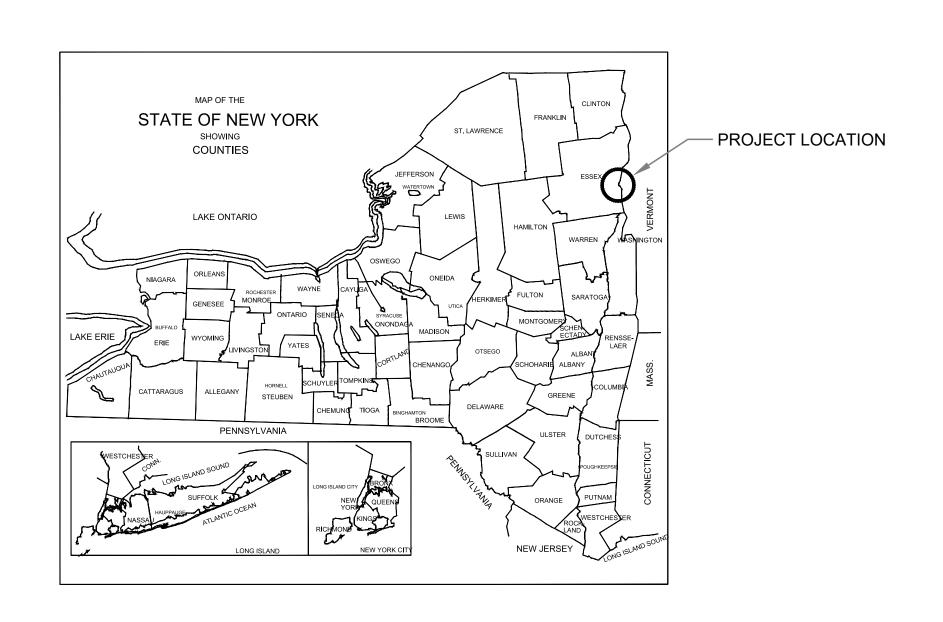
### TOWN OF MORIAH

### WATER & SEWER REPLACEMENT PHASE II



PROJECT LOCATION

### **SUPERVISOR**: THOMAS R. SCOZZAFAVA

### BOARD MEMBERS/COUNCILMEN: PAUL SALERNO - DEPUTY SUPERVISOR

THOMAS ANDERSON
MATTHEW BRASSARD
NATHAN GILBO

### WATER & SEWER DEPARTMENT: ARTHUR MORGAN

WASTEWATER TREATMENT PLANT: CARL (CHIP) PERRY

# Crane Pt. Chimney Point Orchard Pt. Pressed FORT NUMS CROWN PT. DEPT PRINTS CROWN PT. DEPT PT

SOURCE: U.S.G.S. 7.5' TOPOGRAPHIC MAP QUADRANGLE: PORT HENRY, NY SCALE: 1"=15,000'

### PREPARED BY:

### Cedarwood Engineering Services, PLLC

CIVIL & ENVIRONMENTAL ENGINEERING

3903 Main Street Warrensburg, New York 12885 518-623-5500 On

464 Main Street
PO Box 1360
Oneonta, New York 13820
607-441-3246

**MARCH 2021** 

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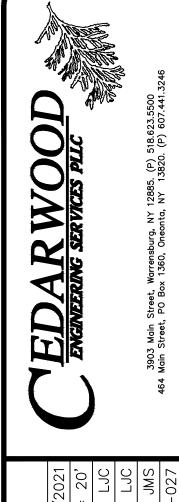
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NYS DEC REVISION 1

NYS DOH REVISION 1

NYS DOH REVISION 1

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DESIGNED BY: DESIGNED BY: DRAWN B



THE WEST

WN OF MORIAH

TOWN OF MORIAH

WATER & SEWER
PLACEMENT PHASE

### LEGEND



PROPOSED FLUSHING HYDRANT

PROPOSED SANITARY SEWER

**DECIDUOUS TREE** 

MONUMENTS DISTURBED DURING CONSTRUCTION. THE CONTRACTOR SHALL EMPLOY A LICENSED LAND SURVEYOR TO RESTORE ALL DISTURBED MONUMENTS TO THEIR ORIGINAL

GENERAL NOTES

1. PRIOR TO COMMENCING SITE WORK, THE GENERAL CONTRACTOR SHALL VERIFY EXISTING

EXIST BETWEEN THE PROJECT DRAWINGS AND ACTUAL FIELD CONDITIONS. THE

FACILITIES SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE

CONTRACTORS EXPENSE.

SPECIFIED.

FIELD CONDITIONS. THE PROJECT ENGINEER SHALL BE NOTIFIED WHERE DISCREPENCIES

CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR DAMAGES WHICH MIGHT BE OCCASIONED

BY FAILURE TO EXACTLY LOCATE AND PRESERVE ANY EXISTING UTILITIES. ANY DAMAGE TO

2. UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXISTING LANDSCAPE FEATURES LOCATED

WITHIN OR OUTSIDE OF DESIGNATED RIGHTS-OF-WAY OR PERMANENT EASEMENTS WHICH

ARE DISTURBED OR DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION, (INCLUDING

BUT NOT LIMITED TO: CULVERT PIPES, SWALES, TREES, SHRUBS, BUSHES, PLANTERS, SIGNS,

ASPHALT DRIVES, CONCRETE DRIVES, GRAVEL DRIVES, FENCES, AND WALKWAYS) SHALL BE

RESTORED AND/OR REPLACED IN KIND, SIZE, MATERIAL AND TYPE AS APPLICABLE, BY THE

BE SHOWN ON THE PLANS FOR CLARITY. CONTRACTOR SHALL SAW CUT ASPHALT AND

CONCRETE PAVEMENT AT ALL ROAD AND DRIVEWAY CROSSINGS, UNLESS OTHERWISE

LOCATION. 4. WHERE DIMENSIONS ON THE PROJECT DRAWINGS ARE UNCLEAR, CONTACT THE PROJECT

ENGINEER FOR CLARIFICATION. 5. THE GENERAL CONTRACTOR SHALL ENSURE THAT THE PROJECT DRAWINGS REFLECT THE LATEST REVISION.

6. THE CONTRACTOR SHALL NOTIFY THE OWNER/ENGINEER IN WRITING OF PROPOSED DEVIATIONS OR SUBSTITUTIONS FROM DIMENSIONS, MATERIALS OR EQUIPMENT SHOWN ON THE DRAWINGS AND MAKE ONLY THOSE DEVIATIONS OR SUBSTITUTIONS ACCEPTED IN WRITING BY THE OWNER/ENGINEER

7. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION SAFETY.

8. THE CONTRACTOR SHALL RESTORE ALL LAWNS, DRIVEWAYS, CULVERTS, SIGNS, AND OTHER PUBLIC OR PRIVATE PROPERTY DAMAGED OR REMOVED TO AT LEAST AS GOOD OF A CONDITIONS PRIOR TO CONSTRUCTION AS DETERMINED BY THE OWNER/ENGINEER. ANY DAMAGED ITEMS INCLUDING. BUT NOT LIMITED TO TREES. SHRUBS. AND/OR HEDGES SHALL BE REPLACED AT THE CONTRACTORS EXPENSE

9. CONTRACTOR SHALL REVIEW AND FOLLOW CONDITIONS OF ALL APPLICABLE PERMITS 10. CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPORTING AND/OR PROTECTING ANY OTHER METHOD. THE FULL DIAMETER OF THE PIPE SHALL BE VISIBLE WHEN VIEWED BETWEEN

**EROSION & SEDIMENT CONTROL NOTES:** 1. ALL TEMPORARY EROSION & SEDIMENT (E&S) CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH DISTURBANCE. E&S CONTROL DEVICES SHALL BE REGULARLY INSPECTED AND MAINTAINED AS NEEDED TO ENSURE SATISFACTORY PERFORMANCE. ANY DAMAGE OCCURRING DURING THE DURING CONSTRUCTION SHALL BE REPAIRED BY THE

COST TO THE OWNER.

LAND SURVEYOR.

THE OWNER.

NOT BE STORED BENEATH TREES TO BE KEPT

CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. ASSOCIATED FINES RESULTING FROM SUCH DAMAGE SHALL ALSO BE PAID BY THE CONTRACTOR. 2. THE ROAD SHALL BE KEPT CLEAN OF MUD AND DEBRIS AT ALL TIMES.

3. ROADSIDE DRAINAGE TO BE MAINTAINED AT ALL TIMES.

ANY OPEN EXCAVATIONS AS REQUIRED DURING CONSTRUCTION.

UTILITIES WHILE OPEN CUTTING FOR THE PROPOSED UTILITY WORK

FOUNDATIONS AND NEW UTILITY INSTALLATIONS. CONTRACTOR RESPONSIBLE FOR

PROVIDING ANY UTILITY POLE SUPPORT, RELOCATION AND/OR UTILITY COORDINATION AS

AND PLANTS DESIGNATED TO REMAIN FOR THE LENGTH OF THE CONSTRUCTION PERIOD. THE

AT THE CONTRACTORS' DISCRETION. VEHICLES SHALL NOT BE PARKED WITHIN THE DRIP LINE

OR WHERE DAMAGE MAY RESULT TO TREES TO BE KEPT. CONSTRUCTION MATERIALS SHALL

MEETING ON SITE WITH THE OWNER'S REPRESENTATIVE TO IDENTIFY WHICH TREES ARE TO

THE START OF CONSTRUCTION. ALL SECONDARY BENCHMARKS SHALL BE LOCATED SO THAT

HAVING JURISDICTION AND OSHA REGULATIONS. MAINTAIN SIDE SLOPES OF EXCAVATIONS IN

14. THE CONTRACTOR SHALL ESTABLISH PERMANENT SECONDARY BENCHMARKS PRIOR TO

15. ALL PROPOSED GRADES SET IN THE FIELD TO BE COMPLETED BY A NEW YORK LICENSED

16. SIDE SLOPES OF EXCAVATIONS SHALL COMPLY WITH LOCAL CODES AND ORDINANCES

17. EXCAVATION REQUIRED WITHIN 3 FEET OF EXISTING UTILITIES SHALL BE DONE BY HAND.

PROVIDING VERTICAL CURVES OR ROUNDING AT THE TOP AND BOTTOM OF ALL SLOPES.

19. DURING GRADING OPERATIONS, DAMAGE OF THE SITE AND ADJACENT AREAS SHALL BE

MAINTAINED CONTINUOUSLY TO PREVENT EROSION OR OTHER DAMAGE. WHEN IT IS

20. GRADE AREAS ADJACENT TO BUILDING LINES TO DRAIN AWAY FROM STRUCTURES TO

21. THE CONTRACTOR SHALL MAINTAIN OR ADJUST TO NEW FINISH GRADES NECESSARY ALL

UTILITY AND SITE STRUCTURES INCLUDING BUT NOT LIMITED TO LIGHT POLES, SIGN POLES,

MANHOLES, CATCH BASINS, HAND HOLES, WATER AND GAS GATES, HYDRANTS, ETC. FROM

MAINTAINED UTILITY AND SITE SYSTEMS UNLESS OTHERWISE NOTES ON THESE DRAWINGS

22. CONTRACTOR SHALL INSPECT THE SITE AT THE START AND END OF EACH CONSTRUCTION

PROTECTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO PLATE OR FENCE

DAY TO ENSURE THAT NO HAZARDOUS CONDITIONS EXIST TO THE PUBLIC. NO OPEN

EXCAVATION SHALL BE LEFT EXPOSED DURING NON-WORKING HOURS AND ADEQUATE

18. CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY INTO EXISTING GRADE

CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITIES LINES OR STRUCTURES

INCURRED DURING CONSTRUCTION OPERATIONS AT NO ADDITIONAL COST TO THE OWNER.

NECESSARY TO INTERRUPT DRAINAGE OR OTHER EXISTING UTILITIES, CONTRACTOR SHALL

PROVIDE TEMPORARY FACILITIES UNTIL PERMANENT WORK IS COMPLETED AT NO COST TO

PREVENT PONDING. FINISHED SURFACES SHALL BE FREE FROM ANY ABRUPT OR IRREGULAR

BEFORE ANY LAND CLEARING IS COMPLETED, THE CONTRACTOR SHALL ARRANGE A

BE PROTECTED OR REMOVED. NO CLEARING SHALL OCCUR WITHOUT A CLEAR

UNDERSTANDING OF THE EXISTING CONDITIONS TO BE PRESERVED.

THEY WILL NOT BE DISTURBED DURING CONSTRUCTION.

A SAFE CONDITION UNTIL COMPLETION OF BACKFILLING.

OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE.

PLACEMENT OF PROTECTION DEVICES ADDITIONAL TO THOSE NOTED SHALL, HOWEVER, BE

### **DEMOLITION NOTES**

 WHEN ITEMS REQUIRING MATERIAL TO BE REMOVED AND/OR DISPOSED OF, THE COST OF PROVIDING A DISPOSAL AREA AND TRANSPORTATION TO THAT AREA SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THOSE ITEMS. CONTRACTOR RESPONSIBLE FOR REMOVING & DISPOSING OF ITEMS IN ACCORANCE WITH ALL APPLICABLE LAWS & REGULATIONS.

### WATER AND SEWER/STORM SEPARATION REQUIREMENTS

 CONTRACTOR SHALL FOLLOW SEPARATION REQUIREMENTS IDENTIFIED IN THE WATER/SEWER MAIN CROSSING DETAILS AND MITIGATION DETAILS CONTAINED WITHIN THESE CONTRACT DRAWINGS. A MINIMUM HORIZONTAL SEPARATION OF 10 FEET AND FOR CROSSINGS, 18 INCHES OF VERTICAL SEPARATION SHALL BE MAINTAINED BETWEEN THE OUTSIDE WALLS OF WATER MAINS/SERVICES FROM SANITARY SEWER AND STORM LINES. SEPTIC TANKS AND SUBSOIL TREATMENT SYSTEMS.

### WATER MAIN & SERVICE LINE INSTALLATION NOTES: WATER MAIN TESTING NOTES

- 1. ALL WATER LINE PIPE, FITTINGS AND ACCESSORIES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH THE LATEST REVISION OF ANSI/AWWA C600 FOR DUCTILE IRON PIPE AND
- DISINFECTION SHALL MEET THE APPROVAL OF THE ENGINEER BUT SHALL NOT EXCEED 1,000 AND DISPOSE OF ANY AND ALL WASTEWATER SPILLED DURING THE BYPASS PUMPING AT LINEAL FEET.
- 3. HYDROSTATIC PRESSURE & LEAKAGE TESTING SHALL BE COMPLETED AT 150 PSI OR 1.5 TIMES THE WORKING PRESSURE IN THE AREA, WHICHEVER IS GREATER. MEASURE THE TEST PRESSURE AT THE HIGHEST POINT IN THE PIPE SECTION AND CORRECT TO THE ELEVATION 14. CONTRACTOR SHALL PROVIDE A REDUNDANT BYPASS PUMP, INTAKE AND DISCHARGE
- OF THE GAUGE. 4. ANY AIR TRAPPED IN THE MAINS SHALL BE RELIEVED AT HIGH POINTS THROUGH HYDRANTS, AIR RELEASE VALVES, OR TAPS INSTALLED FOR THIS PURPOSE. THESE TAPS (EXCLUDING AIR 15. WHERE NO ALTERNATE SANITARY SEWER ROUTE IS AVAILABLE OR WHEN TWENTY-FOUR RELEASE VALVES PROPOSED FOR THE DESIGN) SHALL BE TEMPORARY INSTALLATIONS AND
- PLUGGED AFTER ACCEPTANCE 5. NEWLY INSTALLED WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH THE LATEST SETTINGS OR AREAS WHERE EXCESSIVE NOISE LEVELS WOULD CREATE A DISTURBANCE. REVISION OF ANSI/AWWA C651 PRIOR TO PLACING IN SERVICE. THE CONTINUOUS FEED METHOD SHALL BE UTILIZED BY THE CONTRACTOR FOR DISINFECTION, ALTHOUGH

ALTERNATE METHODS OF DISINFECTION MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL NO LATER THAN 72 HOURS PRIOR TO THE START OF DISINFECTION. AFTER DISINFECTION & FINAL FLUSHING, TWO CONSECUTIVE BACTERIOLOGICAL TESTS SHALL APPROVAL. BE COMPLETED AT LEAST 24-HOURS APART AND SHALL BE SUBMITTED TO THE ENGINEER AND

NYS DEPARTMENT OF HEALTH PRIOR TO PLACING ANY WATER MAINS IN SERVICE 7. THE CONTRACTOR SHALL PROPERLY DISPOSE OF ALL WATER USED TO DISINFECT THE PIPE DISCHARGE/DISPOSAL OF SUPER CHLORINATED WATER SHALL BE COMPLETED IN A MANNER THAT WILL NOT ADVERSELY AFFECT PLANTS AND ANIMALS. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL & STATE REGULATIONS FOR WASTED DISCHARGE. UNDER NO CIRCUMSTANCES WILL THE EMPTYING OF CHLORINATED WATER ONTO ROADWAYS, OR INTO

**GENERAL WATER NOTES:** CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. ALL DRIVEWAY CULVERTS MAY NOT 8. ALL HORIZONTAL AND VERTICAL FITTINGS SHALL BE RESTRAINED USING MECHANICAL JOINT RESTRAINTS AND THRUST BLOCKS.

9. CONTRACTOR TO VERIFY EXISTING PIPE SIZE, MATERIAL AND LOCATIONS PRIOR TO COMPLETING ANY CONNECTIONS TO EXISTING UTILITIES. 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ANY SURVEY OR RIGHT-OF-WAY 10. ANY WATER MAINS IDENTIFIED TO UTILIZE POLYETHYLENE ENCASEMENT SHALL BE

COMPLETED IN ACCORDANCE WITH AWWA STANDARD C105.

11. ANY MATERIALS THAT COME IN CONTACT WITH POTABLE WATER SHALL BE CERTIFIED TO THE LATEST NSF/ANSI REQUIREMENTS.

12. PROVIDE 5'-6" MINIMUM COVER OVER TOP OF WATER MAIN & SERVICE LINES. 13. IF CONTRACTOR ENCOUNTERS ANY LEAD SERVICE LINES DURING CONSTRUCTION, CEASE WORK IMMEDIATELY AND NOTIFY OWNER & ENGINEER PRIOR TO ANY LEAD SERVICE LINE REPLACEMENT. IF LEAD SERVICE LINES ARE ENCOUNTERED, FULL REPLACEMENT, INCLUDING THE PRIVATE PORTION, SHOULD BE PERFORMED IN COORDINATION WITH THE OWNER & HOMEOWNER.

### **SEWER MAIN & LATERAL INSTALLATION NOTES:**

DITCHES, CULVERTS, STREAMS, OR WETLANDS BE ALLOWED.

SEWER TESTING NOTES I. DEFLECTION TESTING SHALL BE PERFORMED ON ALL PVC PIPE. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE FOR AT LEAST (30) DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5%. THE DEFLECTION TEST SHALL BE RUN USING A RIGID BALL AND MANDREL, AND IT SHALL HAVE A DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TEST SHALL BE PERFORMED WITHOUT THE USE OF MECHANICAL PULLING DEVICES AND SHALL BE PULLED BY HAND.

2. ALIGNMENT TESTS SHALL BE COMPLETED ON THE SEWER PIPE WITH THE HAND-LAMP CONSECUTIVE MANHOLES.

3. LOW-PRESSURE AIR TESTS SHALL BE COMPLETED ON ALL SEWER PIPE, INCLUDING LATERALS, 11. A MINIMUM SEPARATION DISTANCE OF 3' SHALL BE MAINTAINED AROUND ALL SIGNAL POLE IN CONFORMANCE WITH ASTM F1417. THE LENGTH OF LATERAL PIPING SHALL NOT BE CONSIDERED IN THE CALCULATION OF ACCEPTANCE TIMES. THE INTERNAL AIR PRESSURE SHALL NOT EXCEED 8 PSIG AT ANY POINT DURING THE TEST.

REQUIRED FOR SUCCESSFUL INSTALLATION OF THE PROPOSED UTILITIES AT NO ADDITIONAL 4. WHERE AIR TESTING IS USED FOR LEAKAGE TESTING. CORROBORATIVE INFILTRATION/EXFILTRATION TESTING SHALL BE PERFORMED. TEST THE 3 SEWER SECTIONS WHICH INDICATE THE GREATEST RATE OF AIR LOSS. IF THE INFILTRATION/EXFILTRATION TESTS PROVE ACCEPTABLE. NO ADDITIONAL TESTING IS REQUIRED; HOWEVER, IF THE AIR

TEST IS NOT VERIFIED BY THE CORROBORATIVE TESTING, COMPLETE INFILTRATION/EXFILTRATION TESTING SHALL BE REQUIRED AS THE BASIS FOR FINAL ACCEPTANCE

5. INFILTRATION TEST IS USED WHEN GROUNDWATER LEVELS ARE AT LEAST 2 FEET ABOVE THE TOP OF THE PIPE FOR THE LENGTHS OF SECTION TESTED DURING THE PERIOD OF THE TESTS MEASURE LEAKAGE BY A WATERTIGHT WELL, WEIR, OR OTHER APPROVED MEANS INSTALLED AT THE LOWER END OF EACH SECTION UNDER TEST. TEST FOR A PERIOD OF AT LEAST 3 DAYS. TOTAL LEAKAGE FOR ANY SECTION TESTED SHALL NOT EXCEED THE RATE OF 200 OR 50 GALLONS PER MILE OF PIPE PER 24 HOURS PER INCH OF NOMINAL INTERNAL DIAMETER FOR CONCRETE AND PVC PIPE, RESPECTIVELY. IF THE LEAKAGE IN THE SECTION TESTED EXCEEDS THE SPECIFIED AMOUNT, REPAIR OR REPLACE THE SECTIONS TO REDUCE THE LEAKAGE TO WITHIN THE SPECIFIED LIMITS AND REPEAT UNTIL THE LEAKAGE REQUIREMENTS ARE MET

6. EXFILTRATION TESTS SHALL ALSO BE USED IF THE GROUNDWATER LEVELS ARE LESS THAN 2 FEET ABOVE THE TOP OF THE PIPE FOR THE LENGTHS OF SECTION TESTEED DURING THE PERIOD OF THE TEST. FILL THE PIPE AND MANHOLE WITH WATER TO PROVIDE A POSITIVE DIFFERENTIAL HEAD OF AT LEAST 2 FEET ON THE TOP OF THE PIPE (OR THE TOP OF THE GROUNDWATER) AT THE HIGHEST POINT OF THE PIPELINE UNDER TEST. DURING EXFILTRATION TESTING, THE MAXIMUM INTERNAL PIPE PRESSURE AT THE LOWEST END SHALL NOT EXCEED 25 FEET OF WATER. THE AMOUNT OF WATER ADDED TO MAINTAIN THIS HEAD SHALL BE THE LEAKAGE. TEST FOR A PERIOD OF AT LEAST 4 HOURS. TOTAL LEAKAGE OF ANY SECTION TESTED SHALL NOT EXCEED THE RATE OF 200 GALLONS OR 50 GALLONS PER MILE OF PIPE PER 24 HOURS PER INCH OF NOMINAL INTERNAL DIAMETER FOR CONCRETE AND PVC PIPE. RESPECTIVELY. IF THE LEAKAGE IN THE SECTION TESTED EXCEEDS THE SPECIFIED AMOUNT. REPAIR OR REPLACE SECTIONS TO REDUCE THE LEAKAGE TO WITHIN THE SPECIFIED LIMITS AND REPEAT THE TEST UNTIL THE LEAKAGE REQUIREMENTS ARE MET. ON STEEP GRADES IT MAY BE NECESSARY TO PLACE PLUGS IN THE PIPE BETWEEN MANHOLES TO AVOID EXCESSIVE PRESSURES IN THE SEWER PIPE AND AGAINST THE CAPS AT THE END OF THE HOUSE AND BUILDING CONNECTION.

7. TELEVISION INSPECTION: IF A SECTION OF SEWER HAS FAILED THE AIR AND EXFILTRATION/INFILTRATION TESTS, OR IS PROVEN POORLY ALIGNED BY THE LAMP TEST INSPECT THE SEWER BY CLOSED-CIRCUIT TELEVISION TO LOCATE AND REPAIR THE DEFECTIVE SECTION OF SEWER. NO TELEVISION INSPECTION SHALL BE PERFORMED WITHOUT THE ENGINEER OR HIS REPRESENTATIVE PRESENT TO WITNESS THE INSPECTION. PROVIDE THE ENGINEER 3 COPIES OF A REPORT OF THE TELEVISING INSPECTION OF EACH SECTION OF COMPLETED SEWER INSPECTED. SHOW THE EXACT LOCATION AND EXTENT OF ALL CRACKS, LOOSE JOINTS, HOLES, VERTICAL AND HORIZONTAL, MISALIGNMENT, FAULTY SERVICE CONNECTIONS, CAVED-IN-PIPE, POINTS OF INFILTRATION, OBSTRUCTIONS, DEBRIS AND ALL ELESE DETRIMENTAL TO THE PROPER FUNCTIONING AND SERVICE OF THE COMPLETED SEWER. PROVIDE THE ACTUAL TELEVISION INSPECTION VIDEO WITH THE REPORT SHOWING ALL THE ABOVE CONDITIONS FOUND, AT ALL WYES, TEES, AND LATERALS AND AS DIRECTED BY THE ENGINEER. THE ENGINEER WILL REVIEW THE REPORT AND WILL INSTRUCT THE CONTRACTOR TO REPAIR ANY CONDITIONS WHICH, IN THE OPINION OF THE ENGINEER, ARE DETRIMENTAL TO THE PROPER FUNCTION AND SERVICE OF THE SEWER. 8. VISUAL INSPECTION: PRIOR TO THE FINAL ACCEPTANCE, A VISUAL INSPECTION OF ALL APPURTENANCE STRUCTURES (I.E.: MANHOLES, CHAMBERS, ETC.) WILL BE REQUIRED. CONTRACTOR SHALL REPAIR VISUAL LEAKS REGARDLESS OF THEIR MAGNITURE.

9. CONTRACTOR SHALL PERFORM ANY WORK NECESSARY TO VERIFY THE INVERT ELEVATIONS OF ALL EXISTING SEWERS THAT ARE TO BE CONNECTED TO. IN ORDER TO ENSURE PROPER

10. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE CORRECT LOCATION OF ALL SANITARY SEWER LATERALS WITHIN THE PROJECT LIMITS. THE LATERALS ARE PLACED ON THE PLANS IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY HIS OPERATIONS TO EXISTING MAINS OR LATERALS.

11. CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND INCIDENTALS REQUIRED TO MAINTAIN CONTINUOUS AND RELIABLE WASTEWATER SERVICE IN ALL WASTEWATER LINES DURING CONSTRUCTION.

BYPASS PUMPING PLAN NOTES:

12. DURING VARIOUS PHASES OF THE WORK, IT WILL BE NECESSARY TO CONSTRUCT AND MAINTAIN TEMPORARY BYPASS SEWERS TO MAINTAIN CONTINUOUS AND RELIABLE WASTEWATER FLOW IN ALL PIPES. INCLUDING SERVICE CONNECTIONS. VARIOUS PHASES OF THE WORK THAT SHALL REQUIRE THE IMPLEMENTATION OF TEMPORARY BYPASS SEWERS INCLUDE, BUT ARE NOT LIMITED TO, CONNECTIONS OF NEW SEWER TO EXISTING SEWERS, ABANDONMENT OF PIPE AT MANHOLES, ABANDONMENT OF MANHOLES, AND PIPELINE TESTING/INSPECTION.

13. CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY BYPASS SEWERS AND BE RESPONSIBLE FOR ALL BYPASS PUMPING OF SEWAGE THAT MAY BE REQUIRED TO PREVENT BACKING UP OF SEWAGE AND ALLOW APPROPRIATE CONDITIONS FOR PROPER INSPECTION. REHABILITATION, TESTING OR DRAINAGE DURING REHABILITATION, REPLACEMENT OR 2. THE LENGTH OF PIPING AND SECTIONS INCLUDED IN THE PRESSURE & LEAKAGE TESTING AND RECONNECTIONS TO EXISTING SEWERS. THE CONTRACTOR SHALL IMMEDIATELY REMOVE THEIR OWN EXPENSE. THE CONTRACTOR SHALL ALSO BE SOLELY RESPONSIBLE FOR PAYING ANY FINES IMPOSED AS A RESULT OF SPILLS OR OVERFLOWS THAT OCCUR AS A RESULT OF THE BYPASS PUMPING OPERATIONS.

> CONDUIT, AND OTHER EQUIPMENT NECESSARY TO PROVIDE CONTINUOUS WASTEWATER FLOW AND PREVENT THE BACK-UP OF SEWAGE IN THE CASE OF EMERGENCIES AT ALL TIMES. HOURS OF STORAGE IS NOT FEASIBLE, REDUNDANT BYPASS PUMPING SHALL BE INSTALLED PRIMARY BYPASS PUMPS SHALL BE CRITICALLY SILENCED WHEN USED IN RESIDENTIAL

REDUNDANT BYPASS PUMP(S) DO NOT HAVE TO BE CRITICALLY SILENCED. 17. CONTRACTOR SHALL SUBMIT A SCHEDULE TO THE ENGINEER TO COMPLETE THE WORK, AND PREPARE A SPECIFIC, DETAILED DESCRIPTION OF THE PROPOSED PUMPING SYSTEM (BYPASS PUMPING PLAN) AND SHALL BE SUBMITTED TO THE ENGINEERING IN WRITING FOR

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| SPECIFIC DESCRIPTION OF THE ALTERATIONS.  | PROJECT NO.:                          | 20-027   |
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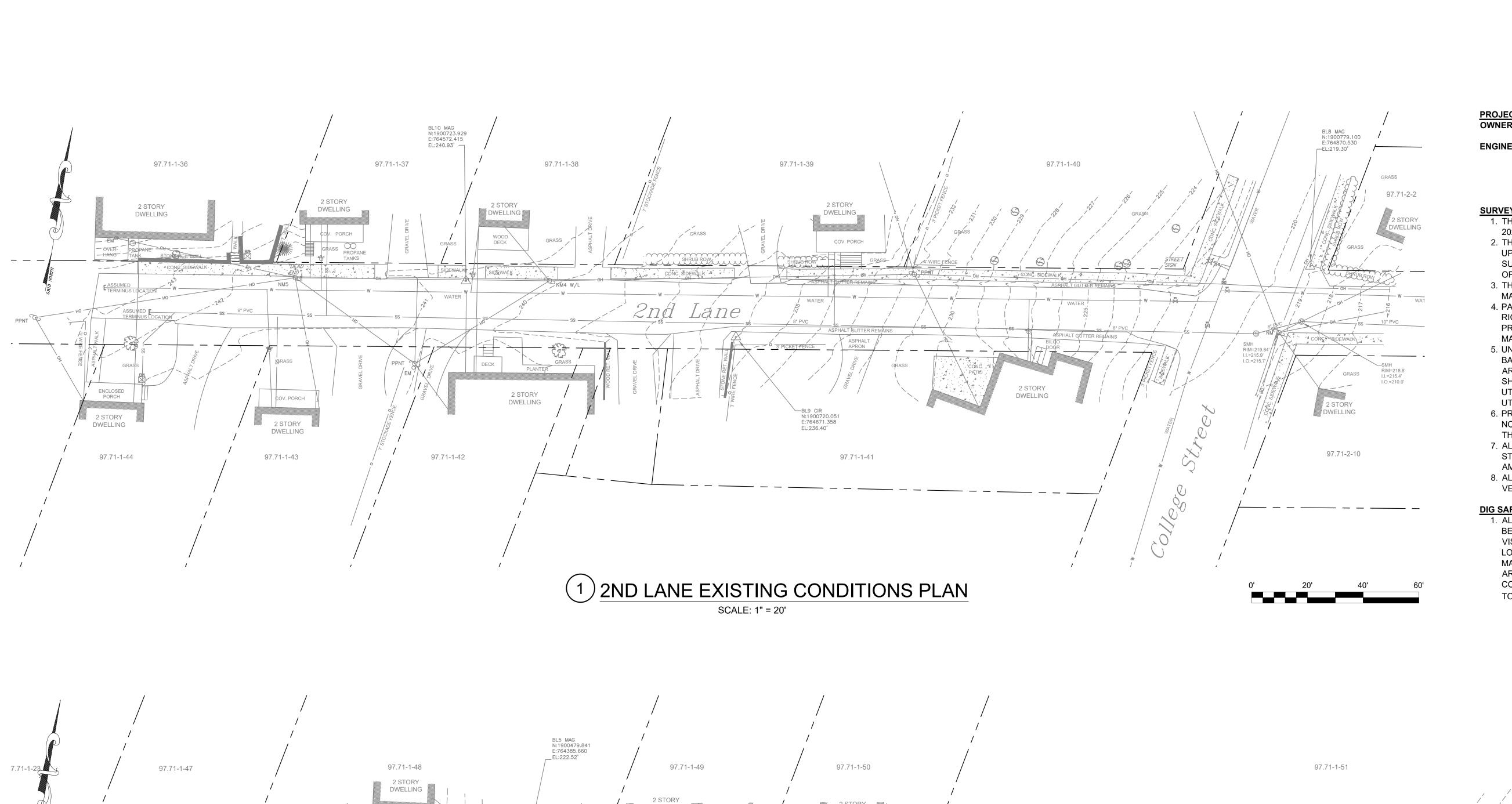


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**PROJECT CONTACTS**: **OWNER:** TOWN OF MORIAH

**ENGINEER:** CEDARWOOD ENGINEERING SERVICES PLLC

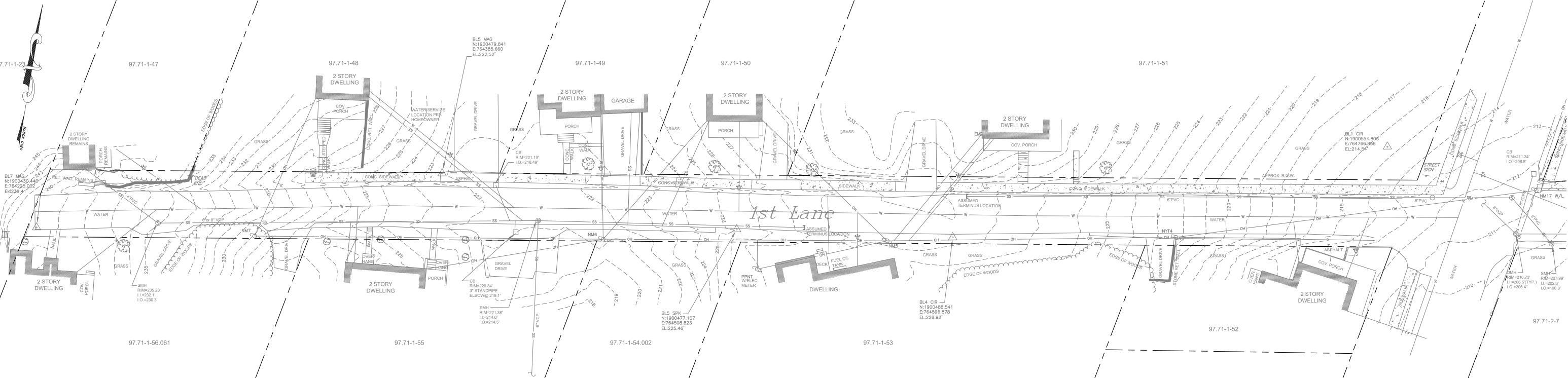
3903 MAIN STREET WARRENSBURG, NY 12885 CONTACT: JONATHAN SOUKUP, P.E. 518-623-5500

### SURVEY/REFERENCE MAP NOTES:

- 1. THE BASE MAP SURVEY HAS BEEN PREPARED FROM A SEPTEMBER 2020 FIELD SURVEY COMPLETED BY S.Y. KIM LAND SURVEYOR, P.C.
- 2. THE SURVEY WAS PREPARED WITHOUT THE BENEFIT OF AN UP-TO-DATE ABSTRACT OF TITLE OR TITLE REPORT AND IS SUBJECT TO ANY STATEMENTS OF FACT THAT SUCH AN ABSTRACT OF TITLE OR TITLE REPORT MAY REVEAL.
- 3. THE SURVEY IS SUBJECT TO ANY SUBSURFACE CONDITIONS THAT MAY EXIST, IF ANY.
- 4. PARCEL SUBJECT TO ANY SETBACKS, RESTRICTIONS, RIGHTS-OF-WAY (PUBLIC OR PRIVATE), EASEMENTS (PUBLIC OR PRIVATE), UTILITY EASEMENTS OF RECORD OR OTHERWISE THAT MAY AFFECT THE PREMISES SHOWN, IF ANY.
- 5. UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND BASED ON UTILITY EVIDENCE VISIBLE AT GROUND SURFACE AND ARE SUBJECT TO FIELD VERIFICATION BY EXCAVATION. UTILITIES SHOWN DO NOT IMPLY TO CONSTITUTE OR REPRESENT ALL UTILITIES UPON OR ADJACENT TO THE SURVEYED AREA. OTHER UTILITIES MAY EXIST, IF ANY.
- 6. PROPERTY LINES AND R.O.W. SHOWN HEREON ARE APPROXIMATE. NO BOUNDARY RETRACEMENTS WERE PERFORMED BY S.Y. KIM IN THE PREPARATION OF THIS MAP.
- 7. ALL BEARINGS ARE WITH REFERENCE TO GRID NORTH NEW YORK STATE PLANE COORDINATES, NEW YORK EAST ZONE. NORTH AMERICAN DATUM 1983.
- 8. ALL ELEVATIONS ARE WITH REFERENCE TO THE NORTH AMERICAN VERTICAL DATUM 1988.

### DIG SAFE NOTE:

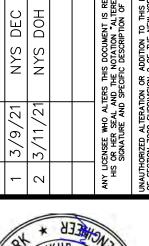
1. ALL UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN PLACED ON THIS DRAWING FROM FIELD LOCATIONS, WHERE VISIBLE OR FROM RECORDED DRAWINGS PROVIDED. THEREFORE, LOCATIONS SHOULD BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHER FACILITIES OR UTILITIES, THE EXISTENCE OF WHICH ARE NOT KNOWN. FOR THIS REASON, DIG SAFELY SHALL BE CONTACTED BY THE CONTRACTOR A MINIMUM OF 72 HOURS PRIOR TO ANY UNDERGROUND EXCAVATION.



(2) 1ST LANE EXISTING CONDITIONS PLAN

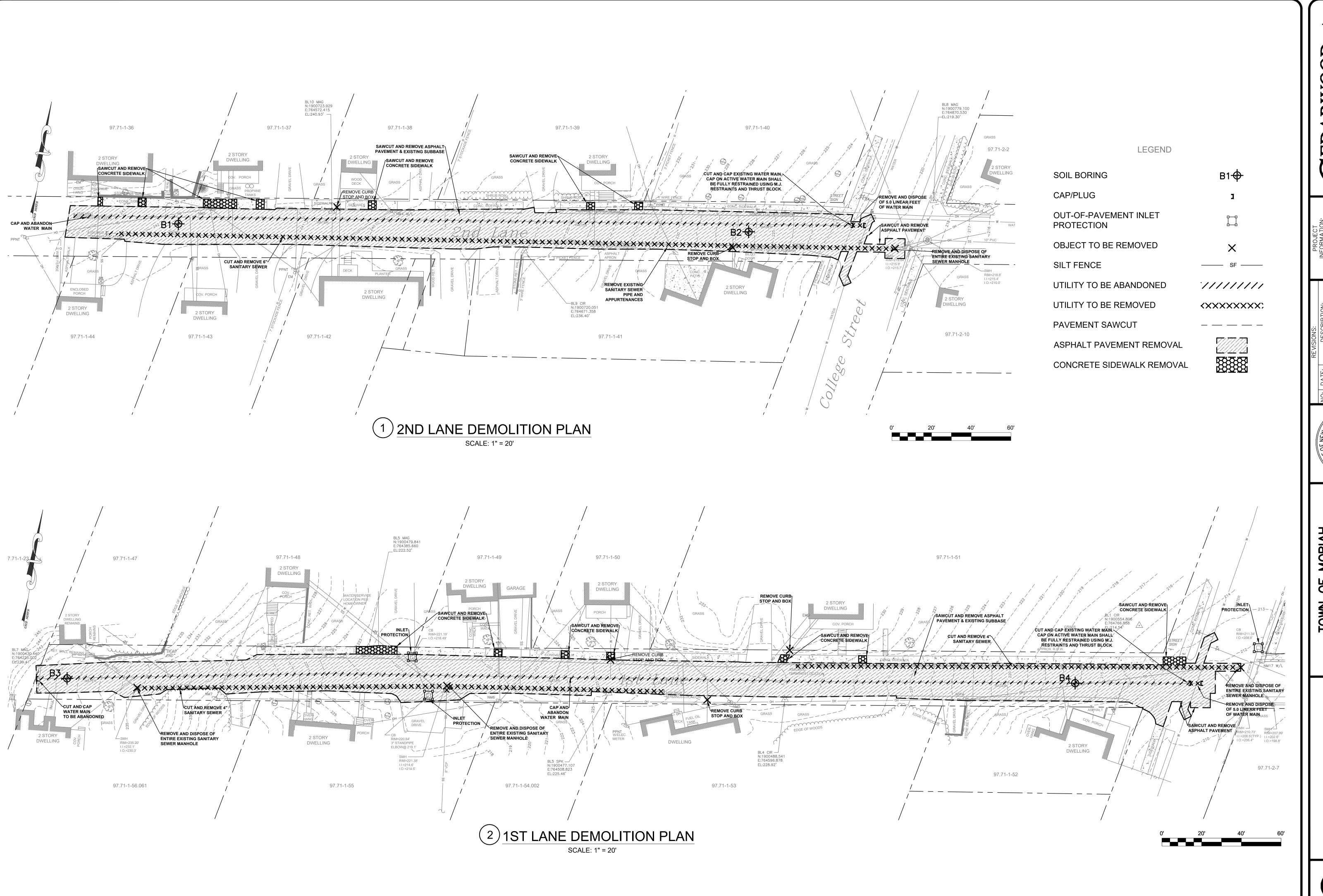
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CONDITIONS



EXCINEERING SERVICES PLIC

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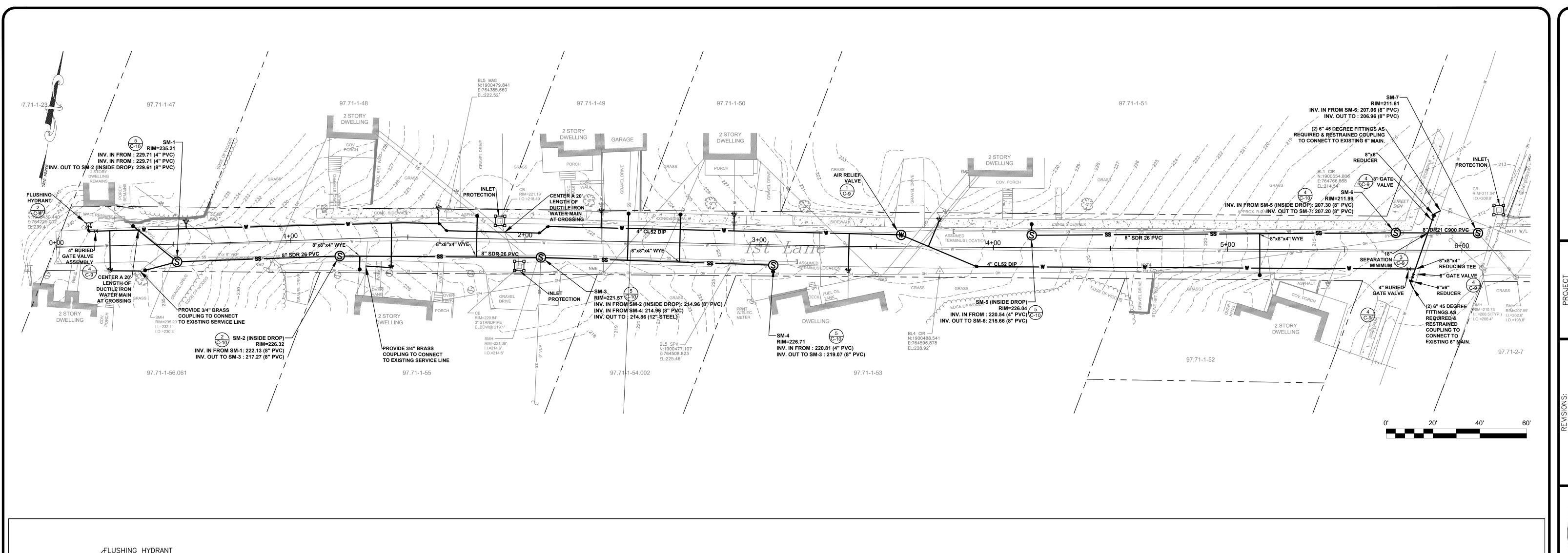
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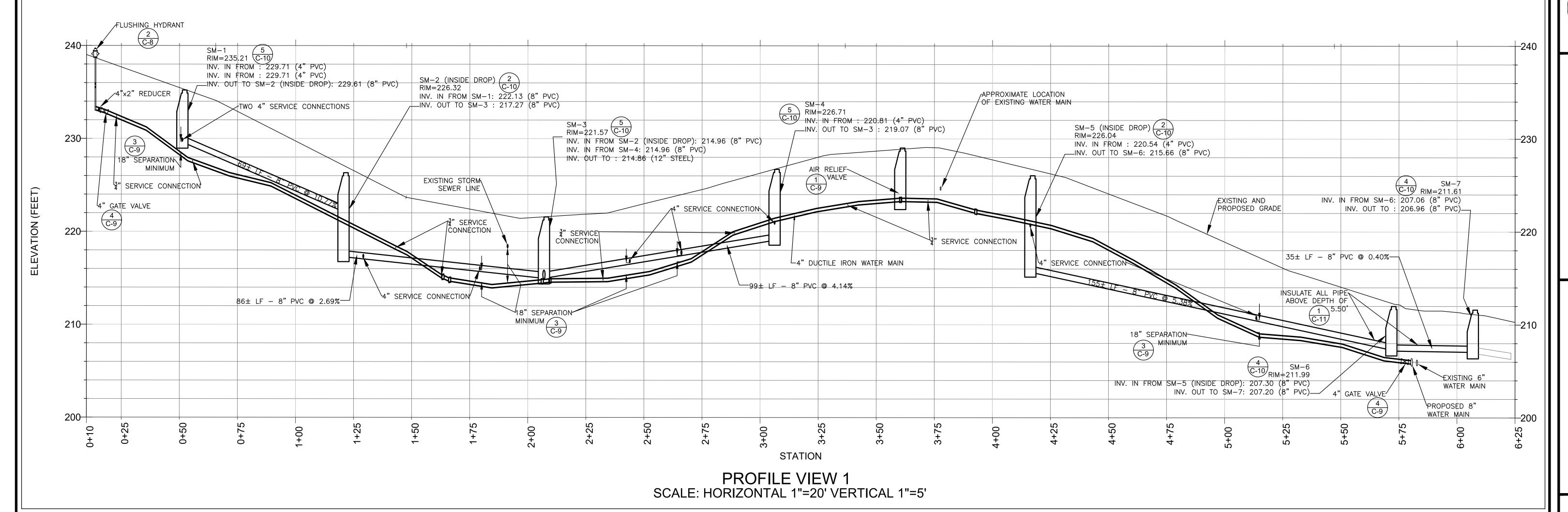


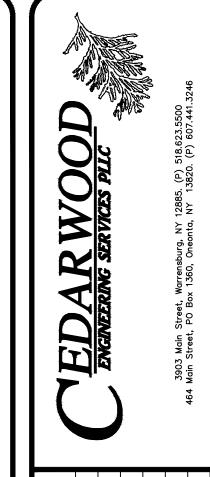
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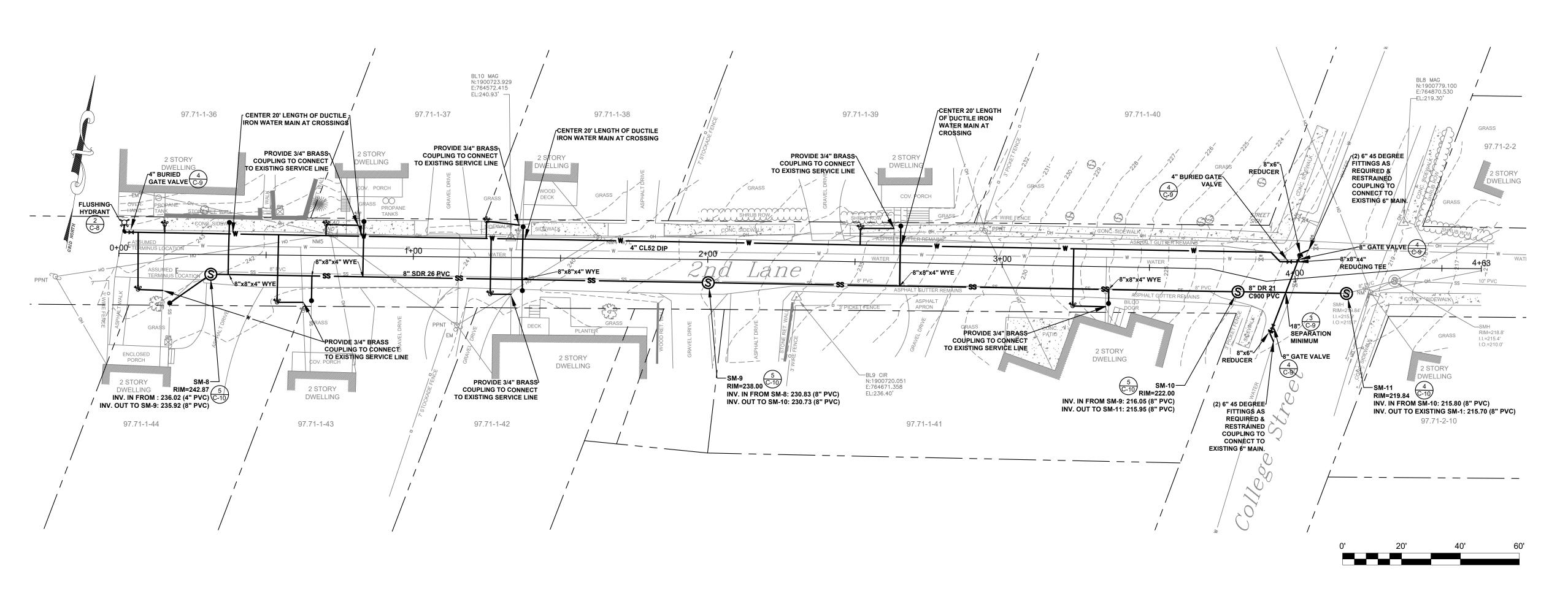


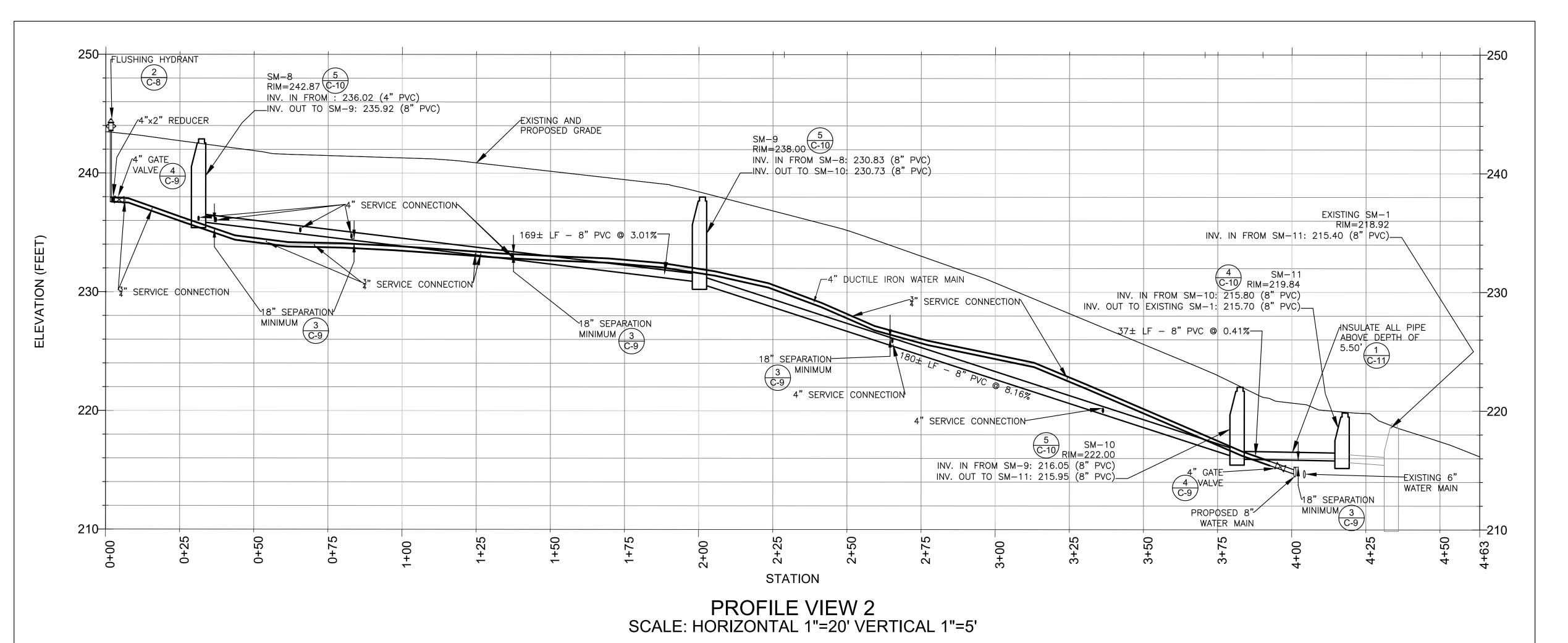
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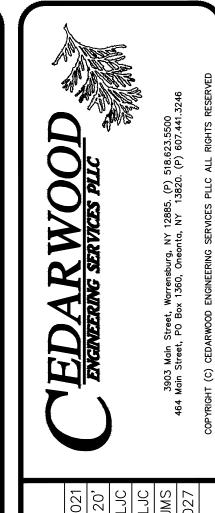
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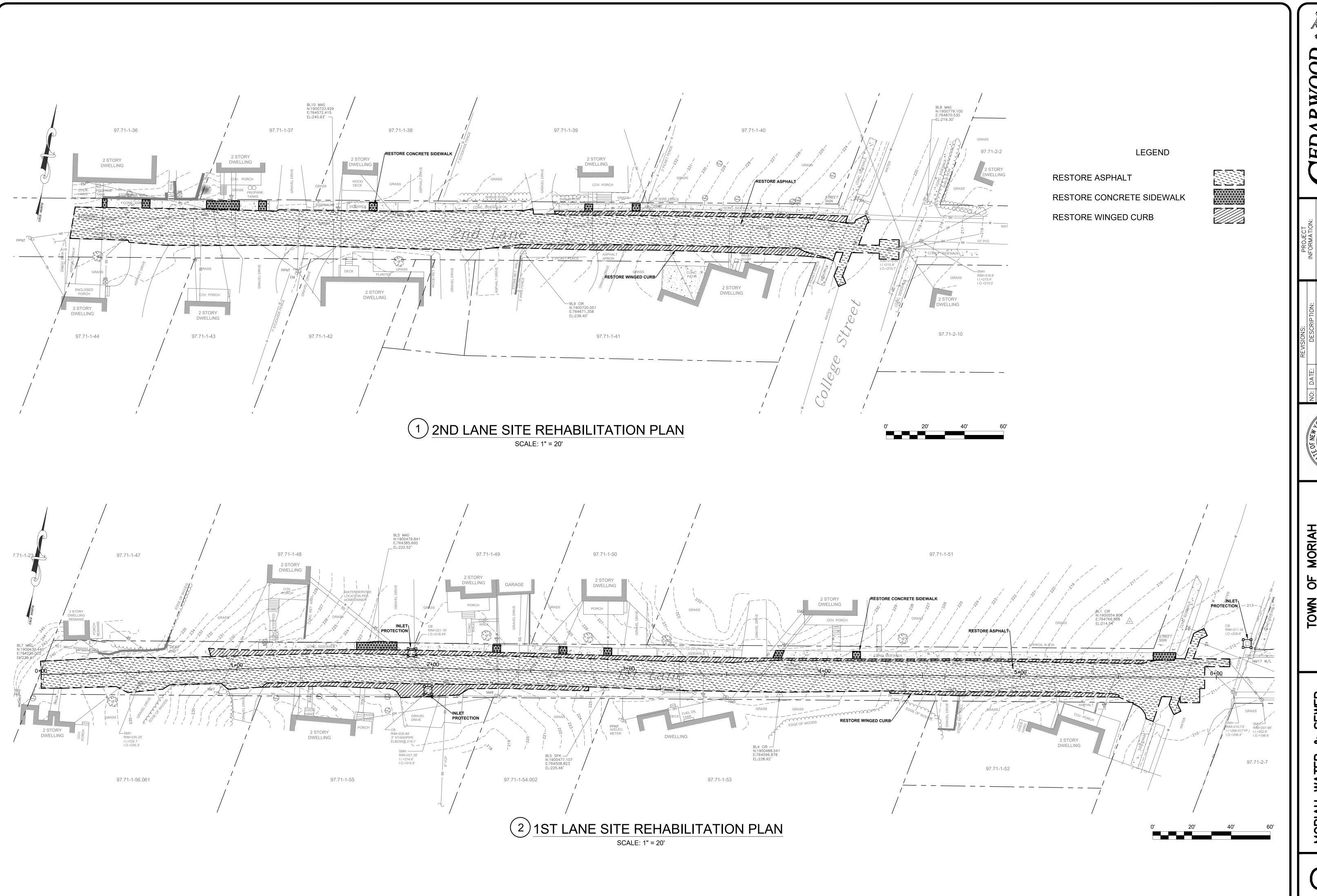
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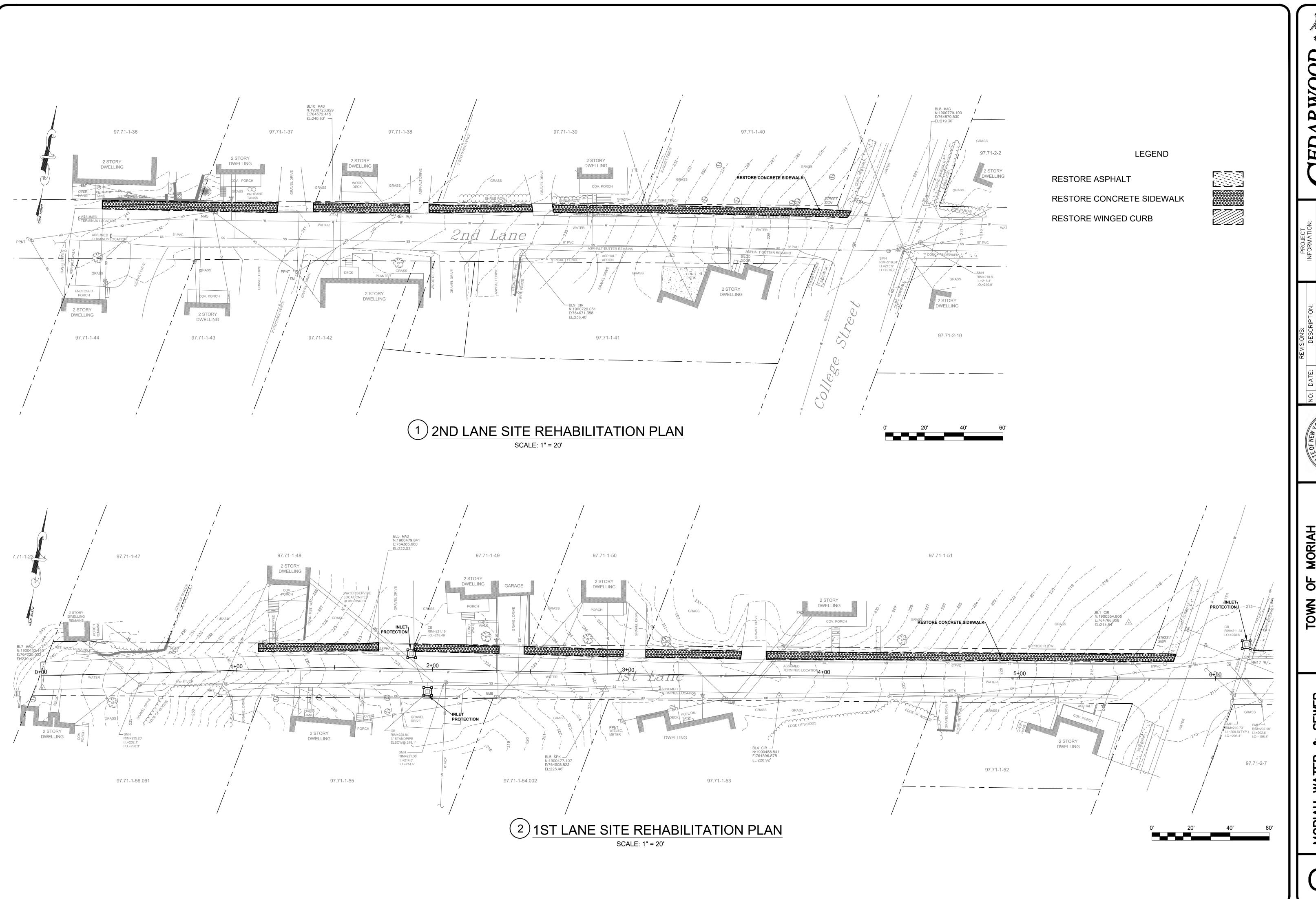
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-ABILITATION PLAN

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EXCINEEUNC SERVICES PLLC
EXCINEEUNC SERVICES PLLC
3903 Main Street, Warrensburg, NY 12885. (P) 518.623.5500
464 Main Street, PO Box 1360, Oneonta, NY 13820. (P) 607.441.3246

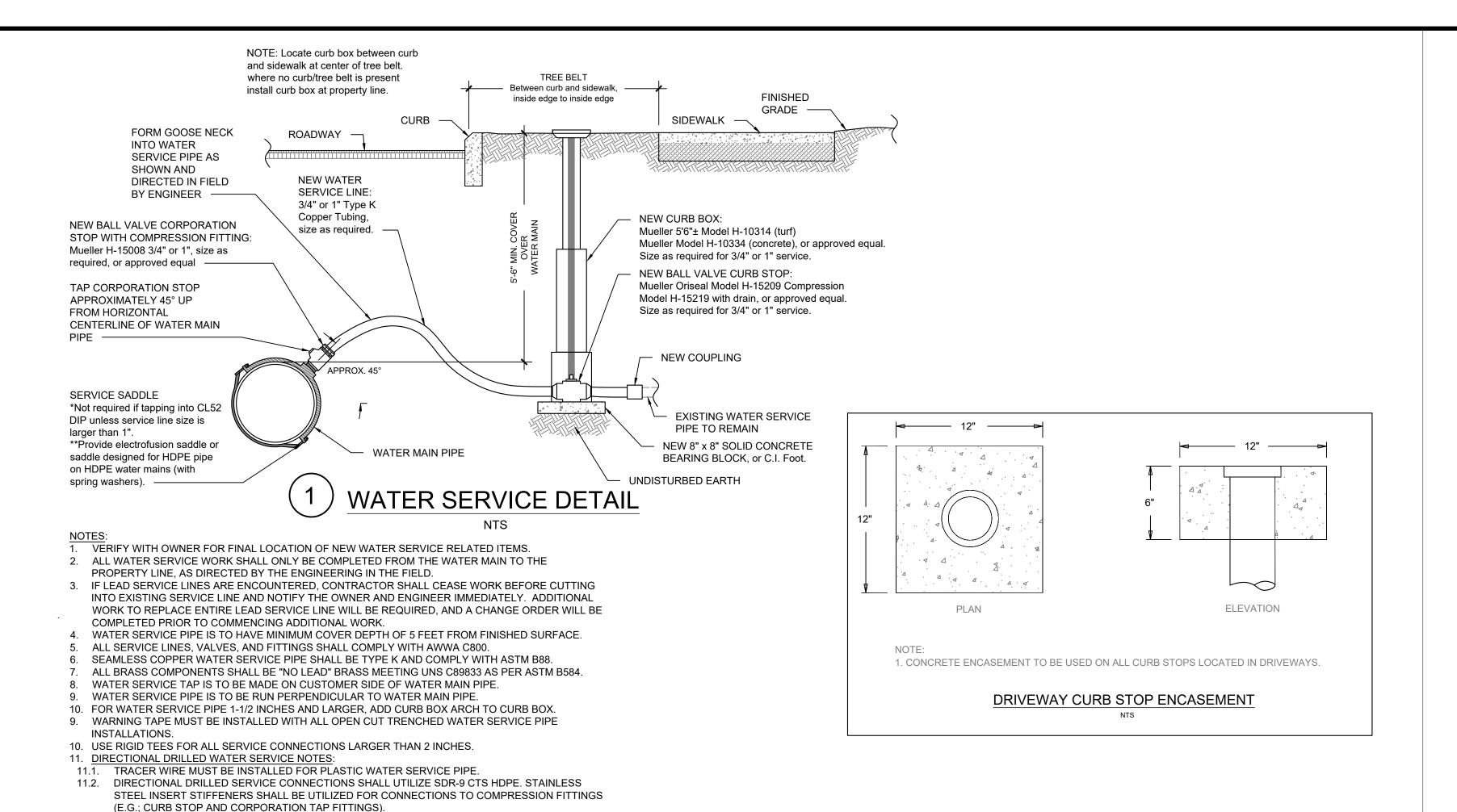
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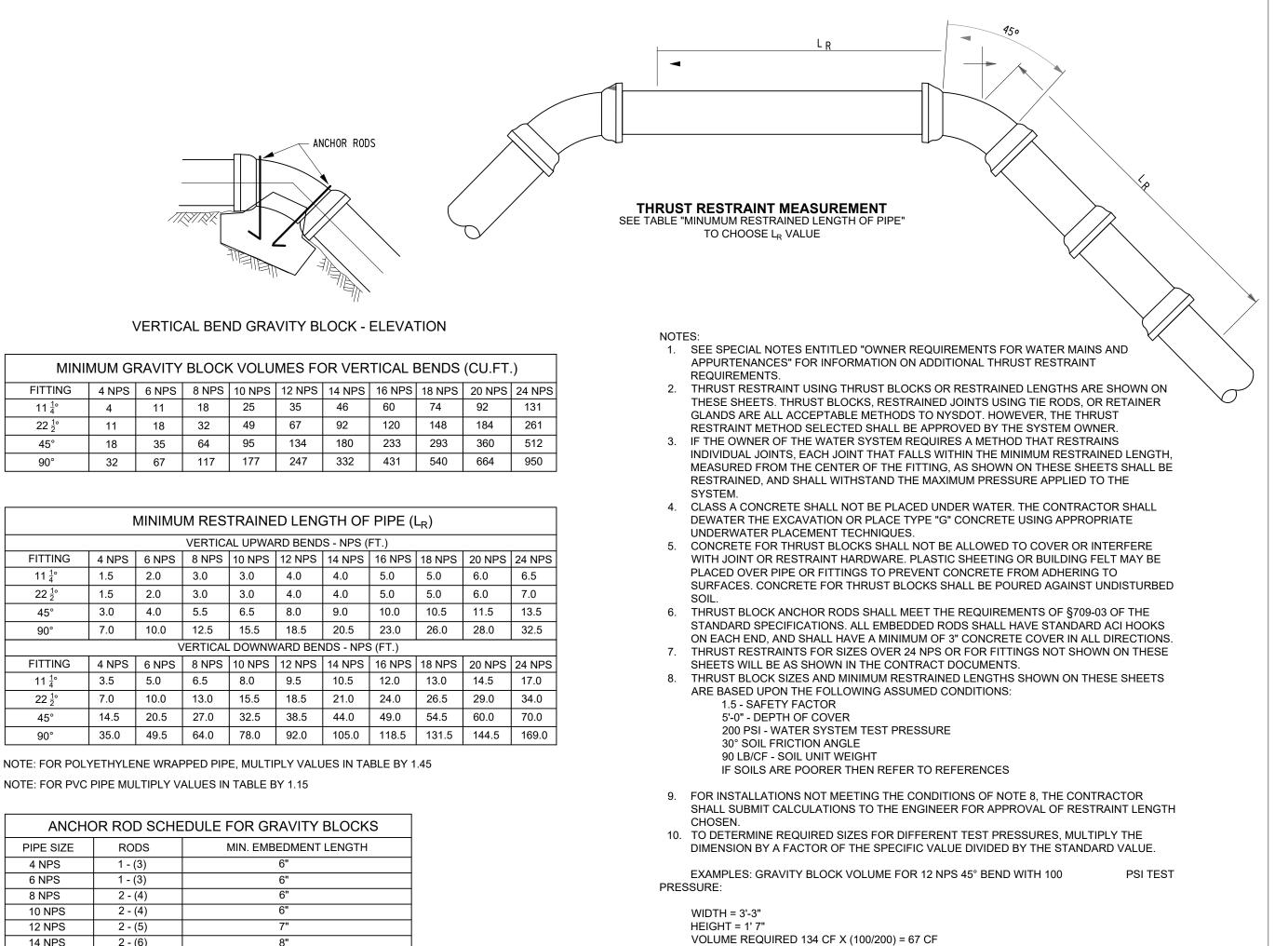


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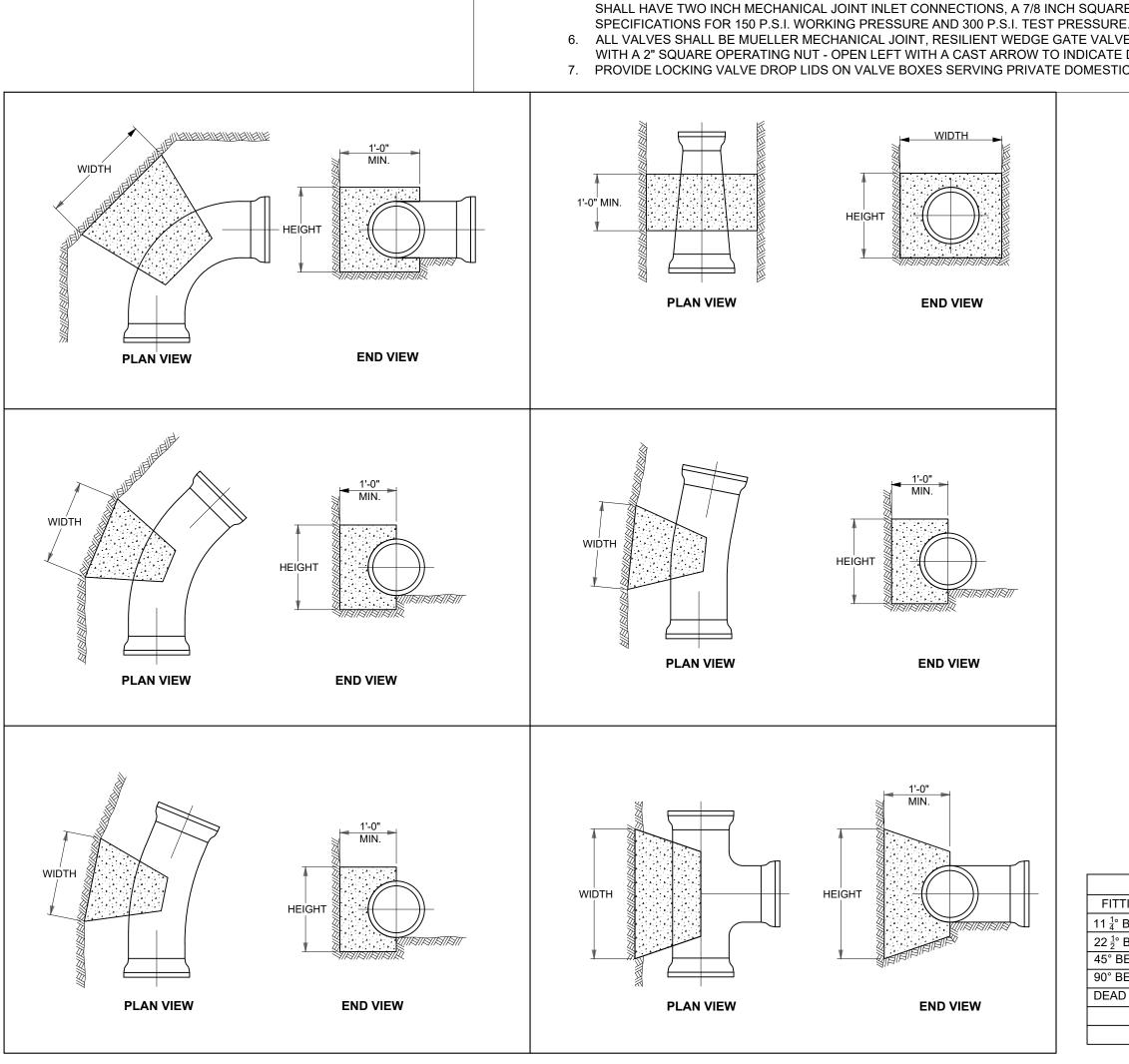
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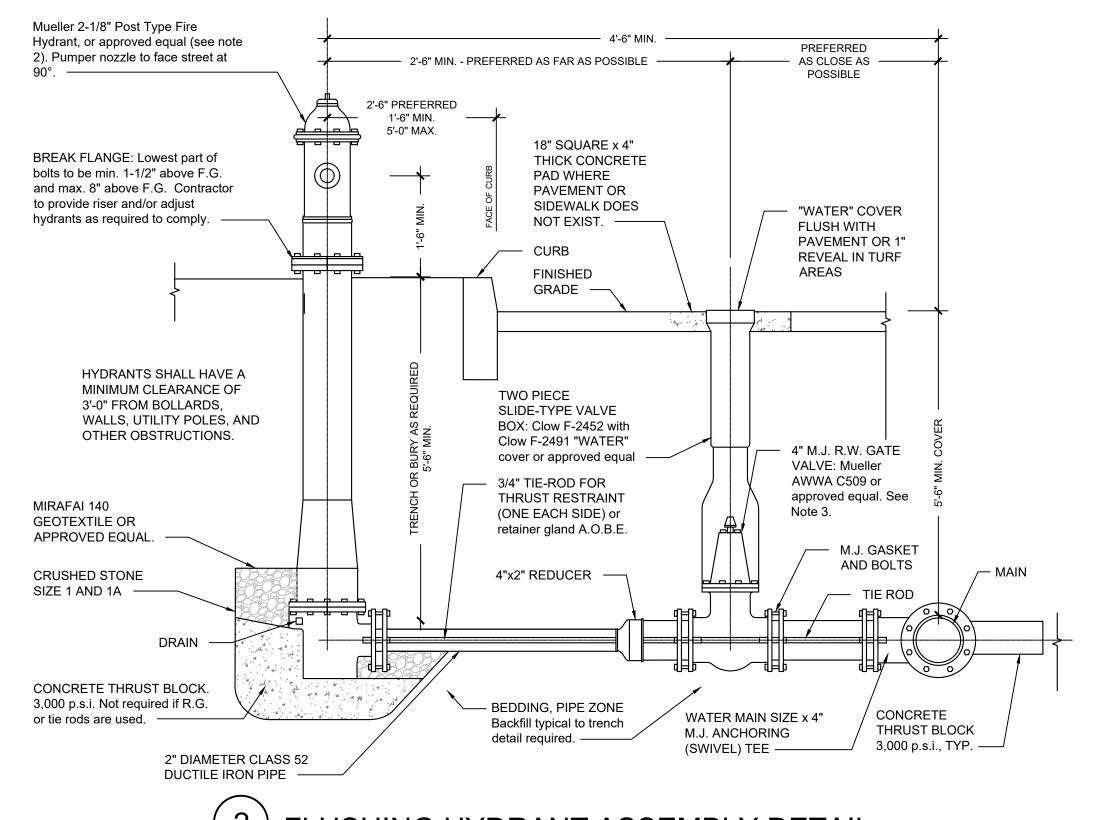




DUCTILE IRON PIPE RESEARCH ASSOCIATION

EBAA IRON CONNECTIONS TECHNICAL DATA SERIES





### FLUSHING HYDRANT ASSEMBLY DETAIL

VERIFY WITH OWNER AND LOCAL FIRE DISTRICT FOR FINAL LOCATIONS OF ALL NEW HYDRANTS. 2. HYDRANT WEEPHOLES MUST BE PLUGGED IF GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION. HYDRANTS SHALL BE PUMPED AND DRAINED AFTER USE WHEN

WEEPHOLES ARE PLUGGED. CONTRACTOR SHALL PROVIDE RISERS AS REQUIRED TO ADJUST HYDRANT TO GRADE.

4. MAINS SHALL BE CLASS 52 DIP AND VALVED TO INSURE THAT WATER FLOW IS NOT INTERRUPTED TO MORE THAN TWO HYDRANTS AT ANY GIVEN TIME. 5. HYDRANTS SHALL BE MUELLER 2-1/8" POST TYPE FIRE HYDRANTS WITH 2" M.J. SHOE CONNECTIONS OR APPROVED EQUAL WITH NATIONAL STANDARD THREADS. ALL HYDRANTS SHALL HAVE TWO INCH MECHANICAL JOINT INLET CONNECTIONS. A 7/8 INCH SQUARE SHAPED OPERATING NUT - OPEN LEFT, ALL HYDRANTS SHALL MEET ALL AWWA

6. ALL VALVES SHALL BE MUELLER MECHANICAL JOINT, RESILIENT WEDGE GATE VALVES AS PER AWWA REQUIREMENTS FOR A 250 P.S.I. WORKING PRESSURE, NON-RISING STEM.

WITH A 2" SQUARE OPERATING NUT - OPEN LEFT WITH A CAST ARROW TO INDICATE DIRECTION OF OPENING.

7. PROVIDE LOCKING VALVE DROP LIDS ON VALVE BOXES SERVING PRIVATE DOMESTIC, FIRE/SPRINKLER, AND OTHER PRIVATE FEES.

1. SEE SPECIAL NOTES ENTITLED "OWNER REQUIREMENTS FOR WATER MAINS AND APPURTENANCES" FOR INFORMATION ON ADDITIONAL THRUST RESTRAINT

2. THRUST RESTRAINT USING THRUST BLOCKS OR RESTRAINED LENGTHS ARE SHOWN ON THESE SHEETS. THRUST BLOCKS, RESTRAINED JOINTS USING TIE RODS, OR RETAINER GLANDS ARE ALL ACCEPTABLE METHODS TO NYSDOT. HOWEVER, THE THRUST RESTRAINT METHOD SELECTED SHALL BE APPROVED BY THE SYSTEM

3. IF THE OWNER OF THE WATER SYSTEM REQUIRES A METHOD THAT RESTRAINS INDIVIDUAL JOINTS, EACH JOINT THAT FALLS WITHIN THE MINIMUM RESTRAINED LENGTH, MEASURED FROM THE CENTER OF THE FITTING, AS SHOWN ON THESE SHEETS SHALL BE RESTRAINED, AND SHALL WITHSTAND THE MAXIMUM PRESSURE

4. CLASS A CONCRETE SHALL NOT BE PLACED UNDER WATER. THE CONTRACTOR SHALL DEWATER THE EXCAVATION OR PLACE TYPE G CONCRETE USING APPROPRIATE UNDERWATER PLACEMENT TECHNIQUES.

5. CONCRETE FOR THRUST BLOCKS SHALL NOT BE ALLOWED TO COVER OR INTERFERE WITH JOINT OR RESTRAINT HARDWARE. PLASTIC SHEETING OR BUILDING FELT MAY BE PLACED OVER PIPE OR FITTINGS TO PREVENT CONCRETE FROM ADHERING TO SURFACES. CONCRETE FOR THRUST BLOCKS SHALL BE POURED AGAINST

6. FOR BENDS, BEARING AREA SHALL BE PARALLEL TO THE EDGE OF THE FITTING AT THE

7. FOR TEES, BEARING AREA SHALL BE PERPENDICULAR TO THE BRANCH (SINGLE LEG)

8. FOR REDUCERS, BEARING AREA SHALL BE PERPENDICULAR TO THE FITTING AXIS. THE MINIMUM THICKNESS ALONG THE FITTING AXIS SHALL BE 1'-0" OR THE LENGTH

BETWEEN THE BELLS, WHICHEVER IS SMALLER. 9. THRUST RESTRAINTS FOR SIZES OVER 24 NPS OR FOR FITTINGS NOTE SHOWN ON THESE SHEETS WILL BE DESIGNED ON A CASE BY CASE BASIS, AND WILL BE SHOWN IN

THE CONTRACT DOCUMENTS. 10. THRUST BLOCK SIZES AND MINIMUM RESTRAINED LENGTHS SHOWN ON THESE SHEETS ARE BASED UPON THE FOLLOWING STANDARD CONDITIONS:

1.5 - SAFETY FACTOR 5'-0" - DEPTH OF COVER 200 PSI - WATER SYSTEM TEST PRESSURE

14 PSI - SOIL BEARING CAPACITY

USE WIDTH = 3'-6", HEIGHT = 1'-6" (AREA = 5.25 SF)

90 LB/CF - SOIL UNIT WEIGHT 11. FOR INSTALLATIONS NOT MEETING THE CONDITIONS OF NOT 10, THE CONTRACTOR SHALL SUBMIT CALCULATIONS TO THE ENGINEER FOR APPROVAL OF RESTRAINT

12. TO DETERMINE REQUIRED SIZES FOR DIFFERENT CONDITIONS, MULTIPLY THE DIMENSION BY A FACTOR OF THE SPECIFIC VALUE DIVIDED BY THE STANDARD VALUE.

EXAMPLE: FIND THRUST BLOCK DIMENSION FOR 12 NPS 45° BEND WITH 100 PSI TEST

FROM TABLE "45° BEND THRUST BLOCK DIMENSIONING", AREA REQUIRED AT 200 PSI IS 4'-6" X 2'-3" = 10.125 SF FOR 100PSI, AREA = 10.125 X (100/200) = 5.06 SF

|           |       | М     | INIMUM F | RESTRAIN | ED LENG | TH OF PIF | PE (FT-IN) | $L_R$  |         |        |
|-----------|-------|-------|----------|----------|---------|-----------|------------|--------|---------|--------|
| FITTING   | 4 NPS | 6 NPS | 8 NPS    | 10 NPS   | 12 NPS  | 14 NPS    | 16 NPS     | 18 NPS | 20 NPS  | 24 NPS |
| 1 ¼° BEND | 1'-3" | 2'-0" | 2'-6"    | 3'-0"    | 3'-6"   | 4'-0"     | 4'-6"      | 5'-0"  | 5'-6"   | 6'-3"  |
| 2 ½° BEND | 1'-3" | 2'-0" | 2'-6"    | 3'-0"    | 3'-6"   | 4'-0"     | 4'-6"      | 5'-0"  | 5'-6"   | 6'-6"  |
| 5° BEND   | 3'-0" | 4'-0" | 5'-3"    | 6'-3"    | 7'-6"   | 8'-6"     | 9'-6"      | 10'-6" | 11'-6"  | 13'-6" |
| O° BEND   | 7'-0" | 9'-9" | 12'-6"   | 15'-6"   | 18'-0"  | 20'-0"    | 23'-0"     | 25'-6" | 28'-0"  | 32'-6" |
|           |       |       |          |          |         |           |            |        | 221 211 |        |

DEAD END | 8'-6" | 12'-6" | 16'-0" | 19'-3" | 23'-0" | 26'-0" | 29'-6" | 33'-0" | 36'-0" | 42'-0" NOTE: PVC PIPE WILL TYPICALLY HAVE SLIGHTLY GREATER RESTRAINED LENGTH NOTE: FOR POLYETHYLENE WRAPPED PIPE, MULTIPLY VALUES IN TABLE BY 1.45

NUMBERS IN PARENTHESES ARE BAR SIZES MARKED IN EIGHTHS OF INCHES

PIPE SIZE

8 NPS

10 NPS

12 NPS

18 NPS

20 NPS

2 - (4)

2 - (4)

2 - (5)

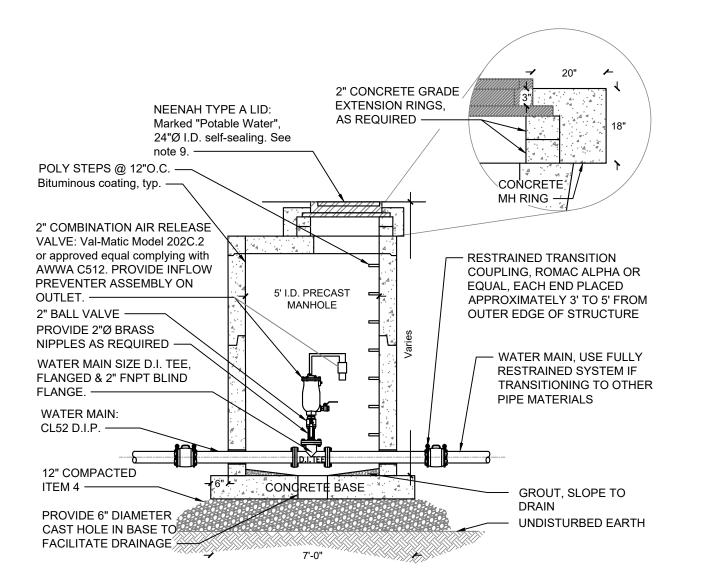
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2 - (7)

2 - (8)





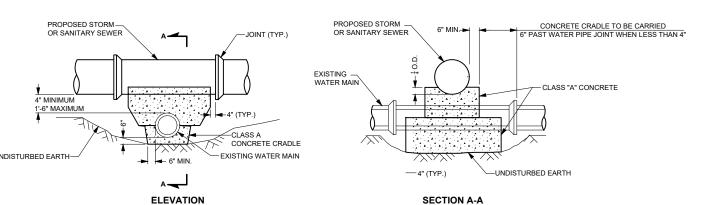
| PRECAST CONCRETE         | MANHOLE DIMENSIONS    |
|--------------------------|-----------------------|
| ITEM                     | 5'-0" I.D. MANHOLE    |
| BASE UNIT THICKNESS      | 8"                    |
| BASE UNIT WALL THICKNESS | 6"                    |
| BASE UNIT HEIGHT         | 2'-0" MIN., 5'-6" MAX |
| BARREL WALL THICKNESS    | 6"                    |
| BARREL HEIGHT            | 1'-0" MIN., 5'-0" MAX |
| COVER THICKNESS          | 1'-1"                 |
| TOP OPENING              | 24"                   |
| JOINT HEIGHT             | 5", TYP.              |
| STEPS                    | 12" ON CENTER         |
| COVER                    | FLAT TOP SLAB         |

### 1 AIR RELIEF VALVE DETAIL

PRECAST CONCRETE MANHOLE NOTES:

1. Concrete and reinforcement per ASTM C478-85A

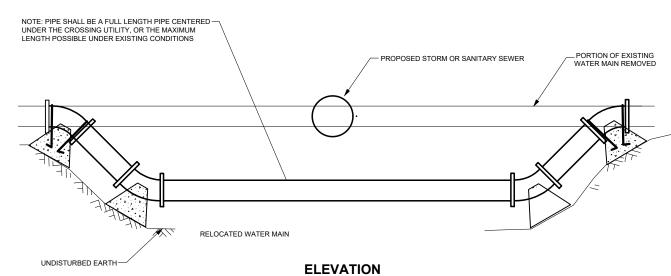
- Concrete and reinforcement per ASTM C478-85A
   Design case: AASHTO H20-44 live load traffic loading
- Concrete: 4000 psi
   Reinforcement: ASTM A615 Grade 60 and ASTM A185 Grade 65
- Entrained air: 5.5 to 9.5%
  Base unit: extended monolithic (6" extension around outer perimeter of manhole)
- 7. Joint sealants: o-ring or butyl joints
- 8. Pipe-to-manhole connections: watertight; A-Lok, Kor-n-Seal or equal. For core bores, use Link Seal flexible connectors by PSI Inc., Pipe Seal by Flexicraft industries, or equal.
  9. Frame & cover: AASHTO H20 loading, cast iron with round flange, 24" diameter clear opening and no vent holes with cover imprinted "WATER" as manufactured by Campbell Foundary Company
- (pattern 1030), Neenah R1556, EJ (model 1203) or equal.
- 10. Other dimensions (see table)11. Acceptable precast manufacturers: Fort Miller Company, Inc., Binghamton Precast, or approved equal.



UTILITY CROSSING - VERTICAL OBSTRUCTION

LACKING REQUIRED VERTICAL OFFSET

PROPOSED STORM SEWER CROSSING WATER MAIN WITH 4" - 18" OF VERTICAL SEPARATION



ELEVATION

UTILITY CROSSING - VERTICAL OBSTRUCTION

WITH REQUIRED VERTICAL OFFSET

NOTE: THRUST BLOCKS SHOWN, THRUST RESTRAINT MAY BE PROVIDED BY ANY SINGLE METHOD IN ACCORDANCE WITH WATER MAIN THRUST RESTRAINT DETAILS

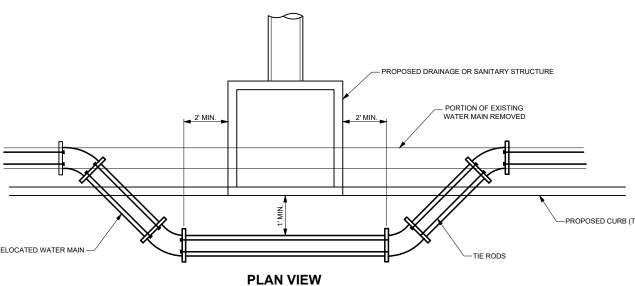
SEE SPECIAL NOTES ENTITLED "OWNER REQUIREMENTS FOR WATER MAINS AND APPURTENANCES" FOR INFORMATION ON ADDITIONAL THRUST RESTRAINT REQUIREMENTS.

4. THE OFFSET OF A WATER MAIN TO AVOID AN OBSTRUCTION SHALL BE

- 2. WATER MAIN RELOCATION WORK MAY BE REQUIRED WHERE PROPOSED STORM DRAINS CROSS AN EXISTING WATER MAIN. THE CONTRACTOR SHALL ESTABLIS THE DEPTH OF THE WATER MAIN AT ALL CROSSING POINTS. THE ENGINEER WILL THEN VERIEY THE EXTENT OF THE WATER MAIN RELOCATION WORK REQUIRED.
- VERIFY THE EXTENT OF THE WATER MAIN AT ALL CROSSING POINTS. THE ENGINEER WILL THEN VERIFY THE EXTENT OF THE WATER MAIN RELOCATION WORK REQUIRED.

  3. UNLESS OTHERWISE NOTED IN THE OWNER REQUIREMENTS, A SINGLE METHOD OF THRUST RESTRAIN SHALL BE PROVIDED AT EACH FITTING THAT CREATES A THRUST IN ACCORDANCE WITH PRESSURE PIPE THRUST RESTRAINT DETAILS.
- ACCOMPLISHED USING A MINIMUM NUMBER AND WEIGHT OF FITTINGS.

  5. ENCASEMENT OF A WATER MAIN IN A CONCRETE CRADLE DUE TO PROXIMITY OF A STORM SEWER WILL BE INSTALLED IN ACCORDANCE WITH SECTION 501, WITH THE EXCEPTION THAT BATCHING REQUIREMENTS SHALL NOT APPLY.



PLAN VIEW

UTILITY CROSSING - HORIZONTAL OBSTRUCTION

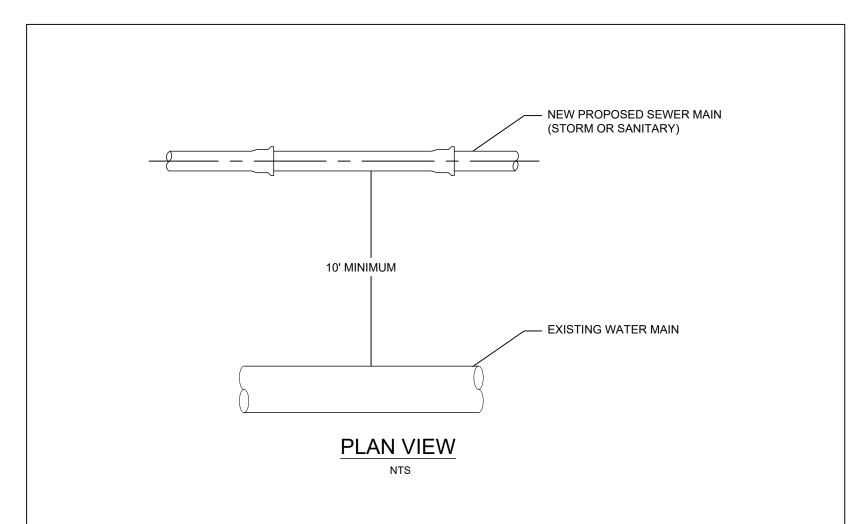
NOTE: TIE RODS SHOWN, THRUST RESTRAINT MAY BE PROVIDED BY ANY SINGLE

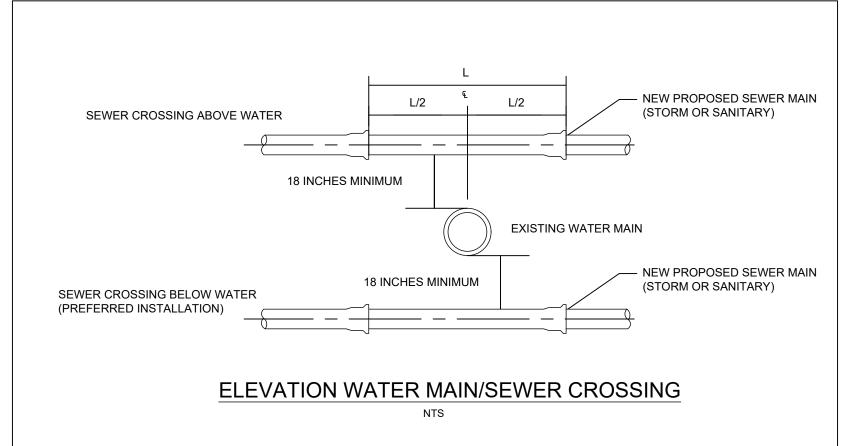
METHOD IN ACCORDANCE WITH WATER MAIN THRUST RESTRAINT DETAILS

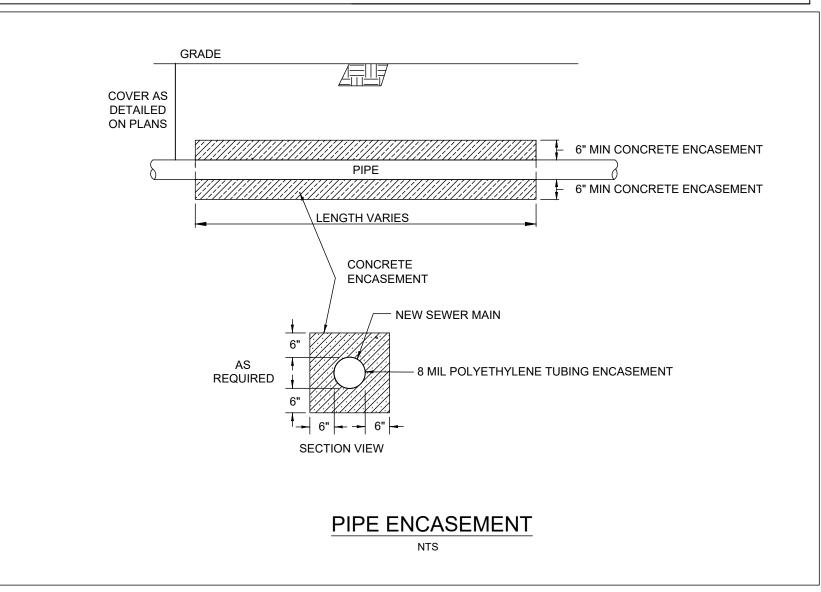
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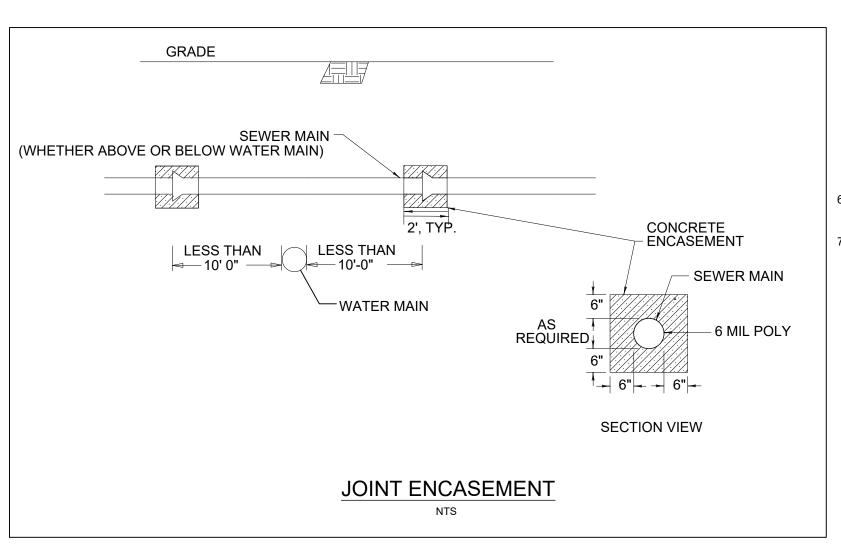
UTILITY CROSSING RELOCATION DETAILS (DOT STD. DETAIL REFERENCE 663-04)

1









NOTES:
 NEW SEWER MAINS (SANITARY AND STORM), SEPTIC TANKS, OR SUBSOIL TREATMENT SYSTEM SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY EXISTING OR PROPOSED WATER MAIN. THE DISTANCE SHALL BE MEASURED EDGE TO EDGE.
 SEWER MAINS (EITHER STORM OR SANITARY) CROSSING WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF 18 INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND OUTSIDE OF THE SEWER. THIS SHALL BE THE CASE WHERE THE WATER MAIN IS EITHER ABOVE OR BELOW THE SEWER WITH PREFERENCE TO THE

SEWER MAIN LOCATED BELOW THE WATER.

3. AT CROSSINGS, ONE FULL LENGTH OF SEWER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE WATER AS POSSIBLE. SPECIAL STRUCTURAL SUPPORT FOR THE WATER AND SEWER PIPES MAY BE REQUIRED WHICH SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

WHEN IT IS IMPOSSIBLE TO OBTAIN THE MINIMUM SPECIFIED SEPARATION DISTANCES, THE FOLLOWING METHODS OF INSTALLATION MAY BE USED:
SUCH DEVIATION MAY ALLOW INSTALLATION OF THE SEWER MAIN CLOSER TO THE WATER MAIN, PROVIDED THAT THE WATER MAIN IS LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE GRAVITY SEWER.
THE SEWER MATERIALS SHALL BE WATER WORKS GRADE 150 PSI (1.0 Mpa) PRESSURE RATED PIPE MEETING AWWA STANDARDS OR PIPE APPROVED BY THE REVIEWING AUTHORITY AND SHALL BE PRESSURE TESTED TO ENSURE WATER

TIGHTNESS.

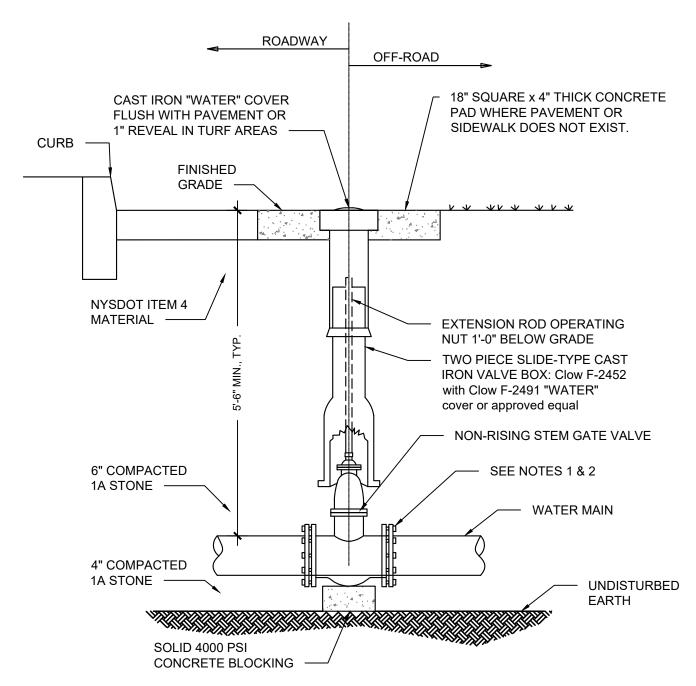
IF IT IS IMPOSSIBLE TO OBTAIN THE INSTALLATION METHODS LISTED ABOVE, THE FOLLOWING METHODS OF INSTALLATION MAY BE USED FOR AREAS NOT MEETING

EPARATION REQUIREMENTS:

EITHER THE WATER OR SEWER MAY BE ENCASED IN 4000 PSI CONCRETE MEETING THE REQUIREMENTS OF CLASS A CONCRETE IN SECTION 501 (NYS DOT STANDARD SPECIFICATIONS), PORTLAND CEMENT CONCRETE GENERAL. CLASS A CONCRETE THAT COMES INTO CONTACT WITH DUCTILE IRON OR CAST IRON WATER MAINS, INCLUDING PIPE, FITTINGS, HYDRANTS, VALVES AND VALVE BOXES SHALL NOT CONTAIN FLY ASH. CONCRETE SHALL BE INSTALLED (MIN. 6 INCH THICKNESS, AS SHOWN) FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING NOT COMPLYING WITH THE MINIMUM HORIZONTAL AND VERTICAL SEPARATION, MEASURED PERPENDICULAR TO THE LINE BEING ENCASED. PROVIDE ALL NECESSARY PLATING, SIGNAGE, BARRICADES, TRAFFIC CONTROL, ETC., AS REQUIRED TO KEEP TRAFFIC OFF THE TRENCH FOR A PERIOD NOT LESS THAN 24 HOURS FOLLOWING INSTALLATION OF CONCRETE AND/OR UNTIL THE TRENCH IS

NO WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SEWER MANHOLE. SEWER MANHOLES SHALL BE LOCATED AT LEAST 10 FEET FROM ANY WATER MAINS.

7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF THE EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ELEVATIONS OF EXISTING UTILITIES TO ENSURE ADEQUATE CLEARANCE FOR THE SEWER LINE EXISTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER (IN WRITING) OF CONFLICTING ELEVATIONS, ALLOWING THE ENGINEER ADEQUATE TIME TO REVISE GRADES WITHOUT NECESSITATING REMOVAL AND RECONSTRUCTION OF WORK ALREADY COMPLETED BY THE CONTRACTOR.



4 TYPICAL BURIED GATE VALVE DETAIL

NOTES:
 USE FULLY RESTRAINED TRANSITION COUPLINGS WHEN CONNECTING TO HDPE MAINS, PREFERABLY BUTT FUSION MECHANICAL JOINT ADAPTER WITH STAINLESS STEEL INSERT STIFFENERS AND BACKUP RINGS.
 ALL MECHANICAL JOINTS (MJ) SHALL BE ASSEMBLED WITH MECHANICAL JOINT WEDGE ACTION RESTRAINTS FOR DUCTILE IRON PIPE, ASSEMBLIES SHALL HAVE BREAK-OFF TORQUE CONTROL NUTS.

(3)

) SEWER/WATER MAIN CROSSING DETAILS AND MITIGATION

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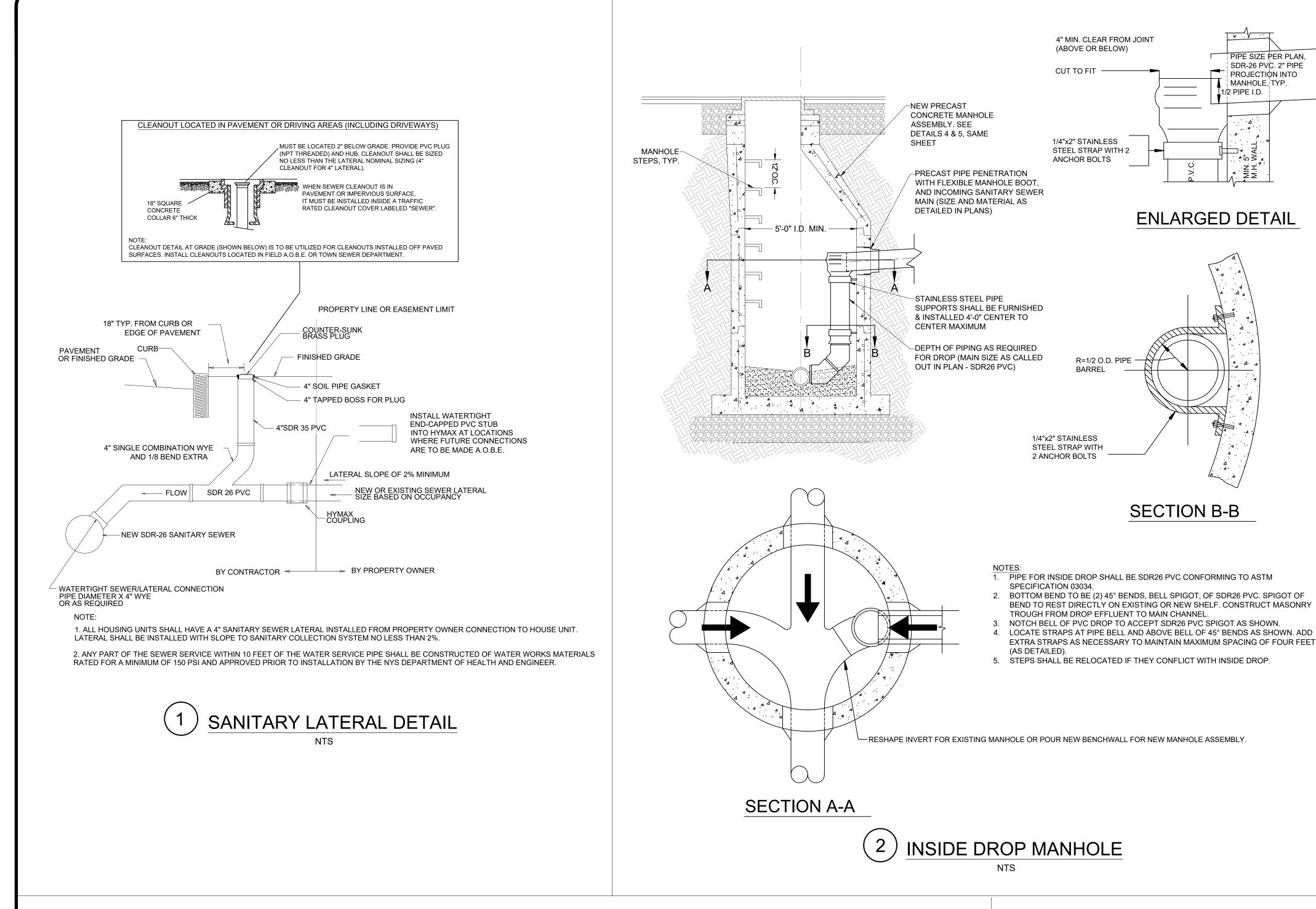
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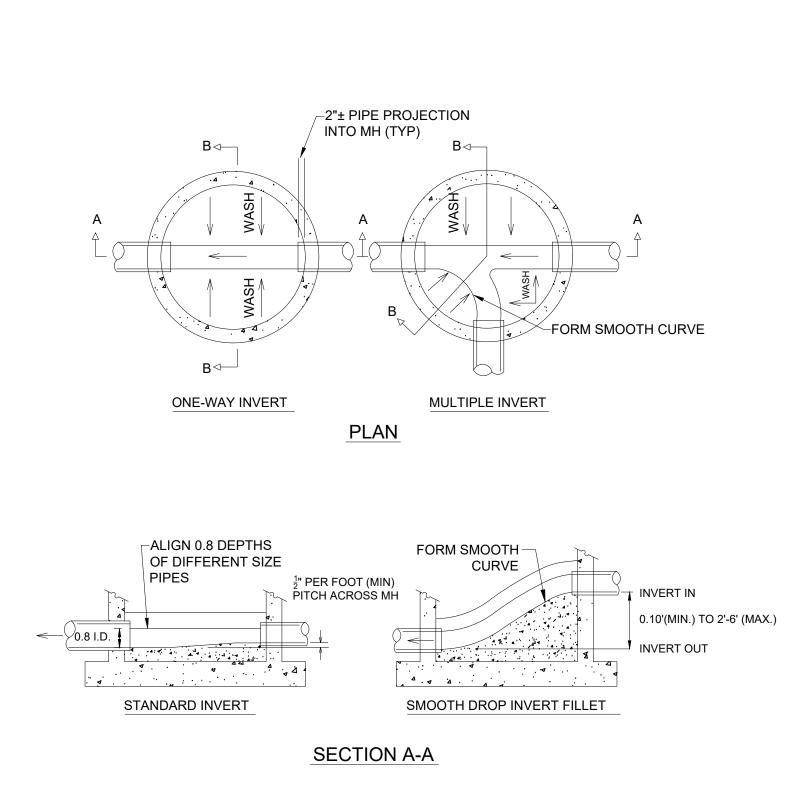
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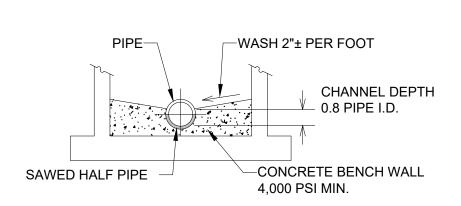
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T PHASE II

AH WAIEK & SEWE REPLACEMENT PHA WATER DETAILS

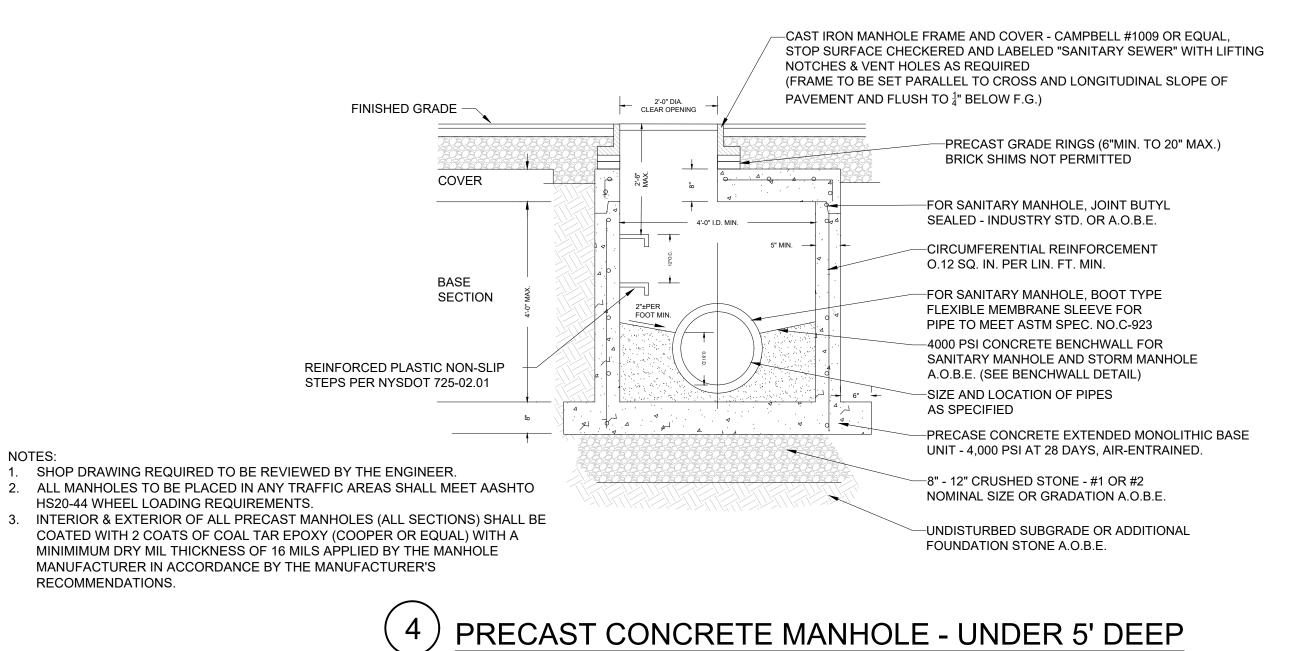




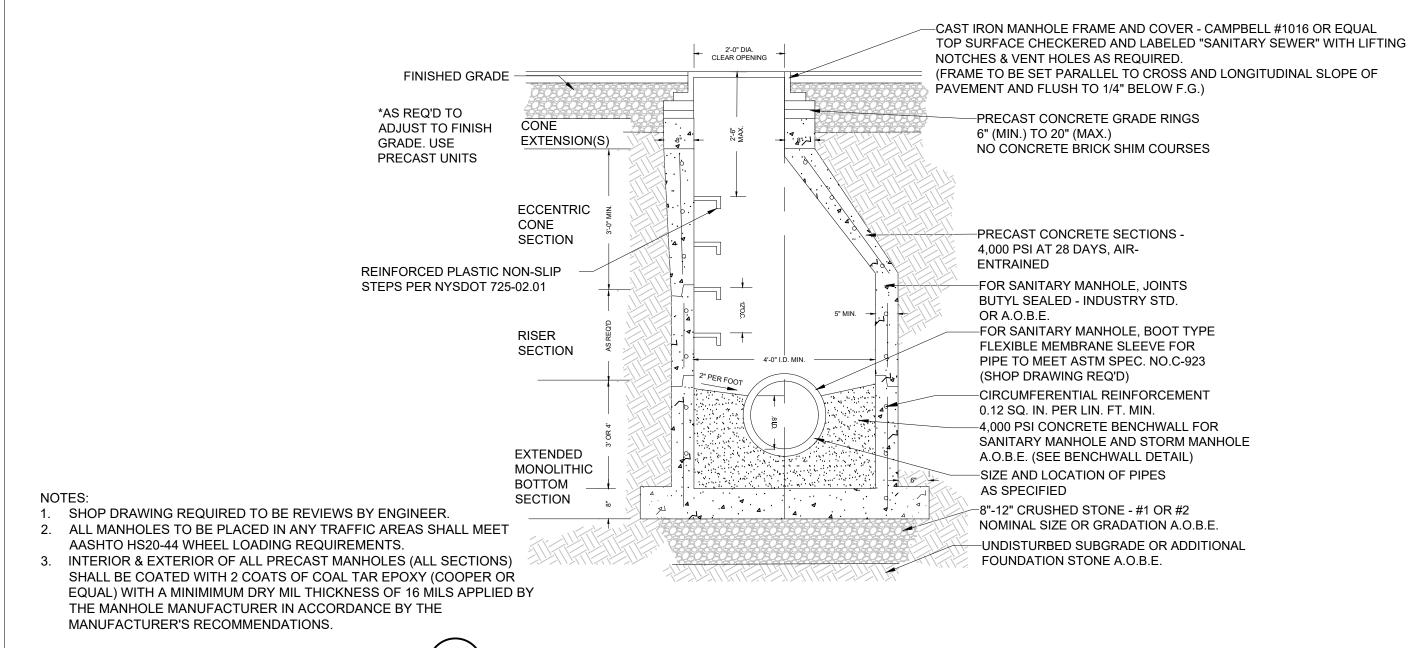


BENCHWALL AND CHANNEL FOR SANITARY MANHOLE

**SECTION B-B** 



RECOMMENDATIONS.



PIPE SIZE PER PLAN, SDR-26 PVC. 2" PIPE

PROJECTIÓN INTO MANHOLE, TYP.

PRECAST CONCRETE MANHOLE - 5' DEEP AND OVER



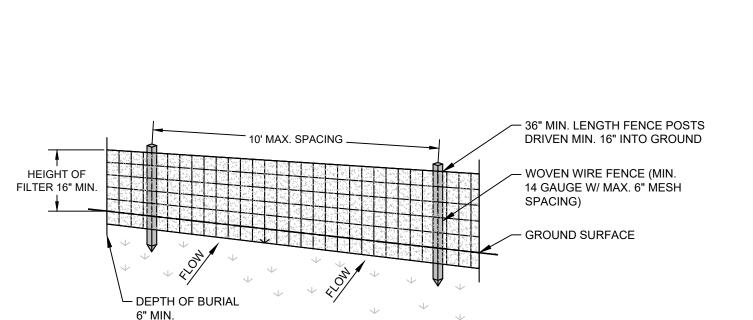
## RIGID POLYSTYRENE (CLOSED CELL) INSULATION COMPACTED EMBEDMENT PIPE BEDDING, TYP.

NOTE:
RIGID FOAM BOARD INSULATION SHALL BE INSTALLED WHERE MINIMUM COVER REQUIREMENTS ARE NOT MET FOR
FROST PROTECTION OF SANITARY SEWER MAINS AND SERVICES. RIGID BOARD INSULATION SHALL BE HIGH DENSITY
EXTRUDED POLYSTYRENE, MINIMUM 60 PSI, EQUIVALENT TO R-20 PER TWO INCH (2") THICK INSULATION UNLESS
OTHERWISE NOTED, OR APPROVED EQUAL.

MINIMUM COVER REQUIREMENTS ARE AS FOLLOWS:

1. 5.0' MINIMUM COVER (MEASURED FROM TOP OF PIPE TO GRADE) FOR ALL GRAVITY SEWER MAINS, LATERALS, WATER MAINS & SERVICE LINES.





WOVEN WIRE FENCE (MIN. 14 ½ GAUGE
W/ MAX. 6" MESH SPACING) WITH
FILTER FABRIC

20" MIN

UNDISTURBED GROUND

COMPACTED SOIL

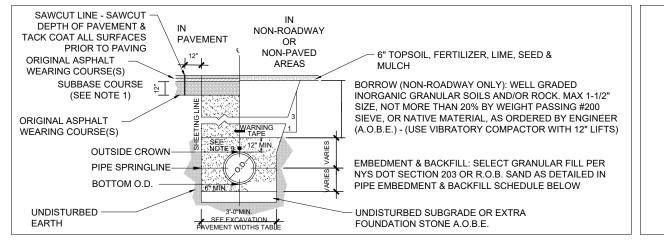
16" MIN.

EMBED FILTER CLOTH A MIN. 0+
6" INTO THE GROUND

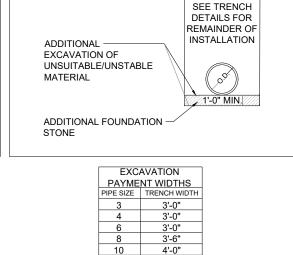
SECTION VIEW

PERSPECTIVE VIEW

4 SILT FENCE



|                  |               |                     | PIPE EM                      | BEDMENT & BAG               | CKFILL SCHEDU               | LE                |                                |              |
|------------------|---------------|---------------------|------------------------------|-----------------------------|-----------------------------|-------------------|--------------------------------|--------------|
|                  |               |                     | EMBEDMENT                    | MINIMUI<br>PIPE             | M TOTAL<br>COVER            |                   | LL IN NYSDOT<br>OR PAVED AREAS |              |
| Application      | Pipe Type     | Bedding<br>Material | Depth Under<br>Pipe (Inches) | Depth Over<br>Pipe (Inches) | Depth Over<br>Pipe (Inches) | Depth of<br>Cover | Type of Backfill               | Marking Tape |
| Water Main       | CL52 DIP      | Select Gran         | ılar Fill 6                  | 12                          | 60"                         | All Depths        | Select Granular Fill           | Water        |
| Water Service    | Type K Copper | R.O.B. SAN          | D 6                          | 12                          | 60"                         | All Depths        | Select Granular Fill           | Water        |
| Sanitary Sewer   | PVC-SDR 26    | Select Gran         | ular Fill 6                  | 12                          | 4'-0"                       | All Depths        | Select Granular Fill           | Sewer*       |
| Sanitary Lateral | PVC-SDR 26    | Select Gran         | ular Fill 6                  | 12                          | 4'-0"                       | All Depths        | Select Granular Fill           | Sewer*       |



SANITARY SEWER MAIN INSTALLATION IN

UNSTABLE OR UNSUITABLE SOIL

CONDITIONS

| PAYMENT WIDTHS |              |  |  |  |  |  |
|----------------|--------------|--|--|--|--|--|
| PIPE SIZE      | TRENCH WIDTH |  |  |  |  |  |
| 3              | 3'-0"        |  |  |  |  |  |
| 4              | 3'-0"        |  |  |  |  |  |
| 6              | 3'-0"        |  |  |  |  |  |
| 8              | 3'-6"        |  |  |  |  |  |
| 10             | 4'-0"        |  |  |  |  |  |
| 12             | 4'-0"        |  |  |  |  |  |
| 14             | 4'-0"        |  |  |  |  |  |
| 16             | 4'-0"        |  |  |  |  |  |
| 18             | 3'-6"        |  |  |  |  |  |
| 20             | 4'-0"        |  |  |  |  |  |
| 24             | 4'-0"        |  |  |  |  |  |
| 30             | 4'-0"        |  |  |  |  |  |
| 36             | 4'-0"        |  |  |  |  |  |
| 42             | 5'-6"        |  |  |  |  |  |

### 2 PIPE TRENCH SECTION DETAILS

NTS

SEE PLAN -

SUBBASE COURSE FOR PAVEMENT: CONFORM TO N.Y.S. DOT STD. 304, TYPE 2.
 SHEETING: IF REQUIRED DURING CONSTRUCTION, SHEET TRENCH SIDEWALLS. PULL SHEETING IN CONJUNCTION WITH GROUT BACKFILLING IF REQUIRED.
 SEE TABLE FOR EXCAVATION PAYMENT WIDTHS.

4. BEDDING BELOW THE PIPE INVERT SHALL BE REQUIRED ONLY WHEN ROCK OR
UNSTABLE OR UNSUITABLE CONDITIONS ARE ENCOUNTERED.

4.1 JE LINSTABLE OR LINSUITABLE SOIL CONDITIONS ARE ENCOUNTERED NEAR

4.1. IF UNSTABLE OR UNSUITABLE SOIL CONDITIONS ARE ENCOUNTERED NEAR THE INVERT ELEVATION, A MINIMUM OF 1' AND A MAXIMUM OF 2' OF MATERIAL SHALL BE EXCAVATED AND REPLACED WITH ADDITIONAL SELECT GRANULAR FILL. ADDITIONAL PAYMENT WILL BE MADE FOR MATERIAL PLACED TO TREAT UNSTABLE OR UNSUITABLE CONDITIONS.

5. COMPACTION OF FILL AND BEDDING SHALL BE TO 95% MIN. OF MAX DRY DENSITY AS DETERMINED BY THE MODIFIED PROCTOR TEST. FILL OR BACKFILL MATERIAL SHALL BE DEPOSITED IN HORIZONTAL LAYERS NOT EXCEEDING 6 INCHES IN THICKNESS PRIOR TO COMPACTION. COMPACTION OF EACH LAYER SHALL BE AS SPECIFIED WITHIN THE LATEST EDITION OF THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS SECTION 203-3.03C, AND BACKFILL SHALL BE INSTALLED AND COMPACTED IN

ACCORDANCE WITH THE REQUIREMENTS OF SECTION 203-3.15. COMPACTION. A MINIMUM OF 95% OF STANDARD PROCTOR MAXIMUM DENSITY WILL BE REQUIRED.

 A WET TRENCH SHALL BE DEWATERED PRIOR TO INSTALLING BEDDING.
 TRENCHES 4' OR MORE IN DEPTH ENTERED BY PERSONNEL SHALL MEET OSHA SAFETY REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING

WITH REQUIRED OSHA REGULATIONS.

8. CONTRACTOR SHALL INSTALL NOT LESS THAN 12" BUT NOT GREATER THAN 24 INCHES ABOVE ALL PIPELINES A 2 INCH WIDE WARNING TAPE WITH CONTINUOUS WORDING: "CAUTION: BURIED UTILITY LINE BELOW." NON-METALLIC PIPELINES SHALL UTILIZE METALLIC WARNING TAPE.

9. \*ALL PLASTIC PIPELINES SHALL BE INSTALLED WITH STAINLESS STEEL, HDPE JACKETED TRACER WIRE FOR LOCATING PURPOSES.

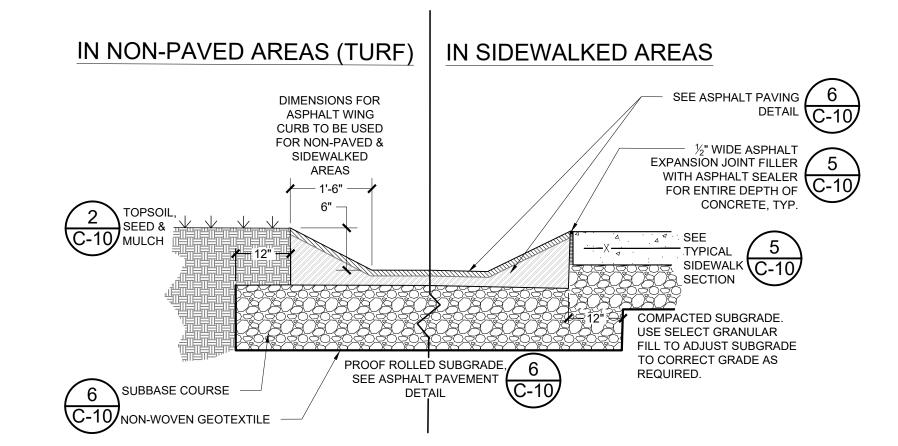
10. CONTRACTOR SHALL INSTALL RIGID FOAM BOARD INSULATION ABOVE ALL LATERALS AND MAINS LESS THAN 5'-0" DEPTH OF COVER MEASURED FROM GRADE TO THE TOP OF THE PIPELINE.

Apply concrete sealer immediately after final troweling (Conspec #1-30% solids or Equal)

Construction joint details to be submitted and approved by Engineer.

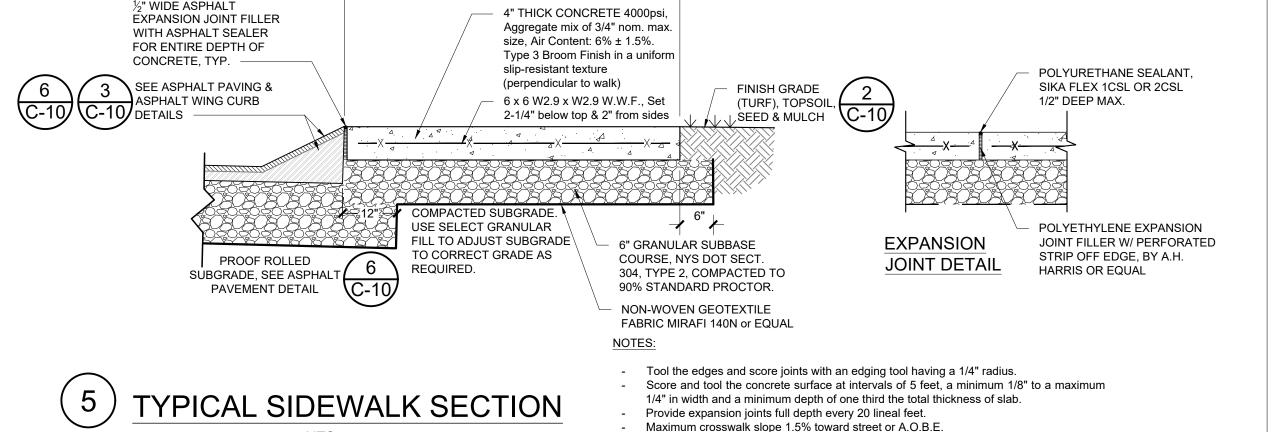
Sidewalks must be constructed so as not to interfere with drainage.

Sidewalk width to be as shown on plans or A.O.B.E.



3 ASPHALT WING CURB DETAIL

NTS



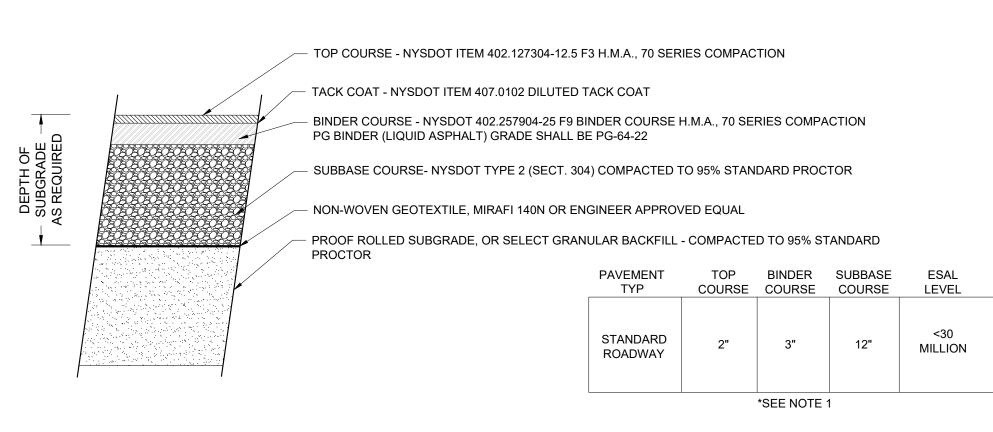
### CONCRETE SPECIFICATION NOTES

1. THE FOLLOWING CONCRETE SPECIFICATIONS SHALL APPLY TO ALL CONCRETE WORK FOR THE PROJECT. ALL MATERIALS MUST BE FROM AN APPROVED NYSDOT SOURCE. QUANTITIES MAY VARY DUE TO VARIATIONS IN MATERIALS. PLANT BATCH TICKETS SHALL BE PROVIDED UPON REQUEST BY THE ENGINEER. IF "APPROVED EQUAL" MIXES ARE BEING PROPOSED, PRIOR APPROVAL SHALL BE OBTAINED FROM THE ENGINEER. SUBMITTALS FOR "APPROVED EQUAL" MIXES SHALL BE PROVIDED WITH TEST RESULTS FROM AT LEAST THREE (3) PREVIOUS JOBS.

- 2. WHEN AIR TERMPERATURES ARE 50 DEGREES FARENHEIT AND BELOW, A NON-CHLORINE ACCELETRATOR IS REQUIRED PER A.C.I. SECTION 306R-88. WHEN AIR TERMPERATURES ARE 90 DEGREES FARENHEIT AND ABOVE, AN INCREASE IN RETARDER IS REQUIRED TO CONTROL SET TIME PER A.C.I. 305R-99.
- 3. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS AND SHALL CONFORM TO THE NYSDOT 2002 SPECIFICATIONS AS LISTED IN SECTION 501-2 FOR CLASS "A" MIX (OR APPROVED EQUAL).

NOTE: A SUPERPLASTICIZER MAY BE USED TO INCREASE SLUMP AND WORKABILITY WITHOUT INCREASING THE WATER CEMENT RATIO. UP TO 20 PERCENT OF THE CEMENT CONTENT MAY BE SUBSTITUTED WITH POZZOLAN. THE INITIAL SLUMP PRIOR TO THE ADDITION OF A SUPERPLASTICIZER IS APPROXIMETLY 2 INCHES TO 3 INCHES.

- 4. ALL SIDEWALKS CONSTRUCTED FROM NOVEMBER 1 THROUGH APRIL 30 SHALL BE TREATED WITH A PENETRATING TYPE PROTECTIVE SEALER PER NYSDOT ITEM 717-03 TO PROTECT THE FRESH SURFACE AGAINST SPALLING CAUSED BY SALT INFILTRATION.
- 5. ALL SLIP-FORM CONCRETE CURBING SHALL CONFORM TO THE REQUIREMENTS FOR A CLASS J CONCRETE MIXTURE (OR APPROVED EQUAL).
- 6. ANY CLARIFICATIONS, REVISIONS, OR MODIFICATIONS THERETO SHALL ONLY BE MADE SUBJECT TO APPROVAL OF THE ENGINEER.



\*BINDER TO BE PLACED IN TWO LIFTS W/TACK COAT BETWEEN.
 FOLLOW TECHNICAL SPECIFICATION SECTION 02510 FOR INSTALLATION OF HOT MIX ASPHALT.

6 ASPHALT PAVEMENT DETAIL

ENGINEERING SERVICES PLLC

S903 Main Street, Warrensburg, NY 12885. (P) 518.623.5500
464 Main Street, PO Box 1360, Oneonta, NY 13820. (P) 607.441.3246

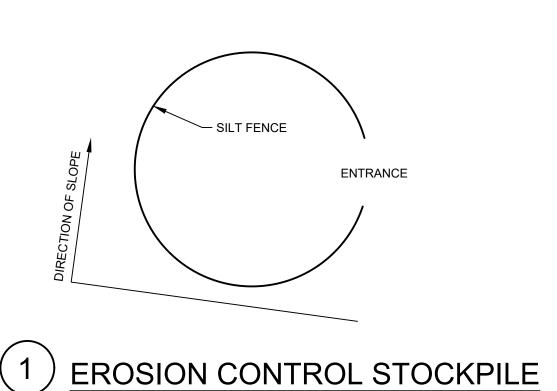
|                                    | REVISIONS:  | PROJECT       | <br> -  |
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| DATE:                              | DESCRIPTION:  | INFORMATION:  | <br>ON: |
| 3/9/21                             | NYS DEC REVISION 1  | DATE:         | 2/1/2   |
| 3/11/21                            | NYS DOH REVISION 1  | SCALE:        | = =     |
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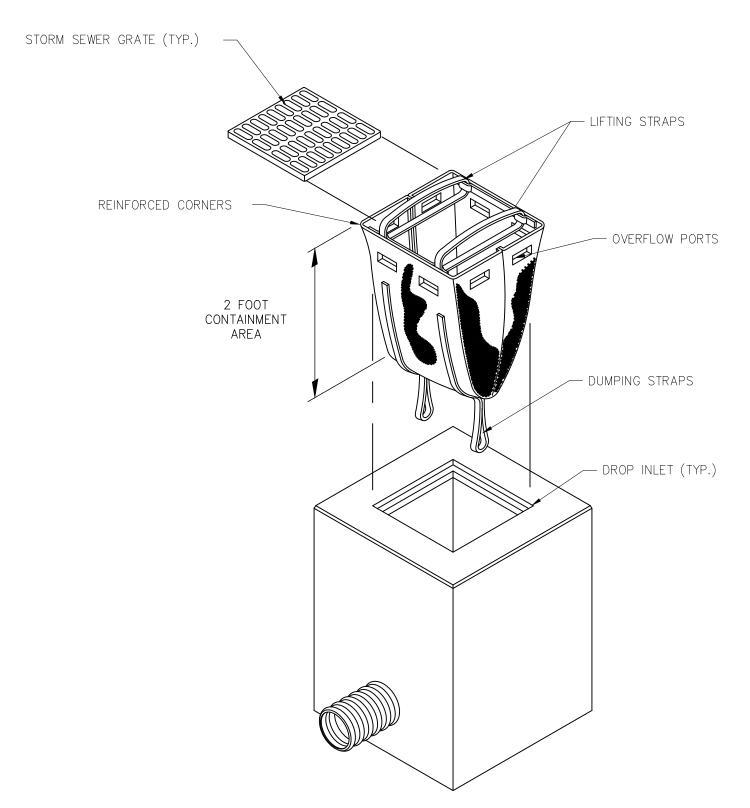


X WILLY

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REPLACEMENT PHASE
GENERAL DETAILS





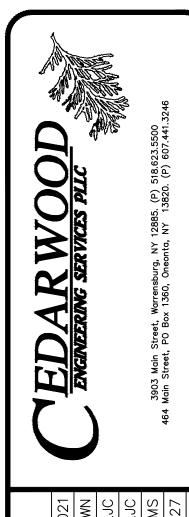
NOTE: DROP INLET PROTECTION SHALL BE DANDY SACK™ OR AN APPROVED EQUAL THAT MEETS OR

| EXCEEDS THE FOLLOWING SPECIFICATIONS: |             |                        |                         |  |  |  |  |  |  |
|---------------------------------------|-------------|------------------------|-------------------------|--|--|--|--|--|--|
| Mechanical Properties                 | Test Method | Units                  | MARV                    |  |  |  |  |  |  |
|                                       |             |                        |                         |  |  |  |  |  |  |
| Grab Tensile Strength                 | ASTM D 4632 | kN (lbs)               | 1.78 (400) × 1.40 (315) |  |  |  |  |  |  |
| Grab Tensile Elongation               | ASTM D 4632 | %                      | 15 x 15                 |  |  |  |  |  |  |
| Puncture Strength                     | ASTM D 4833 | kN (lbs)               | 0.67 (150)              |  |  |  |  |  |  |
| Mullen Burst Strength                 | ASTM D 3786 | kPa (psi)              | 5506 (800)              |  |  |  |  |  |  |
| Trapezoid Tear Strength               | ASTM D 4533 | kN (lbs)               | 0.67 (150) x 0.73 (165) |  |  |  |  |  |  |
| UV Resistence                         | ASTM D 4355 | %                      | 90                      |  |  |  |  |  |  |
| Apparent Opening Size                 | ASTM D 4751 | Mm (US Std Sieve)      | 0.425 (40)              |  |  |  |  |  |  |
| Flow Rate                             | ASTM D 4491 | 1/min/m² (gal/min/ft²) | 2852 (70)               |  |  |  |  |  |  |
| Permittivity                          | ASTM D 4491 | Sec <sup>-1</sup>      | 0.90                    |  |  |  |  |  |  |



### **EROSION & SEDIMENT CONTROL FOR UTILITY INSTALLATION NOTES:**

- INSTALLATION OF THE WATER & SEWER UTILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PLANS AND EROSION & SEDIMENT CONTROL BEST PRACTICES DURING CONSTRUCTION.
- TEMPORARY AND PERMANENT EROSION & SEDIMENT CONTROL STRUCTURES SHOULD BE INSTALLED PRIOR TO CONSTRUCTION WHEN POSSIBLE. APPLIED MEASURES DURING CONSTRUCTION SHALL **GENERALLY INCLUDE:**
- MINIMIZE EXPOSURE TIME OF BARE OR DISTURBED AREAS BY PROPERLY SEQUENCING CONSTRUCTION ACTIVITIES.
- VERIFY THAT ALL NEEDED MATERIALS ARE AVAILABLE TO COMPLETE A SPECIFIC TASK WITHOUT DELAYS.
- APPLY TEMPORARY STABILIZATION IMMEDIATELY AFTER GRADING.
- 2.4. STABILIZE AREAS PRIOR TO DISTURBING NEW AREAS.
- INSTALL EROSION & SEDIMENT CONTROLS PRIOR TO CONSTRUCTION
- INSPECT AND MAINTAIN ALL EROSION & SEDIMENT CONTROLS ON A REGULAR BASIS, ANY DEFECTS SHALL BE REPAIRED IMMEDIATELY.
- PERMANENT TRAFFIC CORRIDORS SHOULD BE ESTABLISHED AND "ROUTES OF CONVENIENCE" SHALL BE AVOIDED.
- **VEGETATIVE MEASURES:**
- TEMPORARY VEGETATIVE STABILIZATION NO AREAS SHALL REMAIN DISTURBED FOR MORE THAN 14 DAYS WITHOUT ACTIVE SITE WORK OCCURRING AT THE LOCATION. IF AREAS ARE TO BE RE-DISTURBED, SEEDING AND MULCHING FOR TEMPORARY STABILIZATION SHALL BE PERFORMED, AS NECESSARY. IN ORDER TO OBTAIN TEMPORARY STABILIZATION STATUS, 2 TONS PER ACRE OR 3 BALES PER 1,000 SQUARE FEET OF STRAW MULCH SHALL BE APPLIED BY AN APPROVED METHOD. ALL DISTURBED AREAS SHALL REQUIRE VEGETATION AND/OR 12" MULCH BLANKET.
- PERMANENT VEGETATIVE STABILIZATION SEEDING AND MULCHING FOR PERMANENT STABILIZATION SHALL BE PERFORMED, AFTER ALL SITE WORK IS COMPLETED FOR AN AREA. IN ORDER TO OBTAIN PERMANENT STABILIZATION STATUS, SOILS SHALL BE OPTIMAL FOR GROWING FINAL COVER WITH SOIL AMENDMENTS ADDED TO MEET PLANTING CRITERIA. PLANTINGS SHALL MEET SEEDING REQUIREMENTS, TIME OF YEAR REQUIREMENTS, AND BE APPLIED IN AN APPROVED MANNER. ALL AREAS SHALL BE MULCHED AND WATERED UNTIL FINAL ACCEPTANCE
- VEGETATIVE PROTECTION DURING CONSTRUCTION ADDITIONAL MEASURES SHALL BE PLACED AROUND EXISTING TREES, SHRUBS, AND OTHER GROUND COVER TO BE RETAINED DURING CONSTRUCTION. AREAS FOR VEGETATIVE PROTECTION SHALL BE INSTALLED AS SHOWN ON PLANS, OR AS DIRECTED BY ENGINEER TO ENSURE PERMIT COMPLIANCE. PROTECTION SHALL LIMIT IMPACTS TO ROOT ZONES, PLACE VISIBLE BARRIERS TO PREVENT INTRUSION INTO PROTECTED AREA, AND PREVENT EQUIPMENT FROM DAMAGING VEGETATION
- TEMPORARY MEASURES: THE TEMPORARY EROSION & SEDIMENT CONTROL MEASURES LISTED BELOW ARE TO BE USED DURING CONSTRUCTION OF THE PROJECT, AND REMOVED AFTER FINAL STABILIZATION OF THE SITE. ADDITIONAL MEASURES MAY BE REQUIRED BASED UPON SITE CONDITIONS. PROPOSED MEASURES INCLUDE:
- SILT FENCE PRIOR TO THE INITIATION OF CONSTRUCTION ACTIVITIES, A GEOTEXTILE FILTER FABRIC (OR SILT FENCE) SHALL BE ESTABLISHED AS SHOWN ON THE PLAN, OR AS ORDERED BY ENGINEER, AND/OR ALONG THE DOWN SLOPE PERIMETER OF AREAS TO BE DISTURBED (AS A RESULT OF THE CONSTRUCTION) WHICH ARE LOCATED UP GRADIENT OF WATERCOURSES OR ADJACENT PROPERTIES. THESE BARRIERS MAY EXTEND INTO NON-IMPACT AREAS TO PROVIDE ADEQUATE PROTECTION OF ADJACENT LANDS. CLEARING AND GRUBBING SHALL BE PERFORMED ONLY AS NECESSARY FOR THE INSTALLATION OF THE SEDIMENT CONTROL BARRIER. TO FACILITATE EFFECTIVENESS OF THE SILT FENCING, DAILY INSPECTIONS AND INSPECTIONS IMMEDIATELY AFTER SIGNIFICANT STORM EVENTS SHALL BE PERFORMED BY SITE PERSONNEL MAINTENANCE OF THE FENCE WILL BE PERFORMED AS NEEDED.
- COMPOST FILTER SOCKS TO BE USED ON IMPERMEABLE SURFACES FOR THE DURATIONS OF THE CONSTRUCTION PROJECT. COMPOST FILTER SOCKS SHALL BE ESTABLISHED IN WORK AREAS AND RUN THE LINEAGE OF THE WORK AREA WITH THE ENDS OF THE SOCK EXTENDING 8 FEET UPSLOPE AT A 45 DEGREE ANGLE TO PREVENT BYPASS FLOW.
- STABILIZED CONSTRUCTION ENTRANCE THE ENTRANCE SHOULD BE MAINTAINED IN A CONDITION WHICH WILL CONTROL TRACKING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY OR STREETS. WHEN NECESSARY, THE PLACEMENT OF ADDITIONAL AGGREGATE ATOP THE FILTER FABRIC SHOULD BE COMPLETED TO ASSURE THE MINIMUM THICKNESS IS MAINTAINED. ALL SEDIMENTS AND SOILS SPILLED, DROPPED, OR WASHED ONTO THE PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH SUBSTANTIAL RAINFALL EVENT.
- TEMPORARY SOIL STOCKPILE MATERIALS, SUCH AS TOPSOIL, WILL BE TEMPORARY STOCKPILED (IF NECESSARY) ON THE SITE DURING THE CONSTRUCTION PROCESS. STOCKPILES SHOULD BE LOCATED IN AN AREA AWAY FROM STORM DRAINAGE. WATER BODIES AND/OR COURSES. AND WILL BE PROTECTED FROM EROSION BY A SURROUNDING SILT FENCE BARRIER. STOCKPILES SHALL BE COVERED WITH PLASTIC IN TIMES OF STRONG WINDS.
- STORM DRAIN INLET PROTECTION EXISTING CATCH BASINS LOCATED IN THE WORK AREA SHALL BE PROTECTED TO PREVENT STORMWATER FROM ENTERING UNTREATED. SEE INLET SEDIMENT CONTROL DEVICE DETAIL (SAME SHEET).
- DEWATERING SUMP PUMPING DUE TO THE NATURE OF EXCAVATING WORK FOR THIS PROJECT, DEWATERING OF TRENCHES MAY OCCUR. IN AREAS WHERE IT APPLIES, DISCHARGE SHALL BE PUMPED TO A GEOTEXTILE FILTER BAG.
- CONSTRUCTION ROAD STABILIZATION DUE TO THE ACCESS REQUIREMENTS FOR THE PROJECT, TEMPORARY ACCESS ROADS MAY BE REQUIRED TO FACILITATE CONSTRUCTION AND REDUCE EROSION GENERATED. ACCESS ROADS SHALL HAVE A MINIMUM WIDTH OF 12' FOR ONE-WAY TRAFFIC, AND HAVE A 6 INCH LAYER OF APPROVED SUBBASE AS SHOWN IN THE STABILIZED CONSTRUCTION ENTRANCE DETAIL (SAME SHEET).
- DUST CONTROL DURING PERIODS WHERE LAND DISTURBANCE ACTIVITIES HAVE THE POTENTIAL TO GENERATE DUST, ADDITIONAL MEASURE SHALL BE TAKEN BY THE CONTRACTOR TO REDUCE AIRBORNE DUST. APPROVED CONTROL METHODS WILL BE APPLIED TO BOTH DRIVING AND NON-DRIVING AREAS DURING TIMES OF DUST GENERATION.
- PERMANENT MEASURES: NO PERMANENT EROSION CONTROL MEASURES OR STORMWATER MANAGEMENT CONTROLS ARE PROPOSED FOR THE WATER AND SEWER UTILITY INSTALLATION PROJECT.
- CONSTRUCTION HOUSEKEEPING PRACTICES FOLLOW SPECIFICATIONS



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