



Plan Content Requirements

The following are required to be included on Site Utility Plans submitted to the DPW for advance project review, comment input and approval. Only plan submittals containing the proper level of information presented in the specified format will be plan reviewed and processed. Hence, to avoid rejections or delays the applicant should accurately prepare the appropriate Plan Submittal Package following the content items outlined below.

1. Drawing must be drawn to scale with the scale preference being 1"=20' including the depiction of a North Arrow. Orient such that North does not point towards the bottom of the sheet.
2. All drawing sheets shall have a border, title, and revision block that includes at a minimum:
 - a. Engineering firm name and address/contact information including telephone and email
 - b. Project name
 - c. Property address and street name
 - d. Drawing creation date
 - e. Scale
 - f. Revision block represented to facilitate the documentation of any follow-up revision plan submittals numbers/revision description/revision date with all revision information made on the drawing (layout or annotation) clearly cloud circled and each cloud noting the revision number
3. All existing vs. all proposed design construction conditions (drawing and annotation) must be distinguished by different line weight treatment as follows: Existing conditions depicted lighter or narrower and proposed design conditions shown heavier or bolder line weight representation.
4. Original Massachusetts licensed Professional Engineer's or Professional Land Surveyor's stamp and signature on all drawings.
5. In addition to key dimensions and location ties, the size, material, and vintage must be shown for all existing and proposed infrastructure (mains and services or branches) needed to support the project be it City and/or public and/or private owned (i.e. Water, Sewer, Storm Water, Traffic Signal, Telecom, Electric, Gas, etc.)
6. Locus map showing the parcel in relation to the surrounding properties
7. Name of record owner(s) of land shown on the plan
8. Identification of parcel by sheet, block, and lot number of Assessors Maps.
9. Property lines, easements and/or other legal rights within the property lines. Locations of all existing and proposed roadway monumentation.
10. Location of all buildings and lot lines on the lot, including ownership of lots, and street lines, including intersections within 300 ft.
11. Boundaries and existing and proposed topography of the property, including contours at a 2-foot interval, using (National Geodetic Vertical Datum 1929) NGVD29 as it may be updated from time to time and specifying NGVD29 on all elevation drawings, specifically indicating the areas on which the activity is proposed to occur, and clearly noting if the activity is on an area greater than 4,000 square feet or on Slopes 15% or greater
12. Dimensions of proposed buildings and structures, including gross floor area, floor area ratio, total lot coverage of building, and breakdown of indoor and outdoor floor area as to proposed use. Area dimensions to include Lot Coverage of Building, Paved Surface Coverage, and Landscaped Open Space and Other Open Space, with percentages of these items to be provided and to total 100 percent of the lot area.
13. Locations and dimensions, including total ground coverage, of all driveways, maneuvering spaces and aisles, parking stalls and loading facilities, and proposed circulation of traffic.
14. Location of pedestrian areas, walkways, flow patterns and access points, and provisions for handicapped parking.
15. Location, size, and type of materials for surface paving, curbing, and wheel stops.
16. Location, dimension, type and quantity of materials for open space, planting, and buffers where applicable.



17. Provisions for storm water drainage affecting the site and adjacent parcels, and snow disposal areas. Drainage computations and limits of floodways shall be shown where applicable.
18. Accurate depiction of rim and invert elevations for storm drainage and sanitary sewer, sanitary service wyes with distances to nearest structure, water line gates and water service valves
19. Cross sections, design details or profiles as appropriate
20. Curbing, sidewalk, driveway curb opening, parking areas, walkways, and road layout identified and dimensioned
21. Photometric plan showing the intensity of illumination expressed in foot-candles at ground level within the interior of the property and at the property boundaries; location, orientation, height, wattage, type, and style of outdoor luminaire.
22. Zoning Table to be located on both the front page of the submitted plans and on the Parking Plan/Site Plan page.
23. Water service, sewer, waste disposal, and other public utilities, accurately positioned, on and adjacent to the site.
24. The size and location of all existing and proposed buildings, structures, utilities, roads, driveways, parking areas, and areas of cut and fill on the site and the location of all structures on abutting properties within 100 feet of the property lines of the parcel
25. All wetlands and wetland resource areas as defined in M.G.L. Ch. 131, §40, and the Framingham Wetlands Protection Bylaw, Article V, §18 of the General By-laws, drainage patterns, and watershed boundaries. Also include a delineation of the 100-year floodplain and all bodies of water, including vernal pools, streams, ponds, and coastal waters within 125-feet of the project site/limit of work and the delineation of a 30-foot no-cut/no alteration zone
26. Location of any rare and endangered species as mapped by the Massachusetts Natural Heritage Program
27. The location of any proposed stockpile locations
28. Detailed drawings and design calculations of all temporary and permanent stormwater management and Erosion and Sediment control structures and devices. Drawing Legend depicting all symbols and line types



As-built Plan Requirements

An as-built plan of project improvements (roadway, site work, and utilities), in both hardcopy and electronic formats, shall be submitted for review and approval. A stamped paper hardcopy of the as-built plan shall be submitted for review. Once approved, a stamped hard copy and electronic copies (AutoCAD and PDF) of the as-built plan shall be submitted for archival. All drawing sheets shall not exceed ARCH Size D (24" x 36") and shall be prepared at readable plan scale, preferably consistent with the design plan scale. Plans shall be prepared in monochrome format utilizing gray scale and line types to differentiate features (color as-built plans will not be accepted).

Electronic as-built information shall be in both AutoCAD 2008 and Acrobat PDF formats. The AutoCAD file shall conform to the current version of the MassGIS Standard for Digital Plan Submission. The electronic CD/DVD media shall be properly labeled with the Project Name, date, and all file names.

The as-built plan shall include:

1. North arrow, scale, and date
2. Name of record owner(s) of land shown on plan
3. Identification of parcel by sheet, block, and lot number of Assessor's Maps
4. Property lines, easements, and/or legal rights within the property lines
5. Location of all buildings and lot lines on the lot, including ownership of lot, and street limits
6. Boundaries and final topography of the property, including contours at a minimum 2 foot interval, using (National Geodetic Vertical Datum 1929) NGVD1929 as it may be updated from time to time and specifying NGVD on all elevation drawings
7. Original Massachusetts licensed Professional Engineer's or Professional Land Surveyor's stamp and signature on all drawings
8. All drawing sheets shall have a border and a title block that include project name/street location, and Engineering Firm telephone contact numbers/address information
9. Drawing Legend depicting all symbols and line types
10. Utilities accurately positioned (Cable, Drainage, Electric, Gas, Telephone, Sewer, Water, Etc.) as applicable
11. Size and materials identified for all new City utilities and service connections (Storm Drainage, Sanitary Sewer and Water)
12. Key dimensions (and ties) depicted for all new City utilities and service connections. Ties shall include dimensions from fixed objects to water valves, angle fittings, reducing fittings, sleeves, service taps, etc. and dimensions from fixed objects to sewer cleanouts, main taps, couplings, angle fittings, etc.
13. Rim and invert elevations for storm drainage and sanitary sewer, sanitary service wyes with distances to nearest structure, water line gates and water service valves shall be accurately depicted
14. Cross sections, design details or profiles as appropriate
15. Curbing, sidewalk, driveway curb opening, parking areas, walkways, and road layout identified and dimensioned



Construction Details

Detail Number	Detail Title
G-1.0.0	Fiber Rolls and Silt Fences for Erosion Control
W-2.1.0	Typical Water Connection for 1" Service
W-2.1.1	Typical Water Connection for 1-1/2" to 2" Service
W-2.1.2	Typical Fire Service for 1 1/2" to 2"
W-2.1.3	Typical Fire Service (Tapping Sleeve)
W-2.1.4	Typical Connection (Tapping Sleeve)
W-2.2.0	Typical Thrust Restraint Wedge Action Type Joints
W-2.2.1	Typical Thrust Restraints Using Tie Rods and Friction Clamps
W-2.2.2	Typical Thrust Block Detail
W-2.3.0	Water Main Trench Detail
W-2.4.0	Gate Valve
W-2.4.1	Typical Anchor Tee Installation
W-2.4.2	Air Release Valve/Blow Off
W-2.4.3	Valve Location at Intersection
W-2.4.4	Water Gate Covers
W-2.4.5	Water Valve Box
W-2.5.0	Fire Hydrant Installation
W-2.6.0	Water Main Lowering Detail
W-2.6.1	Water Crossing Under Railroad
W-2.7.0	Detail of Cut and Remove of Water Connection 4" and Over
W-2.7.1	Detail of Cut and Capping of Water Connection 4" and Over
W-2.8.0	Meter Installation
S-3.1.0	Service Connection (Gravity)
S-3.1.1	Service Connection (Saddle)
S-3.1.2	Chimney
S-3.1.3	Service Connection (Grinder)
S-3.2.0	Above Grade Clean Out
S-3.3.0	Plug for Abandoning Sanitary Sewer
S-3.3.1	Plug for Sanitary Sewer
S-3.4.0	Typical Sewer Manhole
S-3.4.1	Typical Drop Manhole (Outside)
S-3.4.2	Forcemain Manhole
S-3.4.3	Sewer Manhole Cover
S-3.4.4	Manhole Seal
S-3.5.0	Sewer Crossing
S-3.6.0	Backwater Valve Assembly
S-3.7.0	Typical Grease Trap



Detail Number	Detail Title
S-3.7.1	Typical Grease Trap Sizing and Notes
D-4.1.0	Single Grate Catch Basin
D-4.1.1	Direct Inlet Catch Basin
D-4.1.2	Dual Grate Catch Basin
D-4.2.0	Drain Manhole
D-4.2.1	Eccentric Manhole
D-4.2.2	Sump Manhole
D-4.3.0	Manholes and Catch Basins General Notes and Dimensions
D-4.3.1	Raising Castings
D-4.4.0	Rip Rap Apron at Pipe Outfalls
D-4.4.1	Rip Rap Plunge Pool
D-4.5.0	Typical HDPE Pipe Trench Detail
D-4.6.0	Flared HDPE End Sections
D-4.7.0	Subdrain
D-4.8.0	Dry Well
R-5.1.0	Roadway Cross Section
R-5.1.1	Cut and Fill Slopes
R-5.1.2	Granite Curbs
R-5.1.3	Bituminous Berms
R-5.1.4	Pavement Transition
R-5.1.5	Roadway Widening and Overlay 6-Ft Wide or Greater
R-5.1.6	Roadway Widening and Overlay 6-Ft Wide or Less
R-5.1.7	Pavement Details for Trench Restoration
R-5.1.8	Continuous Zone Trench Restoration
R-5.2.0	Guard Rail
R-5.2.1	Guard Rail (Double Face)
R-5.3.0	Wheelchair Ramp Notes
R-5.3.1	Wheelchair Ramp Type A
R-5.3.2	Wheelchair Ramp Type B
R-5.3.3	Wheelchair Ramp Type C
R-5.3.4	Wheelchair Ramp Type D
R-5.3.5	Wheelchair Ramp Type E
R-5.3.6	Detectable Warning Panel
R-5.4.0	Typical Curb Cut Plan – Residential Driveways No Sidewalk
R-5.4.1	Full Depth Driveway Apron – Section No Sidewalk
R-5.4.2	Sidewalk Through Driveway
R-5.4.3	Full Depth Driveway – Section Cement Concrete Sidewalk Crossing
R-5.5.0	Cross Walk



Detail Number	Detail Title
R-5.5.1	Decorative Cross Walk
R-5.6.0	Steel Plate Installation
R-5.7.0	Traffic Sign Installation Notes
R-5.7.1	Traffic Sign Detail Sidewalk or Median Installation
R-5.7.2	Traffic Sign Detail Non-sidewalk Installation
R-5.7.3	Street Name Sign Installation Notes
R-5.7.4	Street Sign Detail Sidewalk Installation
R-5.7.5	Street Sign Detail Non-sidewalk Installation
R-5.7.6	Granite Bound Detail
R-5.8.0	Trench Detail for Communications Conduit