

# UNION SQUARE PARCEL D2 DSPR SUBMISSION

# THOROUGHFARE PLANS

FEBRUARY 13, 2019

OWNER
UNION SQUARE RELP
MASTER DEVELOPER LLC (US2)
31 UNION SQUARE
SOMERVILE, MA 02143

CIVIL ENGINEER
STANTEC
226 CAUSEWAY ST. 6TH FLOOR
BOSTON, MA 02114

LANDSCAPE ARCHITECT
GROUND LANDSCAPE, INC.
6 CARLON ST.
SOMERVILLE, MA 02143

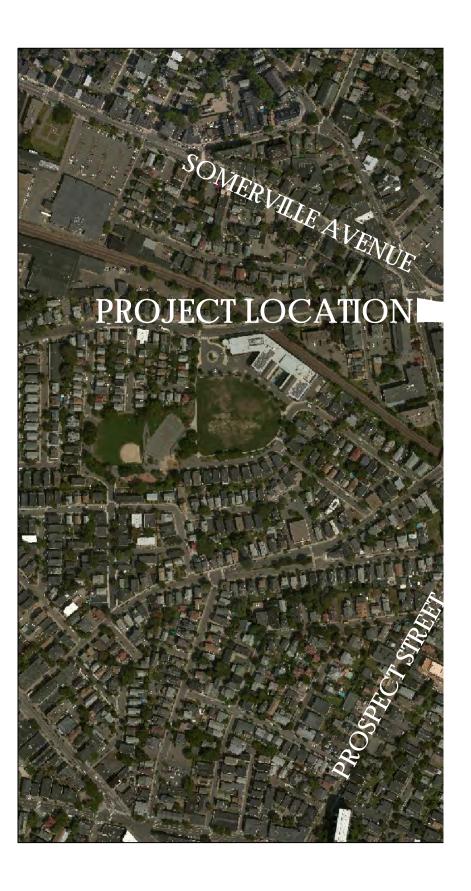
SURVEYOR
DESIGN CONSULTANTS INC.
120 MIDDLESEX AVENUE
SOMERVILLE, MA 02145

ARCHITECT - D2.1 BUILDING
SGA
200 HIGH STREET
BOSTON, MA 02110

ARCHITECT - D2.2/D2.3 BUILDING
bkL ARCHITECTURE LLC
225 NORTH COLUMBUS DRIVE, SUITE 100
CHICAGO, IL 60601

STRUCTURAL ENGINEER - D2.2/D2.3 BUILDING
ODEH ENGINEERS, INC.
332 CONGRESS STREET, 6TH FLOOR
BOSTON, MA 02210

LIGHTING DESIGNER
LAM PARTNERS INC.
84 SHERMAN STREET
CAMBRIDGE, MA 02140



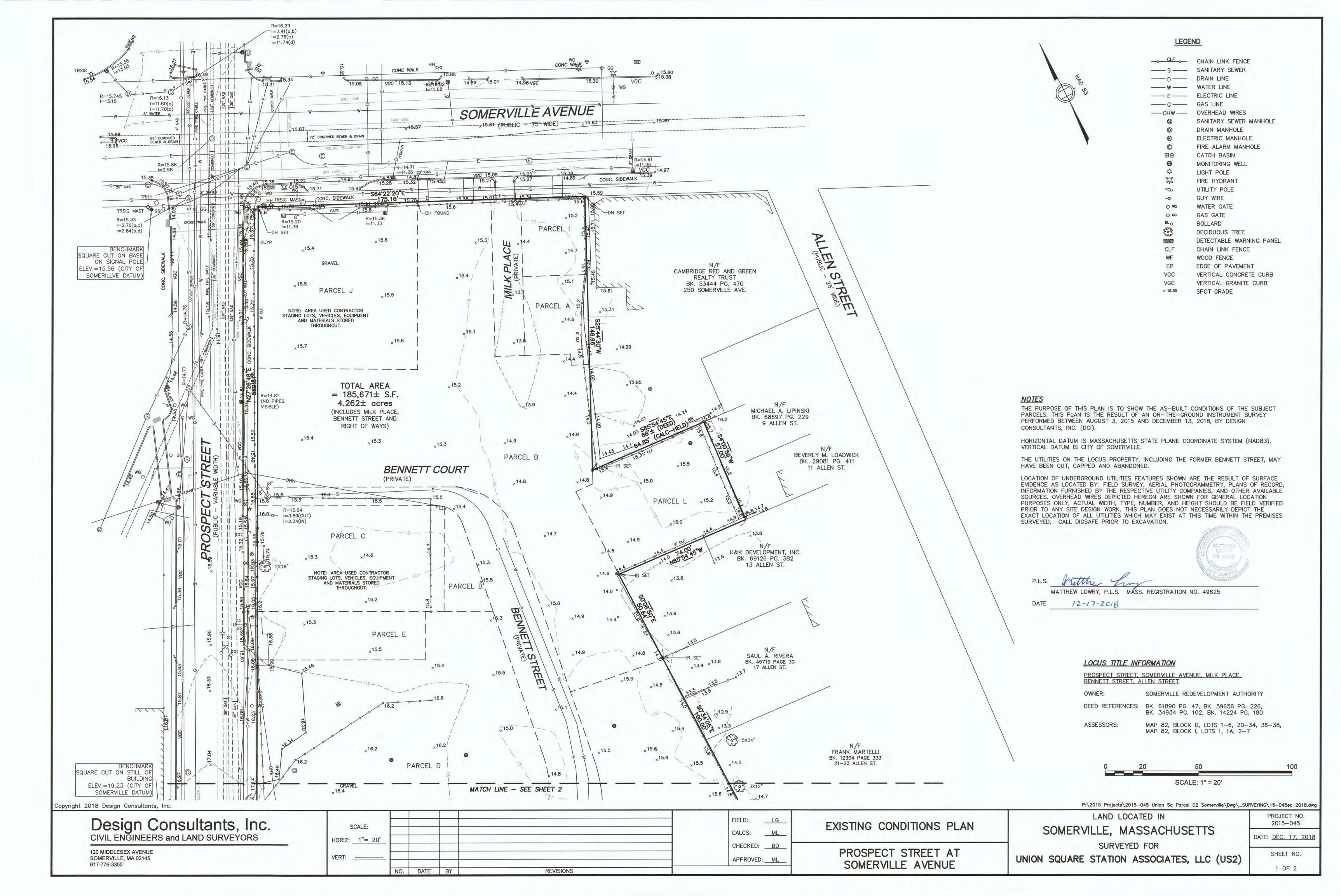
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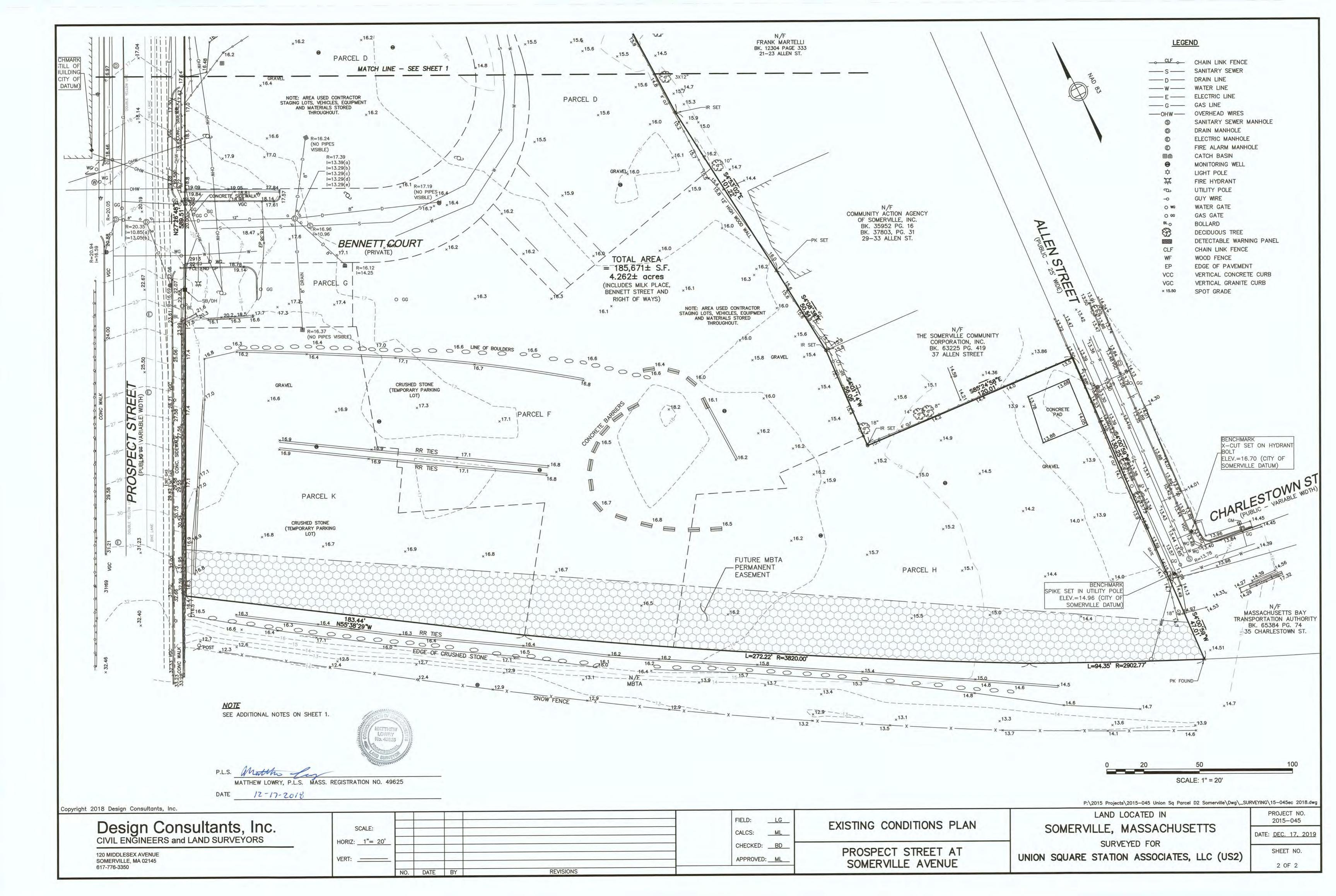
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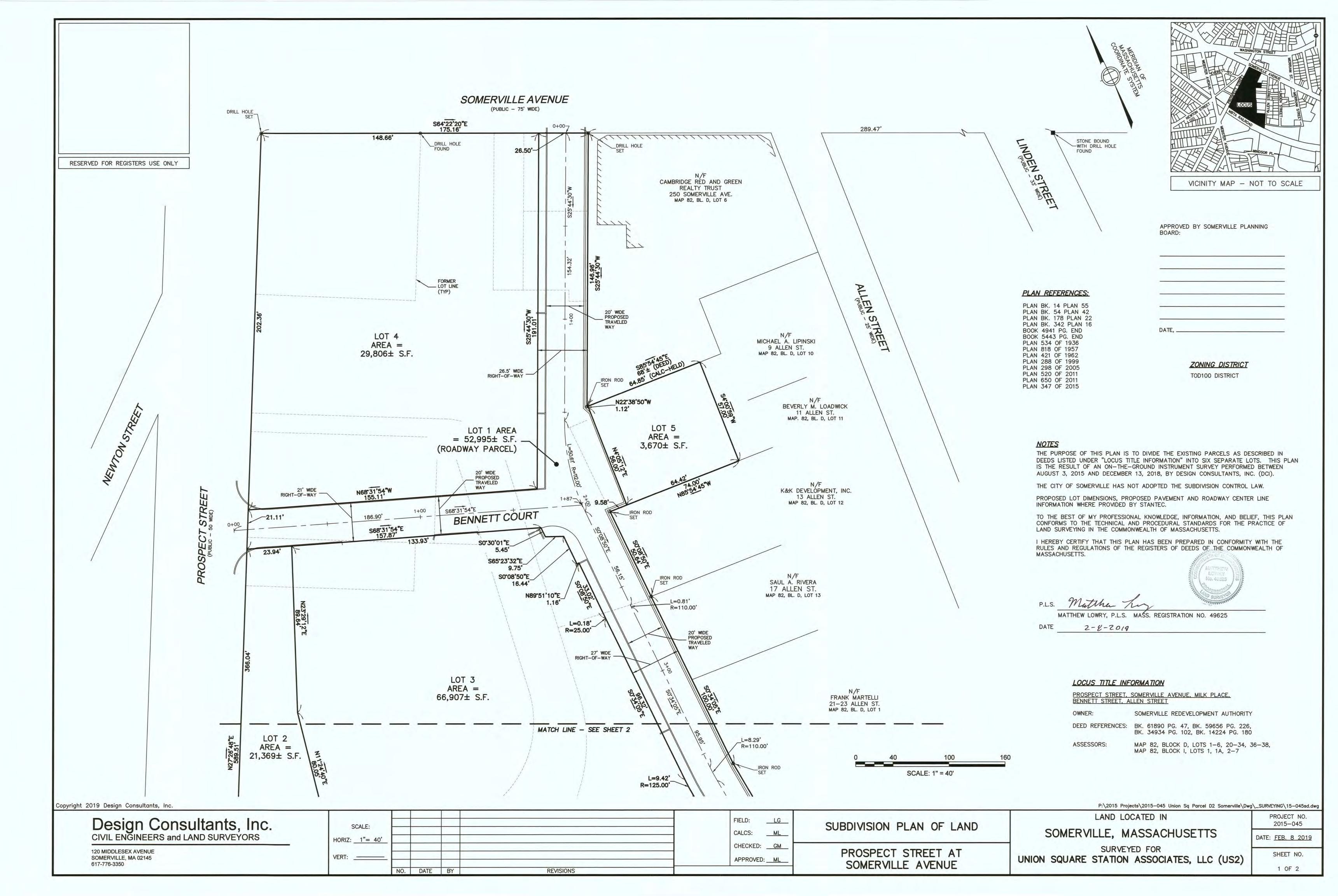
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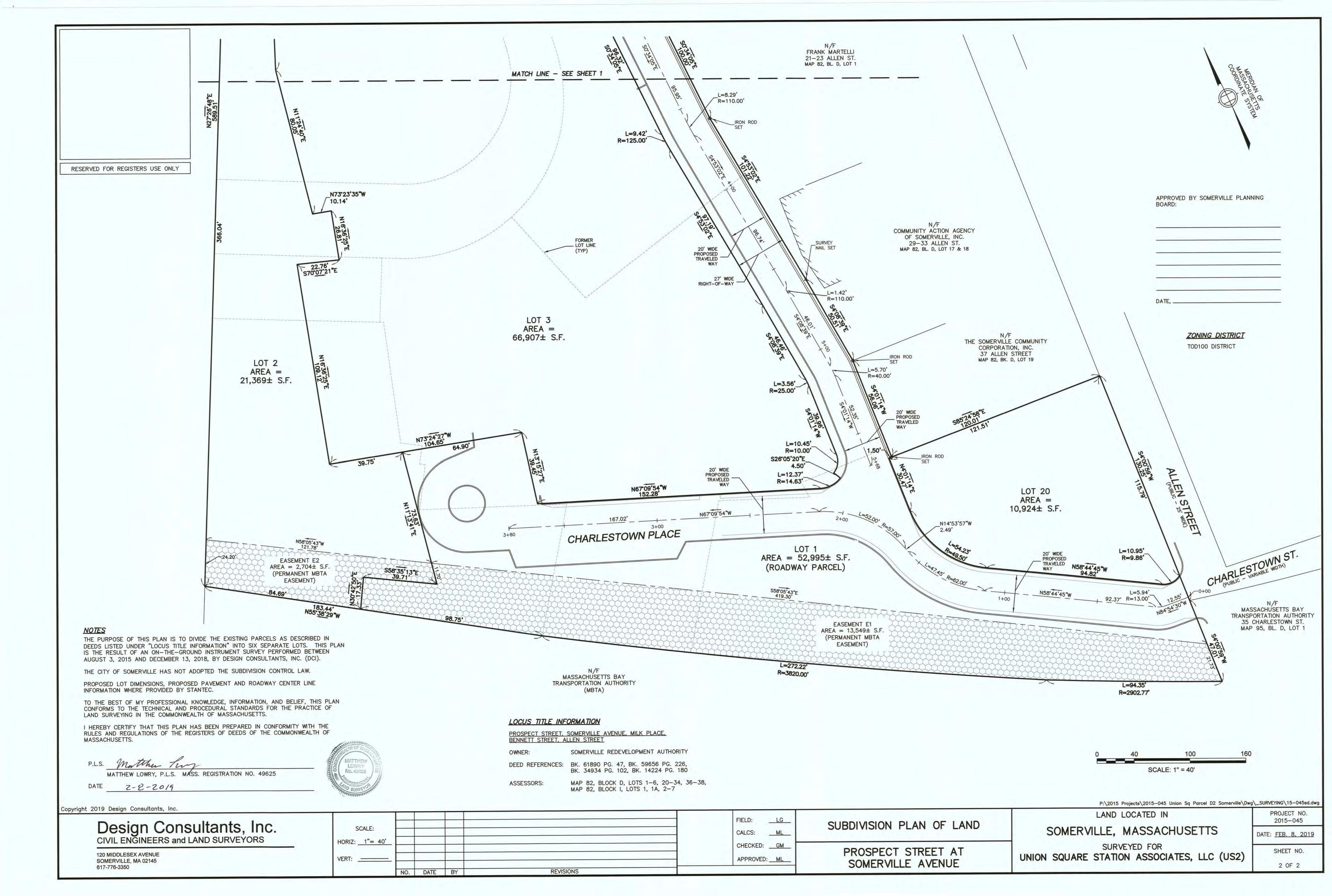


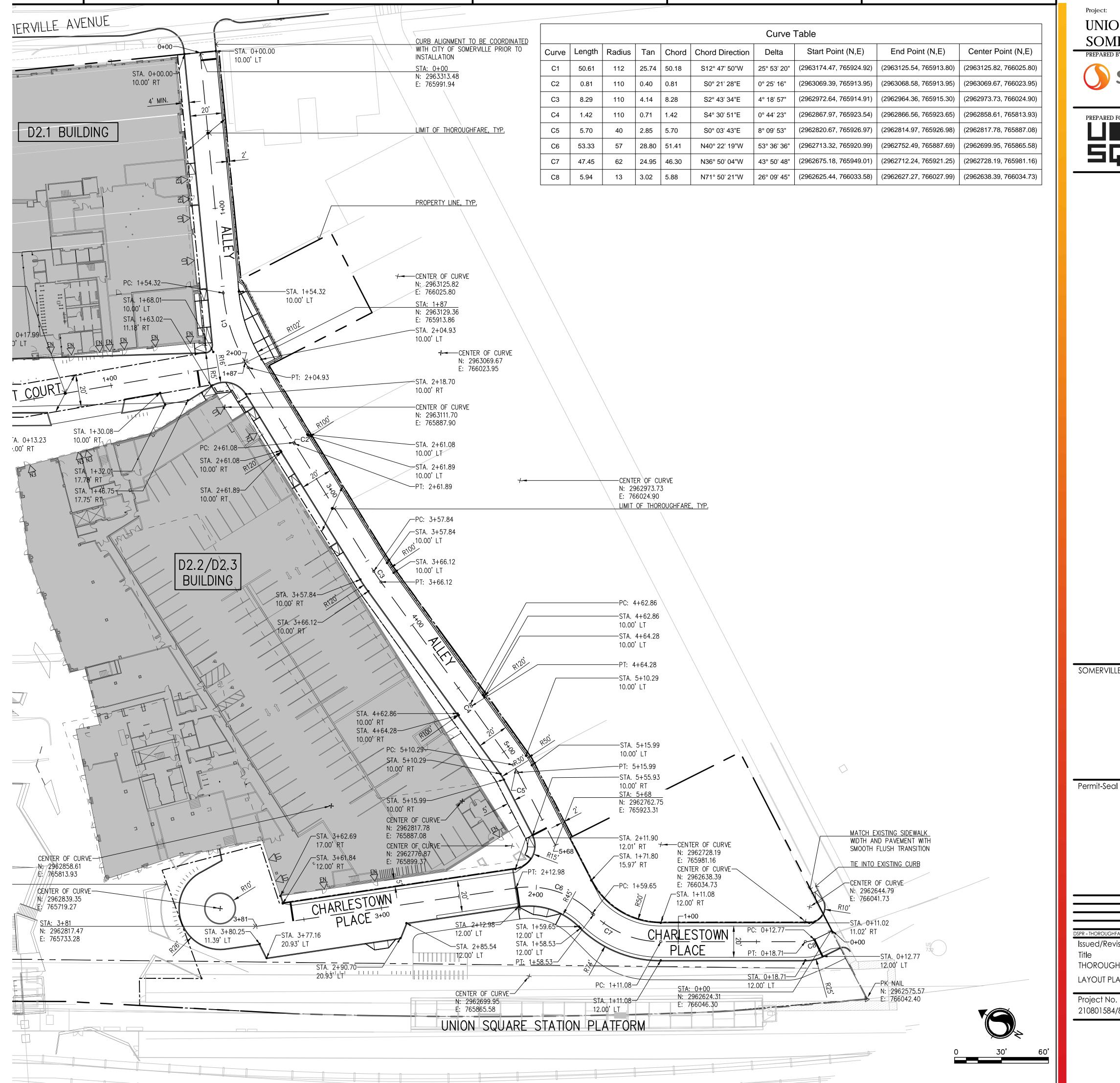
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DSPR - THOROUGHFARE PLAN SET	JEL	FH	2019.02.13
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LOCUS MAP			











UNION SQUARE - D2 PARCEL SOMERVILLE, MA



STANTEC 226 CAUSEWAY STREET, 6TH FLOOR BOSTON, MA 02114



UNION SQUARE RELP MASTER DEVELOPER LLC (US2) 31 UNION SQUARE SOMERVILLE, MA 02143

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Issued/Revision THOROUGHFARE PLANS LAYOUT PLAN Scale Project No. **AS SHOWN** 210801584/85

Drawing No.

TF-C100

#### GENERAL NOTES

- 1. EXISTING CONDITIONS INFORMATION IS REPRODUCED FROM THE SURVEY PREPARED BY DESIGN CONSULTANTS INC. OF SOMERVILLE, MA, DATED SEPTEMBER 28, 2015.
- 2. CONTRACTOR(s) SHALL THOROUGHLY FAMILIARIZE THEMSELVES WITH ALL CONSTRUCTION DOCUMENTS, SPECIFICATIONS, AND SITE CONDITIONS PRIOR TO BIDDING AND PRIOR TO CONSTRUCTION.
- 3. ANY DISCREPANCIES BETWEEN DRAWINGS, SPECIFICATIONS, AND SITE CONDITIONS SHALL BE REPORTED IMMEDIATELY TO THE OWNER'S REPRESENTATIVE FOR CLARIFICATION AND RESOLUTION PRIOR TO BIDDING OR CONSTRUCTION.
- 4. ALL WORK CONDUCTED WITHIN PUBLIC RIGHT-OF-WAYS SHALL CONFORM TO THE REQUIREMENTS AND SPECIFICATIONS OF THE CITY OF SOMERVILLE.

#### SOIL EROSION AND SEDIMENT CONTROL NOTES

#### CITY OF SOMERVILLE

- 1. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH PUBLISHED EROSION CONTROL AND SEDIMENT GUIDELINES FOR MASSACHUSETTS (SEE REFERENCE BELOW, NOTE #8).
- 2. PRIOR TO ANY LAND DISTURBANCE ACTIVITIES COMMENCING ON THE SITE, THE CONTRACTOR SHALL PHYSICALLY MARK LIMITS OF NO LAND DISTURBANCE ON THE SITE WITH TAPE, SIGNS, OR ORANGE CONSTRUCTION FENCE, SO THAT WORKERS CAN SEE THE AREAS TO BE PROTECTED. THE PHYSICAL MARKERS SHALL REMAIN IN PLACE UNTIL A CERTIFICATE OF COMPLETION HAS BEEN ISSUED.
- 3. AN EROSION CONTROL BARRIER SHALL BE INSTALLED ALONG THE EDGE OF PROPOSED DEVELOPMENT PRIOR TO COMMENCEMENT OF DEMOLITION OR CONSTRUCTION OPERATIONS.
- 4. ANY EROSION AND SEDIMENT CONTROL MEASURES FOR THE STABILIZATION OF SLOPES ARE TEMPORARY FOR CONSTRUCTION PHASES ONLY.
- 5. APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF AND DURING ALL PHASES OF CONSTRUCTION AND BE CONSTRUCTED PRIOR TO AND IMMEDIATELY AFTER ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL.
- 6. PERIODIC INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES SHALL BE PROVIDED TO ENSURE THAT THE INTENDED PURPOSE IS ACCOMPLISHED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SEDIMENT LEAVING THE LIMIT OF WORK. SEDIMENT CONTROL MEASURES SHALL BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
- 7. ALL SEDIMENT WILL BE PREVENTED FROM ENTERING ANY STORM DRAINAGE SYSTEM (I.E. THROUGH THE USE OF STRAW WATTLES, CATCH BASIN SEDIMENT TRAPS, GRAVEL, BOARDS, OR OTHER APPLICABLE METHODS). INLET PROTECTION SHALL BE FURNISHED, INSTALLED AND MAINTAINED AT ALL CATCH BASINS WITHIN THE PROJECT AREA AND ALONG THE LIMIT OF EXCAVATION. THROUGHOUT PROJECT DURATION, DEBRIS COLLECTED IN INLET PROTECTION SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE ON A WEEKLY BASIS OR MORE FREQUENTLY IF NECESSARY TO MAINTAIN FLOW THROUGH THE INLET PROTECTION. UPON COMPLETION OF THE PROJECT AND AS DIRECTED BY THE ENGINEER, THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING OF THE INLET PROTECTION AND DEBRIS OFF-SITE.
- 8. THE CONTRACTOR INSTALLING THE ABOVE SHALL OBTAIN AND FOLLOW THE "MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS" PREPARED BY DEPARTMENT OF ENVIRONMENTAL PROTECTION. BUREAU OF RESOURCE PROTECTION, DATED MAY 1997, REPRINTED MAY 2003 (OR LATEST EDITION) AND THE 2017 NPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES, OR LATEST EDITION.
- 9. ALL DRAINAGE SWALES AND GROUND SURFACES WITHIN THE LIMIT OF WORK SHALL BE PROTECTED.
- 10. AFTER ANY SIGNIFICANT RAINFALL (0.25" OR GREATER), SEDIMENT CONTROL STRUCTURES SHALL BE INSPECTED FOR INTEGRITY. ANY DAMAGED DEVICES SHALL BE CORRECTED IMMEDIATELY.
- 11. SEDIMENT SHALL BE REMOVED ONCE THE VOLUME REACHES ¼ TO ½ THE HEIGHT OF THE EROSION CONTROL DEVICE. SEDIMENT SHALL BE REMOVED FROM SILT FENCE PRIOR TO REACHING THE LOAD-BEARING CAPACITY OF THE SILT FENCE WHICH MAY BE LOWER THAN ¼ TO ½ THE HEIGHT.
- 12. ALL STOCKPILES SHALL BE PROTECTED AND LOCATED A MINIMUM OF 100' AWAY FROM EXISTING WATER BODIES OR WETLANDS & WITHIN THE LIMIT OF WORK. SOIL STOCKPILES SHALL BE PROTECTED FROM CONTACT WITH ONSITE STORMWATER RUNOFF USING TEMPORARY PERIMETER SEDIMENT BARRIERS. A COVER (TARP) OR APPROPRIATE TEMPORARY STABILIZATION WILL BE PROVIDED TO MINIMIZE SEDIMENT DISCHARGE.
- 13. STABILIZED PORTIONS OF A SITE SHALL BE INSPECTED AT LEAST ONCE PER MONTH.
- 14. CONTRACTOR SHALL PREVENT OFF-SITE VEHICLE TRACKING OF SEDIMENTS. ANY SEDIMENT TRACKED ONTO PAVED AREAS SHALL BE SWEPT AT THE END OF EACH WORKING DAY.
- 15. ALL DEBRIS GENERATED DURING SITE PREPARATION SHALL BE LEGALLY DISPOSED OF OFF-SITE.
- 16. DUST SHALL BE CONTROLLED AT THE SITE.
- 17. ALL TOPSOIL ENCOUNTERED WITHIN THE WORK AREA SHALL BE STRIPPED TO ITS FULL DEPTH AND STOCKPILED FOR REUSE. TOPSOIL NOT NEEDED AFTER COMPLETION OF ALL FINAL TOPSOIL SPREADING AND GRASSING SHALL BE REMOVED FROM THE SITE AND LEGALLY RECYCLED OR DISPOSED OF. TOPSOIL PILES SHALL REMAIN SEGREGATED FROM EXCAVATED SUBSURFACE SOIL MATERIALS.
- 18. IF WORK IS HALTED OVER WINTER MONTHS THE CONTRACTOR SHALL BE RESPONSIBLE FOR STABILIZING THE AREA THROUGH GROUNDCOVER PRACTICES.
- 19. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL EROSION AND SEDIMENT CONTROLS AT THE COMPLETION OF SITE CONSTRUCTION.
- 20. THE CONTRACTOR SHALL USE TEMPORARY SEEDING, MULCHING, OR OTHER APPROVED STABILIZATION MEASURES TO PROTECT EXPOSED AREAS DURING PROLONGED CONSTRUCTION OR OTHER LAND DISTURBANCE. STOCKPILES THAT WILL BE EXPOSED FOR LONGER THAN 14 CALENDAR DAYS SHALL BE SEEDED WITH ANNUAL RYF

#### SUPPLEMENTAL NOTES

ALL TRADES.

- 1. THE OWNER'S REPRESENTATIVE SHALL BE CONSULTED AND WILL REVIEW THE WORK ON SITE WITH THE CONTRACTOR BEFORE ANY WORK SHALL COMMENCE.
- 2. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING CONDITIONS TO REMAIN THAT ARE DUE TO CONTRACTOR OPERATIONS.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS/HER EFFORTS OF THE DEMOLITION WITH
- 4. THE CONTRACTOR SHALL COORDINATE ALL ADJUSTMENT OR ABANDONMENT OF UTILITIES WITH RESPECTIVE UTILITY COMPANY.
- 5. THE CONTRACTOR SHALL CUT AND CAP ALL EXISTING UTILITIES SERVICING THE PROPERTY.

#### LAYOUT AND MATERIALS NOTES

- 1. ACCESSIBLE CURB RAMPS SHALL BE PER THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB) AND THE AMERICANS WITH DISABILITIES ACT (ADA) ACCESSIBILITY GUIDELINES, WHICHEVER IS MORE STRINGENT.
- 2. SCREENED IMAGES SHOW EXISTING CONDITIONS. WHERE EXISTING CONDITIONS LIE UNDER OR ARE IMPINGED UPON BY PROPOSED BUILDINGS AND/OR SITE ELEMENTS, THE EXISTING CONDITION WILL BE REMOVED, ABANDONED AND/OR CAPPED OR DEMOLISHED AS REQUIRED.
- 3. THE FOLLOWING LAYOUT CRITERIA SHALL CONTROL UNLESS OTHERWISE NOTED ON THE PLAN: ALL DIMENSIONS ARE TO OUTSIDE FACE OF BUILDING. ALL DIMENSIONS ARE TO FACE OF CURB AT GUTTER LINE. ALL DIMENSIONS ARE TO CENTER OF PAVEMENT MARKINGS. ALL TIES TO PROPERTY LINES ARE PERPENDICULAR TO THE PROPERTY LINE UNLESS OTHERWISE NOTED.

#### GRADING NOTES

- 1. WHERE PROPOSED GRADES MEET EXISTING GRADES, CONTRACTOR SHALL BLEND GRADES TO PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING AND NEW WORK. PONDING AT TRANSITION AREAS WILL NOT BE
- 2. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM ALL BUILDING FOUNDATIONS, STRUCTURES AND PLANTING BEDS.
- 3. MAXIMUM SLOPE IN DISTURBED AREAS SHALL NOT EXCEED 3:1, UNLESS OTHERWISE NOTED.
- 11. THE CONTRACTOR SHALL MEET THE REQUIREMENTS OF 521 CMR OF THE ARCHITECTURAL ACCESS BOARD REGULATIONS. ALL GRADES ON WALKWAYS, RAMPS, CURB CUTS AND PARKING AREAS AS DEFINED BY 521 CMR SHALL COMPLY WITH THE MAXIMUM ALLOWABLE GRADES. GRADES SHALL BE MEASURED AT TWO FOOT INTERVALS. CROSS SLOPES ON ALL WALKS, PATHS OF TRAVEL AND ACCESSIBLE ROUTES AS DEFINED IN 521 CMR SHALL NOT EXCEED 1.5%. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY IF DISCREPANCIES ARISE BETWEEN THE ACTUAL GRADES SHOWN ON THE PLANS AND THE MAXIMUM ALLOWABLE GRADES INDICATED IN 521 CMR.
- 12. ALL WALKWAYS SHALL BE GRADED TO A MAXIMUM 4.5% RUNNING SLOPE (PARALLEL TO THE DIRECTION OF TRAVEL). THE CROSS PITCH OF ALL WALKWAYS, PATHS AND PLAZAS SHALL NOT EXCEED 1.5% (PERPENDICULAR TO THE DIRECTION OF TRAVEL). THE SLOPE OF ALL RAMPS AND SIDE SLOPES OF HANDICAP CURB CUTS AS DEFINED BY SECTION 21.1 OF 521 CMR SHALL BE CONSTRUCTED AT 7.5% MAXIMUM. RAMPS AS DEFINED IN SECTION 24.1 OF 521 CMR SHALL BE CONSTRUCTED TO A MAXIMUM SLOPE OF 7.5%.
- 13. ENSURE ALL EXISTING (TO REMAIN), AND PROPOSED MANHOLE COVERS PROPERLY IDENTIFY UTILITY SERVICED.
- 14. CONTRACTOR SHALL VERIFY EXISTING GRADES AND NOTIFY OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES.
- 15. BITUMINOUS CONCRETE ELEVATIONS AT CATCH BASINS TO BE 1/4 INCH ABOVE RIM ELEVATION SHOWN FOR
- 16. CONTRACTOR TO ADJUST UTILITY ELEMENT MEANT TO BE FLUSH WITH GRADE (CLEAN-OUTS, UTILITY MANHOLES, CATCH BASINS, INLETS, ETC) THAT IS AFFECTED BY SITE WORK OR GRADE CHANGES, WHETHER
- 17. SCREENED IMAGES SHOW EXISTING CONDITIONS. WHERE EXISTING CONDITIONS LIE UNDER OR ARE IMPINGED UPON BY PROPOSED BUILDINGS AND/OR SITE ELEMENTS, THE EXISTING CONDITION WILL BE REMOVED, ABANDONED AND/OR CAPPED OR DEMOLISHED AS REQUIRED.

#### UTILITY NOTES

SPECIFICALLY NOTED ON PLANS OR NOT.

- 1. PRIOR TO THE START OF ANY EXCAVATION FOR THE PROJECT, BOTH ON AND OFF THE SITE, THE CONTRACTOR SHALL NOTIFY DIGSAFE AND BE PROVIDED WITH A DIGSAFE NUMBER INDICATING THAT ALL EXISTING UTILITIES HAVE BEEN LOCATED AND MARKED.
- 2. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES THAT MAY BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UNDERGROUND UTILITIES.
- 3. ALL SEWER PIPES SHALL BE PVC PER ASTM D3034, SDR-35 AND ASTM D1784 WITH RUBBER GASKET JOINTS, UNLESS OTHERWISE NOTED.
- 4. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION. AT THE CONTRACTOR'S EXPENSE.
- 5. THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PRIVATE UTILITY SERVICES SHALL BE PROVIDED BY, AND APPROVED BY, THE RESPECTIVE UTILITY COMPANY (GAS/TELEPHONE/ELECTRICAL) AND INSTALLED ACCORDING TO THOSE REQUIREMENTS. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION, ALTERATION, OR ADJUSTMENT OF THE UTILITY CONNECTIONS WITH THE RESPECTIVE COMPANIES PRIOR TO ANY UTILITY CONSTRUCTION
- 6. ALL CEMENT LINED DUCTILE IRON JOINTS AT FITTINGS (CLASS 52,) VALVES, AND HYDRANT LATERALS SHALL BE MECHANICAL WITH NEOPRENE GASKETS. JOINTS AT OTHER LOCATIONS SHALL BE PUSH—ON TYPE WITH NEOPRENE OR SYNTHETIC RUBBER GASKETS. ALL WATER GATES SHALL OPEN AS PER MUNICIPAL REQUIREMENTS. ALL WATER LINES SHALL HAVE A MINIMUM OF FIVE FEET OF GROUND COVER AND A MINIMUM SEPARATION OF TEN FEET FROM THE SEWER SYSTEM. AT WATER AND SEWER CROSSINGS, THE WATER LINE SHALL BE ENCASED IN SIX INCHES OF CONCRETE FOR A DISTANCE OF TEN FEET ON EITHER SIDE OF THE CROSSING.
- 7. THIS PROJECT DISTURBS MORE THAN ONE ACRE OF LAND AND REQUIRES A PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES. AT LEAST 14 DAYS PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL FILE AN ELECTRONIC NOTICE OF INTENT (eNOI) WITH THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (U.S. EPA) FOR CONSTRUCTION DISCHARGES ASSOCIATED WITH THIS PROJECT AND MAINTAIN A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN ACCORDANCE WITH NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) REGULATIONS.
- 8. ENSURE ALL EXISTING (TO REMAIN) AND PROPOSED MANHOLE COVERS PROPERLY IDENTIFY UTILITIES SERVICED.
- 9. ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF ANY EARTH MOVING ACTIVITIES. REFER TO SITE PREPARATION PLAN FOR COMPLETE EROSION AND SEDIMENTATION CONTROLS.
- 10. WHERE AN EXISTING UTILITY IS FOUND TO BE IN CONFLICT WITH THE PROPOSED WORK, THE CONTRACTOR SHALL ACCURATELY DETERMINE THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY AND TRANSMIT THIS INFORMATION TO THE ENGINEER WITHOUT DELAY.
- 11. THE USE OF FIRE HYDRANTS FOR CONSTRUCTION IS NOT PERMITTED WITHOUT PRIOR APPROVAL FROM THE CITY OF SOMERVILLE WATER AND SEWER DEPARTMENT AND FIRE DEPARTMENT.
- 12. CONTRACTOR SHALL COORDINATE ANY WATER SHUT DOWNS THE CITY OF SOMERVILLE WATER AND SEWER DEPARTMENT AND FIRE DEPARTMENT.
- 13. ALL TRENCH EXCAVATION CONTRACTORS SHALL COMPLY WITH MASSACHUSETTS GENERAL LAWS CHAPTER 82A, TRENCH EXCAVATION SAFETY REQUIREMENTS, TO PROTECT THE GENERAL PUBLIC FROM UNAUTHORIZED ACCESS TO UNATTENDED TRENCHES. TRENCH EXCAVATION PERMITS ARE REQUIRED. THIS APPLIES TO ALL TRENCHES ON PUBLIC AND PRIVATE PROPERTY.

#### GENERAL LEGEND

PROPERTY LINE

LIMIT OF THOROUGHFARE

#### LEGEND

VGC
VERTICAL GRANITE CURB

FGC
FLUSH GRANITE CURB

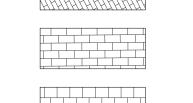
TRANSITIONAL CURB

LIMIT OF CURB TYPE

BUILDING ENTRANCE

LOADING DOCK

PAVERS



PAVERS

STAMPED BITUMINOUS CONCRETE

### PAVEMENT MARKING AND SIGNAGE LEGEND

POLE MOUNTED SIGN

WALL/FENCE MOUNTED SIGN

CROSSWALK

SWL SINGLE WHITE LINE

#### GRADING LEGEND

PROPOSED CONTOUR MAJOR LINE

PROPOSED CONTOUR MINOR LINE

PROPOSED SPOTGRADE

EXISTING SPOTGRADE, TO BE FIELD

VERIFIED BY CONTRACTOR PRIOR

TO THE START OF CONSTRUCTION

BC

BOTTOM OF CURB

TO OF CURB

#### UTILITY LEGEND

DRAINAGE LINE

SANITARY SEWER LINE

WATER LINE

UNDERGROUND CONDUIT (UGC) INCLUDES ELECTRIC AND TELEDATA CONDUIT

GAS LINE

BORINGS PERFORMED BY STANTEC IN NOVEMBER 2016

DRAIN MANHOLE

WATER QUALITY INLET (WQI)

(STORMCEPTOR 450i)

SEWER MANHOLE

WG

WATER GATE VALVE

♠HYDHYDRANTELECTRIC

CLDI CEMENET LINED DUCTILE IRON

TEE

DMH DRAIN MANHOLE
FM FORCE MAIN

HDPE HIGH DENSITY POLYETHYLENE
WQU WATER QUALITY UNIT

Projec

#### UNION SQUARE - D2 PARCEL SOMERVILLE, MA



STANTEC

226 CAUSEWAY STREET, 6TH FLOOR
BOSTON, MA 02114



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DSPR - THOROUGHFARE PLAN SET

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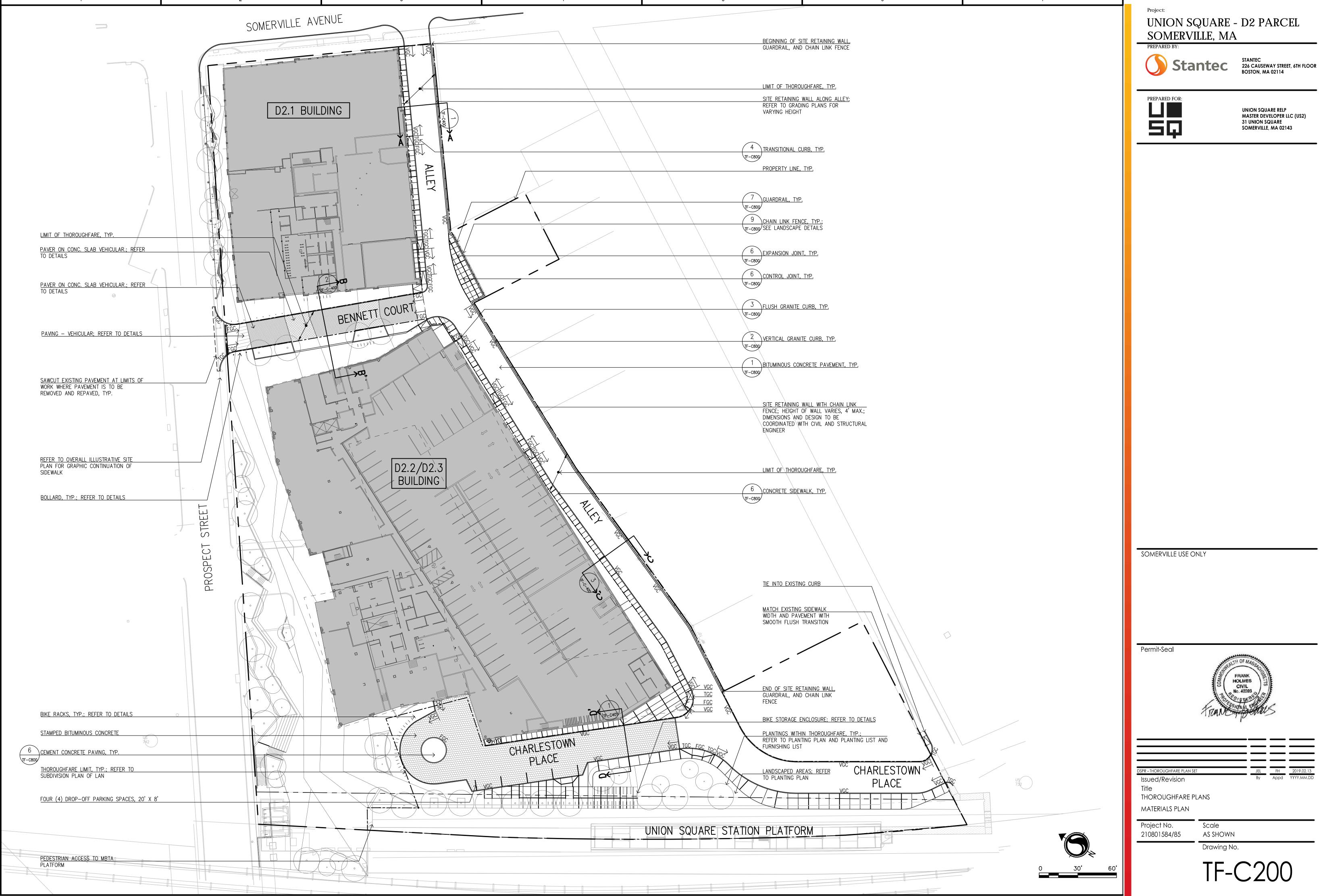
THOROUGHFARE PLANS

NOTES, LEGEND, AND ABBREVIATIONS

Project No. 210801584/85

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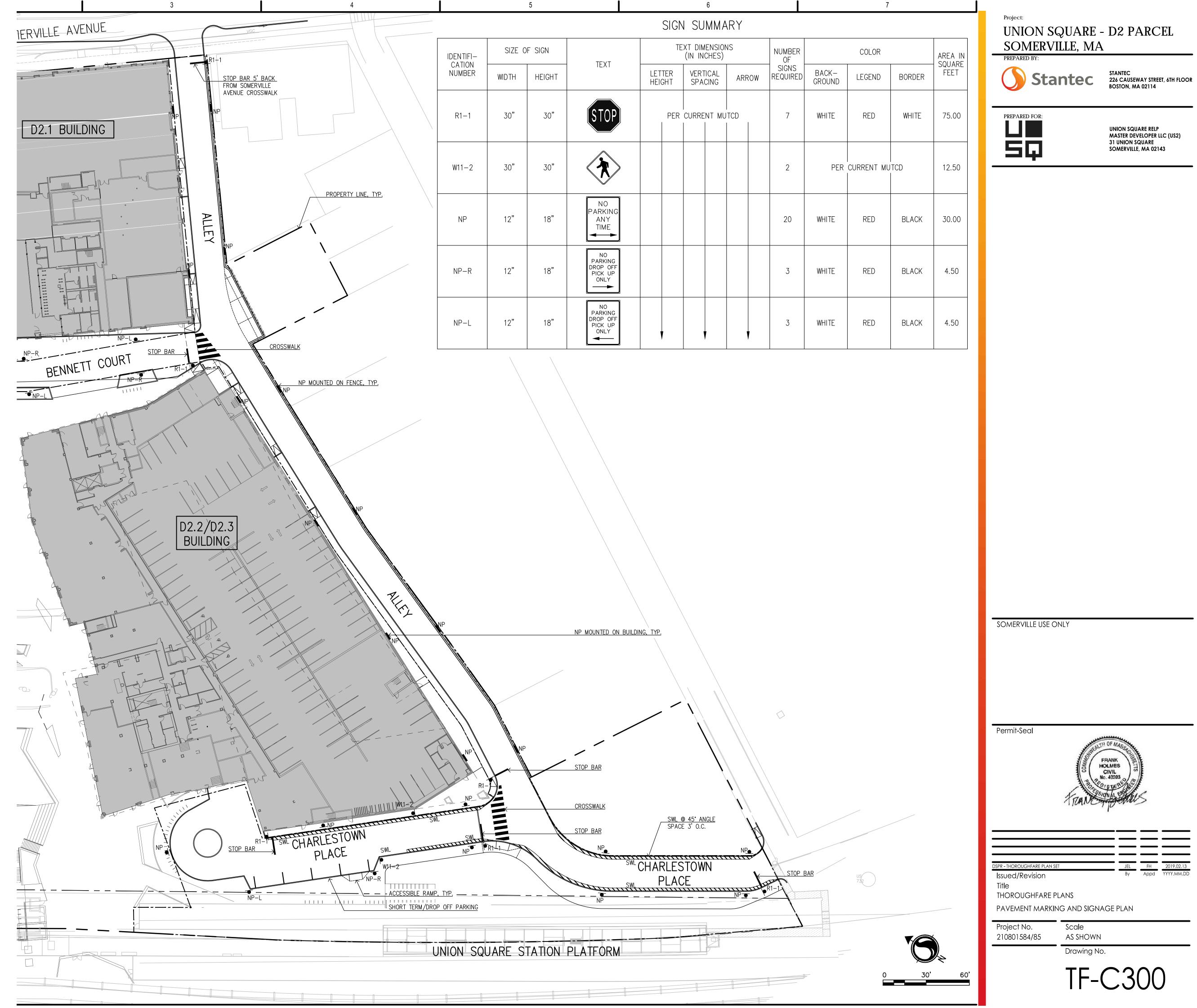
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UNION SQUARE - D2 PARCEL

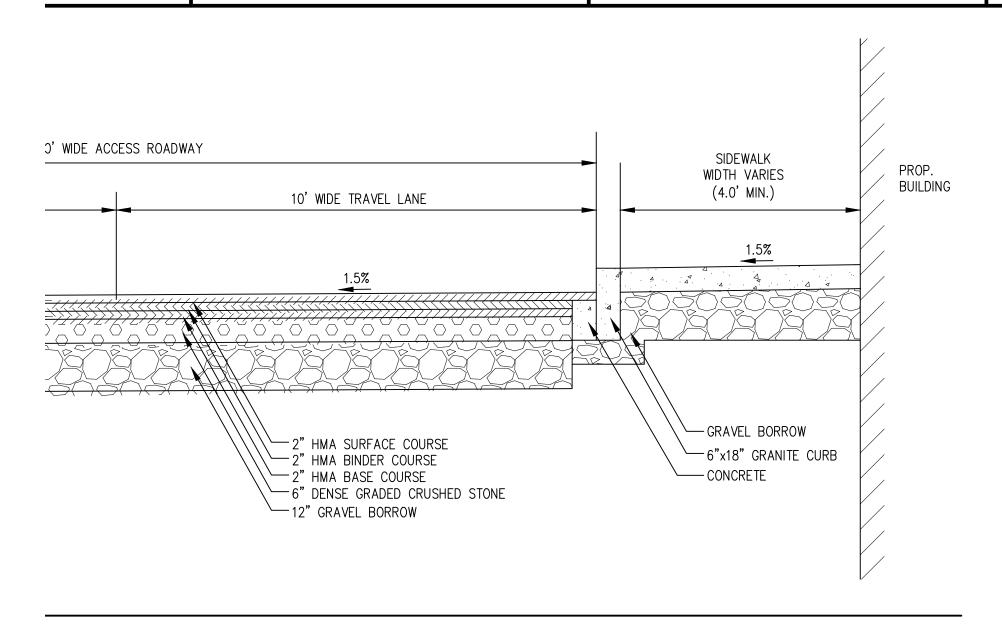
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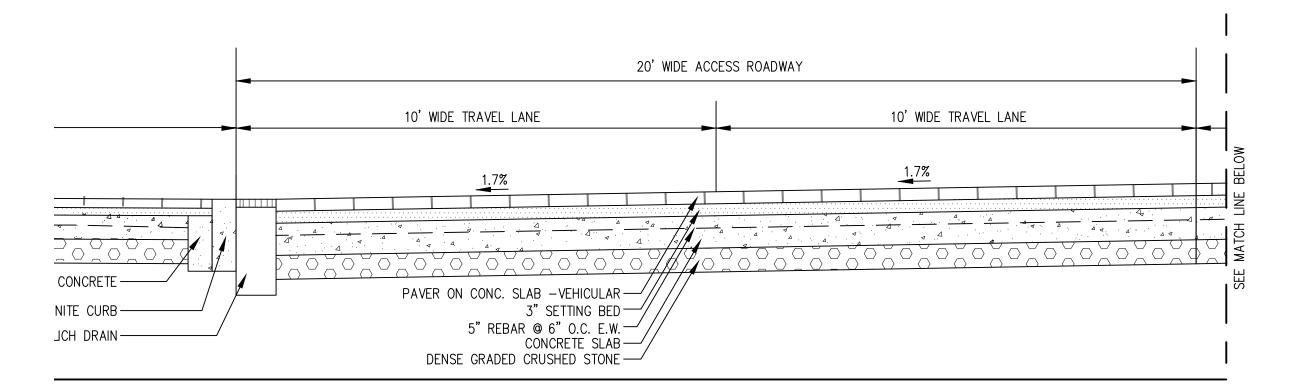


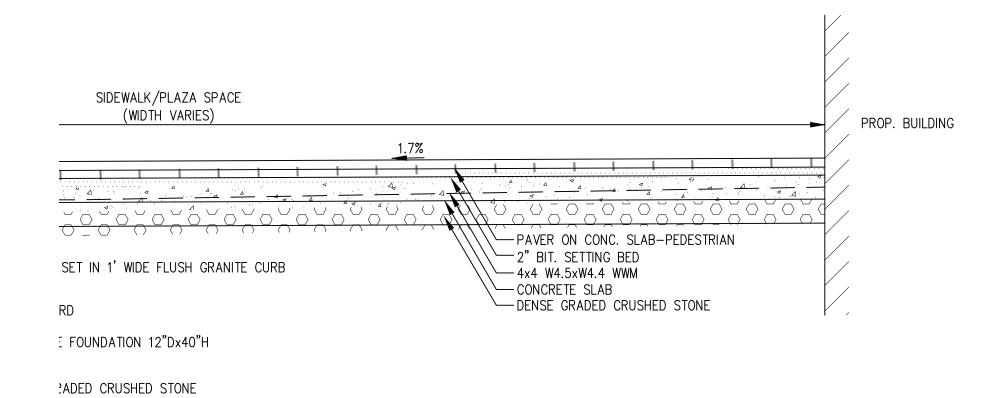
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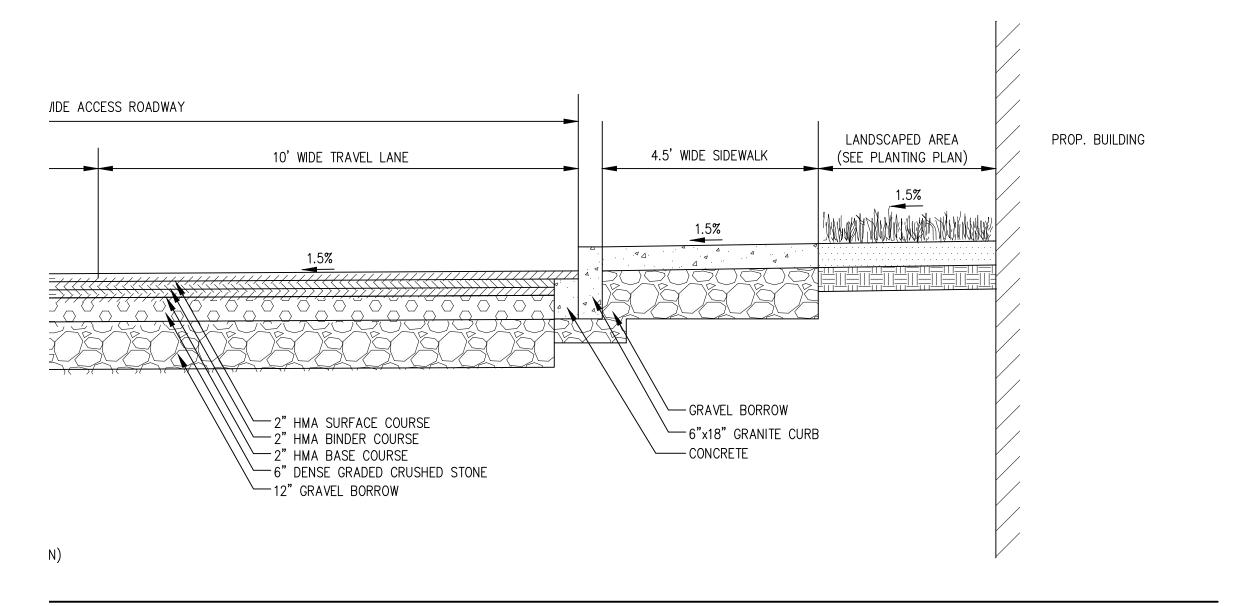












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#### UNION SQUARE - D2 PARCEL SOMERVILLE, MA



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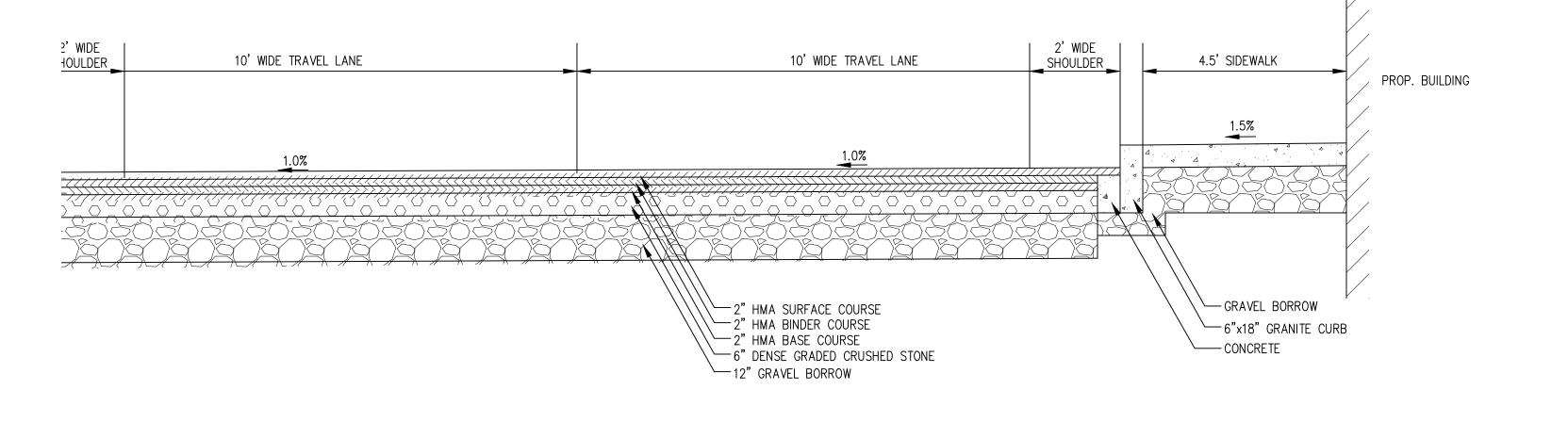
THOROUGHFARE PLANS

THOROUGHFARE CROSS SECTIONS 1

Project No. 210801584/85

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### UNION SQUARE - D2 PARCEL SOMERVILLE, MA



Stantec

STANTEC

226 CAUSEWAY STREET, 6TH FLOOR
BOSTON, MA 02114



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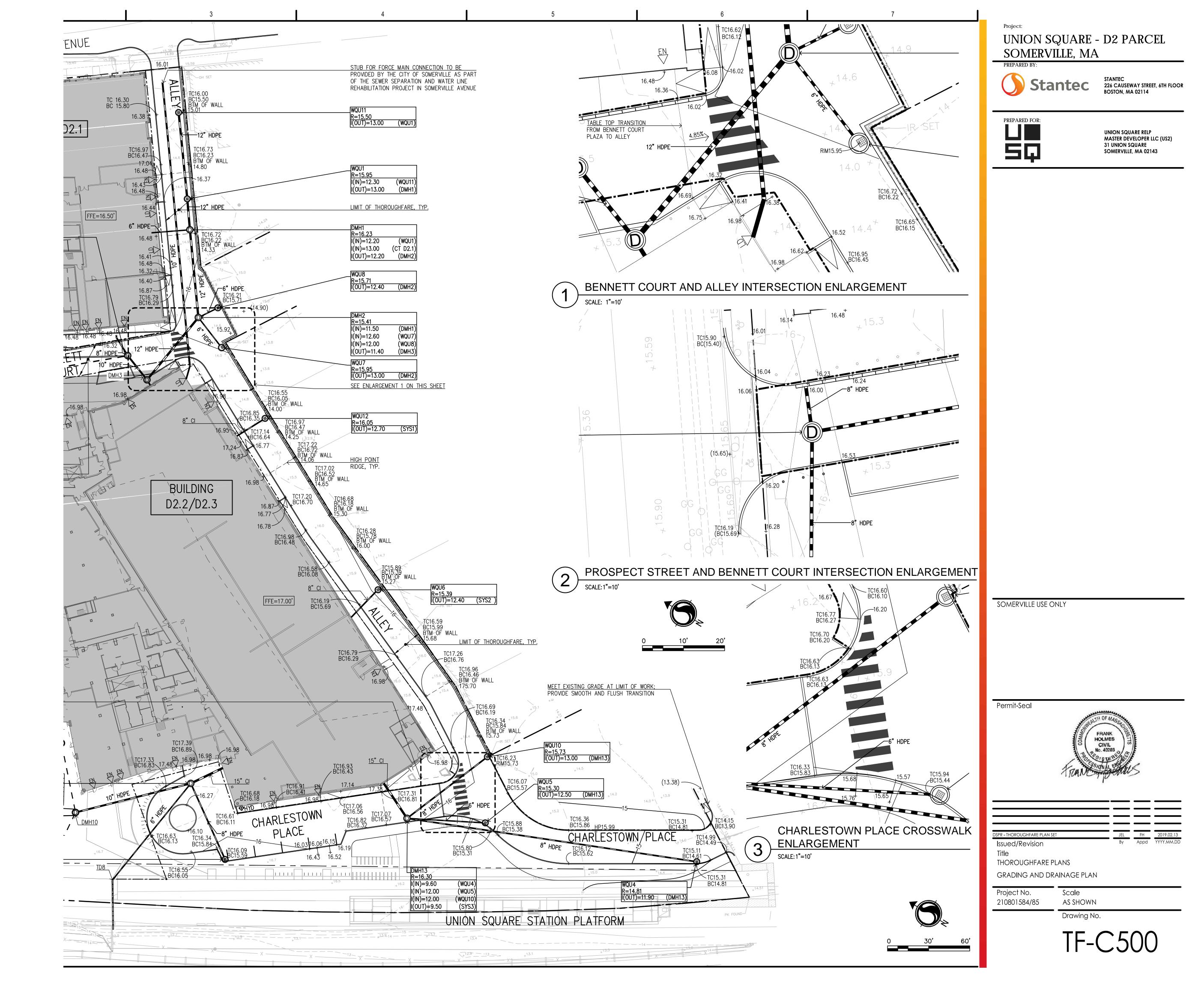
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THOROUGHFARE CROSS SECTIONS 2			

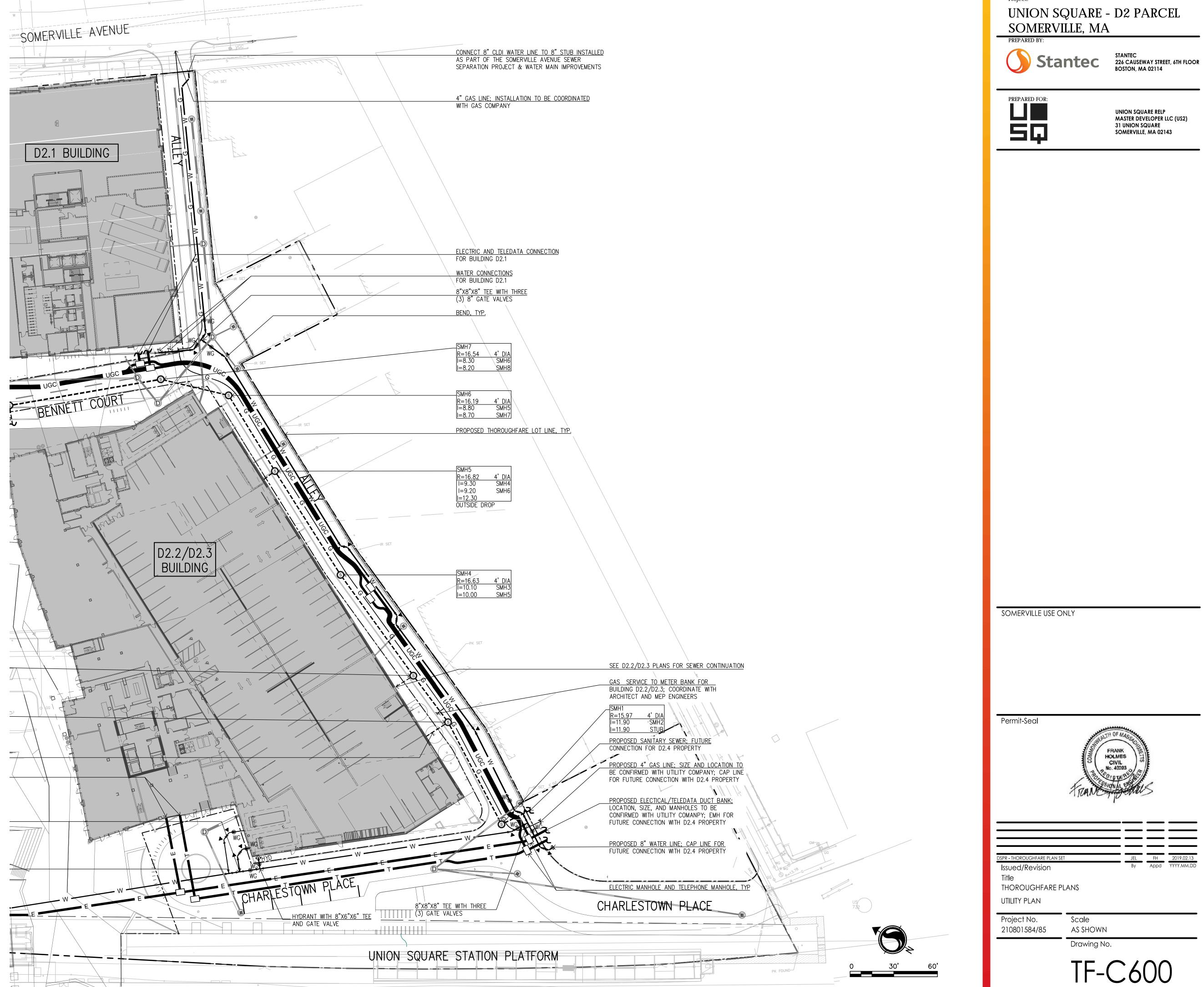
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Scale AS SHOWN

Drawing No.

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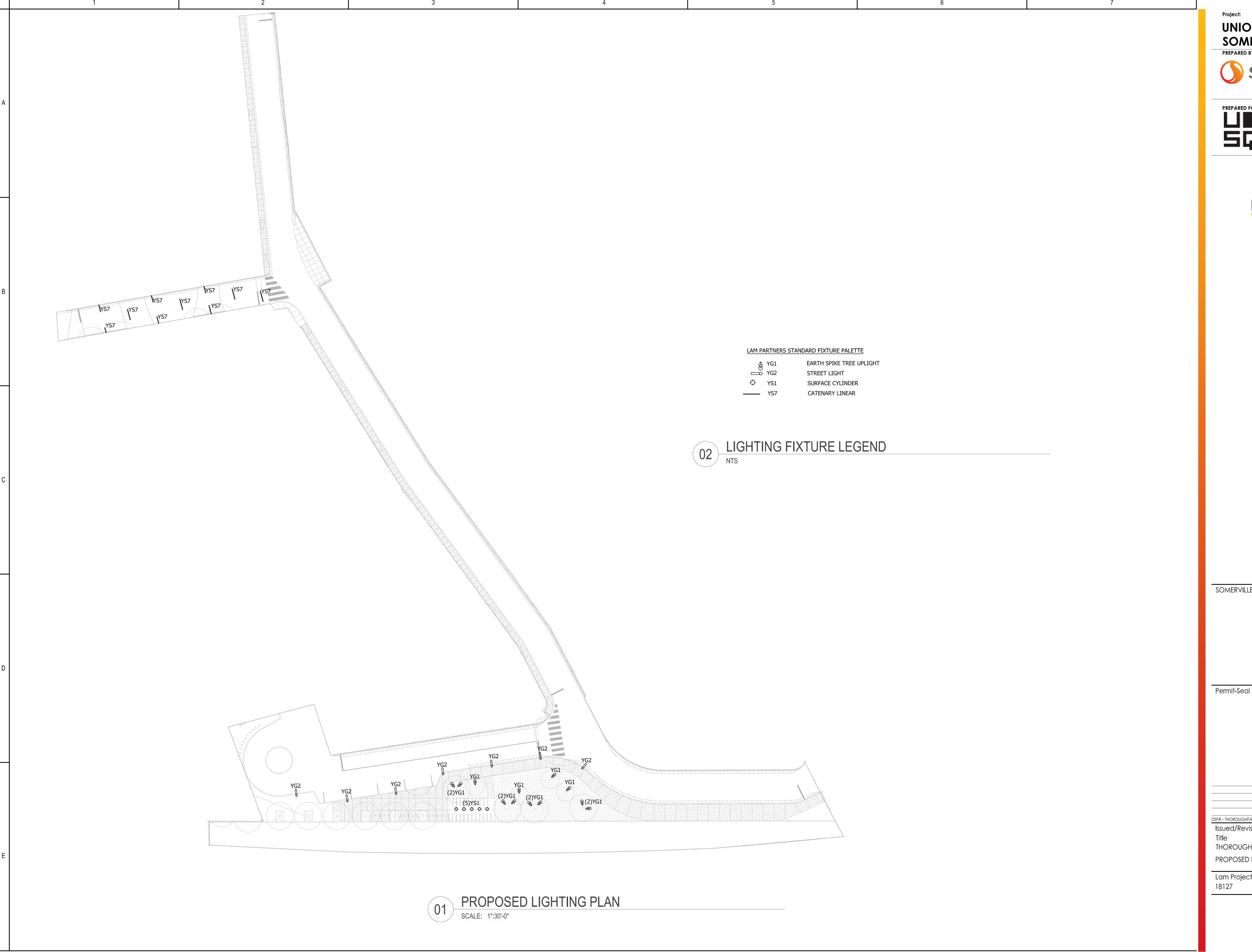


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UTILITY PLAN			

Scale

as shown

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ORIGINAL SHEET - ARCH D

**UNION SQUARE - D2 PARCEL** SOMERVILLE, MA





UNION SQUARE RELP MASTER DEVELOPER LLC (US2) 31 UNION SQUARE SOMERVILLE, MA 02143

Lam Partners

ARCHITECTURAL LIGHTING DESIGN

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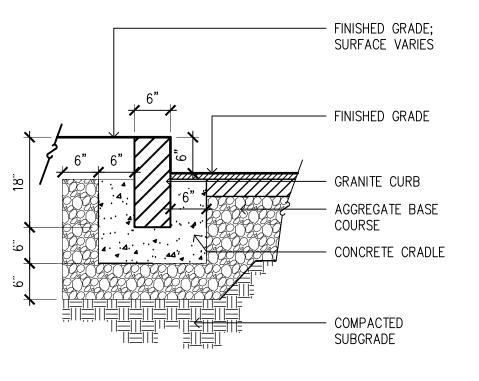
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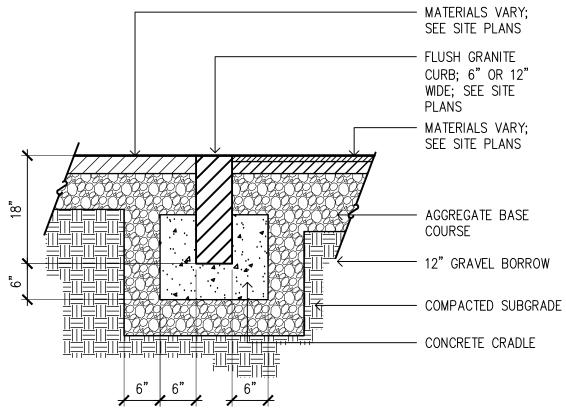
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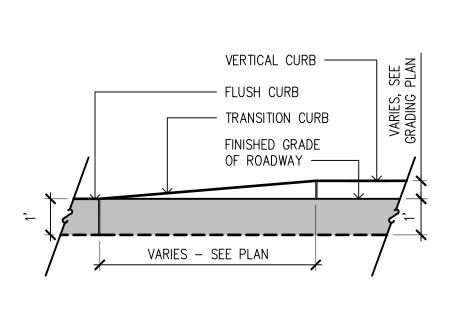
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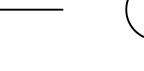






#### VERTICAL GRANITE CURB

SCALE: NTS





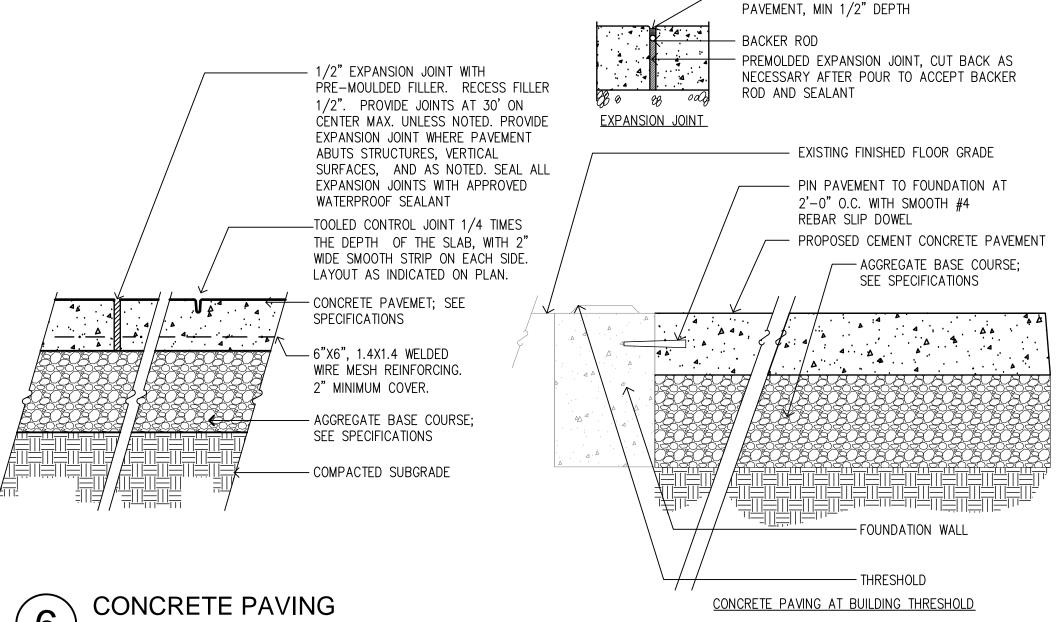
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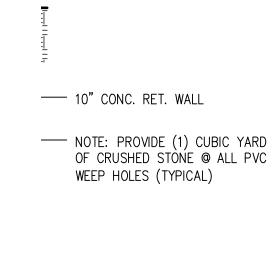
CROSSWALK

SCALE: NTS



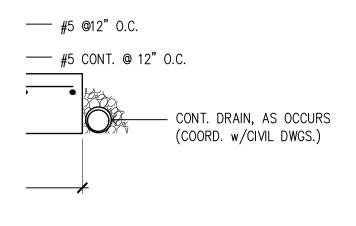
-SPECIFIED SEALANT, COLOR TO MATCH

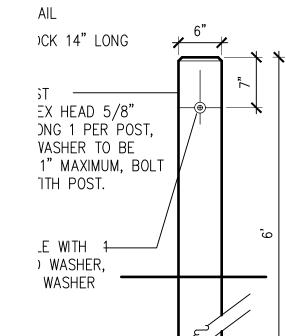




—— #5 HORIZ. @ 12" O.C.,

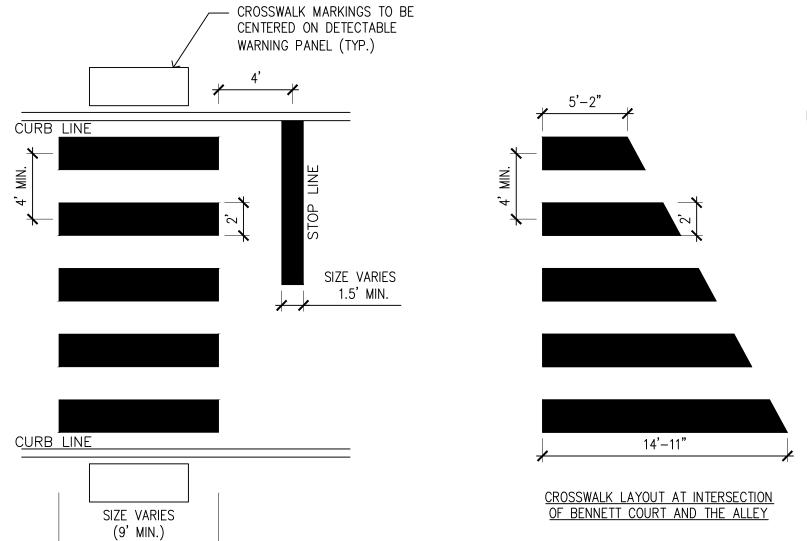
ËACH FACE





MASSDOT S AT EACH

-M GUARD



NOTES:

1. ALL 12" THERMOPLASTIC LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO – 6" LINES) WILL BE ACCEPTED.

2. LAYOUT OF CROSSWALKS SHALL BE APPROVED BY THE SOMERVILLE TRANSPORTATION AND INFRASTRUCTURE DIVISION PRIOR TO APPLICATION OF THERMOPLASTIC.

3. ALL CROSSWALKS INSTALLED SHALL CONFORM TO THE RELEVANT PROVISIONS OF THE MASSACHUSETTS HIGHWAY DEPARTMENT "STANDARD SPECIFICATION FOR HIGHWAY AND BRIDGES" DATED 1988, SECTION 860 FOR REFLECTORIZED LINES (THERMO—PLASTIC) & MATERIAL M7.01.20, LATEST REVSIONS.

Proje

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DSPR - THOROUGHFARE PLAN SET

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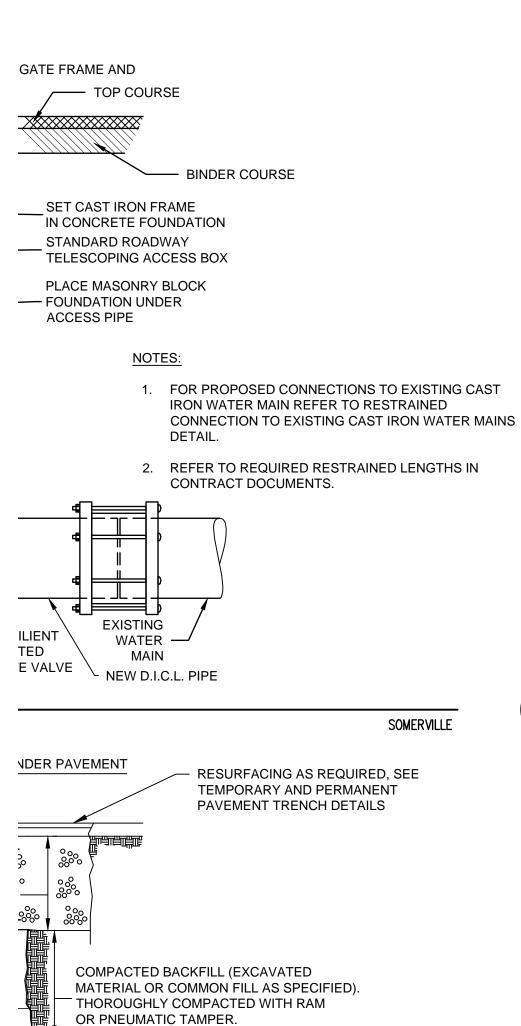
Title

THOROUGHFARE PLANS

SITE DETAILS

Project No. 210801584/85

Scale
AS SHOWN
Drawing No.

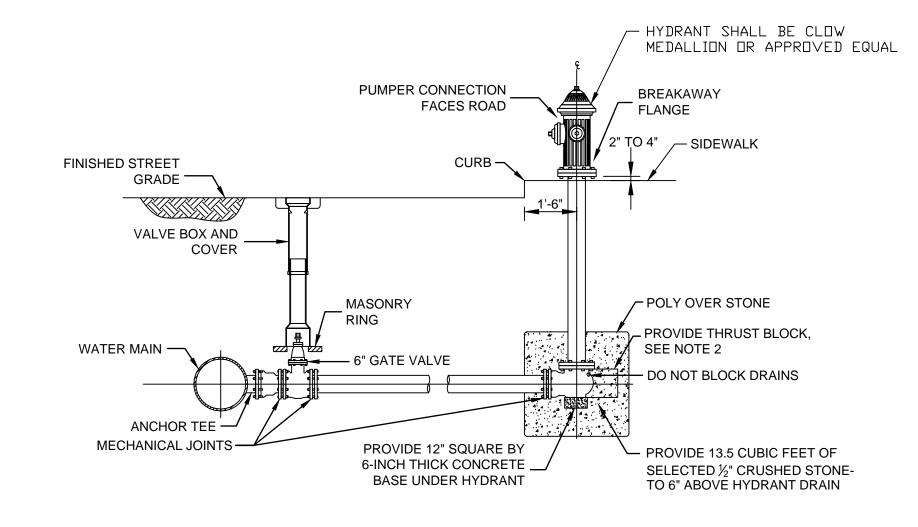


OR PNEUMATIC TAMPER. NO ROCKS 8" OR GREATER ALLOWED WITHIN 12-INCHES OF TOP OF MAIN. COMPACTED SAND BEDDING AND BACKFILL USE CRUSHED STONE BEDDING AND BACKFILL DISCRETION.

BEDDING SHALL BE MINIMUM OF 12" THICK UNDER PIPE.

ENSITY.

SOMERVILLE



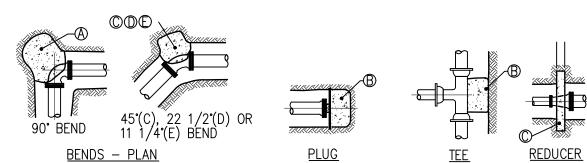
- 1. PROVIDE HYDRANT, VALVE AND TEE JOINTS WITH RESTRAINED MECHANICAL JOINTS.
- 2. THRUST BLOCK SHALL HAVE MINIMUM BEARING AREA OF 1.5 FEET BY 1.5 FEET

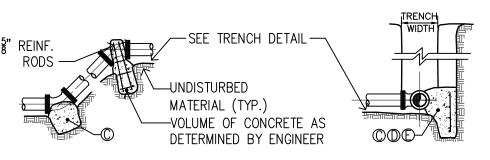
#### HYDRANT SETTING WITH GATE VALVE SOMERVILLE SCALE: NTS

1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE. 2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.

- 3. PLACE SOLID CONCRETE BLOCKS IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCK. 4. REQUIREMENTS OF THE ABOVE TABLE PRESUME MINIMUM SOIL BEARING OF 1 TON PER SQUARE FOOT, AND MAY BE VARIED BY THE ENGINEER
- TO MEET OTHER CONDITIONS ENCOUNTERED. 5. MEGA-LUG RETAINER GLANDS ARE REQUIRED FOR ALL MECHANICAL JOINTS. THESE GLANDS DO NOT REDUCE THE REQUIREMENTS FOR THRUST RESTRAINT.
- 6. ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE OR BUILDING PAPER PRIOR TO INSTALLATION OF CONCRETE RESTRAINT. 7. THREADED ROD SHALL BE ANSI A242 FY50 PIPE RESTRAINT NUTS TO MATCH AWWA C111.
- THREADED RODS AND NUTS TO BE FIELD COATED WITH BITUMINOUS PAINT. 8. THRUST RESTRAINT IS REQUIRED FOR ALL TEES, BENDS, REDUCERS, CAPS, PLUGS, OR
- 9. INSTALL LIFT HOOKS INTO THRUST BLOCKS AT END CAPS AND PLUGS.

THRUST BLOCK





TEE OR BEND — SECTION <u>VERTICAL BENDS - SECTION</u>

THRUST BLOCK SCHEDULE SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL					
TYPE REACTION	PIPE SIZE				
	4"	6"	8"	10"	12"
A	1.78	4.38	7.84	11.14	16.52
$^{lack}$	1.30	3.10	5.52	8.38	12.18
©	0.96	2.38	4.24	6.02	9.32
<b>(</b>	0.50	1.2	2.16	3.08	4.74
Ē	0.26	0.60	1.08	1.54	2.38
OTHER TEST PRESSURES FOR THE ABOVE REACTIONS	ABOVE DIMENSIONS ARE MINIMUM THRUST BLOCK SIZES. THEY HAVE BEEN CALCULATED USING A PRESSURE OF 200 PSI.  TEST PRESSURE TO BE 150 PSI MIN, OR AS REQUIRED BY THE CITY OF SOMERVILLE.  SQUARE FEET OF CONCRETE THRUST BLOCKING FOR OTHER TEST PRESSURES IS DIRECTLY PROPORTIONAL TO THE ABOVE TABLE. FOR INSTANCE, AT 225 PSI TEST PRESSURE ABOVE NUMBERS SHOULD BE MULTIPLIED BY 1.125 (225 PSI/200 PSI=1.125).				

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Project No. 210801584/85

as shown Drawing No.

TABLE 1 : MANHOLE/CATCH BASIN DIMENSIONS				
ANHOLE/CATCH ASIN DIAMETER	SIDE WALL MIN. THICKNESS	BOTTOM SLAB MIN. THICKNESS	MAX PIPE D	DIAMETER * DI/PVC
4'	5"	6"	24"	30"
5'	6"	8"	36"	42"
6'	6"	8"	48"	54"
8'	8"	8"	66"	72"
10'	10"	10"	72"	84"

MAY VARY DEPENDING ON SIZE AND LOCATION OF ADDITIONAL PENETRATIONS OR RELATIONSHIP OF PENETRATIONS IN MANHOLE

#### **NERAL MANHOLE NOTES**:

INNER EDGE OF BRICK TABLE TO BE AT ELEVATION OF CROWN OF TOP OF PIPE. TABLE TO SLOPE AT 8.3% TO INSIDE OF MANHOLE BASE.

SEWER OR DRAIN MANHOLE DIAMETER SHALL BE 4', 5', 6', 8', OR 10' AS SHOWN ON PLAN/PROFILE VIEWS.

DESIGN PRECAST SECTIONS WITH FRAME AND COVER FOR

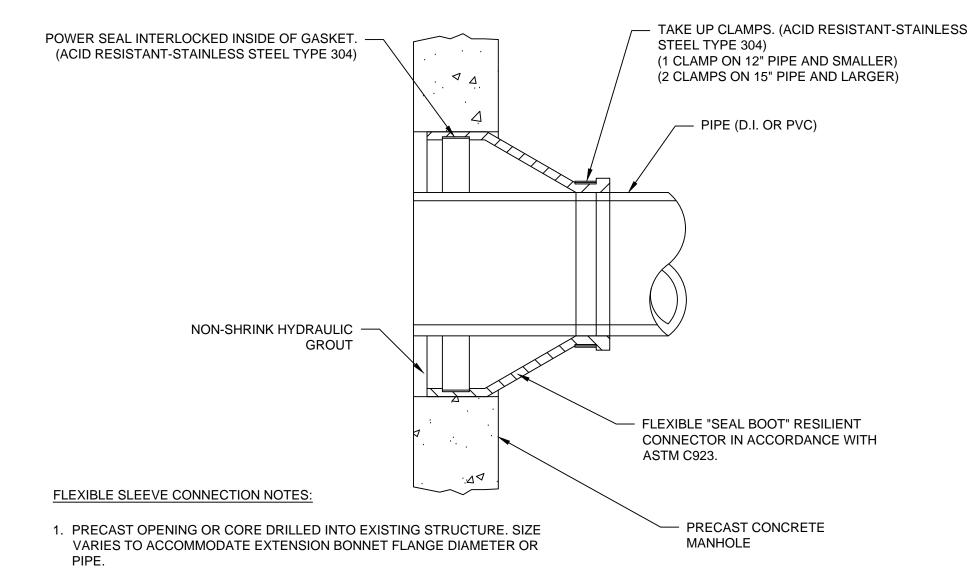
AASHTO H20 LOADINGS.

FOR DESCRIPTION OF MATERIALS, SEE SPECIFICATIONS. OPENING IN TOP MANHOLE SECTION SHALL MATCH CASTING

MANHOLES LARGER THAN 4' IN DIAMETER AT THE BASE SHALL BE REDUCED IN DIAMETER TO 4' AT TOP RISER SECTION

#### **GENERAL CATCH BASIN NOTES:**

- 1. FACE OF PIPE SHALL NOT PROJECT MORE THAN 4-INCHES FROM FACE OF WALL ALONG CENTERLINE OF
- 2. FOR DESCRIPTION OF MATERIAL AND CONSTRUCTION METHODS, SEE SPECIFICATIONS.
- 3. DESIGN PRECAST SECTIONS WITH FRAME AND GRATE FOR AASHTO H20 LOADING.
- 4. GRATE OPENING CAN BE CENTERED OR OFFSET PERPENDICULAR TO THE CURB.



2. IF PRECAST OPENING, CONTRACTOR TO COORDINATE WITH PRECASTER TO CAST SLEEVES INTO THE MANHOLE WALL.

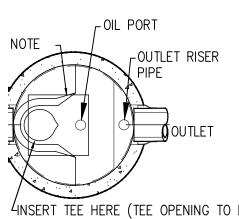
#### MANHOLE FLEXIBLE SLEEVE

 WHEN UPPER UTILITY IS NEW, FILL AREA ABOVE EXISTING UTILITY WITH BEDDING MATERIAL AS INDICATED IN TYPICAL TRENCH DETAIL. WHEN UPPER UTILITY IS

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# DRAIN MANHOLE GENERAL NOTES

NOMINAL DIAMETER.

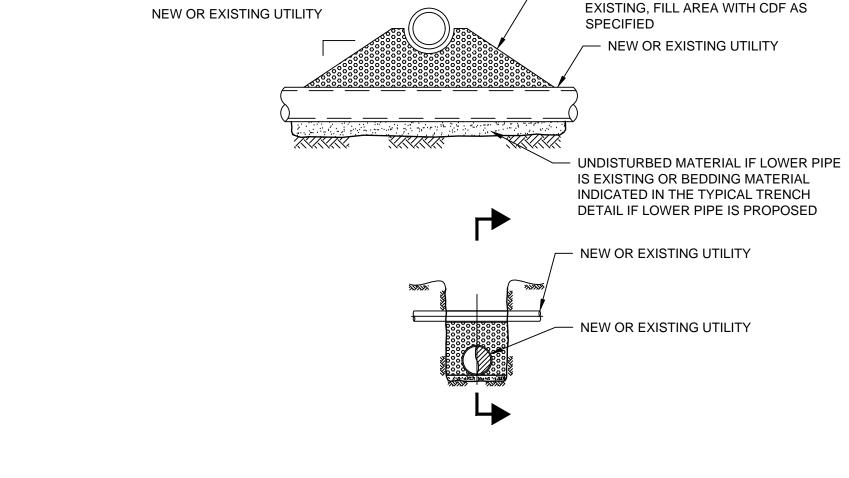


INSERT TEE HERE (TEE OPENING TO FACE SIDE WALL) PLAN VIEW

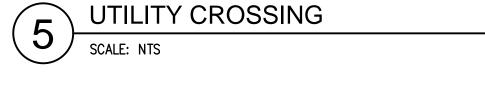
USE OF FLEXIBLE CONNECTION IS RECOMMENDED AT THE INLET AND LET WHERE APPLICABLE. COVER SHOULD BE POSITIONED OVER THE OUTLET DROP PIPE AND OIL PORT. STORMCEPTOR SYSTEM IS PROTECTED BY ONE OF MORE OF THE .OWING U.S. PATENTS: #5753115, #5849181, #6068765, #6371690.

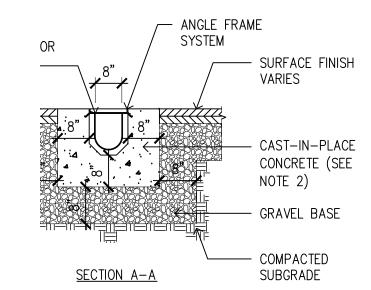
32216, #7666303.. TACT A CONCRETE PIPE DIVISION REPRESENTATIVE FOR FURTHER LILS NOT LISTED ON THE DRAWING.

### R 450i



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OTES:
TRENCH DRAIN SHALL BE HEAVY DUTY AND DESIGNED FOR HS-20 LOADING.

CONCRETE SHALL BE COMPRESSIVE STRENGTH 4000 PSI, TYPE || CEMENT. TRENCH DRAIN GRATE SHALL MEET AMERICANS WITH DISABILITY (ADA) REGULATIONS.

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OR SIDE	WALK	SOIL TYPE	
SIDEWA	LK	SOILTIFE	
		SILT OR CLAY	GRANULAR SOIL
	ABOVE GROUND	FILTER FABRIC	FILTER FABRIC
MENT	WATER	NOT REQUIRED	NOT REQUIRED
3ASE	BELOW GROUND	FILTER FABRIC	FILTER FABRIC
<b>RSE</b>	WATER	REQUIRED	NOT REQUIRED
= 1)			

MMON FILL AND ON-SITE FILL FERIAL GEOTECHNICALLY TABLE FOR REUSE ON-SITE AS KFILL

CRUSHED ONE BEDDING

TRENCH PAY LIMIT TABLE FOR PIPES PIPE SIZE (DIA.) TRENCH WIDTH LESS THAN 2"

2'-0" 2" TO 6" 3'-0" 8" TO 22" 4'-0" ΓER FABRIC 24" & GREATER I.D. + 2'-0" E TABLE) I.D. = INSIDE DIAMETER

UIREMENTS.

IN WHICH PAY TRENCH WIDTH IS A VARIABLE FOR

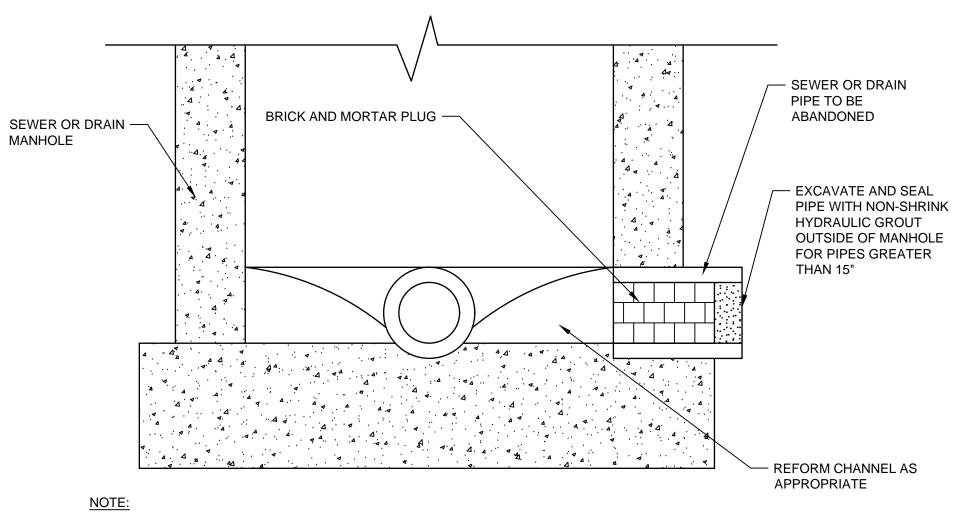
JPPORT OF EXCAVATION.

### **PIPES**

SOMERVILLE LL BED OF MORTAR ALL AROUND HED GRADE. SEE MANHOLE DETAIL. STANDARD MANHOLE FRAME :D GRADE AND COVER (SEE NOTE 1) D PRECAST CONE IN 2', 3', & 4' SEWER OR DRAIN BARREL SECTION (SIZE VARIES) ONS OF 1', 2', OR 3' S NEEDED TO - PLACE JOINT OR HOLE RIM TO COUPLING WITHIN 3' OF WALL ON ALL PIPES L JOINTS WITH RINK HYDRAULIC - BRICK INVERT RECAST NGTH SHAPE SMOOTH ROUNDED INVERT FOR ALL SIDE ENTRANCE ATERTIGHT QUIRED FOR PVC : NON SHRINK - FLEXIBLE WATERTIGHT RCP SLEEVE REQUIRED FOR PVC NS. CAST OPENING AND DI. USE NON SHRINK IRE. (TYP.) **GROUT FOR RCP** CONNECTIONS. CAST OPENING IN STRUCTURE. **ED MATERIAL** 

ETAIL FOR MANHOLE NOTES AND TABLE.

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1. REFER TO SPECIFICATIONS FOR FLOWFILL ABANDONMENT REQUIREMENTS FOR PIPES GREATER THAN 15" IN DIAMETER.

2. SEE SPECIFICATIONS FOR MATERIAL DETAIL AND MANUFACTURER'S INFORMATION.

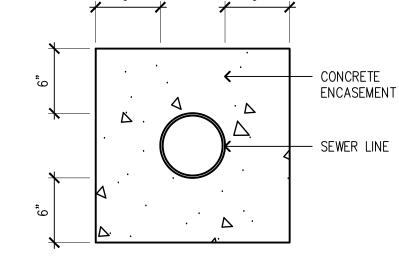
MANHOLE FRAME AND COVER

PLUG FOR ABANDONING SEWER OR DRAIN

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SEWER LINE ENCASEMENT SCALE: NTS

ENCASEMENT

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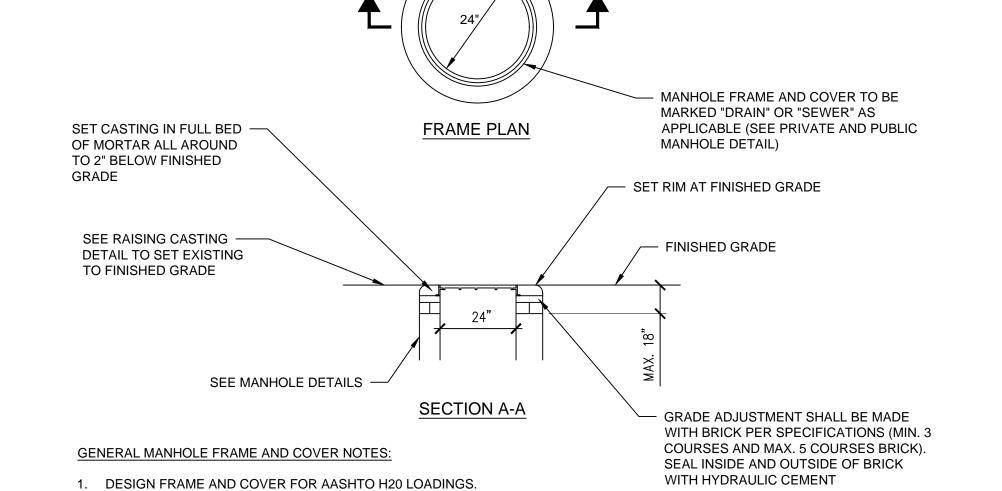
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**AS SHOWN** Drawing No.









## SHADE TREES - Shade Trees will be selected from the following list or similar



Blackgum *Nyssa sylvatica* fall color



Honey Locust Gleditsia triacanthos



River Birch Betula nigra



Red Maple Acer Rubrum 'autmn blaze'

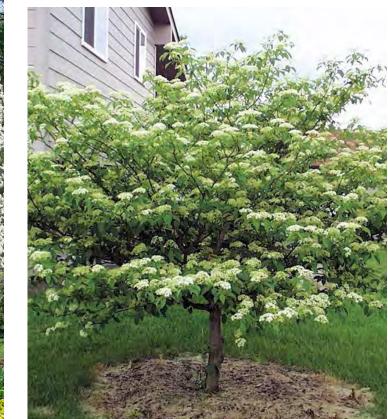


Hamamelis virginiana or vernalis



Serviceberry Amelanchier canadensis 'autumn brilliance'

UNDERSTORY TREES - Understory trees will be selected from the

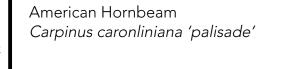


Pagoda Dogwood Cornus alternifolia









Willow Oak Quercus phellos



Sterling Silver Linden Tilia tomentosa 'sterling'



Swamp White Oak Quercus bicolor



Juniperus virginiana

Magnolia Elizabeth Magnolia x brooklynesis 'elizabeth'

# SITE FURNISHING - Site furnishing will be selected from the following list or similar





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Project No. 210801584/85

Scale AS SHOWN Drawing No.

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