

LEGEND		
DESCRIPTION	EXISTING	PROPOSED
SANITARY SEWER	—S—	—8"S PVC—
FORCE MAIN	—FM—	—6"FM DI—
WATER MAIN	—W—	—6"W DI—
TEMPORARY WATER		—4"W—
STORM DRAIN	—D—	—18"D RCP—
GAS	—G—	—4"G—
ELECTRIC	—E—	—E—
TELEPHONE	—T—	—T—
HOUSE CONNECTION		6" HOUSE CONN (TYP)
GRINDER PUMP		● GP
SANITARY SEWER MANHOLE		● SMH
STORM DRAIN MANHOLE		● SDMH
ELECTRICAL MANHOLE		● EMH
TELEPHONE MANHOLE		● TMH
AIR RELEASE VALVE MANHOLE		● ARMH
FORCE MAIN CLEANOUT MANHOLE		● FMCO
CLEANOUT		● CO
CATCH BASIN		■ CB
CATCH BASIN (CURB INLET)		
HYDRANT		+
TEMPORARY HYDRANT		⊕
GATE VALVE		⊕
CHECK VALVE		⊕
CURB STOP		⊕
BUTTERFLY VALVE		⊕
BALL VALVE		⊕
REDUCER		⊕
CAP OR PLUG		⊕
GAS GATE VALVE		⊕
UTILITY POLE		+
GUY POLE		+
LIGHT POST		+
EDGE OF PAVEMENT		
EDGE OF UNPAVED ROAD		
CURB		
SIDEWALK		
RAILROAD		
STONE WALL		
RETAINING WALL		
FENCE		
INDIVIDUAL DECIDUOUS TREE		
INDIVIDUAL EVERGREEN TREE		
TREE LINE		
SURVEY MARKER		
PROPERTY LINE		
EASEMENT LINE		
LIMIT OF WORK		
APPROX. LIMIT OF REFUSE		
SPOT ELEVATIONS	x 141.5	x 141.5
CONTOUR LINES		
DEPRESSION CONTOUR LINES		
HOUSE NUMBER	#35	
FLOOR ELEVATION	F.L. = 56.7	
SILL ELEVATION	S.L. = 56.7	
WETLAND		
WETLAND FLAGS	1 2	
RIP RAP		
STATE HIGHWAY STATION		
SURFACE MOUNTED DELINEATOR		
GUARD POST		
BOLLARD		
SIGN		
BENCH MARK		
AUGER	⊕ A-1	⊕ A-1
TEST PIT	⊕ 1	⊕ TP-1
BORING	⊕ B-10	⊕ B-11
INLET PROTECTION		
SILTATION FENCE		
HAY BALES		
ROCK OUTCROP		
DRAINAGE DITCH / SWALE		

NOTE: ITEMS SHOWN IN THE LEGEND MAY NOT BE PRESENT IN THESE PLANS

ABBREVIATIONS

AC	ASBESTOS CEMENT PIPE
ACCOMP	ASPHALT COATED CORRUGATED METAL PIPE
ARV	AIR RELEASE VALVE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BC	BITUMINOUS CONCRETE
BIT	BITUMINOUS
BLDG	BUILDING
BM	BENCH MARK
BO	BLOW OFF
BV	BUTTERFLY VALVE
CATV	CABLE TELEVISION
CB	CATCH BASIN
CC	CONCRETE CURB
CI	CAST IRON
CL	CENTERLINE
CMP	CEMENT LINED
CONC	CORRUGATED METAL PIPE
CONC	CONCRETE
CU FT	CUBIC FEET
CY	CUBIC YARD
D	STORM DRAIN, DEPTH FROM RIM TO INVERT
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DMH	DRAIN MANHOLE
DWG	DRAWING
E	EAST, ELECTRIC
EA	EACH
EF	EACH FACE
ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
EW	EACH WAY
EXIST	EXISTING
FLG	FLANGE
FT	FEET, FOOT
G	NATURAL GAS
GALV	GALVANIZED
GC	GRANITE CURB
GR	GRANITE
HC	HOUSE CONNECTION
HORIZ	HORIZONTAL
HP	HIGH PRESSURE
HYD	FIRE HYDRANT
I	INVERT
INV	INVERT
ID	INSIDE DIAMETER
IP	IRON PIPE
LB	POUND
LF	LINEAR FEET
LS	LUMP SUM
MAX	MAXIMUM
MB	MAIL BOX
MDC	METROPOLITAN DISTRICT COMMISSION
MDPW	MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS
MECH	MECHANICAL
MH	MANHOLE
MHD	MASSACHUSETTS HIGHWAY DEPARTMENT
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MWRA	MASSACHUSETTS WATER RESOURCES AUTHORITY
N	NORTH
NE	NORTH EAST
NW	NORTH WEST
NF	NOT FOUND
NO OR #	NUMBER
OD	OUTSIDE DIAMETER
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PE	PLAIN END, POLYETHYLENE
R	PROPERTY LINE
PL	PLATE
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT-OF-WAY
RQD	ROCK QUALITY
S	SEWER, SOUTH
SE	SOUTH EAST
SECT	SECTION
SF	SQUARE FEET
SHT	SHEET
SPEC	SPECIFICATIONS
SQ FT	SQUARE FEET
SS	SEWER SERVICE, STAINLESS STEEL
STA	STATION
STL	STEEL
SW	SIDEWALK, SOUTH WEST
T	HYDROSTATIC THRUST, TELEPHONE
TBM	TEMPORARY BENCH MARK
THK	THICK (NESS)
TYP	TYPICAL
UP	UTILITY POLE
VC	VITRIFIED CLAY
VERT	VERTICAL
W	WATER, WEST
W/	WITH
W/O	WITHOUT

CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL CALL DIGSAFE AT 1-888-344-7233 AT LEAST 72 HOURS, SATURDAYS, SUNDAYS, AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE DIGSAFE PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE OWNER PRIOR TO EXCAVATION.
2. LOCATIONS OF EXISTING PIPES, CONDUITS, UTILITIES, FOUNDATIONS AND OTHER UNDERGROUND OBJECTS ARE NOT WARRANTED TO BE CORRECT AND THE CONTRACTOR SHALL HAVE NO CLAIM ON THAT ACCOUNT SHOULD THEY BE OTHER THAN SHOWN.
3. TEST PITS TO LOCATE EXISTING UTILITIES MAY BE ORDERED BY THE ENGINEER.
4. STONE WALLS, FENCES, MAIL BOXES, SIGNS, CURBS, LIGHT POLES, ETC., SHALL BE REMOVED AND REPLACED AS NECESSARY TO PERFORM THE WORK. UNLESS OTHERWISE INDICATED, ALL SUCH WORK SHALL BE INCIDENTAL TO CONSTRUCTION OF THE PROJECT.
5. ALL PAVEMENT DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN ACCORDANCE WITH THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.
6. ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND PAYMENT LIMITS SHALL BE RESTORED AT NO ADDITIONAL COST TO THE OWNER.
7. CONCRETE CRADLES OR ARCHES SHALL BE CONSTRUCTED WHERE SHOWN ON THE DRAWINGS OR WHERE DIRECTED BY THE ENGINEER. UNLESS OTHERWISE INDICATED, CONCRETE USED FOR PIPE ANCHOR BLOCKS, BACKING, PIPE CRADLES, ARCHES, AND FILL SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
8. THE CONTRACTOR SHALL NOT STORE ANY APPARATUS, MATERIALS, SUPPLIES, OR EQUIPMENT ON DRAINAGE STRUCTURES OR WITHIN 100 FEET OF WETLANDS.
9. SEWER TRENCHES MAY BE EXCAVATED WIDER THAN THE 'LIMIT OF EXCAVATION AND PAYMENT FOR EARTH EXCAVATION' ABOVE THE 'LINE OF NARROW TRENCH LIMIT.' ANY SUCH ADDITIONAL EXCAVATION SHALL BE AT THE CONTRACTORS EXPENSE AND SHALL NOT BE MEASURED FOR PAYMENT.
10. BELOW THE 'LINE OF NARROW TRENCH LIMIT' THE TRENCH SHOULD NOT BE EXCAVATED BEYOND THE TRENCH WIDTH 'W'. IF MATERIAL IS LOOSENEED OR REMOVED BEYOND THE ABOVE MENTIONED LIMITS, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE CRUSHED STONE FOR THE FULL WIDTH OF THE TRENCH AT NO ADDITIONAL COST TO THE OWNER.
11. SHEETING TO BE LEFT IN PLACE SHALL BE USED WHERE SHOWN ON THE DRAWINGS OR WHERE DIRECTED BY THE ENGINEER. IT SHALL BE LEFT IN PLACE BELOW A LINE 12 INCHES ABOVE THE TOP OF THE PIPE UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
12. FOUR FOOT INSIDE DIAMETER MANHOLES SHALL BE USED WITH SEWERS LESS THAN 24 INCHES IN DIAMETER, AND FIVE FOOT INSIDE DIAMETER MANHOLES SHALL BE USED WITH SEWERS EQUAL TO OR GREATER THAN 24 INCHES IN DIAMETER, UNLESS OTHERWISE SPECIFIED.
13. OPENINGS FOR PIPE IN PRECAST MANHOLE BASES SHALL BE CAST IN THE REQUIRED LOCATIONS DURING MANHOLE MANUFACTURE. FIELD CUT OPENINGS WILL NOT BE PERMITTED UNLESS APPROVED BY THE ENGINEER.
14. FORM BRICK INVERTS IN MANHOLES WITH BRICK ON EDGE TO A DEPTH OF 0.8 INSIDE DIAMETER OF PIPE AND FORM A 1 INCH SLOPED BENCH WITH BRICK FLAT. INVERT SHALL BE SLOPED UNIFORMLY BETWEEN INLET AND OUTLET PIPE AND SHALL BE FORMED AND FILLED AS REQUIRED TO DIRECT THE FLOW AS INDICATED AND TO PREVENT DEPOSITION OF SOLIDS.
15. IN ACCORDANCE WITH DEP REGULATIONS, ALL MANHOLES WITHIN A 2,640 FOOT RADIUS OF A PUBLIC WELL SHALL HAVE WATERTIGHT FRAMES AND COVERS.
16. IN PAVED AREAS THE TOP OF THE MANHOLE COVER SHALL BE SET FLUSH WITH THE PAVED SURFACE. IN OTHER AREAS THE TOP OF THE COVER SHALL EXTEND 6 INCHES ABOVE FINISHED GRADE, OR AS SHOWN ON THE DRAWINGS, OR AS DIRECTED BY THE ENGINEER.
17. SEWER CHIMNEY AND HOUSE CONNECTION LOCATIONS ARE SHOWN FOR ESTIMATING PURPOSES, AND ARE APPROXIMATE IN LOCATION. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
18. CALCULATION OF PIPE SLOPES IS BASED ON ELEVATION CHANGES DIVIDED BY THE DISTANCE BETWEEN THE OUTSIDE EDGES OF THE MANHOLE WALLS. FOR FOUR FOOT DIAMETER MANHOLES, THIS DISTANCE WAS CALCULATED AS THE CENTERLINE STATIONING MINUS FIVE FEET. FOR FIVE FOOT DIAMETER MANHOLES, THIS DISTANCE WAS CALCULATED AS THE CENTERLINE STATIONING MINUS SIX FEET. 'IN' INDICATES UPSTREAM END OF MANHOLE, 'OUT' INDICATES DOWNSTREAM END OF MANHOLE.
19. PROTECTION OF WATER SUPPLIES - WHENEVER A SEWER MUST CROSS UNDER A WATER MAIN, THE SEWER SHALL BE LAID AT SUCH AN ELEVATION THAT THE TOP OF THE SEWER IS AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN. WHEN THE ELEVATION OF THE SEWER CANNOT BE VARIED TO MEET THE ABOVE REQUIREMENT, THE WATER MAIN SHALL BE RELOCATED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER TO PROVIDE THIS SEPARATION OR THE CONTRACTOR SHALL CONSTRUCT THE NEW SEWER OF CLASS 150 PRESSURE PIPE FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE WATER MAIN. ONE FULL LENGTH OF CLASS 150 PRESSURE PIPE SEWER SHOULD BE CENTERED ON THE WATER MAIN AS MUCH AS POSSIBLE. THE SEWER CONSTRUCTED OF THE PRESSURE PIPE MUST BE PRESSURE TESTED TO ASSURE WATER TIGHTNESS.
20. APPROVED JOINT RESTRAINT METHODS SHALL BE PROVIDED FOR WATER MAINS WHERE ANY BENDS, TEES, PLUGS, OR WYES ARE INSTALLED. CONCRETE THRUST BLOCKS, ANCHOR BLOCKS AND TIE RODS MAY BE USED FOR 6-INCH AND 8-INCH PIPE WHERE JOINT RESTRAINT IS NOT FEASIBLE. FOR THRUST BLOCK DETAILS AND MINIMUM BLOCK BEARING AREAS, SEE DETAILS AND SPECIFICATIONS.
21. NEW WATER MAINS AND SERVICES SHALL BE INSTALLED AT THE MINIMUM DEPTH FROM FINISH GRADE TO TOP OF PIPE AS SHOWN ON THE DRAWINGS. WHERE NECESSARY, NEW WATER MAINS SHALL BE INSTALLED AT A GREATER DEPTH TO CLEAR OBSTACLES SHOWN ON THE DRAWINGS AT NO ADDITIONAL COST TO THE OWNER. MINIMUM CLEARANCES TO UTILITIES, AS SHOWN ON THE DRAWINGS SHALL BE MAINTAINED.
22. THE LOCATION OF PIPES, CAPS, REDUCERS, BENDS, AND OTHER FITTINGS AT POINTS OF CONNECTIONS TO EXISTING MAINS IS APPROXIMATE. CONTRACTOR SHALL DIG A TEST PIT AT EACH LOCATION TO DETERMINE THE DIAMETER AND MATERIAL OF THE EXISTING PIPE AND THE LOCATION OF THE TIE-IN POINT.
23. THE CONTRACTOR SHALL NOT OPEN OR CLOSE ANY VALVES WHICH HOLD WATER IN THE SYSTEM. THE OWNER WILL, ON 24 HOURS NOTICE FROM THE CONTRACTOR, OPEN AND/OR CLOSE ANY VALVES REQUIRED FOR DRAINING OR ADMITTING WATER TO THE VARIOUS SECTIONS OF THE WATER MAINS. THE CONTRACTOR IS RESPONSIBLE TO NOTIFY IN WRITING 24 HOURS IN ADVANCE, ANY OCCUPANT THAT WILL BE WITHOUT WATER DUE TO A SHUTDOWN.
24. SOME WATER SERVICE CONNECTIONS MAY NOT BE SHOWN ON THE DRAWINGS. THE OWNER WILL MARK THE LOCATION OF SUCH CONNECTIONS, PROVIDED THE CONTRACTOR GIVES THE OWNER AT LEAST 24 HOURS ADVANCE NOTICE.
25. ALL STREET EXCAVATIONS SHALL BE COMPLETELY CLOSED AT THE END OF EACH WORKING DAY BY BACKFILLING OR COVERING WITH STEEL PLATES. NO TRENCHES SHALL REMAIN OPEN ON WEEKENDS OR HOLIDAYS WITHOUT PRIOR APPROVAL OF THE OWNER.
26. ALL STREET EXCAVATIONS SHALL BE PAVED WITH PERMANENT TRENCH BINDER COURSE AT THE END OF EACH WEEK.
27. EXISTING UTILITY AND PROPERTY LINE INFORMATION, TOPOGRAPHIC INFORMATION, EDGE OF PAVEMENT, UTILITY POLE LOCATIONS, AND LOCATIONS OF EXISTING ABOVE GROUND STRUCTURES AT REDSTONE DRIVE WERE TAKEN FROM FIELD SURVEY BY SHERMAN AND WOODS.
28. TOPOGRAPHIC INFORMATION, EDGE OF PAVEMENT, UTILITY POLE LOCATIONS, AND LOCATIONS OF EXISTING ABOVE GROUND STRUCTURES AT DRAINAGE IMPROVEMENT SITES FROM FIELD SURVEY BY WESTON AND SAMPSON. PROPERTY LINES FROM ASSESSORS MAPPING.
29. ELEVATIONS REFERENCED AT EACH DRAINAGE IMPROVEMENT SITES FROM AN ASSUMED DATUM.
30. EXISTING UTILITIES AT DRAINAGE IMPROVEMENT SITES FROM INFORMATION PROVIDED BY THE TOWN OF EAST LONGMEADOW.
31. WETLANDS DELINEATED BY PIONEER ENVIRONMENTAL, 25 GRANBY STREET, EAST LONGMEADOW, MA. NO WETLANDS FLAGGED IN VICINITY OF THE PROJECT.
32. SEE SPECIFICATIONS FOR BORING LOG INFORMATION.
33. INLET PROTECTION AND EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.

Weston & Sampson
ENGINEERS, INC.

Five Centennial Drive, Peabody, MA 01960

RECORD DRAWING

Description

DATE

1 2/05 WGS

No. Date

DR BY

CHK BY

APP BY

DATE

REGISTERED PROFESSIONAL ENGINEER

DATE

TOWN OF EAST LONGMEADOW, MASSACHUSETTS
BOARD OF PUBLIC WORKS

REDSTONE DRIVE SEWER AND WATER IMPROVEMENTS AND
MISCELLANEOUS DRAINAGE IMPROVEMENT PROJECTS

ABBREVIATIONS, NOTES AND LEGEND

143-6 R-REDSTONE

SCALE

AS NOTED

CONTRACT

JOB NO. 201321

DR BY

WGS

DSN BY

WGS

CHK BY

WGS

APP BY

PMS

G-1

143-6

R-REDSTONE

FILE NO.

SHEET 2 OF 11