



Jun 13 2024

Amy Beth Laythe
Senior
Administrative Assistant
Planning & Regulatory Services Division

Actual Submittal Date 6/10/2024

DEFINITIVE SITE PLAN APPROVAL DCU/RETAIL EXPANSION PROJECT 225 SHREWSBURY STREET WORCESTER, MASSACHUSETTS

ISSUED FOR DEFINITIVE SITE PLAN APPROVAL / SPECIAL PERMIT: JUNE 6TH, 2024



980 WASHINGTON STREET
SUITE 216
DEDHAM, MA 02026

www.HighpointEng.com

CLIENT:
LUNDGREN EQUITY PARTNERS
163 Washington street
Auburn, MA 01501

CONSULTANT:



LOCATION PLAN
SCALE: 1"=200'

PROJECT TEAM

CIVIL ENGINEER:	HIGHPOINT ENGINEERING, INC. 980 WASHINGTON STREET, SUITE 216 DEDHAM, MA 02026 TEL: (781) 770-0970 ATTN: DOUGLAS J. HARTNETT WWW.HIGHPOINTENG.COM	OWNER/APPLICANT:	LUNDGREN EQUITY PARTNERS LLC 163 WASHINGTON STREET AUBURN, MA 01501 TEL: (508) 749-4255 ATTN: PATRICK LUNDGREN
ARCHITECT:	NES GROUP ARCHITECTS 905 SOUTH MAIN ST, BLDG B, STE 201 MAANSFIELD, MA 02048 TEL: (508) 339-6600 ATTN: PAUL CAVOLOWSKY WWW.NES-GROUP.COM	SURVEYOR:	HANCOCK ASSOCIATES 185 CENTRE STREET DANVERS, MA 01923-1425 TEL: (978) 777-3050 ATTN: WAYNE C. JALBERT, PLS WWW.HANCOCKASSOCIATES.COM
TRAFFIC ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752 TEL: (508) 481-7400 ATTN: PATRICK BRADLEY WWW.CHAPPELLENGINEERING.COM	LANDSCAPE ARCHITECT:	RADNER DESIGN ASSOCIATES, INC. 3 ALLIED DRIVE, SUITE 303 DEDHAM, MA 02026 TEL: (508) 736-6144 ATTN: MICHAEL RADNER, ASLA, LEEDap WWW.RADNERDESIGN.COM



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SUMMARY OF REQUIRED PERMITS & ZONING RELIEF REQUESTED

ZO SECTION	SPGA	REQUIREMENT	REQUEST
§IX-7	PLANNING BOARD	SITE PARKING REQUIREMENTS	ALLOWABLE REDUCTION OF SITE PARKING REQUIREMENTS IN THE COMMERCIAL CORRIDOR OVERLAY DISTRICT BY 41%
§IX-4.C.1	ZONING BOARD OF APPEALS	PERMITTED USE REGULATION	ALLOW FOR RELOCATION OF EXISTING DRIVE-THRU
§IV-7	ZONING BOARD OF APPEALS	LOADING REQUIREMENTS	WAIVER OF THE REQUIREMENT TO PROVIDE ONE (1) LOADING SPACES FOR THE PROPOSED BUILDING

DCU/RETAIL EXPANSION PROJECT

225 SHREWSBURY STREET
WORCESTER, MA

OWNER/APPLICANT: LUNDGREN EQUITY PARTNERS

REV DATE DESCRIPTION

ISSUE TYPE:

PERMIT

ISSUE DATE:

06/06/2024

PROJECT NUMBER:

24009

DRAWN BY: MJH

CHECKED BY: DTB/DJH

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SHEET TITLE:

TITLE SHEET

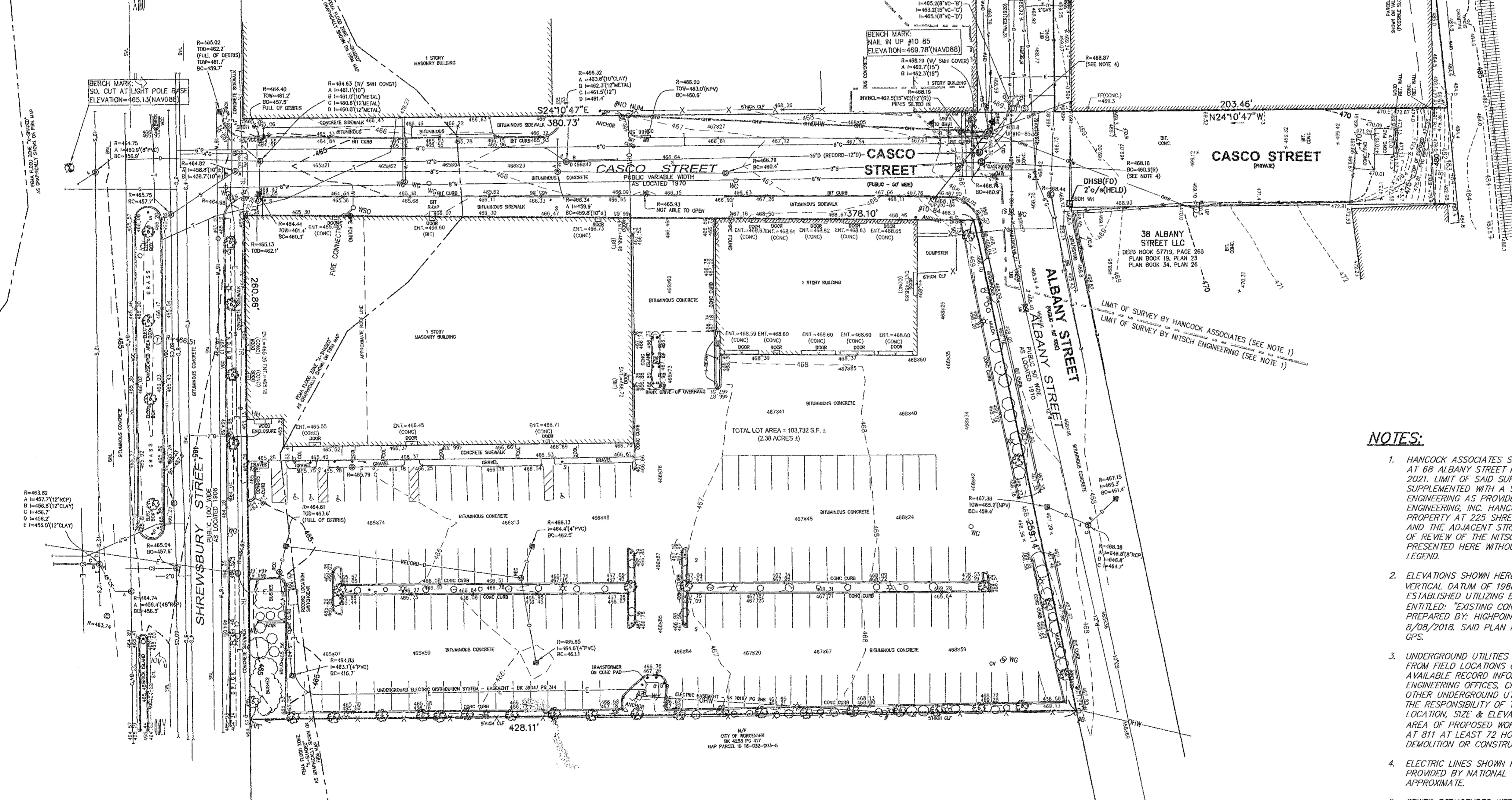
SHEET NUMBER:

T100

ISSUED FOR : PERMIT

LEGEND

- 472 --- SURFACE CONTOUR
- — — — — EDGE OF PAVEMENT
- x-x-x- CHAIN LINK FENCE
- 476.75 — CURE WITH TOP AND BOTTOM CURB ELEVATION
- 476.25 —
- S — S — SEWERLINE & MANHOLE WITH PIPE SIZE, MATERIAL & FLOW DIRECTION
- D — D — DRAINAGE WITH PIPE SIZE, MATERIAL, MANHOLE & ROUND CATCHBASIN
- W — W — WATER MANHOLE, WATER MAIN WITH SIZE, TEE, GATE VALVE & FIRE HYDRANT
- G — G — GAS MAIN WITH SIZE & GATE VALVE
- OHW — OHW — EXISTING UTILITY POLE WITH DESIGNATION OVERHEAD WIRES AND GUY POLE
- E — E — ELECTRIC MANHOLE & UNDERGROUND ELECTRIC LINES
- T — T — TELEPHONE MANHOLE & UNDERGROUND TELEPHONE LINES
- 478.8 — RETAINING WALL
- 473.2 — RETAINING WALL WITH TOP AND BOTTOM ELEVATIONS
- × 471.2 SPOT ELEVATION
- SMH ⊙ SEWER MANHOLE
- DMH ⊙ DRAIN MANHOLE
- CB ⊙ CATCH BASIN
- CU ⊙ CONNECTION UNKNOWN
- (R) RECORD INFORMATION
- (C) CALCULATED
- (R/H) RECORD AND HELD
- (M) FIELD MEASURED
- (FD) FOUND
- DHSB □ DRILL HOLE IN STONE BOUND
- BB BITUMINOUS BERM
- BIT. CONC. BITUMINOUS CONCRETE
- CLF CHAIN LINK FENCE
- GM GAS METER
- WH/HO WATER HAND HOLE
- N.F.O. NOT FIELD OBSERVED
- BC BOTTOM CENTER OF CHANNEL
- CL CENTERLINE
- N.P.V. NO PIPES VISIBLE
- FF FIRST FLOOR



ASSESSORS:
MAP 16, BLOCK 31, LOT 3

REFERENCES:
DEED BOOK 57149, PAGE 233
PLAN BK. 231, PLAN 110

RECORD OWNER:
68 ALBANY, LLC

ZONING:
DISTRICT 'MG 2.0'

#68 ALBANY STREET & #225 SHREWSBURY STREET

Worcester, Massachusetts 01604

PREPARED FOR:

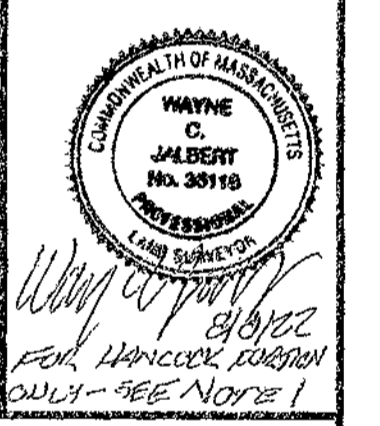
LUNDGREN EQUITY PARTNERS

c/o CM&B, Inc.
75 Sylvan Street, Building C
Danvers, Massachusetts 01923

HANCOCK ASSOCIATES

Civil Engineers
Land Surveyors
Wetland Scientists

185 CENTRE STREET, DANVERS, MA 01923
VOICE (978) 777-3050, FAX (978) 774-7816
WWW.HANCOCKASSOCIATES.COM



- NOTES:**
- HANCOCK ASSOCIATES SURVEYED THE PROPERTY LOCATED AT 68 ALBANY STREET IN DECEMBER 2022 & JANUARY 2021. LIMIT OF SAID SURVEY IS SHOWN HEREON AND SUPPLEMENTED WITH A SURVEY PREPARED BY NITSCH ENGINEERING AS PROVIDED AND REQUESTED BY HIGHPOINT ENGINEERING, INC. HANCOCK HAS NOT SURVEYED THE PROPERTY AT 225 SHREWSBURY STREET SHOWN HEREON AND THE ADJACENT STREETS OR PERFORMED ANY TYPE OF REVIEW OF THE NITSCH ENGINEERING DATA. IT IS PRESENTED HERE WITHOUT THE ASSOCIATED NOTES OR LEGEND.
 - ELEVATIONS SHOWN HEREON REFER TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). SAID DATUM WAS ESTABLISHED UTILIZING BENCHMARKS SHOWN ON A PLAN ENTITLED: "EXISTING CONDITIONS PLAN, SHEET C200", PREPARED BY: HIGHPOINT ENGINEERING, INC. DATED: 8/08/2018. SAID PLAN PURPORTS TO BE ON NAVD88 VIA GPS.
 - UNDERGROUND UTILITIES SHOWN HEREON ARE COMPILED FROM FIELD LOCATIONS OF STRUCTURES AND FROM AVAILABLE RECORD INFORMATION ON FILE AT THE CITY ENGINEERING OFFICES, CITY D.P.W. AND UTILITY COMPANIES. OTHER UNDERGROUND UTILITIES MAY EXIST. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION, SIZE & ELEVATION OF ALL UTILITIES WITHIN THE AREA OF PROPOSED WORK AND TO CONTACT "DIG-SAFE" AT 811 AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION, DEMOLITION OR CONSTRUCTION.
 - ELECTRIC LINES SHOWN HEREON FROM SCHEMATIC PLANS PROVIDED BY NATIONAL GRID AND SHOULD BE CONSIDERED APPROXIMATE.
 - SEWER STRUCTURES WERE NOT OPENED. RECORD INFORMATION SHOWN WHERE AVAILABLE.

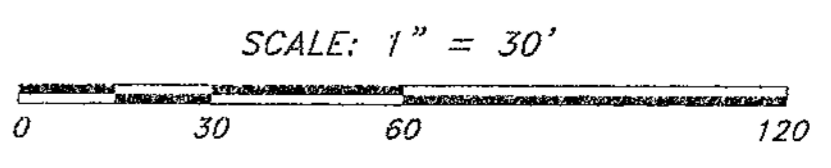
ELEVATION BENCH MARKS		
▲ DATUM: NAVD88 (SEE NOTE 2)		
NO.	DESCRIPTION	ELEV.
1.	LIGHT POLE BASE: BOX CUT	465.13
2.	UP#10-85: NAIL(FD) (1.0'A.G.)	469.78
3.	UP#11: NAIL(FD) (1.0'A.G.)	470.75

NO.	BY	APP	DATE	ISSUE/REVISION	DESCRIPTION

DATE: 7/29/2022 DRAWN BY: MMM
SCALE: 1" = 30' CHECK BY: WCJ

EXISTING CONDITIONS PLAN OF LAND IN WORCESTER, MA

PROJECT NO.: 24392



DCU/RETAIL EXPANSION PROJECT

225 SHREWSBURY STREET
WORCESTER, MA

OWNER/APPLICANT: LUNDGREN EQUITY PARTNERS

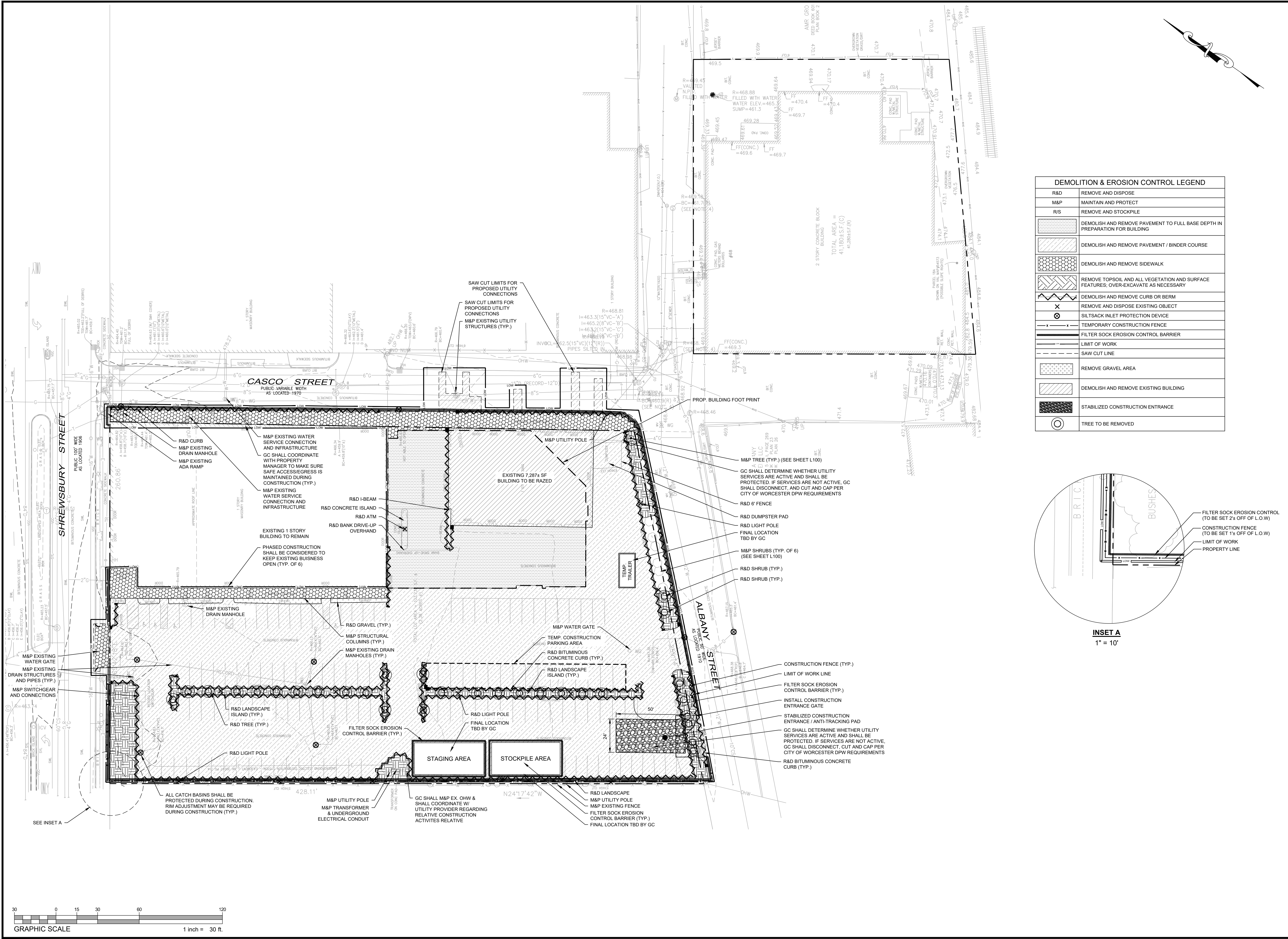
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ISSUE TYPE:
PERMIT
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24009

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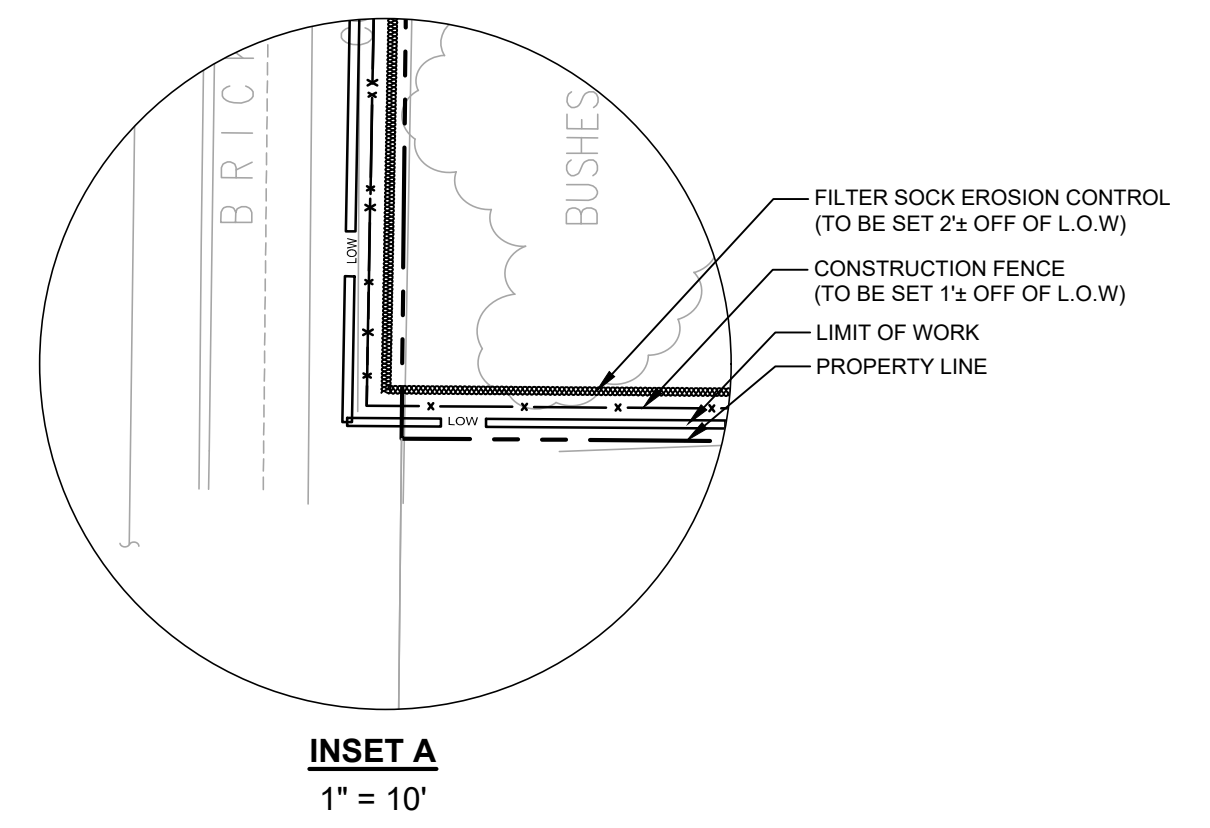
SHEET TITLE:
SITE PREPARATION, DEMOLITION, & EROSION CONTROL PLAN

SHEET NUMBER:
C100
 ISSUED FOR : PERMIT



DEMOLITION & EROSION CONTROL LEGEND

R&D	REMOVE AND DISPOSE
M&P	MAINTAIN AND PROTECT
R/S	REMOVE AND STOCKPILE
	DEMOLISH AND REMOVE PAVEMENT TO FULL BASE DEPTH IN PREPARATION FOR BUILDING
	DEMOLISH AND REMOVE PAVEMENT / BINDER COURSE
	DEMOLISH AND REMOVE SIDEWALK
	REMOVE TOPSOIL AND ALL VEGETATION AND SURFACE FEATURES. OVER-EXCAVATE AS NECESSARY
	DEMOLISH AND REMOVE CURB OR BERM
	REMOVE AND DISPOSE EXISTING OBJECT
	SILTSACK INLET PROTECTION DEVICE
	TEMPORARY CONSTRUCTION FENCE
	FILTER SOCK EROSION CONTROL BARRIER
	LIMIT OF WORK
	SAW CUT LINE
	REMOVE GRAVEL AREA
	DEMOLISH AND REMOVE EXISTING BUILDING
	STABILIZED CONSTRUCTION ENTRANCE
	TREE TO BE REMOVED

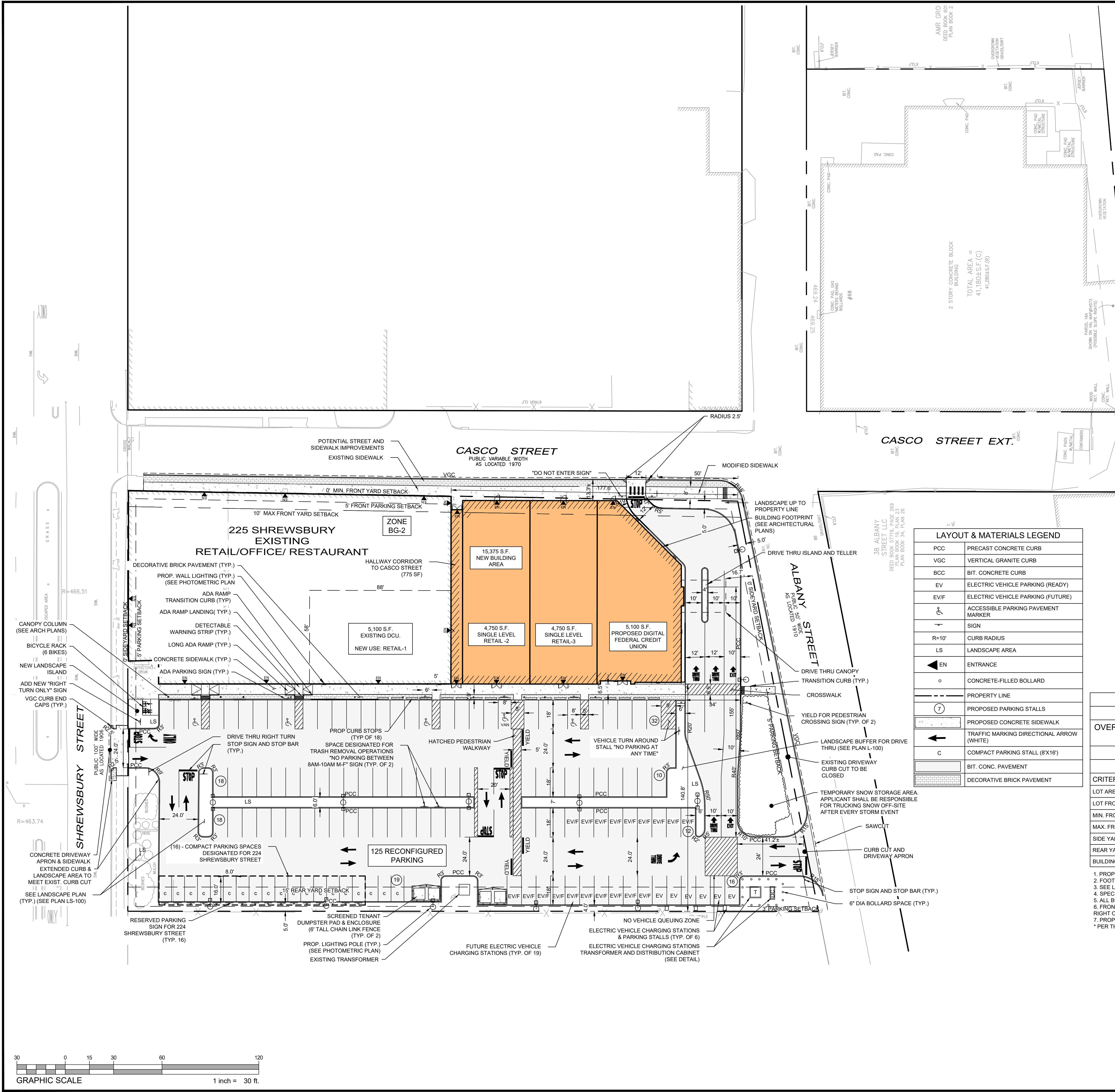




DCU/RETAIL EXPANSION PROJECT

225 SHREWSBURY STREET
WORCESTER, MA

OWNER/APPLICANT: LUNDGREN EQUITY PARTNERS



OFF STREET PARKING DEMAND SUMMARY			
USE/TENANT	CCOD-S MINIMUM PARKING REQUIREMENT	CCOD-S MINIMUM PARKING CALCULATION	BASE PARKING REQUIREMENT
PROPOSED USES			
PROPOSED RETAIL-1 (CURRENTLY DCU BANK)	1/500 SF	5,100 SF	11 SPACES
PROPOSED RETAIL-2	1/500 SF	4,750 SF	10 SPACES
PROPOSED RETAIL-3	1/500 SF	4,750 SF	10 SPACES
PROPOSED DCU BANK	1/400 SF & 0.75/1 TELLER STATION	5,100 SF 7 TELLER STATIONS 3 ATMS	21 SPACES
EXISTING USES TO REMAIN			
FOOD SERVICE (IN-HOUSE COFFEE)	1/4 OCCUPANTS	32 TOTAL OCCUPANTS 25 SEATS 7 EMPLOYEES	8 SPACES
FOOD SERVICE (MEXICALI)	1/4 OCCUPANTS	258 OCCUPANTS 238 SEATS 20 EMPLOYEES	65 SPACES
FOOD SERVICE (ALL SYSTEMS GO)	1/4 OCCUPANTS	123 OCCUPANTS 110 SEATS 13 EMPLOYEES	31 SPACES
CLINIC (DENTIST)	3/TREATMENT RM	11 ROOMS	33 SPACES
BASE PARKING REQUIREMENT=			189 SPACES
**BICYCLE PARKING CREDIT=			(-) 3 SPACES
BASE PARKING REQUIREMENT (AFTER BICYCLE CREDITS)=			186 SPACES
TOTAL PARKING IN 225 SHREWSBURY LOT =			125 SPACES
PARKING LEASED (SPACES FOR 224 SHREWSBURY ST)=			(-) 16 SPACES
TOTAL PARKING AVAILABLE FOR 225 SHREWSBURY STREET TENANTS=			109 SPACES
PARKING RELIEF REQUIRED WITHOUT PARKING CREDIT=			77 SPACES
MIXED USE PARKING CREDIT SOUGHT BY SPECIAL PERMIT (MAX. 50%)=			41%

ELECTRICAL VEHICLE PARKING STALLS (20% REQUIRED= 25 SPACES)		PROPOSED OFF-STREET PARKING TYPE BREAKDOWN	
7% EV READY (EV)	8 SPACES	ADA PARKING	5 SPACES
13% EV FUTURE (EV/F)	17 SPACES	COMPACT PARKING	19 SPACES (15.2%)
		STANDARD PARKING	101 SPACES

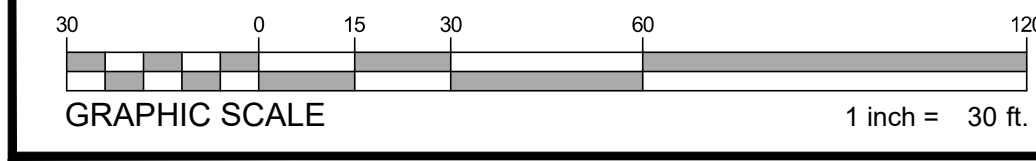
PER ZONING ORDINANCE: OFF STREET ACCESSORY PARKING REQUIREMENTS NOTE 3 COMPACT SPACES - IN PARKING LOTS CONTAINING MORE THAN TEN (10) SPACES, UP TO TWENTY-FIVE PERCENT (25%) OF THE REQUIRED PARKING MAY BE SET ASIDE FOR COMPACT CARS AS A MATTER OF RIGHT. UPON GRANT OF A SPECIAL PERMIT, THE PERCENTAGE OF PARKING SPACES FOR COMPACT CARS MAY BE INCREASED TO NOT MORE THAN FIFTY PERCENT (50%). EACH COMPACT SPACE SHALL BE NOT LESS THAN (8) FEET IN WIDTH AND SIXTEEN (16) FEET IN LENGTH.

SECTION 7 - OFF-STREET ACCESSORY PARKING & LOADING REQUIREMENTS (CCOD) PARKING LOTS WITH UP TO 16 SPACES SHALL NOT BE REQUIRED TO CONFORM TO THE DIMENSIONAL REQUIREMENTS FOR PARKING SPACES AND AISLE WIDTHS, BUT MUST PROVIDE SAFE VEHICULAR ACCESS AND CIRCULATION AS DEFINED BY PROFESSIONAL TRAFFIC ENGINEERING STANDARDS AND TO THE SATISFACTION OF THE BUILDING COMMISSIONER OR ZONING ENFORCEMENT OFFICER.

ZONING ORDINANCE DIMENSIONAL SUMMARY - 225 SHREWSBURY STREET					
ZONING DISTRICT: BG-2					
OVERLAY DISTRICTS: COMMERCIAL CORRIDOR OVERLAY DISTRICT - SHREWSBURY STREET (CCOD-S), UNION STATION VIEW CORRIDOR SIGN OVERLAY DISTRICT (USOD)					
USE: BUSINESS					
DIMENSIONAL REQUIREMENTS					
CRITERIA	BG-2.0	CCOD-S*	EXISTING	PROPOSED	ZONING COMPLIANCE
LOT AREA ⁽¹⁾	5,000 SF	-	2.38 ac.	2.38 ac.	YES
LOT FRONTAGE ⁽¹⁾	40.0'	40.0'	178±	178'	YES
MIN. FRONT YARD	N/A	0'	0±	1±	YES
MAX. FRONT YARD	N/A	10.0'	0±	1±	YES
SIDE YARD ⁽²⁾	N/A	-	0±	16.7±	YES
REAR YARD	15.0'	-	141±	141±	YES
BUILDING HEIGHT	50.0'	-	<50'	-	YES

1. PROPOSED DEVELOPMENT FRONTAGE AND YARD SETBACKS SHOWN ARE TAKEN FROM CASCO STREET.
2. FOOTPRINT OF EXISTING SHOPPING PLAZA BUILDING IS NOT CHANGING.
3. SEE LANDSCAPE AND ARCHITECTURAL PLANS FOR MORE INFORMATION.
4. SPECIAL PERMIT NEEDED FROM PLANNING BOARD TO RELOCATE EXISTING DRIVE THRU TO ACCOMMODATE NEW DCU BANK.
5. ALL BUILDING DIMENSIONS SHOWN ARE APPROXIMATE AND SHOULD BE VERIFIED BY LICENSED LAND SURVEYOR.
6. FRONTAGE, STREET - A CONTINUOUS PORTION OF A LOT ABUTTING ONE (1) STREET MEASURED ALONG THE FRONT LOT LINE DIVIDING THE LOT FROM THE RIGHT OF WAY.
7. PROPOSED EXTERIOR SIDE YARD SETBACK IS BASED UPON ALBANY STREET AND SHREWSBURY STREET.
*PER THE REQUIREMENTS OF ARTICLE IX OF THE CITY OF WORCESTER ZONING BY LAW.

LAYOUT & MATERIALS LEGEND	
PCC	PRECAST CONCRETE CURB
VGC	VERTICAL GRANITE CURB
BCC	BIT. CONCRETE CURB
EV	ELECTRIC VEHICLE PARKING (READY)
EV/F	ELECTRIC VEHICLE PARKING (FUTURE)
AP	ACCESSIBLE PARKING PAVEMENT MARKER
S	SIGN
R=10'	CURB RADIUS
LS	LANDSCAPE AREA
EN	ENTRANCE
CB	CONCRETE-FILLED BOLLARD
PL	PROPERTY LINE
PS	PROPOSED PARKING STALLS
PCS	PROPOSED CONCRETE SIDEWALK
TA	TRAFFIC MARKING DIRECTIONAL ARROW (WHITE)
C	COMPACT PARKING STALL (8'X16')
BC	BIT. CONC. PAVEMENT
DB	DECORATIVE BRICK PAVEMENT



REV	DATE	DESCRIPTION

ISSUE TYPE:
PERMIT
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06/06/2024
PROJECT NUMBER:
24009
DRAWN BY: DTB/MJH
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SHEET TITLE:
LAYOUT & MATERIALS PLAN
SHEET NUMBER:
C200
ISSUED FOR: PERMIT

DCU/RETAIL EXPANSION PROJECT

225 SHREWSBURY STREET
WORCESTER, MA

OWNER/APPLICANT: LUNDGREN EQUITY PARTNERS

REV	DATE	DESCRIPTION

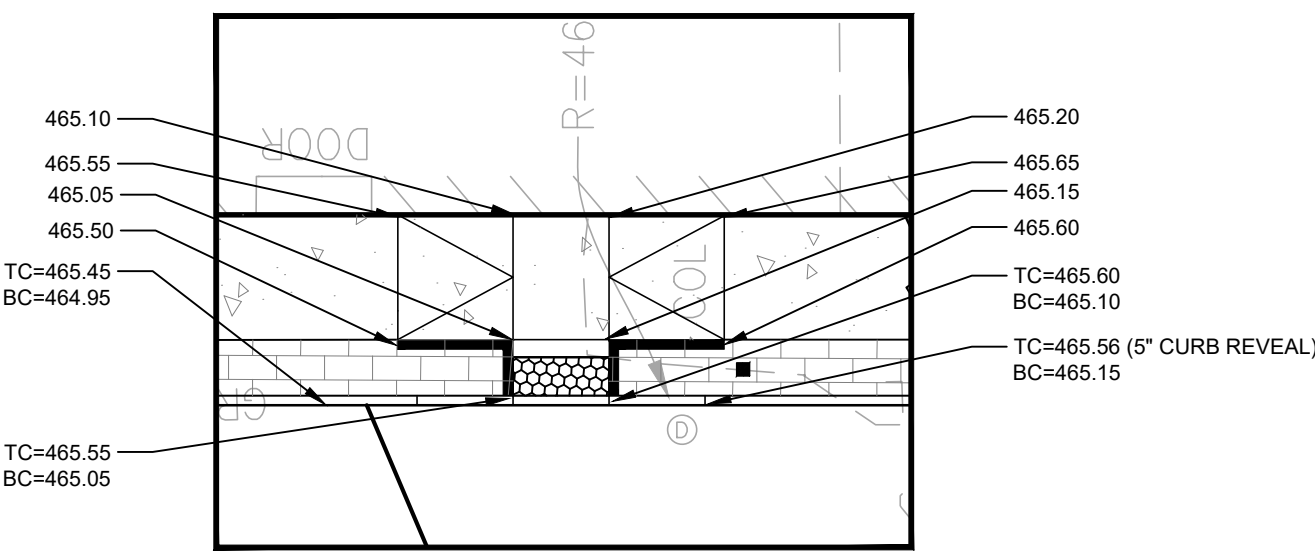
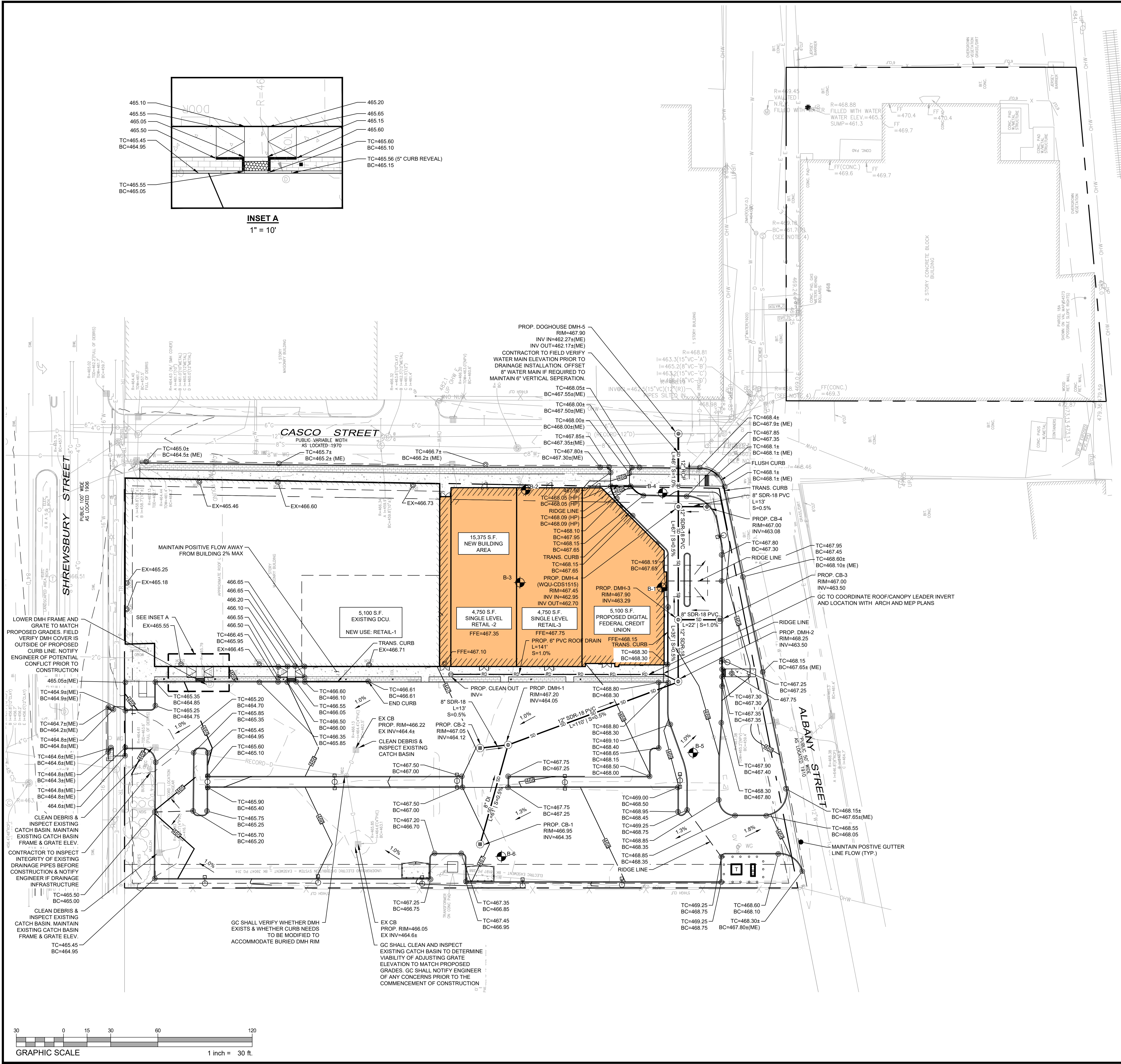
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GRADING & DRAINAGE PLAN

SHEET NUMBER:
C300

ISSUED FOR: PERMIT



INSET A
1" = 10'

GRADING & UTILITIES LEGEND

	ELEVATION CONTOUR
	SPOT ELEVATION
	TOP AND BOTTOM OF CURB
	CATCH BASIN
	DOUBLE CATCH BASIN
	DRAIN MANHOLE
	CLEANOUT
	STORM DRAIN PIPE
	TEST BORINGS LOCATION
	HIGH POINT / LOW POINT
	ROOF DRAIN
	FLOW ARROW
	RCP REINFORCED CONCRETE PIPE
	HDPE HIGH-DENSITY POLYETHYLENE
	DI DUCTILE IRON
	ME MATCHING EXISTING
	B-5 BORING HOLE



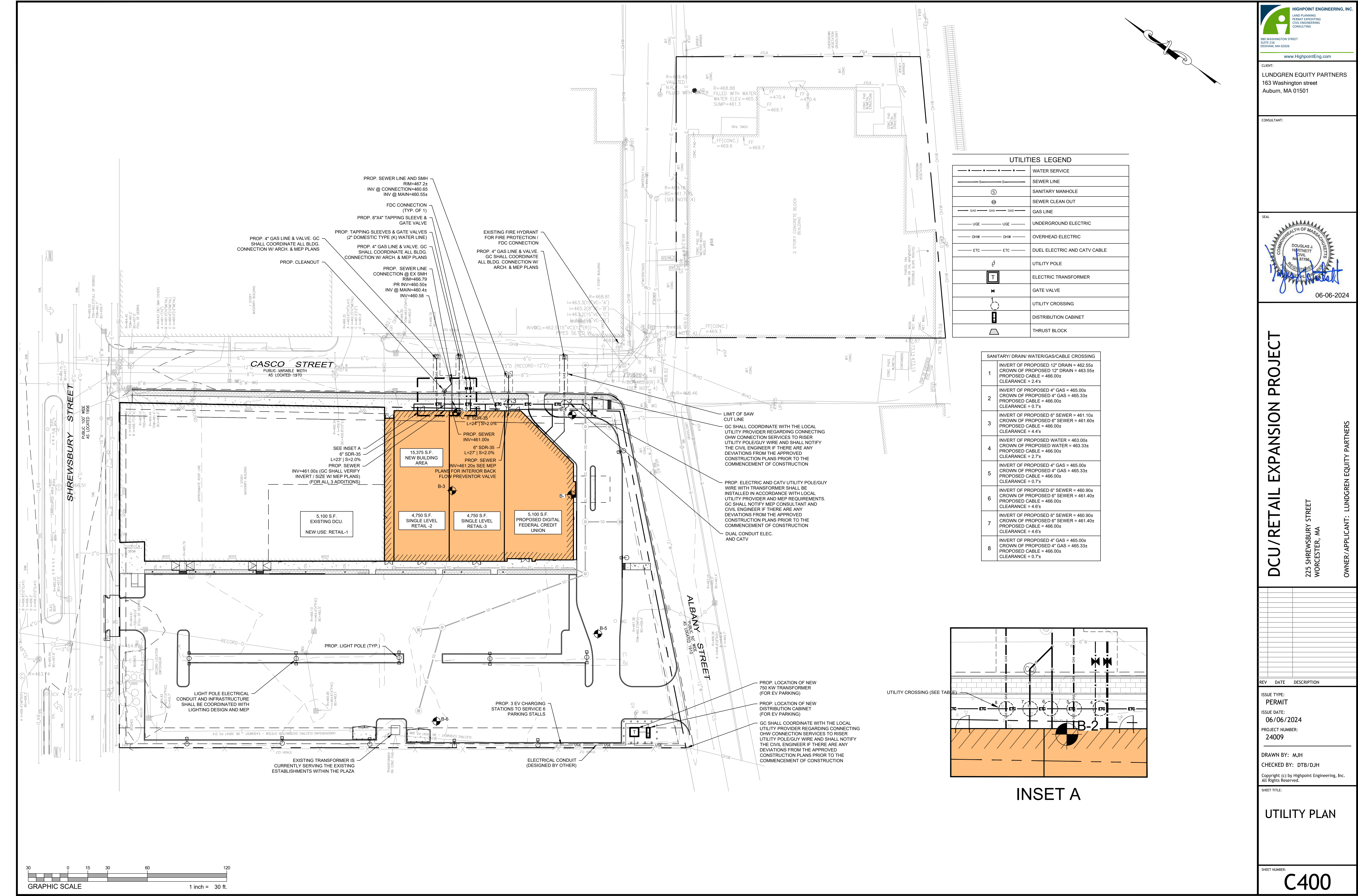
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SHEET TITLE:
UTILITY PLAN

SHEET NUMBER:
C400
 ISSUED FOR: PERMIT

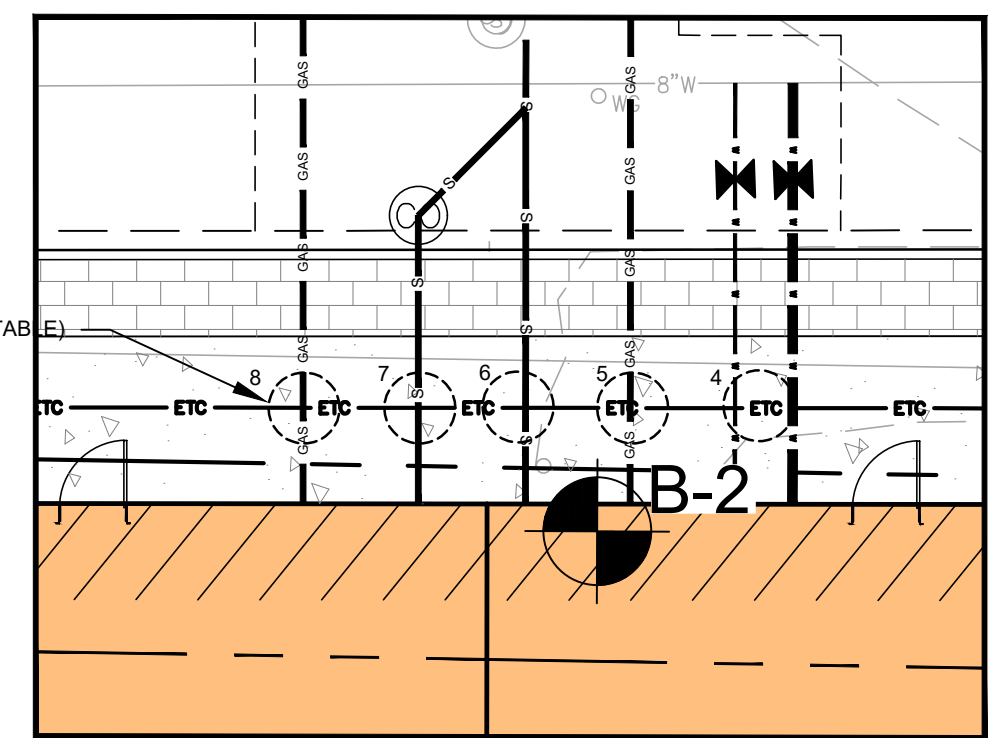


UTILITIES LEGEND

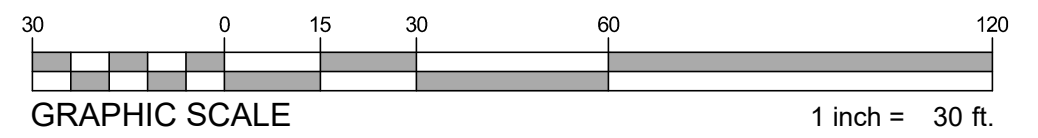
—•—•—•—•—	WATER SERVICE
—○—○—○—	SEWER LINE
—○—	SANITARY MANHOLE
—○—	SEWER CLEAN OUT
—○—○—○—	GAS LINE
—○—○—○—	UNDERGROUND ELECTRIC
—○—○—○—	OVERHEAD ELECTRIC
—○—○—○—	DUEL ELECTRIC AND CATV CABLE
—○—	UTILITY POLE
—○—	ELECTRIC TRANSFORMER
—○—	GATE VALVE
—○—	UTILITY CROSSING
—○—	DISTRIBUTION CABINET
—○—	THRUST BLOCK

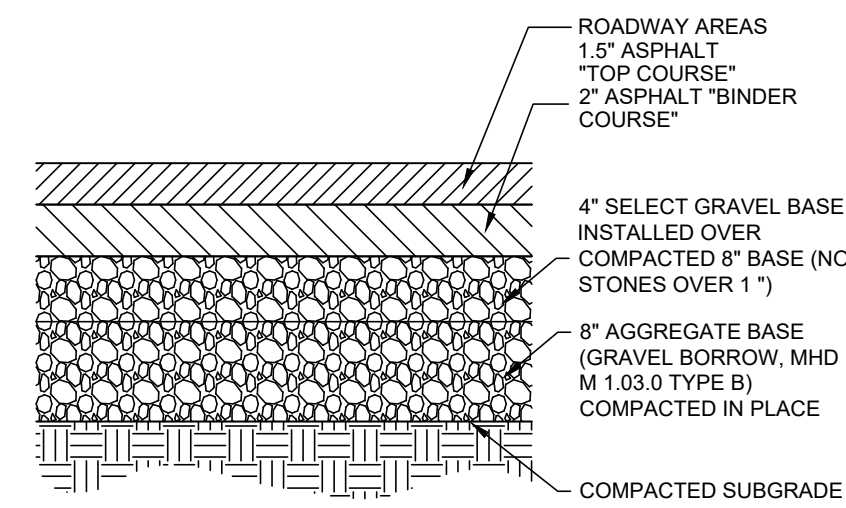
SANITARY/ DRAIN WATER/GAS/CABLE CROSSING

1	INVERT OF PROPOSED 12" DRAIN = 482.55' CROWN OF PROPOSED 12" DRAIN = 463.55' PROPOSED CABLE = 466.00' CLEARANCE = 2.4'
2	INVERT OF PROPOSED 4" GAS = 465.00' CROWN OF PROPOSED 4" GAS = 465.33' PROPOSED CABLE = 466.00' CLEARANCE = 0.7'
3	INVERT OF PROPOSED 6" SEWER = 461.10' CROWN OF PROPOSED 6" SEWER = 461.60' PROPOSED CABLE = 466.00' CLEARANCE = 4.4'
4	INVERT OF PROPOSED WATER = 463.00' CROWN OF PROPOSED WATER = 463.33' PROPOSED CABLE = 466.00' CLEARANCE = 2.7'
5	INVERT OF PROPOSED 4" GAS = 465.00' CROWN OF PROPOSED 4" GAS = 465.33' PROPOSED CABLE = 466.00' CLEARANCE = 0.7'
6	INVERT OF PROPOSED 6" SEWER = 460.90' CROWN OF PROPOSED 6" SEWER = 461.40' PROPOSED CABLE = 466.00' CLEARANCE = 4.6'
7	INVERT OF PROPOSED 6" SEWER = 460.90' CROWN OF PROPOSED 6" SEWER = 461.40' PROPOSED CABLE = 466.00' CLEARANCE = 4.6'
8	INVERT OF PROPOSED 4" GAS = 465.00' CROWN OF PROPOSED 4" GAS = 465.33' PROPOSED CABLE = 466.00' CLEARANCE = 0.7'



INSET A





GRAVEL BORROW (MHD M1.03.0 TYPE B)	SIEVE DESIGNATION	PERCENT PASSING
GRAVEL BORROW SHALL CONSIST OF INERT MATERIAL THAT IS HARD, DURABLE STONE AND COARSE SAND, FREE FROM LOAM AND CLAY, SURFACE COATING, AND DELETERIOUS MATERIALS.	1/2 IN.	100
	NO. 4	90-100
	NO. 50	20-55
	NO. 200	0-5

GRAVATION REQUIREMENTS FOR GRAVEL SHALL BE DETERMINED BY AASHTO-T11 AND T27 AND SHALL CONFORM TO THE FOLLOWING:	SIEVE DESIGNATION	PERCENT PASSING
GRAVATION REQUIREMENTS FOR GRAVEL SHALL BE DETERMINED BY AASHTO-T11 AND T27 AND SHALL CONFORM TO THE FOLLOWING:	1/2 IN.	100
	NO. 4	90-100
	NO. 50	20-55
	NO. 200	0-5

MAXIMUM SIZE OF STONE IN GRAVEL SHALL BE AS FOLLOWS:	SIEVE DESIGNATION	PERCENT PASSING
M1.03.0 TYPE A	6 INCHES LARGEST DIMENSION	
M1.03.0 TYPE B	3 INCHES LARGEST DIMENSION	
M1.03.0 TYPE C	2 INCHES LARGEST DIMENSION	

GRAVEL BEDDING (FOR UTILITIES) SHALL BE GRAVEL, CRUSHED QUARRY ROCK OR CRUSHED GRAVEL FROM OFF-SITE SOURCES GRADED WITHIN THE FOLLOWING LIMITS:

SIEVE SIZE	% PASSING BY WEIGHT
1 IN.	100
3/4 IN.	90-100
3/8 IN.	20-55
NO. 4	0-10
NO. 8	0-5

STONE (FOR UTILITIES) SHALL BE A DURABLE, CRUSHED STONE OR GRAVEL FROM OFF-SITE SOURCES, GRADED WITHIN THE FOLLOWING LIMITS:

SIEVE SIZE	% PASSING BY WEIGHT
2-1/2 IN.	100
2 IN.	60-90
1-1/4 IN.	25-50
3/4 IN.	0

SELECT FILL SHALL BE A COARSE GRANULAR MATERIAL CONSISTING OF HARD, DURABLE, ANGULAR MATERIAL, GRADED WITHIN THE FOLLOWING LIMITS. MATERIAL PASSING THE NO. 40 SIEVE SHALL HAVE A PLASTICITY INDEX OF NOT MORE THAN 10 AND A LIQUID LIMIT NOT TO EXCEED 35%.

SIEVE SIZE	% PASSING BY WEIGHT
4 IN.	100
1 IN.	60-100
NO. 4	30-80
NO. 40	5-30
NO. 200	0-8

GRANULAR FILL SHALL CONSIST OF WELL GRADED NATURAL SANDS AND GRAVELS, FREE FROM PLASTIC FINES, ORGANIC MATTER, AND DELETERIOUS MATERIAL AND SHALL HAVE THE FOLLOWING GRADATION:

SIEVE SIZE	% PASSING BY WEIGHT
2 IN.	100
1 IN.	60-100
NO. 4	25-85
NO. 20	10-60
NO. 50	4-35
NO. 200	3-10

PROCESSED GRAVEL FILL SHALL CONSIST OF WELL GRADED NATURAL GRAVELS AND SANDS, FREE FROM PLASTIC FINES, ORGANIC MATTER AND DELETERIOUS MATERIAL AND SHALL HAVE THE FOLLOWING GRADATION:

SIEVE SIZE	% PASSING BY WEIGHT
2 IN.	100
1 1/2 IN.	70-100
3/4 IN.	50-85
NO. 4	30-60
NO. 200	0-10

3/4 INCH MINUS CRUSHED STONE FILL SHALL HAVE THE FOLLOWING GRADATION:

SIEVE SIZE	% PASSING BY WEIGHT
1 IN.	100
3/4 IN.	90-100
1/2 IN.	10-50
NO. 4	0-20
NO. 4	0-5

COMMON FILL (IN LANDSCAPED AREAS) SHALL BE BANK RUN SAND, GRAVEL, OR MIXTURE THEREOF, GRADED WITHIN THE FOLLOWING LIMITS:

SIEVE SIZE	% PASSING BY WEIGHT
6 IN.	100
NO. 4	30-95
NO. 200	0-15

DENSE GRADED CRUSHED STONE SHALL CONSIST OF CRUSHER-RUN COARSE AGGREGATES OF CRUSHED STONE OR GRAVEL AND FINE AGGREGATES OF NATURAL SAND OR STONE SCREENINGS. UNIFORMLY PRE-MIXED WITH A PREDETERMINED QUANTITY OF WATER, COARSE AGGREGATE SHALL HAVE A PERCENTAGE OF WEAR OF NOT MORE THAN 45 BY THE LOS ANGELES TEST.

THE COMPOSITE MATERIAL SHALL BE FREE FROM CLAY, LOAM AND ALL OTHER PLASTIC MATERIALS, AND SHALL CONFORM TO THE FOLLOWING GRADATION REQUIREMENTS:

SIEVE DESIGNATION	PERCENTAGE BY MASS PASSING SO, MESH SIEVES
2 inches	100
1 1/2 inches	70-100
3/4 inch	50-85
No. 4	30-55
No. 50	8-24
No. 200	3-10

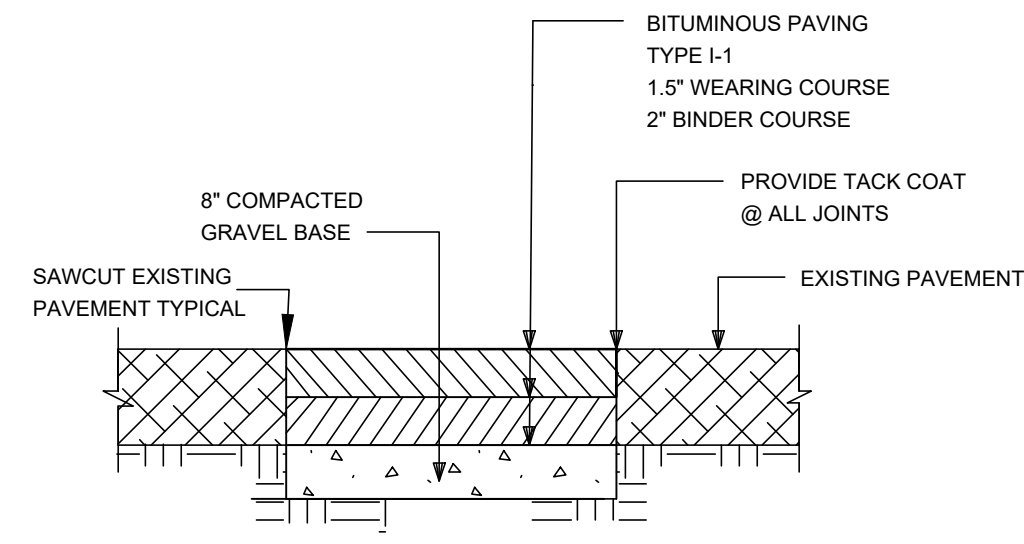
SAMPLING AND TESTING SHALL BE IN ACCORDANCE WITH THE FOLLOWING STANDARD AASHTO METHODS:

- SIEVE ANALYSIS: AASHTO T27
- PASSING NO. 200 SIEVE: AASHTO T11

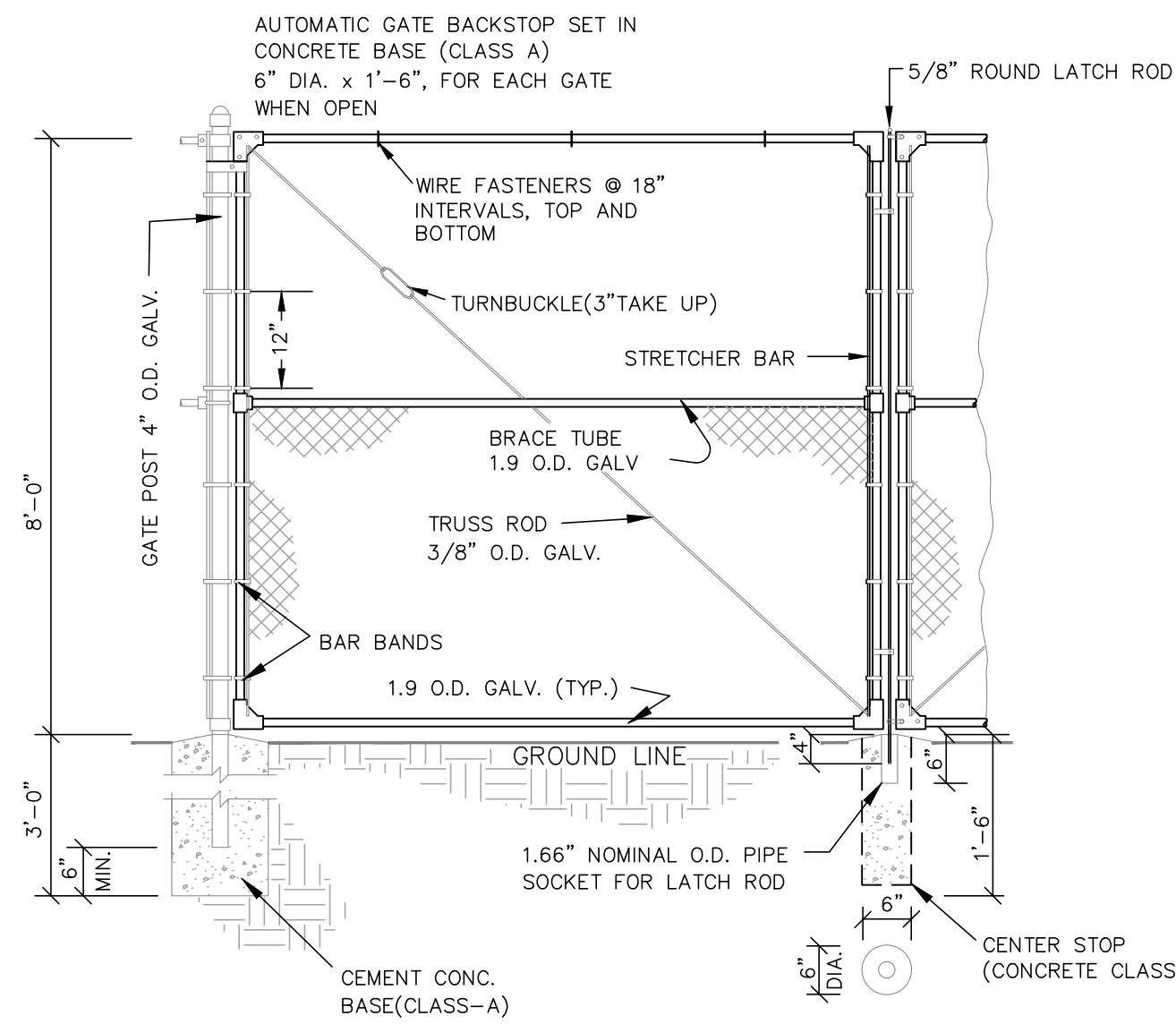
ALL GRANULAR FILL AND PROCESSED GRAVEL FILL SHALL BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY DETERMINED BY ASTM D1557.

BITUMINOUS CONCRETE PAVEMENT
NOT TO SCALE **C2**

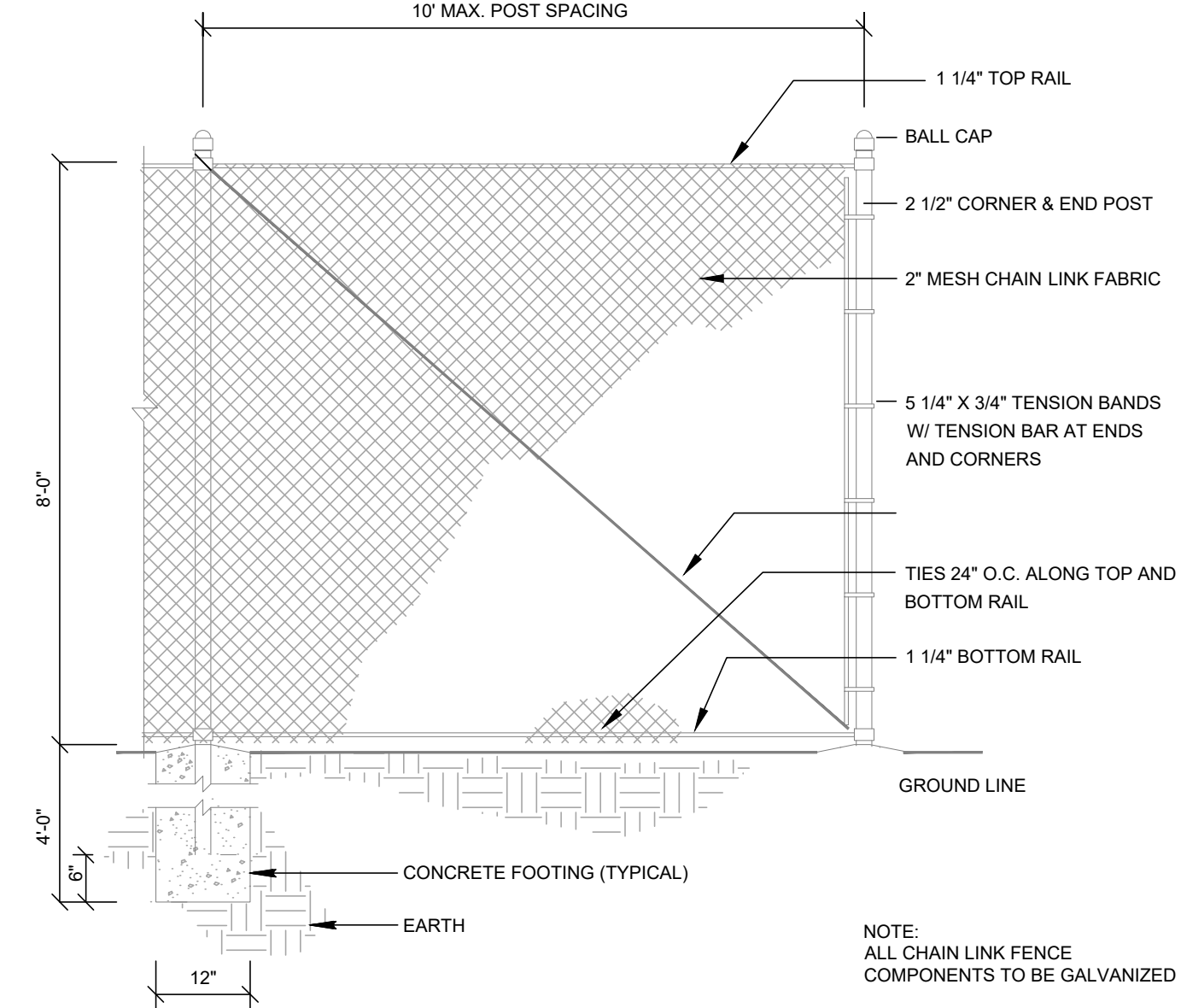
BACKFILL MATERIAL GRADATION REQUIREMENTS
NOT TO SCALE **C1**



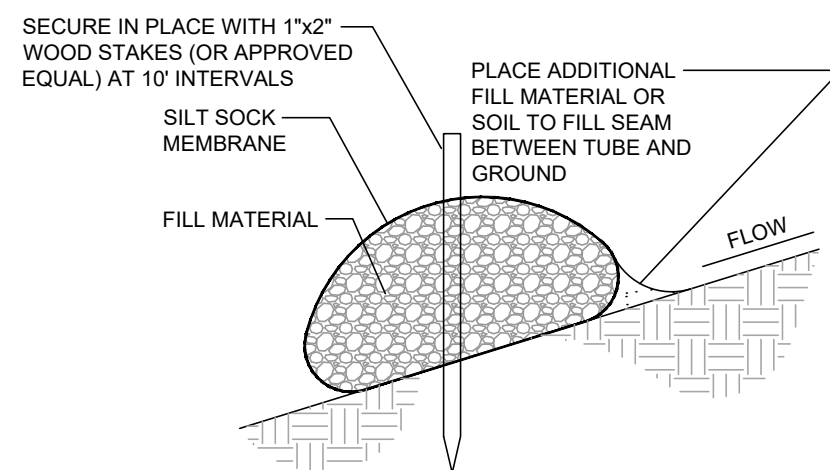
PAVEMENT MATCH SAWCUT
NOT TO SCALE **B3**



CHAIN LINK GATE
NOT TO SCALE **B2**

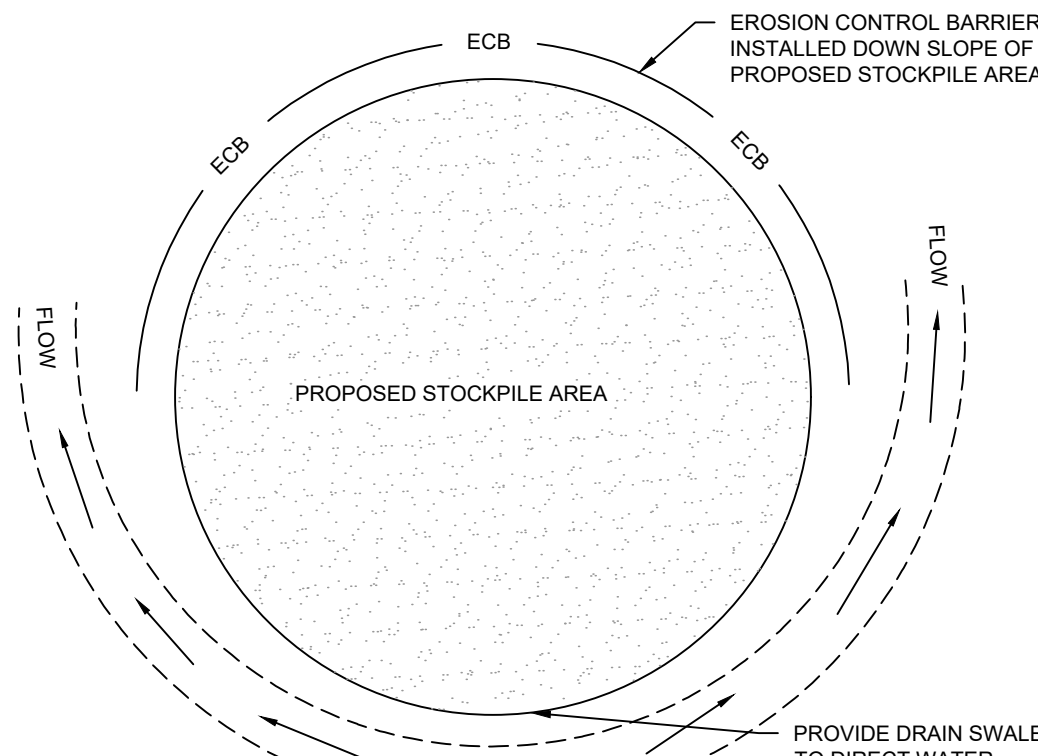


CHAIN LINK FENCE
NOT TO SCALE **B1**



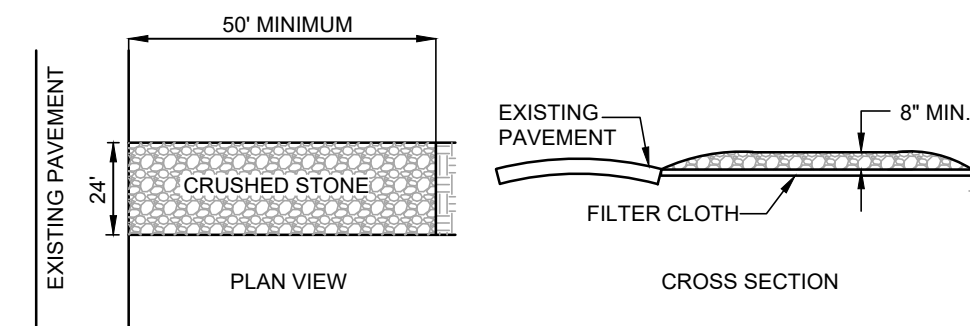
- NOTES**
- SOCK MEMBRANE SHALL BE 12" DIAMETER OVAL-TO-ROUND MESH TUBE.
 - FILL MATERIAL SHALL BE WOOD CHIPS, MULCH OR A COMBINATION THEREOF, AND SCREENED TO REMOVE FINES.
 - IN AREAS WHERE STAKING IS INFEASIBLE, I.E. ON PAVED SURFACES, FILTER MEDIA SHALL CONSIST OF CLEAN BANK-RUN GRAVEL.
 - THE SOCK SHALL BE FILLED USING A PNEUMATIC BLOWER OR SIMILAR DEVICE. HAND FILLING IS NOT ACCEPTABLE.

FILTER SOCK EROSION BARRIER
NOT TO SCALE **A4**



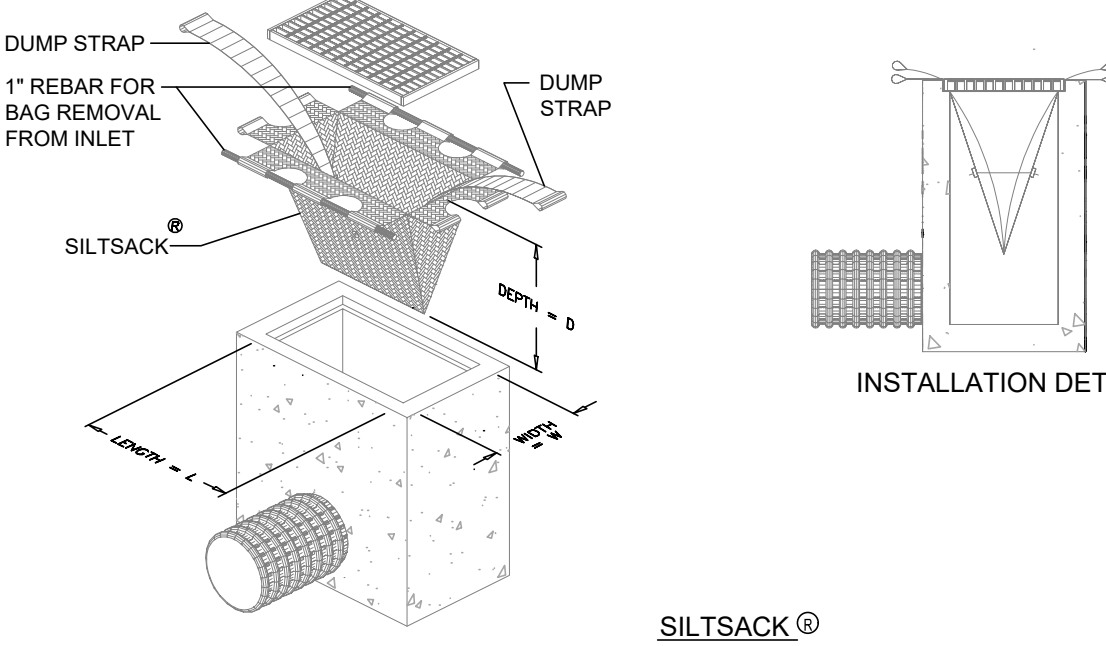
- NOTES**
- SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR LESS THAN 90 DAYS SHALL BE COVERED WITH HAY AND MULCH (AT 100LBS/1,000 SF), OR WITH AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.
 - SOIL AND FILL STOCKPILES EXPECTED TO REMAIN IN PLACE FOR 90 DAYS OR MORE SHALL BE SEEDDED WITH WINTER RYE (FOR FALL SEEDING AT 1LB/1,000 SF) OR OATS (FOR SUMMER SEEDING AT 2LB/1,000 SF) AND THEN COVERED WITH HAY MULCH (AT 100LBS/1,000 SF) OR AN ANCHORED TARP WITHIN 7 DAYS OR PRIOR TO ANY RAINFALL.

STOCKPILE PROTECTION
NOT TO SCALE **A3**



- TRACKING PAD NOTES**
- STONE SIZE - USE 2" ANGULAR CRUSHED STONE
 - FILTER CLOTH - SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
 - SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHOULD BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM SHOULD BE PERMITTED.
 - MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH PREVENTS TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANING OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

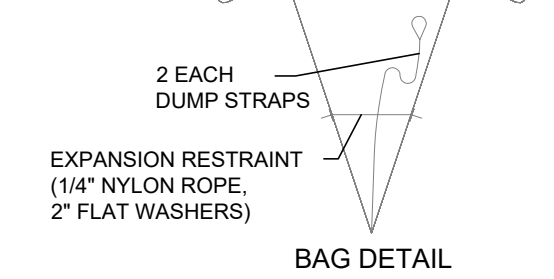
CRUSHED STONE TRACKING PAD
NOT TO SCALE **A2**



SILTSACK @ SPECIFICATIONS
NOTE: THE SILTSACK WILL BE MANUFACTURED FROM A WOVEN POLYPROPYLENE FABRIC THAT MEETS OR EXCEEDS THE SPECIFICATIONS PROVIDED.

REGULAR FLOW SILTSACK @
(FOR AREAS OF LOW TO MODERATE PRECIPITATION AND RUN-OFF)

PROPERTIES	TEST METHOD	UNITS
GRAB TENSILE STRENGTH	ASTM D-4632	300 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	20%
PUNCTURE	ASTM D-4833	120 LBS
MULLEN BURST	ASTM D-3786	800 PSI
TRAPEZOID TEAR	ASTM D-4533	120 LBS
UV RESISTANCE	ASTM D-4355	80%
APPARENT OPENING SIZE	ASTM D-4751	40 US SIEVE
FLOW RATE	ASTM D-4491	40 GAL/MIN/SQ FT
PERMITTIVITY	ASTM D-4491	0.55 SEC -1



SILTSACK INLET PROTECTION
NOT TO SCALE **A1**

DCU/RETAIL EXPANSION PROJECT

225 SHREWSBURY STREET
WORCESTER, MA

REV	DATE	DESCRIPTION

ISSUE TYPE:
PERMIT
ISSUE DATE:
06/06/2024
PROJECT NUMBER:
24009

DRAWN BY: MJH
CHECKED BY: DTB/DJH
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SHEET TITLE:

DETAILS

SHEET NUMBER:
C500

ISSUED FOR : PERMIT

HIGHPOINT ENGINEERING, INC.
 LAND PLANNING
 PERMIT EXPEDITING
 CIVIL ENGINEERING
 CONSULTING
 888 WASHINGTON STREET
 SUITE 210
 SEENAH, MA 02286
 www.HighpointEng.com

CLIENT:
LUNDGREN EQUITY PARTNERS
 163 Washington Street
 Auburn, MA 01501

CONSULTANT:

SEAL
 COMMONWEALTH OF MASSACHUSETTS
 DOUGLAS J. HARTNETT
 CIVIL ENGINEER
 REG. NO. 37796
 EXPIRES 12/31/25
 06-06-2024

HANDICAP MARKING

STOP BAR
 1-FT WHITE STRIPE (TYP.)
 STOP LINE MARKINGS SHALL BE WHITE THERMOPLASTIC PAINT

CROSSWALK STRIPING
 12" WHITE STRIPE (TYP.)
 CROSSWALK TRAFFIC MARKINGS SHALL BE WHITE PAINT

NOTES:
 1. THE LONGITUDINAL SPACE BETWEEN LINES OR SYMBOL MESSAGES, INCLUDING ARROWS, SHOULD BE AT LEAST FOUR TIMES THE HEIGHT OF THE CHARACTER FOR LOW SPEED ROADS AND DRIVEWAYS BUT NOT MORE THAN TEN TIMES THE HEIGHT OF THE CHARACTER UNDER ANY CONDITIONS
 2. THE SPACING OF THE PAVEMENT MARKINGS WILL BE AS SHOWN ON THE PLAN AND AS PER THE MUTCD STANDARDS
 3. SYMBOLS AND WORDS SHALL MEET THE REQUIREMENTS OF THE FHWA "STANDARD ALPHABET AND SYMBOLS FOR HIGHWAY PAVEMENT MARKINGS"

PAINTED "ONLY" DETAIL
 (NOT TO SCALE)

PAINTED "STOP" DETAIL
 (NOT TO SCALE)

TYPE 1: RETURNED CURB
 NOT TO SCALE

TYPE 2: ON CURVE - FLARED SIDES
 NOT TO SCALE

TYPE 3: SINGLE SIDED
 NOT TO SCALE

TYPE 4: DUAL SIDED
 NOT TO SCALE

TYPE 5: FLARED SIDES
 NOT TO SCALE

NOTES:
 1. IN NO INSTANCE SHALL THE SIDEWALK CROSS SLOPE EXCEED 1.5% EXCEPT THE RAMP AREA PROPER WHICH IS EXEMPT.
 2. AN UNOBSTRUCTED PATH OF TRAVEL WITH A MINIMUM WIDTH OF 36" SHALL BE MAINTAINED.
 3. THE WHEELCHAIR RAMP SLOPE AND SIDE OF SLOPES (TRANSITIONS), MUST NOT EXCEED 7.5%. HOWEVER THESE SLOPES MAY BE FLATTER THAN 7.5% WHEN WARRANTED BY SURROUNDING CONDITIONS.
 4. ALL REQUIREMENTS OF THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB) AND THE AMERICANS WITH DISABILITIES ACT (ADA) SHALL GOVERN OVER THESE REGULATIONS.
 5. THE ENTRANCE OF THE WHEELCHAIR RAMP SHALL BE FLUSH WITH ROADWAY.
 6. 24"x60" DETECTABLE WARNING TILE SHALL BE YELLOW, EMBEDMENT PANEL, SOUND ATTENUATING CURB RAMP TILE BY ADS SOLUTIONS, INC., PART NO. 2460IDPAV2 OR APPROVED EQUAL.
 7. DETECTABLE WARNING TILE SHALL HAVE DOME SPACING OF 2.35 INCHES.
 8. DETECTABLE WARNING TILE SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS AND INSTALLATION INSTRUCTIONS. (PER MASSDOT E107.65)

NOTE: ALL TRANSITION ON WHEELCHAIR RAMP SHALL BE CONSTRUCTED WITH VERTICAL GRANITE CURB

SIGN LAYOUT, COLORS, SYMBOL AND LETTERING SHALL BE STANDARD.

HANDICAPPED RESERVED PARKING SIGN
 12" x 18"
 HANDICAPPED ONLY

ELEVATION
 NOTES:
 1. SIGN LAYOUT, COLORS, SYMBOL AND LETTERING SHALL BE STANDARD.
 2. TO BE LOCATED ON SITE AS DIRECTED.
 3. METAL POST TO BE PAINTED 2 COATS OF EXTERIOR GREEN ENAMEL (SEE SPECS.)
 4. TO BE LOCATED AT APPROPRIATE SPACES.

NOTES:
 1. ALL REGULATORY SIGNS / MOUNTINGS SHALL CONFORM TO UNIFORM TRAFFIC CONTROL DEVICES UTCD.

CONCRETE FILLED PIPE BOLLARD
 NOT TO SCALE

FILL POST WITH CONCRETE AND ROUND TOP SMOOTH
 4" DIA. CLEAN PIPE TO WHITE METAL AND PAINT WITH ZINC RICH PRIMER AND FINISH COATS, COLOR TO BE YELLOW.
 ASPHALT PAVEMENT (OR FINISH GRADE)
 CONCRETE
 24" DIA. CONCRETE BASE
 #6 - 14" LONG RE-BAR EACH WAY THRU PIPE

MATERIALS	QTY
TUBE 1-3/8" X 16 GA X 141-3/4"	2
TUBE 1-3/8" X 16 GA X 72"	2
TUBE 1-3/8" X 16 GA X 67-3/4"	1

TEMPORARY CONSTRUCTION FENCE
 NOT TO SCALE

VERTICAL GRANITE CURB
 NOT TO SCALE

LAYOUT LINE AS SHOWN ON PLANS
 BIT CONC. PAVEMENT
 6" REVEAL
 GRAVEL ROAD BASE
 2000 PSI CEMENT CONCRETE ANCHOR
 6" GRAVEL BEDDING
 6" GRAVEL BACKFILL

GRANITE CURBING TO CONFORM TO VA 4 TYPE PER DEPT. OF PUBLIC WORKS, MASS. STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES. M6-03-1

CONCRETE WALKWAY
 NOT TO SCALE

SEE LAYOUT AND ZONING PLAN FOR WIDTH OF SIDEWALK
 4,000 PSI FIBER MESH REINFORCEMENT PER CITY SPEC
 SIDEWALK
 UNDISTURBED OR COMPACTED SUBGRADE
 COMPACTED GRAVEL OR CRUSHED STONE BASE

NOTE: PROVIDE EXPANSION JOINTS AT 25' O.C. (MAX.)

PRECAST CONCRETE CURB STOP
 NOT TO SCALE

DESIGN NOTE:
 4000 P.S.I. CONCRETE

5/8" DOWEL HOLES W/ #4 REBAR 3' LONG
 #3 ROD OR EQUAL
 1'-0" x 4 1/4"

PRECAST CONCRETE CURB
 NOT TO SCALE

PRECAST CONCRETE CURB (REINFORCEMENT PER MANUFACTURER)
 FINISH GRADE
 SET TO BINDER ELEVATION
 6"x8" CLASS A CONCRETE ANCHOR
 COMPACTED GRAVEL SUBBASE
 3" CRUSHED STONE GRAVEL SETTING COURSE
 COMPACTED SUBGRADE

TRANSITION CONCRETE CURB
 NOT TO SCALE

TOP OF CURB
 BOTTOM OF CURB @ PAVMT
 VERTICAL CONCRETE CURB
 TRANSITION CURB
 FLUSH CONCRETE CURB

TYPICAL PARKING SPACE STRIPING
 NOT TO SCALE

STRIPING SHALL BE 4" WIDE STRAIGHT LINES OF WHITE TRAFFIC PAINT, TO BE INSTALLED AS SHOWN ON LAYOUT AND MATERIALS PLAN

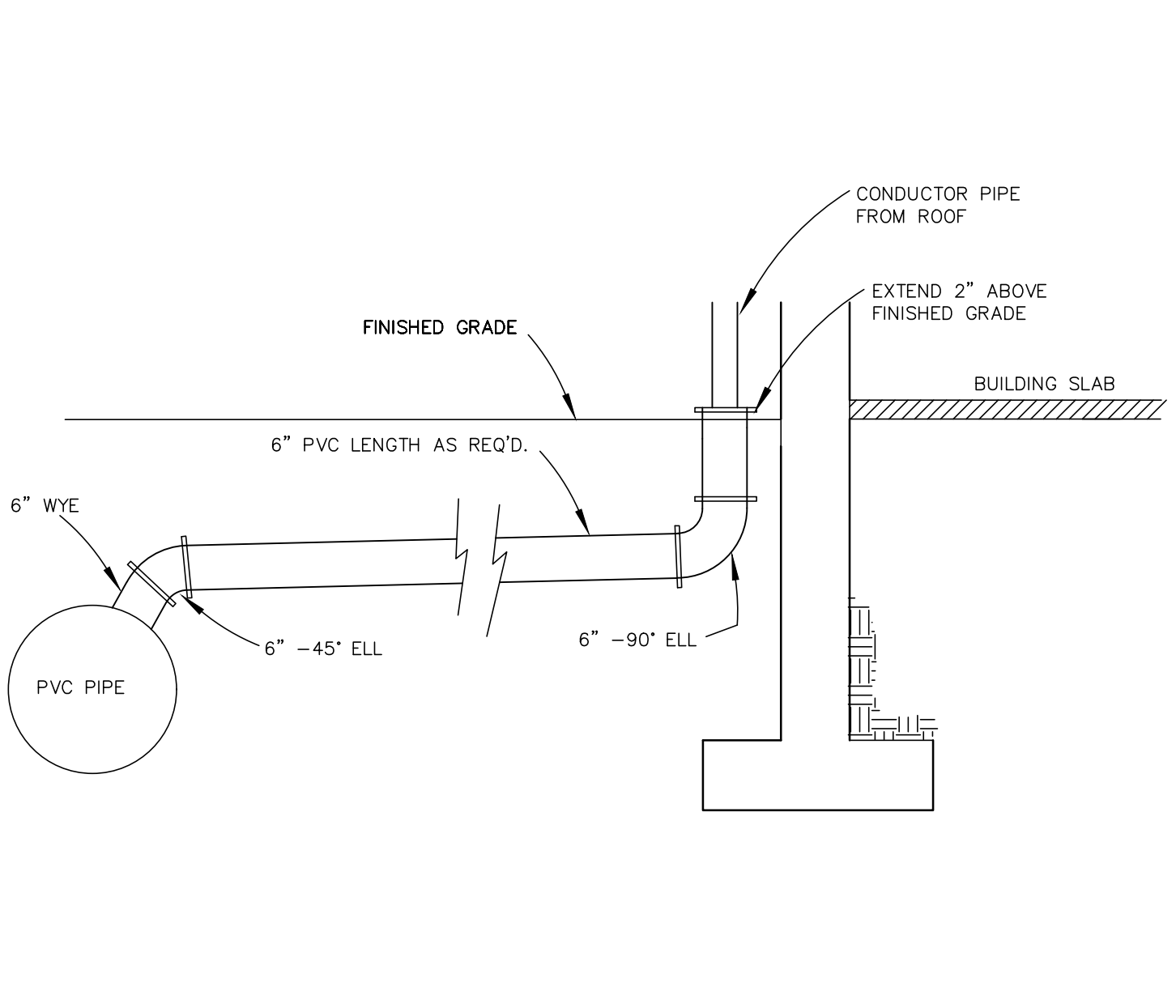
DCU/RETAIL EXPANSION PROJECT

225 SHREWSBURY STREET
 WORCESTER, MA

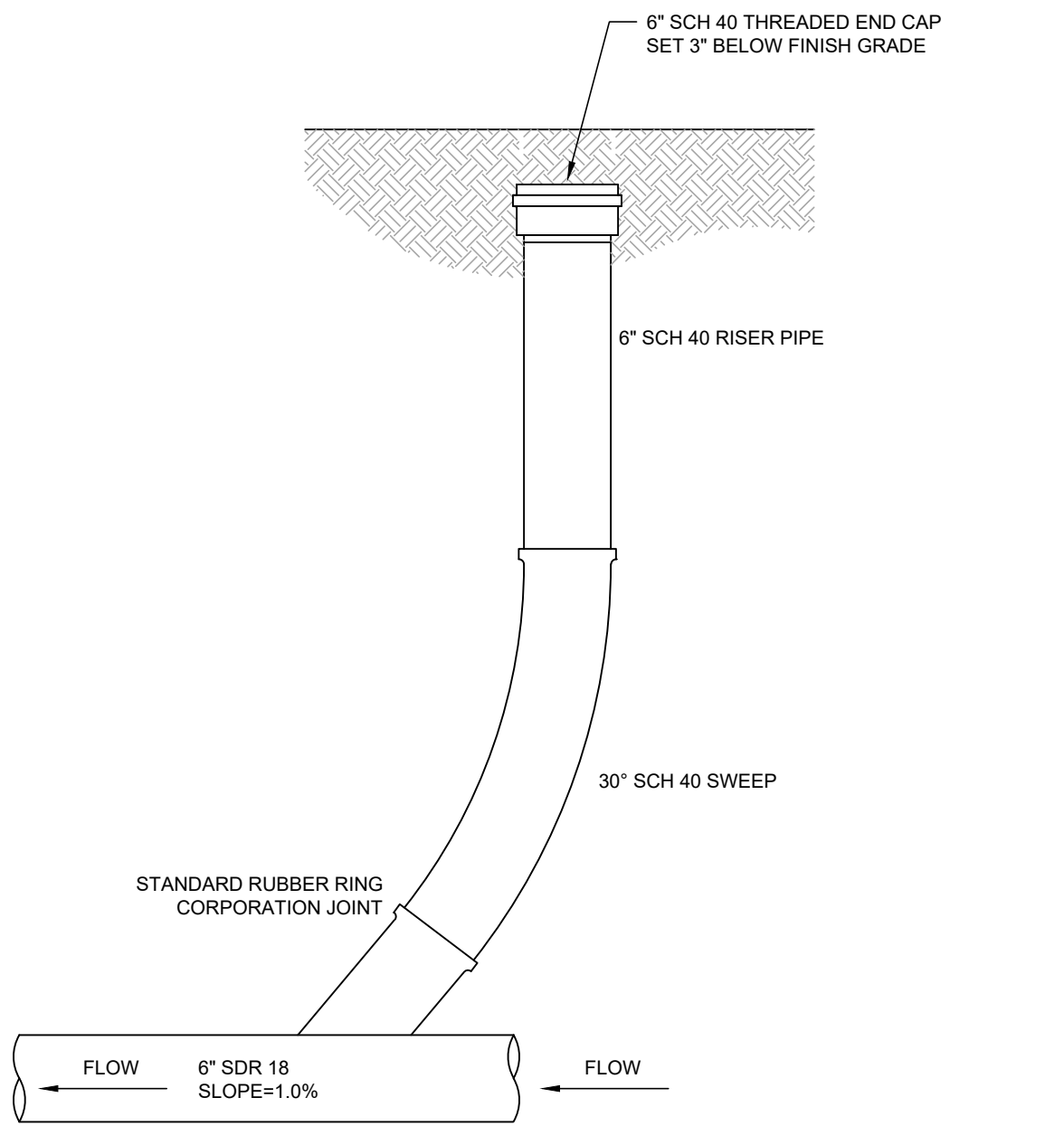
OWNER/APPLICANT: LUNDGREN EQUITY PARTNERS

REV	DATE	DESCRIPTION
ISSUE TYPE: PERMIT		
ISSUE DATE: 06/06/2024		
PROJECT NUMBER: 24009		
DRAWN BY: MJH		
CHECKED BY: DTB/DJH		
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SHEET TITLE: DETAILS		
SHEET NUMBER: C501		

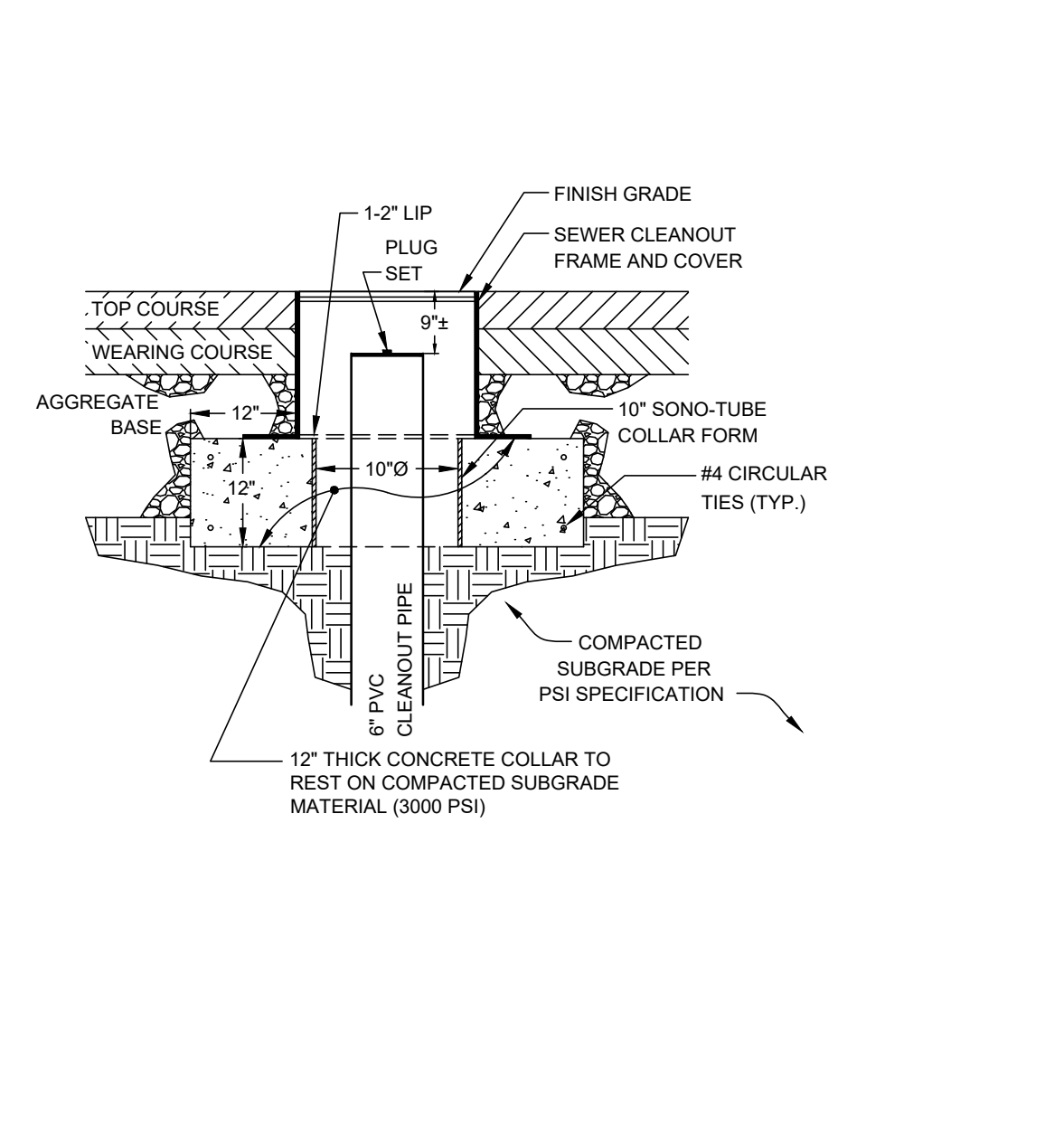
ISSUED FOR : PERMIT



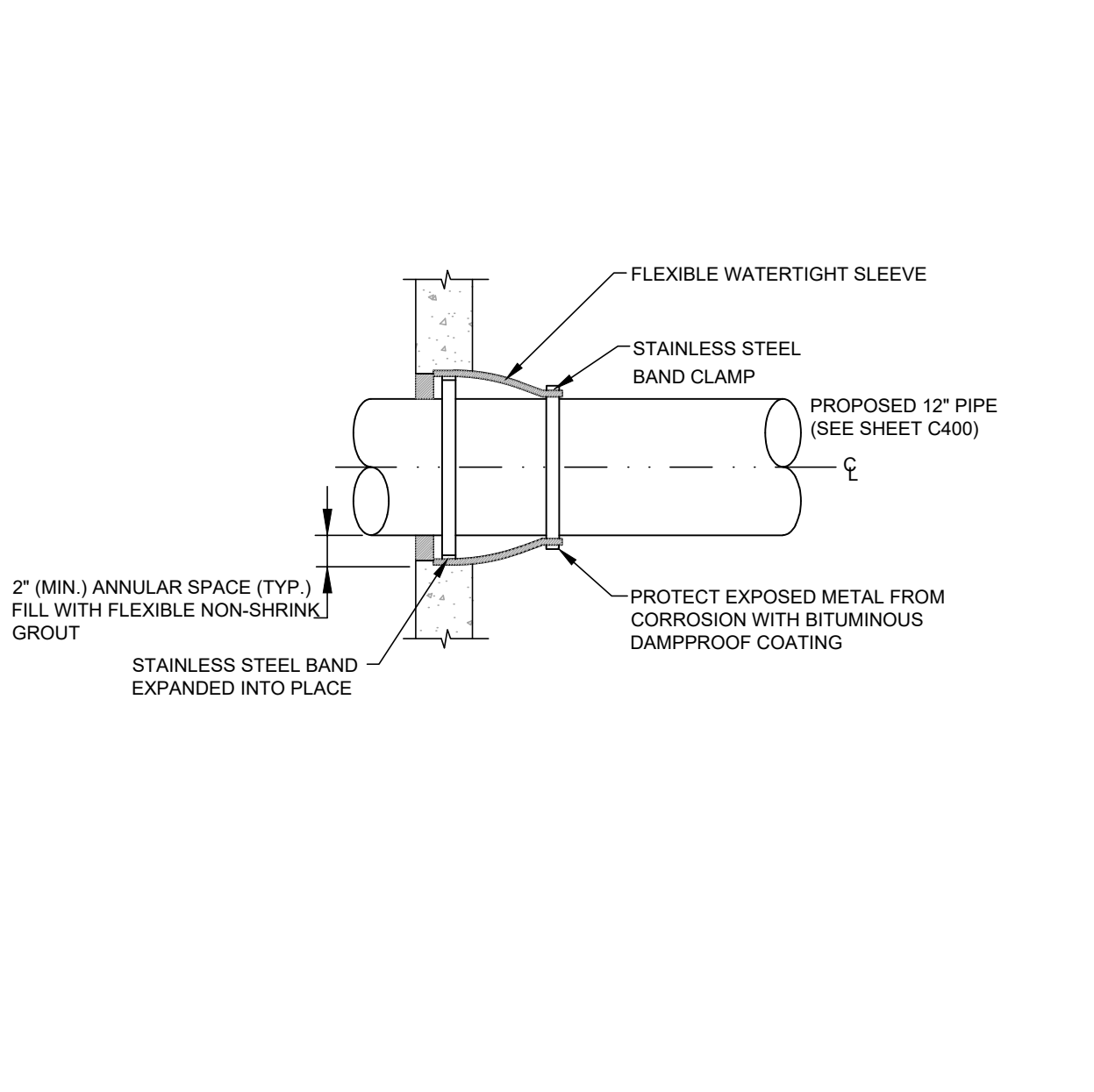
TYPICAL ROOF DRAIN CONNECTION DETAIL
NOT TO SCALE **C4**



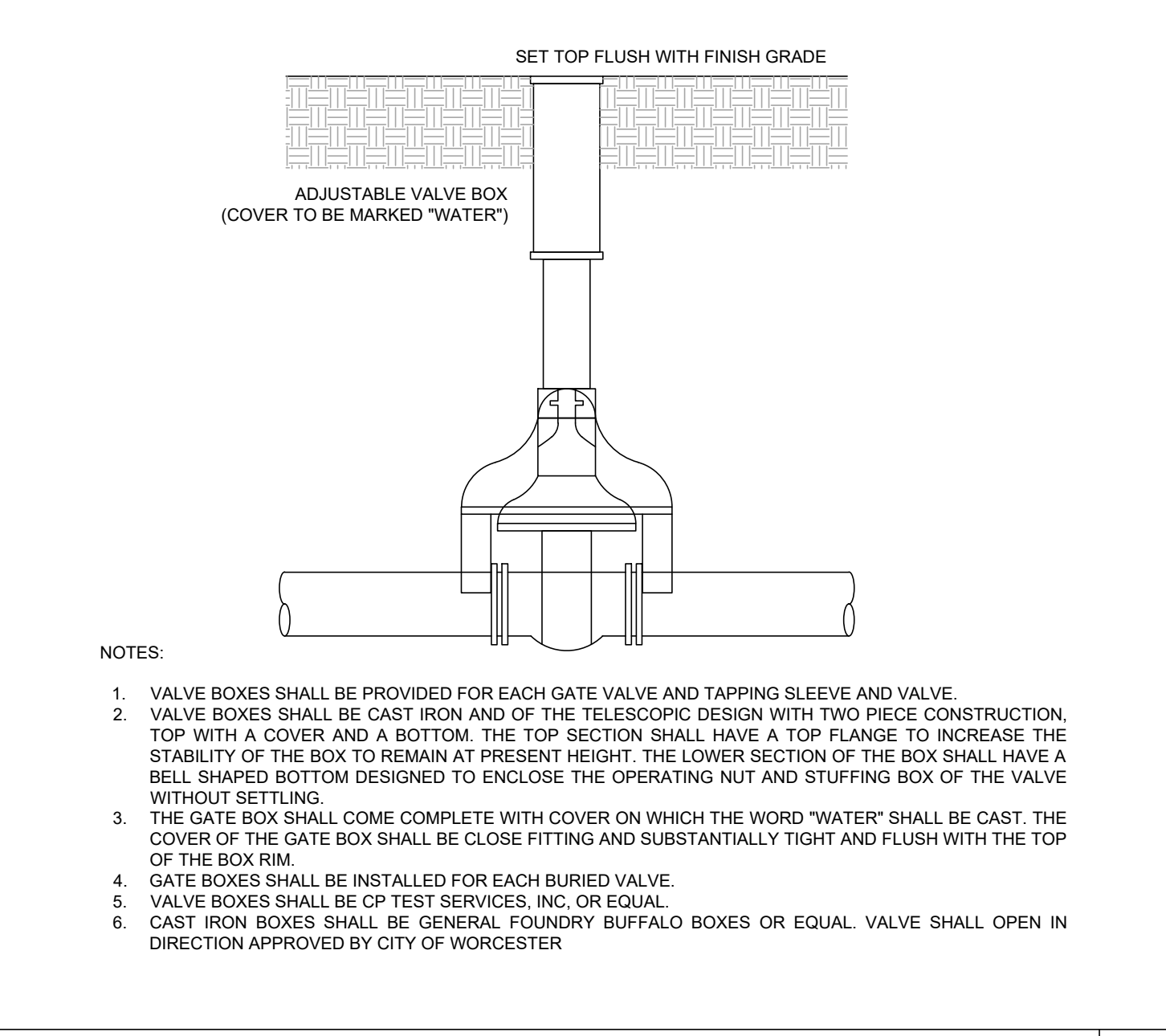
AT-GRADE CLEANOUT (ROOF DRAIN)
NOT TO SCALE **C3**



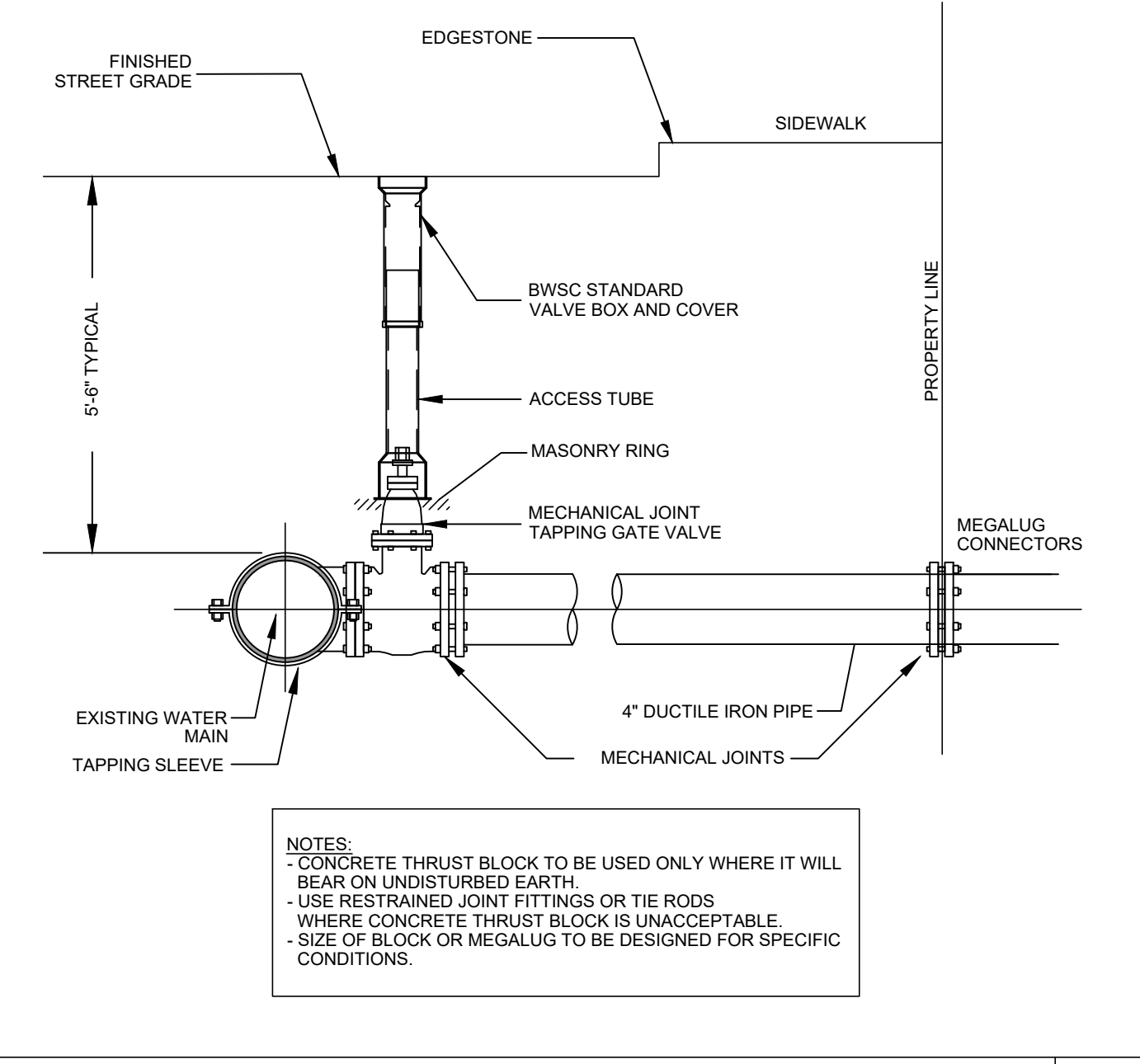
SEWER CLEANOUT COVER
NOT TO SCALE **C2**



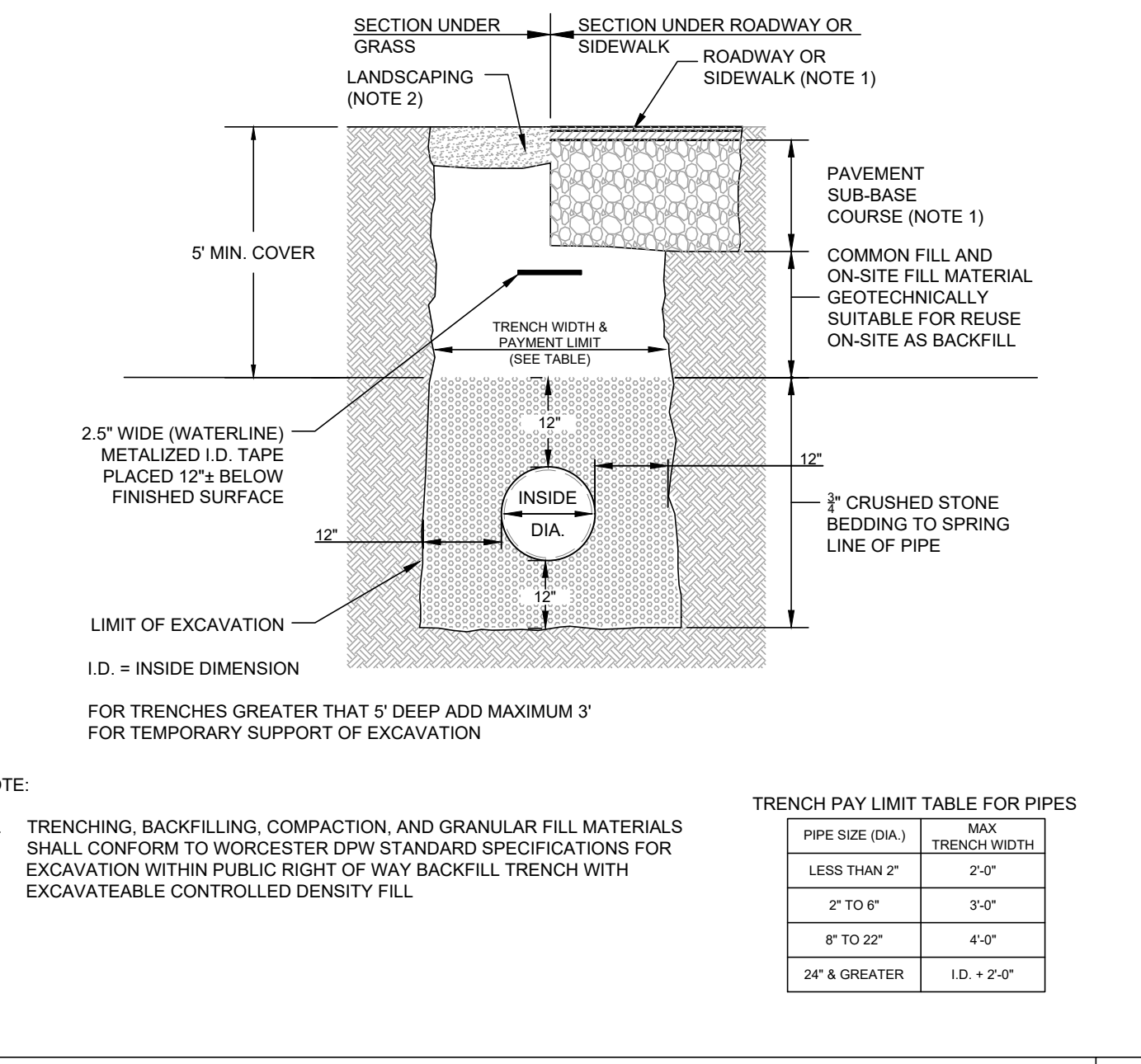
FLEXIBLE SLEEVE CONNECTION TO MANHOLE
NOT TO SCALE **C1**



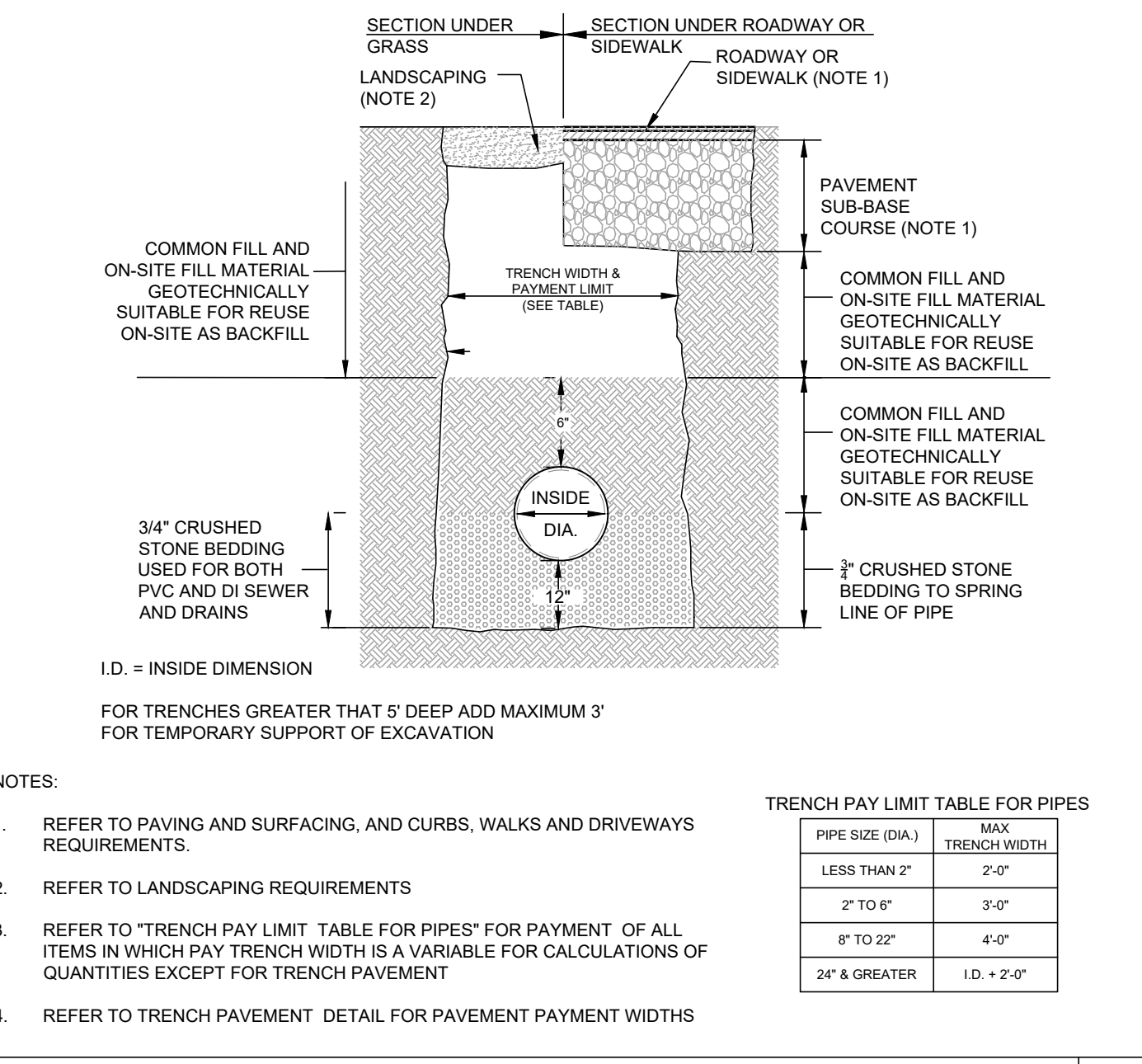
WATER GATE VALVE BOX
NOT TO SCALE **B4**



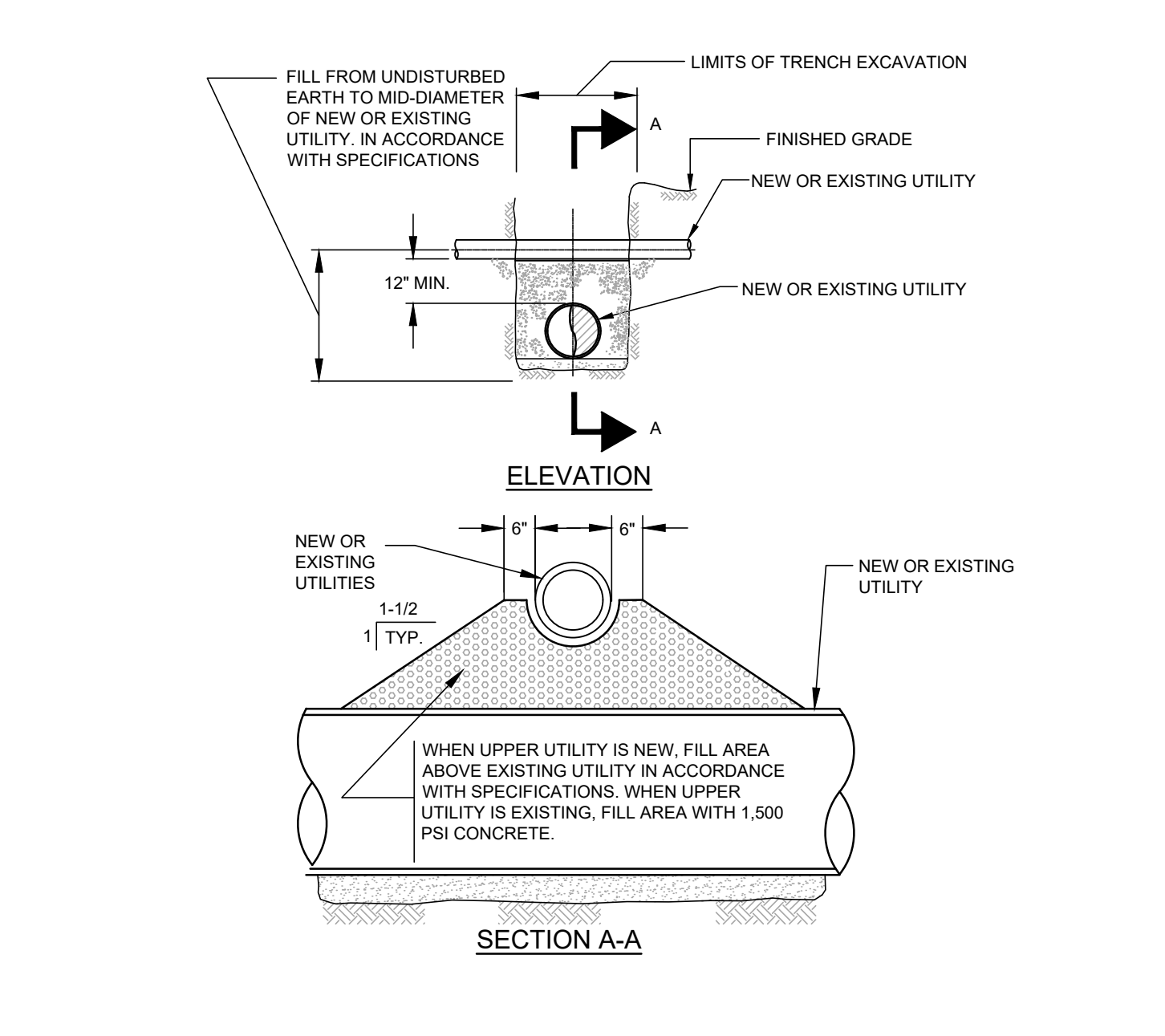
WATER PIPE CONNECTION WITH TAPPING SLEEVE & GATE VALVE
NOT TO SCALE **B3**



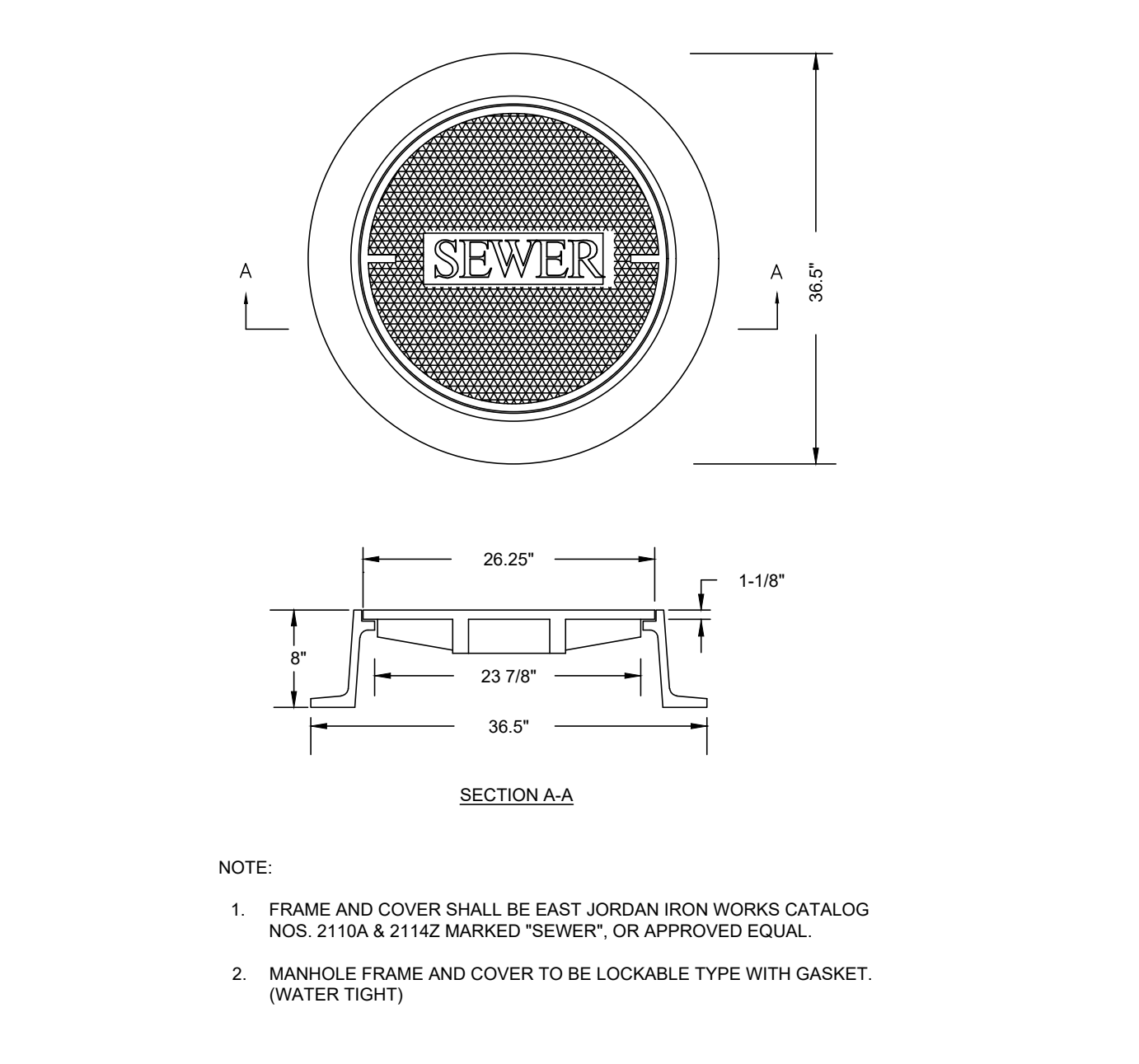
WATER TRENCH
NOT TO SCALE **B2**



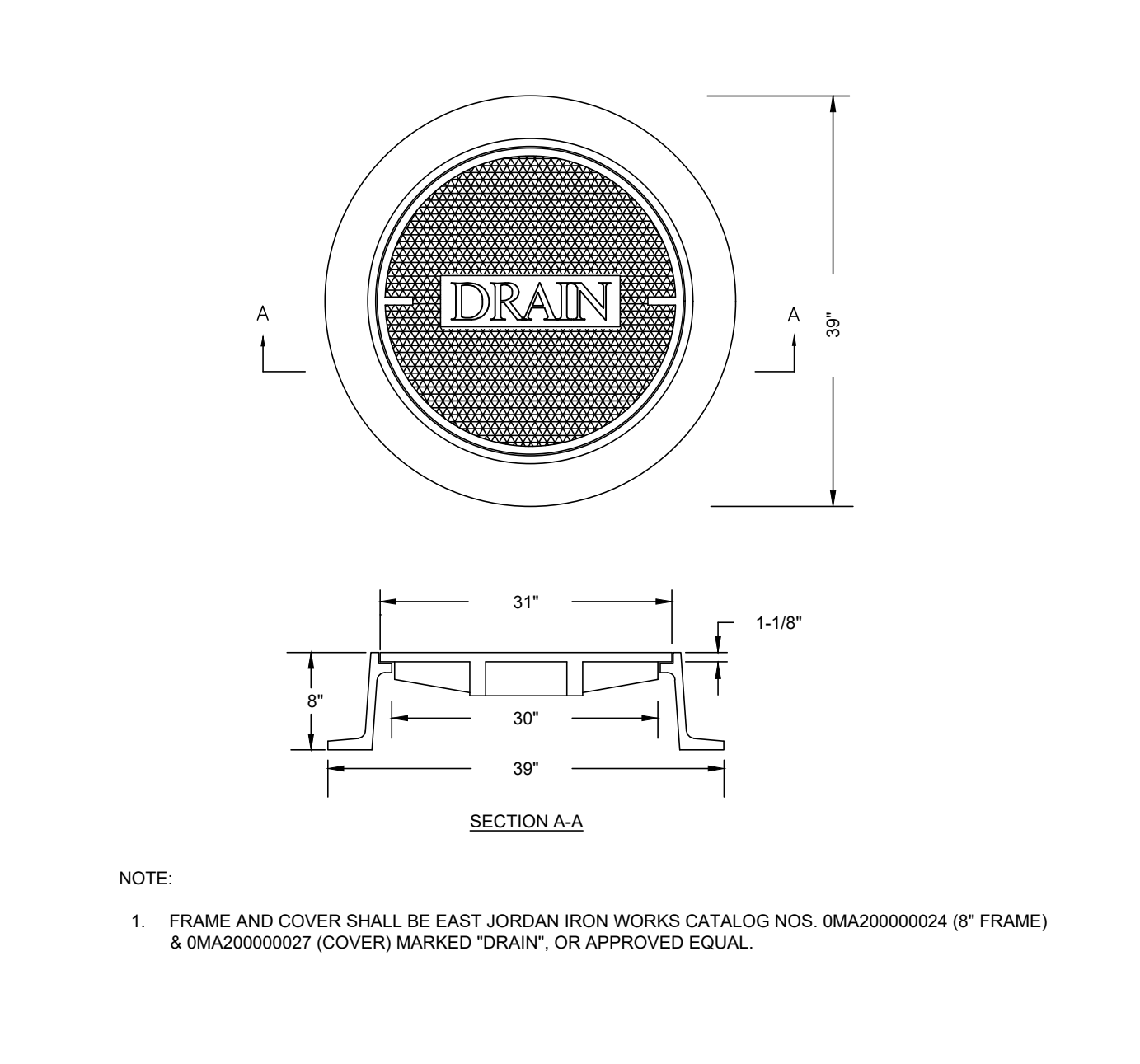
SEWER AND DRAINAGE TRENCH
NOT TO SCALE **B1**



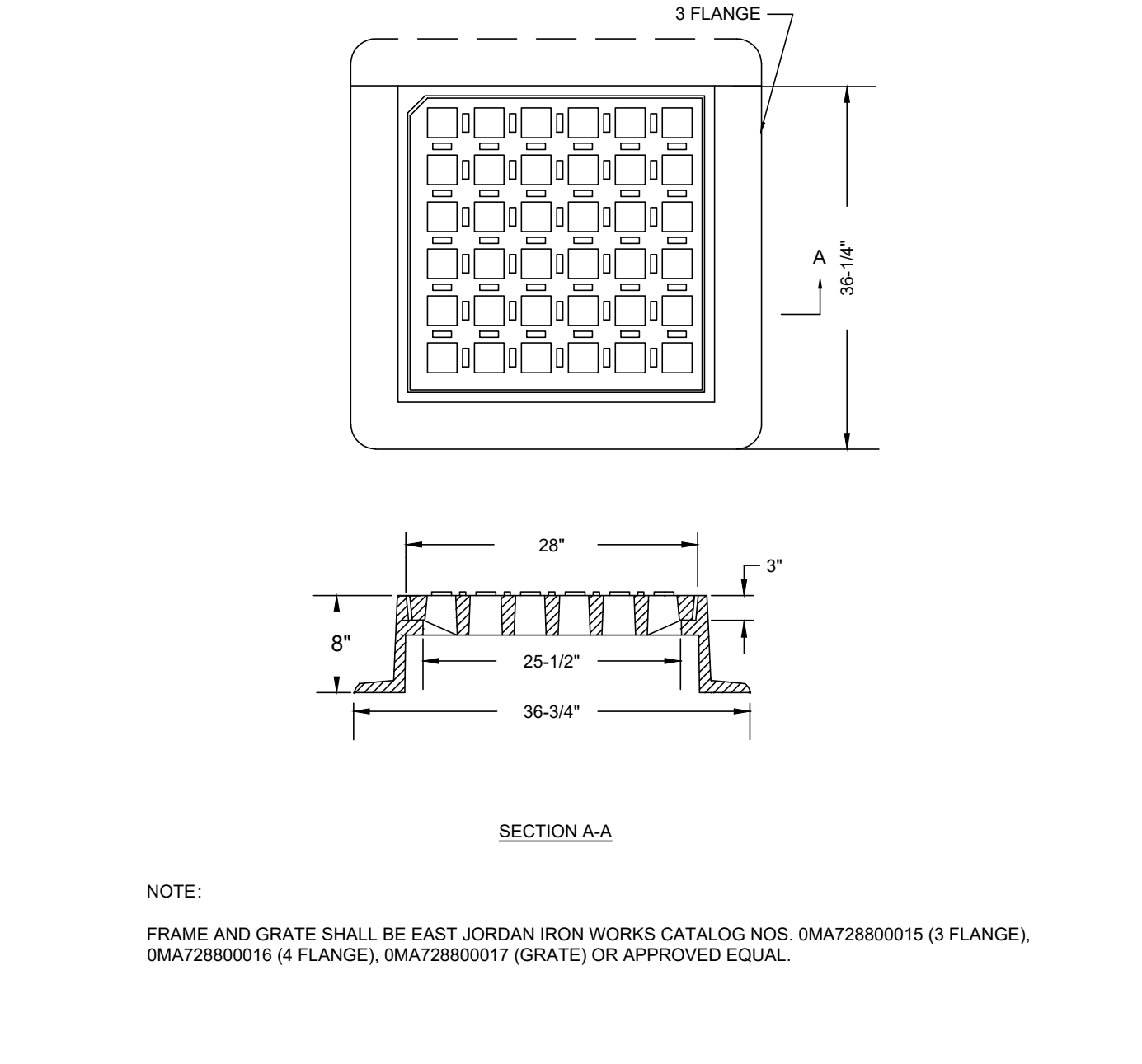
UTILITY CROSSING
NOT TO SCALE **A4**



SEWER MANHOLE FRAME & COVER
NOT TO SCALE **A3**



DRAIN MANHOLE FRAME AND COVER
NOT TO SCALE **A2**



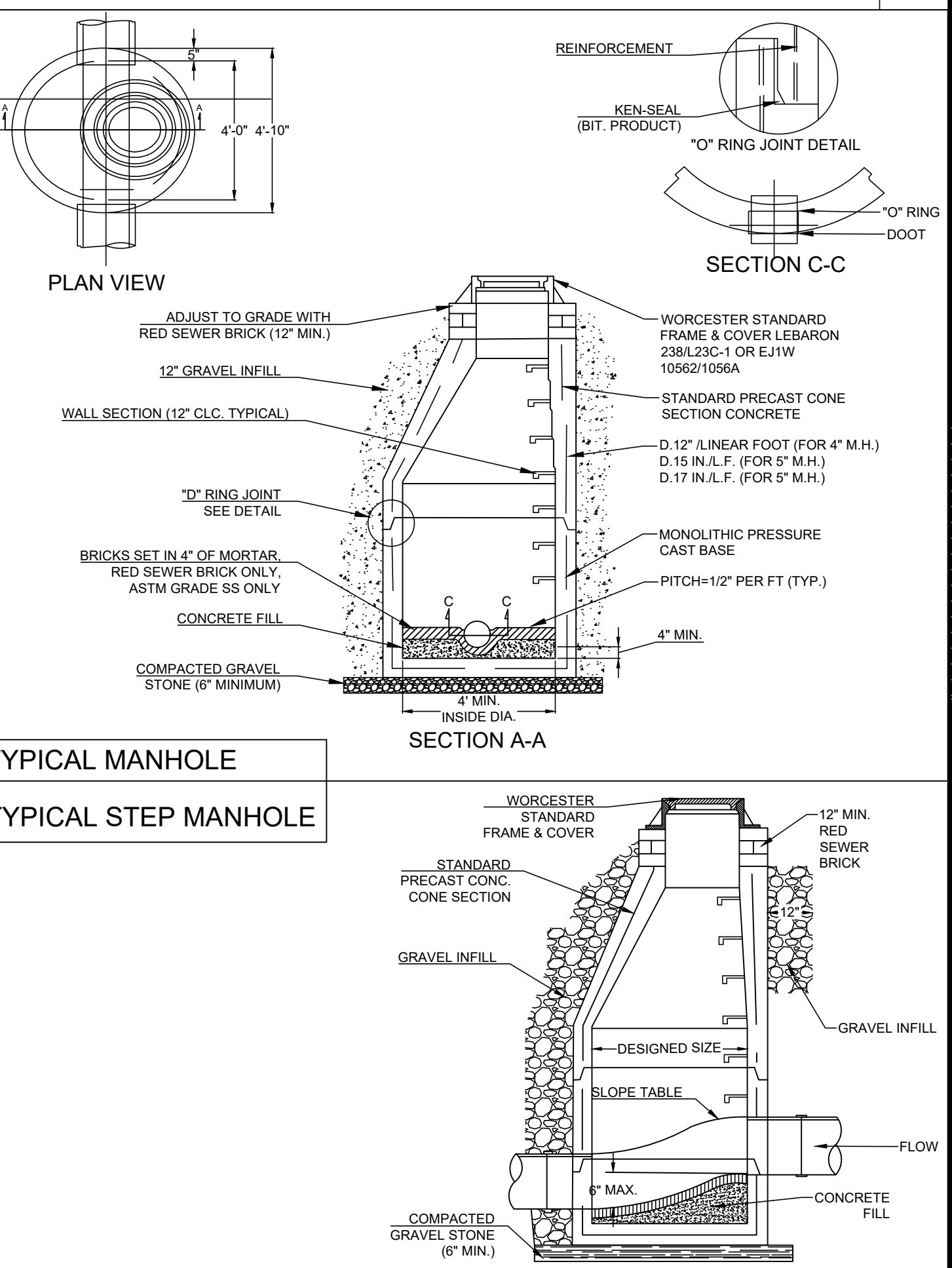
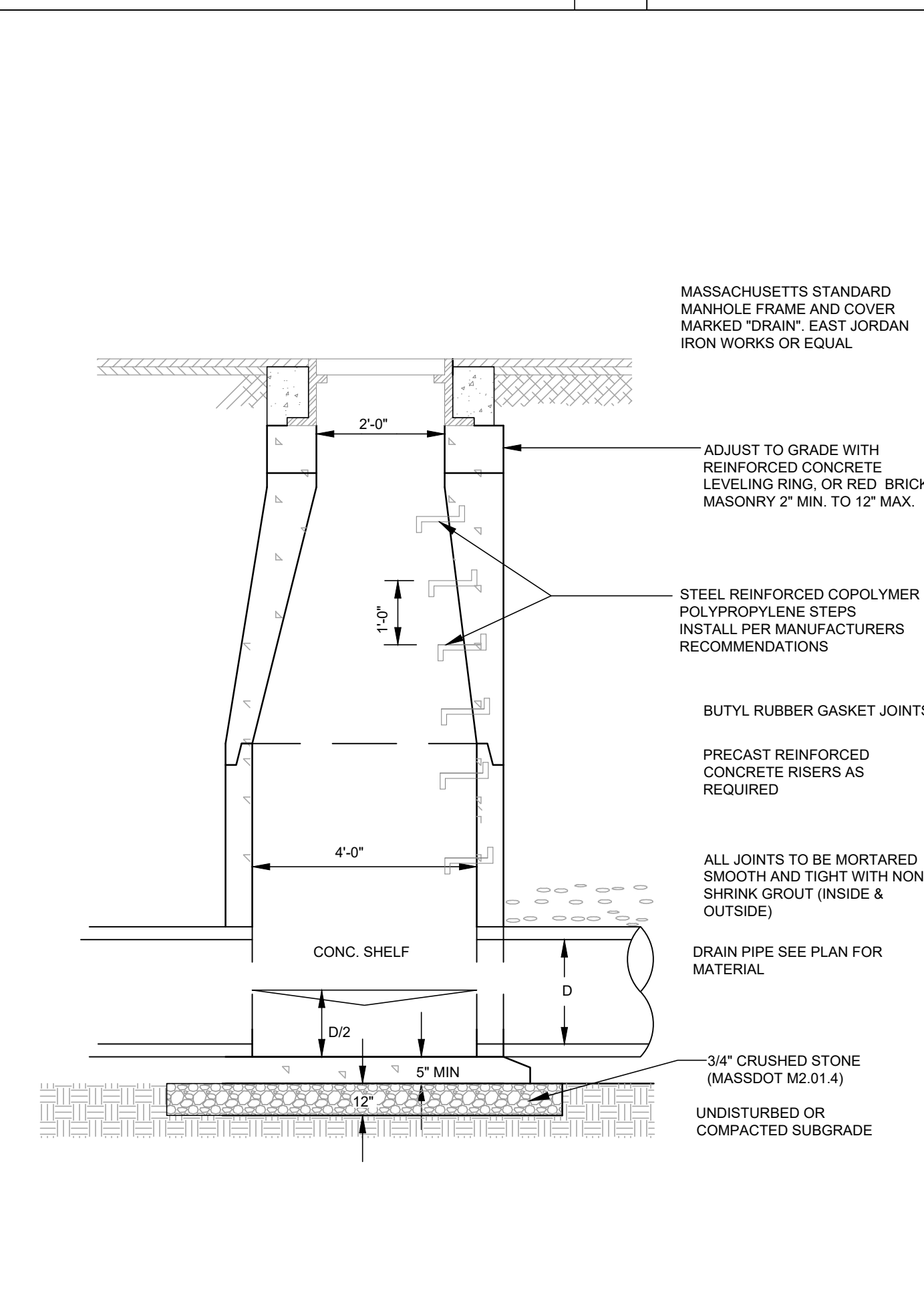
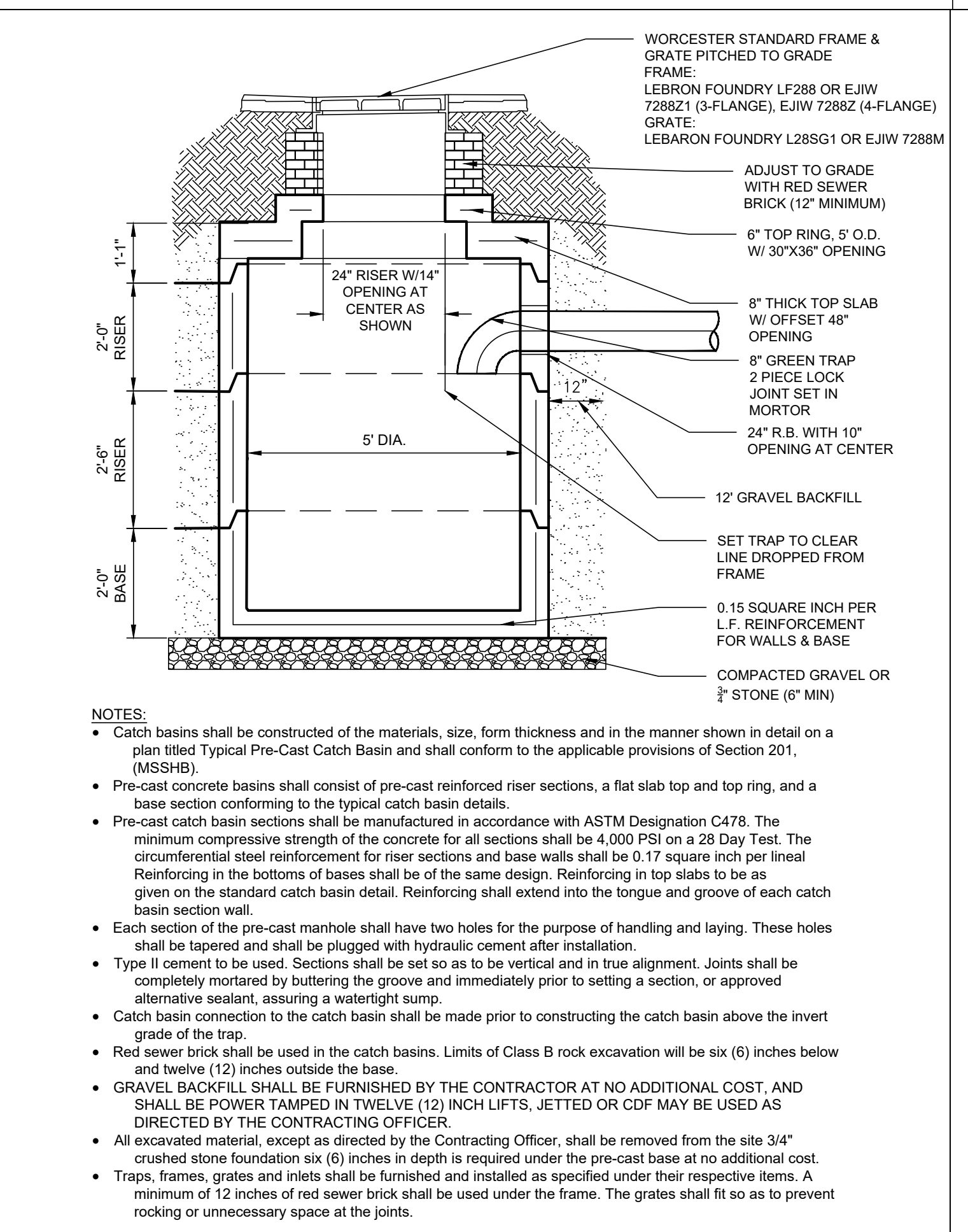
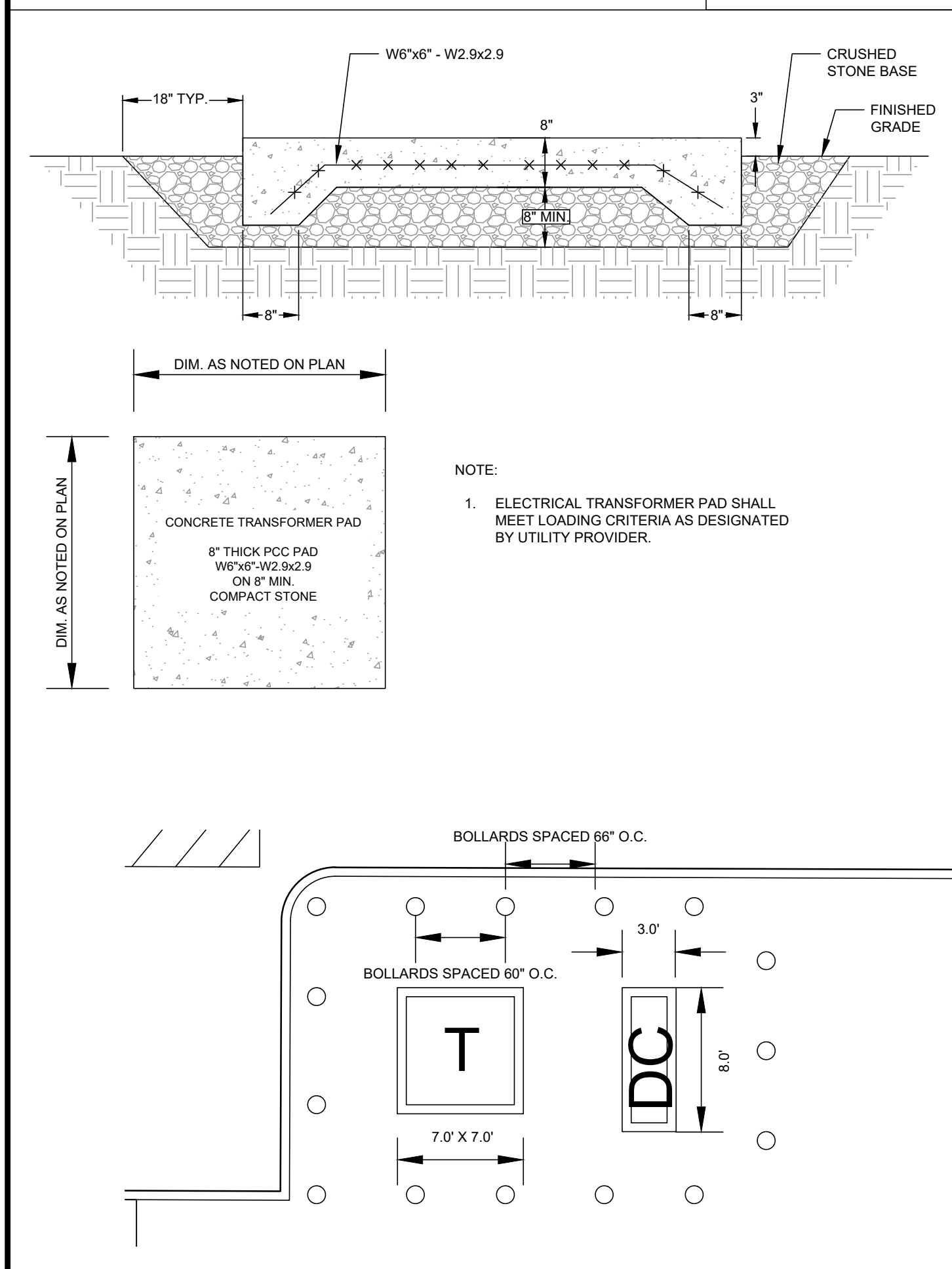
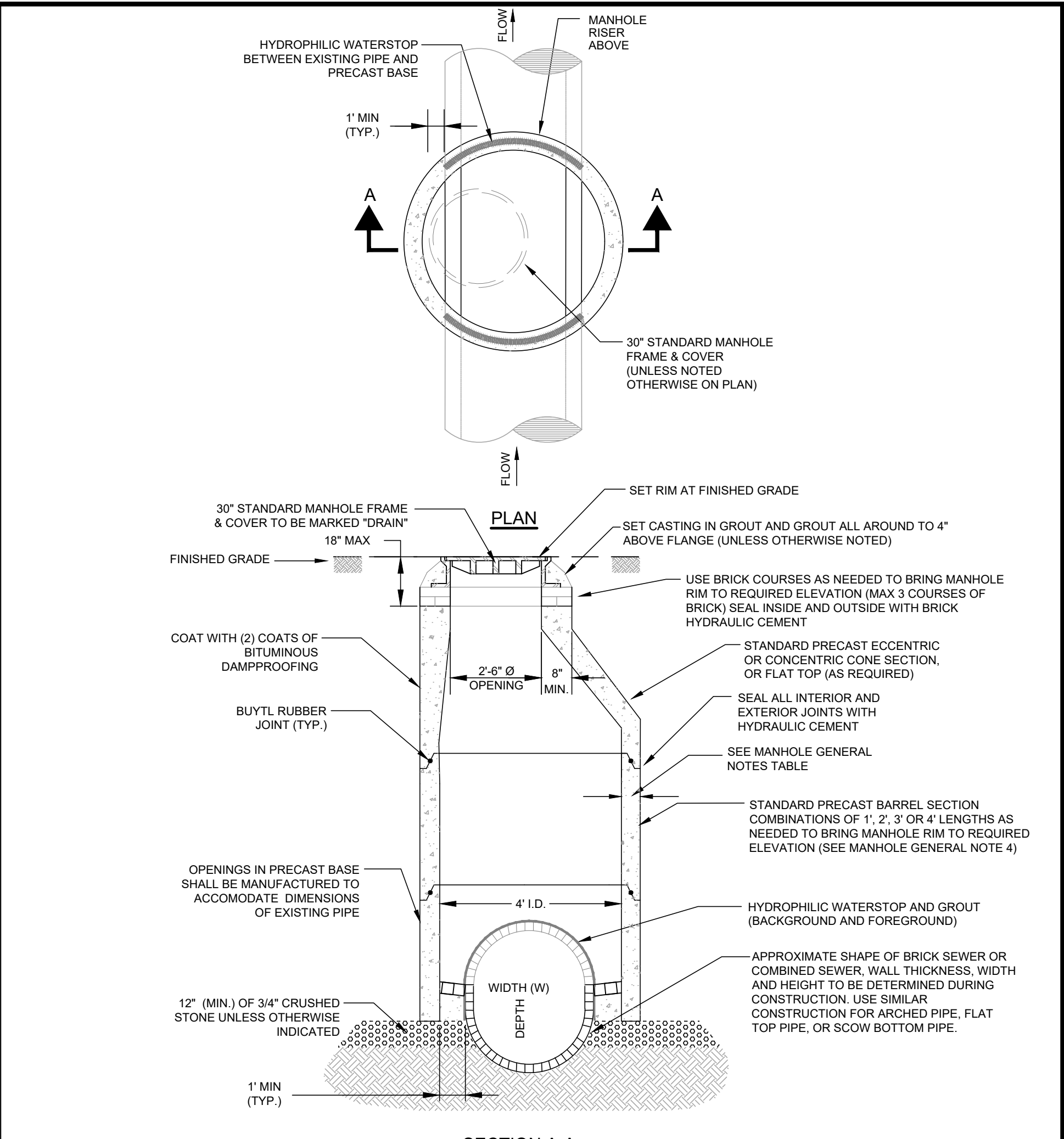
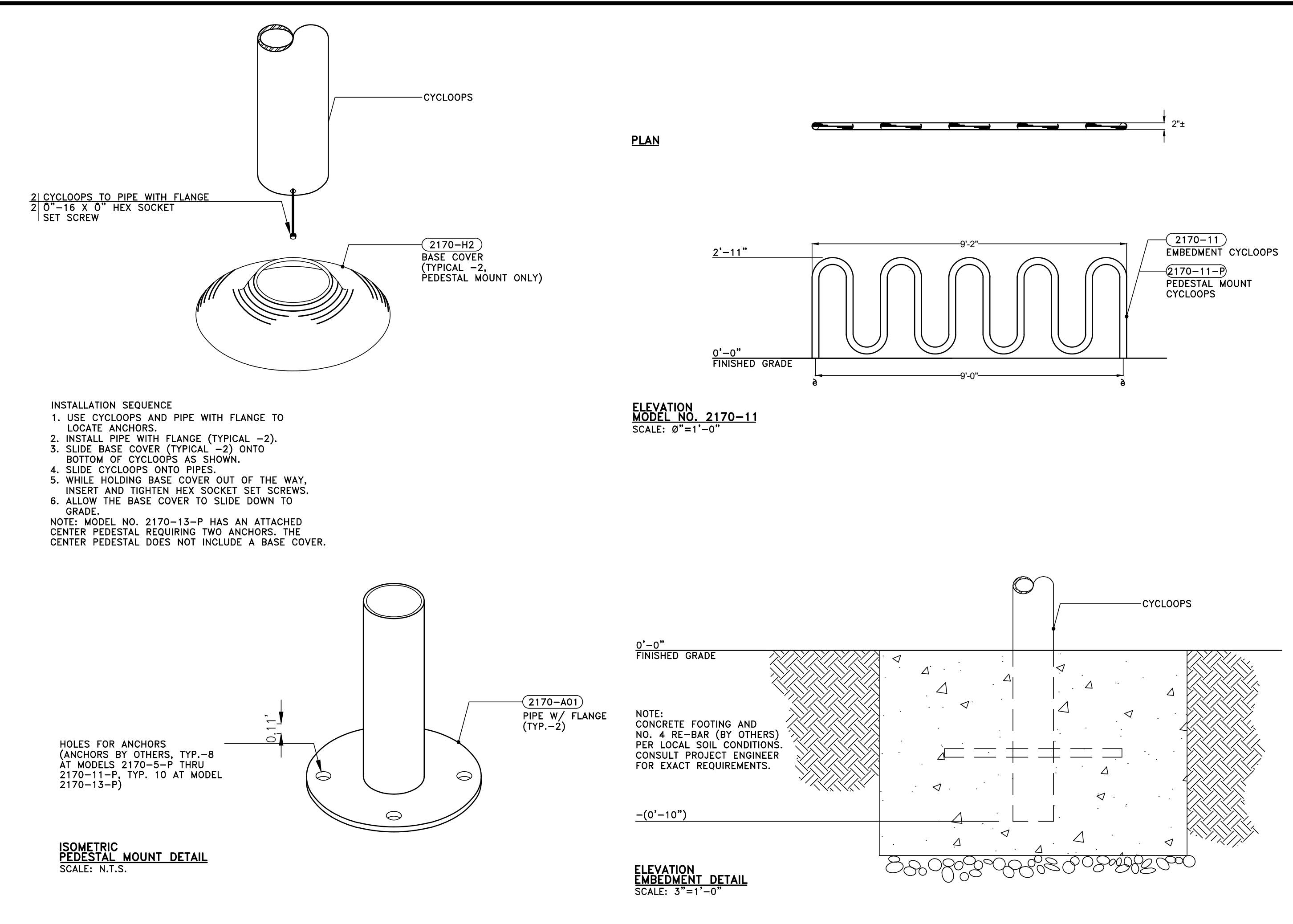
CATCH BASIN FRAME AND COVER
NOT TO SCALE **A1**

DCU/RETAIL EXPANSION PROJECT
225 SHREWSBURY STREET
WORCESTER, MA
OWNER/APPLICANT: LUNDGREN EQUITY PARTNERS

REV	DATE	DESCRIPTION

ISSUE TYPE: PERMIT
ISSUE DATE: 06/06/2024
PROJECT NUMBER: 24009
DRAWN BY: MJH
CHECKED BY: DTB/DJH
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SHEET TITLE: DETAILS
SHEET NUMBER: C502
ISSUED FOR : PERMIT



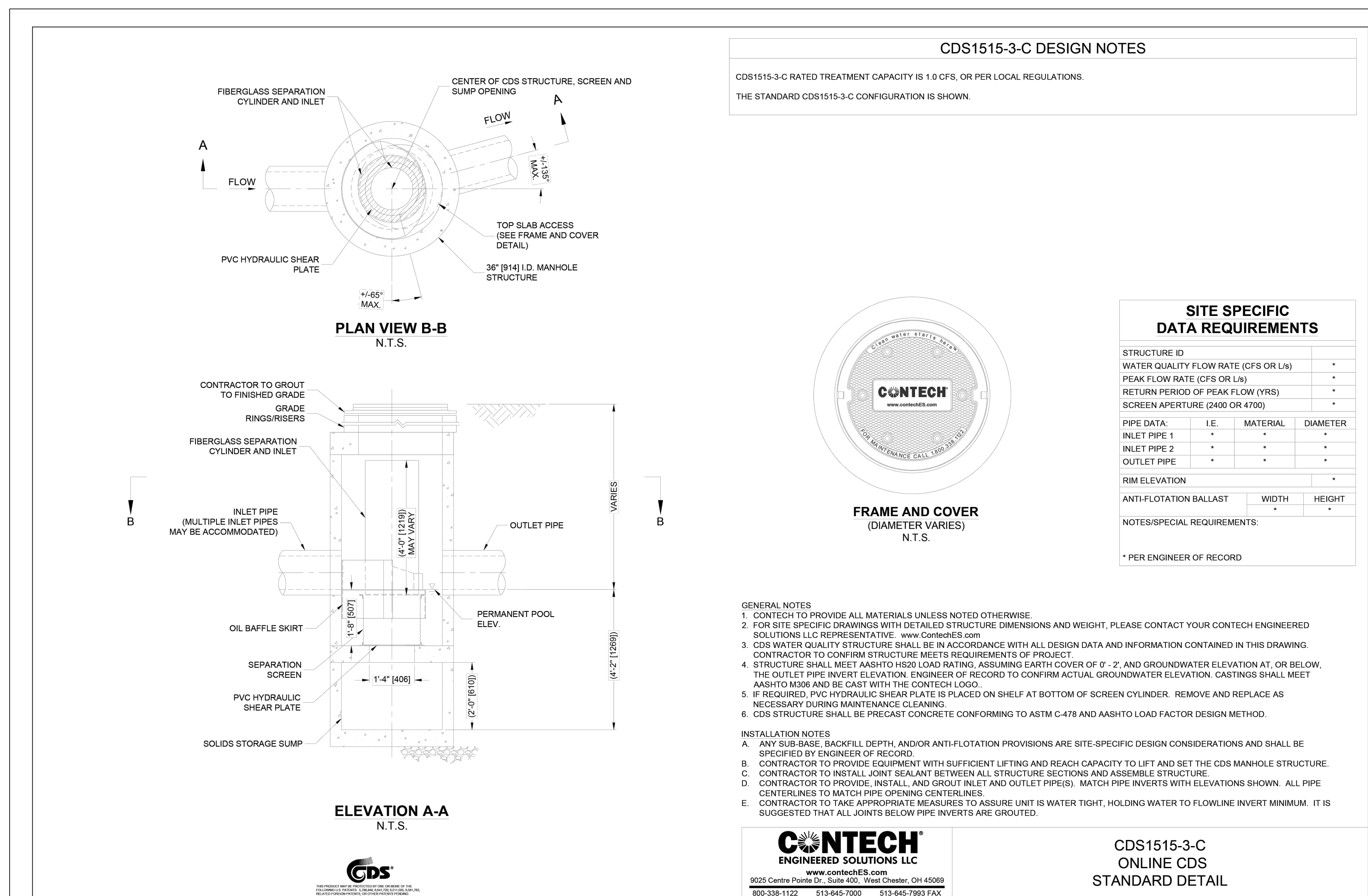
TYPICAL ELECTRICAL TRANSFORMER PAD NOT TO SCALE **A4**

TYPICAL PRECAST CATCH BASIN NOT TO SCALE **A3**

DRAIN MANHOLE NOT TO SCALE **A2**

SANITARY SEWER MANHOLE NOT TO SCALE **A1**

SHEET NUMBER: **C503**



TEST BORING LOG						SHEET 1	
Soil Exploration Corp. Geotechnical Drilling Groundwater Monitor Well 148 Pioneer Drive Loomis, MA 01453 978-840-0391			Proposed Building Site: 233 Shrewsbury Street Worcester, MA			BORING B-5 PROJECT NO. 17-0647 DATE: June 30, 2017	
Ground Elevation: Date Started: June 29, 2017 Date Finished: June 29, 2017 Driller: TF				GROUNDWATER OBSERVATIONS DATE DEPTH CASING STABILIZATION 6/29/17 7 ft o/a			
Soil Engineer/Geologist:							
Depth Ft.	Casing In.	No.	Twire	Sample Depth	Blow/s'	Strata	Visual Identification of Soil and/or Rock Sample
						4'	Asphalt
1	1	12"		1'0" - 3'0"	4-5-7-6		Dark Brown, fine to medium Sand, little gravel, little trace, brick, cinders
5	2	6"		5'0" - 7'0"	4-4-6-6		Sand & Gravel w/ silt, rubble, ash, wet (FILL)
10	3	10"		10'0" - 12'0"	4-4-6-7		Brown, fine to coarse Sand, trace rubble, wet (FILL)
	4	12"		12'0" - 14'0"	1-1-1-1	12'	Dark Brown, Organic Silt, wood fibers (ORGANIC)
15	5	12"		15'0" - 17'0"	9-8-4-3	15'	Grey, Clay & Silt, little fine sand (FLUVIAL)
20	6	21"		20'0" - 22'0"	WOH-1-1-1		
25	7	18"		25'0" - 27'0"	4-5-7-8	23'	Brown, medium to coarse Sand, little gravel, minor silt, wet
30							End of Boring at 30 ft due to "Running Sand" Water at 8 ft upon completion
35							
Notes: Hollow Stem Auger Size - 4 1/4"							
Cohesionless: 0 - 4 V, Loose, 4 - 10 Loose, 10 - 30 M Dense, 30 - 50 Dense, 50+ V			Trace 0 to 10%, Little 10 to 20%, Some 20 to 35%, And 35% to 50%			CASING SAMPLE CORE TYPE ID SIZE (IN) SS HAMMER WGT (LB) 140 lb. HAMMER FALL (IN) 30"	

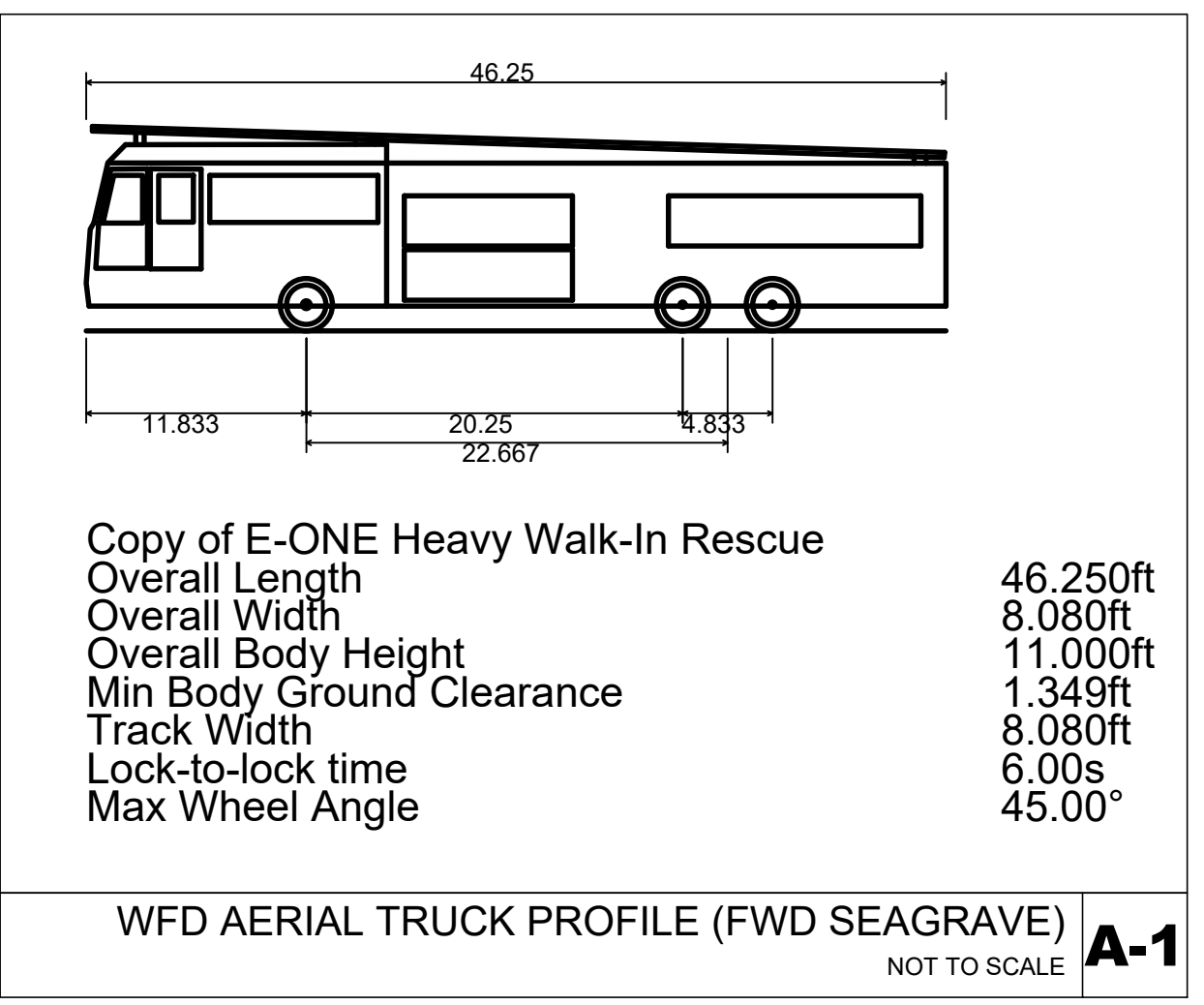
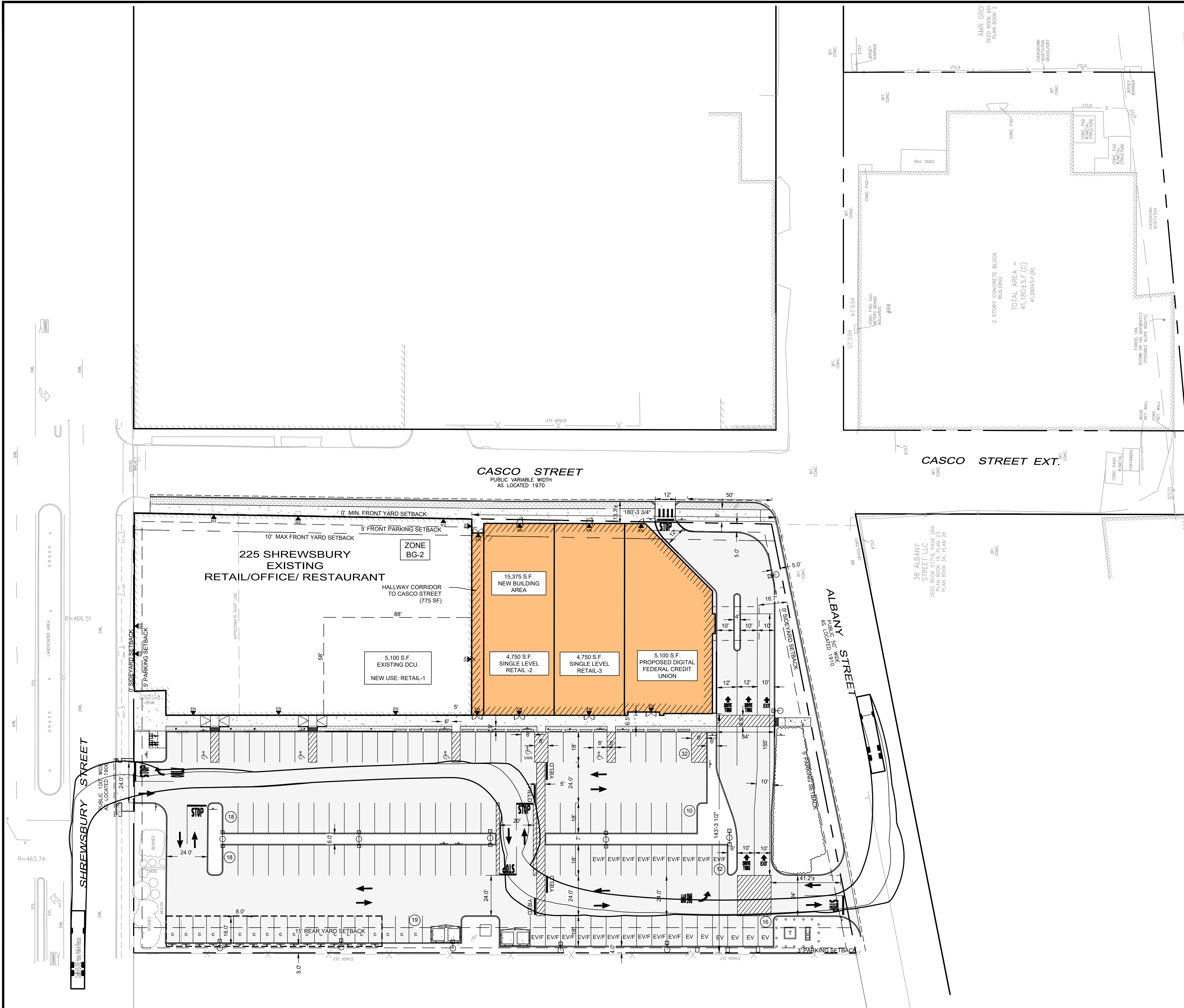
TEST BORING LOG						SHEET 2	
Soil Exploration Corp. Geotechnical Drilling Groundwater Monitor Well 148 Pioneer Drive Loomis, MA 01453 978-840-0391			Proposed Building Site: 233 Shrewsbury Street Worcester, MA			BORING B-6 (Page 1/2) PROJECT NO. 17-0647 DATE: June 30, 2017	
Ground Elevation: Date Started: June 29, 2017 Date Finished: June 29, 2017 Driller: TF				GROUNDWATER OBSERVATIONS DATE DEPTH CASING STABILIZATION 6/29/17 8 ft o/a			
Soil Engineer/Geologist:							
Depth Ft.	Casing In.	No.	Twire	Sample Depth	Blow/s'	Strata	Visual Identification of Soil and/or Rock Sample
						4'	Asphalt
1	1	10"		1'0" - 3'0"	5-7-8-6		Brown, fine to medium Sand, little gravel, little silt
5	2	6"		5'0" - 7'0"	4-5-9-7		Brick, rubble (FILL) Trace cinders, concrete
10	3	12"		10'0" - 12'0"	5-5-6-7		F-c Sand, little gravel, wet (FILL)
15	4	12"		15'0" - 17'0"	2-2-2-3	14'	Organic Silt, fibers (ORGANIC)
20	5	24"		20'0" - 22'0"	WOH-1-1-1	18'	
25	6	24"		25'0" - 27'0"	1-1-1-1		Clay & Silt little some fine sand seams and fine sand layers (FLUVIAL)
30	7	24"		30'0" - 32'0"	WOH-1-1-1		
35	8	24"		35'0" - 37'0"	1-1-1-1		Continued
Notes: Hollow Stem Auger Size - 4 1/4"							
Cohesionless: 0 - 4 V, Loose, 4 - 10 Loose, 10 - 30 M Dense, 30 - 50 Dense, 50+ V			Trace 0 to 10%, Little 10 to 20%, Some 20 to 35%, And 35% to 50%			CASING SAMPLE CORE TYPE ID SIZE (IN) SS HAMMER WGT (LB) 140 lb. HAMMER FALL (IN) 30"	

TEST BORING LOG						SHEET 3	
Soil Exploration Corp. Geotechnical Drilling Groundwater Monitor Well 148 Pioneer Drive Loomis, MA 01453 978-840-0391			Proposed Building Site: 233 Shrewsbury Street Worcester, MA			BORING B-6 (page 2/2) PROJECT NO. 17-0647 DATE: June 30, 2017	
Ground Elevation: Date Started: June 29, 2017 Date Finished: June 29, 2017 Driller: TF				GROUNDWATER OBSERVATIONS DATE DEPTH CASING STABILIZATION 6/29/17 8 ft o/a			
Soil Engineer/Geologist:							
Depth Ft.	Casing In.	No.	Twire	Sample Depth	Blow/s'	Strata	Visual Identification of Soil and/or Rock Sample
40							
45	9	24"		45'0" - 47'0"	1-1-2-2		Clay & Silt little fine sand seams and fine sand layers (FLUVIAL)
50	10	24"		50'0" - 52'0"	1-1-2-3		
55	11	12"		55'0" - 57'0"	11-16-17-22	54'	Grey, fine to medium Sand, some gravel, some silt, cobble (GLACIAL)
60	12	10"		60'0" - 62'0"	17-25-29-43		weathered rock at bottom
65							End of Boring at 62 ft Water at 8 ft upon completion
70							
75							
Notes: Hollow Stem Auger Size - 4 1/4"							
Cohesionless: 0 - 4 V, Loose, 4 - 10 Loose, 10 - 30 M Dense, 30 - 50 Dense, 50+ V			Trace 0 to 10%, Little 10 to 20%, Some 20 to 35%, And 35% to 50%			CASING SAMPLE CORE TYPE ID SIZE (IN) SS HAMMER WGT (LB) 140 lb. HAMMER FALL (IN) 30"	

BORING LOG 225 SHREWSBURY STREET
NOT TO SCALE **B1**

REV	DATE	DESCRIPTION

ISSUE TYPE:
PERMIT
ISSUE DATE:
06/06/2024
PROJECT NUMBER:
24009
DRAWN BY: AUA
CHECKED BY: DJH/DTB
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SHEET TITLE:
TEST BORING LOGS SHEET 2
SHEET NUMBER:
C601



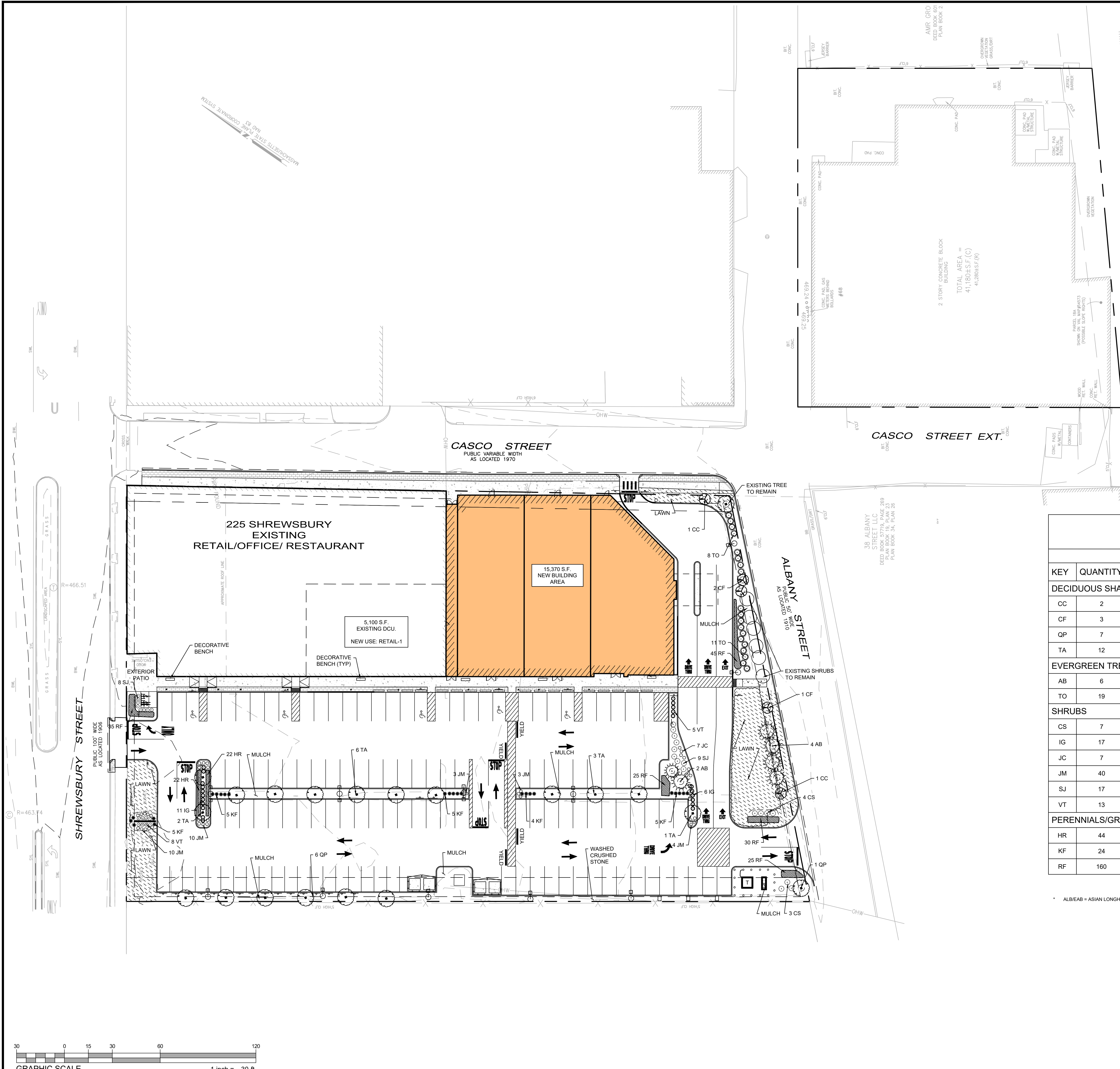
REV	DATE	DESCRIPTION

ISSUE TYPE:
PERMIT
 ISSUE DATE:
 06/06/2024
 PROJECT NUMBER:
 24009

DRAWN BY: DTB/MJH
 CHECKED BY: DJH/DTB

SHEET TITLE:
FIRE TRUCK TURN PLAN

SHEET NUMBER:
C700



SITE PLANT LIST

KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	MIN. SIZE	COMMENT
DECIDUOUS SHADE TREES / FLOWERING TREES					
CC	2	CERCIS CANADENSIS	EASTERN REDBUD	3.0"-3.5" CAL	NATIVE-ALB/EAB
CF	3	CORNUS FLORIDA "CHEROKEE DAYBREAK"	CHEROKEE DAYBREAK FLOWERING DOGWOOD	3.0"-3.5" CAL	NATIVE -ALB/EAB
QP	7	QUERCUS PALUSTRIS	PIN OAK	3.0"-3.5" CAL	NATIVE-ALB/EAB
TA	12	TILIA AMERICANA	AMERICAN LINDEN/BASWOOD	3.0"-3.5" CAL.	NATIVE
EVERGREEN TREES					
AB	6	ABIES CONCOLOR	WHITE FIR	8'-10' HT	NATIVE-ALB/EAB
TO	19	THUJA OCCIDENTALIS "AMERICAN PILLAR"	AMERICAN PILLAR ARBORVITAE	6'-8' HT	NATIVE-ALB/EAB
SHRUBS					
CS	7	CORNUS SERICEA	RED OSIER DOGWOOD	30"-36" HT	POT/NATIVE
IG	17	ILEX GLABRA 'SHAMROCK'	INKBERRY	24"-30" HT	POT/NATIVE
JC	7	JUNIPERUS COMMUNIS "SMNJCB"	TORTUGA JUNIPER	18"-24" SPREAD	POT/NATIVE
JM	40	JUNIPERUS X MEDIA "DAUB'S FROSTED"	DAUB'S FROSTED JUNIPER	18"-24" SPREAD	POT
SJ	17	SPIRAEA JAPONICA "FLAMING MOUND"	FLAMING MOUND SPIRAEA	18"-24" SPREAD	POT
VT	13	VIBURNUM TRILOBUM "BAILEY COMPACT"	BAILEY COMPACT HIGHBUSH CRANBERRY	30"-36" HT	POT/NATIVE
PERENNIALS/GRASSES					
HR	44	HEMEROCALLIS "ROSY RETURNS"	ROSY RETURN DAYLILLY	#2	STAGGERED
KF	24	CALAMAGROSTIS X ACUTIFLORA "KARL FOERSTER"	KARL FOERSTER FEATHER REED GRASS	#3	AS SHOWN
RF	160	RUDBECKIA FULGIDA "GOLDSTRUM"	GOLDSTRUM CONEFLOWER	#2	NATIVE

* ALB/EAB = ASIAN LONGHORN BEETLE AND EMERALD BORER RESISTANT SPECIES



REV	DATE	DESCRIPTION

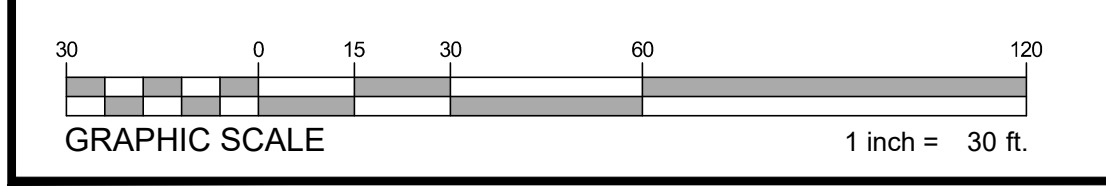
ISSUE TYPE:
PERMIT
 ISSUE DATE:
06/06/2024
 PROJECT NUMBER:
24009

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SHEET TITLE:
LANDSCAPE PLAN

SHEET NUMBER:
L100

ISSUED FOR: PERMIT



LANDSCAPE NOTES

ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF WORCESTER, MA. ALL PLANTING SHALL COME FROM THE BEST DEVELOPMENT PRACTICES GUIDEBOOK.

PLANTING PLAN IS DIAGRAMMATIC IN NATURE. FINAL PLACEMENT OF PLANTS TO BE APPROVED BY THE LANDSCAPE ARCHITECT IN THE FIELD.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES, ANY PERMITTING AGENCIES, AND "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS IN ADVANCE OF ANY WORK THAT WILL REQUIRE EXCAVATION. CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE OF ANY CONFLICTS IN WRITING.

NO PLANT MATERIAL SHALL BE INSTALLED UNTIL ALL GRADING AND CONSTRUCTION HAS BEEN COMPLETED IN THE IMMEDIATE AREA. ANY TREES NOTED AS "SEAL OR SELECTED SPECIMEN" SHALL BE TAGGED AND SEALED BY THE LANDSCAPE ARCHITECT.

ALL TREES SHALL BE BALLED AND BURLAPPED (B&B) UNLESS OTHERWISE NOTED OR APPROVED BY THE OWNERS REPRESENTATIVE AND LANDSCAPE ARCHITECT.

CONTRACTOR SHALL VERIFY QUANTITIES SHOWN ON PLANT LIST. QUANTITIES SHOWN ON PLANS SHALL GOVERN OVER PLANT LIST.

ANY PROPOSED PLANT SUBSTITUTIONS MUST BE APPROVED IN WRITING BY OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT.

ALL PLANT MATERIALS INSTALLED SHALL MEET THE GUIDELINES ESTABLISHED BY THE STANDARDS FOR NURSERY STOCK PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.

ALL PLANT MATERIALS SHALL BE GUARANTEED FOR ONE YEAR FOLLOWING DATE OF ACCEPTANCE.

ALL DISTURBED AREAS NOT OTHERWISE NOTED SHALL RECEIVE 6" OF SUITABLE LOAM & SEED LAWNS WITH 3:1 OR GREATER SLOPES SHALL BE PROTECTED WITH AN EROSION CONTROL BLANKET.

ANY FALL TRANSPLANTING HAZARD PLANTS SHALL BE DUG IN THE SPRING AND STORED FOR FALL PLANTING.

TREES SHALL HAVE A MINIMUM CALIPER AS INDICATED ON THE PLANTING SCHEDULE TAKEN ONE FOOT ABOVE THE ROOT CROWN.

ALL PLANT BEDS AND TREE SAUCERS TO RECEIVE 3" OF PINE BARK MULCH. GROUND COVER AREAS SHALL RECEIVE 1" OF PINE BARK MULCH.

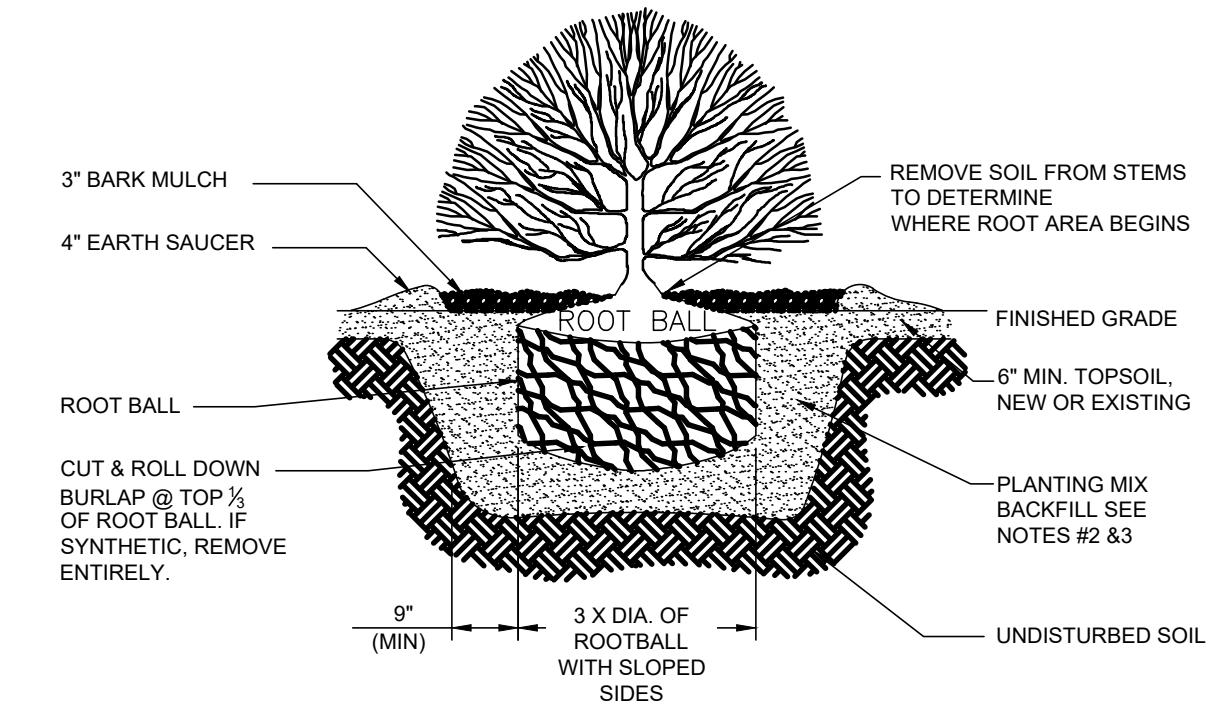
ALL DECIDUOUS TREES ADJACENT TO WALKWAYS AND ROADWAYS SHALL HAVE A BRANCHING PATTERN TO ALLOW FOR A MINIMUM OF 7' OF CLEARANCE BETWEEN THE GROUND AND THE LOWEST BRANCH.

ALL TREE STAKES SHALL BE STAINED DARK BROWN.

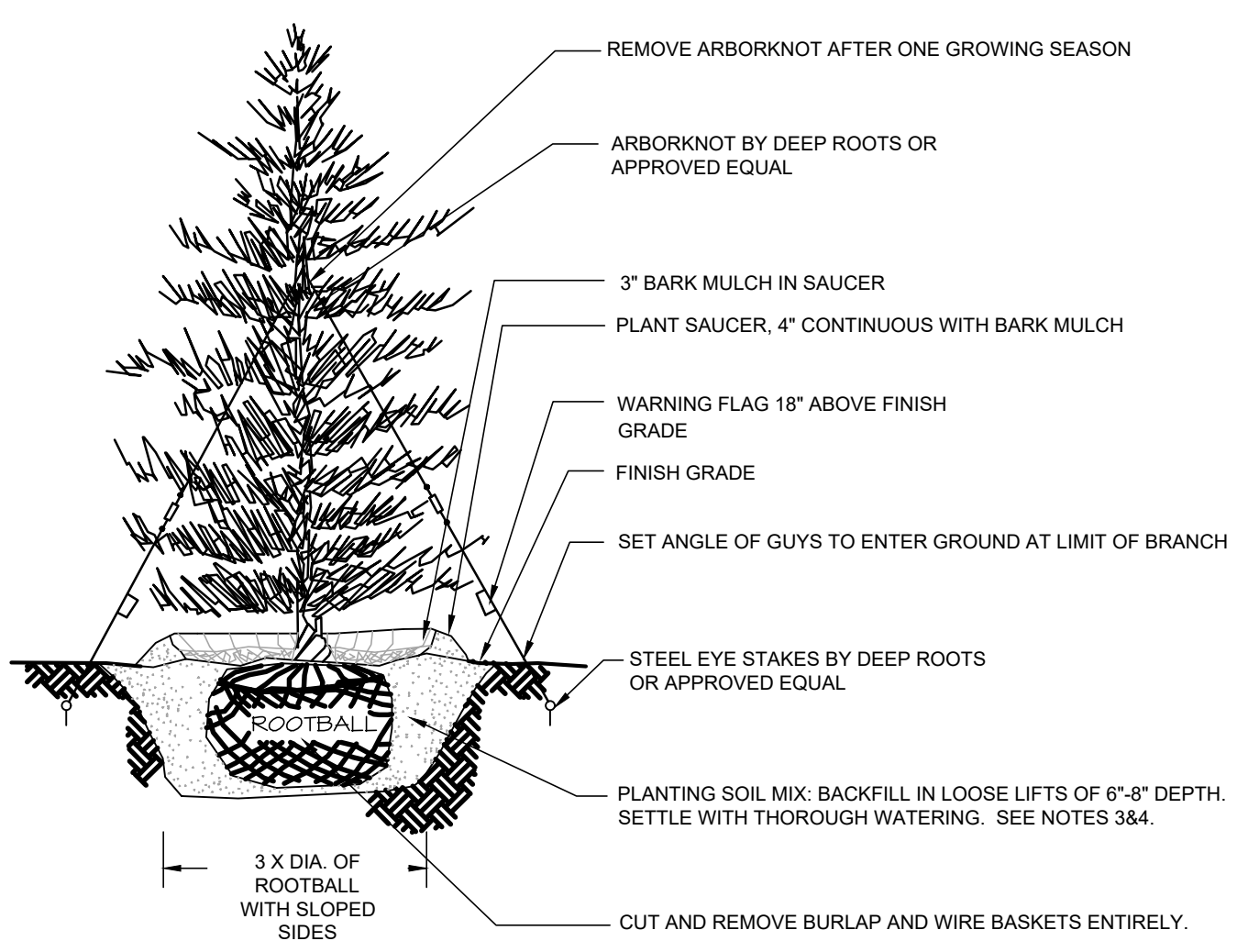
CONTRACTOR RESPONSIBLE FOR WATERING, AND RESEEDING OF BARE SPOTS UNTIL A UNIFORM STAND OF VEGETATION IS ESTABLISHED AND ACCEPTED.

ALL LANDSCAPE AREAS WITH SHRUBS, TREES AND PERENNIALS TO HAVE 18" MINIMUM DEPTH OF TOPSOIL. THE 18" OF TOPSOIL AROUND TREES AND SHRUBS DOES NOT INCLUDE AMENDED PLANTING SOIL WITHIN TREE/SHRUB PIT FOR FULL DEPTH OF ROOTBALLS. SEE PLANTING DETAILS FOR PLANTING DEPTH AT SHRUBS AND TREES. ALL AREAS OF LOAM AND SEED TO HAVE A MINIMUM OF 6" DEPTH OF TOPSOIL. TOPSOIL TO BE TESTED BY CONTRACTOR AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PURCHASE AND OR PLACEMENT. GENERAL CONTRACTOR, DEMOLITION CONTRACTOR AND LANDSCAPE CONTRACTOR TO COORDINATE PROPER DEPTH OF EXISTING MATERIAL REMOVAL ACROSS THE SITE SO THAT 18" MINIMUM AND 6" MINIMUM DEPTHS OF PROPOSED TOPSOIL NOTED ABOVE ARE MET AT NO ADDITIONAL COST TO THE OWNER. SEE TOPSOIL DETAIL.

- NOTES:**
1. ALL SHRUBS SHALL HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER PLANTING AS THEY HAD AT THE ORIGINAL NURSERY SETTING. SET SHRUB 1" ABOVE FINISH GRADE.
 2. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
 3. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.
 4. SHRUB BEDS TO HAVE 24" MIN. OF CONTINUOUS PLANTING SOIL.

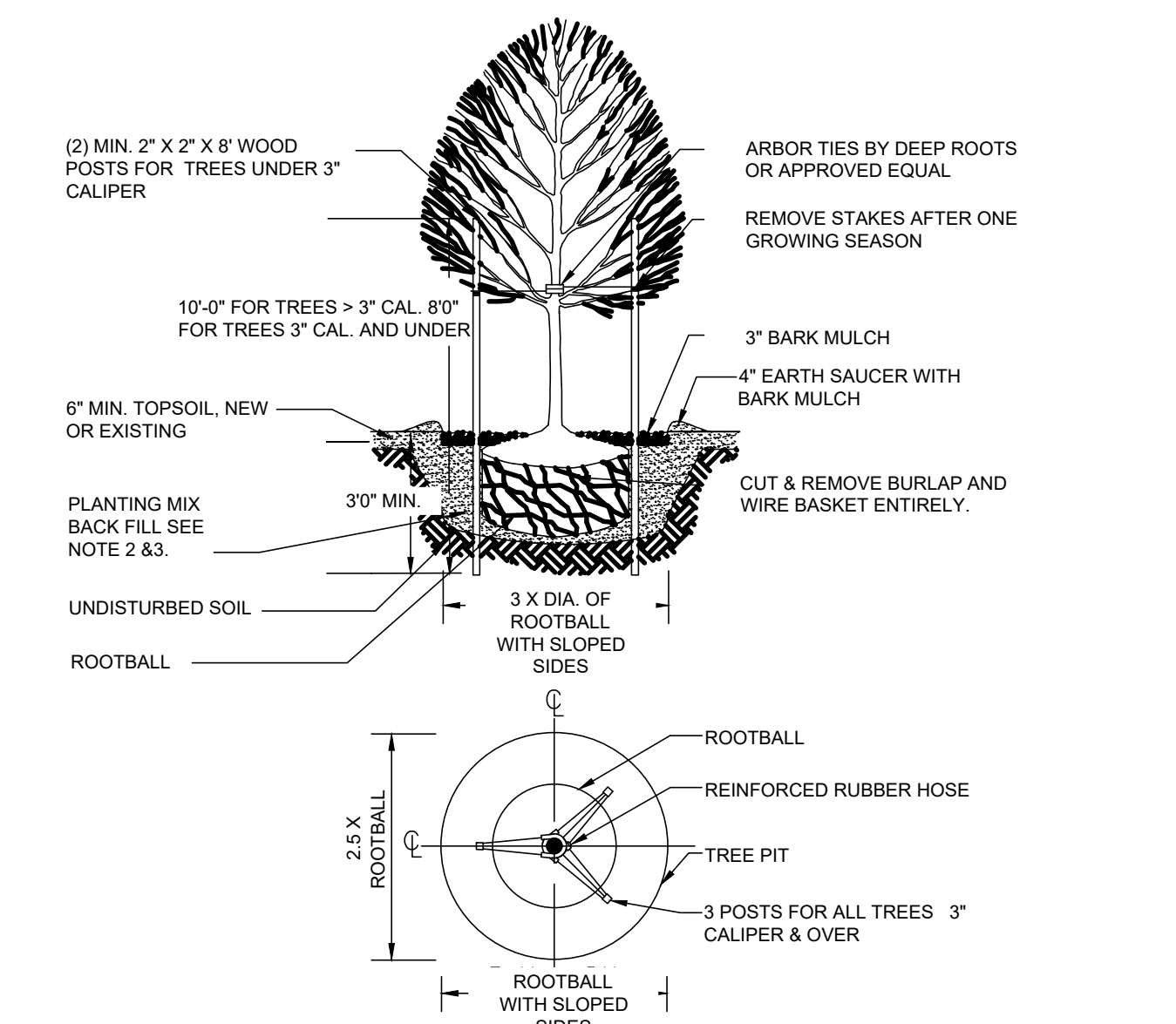


SHRUB PLANTING DETAIL
NOT TO SCALE **C1**



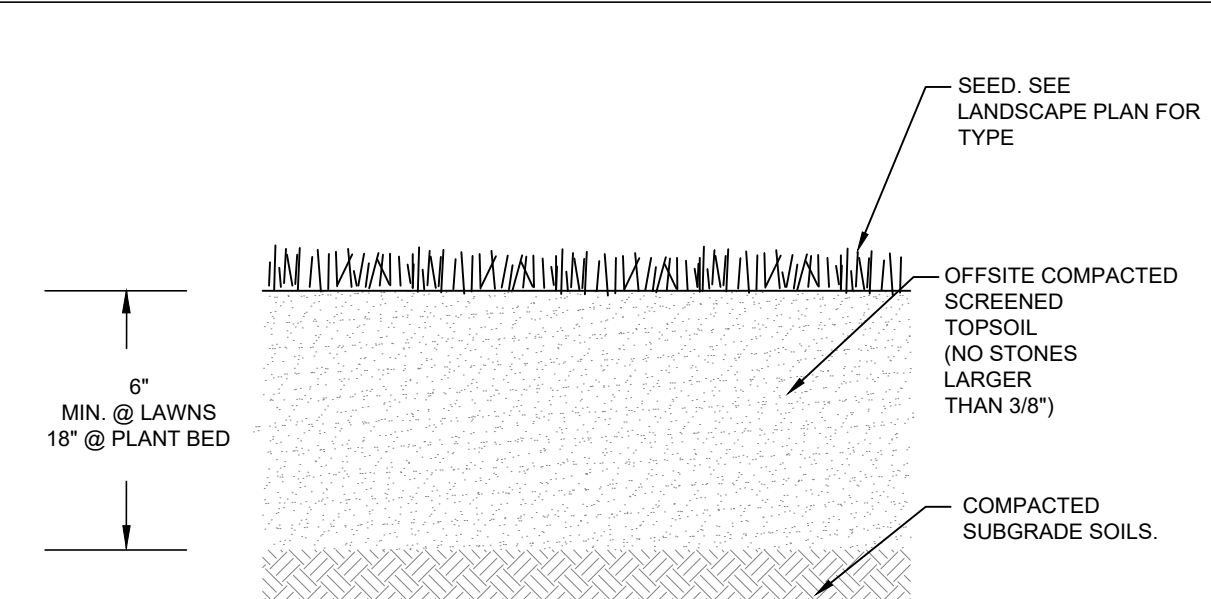
- NOTES:**
1. TREES SHALL BEAR SAME RELATIONSHIP TO FINISH GRADE AS IT BORE TO NURSERY OR FIELD GRADE. ROOT FLARE SHALL BE 2" ABOVE FINISH GRADE. REMOVE SOIL FROM TRUNK FLARE OF TREE TO DETERMINE ACTUAL TOP OF ROOTBALL AREA.
 2. INSTALL THREE GUYS PER TREE; EQUALLY SPACED AROUND BALL.
 3. ATTACH GUYS AT 2/3 HEIGHT OF TREE.
 4. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
 5. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.

EVERGREEN TREE DETAIL
NOT TO SCALE **B1**



- NOTES:**
1. ALL TREES SHALL HAVE THE SAME RELATIONSHIP TO FINISH GRADE AFTER PLANTING AS THEY HAD AT THE ORIGINAL NURSERY SETTING. ROOT FLARE SHALL BE 2" ABOVE FINISH GRADE. REMOVE SOIL FROM TRUNK FLARE OF TREE TO DETERMINE ACTUAL ROOTBALL AREA.
 2. BACKFILL WITH PLANTING MIX. PLANT MIX TO BE: 50% NATIVE TOPSOIL, 20% COMPOST (LEAVES & ORGANIC MATERIAL, NO ASH) 20% PEAT MOSS, 10% SAND.
 3. ADD MYCORRHIZA SOIL ADDITIVES AND SLOW RELEASE FERTILIZER WHEN PLANT HOLES ARE 50% FILLED AND WATER THOROUGHLY AT COMPLETION.

DECIDUOUS TREE DETAIL
NOT TO SCALE **A1**



TEXTURE CLASS	% OF TOTAL WEIGHT
SAND	45% - 65%
SILT	15% - 35%
CLAY	5% - 20%

SIEVE	% PASSING
3/8"	100
NO. 4	85-100
NO. 40	60-85
NO. 100	38-60
NO. 200	10-35
20 um	LESS THAN 5%

- NOTES:**
1. TOP OF LOAM (TOPSOIL) IS FINISH GRADE.
 2. ALL TOPSOIL (BOTH ONSITE AND OFFSITE SOURCES) SHALL BE COMPOSED OF A NATURAL, FERTILE, FRABLE SOIL TYPICAL OF CULTIVATED TOPSOILS OF THE LOCALITY. OFFSITE SOIL SHALL BE SUITABLE FOR THE GERMINATION OF SEEDS AND SUPPORT OF VEGETATIVE GROWTH. WITH ADDITIVES, IF REQUIRED, TO ACHIEVE PARTICLE DISTRIBUTION AND ORGANIC CONTENT BELOW. TOPSOIL SHALL BE TAKEN FROM A WELL-DRAINED, ARIABLE SITE. FREE OF SUBSOIL, LARGE STONES, EARTH CLOUDS, STICKS, STUMPS, CLAY LUMPS, ROOTS, OTHER OBJECTIONABLE, EXTRANEIOUS MATTER OR DEBRIS NOR CONTAIN TOXIC SUBSTANCES.
 3. THE CONTRACTOR SHALL PROVIDE THE OWNER / LANDSCAPE ARCHITECT WITH TOPSOIL TEST RESULTS (RECOMMEND UNASS AMHERST SOIL TESTING LAB) FOR APPROVAL PRIOR TO OBTAINING AND PLACING THE SOIL. IF ANY TOPSOIL IS PURCHASED OR PLACED PRIOR TO APPROVAL BY OWNER / LANDSCAPE ARCHITECT, IT IS AT CONTRACTORS RISK, AND IT CAN BE REMOVED AT NO ADDITIONAL COST TO THE OWNER. IF THE PLANTING SOIL (BOTH ONSITE AND OFFSITE SOURCES) DOES NOT FALL WITHIN THE REQUIRED SIEVE ANALYSIS, TEXTURAL CLASS, ORGANIC CONTENT, OR PH RANGE, IT SHALL BE ADJUSTED TO MEET THE SPECIFICATIONS THROUGH THE ADDITION OF SAND, COMPOST, LIMESTONE, OR ALUMINUM SULFATE TO BRING IT WITHIN THE SPECIFIED LIMITS AT NO ADDITIONAL COST TO THE OWNER.
 4. TOPSOIL SHALL HAVE A PH VALUE BETWEEN 5.5 AND 6.5. TOPSOIL SHALL CONTAIN 8% ORGANIC MATTER OF TOTAL DRY WEIGHT AND SHALL CONFORM TO THE FOLLOWING GRADATION AND TEXTURE CLASS ABOVE.

TOP SOIL FOR LAWN, TREES, SHRUBS & PERENNIALS
NOT TO SCALE **A2**

LOAM AND SEEDING NOTES:

CONTRACTOR SHALL SEED ALL DISTURBED AREAS NOT NOTED TO RECEIVE OTHER MATERIALS, AND AT AREAS SHOWN ON THE PLAN PER SPECIFICATIONS BELOW

SCIENTIFIC NAME	COMMON NAME	PROPORTION BY WEIGHT	PERCENT PURITY	PERCENT GERMINATION
FESTUCA RUBRA "RUBRA"	CREeping RED FESCUE	37%	95%	90%
PAO PRAENTENSIS "BARON"	BARON KENTUCKY BLUEGRASS	40%	85%	90%
LOLUM PERENNE "PALMER"	PALMER PERENNIAL RYEGRASS	15%	95%	90%
FESTUCA RUBRA COMMUTATA WILMA	WILMA CHEWINGS	8%	95%	80%

1. SEED TO BE SPREAD AT MINIMUM RATE OF 5 LBS. PER 1000 SQ. FT.
2. SEEDING TO BE COMPLETED "IN SEASON" BETWEEN APRIL 1 TO JUNE 15 OR AUGUST 15 TO OCTOBER 1, EXCEPT FOR RESEEDING OF BARE SPOTS. IF UNABLE TO SEED WITHIN THESE TIMEFRAMES, CONTRACTOR TO INSTALL EROSION CONTROL MATS ON ALL SLOPES 3:1 AND OVER, HYDROSEED ALL EXPOSED AREAS, ADD SOIL STABILIZER FLUX TERRA HP-FM SOIL STABILIZER AS MANUFACTURED BY "PROFILE" TO HYDROSEED (AT RATE OF 3,000 LBS PER ACRE), AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR TO COMPLETE ALL ABOVE "OUT OF SEASON" REQUIREMENTS AND THEN ALSO BE RESPONSIBLE FOR RE-GRADING AND RE-SEEDING ALL DISTURBED, ERODED, OR BARE SPOTS WITHIN NEXT CLOSEST PLANTING SEASON IN FALL OR SPRING AT NO ADDITIONAL COST TO OWNER. CONTRACTOR RESPONSIBLE FOR ALL MAINTENANCE UNTIL FINAL ACCEPTANCE OF LAWN AREAS INCLUDING: WATERING, ADDING FERTILIZERS AND LIME AND MOWING AT NO ADDITIONAL COST TO OWNER.
3. COMMERCIAL FERTILIZER SHALL BE APPLIED AT THE RATE OF 25 POUNDS PER 1000 SQ. FT. OR AS RECOMMENDED BY THE TESTING AGENCY. LIME TO BE SPREAD AT THE RATE OF 100 POUNDS PER 1000 SQ. FT. OR AS RECOMMENDED BY THE TESTING AGENCY. COMMERCIAL FERTILIZER SHALL BE A COMPLETE FERTILIZER CONTAINING AT LEAST 50% OF THE NITROGEN OF WHICH IS DERIVED FROM NATURAL ORGANIZE SOURCES OF UREA FORM. IT SHALL CONTAIN THE FOLLOWING PERCENTAGES BY WEIGHT: NITROGEN (N) 10%, PHOSPHORUS (P) 6%, POTASH (K) 4%. LIME SHALL BE AN APPROVED AGRICULTURAL LIMESTONE CONTAINING NOT LESS THAN 85% OF TOTAL CARBONATES. LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT 50% WILL PASS A 100 MESH SIEVE AND 90% WILL PASS THROUGH A 20 MESH SIEVE.
4. LAWN AREAS TO BE SEEDDED BY SOWING EVENLY WITH AN APPROVED MECHANICAL SEEDER AT THE RATE OF TEN POUNDS PER 1000 SQUARE FEET.
5. CONTRACTOR RESPONSIBLE FOR WATERING, MOWING, AND RESEEDING OF LAWN BARE SPOTS UNTIL A UNIFORM, HEALTHY STAND OF GRASS IS ESTABLISHED AND ACCEPTED.

