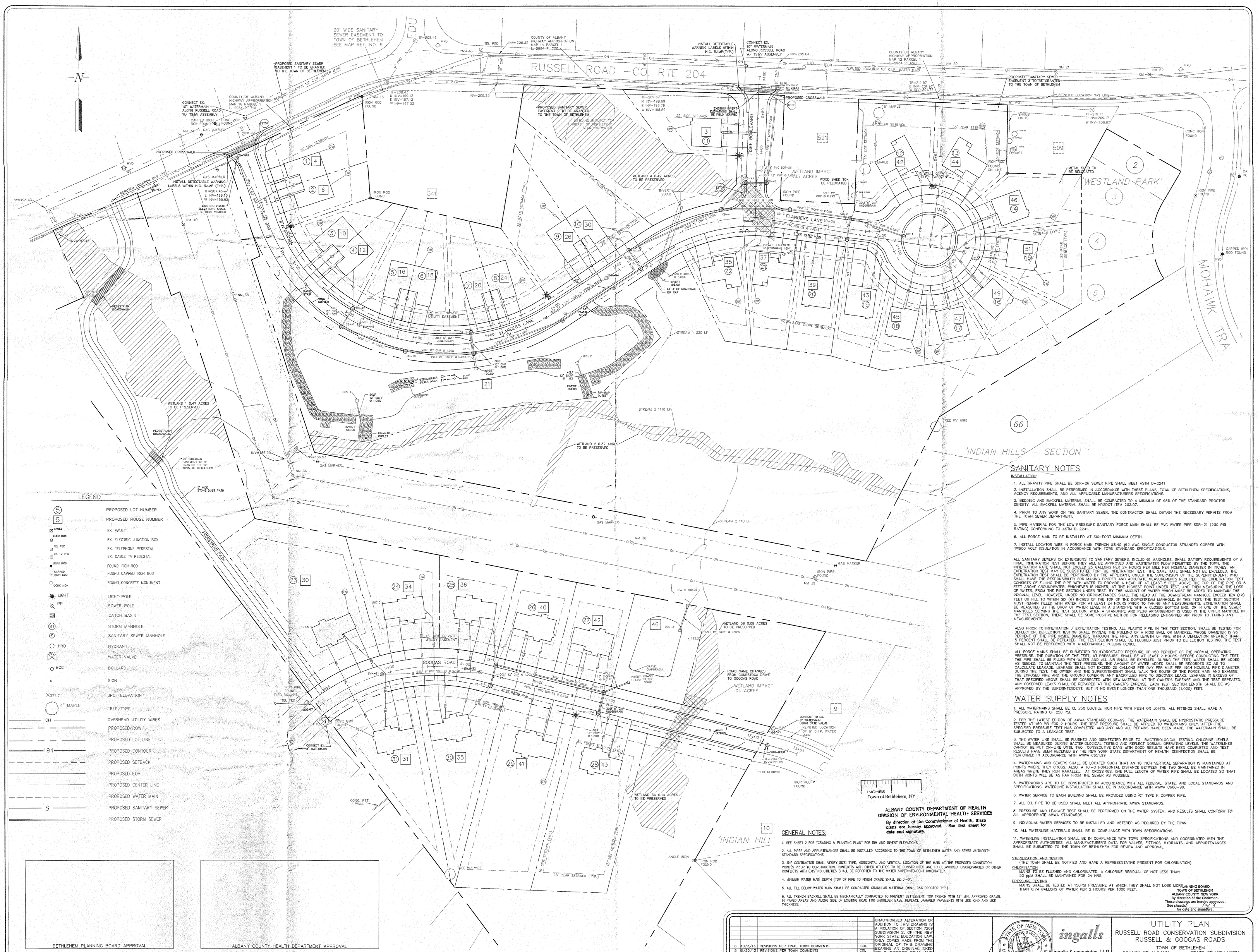


## LEGEND

| | |
|---|---|
| (5) | PROPOSED LOT NUMBER |
| [5] | PROPOSED HOUSE NUMBER |
| VAULT | EX. VAULT |
| ELEC BOX | EX. ELECTRIC JUNCTION BOX |
| TEL PED | EX. TELEPHONE PEDESTAL |
| CA TV PED | EX. CABLE TV PEDESTAL |
| IRON ROD | FOUND IRON ROD |
| CAPPED IRON ROD | FOUND CAPPED IRON ROD |
| CONC MON | FOUND CONCRETE MONUMENT |
| LIGHT | LIGHT POLE |
| PP | POWER POLE |
| | CATCH BASIN |
| (ST) | STORM MANHOLE |
| (S) | SANITARY SEWER MANHOLE |
| HYD | HYDRANT |
| WV | WATER VALVE |
| BOL | BOLLARD |
| | SIGN |
| X377.7 | SPOT ELEVATION |
| 4" MAPLE | TREE/TYPE |
| OH | OVERHEAD UTILITY WIRES |
| | PROPOSED ROW |
| | PROPOSED LOT LINE |
| 194 | PROPOSED CONTOUR |
| | PROPOSED SETBACK |
| | PROPOSED EOP |
| | PROPOSED CENTER LINE |
| | PROPOSED WATER MAIN |
| S | PROPOSED SANITARY SEWER |
| | PROPOSED STORM SEWER |

NOTE: 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL CONTACT DIG SAFELY NEW YORK TO LOCATE ALL UNDERGROUND UTILITIES. 1-800-962-7962

## GENERAL NOTES:

1. SEE SHEET 2 FOR "GRADING & PLANTING PLAN" FOR RIM AND INVERT ELEVATIONS.
2. ALL PIPES AND APPURTENANCES SHALL BE INSTALLED ACCORDING TO THE TOWN OF BETHLEHEM WATER AND SEWER AUTHORITY STANDARD SPECIFICATIONS.
3. THE CONTRACTOR SHALL VERIFY SIZE, TYPE, HORIZONTAL AND VERTICAL LOCATION OF THE MAIN AT THE PROPOSED CONNECTION POINTS PRIOR TO CONSTRUCTION. CONFLICTS WITH OTHER UTILITIES TO BE CONSTRUCTED ARE TO BE AVOIDED. DISCREPANCIES OR OTHER CONFLICTS WITH EXISTING UTILITIES SHALL BE REPORTED TO THE WATER SUPERINTENDENT IMMEDIATELY.
4. MINIMUM WATER MAIN DEPTH (TOP OF PIPE TO FINISH GRADE SHALL BE 5'-0".
5. ALL FILL BELOW WATER MAIN SHALL BE COMPACTED GRANULAR MATERIAL (MIN. 95% PROCTOR TYP.)
6. ALL TRENCH BACKFILL SHALL BE MECHANICALLY COMPACTED TO PREVENT SETTLEMENT. TOP TRENCH WITH 12" MIN. APPROVED GRAVEL IN PAVED AREAS AND ALONG SIDE OF EXISTING ROAD FOR SHOULDER BASE. REPLACE DAMAGED PAVEMENTS WITH LIKE KIND AND LIKE THICKNESS.

## SANITARY NOTES

INSTALLATION:

1. ALL GRAVITY PIPE SHALL BE SDR-26 SEWER PIPE SHALL MEET ASTM D-2241
2. INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS, TOWN OF BETHLEHEM SPECIFICATIONS, AGENCY REQUIREMENTS, AND ALL APPLICABLE MANUFACTURERS SPECIFICATIONS.
3. BEDDING AND BACKFILL MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE STANDARD PROCTOR DENSITY. ALL BACKFILL MATERIAL SHALL BE NYSDOT ITEM 203.07.
4. PRIOR TO ANY WORK ON THE SANITARY SEWER, THE CONTRACTOR SHALL OBTAIN THE NECESSARY PERMITS FROM THE TOWN SEWER DEPARTMENT.
5. PIPE MATERIAL FOR THE LOW PRESSURE SANITARY FORCE MAIN SHALL BE PVC WATER PIPE SDR-21 (200 PSI RATING) CONFORMING TO ASTM D-2241.
6. ALL FORCE MAIN TO BE INSTALLED AT SIX-FOOT MINIMUM DEPTH.
7. INSTALL LOCATOR WIRE IN FORCE MAIN TRENCH USING #12 AWG SINGLE CONDUCTOR STRANDED COPPER WITH TW600 VOLT INSULATION IN ACCORDANCE WITH TOWN STANDARD SPECIFICATIONS.

ALL SANITARY SEWERS OR EXTENSIONS TO SANITARY SEWERS, INCLUDING MANHOLES, SHALL SATISFY REQUIREMENTS OF A FINAL INFILTRATION TEST BEFORE THEY WILL BE APPROVED AND WASTEWATER FLOW PERMITTED BY THE TOWN. THE INFILTRATION RATE SHALL NOT EXCEED 25 GALLONS PER 24 HOURS PER MILE PER NOMINAL DIAMETER IN INCHES. AN EXFILTRATION TEST MAY BE SUBSTITUTED FOR THE INFILTRATION TEST; THE SAME RATE SHALL NOT BE EXCEEDED. THE EXFILTRATION TEST SHALL BE PERFORMED BY THE APPLICANT, UNDER THE SUPERVISION OF THE SUPERINTENDENT, WHO SHALL HAVE THE RESPONSIBILITY FOR MAKING PROPER AND ACCURATE MEASUREMENTS REQUIRED. THE EXFILTRATION TEST CONSISTS OF FILLING THE PIPE WITH WATER TO PROVIDE A HEAD OF AT LEAST 5 FEET ABOVE THE TOP OF THE PIPE OR 5 FEET ABOVE GROUNDWATER, WHICHEVER IS HIGHER, AT THE HIGHEST POINT UNDER TEST, AND THEN MEASURING THE LOSS OF WATER, FROM THE PIPE SECTION UNDER TEST, BY THE AMOUNT OF WATER WHICH MUST BE ADDED TO MAINTAIN THE ORIGINAL LEVEL. HOWEVER, UNDER NO CIRCUMSTANCES SHALL THE HEAD AT THE DOWNSTREAM MANHOLE EXCEED TEN (10) FEET OR FILL TO WITHIN SIX (6) INCHES OF THE TOP OF THE DOWNSTREAM MANHOLE. IN THIS TEST, THE TEST SECTION MUST REMAIN FILLED WITH WATER FOR AT LEAST 24 HOURS PRIOR TO TAKING ANY MEASUREMENTS. EXFILTRATION SHALL BE MEASURED BY THE DROP OF WATER LEVEL IN A STANDPIPE WITH A CLOSED BOTTOM END, OR IN ONE OF THE SEWER MANHOLES SERVING THE TEST SECTION. WHEN A STANDPIPE AND PLUG ARRANGEMENT IS USED IN THE UPPER MANHOLE IN THE TEST SECTION, THERE SHALL BE SOME POSITIVE METHOD FOR RELEASING ENTRAPPED AIR PRIOR TO TAKING ANY MEASUREMENTS.

ALSO PRIOR TO INFILTRATION / EXFILTRATION TESTING, ALL PLASTIC PIPE, IN THE TEST SECTION, SHALL BE TESTED FOR DEFLECTION. DEFLECTION TESTING SHALL INVOLVE THE PULLING OF A RIGID BALL OR MANDREL, WHOSE DIAMETER IS 95 PERCENT OF THE PIPE INSIDE DIAMETER, THROUGH THE PIPE. ANY LENGTH OF PIPE WITH A DEFLECTION GREATER THAN 5 PERCENT SHALL BE REPLACED. THE TEST SECTION SHALL BE FLUSHED JUST PRIOR TO DEFLECTION TESTING. THE TEST SHALL NOT BE PERFORMED WITH A MECHANICAL PULLING DEVICE.

ALL FORCE MAINS SHALL BE SUBJECTED TO HYDROSTATIC PRESSURE OF 150 PERCENT OF THE NORMAL OPERATING PRESSURE. THE DURATION OF THE TEST, AT PRESSURE, SHALL BE AT LEAST 2 HOURS. BEFORE CONDUCTING THE TEST, THE PIPE SHALL BE FILLED WITH WATER AND ALL AIR SHALL BE EXPELLED. DURING THE TEST, WATER SHALL BE ADDED, AS NEEDED, TO MAINTAIN THE TEST PRESSURE. THE AMOUNT OF WATER ADDED SHALL BE RECORDED SO AS TO CALCULATE LEAKAGE. LEAKAGE SHALL NOT EXCEED 25 GALLONS PER DAY PER MILE PER INCH NOMINAL PIPE DIAMETER. DURING THE TEST, THE OWNER AND THE SUPERINTENDENT SHALL WALK THE ROUTE OF THE FORCE MAIN AND EXAMINE THE EXPOSED PIPE AND THE GROUND COVERING ANY BACKFILLED PIPE TO DISCOVER LEAKS. LEAKAGE IN EXCESS OF THAT SPECIFIED ABOVE SHALL BE CORRECTED WITH NEW MATERIAL AT THE OWNER'S EXPENSE AND THE TEST REPEATED. ANY OBSERVED LEAKS SHALL BE REPAIRED AT THE OWNER'S EXPENSE. EACH TEST SECTION LENGTH SHALL BE AS APPROVED BY THE SUPERINTENDENT, BUT IN NO EVENT LONGER THAN ONE THOUSAND (1,000) FEET.

## WATER SUPPLY NOTES

1. ALL WATERMAINS SHALL BE CL 250 DUCTILE IRON PIPE WITH PUSH ON JOINTS. ALL FITTINGS SHALL HAVE A PRESSURE RATING OF 250 PSI.
2. PER THE LATEST EDITION OF AWWA STANDARD C600-99, THE WATERMAIN SHALL BE HYDROSTATIC PRESSURE TESTED AT 150 PSI FOR 2 HOURS. THE TEST PRESSURE SHALL BE APPLIED TO WATERMAINS ONLY. AFTER THE SPECIFIED PRESSURE TEST HAS COMPLETED AND ANY AND ALL REPAIRS HAVE BEEN MADE, THE WATERMAIN SHALL BE SUBJECTED TO A LEAKAGE TEST.
3. THE WATER LINE SHALL BE FLUSHED AND DISINFECTED PRIOR TO BACTERIOLOGICAL TESTING. CHLORINE LEVELS SHALL BE MEASURED DURING BACTERIOLOGICAL TESTING AND REFLECT NORMAL OPERATING LEVELS. THE WATERLINES CANNOT BE PUT ON-LINE UNTIL TWO CONSECUTIVE DAYS WITH GOOD RESULTS HAVE BEEN COMPLETED AND TEST RESULTS HAVE BEEN RECEIVED BY THE NEW YORK STATE DEPARTMENT OF HEALTH. DISINFECTION SHALL BE PERFORMED IN ACCORDANCE WITH AWWA C651.99
4. WATERMAINS AND SEWERS SHALL BE LOCATED SUCH THAT AN 18 INCH VERTICAL SEPARATION IS MAINTAINED AT POINTS WHERE THEY CROSS. ALSO, A 10'-0 HORIZONTAL DISTANCE BETWEEN THE TWO SHALL BE MAINTAINED IN AREAS WHERE THEY RUN PARALLEL. AT CROSSINGS, ONE FULL LENGTH OF WATER PIPE SHALL BE LOCATED SO THAT BOTH JOINTS WILL BE AS FAR FROM THE SEWER AS POSSIBLE.
5. WATERWORKS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL STANDARDS AND SPECIFICATIONS. WATERLINE INSTALLATION SHALL BE IN ACCORDANCE WITH AWWA C600-99.
6. WATER SERVICE TO EACH BUILDING SHALL BE PROVIDED USING ¾" TYPE K COPPER PIPE.
7. ALL D.I. PIPE TO BE USED SHALL MEET ALL APPROPRIATE AWWA STANDARDS.
8. PRESSURE AND LEAKAGE TEST SHALL BE PERFORMED ON THE WATER SYSTEM, AND RESULTS SHALL CONFORM TO ALL APPROPRIATE AWWA STANDARDS.
9. INDIVIDUAL WATER SERVICES TO BE INSTALLED AND METERED AS REQUIRED BY THE TOWN.
10. ALL WATERLINE MATERIALS SHALL BE IN COMPLIANCE WITH TOWN SPECIFICATIONS.
11. WATERLINE INSTALLATION SHALL BE IN COMPLIANCE WITH TOWN SPECIFICATIONS AND COORDINATED WITH THE APPROPRIATE AUTHORITIES. ALL MANUFACTURER'S DATA FOR VALVES, FITTINGS, HYDRANTS, AND APPURTENANCES SHALL BE SUBMITTED TO THE TOWN OF BETHLEHEM FOR REVIEW AND APPROVAL.

STERILIZATION AND TESTING
(THE TOWN SHALL BE NOTIFIED AND HAVE A REPRESENTATIVE PRESENT FOR CHLORINATION)

CHLORINATION
MAINS TO BE FLUSHED AND CHLORINATED, A CHLORINE RESIDUAL OF NOT LESS THAN 50 ppM SHALL BE MAINTAINED FOR 24 HRS.

PRESSURE TESTING
MAINS SHALL BE TESTED AT 150PSI PRESSURE AT WHICH THEY SHALL NOT LOSE MORE THAN 0.74 GALLONS OF WATER PER 2 HOURS PER 1000 FEET.

ALBANY COUNTY DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH SERVICES
By direction of the Commissioner of Health, these plans are hereby approved. See final sheet for date and signature.

PLANNING BOARD
TOWN OF BETHLEHEM
ALBANY COUNTY, NEW YORK
By direction of the Chairman.
These drawings are hereby approved.
See sheet(s) 1 of 2
for date and signature.

| NO. | DATE: | REVISIONS | BY: |
|---|---|---|---|
| 6 | 10/3/13 | REVISIONS PER FINAL TOWN COMMENTS | CDL |
| 5 | 8/20/13 | REVISIONS PER TOWN COMMENTS | CDL |
| 4 | 8/17/13 | REVISIONS PER TOWN COMMENTS | CDL |
| 3 | 2/15/13 | REVISED TO FINAL PLAN SET | CDL |
| 2 | 2/17/12 | REVISIONS PER TOWN & TOE COMMENTS | CDL |
| 1 | 12/14/11 | REVISIONS PER TOWN & TOE COMMENTS | CDL |

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# UTILITY PLAN
## RUSSELL ROAD CONSERVATION SUBDIVISION
## RUSSELL & GOOGAS ROADS

TOWN OF BETHLEHEM
COUNTY OF ALBANY STATE OF NEW YORK

DATE: 7/5/2011
CHECKED BY: F.JB
JOB NO. 10-023
SCALE: 1" = 40'
DRAWN BY: MWB
CADD FILE: PLOT.dwg
SHEET 3 OF 8