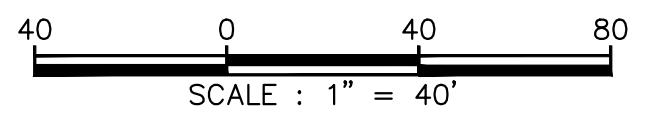
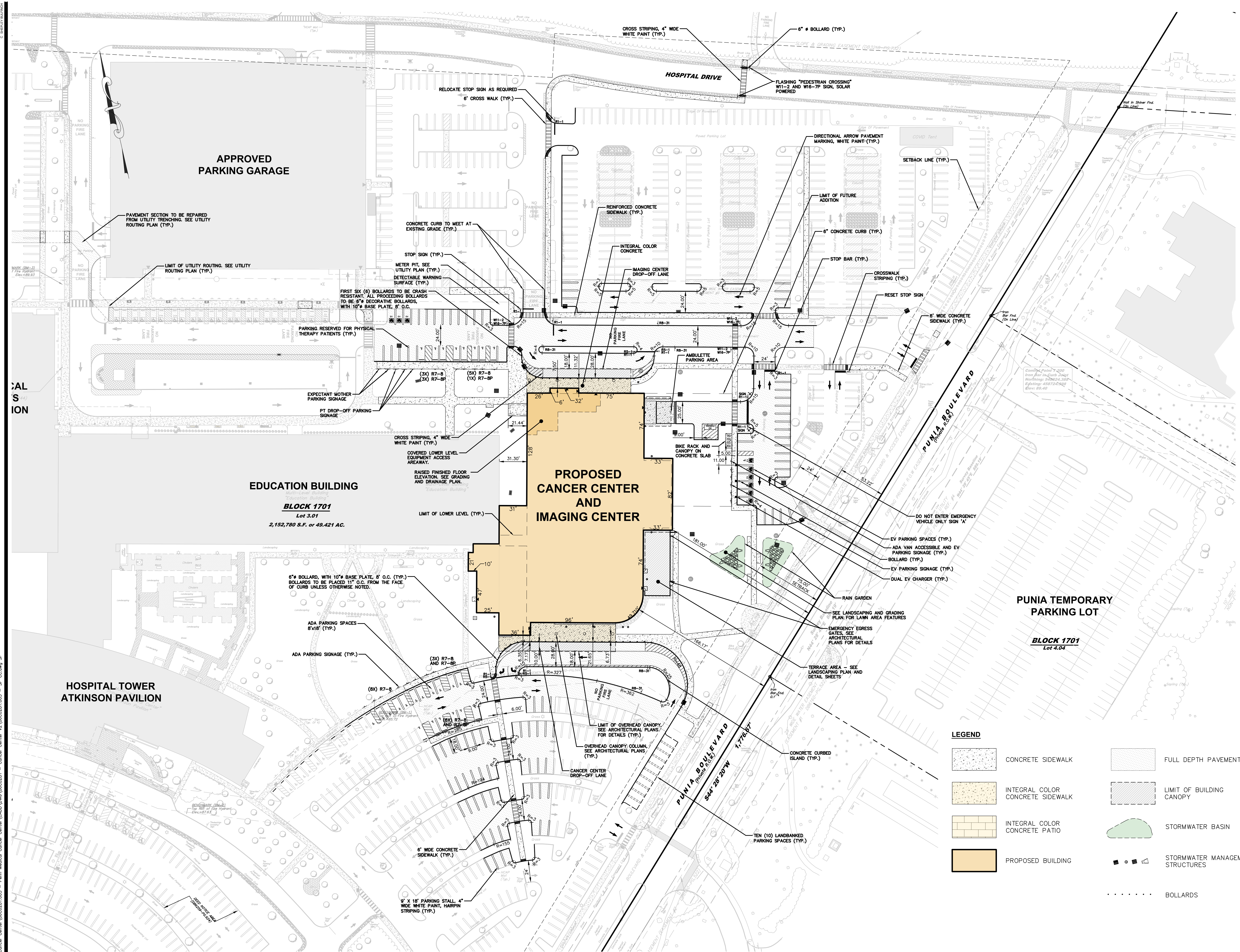


**TOWNSHIP OF PLAINSBORO  
MIDDLESEX COUNTY, NEW JERSEY**









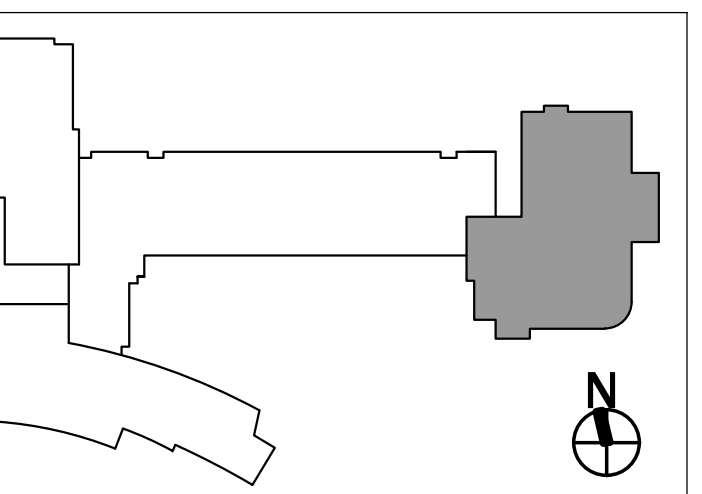
1 Plainsboro Road  
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PROFESSIONAL ENGINEER, N.J. LIC. No. 42894

[illegible]

**PENN MEDICINE  
PRINCETON  
HEALTH CCIC**

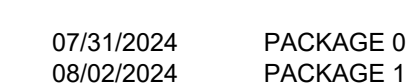
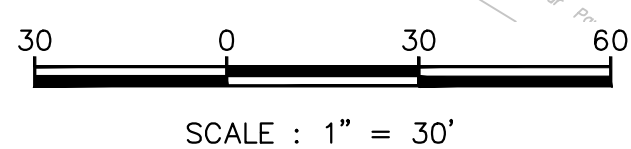
1 Plainsboro Road  
Plainsboro, NJ 08536  
JOB NO: 5267.003  
Block 7401 Lot 3.01  
Township of Plainsboro  
Middlesex County, New Jersey 08536

## SITE AND LAYOUT PLAN

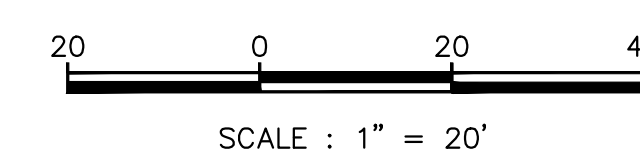
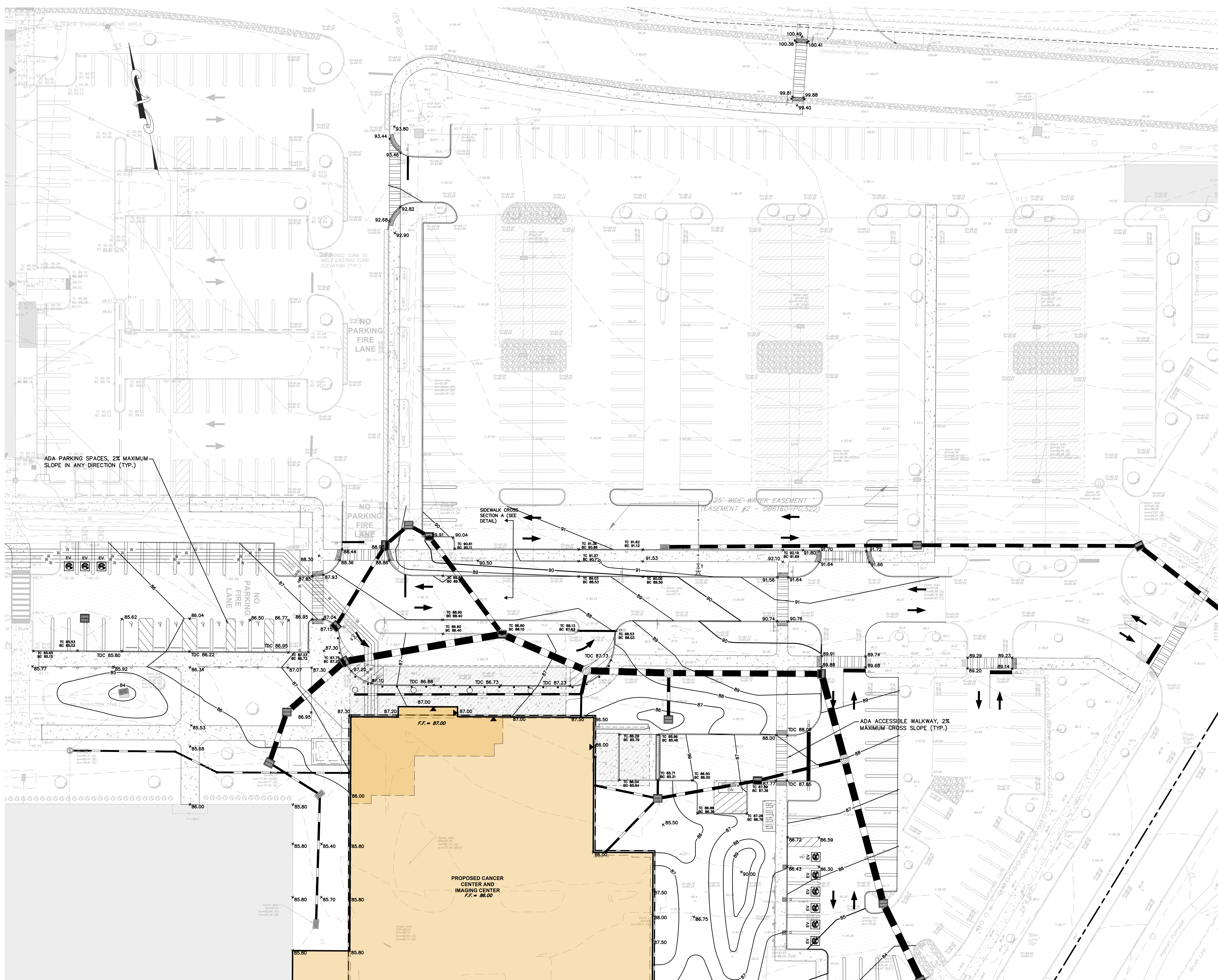
# C203

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08/02/2024	PACKAGE 1









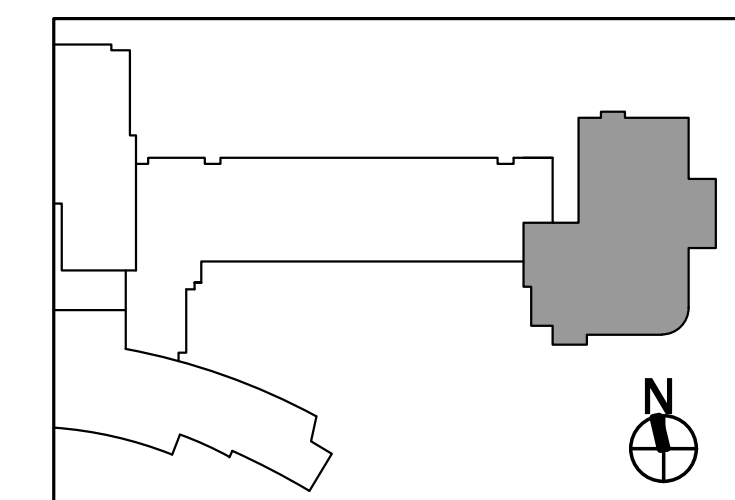
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**PENN MEDICINE  
PRINCETON  
HEALTH CCIC**

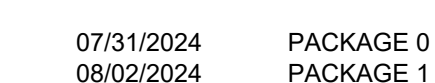
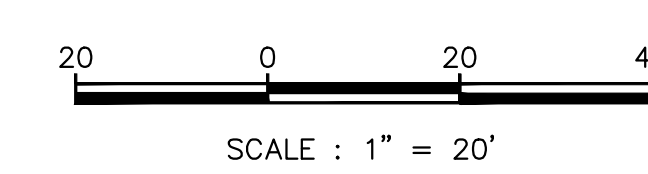
1 Plainsboro Road  
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## ENLARGED GRADING PLAN

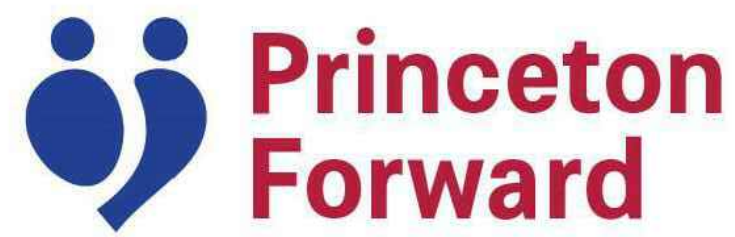
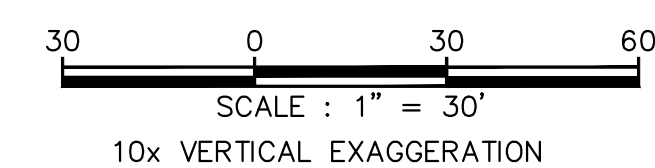
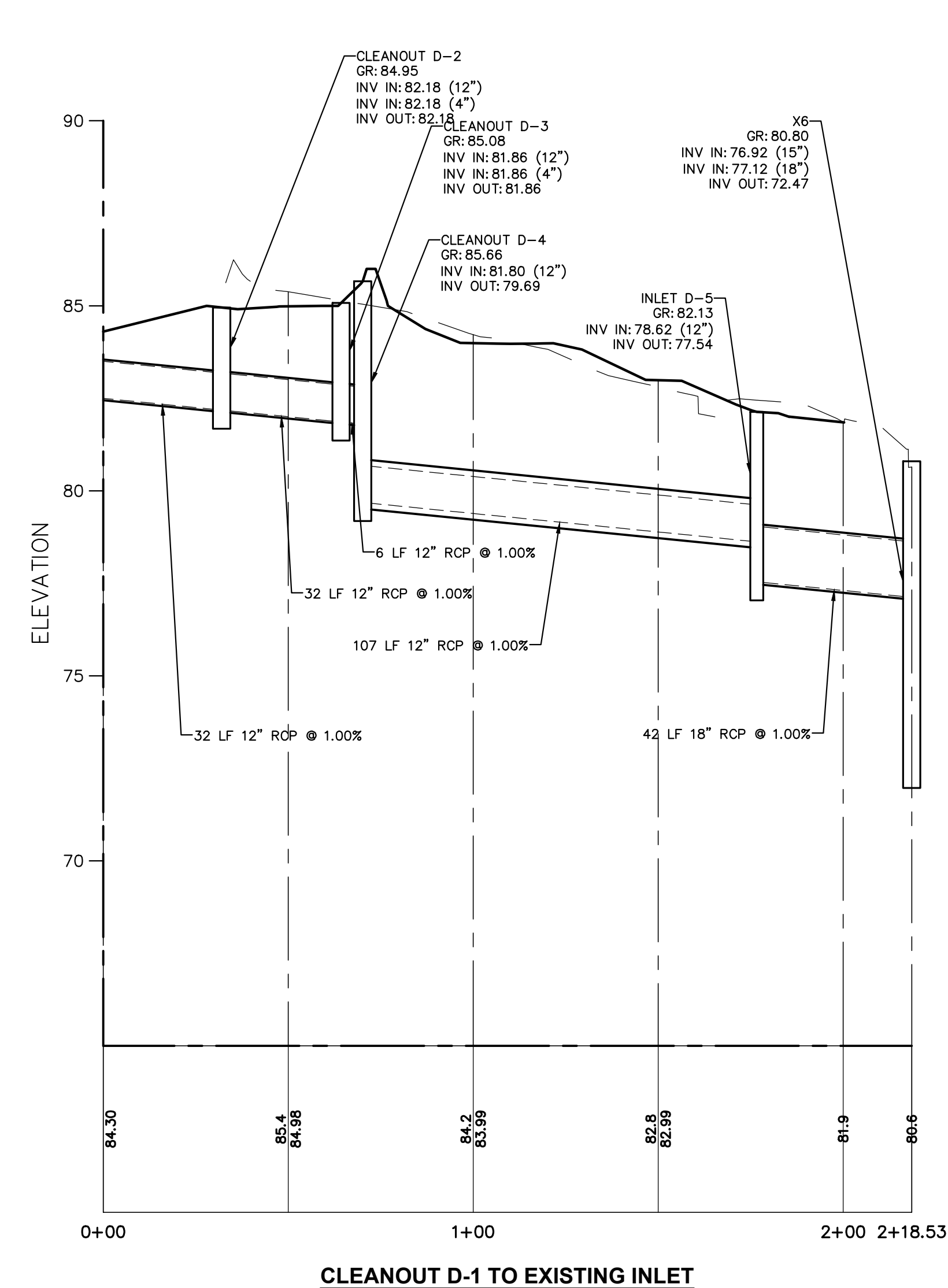
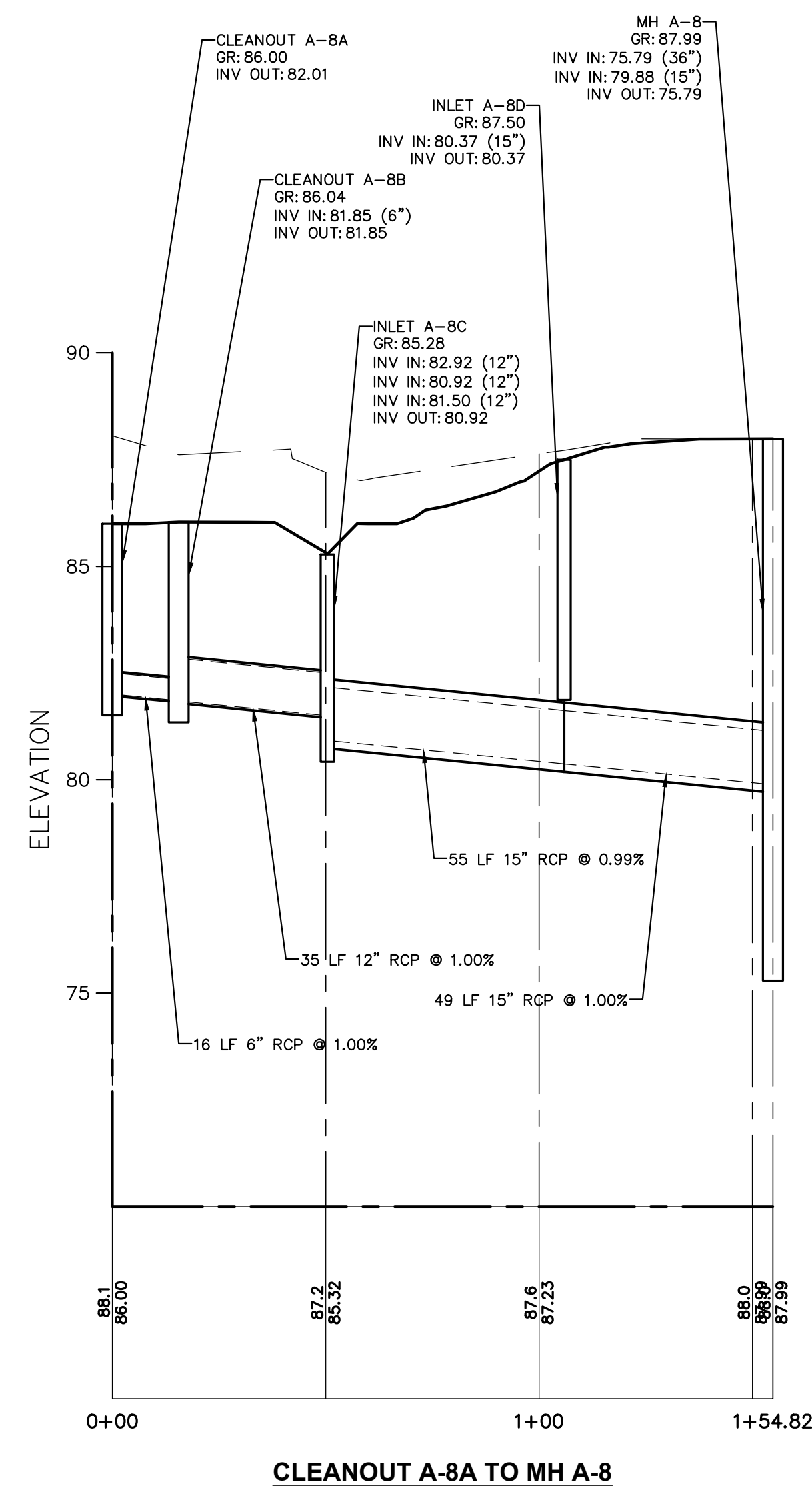
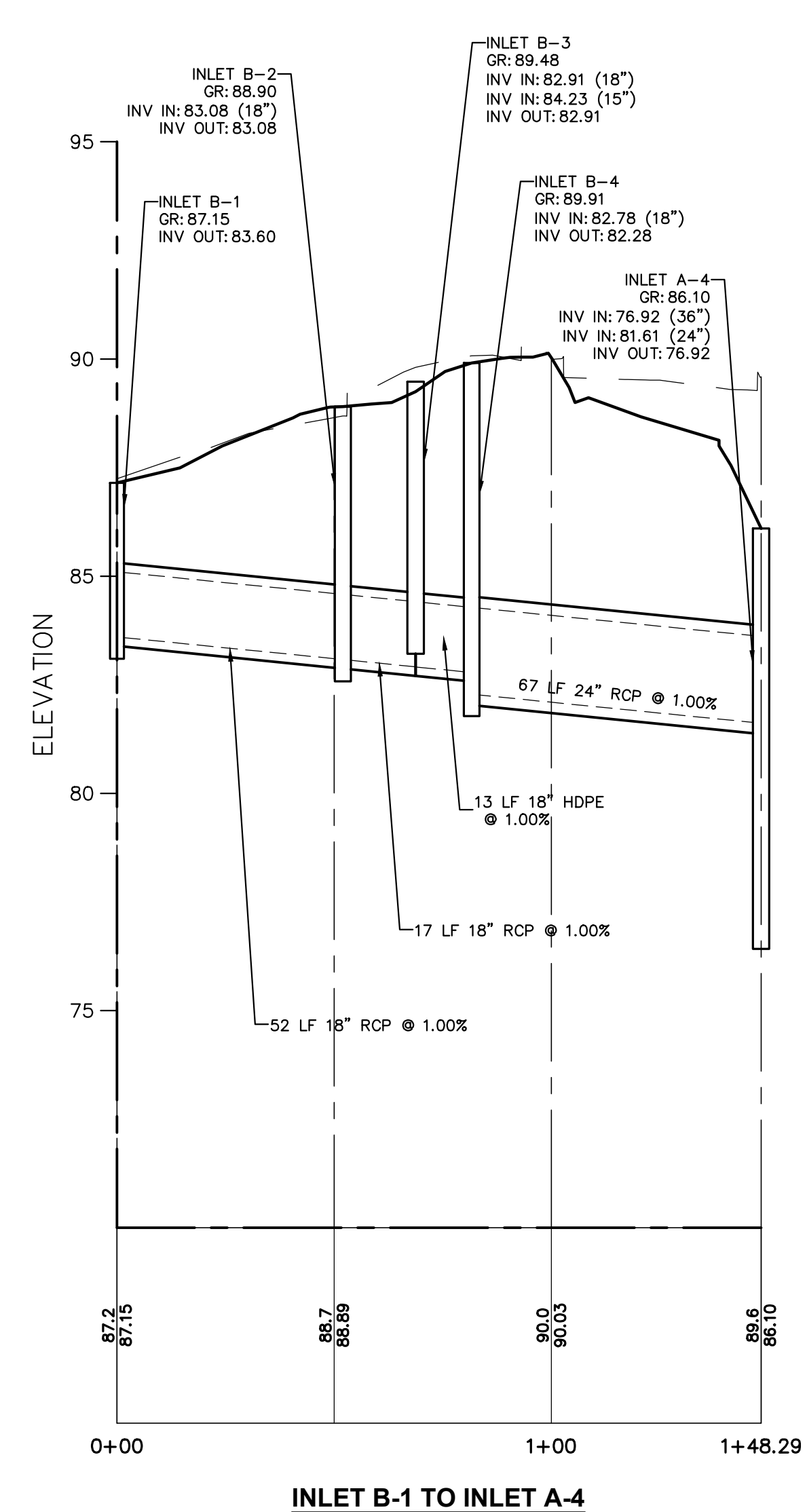
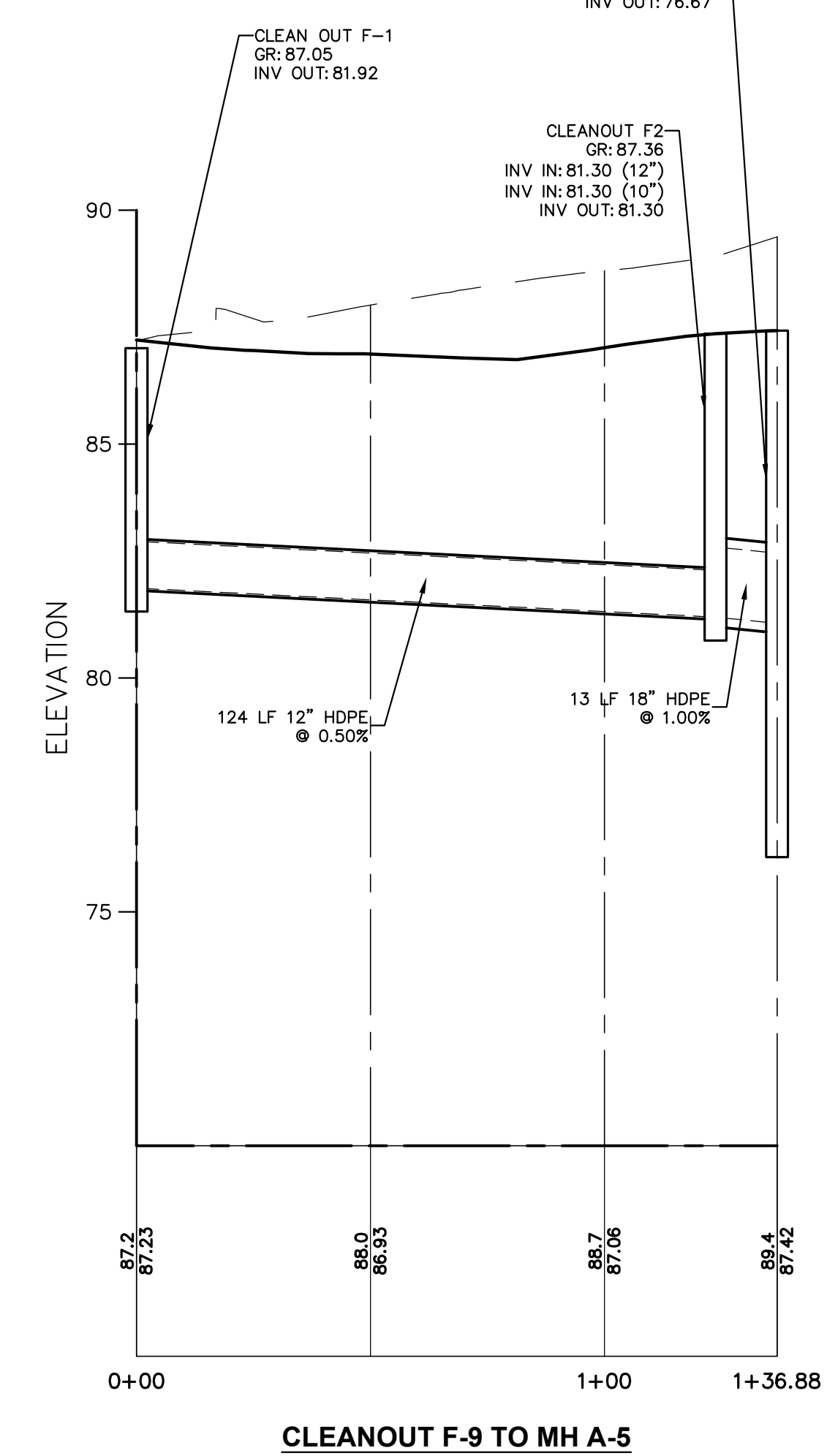
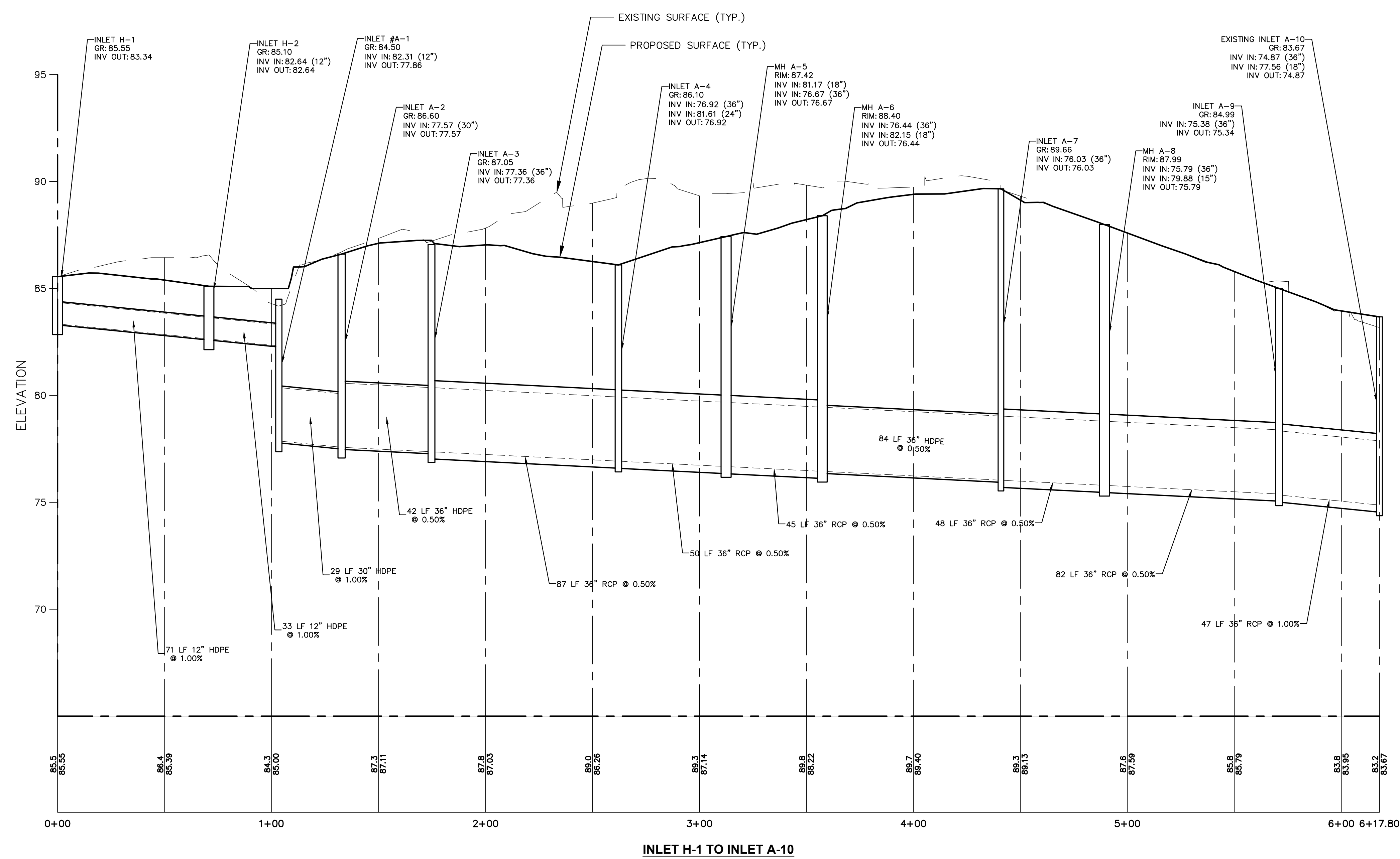
**C205**

07/31/2024	PACKAGE 0
08/02/2024	PACKAGE 1









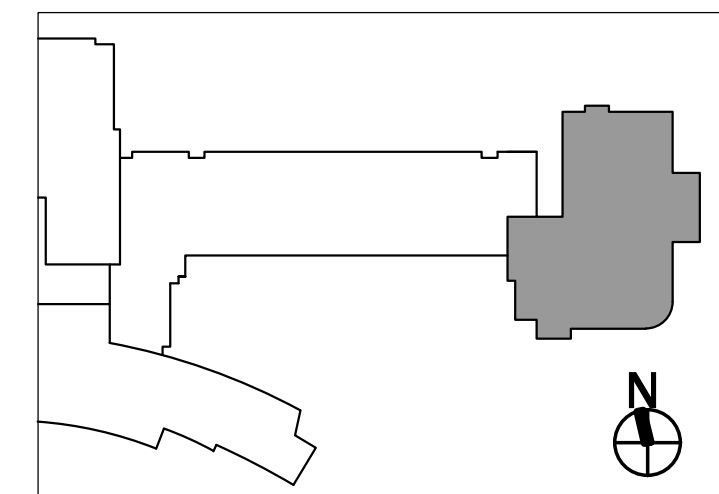
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[illegible]

**PENN MEDICINE  
PRINCETON  
HEALTH CCIC**

1 Plainsboro Road  
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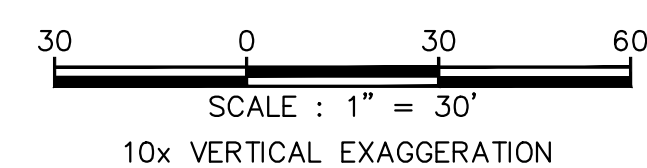
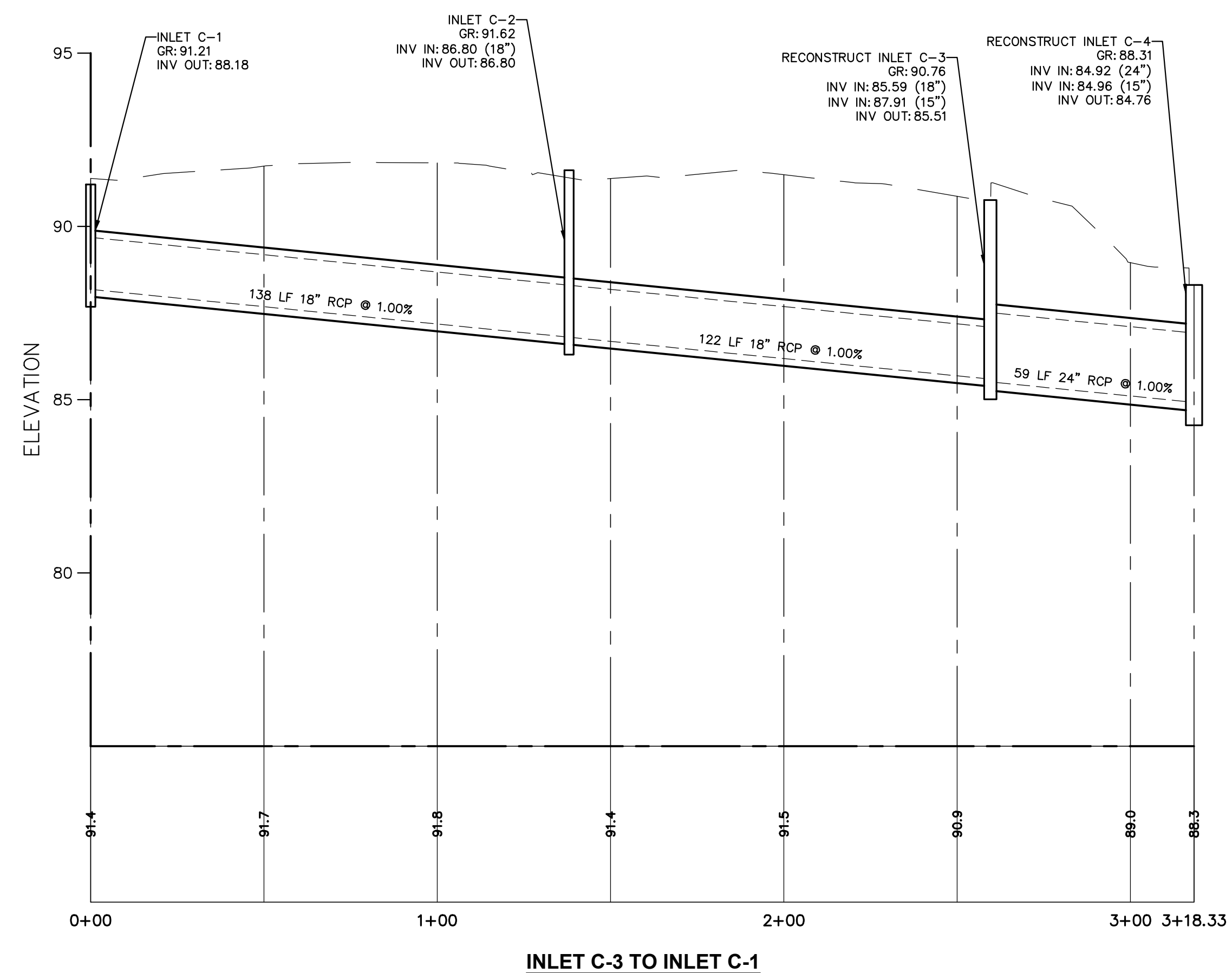
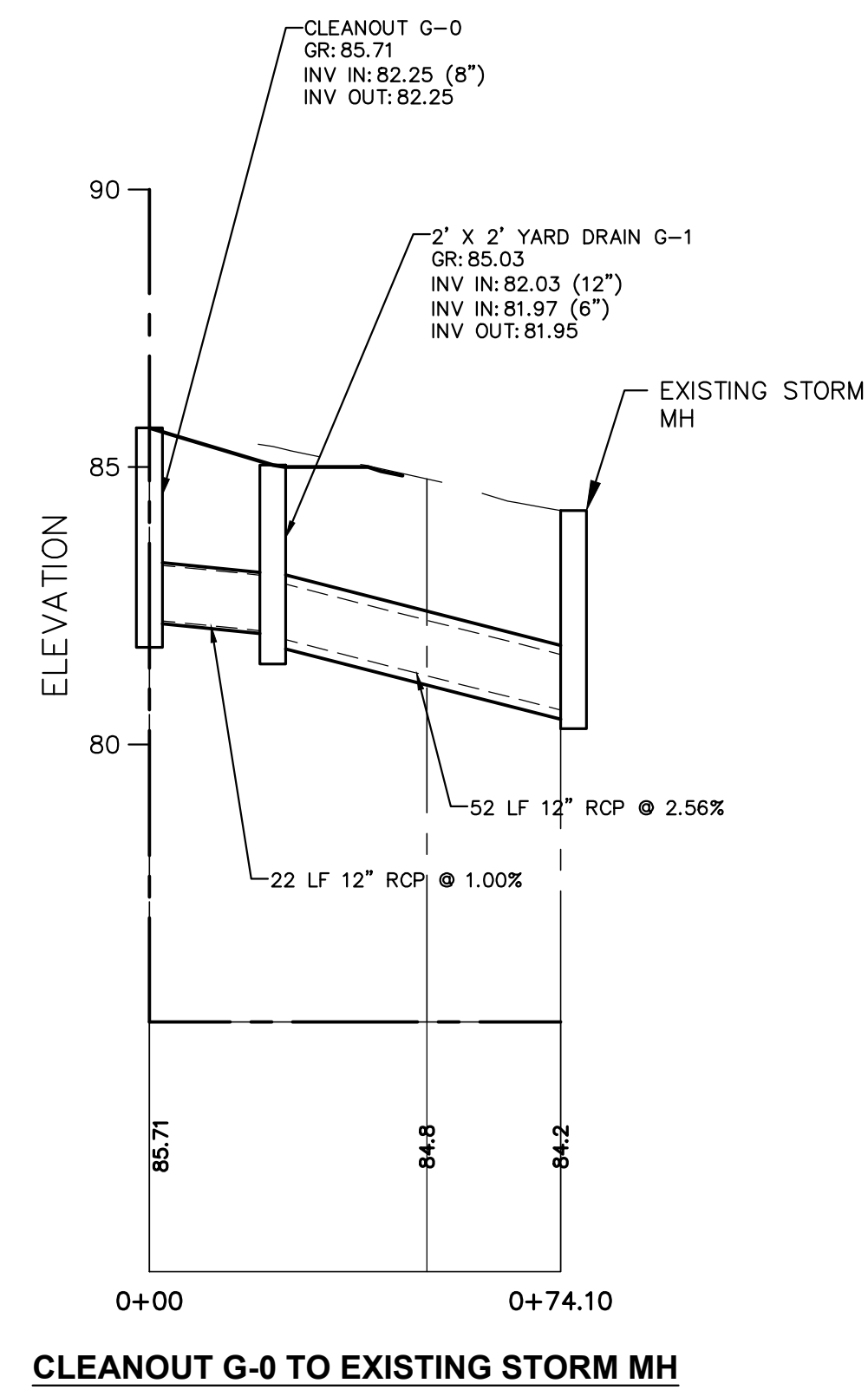
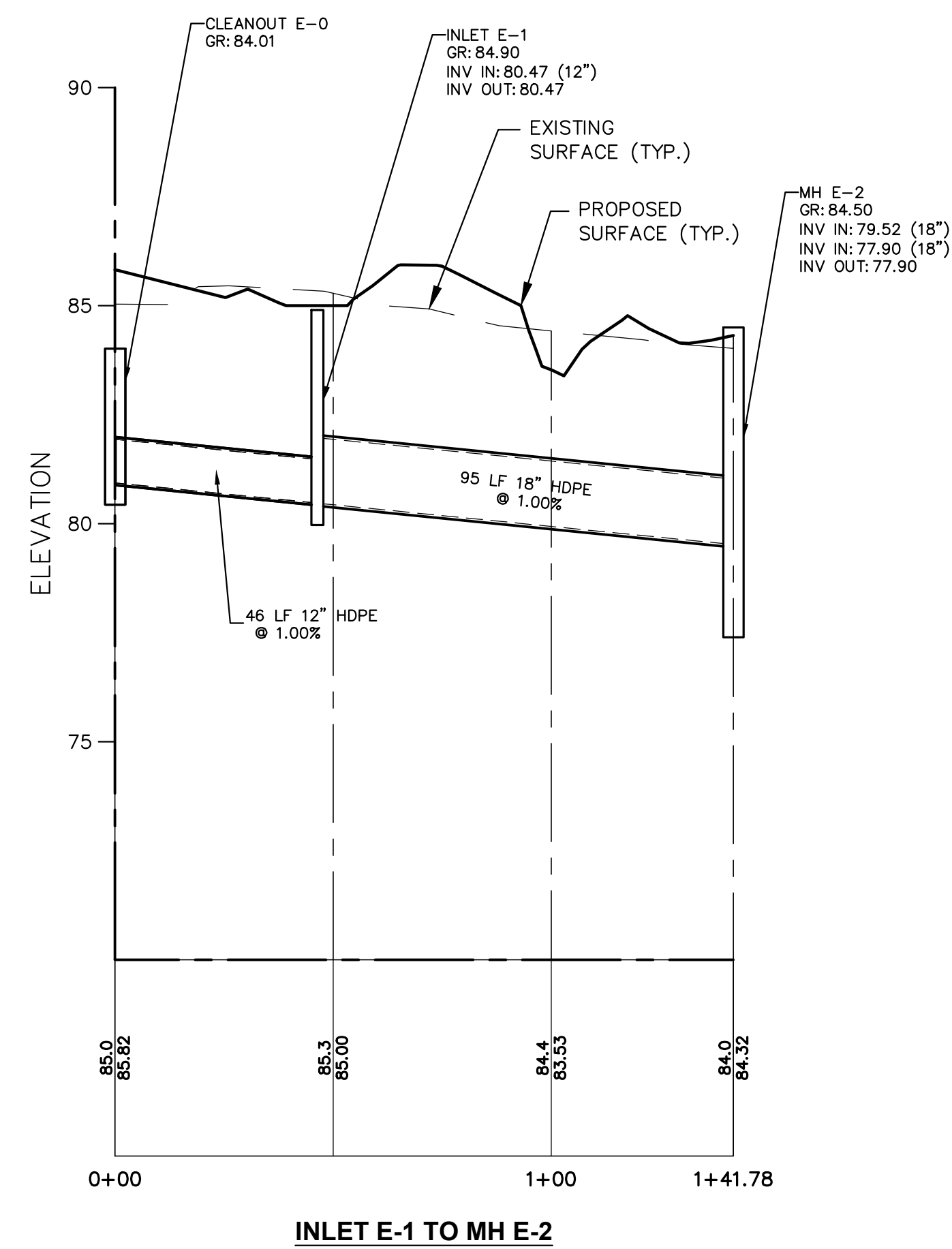
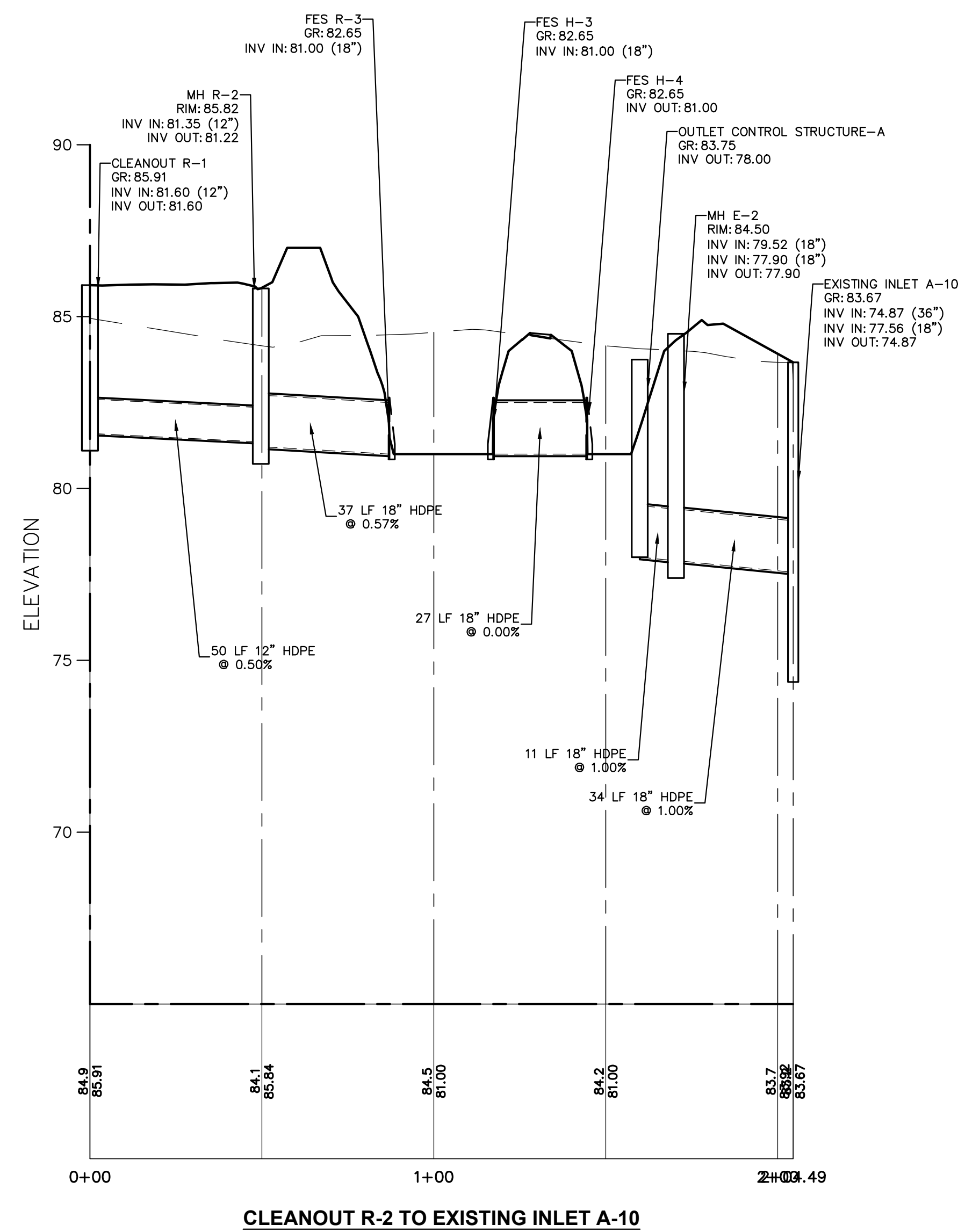
## STORMWATER MANAGEMENT PROFILES

# C207

07/31/2024	PACKAGE 0
08/02/2024	PACKAGE 1

PACKAGE 0  
PACKAGE 1





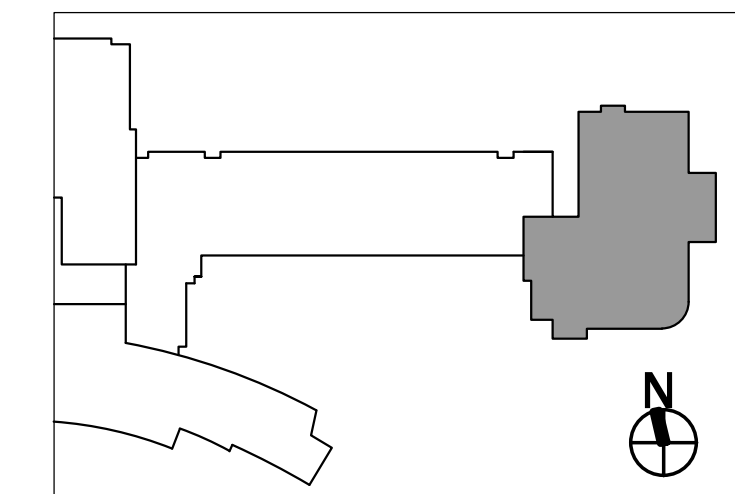
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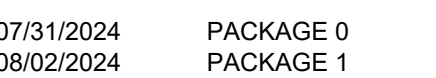
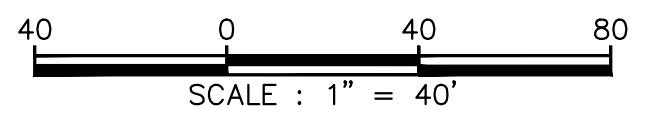
## STORMWATER MANAGEMENT PROFILES

**<sup>2</sup>C208**

07/31/2024	PACKAGE 0
08/02/2024	PACKAGE 1

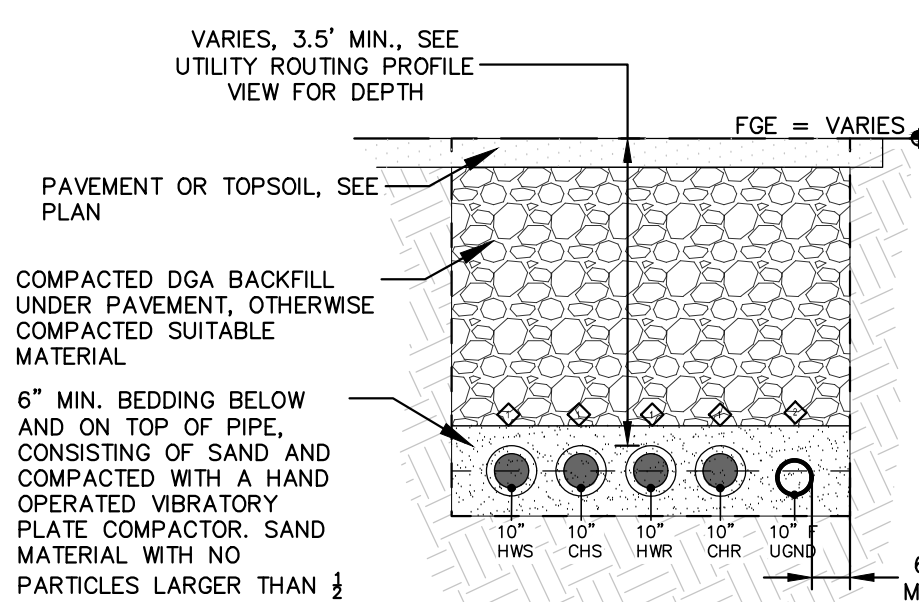
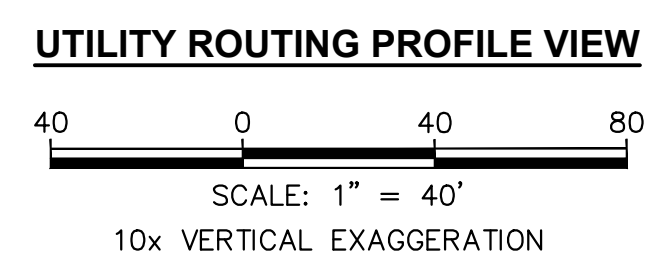
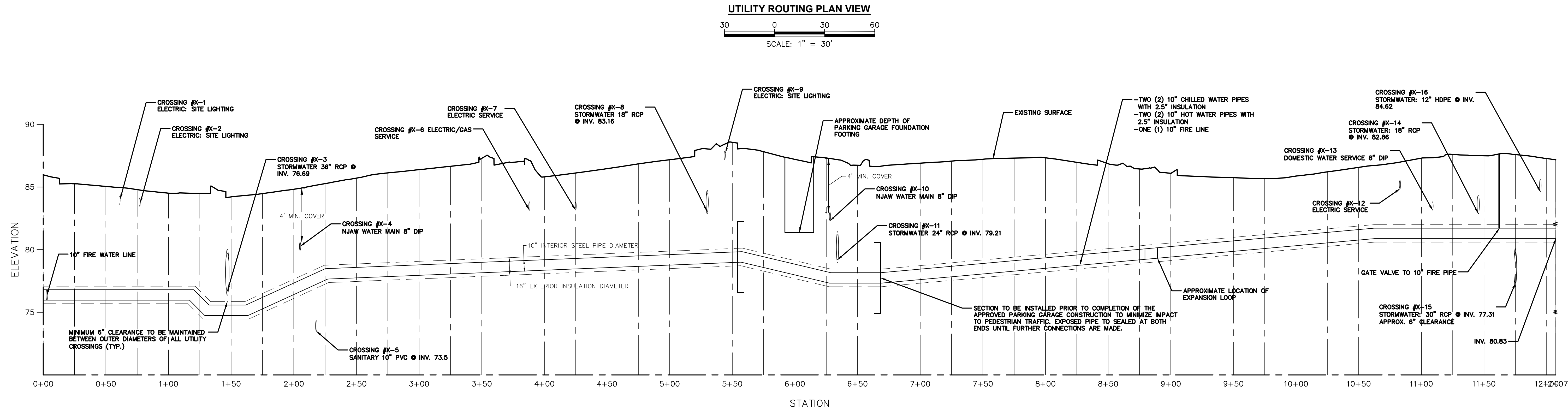
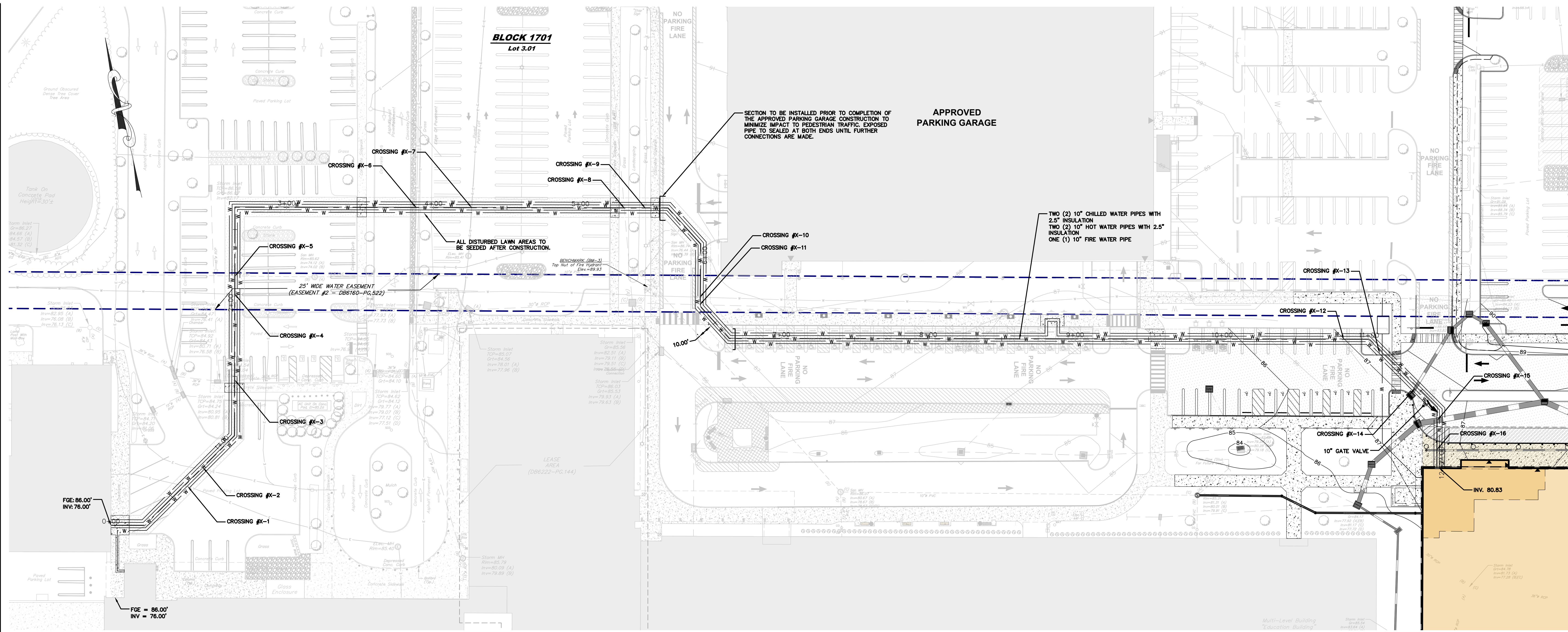
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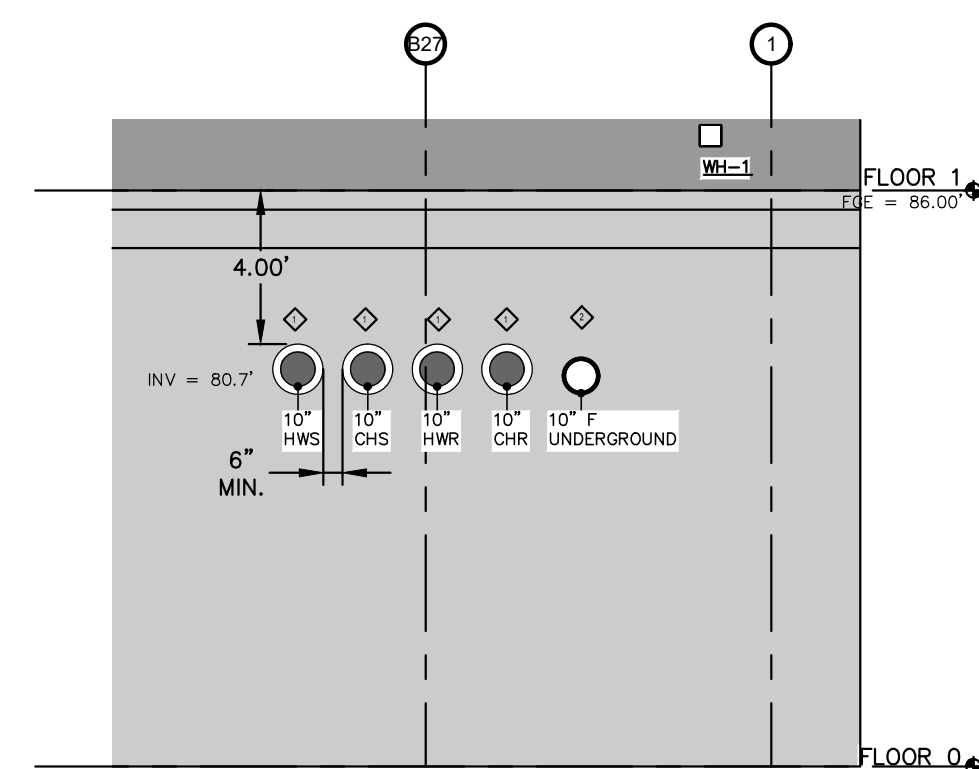


1. ELECTRIC AND COMMUNICATION SERVICES ARE TO BE CONNECTED INTERNALLY FROM EXISTING HOSPITAL BUILDING
2. CONTRACTOR IS RESPONSIBLE TO RESTORE THE EXISTING SITE CONDITIONS, I.E. PAVEMENT, CURB, WALKWAYS, STRIPING, SIGNAGE AND LAWN. LANDSCAPE AREAS.





TYP. CROSS SECTION

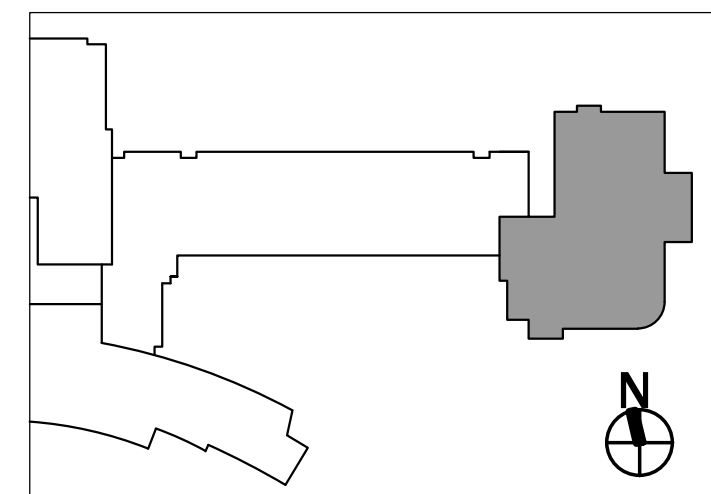


### UTILITY ROUTING CROSS SECTION DETAIL

SCALE: 1" = 5'

NOTES:

- CHILLED AND HOT WATER SUPPLY AND RETURN PIPES SHALL BE STANDARD WEIGHT CARBON STEEL A-53 OR A-106 SEAMLESS PIPE. ALL PIPING SHALL BE INSULATED WITH 2" MINIMUM THICKNESS OF SPRAY APPLIED NOMINAL 2 POUND PER CUBIC FOOT DENSITY POLYURETHANE FOAM FOR STRAIGHT SECTIONS AND PREFORMED INSULATION FOR FITTINGS. INSULATION SHALL BE CONTINUOUSLY APPLIED TO A MINIMUM THICKNESS OF 2-1/2" PIPING SYSTEM SHALL INCLUDE A PROTECTIVE JACKET THAT IS A FILAMENT WOUND GLASS FIBER JACKET (FIBERGLASS) OR EQUIVALENT. INSULATION DIRECTLY TO THE INSULATING FOAM OF A MINIMUM THICKNESS OF 1/8" FOR HIGH DENSITY FOAM OR 1/4" FOR LOW DENSITY FOAM. THICKNESS OF 125 MILS. THE PIPING SYSTEM SHALL BE IN STRICT CONFORMANCE TO LATEST EDITION OF ANSI B31.1.
- FOR THE FIRE PROTECTION SYSTEM, PIPING SHALL BE DUCTILE-IRON CLASS 55 OR CLASS 52, ANSI A21-51 WITH GEMENT. ALLOW LINING PER ANSI A21.4, FITTINGS SHALL BE DUCTILE-IRON PER ANSI A21.4, FLANGES SHALL BE DUCTILE-IRON PER ANSI A21.4. PIPE JOINTS SHALL BE AWWA C600 GROOVED END WITH 150 LB. 31.50 CLASS 150 FLANGES. ALL FITTINGS SHALL BE WITH RETAINER GLANDS AND THRUST BLOCKS AS REQUIRED. ALL MATERIALS AND INSTALLATION SHALL CONFORM TO NP4A 25.4

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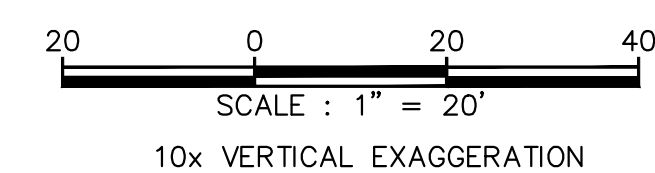
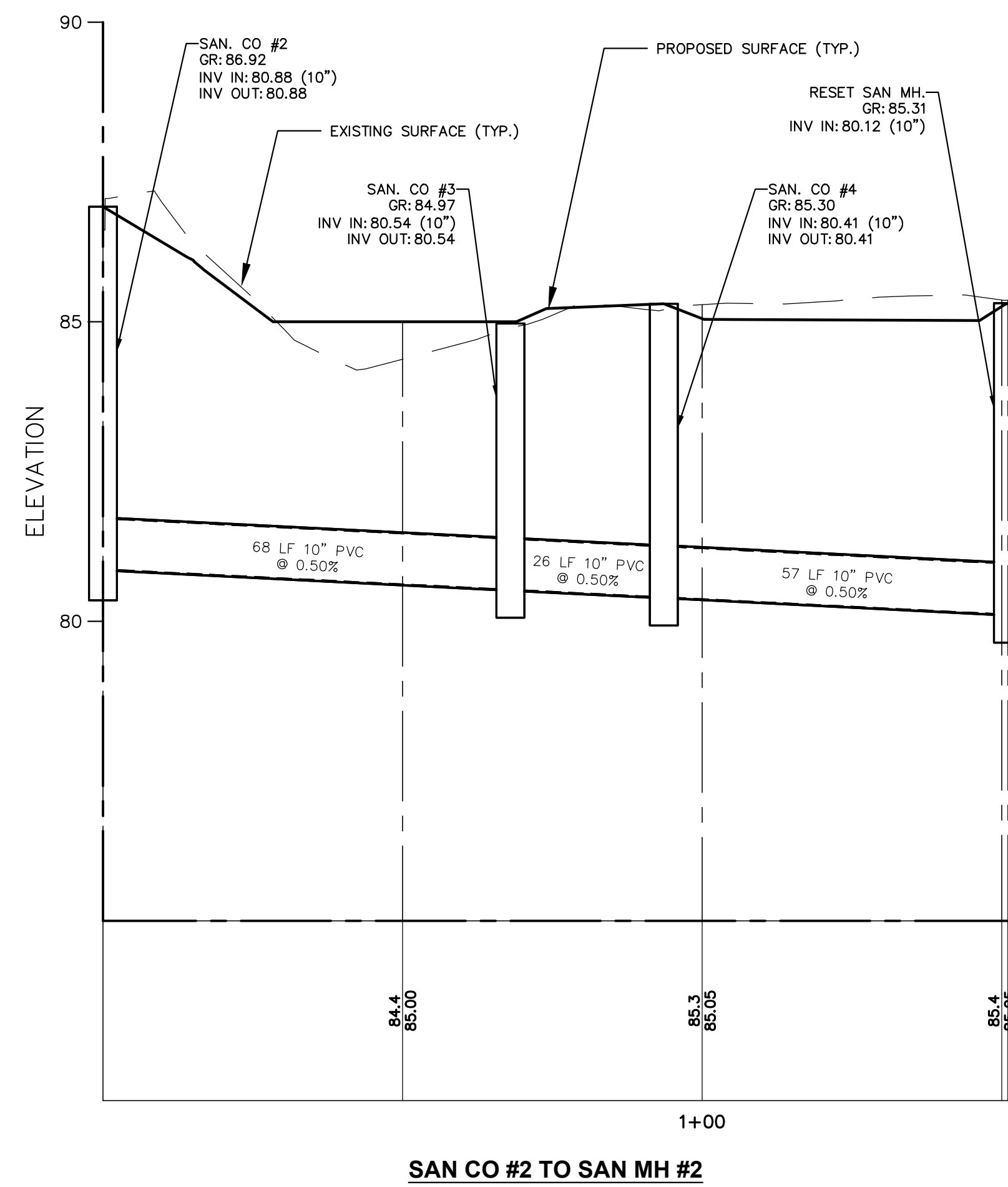
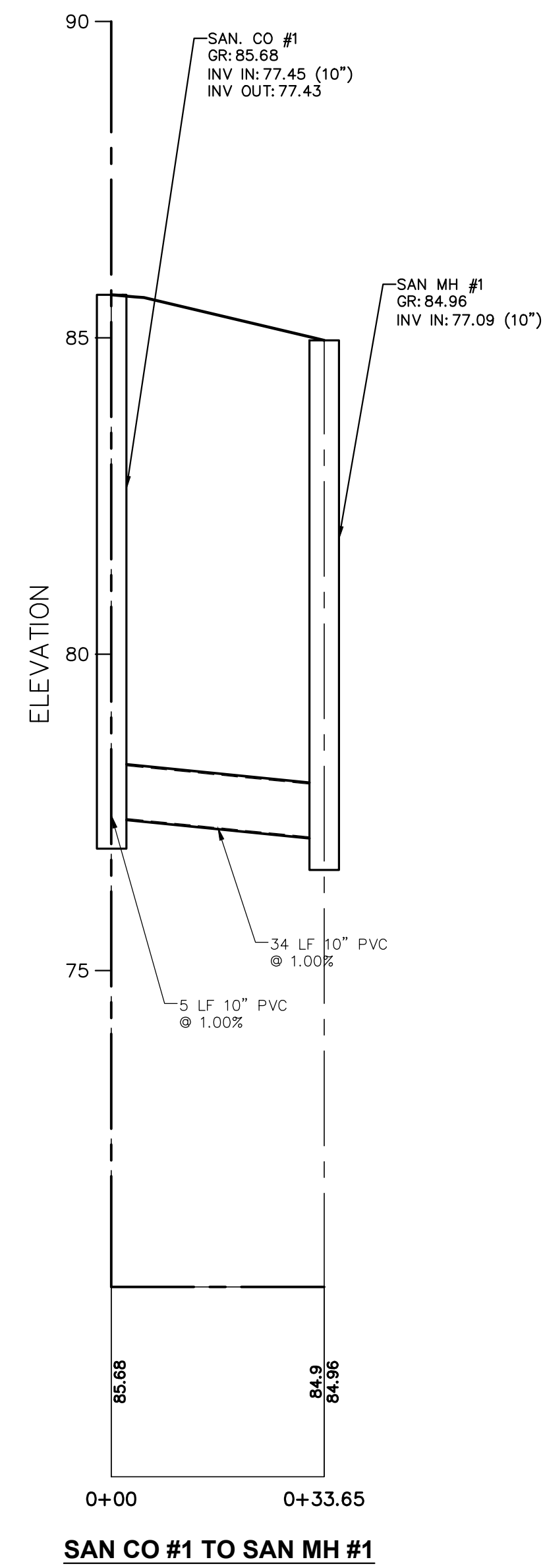
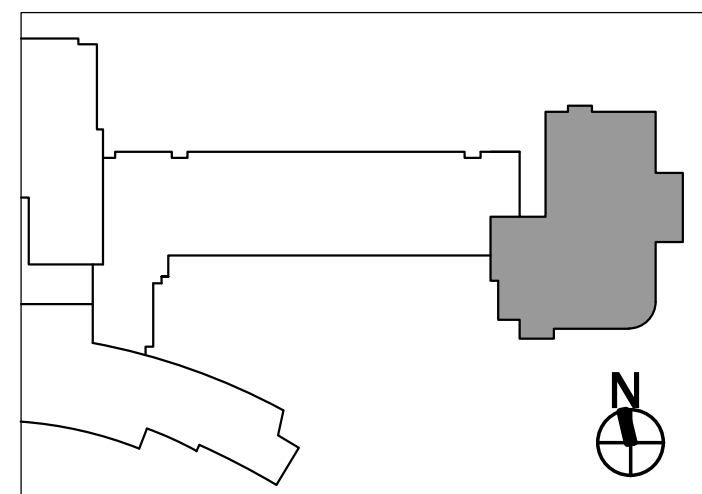
## UTILITY ROUTING PLAN

# C210

07/31/2024	PACKAGE 0
08/02/2024	PACKAGE 1

PACKAGE 0  
PACKAGE 1



[illegible]

**PENN MEDICINE  
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## UTILITY PROFILES

# C211

07/31/2024	PACKAGE 0
08/02/2024	PACKAGE 1



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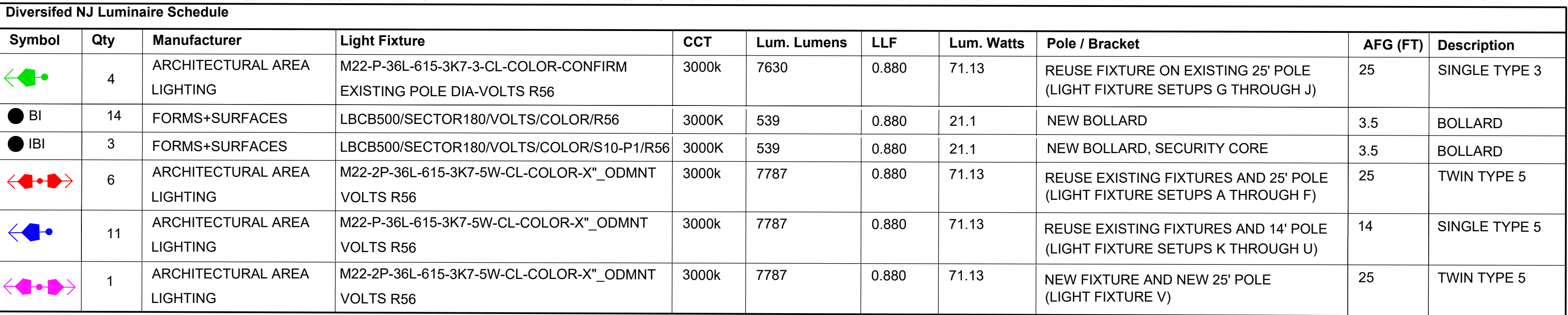




07/31/2024	PACKAGE 0
08/02/2024	PACKAGE 1







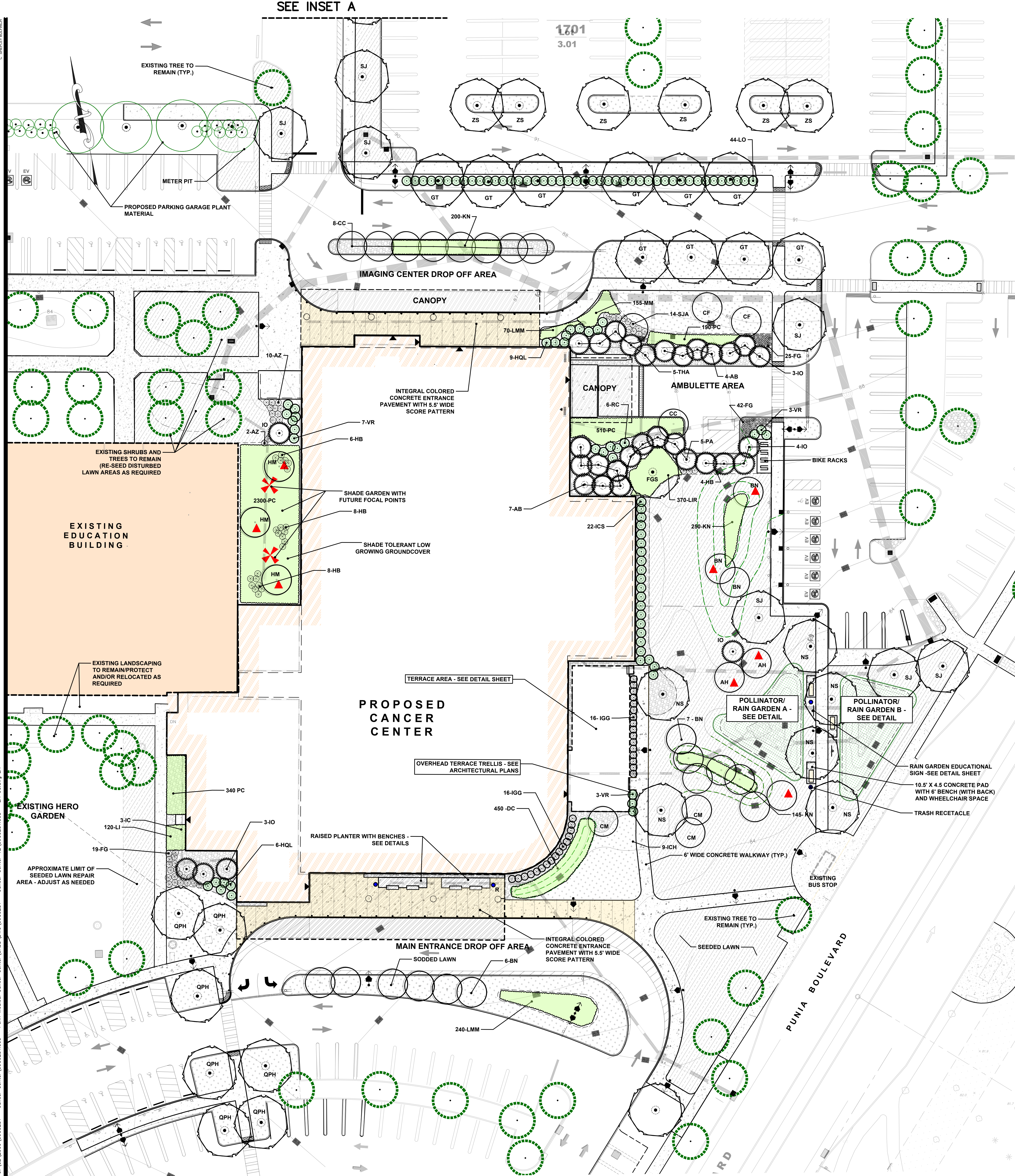
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Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
SITE	Illuminance	Fc	1.1	20.1	0.0	N.A.	N.A.
DRIVE LANE	Illuminance	Fc	1.3	2.5	0.5	2.5	5.0
PARKING LOT NORTH	Illuminance	Fc	1.3	3.3	0.4	3.3	8.3
PARKING LOT SOUTH	Illuminance	Fc	1.1	2.9	0.4	2.8	7.3
WALKING PATH	Illuminance	Fc	1.8	2.6	0.7	2.5	3.7











SAMPLE PLANT LIST									
DECIDUOUS SHADE AND ORNAMENTAL TREES									
SYM	QTY	BOTANICAL NAME		COMMON NAME	INSTALLED SIZE	MATURE SIZE		REMARKS	
D N <sup>o</sup> AH	2	OSTRYA VIRGINIANA		HOPHORNBEAM	2.5" CALIPER	20'-35" HEIGHT, 25'-35" SPREAD		B & B, ORANGE/RED/YELLOW FALL COLOR, SMOOTH TRUNK/MULTI TRUNK	
N <sup>o</sup> BN	16	BETULA NIDA 'HERITAGE'		HERITAGE VIBR BIRCH	2.5" CALIPER	20'-35" HEIGHT, 25'-35" SPREAD		B & B, YELLOW FALL COLOR, MULTI TRUNK	
N <sup>o</sup> CC	9	CERCIS CANADENSIS 'FOREST PANSY'		FOREST PANSY REDBUD	8" HEIGHT	20'-30" HEIGHT AND SPREAD		B & B, MULTI-TRUNK, PINK FLOWERS, APRIL	
N	CF	CORNUS FLORIDA		WHITE FLOWERING DOGWOOD	8" HEIGHT	20'-30" HEIGHT AND SPREAD		B & B, BRILLIANT MULTI-TRUNK TREE, PURPLE FLOWERS SUMMER, MATCHED SPECIMEN	
CM	3	LAGERSTROMIA INDICA 'CATAWBA'		CATAWBA CREPE MYRTLE	6'-8" HEIGHT	10'-12" HEIGHT AND SPREAD		B & B, FOCAL POINT TREE, SINGLE TRUNK, WEEPING HABIT	
*	FGS	FAGUS SYLVATICA 'PENDULA'		EUROPEAN WEEPING BEECH	2.5" CALIPER	50'-70" HEIGHT, 25'-35" SPREAD		B & B, YELLOW FALL COLOR, SINGLE TRUNK	
D N & G	QT	GLEDISIA TRACANTHOSUS NERIMS		THORNLESS HONEYLOCUST	2.5" CALIPER	50'-70" HEIGHT, 25'-35" SPREAD		B & B, MULTI-TRUNK, DECIDUOUS TREE WITH YELLOW FLWS, FEBRUARY	
D N	HM	HAMAMELIS VIRGINIANA 'ARNOLD'S PROMISE'		ARNOLD'S PROMISE WITCHAZEL	8" HEIGHT	15'-20" HEIGHT AND APREAD		B & B, BRIGHT RED FALL COLOR, SINGLE TRUNK	
N <sup>o</sup>	NS	NYSSA SYLVATICA		BLACK GUM	2.5" CALIPER	30'-40" HEIGHT, 20'-30" SPREAD		B & B, DECIDUOUS TREE, SINGLE ITEM, YELLOW FAY FALL COLOR	
D N & M	QPH	QUERCUS PHELLOS		WILLOW OAK	2.5" CALIPER	40'-50" HEIGHT AND SPREAD		B & B, DECIDUOUS TREE, SINGLE STEM, YELLOW FALL COLOR	
D	SJ	STYPHNOBOLBIUM JAPONICUMS		CHINESE SCHOLARTREE	2.5" CALIPER	40'-50" HEIGHT AND SPREAD		B & B, LIGHT GREY BARK, SINGLE TRUNK, SPECIMEN	
D N <sup>o</sup>	SS	ZELKOVA SERRATA		JAPANESE ZELKOVA	2.5" CALIPER	50'-70" HEIGHT, 25'-35" SPREAD			
EVERGREEN TREES									
D N	AB	ABIES CONCOLOR		WHITE FIR	8" HEIGHT	50'-70" HEIGHT, 25'-35" SPREAD		B & B, BLUE GREY FOLIAGE	
D N & G	IO	ILEX OPACA FEMALE		BERRIED AMERICAN HOLLY	8" HEIGHT	50'-70" HEIGHT, 25'-35" SPREAD		B & B, RED BERRIES IN THE WINTER	
D	PA	PICEA ABIES		NORWAY SPRUCE	8" HEIGHT	50'-70" HEIGHT, 25'-35" SPREAD			
# &	THA	THUJA PLICATA 'GREEN GIANT'		GREEN GIANT ARBORVITAE	8" HEIGHT	30'-40" HEIGHT, 10'-12" SPREAD		B & B	
SHRUBS									
N	AZ	AZALEA 'DELAWARE WHITE'		DELAWARE WHITE AZALEA	2" HEIGHT	3'-4" HEIGHT AND SPREAD		B & B, WHT FLWS, MAY, EVERGREEN	
N	HQL	HYDRANGEA QUERCIFOLIA		OAKLEAF HYDRANGEA	3" HEIGHT	6'-8" HEIGHT AND SPREAD		B & B, WHITE FLWS, SUMMER OAK LEAF SHAPED FOLIAGE	
	6	10 ILEX CRENATA CONVEXA		CONVEX JAPANESE HOLLY	4" HEIGHT	4'-8" HEIGHT AND SPREAD		B & B, EVERGREEN SHRUB, MATCHED SPECIMENS ONLY	
D &	ICS	22 ILEX CRENATA STEEDS		STEEDS JAPANESE HOLLY	3" HEIGHT	5'-6" HEIGHT AND SPREAD		B & B, EVERGREEN SHRUB, MATCHED SPECIES ONLY	
N &	IOG	32 ILEX GLABRA GEM BOX		GEMBOX INKERRY HOLLY	2" HEIGHT	3" HEIGHT AND SPREAD		B & B, EVERGREEN SHRUB, MATCHED SPECIMENS ONLY	
	LO	44 LIGUSTRUM OVALLIFOLIUM		CALIFORNIA PRIVET	4" HEIGHT	6'-8" HEIGHT AND SPREAD		B & B, SEMI-EVERGREEN, MATCHED SPECIMENS ONLY	
N	RC	6 RHODODENDRON CATAWBIENSE 'BOURSALT'		BOURSALT CATAWBA RHODODENDRON	3" HEIGHT	6'-10" HEIGHT AND SPREAD		B & B, LILAC FLOWERS MAY, EVERGREEN	
D #	SJA	14 SPIRAEA JAPONICA 'GOLDMOUND'		GOLDMOUND JAPANESE SPIRAEA	1" HEIGHT	2'-3" HEIGHT AND SPREAD		B & B, LILAC FLOWERS MAY, ORANGE/RED FALL COLORS	
	VR	13 VIBURNUM RHYTHIDOPHYLLUM		LEATHERLEAF VIBURNUM	4" HEIGHT	10'-15" HEIGHT AND SPREAD		B & B, WHITE FLOWERS IN SPRING	
GROUNDCOVERS, PERENNIALS AND ORNAMENTAL GRASSES									
D &	DC	450 DELOSPERMA WHEELS OF WONDER - FIRE WAGON		FIRE WONDER WHEELS OF WONDER ICE PLANT	2" HEIGHT	4" TO 6" HEIGHT, 1" TO 2" SPREAD		1 GAL. CONT. DROUGHT TOLERANT PERENNIAL WITH RED FLOWERS, SUMMER TO FALL, INSTALL AT 1" ON CENTER	
D &	FG	86 FESTUCA GLAUCA 'ELIAN BLUE'		ELIAN BLUE FESCUE	8" HEIGHT	12" HEIGHT AND SPREAD		1 GAL. CONT. LIGHT BLUE DWARF ORNAMENTAL GRASS, INSTALL AT 2" ON CENTER	
NB	HB	26 HELLEBORUS ORIENTALIS 'ROYAL HERITAGE STAIN'		ROYAL HERITAGE STAIN HELLEBORE	6" HEIGHT	18"-24" HEIGHT AND SPREAD		2 GAL. CONT. PERENNIAL, MULTI COLOR FLOWERS, EARLY SPRING	
D N	KN	450 GERANIUM MACULATUM		CRANESEILL GERANIUM	6" HEIGHT	12" HEIGHT AND SPREAD		1 GAL. CONT. PERENNIAL, PURPLE FLOWERS MAY TO AUGUST, INSTALL AT 15" ON CENTER	
D #	LMM	310 LAVENDULA ANGUSTIFOLIA 'MUNSTEAD'		MUNSTEAD ENGLISH LAVENDER	1 GALLON CONTAINERS	12"-16" HEIGHT AND SPREAD		FRAGRANT PURPLE FLOWERS LATE SPRING TO EARLY SUMMER, PERENNIAL, INSTALL AT 1'-5" ON CENTER	
D N &	LI	120 LIATRIS SPICATA 'KOBOLD'		KOBOLD BLAZING STAR LIATRIS	2 GALLON CONTAINERS	24"-30" HEIGHT, 12" SPREAD		PERENNIAL, PURPLE FLOWERS JULY-AUGUST, INSTALL AT 1'-5" ON CENTER	
&	LR	370 LIRIOPE MUSCARI 'BIG BLUE'		BIG BLUE LILTYRIF	6" HEIGHT	12" HEIGHT AND SPREAD		1 GALLON CONT. GRASSY, BLUE FLOWERS, AUGUST, INSTALL AT 1" ON CENTER	
NB	MM	155 CALTHA PALUSTRIS		MARSH MARIGOLD	6" HEIGHT	1'-2" HEIGHT AND SPREAD		1 GALLON CONT. YELLOW FLOWERS MAY, INSTALL AT 1" ON CENTER	
D #	PC	3000 PACHYSAANDRA TERMINALIS GREEN CARPET		GREEN CARPET PACHYSAANDRA	1 GALLON CONTAINERS	12" HEIGHT, 12"-18" SPREAD		EVERGREEN GROUNDCOVER, GRAY SHADE TOLERANT, INSTALL AT 1" ON CENTER	

**KEY:**






N	= NATIVE PLANT OF NORTH AMERICA	*	= SPRING INSTALLATION ONLY
S	= SALT SPRAY TOLERANT	#	= SELDOM OR RARELY DAMAGED BY DEER AS PER Rutgers AG AGENCY ( <a href="http://njaes.rutgers.edu">HTTP://NJAES.RUTGERS.EDU</a> )

**D = DROUGHT TOLERANT AS PER THE FOLLOWING SOURCES:**

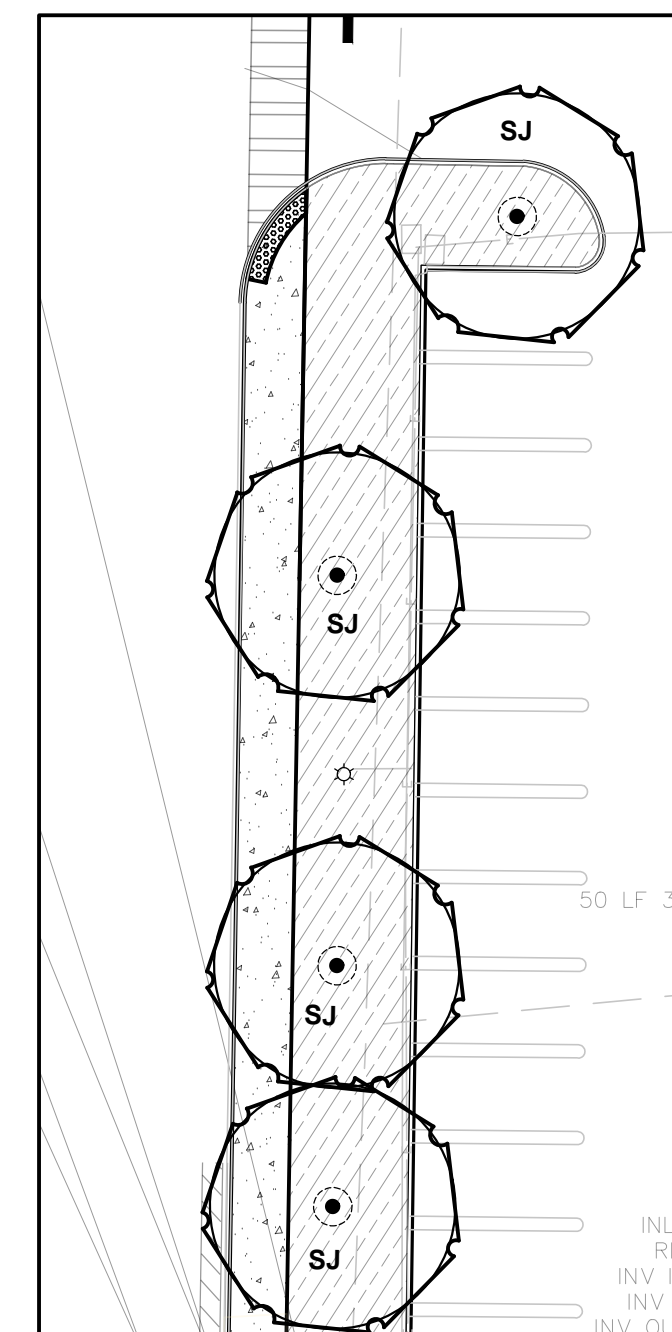
1. NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION ([WWW.NYCGOVPARKS.ORG](http://www.nycgovparks.org))
2. LANDSCAPING FOR WATER CONSERVATION BY RUTGERS COOPERATIVE EXTENSION (PUBLICATION E80)
3. RUTGERS MASTER GARDENERS OF MERCER COUNTY, NEW JERSEY ([mgofmc.org](http://mgofmc.org))
4. HEAT AND DROUGHT TOLERANT PLANT LIST- PENN STATE EXTENSION (EXTENSION.SP5U)

**LEGEND:**

- 
- 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

-  PROPOSED BENCH WITH BACK
-  PROPOSED TRASH CAN
-  PROPOSED RECYCLING TRASH CAN
-  PROPOSED BIRD FEEDER
-  PROPOSED FUTURE FOCAL POINT

- 



**INSET A**  
SCALE: 1" = 20'

**LANDSCAPE PLAN GENERAL NOTES:**

1. EXISTING TREES AND SHRUBS TO REMAIN 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. SEE LANDSCAPE DETAIL SHEET FOR ADDITIONAL PLANTING NOTES AND PLANT LISTS



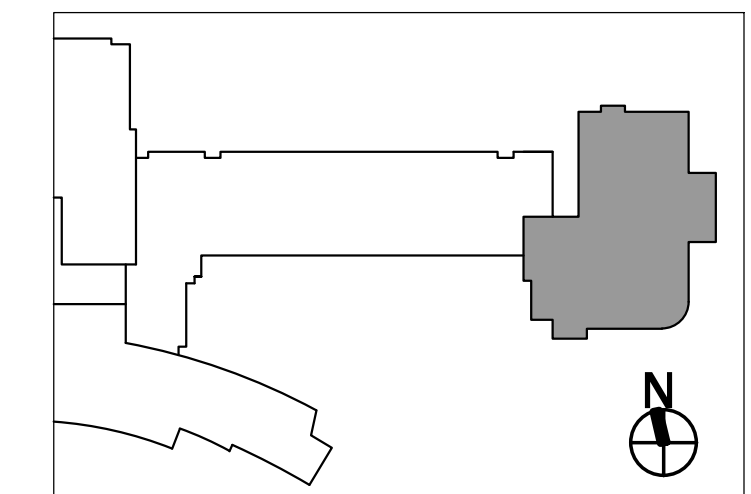
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**SARAH REBAR BISAHA, L.L.A., P.P.**  
LICENSED LANDSCAPE ARCHITECT, N.J. LIC. No. AS00063

[illegible]

**PENN MEDICINE  
PRINCETON  
HEALTH CCIC**

1 Plainsboro Road  
Plainsboro, NJ 08536  
JOB NO: 5267.003  
Block 7401 Lot 3.01  
Township of Plainsboro  
Middlesex County, New Jersey 08536

## LANDSCAPING PLAN

# C215

07/31/2024	PACKAGE 0
08/02/2024	PACKAGE 1

PACKAGE 0  
PACKAGE 1





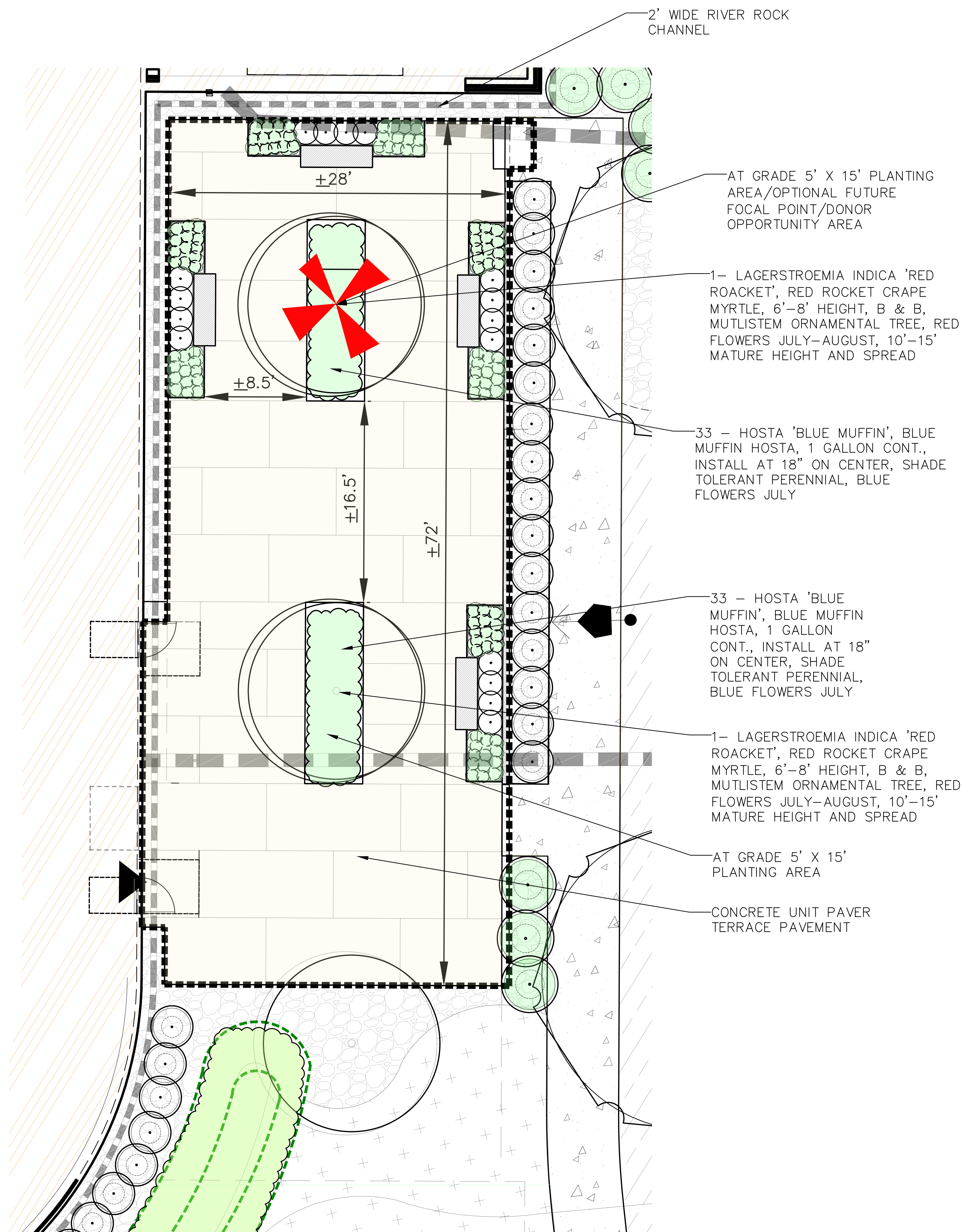






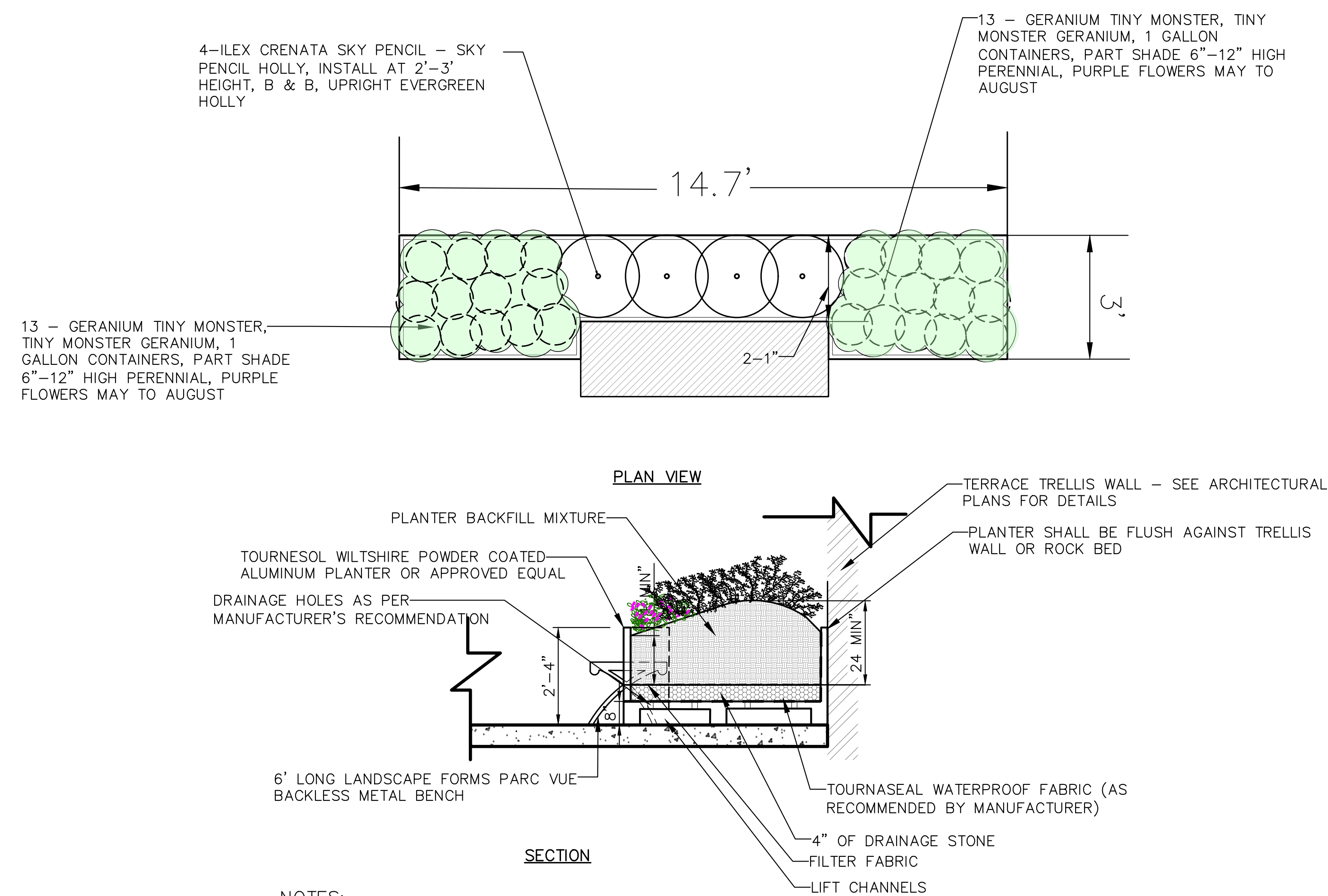






### TERRACE PLAN DETAIL

SCALE: 1" = 5'

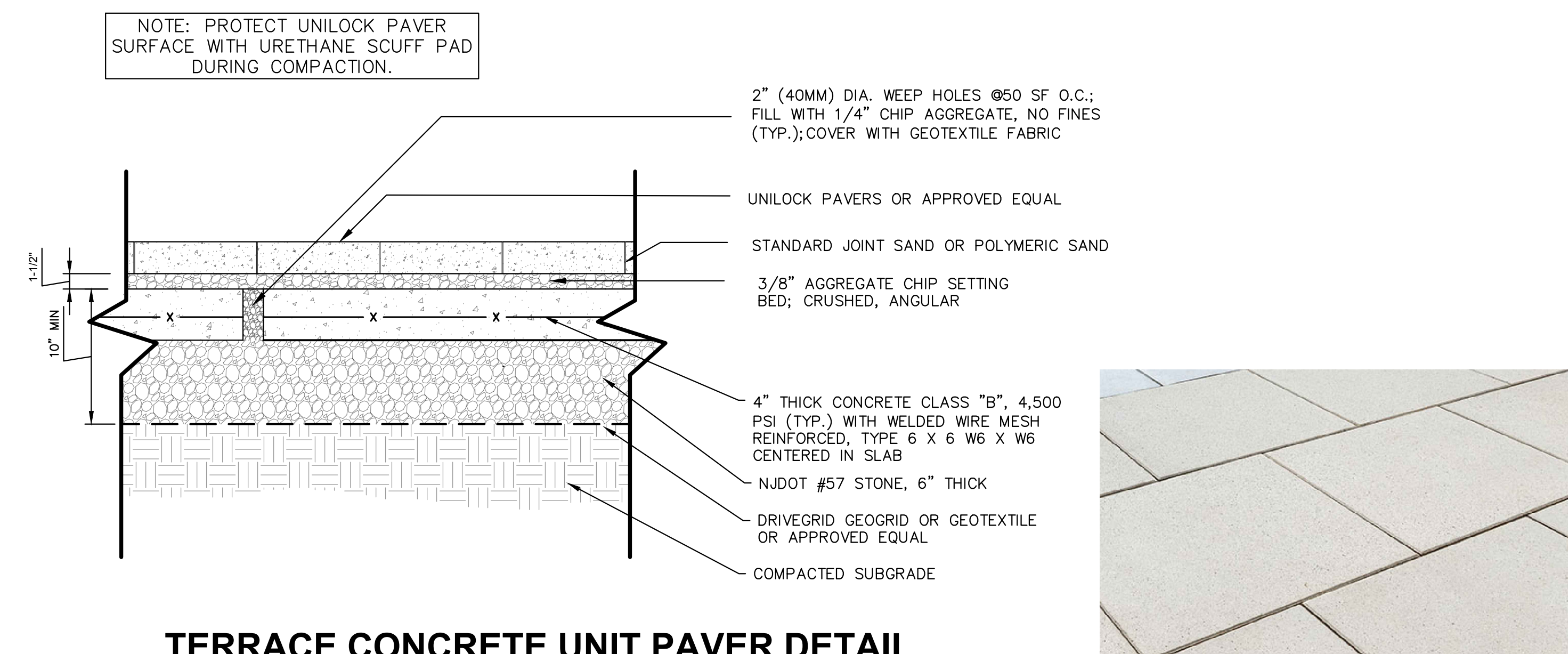


### SCHEMATIC TERRACE PLANTER LAYOUT

NOT TO SCALE

NOTES:

1. CUSTOM PLANTERS TO BE MANUFACTURED BY TOURNESOL, UNION CITY, CALIFORNIA (TOURNESOL.COM). MODEL: WILTSHIRE. RECTANGULAR IN POWDER COATED ALUMINUM. COLOR TO BE SELECTED FROM STANDARD AVAILABLE COLORS BY OWNER.
2. THE DETAIL PROVIDED ON THIS DRAWING IS FOR SCHEMATIC AND INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL BE REQUIRED TO CONTACT THE PLANTER MANUFACTURER FOR SPECIFIC DESIGN DETAILS AND APPLICABLE OPTIONS, SHOP DRAWINGS TO BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.



### TERRACE CONCRETE UNIT PAVER DETAIL

NOT TO SCALE

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. 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.
5. THE CONTRACTOR SHALL SUBMIT 12" X 12" COLOR SAMPLES FOR UNILOCK PAVERS FOR REVIEW AND APPROVAL PRIOR TO ORDERING ANY MATERIAL.
6. THE SIDEWALK SUBGRADE SHALL BE NDOT #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-1557, THE MODIFIED PROCTOR.
7. PROVIDE PAVR EDGING WHEREVER PAVERS MEET ROCK OF PLANTING BEDS AS PER THE RECOMMENDATIONS OF THE MANUFACTURER.



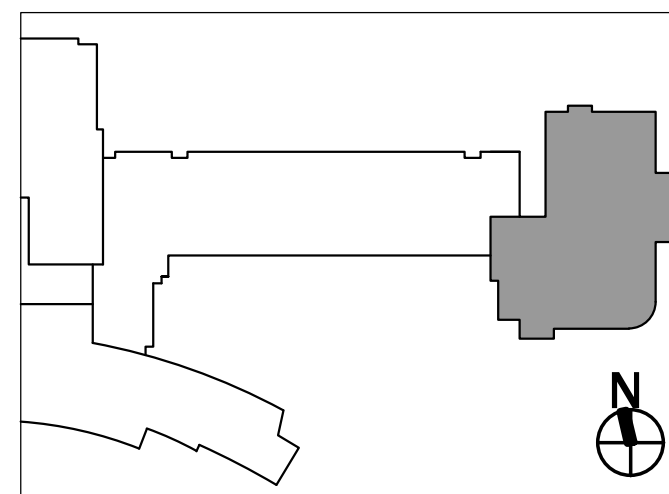
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[illegible]

**PENN MEDICINE  
PRINCETON  
HEALTH CCIC**

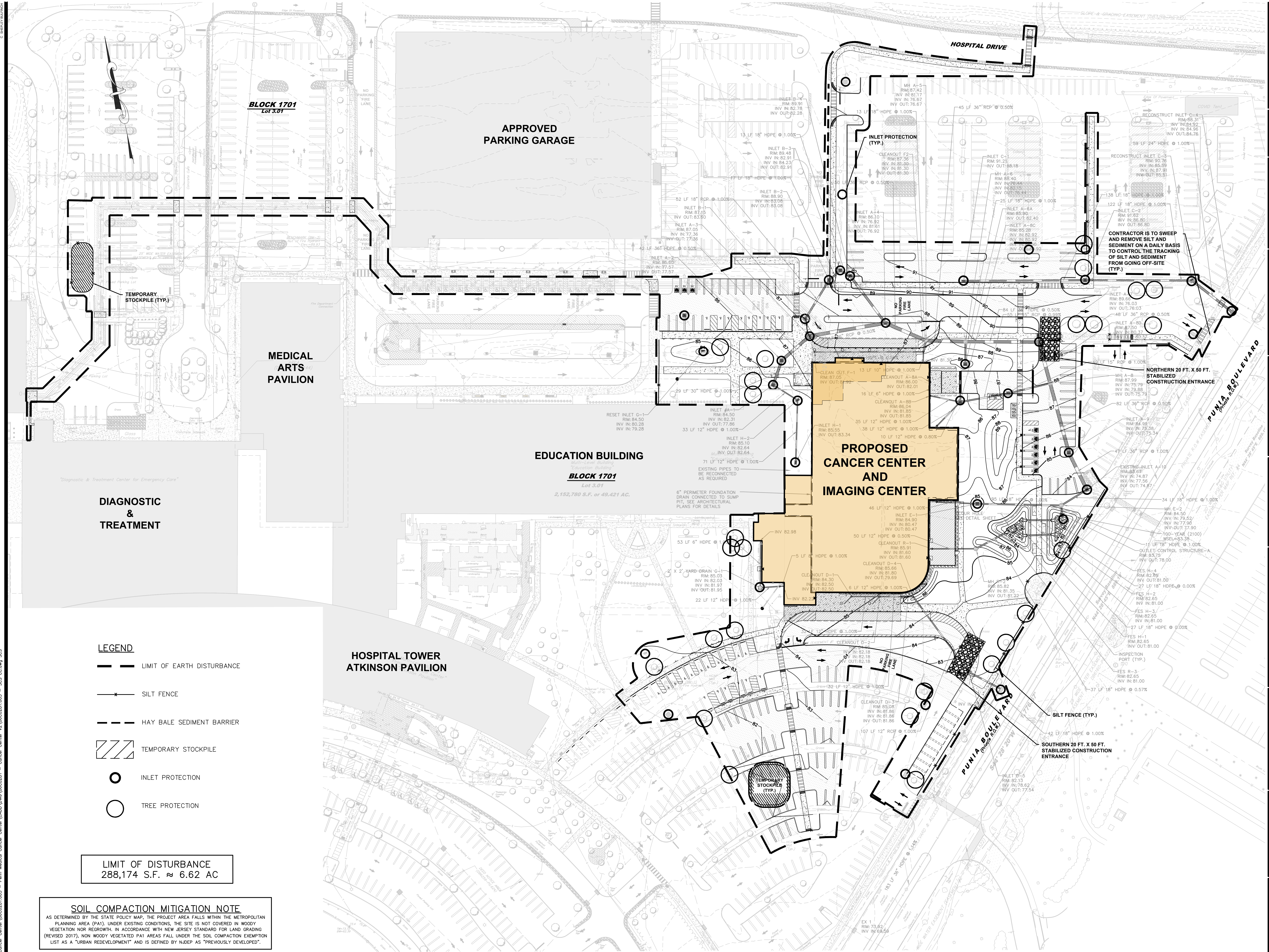
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Township of Plainsboro  
Middlesex County, New Jersey 08536

## LANDSCAPING NOTES AND DETAILS 3

# C218

07/31/2024	PACKAGE 0
08/02/2024	PACKAGE 1





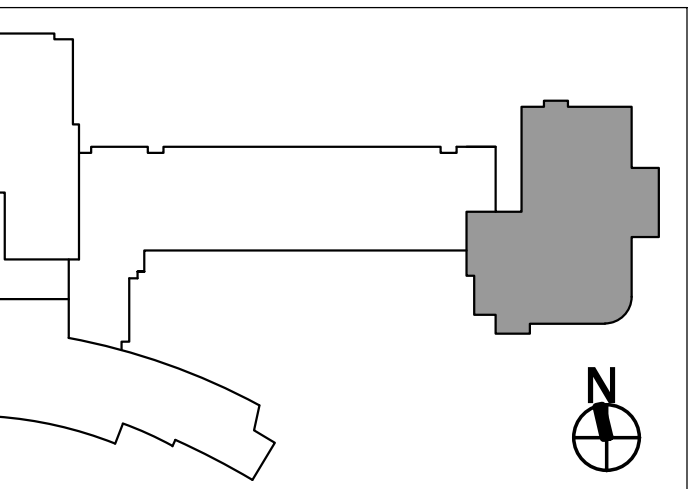
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**ANDREW L. FRENCH, P.E.**  
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**PENN MEDICINE  
PRINCETON  
HEALTH CCIC**

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Township of Plainsboro  
Middlesex County, New Jersey 08536

## SOIL EROSION AND SEDIMENT CONTROL PLAN

# C220

07/31/2024	PACKAGE 0
08/02/2024	PACKAGE 1





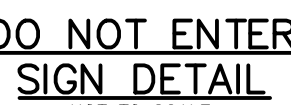
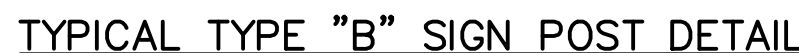




# C222

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08/02/2024	PACKAGE 1



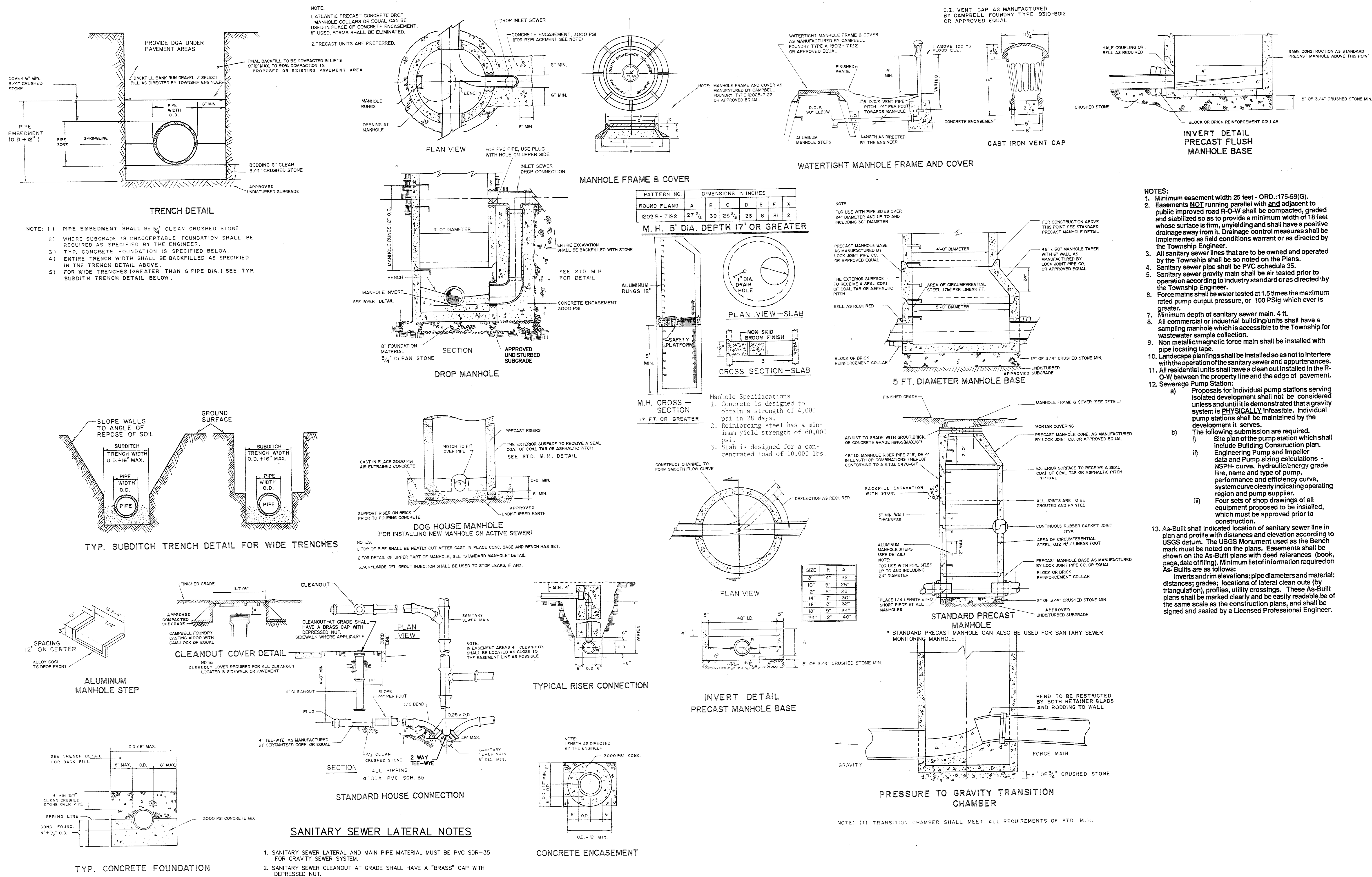


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08/02/2024	PACKAGE 1

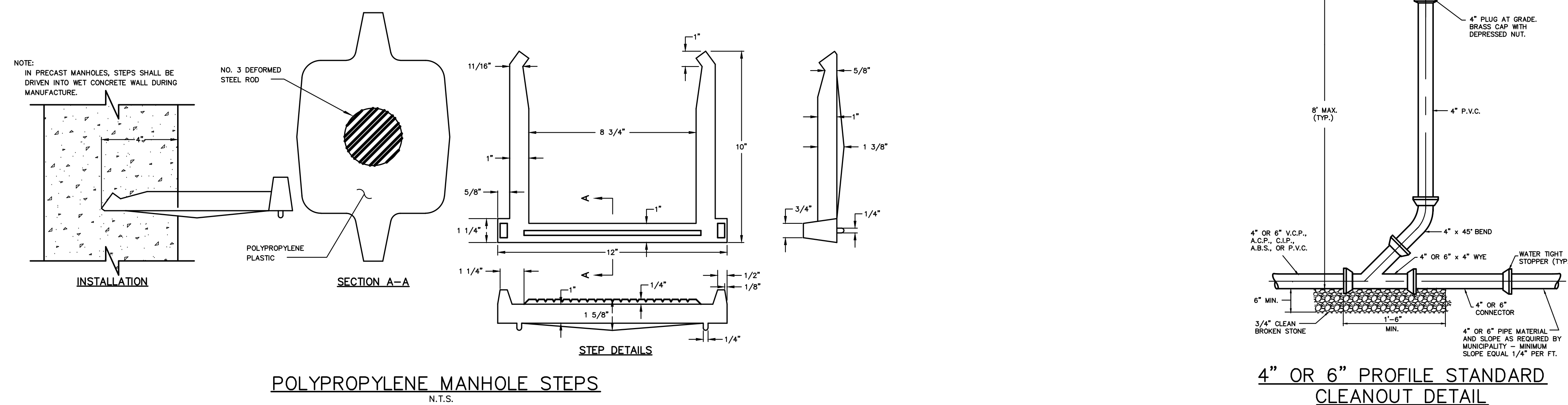








# SOUTH BRUNSWICK SEWER DEPARTMENT STANDARD DETAILS



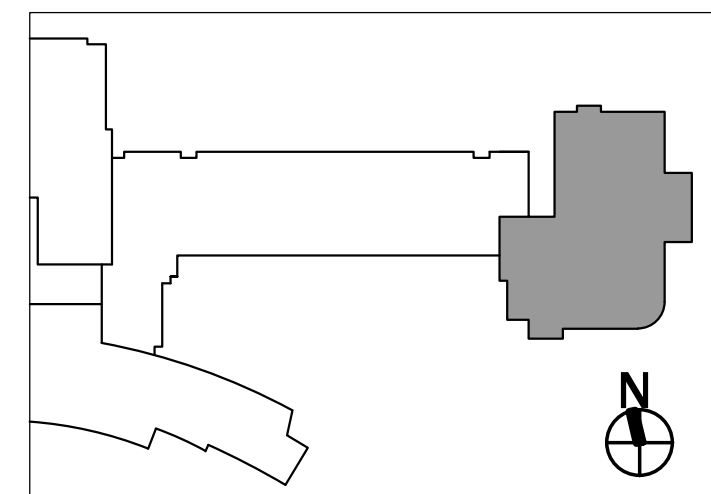
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[illegible]

**PENN MEDICINE  
PRINCETON  
HEALTH CCIC**

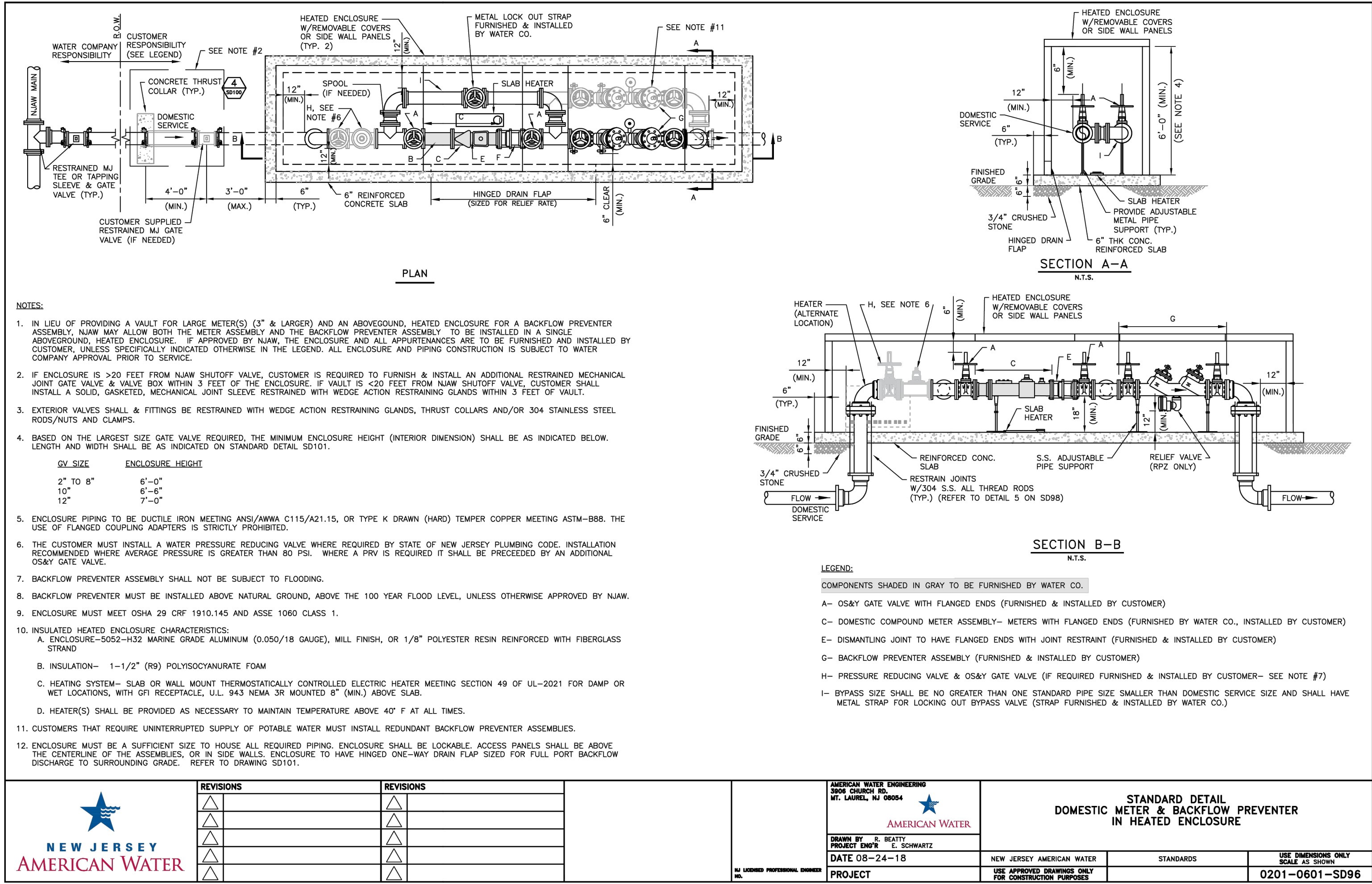
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Block 7401 Lot 3.01  
Township of Plainsboro  
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## CONSTRUCTION DETAILS - SANITARY SEWER

# C225

07/31/2024	PACKAGE 0
08/02/2024	PACKAGE 1



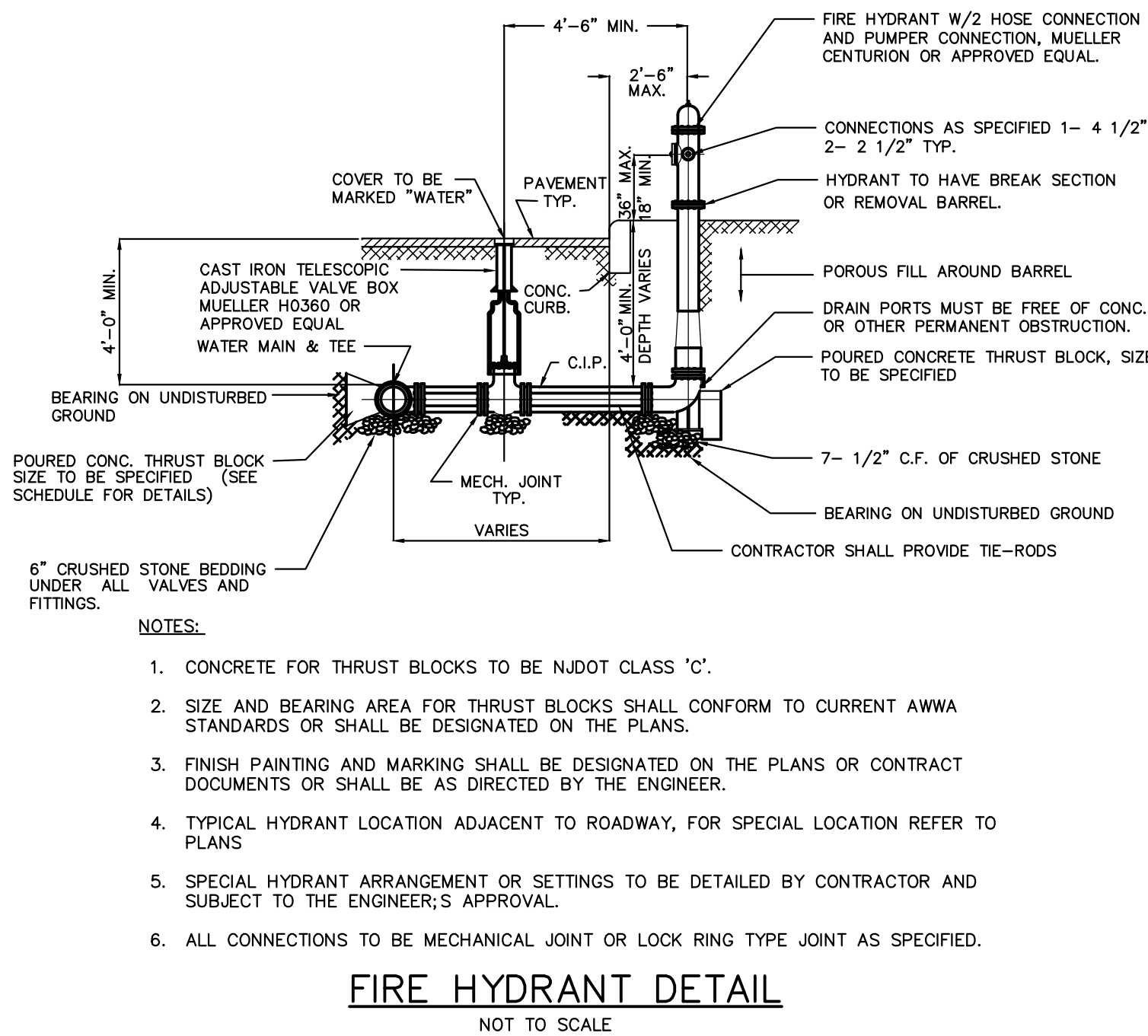
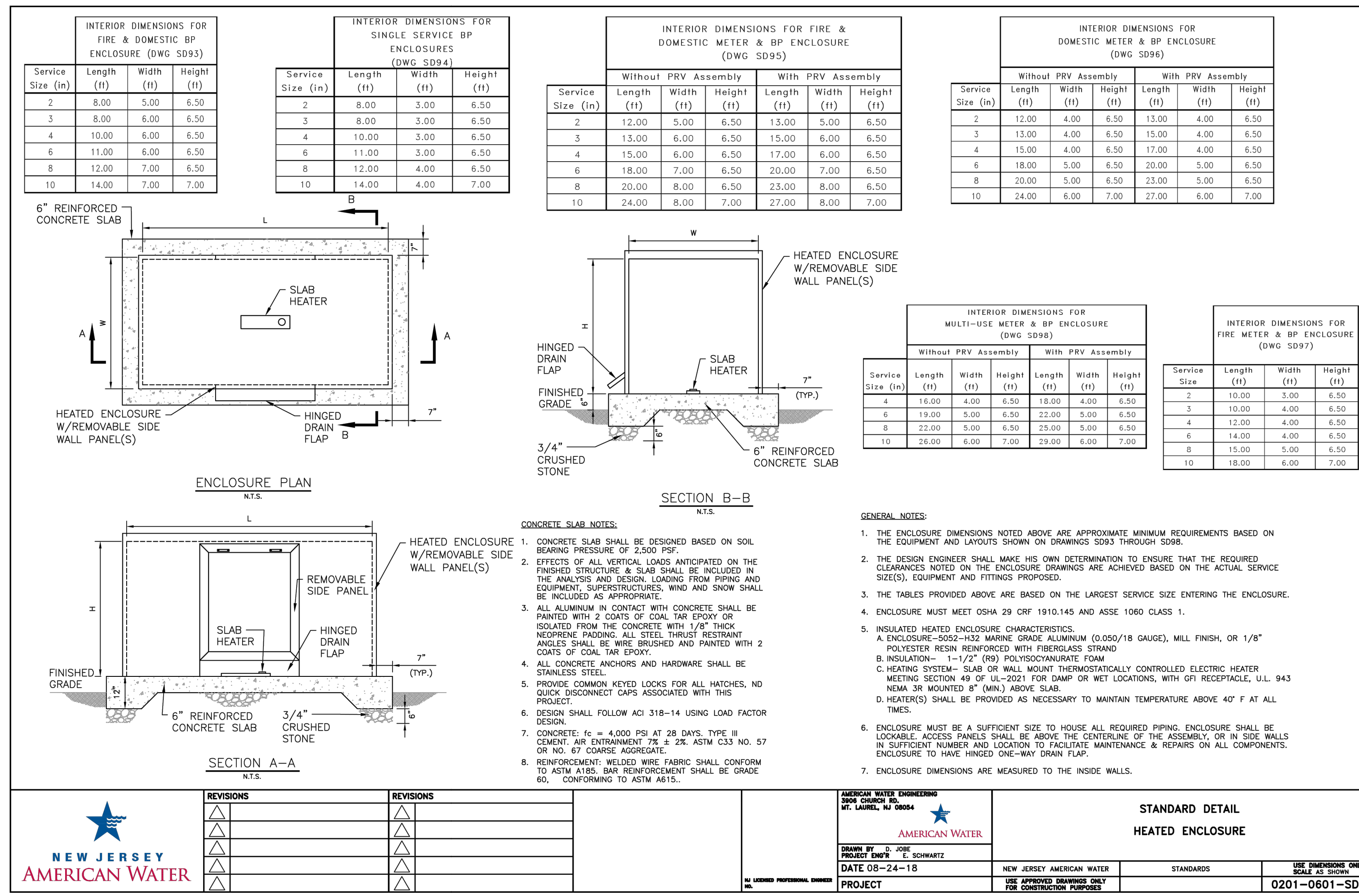


DIAMETER OF PIPE ( d )	22 1/2° ELBOW	45° ELBOW	90° ELBOW	TEE	PLUG
					
6"	0.5	1.1	2.0	1.4	1.4
8"	1.0	1.9	3.6	2.7	2.7
10"	1.5	3.0	5.5	4.2	4.2
12"	2.2	4.3	8.0	5.7	5.7
16"	4.5	7.7	14.2	10.0	10.0
20"	6.1	12.0	22.3	15.7	15.7
24"	8.8	17.2	32.0	22.7	22.7

"A" - CONTACT BEARING AREA OF BLOCK WITH EARTH, IN SQUARE FEET

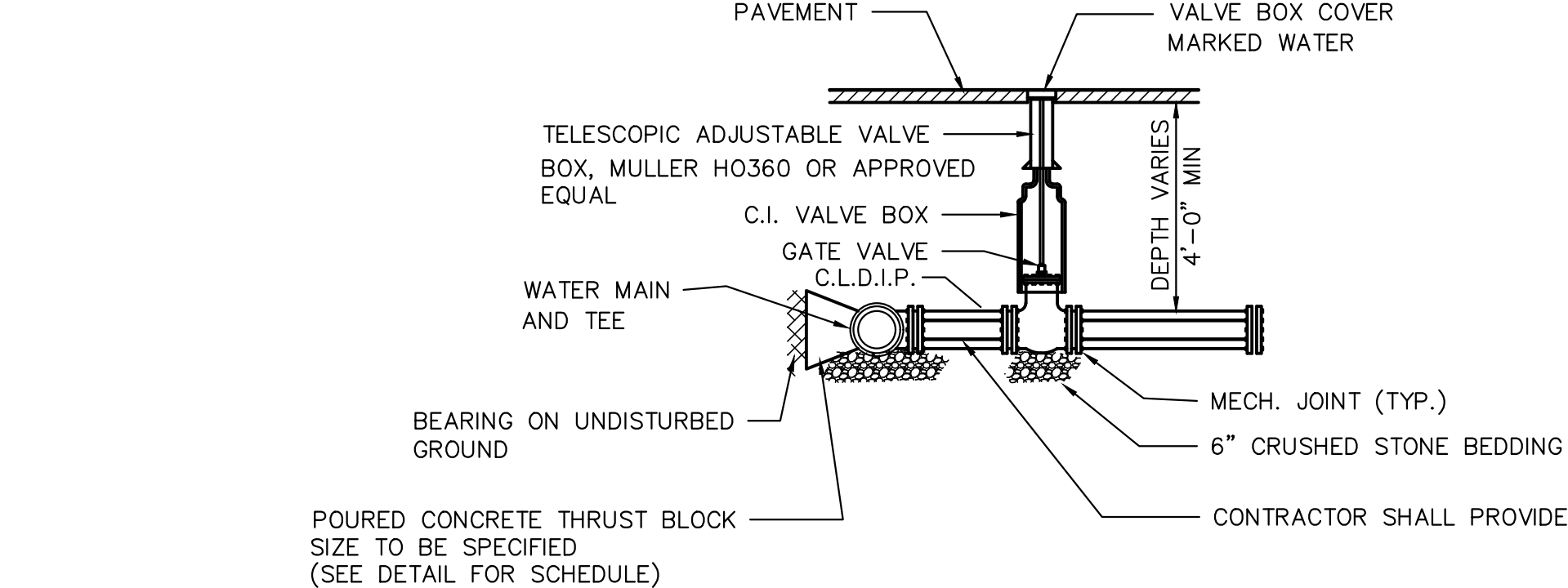
- NOTES:**
1. BEARING AREAS ARE BASED ON UNDISTURBED SOIL WITH A BEARING CAPACITY OF 4000LBS. PER SQ. FT. FOR A LESSER SOIL BEARING CAPACITY, THESE AREAS SHALL BE INCREASED ACCORDINGLY.
  2. ALL CONCRETE THRUST BLOCKS SHALL BE CLASS B.
  3. THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED EARTH.
  4. 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



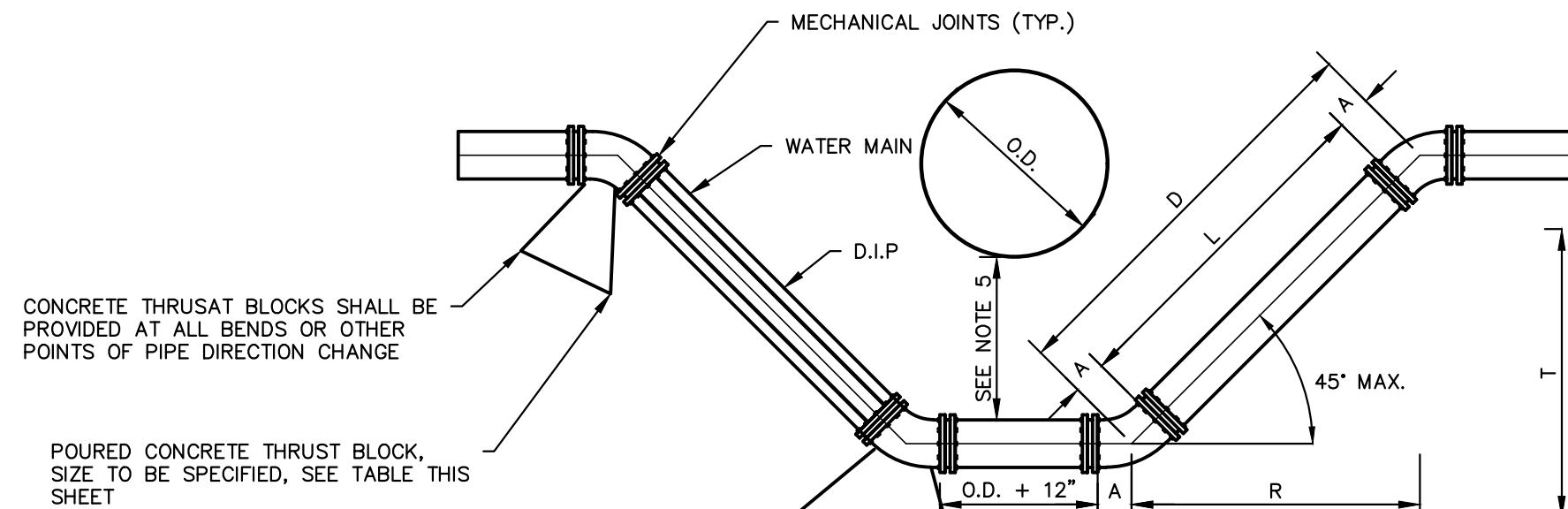
- NOTES:**
1. CONCRETE FOR THRUST BLOCKS TO BE N/DOT CLASS 'C'.
  2. SIZE AND BEARING AREA FOR THRUST BLOCKS SHALL CONFORM TO CURRENT AWWA STANDARDS OR SHALL BE DESIGNATED ON THE PLANS.
  3. FINISH PAINTING AND MARKING SHALL BE DESIGNATED ON THE PLANS OR CONTRACT DOCUMENTS OR SHALL BE AS DIRECTED BY THE ENGINEER.
  4. TYPICAL HYDRANT LOCATION ADJACENT TO ROADWAY, FOR SPECIAL LOCATION REFER TO PLANS.
  5. SPECIAL HYDRANT ARRANGEMENT OR SETTINGS TO BE DETAIL 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. 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

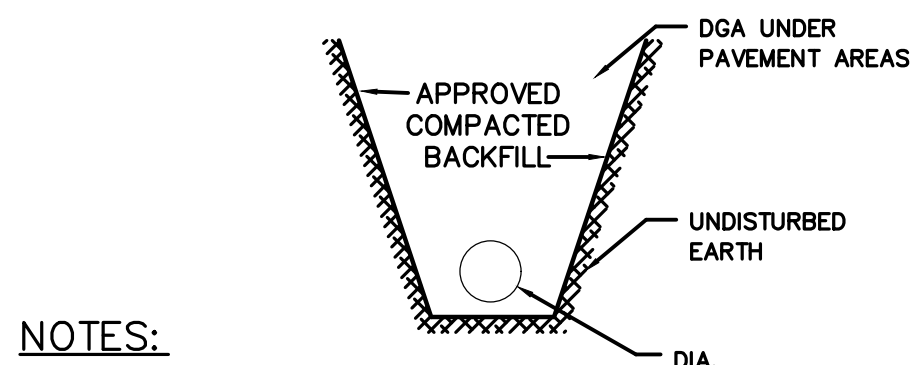


- NOTES:**
1. WATER MAIN MAY BE LOOPED ABOVE OBSTRUCTION, IF 3' MINIMUM COVER IS MAINTAINED ABOVE WATER MAIN
  2. WATER MAIN MAY BE DUCTILE IRON CEMENT LINED PIPE ALL JOINTS SHALL BE MECHANICAL JOINT OR PUSH ON AND ALL FITTINGS SHALL BE MECHANICAL JOINT CAST IRON
  3. OFFSETS MAY BE SUBSTITUTED FOR A OR T UP TO 24" IF APPROVED BY THE ENGINEER
  4. CONCRETE THROUST 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. THE RODS SHALL BE UTILIZED TO RESTRAIN PIPE JOINTS. DETAILS OF THE ASSUMED JOINTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. THE RODS SHALL BE SUFFICIENT TO RESTRAIN THE THROUST DEVELOPED AT 100 P.S.I. WORKING PRESSURE

MECHANICAL JOINTS			
ANGLE	"D" 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



1. WHERE PIPE INVERTS ARE IN TRENCH, 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 3/4" CRUSHED STONE SHALL BE USED TO BEDDING UNDERLAYER BY A LAYER OF FIBER FABRIC SUCH AS MIRAFIX 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 ANY PAVED SURFACE SHALL BE 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 ALL STATE AND FEDERAL SPECIFICATIONS.
6. SUITABLE BACKFILL MATERIAL SHALL BE SELECT MATERIAL (2 IN)DOT) 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 TOWNSHIP 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



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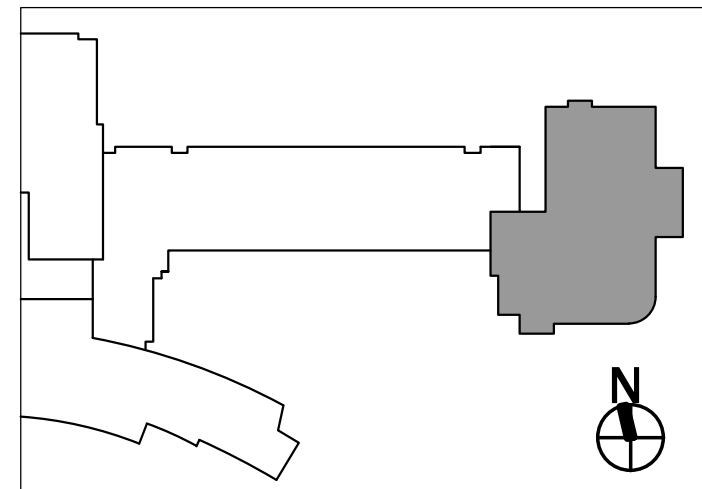
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**PENN MEDICINE  
PRINCETON  
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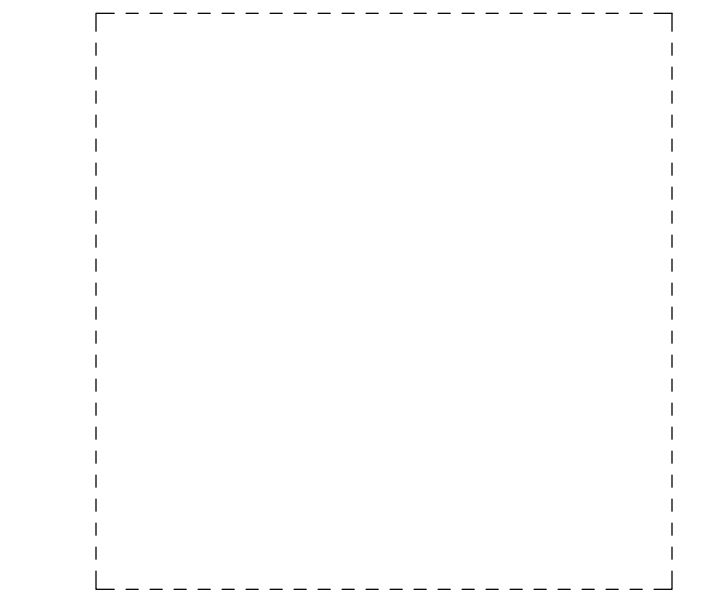
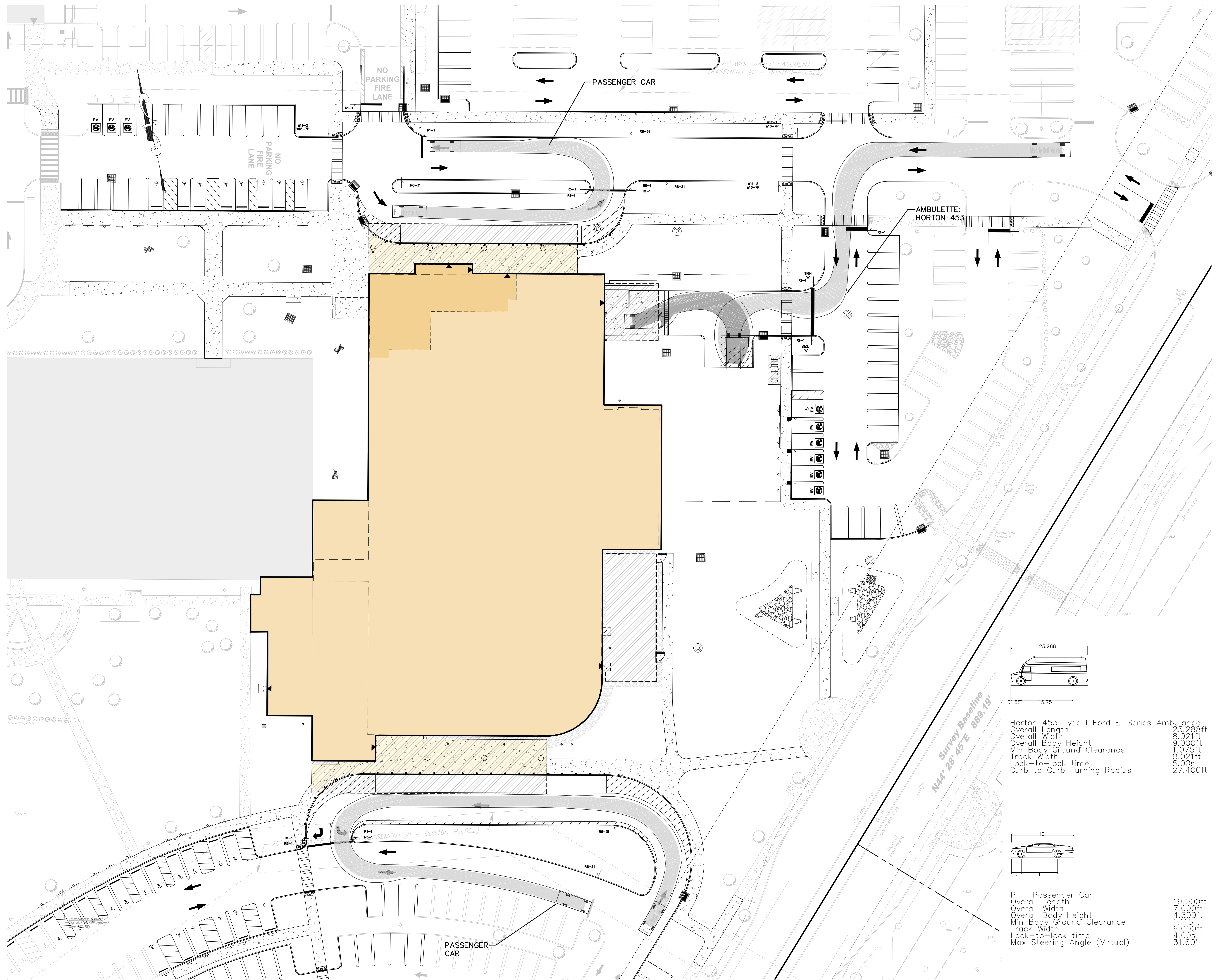
## CONSTRUCTION DETAILS - WATER SERVICE

# C226

07/31/2024	PACKAGE 0
08/02/2024	PACKAGE 1

PACKAGE 0  
PACKAGE 1





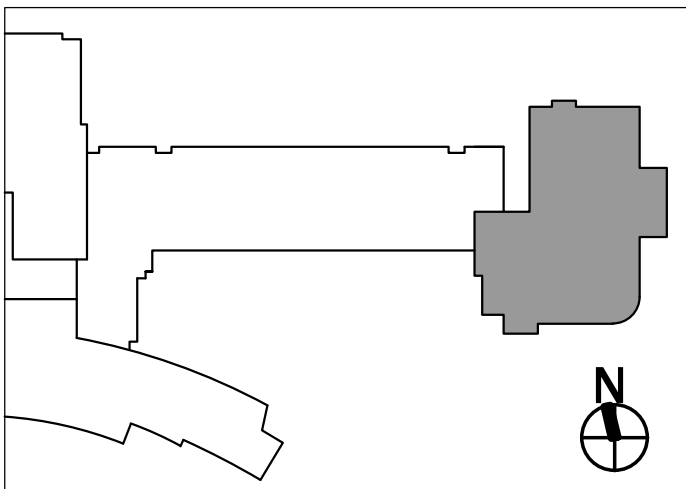
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## TURNING RADIUS PLAN AND DETAILS

# C227

07/31/2024	PACKAGE 0
08/02/2024	PACKAGE 1

PACKAGE 0  
PACKAGE 1