

# SITE DEVELOPMENT PLANS

FOR

## TACO BELL

BETWEEN 1167 & 1207 WASHINGTON ST.  
HANOVER, MA

SEPTEMBER 26, 2022

SHEET INDEX						
SHEET No.	DESCRIPTION	LATEST REVISED DATE	CONSTRUCTION	REVISIONS		
1	COVER SHEET	01/16/24				
2	OVERALL LAYOUT PLAN	01/16/24				
3	EXISTING CONDITIONS PLAN	11/27/23				
4	LAYOUT PLAN	01/16/24				
5	GRADING PLAN	01/16/24				
6	SEWER, DRAIN & UTILITY PLAN	01/16/24				
7	DETAIL SHEET	11/27/23				
8	DETAIL SHEET	11/27/23				

**OWNER/ APPLICANT:**  
HANOVER WASHINGTON LIMITED PARTNERSHIP  
625 MT. AUBURN ST.  
SUITE 210  
CAMBRIDGE, MA 02138

**CIVIL ENGINEERS:**  
KELLY ENGINEERING GROUP, INC.  
0 CAMPANELLI DRIVE  
BRAINTREE, MA 02184

**ARCHITECTS:**  
GLMV ARCHITECTURE  
1525 E. DOUGLAS AVENUE  
WICHITA, KS 67211



LOCATION MAP

Brandon  
Li  
2024.01.1  
9 07:40:21  
-05'00'

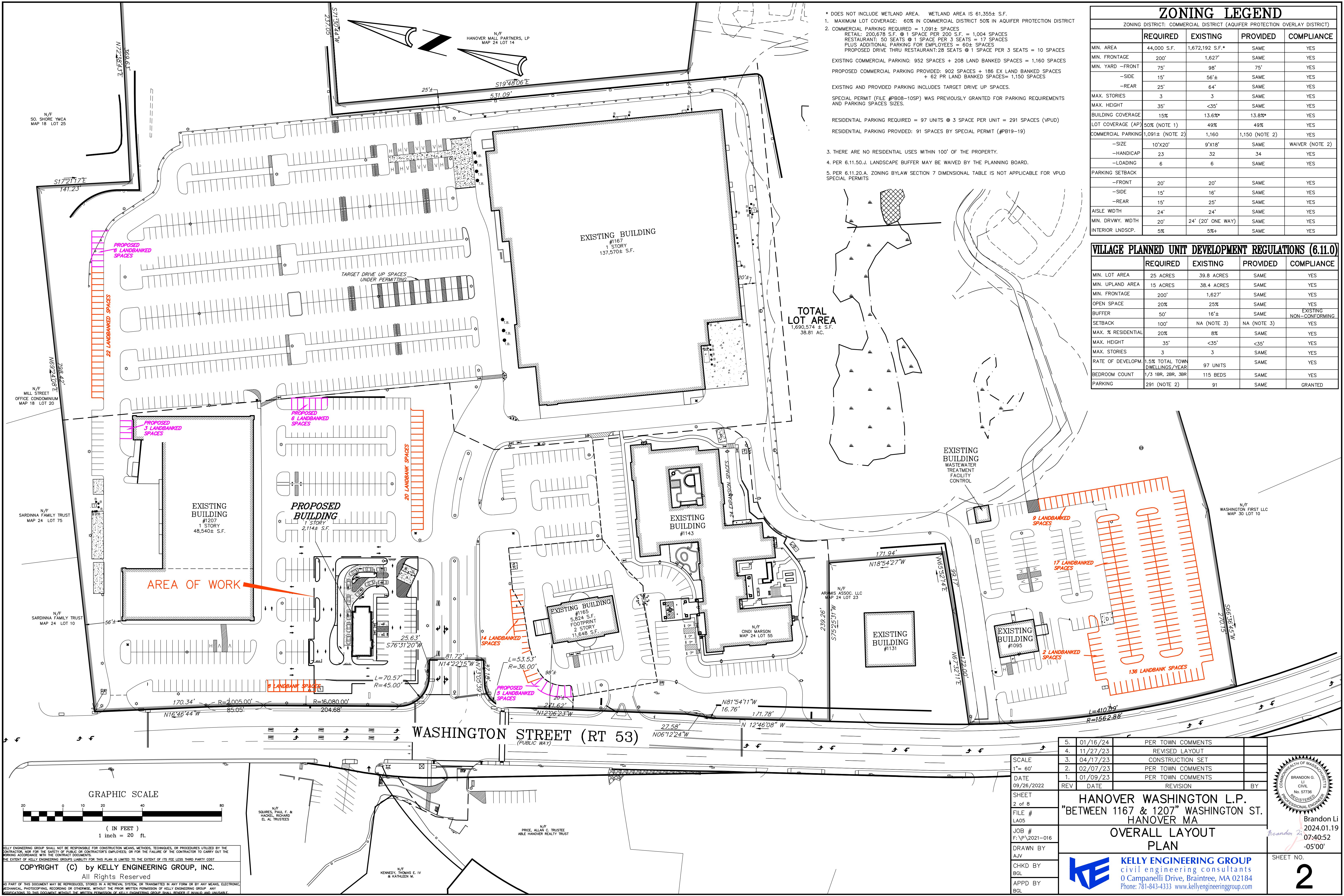
	SCALE NA	JOB # F:\P\2021-016	BETWEEN 1167 & 1207 WASHINGTON ST. HANOVER, MA	
	DATE 09/26/2022	DRAWN BY AJV		
	SHEET 1 of 8	CHKD BY BGL	 <b>KELLY ENGINEERING GROUP</b> civil engineering consultants 0 Campanelli Drive, Braintree, MA 02184 Phone: 781-843-4333 www.kellyengineeringgroup.com	SHEET NO. <b>1</b>
	FILE # TS05	APPD BY BGL		

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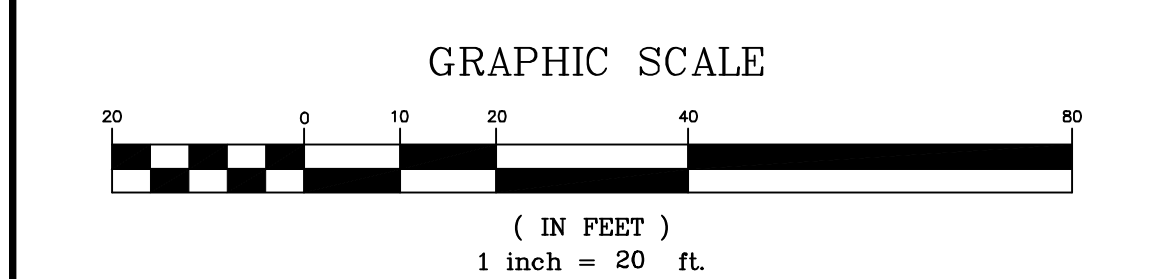




- \* DOES NOT INCLUDE WETLAND AREA. WETLAND AREA IS 61,355± S.F.
1. MAXIMUM LOT COVERAGE: 60% IN COMMERCIAL DISTRICT 50% IN AQUIFER PROTECTION DISTRICT
  2. COMMERCIAL PARKING REQUIRED = 1,091± SPACES  
RETAIL: 200,678 S.F. @ 1 SPACE PER 200 S.F. = 1,004 SPACES  
RESTAURANT: 50 SEATS @ 1 SPACE PER 3 SEATS = 17 SPACES  
PLUS ADDITIONAL PARKING FOR EMPLOYEES = 60± SPACES  
PROPOSED DRIVE THRU RESTAURANT: 28 SEATS @ 1 SPACE PER 3 SEATS = 10 SPACES
- EXISTING COMMERCIAL PARKING: 952 SPACES + 208 LAND BANKED SPACES = 1,160 SPACES  
PROPOSED COMMERCIAL PARKING PROVIDED: 902 SPACES + 186 EX LAND BANKED SPACES + 62 PR LAND BANKED SPACES = 1,150 SPACES
- EXISTING AND PROVIDED PARKING INCLUDES TARGET DRIVE UP SPACES.
- SPECIAL PERMIT (FILE #PB08-10SP) WAS PREVIOUSLY GRANTED FOR PARKING REQUIREMENTS AND PARKING SPACES SIZES.
- RESIDENTIAL PARKING REQUIRED = 97 UNITS @ 3 SPACE PER UNIT = 291 SPACES (VPUD)  
RESIDENTIAL PARKING PROVIDED: 91 SPACES BY SPECIAL PERMIT (#PB19-19)
3. THERE ARE NO RESIDENTIAL USES WITHIN 100' OF THE PROPERTY.
  4. PER 6.11.50.J. LANDSCAPE BUFFER MAY BE WAIVED BY THE PLANNING BOARD.
  5. PER 6.11.20.A. ZONING BYLAW SECTION 7 DIMENSIONAL TABLE IS NOT APPLICABLE FOR VPUD SPECIAL PERMITS

ZONING LEGEND				
ZONING DISTRICT: COMMERCIAL DISTRICT (AQUIFER PROTECTION OVERLAY DISTRICT)				
	REQUIRED	EXISTING	PROVIDED	COMPLIANCE
MIN. AREA	44,000 S.F.	1,672,192 S.F.*	SAME	YES
MIN. FRONTAGE	200'	1,627'	SAME	YES
MIN. YARD -FRONT	75'	98'	75'	YES
-SIDE	15'	56'±	SAME	YES
-REAR	25'	64'	SAME	YES
MAX. STORIES	3	3	SAME	YES
MAX. HEIGHT	35'	<35'	SAME	YES
BUILDING COVERAGE	15%	13.6%*	13.8%*	YES
LOT COVERAGE (AP)	50% (NOTE 1)	49%	49%	YES
COMMERCIAL PARKING	1,091± (NOTE 2)	1,160	1,150 (NOTE 2)	YES
-SIZE	10'X20'	9'X18'	SAME	WAIVER (NOTE 2)
-HANDICAP	23	32	34	YES
-LOADING	6	6	SAME	YES
PARKING SETBACK				
-FRONT	20'	20'	SAME	YES
-SIDE	15'	16'	SAME	YES
-REAR	15'	25'	SAME	YES
aisle width	24'	24'	SAME	YES
MIN. DRVWY. WIDTH	20'	24' (20' ONE WAY)	SAME	YES
INTERIOR LANDSCAP.	5%	5%+	SAME	YES

VILLAGE PLANNED UNIT DEVELOPMENT REGULATIONS (6.11.0)				
	REQUIRED	EXISTING	PROVIDED	COMPLIANCE
MIN. LOT AREA	25 ACRES	39.8 ACRES	SAME	YES
MIN. UPLAND AREA	15 ACRES	38.4 ACRES	SAME	YES
MIN. FRONTAGE	200'	1,627'	SAME	YES
OPEN SPACE	20%	25%	SAME	YES
BUFFER	50'	16'±	SAME	EXISTING NON-COMPLYING
SETBACK	100'	NA (NOTE 3)	NA (NOTE 3)	YES
MAX. % RESIDENTIAL	20%	8%	SAME	YES
MAX. HEIGHT	35'	<35'	SAME	YES
MAX. STORIES	3	3	SAME	YES
RATE OF DEVELOPM.	1.5% TOTAL TOWN DWELLINGS/YEAR	97 UNITS	SAME	YES
BEDROOM COUNT	1/3 1BR, 2BR, 3BR	115 BEDS	SAME	YES
PARKING	291 (NOTE 2)	91	SAME	GRANTED



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5. 01/16/24 PER TOWN COMMENTS

4. 11/27/23 REVISED LAYOUT

3. 04/17/23 CONSTRUCTION SET

2. 02/07/23 PER TOWN COMMENTS

1. 01/09/23 PER TOWN COMMENTS

09/26/2022 DATE

2 of 8 SHEET

LA05 FILE #

JOB # F:\P\2021-016

DRAWN BY AJV

CHKD BY BGL

APPD BY BGL

HANOVER WASHINGTON L.P.

"BETWEEN 1167 & 1207" WASHINGTON ST.

HANOVER MA

OVERALL LAYOUT

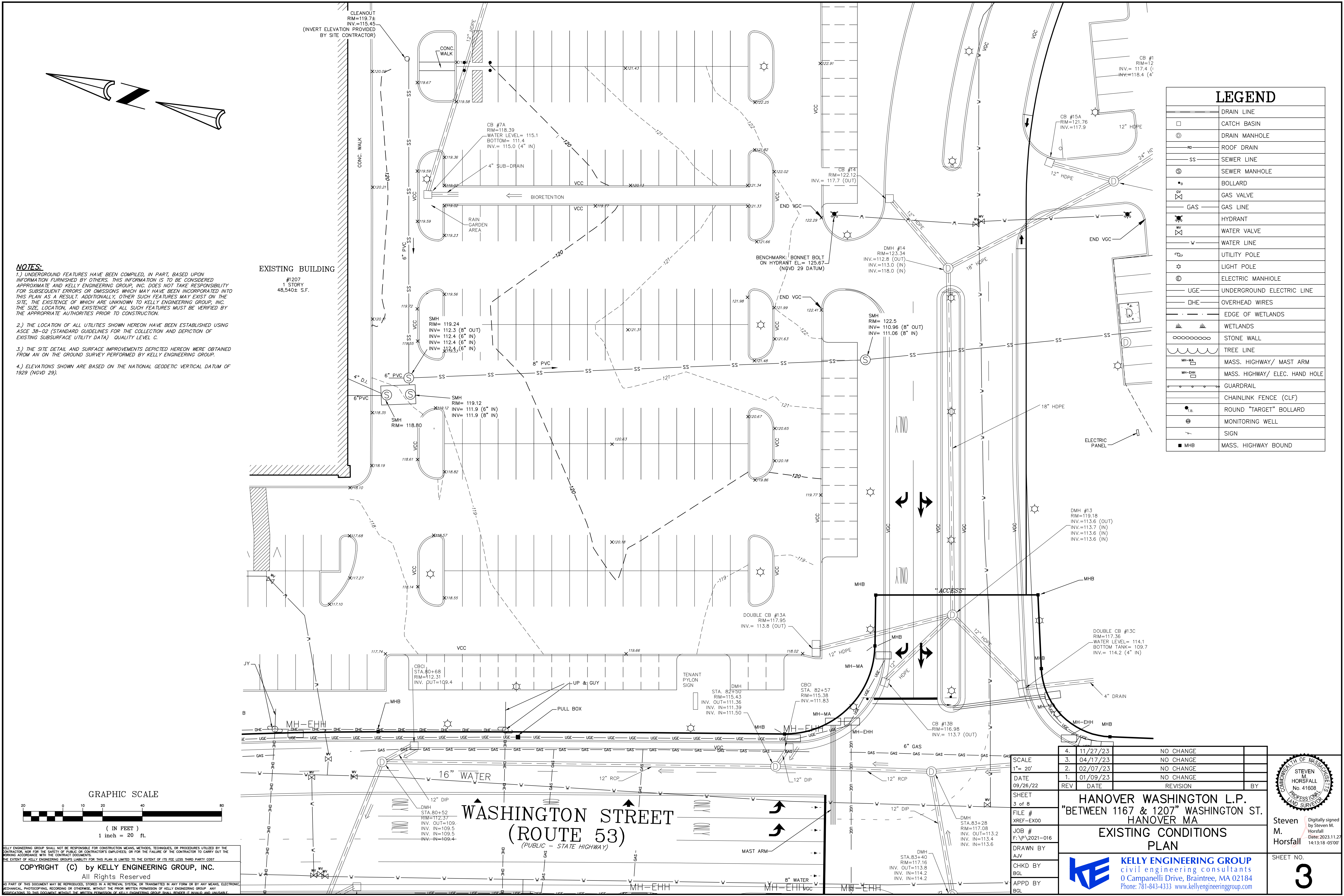
PLAN

**KELLY ENGINEERING GROUP**  
civil engineering consultants  
0 Campanelli Drive, Braintree, MA 02184  
Phone: 781-843-4333 www.kellyengineeringgroup.com

Brandon Li  
2024.01.19  
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SHEET NO.  
**2**





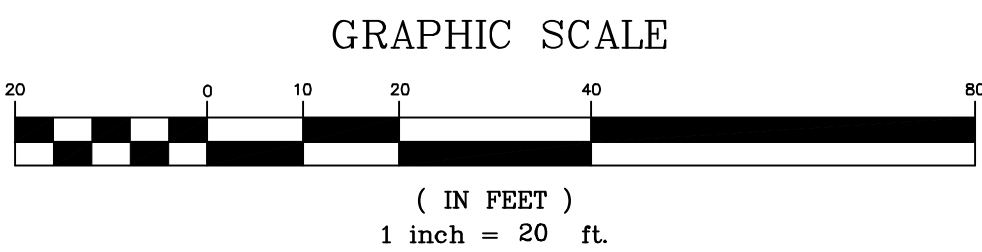
LEGEND	
	DRAIN LINE
	CATCH BASIN
	DRAIN MANHOLE
	ROOF DRAIN
	SEWER LINE
	SEWER MANHOLE
	BOLLARD
	GAS VALVE
	GAS LINE
	HYDRANT
	WATER VALVE
	WATER LINE
	UTILITY POLE
	LIGHT POLE
	ELECTRIC MANHOLE
	UNDERGROUND ELECTRIC LINE
	OVERHEAD WIRES
	EDGE OF WETLANDS
	WETLANDS
	STONE WALL
	TREE LINE
	MASS. HIGHWAY/ MAST ARM
	MASS. HIGHWAY/ ELEC. HAND HOLE
	GUARDRAIL
	CHAINLINK FENCE (CLF)
	ROUND "TARGET" BOLLARD
	MONITORING WELL
	SIGN
	MASS. HIGHWAY BOUND

NOTES:

- 1.) UNDERGROUND FEATURES HAVE BEEN COMPILED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. THIS INFORMATION IS TO BE CONSIDERED APPROXIMATE AND KELLY ENGINEERING GROUP, INC. DOES NOT TAKE RESPONSIBILITY FOR SUBSEQUENT ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THIS PLAN AS A RESULT. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO KELLY ENGINEERING GROUP, INC. THE SIZE, LOCATION, AND EXISTENCE OF ALL SUCH FEATURES MUST BE VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION.
- 2.) THE LOCATION OF ALL UTILITIES SHOWN HEREON HAVE BEEN ESTABLISHED USING ASCE 38-02 (STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA) QUALITY LEVEL C.
- 3.) THE SITE DETAIL AND SURFACE IMPROVEMENTS DEPICTED HEREON WERE OBTAINED FROM AN ON THE GROUND SURVEY PERFORMED BY KELLY ENGINEERING GROUP.
- 4.) ELEVATIONS SHOWN ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).

EXISTING BUILDING


#1207  
1 STORY  
48,540± S.F.

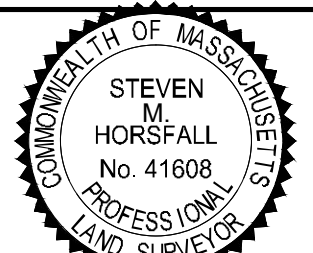


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	4.	11/27/23	NO CHANGE	
SCALE	3.	04/17/23	NO CHANGE	
1"= 20'	2.	02/07/23	NO CHANGE	
DATE	1.	01/09/23	NO CHANGE	
09/26/22	REV	DATE	REVISION	BY
SHEET				
3 of 8				
FILE #				
XREF-EX00				
JOB #				
F:\P\2021-016				
DRAWN BY				
AJV				
CHKD BY				
BGL				
APPD BY				
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"BETWEEN 1167 & 1207" WASHINGTON ST.				
HANOVER MA				
EXISTING CONDITIONS				
PLAN				
				
KELLY ENGINEERING GROUP				
civil engineering consultants				
0 Campanelli Drive, Braintree, MA 02184				
Phone: 781-843-4333 www.kellyengineeringgroup.com				



Steven M. Horsfall  
Digitally signed by Steven M. Horsfall  
Date: 2023.11.27 14:13:18 -0500

SHEET NO.  
**3**



PROPOSED LEGEND

CC	CONCRETE CURB
	HANDICAP SPACE
	VAN HANDICAP SPACE
	HANDICAP RAMP
	CURB STOP
	SAW CUT/ MATCH PAVEMENT LINE
	TRAFFIC FLOW
	SIGN
	SNOW STORAGE
	LIGHT POLES
	WALL MOUNTED LIGHT

EXISTING BUILDING  
#1207  
1 STORY  
48,540± S.F.

AREA OF WORK

NOTE:  
REPLACE EXISTING  
TREES AND SHRUBS  
IN PROPOSED  
LANDSCAPE ISLANDS  
(TYP.)

SAW-CUT/ MATCH  
PAVEMENT LINE  
(TYP.)

2 PEAR  
3 INK BERRY  
4 JUNIPER

SIGN  
"STOP"

"DO NOT  
ENTER" SIGN

2 HALKA LOCUST  
3 INK BERRY  
4 COTONEASTER

CONCRETE  
BOLLARD (TYP.)

END CC  
CONFORM  
TO EXIST.

NOTE: FOR DETAILS ON TREES,  
SHRUBS & GROUNDCOVER SEE  
LANDSCAPE PLAN BY KELLY  
ENGINEERING GROUP, INC.  
LATEST REVISED DATE 7/17/09.

PROPOSED  
DUMPSTER  
PAD AND  
ENCLOSURE  
(25' x 24')

10' WIDE  
BYPASS LANE  
WITH CONCRETE  
RUMBLE STRIP  
PAINT IN YELLOW

MENU BOARDS WITH  
SPEAKER POST AND  
CANOPY (SEE  
ARCHITECTURAL  
PLANS)

10' WIDE  
BYPASS LANE

INTEGRAL  
CONCRETE CURB  
AND SURFACE

CONCRETE PAD

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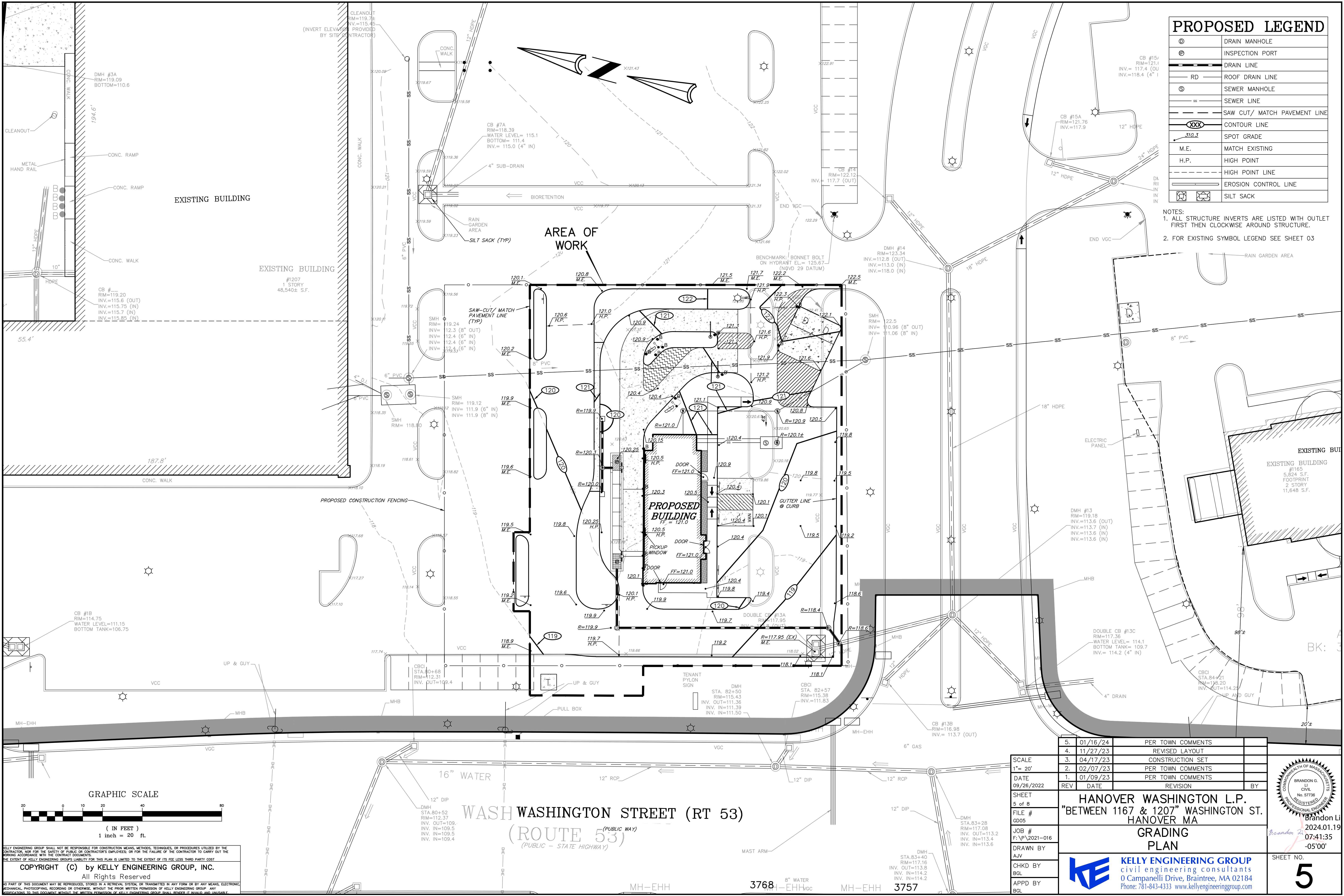
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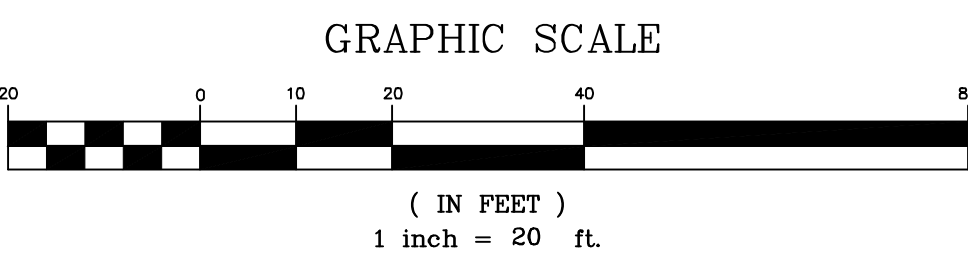




PROPOSED LEGEND

⊙	DRAIN MANHOLE
⊕	INSPECTION PORT
—	DRAIN LINE
— RD —	ROOF DRAIN LINE
⊙	SEWER MANHOLE
— SS —	SEWER LINE
—	SAW CUT/ MATCH PAVEMENT LINE
XXX	CONTOUR LINE
310.3	SPOT GRADE
— M.E. —	MATCH EXISTING
— H.P. —	HIGH POINT
—	HIGH POINT LINE
—	EROSION CONTROL LINE
⊠	SILT SACK

- NOTES:
1. ALL STRUCTURE INVERTS ARE LISTED WITH OUTLET FIRST THEN CLOCKWISE AROUND STRUCTURE.
  2. FOR EXISTING SYMBOL LEGEND SEE SHEET 03



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5.	01/16/24	PER TOWN COMMENTS	
4.	11/27/23	REVISED LAYOUT	
3.	04/17/23	CONSTRUCTION SET	
2.	02/07/23	PER TOWN COMMENTS	
1.	01/09/23	PER TOWN COMMENTS	
REV	DATE	REVISION	BY
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HANOVER MA			
GRADING PLAN			
SCALE	1" = 20'		
DATE	09/26/2022		
SHEET	5 of 8		
FILE #	GD05		
JOB #	F:\P\2021-016		
DRAWN BY	AJV		
CHKD BY	BGL		
APPD BY	BGL		

COMMONWEALTH OF MASSACHUSETTS

BRANDON G. LI

CIVIL

No. 57736

REGISTERED PROFESSIONAL ENGINEER

Brandon Li

2024.01.19

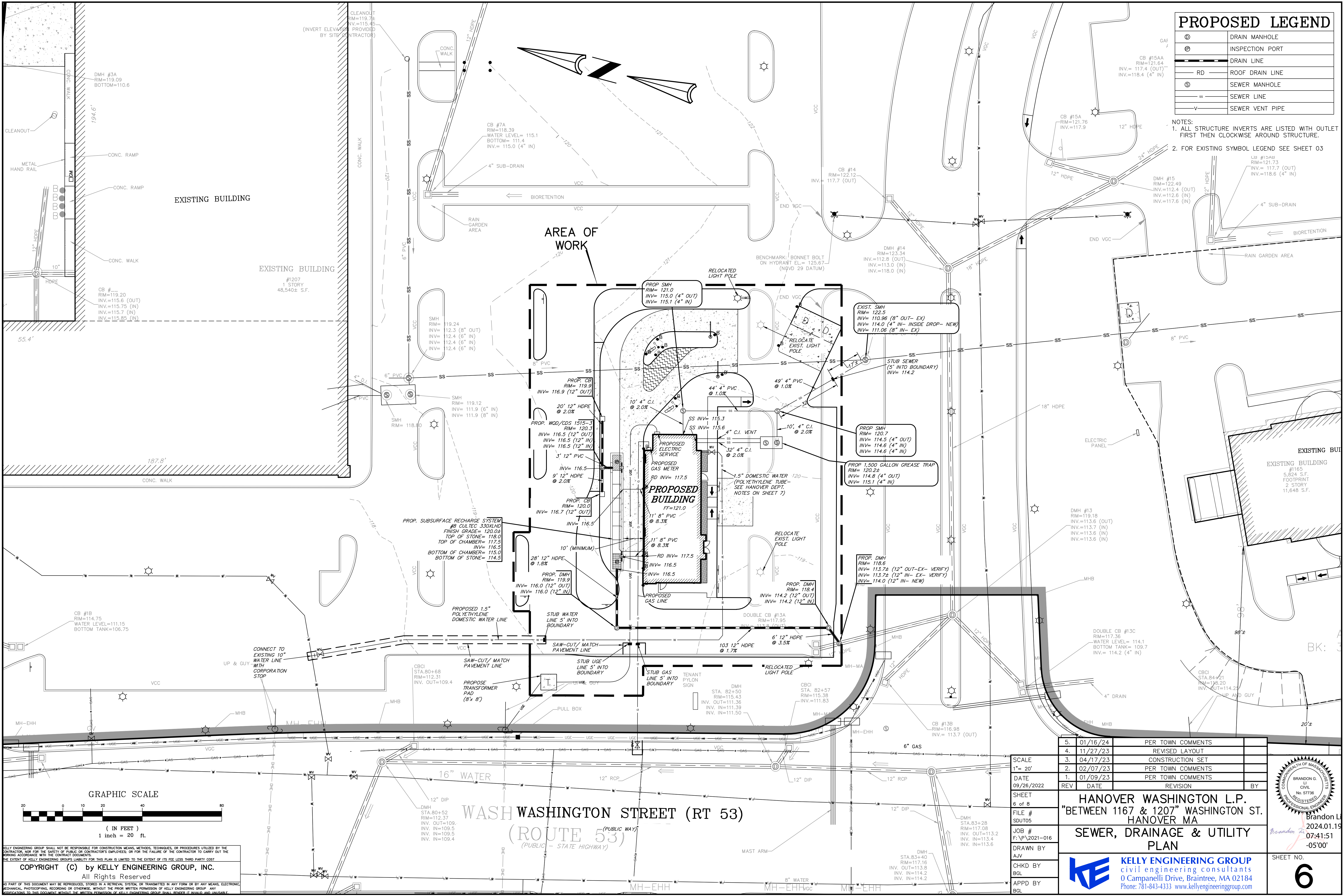
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-05'00"

SHEET NO.

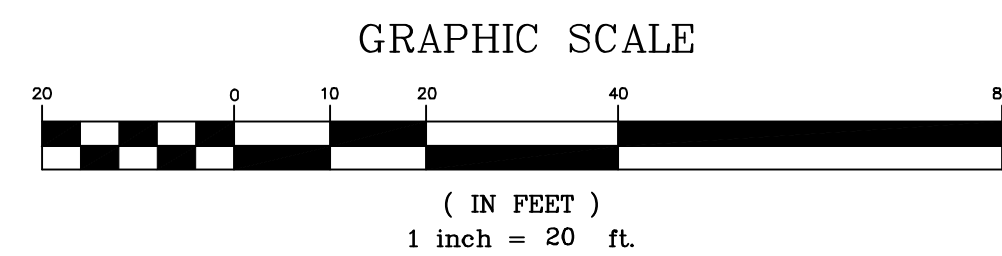
5





PROPOSED LEGEND	
⊙	DRAIN MANHOLE
⊕	INSPECTION PORT
—	DRAIN LINE
— RD —	ROOF DRAIN LINE
⊙	SEWER MANHOLE
— SS —	SEWER LINE
— V —	SEWER VENT PIPE

- NOTES:
1. ALL STRUCTURE INVERTS ARE LISTED WITH OUTLET FIRST THEN CLOCKWISE AROUND STRUCTURE.
  2. FOR EXISTING SYMBOL LEGEND SEE SHEET 03



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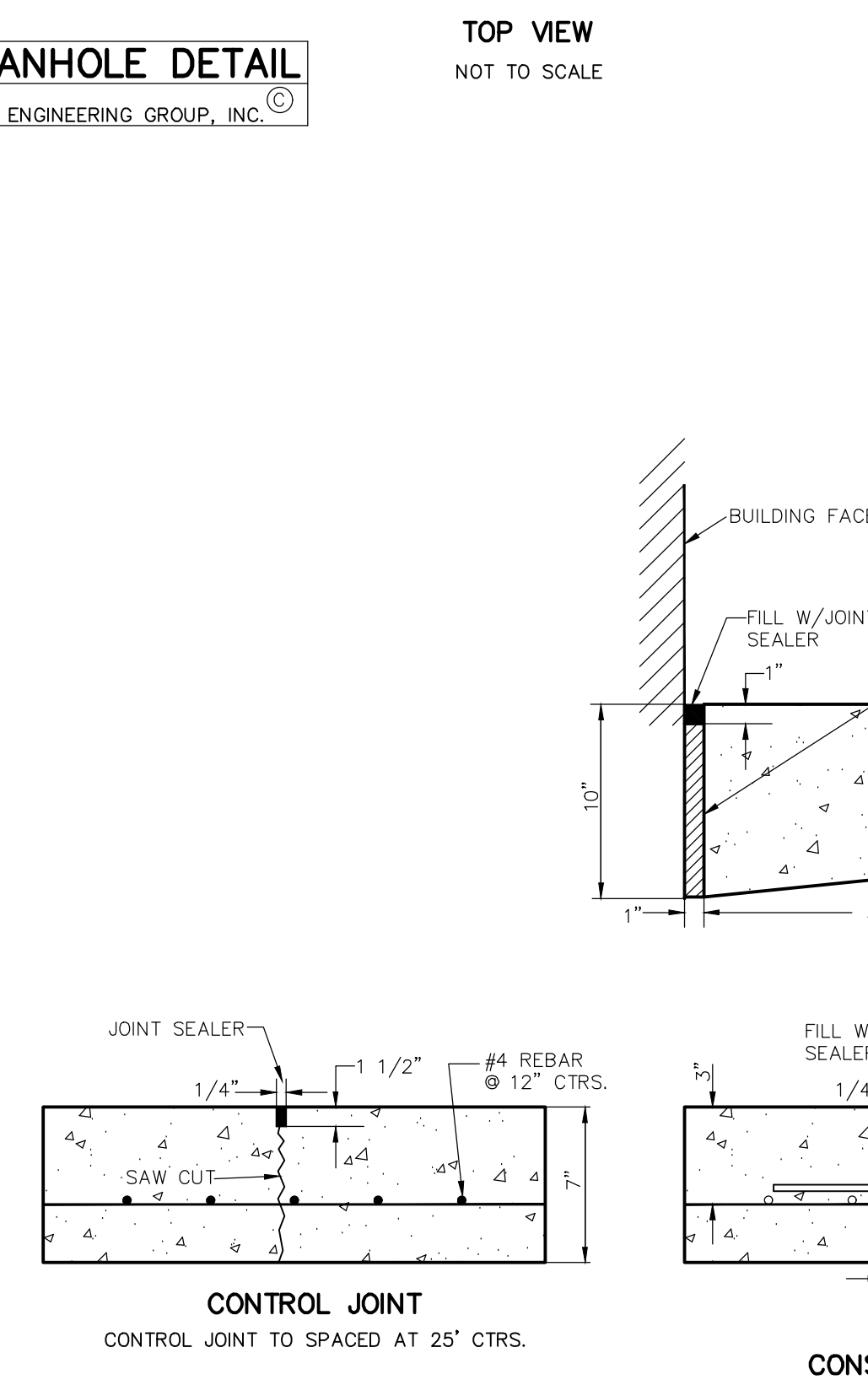
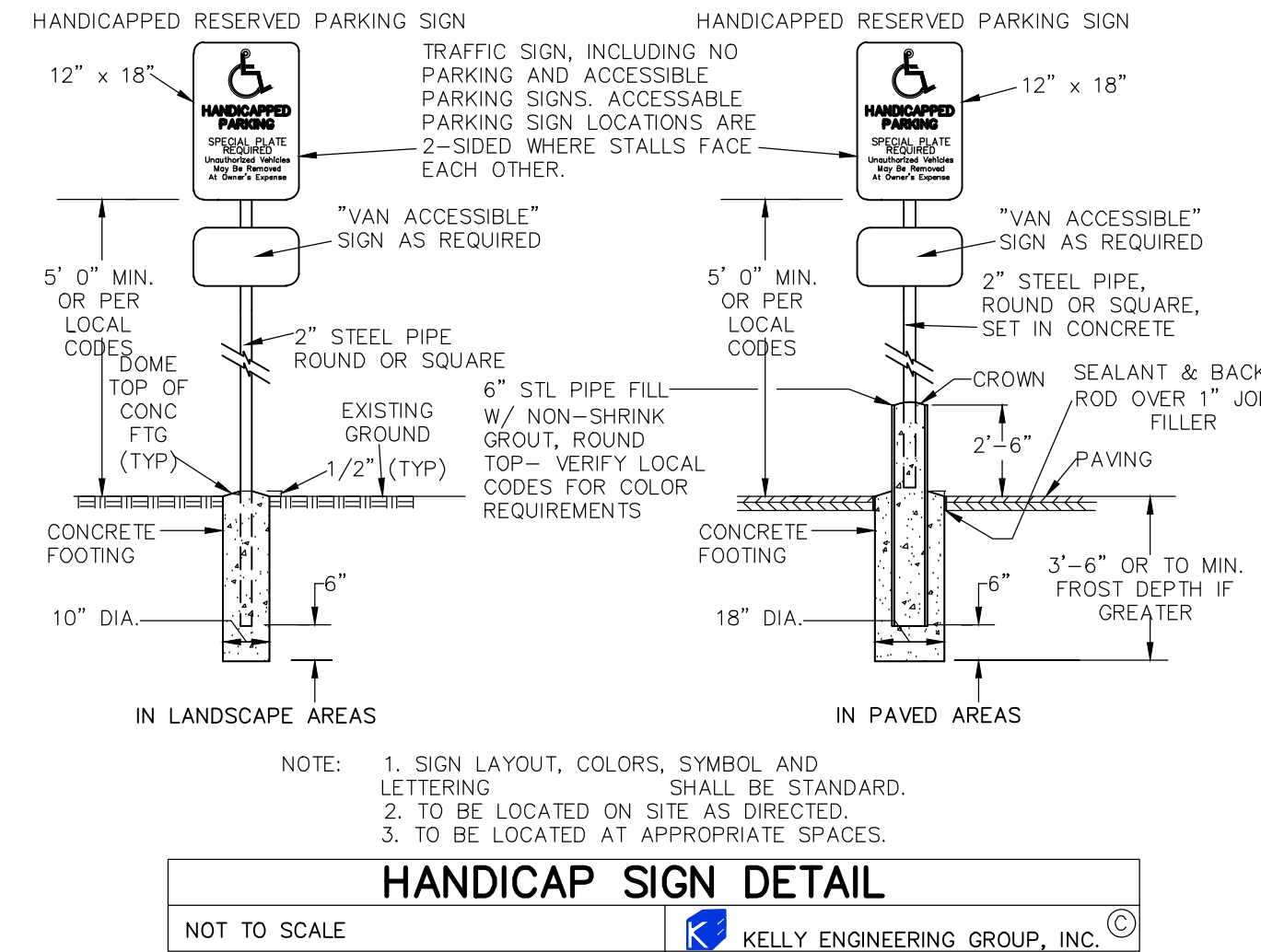
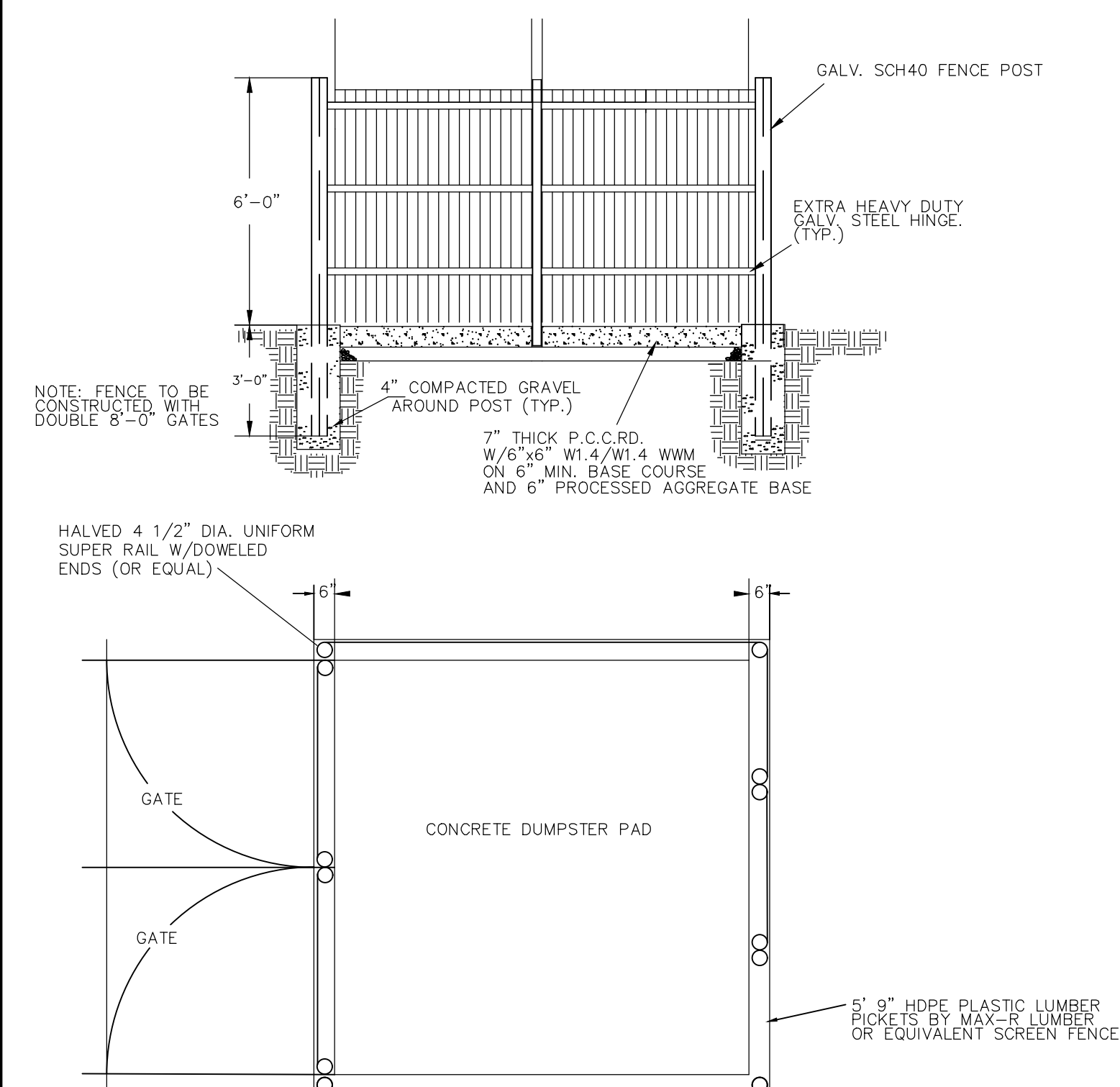
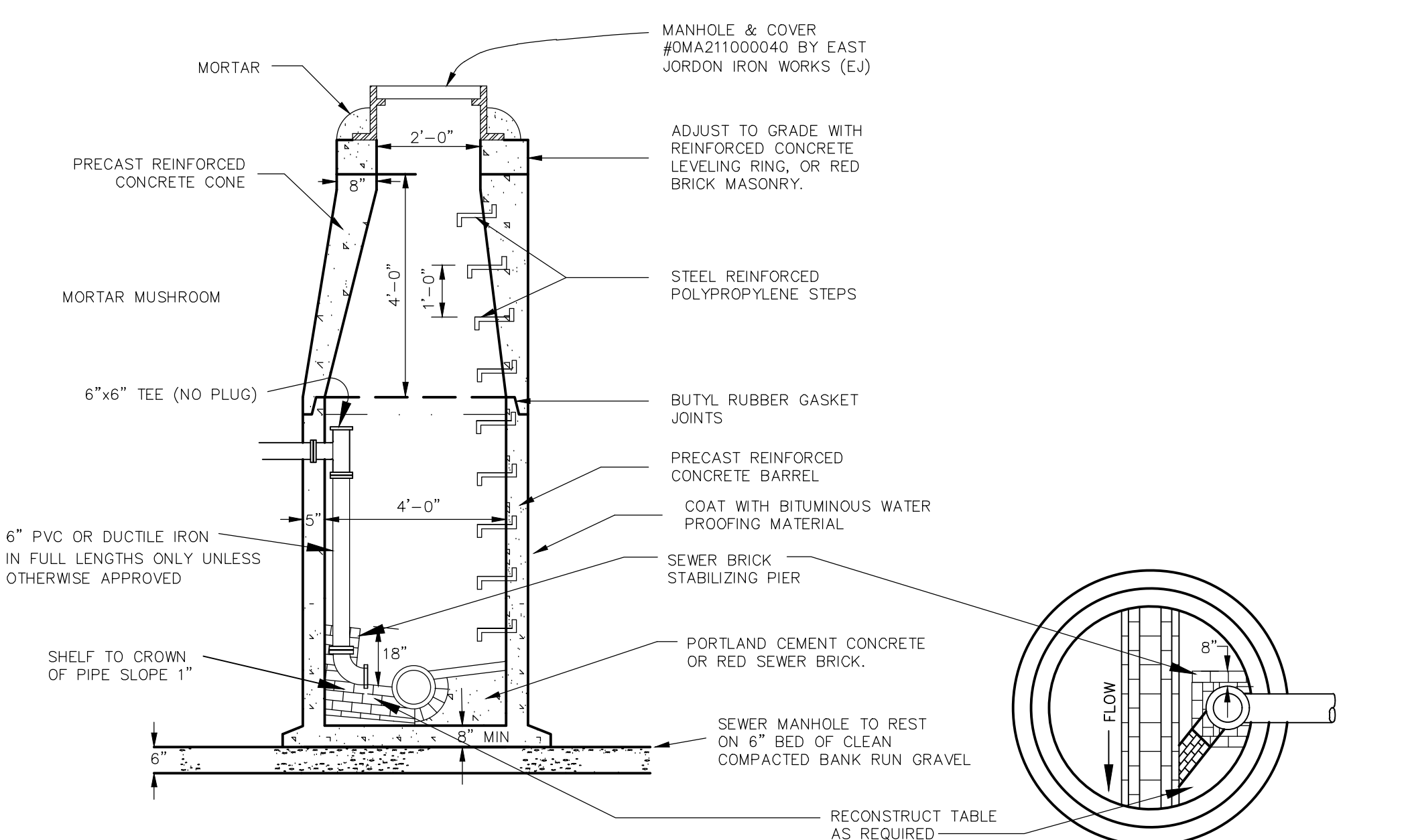
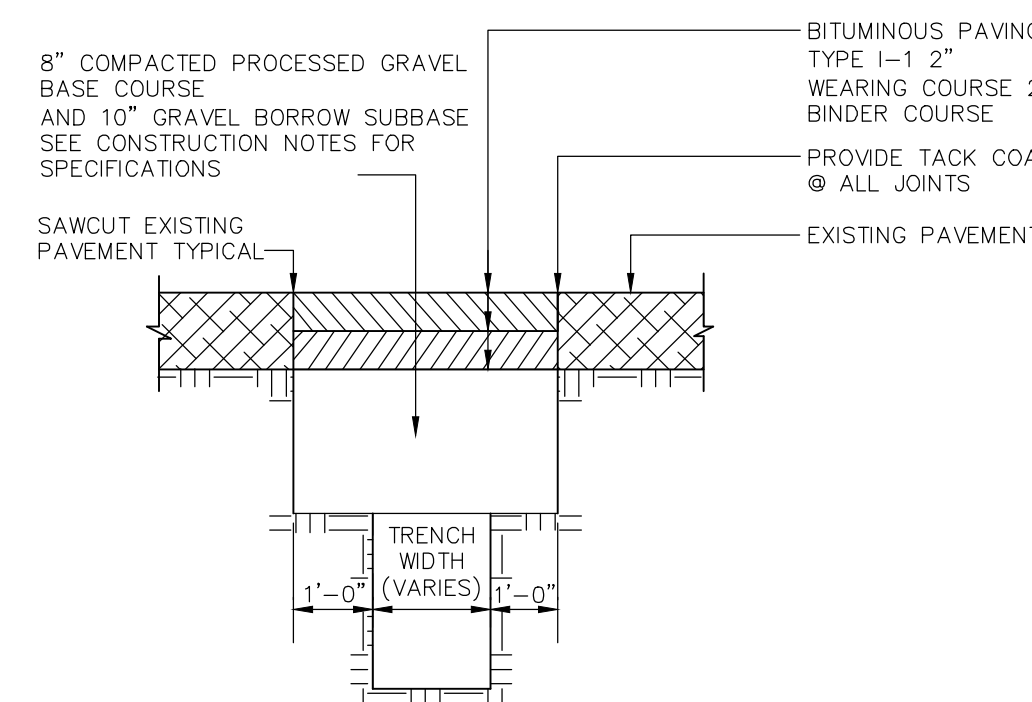
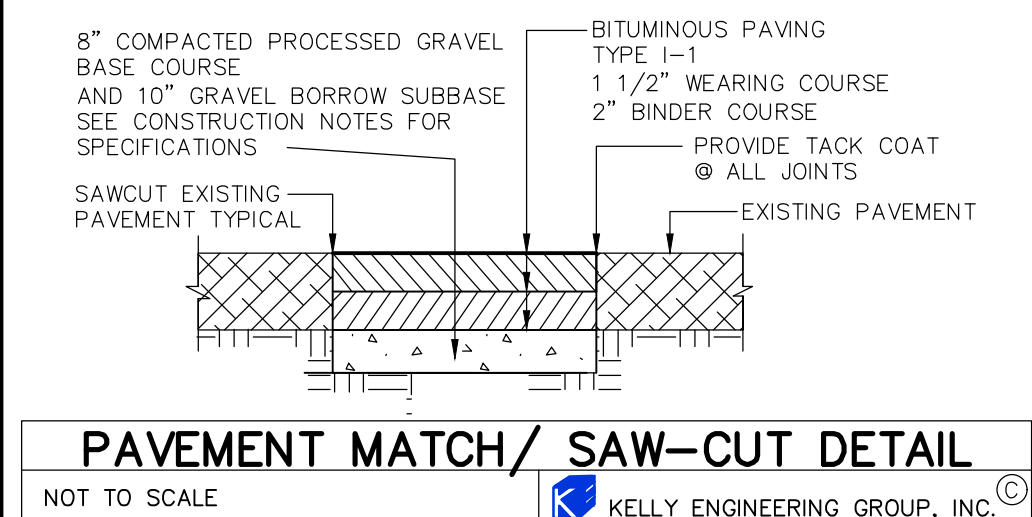
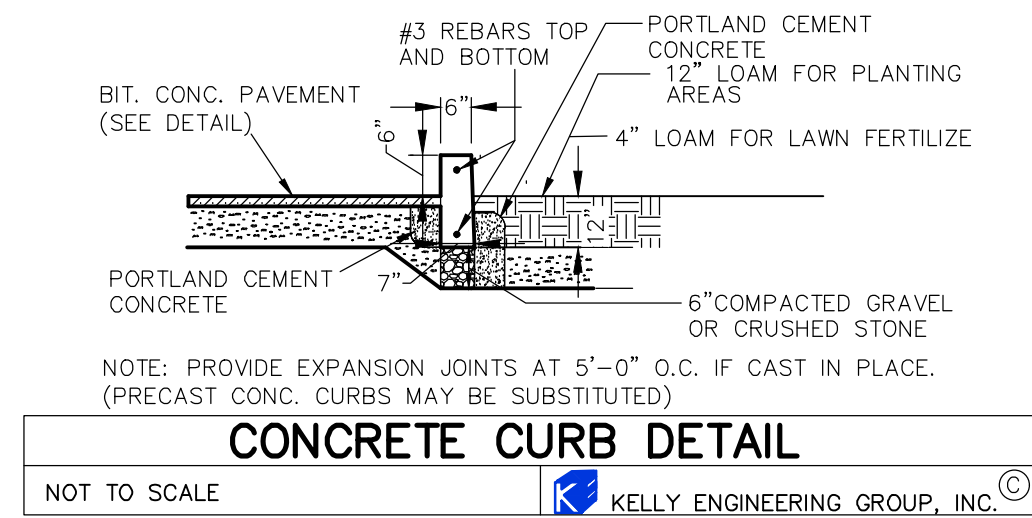
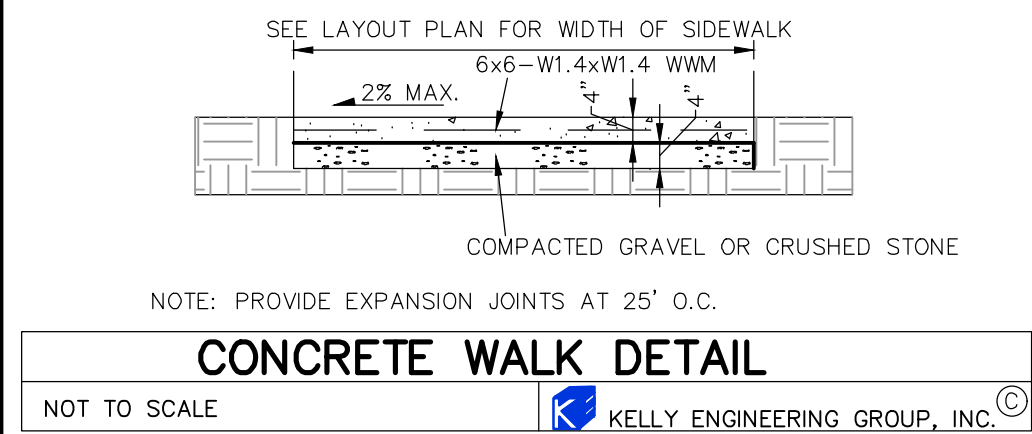
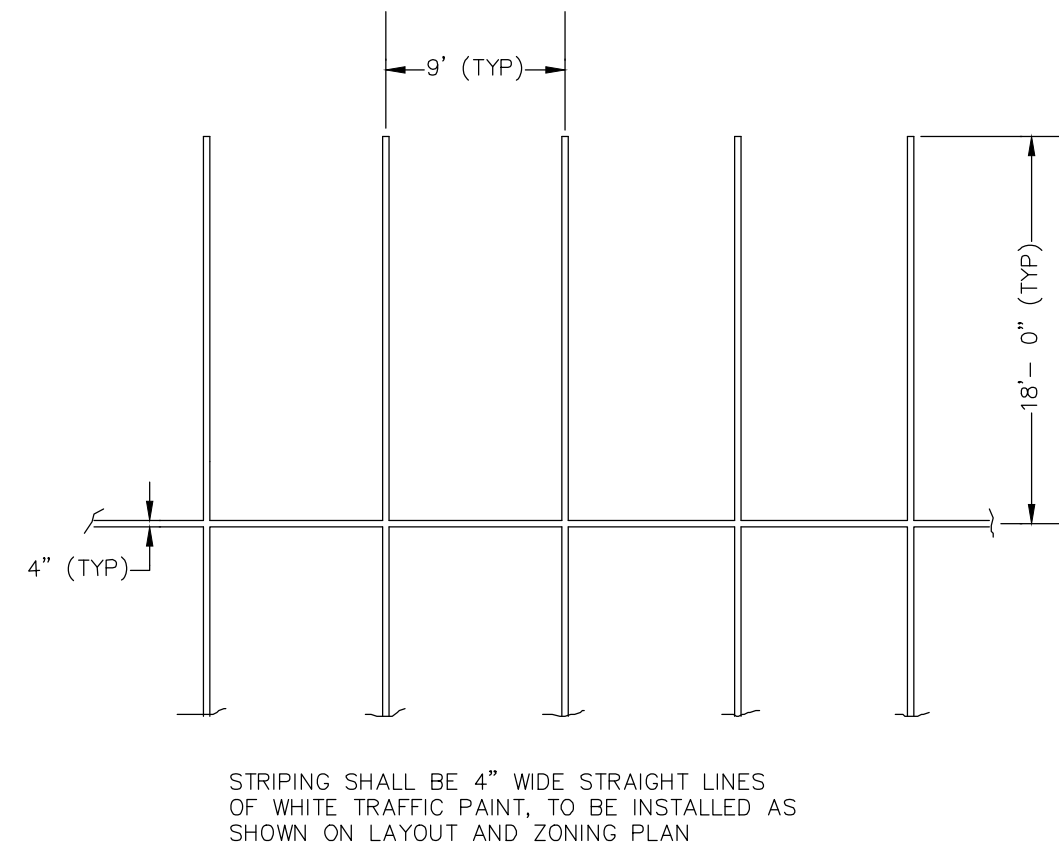
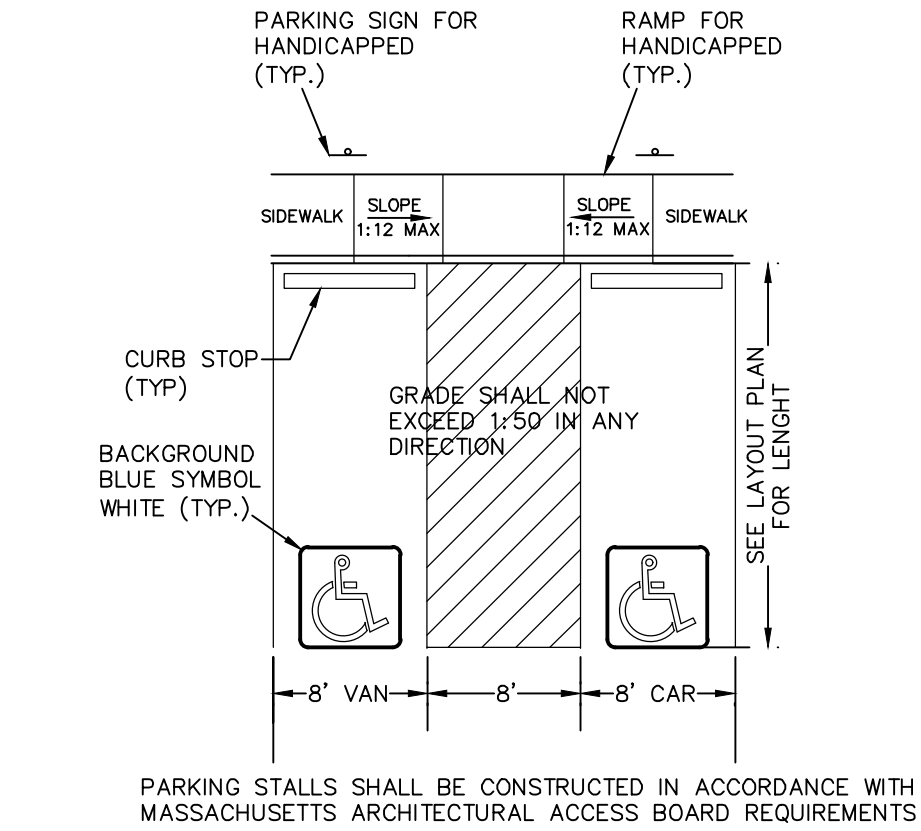
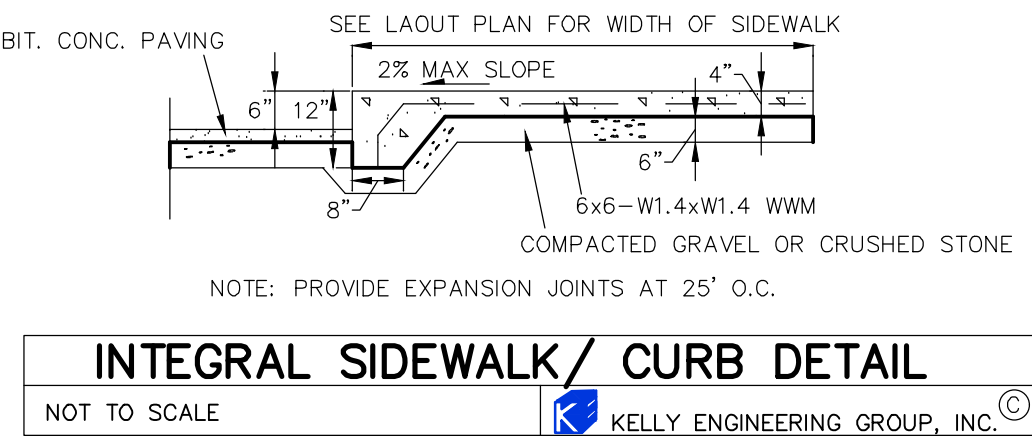
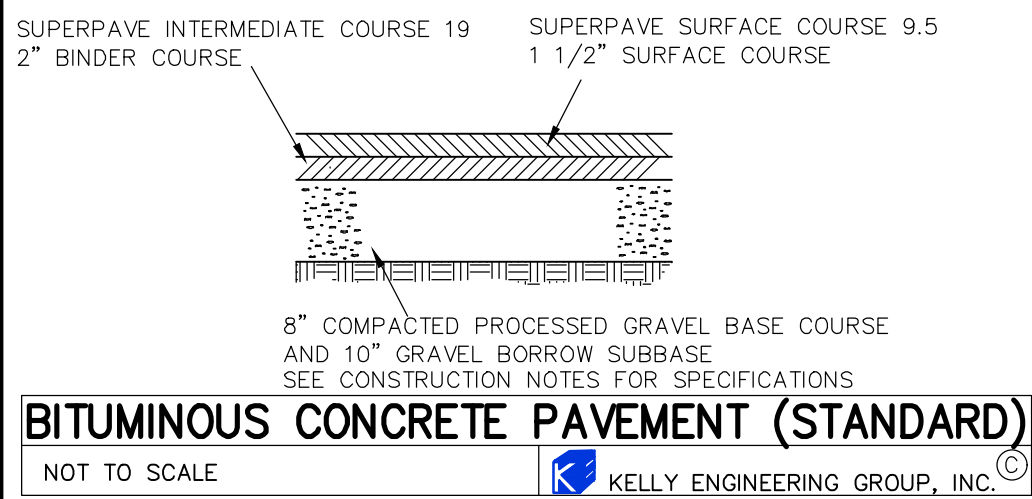
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4.	11/27/23	REVISED LAYOUT	
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1.	01/09/23	PER TOWN COMMENTS	
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HANOVER WASHINGTON L.P. "BETWEEN 1167 & 1207" WASHINGTON ST. HANOVER MA			
SEWER, DRAINAGE & UTILITY PLAN			
KELLY ENGINEERING GROUP civil engineering consultants 0 Campanelli Drive, Braintree, MA 02184 Phone: 781-843-4333 www.kellyengineeringgroup.com			
SHEET NO. 6			

COMMONWEALTH OF MASSACHUSETTS  
BRANDON G. LUCAS  
CIVIL  
No. 57736  
PROFESSIONAL ENGINEER

Brandon Lucas  
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## CONSTRUCTION NOTES

- THE CONTRACTOR SHALL REPORT TO THE OWNER AND ENGINEER OF ANY SIGNIFICANT VARIATIONS IN EXISTING SITE CONDITIONS FROM THOSE SHOWN ON THESE PLANS. ANY PROPOSED REVISIONS TO THE WORK, IF REQUIRED BY THESE SITE CONDITIONS, SHALL NOT BE UNDERTAKEN UNTIL REVIEWED AND APPROVED BY THE OWNER AND THE ENGINEER.
- THE CONTRACTOR SHALL NOTIFY THE TOWN OF HANOVER DEPARTMENT OF PUBLIC WORKS AT LEAST 48 HOURS IN ADVANCE OF ANY REQUIRED INSPECTIONS.
- IN ORDER TO PROTECT THE PUBLIC SAFETY DURING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING AT ALL TIMES ALL NECESSARY SAFETY DEVICES AND PERSONNEL, WARNING LIGHTS, BARRICADES, AND POLICE OFFICERS.
- ALL WORK SHALL CONFORM TO A SPECIAL PERMIT TO BE ISSUED BY THE TOWN OF HANOVER.
- FOR ANY PROJECT THAT INVOLVES 1 ACRE OR MORE OF DISTURBANCE, CONTRACTOR SHALL SECURE A NPDES PERMIT PRIOR TO BEGINNING ANY GRADING ACTIVITIES.
- THE LOCATION OF UNDERGROUND UTILITIES AS REPRESENTED ON THESE PLANS IS BASED UPON PLANS AND INFORMATION PROVIDED BY THE RESPECTIVE UTILITY COMPANIES OR MUNICIPAL DEPARTMENTS SUPPLEMENTED BY FIELD IDENTIFICATION WHEREVER POSSIBLE. NO WARRANTY IS MADE AS TO THE ACCURACY OF THESE LOCATIONS OR THAT ALL UNDERGROUND UTILITIES ARE SHOWN. THE CONTRACTOR SHALL CONTRACT DIG SAFE AT LEAST 72 HOURS PRIOR TO THE START OF CONSTRUCTION. DIG SAFE TELEPHONE NUMBER IS 1-888-344-7233.
- THE CONTRACTOR SHALL VERIFY THE LOCATION, SIZE AND DEPTH OF EXISTING UTILITIES PRIOR TO TAPPING INTO, CROSSING OR EXTENDING THEM. IF THE NEW WORK POSSES A CONFLICT WITH EXISTING UTILITIES, THE ENGINEER SHALL BE NOTIFIED PRIOR TO THE CONTRACTOR CONTINUING.
- REFER TO ARCHITECTURAL PLANS FOR EXACT BUILDING DIMENSION AND DOOR LOCATIONS.
- ALL PROPOSED SITE GAS, ELECTRIC, TELEPHONE, CATV FEATURES SHOWN ON SITE DEVELOPMENT PLANS ARE INTENDED AS A GUIDE ONLY. FINAL CONFIGURATION TO BE CONFIRMED WITH PROJECT MEP ENGINEER AND UTILITY PROVIDER.
- REFER TO PLUMBING PLANS FOR EXACT SIZE AND LOCATION OF SANITARY AND WATER CONNECTIONS.
- REFER TO ELECTRICAL PLANS FOR THE LIGHTING CIRCUITS, FIXTURE DETAIL AND BUILDING CONNECTION LOCATION.
- ALL H.D.P.E. HIGH DENSITY POLYETHYLENE PIPE SHALL BE ADS N-12 OR APPROVED EQUAL. SEWER SHALL BE SDR 35 WITH RUBBER RING JOINTS. SEE HANOVER WATER DEPARTMENT NOTES FOR WATER LINES.
- NO LEDGE, BOULDERS, OR OTHER UNYIELDING MATERIALS ARE TO BE LEFT WITHIN 6" OF THE SEWER IN THE TRENCH, NOR ARE THEY TO BE USED FOR BACKFILL FOR THE FIRST 12" ABOVE THE PIPES.
- WALKS SHALL BE 4" THICK AND SHALL BE CONSTRUCTED ON 6" OF COMPACTED BANK GRAVEL. CONCRETE FOR WALKS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH OF 4,000 PSI. WALKS SHALL BE REINFORCED WITH WMM 6x 6 W1.4/W1.4 CONFORMING TO ASTM A184.
- GRAVEL BORROW SUBBASE SHALL CONFORM TO M.D.P.W. M1.03.0 TYPE "B" AND PROCESSED GRAVEL BASE MATERIAL SHALL BE CLEAN BANK RUN GRAVEL, CONFORMING TO M.D.P.W. M1.03.1, WITH NO STONES LARGER THAN THREE (3) INCHES IN DIAMETER AND ROLLED WITH AT LEAST A TEN TON ROLLER. THE SURFACES SHALL BE WET DURING ROLLING TO BIND THE MATERIAL. ALL STONES OF 4" DIAMETER OR LARGER SHALL BE REMOVED FROM THE SUB-BASE PRIOR TO PLACING BASE MATERIAL. PULVERIZED MATERIAL MAY BE USED AS BASE MATERIAL PROVIDING IT MEETS THIS SPECIFICATIONS. AREAS TO BE REPAVED SHALL BE PULVERIZED AND REGRADED TO PROVIDE POSITIVE FLOW TO DRAINAGE AND AWAY FROM BUILDING. PAVE WITH 1 1/2" WEARING COURSE ON 1 1/2" BINDER COURSE. ALL VALVES, BOXES, MANHOLES AND OTHER UTILITIES APPURTENANCES SHALL BE ADJUSTED TO CONFORM TO FINAL GRADE.
- TRANSFORMER PAD SHALL BE INSTALLED PER PROVIDERS SPECIFICATIONS.
- PAVEMENT AREA SHALL BE PAVED TO A THICKNESS AS SHOWN ON THE PLANS MEASURED AFTER COMPACTION, WITH A SUPERPAVE INTERMEDIATE COURSE AND SUPERPAVE SURFACE COURSE.
- THE AGGREGATE SHALL BE COMPOSED, MIXED AND LAID HOT IN TWO COURSES AS SPECIFIED IN THE "COMMONWEALTH OF MASSACHUSETTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGE", 2021 EDITION. SECTION 460 HOT MIX ASPHALT PAVEMENT FOR LOCAL STREETS.

- DUMPSTER PAD SHALL BE 78" THICK REINFORCED CONCRETE SLAB WITH CONTROL JOINTS EVERY 10'. THE PAD SHALL BE CONSTRUCTED OVER 6" OF BASE COURSE AND 6" OF PROCESSED AGGREGATE BASE, COMPACT TO 95% REINFORCEMENT SHALL BE WMM 6x6-W1.4 x W1.4 PLACED AT THE CENTER OF THE SLAB. THE FRONT END OF COMPACTOR PAD SHALL HAVE EMBEDDED A 6" x 6" x 3/8" STEEL ANGLE.
- ALL EXISTING PAVING TO BE DISTURBED SHALL BE CUT ALONG A STRAIGHT LINE THROUGH ITS ENTIRE THICKNESS, BUT NEW PAVING INTO THE EXISTING PAVEMENT TO REMAIN AND TACK COAT THE JOINT.
- ANY PAVEMENT REMOVED FOR UTILITY TRENCH EXCAVATION OR OTHERWISE DAMAGED DURING CONSTRUCTION SHALL BE REPLACED WITH A PAVEMENT SECTION CONSISTING OF 1 1/2" SUPERPAVE SURFACE COURSE OVERLAYING A 1 1/2" SUPERPAVE INTERMEDIATE COURSE OVERLAYING A 12" COMPACTED GRAVEL BASE COURSE.
- ALL AREAS TO BE PLANTED WITH GRASS SHALL BE TREATED WITH 100 POUNDS OF GROUND LIMESTONE PER 1,000 S.F. OF AREA PLANTED. ALL AREAS TO BE PLANTED WITH GRASS SHALL BE FERTILIZED WITH 10-10-10 AT THE RATE OF 1,000 POUNDS PER ACRE OR AS REQUIRED BY SOIL TEST. 40% OF THE NITROGEN SHALL BE ORGANIC FORM.
- ALL LANDSCAPED AREAS TO BE LOAMED AND SEEDED SHALL HAVE THE FOLLOWING MIX:  
PERENNIAL RYE 25%  
KENTUCKY BLUE 25%  
CREEPING RED FESCUE OR PENNLAWN FESCUE 50%  
SEED AT THE RATE OF 5#/1,000 S.F.
- ALL DISTURBED AREAS TO BE LOAMED AND SEEDED SHALL HAVE A MINIMUM OF 4 INCHES OF TOPSOIL SPREAD EVENLY THROUGHOUT. PROVIDE EROSION CONTROL MEASURES AS NECESSARY TO PROVIDE SLOPE STABILITY UNTIL VEGETATION IS ESTABLISHED. (NOTE: IF THERE IS A CONFLICT BETWEEN THESE PLANS AND LANDSCAPE PLANS THE LANDSCAPE PLANS SHALL DICTATE.)
- THE CONTRACTOR SHALL REGULARLY INSPECT THE PERIMETER OF THE PROPERTY TO CLEANUP AND REMOVE LOOSE CONSTRUCTION DEBRIS BEFORE IT LEAVES THE SITE. ALL DEMOLITION DEBRIS SHALL BE PROMPTLY REMOVED FROM THE SITE TO A LEGAL DUMP SITE. ALL TRUCKS LEAVING THE SITE SHALL BE COVERED.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTITUTE EROSION CONTROL MEASURES ON AN AS NECESSARY BASIS, SUCH THAT EXCESSIVE SOIL EROSION DOES NOT OCCUR. MEASURES SHOULD INCLUDE SILT SACKS IN DRAINAGE INLETS, MULCHING AND PLANTING OF DISTURBED AREAS.
- PRIOR TO THE COMMENCEMENT OF ANY OTHER WORK A SILT SACK SHALL BE INSTALLED IN EACH EXISTING DRAINAGE INLET.
- AFTER INSTALLATION OF EACH DRAINAGE INLET A SILT SACK SHALL BE INSTALLED IN EACH INLET TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAIN SYSTEM.
- AT THE END OF CONSTRUCTION ALL DRAINAGE STRUCTURES ARE TO BE CLEANED OF SILT, STONES AND OTHER DEBRIS.
- DURING CONSTRUCTION THE EROSION CONTROL MEASURES SHALL BE INSPECTED ONCE PER WEEK AND WITHIN 24 HOURS OF ANY STORM EVENT GENERATING MORE THAN 1/2" OF RAINFALL. THE EROSION CONTROL MEASURES SHALL BE CLEANED REGULARLY AND ADJUSTED IF NECESSARY TO ENSURE THAT NO SILT OR DEBRIS LEAVES THE SITE.
- STABILIZATION MEASURES (SEEDING OR PLANTING, APPLYING MULCH OR OTHER NON-VEGETATIVE PRODUCT) OF EXPOSED SOILS SHALL BEGIN AS SOON AS PRACTICABLE AND IMMEDIATELY AFTER EARTH-DISTURBING ACTIVITIES HAVE PERMANENTLY OR TEMPORARILY CEASED. STABILIZATION TO BE COMPLETED WITHIN 14 DAYS.
- SILT SOCKS SHALL BE INSTALLED ON THE DOWNSTREAM SIDE OF ALL STOCK PILES.
- SPARE EROSION/SEDIMENT CONTROL MATERIALS SHALL BE AVAILABLE ON SITE FOR USE IN CONTINGENCY CONDITIONS.

## HANOVER WATER DEPARTMENT NOTES

- AT ALL WATER MAIN AND SEWER CROSSING, ONE FULL LENGTH OF WATER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE.
- SEWER MATERIALS SHALL BE WATER WORKS GRADE 150 PSI PRESSURE RATED PIPE MEETING LATEST AWWA STANDARD C 151, "DUCTILE IRON PIPE, CENTRIFUGALLY CAST, FOR WATER OR OTHER LIQUIDS." PIPE SHALL HAVE A PRESSURE CLASS OF 350.
- ALL PIPE 3 INCH THROUGH 64 INCH SHALL CONFORM IN DESIGN AND MANUFACTURE TO THE LATEST ISSUE OF AWWA STANDARD C 151, "DUCTILE IRON PIPE, CENTRIFUGALLY CAST, FOR WATER OR OTHER LIQUIDS." PIPE SHALL HAVE A PRESSURE CLASS OF 350.
- ALL FITTINGS SHALL BE DUCTILE IRON AND CONFORM IN DESIGN AND MANUFACTURE TO THE LATEST ISSUE OF AWWA STANDARD C 110, "DUCTILE IRON AND GRAY-IRON FITTINGS," 3-INCH THROUGH 48-INCH FOR WATER AND OTHER LIQUIDS.
- ALL PIPE AND FITTINGS SHALL HAVE A CEMENT-MORTAR LINING INSIDE AND A BITUMINOUS SEAL COAT APPLIED BOTH INSIDE AND OUTSIDE TO CONFORM WITH LATEST ISSUE OF AWWA C104, CEMENT-MORTAR LINING FOR DUCTILE-IRON PIPE AND FITTINGS FOR WATER.
- PUSH-ON AND MECHANICAL JOINTS ARE PERMITTED AND SHALL CONFORM IN DESIGN AND MANUFACTURE TO THE LATEST ISSUE OF AWWA STANDARD C 111, "RUBBER-GASKET JOINTS FOR DUCTILE-IRON PRESSURE PIPE AND FITTINGS."
- ALL VALVES SHALL CONFORM IN DESIGN AND MANUFACTURE TO THE LATEST ISSUE OF AWWA STANDARD C509, "RESILIENT-SEATED GATE VALVES FOR WATER SUPPLY SERVICE." ALL VALVES SHALL HAVE A TWO-INCH OPERATING NUT AND OPEN IN A COUNTER-CLOCKWISE DIRECTION. THE TOWN RECOMMENDS USING MUELLER VALVES (A2362 FULL-BODY).
- ALL HYDRANTS SHALL CONFORM IN DESIGN AND MANUFACTURE TO THE LATEST ISSUE OF AWWA STANDARD C202, "DRY BARREL FIRE HYDRANTS" AND MEET ANY REQUIREMENTS OF THE HANOVER FIRE DEPARTMENT. ALL HYDRANTS SHALL HAVE A MAIN VALVE OPENING OF 5.25 INCHES AND SHALL OPEN IN A COUNTERCLOCKWISE DIRECTION. THE TOWN RECOMMENDS USING MUELLER HYDRANTS (A423/5.25").
- WATER METERS (CONSUMPTION) SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL MEET THE SPECIFICATIONS OF THE TOWN OF HANOVER.
- DOMESTIC WATER LINE SHALL BE POLYETHYLENE (PE) TUBE, COPPER TUBE SIZE (CTS), 200 PSI TEST CONFORMING TO THE LATEST EDITION OF AWWA STANDARD C900 AND SHALL BE A CONTINUOUS RUN WITH NO JOINTS.
- PROVIDE BACKFLOW DEVICE FOR DOMESTIC WATER LINE AND SUBMIT TO WATER DEPT. PRIOR TO INSTALLATION.
- ALL IRRIGATION SPRINKLERS TO BE CONNECTED TO IRRIGATION WELL.

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THE EXTENT OF KELLY ENGINEERING GROUP'S LIABILITY FOR THIS PLAN IS LIMITED TO THE EXTENT OF ITS FEE LESS THIRD PARTY COST

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1.	01/09/23	PER TOWN COMMENTS	
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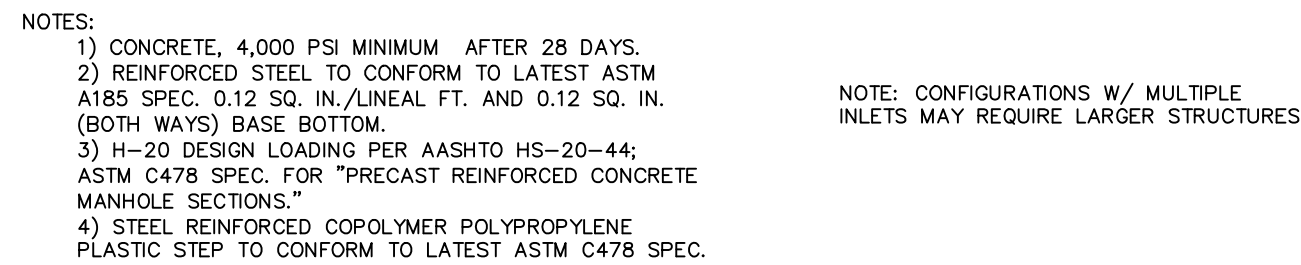
**HANOVER WASHINGTON L.P.**  
"BETWEEN 1167 & 1207" WASHINGTON ST.  
HANOVER MA  
**DETAIL SHEET**

COMMONWEALTH OF MASSACHUSETTS  
BRANDON G. LI  
CIVIL  
No. 57736  
REGISTERED PROFESSIONAL ENGINEER

Brandon Li  
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SHEET NO. **7**



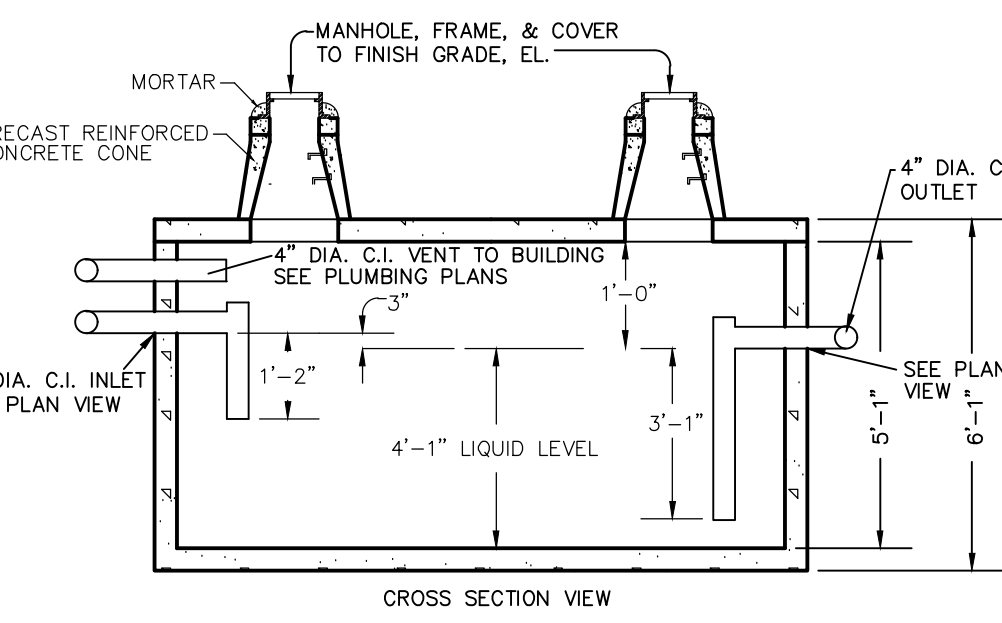
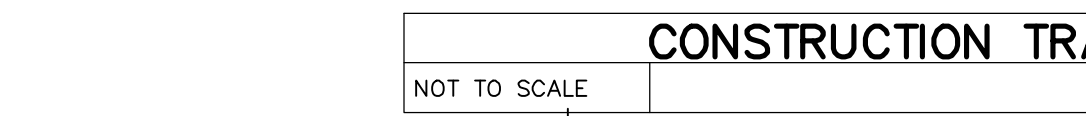


NOTE: FOR FITTINGS W/LESS THAN 45°  
DEFLECTION USE BEARING AREA FOR 45° BEND  
BASED ON INTERNAL PRESSURE OF 80 PSI

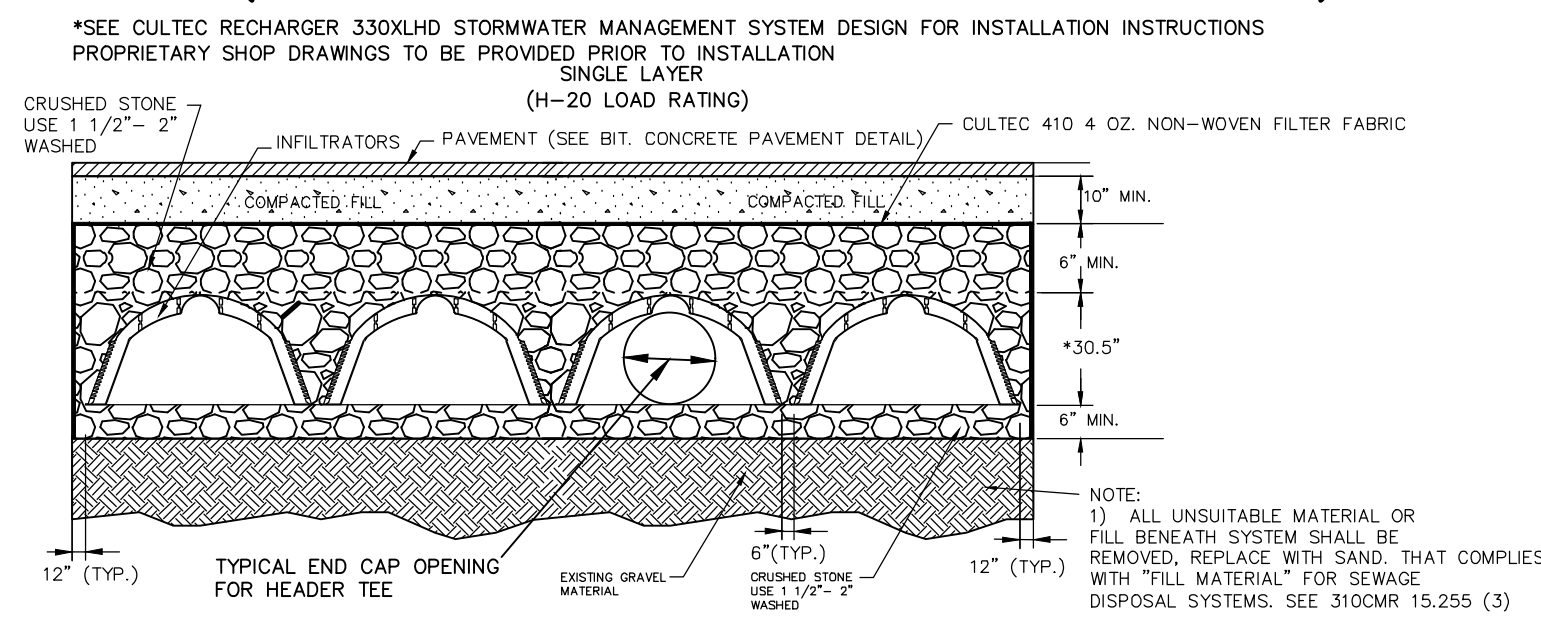


Diagram illustrating the cross-section of a trench with various dimensions and construction requirements:

- TRENCH WIDTH:** WS OR WU
- LINE OF NARROW TRENCH LIMIT**
- PROVIDE 5' MIN. COVER**
- NO LEDGE OR UNEXCAVATED MATERIAL SHALL PROJECT BEYOND THIS LINE.**
- PIPE SIZE AND TYPE AS SPECIFIED IN PLAN VIEW CONSTRUCTION NOTES.**
- PAYMENT LIMITS FOR ROCK EXCAVATION**
- UNDISTURBED MATERIAL**
- PAYMENT LIMITS FOR NORMAL EXCAVATION**
- SHEETING, FUSED SHALL BE LEFT IN PLACE BELOW THE LINE OF NARROW TRENCH LIMIT, EXCEPT WHERE OTHERWISE INDICATED OR DIRECTED.**
- Dimensions:** 12", 6", 6"



- NOTE: VENT SHALL BE LOCATED TO THE INSIDE OF THE BUILDING IN COMPLIANCE WITH 148 CMR 10.16(5)(E). VENT SHALL BE ABOVE WATER LEVEL AND INVERTS. THE INLET TEE SHALL EXTEND TO THE MID DEPTH OF THE TANK. THE OUTLET TEE SHALL BE INSTALLED WITHIN 12 INCHES OF THE TANK. THE VENT TEE SHALL BE SCHEDULE 40 PIPING PROPERLY SUPPORTED BY A HANGER, STRAP OR OTHER DEVICE. (310 CMR 15.230(5)).
2. VENT SHALL BE INSTALLED ON A LEVEL STABLE BASE THAT HAS BEEN MECHANICALLY COMPACTED AND ONTO WHICH LEVEL SLABES OF CRUSHED STONE HAS BEEN PLACED TO MINIMIZE UNEVEN SETTLING.
3. THE TANK AND VENT TEE SHALL BE LOCATED AT THE CENTER LINE OF THE TANK, AND AT LEAST 12 INCHES ABOVE THE HIGH GROUNDWATER ELEVATION.



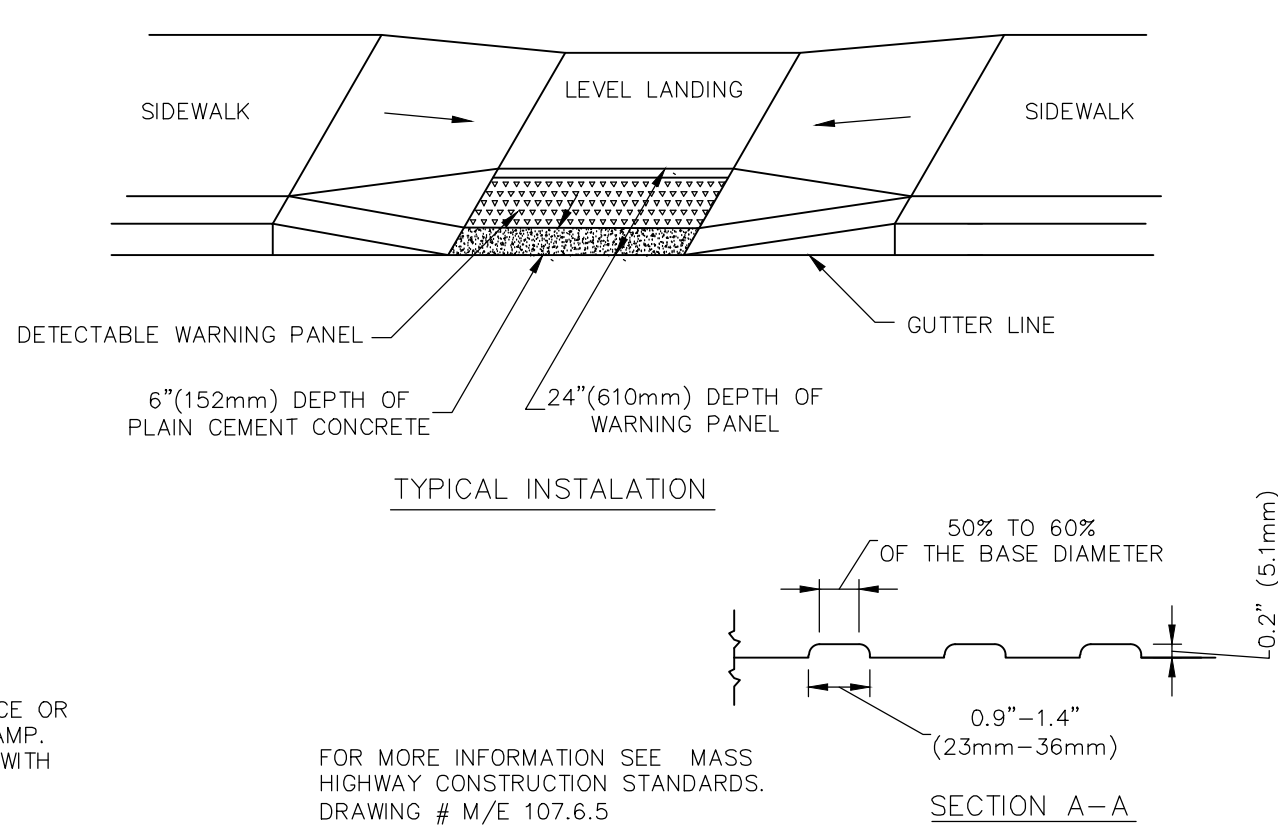
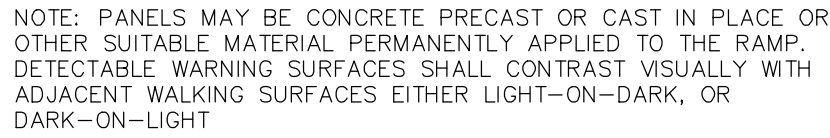
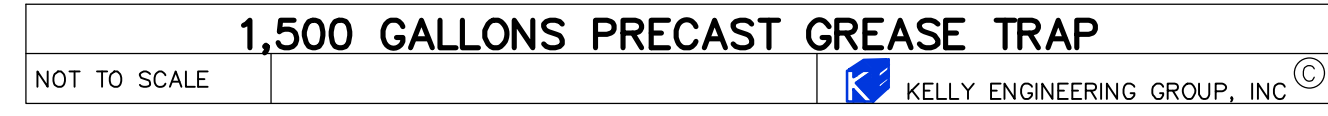
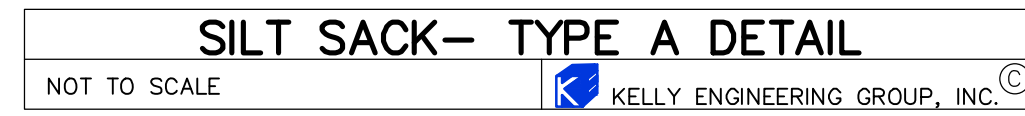
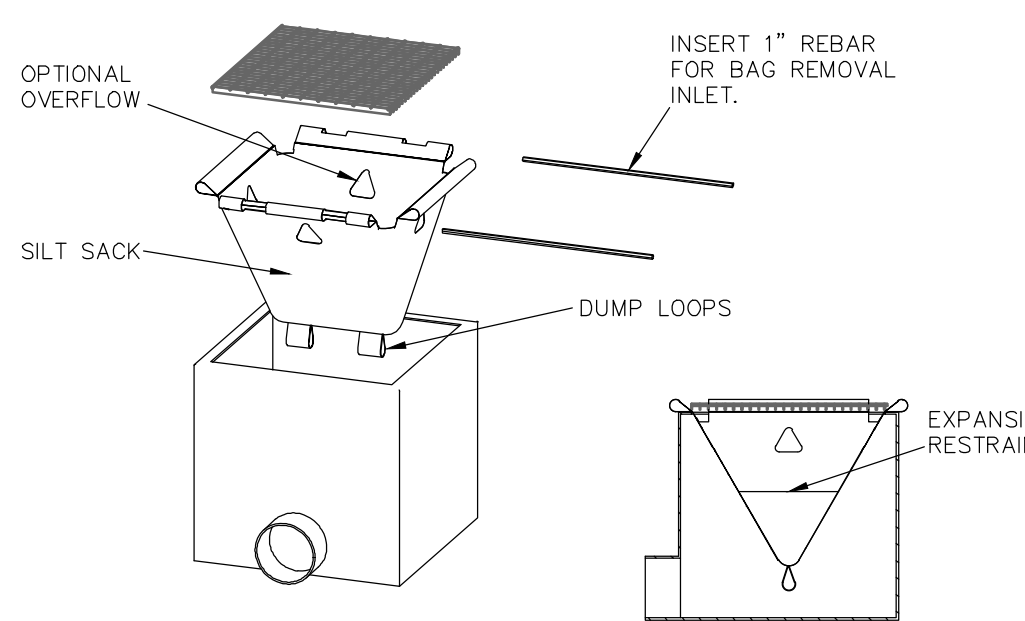
**STORMWATER MANAGEMENT SYSTEM CONSTRUCTION OPERATION + MAINTENANCE NOTES:**

1. EXTREME CARE SHALL BE TAKEN DURING CONSTRUCTION TO AVOID SILTATION DURING THE CONSTRUCTION PROCESS. SILT CAGES AND HAYBALE DIKES SHALL BE INSPECTED DAILY AND REPLACED IF NECESSARY
2. EXTREME CARE SHALL BE TAKEN TO PREVENT COMPACTION OF UNDISTURBED SOILS BENEATH RECHARGE SYSTEM.
3. THERE SHALL BE NO DISCHARGE OF WATER FOR CONSTRUCTION DEWATERING ACTIVITIES INTO THE STORMWATER MANAGEMENT SYSTEM.
4. THERE SHALL BE NO DISCHARGE OF STORMWATER INTO THE RECHARGE SYSTEM UNTIL THE SITE HAS BEEN STABILIZED.

### CONSTRUCTION INSPECTION SCHEDULE

1. WEEKLY INSPECTIONS SHALL BE PERFORMED BY THE APPLICANTS ENGINEER AND A REPRESENTATIVE FROM THE TOWN'S ENGINEERING DEPARTMENT.
2. INSPECTIONS SHALL INCLUDE THE PAVEMENT TO DETERMINE IF ACCUMULATED SEDIMENT IS TO BE REMOVED OF THE CATCH BASINS TO DETERMINE DEPTH OF SEDIMENTS AND REQUIRED CLEANING, INSPECTION OF THE TOTOGENE IF CLEANING IS NECESSARY AND INSPECTION OF THE LEACHING SYSTEM SHALL BE CONDUCTED BY THE ENGINEER AND THE TOWN'S ENGINEERING DEPARTMENT.
3. AN INSPECTION OF THE EXCAVATION OF THE LEACHING SYSTEM SHALL BE CONDUCTED BY THE ENGINEER AND A REPRESENTATIVE THE TOWN'S ENGINEERING DEPARTMENT PRIOR TO PLACEMENT OF ANY MATERIAL OR CHAMBERS.

1. WHEN THE BINDER COURSE HAS BEEN INSTALLED THE PAVEMENT SHALL BE KEPT CLEAR OF ACCUMULATED SEDIMENTS. IF ACCUMULATED SEDIMENTS ARE DEPOSITED ON THE PAVEMENT THE SEDIMENT SHALL BE CLEARED IMMEDIATELY. THE PAVEMENT SHALL BE SWEEP AS NECESSARY BASED ON THE WEEKLY INSPECTIONS. THE CONTRACTOR SHALL INSPECT THE PAVEMENT ON A DAILY BASIS AND REMOVE ACCUMULATED SEDIMENTS AS NECESSARY.
2. "SILT SAKS" SHALL BE INSTALLED AT ALL CATCH BASIN AND DROP INLET LOCATIONS. THE CONTRACTOR SHALL INSPECT THE "SILT SAKS" ON A WEEKLY BASIS AND AFTER HEAVY RAINSTORMS AND EMPTIED BASED ON MANUFACTURERS RECOMMENDATIONS.



SCALE	4.	11/27/23	REVISED LAYOUT	
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