

**GENERAL NOTES (CONT.)**

30. CONTRACTOR SHALL PROVIDE A MINIMUM OF 72 HOURS NOTICE PRIOR TO STARTING ANY CONSTRUCTION. IT MAY BE NECESSARY TO PERFORM WATER MAIN CONSTRUCTION WORK DURING PERIODS OTHER THAN NORMAL WORKING HOURS FOR THE PURPOSE OF OBTAINING SHUT DOWNS AND/OR TO FACILITATE THE INSTALLATION OF NEW WORK. THE CONTRACTOR SHALL COORDINATE ALL WORK TO BE PERFORMED OUTSIDE NORMAL WORKING HOURS WITH THE CAMBRIDGE WATER DEPARTMENT, CAMBRIDGE DEPARTMENT OF PUBLIC WORKS AND CAMBRIDGE POLICE AND FIRE DEPARTMENTS.
31. THE CAMBRIDGE WATER DEPARTMENT WILL BE RESPONSIBLE FOR OPERATION OF ALL EXISTING VALVES, HYDRANTS, SERVICE CONNECTIONS AND OTHER WATER SYSTEM APPURTENANCES. CONTRACTOR SHALL NOTIFY THE CAMBRIDGE WATER DEPARTMENT AT LEAST A WEEK IN ADVANCE TO EXERCISE AND TEST VALVES PRIOR TO SHUTDOWN. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO IMPACTED ADJACENTS 72 HOURS IN ADVANCE.
32. CONTRACTOR SHALL INTERRUPT WATER SERVICE AND DISRUPT THE NORMAL FUNCTIONING OF THE DISTRIBUTION SYSTEM AS LITTLE AS POSSIBLE. THE NEW 16 INCH WATER MAIN IN CONCORD AVE SHALL BE INSTALLED, TESTED, AND DISINFECTED AS SPECIFIED WHILE THE EXISTING WATER MAINS AND SERVICE CONNECTIONS REMAIN ACTIVE. UPON SUCCESSFUL TESTING AND ACCEPTANCE OF THE NEW 16 INCH WATER MAIN, IT IS SUGGESTED THAT THE NEW 16 INCH MAIN BE CONNECTED TO THE EXISTING DISTRIBUTION SYSTEM VIA ONE END. EXISTING SERVICE CONNECTIONS AND LATERAL WATER MAINS FOR SIDE STREETS SHALL THEN BE TRANSFERRED TO THE NEW 16 INCH WATER MAIN. ONCE ALL SERVICES AND LATERAL MAINS HAVE BEEN TRANSFERRED TO THE NEW 16 INCH MAIN IN CONCORD AVENUE, THE EXISTING WATER PIPES SHALL BE ABANDONED. THESE SUGGESTIONS HAVE BEEN PRESENTED TO ILLUSTRATE THE DESIGN INTENT, BUT THE MEANS AND METHODS OF CONSTRUCTION ARE THE CONTRACTOR'S RESPONSIBILITY. CONTRACTOR SHALL COORDINATE ALL TEMPORARY SHUT DOWNS OF EXISTING WATER MAINS AND SERVICE CONNECTIONS WITH THE CAMBRIDGE WATER DEPARTMENT AND EACH AFFECTED USER. CONTRACTOR IS FURTHER ADVISED THAT THERE ARE SENSITIVE WATER USERS IN THIS AREA, AND SHALL ENDEAVOR TO MINIMIZE DISRUPTION OF THEIR WATER SERVICE.
33. ALL HYDRANTS ARE TO BE COMPATIBLE WITH EQUIPMENT USED BY THE CAMBRIDGE FIRE DEPARTMENT. THE CONTRACTOR SHALL COORDINATE THIS REQUIREMENT WITH THE SPECIFICATIONS AND WITH THE CAMBRIDGE FIRE DEPARTMENT. CONTRACTOR SHALL COVER ANY HYDRANTS TAKEN OUT OF SERVICE WITH BAGS CLEARLY LABELED "NOT IN SERVICE" OR "OUT OF SERVICE" AND SHALL NOTIFY THE CAMBRIDGE WATER DEPARTMENT AND FIRE DEPARTMENT OF ANY HYDRANT NOT IN SERVICE.
34. THE CAMBRIDGE WATER DEPARTMENT RESERVES THE RIGHT TO LIMIT THE AMOUNT OF EXISTING WATER MAINS AND HYDRANTS WHICH MAY BE OFFLINE OR OUT OF SERVICE AT ANY TIME DURING CONSTRUCTION. THE SAFETY AND INTEGRITY OF THE WATER DISTRIBUTION SYSTEM IS OF PRIME IMPORTANCE.
35. CONTRACTOR SHALL SAW CUT ALL EXISTING PAVEMENT PRIOR TO EXCAVATION FOR INSTALLATION OF NEW WATER MAINS, INCLUDING REINFORCED CONCRETE SUBBASE, IF ENCOUNTERED, TO ITS FULL DEPTH. BORING LOGS THAT DOCUMENT EXISTING PAVEMENT AND SOIL CONDITIONS ARE PROVIDED IN THE CONTRACT DOCUMENTS. CONTRACTOR IS ADVISED THAT A REINFORCED CONCRETE SUBBASE EXISTS BELOW THE PAVEMENT IN MUCH OF THE PROJECT AREA.
36. WHERE IMPROPER SIDE LINE VALVES PREVENT WATER MAIN SHUT DOWNS FOR NEW WATER MAIN CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE A TEST PIT, CUT INTO THE EXISTING WATER MAIN AND INSERT A TEMPORARY CAP OR PLUG. ALL OF THIS WORK SHALL BE PAID FOR UNDER THE RESPECTIVE ITEMS FOR TEST PITS AND DI FITTINGS ON THE BID FORM.
37. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING WATER MAINS AND APPURTENANCES NECESSARY TO MAKE REQUIRED CONNECTIONS. ALL EXISTING WATER MAINS TO BE ABANDONED SHALL BE DRAINED AND CAPPED/PLUGGED. ABANDONED WATER MAINS SHALL NOT REMAIN UNDER PRESSURE. CONTRACTOR SHALL REMOVE ALL EXISTING VALVE BOXES AND COVERS FOR EXISTING VALVES ON WATER MAINS TO BE ABANDONED IN PLACE THROUGHOUT THE ENTIRE PROJECT AREA.
38. ALL EXISTING WATER PIPE, VALVES, HYDRANTS, SERVICE CONNECTIONS AND APPURTENANCES REMOVED SHALL BE DISPOSED OF BY THE CONTRACTOR IN FULL ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS.
39. INSTALL NEW PIPES, VALVES, FITTINGS AND HYDRANTS AS SHOWN ON THE DRAWINGS. THE MINIMUM BURY DEPTH FOR NEW WATER MAINS SHALL BE AT LEAST 5 FEET. APPROXIMATE LOCATIONS OF EXISTING UTILITIES WHICH CROSS THESE NEW WATER MAINS ARE SHOWN ON THE DRAWINGS. LOCATIONS OF NEW WATER MAINS MAY BE ADJUSTED BY THE ENGINEER TO AVOID CONFLICTS WITH OTHER UTILITIES OR BASED ON FIELD CONDITIONS ENCOUNTERED DURING CONSTRUCTION. HYDRANTS SHALL BE INSTALLED AT THE BACK EDGE (PROPERTY SIDE) OF ALL SIDE WALKS IN SUCH A LOCATION SO AS TO ALLOW FOR COMPLETE TURNING OF A STANDARD HYDRANT WRENCH. THE CAMBRIDGE FIRE DEPARTMENT SHALL BE CONTACTED BY THE CONTRACTOR TO APPROVE ANY FIELD ADJUSTMENTS TO PROPOSED HYDRANT LOCATIONS.
40. CONTRACTOR SHALL MAINTAIN A MINIMUM VERTICAL CLEARANCE OF AT LEAST 12 INCHES BETWEEN NEW WATER MAINS AND ALL OTHER UTILITIES EXCEPT SANITARY SEWERS. CONTRACTOR SHALL MAINTAIN AN 18 INCH MINIMUM VERTICAL CLEARANCE BETWEEN THE BOTTOM OF NEW WATER MAINS AND THE CROWN OF ANY SEWER WHEN THE WATER MAIN IS LAID WITHIN 10 FEET EDGE TO EDGE OF THE SEWER OR DRAIN. TO THE EXTENT POSSIBLE, THE CONTRACTOR SHALL MAINTAIN A MINIMUM 10 FOOT LATERAL SEPARATION BETWEEN NEW WATER MAINS AND ANY EXISTING SEWER, EXCEPT WHEN IT IS NECESSARY TO CROSS AN EXISTING SEWER OR UNLESS OTHERWISE DIRECTED BY THE ENGINEER. THE HORIZONTAL DISTANCE BETWEEN NEW WATER MAINS AND ALL OTHER UTILITIES SHALL BE AT LEAST 3 FEET.
41. NEW WATER MAINS SHALL PASS UNDER ALL EXISTING UTILITIES EXCEPT SEWERS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. IF WATER MAINS MUST CROSS UNDER SEWERS, THE NEW WATER MAIN SHALL BE CONCRETE ENCASED BY THE CONTRACTOR. TO THE EXTENT POSSIBLE, THE CONTRACTOR SHALL INSTALL ONE FULL LENGTH OF NEW WATER PIPE CENTERED BELOW THE SEWER CROSSING SO THAT THE WATER MAIN JOINTS WILL BE AS FAR AWAY FROM THE SEWER AS POSSIBLE. WATER MAINS THAT MUST CROSS UNDER EXISTING SEWERS SHALL BE CONSTRUCTED OF MECHANICAL JOINT PIPE, RESTRAINED AS NECESSARY. THE CROWN OF ANY NEW WATER MAIN THAT MUST CROSS UNDER AN EXISTING SEWER AT MINIMUM SHOULD BE 18 INCHES BELOW THE INVERT OF THE SEWER.
42. UNLESS SPECIFICALLY SHOWN, NEW DUCTILE-IRON VERTICAL BENDS ARE NOT SHOWN ON THE DRAWINGS. CONTRACTOR SHALL INSTALL VERTICAL BENDS OF THE NECESSARY SIZE REQUIRED TO CROSS EXISTING UTILITIES AND TO COMPLETE ALL REQUIRED CONNECTIONS BASED ON FIELD CONDITIONS ENCOUNTERED.
43. ALL NEW WATER MAIN FITTINGS AND VALVES SHALL BE RESTRAINED AS SPECIFIED. MINIMUM THRUST RESTRAINT REQUIREMENTS FOR WATER MAIN CONSTRUCTION ARE SHOWN ON THE DRAWINGS.
44. ALL NEW VALVES IN STREET INTERSECTIONS SHALL BE CONNECTED DIRECTLY TO NEW CROSSES AND TEES, UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR DIRECTED BY THE ENGINEER OR CAMBRIDGE WATER DEPARTMENT.
45. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING HYDRANTS WHERE AND AS SHOWN ON THE DRAWINGS.
46. CONTRACTOR SHALL USE CAUTION AND TAKE CARE TO AVOID DAMAGE TO ALL EXISTING UTILITIES AND SERVICES DURING CONSTRUCTION. CONTRACTOR SHALL PROTECT AND SUPPORT ALL EXISTING UTILITIES DURING THE INSTALLATION OF NEW WATER MAINS, VALVES, HYDRANTS, SERVICES AND APPURTENANCES. ANY DAMAGE RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED BY HIM/HER AT HIS/HER EXPENSE AND AT NO ADDITIONAL COST TO THE CITY OF CAMBRIDGE.
47. CONTRACTOR SHALL REPLACE SERVICE CONNECTIONS AS SHOWN ON THE DRAWINGS AND AS SPECIFIED. EXISTING SERVICE CONNECTIONS SHALL BE REPLACED WITH A NEW CORPORATION STOP, COPPER SERVICE TUBING, CURB STOP AND FITTINGS AND ADAPTERS OF THE NECESSARY SIZE REQUIRED AND AT LEAST EQUAL TO THE EXISTING SERVICE CONNECTION SIZE. THE MINIMUM SIZE OF ALL NEW SERVICE CONNECTIONS IS ONE INCH. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, EXISTING SERVICE CONNECTIONS ARE TO REMAIN AND SHALL BE CONNECTED TO NEW WATER MAINS BY THE CONTRACTOR. THE LOCATION OF EXISTING SERVICE CONNECTIONS IS PROVIDED FOR CONVENIENCE ONLY. IT IS NOT WARRANTED THAT ALL EXISTING SERVICE CONNECTIONS ARE SHOWN ON THE DRAWINGS. THIS DOES NOT RELIEVE THE CONTRACTOR OF DETERMINING THE LOCATION OF SERVICE CONNECTIONS TO BE RECONNECTED TO NEW WATER MAINS. CONTRACTOR SHALL ENSURE THAT ALL EXISTING SERVICE CONNECTIONS, WHETHER OR NOT THEY ARE SHOWN ON THE DRAWINGS, HAVE BEEN TRANSFERRED AND PROPERLY ACTIVATED/SUPPLIED BY THE NEW WATER MAINS. CONTRACTOR SHALL COORDINATE THIS REQUIREMENT WITH THE CAMBRIDGE WATER DEPARTMENT.
48. CONTRACTOR SHALL VERIFY ALL EXISTING WATER MAINS AND SERVICES TO BE ABANDONED WITH THE CAMBRIDGE WATER DEPARTMENT.
49. ALL NEW MATERIALS FOR WATER SYSTEM CONSTRUCTION SHALL BE AS SPECIFIED AND BE OF THE TYPE CURRENTLY USED BY THE CAMBRIDGE WATER DEPARTMENT. ALL MATERIALS SHALL BE INSTALLED AS SPECIFIED.
50. AS SHOWN ON THE DRAWINGS, THE NEW 16" WATER MAIN IN CONCORD AVENUE SHALL BE INSTALLED WITHIN THE LIMITS OF THE BIKE PATH ON THE SOUTH SIDE OF CONCORD AVENUE. CONTRACTOR SHALL INSTALL NEW WATER MAINS AS SPECIFIED AND AS SHOWN ON THE DRAWINGS. WATER MAIN TRENCHES SHALL BE BACKFILLED AND COMPACTED AND THE PAVEMENT SUBBASE RESTORED AS SPECIFIED AND AS SHOWN ON THE DRAWINGS. CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY TRENCH-WIDTH PAVEMENT FOR ALL WATER MAIN TRENCHES. FINAL PAVEMENT, SIDEWALK AND LANDSCAPE RESTORATION SHALL BE COMPLETED AS PART OF THE CONCORD AVENUE ROADWAY RESTORATION PART OF THIS CONTRACT.
51. THE CAMBRIDGE WATER DEPARTMENT WILL PROVIDE A SOURCE OF SUPPLY FROM THE EXISTING TREATED WATER DISTRIBUTION SYSTEM FOR CONTRACTOR'S USE IN FILLING AND FLUSHING WATER MAINS. AN AIR BREAK SHALL BE MAINTAINED AT ALL TIMES BETWEEN THE DISTRIBUTION SYSTEM AND CONTRACTOR'S EQUIPMENT TO PREVENT CROSS-CONNECTION. CONTRACTOR SHALL PROVIDE A SUITABLE MEANS OF BACKFLOW PREVENTION TO PREVENT CROSS-CONNECTION. THE MEANS AND METHODS EMPLOYED FOR BACKFLOW PREVENTION ARE SUBJECT TO THE REVIEW AND APPROVAL OF THE CAMBRIDGE WATER DEPARTMENT. CONTRACTOR SHALL ALSO PROVIDE MEANS OF MEASURING THE TOTAL VOLUME OF WATER USED FOR CONSTRUCTION PURPOSES (FLUSHING, PRESSURE/LEAKAGE TESTS, DISINFECTION, FILLING LINES, ETC). EVIDENCE OF CALIBRATION SHALL BE FURNISHED BY CONTRACTOR FOR ANY METERING DEVICES. CONTROLLER SHALL NOT KNOWINGLY ALLOW WATER TO LEAK OR RUN TO UNNECESSARY WASTE. THE CAMBRIDGE WATER DEPARTMENT RESERVES THE RIGHT TO LIMIT THE QUANTITY OF WATER PROVIDED TO THE CONTRACTOR AT NO COST FOR CONSTRUCTION PURPOSES.
52. ANY EXISTING TRAFFIC SIGNAL EQUIPMENT SCHEDULED TO BE RETAINED (INCLUDING CONDUIT AND LOOP DETECTORS) DAMAGED BY CONTRACTOR'S ACTIVITIES SHALL BE REPLACED IN KIND AT NO ADDITIONAL COST.

MINIMUM THRUST RESTRAINT REQUIREMENTS				
FITTING TYPE	FITTING SIZE	RESTRAINT LENGTH (FEET)	THRUST BLOCK BEARING AREA (SQUARE FEET)	THRUST BLOCK VOLUME (CUBIC FEET)
HORIZONTAL BENDS	16" - 1/4	78	22	N/A
	16" - 1/8	32	12	N/A
	16" - 1/16	15	6	N/A
	16" - 1/32	8	3	N/A
	12" - 1/4	61	12	N/A
	12" - 1/8	25	7	N/A
	12" - 1/16	12	4	N/A
	12" - 1/32	6	2	N/A
	10" - 1/4	52	9	N/A
	10" - 1/8	22	5	N/A
	10" - 1/16	10	3	N/A
	10" - 1/32	5	2	N/A
	8" - 1/4	43	6	N/A
	8" - 1/8	18	3	N/A
	8" - 1/16	9	2	N/A
	8" - 1/32	4	1	N/A
	6" - 1/4	33	3	N/A
	6" - 1/8	14	2	N/A
	6" - 1/16	7	1	N/A
	6" - 1/32	3	1	N/A
4" - 1/4	24	2	N/A	
4" - 1/8	10	1	N/A	
4" - 1/16	5	1	N/A	
4" - 1/32	2	1	N/A	
TEES	16" x 16"	166	16	N/A
	16" x 12"	128	9	N/A
	16" x 10"	109	6	N/A
	16" x 8"	89	4	N/A
	16" x 6"	67	3	N/A
	16" x 4"	45	1	N/A
	12" x 12"	129	9	N/A
	12" x 10"	109	6	N/A
	12" x 8"	90	4	N/A
	12" x 6"	68	3	N/A
	12" x 4"	46	1	N/A
	10" x 10"	110	6	N/A
	10" x 8"	90	4	N/A
	10" x 6"	69	3	N/A
	10" x 4"	47	1	N/A
	8" x 8"	90	4	N/A
	8" x 6"	69	3	N/A
	8" x 4"	47	1	N/A
	6" x 6"	69	3	N/A
	6" x 4"	48	1	N/A
REDUCERS	16" x 12"	71	7	N/A
	16" x 10"	99	10	N/A
	16" x 8"	122	12	N/A
	16" x 6"	141	13	N/A
	16" x 4"	154	15	N/A
	12" x 10"	38	3	N/A
	12" x 8"	69	6	N/A
	12" x 6"	94	7	N/A
	12" x 4"	113	8	N/A
	10" x 8"	37	3	N/A
	10" x 6"	68	4	N/A
	10" x 4"	90	5	N/A
	8" x 6"	38	2	N/A
	8" x 4"	66	3	N/A
	6" x 4"	36	2	N/A
	VALVES / CAPS / PLUGS	16"	187	16
12"		130	9	N/A
10"		111	6	N/A
8"		91	4	N/A
6"		71	3	N/A
4"		50	1	N/A
VERTICAL OFFSETS / BENDS (UPPER BEND)	16" - 1/8	69	5	267
	16" - 1/16	33	2	145
	16" - 1/32	16	1	74
	12" - 1/8	54	3	150
	12" - 1/16	26	1	82
	12" - 1/32	13	1	42
	10" - 1/8	46	2	105
	10" - 1/16	22	1	57
	10" - 1/32	11	1	29
	8" - 1/8	38	2	67
	8" - 1/16	18	1	37
	8" - 1/32	9	1	19
	6" - 1/8	29	1	38
	6" - 1/16	14	1	21
	6" - 1/32	7	1	11
	4" - 1/8	21	1	17
4" - 1/16	10	1	10	
4" - 1/32	5	1	5	
VERTICAL OFFSETS / BENDS (LOWER BEND)	16" - 1/8	32	5	267
	16" - 1/16	15	2	145
	16" - 1/32	8	1	74
	12" - 1/8	25	3	150
	12" - 1/16	12	1	82
	12" - 1/32	6	1	42
	10" - 1/8	22	2	105
	10" - 1/16	10	1	57
	10" - 1/32	5	1	29
	8" - 1/8	18	2	67
	8" - 1/16	9	1	37
	8" - 1/32	4	1	19
	6" - 1/8	14	1	38
	6" - 1/16	7	1	21
	6" - 1/32	3	1	11
	4" - 1/8	10	1	17
4" - 1/16	5	1	10	
4" - 1/32	2	1	5	

**WATER MAIN THRUST RESTRAINT TABLES**

REV. NO.	DATE	DRWN	CHKD	REMARKS
3	4/5/10	SMG	LDS	CONFORMED DRAWING
1	2/9/10	KAT	LDS	ADDENDA NO. 1 GENERAL UPDATES

DESIGNED BY: M. GALLANT  
 DRAWN BY: S. MURPHY  
 SHEET CHK'D BY: M. GALLANT  
 CROSS CHK'D BY: L. SHERMAN  
 APPROVED BY: L. SHERMAN  
 DATE: JANUARY 2010

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 DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT

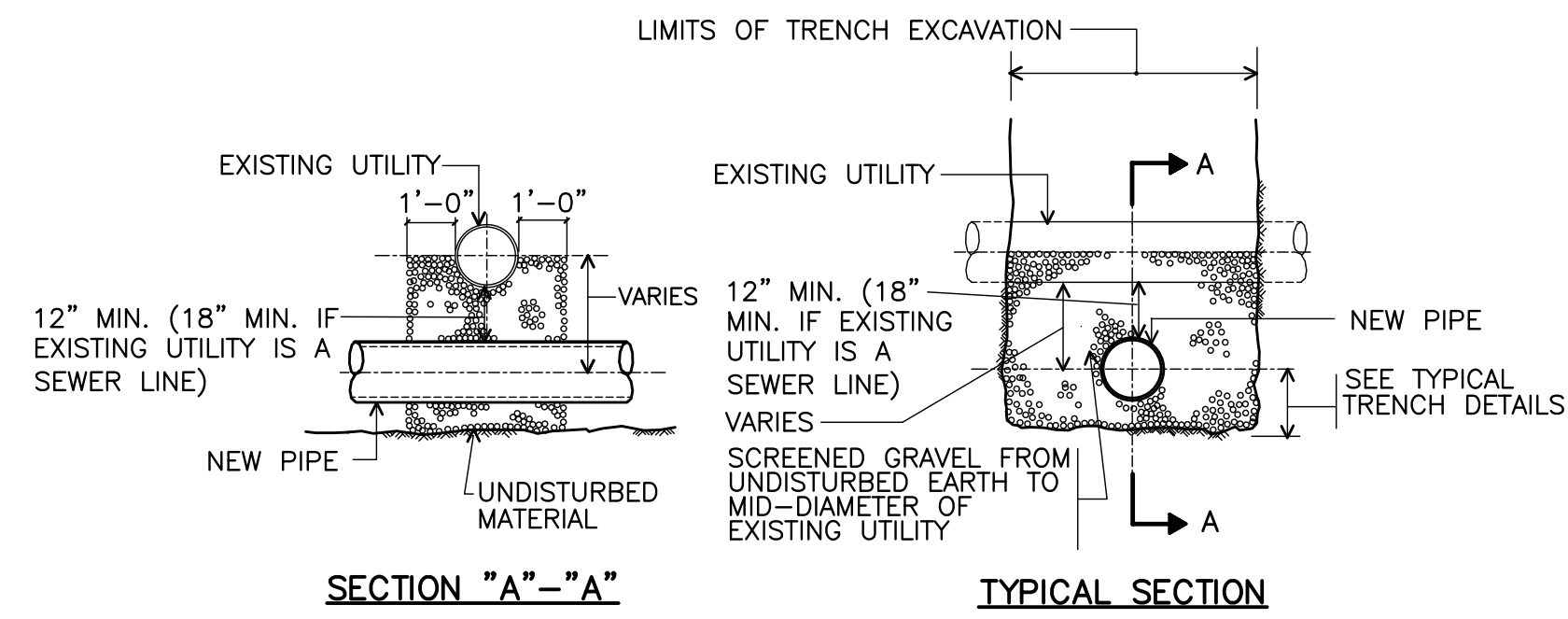
**CONCORD AVENUE  
 WATER MAIN AND ROADWAY RECONSTRUCTION**

**GENERAL LEGENDS, ABBREVIATIONS, & NOTES (CONT.)**

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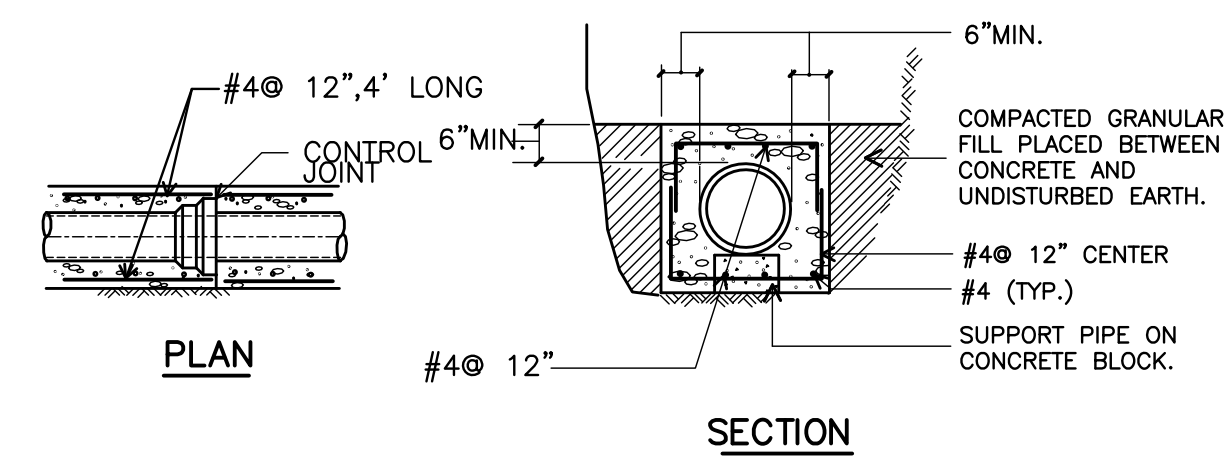
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Accession No: 0139-P-xxxx



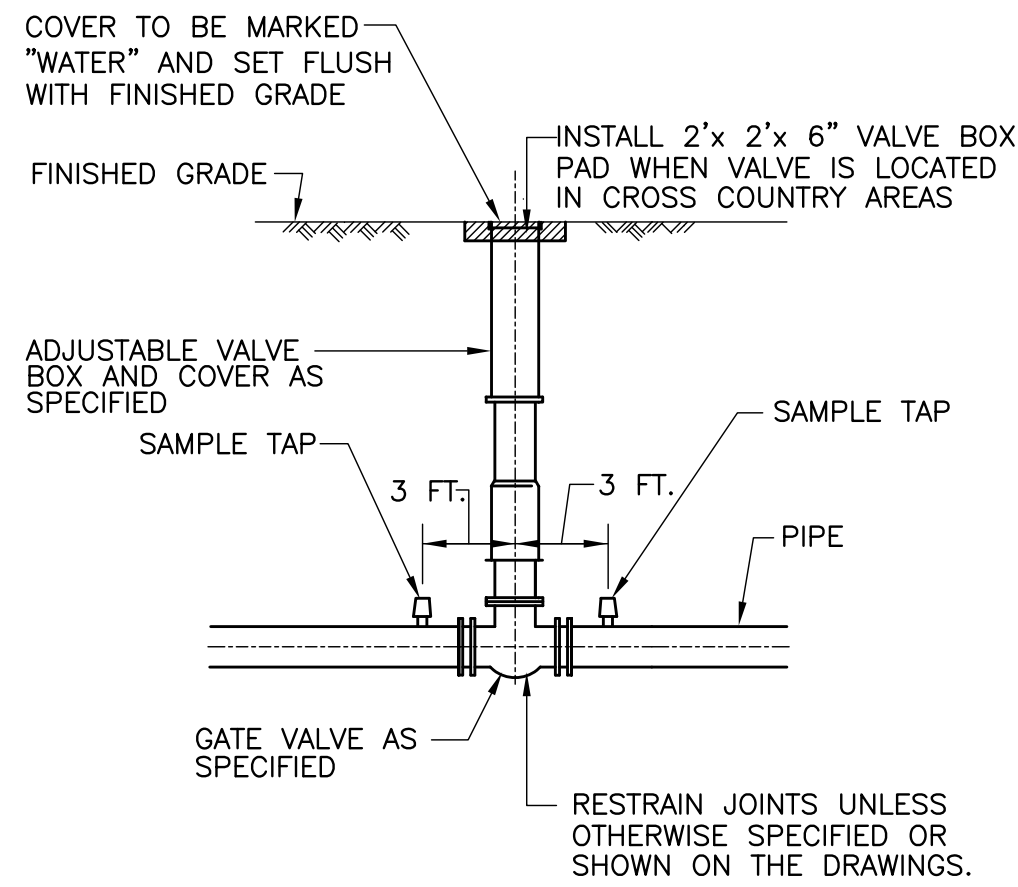
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**UTILITIES CROSSING DETAIL**  
NTS

- NOTE:**
- TO THE EXTENT POSSIBLE NEW WATER MAINS SHALL CROSS OVER EXISTING SEWERS. WATER MAINS SHALL BE CONCRETE ENCASED IF THEY ARE INSTALLED UNDER AN EXISTING SEWER. TO THE EXTENT POSSIBLE, ONE FULL LENGTH OF NEW MECHANICAL JOINT WATER PIPE SHALL BE INSTALLED CENTERED UNDER THE SEWER CROSSING SO THAT THE WATER MAIN PIPE JOINTS WILL BE AS FAR AWAY FROM THE SEWER CROSSING AS POSSIBLE.

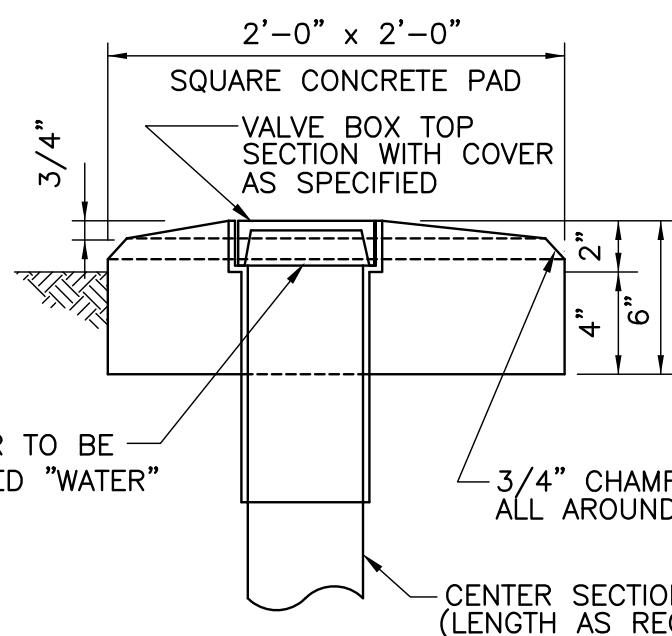


**CONCRETE ENCASEMENT**  
NTS

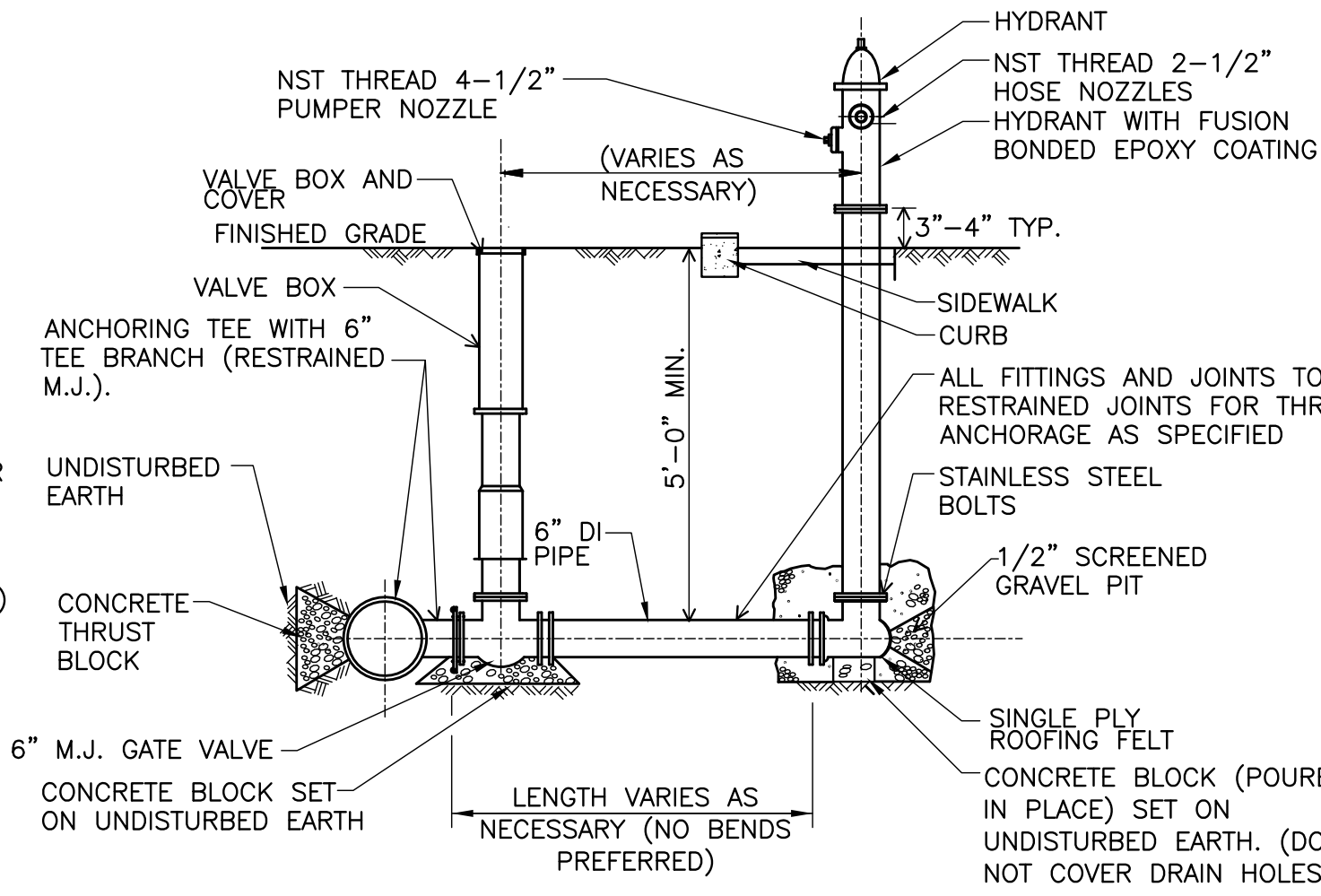
- NOTES:**
- CONTROL JOINTS AND PIPE JOINTS FOR ENCASEMENT SHALL COINCIDE FOR SPACING. MAX. DISTANCE BETWEEN CONTROL JOINTS SHALL BE 24'.
  - REINFORCING STEEL TO BE USED ONLY WHEN DEPTH OF COVER TO TOP OF SURFACE OF CONCRETE IS LESS THAN 5'-0".



**TYPICAL GATE VALVE AND BOX DETAIL**  
NTS

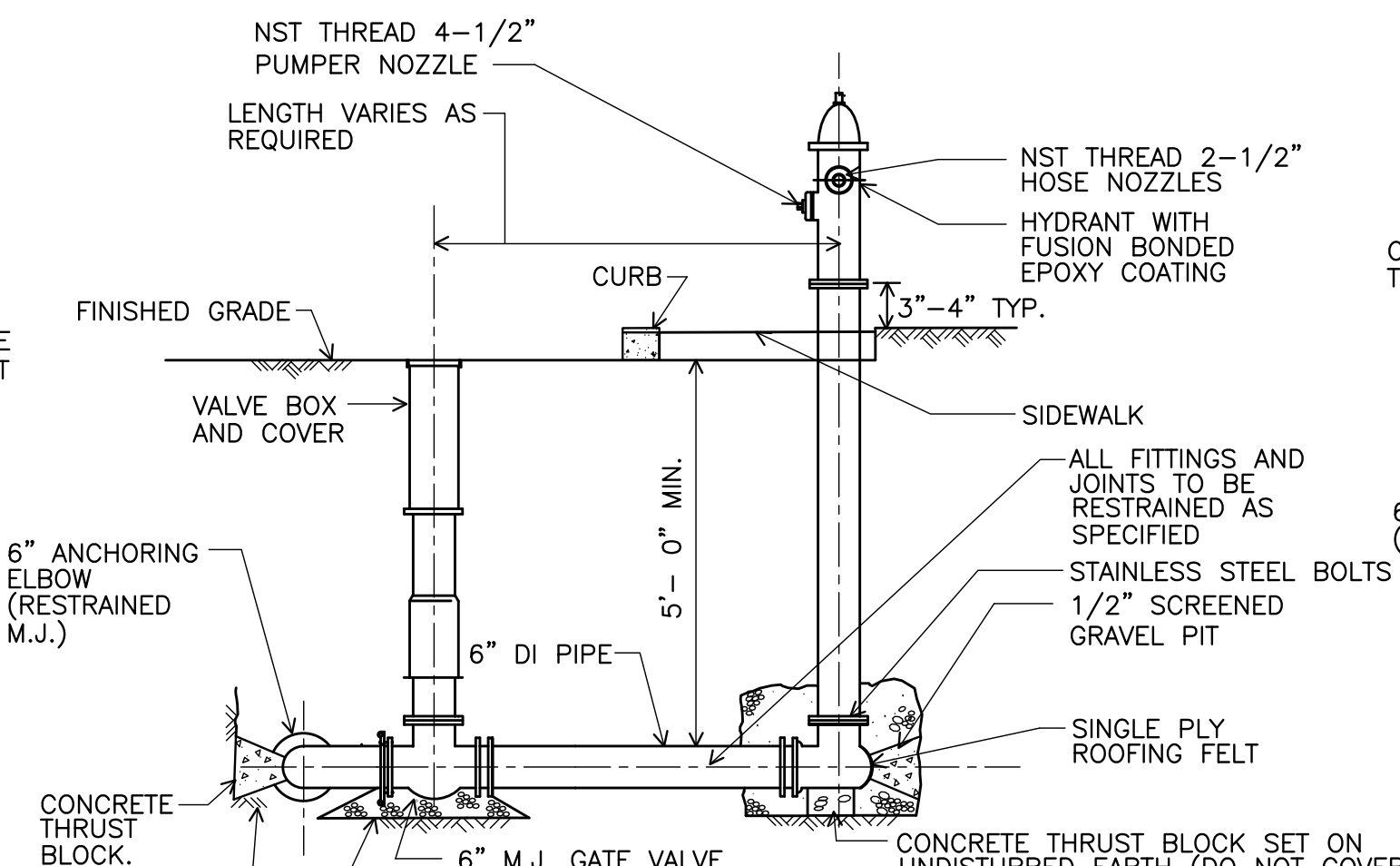


**VALVE BOX PAD**  
NTS



**STANDARD HYDRANT CONNECTION DETAIL**  
NTS

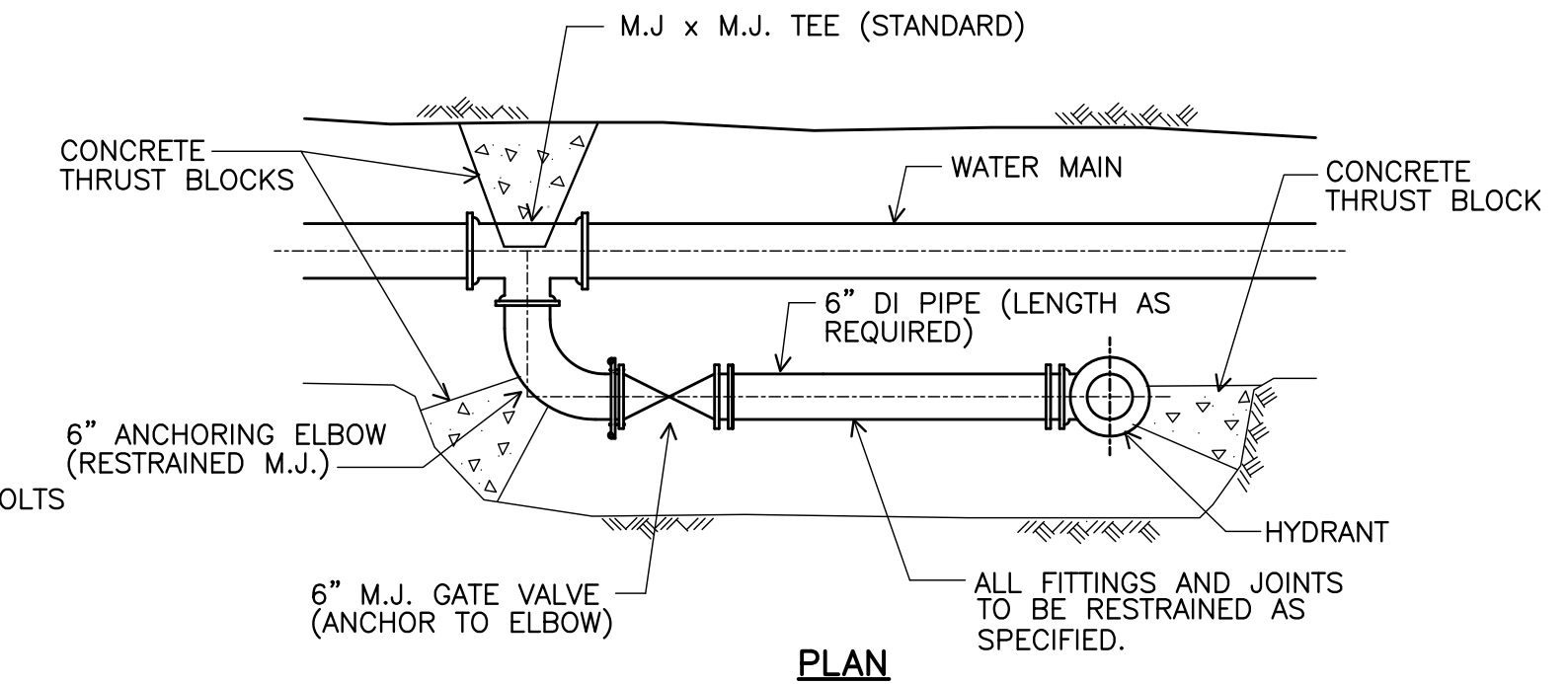
- NOTES:**
- HYDRANTS SHALL BE INSTALLED TOWARDS THE BACK EDGE (PROPERTY SIDE) OF THE SIDEWALK. HYDRANTS SHOULD NOT BE INSTALLED WHERE THERE MAY BE SUBJECT TO DAMAGE FROM TRAFFIC, PLOWING, ETC.
  - HYDRANTS SHALL BE LOCATED TO ALLOW COMPLETE/FREE TURNING OF A STANDARD HYDRANT WRENCH.
  - SHOULD FIELD ADJUSTMENTS BE REQUIRED TO PROPOSED HYDRANT LOCATIONS SHOWN ON THE DRAWINGS, CONTRACTOR SHALL CONSULT WITH BOTH THE CAMBRIDGE WATER DEPARTMENT AND FIRE DEPARTMENT FOR REVIEW AND APPROVAL.



**ELEVATION**

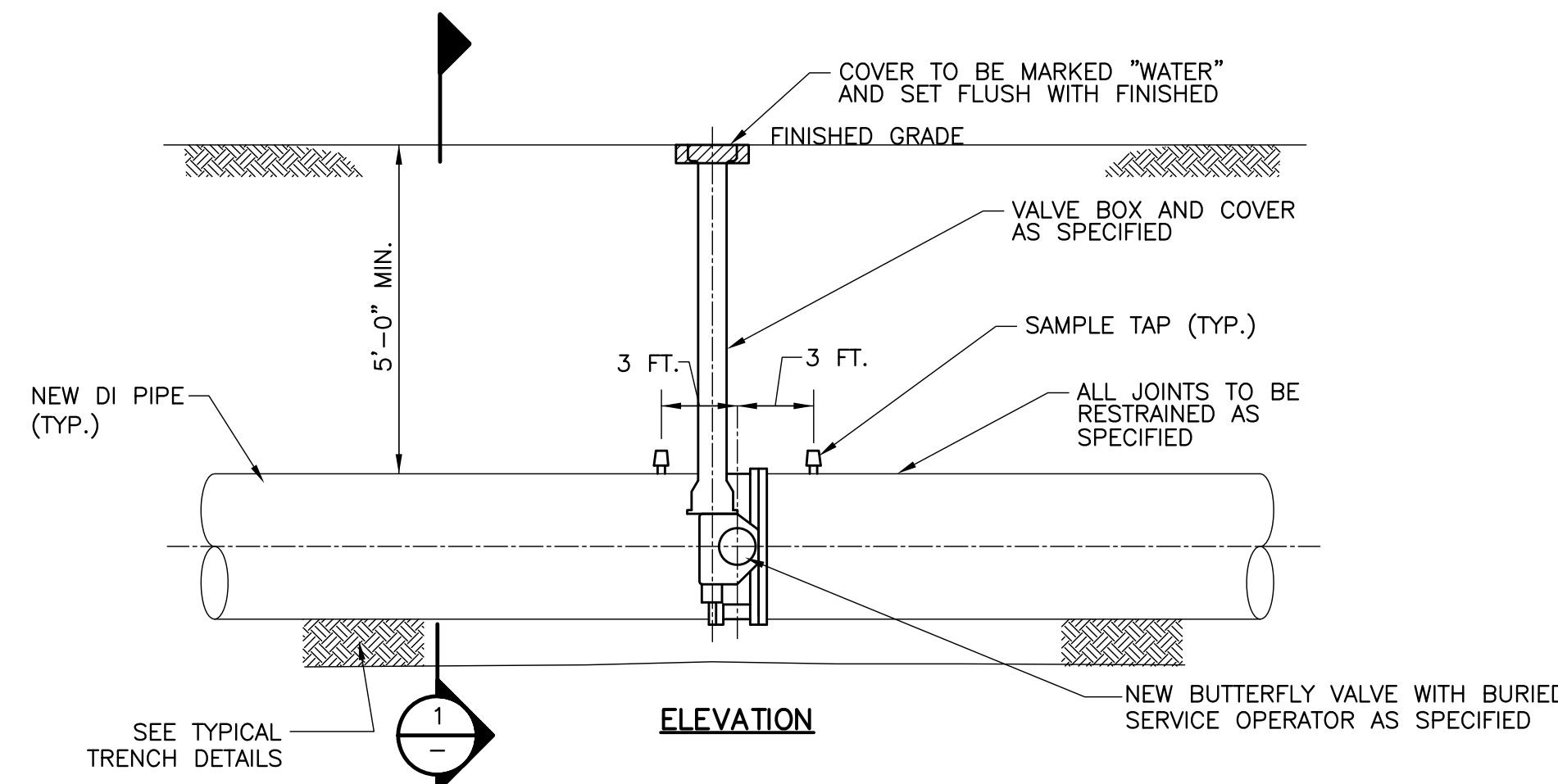
**ALTERNATE HYDRANT CONNECTION DETAIL**  
NTS

- NOTES:**
- HYDRANTS SHALL BE INSTALLED TOWARDS THE BACK EDGE (PROPERTY SIDE) OF THE SIDEWALK. HYDRANTS SHOULD NOT BE INSTALLED WHERE THERE MAY BE SUBJECT TO DAMAGE FROM TRAFFIC, PLOWING, ETC.
  - HYDRANTS SHALL BE LOCATED TO ALLOW COMPLETE/FREE TURNING OF A STANDARD HYDRANT WRENCH.
  - SHOULD FIELD ADJUSTMENTS BE REQUIRED TO PROPOSED HYDRANT LOCATIONS SHOWN ON THE DRAWINGS, CONTRACTOR SHALL CONSULT WITH BOTH THE CAMBRIDGE WATER DEPARTMENT AND FIRE DEPARTMENT FOR REVIEW AND APPROVAL.



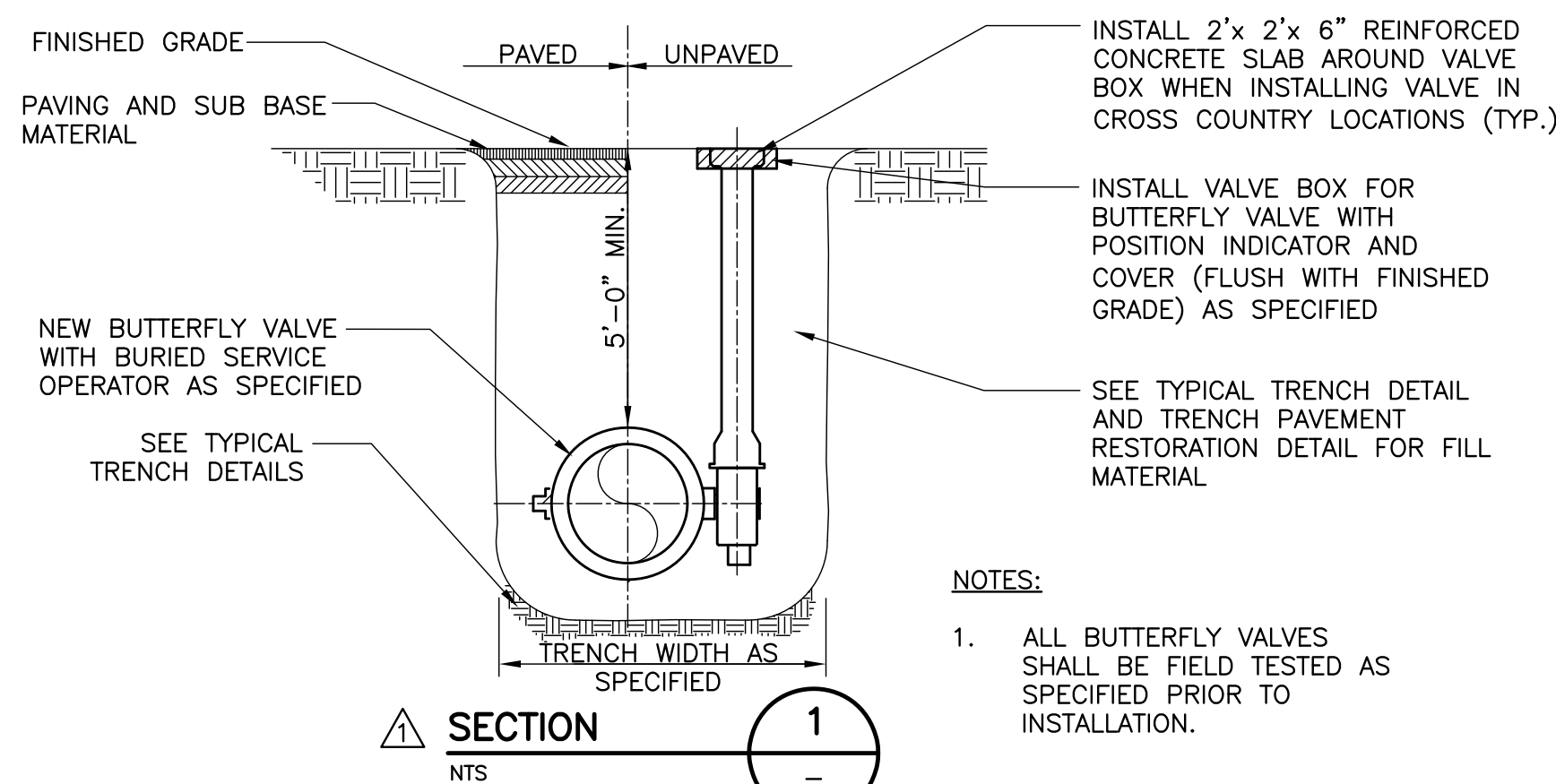
**PLAN**

**MANUAL AIR RELEASE DETAIL**  
NTS



**ELEVATION**

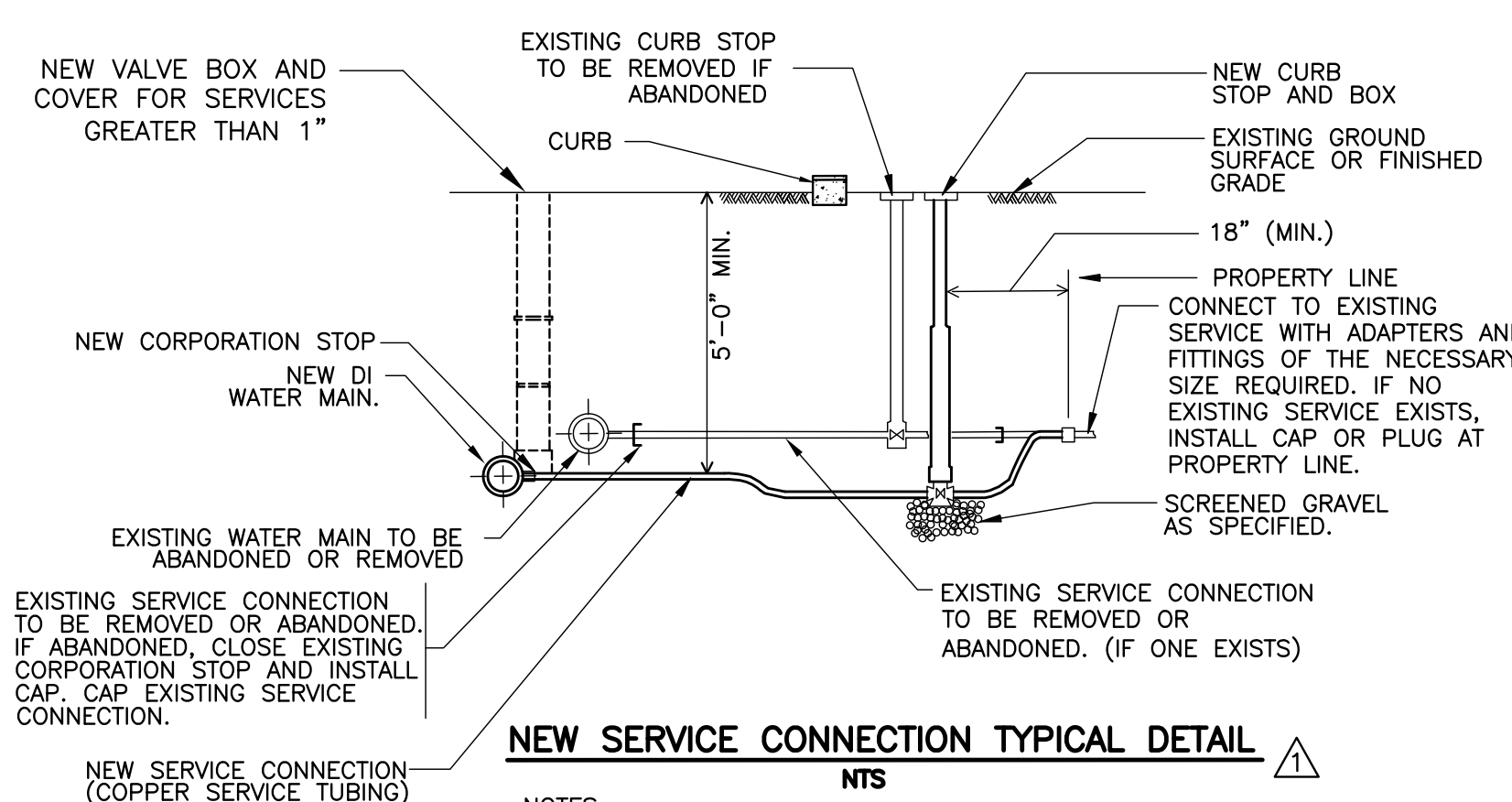
**TYPICAL BUTTERFLY VALVE AND BOX DETAIL**  
NTS



**SECTION**

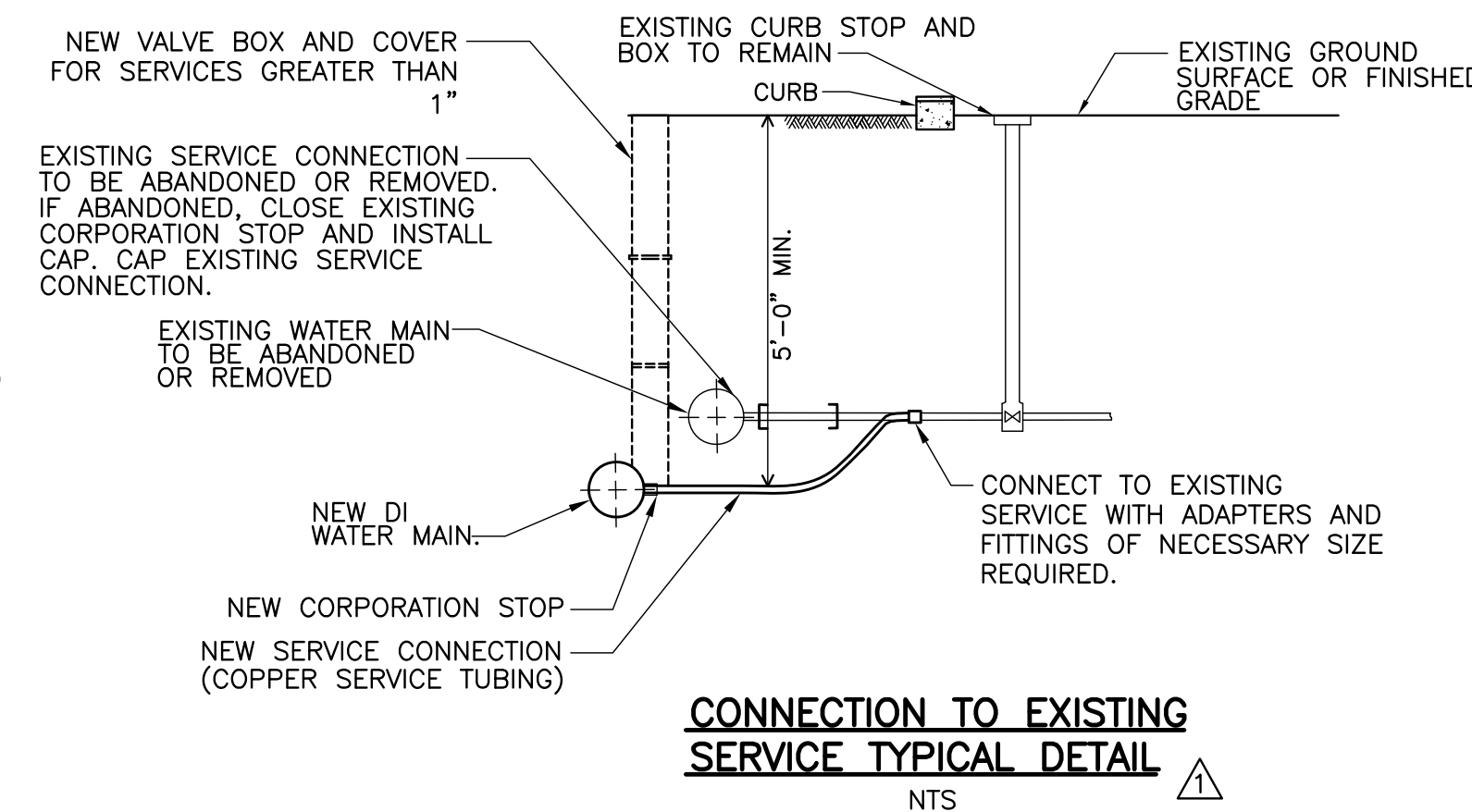
**TYPICAL BUTTERFLY VALVE AND BOX DETAIL**  
NTS

- NOTES:**
- ALL BUTTERFLY VALVES SHALL BE FIELD TESTED AS SPECIFIED PRIOR TO INSTALLATION.



**NEW SERVICE CONNECTION TYPICAL DETAIL**  
NTS

- NOTES:**
- FOR SERVICES GREATER THAN 1" AND UP TO 2", A VALVE BOX AND COVER SHALL BE INSTALLED OVER THE NEW CORPORATION STOP AT THE MAIN AND NO CURB STOP AND BOX IS REQUIRED.
  - ALL CONNECTIONS OF SERVICE CONNECTIONS TO WATER MAINS SHALL RUN 90° PERPENDICULAR (THE TAPPING ANGLE IS 90° PERPENDICULAR) TO THE MAIN LINE WATER PIPE.



**CONNECTION TO EXISTING SERVICE TYPICAL DETAIL**  
NTS

- NOTES:**
- FOR SERVICES GREATER THAN 1" AND UP TO 2", A VALVE BOX AND COVER SHALL BE INSTALLED OVER THE NEW CORPORATION STOP AT THE MAIN AND NO CURB STOP AND BOX IS REQUIRED.
  - ALL CONNECTIONS OF SERVICE CONNECTIONS TO WATER MAINS SHALL RUN 90° PERPENDICULAR (THE TAPPING ANGLE IS 90° PERPENDICULAR) TO THE MAIN LINE WATER PIPE.

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SHEET CHK'D BY:	J. DIERCKS
CROSS CHK'D BY:	L. SHERMAN
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DATE:	JANUARY 2010

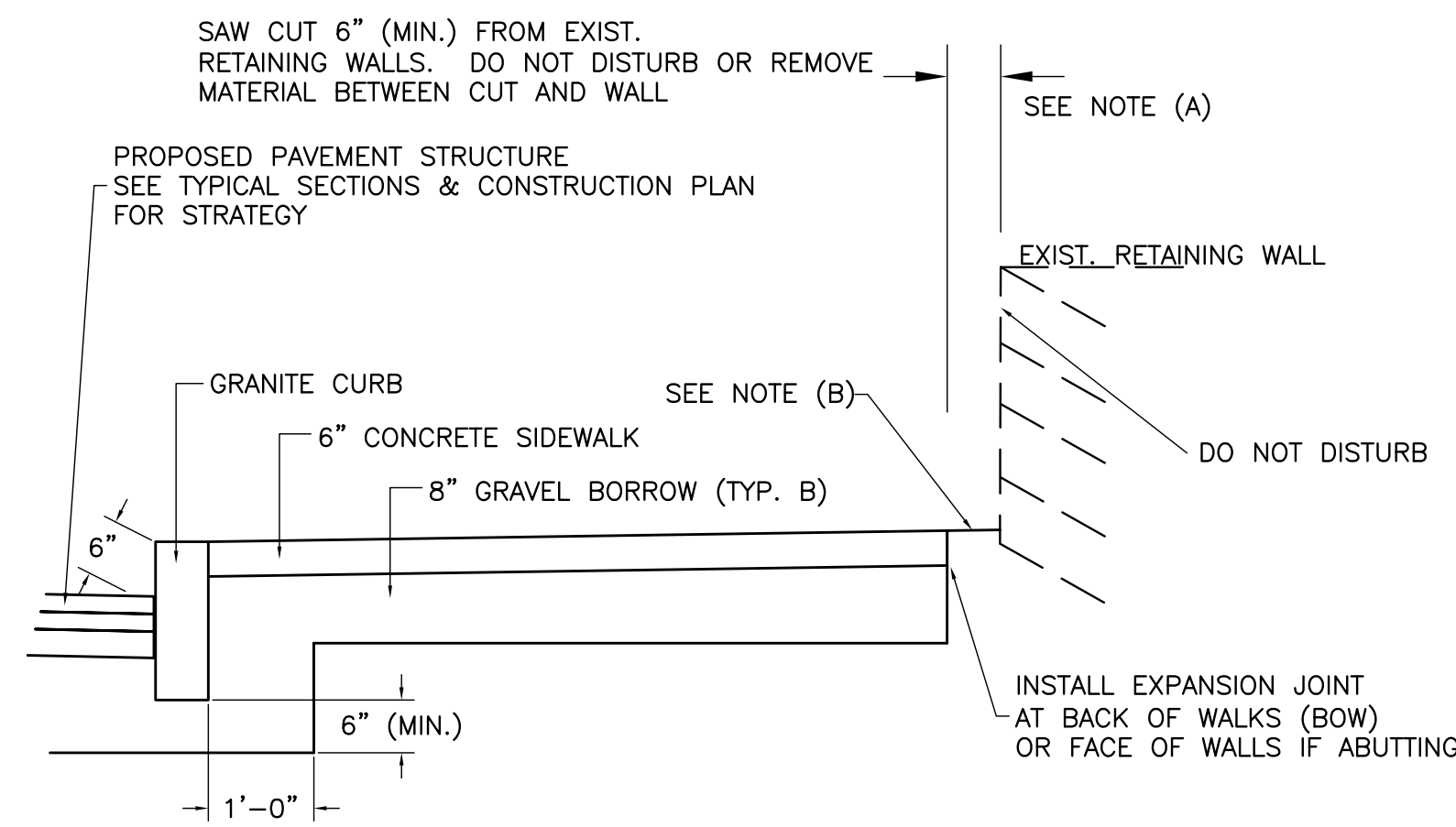
CONFORMED DRAWING
ADDENDA NO. 1 GENERAL UPDATES
REMARKS

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DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT  
**CONCORD AVENUE**  
**WATER MAIN AND ROADWAY RECONSTRUCTION**

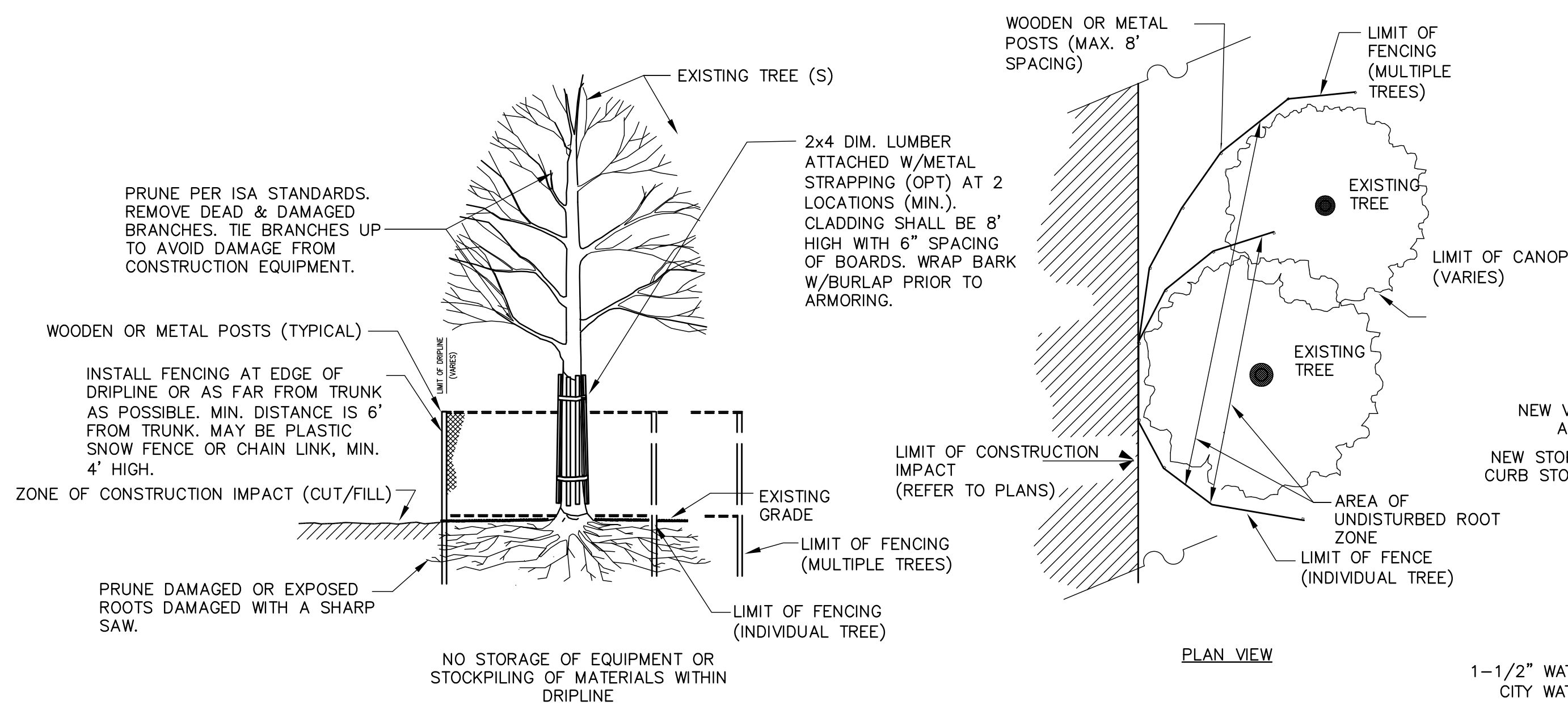
**WATER MAIN CONSTRUCTION DETAILS I**

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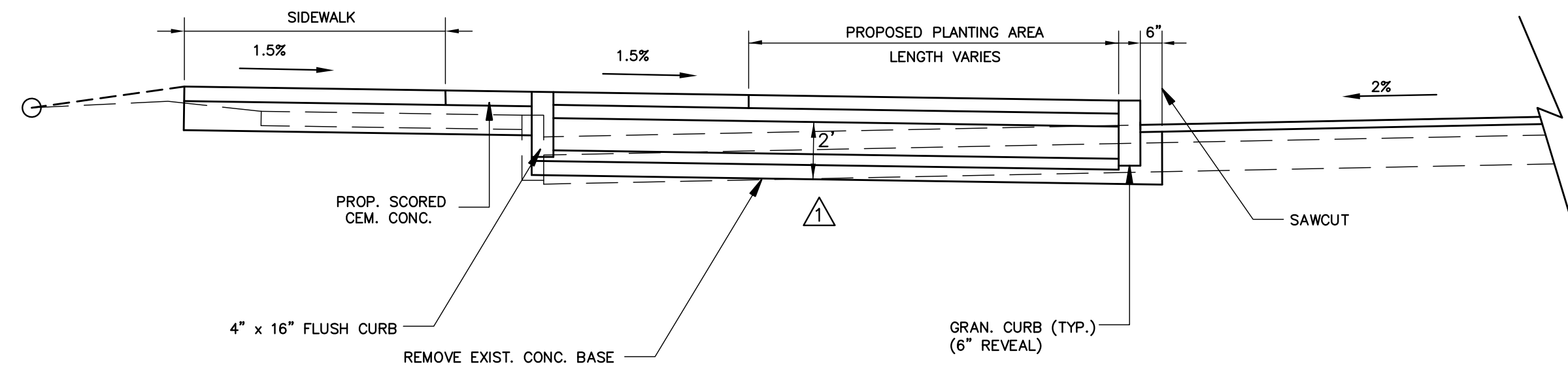


**CEM. CONC. SIDEWALK AT EXISTING WALLS DETAIL**  
N.T.S.

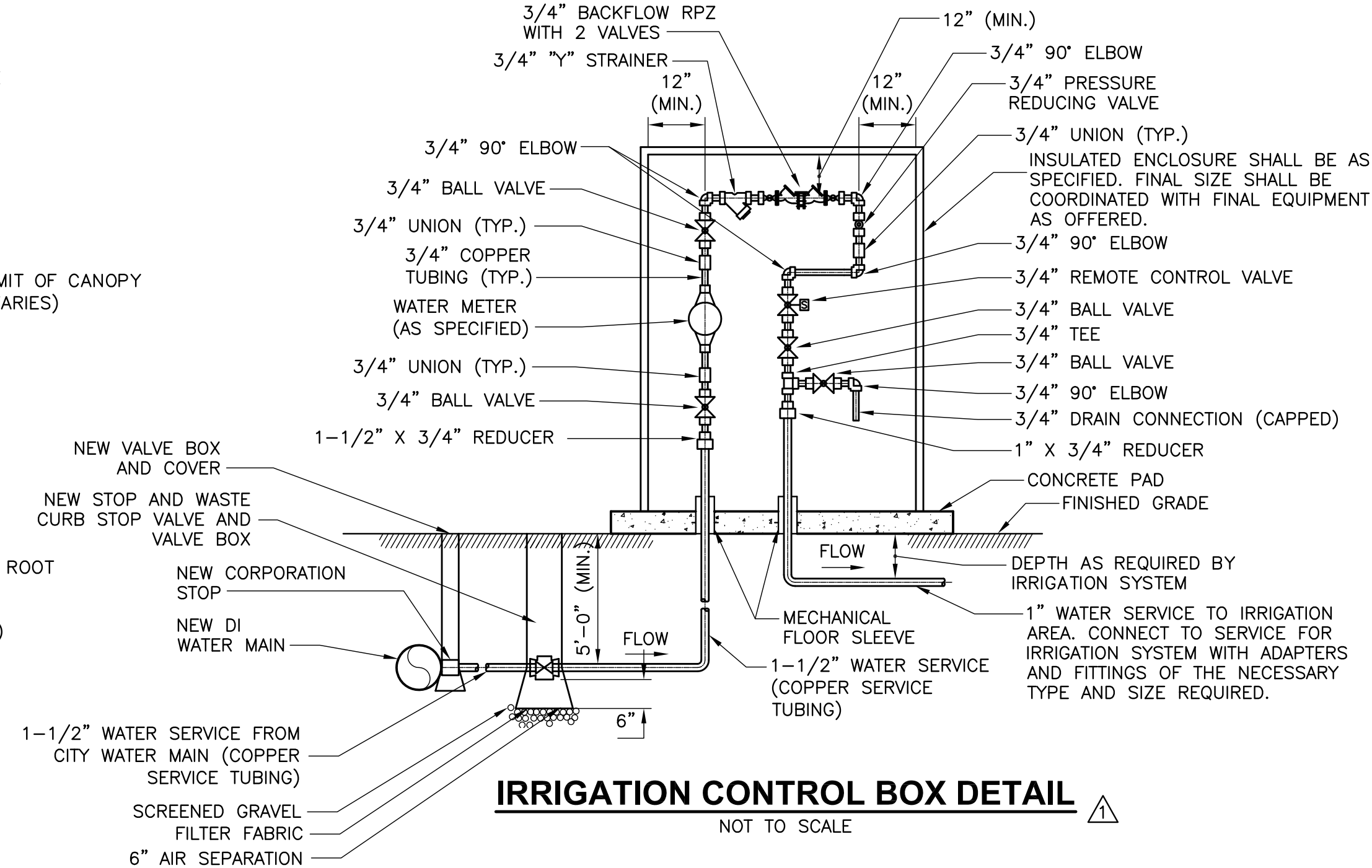
- (A) CONTRACTOR SHALL MAINTAIN A MINIMUM OF 6" FROM ALL EXISTING WALLS
- (B) UNLESS OTHERWISE NOTED OR DIRECTED BY ENGINEER, BACK OF WALK FILL SHALL BE PORTLAND CEM. CONC. (TYPE A) TO EXISTING RETAINING WALLS/STRUCTURES. INSTALL EXPANSION JOINT AT BACK OF WALK. GRADE TO DRAIN TOWARD SIDEWALK. NO REMOVAL OF MATERIAL WITHIN 6" OF WALLS SHALL BE PERMITTED WITHOUT PRIOR APPROVAL FROM ENGINEER



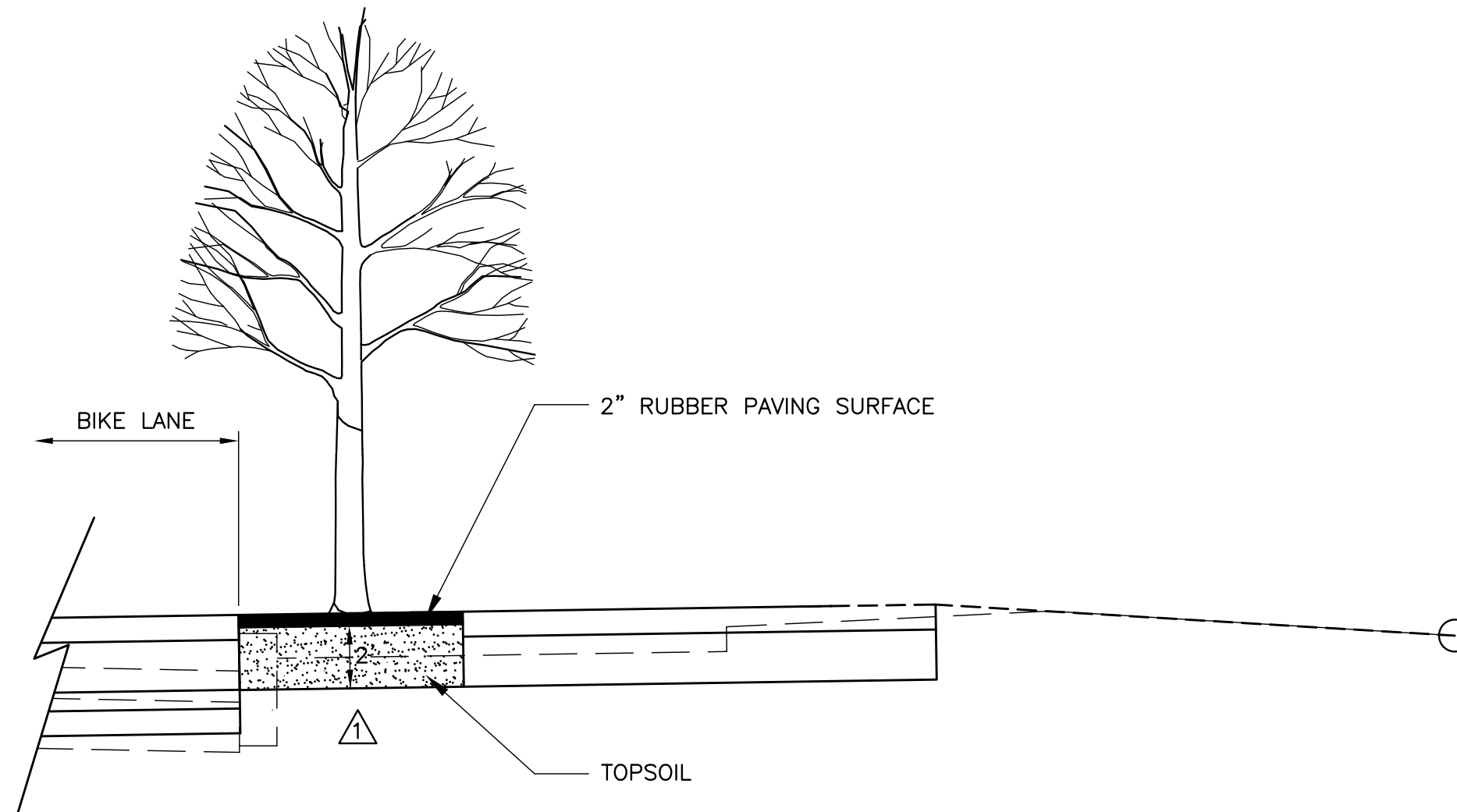
**TREE PROTECTION DETAIL**  
NOT TO SCALE



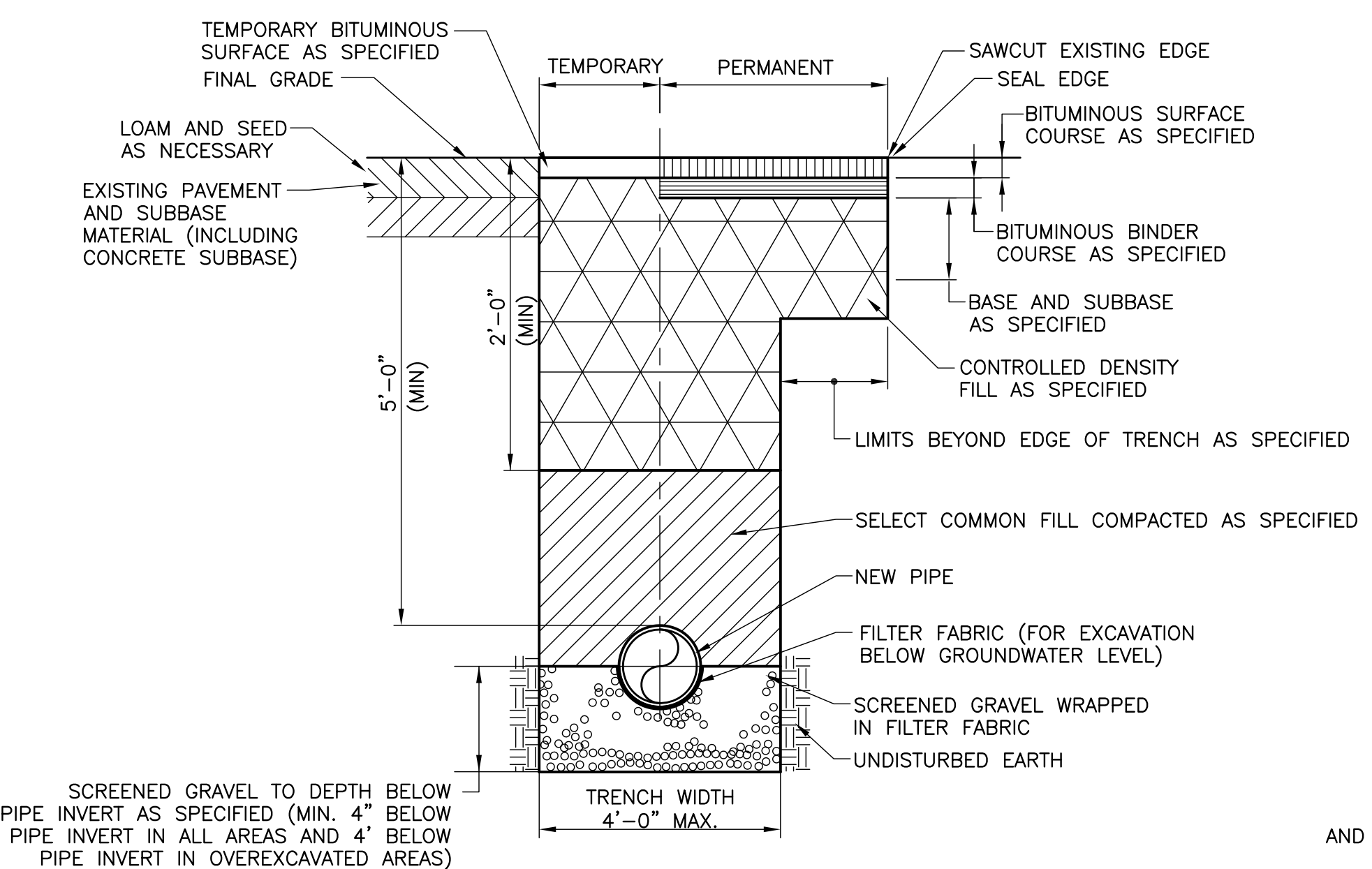
**EXISTING CONCRETE PAVEMENT REMOVAL AT GREENSPACE AREAS**  
NOT TO SCALE



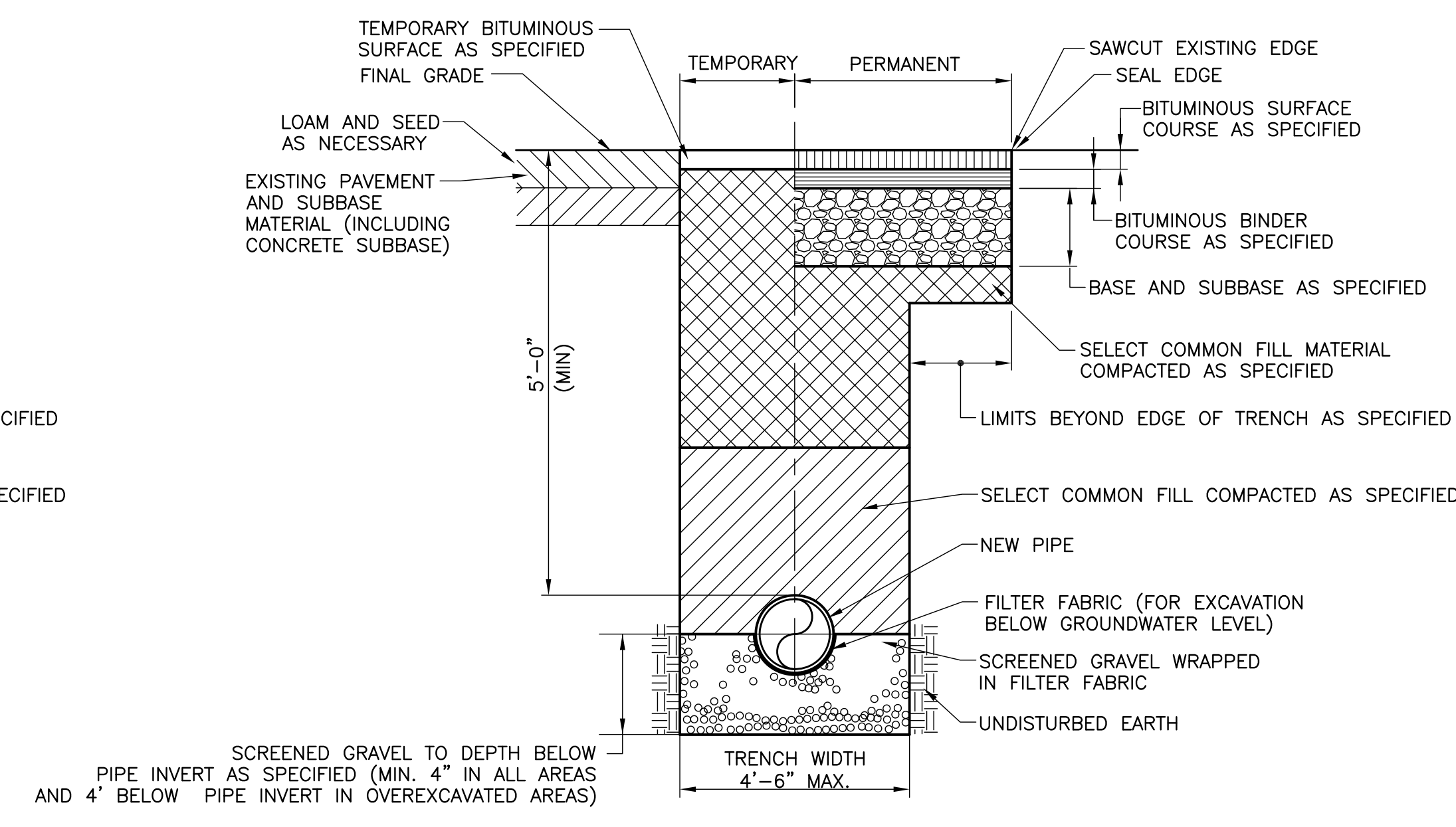
**IRRIGATION CONTROL BOX DETAIL**  
NOT TO SCALE



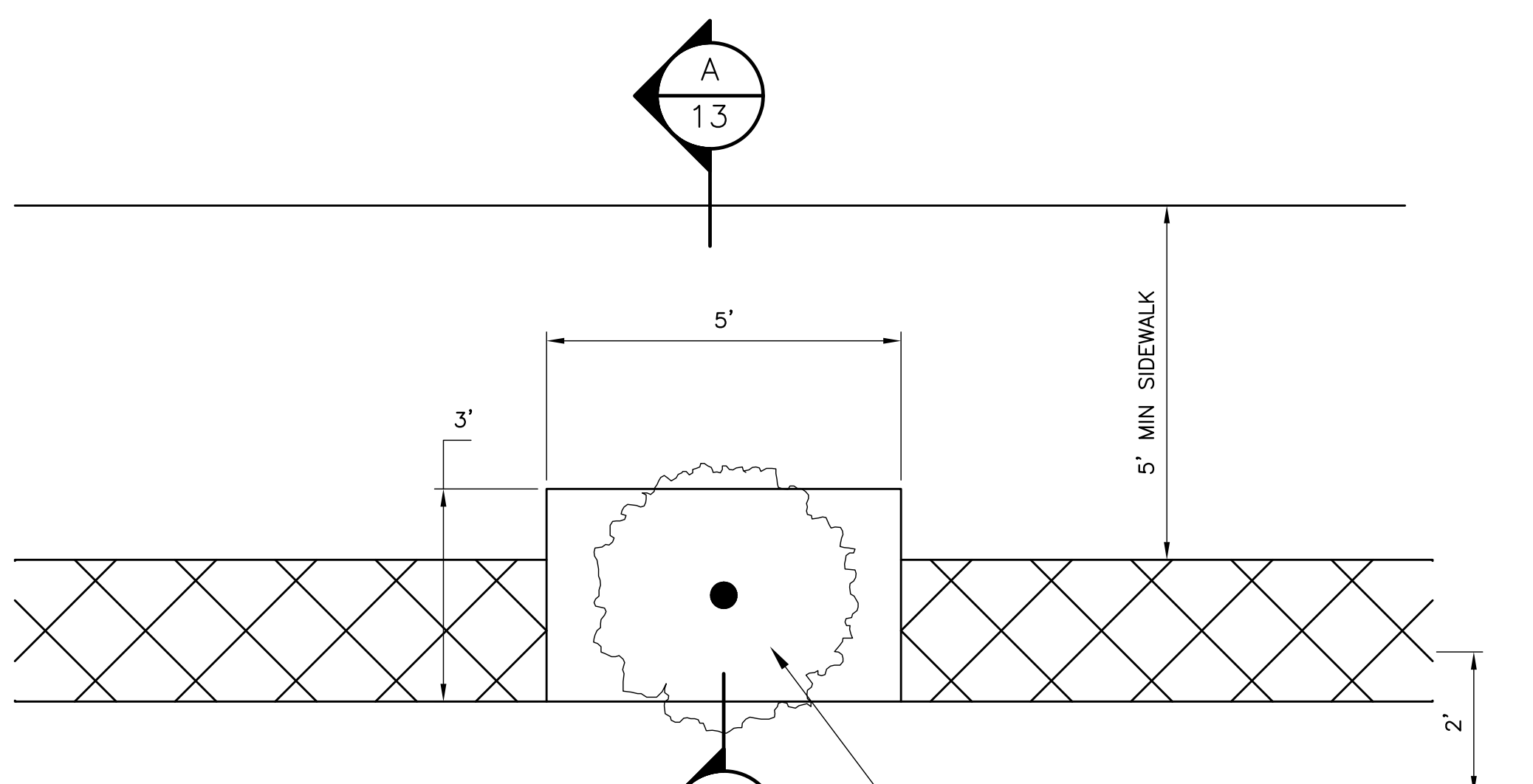
**PROPOSED TREE WELL SECTION A-A**  
NOT TO SCALE



**TYPICAL TRENCH AND PAVEMENT RESTORATION DETAIL FOR LATERAL WATER MAIN AND SERVICE TRENCHES (12" DIAMETER AND SMALLER PIPES)**  
NOTES:  
1. BACKFILL, COMPACTION AND PAVEMENT RESTORATION SHALL BE AS SPECIFIED.



**TYPICAL TRENCH AND PAVEMENT RESTORATION DETAIL FOR NEW 16" DI WATER PIPE ALONG CONCORD AVENUE**  
NOTES:  
1. BACKFILL, COMPACTION AND PAVEMENT RESTORATION SHALL BE AS SPECIFIED.



**PROPOSED TREE WELL DETAIL**  
NOT TO SCALE

REV. NO.	DATE	DRWN	CHKD	REMARKS
3	4/5/10	SMG	LDS	CONFORMED DRAWING
2	2/11/10	DV	LDS	ADDENDA NO. 2 GENERAL UPDATES
1	2/9/10	KAT	LDS	ADDENDA NO. 1 GENERAL UPDATES

DESIGNED BY: M. GALLANT	<p>56 Exchange Terrace Providence, RI 02903 Tel: (401) 751-5360</p> <p>consulting • engineering • construction • operations</p>
DRAWN BY: J. CABRERA	
SHEET CHK'D BY: J. DIERCKS	
CROSS CHK'D BY: L. SHERMAN	
APPROVED BY: L. SHERMAN	
DATE: JANUARY 2010	

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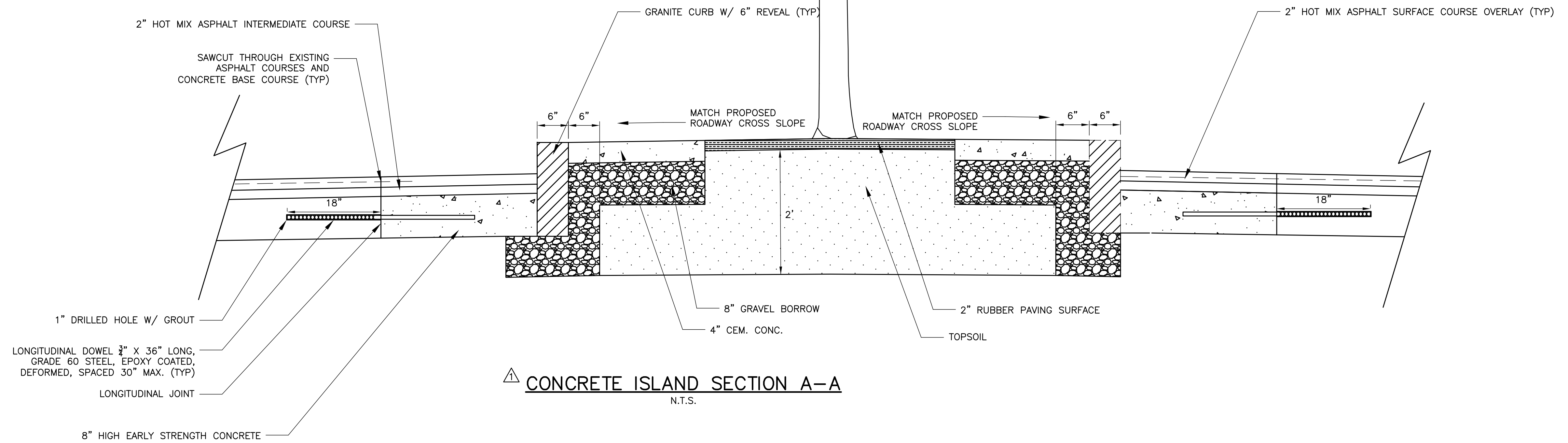
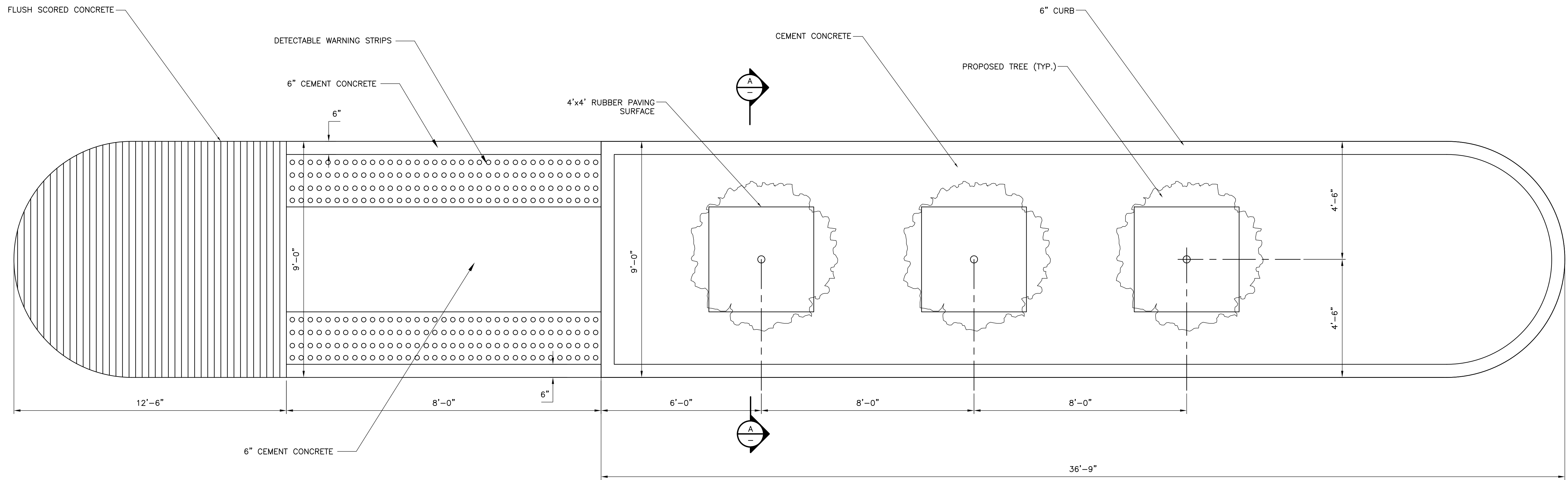
**CONCORD AVENUE  
WATER MAIN AND ROADWAY RECONSTRUCTION**

**MISCELLANEOUS DETAILS I**

SHEET NO.  
**11**

Accession No: 0139-P-xxxx

PROJECT NO. 0139-68660  
FILE NAME: CSTD001.DWG



REV. NO.	DATE	DRWN	CHKD	REMARKS
3	4/5/10	SMG	LDS	CONFORMED DRAWING
1	2/9/10	KAT	LDS	ADDENDA NO. 1 GENERAL UPDATES

DESIGNED BY: A. LYNCH  
 DRAWN BY: K. THOMAS  
 SHEET CHK'D BY: C. LIGGETT  
 CROSS CHK'D BY: L. SHERMAN  
 APPROVED BY: L. SHERMAN  
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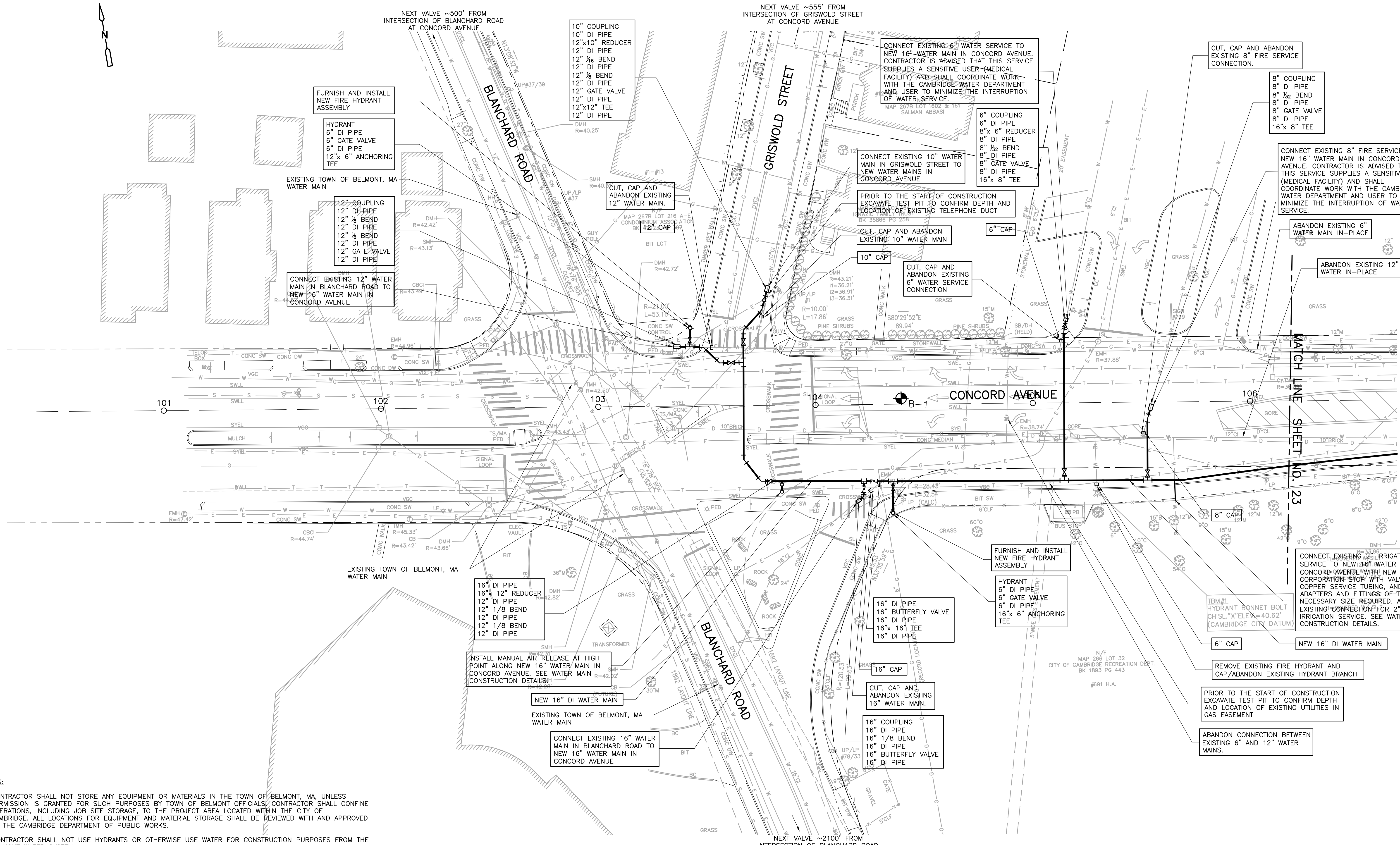
**CONCORD AVENUE  
 WATER MAIN AND ROADWAY RECONSTRUCTION**

PROJECT NO. 0139-68660  
 FILE NAME: CSTD1002.DWG

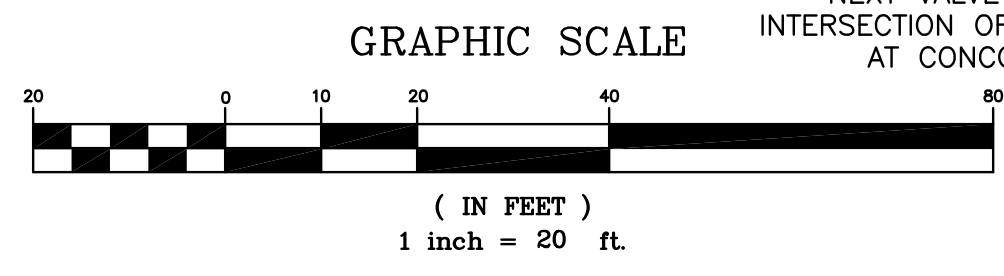
**MISCELLANEOUS DETAILS III**

SHEET NO.  
**13**

Accession No: 0139-PP-10004



- NOTES:**
- CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIALS IN THE TOWN OF BELMONT, MA, UNLESS PERMISSION IS GRANTED FOR SUCH PURPOSES BY TOWN OF BELMONT OFFICIALS. CONTRACTOR SHALL CONFINE OPERATIONS, INCLUDING JOB SITE STORAGE, TO THE PROJECT AREA LOCATED WITHIN THE CITY OF CAMBRIDGE. ALL LOCATIONS FOR EQUIPMENT AND MATERIAL STORAGE SHALL BE REVIEWED WITH AND APPROVED BY THE CAMBRIDGE DEPARTMENT OF PUBLIC WORKS.
  - CONTRACTOR SHALL NOT USE HYDRANTS OR OTHERWISE USE WATER FOR CONSTRUCTION PURPOSES FROM THE BELMONT WATER SYSTEM.



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DRAWN BY:	J. CABRERA
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CROSS CHK'D BY:	L. SHERMAN
APPROVED BY:	L. SHERMAN
DATE:	JANUARY 2010

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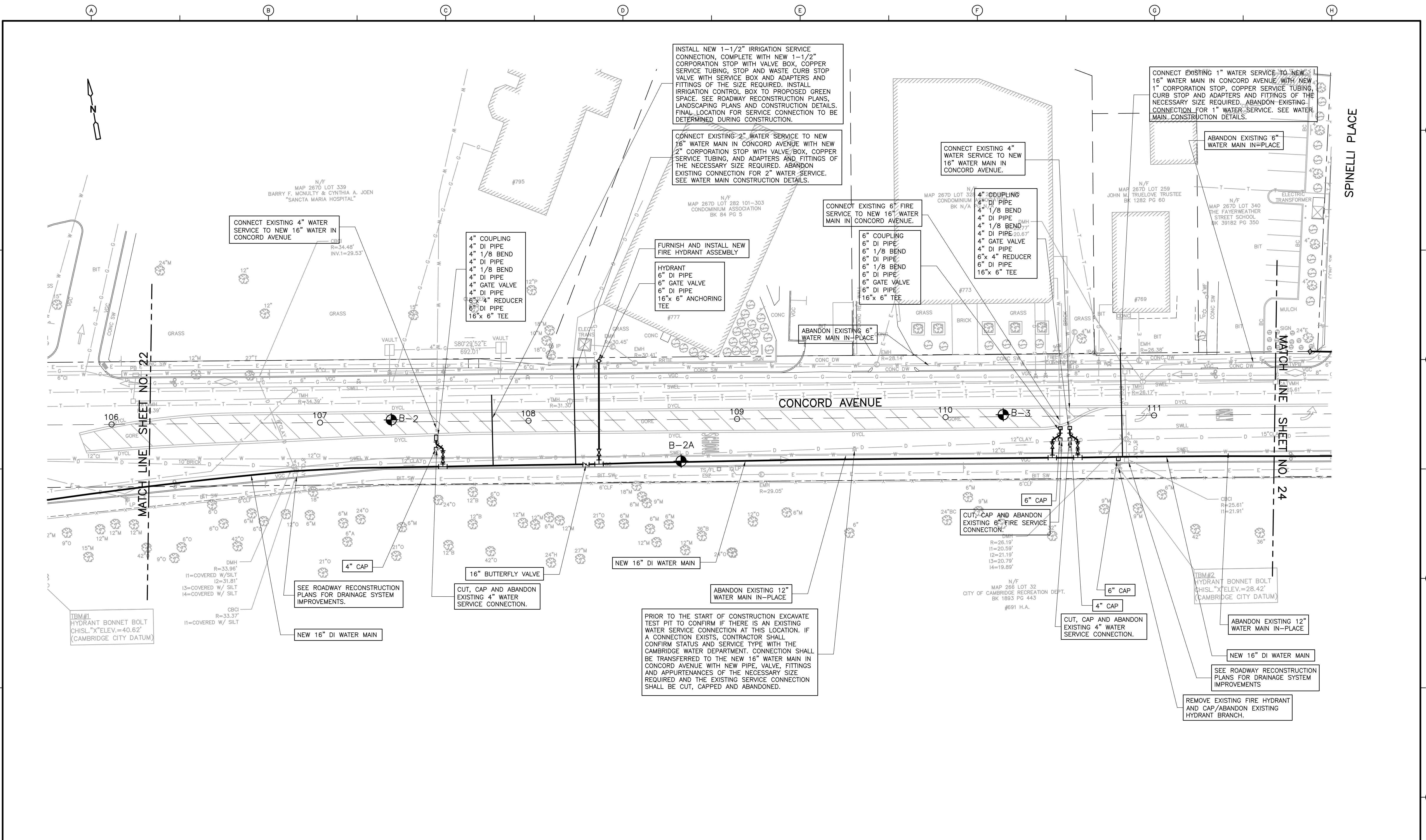
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DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT

**CONCORD AVENUE  
WATER MAIN AND ROADWAY RECONSTRUCTION**

**WATER MAIN CONSTRUCTION PLAN**

PROJECT NO.	0139-68660
FILE NAME:	CSTWP001
SHEET NO.	22
Accession No:	0139-P-xxxx



INSTALL NEW 1-1/2" IRRIGATION SERVICE CONNECTION. COMPLETE WITH NEW 1-1/2" CORPORATION STOP WITH VALVE BOX, COPPER SERVICE TUBING, STOP AND WASTE CURB STOP VALVE WITH SERVICE BOX AND ADAPTERS AND FITTINGS OF THE SIZE REQUIRED. INSTALL IRRIGATION CONTROL BOX TO PROPOSED GREEN SPACE. SEE ROADWAY RECONSTRUCTION PLANS, LANDSCAPING PLANS AND CONSTRUCTION DETAILS. FINAL LOCATION FOR SERVICE CONNECTION TO BE DETERMINED DURING CONSTRUCTION.

CONNECT EXISTING 2" WATER SERVICE TO NEW 16" WATER MAIN IN CONCORD AVENUE WITH NEW 2" CORPORATION STOP WITH VALVE BOX, COPPER SERVICE TUBING, AND ADAPTERS AND FITTINGS OF THE NECESSARY SIZE REQUIRED. ABANDON EXISTING CONNECTION FOR 2" WATER SERVICE. SEE WATER MAIN CONSTRUCTION DETAILS.

CONNECT EXISTING 4" WATER SERVICE TO NEW 16" WATER MAIN IN CONCORD AVENUE.

CONNECT EXISTING 1" WATER SERVICE TO NEW 16" WATER MAIN IN CONCORD AVENUE WITH NEW 1" CORPORATION STOP, COPPER SERVICE TUBING, CURB STOP AND ADAPTERS AND FITTINGS OF THE NECESSARY SIZE REQUIRED. ABANDON EXISTING CONNECTION FOR 1" WATER SERVICE. SEE WATER MAIN CONSTRUCTION DETAILS.

CONNECT EXISTING 4" WATER SERVICE TO NEW 16" WATER MAIN IN CONCORD AVENUE

4" COUPLING  
4" DI PIPE  
4" 1/8 BEND  
4" DI PIPE  
4" 1/8 BEND  
4" DI PIPE  
4" GATE VALVE  
4" DI PIPE  
6"x4" REDUCER  
8" DI PIPE  
16"x6" TEE

FURNISH AND INSTALL NEW FIRE HYDRANT ASSEMBLY  
HYDRANT  
6" DI PIPE  
6" GATE VALVE  
6" DI PIPE  
16"x6" ANCHORING TEE

CONNECT EXISTING 6" FIRE SERVICE TO NEW 16" WATER MAIN IN CONCORD AVENUE.

6" COUPLING  
6" DI PIPE  
6" 1/8 BEND  
6" DI PIPE  
6" 1/8 BEND  
6" DI PIPE  
6" GATE VALVE  
6" DI PIPE  
16"x6" TEE

ABANDON EXISTING 6" WATER MAIN IN-PLACE

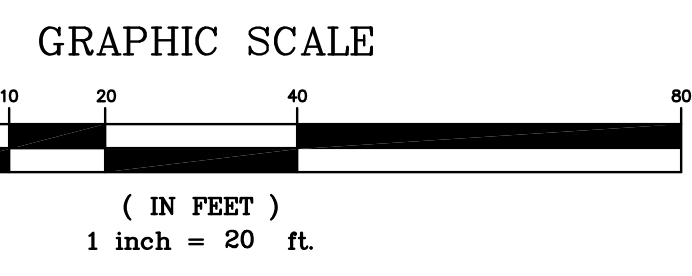
ABANDON EXISTING 6" WATER MAIN IN-PLACE

CONCORD AVENUE

MATCH LINE SHEET NO. 24

MATCH LINE SHEET NO. 22

PRIOR TO THE START OF CONSTRUCTION EXCAVATE TEST PIT TO CONFIRM IF THERE IS AN EXISTING WATER SERVICE CONNECTION AT THIS LOCATION. IF A CONNECTION EXISTS, CONTRACTOR SHALL CONFIRM STATUS AND SERVICE TYPE WITH THE CAMBRIDGE WATER DEPARTMENT. CONNECTION SHALL BE TRANSFERRED TO THE NEW 16" WATER MAIN IN CONCORD AVENUE WITH NEW PIPE, VALVE, FITTINGS AND APPURTENANCES OF THE NECESSARY SIZE REQUIRED AND THE EXISTING SERVICE CONNECTION SHALL BE CUT, CAPPED AND ABANDONED.



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SHEET CHK'D BY: J. DIERCKS	consulting • engineering • construction • operations
CROSS CHK'D BY: L. SHERMAN	
APPROVED BY: L. SHERMAN	
DATE: JANUARY 2010	

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DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT

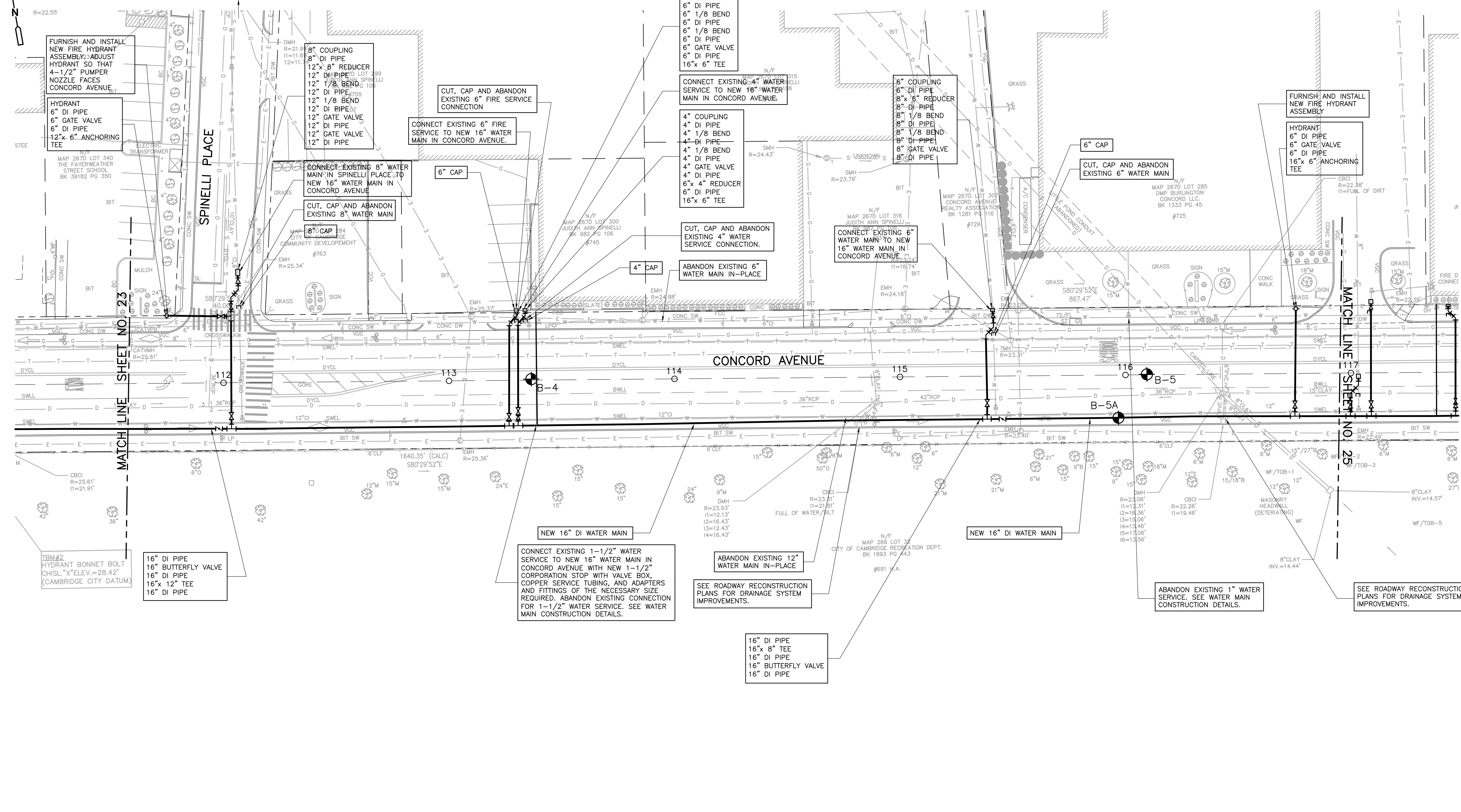
**CONCORD AVENUE  
WATER MAIN AND ROADWAY RECONSTRUCTION**

**WATER MAIN CONSTRUCTION PLAN**

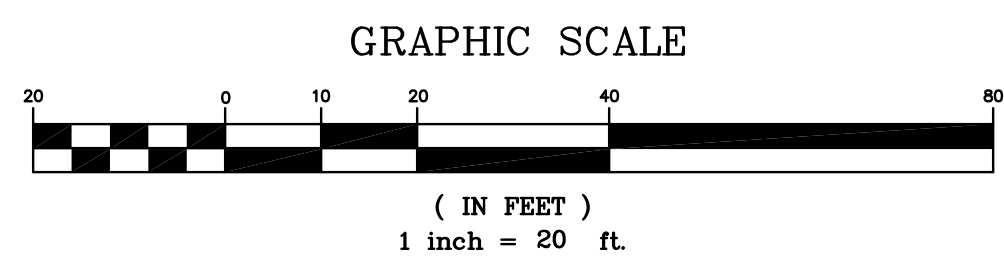
PROJECT NO. 0139-68660	FILE NAME: CSTWP001
SHEET NO. 23	Accession No: 0139-P-xxxx

REV. NO.	DATE	DRWN	CHKD	REMARKS
3	4/5/10	SMG	LDS	CONFORMED DRAWING

NEXT VALVE ~405' FROM INTERSECTION OF SPINELLI PLACE AT CONCORD AVENUE



**NOTES:**  
 1. CONTRACTOR SHALL EXCAVATE TEST PIT TO LOCATE EXISTING WATER MAINS BEHIND #725 CONCORD AVENUE AT THE DIRECTION OF THE CAMBRIDGE WATER DEPARTMENT. THIS TEST PIT EXCAVATION HAS BEEN INCLUDED FOR PAYMENT AS PART OF THE RESPECTIVE BID ITEM FOR TEST PITS FOR WATER SYSTEM CONSTRUCTION.



3	4/5/10	SMG	LDS	CONFORMED DRAWING
REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: M. GALLANT  
 DRAWN BY: J. CABRERA  
 SHEET CHK'D BY: J. DIERCKX  
 CROSS CHK'D BY: L. SHERMAN  
 APPROVED BY: L. SHERMAN  
 DATE: JANUARY 2010

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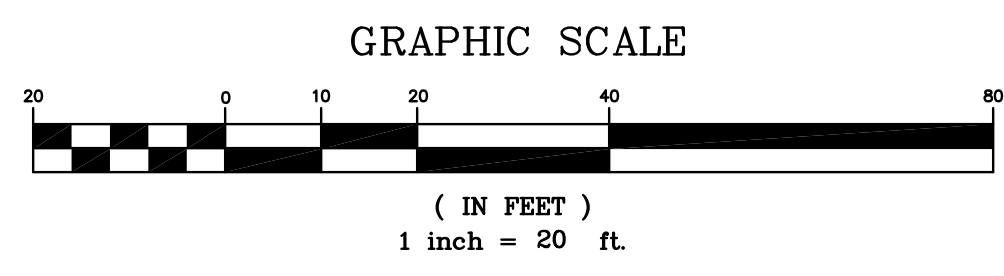
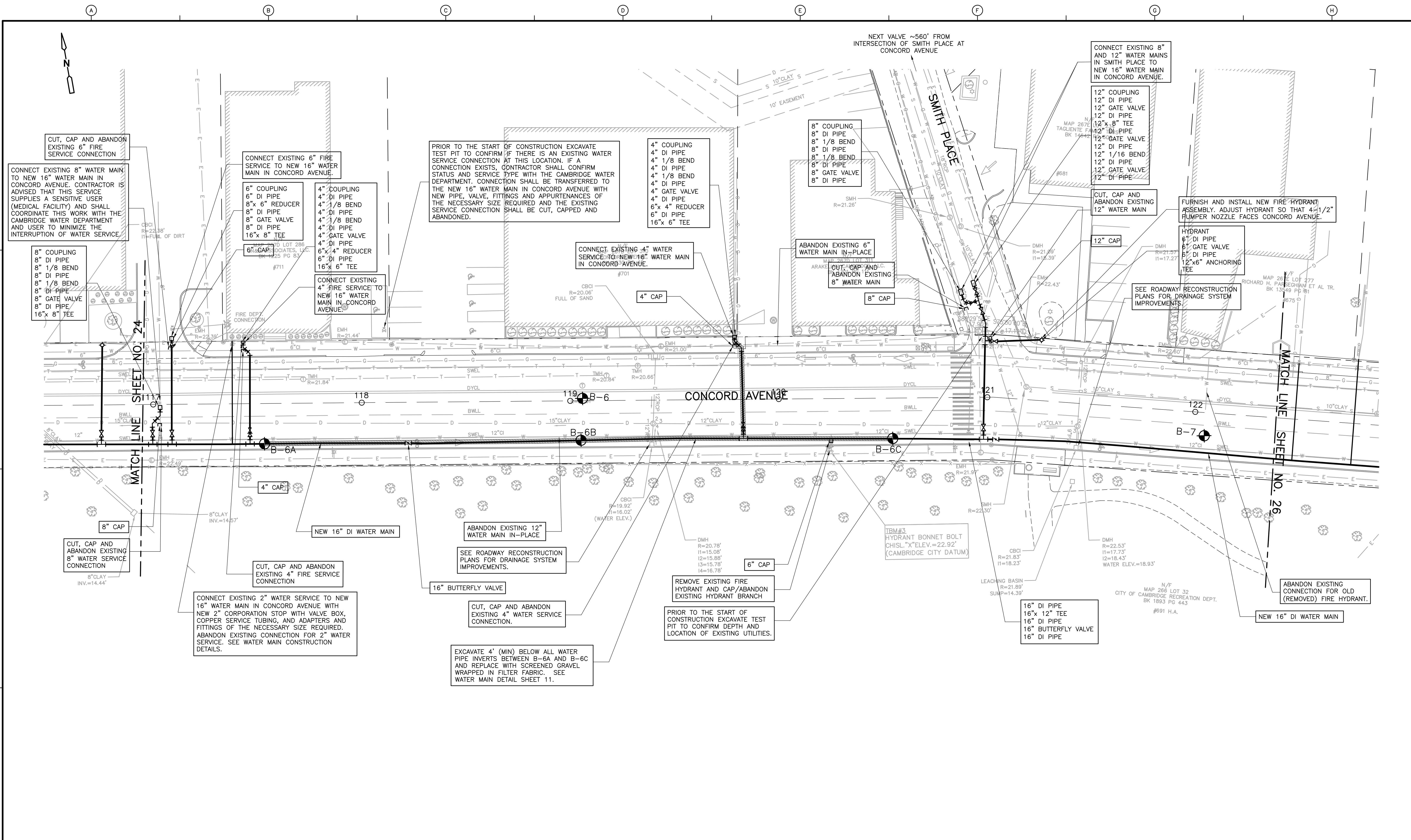
**CONCORD AVENUE  
 WATER MAIN AND ROADWAY RECONSTRUCTION**

**WATER MAIN CONSTRUCTION PLAN**

SHEET NO.  
**24**

Accession No: 0139-P-xxxx

PROJECT NO. 0139-68660  
 FILE NAME: CSTWP001



DESIGNED BY:	M. GALLANT
DRAWN BY:	J. CABRERA
SHEET CHK'D BY:	J. DIERCKS
CROSS CHK'D BY:	L. SHERMAN
APPROVED BY:	L. SHERMAN
DATE:	JANUARY 2010

3	4/5/10	SMG	LDS	CONFORMED DRAWING
REV. NO.	DATE	DRWN	CHKD	REMARKS

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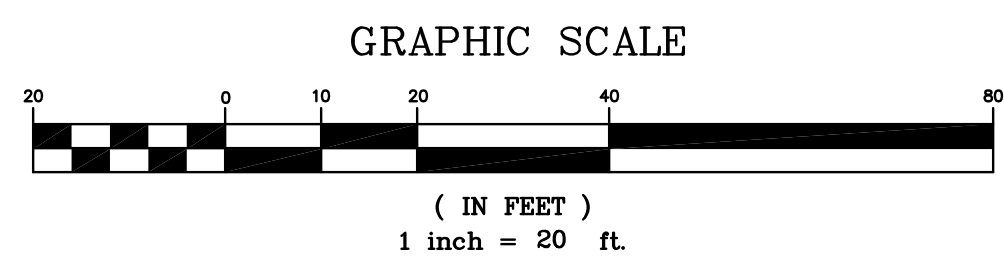
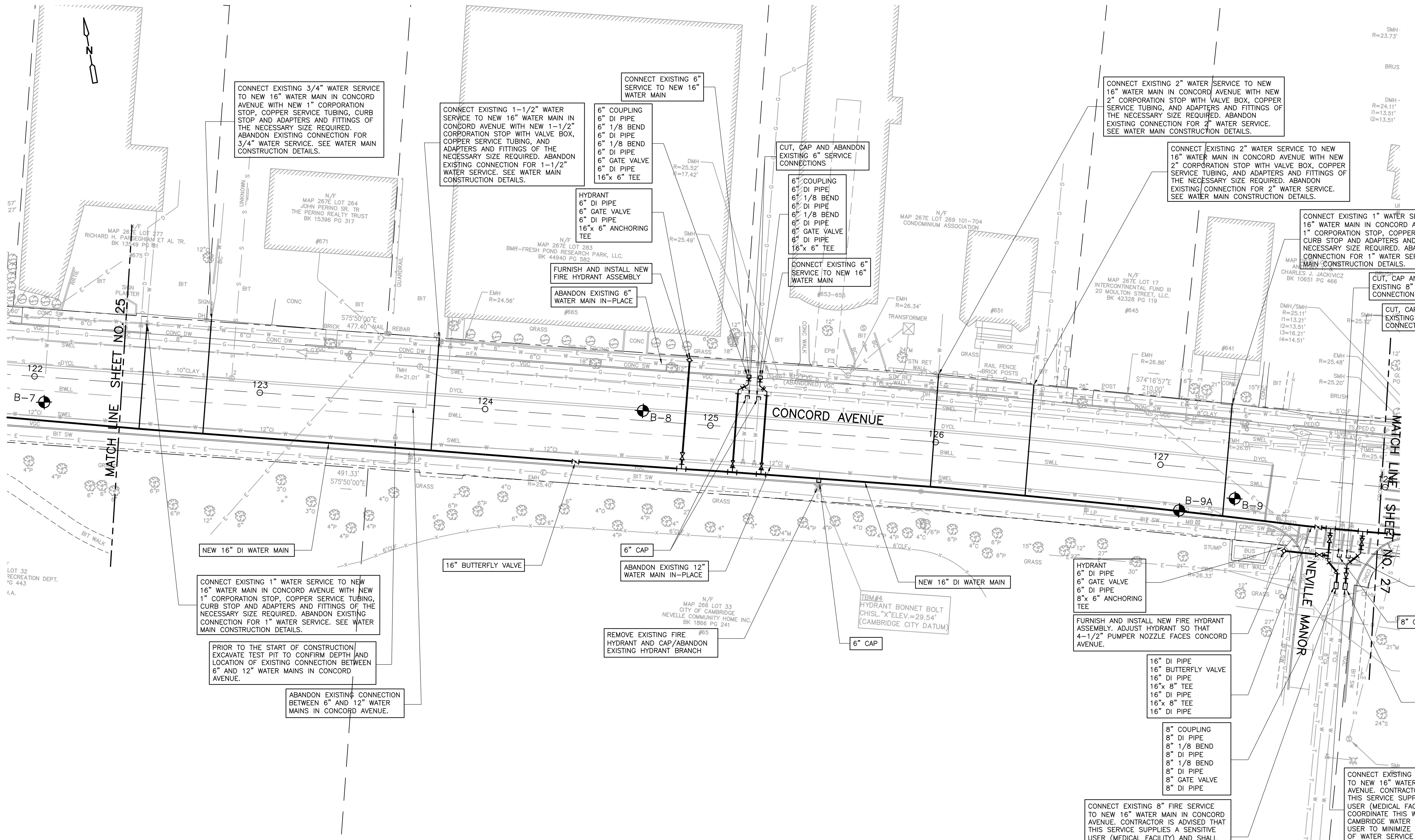
## CONCORD AVENUE WATER MAIN AND ROADWAY RECONSTRUCTION

## WATER MAIN CONSTRUCTION PLAN

SHEET NO.  
**25**

PROJECT NO. 0139-68660  
 FILE NAME: CSTWP001  
 Accession No: 0139-P-xxxx





3	4/5/10	SMG	LDS	CONFORMED DRAWING
REV. NO.	DATE	DRWN	CHKD	REMARKS

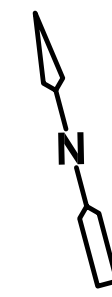
DESIGNED BY: M. GALLANT  
 DRAWN BY: J. CABRERA  
 SHEET CHK'D BY: J. DIERCKS  
 CROSS CHK'D BY: L. SHERMAN  
 APPROVED BY: L. SHERMAN  
 DATE: JANUARY 2010

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 DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT  
**CONCORD AVENUE**  
**WATER MAIN AND ROADWAY RECONSTRUCTION**

**WATER MAIN CONSTRUCTION PLAN**

PROJECT NO. 0139-68660  
 FILE NAME: CSTWP001  
 SHEET NO. **26**  
 Accession No: 0139-P-xxxx



NEXT VALVE  
~325' FROM INTERSECTION  
OF MOULTON STREET AT  
CONCORD AVENUE

CONNECT EXISTING 8" WATER  
MAIN IN MOULTON STREET TO  
NEW 16" WATER MAIN IN  
CONCORD AVENUE

8" COUPLING  
8" DI PIPE  
12"x8" REDUCER  
12" DI PIPE  
12" GATE VALVE  
12" DI PIPE  
12" 1/2 BEND  
12" DI PIPE  
12" 1/2 BEND  
12" DI PIPE  
12" GATE VALVE  
12" DI PIPE

PRIOR TO THE START OF  
CONSTRUCTION EXCAVATE  
TEST PIT TO CONFIRM  
DEPTH AND LOCATION OF  
EXISTING UTILITIES.

FURNISH AND INSTALL NEW  
FIRE HYDRANT ASSEMBLY

HYDRANT  
6" DI PIPE  
6" GATE VALVE  
6" DI PIPE  
16"x 6" ANCHORING  
TEE

CONNECT EXISTING 8" FIRE/WATER  
SERVICE TO NEW 16" WATER MAIN IN  
CONCORD AVENUE.

8" COUPLING  
8" DI PIPE  
8" 1/2 BEND  
8" DI PIPE  
8" 1/2 BEND  
8" DI PIPE  
8" GATE VALVE  
8" DI PIPE  
16"x8" TEE

ABANDON EXISTING 6"  
WATER MAIN IN-PLACE

FURNISH AND INSTALL NEW  
FIRE HYDRANT ASSEMBLY

HYDRANT  
6" DI PIPE  
6" GATE VALVE  
6" DI PIPE  
16"x 6" ANCHORING  
TEE

CUT, CAP AND ABANDON  
EXISTING 8" WATER MAIN

8" CAP

16" DI PIPE  
16" BUTTERFLY VALVE  
16" DI PIPE  
16"x12" TEE  
16" DI PIPE

CUT, CAP AND ABANDON  
EXISTING 8" FIRE/WATER  
SERVICE CONNECTION

8" CAP

CUT, CAP AND ABANDON  
EXISTING 6" SERVICE TO  
SAMPLING STATION

6" CAP

NEW 16" DI WATER MAIN

ABANDON EXISTING 12"  
WATER MAIN IN-PLACE

REMOVE EXISTING FIRE HYDRANT  
AND CAP/ABANDON EXISTING  
HYDRANT BRANCH

16" BUTTERFLY VALVE

NEW 16" DI WATER MAIN

TBM #5  
HYDRANT BONNET BOLT  
CHISL. "X" ELEV. = 24.96'  
(CAMBRIDGE CITY DATUM)

SEE ROADWAY RECONSTRUCTION  
PLANS FOR DRAINAGE SYSTEM  
IMPROVEMENTS.

GRAPHIC SCALE



( IN FEET )  
1 inch = 20 ft.

DESIGNED BY:	M. GALLANT
DRAWN BY:	J. CABRERA
SHEET CHK'D BY:	J. DIERCKS
CROSS CHK'D BY:	L. SHERMAN
APPROVED BY:	L. SHERMAN
DATE:	JANUARY 2010

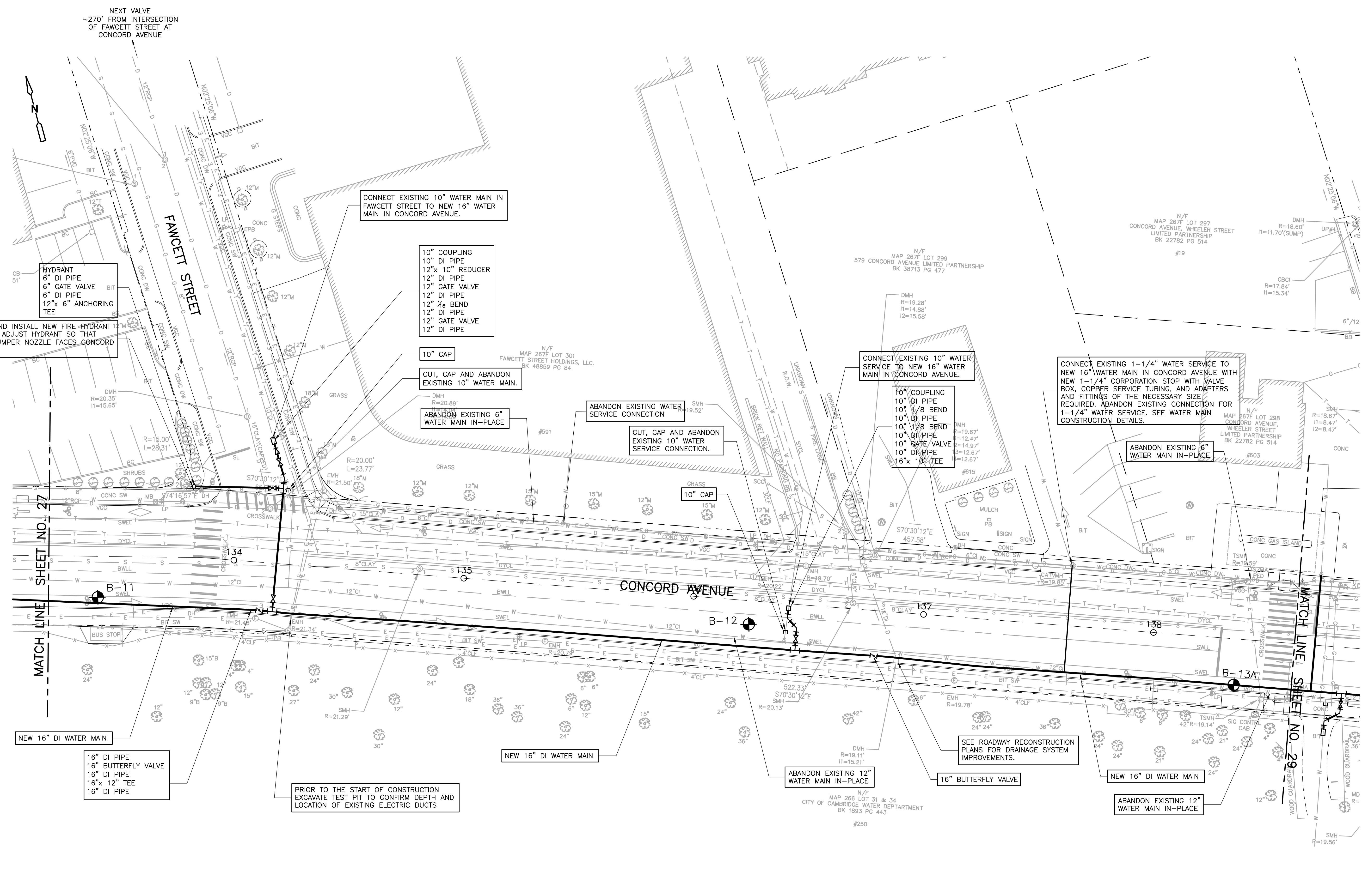
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**CONCORD AVENUE  
WATER MAIN AND ROADWAY RECONSTRUCTION**

**WATER MAIN CONSTRUCTION PLAN**

PROJECT NO.	0139-68660
FILE NAME:	CSTWP001
SHEET NO.	27
Accession No:	0139-P-xxxx



MATCH LINE SHEET NO. 27

MATCH LINE SHEET NO. 29

GRAPHIC SCALE



DESIGNED BY:	M. GALLANT
DRAWN BY:	J. CABRERA
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CROSS CHK'D BY:	L. SHERMAN
APPROVED BY:	L. SHERMAN
DATE:	JANUARY 2010

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**CONCORD AVENUE  
 WATER MAIN AND ROADWAY RECONSTRUCTION**

**WATER MAIN CONSTRUCTION PLAN**

PROJECT NO.	0139-68660
FILE NAME:	CSTWP001
SHEET NO.	28
Accession No:	0139-P-xxxx

FURNISH AND INSTALL NEW FIRE HYDRANT ASSEMBLY. ADJUST HYDRANT SO THAT 4-1/2" PUMPER NOZZLE FACES CONCORD AVENUE.

CONNECT EXISTING 10" WATER MAIN IN FAWCETT STREET TO NEW 16" WATER MAIN IN CONCORD AVENUE.

10" COUPLING  
 10" DI PIPE  
 12"x 10" REDUCER  
 12" DI PIPE  
 12" GATE VALVE  
 12" DI PIPE  
 12" 1/8 BEND  
 12" DI PIPE  
 12" GATE VALVE  
 12" DI PIPE

10" CAP  
 CUT, CAP AND ABANDON EXISTING 10" WATER MAIN.  
 ABANDON EXISTING 6" WATER MAIN IN-PLACE

ABANDON EXISTING WATER SERVICE CONNECTION.  
 CUT, CAP AND ABANDON EXISTING 10" WATER SERVICE CONNECTION.

CONNECT EXISTING 10" WATER SERVICE TO NEW 16" WATER MAIN IN CONCORD AVENUE.

10" COUPLING  
 10" DI PIPE  
 10" 1/8 BEND  
 10" DI PIPE  
 10" 1/8 BEND  
 10" DI PIPE  
 10" GATE VALVE  
 10" DI PIPE  
 16" x 10" TEE

CONNECT EXISTING 1-1/4" WATER SERVICE TO NEW 16" WATER MAIN IN CONCORD AVENUE WITH NEW 1-1/4" CORPORATION STOP WITH VALVE BOX, COPPER SERVICE TUBING, AND ADAPTERS AND FITTINGS OF THE NECESSARY SIZE REQUIRED. ABANDON EXISTING CONNECTION FOR 1-1/4" WATER SERVICE. SEE WATER MAIN CONSTRUCTION DETAILS.

ABANDON EXISTING 6" WATER MAIN IN-PLACE

NEW 16" DI WATER MAIN  
 16" DI PIPE  
 16" BUTTERFLY VALVE  
 16" DI PIPE  
 16"x 12" TEE  
 16" DI PIPE

PRIOR TO THE START OF CONSTRUCTION EXCAVATE TEST PIT TO CONFIRM DEPTH AND LOCATION OF EXISTING ELECTRIC DUCTS

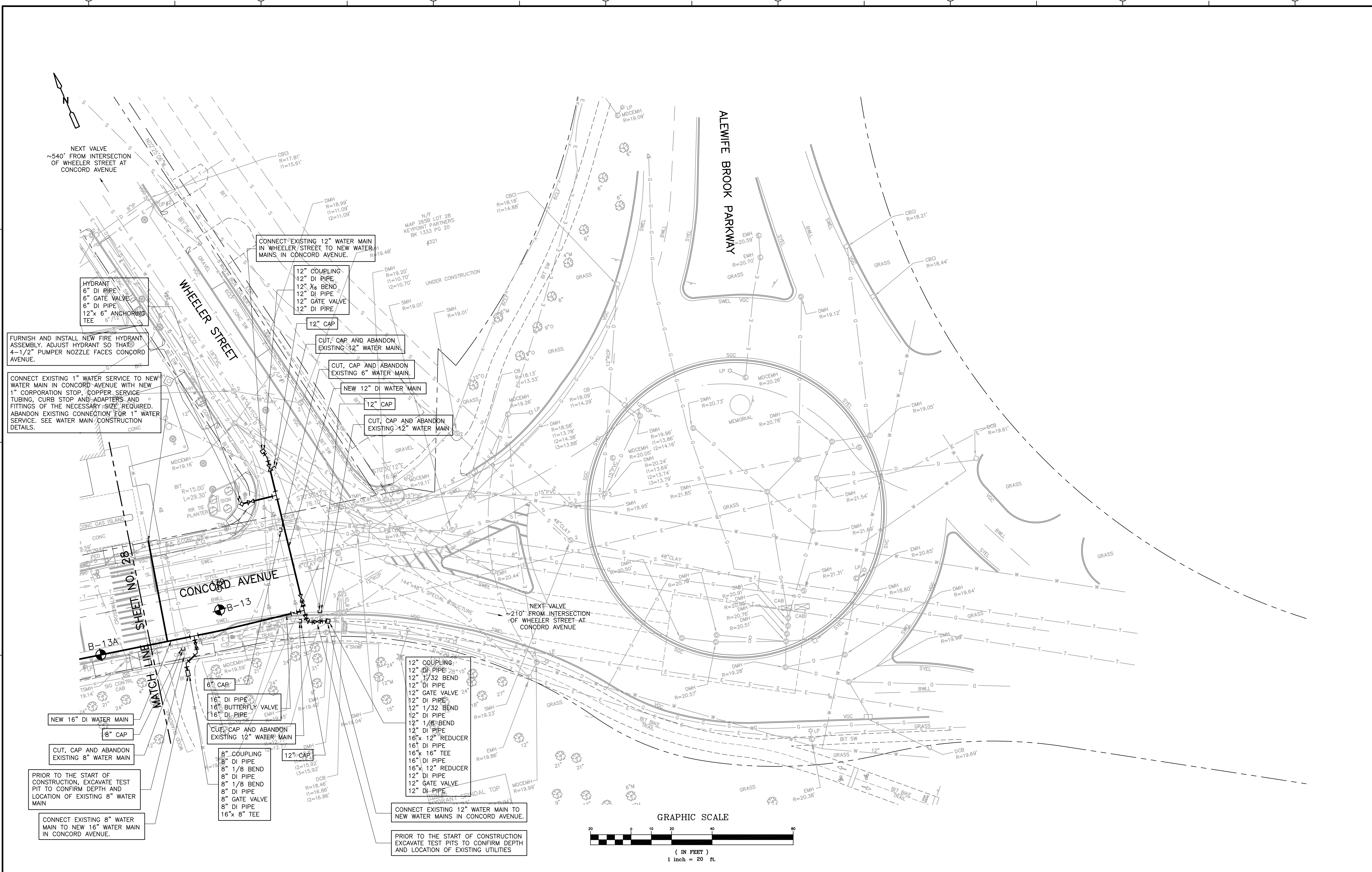
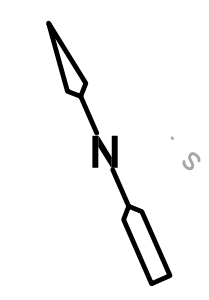
NEW 16" DI WATER MAIN

ABANDON EXISTING 12" WATER MAIN IN-PLACE

16" BUTTERFLY VALVE

NEW 16" DI WATER MAIN

ABANDON EXISTING 12" WATER MAIN IN-PLACE



NEXT VALVE  
~540' FROM INTERSECTION  
OF WHEELER STREET AT  
CONCORD AVENUE

HYDRANT  
6" DI PIPE  
6" GATE VALVE  
6" DI PIPE  
12" x 6" ANCHORING  
TEE

FURNISH AND INSTALL NEW FIRE HYDRANT  
ASSEMBLY. ADJUST HYDRANT SO THAT  
4-1/2" PUMPER NOZZLE FACES CONCORD  
AVENUE.

CONNECT EXISTING 1" WATER SERVICE TO NEW  
WATER MAIN IN CONCORD AVENUE WITH NEW  
1" CORPORATION STOP, COPPER SERVICE  
TUBING, CURB STOP AND ADAPTERS AND  
FITTINGS OF THE NECESSARY SIZE REQUIRED.  
ABANDON EXISTING CONNECTION FOR 1" WATER  
SERVICE. SEE WATER MAIN CONSTRUCTION  
DETAILS.

CONNECT EXISTING 12" WATER MAIN  
IN WHEELER STREET TO NEW WATER  
MAINS IN CONCORD AVENUE.

12" COUPLING  
12" DI PIPE  
12" 1/8 BEND  
12" DI PIPE  
12" GATE VALVE  
12" DI PIPE

12" CAP

CUT, CAP AND ABANDON  
EXISTING 12" WATER MAIN.

CUT, CAP AND ABANDON  
EXISTING 6" WATER MAIN.

NEW 12" DI WATER MAIN

12" CAP

CUT, CAP AND ABANDON  
EXISTING 12" WATER MAIN

12" COUPLING  
12" DI PIPE  
12" 1/32 BEND  
12" DI PIPE  
12" GATE VALVE 24"  
12" DI PIPE  
12" 1/32 BEND  
12" DI PIPE  
12" 1/8 BEND  
12" DI PIPE  
16" x 12" REDUCER  
16" DI PIPE  
16" x 16" TEE  
16" DI PIPE  
16" x 12" REDUCER  
12" DI PIPE  
12" GATE VALVE  
12" DI PIPE

CUT, CAP AND ABANDON  
EXISTING 12" WATER MAIN

12" CAP

8" COUPLING  
8" DI PIPE  
8" 1/8 BEND  
8" DI PIPE  
8" 1/8 BEND  
8" DI PIPE  
8" GATE VALVE  
8" DI PIPE  
16" x 8" TEE

CUT, CAP AND ABANDON  
EXISTING 8" WATER MAIN

NEW 16" DI WATER MAIN

8" CAP

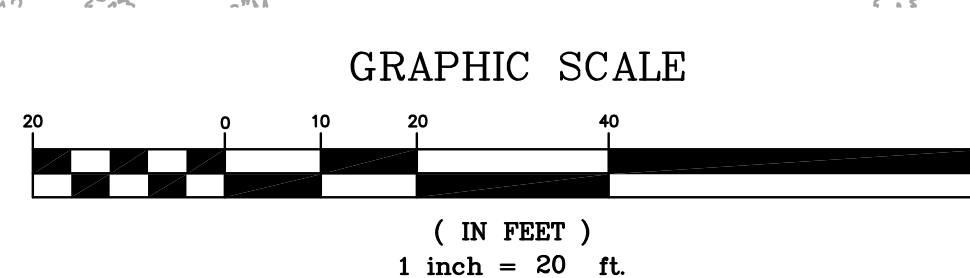
CUT, CAP AND ABANDON  
EXISTING 8" WATER MAIN

PRIOR TO THE START OF  
CONSTRUCTION, EXCAVATE TEST  
PIT TO CONFIRM DEPTH AND  
LOCATION OF EXISTING 8" WATER  
MAIN

CONNECT EXISTING 8" WATER  
MAIN TO NEW 16" WATER MAIN  
IN CONCORD AVENUE.

CONNECT EXISTING 12" WATER MAIN TO  
NEW WATER MAINS IN CONCORD AVENUE.

PRIOR TO THE START OF CONSTRUCTION  
EXCAVATE TEST PITS TO CONFIRM DEPTH  
AND LOCATION OF EXISTING UTILITIES



DESIGNED BY:	M. GALLANT
DRAWN BY:	J. CABRERA
SHEET CHK'D BY:	J. DIERCKS
CROSS CHK'D BY:	L. SHERMAN
APPROVED BY:	L. SHERMAN
DATE:	JANUARY 2010

REV. NO.	DATE	DRWN	CHKD	REMARKS
3	4/5/10	SMG	LDS	CONFORMED DRAWING

**CDM**  
56 Exchange Terrace  
Providence, RI 02903  
Tel: (401) 751-5360  
consulting • engineering • construction • operations

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DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT

**CONCORD AVENUE  
WATER MAIN AND ROADWAY RECONSTRUCTION**

**WATER MAIN CONSTRUCTION PLAN**

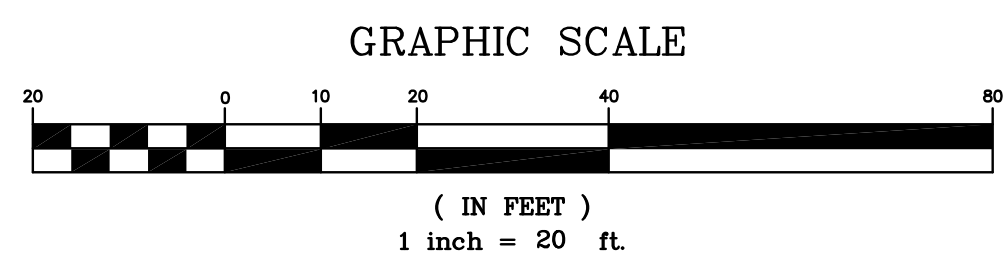
PROJECT NO. 0139-68660  
FILE NAME: CSTWP001

SHEET NO.  
**29**

Accession No: 0139-P-xxxx



NOTE:  
SEE WATER MAIN CONSTRUCTION PLANS FOR TREATMENT OF FIRE HYDRANTS  
SEE LANDSCAPING PLANS FOR PROPOSED TREES AND GREENSPACE TREATMENTS



MATCH LINE SHEET NO. 31

3	4/5/10	SMG	LDS	CONFORMED DRAWING
REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: S. MURPHY  
DRAWN BY: S. MURPHY  
SHEET CHK'D BY: C. LIGGETT  
CROSS CHK'D BY: L. SHERMAN  
APPROVED BY: L. SHERMAN  
DATE: JANUARY 2010

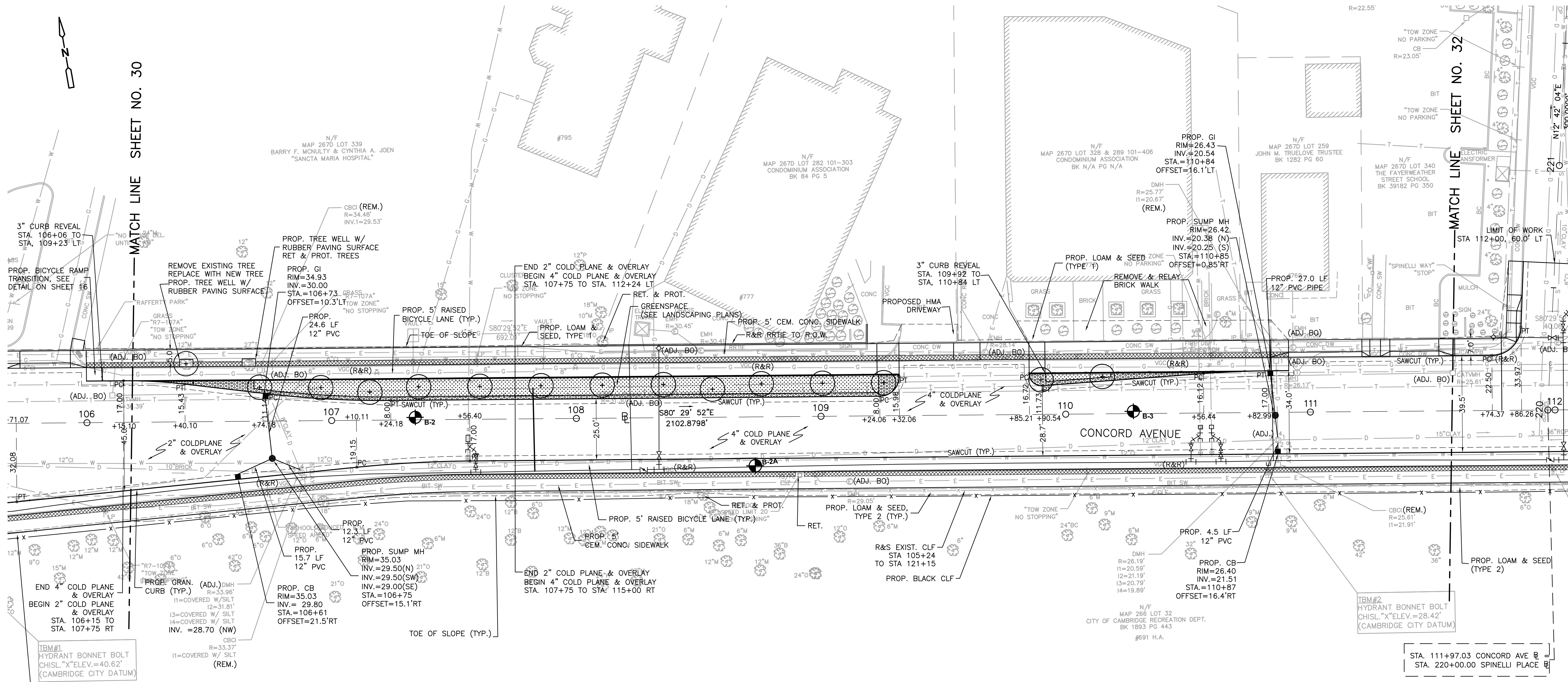
**CDM**  
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Providence, RI 02903  
Tel: (401) 751-5360  
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CITY OF CAMBRIDGE, MASSACHUSETTS  
DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT

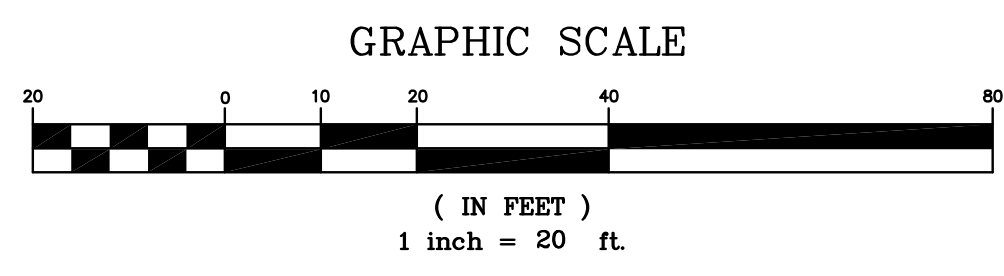
## CONCORD AVENUE WATER MAIN AND ROADWAY RECONSTRUCTION

## ROADWAY CONSTRUCTION PLANS

PROJECT NO.	0139-68660
FILE NAME:	CSTCP001
SHEET NO.	<b>30</b>
Accession No:	0139-P-xxxx



NOTE:  
SEE WATER MAIN CONSTRUCTION  
PLANS FOR TREATMENT OF FIRE  
HYDRANTS



REV. NO.	DATE	DRWN	CHKD	REMARKS
3	4/5/10	SMG	LDS	CONFORMED DRAWING
1	2/9/10	KAT	LDS	ADDENDA NO. 1 DRAINAGE PIPE TYPE REVISED

DESIGNED BY: S. MURPHY  
 DRAWN BY: S. MURPHY  
 SHEET CHK'D BY: C. LIGGETT  
 CROSS CHK'D BY: L. SHERMAN  
 APPROVED BY: L. SHERMAN  
 DATE: JANUARY 2010

**CDM**  
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 Tel: (401) 751-5360  
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CITY OF CAMBRIDGE, MASSACHUSETTS  
 DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT

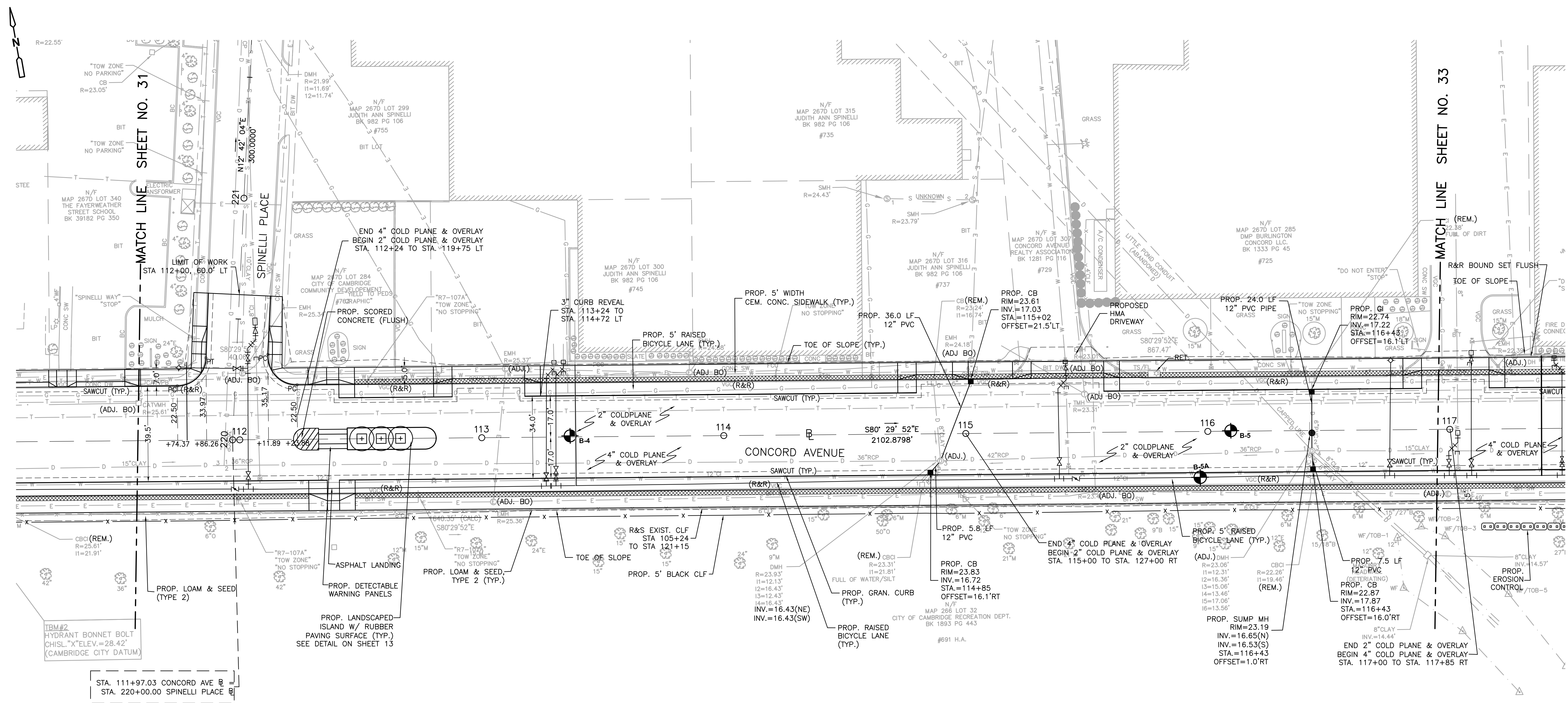
**CONCORD AVENUE  
 WATER MAIN AND ROADWAY RECONSTRUCTION**

**ROADWAY CONSTRUCTION PLANS**

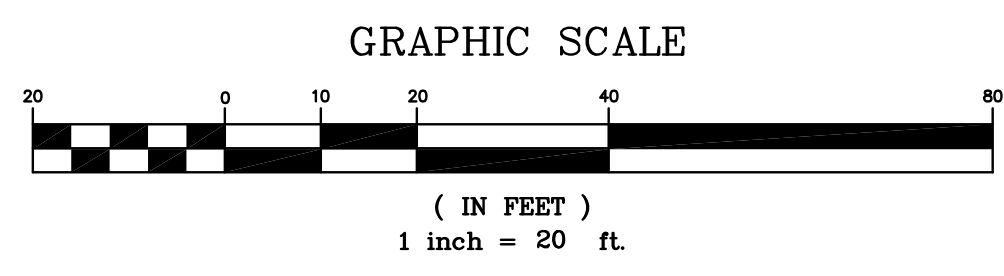
PROJECT NO. 0139-68660  
 FILE NAME: CSTBP001

SHEET NO.  
**31**

Accession No: 0139-P-xxxx



NOTE:  
SEE WATER MAIN CONSTRUCTION  
PLANS FOR TREATMENT OF FIRE  
HYDRANTS



3	4/5/10	SMG	LDS	CONFORMED DRAWING
1	2/9/10	KAT	LDS	ADDENDA NO. 1 DRAINAGE PIPE TYPE REVISED
REV. NO.	DATE	DRWN	CHKD	REMARKS

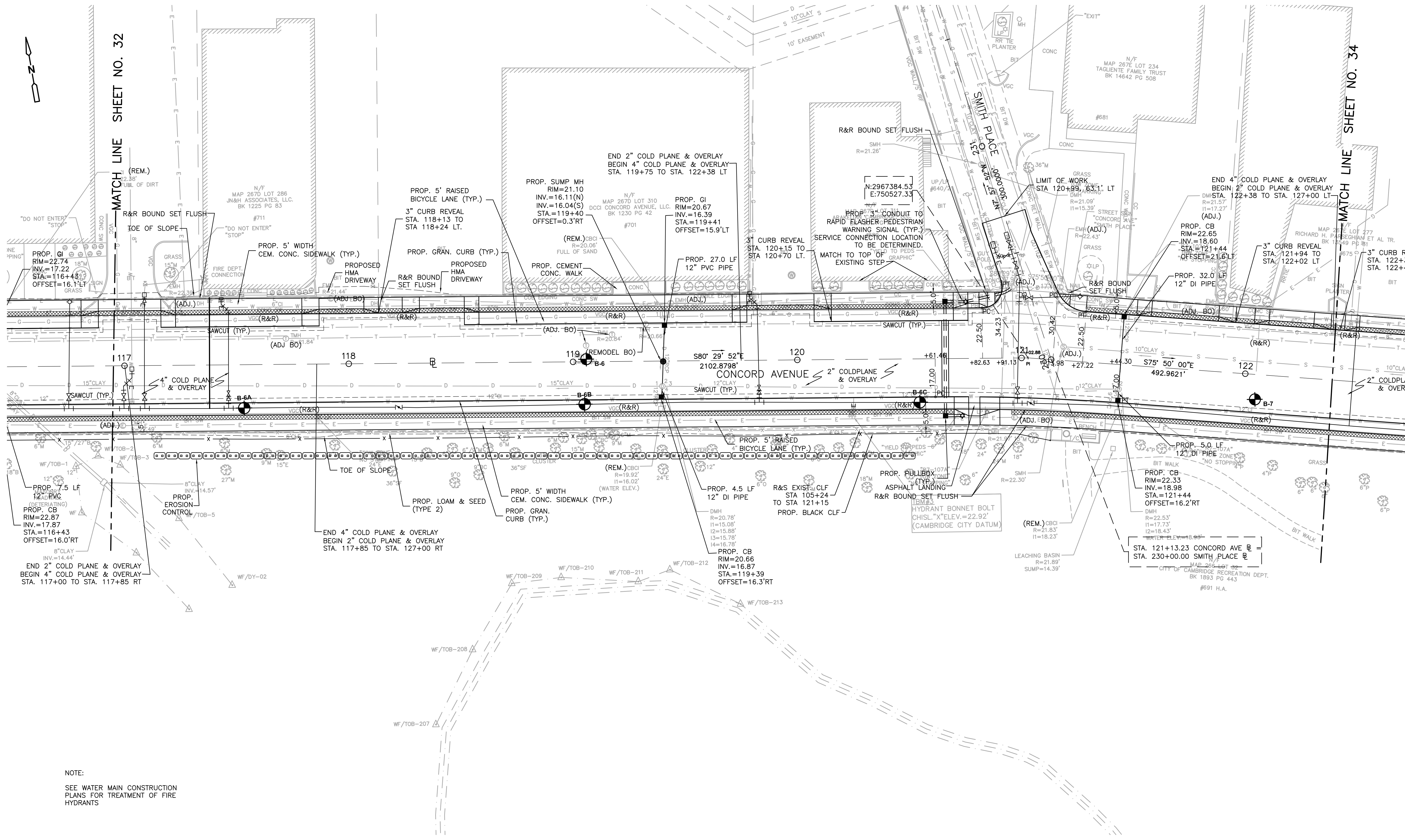
DESIGNED BY: S. MURPHY  
DRAWN BY: S. MURPHY  
SHEET CHK'D BY: C. LIGGETT  
CROSS CHK'D BY: L. SHERMAN  
APPROVED BY: L. SHERMAN  
DATE: JANUARY 2010

**CDM**  
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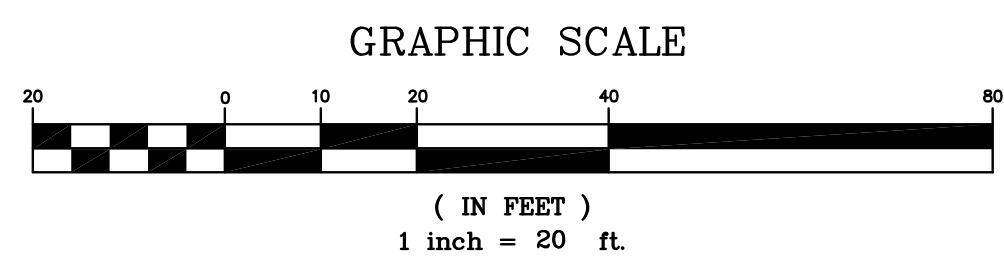
CITY OF CAMBRIDGE, MASSACHUSETTS  
DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT  
**CONCORD AVENUE  
WATER MAIN AND ROADWAY RECONSTRUCTION**

**ROADWAY CONSTRUCTION PLANS**

PROJECT NO. 0139-68660  
FILE NAME: CSTCP001  
SHEET NO. **32**  
Accession No: 0139-P-xxxx



NOTE:  
SEE WATER MAIN CONSTRUCTION  
PLANS FOR TREATMENT OF FIRE  
HYDRANTS



3	4/5/10	SMG	LDS	CONFORMED DRAWING
1	2/9/10	KAT	LDS	ADDENDA NO. 1 DRAINAGE PIPE TYPE REVISED
REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: S. MURPHY  
DRAWN BY: S. MURPHY  
SHEET CHK'D BY: C. LIGGETT  
CROSS CHK'D BY: L. SHERMAN  
APPROVED BY: L. SHERMAN  
DATE: JANUARY 2010

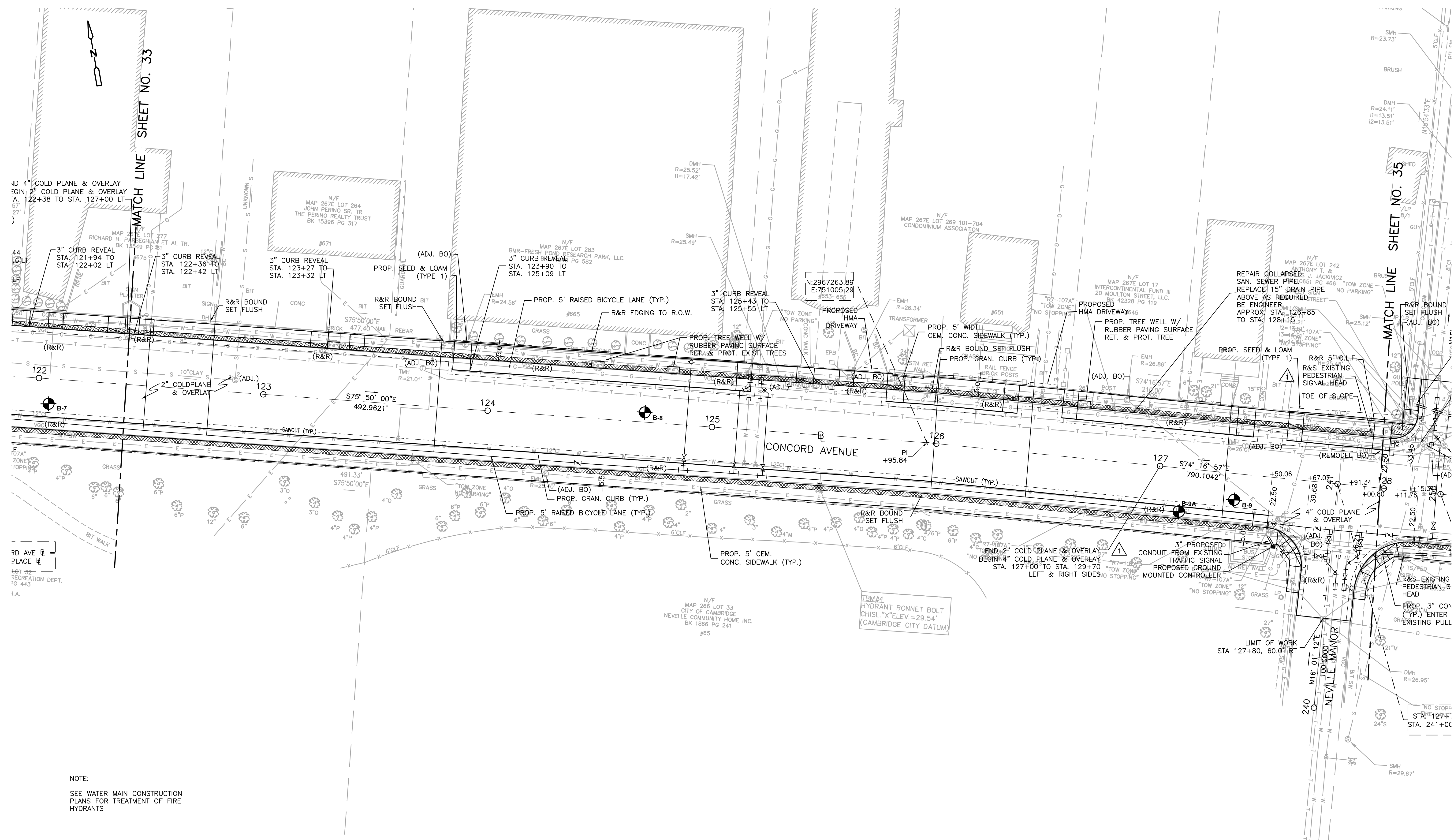
**CDM**  
56 Exchange Terrace  
Providence, RI 02903  
Tel: (401) 751-5360  
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CITY OF CAMBRIDGE, MASSACHUSETTS  
DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT  
**CONCORD AVENUE  
WATER MAIN AND ROADWAY RECONSTRUCTION**

**ROADWAY CONSTRUCTION PLANS**

PROJECT NO. 0139-68660  
FILE NAME: CSTCP001  
SHEET NO. **33**  
Accession No: 0139-P-xxxx

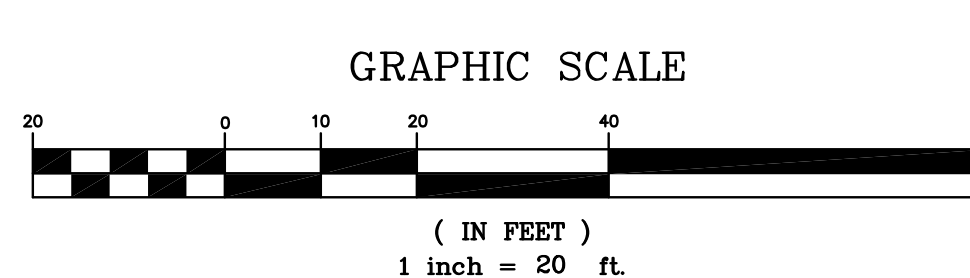




END 4" COLD PLANE & OVERLAY  
 BEGIN 2" COLD PLANE & OVERLAY  
 STA. 122+38 TO STA. 127+00 LT

RD AVE PLACE  
 LOT 32  
 RECREATION DEPT.  
 PG 443  
 I.A.

NOTE:  
 SEE WATER MAIN CONSTRUCTION  
 PLANS FOR TREATMENT OF FIRE  
 HYDRANTS



REV. NO.	DATE	DRWN	CHKD	REMARKS
3	4/5/10	SMG	LDS	CONFORMED DRAWING
1	2/9/10	KAT	LDS	ADDENDA NO. 1 GENERAL UPDATES

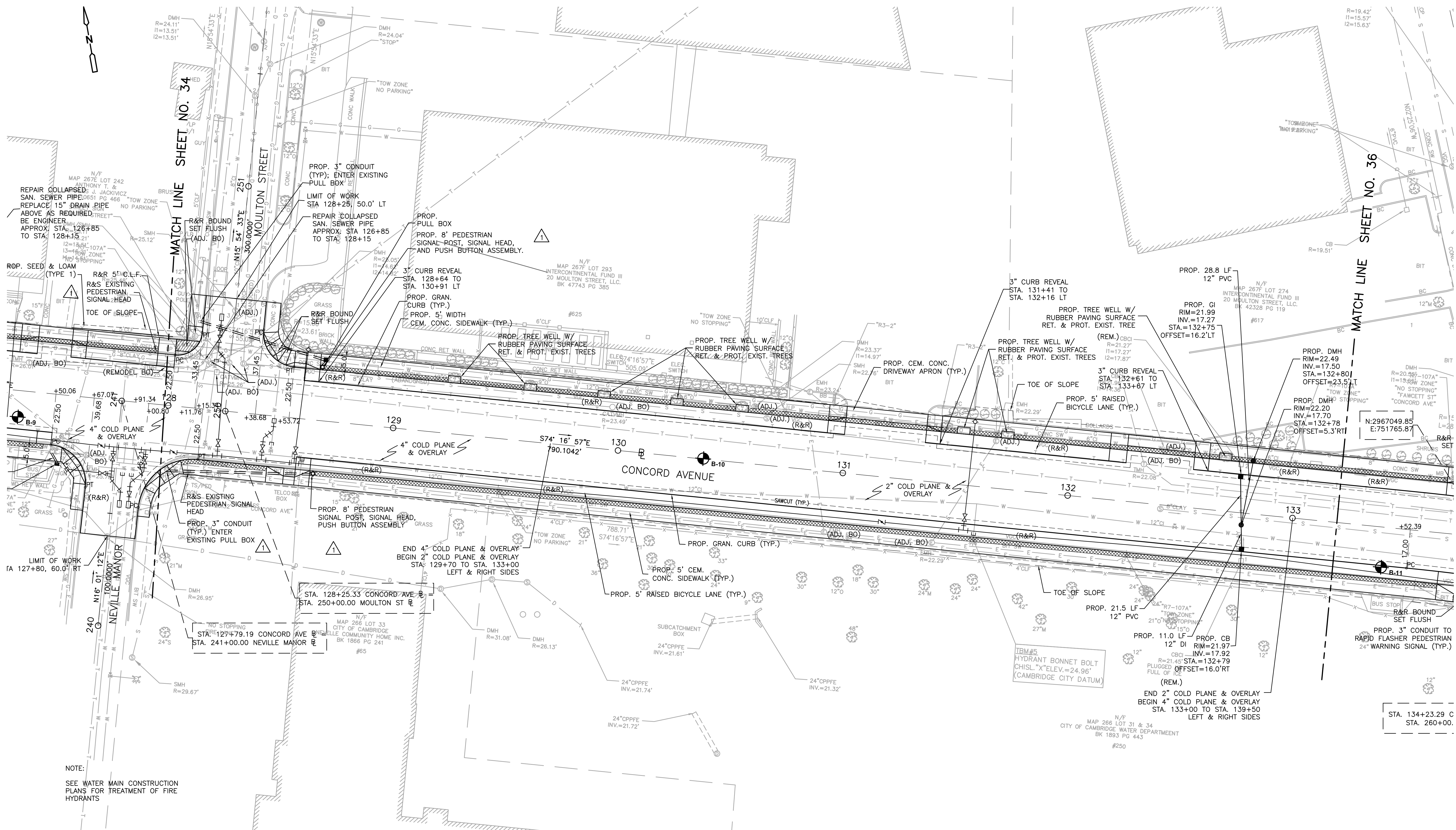
DESIGNED BY: S. MURPHY	<p>56 Exchange Terrace          Providence, RI 02903          Tel: (401) 751-5360          consulting • engineering • construction • operations</p>
DRAWN BY: S. MURPHY	
SHEET CHK'D BY: C. LIGGETT	
CROSS CHK'D BY: L. SHERMAN	
APPROVED BY: L. SHERMAN	
DATE: JANUARY 2010	

CITY OF CAMBRIDGE, MASSACHUSETTS  
 DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT

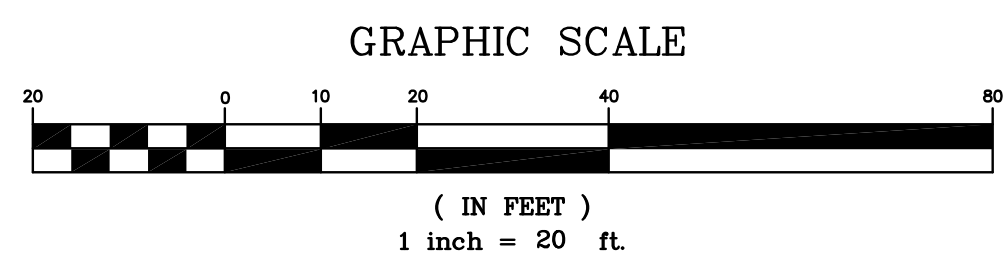
**CONCORD AVENUE  
 WATER MAIN AND ROADWAY RECONSTRUCTION**

**ROADWAY CONSTRUCTION PLANS**

PROJECT NO. 0139-68660
FILE NAME: CSTCP001
SHEET NO. 34
Accession No: 0139-P-xxxx



NOTE:  
SEE WATER MAIN CONSTRUCTION  
PLANS FOR TREATMENT OF FIRE  
HYDRANTS



REV. NO.	DATE	DRWN	CHKD	REMARKS
3	4/5/10	SMG	LDS	CONFORMED DRAWING
1	2/9/10	KAT	LDS	ADDENDA NO. 1 GENERAL UPDATES, DRAINAGE PIPE TYPE REVISED

DESIGNED BY: S. MURPHY  
 DRAWN BY: S. MURPHY  
 SHEET CHK'D BY: C. LIGGETT  
 CROSS CHK'D BY: L. SHERMAN  
 APPROVED BY: L. SHERMAN  
 DATE: JANUARY 2010

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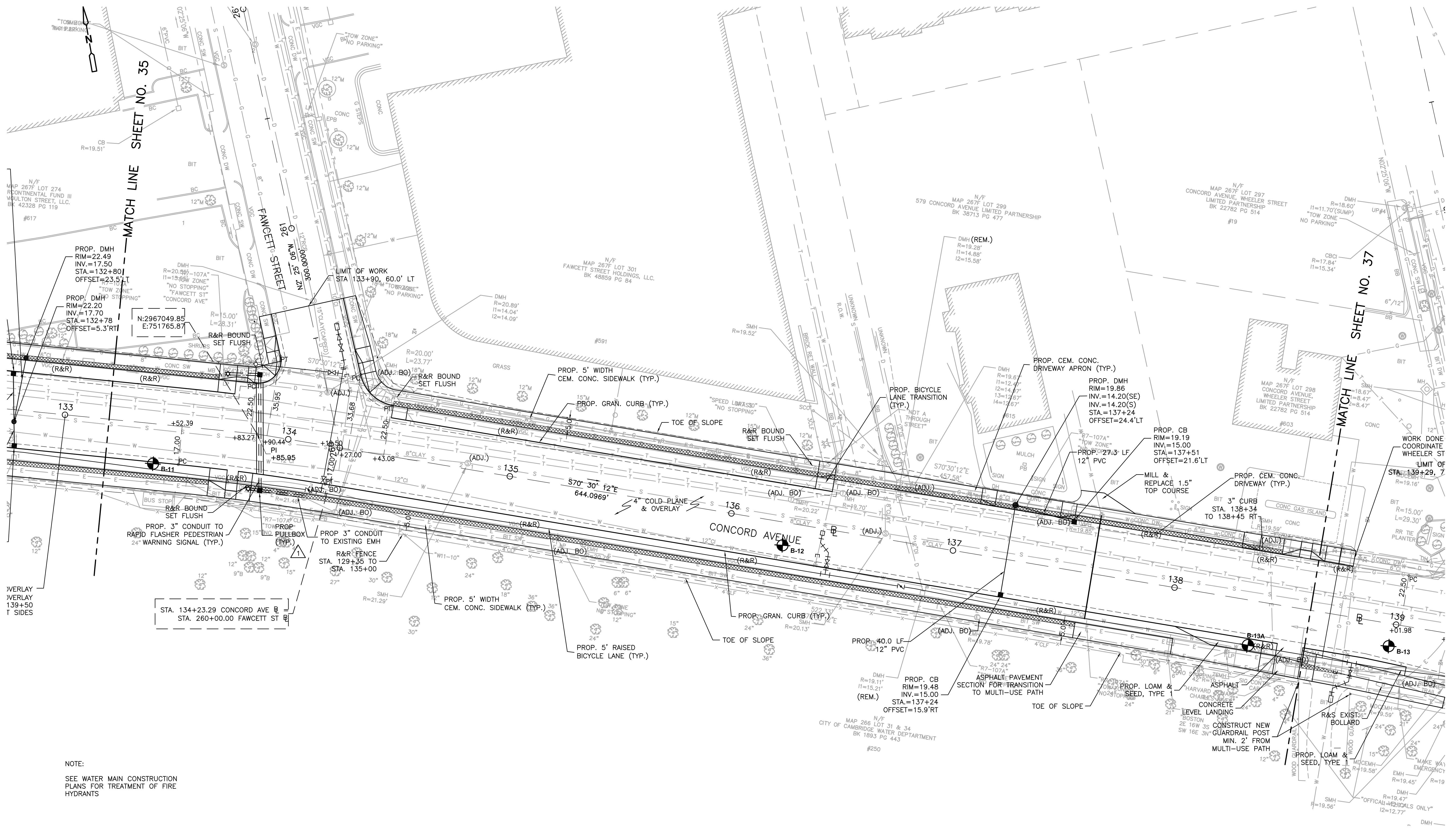
CITY OF CAMBRIDGE, MASSACHUSETTS  
 DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT

## CONCORD AVENUE WATER MAIN AND ROADWAY RECONSTRUCTION

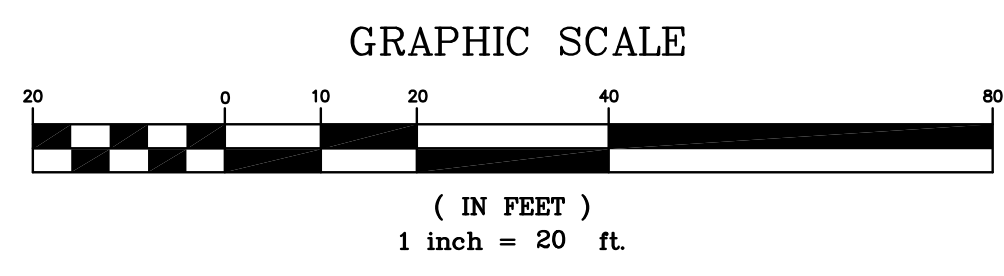
PROJECT NO. 0139-68660  
 FILE NAME: CSTCP001

SHEET NO.  
**35**

Accession No: 0139-P-xxxx



NOTE:  
SEE WATER MAIN CONSTRUCTION PLANS FOR TREATMENT OF FIRE HYDRANTS



3	4/5/10	SMG	LDS	CONFORMED DRAWING
1	2/9/10	KAT	LDS	ADDENDA NO. 1 GENERAL UPDATES, DRAINAGE PIPE TYPE REVISED
REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: S. MURPHY  
 DRAWN BY: S. MURPHY  
 SHEET CHK'D BY: C. LIGGETT  
 CROSS CHK'D BY: L. SHERMAN  
 APPROVED BY: L. SHERMAN  
 DATE: JANUARY 2010

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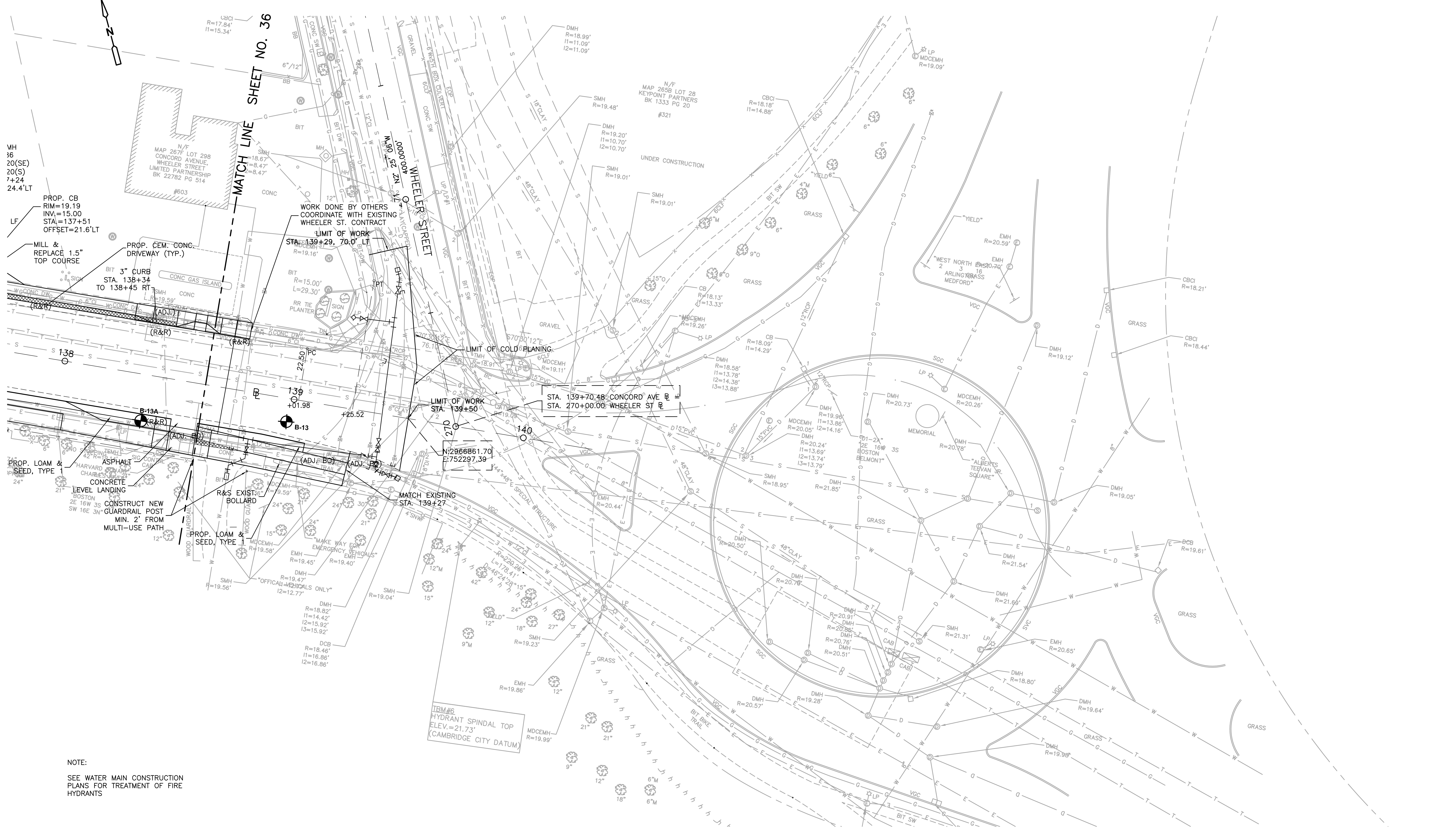
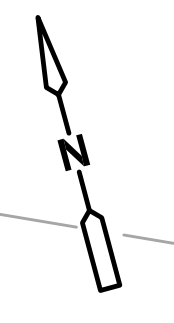
## CONCORD AVENUE WATER MAIN AND ROADWAY RECONSTRUCTION

## ROADWAY CONSTRUCTION PLANS

PROJECT NO. 0139-68660  
 FILE NAME: CSTCP001

SHEET NO.  
**36**

Accession No: 0139-P-xxxx



NOTE:  
SEE WATER MAIN CONSTRUCTION  
PLANS FOR TREATMENT OF FIRE  
HYDRANTS

GRAPHIC SCALE



( IN FEET )  
1 inch = 20 ft.

REV. NO.	DATE	DRWN	CHKD	REMARKS
3	4/5/10	SMG	LDS	CONFORMED DRAWING

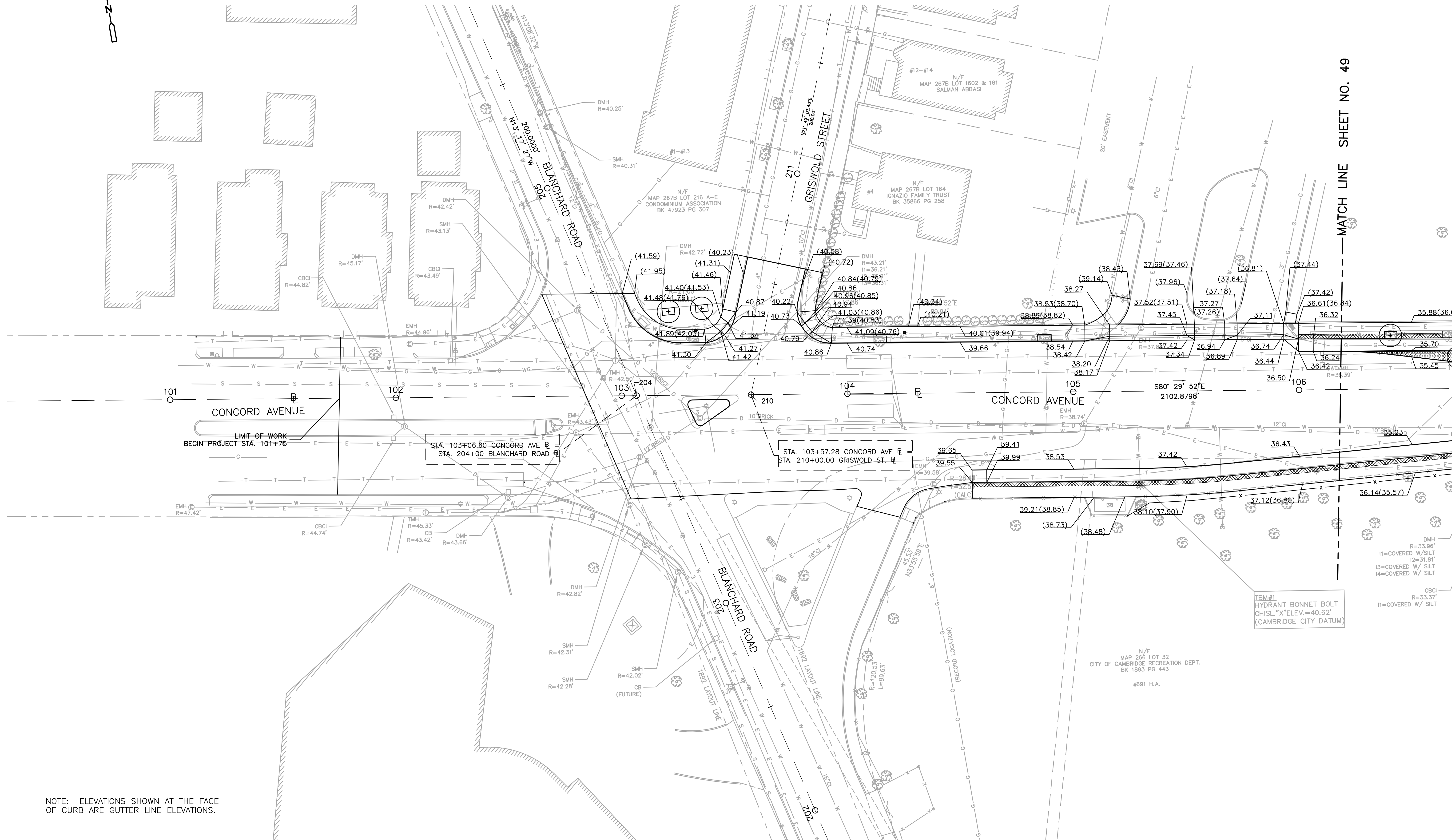
DESIGNED BY: S. MURPHY  
DRAWN BY: S. MURPHY  
SHEET CHK'D BY: C. LIGGETT  
CROSS CHK'D BY: L. SHERMAN  
APPROVED BY: L. SHERMAN  
DATE: JANUARY 2010

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CITY OF CAMBRIDGE, MASSACHUSETTS  
DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT  
**CONCORD AVENUE  
WATER MAIN AND ROADWAY RECONSTRUCTION**

**ROADWAY CONSTRUCTION PLANS**

PROJECT NO. 0139-68660  
FILE NAME: CSTCP001  
SHEET NO.  
**37**  
Accession No: 0139-P-xxxx



MATCH LINE SHEET NO. 49

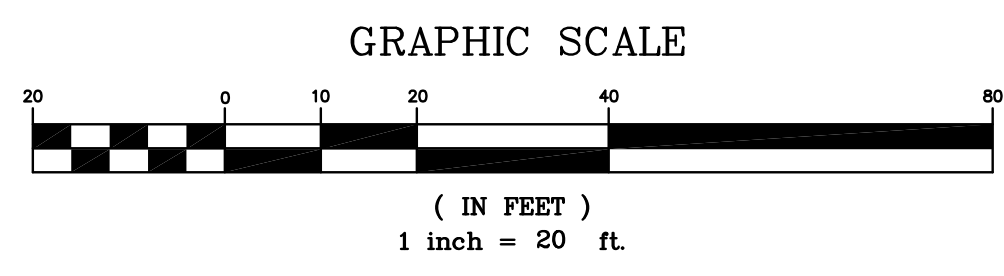
CONCORD AVENUE  
LIMIT OF WORK  
BEGIN PROJECT STA. 101+75

STA. 103+06.60 CONCORD AVE @  
STA. 204+00 BLANCHARD ROAD @

STA. 103+57.28 CONCORD AVE @  
STA. 210+00.00 GRISWOLD ST. @

TBM #1  
HYDRANT BONNET BOLT  
CHISL. "X" ELEV. = 40.62'  
(CAMBRIDGE CITY DATUM)

NOTE: ELEVATIONS SHOWN AT THE FACE OF CURB ARE GUTTER LINE ELEVATIONS.



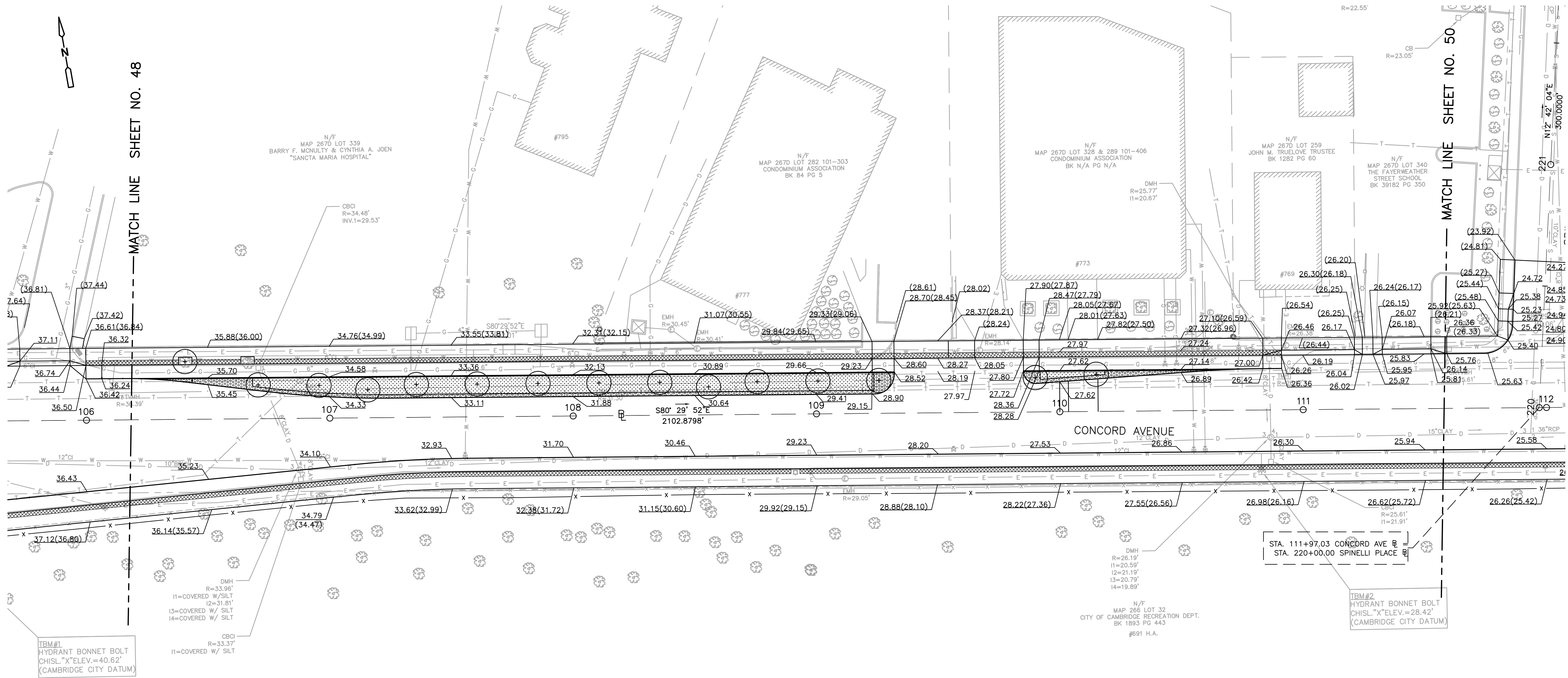
DESIGNED BY:	K. THOMAS
DRAWN BY:	K. THOMAS
SHEET CHK'D BY:	C. LIGGETT
CROSS CHK'D BY:	L. SHERMAN
APPROVED BY:	L. SHERMAN
DATE:	JANUARY 2010

**CDM**  
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Tel: (401) 751-5360  
consulting • engineering • construction • operations

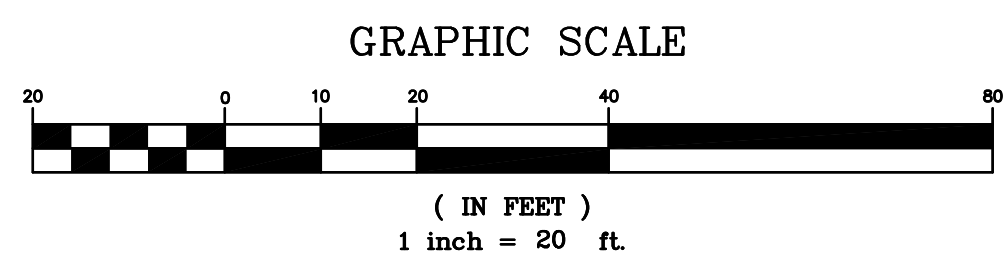
CITY OF CAMBRIDGE, MASSACHUSETTS  
DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT  
**CONCORD AVENUE  
WATER MAIN AND ROADWAY RECONSTRUCTION**

**GRADING PLANS**

PROJECT NO.	0139-68660
FILE NAME:	CSTGP001
SHEET NO.	48
Accession No:	0139-P-xxxx



NOTE: ELEVATIONS SHOWN AT THE FACE OF CURB ARE GUTTER LINE ELEVATIONS.



3	4/5/10	SMG	LDS	CONFORMED DRAWING
REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. THOMAS  
 DRAWN BY: K. THOMAS  
 SHEET CHK'D BY: C. LIGGETT  
 CROSS CHK'D BY: L. SHERMAN  
 APPROVED BY: L. SHERMAN  
 DATE: JANUARY 2010

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CITY OF CAMBRIDGE, MASSACHUSETTS  
 DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT

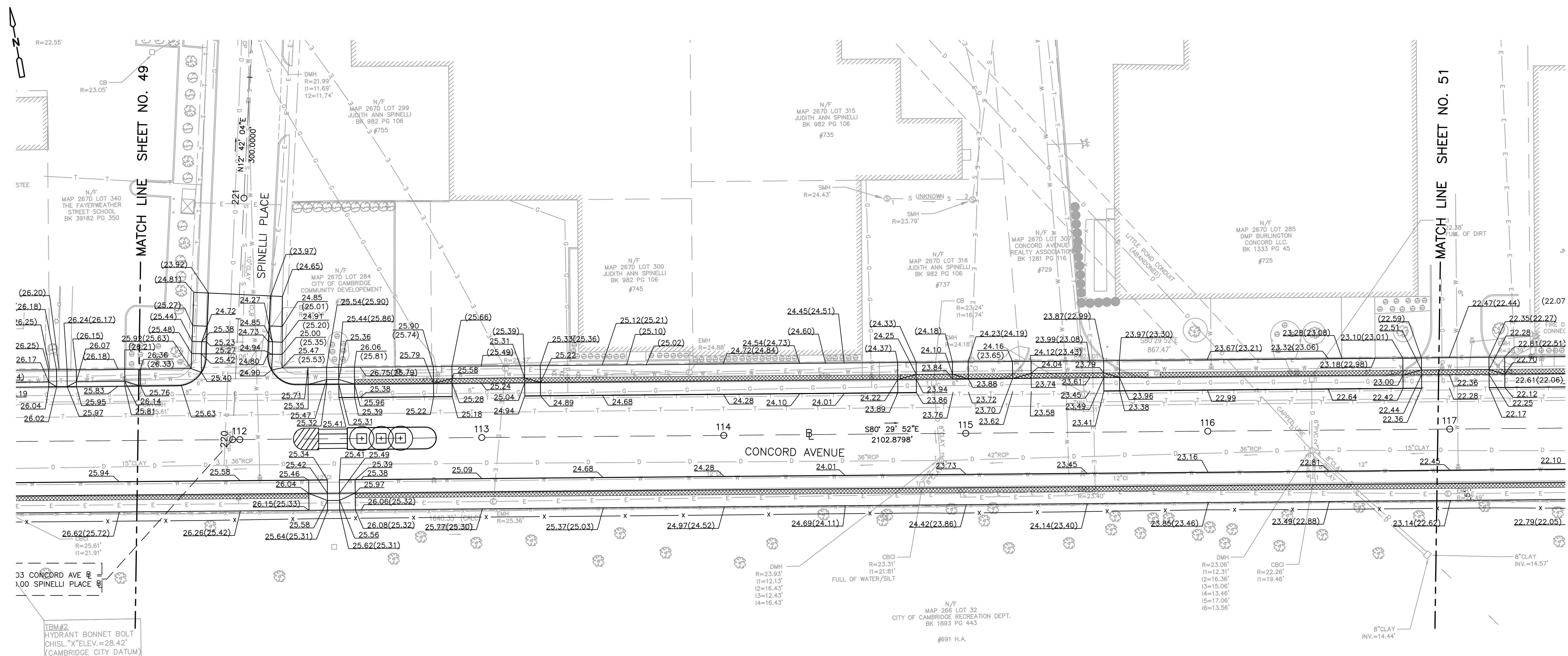
**CONCORD AVENUE  
 WATER MAIN AND ROADWAY RECONSTRUCTION**

**GRADING PLANS**

PROJECT NO. 0139-68660  
 FILE NAME: CSTGP001

SHEET NO.  
**49**

Accession No: 0139-P-xxxx

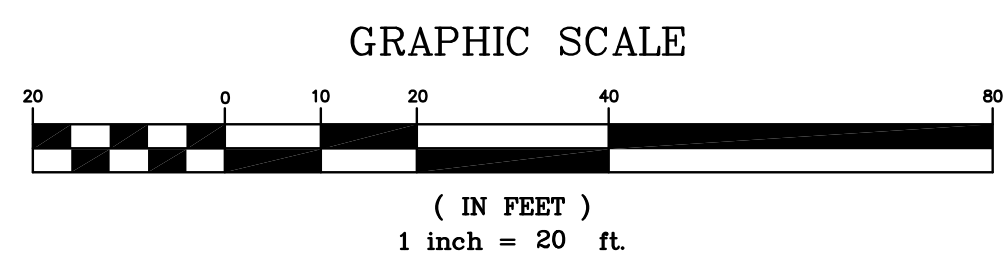


MATCH LINE SHEET NO. 49

MATCH LINE SHEET NO. 51

CONCORD AVENUE

NOTE: ELEVATIONS SHOWN AT THE FACE OF CURB ARE GUTTER LINE ELEVATIONS.



3	4/5/10	SMG	LDS	CONFORMED DRAWING
REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. THOMAS  
 DRAWN BY: K. THOMAS  
 SHEET CHK'D BY: C. LIGGETT  
 CROSS CHK'D BY: L. SHERMAN  
 APPROVED BY: L. SHERMAN  
 DATE: JANUARY 2010

**CDM**  
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CITY OF CAMBRIDGE, MASSACHUSETTS  
 DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT

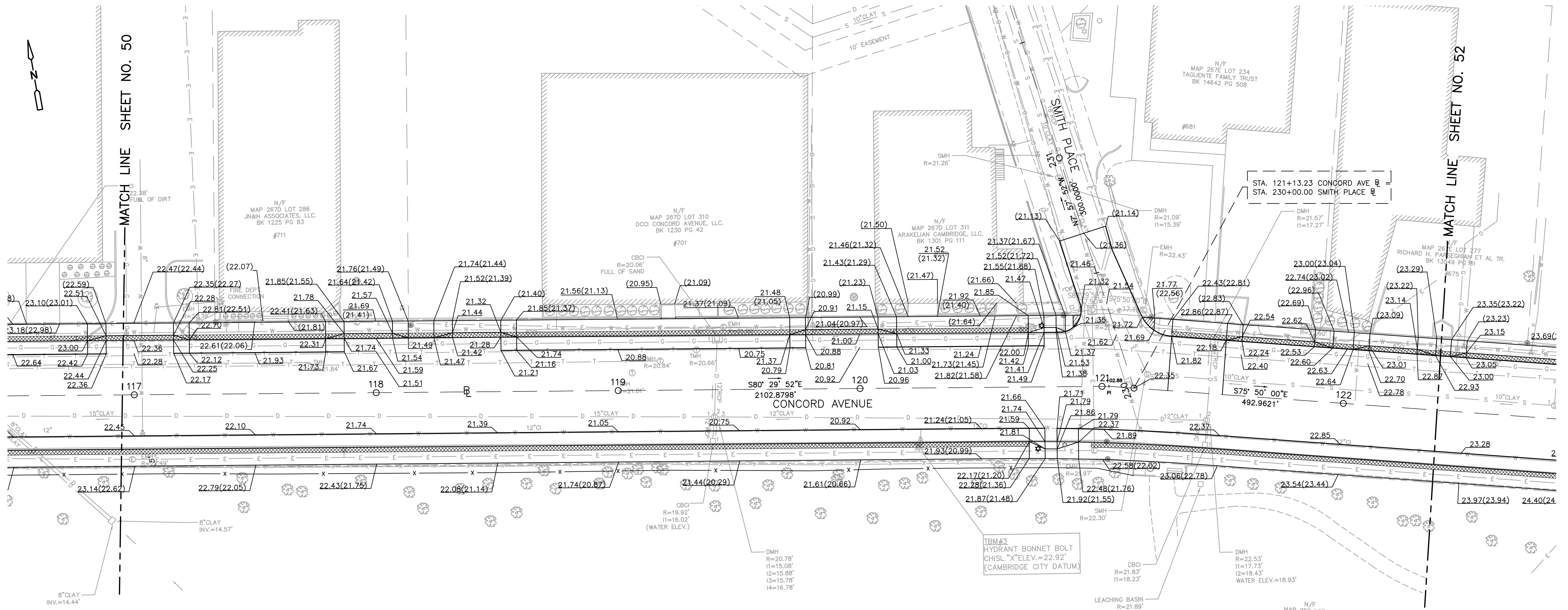
**CONCORD AVENUE  
 WATER MAIN AND ROADWAY RECONSTRUCTION**

**GRADING PLANS**

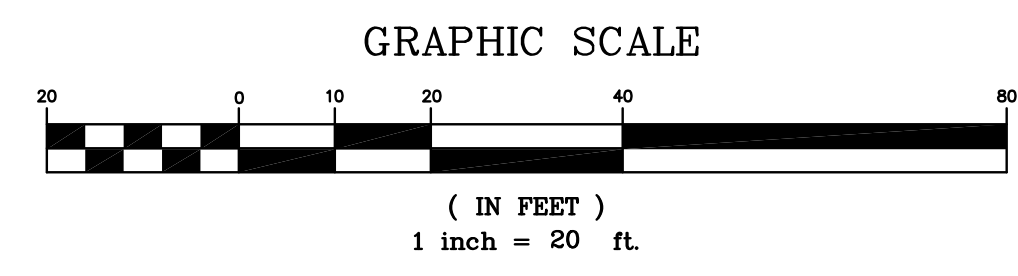
PROJECT NO. 0139-68660  
 FILE NAME: CSTGP001

SHEET NO.  
**50**

Accession No: 0139-P-xxxx



NOTE: ELEVATIONS SHOWN AT THE FACE OF CURB ARE GUTTER LINE ELEVATIONS.



REV. NO.	DATE	DRWN	CHKD	REMARKS
3	4/5/10	SMG	LDS	CONFORMED DRAWING

DESIGNED BY: K. THOMAS  
 DRAWN BY: K. THOMAS  
 SHEET CHK'D BY: C. LIGGETT  
 CROSS CHK'D BY: L. SHERMAN  
 APPROVED BY: L. SHERMAN  
 DATE: JANUARY 2010

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 DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT

**CONCORD AVENUE  
 WATER MAIN AND ROADWAY RECONSTRUCTION**

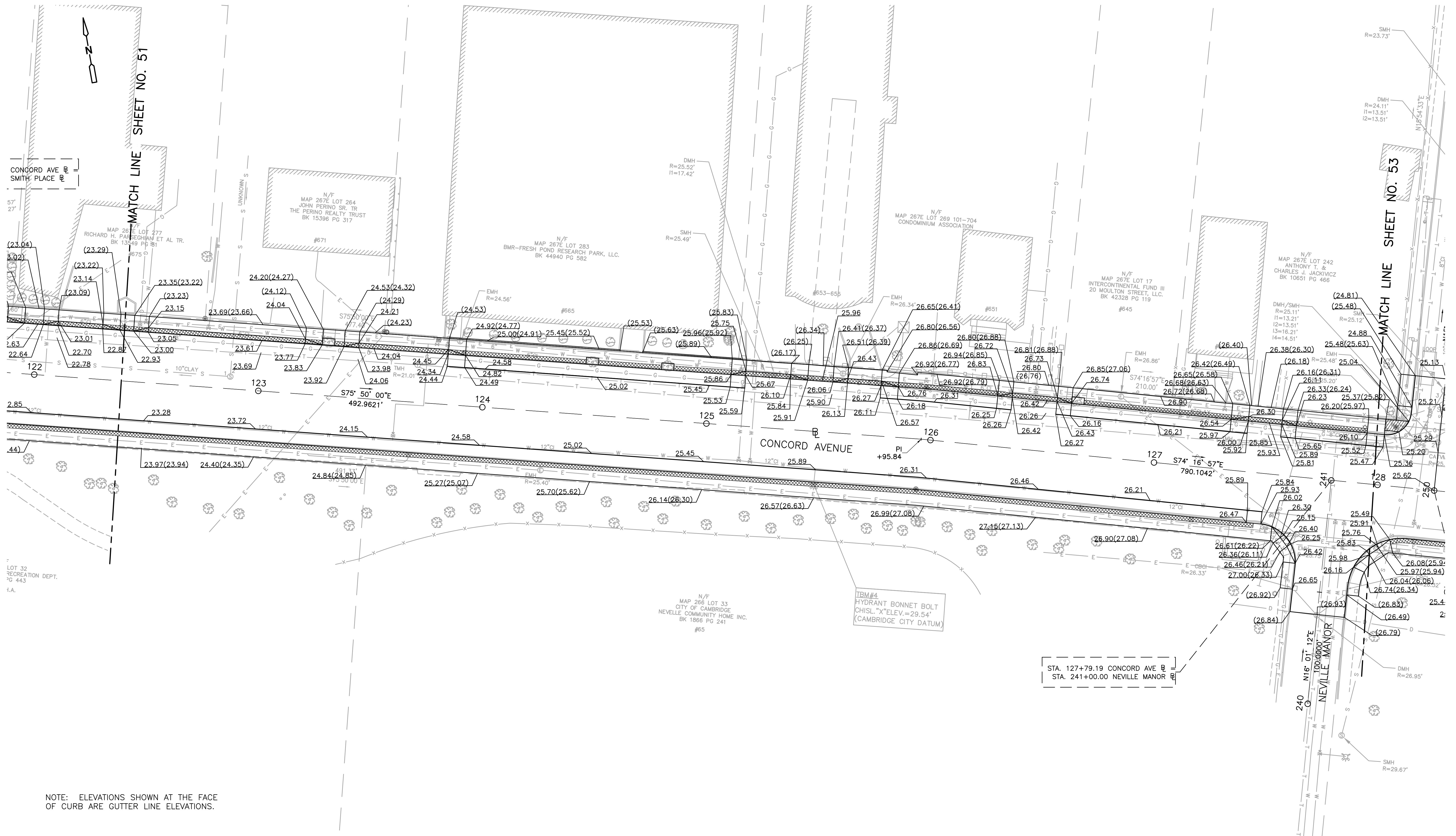
**GRADING PLANS**

SHEET NO.  
**51**

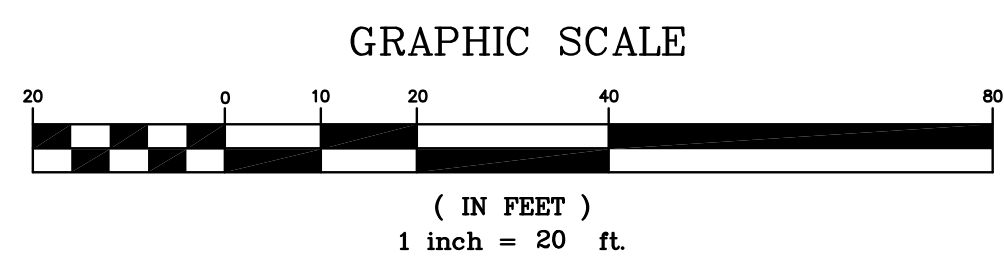
Accession No: 0139-P-xxxx

PROJECT NO. 0139-68660  
 FILE NAME: CSTGPO01





NOTE: ELEVATIONS SHOWN AT THE FACE OF CURB ARE GUTTER LINE ELEVATIONS.



3	4/5/10	SMG	LDS	CONFORMED DRAWING
REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. THOMAS  
 DRAWN BY: K. THOMAS  
 SHEET CHK'D BY: C. LIGGETT  
 CROSS CHK'D BY: L. SHERMAN  
 APPROVED BY: L. SHERMAN  
 DATE: JANUARY 2010

**CDM**  
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 DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT

## CONCORD AVENUE WATER MAIN AND ROADWAY RECONSTRUCTION

## GRADING PLANS

PROJECT NO.	0139-68660
FILE NAME:	CSTGP001
SHEET NO.	<b>52</b>
Accession No:	0139-P-xxxx

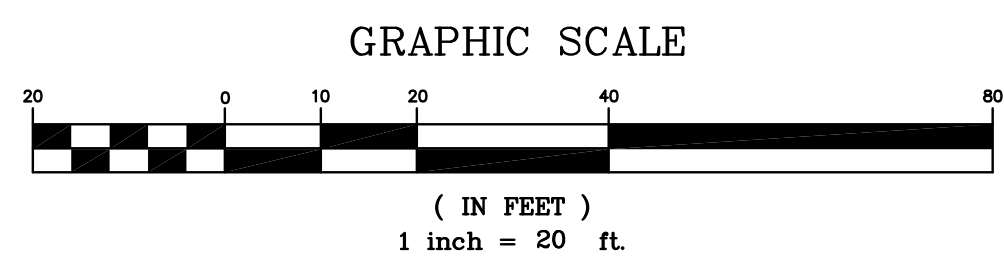
A B C D E F G H



MATCH LINE SHEET NO. 52

MATCH LINE SHEET NO. 54

NOTE: ELEVATIONS SHOWN AT THE FACE OF CURB ARE GUTTER LINE ELEVATIONS.



3	4/5/10	SMG	LDS	CONFORMED DRAWING
REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. THOMAS  
 DRAWN BY: K. THOMAS  
 SHEET CHK'D BY: C. LIGGETT  
 CROSS CHK'D BY: L. SHERMAN  
 APPROVED BY: L. SHERMAN  
 DATE: JANUARY 2010

**CDM**  
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 DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT

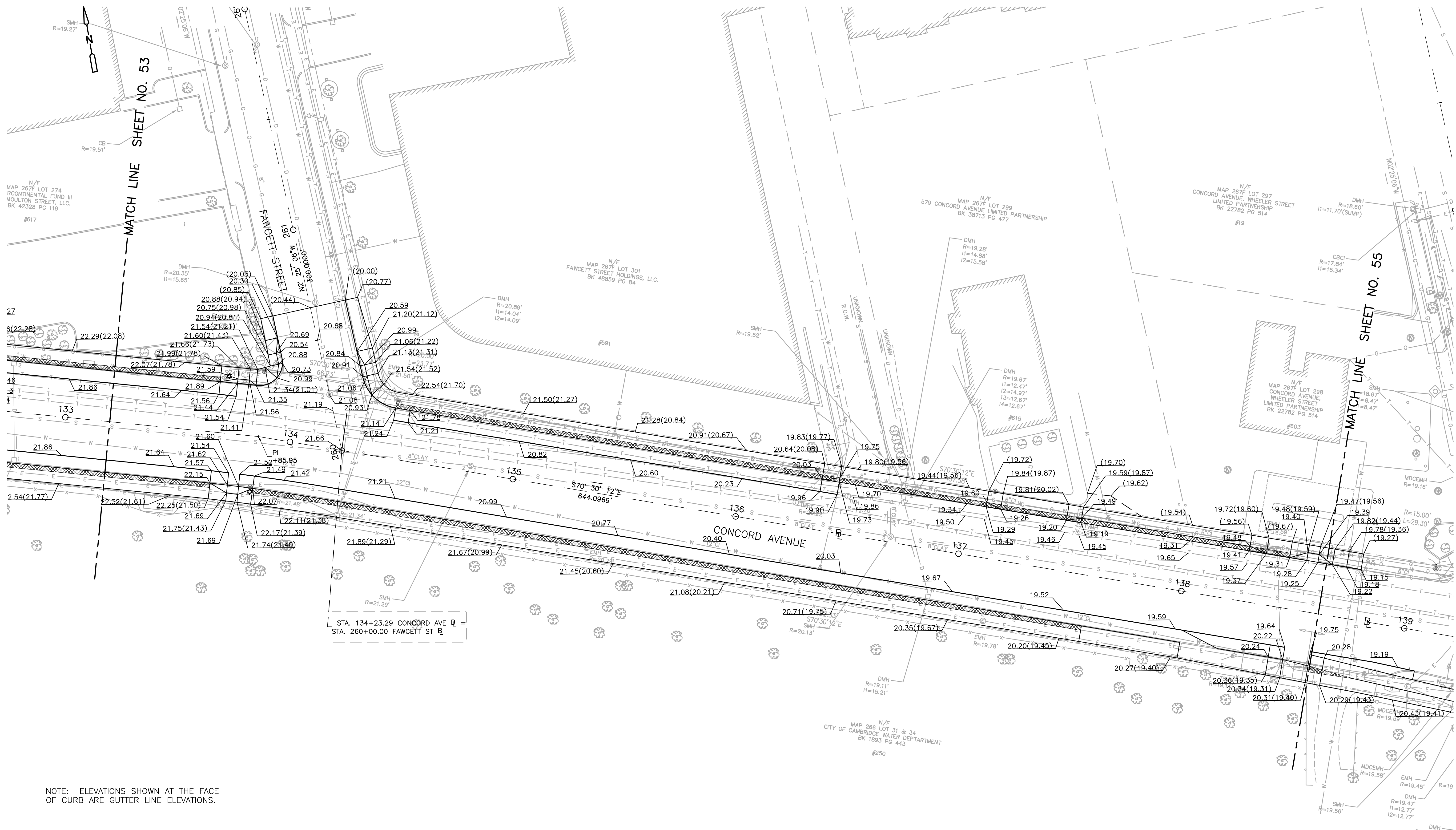
**CONCORD AVENUE  
 WATER MAIN AND ROADWAY RECONSTRUCTION**

**GRADING PLANS**

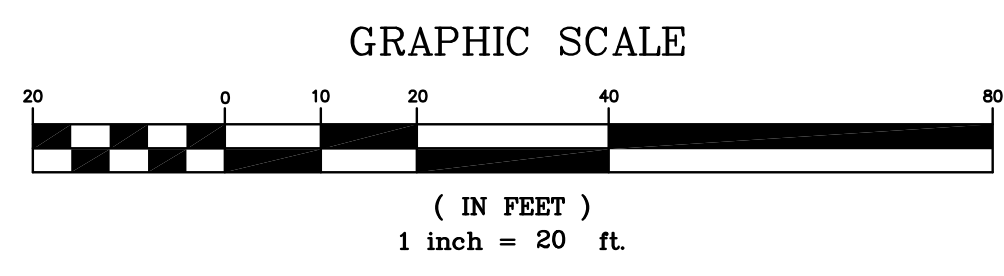
PROJECT NO. 0139-68660  
 FILE NAME: CSTGP001

SHEET NO.  
**53**

Accession No: 0139-P-xxxx



NOTE: ELEVATIONS SHOWN AT THE FACE OF CURB ARE GUTTER LINE ELEVATIONS.



3	4/5/10	SMG	LDS	CONFORMED DRAWING
REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: K. THOMAS  
 DRAWN BY: K. THOMAS  
 SHEET CHK'D BY: C. LIGGETT  
 CROSS CHK'D BY: L. SHERMAN  
 APPROVED BY: L. SHERMAN  
 DATE: JANUARY 2010

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CITY OF CAMBRIDGE, MASSACHUSETTS  
 DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT

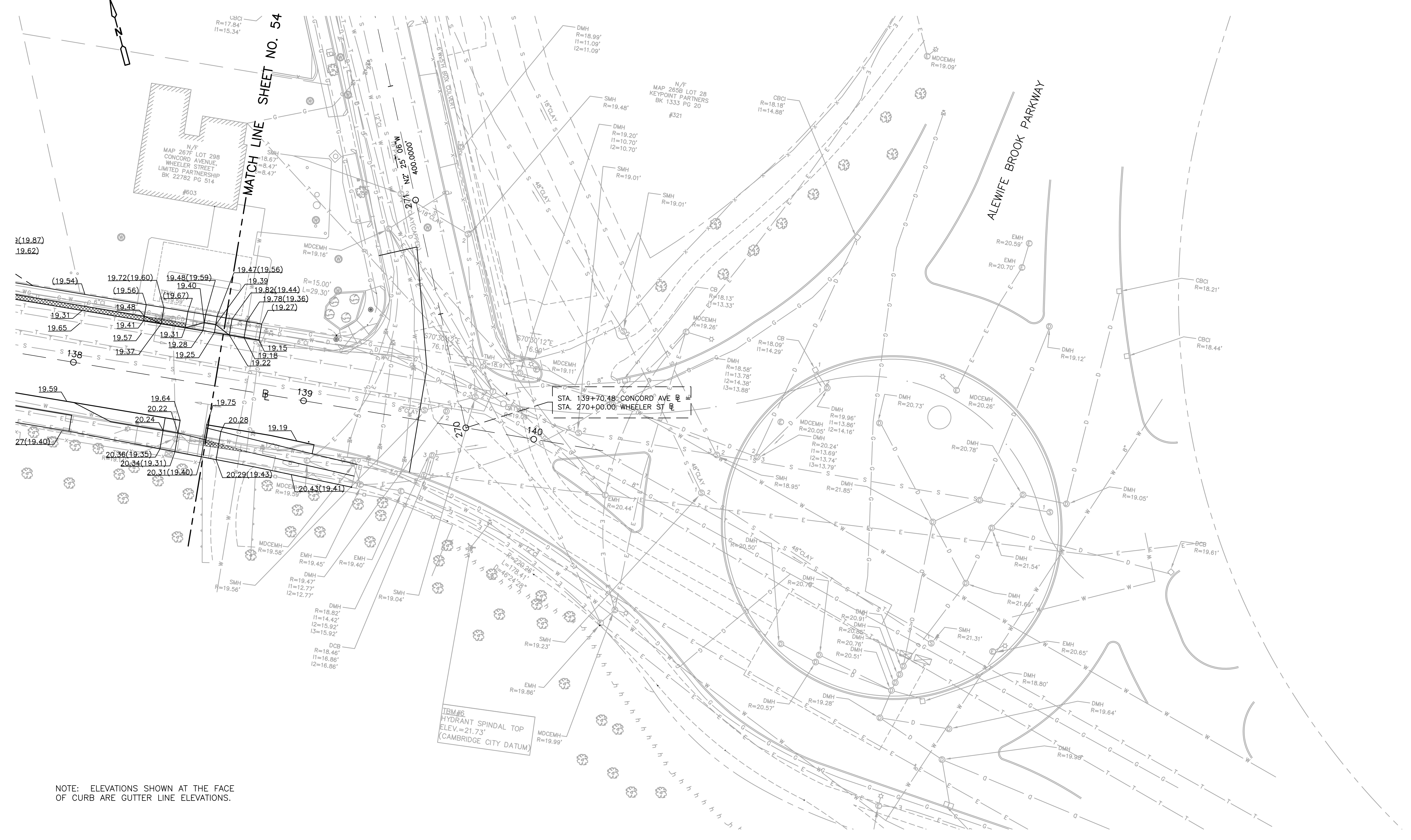
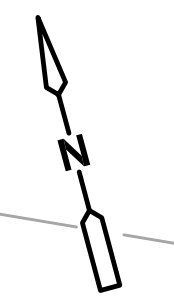
**CONCORD AVENUE  
 WATER MAIN AND ROADWAY RECONSTRUCTION**

**GRADING PLANS**

PROJECT NO. 0139-68660  
 FILE NAME: CSTGP001

SHEET NO.  
**54**

Accession No: 0139-P-xxxx



STA. 139+70.48 CONCORD AVE R  
STA. 270+00.00 WHEELER ST R

TRM#6  
HYDRANT SPINDAL TOP  
ELEV.=21.73'  
(CAMBRIDGE CITY DATUM)

NOTE: ELEVATIONS SHOWN AT THE FACE OF CURB ARE GUTTER LINE ELEVATIONS.

GRAPHIC SCALE



( IN FEET )  
1 inch = 20 ft.

DESIGNED BY:	K. THOMAS
DRAWN BY:	K. THOMAS
SHEET CHK'D BY:	C. LIGGETT
CROSS CHK'D BY:	L. SHERMAN
APPROVED BY:	L. SHERMAN
DATE:	JANUARY 2010

3	4/5/10	SMG	LDS	CONFORMED DRAWING
REV. NO.	DATE	DRWN	CHKD	REMARKS

**CDM**  
56 Exchange Terrace  
Providence, RI 02903  
Tel: (401) 751-5360  
consulting • engineering • construction • operations

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DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT

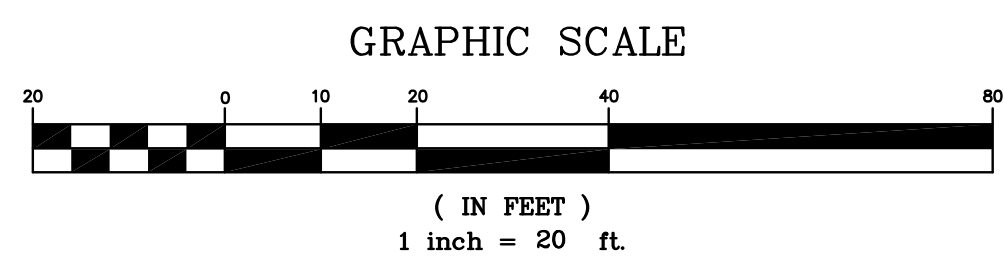
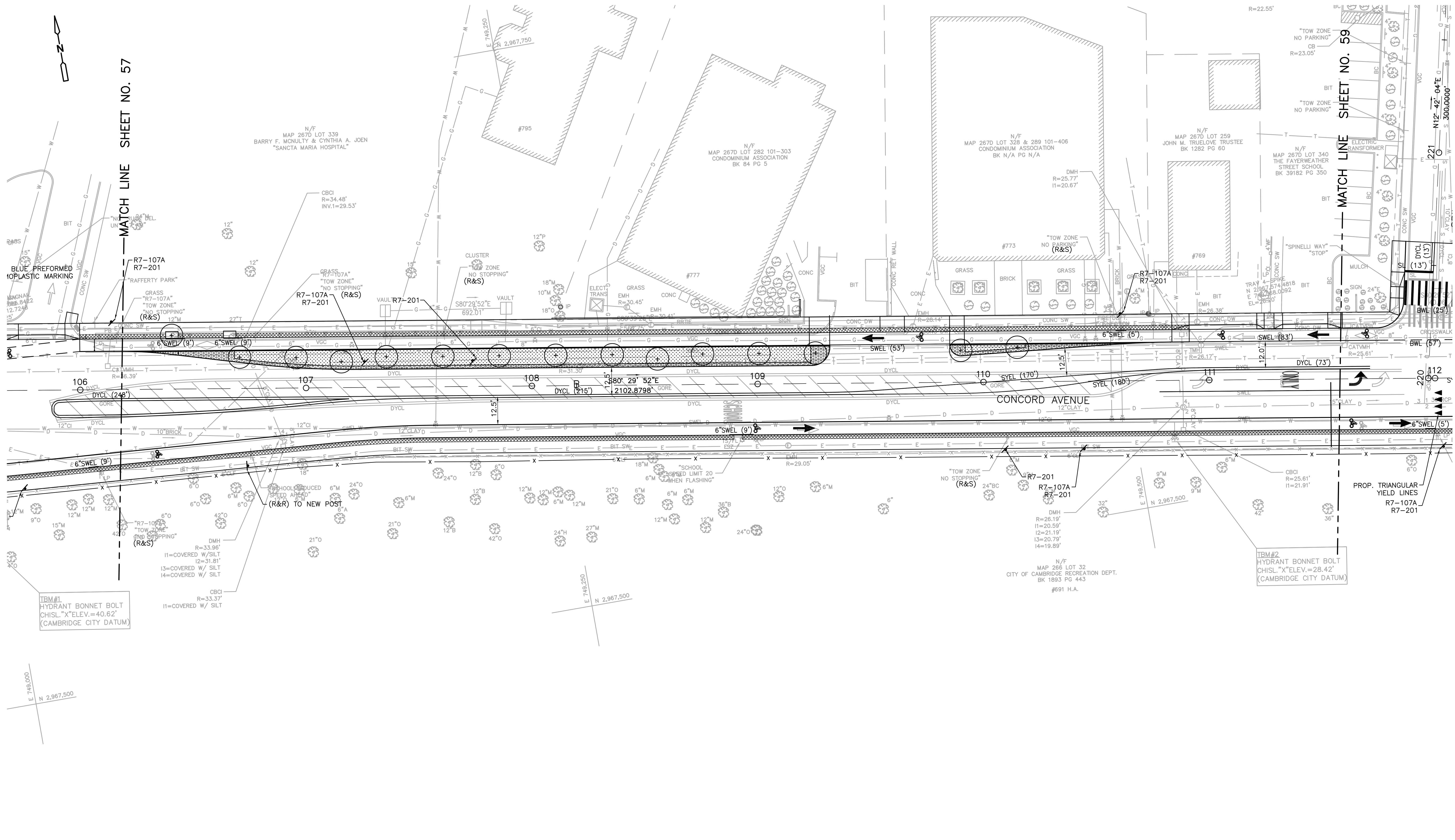
**CONCORD AVENUE  
WATER MAIN AND ROADWAY RECONSTRUCTION**

**GRADING PLANS**

SHEET NO.  
**55**

Accession No: 0139-P-xxxx

PROJECT NO. 0139-68660  
FILE NAME: CSTGP001



REV. NO.	DATE	DRWN	CHKD	REMARKS
3	4/5/10	SMG	LDS	CONFORMED DRAWING

DESIGNED BY: S. MURPHY  
 DRAWN BY: S. MURPHY  
 SHEET CHK'D BY: C. LIGGETT  
 CROSS CHK'D BY: L. SHERMAN  
 APPROVED BY: L. SHERMAN  
 DATE: JANUARY 2010

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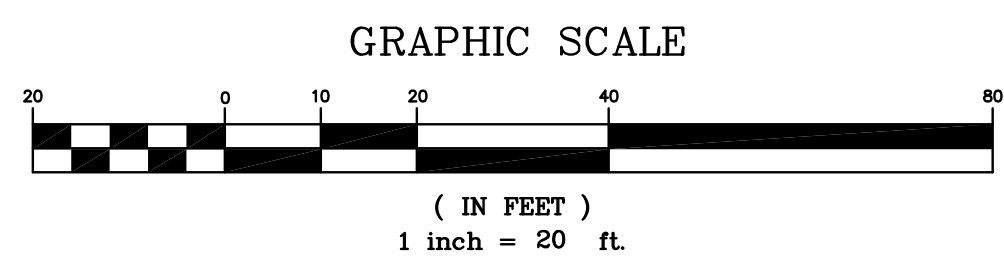
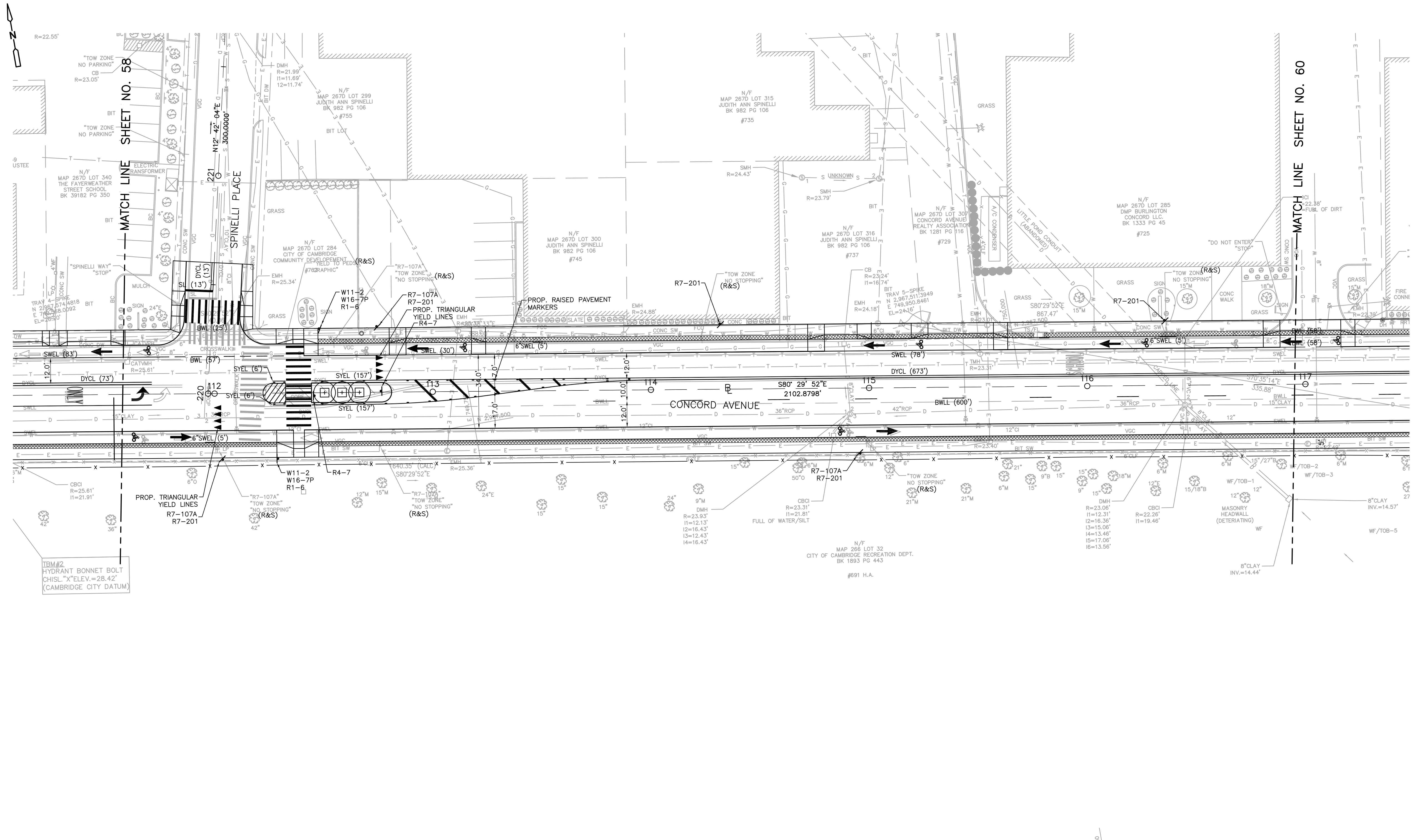
**CONCORD AVENUE  
 WATER MAIN AND ROADWAY RECONSTRUCTION**

**PAVEMENT MARKING & SIGNING PLAN**

PROJECT NO. 0139-68660  
 FILE NAME: CSTPS001

SHEET NO.  
**58**

Accession No: 0139-P-xxxx



REV. NO.	DATE	DRWN	CHKD	REMARKS
3	4/5/10	SMG	LDS	CONFORMED DRAWING

DESIGNED BY: S. MURPHY  
 DRAWN BY: S. MURPHY  
 SHEET CHK'D BY: C. LIGGETT  
 CROSS CHK'D BY: L. SHERMAN  
 APPROVED BY: L. SHERMAN  
 DATE: JANUARY 2010

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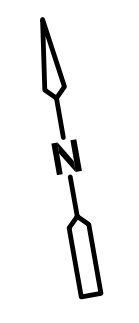
**CONCORD AVENUE  
 WATER MAIN AND ROADWAY RECONSTRUCTION**

**PAVEMENT MARKING & SIGNING PLAN**

PROJECT NO. 0139-68660  
 FILE NAME: CSTPS001

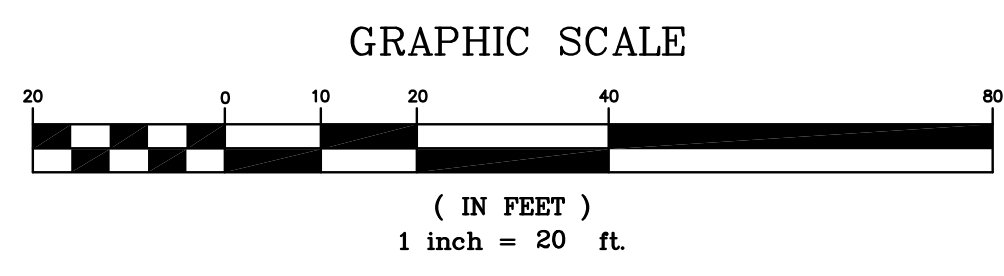
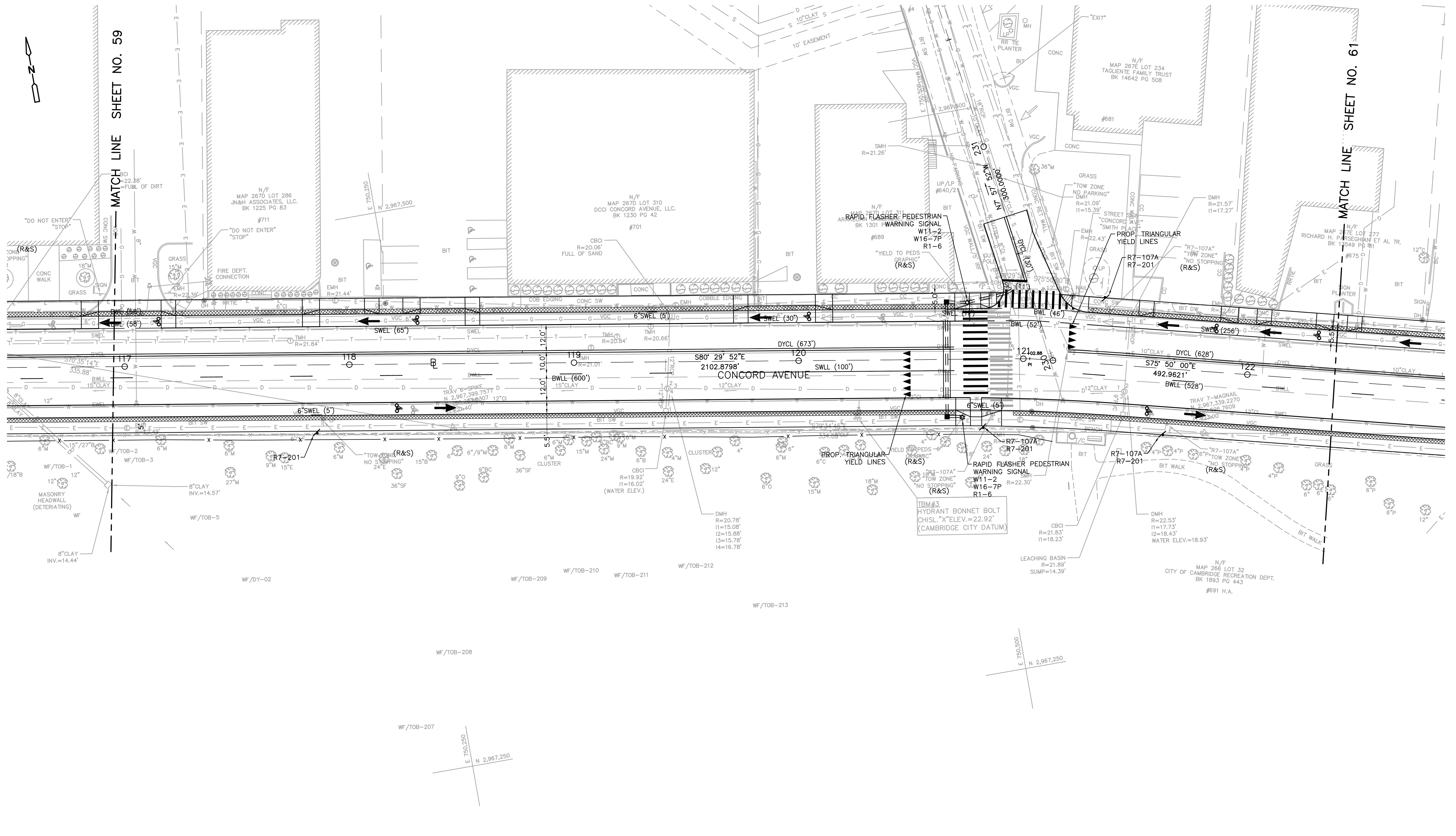
SHEET NO.  
**59**

Accession No: 0139-P-xxxx



MATCH LINE SHEET NO. 59

MATCH LINE SHEET NO. 61



3	4/5/10	SMG	LDS	CONFORMED DRAWING
REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: S. MURPHY  
 DRAWN BY: S. MURPHY  
 SHEET CHK'D BY: C. LIGGETT  
 CROSS CHK'D BY: L. SHERMAN  
 APPROVED BY: L. SHERMAN  
 DATE: JANUARY 2010

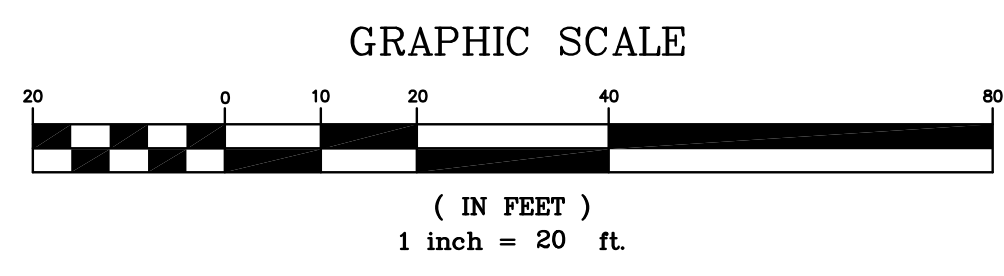
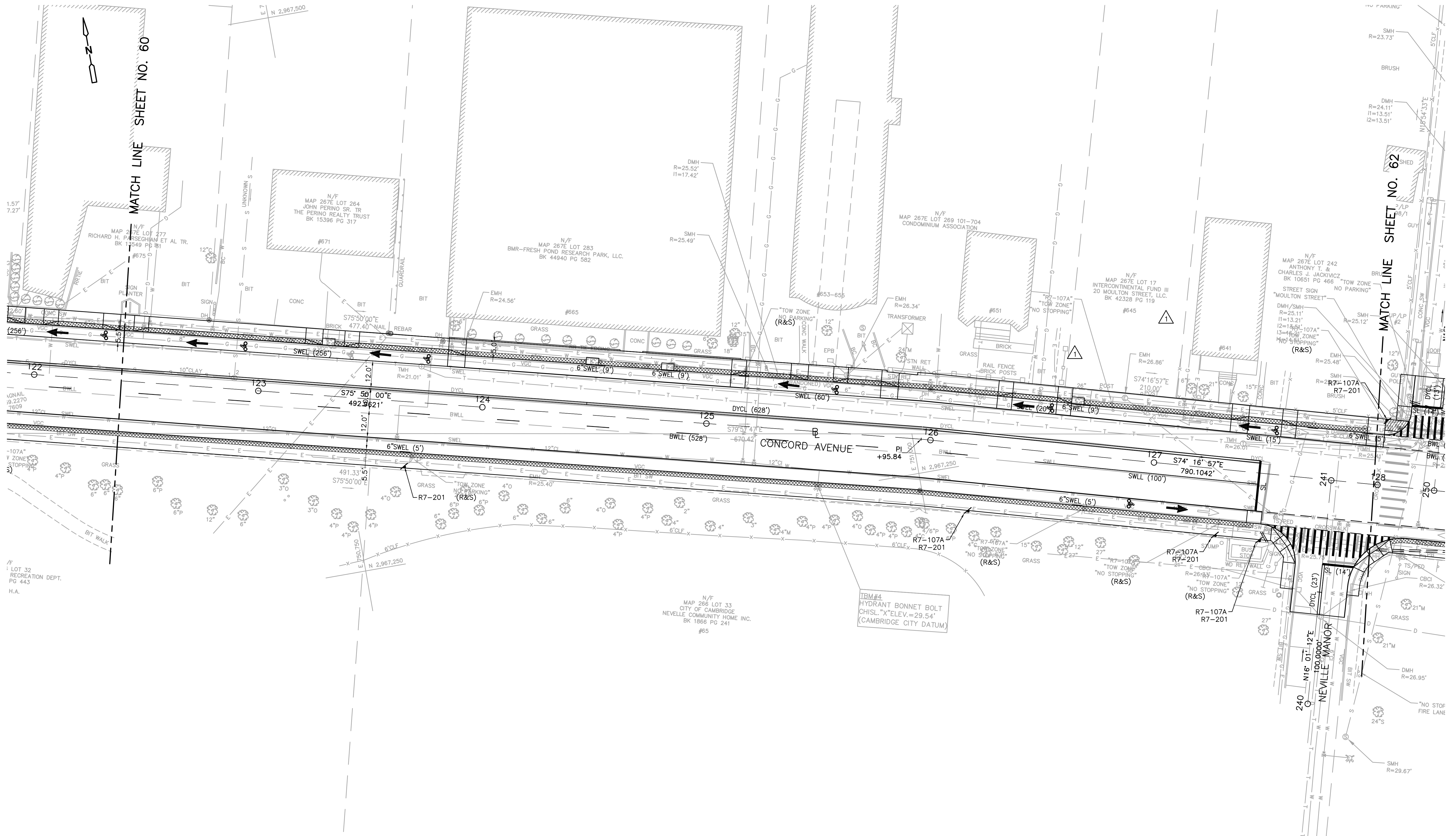
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**CONCORD AVENUE  
 WATER MAIN AND ROADWAY RECONSTRUCTION**

**PAVEMENT MARKING & SIGNING PLAN**

PROJECT NO. 0139-68660  
 FILE NAME: C. LIGGETT  
 SHEET NO. 60  
 Accession No: 0139-P-xxxx



REV. NO.	DATE	DRWN	CHKD	REMARKS
3	4/5/10	SMG	LDS	CONFORMED DRAWING
1	2/9/10	KAT	LDS	ADDENDA NO. 1 GENERAL UPDATES

DESIGNED BY: S. MURPHY  
 DRAWN BY: S. MURPHY  
 SHEET CHK'D BY: C. LIGGETT  
 CROSS CHK'D BY: L. SHERMAN  
 APPROVED BY: L. SHERMAN  
 DATE: JANUARY 2010

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## CONCORD AVENUE WATER MAIN AND ROADWAY RECONSTRUCTION

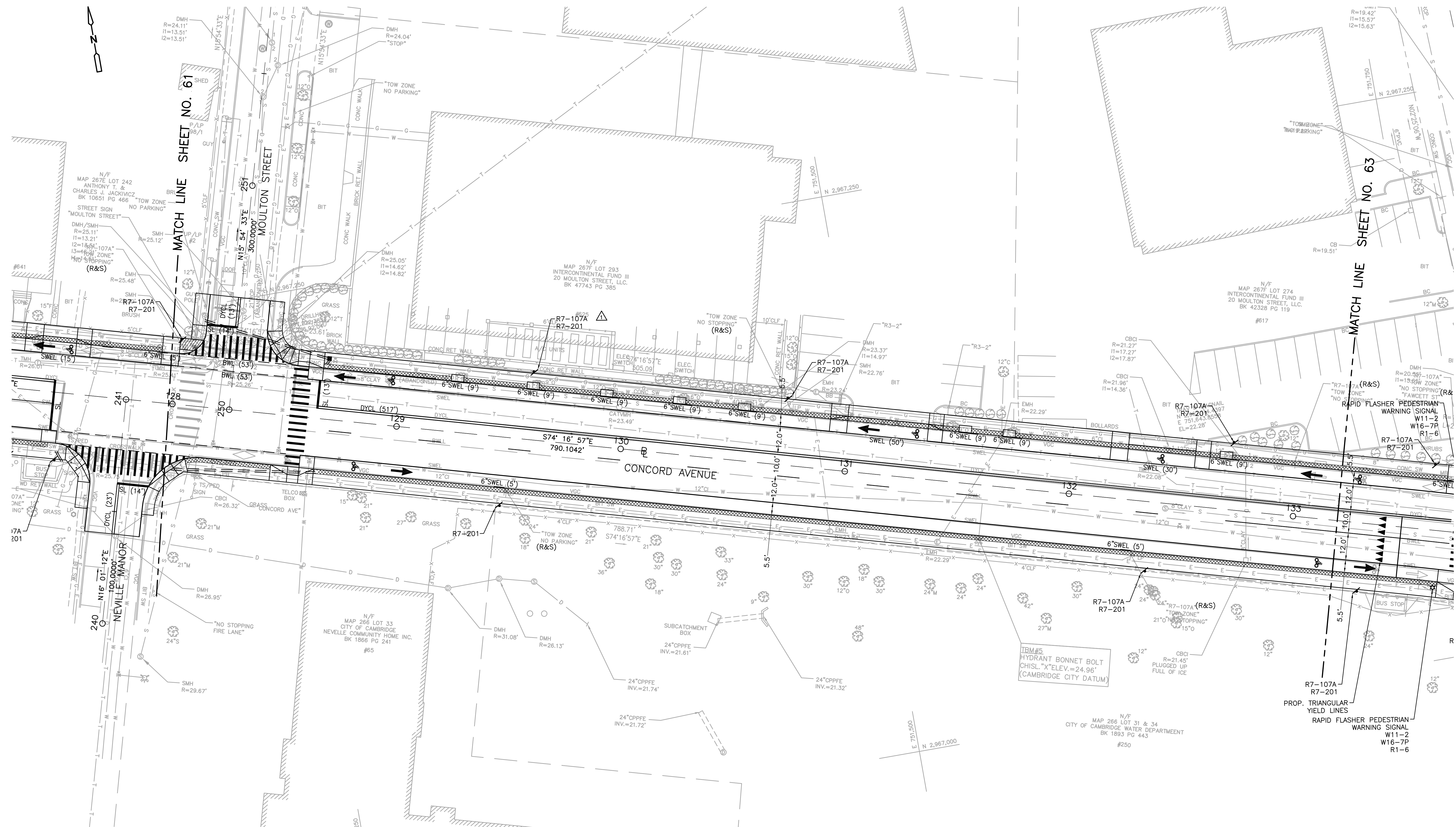
## PAVEMENT MARKING & SIGNING PLAN

PROJECT NO. 0139-68660  
 FILE NAME: CSTPS001

SHEET NO.  
**61**

Accession No: 0139-P-xxxx





GRAPHIC SCALE



REV. NO.	DATE	DRWN	CHKD	REMARKS
3	4/5/10	SMG	LDS	CONFORMED DRAWING
1	2/9/10	KAT	LDS	ADDENDA NO. 1 GENERAL UPDATES

DESIGNED BY: S. MURPHY  
 DRAWN BY: S. MURPHY  
 SHEET CHK'D BY: C. LIGGETT  
 CROSS CHK'D BY: L. SHERMAN  
 APPROVED BY: L. SHERMAN  
 DATE: JANUARY 2010

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 DEPARTMENT OF PUBLIC WORKS AND WATER DEPARTMENT  
**CONCORD AVENUE**  
**WATER MAIN AND ROADWAY RECONSTRUCTION**

**PAVEMENT MARKING & SIGNING PLAN**

PROJECT NO. 0139-68660  
 FILE NAME: CSTPS001  
 SHEET NO. **62**  
 Accession No: 0139-P-xxxx