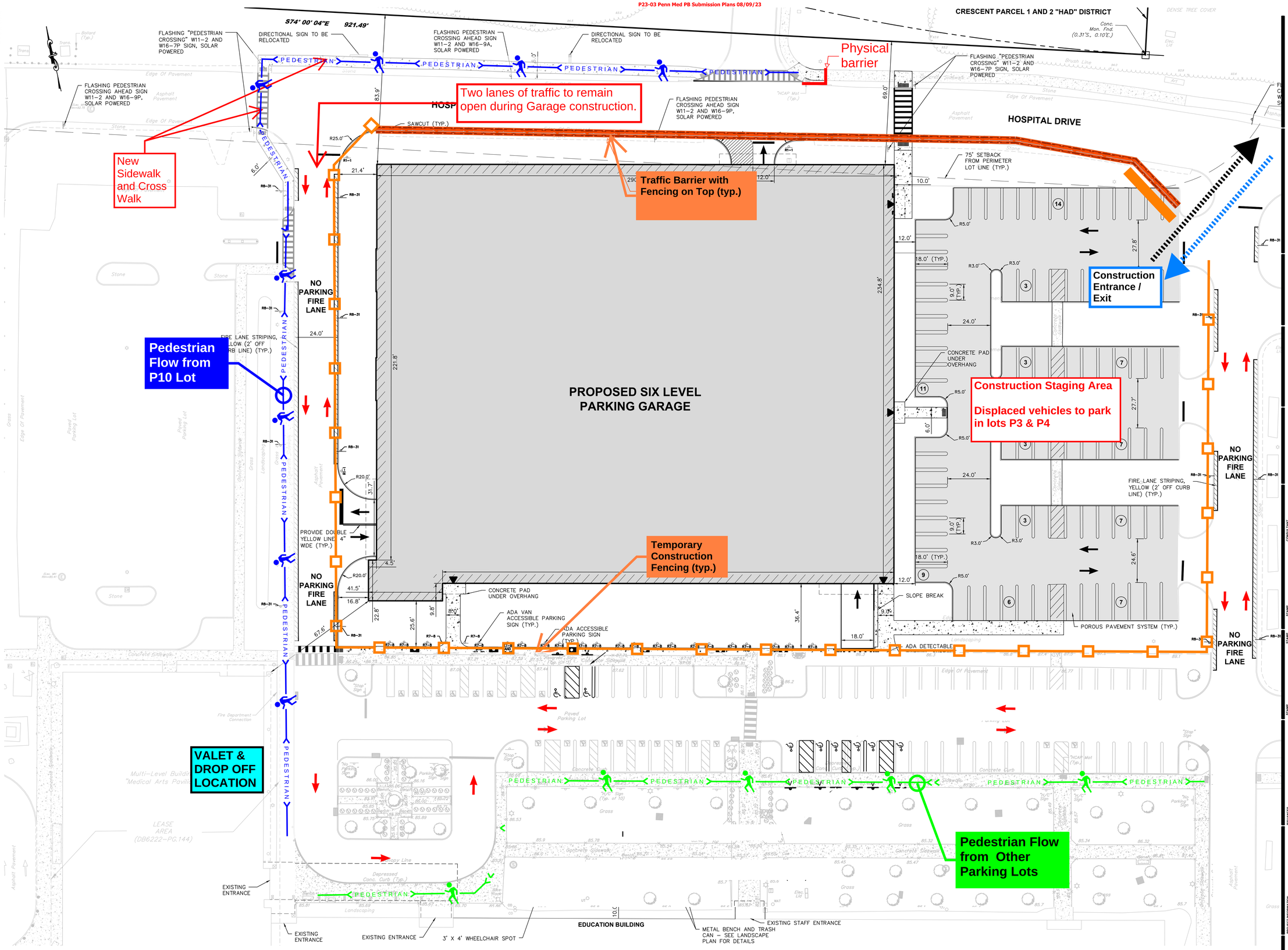
L-01

DRAWING INFORMATION

STAMP

3/14/2023 10:55:56 AM
Autodesk Docs://2527 Penn Medicine Princeton Health/HPHS-PMPH-GAR-AR.rvt
Penn Medicine Princeton Health Cancer Center Garage

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.



LEGEND:

- POROUS PAVEMENT
- CONCRETE SIDEWALK

SCALE IN FEET: 20 0 20 40

THE ORIGINAL OF THIS DRAWING IS 30" X 42". IF THIS COPY IS ANY OTHER SIZE, IT HAS EITHER BEEN REDUCED OR ENLARGED. TAKE APPROPRIATE PRECAUTIONS ACCORDINGLY.

3/14/2023 10:55:56 AM
Autodesk Docs://3267 Penn Medicine Princeton Health/UPHS-PMPH-CLRK-ARCH.rvt
Penn Medicine Princeton Health Cancer Center Garage

Princeton Forward

Penn Medicine Princeton Health
1 Plainsboro Road
Plainsboro, NJ 08536
OWNER

SHEPLEY BULFINCH
99 Chauncy Street 4th Floor
Boston, MA 02111
T:617.423.1700 | F:800.934.9691
shepleybulfinch.com
Design Architect

THA
THA Consulting, Inc.
550 Township line Road
Suite 100
Blue Bell, PA 19422
T: 484.342.0200
www.tha-consulting.com
Architect / Structural Engineer / Parking Consultant

BR+A
BR+A Consulting Engineers
105 Madison Avenue 10th Floor
New York, NY, 10016
T: 212.840.0060
brplusa.com
Mechanical, Electrical, Plumbing, Fire Protection, and Security Systems Engineer

FPA
FRENCH & PARRELLO ASSOCIATES
Corporate Office:
1800 Rt 34, Suite 101
Wall, New Jersey 07719
732.312.9800
FPAengineers.com
New Jersey ▲ New York ▲ Pennsylvania ▲ Georgia

CONSULTANT STAMP STAMP STAMP

ISSUANCES

NO.	DATE	DESCRIPTION
3	12/16/22	SDP
2	10/14/22	PRE-APPLICATION SET

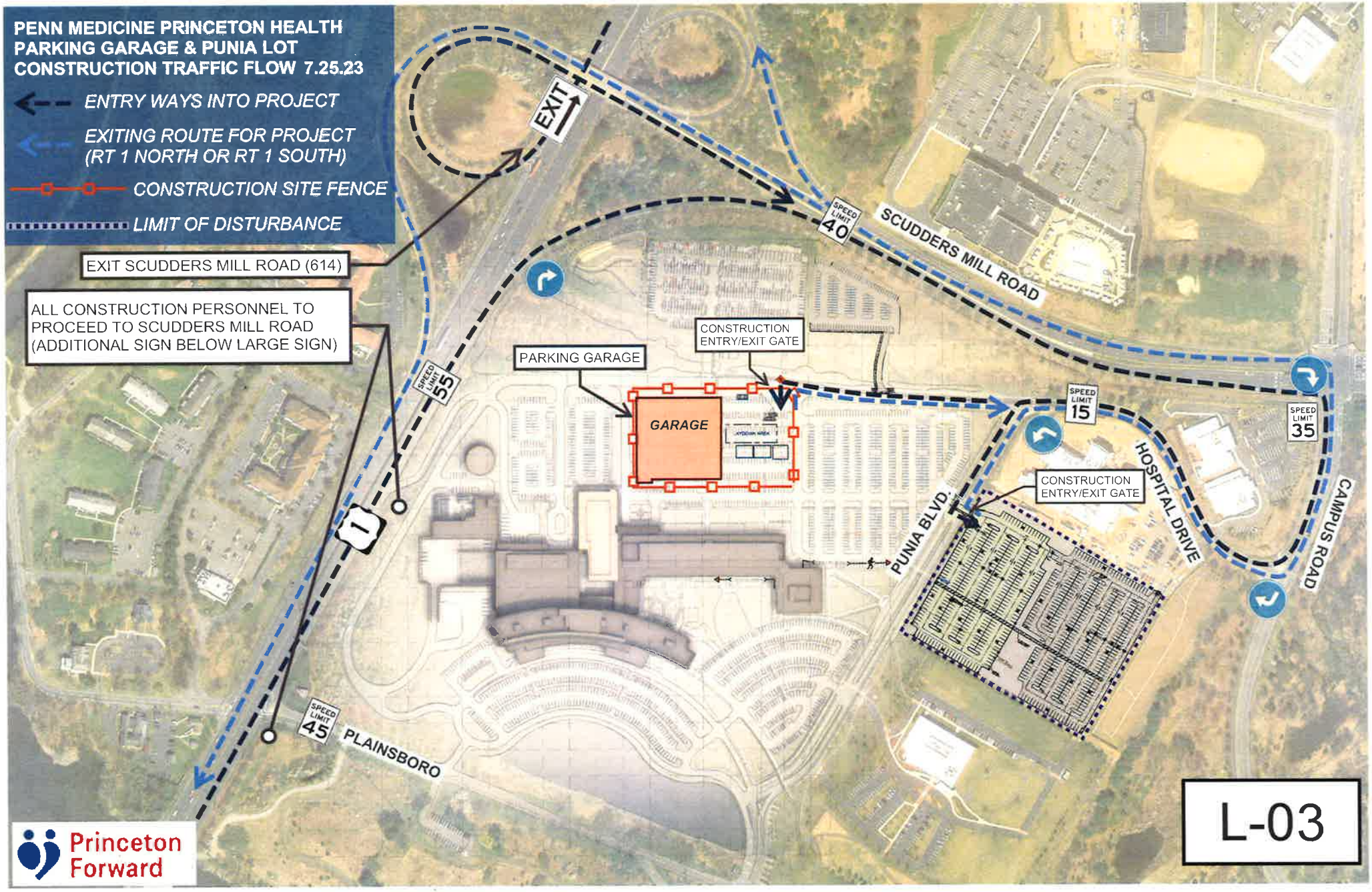
PROJECT INFORMATION

Penn Medicine Princeton Health

Vehicle and Pedestrian Flow During Garage Construction 7.25.23

DRAWING INFORMATION

L-02


PENN MEDICINE PRINCETON HEALTH
PARKING GARAGE & PUNIA LOT
CONSTRUCTION TRAFFIC FLOW 7.25.23
ENTRY WAYS INTO PROJECT
EXITING ROUTE FOR PROJECT
(RT 1 NORTH OR RT 1 SOUTH)
CONSTRUCTION SITE FENCE
LIMIT OF DISTURBANCE
EXIT SCUDDERS MILL ROAD (614)
ALL CONSTRUCTION PERSONNEL TO PROCEED TO SCUDDERS MILL ROAD (ADDITIONAL SIGN BELOW LARGE SIGN)
EXIT
SPEED LIMIT 40
SCUDDERS MILL ROAD
CONSTRUCTION ENTRY/EXIT GATE
PARKING GARAGE
GARAGE
SPEED LIMIT 55
SPEED LIMIT 15
SPEED LIMIT 35
CONSTRUCTION ENTRY/EXIT GATE
PUNIA BLVD.
HOSPITAL DRIVE
CAMPUS ROAD
1
SPEED LIMIT 45
PLAINSBORO
Princeton Forward
L-03