

TRAFFIC CONTROL DEVICE NOTES

A. ALL TRAFFIC CONTROL DEVICES SHALL BE PER THE LATEST REVISION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS AND APPROVED BY THE VILLAGE BEFORE INSTALLATION.

B. ALL SIGN POST SHALL BE STANDARD GALVANIZED STEEL POST UNLESS OTHERWISE APPROVED BY THE VILLAGE.

C. ALL STREET NAME SIGNS SHALL BE GREEN IN COLOR WITH WHITE LETTERING UNLESS OTHERWISE APPROVED BY THE VILLAGE.

SEEDING

A. ALL AREAS DESIGNATED FOR SEEDING SHALL HAVE A MINIMUM OF 6" OF TOPSOIL OVER THE ENTIRE AREAS. THE AREA SHALL BE RAKED, ROLLED, AND DRESSED READY FOR SEEDING. NO STONE OVER 1" IN SIZE PERMITTED.

DRAINS

A. ALL FIELD OR STORM DRAINS WHICH ARE ENCOUNTERED DURING CONSTRUCTION SHALL BE REPAIRED AND PROVIDED WITH UNOBSTRUCTED OUTLETS AS APPROVED AND DIRECTED BY THE VILLAGE AND MARKED ON THE RECORD DRAWINGS.

CONNECTIONS TO EXISTING PIPE

A. WHERE THE PLANS PROVIDE FOR PROPOSED CONDUIT TO BE CONNECTED TO, OR TO CROSS EITHER OVER OR UNDER AN EXISTING SEWER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

UTILITY SEPARATION

A. ANY UNDERGROUND UTILITIES SUCH AS GAS, ELECTRIC, CABLE TV, TELEPHONE, ETC., SHALL HAVE 5' SEPARATION FROM ANY VILLAGE WATER OR SEWER LINES UNLESS OTHERWISE APPROVED.

UTILITIES

A. THE MAXIMUM LENGTH OF ANY UTILITY TRENCH TO BE OPEN AT ANY TIME SHALL BE 250' UNLESS OTHERWISE APPROVED.

COMPACTION METHODS

A. FLOODING SHALL NOT BE PERMITTED.

B. MECHANICAL DEVICES, HAND DEVICES, VIBRATING PLATES OR OTHER EQUIPMENT APPROVED BY THE VILLAGE IS ACCEPTABLE 1' ABOVE PIPE IN UNIFORM LIFTS OF 12" (LOOSE DEPTH) OF EXISTING NATIVE MATERIAL AND 6" OF GRANULAR BACKFILL. THE HEIGHT OF LIFTS WILL DEPEND UPON THE TYPE OF MECHANICAL EQUIPMENT BEING USED. THE HEIGHT WILL BE 6" FOR HAND OPERATED TOOLS AND UP TO 12" ON EQUIPMENT MOUNTED TOOLS. THE COMPACTION EQUIPMENT SHALL BE CAPABLE OF COMPACTING THE MATERIAL UNDER THE HAUNCH OF THE PIPE.

C. JETTING IS APPROVED FOR ODOT 611, TYPE 2 GRANULAR MATERIAL ONLY AND IF A STORM DRAIN IS AVAILABLE AS A DRAINAGE OUTLET FOR THE REMOVAL OF EXCESS WATER. A 4' MAXIMUM LIFT SHALL BE ADHERED TO. SATISFACTORY DRAINAGE SHALL BE PROVIDED BY THE USE OF DRAINAGE DITCHES, PUMPS OR OTHER EQUIPMENT.

D. TRENCHES AND DISTURBED AREAS IN LAWN AREAS SHALL BE COMPACTED BY MECHANICAL MEANS TO 90% STANDARD PROCTOR WITH A MINIMUM OF 2" LOOSE TOPSOIL PLACED ON TOP OF THE AFFECTED AREA FOR LAWN RESTORATION. TRENCHES AND DISTURBED AREAS IN ROADWAYS, DRIVEWAYS, AND SIDEWALKS SHALL BE MECHANICALLY COMPACTED TO 98% STANDARD PROCTOR.

TYPICAL NOTES - ALL SUBDIVISION CONSTRUCTION DRAWINGS

A. ALL CONSTRUCTION METHODS AND MATERIALS SHALL COMPLY WITH THE VILLAGE ENGINEERING STANDARDS OR ODOT WHICHEVER IS MORE RESTRICTIVE.

B. ALL COMPACTION SHALL MEET THE VILLAGE REQUIREMENTS. IF TESTING OF COMPACTED AREAS IS REQUESTED BY THE VILLAGE, SAID TESTING SHALL BE PERFORMED AT THE EXPENSE OF THE DEVELOPER.

C. THE VILLAGE WILL LOCATE AREAS IN NEED OF UNDERCUTTING UNLESS THE DEVELOPER CHOOSES TO HAVE AT HIS EXPENSE AN INDEPENDENT APPROVED TESTING COMPANY TO DETERMINE UNSUITABLE MATERIAL AREAS THAT NEED UNDERCUTTING.

D. ALL EMBANKMENT AREAS SHALL BE COMPACTED TO A MINIMUM OF 95% OF ASTM D698 STANDARD PROCTOR CURVE AND TESTED TO REPRESENT A DEPTH OF 12" UNLESS OTHERWISE SPECIFIED BY THE VILLAGE.

E. ALL UNPAVED AREAS WITHIN THE STREET RIGHT-OF-WAY SHALL BE SEEDED WITHIN 48 HOURS AFTER THE CURB IS BACKFILLED. STAKED STRAW BALES MAY BE REQUIRED IN ADDITION TO SEEDING TO CONTROL EROSION IF REQUESTED BY THE VILLAGE.

F. STORM WATER POLLUTION PREVENTION SHOULD BE A HIGH PRIORITY ON ALL CONSTRUCTION PROJECTS. ON ALL PROJECTS WHICH DISTURB AT LEAST 1 ACRES OF SOIL, A NPDES PERMIT IS REQUIRED FROM OEPA AND A COPY OF THE PERMIT MUST BE ON FILE AT THE VILLAGE OFFICE BEFORE CONSTRUCTION BEGINS.

LOW STRENGTH MORTAR BACKFILL

A. IN SITUATIONS WHERE UTILITIES CROSS HEAVILY TRAVELED STREETS OR IT MAY BE DIFFICULT TO GET ADEQUATE COMPACTION ON GRANULAR MATERIAL, LOW STRENGTH MORTAR BACKFILL WILL BE REQUIRED PER ODOT ITEM 613 TYPE 1 ONLY. THE VILLAGE MAY REQUIRE THIS TYPE OF BACKFILL AT THEIR DISCRETION WITH THE COST BEING BORE BY THE CONTRACTOR.

BORING/JACKING

A. MATERIALS.

CASING PIPE SHALL BE WELDED STEEL PIPE CONFORMING TO AWWA C-202.

B. INSTALLATION (CASING PIPE).

1. FURNISH PROCEDURE METHODS TO THE VILLAGE FOR APPROVAL.
2. ALL METHODS AND PROCEDURES SHALL BE APPROVED BY THE VILLAGE PRIOR TO CONSTRUCTION.
3. ADEQUATELY SUPPORT ALL TRENCHES AND BORING/JACKING PITS.
4. INSTALL TO LINE AND GRADE SHOWN.

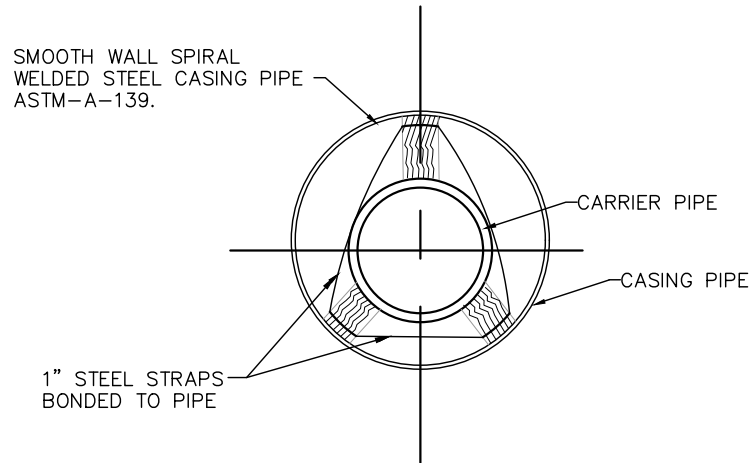
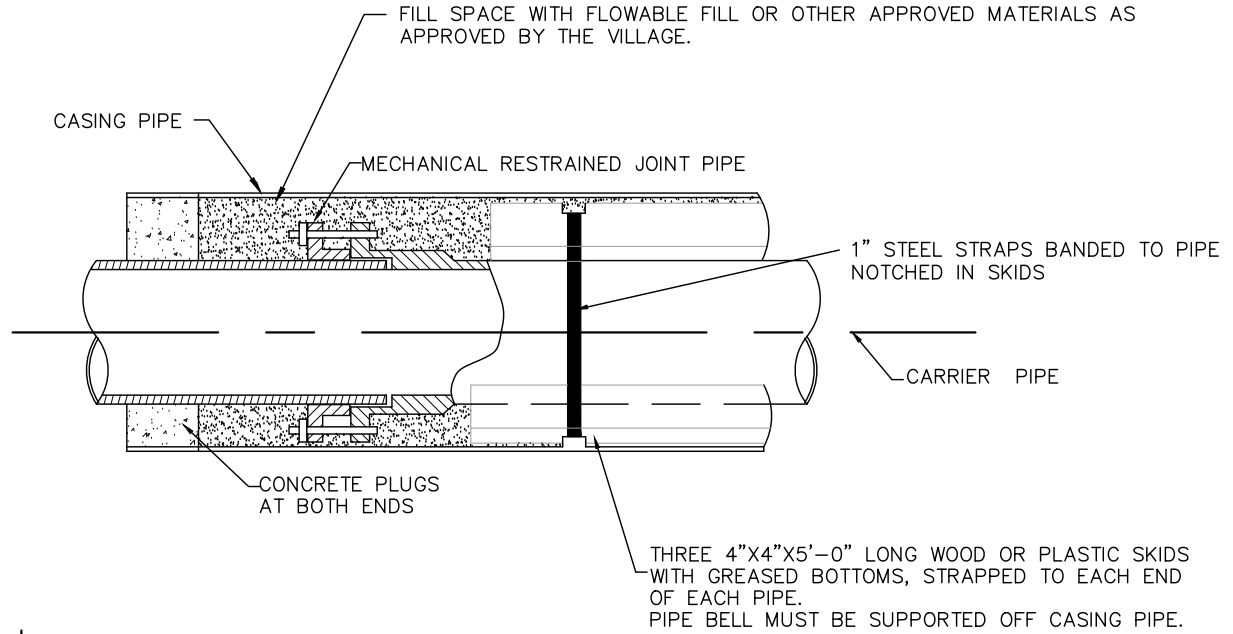
C. INSTALLATION (CARRIER PIPE).

1. PLACE CONDUITS IN CASING PIPE TO SAME RELATIVE POSITIONS AS ADJACENT DUCT BY USE OF SPACERS.
2. FILL THE SPACE BETWEEN CONDUITS INSIDE THE CASING PIPE WITH FLOWABLE FILL AS APPROVED BY THE VILLAGE.

STEEL CASING PIPE

- A. STEEL PIPE SHALL HAVE A MINIMUM YIELD STRENGTH OF 35,000 PSI.
- B. JOINTS BETWEEN THE SECTIONS OF PIPE SHALL BE FULLY WELDED AROUND THE COMPLETE CIRCUMFERENCE OF THE PIPE.
- C. SIZE—A MINIMUM OF 4" GREATER THAN THE LARGEST OUTSIDE DIAMETER OF THE CARRIER PIPE.
- D. A STEEL CASING PIPE WILL BE REQUIRED FOR STORM SEWER, WATERMAIN, AND SANITARY SEWER.

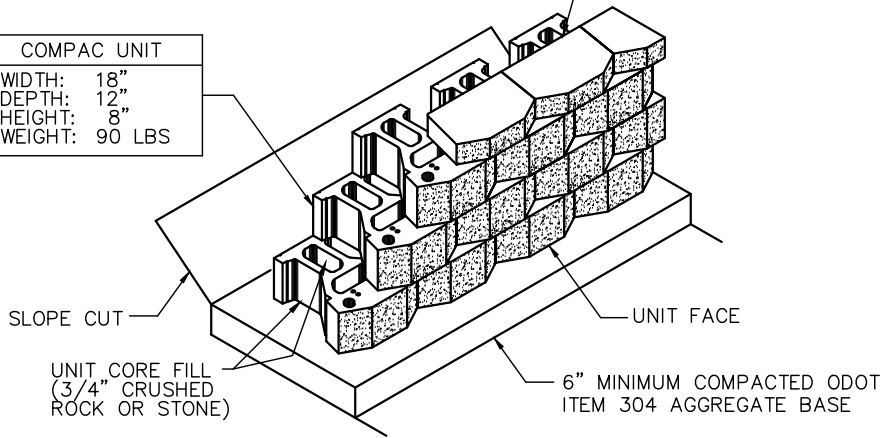
DIAMETER NOMINAL (INCHES)	NOMINAL THICKNESS (INCHES)
10 AND UNDER	0.188
12 & 14	0.250
16	0.281
18	0.312
20 & 22	0.344
24	0.375
26	0.406
28	0.438
30	0.469
32	0.500
34 & 36	0.532
38	0.562
40	0.594
42	0.625
44 & 46	0.657
48	0.688
50	0.719
52	0.750
54	0.781
56 & 58	0.812
60	0.844
62	0.875
64	0.906
66 & 68	0.938
70	0.969
72	1.000



CASING PIPE DETAIL

COMPAC UNIT	
WIDTH:	18"
*DEPTH:	12"
HEIGHT:	8"
*WEIGHT:	90 LBS

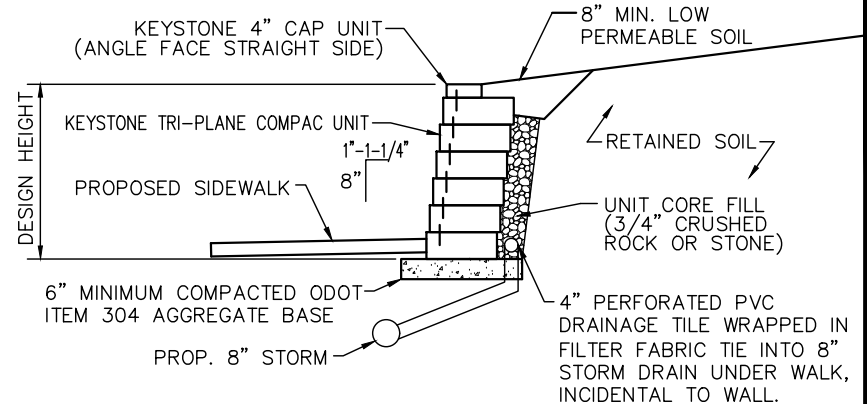
MINI CAP UNIT	
WIDTH:	18"
*DEPTH:	10-1/2"
HEIGHT:	4"
*WEIGHT:	50 LBS



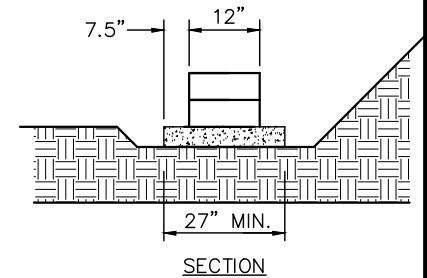
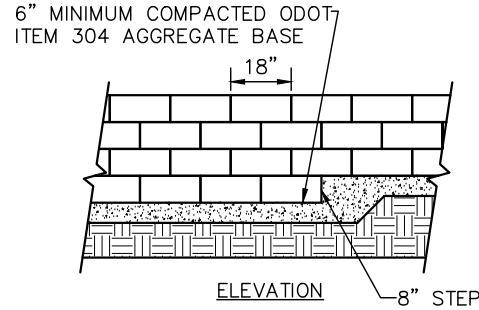
COMPAC UNIT/BASE PAD ISOMETRIC VIEW
 *DIMENSIONS & WEIGHT MAY VARY BY REGION

MODULAR RETAINING WALL NOTES

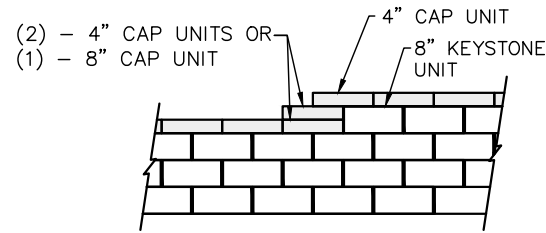
- A. RETAINING WALLS SHALL BE KEYSTONE TRI-PLANE WALL SYSTEMS 8" H X 18" W X 12" D COMPAC UNIT OR APPROVED EQUAL PER VILLAGE.
- B. COLOR (I.E. :NATURAL, 2% BUFF OR SPECIAL ORDER RED) AND FINISH SHALL BE DETERMINED BY THE VILLAGE.
- C. ALL RETAINING WALLS SHALL BE CONSTRUCTED PER MANUFACTURERS RECOMMENDATIONS INCLUDING FOUNDATIONS, PINNING, ETC.
- D. THE LEVELING PAD IS TO BE CONSTRUCTED OF 6" MINIMUM COMPACTED ODOT ITEM 304 AGGREGATE BASE.
- E. 90° OUTSIDE CORNERS SHALL BE KEYSTONE WALL SYSTEMS OPTION 2 OR APPROVED EQUAL.
- F. SHEAR CONNECTORS SHALL BE 1/2" DIAMETER THERMOSET ISOPATHLIC POLYESTER RESIN-PULTRUDED FIBERGLASS REINFORCEMENT RODS.
- G. MINIMUM WALL EMBEDMENT IS 6".
- H. UNIT CORE FILL SHALL BE 3/4" CRUSHED ROCK OR STONE.



TYPICAL GRAVITY WALL SECTION
 STANDARD UNIT - 1" MINIMUM SETBACK



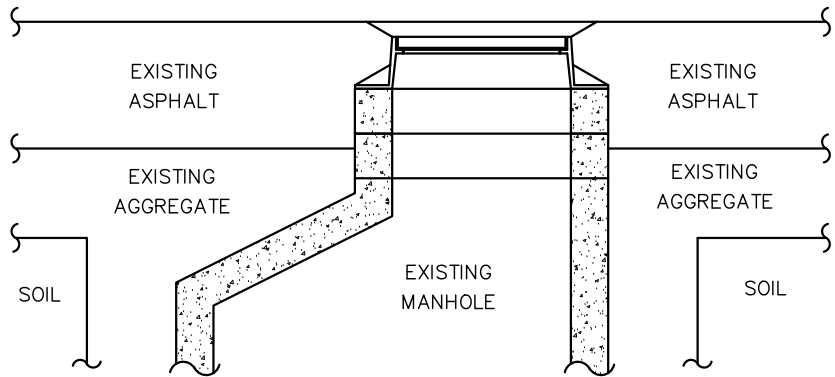
LEVELING PAD DETAIL



TOP OF WALL STEPS


NOTE:
 1. SECURE ALL CAP UNITS WITH KEYSTONE KAPSEAL OR EQUAL.

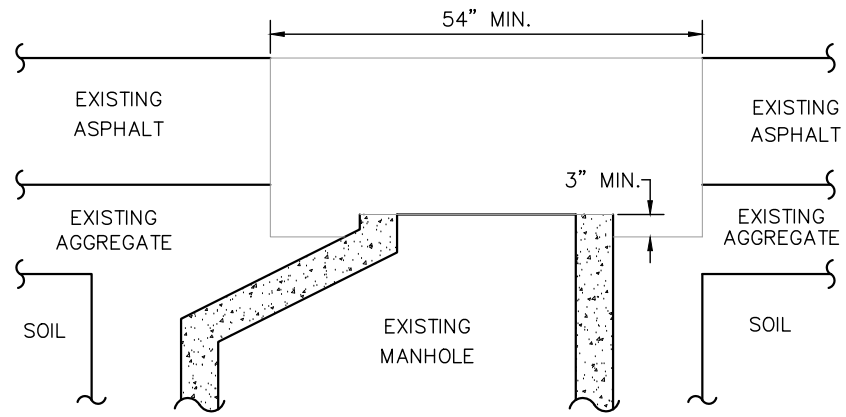
Step #1 - Chimney Removal/Preparation



Existing Manhole with Adjusting Rings and Poor Vertical Alignment (Sectional View)

Legend

 = CONCRETE



Chimney Removed (Sectional View)

-PRECAUTIONS MUST BE TAKEN TO PREVENT DEBRIS FROM ENTERING THE MANHOLE DURING THE ENTIRE REMOVAL AND RECONSTRUCTION PROCESS. THIS WILL PREVENT THE POSSIBILITY OF PLUGGED SEWERS, INTERRUPTIONS IN SEWAGE FLOW AND TIME REQUIRED TO REMOVE THE DEBRIS AFTER CONSTRUCTION.

-CUT AND REMOVE THE ASPHALT PAVEMENT, AROUND THE EXISTING MANHOLE CASTING, IN A CIRCULAR FASHION WITH A MINIMUM DIAMETER OF 54" AND CENTERED ABOUT THE CASTING. DISPOSE OF THE ASPHALT.

-REMOVE THE CASTING (MANHOLE RIM AND COVER) FROM THE TOP OF THE MANHOLE OR MANHOLE ADJUSTING RING(S). INSPECT THE RIM AND COVER FOR DEFECTS. IF DEFECTS ARE PRESENT, REPLACE WITH NEW RIM/COVER AS NEEDED. IF DEFECTS ARE NOT PRESENT, CLEAN & RETAIN FOR USE IN RECONSTRUCTION.

-REMOVE ALL ADJUSTING RINGS TO THE TOP OF THE CONCRETE CONE. DISPOSE OF THIS MATERIAL.

-REMOVE ALL AGGREGATE AROUND THE MANHOLE THAT HAS BEEN EXPOSED BY THE ASPHALT REMOVAL AND DISPOSE OF THIS AGGREGATE. THE AGGREGATE MUST BE REMOVED TO A MINIMUM OF 3" BELOW THE LEVEL OF THE TOP OF THE CONCRETE CONE.

-CLEAN AND INSPECT THE TOP SURFACE OF THE CONCRETE CONE. THE SURFACE SHOULD BE SMOOTH AND FREE OF BUMPS AND PITS THAT MAY PREVENT A GOOD WATER TIGHT SEAL. GRIND THE SURFACE AS NEEDED TO REMOVE PROTRUSIONS. UTILIZE COMPRESSED AIR TO BLOW DUST AND DEBRIS FROM THE SURFACE AFTER GRINDING. CLEAN THE SURFACE WITH ACETONE. UTILIZE A HYDRAULIC CEMENT, ACCORDING TO MANUFACTURERS RECOMMENDATIONS, TO FILL IN DEPRESSIONS.

-REMOVE THE EXISTING MANHOLE FRAME AND COVER, RETURN TO VILLAGE. A NEW FRAME AND COVER SHALL BE USED AS PER SHEET 600-4 OR 900-1.

CHIMNEY LINER SPECIFICATIONS:

THE CHIMNEY LINER SHALL BE CONSTRUCTED OF VYLON PIPE, OR ITS EQUIVALENT. THE CHIMNEY LINER MUST BE MADE FROM POLYVINYL CHLORIDE COMPOUNDS WHICH COMPLY WITH THE REQUIREMENTS FOR A MINIMUM CELL CLASSIFICATION OF 12364 AS DEFINED BY ASTM D-1784.

THE CHIMNEY LINER MUST ALSO MEET ALL THE FOLLOWING PHYSICAL REQUIREMENTS:

PIPE STIFFNESS – MINIMUM PIPE STIFFNESS SHALL BE 46 PSI WHEN TESTED IN ACCORDANCE WITH ASTM D-2412

IMPACT RESISTANCE – NO VISUAL CRACKING OR SPLITTING OF THE WATERWAY WALL SHALL BE EVIDENCED WHEN TESTED IN ACCORDANCE WITH ASTM D-2444 WITH A 20 LB. WEIGHT, TUP B, FLAT PLATE HOLDER B TO A LEVEL OF 220 FT. LBS.

FUSION QUALITY – THERE SHALL BE NO SIGN OF FLAKING OR DISINTEGRATION WHEN IMMersed IN ANHYDROUS ACETONE FOR 20 MINUTES AS DESCRIBED IN ASTM D-2152.

DUCTILITY – THERE SHALL BE NO EVIDENCE OF CRACKING OR SPLITTING WHEN PIPE IS FLATTENED IN A CIRCUMFERENTIAL ORIENTATION BETWEEN TWO FLAT PLATES BY SIXTY PERCENT (60%) OF THE ORIGINAL DIAMETER.

AIR TIGHTNESS – EACH LENGTH OF PIPE SHALL PASS A FACTORY 3.5 PSI AIR TEST AS DESCRIBED IN ASTM F-1803.

WATER STOP SPECIFICATIONS:

THE WATERSTOP SHALL BE CONSTRUCTED OF SWELLSTOP 3/8" X 3/4" CONTROLLED EXPANSION WATERSTOP OR EQUIVALENT. SWELLSTOP IS AVAILABLE FROM GREENSTREAK, 3400 TREE COURT INDUSTRIAL BLVD., ST. LOUIS, MO 63122.

THE WATERSTOP MUST MEET ALL OF THE FOLLOWING PHYSICAL REQUIREMENTS:

SPECIFIC GRAVITY – SHALL BE 1.55 +/- 5% WHEN TESTED IN ACCORDANCE WITH ASTM D-71.

VOLATILE MATTER – SHALL NOT EXCEED 1% WHEN TESTED IN ACCORDANCE WITH ASTM D-6.

APPLICATION TEMPERATURE – MUST BE ABLE TO BE APPLIED FROM -10 DEGREES F TO 125 DEGREES F AS A MINIMUM.

SERVICE TEMPERATURE – MUST BE ABLE TO FUNCTION PROPERLY IN SERVICE FROM -30 DEGREES F TO 180 DEGREES F AS A MINIMUM.

WORK BEING DONE IN DRAWINGS 500-6, 500-7, AND 500-8 SHALL TAKE PLACE 2 WEEKS AFTER THE FINAL COAT OF ASPHALT IS APPLIED.