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DFF

SGS

ROADWAYS

DIVISION 300

STREET FUNCTIONAL CLASSIFICATIONS

THE VILLAGE WILL PROVIDE THE CLASSIFICATION OF ALL STREETS PRIOR TO DESIGN AND CONSTRUCTION. THE CLASSIFICATIONS ARE AS FOLLOWS:

1. ARTERIAL

A GENERAL TERM DENOTING A HIGHWAY PRIMARILY FOR THROUGH TRAFFIC. CARRYING HEAVY LOADS AND LARGE VOLUMES OF TRAFFIC, USUALLY ON A CONTINUOUS ROUTE.

2. COLLECTOR

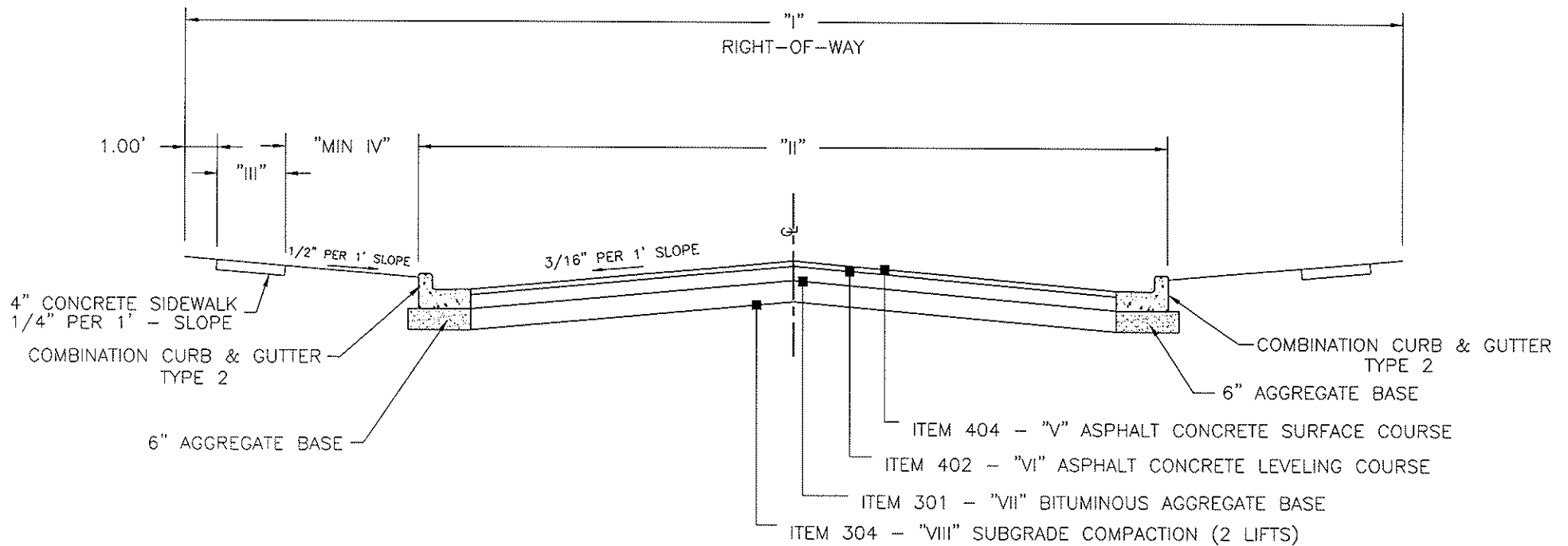
STREET DESIGNED TO CONDUCT TRAFFIC FROM LOCAL STREETS TO ARTERIALS. COLLECTOR HAS A FURTHER BREAKDOWN OF COLLECTOR—RESIDENTIAL AND COLLECTOR—INDUSTRIAL AND COMMERCIAL.

3. LOCAL/RESIDENTIAL

A STREET DESIGNED TO PROVIDE ACCESS TO ABUTTING PROPERTY AND DISCOURAGE THROUGH TRAFFIC.

DESIRED MINIMUM STANDARDS				
STREET FUNCTIONAL CLASSIFICATION	RIGHT-OF-WAY WIDTH	BACK TO BACK CURB — PARKING BOTH SIDES	BACK TO BACK CURB — PARKING ONE SIDE	BACK TO BACK CURB NO PARKING
	(L.F.)	(L.F.)	(L.F.)	(L.F.)
ARTERIAL	80	57	50	45
COLLECTOR — RES.	60	36	36	36
COLLECTOR — IND. AND COMM.	60	41	36	36
LOCAL	54	36	36	32



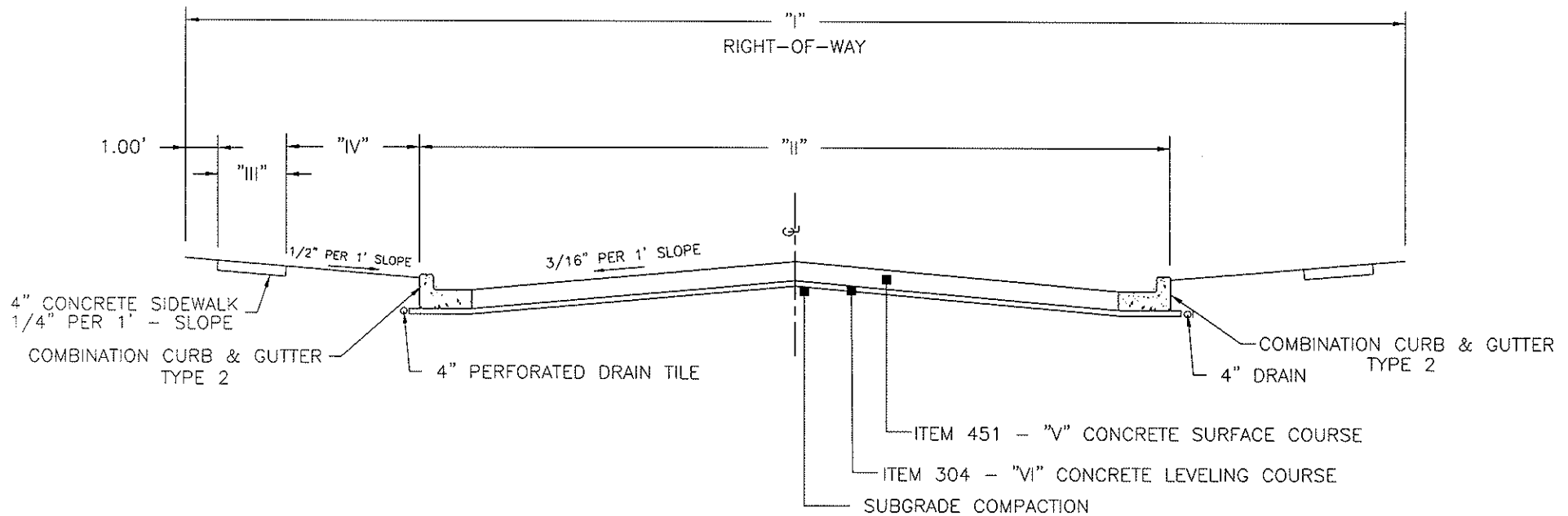


MINIMUM STANDARDS

ITEM	DESCRIPTION	ARTERIAL	COLLECTOR		LOCAL
			COMM. & IND.	RESIDENTIAL	
I	RIGHT-OF-WAY	80'	60'	60'	50'
II	B\B CURB	57'	41'	36'	36'
III	SIDEWALK WIDTH	4'	4'	4'	4'
IV	CURB LAWN WIDTH	3'	3'	3'	3'
V	ITEM 404	1-1/4"	1-1/4"	1-1/4"	1-1/4"
VI	ITEM 402	1-3/4"	1-3/4"	2-3/4"	2-3/4"
VII	ITEM 301	7"	7"	-	-
VIII	ITEM 304	2-3" LIFTS	2-3" LIFTS	2-4" LIFTS	2-4" LIFTS

NOTES

1. ALL WORK TO CONFORM TO ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS LATEST REVISION UNLESS OTHERWISE SPECIFIED.
2. ITEM 407 TACK COAT, SHALL BE REQUIRED WHEN 10 DAYS HAVE ELAPSED BETWEEN BITUMINOUS PAVEMENT LIFTS UNLESS OTHERWISE SPECIFIED BY THE ENGINEER. APPLICATION RATE IS .10 GALLON PER SQUARE YARD.
3. ALL BUTT JOINTS SHALL BE SEALED WITH PG64-22 WITHIN 24 HOURS AFTER PLACEMENT OF ITEM 404.
4. STANDARD DIMENSIONS FOR (II) B\B CURB AND (IV) APRON WIDTH ASSUME PARKING ON BOTH SIDES.
5. SIDEWALK OF 4' WIDTH MAY BE APPROVED BY THE VILLAGE ON ARTERIAL AND COMMERCIAL, AND INDUSTRIAL COLLECTORS.
6. THE 1.00' SPACE BEHIND THE SIDEWALK IS NOT REQUIRED FOR LOCAL STREETS (50' R/W).

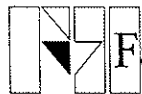


MINIMUM STANDARDS

ITEM	DESCRIPTION	ARTERIAL	COLLECTOR		LOCAL
			COMM. & IND.	RESIDENTIAL	
I	RIGHT-OF-WAY	80'	60'	60'	54'
II	B\B CURB	57'	41'	36'	36'
III	SIDEWALK WIDTH	4'	4'	4'	4'
IV	CURB LAWN WIDTH	3'	4'	4'	4'
V	ITEM 451	8"	7"	7"	6"
VI	ITEM 304	4"	4"	4"	4"

NOTES

1. ALL WORK TO CONFORM TO ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS LATEST REVISION UNLESS OTHERWISE SPECIFIED.
2. STANDARD DIMENSIONS FOR (II) B\B CURB AND (IV) APRON WIDTH ASSUME PARKING ON BOTH SIDES.
3. SIDEWALK OF 4' WIDTH MAY BE APPROVED BY THE VILLAGE ON ARTERIAL AND COMMERCIAL, AND INDUSTRIAL COLLECTORS.
4. ITEM 451 IS TO BE A MINIMUM OF 7" WITHIN 75' OF ALL INTERSECTIONS, MEASURED FROM THE INTERSECTION OF THE CENTERLINES.



Fanning/Howey
Civil Engineering Division
Engineers Surveyors Consultants

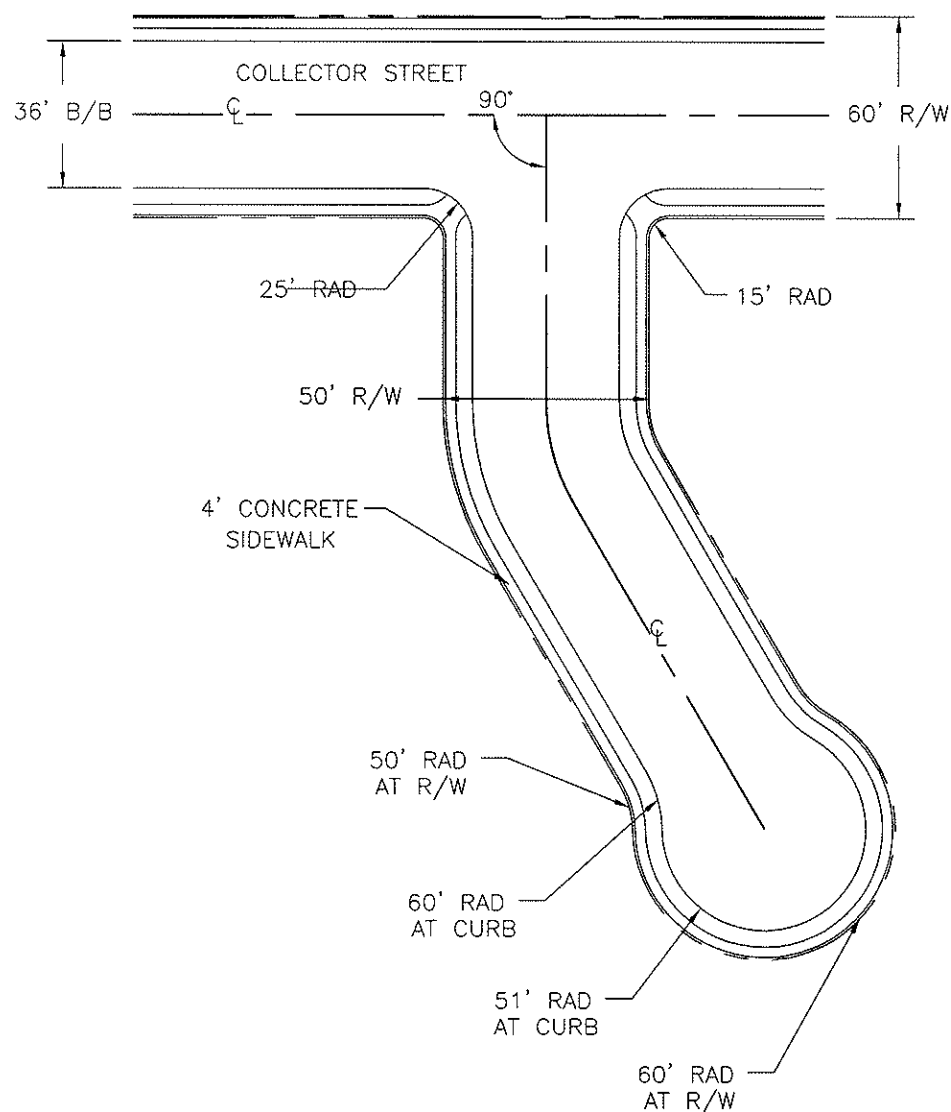
DATE: January 25, 2005

TYPICAL SECTIONS AND CONCRETE PAVEMENT COMPOSITION

**VILLAGE OF
PLEASANT HILL**

PAGE No.
300-3

TYPICAL STREET AND CUL-DE-SAC PLAN



STREET DESIGN STANDARDS

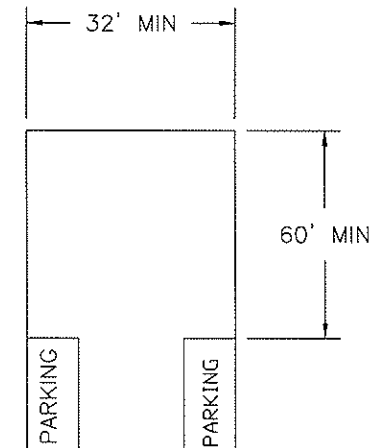
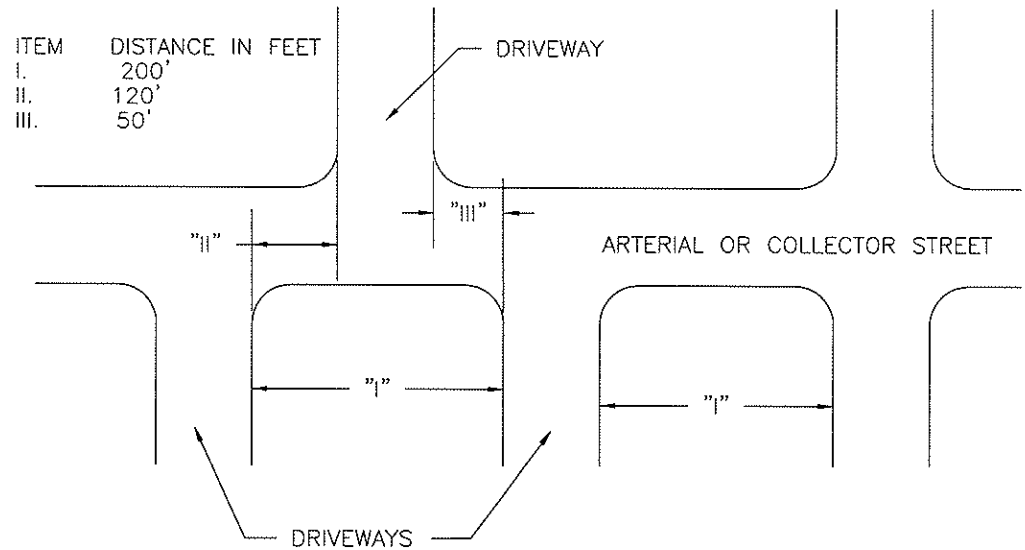
	25 MPH LOCAL (THRU ST)	35 MPH COLLECTOR	45 MPH ARTERIAL
MINIMUM CENTERLINE GRADES	0.40%	0.40%	0.40%
MAXIMUM CENTERLINE GRADES	10%	7%	4%
MINIMUM LENGTH OF VERTICAL CURVE (SEE NOTE 3).	25 FT.	50 FT.	100 FT.
MINIMUM CENTERLINE RADIUS	250 FT.	400 FT.	600 FT.
MINIMUM LENGTH TANGENT BETWEEN CURVES	50 FT.	50 FT.	100 FT.
MINIMUM BACK OF CURB RADIUS	25 FT.	25 FT.	50 FT.
MINIMUM HORIZONTAL VISIBILITY	150 FT.	250 FT.	400 FT.
MINIMUM STOPPING SIGHT DISTANCE (MEASURED FROM 3.5' EYE-LEVEL TO 6" OBJECT HEIGHT)	150 FT.	250 FT.	400 FT.
MAXIMUM CENTERLINE GRADE WITHIN 100' OF AN INTERSECTION	3%	3%	3%
RIGHT-OF-WAY WIDTH	50 FT.	60 FT.	80 FT.
MINIMUM PAVEMENT WIDTH BACK TO BACK OF CURB	36 FT.	36/41 FT.	57 FT.

1. THESE ARE MINIMUM DESIGN STANDARDS AND MAY BE REQUIRED TO BE INCREASED TO COMPLY WITH THE VILLAGE OFFICIAL THOROUGHFARE PLAN.
2. THE MAXIMUM LENGTH FOR CUL-DE-SAC STREET SHALL BE 600' CENTER OF STREET TO CENTER OF CUL-DE-SAC UNLESS AUTHORIZED BY VILLAGE PLANNING COMMISSION.
3. MINIMUM LENGTH OF VERTICAL CURVE CAN BE REDUCED OR ELIMINATED TO ALLOW FOR PROPER DRAINAGE, WITH APPROVAL OF THE VILLAGE.
4. CUL-DE-SAC STREETS ARE TO BE AVOIDED IF POSSIBLE AND MAY NOT BE PERMITTED BY THE VILLAGE PLANNING COMMISSION.

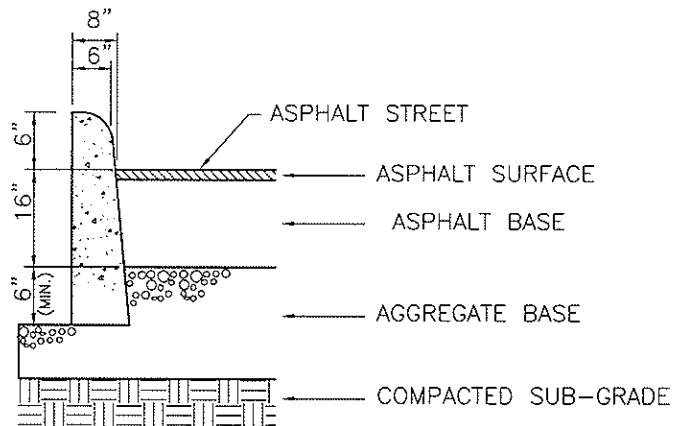
ACCESS CONTROL STANDARDS

1. ACCESS CONTROL AS SHOWN ON THIS SHEET SHALL APPLY TO INDUSTRIAL AND COMMERCIAL DRIVEWAYS OR NEW LOCAL STREETS ON ARTERIAL OR COLLECTOR STREETS WITHIN THE VILLAGE.
2. THE DISTANCE BETWEEN ASSESS POINTS IS MEASURED TO THE NEAREST CURB OR EDGE LINE.
3. NO MORE THAN ONE ACCESS POINT (UNLESS THERE IS A SEPARATE ENTRANCE AND EXIT ACCESS) PER COMMERCIAL IS PERMITTED WITH THE EXCEPTION THAT AN ACCESS POINT ON EACH ROADWAY OF A CORNER PROPERTY IS PERMITTED AND PROPERTIES WITH FRONTAGE EXCEEDING 300' MAY BE PERMITTED IF THE NEED IS CLEARLY SHOWN FOR MORE THAN ONE DRIVEWAY WITH A MAXIMUM OF TWO.
4. THE DISTANCE BETWEEN INDUSTRIAL AND COMMERCIAL DRIVEWAYS ON LOCAL STREETS MUST BE 100' OR GREATER.
5. THE MINIMUM SPACING BETWEEN A COMMERCIAL DRIVEWAY AND/OR STREET WHICH INTERSECTS AN ARTERIAL OR COLLECTOR STREET SHALL BE 200'. THIS DISTANCE SHALL BE MEASURED FROM THE POINT FORMED BY THE INTERSECTION OF THE EXTENDED CURB LINES OF EACH DRIVEWAY OR STREET.
6. DRIVEWAYS OR MINOR STREETS SHALL BE DIRECTLY OPPOSITE OR SHALL BE OFFSET BY THE DIMENSIONS SHOWN ON THIS PAGE.
7. DRIVEWAYWAY OPENING WIDTHS SHALL ADHERE TO THE VILLAGE CONSTRUCTION STANDARDS AND DRAWINGS.
8. IN SPECIAL OR UNIQUE SITUATIONS WHERE STRICT APPLICATION OF THESE STANDARDS WOULD CAUSE UNDUE HARDSHIP UPON THE PROPERTY OWNER. THE VILLAGE BOARD OF APPEALS MAY GRANT A VARIANCE TO SAID STANDARDS.
9. DRIVEWAY OPENINGS SHALL BE AT LEAST 40' FROM INTERSECTION OF LOCAL STREETS.
10. AN ACCESS POINT MUST BE A MINIMUM OF 20' FROM THE ADJACENT PROPERTY LINE, UNLESS A SHARED DRIVEWAY IS UTILIZED.
11. ALL DEFINITIONS SHALL BE AS PER THE OHIO MANUAL OF UNIFORM TRAFFIC DEVICES LATEST.
12. ALL DRIVEWAYS AND LOCAL STREET ACCESS POINTS TO COLLECTOR AND ARTERIAL STREETS MUST BE APPROVED BY THE VILLAGE.

MINIMUM SPACING
OF ACCESS POINTS.



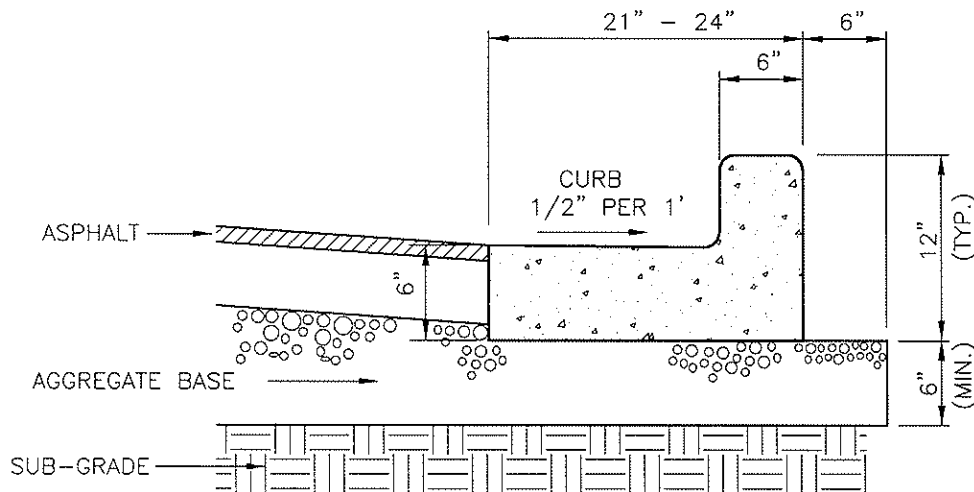
TEMPORARY DEAD-END STREETS



NOTES

1. USE WHERE INDICATED ON PLANS
2. 1/4" PREMOLDED EXPANSION JOINTS SHALL BE CONSTRUCTED HOWEVER, THE MAXIMUM SPACING SHALL NOT EXCEED 100'

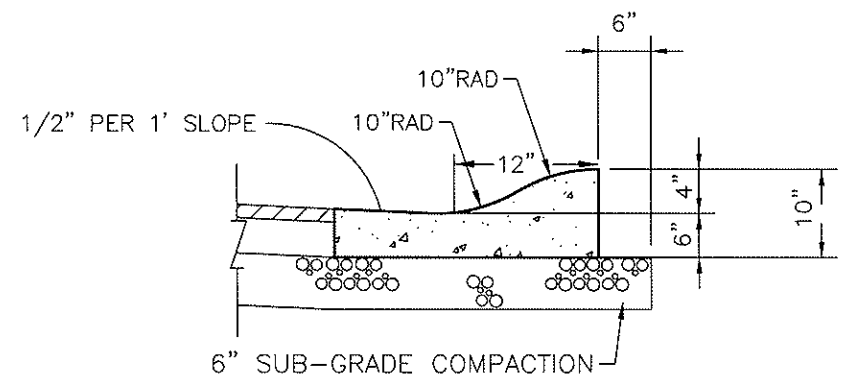
BARRIER CURB DETAIL



CURB & GUTTER DETAIL

NOTES

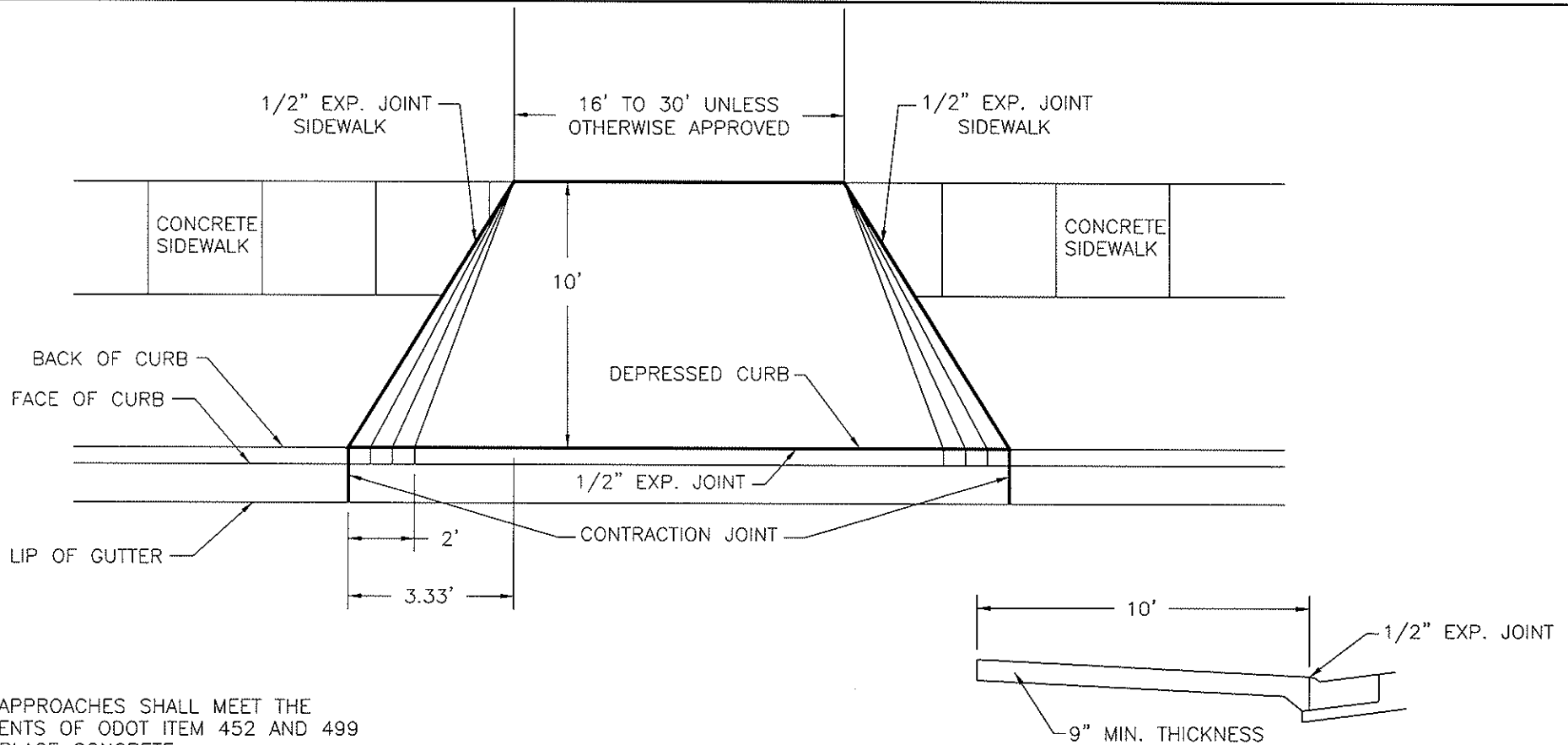
1. CONCRETE AND WORK SHALL MEET THE REQUIREMENT SET FORTH IN ODOT ITEM 609 CURBING.
2. CURBING SHALL HAVE CONTRACTION JOINTS EVERY 10'.
3. MINIMUM OF 6" OF ODOT 304 SHALL BE PLACED UNDER CURBING.
4. CURBING SHALL BE BACKFILLED IMMEDIATELY AFTER FORMS ARE REMOVED OR AS SOON AS PRACTICAL WHEN SLIP FORMING PRIOR TO OTHER CONSTRUCTION OPERATIONS.
5. PROVIDE BROOM FINISH AND EDGING TO ALL EXPOSED SURFACES.
6. APPLY WHITE PIGMENTED CURBING COMPOUND ON ALL SURFACES INCLUDING BACK IMMEDIATELY AFTER FINISHING SURFACES. ANY OTHER METHOD OR TYPE OF CURING COMPOUND MUST BE PREAPPROVED.
7. CONCRETE SHALL CONTAIN 6% +/- 1% OF TOTAL AIR.
8. TYPE 6 CURBS ARE FOR USE AROUND MEDIAN SECTION.
9. FOR CONCRETE STREETS, MINIMUM FLOW LINE SLOPE OF PERFORATED PIPE IS 0.003 FT/FT TO OUTLET.
10. CURB, SHALL BE BLOCKED OUT A MINIMUM OF 5' ON EACH SIDE OF A NEW CATCH BASIN INSTALLED.
11. UNDERDRAIN, IF REQUIRED, TO BE INSTALLED PRIOR TO CURB INSTALLATION.
12. UNDERDRAIN MAYBE USED FOR SUMP PUMP DRAINS WITH A MANUFACTURED TEE, WHEN NO OTHER STORM OUTLET IS AVAILABLE AS DETERMINED BY THE VILLAGE. IN NO CASE SHALL DOWNSPOUTS BE TIED INTO THE UNDERDRAIN.
13. CURB & GUTTER TO BE 24" UNLESS MATCHING EXISTING CONDITIONS. IN NO CASE CAN CURB AND GUTTER BE LESS THAN 21".
14. DEPRESSED CURB TO BE 1.5" ABOVE GUTTER LINE.



COMBINATION ROLL CURB AND GUTTER

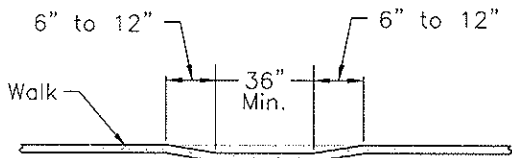


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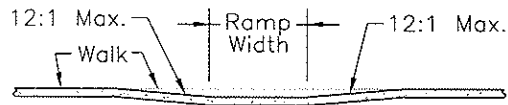


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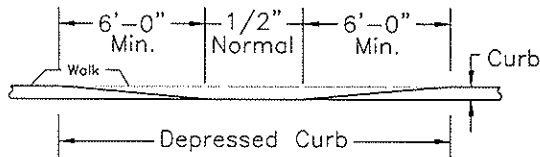
1. DRIVE APPROACHES SHALL MEET THE REQUIREMENTS OF ODOT ITEM 452 AND 499 CAST-IN-PLACE CONCRETE.
2. DRIVE APPROACHES SHALL NOT BE POURED MONOLITHICALLY WITH CURB.
3. MAXIMUM JOINT SPACING SHALL BE 10' LONGITUDINALLY, TRANSVERSELY AND AT TAPERS.
4. EXPANSION MATERIAL SHALL BE 1/2" PREMOLDED.
5. 6" OF GRAVEL SHALL BE PLACED UNDER DRIVE APPROACHES.
6. PROVIDE BROOM FINISH AND EDGE TO ALL EXPOSED SURFACES.
7. WHERE CURB AND GUTTER HAS NOT BEEN PROPERLY DROPPED AT DRIVE APPROACHES, THE CURB SHALL BE ENTIRELY REMOVED AND REPLACED BY THE CONTRACTOR OR OWNER AS DIRECTED BY THE VILLAGE.
8. JOINTS SHALL BE CLEANED AND EDGED BY A 1/4" RADIUS EDGER. LONGITUDINAL JOINTS SHALL BE AS DIRECTED BY THE VILLAGE. EXPANSION JOINTS SHALL BE OF SUCH DIMENSIONS AS SHOWN ON THE STANDARD DRAWINGS FOR CONSTRUCTION JOINTS.
9. CONCRETE SHALL BE ODOT CLASS C (4000 PSI, 650 LB/CY) CEMENT. PROPORTION OPTIONS 1 AND 2 NOT ALLOWED.
10. CONCRETE SHALL CONTAIN 6% +/- 1% OF TOTAL AIR.
11. IF CURB IS REMOVED AND REPLACED DURING DRIVEWAY CONSTRUCTION, JOINTS BETWEEN EXISTING AND NEW CURB ARE TO BE 1/2" EXPANSION JOINTS.



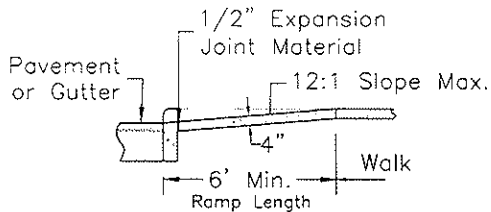
SECTION D-D



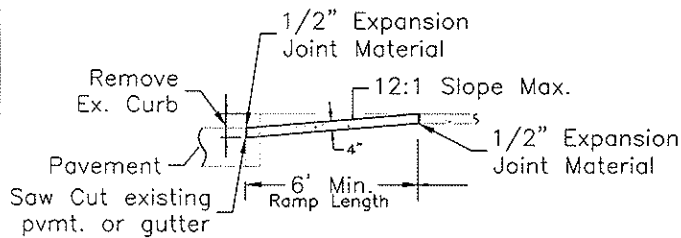
SECTION C-C



VIEW B-B



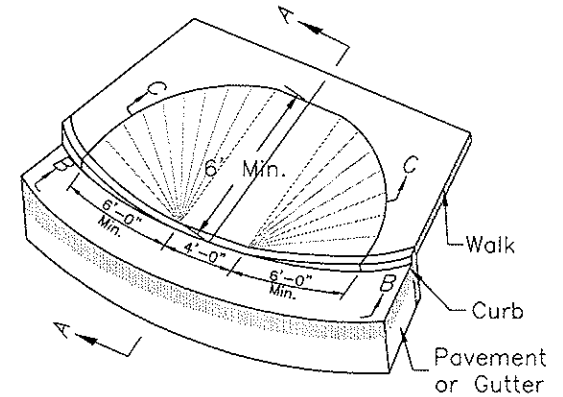
**SECTION A-A
NORMAL DETAIL**



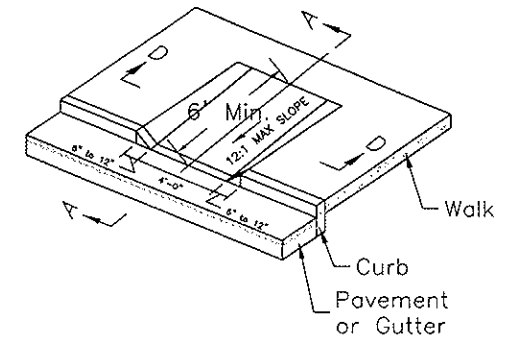
**SECTION A-A
EXISTING WALK DETAIL**

NOTES

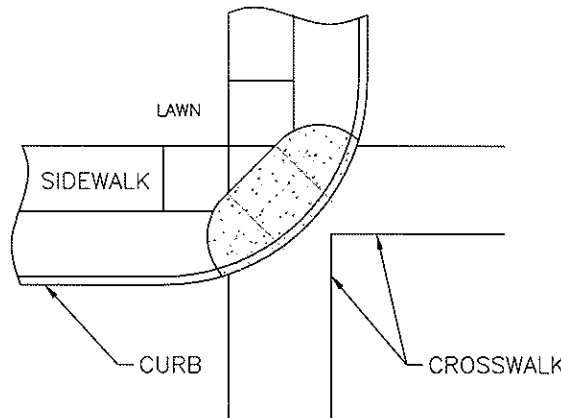
1. VILLAGE TO SPECIFY TYPE I OR TYPE II CURB RAMP.
2. ANY COMBINATION OF SIDE SLOPES ON OPPOSITE SIDES OF A RAMP MAY BE USED TO BEST FIT THE SITE CONDITIONS.
3. THE MINIMUM RAMP LENGTH IS 5' FROM BACK OF A 6" CURB AND MAY BE INCREASED WHERE FEASIBLE TO OBTAIN A FLATTER RAMP SLOPE OR TO BETTER BLEND WITH THE WALK CONFIGURATION.
4. WALK THICKNESS IN THE RAMP SLOPES SHALL BE 4" MINIMUM OR THICKER AS NECESSARY TO MATCH ADJACENT WALK THICKNESS.
5. CURB RAMPS SHALL MEET AND BE FINISHED TO A.D.A. STANDARDS.
6. CURB RAMPS SHALL MEET THE REQUIREMENTS OF ODOT ITEM 608 UNLESS OTHERWISE SPECIFIED WITHIN.
7. CONCRETE SHALL BE ODOT CLASS C (4000 PSI, 650 LB/CY CEMENT). PROPORTIONING OPTIONS 1 AND 2 NOT ALLOWED.
8. CONCRETE SHALL CONTAIN 6% +/- 1% OF TOTAL AIR.



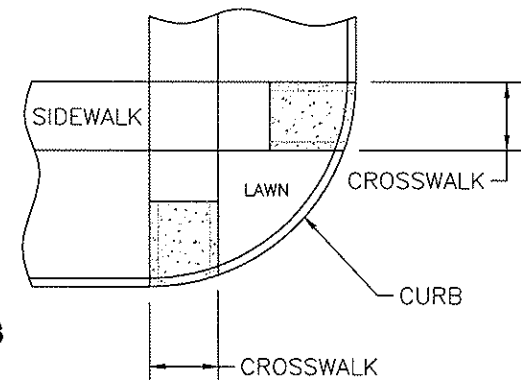
CURB RAMP TYPE I



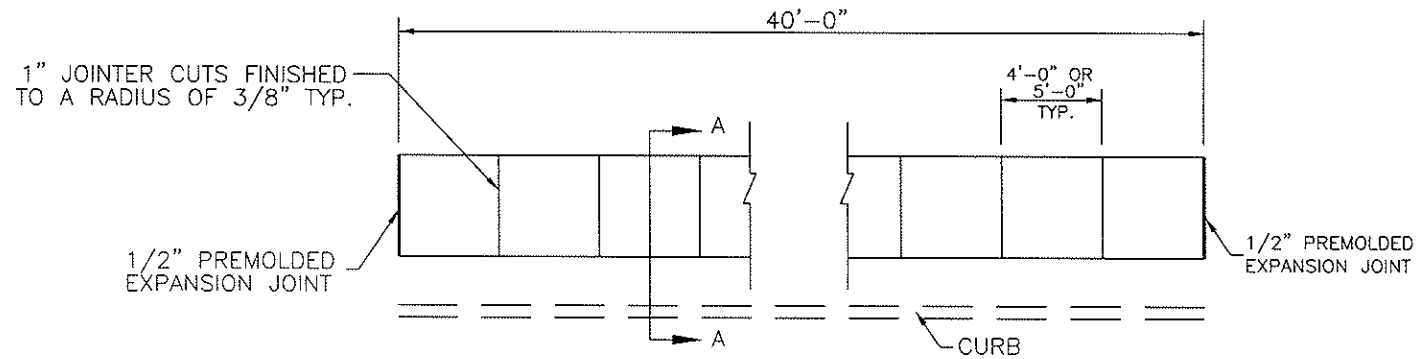
CURB RAMP TYPE II



TYPICAL CURB RAMPS



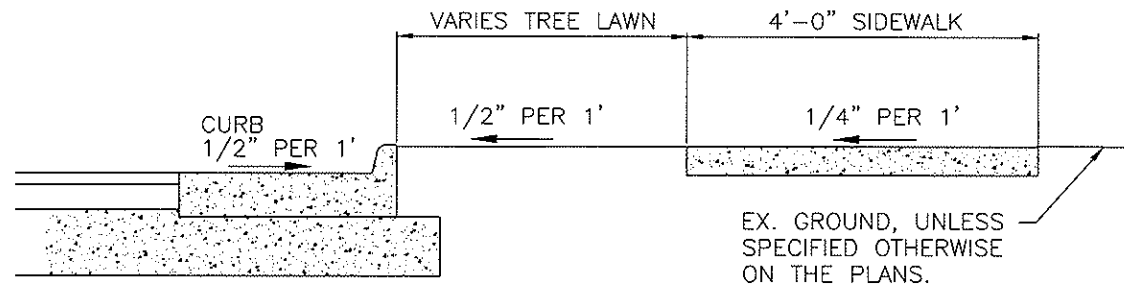
EXPANSION JOINT
REQUIRED AT THE END OF EACH POUR, AT EACH SIDE OF A TREE, DRIVEWAY,
PROPERTY LINE, OR ANY FIXED STRUCTURE, MAXIMUM SPACING BETWEEN EXPANSION
JOINTS SHALL NOT EXCEED 100 FEET.



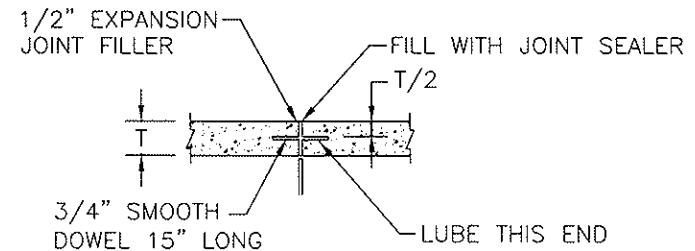
CONCRETE SIDEWALK DETAIL

NOTES

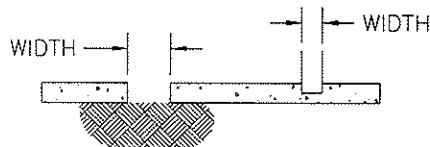
1. WALK TO BE POURED ON UNDISTURBED EARTH OR COMPACTED GRANULAR BEDDING.
2. PROVIDE BROOM FINISH TO ALL EXPOSED SURFACE.
3. CONCRETE SHALL CONFORM TO ODOT ITEM 499 CONCRETE. CONCRETE WORK SHALL CONFORM TO ODOT ITEM 608, UNLESS OTHERWISE SPECIFIED WITHIN.
4. PROVIDE EDGING AROUND ALL EXPOSED SURFACES.
5. USE WHITE PIGMENTED CURING COMPOUND IMMEDIATELY AFTER FINISHING SURFACES. ANY OTHER METHOD OR TYPE OF CURING COMPOUND MUST BE PREAPPROVED.
6. WHEN RENOVATING EXISTING STREETS, THE SIDEWALKS SHALL BE REPLACED TO CONFORM WITH THE ODOT CONSTRUCTION STANDARDS AND DRAWINGS.
7. CONCRETE SHALL BE ODOT CLASS C (4000 PSI, 650 LB/CY CEMENT) PROPORTIONING OPTIONS 1 AND 2 NOT ALLOWED.
8. CONCRETE SHALL CONTAIN 6% +/- 1% OF TOTAL AIR.



SECTION A-A



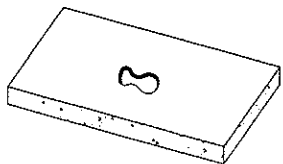
EXPANSION JOINT DETAIL



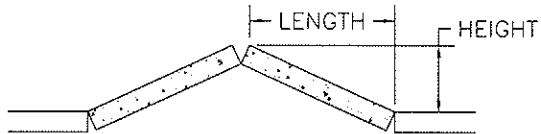
① OPENING
—MAXIMUM WIDTH



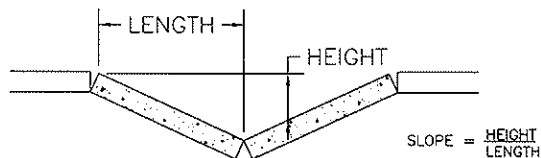
② STEP HUMP
—MAXIMUM HEIGHT



③ DEPRESSIONS
—2 S.F. PER BLOCK



④ HUMP
—MAXIMUM SLOPE



⑤ SUNKEN SECTION
—MAXIMUM SLOPE

SIDEWALK DEFICIENCIES

1. ANY BLOCK HAVING A CRACK OR CRACKS IN IT MORE THAN 3/4" WIDE OR IN EXCESS OF 5 L.F. IN ONE BLOCK.
2. ADJOINING BLOCKS OR PORTIONS THEREOF WHOSE EDGES DIFFER VERTICALLY BY MORE THAN 1/2".
3. BLOCKS HAVING DEPRESSIONS, REVERSE CROSS-SLOPE (SLOPING AWAY FROM THE STREET) OR BELOW CURB GRADE SO AS TO IMPOUND MUD OR WATER.
4. BLOCKS HAVING A CROSS-SLOPE IN EXCESS OF 1/2" VERTICAL PER 1' HORIZONTAL EXCLUDING DRIVEWAYS.
5. CELLAR DOORS OR OTHER COVERS THAT ARE NOT FLUSH WITH THE SIDEWALK, HAVE A SMOOTH SURFACE, OR ARE STRUCTURALLY UNSAFE.
6. GRATING THAT HAS OPENING MEASURING MORE THAN 3/4", PROJECT ABOVE THE SIDEWALK, OR ARE STRUCTURALLY UNSAFE.
7. BLOCKS HAVING EXCESSIVE SPAULING CONSISTING OF OVER 30% OF A PARTICULAR BLOCK.

GENERAL NOTES

1. NO PERSON SHALL TEAR UP OR DIG INTO ANY PUBLIC RIGHT-OF-WAY OR STREET FOR THE PURPOSE OF CONSTRUCTING OR REPAIRING THE SIDEWALK, CURBING, OR GUTTERS THEREON OR FOR ANY OTHER PURPOSE, WITHOUT HAVING FIRST OBTAINED A PERMIT FROM THE VILLAGE TO DO SO.
2. THE CONTRACTOR MUST CALL THE VILLAGE FOR AN INSPECTION AT LEAST THREE WORKING HOURS BEFORE HE PLANS TO POUR THE CONCRETE. THE CONTRACTOR OR HIS FOREMAN MUST BE ON THE JOB WHEN THE INSPECTOR ARRIVES. IF, BECAUSE OF WEATHER CONDITIONS OR FOR SOME OTHER REASON, IT WILL NOT BE POSSIBLE TO HAVE A MAN ON THE JOB, THE CONTRACTOR IS REQUIRED TO CALL AND CANCEL THE INSPECTION.
3. THE CONTRACTOR IS CAUTIONED AGAINST ORDERING CONCRETE BEFORE THE INSPECTION IS MADE DUE TO POSSIBLE CORRECTION OF FORMS OR GRADE.
4. THE CONTRACTOR SHALL PROVIDE PROTECTION AND TRAFFIC CONTROL BARRICADED, LIGHTS, SIGNS, AND OTHER DEVICES AS HEREIN SPECIFIED TO PROVIDE WARNING AND PROTECTION FOR VEHICULAR TRAFFIC, PEDESTRIANS, AND THE WORK DURING THE REMOVAL, CONSTRUCTION, AND CURING OF SIDEWALK, CURB AND GUTTER, AND DRIVEWAY APRONS.
5. THE CONTRACTOR WILL BE RESPONSIBLE FOR AN IMMEDIATE REMOVAL AND CLEAN UP OF ALL EXCAVATED MATERIAL. NO EXCAVATED MATERIAL SHALL BE STORED ON THE PAVEMENT.
6. ALL SIDEWALK SHALL BE REPLACED ON STREET RECONSTRUCTION PROJECTS TO MEET THESE CONSTRUCTION STANDARDS AND DRAWINGS.
7. BRICK, STONE, & SANDSTONE SIDEWALKS ARE PROHIBITED AS PRIMARY SIDEWALK.

GENERAL

1. FAILURE TO COMPLY WITH THE CONSTRUCTION STANDARDS AND DRAWINGS AND DESIGN CRITERIA MAY BE CONSIDERED A VIOLATION OF THE VILLAGE'S BUILDING CODE OR SUBDIVISION REGULATIONS. PENALTIES MAY BE ASSESSED ACCORDING TO THE SEVERITY OF THE VIOLATION.

2. ALL STREET CONSTRUCTION SHALL BE IN ACCORDANCE WITH ODOT SPECIFICATIONS, LATEST REVISION.

3. NONPUBLIC CONSTRUCTION IMPROVEMENTS AFFECTING THE EXISTING CONDITION, PERFORMANCE AND LIFE CYCLE OF VILLAGE STREETS, ALLEYS, OR RIGHT-OF-WAY SHALL BE RESTORED TO THE REQUIREMENTS AND SATISFACTION OF THE VILLAGE ADMINISTRATOR. ALL VILLAGE INFRASTRUCTURE SHALL BE ADEQUATELY RESTORED ACCORDING TO APPLICABLE STANDARDS AND DETAILS.

4. ALL NEW SUBDIVISIONS AND DEVELOPMENTS SHALL BE PROVIDED WITH PUBLIC SIDEWALKS ON BOTH SIDES OF STREETS IN ACCORDANCE WITH VILLAGE STANDARDS.

5. CURB CUTS FOR ALL NEW AND RECONSTRUCTED DRIVEWAYS SHALL CONFORM TO VILLAGE STANDARDS. ALL NEW DRIVEWAY APPROACHES SHALL BE CONSTRUCTED OF OR CONCRETE AND SUBJECT TO ALL VILLAGE REQUIREMENTS.

6. NO VILLAGE STREET'S OR ALLEY'S SHALL BE CLOSED UNLESS THE VILLAGE IS NOTIFIED A MINIMUM OF 48 HOURS IN ADVANCE OF A NON-EMERGENCY SITUATION. ADVANCED PUBLIC NOTIFICATION AND PUBLISHING SHALL BE A MINIMUM OF 24 HOURS.

PAVEMENT REPLACEMENT

1. IMMEDIATELY AFTER PLACEMENT OF BACKFILL IN EXISTING STREETS, A TEMPORARY PAVEMENT SHALL BE INSTALLED AND THE STREET OPENED. TEMPORARY PAVEMENT SHALL CONSIST OF 8" OF COMPACTED ODOT SPECIFICATION 411 OR 307. THE SURFACE SHALL BE MAINTAINED FLUSH WITH THE EXISTING STREET.

2. PERMANENT PAVEMENT REPLACEMENT SHALL EQUAL OR EXCEED THE EXISTING PAVEMENT AND PREPARED BY THE VILLAGE.

3. ANY SETTLEMENT OF A TRENCH CAUSING A DEPRESSION SHALL BE REFILLED AS REQUIRED BY THE VILLAGE AT THE CONTRACTOR'S EXPENSE. THIS PROVISION APPLIES FOR A ONE-YEAR PERIOD AFTER WORK IS ACCEPTED BY THE VILLAGE.

4. ALL TEMPORARY PAVEMENT AND SIDEWALK SHALL BE MAINTAINED BY THE CONTRACTOR OR DEVELOPER AT HIS OWN EXPENSE IN A SUITABLE AND SAFE CONDITION FOR TRAFFIC UNTIL PERMANENT REPLACEMENT IS MADE OR THE PROJECT IS FINALLY ACCEPTED BY THE VILLAGE.

TRAFFIC CONTROL

1. THE CONTRACTOR SHALL MAINTAIN TRAFFIC CONTROL AT ALL TIMES WITH THE PROPER BARRICADES AS PER THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THESE CONTROL DEVICES SHALL BE IN PLACE PRIOR TO ANY WORK COMMENCING. CONTRACTOR WILL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL ITEMS.

2. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES UNLESS OTHERWISE APPROVED BY THE VILLAGE.

CURB STAKING AND ROADWAY

1. LINE AND GRADE EVERY 50' ON A CONVENIENT OFFSET WITH TACKED HUBS.

PAVEMENT (ASPHALT)

1. THE CONTRACTOR SHALL PROVIDE THE VILLAGE WITH A COPY OF THE NORMAL (MEDIUM TRAFFIC) ODOT 404 JOB MIX FORMULA FOR EACH PLANT THAT PROVIDES HOT MIXED ASPHALT TO THIS PROJECT. ALL MIXES SHALL FOLLOW ODOT JOB MIX FORMULA WITH THE EXCEPTION THAT THE BITUMEN CONTENT SHALL BE 0.2% HIGHER. SECTION 401.02 COMPOSITION OF THE CURRENT ODOT SPECIFICATION SHALL BE USED FOR ACCEPTANCE BASED ON THE INCREASED BITUMEN. A 448 OR 446 JOB MIX FORMULA WILL NOT BE ACCEPTABLE. RECYCLED ASPHALT SHALL NOT EXCEED 15% OF ANY 402 MIX PRODUCED. NO RECYCLED ASPHALT MAY BE USED IN THE ITEM 404 SURFACE COURSE.

2. THREE-WHEEL STEEL ROLLER SHALL BE USED FOR INITIAL BREAKDOWN ON ALL PROJECTS.

3. ALL WORK SHALL ADHERE TO ODOT'S LATEST REVISIONS AND TO THE VILLAGE SPECIFICATIONS WHICHEVER IS MORE STRINGENT SHALL PREVAIL UNLESS OTHERWISE APPROVED.

4. PATCHED AREAS SHALL BE SEALED ON THE PERIMETER OF THE PATCH WITH ASPHALT CEMENT.

5. ALL UTILITY ADJUSTMENTS, MANHOLE, WATER VALVES, ECT., SHALL BE RAISED TO FINISHED GRADE BEFORE THE FINAL ASPHALT COURSE IS LAID.

6. ASPHALT CEMENT SHALL BE USED NEXT TO THE LIP OF GUTTER PRIOR TO THE FINAL ASPHALT LIFT BEING PLACED.

7. TACK COAT SHALL BE APPLIED PRIOR TO THE PLACEMENT OF THE FINAL LIFT OF ASPHALT IF THE EXISTING ASPHALT LIFT IS DIRTY OR AFTER TEN DAYS UNLESS OTHERWISE APPROVED. TEMPERATURE MUST BE 50°F OR HIGHER.

8. NO ASPHALT SHALL BE PLACED OVER EXCAVATED TRENCHES UNLESS TRENCHES HAVE BEEN COMPACTED.

9. NO ASPHALT SHALL BE LAID UNLESS THE VILLAGE IS GIVEN PRIOR NOTICE AND THE AMBIENT TEMPERATURE IS 50°F OR GREATER UNLESS OTHERWISE APPROVED.

10. FINAL LIFT OF ASPHALT SHALL BE FINISHED TO 1/4" ABOVE THE LIP OF GUTTER.

11. TEMPERATURES FOR BREAKDOWN ROLLING SHALL BE 260°F PLUS 15°F AND FOR FINAL ROLLING 175°F PLUS 15°F.

12. ASPHALT CEMENT SHALL BE USED ON ALL JOINTS AND FEATHERED SURFACES PRIOR TO PLACEMENT OF THE NEXT COURSE OF ASPHALT TO THE ABUTTING JOINT, UNLESS OTHERWISE APPROVED.

13. 325°F IS THE MAXIMUM TEMPERATURE ASPHALT MATERIAL IS TO BE MIXED.

14. ALL EDGES TO BE TRIMMED BACK AND SAWCUT TO SOLID MATERIAL AND BE STRAIGHT AND NEAT AS PER THE VILLAGE'S INSTRUCTIONS.

NOTES

1. THE VILLAGE MUST BE NOTIFIED BEFORE ANYONE CAN PERFORM ANY WORK ON OR WITHIN A PUBLIC RIGHT-OF-WAY. (STREET, ALLEY, ETC.). NOTIFICATION IS REQUIRED FOR ANY TUNNEL, SIDEWALK, OPENING OR EXCAVATION UNDER OR IN THE RIGHT-OF-WAY PUBLIC GROUNDS.

2. THE NOTIFICATION WILL BE COMPLETED BY THE PERSON OR FIRM PLANNING THE WORK WITHIN THE RIGHT-OF-WAY. ALL APPROVALS MUST BE OBTAINED BEFORE ANY WORK IS STARTED. 72 WORKING HOUR LEAD TIME IS RECOMMENDED.

3. THE APPLICANT SHALL HAVE SUFFICIENT BARRICADES, WARNING SIGNS, AND LIGHTS DURING THE ENTIRE PERIOD THAT THE WORK IS BEING PERFORMED AND SHALL ADHERE TO APPLICABLE SECTION OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

4. ALL UTILITIES ARE REQUIRED TO OBTAIN APPROVAL.

5. THE EXISTING PAVEMENT SHALL BE NEATLY CUT PRIOR TO EXCAVATION. ALL EXCAVATED MATERIAL SHALL BE REMOVED FROM THE JOB SITE. THE APPLICANT IS RESPONSIBLE FOR ALL PAVEMENT DAMAGED OUTSIDE THE TRENCH AREA.

6. BACKFILLING SHALL BE IN ACCORDANCE WITH VILLAGE'S SPECIFICATIONS.

7. ALL EXCAVATIONS OR TRENCH EDGES UNDER OR WITHIN 5' OF PROPOSED OR EXISTING PAVEMENT, CURB, DRIVEWAYS, ALLEYS, STONE AREAS OR WALKS SHALL EITHER BE BACKFILLED WITH LOW STRENGTH MORTAR BACKFILL ODOT ITEM 613, TYPE 1 ONLY OR BACKFILLED WITH ODOT 603 TYPE 1 OR TYPE 2 GRANULAR MATERIAL, COMPACTED IN 6" LAYERS. A DENSITY TEST OF 98% OF ASTM D698 STANDARD PROCTOR CURVE MAY BE REQUIRED TO BE PERFORMED BY A COMMERCIAL TESTING LAB SATISFACTORY TO THE VILLAGE.

8. ALL EXCAVATION OR TRENCH EDGES NOT UNDER OR WITHIN 5' OF PROPOSED OR EXISTING PAVEMENT, CURB, DRIVEWAYS, ALLEYS, STONE AREAS OR WALKS CAN BE COMPACTED EXISTING NATIVE MATERIAL IN 12" MAXIMUM LIFTS OR AS APPROVED BY THE VILLAGE.

9. ALL DISTURBED AREAS MUST BE RETURNED TO AS GOOD OR BETTER CONDITION. ALL REPAIRS MUST MEET VILLAGE SPECIFICATIONS. THE VILLAGE MUST INSPECT AND APPROVE ALL REPAIRS.

10. COLD PATCH SHALL BE PLACED TO 1 1/2" + THICKNESS OVER BACKFILLED TRENCH WITHIN ONE WORKING DAY AFTER THE BACKFILL HAS BEEN COMPACTED UNLESS THE ASPHALT PAVEMENT PLACED IMMEDIATELY AND REMOVED PRIOR TO PERMANENT PAVEMENT REPLACEMENT.

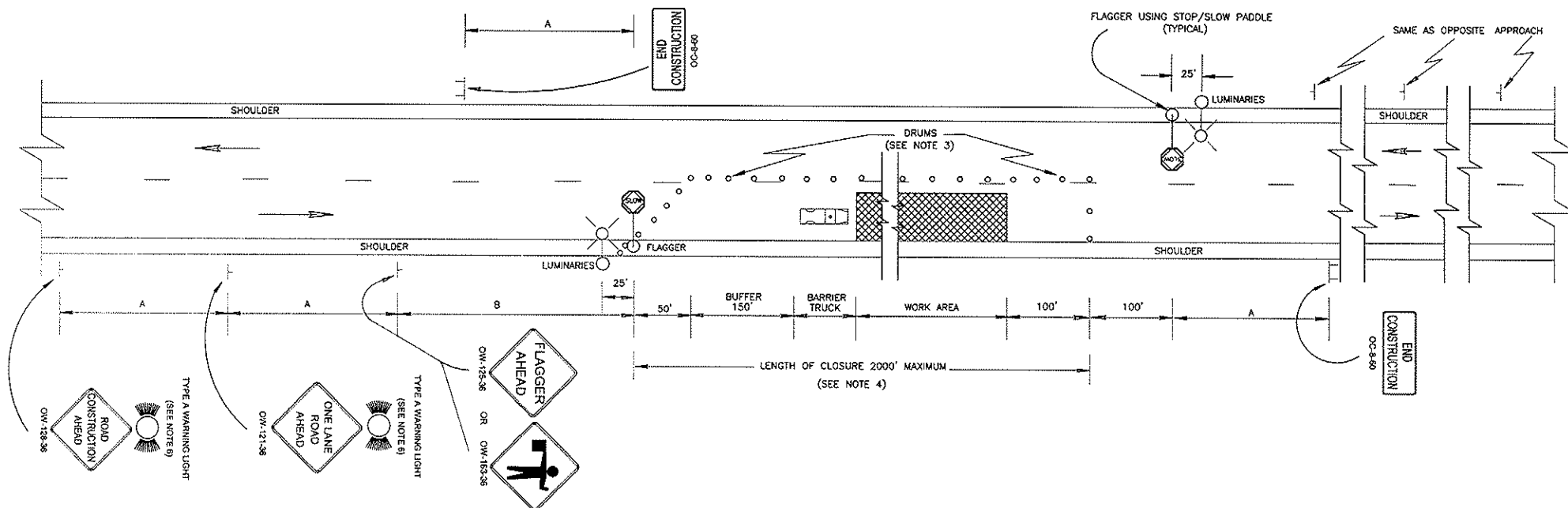
11. EFFORTS SHALL BE MADE TO MINIMIZE ALL DISTURBANCE TO TREES OR THIN ROOTS. EXTENSIVE EXCAVATION CAUSING DAMAGE TO TREES WILL RESULT IN THE REMOVAL AND REPLACEMENT OF, BY THE CONTRACTOR. THE REPLACEMENT SHALL BE AS PER THE VILLAGE.

12. FOR CLOSURE OF ARTERIALS OR BUSY COLLECTORS THE VILLAGE RESERVES THE OPPORTUNITY TO DIRECT CONTRACTOR TO CLOSE STREET DURING OFF-PEAK TRAFFIC HOURS. CLOSURE MAY OCCUR AT NIGHT OR ON WEEKENDS. CONTRACTOR SHALL PROVIDE ALL TRAFFIC CONTROL ASSOCIATED WITH ROAD CLOSURE.

13. AN ASPHALT EMULSION, OR CRACK SEALANT, WITH ASPHALT GRADE SS-1 OR CSS-S SHALL BE APPLIED TO THE PERIMETER OF ALL PAYMENT CUTS AFTER RESTORATION IS COMPLETED.

14. PAVEMENT THICKNESS TO BE RESTORED SHALL BE ACCORDING TO VILLAGE STANDARDS OR EQUAL TO THE EXISTING THICKNESS, WHICHEVER IS GREATER.

15. IN THE EVENT THAT AFTER NOTIFICATION FROM THE VILLAGE, THE CONTRACTOR FAILS TO CORRECT PROBLEMS ASSOCIATED WITH POOR TRENCH MAINTENANCE, THE VILLAGE RESERVES EXCLUSIVE RIGHT TO CORRECT TRENCH PROBLEMS AND BILL THE ASSOCIATED COSTS.



GENERAL NOTES:

1. THE LOCATION OF THE ADVANCE WARNING SIGNS SHOULD BE ADJUSTED TO PROVIDE FOR ADEQUATE SIGHT DISTANCE FOR THE EXISTING VERTICAL AND HORIZONTAL ROADWAY ALIGNMENT. THE DISTANCES SHOWN ARE MINIMUMS. DISTANCE B MAY ALSO BE INCREASED, PRIOR TO IMPLEMENTATION OF THE CLOSURE OR AFTER IT IS IN EFFECT, AS DIRECTED BY THE ENGINEER FOR SUCH OCCURRENCES AS LONG TRAFFIC BACKUPS.
2. FLAGGERS, ONE FOR EACH DIRECTION SHALL BE USED TO CONTROL TRAFFIC CONTINUOUSLY FOR AS LONG AS A ONE LANE OPERATION IS IN EFFECT. THE FLAGGERS SHALL BE ABLE TO COMMUNICATE WITH EACH OTHER AT ALL TIMES.
3. DRUMS SHALL BE SPACED AT 50' CENTER TO CENTER ALONG THE CLOSURE. DRUMS ON THE ADVANCE TAPER SHALL BE SPACED AT 10' CENTER TO CENTER. CONES HAVING A MINIMUM HEIGHT OF 28 INCHES MAY BE SUBSTITUTED FOR DRUMS FOR DAY-TIME LANE CLOSURES. PROVISIONS SHALL BE MADE TO STABILIZE THE CONES TO PREVENT THEM FROM BLOWING OVER.
4. SEVERAL SMALL WORK AREAS CLOSE TOGETHER SHALL BE COMBINED INTO ONE WORK ZONE. HOWEVER, THE CLOSURE SHALL NOT BE MORE THAN 2000 FEET LONG UNLESS APPROVED BY THE ENGINEER. THE MINIMUM LENGTH BETWEEN CLOSURES SHALL BE 2000 FEET. ONLY ONE SIDE OF THE ROAD SHALL BE CLOSED IN ANY ONE WORK ZONE.
5. THE BARRIER TRUCK SHOWN AT THE BEGINNING OF THE WORK AREA SHALL BE IN PLACE AND UNOCCUPIED WHENEVER WORKERS ARE IN THE WORK AREA. THIS BARRIER TRUCK SHALL BE REMOVED FROM THE PAVEMENT WHEN WORKERS ARE NOT IN THE WORK AREA. OTHER PROTECTIVE DEVICES MAY BE USED IN LIEU OF THE BARRIER TRUCK SHOWN WHEN APPROVED BY THE ENGINEER. THE VEHICLE SHALL BE EQUIPPED WITH A 360° ROTATION OR FLASHING AMBER BEACON CLEARLY VISIBLE A MINIMUM OF ONE-QUARTER MILE.
6. THE TYPE A FLASHING WARNING LIGHTS SHOWN ON THE "ROAD CONSTRUCTION AHEAD" (OW-128) AND THE "ONE LANE ROAD AHEAD" (OW-121) SIGNS ARE REQUIRED WHENEVER A NIGHT LANE CLOSURE IS NECESSARY.
7. TYPE C STEADY BURNING WARNING LIGHTS SHALL BE ERECTED ON EACH DRUM FOR NIGHT LANE CLOSURES.
8. ADEQUATE AREA ILLUMINATION OF EACH FLAGGER STATION SHALL BE PROVIDED AT NIGHT BY USING 150 WATT MINIMUM HIGH PRESSURE SODIUM LUMINAIRES OR 250 WATT MINIMUM MERCURY LUMINAIRES. LUMINAIRES SHALL BE LOCATED ADJACENT TO ONE FLAGGER STATION FOR EACH DIRECTION OF TRAFFIC AS SHOWN ABOVE. THE MOUNTING HEIGHT FOR LUMINAIRES SHALL BE A MINIMUM OF 27 FEET ABOVE THE PAVEMENT AND MOUNTED ON A SUPPORT OF ADEQUATE STRENGTH TO PROVIDE A SATISFACTORY INSTALLATION. THE OVERHEAD CONDUCTOR CLEARANCE SHALL BE A MINIMUM OF 18 FEET ABOVE THE PAVEMENT. THE LUMINAIRES ARM SHALL BE OF SUFFICIENT LENGTH TO EXTEND TO THE EDGE OF THE PAVEMENT. POLES SHALL BE ERECTED A MINIMUM OF 5.5' BEHIND FACE OF GUARDRAIL WHERE EXISTING, OR 12' FROM THE EDGE OF PAVEMENT. WHERE POSSIBLE LOCATE BEHIND DITCH. LIGHTING MATERIAL SHALL COMPLY WITH SPECIFICATION 713.
9. WITHIN THE LENGTH OF CLOSURE, PROVISION SHALL BE MADE TO CONTROL TRAFFIC ENTERING FROM INTERSECTING STREETS AND MAJOR DRIVES AS NECESSARY TO PREVENT WRONG WAY MOVEMENTS AND TO KEEP VEHICLES OFF OF NEW PAVEMENT NOT READY FOR TRAFFIC. THE METHOD OF CONTROL SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

MINIMUM DISTANCE	A	B
URBAN	200	200
RURAL	500	500

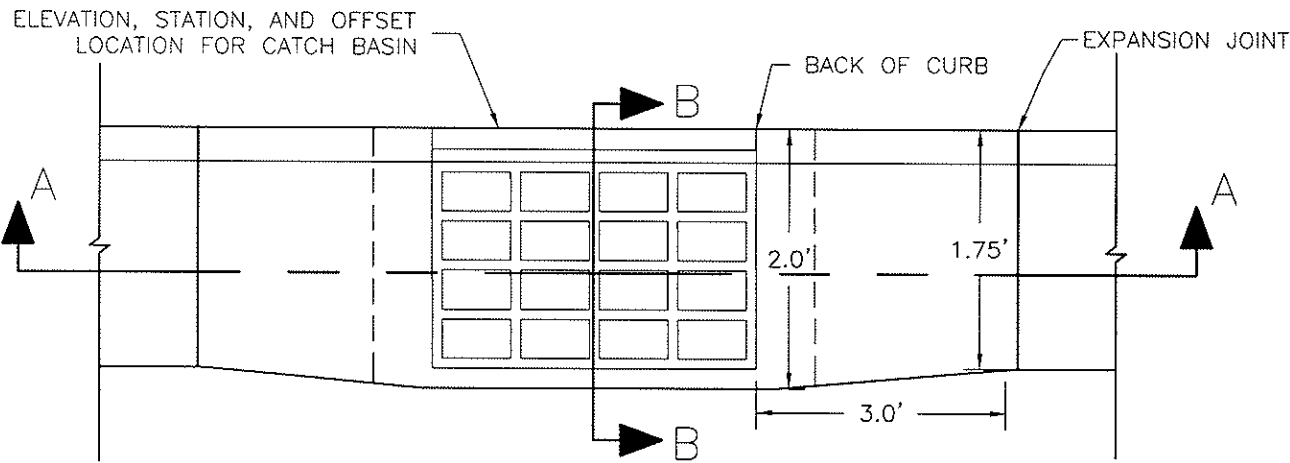
ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE C & M SPECIFICATIONS AS WELL AS IN ACCORDANCE WITH PART 7 OF OMUTCD. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS TO PROVIDE THIS METHOD OF TRAFFIC CONTROL SHALL BE INCIDENTAL TO THE LUMP SUM BID FOR 614 MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

STORM DRAINAGE

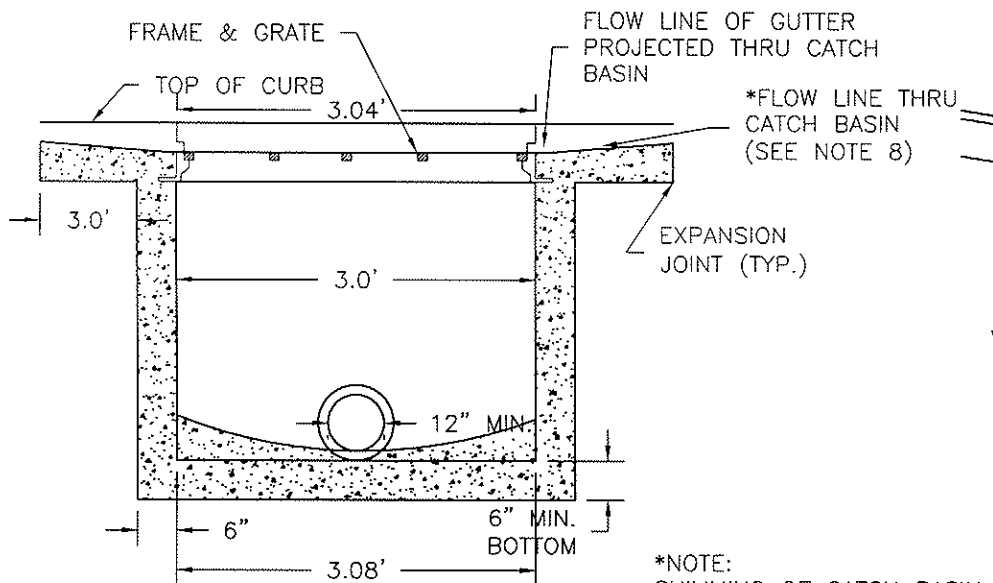
DIVISION 600

NOTES

1. CASTING SHALL BE EAST JORDAN 7030 OR NEENAH R-3246 OR EQUIVALENT.
2. FOR TYPE 2 COMBINATION CURB AND GUTTER. THE BACK SHALL BE EAST JORDAN TYPE T4 OR NEENAH (3" RADIUS) (R-3246-1).
3. FOR TYPE 1 COMBINATION ROLL CURB AND GUTTER THE BACK SHALL BE NEENAH (R-3501-N) OR EQUAL.
4. CATCH BASIN IN DRIVE APPROACHES (TO BE AVOIDED, IF POSSIBLE) THE BACKS SHALL BE EAST JORDAN TYPE T3 OR NEENAH (R-3246-A) WITH CURB PLATE.
5. STANDARD GRATE SHALL BE EAST JORDAN TYPE M2, NEENAH TYPE C, OR EQUIVALENT. ALL BAR EDGES TO BE ROUNDED 1/8" RADIUS.
6. CONCRETE, CAST-IN-PLACE, TO BE CLASS C. PRECAST CONSTRUCTION PERMITTED AND CONCRETE SHALL MEET THE REQUIREMENTS OF 706.13 WITH 6±2% AIR VOID CONTENT IN THE HARDENED CONCRETE. KNOCKOUTS MAY BE PROVIDED IN PRECAST CONSTRUCTION. PRECAST WALLS SHALL HAVE A SUFFICIENT AMOUNT OF REINFORCEMENT TO PERMIT SHIPPING AND PLACEMENT WITHOUT DAMAGE.
7. CARE SHALL BE TAKEN WHEN CONNECTING TO AN EXISTING CATCH BASIN TO KEEP OPENING AS MINIMAL AS POSSIBLE, SAW CUT OR USE ROTARY HAMMER FOR OPENING TO MINIMIZE DAMAGE TO CATCH BASIN. PIPE TO INTRUDE INTO CATCH BASIN 1" ONLY AND PIPE MUST BE CUT PARALLEL TO CATCH BASIN. USE NONSHRINK GROUT AROUND PIPE TO SEAL BETWEEN PIPE AND CATCH BASIN.
8. DROP FLOW LINE 1/2" WITHIN BLOCK OUT OF COMBINED CURB AND GUTTER WHILE KEEPING LIP OF GUTTER CONSISTENT WITH TOP OF CURB.

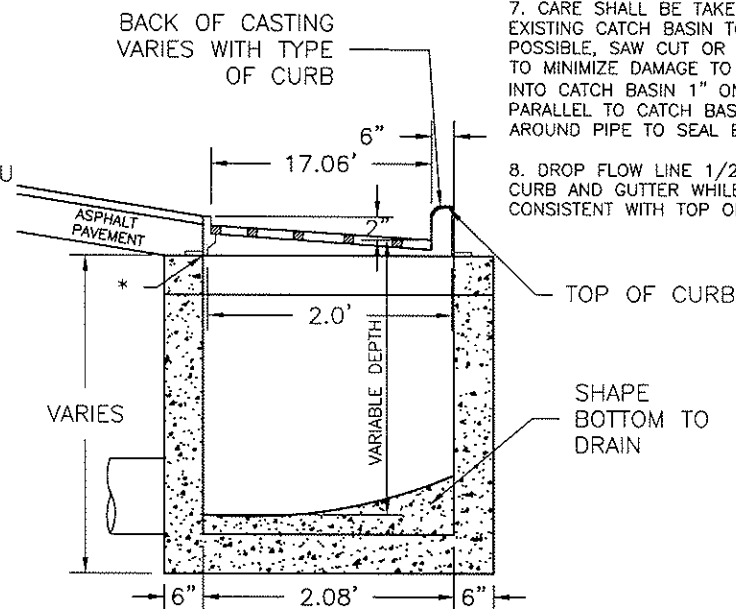


TOP VIEW

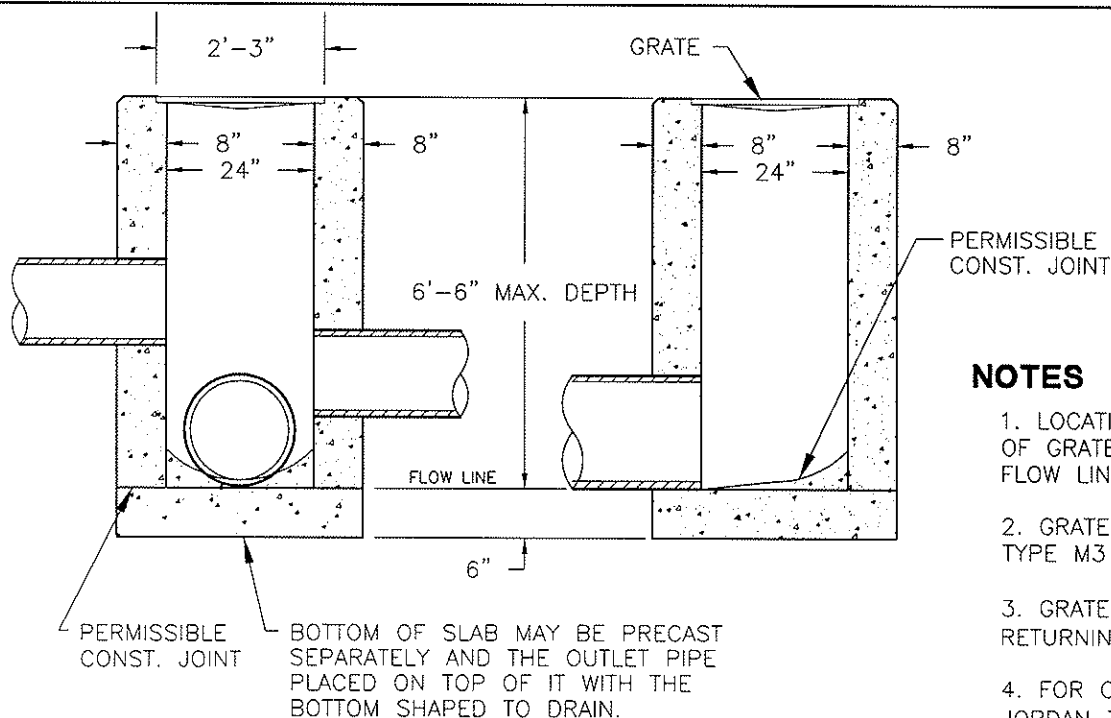


SECTION A-A

*NOTE:
SHIMMING OF CATCH BASIN
FRAME MAYBE REQUIRED TO
KEEP LIP OF GUTTER
CONSISTENT.

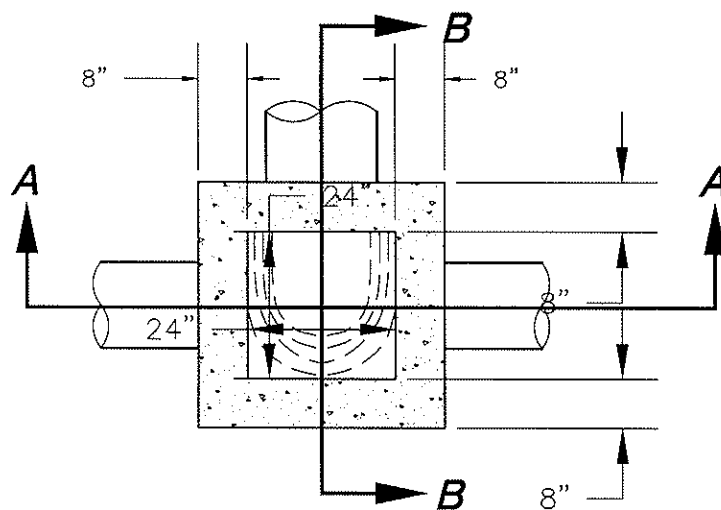


SECTION B-B



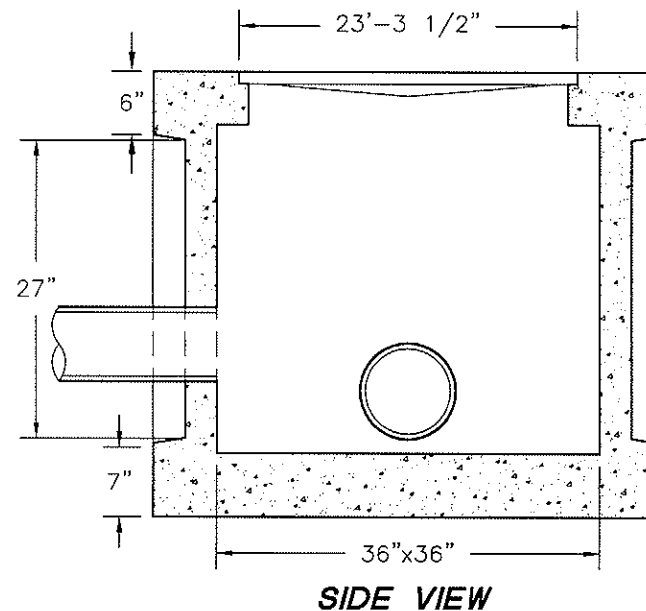
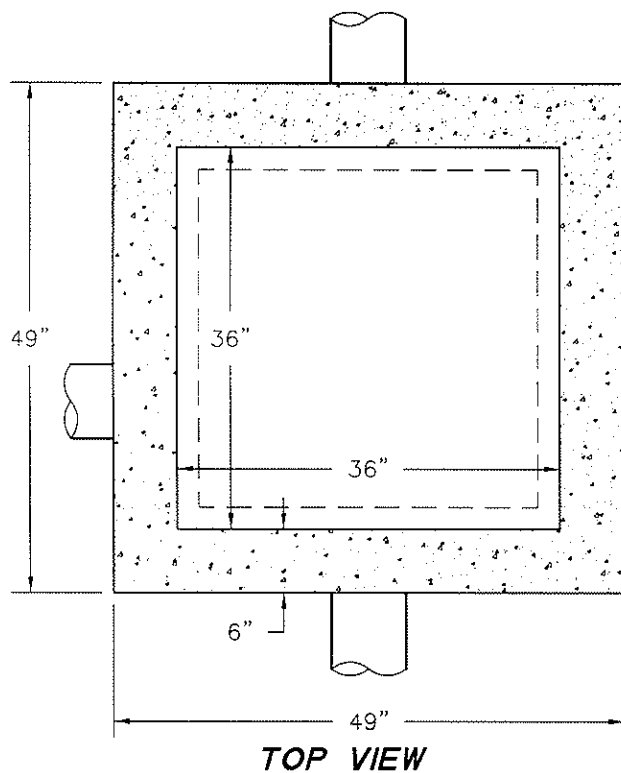
SECTION A-A

SECTION B-B



NOTES

1. LOCATION AND ELEVATIONS WHEN GIVEN ON THE PLANS ARE TOP BACK OF GRATE. WHEN SIDE OPENINGS ARE PROVIDED, ELEVATION SHALL BE THE FLOW LINE OF THE SIDE INLET.
2. GRATE FOR NONPAVED AREA SHALL BE EAST JORDAN IRON WORKS 5110 TYPE M3 OR NEENAH CATALOG NO. R-4859-C OR EQUIVALENT.
3. GRATE ELEVATION TO BE PLACED 4" TO 6" BELOW NORMAL DITCH RETURNING TO NORMAL 10' EACH SIDE OF BASIN.
4. FOR COMBINATION CURB AND GUTTER. THE CASTING SHALL BE EAST JORDAN 7030 TYPE T4 OR NEENAH (3" RADIUS) R-3246-1 OR EQUIVALENT.
5. FOR COMBINATION ROLL CURB AND GUTTER. THE CASTING SHALL BE NEENAH R-3501-N OR EQUIVALENT.
6. CONCRETE, CAST-IN-PLACE, TO BE CLASS C. ALL PRECAST CONCRETE SHALL MEET THE REQUIREMENTS OF 706.13 WITH 6 +/- 2% AIR VOID CONTENT IN THE HARDENED CONCRETE AND BE MARKED WITH CATCH BASIN NUMBER. OPENINGS FOR PIPES SHALL BE O.D. +2" WHEN FABRICATED OR FIELD CUT.
7. CATCH BASINS NOT PERMITTED IN PAVEMENT AREAS UNLESS USING A FRAME AND GRATE EQUIVALENT OF NEENAH CATALOG NO R-3405 OR EAST JORDAN IRON WORKS NO 5250.
8. FOR PIPES OVER 18" REFER TO ODOT CATCH BASIN 2-3 AND 2-4. FOR SIDE INLETS REFER TO ODOT CATCH BASIN 2-2-A.
9. CARE SHALL BE TAKEN WHEN CONNECTING TO AN EXISTING CATCH BASIN TO KEEP OPENING AS MINIMAL AS POSSIBLE, SAW CUT OR USE ROTARY HAMMER FOR OPENING TO MINIMIZE DAMAGE TO CATCH BASIN. PIPE TO INTRUDE INTO CATCH BASIN 1" ONLY AND PIPE MUST BE CUT PARALLEL TO CATCH BASIN. USE NONSHRINK GROUT AROUND PIPE TO SEAL BETWEEN PIPE AND CATCH BASIN.



NOTES

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6. CARE SHALL BE TAKEN WHEN CONNECTING TO AN EXISTING CATCH BASIN TO KEEP OPENING AS MINIMAL AS POSSIBLE. IF POSSIBLE, SAW CUT OR USE ROTARY HAMMER FOR OPENING TO MINIMIZE DAMAGE TO CATCH BASIN. PIPE TO INTRUDE INTO CATCH BASIN 1" ONLY AND PIPE MUST BE CUT PARALLEL TO CATCH BASIN. USE NONSHRINK GROUT AROUND PIPE TO SEAL BETWEEN PIPE AND CATCH BASIN.
7. DROP FLOW LINE 1/2" WITHIN BLOCKOUT OF COMBINED CURB AND GUTTER WHILE KEEPING LIP OF GUTTER CONSISTENT WITH TOP OF CURB.



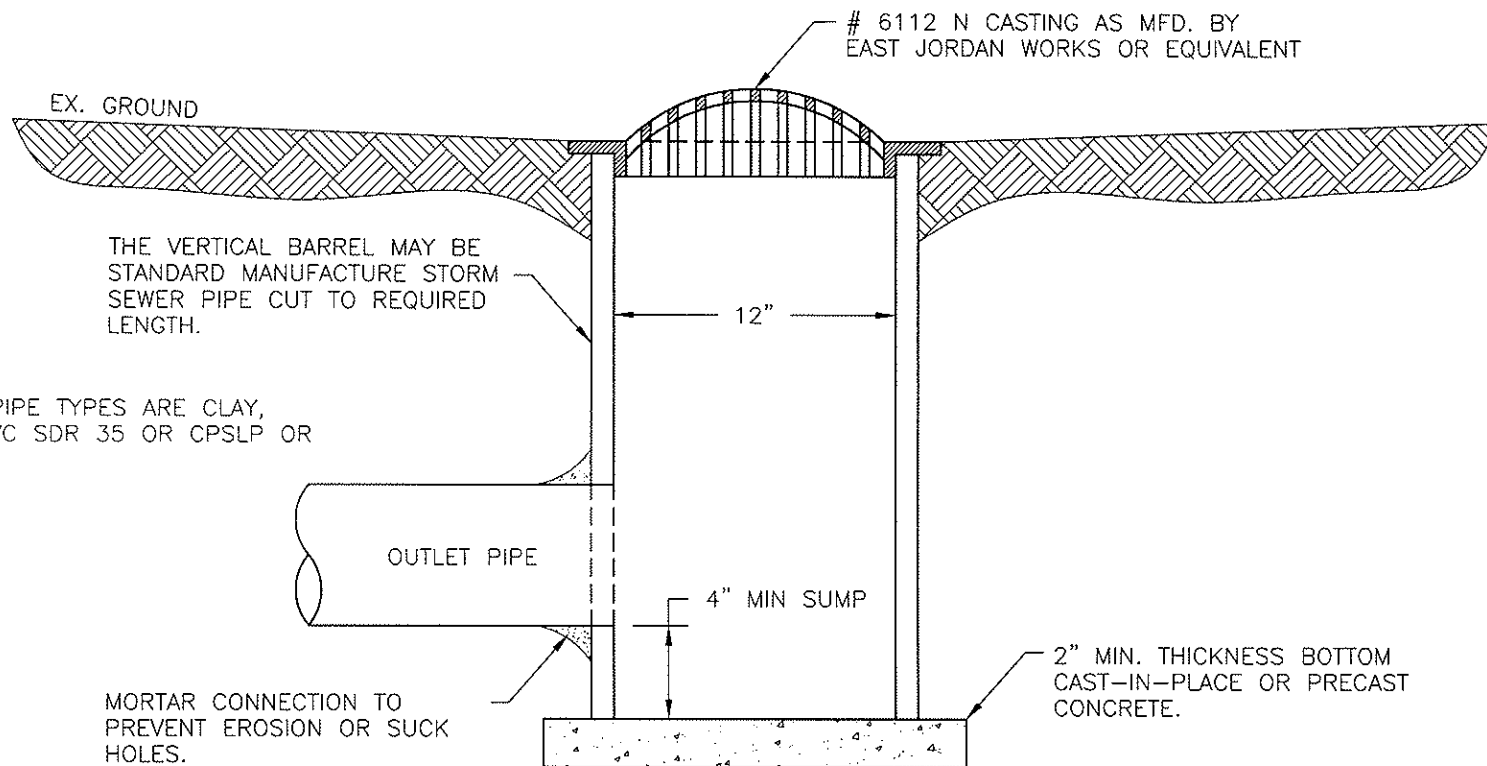
Fanning/Howey
Civil Engineering Division
Engineers Surveyors Consultants

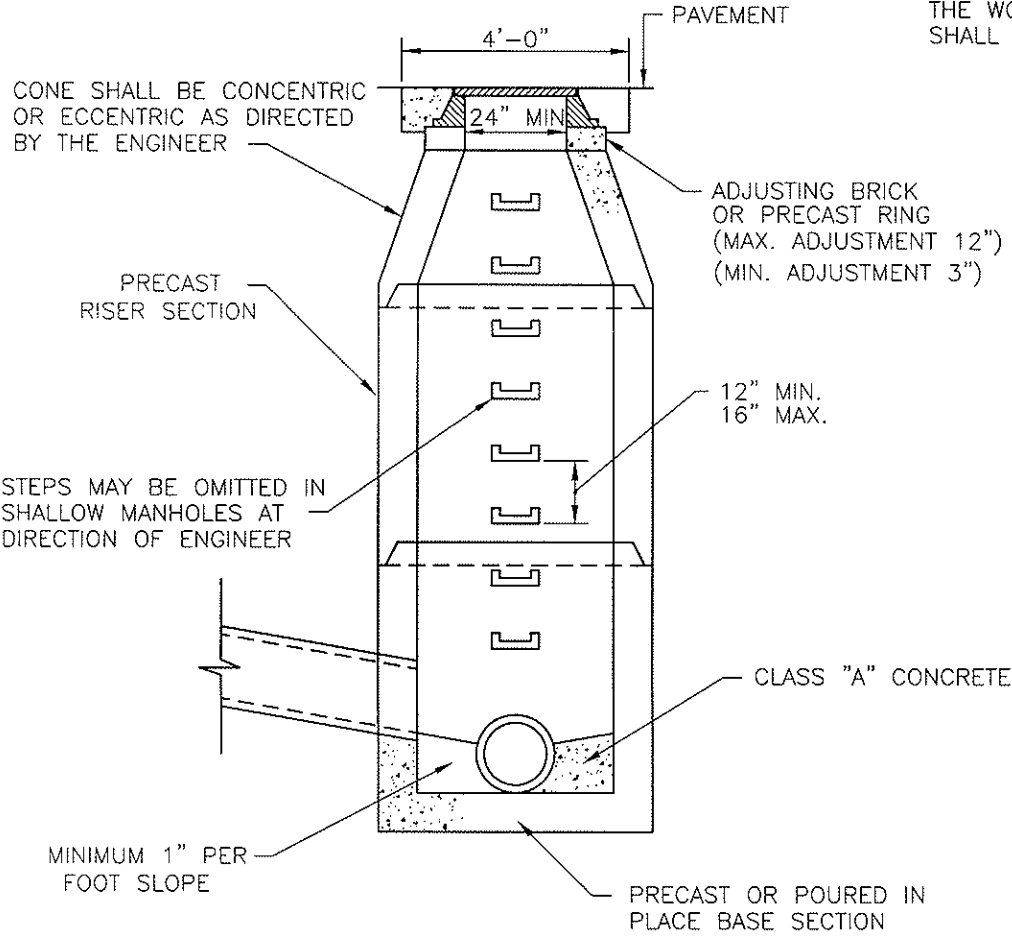
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TYPE 2-3-B CATCH BASIN

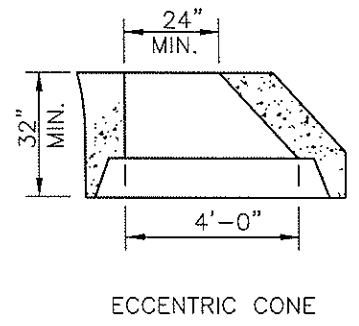
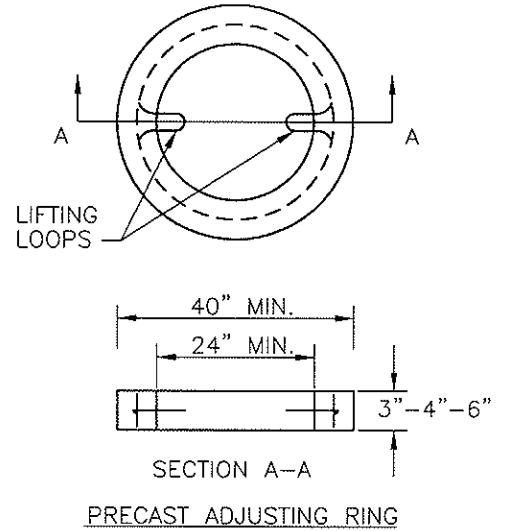
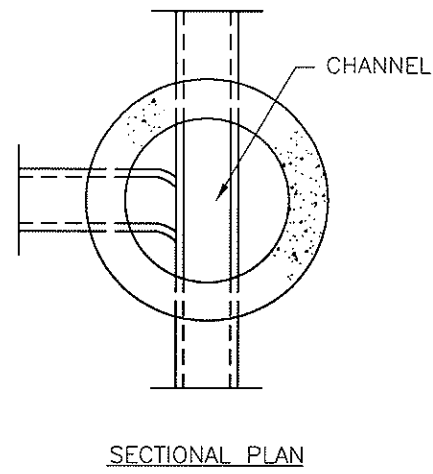
**VILLAGE OF
PLEASANT HILL**

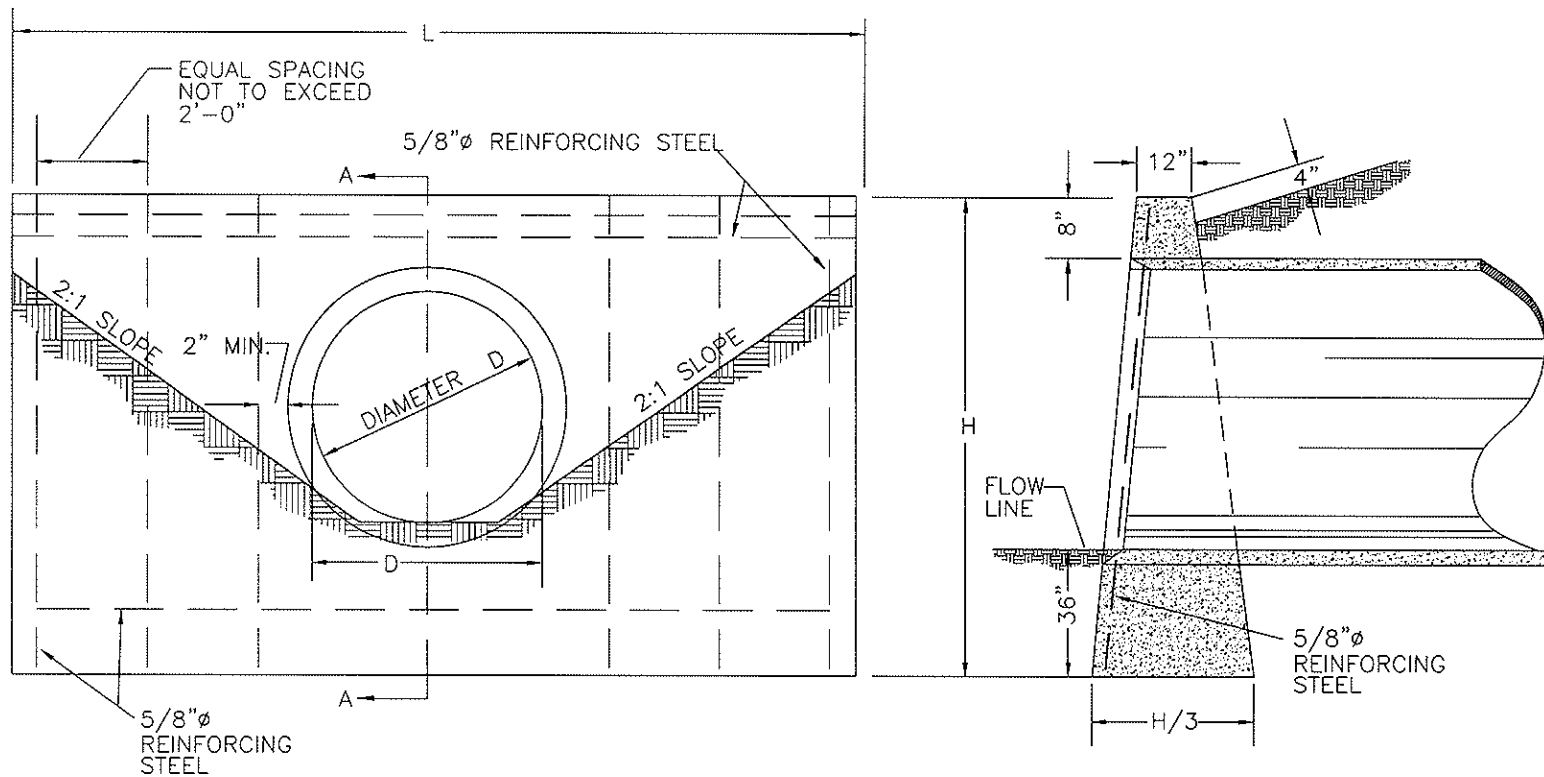
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NOTE:
THE WORDS "STORM SEWER"
SHALL BE CAST ON THE LID



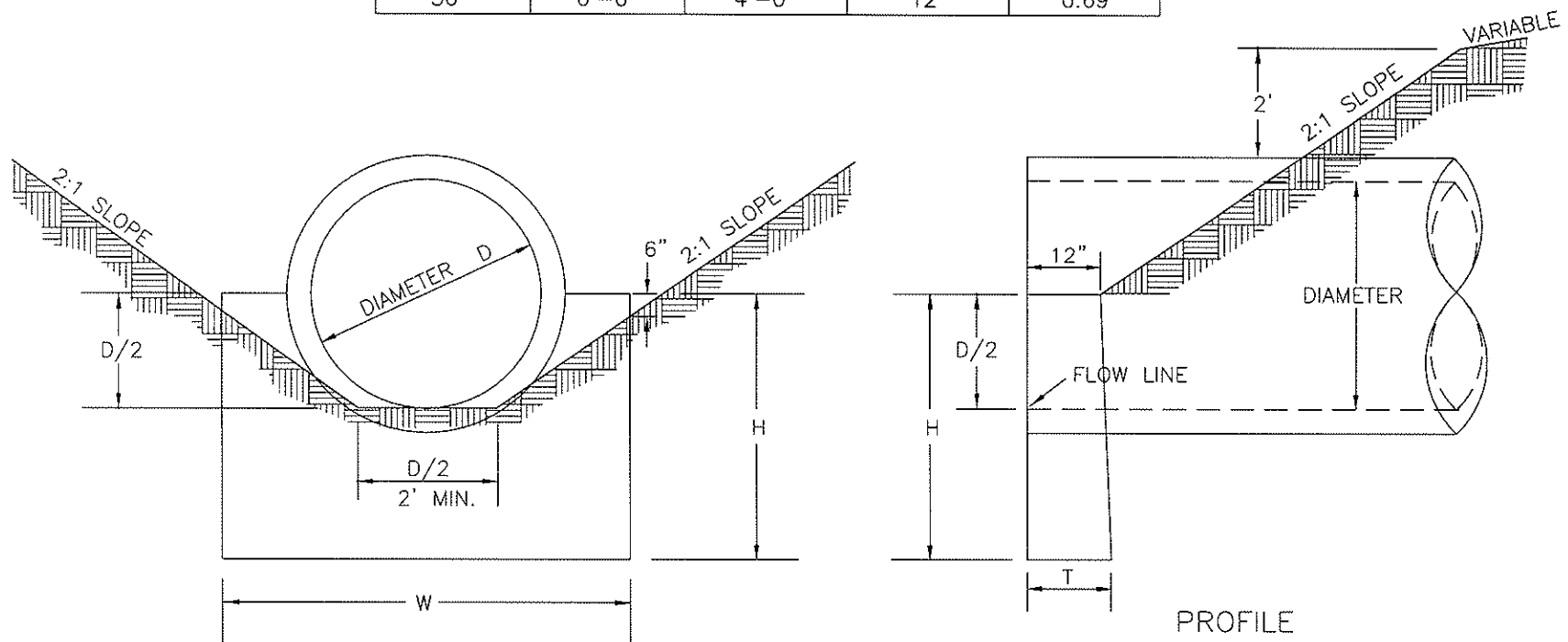


SECTION A-A

DIMENSIONS			QUANTITIES ONE HEADWALL	
DIAMETER	H	L	CONCRETE CU. YDS.	REINFORCING STEEL (LBS)
15"	5'-2"	7'-0"	1.7	41
18"	5'-5"	8'-4"	2.2	57
21"	5'-8"	9'-8"	2.8	62
24"	5'-11"	11'-0"	3.3	69
30"	6'-5"	13'-8"	4.7	92
36"	7'-0"	16'-4"	6.5	105



HEADWALL FOR CIRCULAR PIPE				
D	W	H	T	CONCRETE CU. YDS.
12"	2'-0"	3'-0"	12"	0.20
15"	2'-6"	3'-2"	12"	0.25
18"	3'-0"	3'-3"	12"	0.31
21"	3'-6"	3'-4"	12"	0.37
24"	4'-0"	3'-6"	12"	0.43
36"	6'-0"	4'-0"	12"	0.69



SEDIMENT & EROSION CONTROL GENERAL NOTES

THE CONTRACTOR SHALL IMPLEMENT SOIL EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION TO MEET THE STANDARDS AND SPECIFICATIONS OF THE STATE OF OHIO AND THEY ARE TO REMAIN IN EFFECT UNTIL AREAS ARE PERMANENTLY STABILIZED.

THE CONTRACTOR SHALL PLACE STRAW BALES OR SILT FENCE IN CONJUNCTION WITH DANDY BAGS OVER GRATES FOR EROSION CONTROL IMMEDIATELY AFTER CONSTRUCTION OF CATCH BASINS.

THE CONTRACTOR SHALL MAKE DAILY INSPECTIONS OF THE SITE TO INSURE EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES AND WILL IMMEDIATELY MAKE NECESSARY REPAIRS IN ACCORDANCE WITH THE MAINTENANCE SCHEDULE SHOWN ON THIS PLAN.

IT MAY BECOME NECESSARY TO REMOVE PORTIONS OF THE BARRIER DURING CONSTRUCTION TO FACILITATE THE GRADING OPERATIONS IN CERTAIN AREAS. HOWEVER, THE BARRIER SHALL BE IN PLACE IN THE EVENING OR DURING ANY INCLEMENT WEATHER.

EROSION AND ANY SEDIMENTATION FROM THE WORK ON THIS SITE SHALL BE CONTAINED ON THE SITE AND NOT ALLOWED TO COLLECT IN ANY OFF-SITE DRAINAGE COURSE, WHETHER NATURAL OR MAN-MADE.

ALL EARTH CHANGES SHALL BE CONSTRUCTED AND COMPLETED IN SUCH A MANNER TO LIMIT THE EXPOSED AREA OF ANY DISTURBED LAND FOR THE SHORTEST PERIOD OF TIME.

ALL CONSTRUCTION TRAFFIC SHALL ENTER AND LEAVE BY THE DESIGNATED ENTRANCE. THIS ENTRANCE SHALL BE CONSTRUCTED OF CRUSHED STONE TO HELP FREE TIRES OF SOIL WHEN LEAVING THE SITE. THE CONTRACTOR SHALL INSTRUCT ALL VEHICLES TO CLEAN SOIL, MISCELLANEOUS DEBRIS, OR OTHER MATERIAL SPILLED, DUMPED OR OTHERWISE DEPOSITED ON PUBLIC STREETS, HIGHWAYS, SIDEWALKS OR OTHER PUBLIC THOROUGHFARES DURING TRANSIT TO AND FROM THE SITE.

THE CONTRACTOR SHALL INSTALL TEMPORARY EROSION AND SEDIMENTATION DEVICES AS SHOWN AND REQUIRED BY THESE PLANS. THESE DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL PERMANENT STABILIZATION OF SLOPES, DITCHES AND OTHER EARTH CHANGES HAVE BEEN ACCOMPLISHED.

CATCH BASINS LOCATED IN THE STREET OR NEAR THE SITE WILL BE PROTECTED TO PREVENT SEDIMENTATION FROM ENTERING FACILITY. THE COVERS SHALL BE CHECKED PERIODICALLY AND CLEANED WHENEVER THEY FAIL TO FILTER RUNOFF.

WHERE APPLICABLE, THE DETENTION BASIN SHALL BE USED AS A TEMPORARY SEDIMENTATION BASIN. THE CONTRACTOR SHALL INSTALL A TEMPORARY PIPE SPILLWAY AT THE OUTLET. ALL SURFACE RUNOFF FROM THE PROJECT AREAS SHALL BE DIRECTED BY TEMPORARY DRAINAGE SWALES TO THE BASINS. AT THE COMPLETION OF CONSTRUCTION WHEN ALL DISTURBED AREAS HAVE BEEN STABILIZED THE BASINS SHALL BE CAREFULLY DRAINED WITHOUT DISTURBING THE SETTLED SILT, AND THEN GRADED AND SODDED TO CONFORM TO THE SITE GRADING PLAN.

THE LIMITS OF SEEDING AND MULCHING ARE AS SHOWN WITHIN THE PLAN. SEEDING HAS BEEN ASSUMED TO 5' OUTSIDE THE WORK LIMITS OR RIGHT-OF-WAY WHICHEVER IS GREATER. ALL AREAS NOT DESIGNATED TO BE SEEDED SHALL REMAIN UNDER NATURAL GROUND COVER. THOSE AREAS DISTURBED OUTSIDE THE SEEDING LIMITS SHALL BE SEEDED AND MULCHED AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR SHALL MAINTAIN A BUFFER STRIP AS DESIGNATED ON THE PLAN TO PREVENT SEDIMENT FROM LEAVING SITE. THIS STRIP SHALL BE MAINTAINED AT ALL TIMES AND NO SOIL SHALL BE PLACED ON THIS STRIP.

ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO OR IN CONJUNCTION WITH, THE START OF EXCAVATION AND ARE TO REMAIN IN EFFECT UNTIL AREAS ARE STABILIZED. FIELD ADJUSTMENTS WITH RESPECT TO LOCATION AND DIMENSIONS MAY BE MADE BY THE ENGINEER AS REQUIRED.

FILTER BARRIERS CONSIST OF EITHER STRAW BALE FILTERS OR FILTER FABRIC AS SHOWN HEREIN.

SEQUENCE OF SEDIMENT & EROSION CONTROL OPERATIONS

- A) STRIP TOPSOIL AND UNUSABLE MATERIAL.
- B) INSTALL GRAVEL ACCESS DRIVE AND PERIMETER FILTER (TOPSOIL BERM AND/OR FILTER BARRIER).
- C) INSTALL SANITARY SEWER AND WATERMAIN.
- D) CONSTRUCT STORM DRAIN. DURING CONSTRUCTION OF STORM DRAINS THE ENDS OF ALL OPEN PIPES SHALL BE PROTECTED BY FILTER BARRIERS OR OTHER APPROVED MEANS.
 - 1) UPON BACKFILL OF STORM STRUCTURES, FILTER BARRIERS SHALL BE PLACED.
 - 2) CONSTRUCT TEMPORARY SWALES TO DRAINAGE STRUCTURES.
 - 3) WHEN FILTER BARRIERS ARE REMOVED FROM AROUND PAVEMENT CATCH BASINS TO ALLOW FOR STRIPPING, GRADING, AND PAVING. STORM STRUCTURES SHALL BE PROTECTED FROM ERODING EARTH AND SEDIMENT AT ALL TIMES.
- E) CONSTRUCTION FOUNDATIONS, ERECT STRUCTURES AND APPURTENANCES.
- F) EXECUTIVE GRADING AND FILLING OPERATIONS AROUND BUILDINGS AND IN YARD AREAS.
- G) EXCAVATE FOR PARKING AND ROADWAYS. IF PLACEMENT OF AGGREGATE BASE LAGS BEHIND THE FINAL SUB-BASE GRADING BY MORE THAN FIVE DAYS, SUB-BASE SHALL BE SCARIFIED PERPENDICULAR TO THE SLOPE TO PREVENT EROSION.
- H) UPON COMPLETION OF PAVING, THE AREA AROUND PAVEMENT SHALL BE PROTECTED FROM EROSION BY AN APPROVED METHOD CONSISTENT WITH THE GROWING SEASON.
- I) ANY REMAINING EXPOSED AREAS SHALL BE SEEDED AND MULCHED OR SODDED WITHIN 30 DAYS OF FINAL GRADING.

MAINTENANCE

STRAW BALE AND OR SILT FENCE BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.

CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED BALES, SILT FENCE, END RUNS, AND UNDERCUTTING BENEATH BALES OR SILT FENCE.

NECESSARY REPAIRS TO BARRIERS OR REPLACEMENT OF BALES SHALL BE ACCOMPLISHED PROMPTLY.

SEDIMENT DEPOSIT SHOULD BE REMOVED AFTER EACH RAINFALL. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE STRAW BALE BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

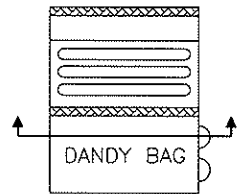
MAINTENANCE

SILT FENCES AND BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.

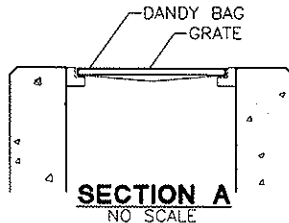
SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.

SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE OR FILTER BARRIER IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE PREPARED AND SEEDED.



TO BE USED ON ALL STRUCTURES



INSTALLATION: STAND GRATE ON END, PLACE DANDY BAG, OVER GRATE, FLIP GRATE OVER SO THAT OPEN END IS UP, PULL UP SLACK, TUCK FLAP IN. BE SURE END OF GRATE IS COMPLETELY COVERED BY FLAP OR DANDY BAG WILL NOT FIT PROPERLY. HOLDING HANDLES, CAREFULLY PLACE DANDY BAG WITH GRATE INSERTED INTO CATCH BASIN FRAME SO THAT RED DOT ON THE TOP OF THE DANDY BAG IS VISIBLE.

MAINTENANCE: AFTER SILT HAS DRIED, REMOVE IT FROM THE SURFACE OF DANDY BAG WITH BROOM.

SPECIFICATIONS FOR SEEDING & MULCHING

SEED TYPE	SEEDING RATES	PER 1000 SQ. FT.	PER ACRE
TALL FESCUE & ANNUAL RYEGRASS	MARCH 1 TO SEPTEMBER 15	2 POUNDS & 1/2 POUNDS	80 POUNDS & 20 POUNDS
SMALL GRAIN STRAW		100 POUNDS OR 2 OR 3 BALES	2 TON OR 50 BALES
FERTILIZER		25 POUNDS OF 12-12-12 OR THE EQUIVALENT	100 POUNDS OF 12-12-12 OR THE EQUIVALENT
TEMPORARY SEEDING			
RYE OR WHEAT	SEPTEMBER 15 TO OCTOBER 30	3 POUNDS	2 BUSHELS
SOIL PROTECTION			
SMALL GRAIN STRAW MULCH	OCTOBER 30 TO MARCH 1	2 TO 3 BALES	2 TONS

CONSTRUCTION ENTRANCE

STONE SIZE - No. 2 (2-1/2" TO 1-1/2") OR ITS EQUIVALENT.

LENGTH - AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.

THICKNESS - NOT LESS THAN EIGHT (8) INCHES.

WIDTH - NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.

WASHING - WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE THROUGH USE OF SAND BAGS, GRAVEL, BOARDS OR OTHER APPROVED METHODS.

MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.

SEDIMENT & EROSION CONTROL CRITERIA

IN ORDER TO CONTROL SEDIMENT POLLUTION OF WATER RESOURCES THE OWNER OR PERSON RESPONSIBLE FOR THE DEVELOPMENT AREA SHALL USE CONSERVATION PLANNING AND PRACTICES TO MAINTAIN THE LEVEL OF CONSERVATION ESTABLISHED BY THE FOLLOWING STANDARDS:

THING OF SEDIMENT--TAPPING PRACTICES. SEDIMENT CONTROL PRACTICES SHALL BE FUNCTIONAL THROUGHOUT EARTH--DISTURBING ACTIVITY.

SETTLING FACILITIES, PERIMETER CONTROLS, AND OTHER PRACTICES INTENDED TO TRAP SEDIMENT SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING AND WITHIN SEVEN DAYS FROM THE START OF GRUBBING. THEY SHALL CONTINUE TO FUNCTION UNTIL THE UPSLOPE DEVELOPMENT AREA IS RESTABLIZED.

STABILIZATION OF STRIPPED AREA. STRIPPED AREAS SHALL HAVE SOIL STABILIZATION APPLIED WITHIN SEVEN DAYS IF THEY ARE TO REMAIN DORMANT FOR MORE THAN FORTY-FIVE DAYS. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE, AND SHALL ALSO BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS WHICH MAY NOT BE AT FINAL GRADE, BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN FORTY-FIVE DAYS.

SEDIMENT BARRIER. STREET FLOW RUNOFF FROM STRIPPED AREAS SHALL BE FILTERED OR DIVERTED TO A SETTLING FACILITY.

STORM SEWER INLET PROTECTION. ALL STORM SEWER INLETS WHICH ACCEPT WATER RUNOFF FROM THE DEVELOPMENT AREA SHALL BE PROTECTED SO THAT SEDIMENT--LADEN WATER WILL NOT ENTER THE STORM SEWER SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT, UNLESS THE STORM SEWER SYSTEM DRAINS TO A SETTLING FACILITY.

WORKING IN OR CROSSING STREAMS:

A. STREAMS INCLUDING BED AND BANKS SHALL BE DESTABILIZED IMMEDIATELY AFTER IN--CHANNEL WORK IS COMPLETED, INTERRUPTED, OR STOPPED.

TO THE EXTENT PRACTICAL, CONSTRUCTION VEHICLES SHALL BE KEPT OUT OF STREAMS. WHERE IN CHANNEL WORK IS NECESSARY, PRECAUTIONS SHALL BE TAKEN TO STABILIZE THE WORK AREA DURING CONSTRUCTION TO MINIMIZE EROSION.

B. IF A LIVE (WET) STREAM MUST BE CROSSED BY CONSTRUCTION VEHICLES REGULARLY DURING CONSTRUCTION, A TEMPORARY STREAM CROSSING SHALL BE PROVIDED.

CONSTRUCTION ACCESS ROUTES. MEASURES SHALL BE TAKEN TO PREVENT SOIL TRANSPORT ONTO SURFACES WHERE RUNOFF IS NOT CHECKED BY SEDIMENT CONTROLS, OR ONTO PUBLIC ROADS.

SLOUGHING AND DUMPING:

A. NO SOIL, ROCK, DEBRIS, OR ANY OTHER MATERIAL SHALL BE DUMPED OR PLACED INTO A WATER RESOURCE OR INTO SUCH PROXIMITY THAT IT MAY READILY SLOUGH, SLIP, OR ERODE INTO A WATER RESOURCE UNLESS SUCH DUMPING OR PLACING IS AUTHORIZED BY THE VILLAGE ADMINISTRATOR AND, WHEN APPLICABLE, THE U.S. ARMY CORPS OF ENGINEERS, FOR SUCH PURPOSES AS, BUT NOT LIMITED TO CONSTRUCTION BRIDGES, CULVERTS, AND EROSION CONTROL STRUCTURES.

B. UNSTABLE SOILS PRONE TO SLIPPING OR LANDSLIDING SHALL NOT BE GRADED, EXCAVATED, FILLED OR HAVE LOADS IMPOSED UPON THEM UNLESS THE WORK IS DONE IN ACCORDANCE WITH A QUALIFIED PROFESSIONAL ENGINEER'S RECOMMENDATIONS TO CORRECT, ELIMINATE, OR ADEQUATELY ADDRESS THE PROBLEMS.

CUT AND FILL SLOPES. CUT AND FILL SLOPES SHALL BE CONSTRUCTED IN A MANNER WHICH WILL MINIMIZE EROSION. CONSIDERATION SHALL BE GIVEN TO THE LENGTH AND STEEPNESS OF THE SLOPE, SOIL TYPE, UPSLOPE DRAINAGE AREA, GROUNDWATER CONDITIONS, AND SLOPE STABILIZATION.

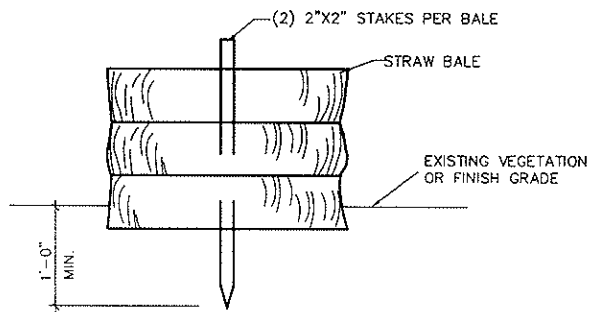
STABILIZATION OF OUTFALLS AND CHANNELS. OUTFALLS AND CONSTRUCTION OF MODIFIED CHANNELS SHALL BE DESIGNED AND CONSTRUCTED TO WITHSTAND THE EXPECTED VELOCITY OF FLOW FROM A POST--DEVELOPMENT, TEN--YEAR FREQUENCY STORM WITHOUT ERODING.

ESTABLISHMENT OF PERMANENT VEGETATION. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL GROUND COVER IS ACHIEVED WHICH, IN THE OPINION OF THE APPROVING AGENCY, PROVIDES ADEQUATE COVER AND IS MATURE ENOUGH TO CONTROL SOIL EROSION SATISFACTORILY AND TO SURVIVE ADVERSE WEATHER CONDITIONS.

DISPOSITION OF TEMPORARY PRACTICES. ALL TEMPORARY EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE DISPOSED OF WITHIN THIRTY DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY PRACTICES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE APPROVING AGENCY. TRAPPED SEDIMENT SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION.

MAINTENANCE. ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE DESIGNED AND CONSTRUCTED TO MINIMIZE MAINTENANCE REQUIREMENTS. THEY SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. THE PERSON OR ENTITY RESPONSIBLE FOR THE CONTINUED MAINTENANCE OF PERMANENT EROSION CONTROLS SHALL BE IDENTIFIED TO THE SATISFACTION OF THE PLAN--APPROVING AUTHORITY AND IDENTIFIED BY THE SUBDIVIDER'S AGREEMENT.

THE COST FOR TEMPORARY CHANNELS, SEDIMENT DAMS AND OTHER APPURTENANT EARTH MOVING OPERATIONS SHALL BE INCLUDED IN THE PRICE BID FOR EARTHWORK.

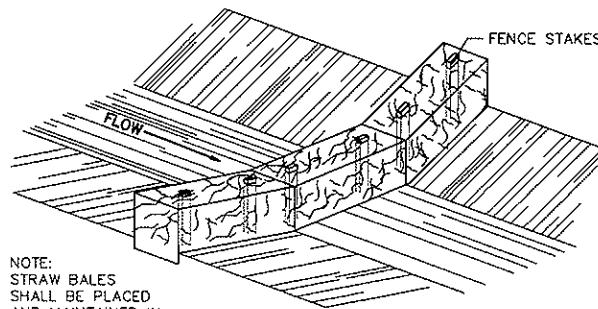


THE NUMBER OF SIDES OF THE FILTER MAY VARY DEPENDING UPON THE LOCATION AND TYPE OF INTAKE STRUCTURE.

PERIODIC INSPECTION AND REQUIRED MAINTENANCE MUST BE PROVIDED TO INSURE THAT THE STRAW BALE FILTER AT INLETS OPERATES EFFICIENTLY.

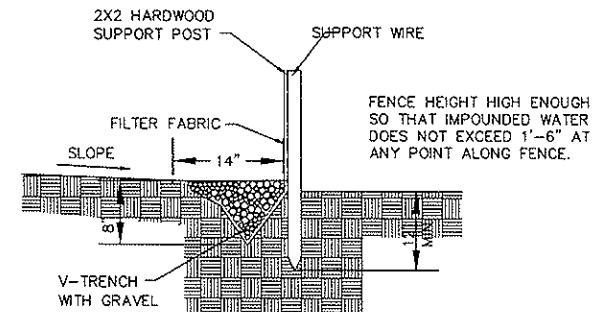
TYP. DETAIL AROUND ALL INLETS. ALL INLETS ARE TO BE WRAPPED IN SAME MATERIAL AS IS USED TO CONSTRUCT SILT FENCE.

STRAW BALE CROSS SECTION



NOTE:
STRAW BALES SHALL BE PLACED AND MAINTAINED IN SWALE SO TO PREVENT SILT AND DEBRIS FROM ENTERING INTO DOWNSTREAM DRAINAGE FACILITIES DURING CONSTRUCTION. THEY SHALL REMAIN IN PLACE UNTIL ADEQUATE VEGETATION IS ESTABLISHED WITHIN THE SITE. SUCH STRAW BALES SHALL BE FIRMLY SECURED TO THE GROUND WITH FENCE STAKES.

STRAW BALE DETAIL



SILT FENCE DETAIL

SEDIMENT FENCE DETAIL

SILT FENCES. THIS SEDIMENT BARRIER UTILIZES STANDARD STRENGTH OR EXTRA STRENGTH SYNTHETIC FILTER FABRICS. IT IS DESIGNED FOR SITUATIONS IN WHICH ONLY SHEET OR OVERLAND FLOWS ARE EXPECTED.

THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE TO THE STRUCTURE.

THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST WITH A MINIMUM 6-INCH OVERLAYS AND SECURELY SEALED.

WHEN STANDARD STRENGTH FILTER FABRIC IS USED A WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 1 INCH LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 2 INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE.

POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 12 INCHES). WHEN EXTRA STRENGTH FABRIC IS USED WITHOUT THE WIRE SUPPORT, FENCE POST SPACING SHALL NOT EXCEED 6 FEET.

A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP ALONG THE LINE OF POSTS AND UPSLOPE FORM THE BARRIER.

THE STANDARD STRENGTH FILTER FABRIC SHALL BE STAPLED OR WIRED TO THE FENCE AND 8 INCHES OF THE FABRIC SHALL BE EXTENDED INTO THE TRENCH. THE FABRIC SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.

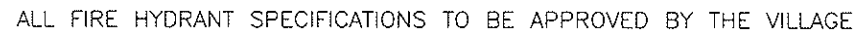
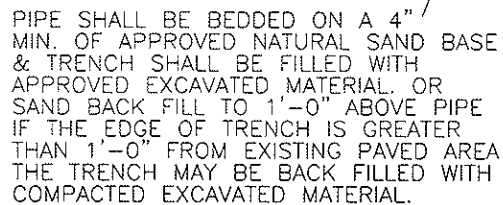
WHEN EXTRA STRENGTH FILTER FABRIC AND CLOSER POST SPACING ARE USED THE WIRE MESH SUPPORT FENCE MAY BE ELIMINATED IN SUCH A CASE THE FILTER FABRIC IS STAPLED OR WIRED DIRECTLY TO THE POSTS.

THE TRENCH SHALL BE BACKFILLED AND SOIL COMPACTED OVER THE FILTER FABRIC.

SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

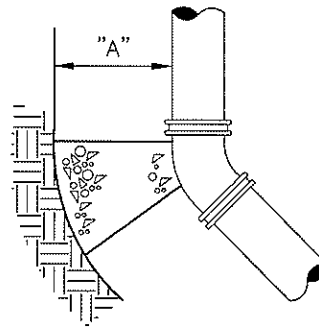
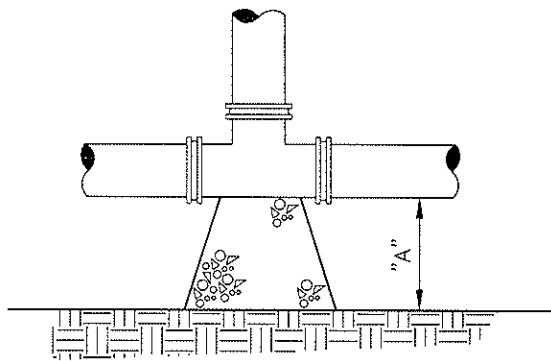
WATER DISTRIBUTION

DIVISION 800



RESILIENT WEDGE GATE VALVE
MUELLER / FORD OR EQUAL
NON RISING STEM
OPEN LEFT
2" SQUARE NUT
RATED 200 PSI SHELL TEST 400PSI
AWWA C502

MUELLER OR EQUAL
5" PUMPER
2-2.5" NOZZLES
6" M. J. INLET
5.25" OPENING
BURY - VARIES
AWWA C502



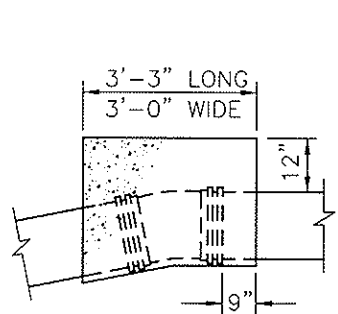
ELBOWS

ELBOWS					
PIPE DIA. INCHES	"A" FEET	BEARING AREA			
		90°	45°	22-1/2°	11-1/4°
4	1.5	2.1	1.1	0.6	0.3
6	2.0	4.1	2.2	1.1	0.6
8	2.0	6.8	3.7	1.9	0.9
10	2.5	10.1	5.5	2.8	1.4
12	3.0	14.1	7.6	3.9	2.0
16	3.0	24.2	13.0	6.7	3.3
18	3.0	30.0	16.3	8.3	4.2
20	3.0	36.8	19.9	10.1	5.1

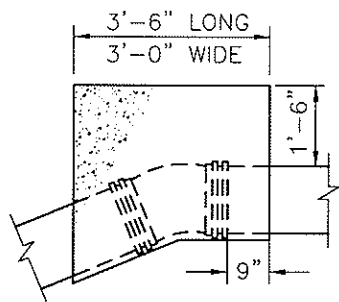
TEST, PLUGS & HYDRANTS

1. THRUST BLOCK SHALL BE $f_c=2500$ PSI @ 28 DAYS (SEE SPECIFICATIONS SECTION 03300)
2. ALL THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED EARTH.
3. BOLTS, FITTINGS & JOINTS SHALL BE KEPT CLEAR OF CONCRETE.
4. A BEARING CAPACITY OF 2000# PER FOOT IS UTILIZED IN DETERMINING THE MINIMUM "BEARING AREAS" IN THE ABOVE TABLES.
5. THE CROSS SECTION OF THE THRUST BLOCKS SHALL BE SQUARE.

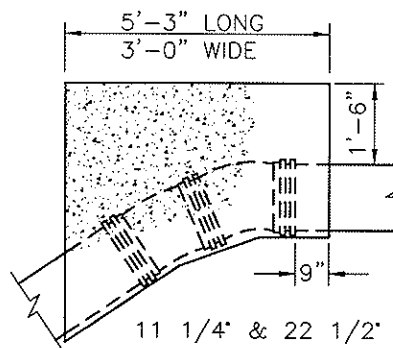
TEES, PLUGS & HYDRANTS		
PIPE DIA. INCHES	"A" FEET	BEARING AREA SQUARE FEET
4	2.0	1.5
6	2.0	2.9
8	2.5	4.8
10	2.5	7.1
12	3.0	10.0
16	3.0	17.1
18	3.5	21.0
20	4.0	26.0



11 1/4° BEND



22 1/2° BEND

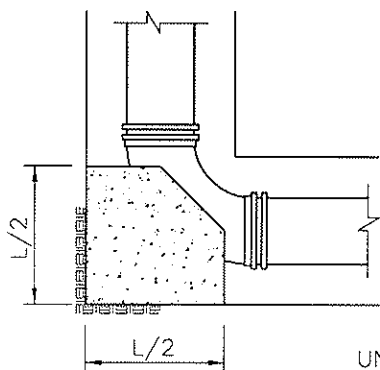


11 1/4° & 22 1/2°

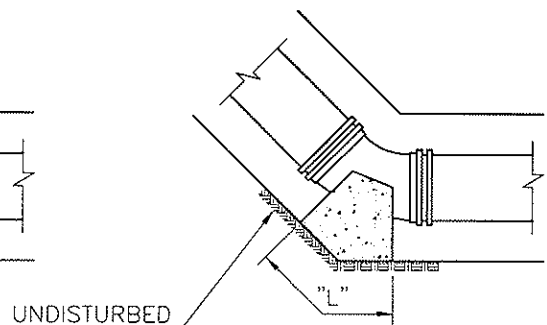
1. CLASS "A" CONCRETE TO BE USED FOR ALL BLOCKING

2. TIED OR RESTRAINED JOINTS MAY BE USED IN LIEU OF CONCRETE BLOCKING AT THE DIRECTION OF THE ENGINEER.

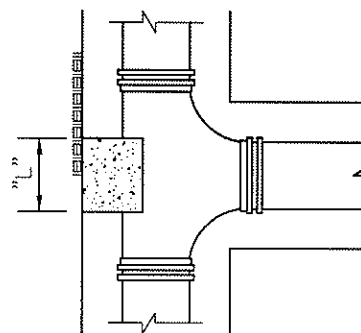
CONCRETE BLOCKING FOR VERTICAL BENDS



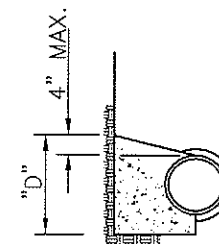
90° BENDS



BENDS LESS THAN 90°



TEES



TYPICAL SECTION

CONCRETE BLOCKING FOR HORIZONTAL BENDS

SIZE OF PIPE	BENDS							
	DEGREE OF BEND							
	11 1/4°		22 1/2°		45°		90°	
	L	D	L	D	L	D	L	D
3",4",6"	8"	6"	10"	6"	20"	6"	36"	6"
8"	9"	8"	14"	8"	24"	9"	50"	8"
12"	14"	12"	22"	12"	30"	16"	60"	15"
16"	18"	16"	24"	18"	33"	36"	70"	22"

RUN	TEES							
	BRANCH							
	3",4",6"		8"		12"		16"	
	L	D	L	D	L	D	L	D
3",4",6"	16"	7"						
8"	14"	8"	18"	12"				
12"	9"	12"	18"	12"	24"	18"		
16"	8"	16"	14"	16"	28"	16"	30"	26"

SPECIFICATIONS

ALL MATERIAL AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE VILLAGE STANDARDS AND SPECIFICATION. WATERLINES SHALL BE INSTALLED, TESTED AND STERILIZED UNDER THE DIRECT SUPERVISION OF THE VILLAGE. NO DEVIATION FROM THESE SPECIFICATIONS WILL BE PERMITTED. DETAIL SPECIFICATIONS MAY BE OBTAINED FROM THE VILLAGE. EXCEPT AS MODIFIED BY THESE PLANS AND BY THE DETAIL SPECIFICATIONS PERTAINING THERETO, ALL WORK ON THIS PROJECT SHALL BE GOVERNED BY THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION. CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 1, 1997 AND BY SUCH SUPPLEMENTAL STATE SPECIFICATIONS AS MAY BE IN EFFECT 14 CALENDAR DAYS PRIOR TO THE AWARD OF THIS PROJECT. IN THE AFORESAID SPECIFICATIONS, THE WORD "STATE", "DIRECTOR", AND "ENGINEER" SHALL BE HELD TO MEAN THE VILLAGE OR HIS REPRESENTATIVE. THE SPECIFICATIONS OF THE AMERICAN NATIONAL STANDARDS INSTITUTE(ANSI), AMERICAN WATER WORKS ASSOCIATION (AWWA) AND THE AMERICAN SOCIETY OF TESTING AND MATERIALS(ASTM) HEREIN REFERRED TO, UNLESS OTHERWISE NOTED, SHALL BE THE LATEST SPECIFICATIONS OF THE RESPECTIVE ORGANIZATIONS. ALL MATERIAL SHALL BE MANUFACTURED IN THE UNITED STATES OF AMERICA. COPIES OF SUPPLIERS INVOICES SHALL BE SUBMITTED TO THE ENGINEER.

WATER SUPPLY PIPE

ALL WATER MAINS SHALL BE PVC CONFORMING WITH AWWA C-900 DR 18. PIPE MAY BE EITHER OF THE MECHANICAL OR SLIP JOINT TYPE.

VALVE BOXES

HYDRANT BRANCH VALVES ARE TO BE ENCLOSED IN A STANDARD VALVE BOX. VALVE BOXES SHALL BE OF THE BUFFALO THREE PIECE SCREW TYPE, WITH A 5 1/4 INCH SHAFT; LIMITED TO THE FOLLOWING:

BUFFALO PIPE AND FOUNDRY COMPANY NO. B5001
ALABAMA PIPE COMPANY NO. H10357
CLOW CORPORATION NO. F2450

WITH CAST IRON FULL FLANGED RING, OR APPROVED EQUAL. (SEE 800-11 FOR DETAILS).

GATE VALVES

GATE VALVES SHALL BE CAST IRON BODIED, BRONZE MOUNTED DOUBLE DISC WITH PARALLEL SEATS, OR RESILIENT SEAT, CORROSION-RESISTANT, 200 POUND WORKING PRESSURE, NON-RISING STEM TYPE INTENDED FOR USE IN VERTICAL SETTINGS. GATE VALVES, 12" OR SMALLER, SHALL BE LIMITED TO VALVES MADE BY RENNSELEAR, MUELLER, KENNEDY, U.S. VALVE OR AMERICAN VALVE COMPANIES AWWA C-500 OR AWWA C-509 (RESILIENT SEAT) AS APPROVED BY THE VILLAGE.

VALVES ARE TO OPEN BY TURNING LEFT, OR COUNTERCLOCKWISE, AND SHALL BE FURNISHED WITH A 2 INCH SQUARE OPERATING NUT WITH THE DIRECTION INDICATED BY A CLEARLY VISIBLE ARROW CAST INTO THE VALVE.

FIRE HYDRANTS

HYDRANTS SHALL BE THE MANUFACTURER'S LATEST AND BEST DESIGN, HOWEVER, THE ONLY ACCEPTABLE MODELS WILL BE THOSE IN MASS PRODUCTION A MINIMUM OF FIVE (5) YEARS. ALL HYDRANTS SHALL CONFORM TO THE LATEST AWWA STANDARD SPECIFICATION C-502.

HYDRANTS SHALL BE OF THE 5 1/4 INCH VALVE OPENING COMPRESSION TYPE, OPENING AGAINST AND CLOSING WITH THE WATER PRESSURE, OPENING BY TURNING THE OPERATING NUT TO THE LEFT, COUNTERCLOCKWISE DIRECTIONS. HYDRANTS TO BE USED IN THE VILLAGE DISTRIBUTION SYSTEM SHALL BE LIMITED TO THE FOLLOWING (MEETING AWWA C-502):

DEVELOPER TO CONFIRM WITH VILLAGE UTILITY DEPARTMENT ON TYPE OF HYDRANT

ALL REQUIRED THREAD SIZES SHALL BE OF THE SAME SIZE AND TYPE USED IN VILLAGE SYSTEM.

HYDRANT REPLACEMENT PARTS, INCLUDING EXTENSIONS, CAPS, NOZZLES AND ALL EXTERNAL PARTS SHALL BE OF SAME MANUFACTURER AS HYDRANT. CONTRACTOR SHALL SUPPLY COPIES OF INVOICES OF REPLACEMENT PARTS. CAPS SHALL HAVE GASKETS AND BE SECURED TO THE HYDRANT BY HOT-DIPPED, WELDED, GALVANIZED CHAINS OF 3/16 " DIAMETER.

ALL HYDRANTS TO BE FIELD PAINTED WITH MACHINERY ENAMEL TO MATCH EXISTING COLORS WITHIN THE VILLAGE.

ALL PAINT TO BE SUPPLIED BY THE CONTRACTOR/DEVELOPER.

SPACING OF HYDRANTS NOT TO EXCEED 350' & PLACED ON PROPERTY LINES WHENEVER POSSIBLE.

PROTECTION AND PAINTING

ALL IRON PARTS OF VALVES AND ACCESSORIES SHALL BE PAINTED BEFORE LEAVING THE SHOP WITH TWO COATS OF ACCEPTABLE HIGH GRADE BITUMINOUS PAINT. THE VALVES SHALL BE PROTECTED AT ALL TIMES FROM RUST OR DAMAGES, BOTH BEFORE AND AFTER INSTALLATION, UNTIL THE COMPLETION OF THE CONTRACT.

TAPPING VALVES

TAPPING SLEEVES AND VALVES AND 3/4 INCH CHLORINATION TAPS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. ALL EXCAVATION AND BACKFILL WILL BE PERFORMED BY THE CONTRACTOR.

INSTALLATION

THE PIPE SHALL BE LAID ON A PROPERLY SHAPED AND FIRM, GRANULAR BEDDING MEETING REQUIREMENTS OF ITEM 310.02 OF THE 1967 SPECIFICATIONS, OHIO DEPARTMENT OF HIGHWAYS WHERE CONDITIONS WARRANT, UNSUITABLE MATERIAL SHALL BE REMOVED AND GRANULAR MATERIAL CONFORMING TO THE SPECIFICATION SHALL BE USED FOR BEDDING.

ALL PIPE AND APPURTENANCES SHALL BE INSTALLED TRUE TO LINE, GRADE, AND LOCATION; WITH JOINTS CENTERED, SPIGOTS HOME; PROPER SUPPORT AND RESTRAINT PROVIDED; AND ALL VALVE STEMS PLUMB. CARE SHALL BE USED TO LAY THE PIPE SO THAT IT IS SUPPORTED BY THE FULL LENGTH OF THE BARREL.

THE PIPE SHALL HAVE APPROXIMATELY 5' OF COVER. WHERE CONFLICTS OCCUR WITH OTHER UTILITIES A MINIMUM OF 18 INCH VERTICAL SEPARATION IS REQUIRED. WHERE SPECIAL CONDITIONS WARRANT, THE DEPTH OF COVER MAY BE CHANGED.

BACKFILLING

ALL TRENCHES AND EXCAVATIONS SHALL BE BACKFILLED IMMEDIATELY AFTER PIPE IS LAID THEREIN. NO MATERIAL SHALL BE USED FOR BACKFILLING THAT CONTAINS STONES, ROCKS OR PIECES OF MASONRY, FROZEN EARTH, DEBRIS OR EARTH WITH AN EXCEPTIONALLY HIGH VOID CONTENT. TRENCHES OUTSIDE THE LIMITS OF 5 FEET FROM THE BACK OF THE CURB SHALL BE BACKFILLED WITH THOROUGHLY TAMPED GRANULAR MATERIAL A MINIMUM OF 12 INCHES ABOVE THE TOP OF THE PIPE. THE REMAINDER OF THE TRENCH MAY BE FILLED WITH EXCAVATED MATERIAL, INSOFAR AS IT IS OF SUITABLE CHARACTER.

TRENCHES WITHIN 5 FEET OF EDGE OF PAVEMENT OR BACK OF CURB SHALL BE BACKFILLED WITH THOROUGHLY TAMPED GRANULAR MATERIAL TO THE PAVEMENT SUBGRADE. GRANULAR BACKFILL SHALL CONFORM TO THE GRADATION REQUIREMENTS OF ITEM 310.02 OF THE 1967 O.D.O.T. SPECIFICATIONS (MAXIMUM DRY DENSITY EXCEEDING 105 LBS./CU.FT. AND COMPACTION TO 98% OF THE STANDARD PROCTOR TEST) OR ITEM 603.08 OF THE CURRENT ODOT SPECIFICATIONS. BACKFILL UNDER PAVEMENT AREAS SHALL MEET CURRENT O.D.O.T. SPECIFICATIONS (603.08, TYPE "B") WITH THE RESTRICTION THAT MATERIAL SHALL BE ITEM 304 OR ITEM 310.02.

STERILIZATION

THE CONTRACTOR SHALL CHLORINATE ALL PIPE LINES, AND THIS SHALL BE DONE PRIOR TO PRESSURE TESTING UNLESS OTHERWISE DIRECTED BY VILLAGE. DISINFECTION SHALL MEET OR EXCEED AWWA C-651.

PRESSURE TESTING

THE CONTRACTOR SHALL MAKE PRESSURE AND LEAKAGE TESTS OF ALL PIPES LINES UNLESS OTHERWISE DIRECTED BY THE VILLAGE.

PRESSURE TESTS SHALL BE MADE IN ALL PIPE LINES OR VALVED SECTIONS THEREOF AS DIRECTED BY VILLAGE. THE CONTRACTOR SHALL FURNISH THE PUMP, PIPE CONNECTIONS, TAPS, GAUGES AND ALL OTHER APPARATUS FOR MAKING THE TEST. BEFORE TESTING OF THE MAIN, THE CONTRACTOR SHALL FLUSH THE MAIN UNDER THE VILLAGE'S SUPERVISION TO EXPEL ANY WATER, DIRT, CHLORINE, ETC. IN COMPLIANCE WITH AWWA C-600.



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WATER NOTES

**VILLAGE OF
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CONSTRUCTION STAKING

CONSTRUCTION STAKING FOR WATERLINES SHALL BE PERFORMED BY A LICENSED SURVEYOR AT CONTRACTOR EXPENSE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROJECT AND PRESERVE THE CONSTRUCTION STAKES AND TO VERIFY THEIR CORRECTNESS PRIOR TO LAYING PIPE. SUBDIVISION CONTROL POINTS WILL BE SET BY THE CONSULTING ENGINEER.

EXISTING SURVEY POINTS

SURVEY MONUMENTS, BENCH MARKS AND EXISTING POINTS DAMAGED OR DISTURBED BY CONSTRUCTION SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE. SHOULD THE CONTRACTOR FAIL TO PROPERLY REPLACE THESE POINTS, THE VILLAGE ENGINEER SHALL REPLACE THEM AT THE CONTRACTOR'S EXPENSE AFTER THREE WEEKS NOTICE.

SAFETY REQUIREMENTS

THE CONTRACTOR SHALL AT ALL TIMES FOLLOW ALL STATE AND LOCAL SAFETY REQUIREMENTS DURING CONSTRUCTION OF THIS PROJECT. SPECIAL CARE SHALL BE TAKEN DURING ALL TRENCHING OPERATIONS. SHEETING AND BRACING, CRIBBING, ETC., MUST BE INSTALLED AS REQUIRED BY THE ENGINEER TO PROVIDE MAXIMUM SAFETY TO THE CONTRACTOR'S WORKERS IN FULL COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS.

INSURANCE

NO CONTRACTOR OR SUBCONTRACTOR SHALL START ANY WORK UNTIL THE APPROVED CERTIFICATE OF LIABILITY INSURANCE IS FILED WITH VILLAGE NAMING VILLAGE AS THE INSURED.

OHIO E.P.A. REQUIREMENTS

THE OHIO ENVIRONMENTAL PROTECTION AGENCY REQUIRES A CONFORMANCE TO THE 1991 EDITION OF "RECOMMENDED STANDARDS." THIS STANDARD SHALL BE EQUALLED OR EXCEEDED FOR WATERLINES. SPECIAL ATTENTION SHALL BE GIVEN TO THE FOLLOWING SECTIONS OF PART 8:

- 8.0.1. MATERIAL CONFORM TO AWWA STANDARDS
- 8.1.2. MINIMUM 6" DIAMETER FIRE PROTECTION
- 8.5.3. MINIMUM 5' GROUND COVER
- 8.5.5. PRESSURE TESTING AWWA C-600*
- 8.5.6. DISINFECTION AWWA C-651*
- 8.6.2. 10' HORIZONTAL SEPARATION WATER MAIN/SEWER
- 8.6.3. 18" VERTICAL SEPARATION WATER MAIN/SEWER
- 8.6.6. NO ENTRY AND/OR CONTACT WITH SEWER MANHOLE

NOTE: IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM THIS TEST PROPERLY AND THE RESPONSIBILITY FOR AN ADEQUATE SUPERVISION AND APPROVAL RESTS WITH THE APPROPRIATE GOVERNMENTAL AGENCY. ANY DEVIATION FROM THE ABOVE WILL NOT BE PERMITTED UNLESS SPECIFICALLY INCLUDED IN THE GENERAL NOTES OR OTHERWISE SHOWN ON THESE PLANS. IN CASES WHERE ONE AND/OR MORE OF THE ABOVE MENTIONED OHIO E.P.A. STANDARDS FALL SHORT OF THE VILLAGE STANDARDS, THE LATTER SHALL GOVERN.

OBSTRUCTIONS IN RIGHT-OF-WAY

THE CONTRACTOR SHALL NOT REMOVE ANY MAIL BOXES, PAPER BOXES, PRIVATE LIGHT POSTS, SIGNS, UTILITY MARKERS, TREES, SHRUBBERY, FENCE, GUARDRAIL OR OTHER OBSTRUCTIONS WITHOUT THE PRIOR APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL NOTIFY ALL PROPERTY OWNERS AND REQUEST THAT THE PROPERTY OWNER REMOVE FENCES, SHRUBS, BUSHES, LIGHT-POSTS, PRIVATE SIGNS AND ORNAMENTAL LANDSCAPING WHICH INCLUDES BUT IS NOT LIMITED TO RAILROAD TIES, STATUES, BRICK OR STONE, WASH STONE, WOOD CHIPS, ETC. FROM THE PUBLIC RIGHT-OF-WAY.

IF THE OWNER OF SAID OBSTRUCTION DOES NOT REMOVE OR RELOCATE SAID OBSTRUCTION WITHIN A REASONABLE TIME (10 DAYS MAXIMUM) THE CONTRACTOR SHALL REMOVE THE OBSTRUCTION AND PLACE IT AT THE DIRECTION OF THE ENGINEER. IF MAILBOXES CANNOT BE IMMEDIATELY REPLACED, THE CONTRACTOR SHALL PROVIDE FOR TEMPORARY MAIL SERVICE. PAYMENT FOR THIS WORK SHALL BE INCLUDED WITH THE UNIT PRICE BID FOR THE PERTINENT CONDUIT ITEM.

PERMIT REQUIREMENTS

THE CONTRACTOR SHALL OBTAIN ALL REQUIRED WORK PERMITS. COPIES OF PERMITS SHALL BE SUBMITTED TO THE VILLAGE PRIOR TO CONSTRUCTION.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT, AND AGAIN BEFORE FINAL ACCEPTANCE BY THE VILLAGE, AND THE CONTRACTOR SHALL MAKE AN INSPECTION OF THE EXISTING SEWERS WITHIN THE PROJECT LIMITS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS. RECORDS OF THE INSPECTIONS SHALL BE KEPT IN WRITING BY THE VILLAGE. ALL NEW CONDUITS, INLETS, CATCH BASINS AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF ALL FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTABLE BY THE VILLAGE. ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE-MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO THAT DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE VILLAGE. PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICES BID FOR THE PERTINENT CONDUIT ITEMS OF THE CONTRACT.

STORM SEWER REPLACEMENT

ANY STORM SEWER REPLACEMENT IS TO BE EITHER ITEM 706.02, REINFORCED CONCRETE CIRCULAR PIPE WITH "O" RING JOINTS, ITEM 706.11 OR POLYVINYL (PVC) A.S.T.M. D-3034, SRD 35.

RESTRAINED JOINTS

RESTRAINED LENGTHS FOR BENDS SHALL BE USED ON ALL FITTINGS ON EACH SIDE OF BEND. RESTRAINED LENGTHS FOR TEES SHALL BE ON THE BRANCHES OF THE TEE. SITUATIONS NOT LISTED ON THIS TABLE (IE REDUCERS, TEES W/SMALLER BRANCH DIAMETERS & VERTICAL BENDS NOT LISTED) SHALL BE AS APPROVED BY THE VILLAGE. PLEASE NOTE: POLYWRAP REQUIRES ADDITIONAL RESTRAINT DUE TO A LOWER FRICTION LOSS. (FOOTAGE SHOWN IN PARENTHESIS IS RESTRAINT FOR POLYWRAP PIPE.)

C-900 HORIZONTAL LENGTH TO BE RESTRAINED (FEET) AT 150 PSI						
D	O	H				
		5	6	7	8	10
10	90	23 (27)	19 (23)	17 (20)	15 (17)	12 (14)
	45	10 (11)	8 (9)	7 (8)	6 (7)	5 (6)
	45 (VERT)	20 (28)	17 (24)	14 (21)	13 (18)	10 (15)
	22.5	5 (7)	4 (5)	3 (4)	3 (3)	2 (3)
	11.25	2 (3)	2 (2)	2 (2)	1 (2)	1 (1)
TEE OR DEAD END		48 (69)	41 (58)	35 (50)	31 (44)	25 (36)

O = BEND ANGLE IN DEGREES H = DEPTH OF COVER (FT)
D = NOMINAL DIAMETER (IN)



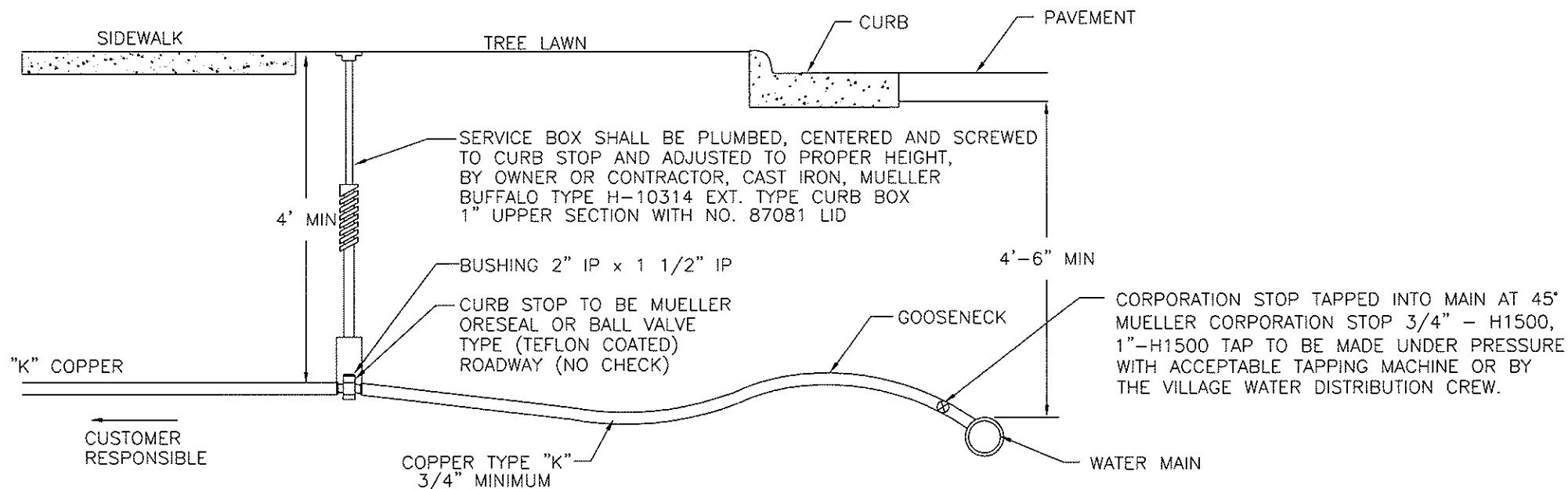
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DATE: JANUARY 25, 2005

WATER NOTES

**VILLAGE OF
PLEASANT HILL**

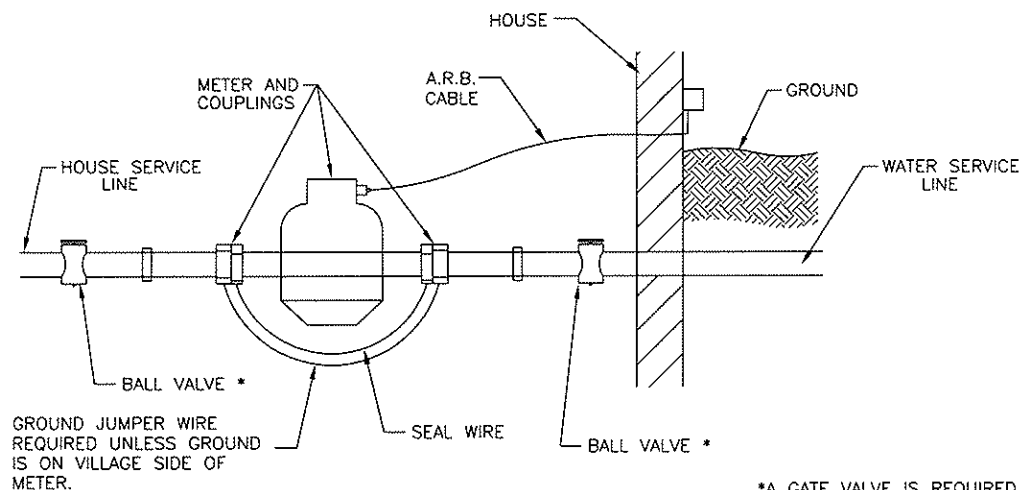
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WATER MAIN SERVICE CONNECTION

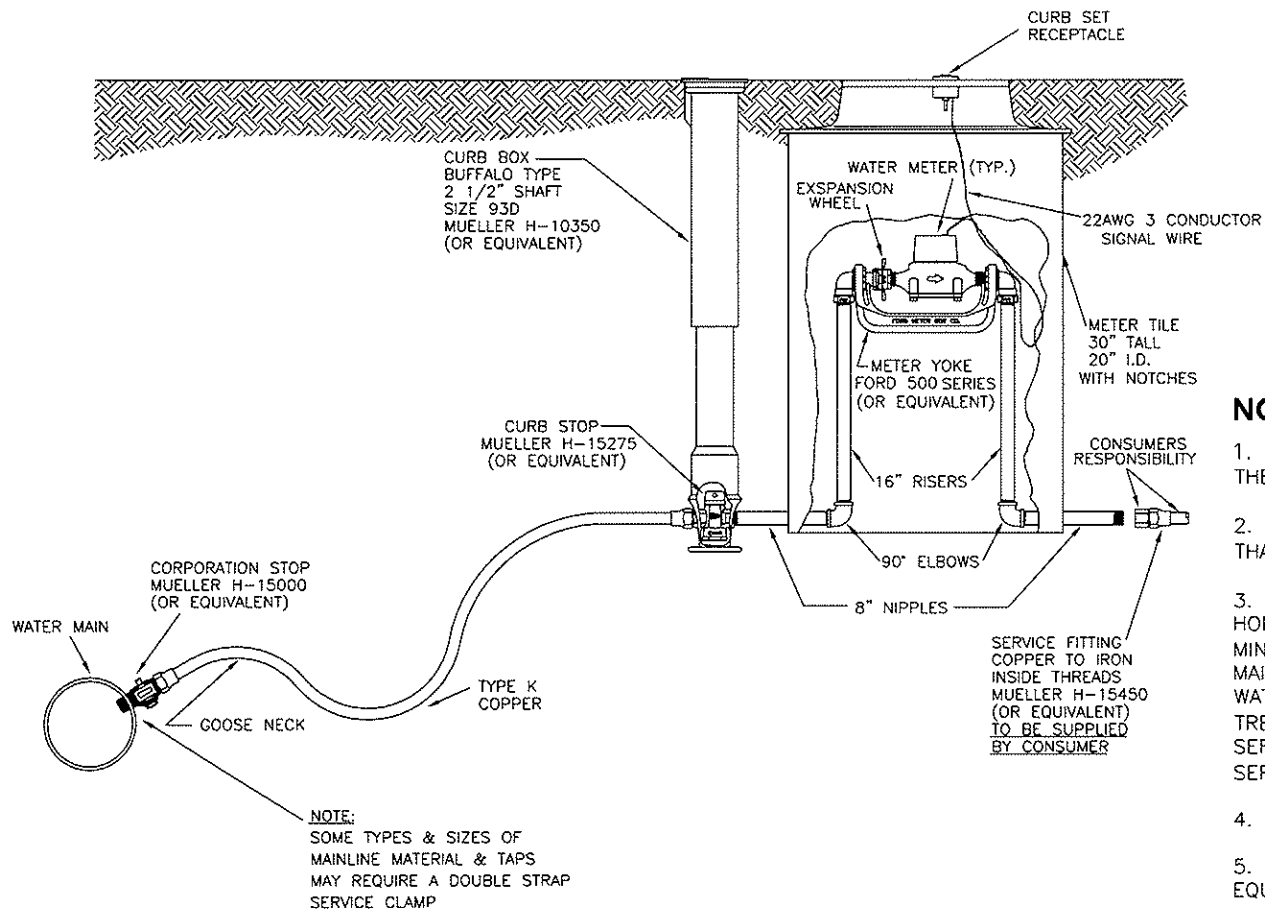
NOTES

1. WATER SERVICE SHALL BE SEAMLESS COPPER, TYPE K, MEETING THE REQUIREMENTS OF FEDERAL SPECIFICATION WW-T-799.
2. 1" SERVICE SHALL BE INSTALLED WHERE BUILDINGS ARE MORE THAN 120' FROM WATERMAIN OR WHERE REQUIRED BY PLANS.
3. WATER SERVICE SHALL BE A MINIMUM OF 10' MEASURED HORIZONTALLY FROM THE SEWER SERVICE AND SHALL BE A MINIMUM OF 18" ABOVE THE CROWN OF THE SANITARY SEWER MAIN WHERE THE WATER SERVICE CROSSES THE SEWER MAIN. WATER SERVICE MAY BE LAID ON BENCH IN THE SEWER LATERAL TRENCH IF CROWN IS AT LEAST 18" BELOW INVERT OF WATER SERVICE, AND THE MINIMUM DISTANCE BETWEEN THE WATER SERVICE AND THE SEWER LATERAL IS 5'-0".
4. METER UNIT TO BE PURCHASED FROM THE VILLAGE.
5. CORPORATION STOP AND CURB STOP ARE TO BE MUELLER OR EQUIVALENT.
6. ALL OTHER FITTINGS ARE TO BE BRASS OR BY VILLAGE ORDERS.
7. LOCATE WATER METER AS CLOSE TO ELECTRIC METER AS POSSIBLE.
8. SEE VILLAGE'S RULES & REGULATIONS FOR PUBLIC WATER SYSTEM FACILITIES FOR FURTHER DETAILS.



INSIDE WATER METER

*A GATE VALVE IS REQUIRED ON EACH SIDE OF 1 1/2" AND LARGER SERVICE LINES.



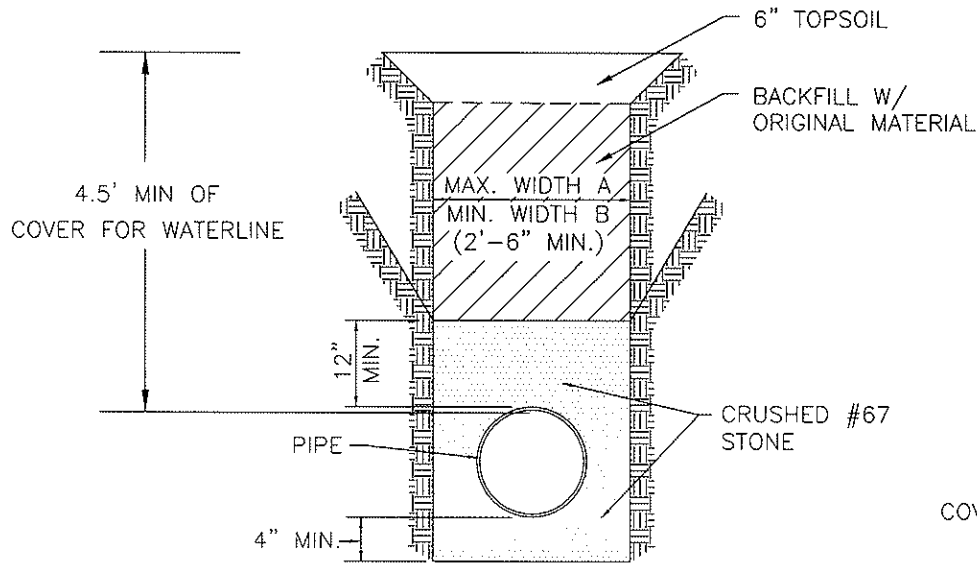
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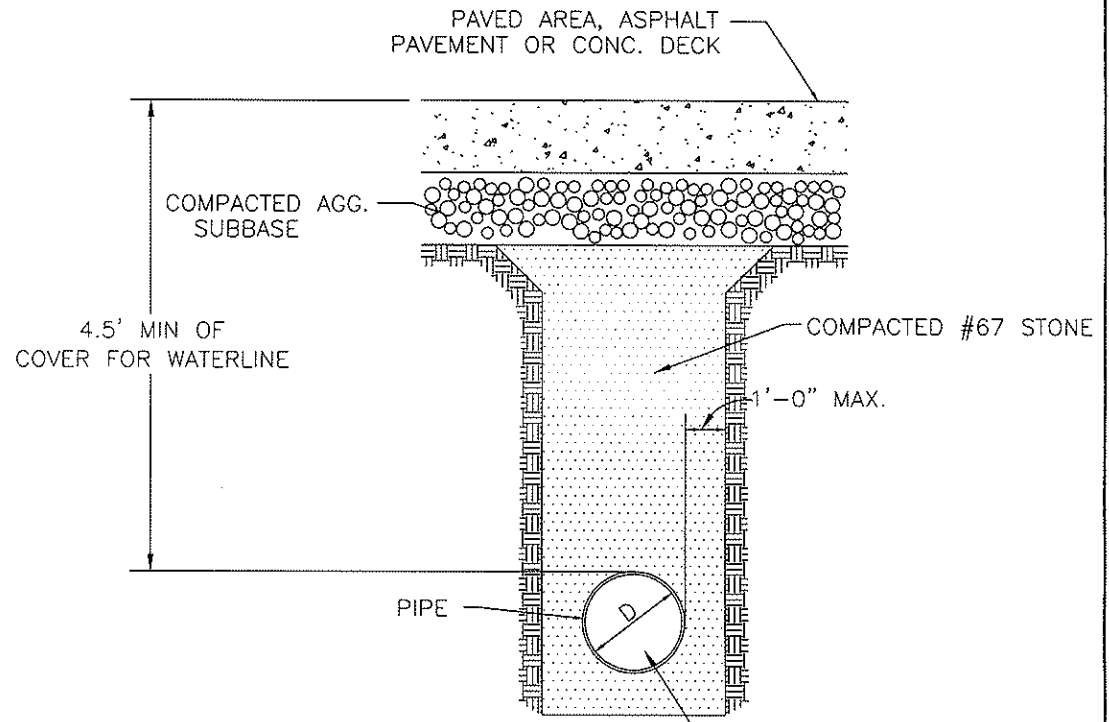
WATER MAIN SERVICE CONNECTION

N.T.S

PIPE SIZE	A	B
UP TO 33"	D + 16"	D + 12"
36" AND GREATER	D + 24"	D + 12"



BACKFILL TRENCH DETAIL



NOTE:

ALL CONSTRUCTION WITHIN 4' OF THE PAVEMENT
SHALL REQUIRE GRANULAR MATERIAL COMPACTED
IN A SUITABLE MANNER.

PIPE SHALL BE LAID ON
4" MIN. OF APPROVED
NATURAL SAND BASE &
TRENCH SHALL BE
FILLED WITH APPROVED
EXCAVATED MATERIAL.

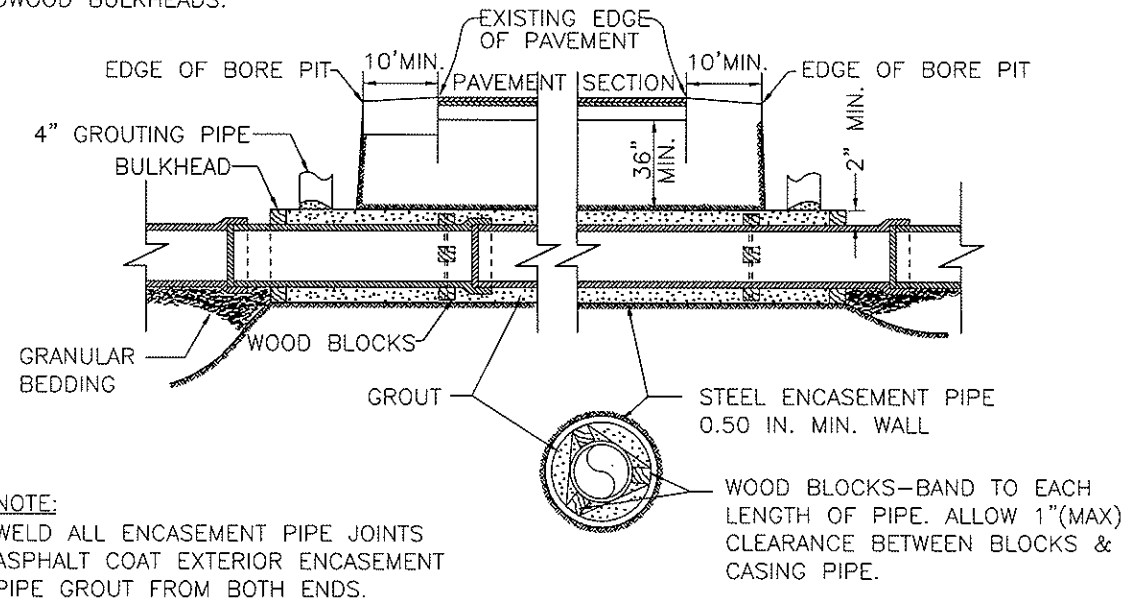
PAVED AREA TRENCH DETAIL

BORING NOTES

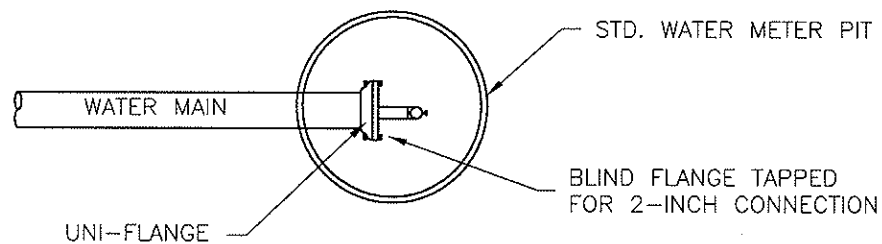
WHERE REQUIRED THE WATER SUPPLY LINE SHALL BE INSTALLED WITHIN STEEL ENCASEMENT PIPE. THE ENCASEMENT PIPE SHALL BE WELDED STEEL PIPE, OR ODOT APPROVED EQUAL, AND SHALL BE ASPHALT COATED ON THE OUTSIDE. THE ENCASEMENT PIPE SHALL HAVE A MINIMUM TENSILE STRENGTH OF 60,000 P.S.I., A MINIMUM YIELD STRENGTH OF 35,000 P.S.I., AND A MINIMUM WALL THICKNESS OF 0.50 INCH. THE MINIMUM DIAMETER OF ENCASEMENT PIPE SHALL BE THE OUTSIDE DIAMETER OF THE BELL + FOUR(4) INCHES, OR AS DIRECTED BY THE ENGINEER.

THE ENCASEMENT PIPE SHALL BE INSTALLED BY BORING AND JACKING AND IN-SUCH A MANNER SO AS TO ALLOW THE PIPE TO BE LAID AT THE PROPER GRADE. WHEN DIRECTED BY THE VILLAGE, THIS OPERATION SHALL BE CONTINUOUS (AROUND THE CLOCK UNTIL COMPLETE) AND CONDUCTED SO AS NOT TO INTERFERE WITH, INTERRUPT OR ENDANGER THE OPERATION OF TRAFFIC NOR DAMAGE, DESTROY, OR ENDANGER THE INTEGRITY OF THE ROADWAY FACILITIES. THE ENDS OF THE ENCASEMENT SHALL BE TERMINATED OUTSIDE EXISTING/PROPOSED PAVEMENT SECTIONS.

UPON COMPLETION OF THE PIPE INSTALLATION THE AREA BETWEEN THE PIPE AND THE ENCASEMENT PIPE SHALL BE COMPLETELY FILLED WITH A SAND AND CEMENT MIXTURE OR GROUT AS REQUIRED BY THE ENGINEER. CARE SHALL BE TAKEN TO INSURE THAT THE PIPE DOES NOT SHIFT WITHIN THE ENCASEMENT PIPE. IF REQUIRED, THE END OF THE ENCASEMENT PIPE SHALL BE SEALED WITH 2 INCH THICK REDWOOD BULKHEADS.



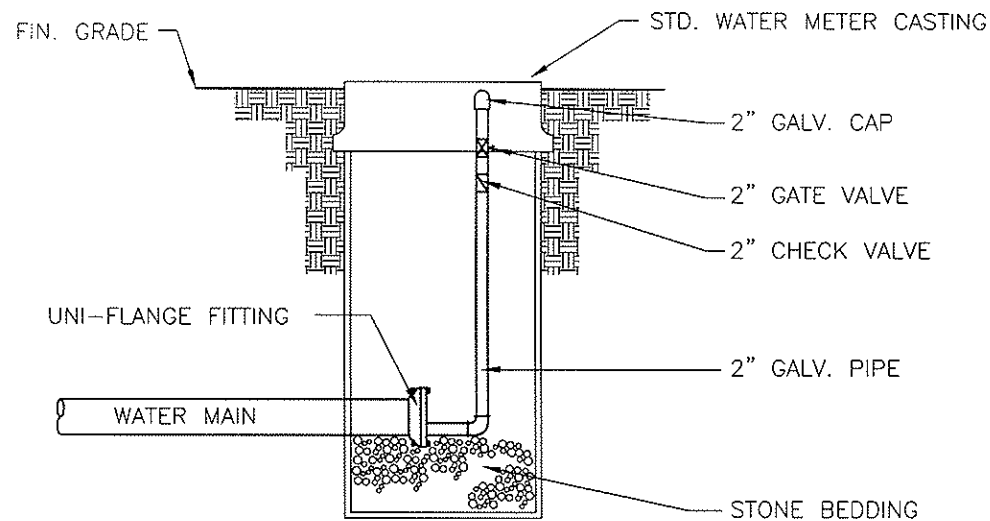
NOTE:
WELD ALL ENCASEMENT PIPE JOINTS
ASPHALT COAT EXTERIOR ENCASEMENT
PIPE GROUT FROM BOTH ENDS.



PLAN VIEW

NOTES:

1) IN A DEAD END SITUATION THE VILLAGE MAY REQUIRE A FIRE HYDRANT BE INSTALLED IN LIEU OF THIS DETAIL.



CROSS-SECTION



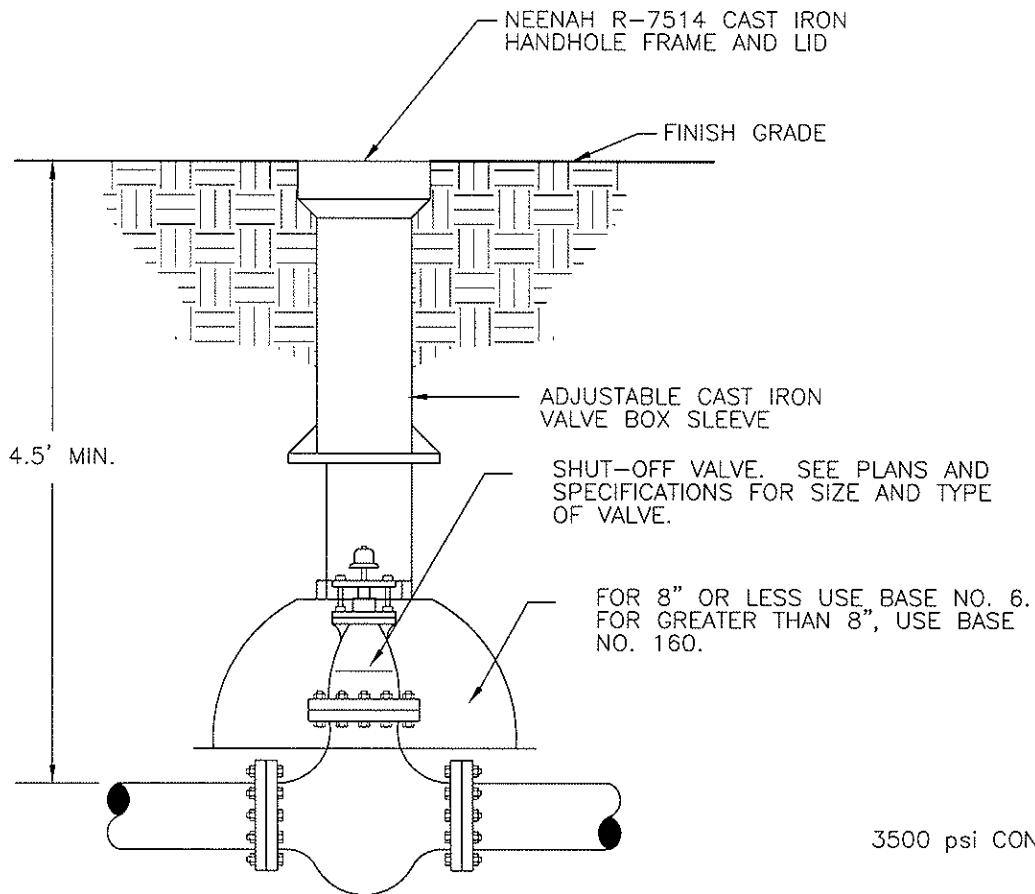
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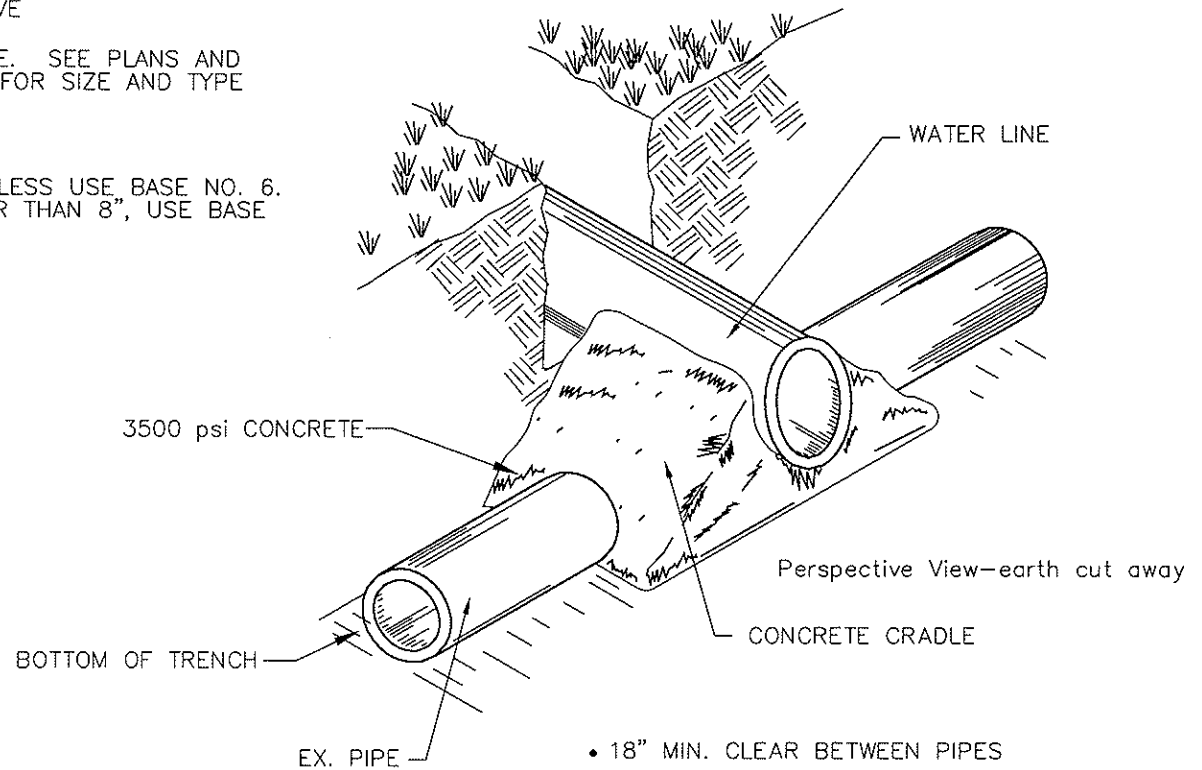
**DEAD END LINE
DETAIL**

**VILLAGE OF
PLEASANT HILL**

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VALVE BOX DETAIL



WATER LINE CROSSING DETAIL



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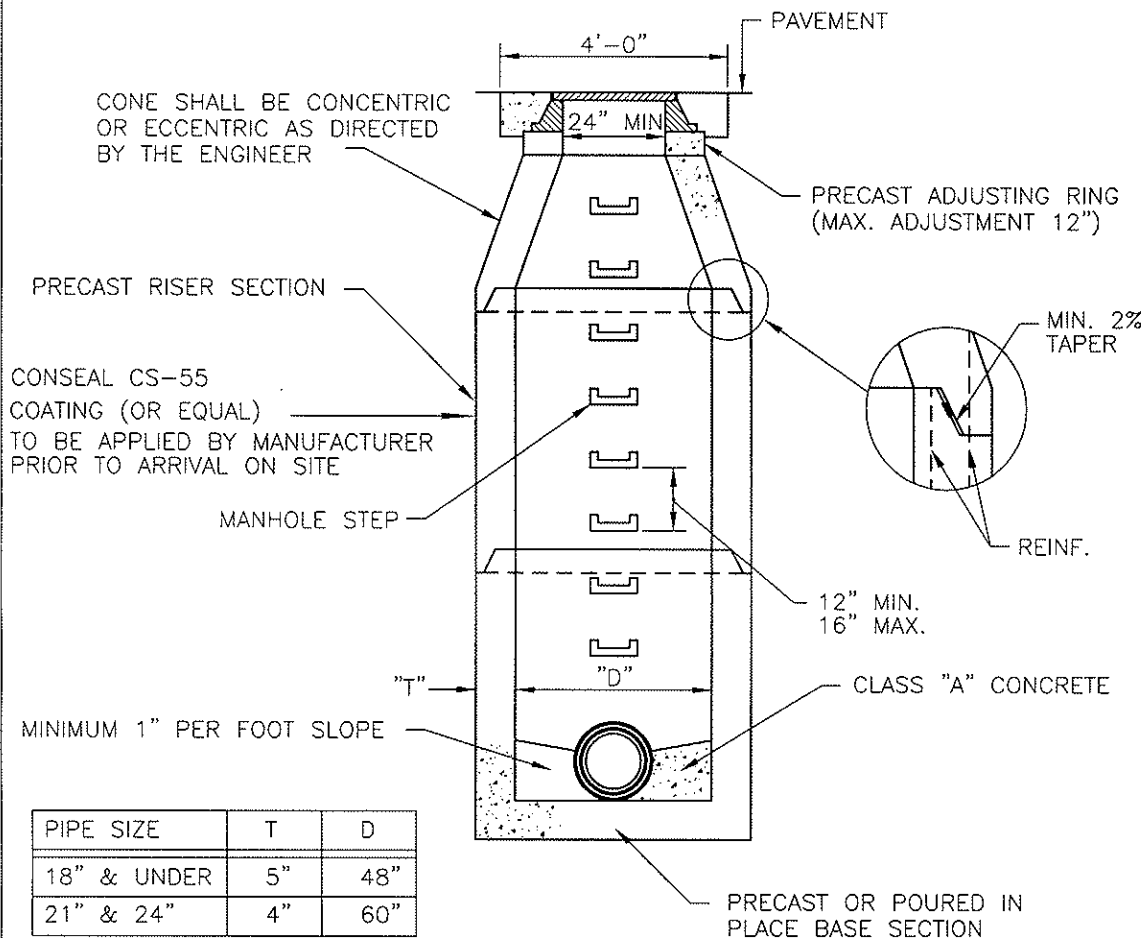
**MISCELLANEOUS WATER DISTRIBUTION
DETAILS**

**VILLAGE OF
PLEASANT HILL**

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SANITARY SEWER

DIVISION 900



PIPE SIZE	T	D
18" & UNDER	5"	48"
21" & 24"	4"	60"

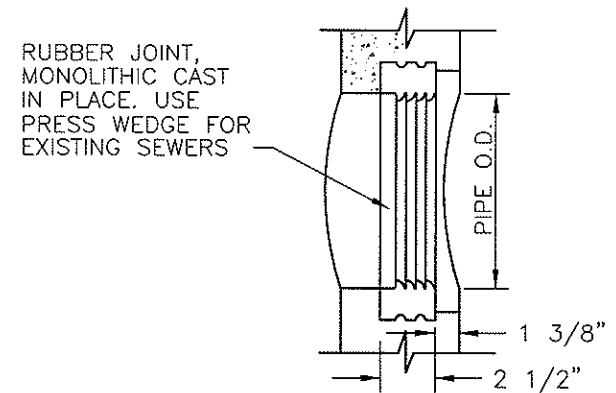
NOTES:

THE WORDS "SANITARY SEWER" SHALL BE CAST ON THE LID

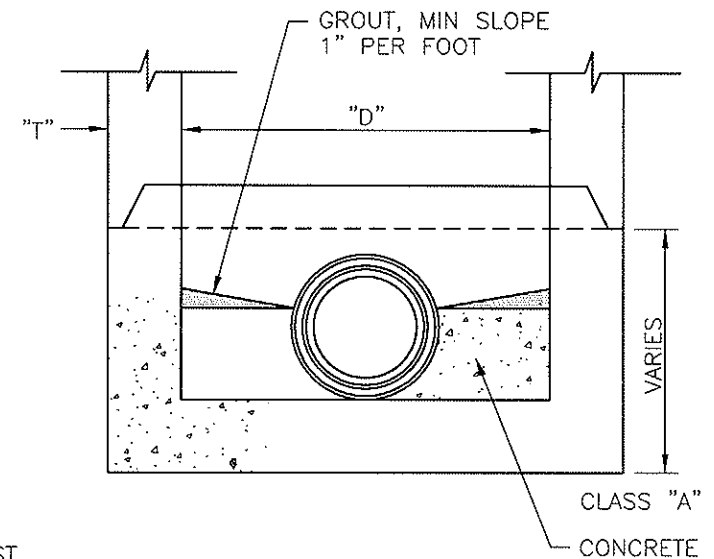
THE FLEXIBLE JOINTS SHOWN FOR PIPES 24" AND UNDER SHALL BE THE EQUAL OF "PRESS WEDGE II" AS MANUFACTURED BY PRESS SEAL GASKET CORPORATION OR "LINK SEAL" AS MANUFACTURED BY THE THUNDERLINE CORPORATION.

CONNECTIONS BETWEEN PRECAST MANHOLE SECTIONS AND PIPES ON SANITARY SEWERS MAY BE SEALED WITH RESILIENT CONNECTORS CONFORMING TO ASTM C923.

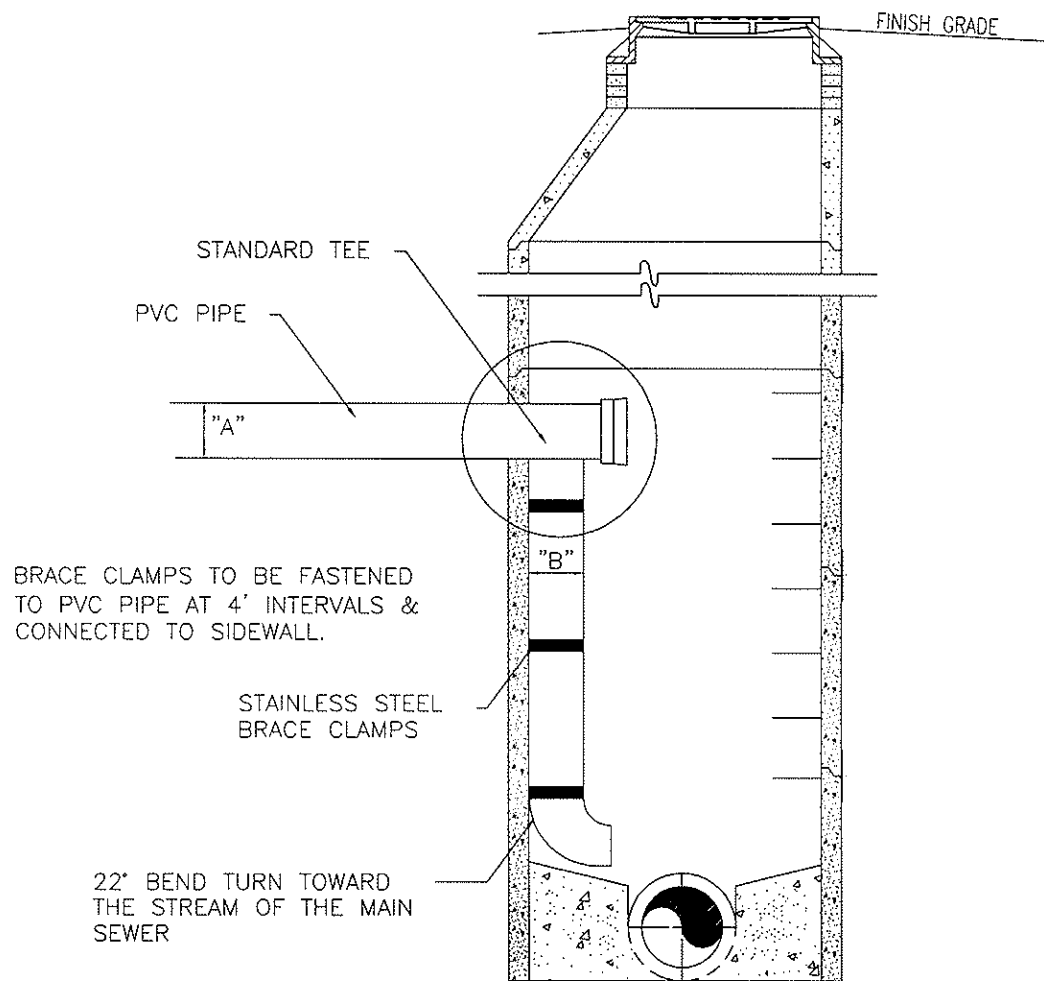
CORE & SEAL BOOT TO BE USED WHERE PLASTIC PIPE IS CONNECTED TO SANITARY MANHOLE.



CORE & SEAL BOOT

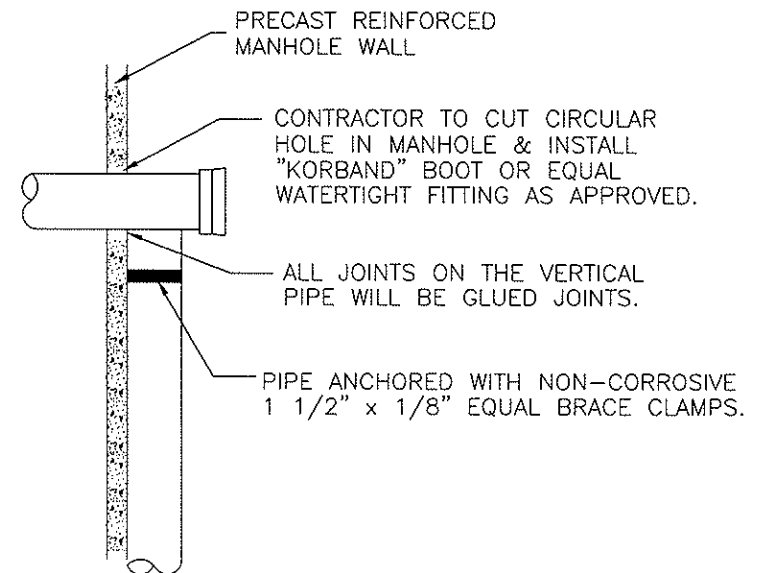


PRECAST BASE SECTION



NOTES:

- 1) CONSEAL CS-55 COATING OR EQUAL TO BE APPLIED TO EXTERIOR OF CONCRETE BY MANUFACTURER PRIOR TO ARRIVAL ON SITE.



NOTE: GLUE FITTINGS OR PREMIUM FITTINGS MUST BE USED ON ALL DROPS.

"A"	"B"
8", 10", 12"	8"
15", 18"	10"
21", 24"	12"

1) CONSEAL CS-55 COATING OR EQUAL TO BE APPLIED TO EXTERIOR OF CONCRETE BY MANUFACTURER PRIOR TO ARRIVAL ON SITE.

SANITARY SEWER PRECAST MANHOLE
MAXIMUM PIPE SIZE 36 INCH

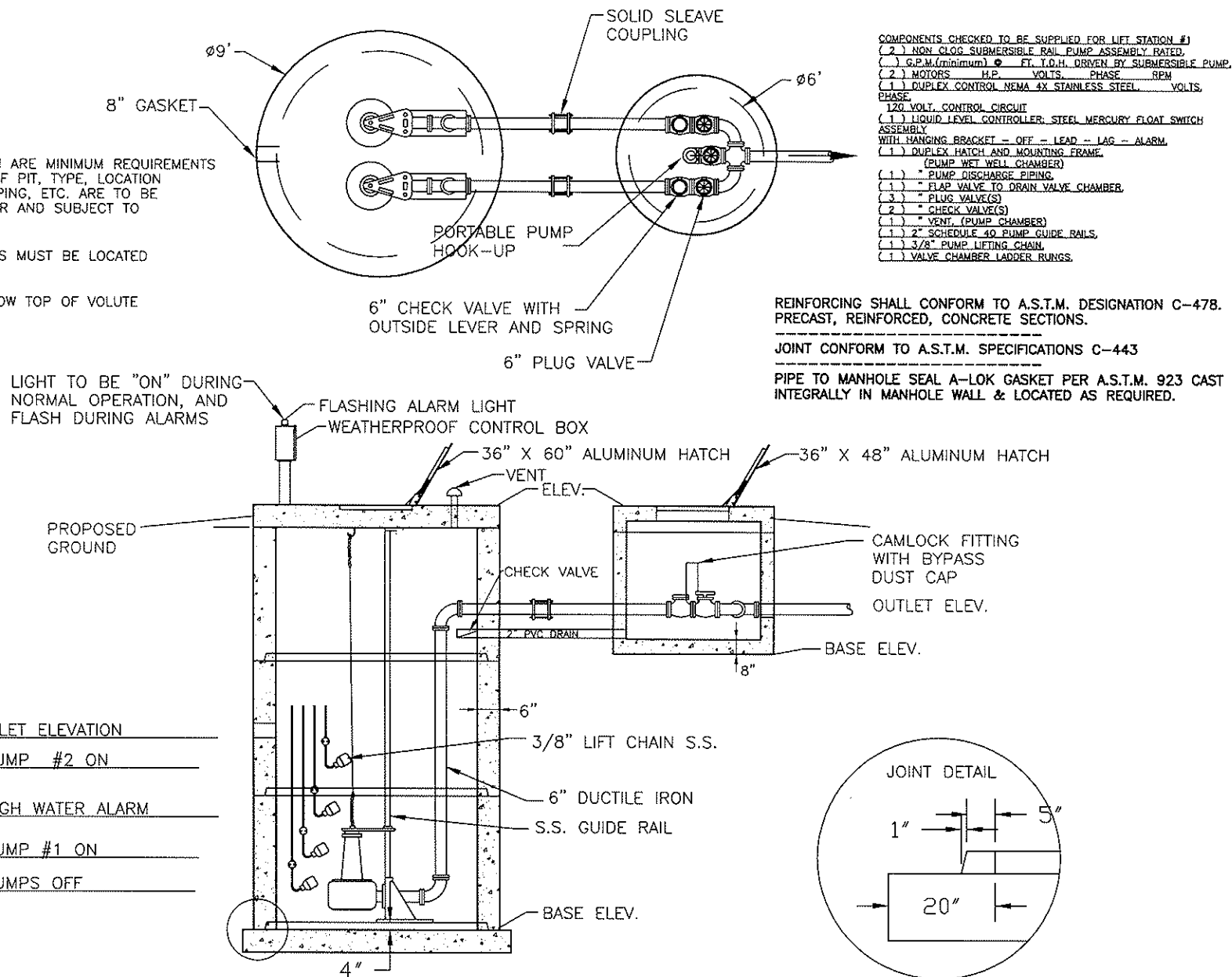


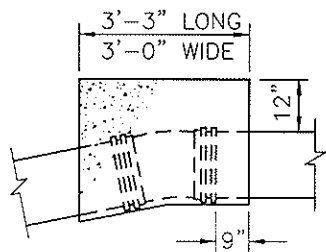
OUTSIDE SANITARY
DROP MANHOLE

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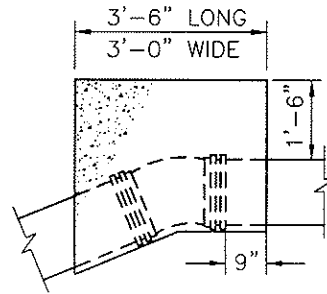
NOTES:

1. CONFIGURATION AND DIMENSIONS SHOWN ARE MINIMUM REQUIREMENTS ONLY. ALL DETAILS, INCLUDING SIZING OF PIT, TYPE, LOCATION AND ARRANGEMENTS OF VALVES AND PIPING, ETC. ARE TO BE SPECIFIED BY THE CONSULTING ENGINEER AND SUBJECT TO HIS APPROVAL.
2. JUNCTION BOXES FOR THE PUMP CABLES MUST BE LOCATED ABOVE THE FLOOD ELEVATION.
3. MIN. LIQUID LEVEL MUST NOT FALL BELOW TOP OF VOLUTE

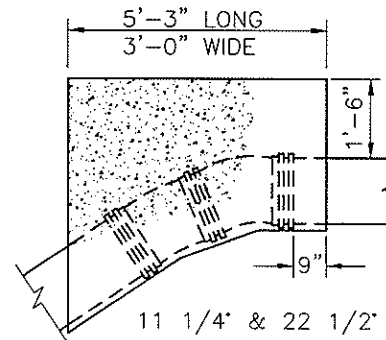




11 1/4° BEND



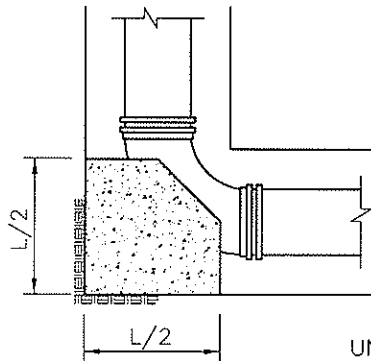
22 1/2° BEND



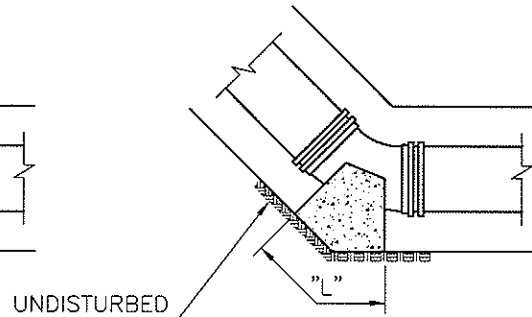
11 1/4° & 22 1/2°

1. CLASS "A" CONCRETE TO BE USED FOR ALL BLOCKING
2. TIED OR RESTRAINED JOINTS MAY BE USED IN LIEU OF CONCRETE BLOCKING AT THE DIRECTION OF THE ENGINEER.

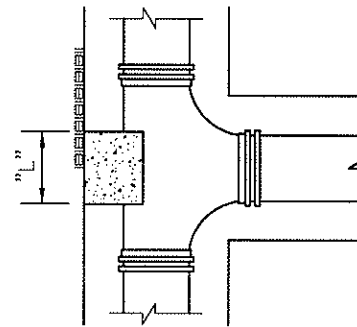
CONCRETE BLOCKING FOR VERTICAL BENDS



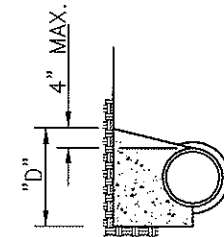
90° BENDS



BENDS LESS THAN 90°



TEES



TYPICAL SECTION

CONCRETE BLOCKING FOR HORIZONTAL BENDS

SIZE OF PIPE	BENDS							
	DEGREE OF BEND							
	11 1/4°		22 1/2°		45°		90°	
	L	D	L	D	L	D	L	D
3",4",6"	8"	6"	10"	6"	20"	6"	36"	6"
8"	9"	8"	14"	8"	24"	9"	50"	8"
12"	14"	12"	22"	12"	30"	16"	60"	15"
16"	18"	16"	24"	18"	33"	36"	70"	22"

RUN	TEES							
	BRANCH							
	3",4",6"		8"		12"		16"	
	L	D	L	D	L	D	L	D
3",4",6"	16"	7"						
8"	14"	8"	18"	12"				
12"	9"	12"	18"	12"	24"	18"		
16"	8"	16"	14"	16"	28"	16"	30"	26"



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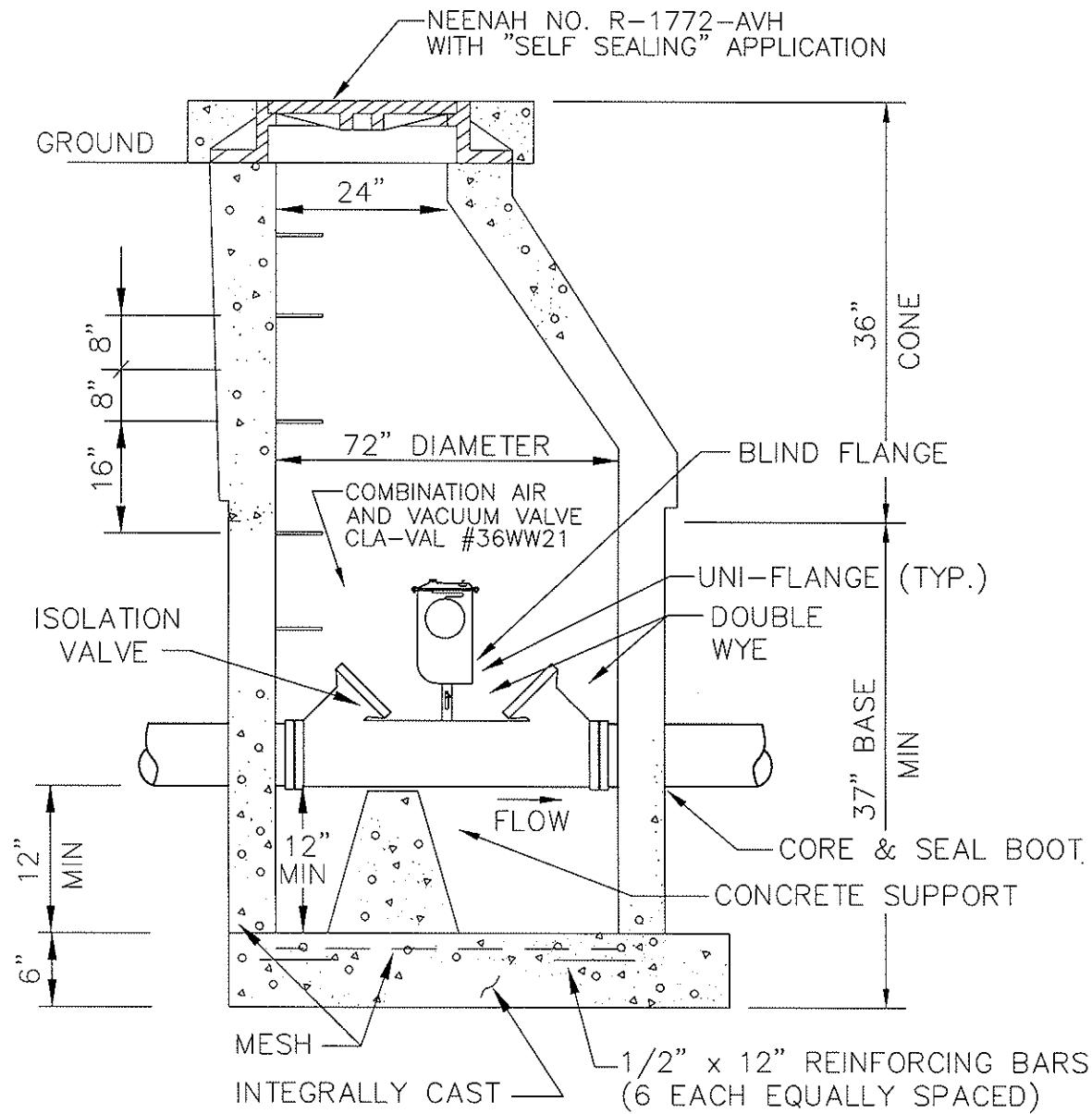
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DATE: JANUARY 25, 2005

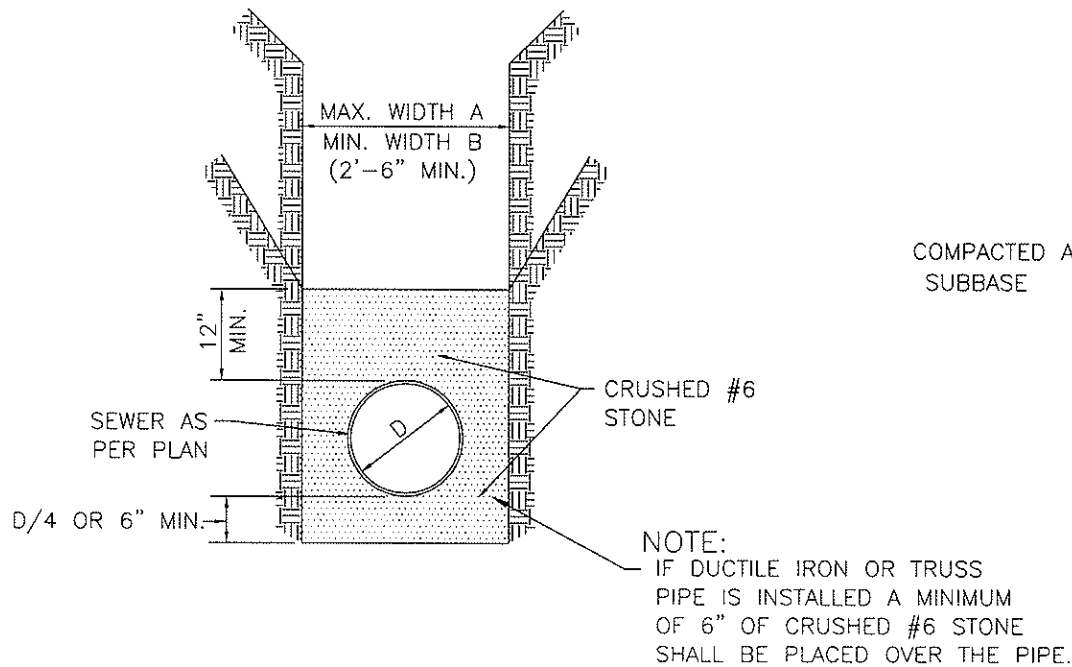
CONCRETE BLOCKING FOR FORCEMAINS

**VILLAGE OF
PLEASANT HILL**

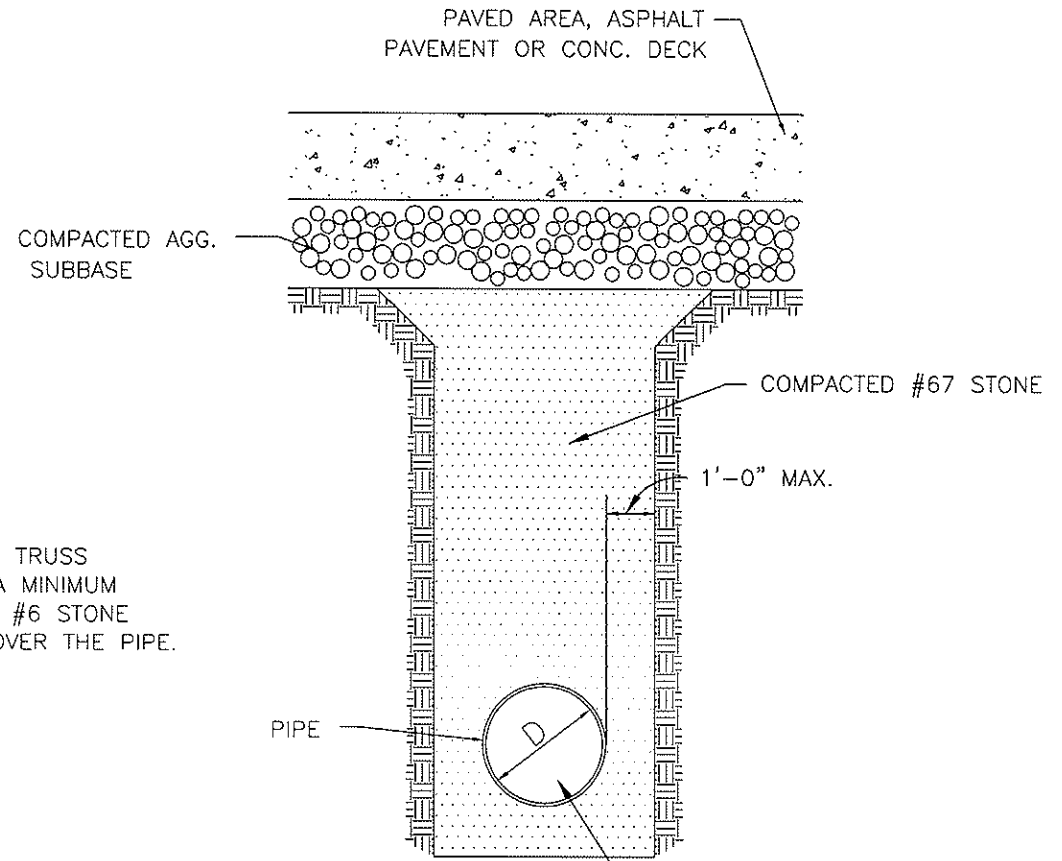
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PIPE SIZE	A	B
UP TO 33"	D + 16"	D + 12"
36" AND GREATER	D + 24"	D + 12"



TRENCH & BEDDING DETAIL



PAVED AREA TRENCH DETAIL



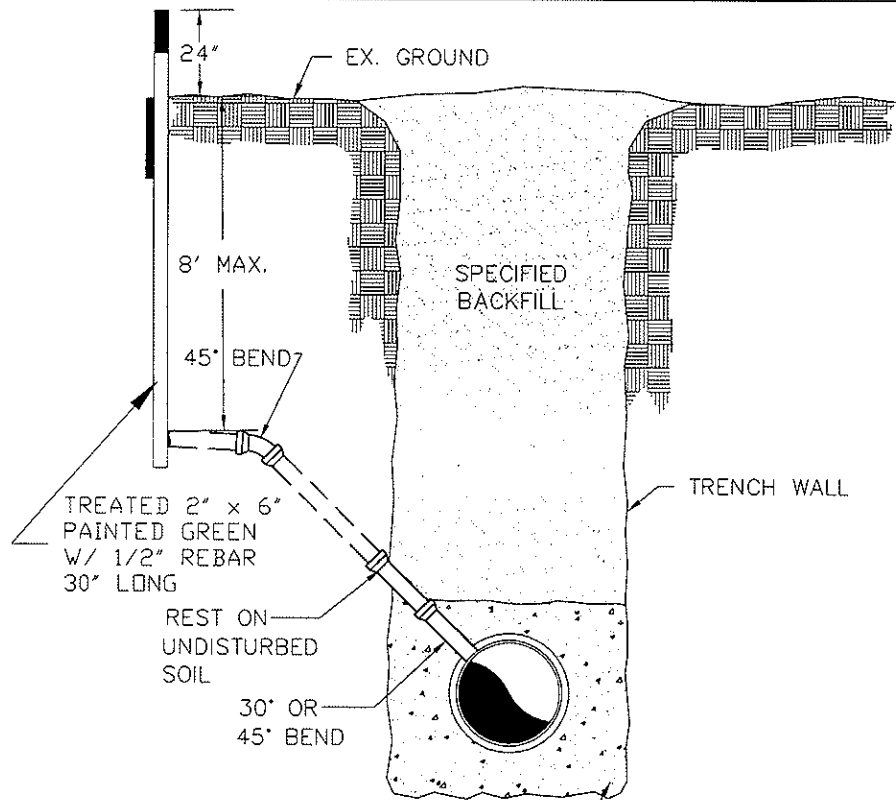
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BACKFILL TRENCH DETAILS

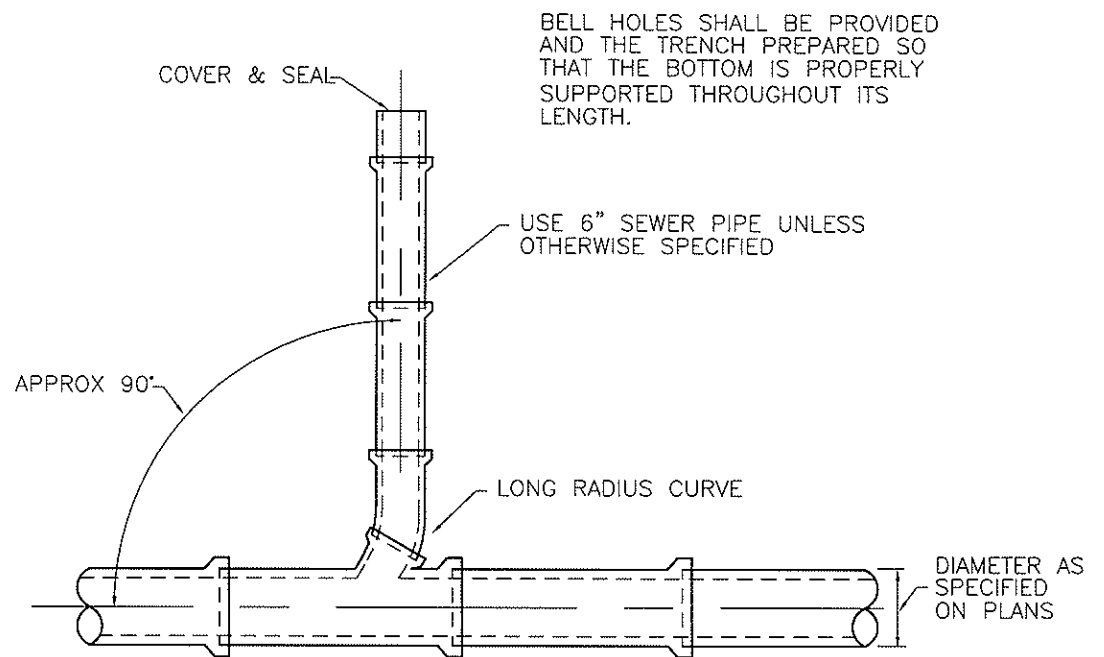
**VILLAGE OF
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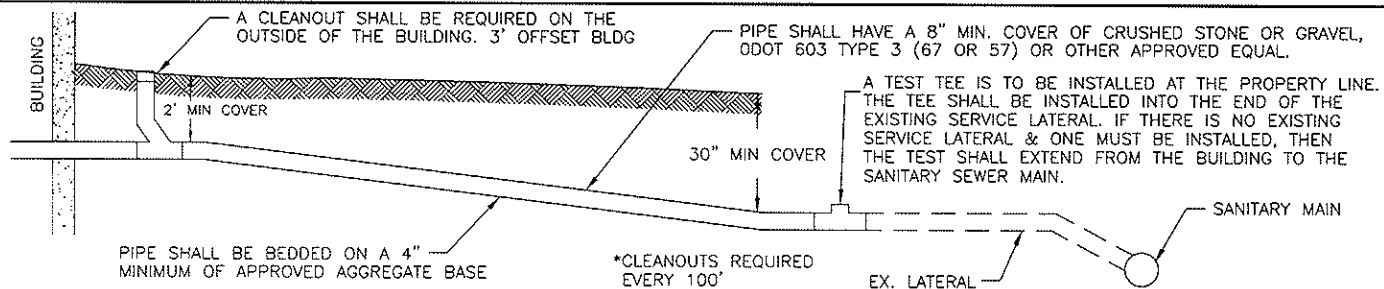
60" OF 45° WYE TO BE ENCASED IN CLASS II CONCRETE A MINIMUM OF 6" FROM BELL OF PIPE, AND 18" EACH WAY ALONG LINE OF SEWER FROM CENTER OF WYE.

SERVICE CONNECTION DETAIL



* SEAL MUST BE ABLE TO PASS AIR PRESSURE TESTS REQUIRED FOR SEWER MAIN

WYE & LATERAL DETAIL



NOTES

1. SEPTIC TANKS, WHEN ABANDONED, SHALL BE DEWATERED AND PROPERLY FILLED WITH GRANULAR MATERIALS WITH ALL TILES BEING PLUGGED WITH CONCRETE.
2. ROOF DOWNSPOUTS, EXTERIOR FOUNDATIONS DRAINS, AREAWAY DRAINS OR OTHER SURFACE RUNOFF OR GROUNDWATER SHALL NOT BE CONNECTED TO THE SANITARY SEWER MAIN.
3. ANY INDIVIDUAL OR FIRM INSTALLING SEWER CONNECTIONS SHALL BE LICENSED BY THE VILLAGE.
4. BEFORE BEGINNING WORK, A SEWER TAP PERMIT MUST BE OBTAINED.
5. WHEN THE BUILDING CONNECTION MUST ENTER INTO A PAVED PORTION OF THE STREET OR ALLEY, A STREET OPENING PERMIT MUST BE OBTAINED BEFORE BEGINNING WORK.
6. WATER SERVICES SHALL BE A MINIMUM OF 10' MEASURED HORIZONTALLY FROM THE SEWER SERVICE AND SHALL BE A MINIMUM OF 18" VERTICAL SEPARATION WHERE THE WATER SERVICE CROSSES THE SEWER MAIN.

PIPE

1. THE PIPE MATERIAL SHALL BE PVC SDR 35, SCHEDULE 40, UTILIZING PURPLE PRIMER, OR AN APPROVED EQUIVALENT.
2. PIPE SIZES FOR BUILDING CONNECTIONS SHALL BE 4" MINIMUM FOR SINGLE RESIDENCE AND 6" MINIMUM FOR ALL OTHER USES. THE LATERALS SHALL BE RAN TO WITHIN 3' OF OUTSIDE OF THE BUILDING.

INSPECTION

1. A TAP INSPECTION SHALL BE REQUIRED ON ALL NEW BUILDING CONNECTIONS AND ALSO REPLACEMENT OF EXISTING BUILDING CONNECTIONS.
2. WHEN THE BUILDING SEWER IS READY FOR INSPECTION, THE VILLAGE SHALL BE GIVEN 24 HOURS ADVANCE NOTICE. THE PIPE SHALL BE LEFT UNCOVERED UNTIL AN INSPECTION HAS BEEN MADE AND APPROVED.
3. ANY NEW BUILDING CONNECTION INSTALLED WITHOUT AN INSPECTION SHALL RESULT IN NO ISSUANCE OF A WATER METER FOR THE BUILDING. IF THIS OCCURS, THE ENTIRE LATERAL SHALL BE UNCOVERED SO THAT A PROPER INSPECTION CAN BE MADE.
4. NO TAP FEE IS REQUIRED IF AN OLD BUILDING SEWER IS TO BE REUSED. AN INSPECTION WILL BE REQUIRED. THE PUBLIC UTILITY DEPT. SHALL INSPECT THE ENTIRE BUILDING CONNECTION FROM THE CLEANOUT TO THE PROPERTY LINE CONNECTION OR TO THE MAIN SEWER, WHICHEVER IS APPLICABLE.
5. WHEN A SADDLE IS TO BE INSTALLED, THE INSPECTOR SHALL BE PRESENT WHILE THE SANITARY SEWER MAIN IS BEING CUT INTO. A SADDLE MAY BE USED WHERE A TEE OR WYE IS NOT PRESENT FOR LATERAL CONNECTION AND WHERE FLOW IS TOO GREAT TO ALLOW THE MAIN TO BE CUT. ALWAYS COMPLETELY ENCASE CONNECTIONS AT ANY DEPTH 12' AND OVER AS APPROVED BY THE VILLAGE.

TESTING

1. THE OUTSIDE PLUMBER SHALL BE RESPONSIBLE FOR THE TESTING FROM THE CONNECTION TO THE EXISTING SERVICE LATERAL TO THE CLEANOUT.
2. ALL NEW BUILDING CONNECTIONS SHALL BE BY AIR WITH 4 PSI PRESSURE.

3. THE SEWER TEST SHALL BE FROM THE CLEANOUT TO THE PROPERTY LINE CONNECTION OR TO THE MAIN SEWER, WHICHEVER IS APPLICABLE.

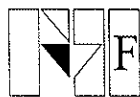
4. WHEN A SUBSTANTIAL AMOUNT OF AN EXISTING LATERAL IS REPLACED, THE NEW PORTION OF THE LATERAL SHALL REQUIRE A TEST UNLESS OTHERWISE APPROVED.

MISC.

1. STREET EXCAVATION REQUIRES A STREET OPENING PERMIT.
2. BASEMENTS WITH A FLOOR DRAIN TO BE CONNECTED TO THE SANITARY SEWER.

PIPE LAYING

1. THE OPEN ENDS OF ALL PIPES SHALL BE PLUGGED OR OTHERWISE CLOSED WITH A WATER TIGHT PLUG TO THE APPROVAL OF THE VILLAGE BEFORE THE CONTRACTOR LEAVES THE WORK SITE FOR THE NIGHT.
2. THE JOINING OF PIPE WITH CONCRETE SHALL NOT BE ACCEPTED. USE FERNCO COUPLINGS OR EQUAL.
3. BEFORE MAKING A CONNECTION TO AN EXISTING SEWER OR SERVICE LATERAL, THE CONTRACTOR SHALL CHECK THE EXISTING PIPE BY UTILIZING A SEWER EEL, STRAP, OR SEWER ROD TO SEE THAT THE EXISTING PIPE IS CONNECTED TO THE SANITARY SEWER MAIN.
4. IN THE CASE WHERE A 90° CORNER IS REQUIRED IN THE BUILDING CONNECTION LINE, 2 45° BENDS SHALL BE USED IN LIEU OF A 90° BEND.
5. THE BUILDING CONNECTION LINE SHALL BE LAID IN STRAIGHT LINE AS POSSIBLE.
6. ANY TWO FAMILY RESIDENCE THAT HAS AN EXISTING 4" LATERAL AVAILABLE TO THE LOT SHALL BE REQUIRED TO SEPARATE THE 4" COMMON LATERAL INTO INDIVIDUAL LATERALS, WITH CLEANOUTS ON THE OUTSIDE OF THE BUILDING UNLESS OTHERWISE APPROVED.
7. ALL NEW CONSTRUCTION SHALL HAVE SANITARY LATERALS INSTALLED.



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BUILDING CONNECTION DETAIL

**VILLAGE OF
PLEASANT HILL**

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LOW PRESSURE AIR TEST

1. AFTER BACKFILLING, THE AIR TEST SHALL BE CONDUCTED BETWEEN TWO CONSECUTIVE MANHOLES. ALL PIPE OUTLETS MUST BE PLUGGED IN THE SECTION BEING TESTED WITH SUITABLE TEST PLUGS. ONE OF THE PLUGS USED AT A MANHOLE MUST BE TAPPED AND EQUIPPED FOR AIR INLET CONNECTIONS FOR FILLING THE LINE FROM THE AIR COMPRESSOR. AIR SHALL BE SUPPLIED SLOWLY TO THE TEST SECTION UNTIL THE INTERNAL PRESSURE REACHES APPROXIMATELY 4 PSI. IF THE PIPE IS BELOW EXISTING GROUNDWATER LEVEL, THE INTERNAL PRESSURE SHALL BE INCREASED BY THE AVERAGE BACK PRESSURE OF ANY GROUNDWATER THAT MAY BE OVER THE PIPE, BUT IN NO CASE SHOULD THE INTERNAL PRESSURE EVER EXCEED 5 PSI.

2. AT LEAST 2 MINUTES SHALL BE ALLOWED FOR THE AIR PRESSURE TO STABILIZE. WHEN THE PRESSURE HAS STABILIZED AND IS AT OR ABOVE 3.5 PSI, THE AIR SUPPLY SHALL BE DISCONNECTED AND TIMING SHALL BEGIN WITH A STOP WATCH. THE STOP WATCH SHALL BE ALLOWED TO RUN UNTIL THE PRESSURE HAS DROPPED 1.0 PSI. IF THE TIME SHOWN ON THE STOP WATCH IS GREATER THAN THE SPECIFIED MINIMUM TIME, THE SECTION SHALL BE CONSIDERED TO HAVE PASSED THE TEST. TIME MAY BE INTERPOLATED FROM THE FIGURES LISTED BELOW.

SPECIFICATION TIME FOR LENGTH (L) SHOWN (MIN-SEC)

PIPE DIA.	100 FT.	150 FT.	200 FT.	250 FT.	300 FT.
4"	1:53	1:53	1:53	1:53	1:53
6"	2:50	2:50	2:50	2:50	2:50
8"	3:47	3:47	3:47	3:47	3:48
10"	4:43	4:43	4:43	4:57	5:56
12"	5:40	5:40	5:42	7:08	8:33
15"	7:05	7:05	8:54	11:08	13:21
18"	8:30	9:37	12:49	16:01	19:41
21"	9:55	13:05	17:27	21:49	26:11
24"	11:24	17:57	22:48	28:30	34:11

DEFLECTION TEST

1. DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PIPE OTHER THAN SERVICE LATERALS. THE TEST SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM.

2. NO PIPE SHALL EXCEED A DEFLECTION OF 5 %. IF DEFLECTION EXCEEDS 5%, REPLACEMENT OR CORRECTION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE REQUIREMENTS OF APPROVING AGENCY.

3. THE RIGID BALL OR MANDREL USED FOR THE DEFLECTION TEST SHALL HAVE A DIAMETER NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE DEPENDING ON WHICH IS MANUFACTURED. THE PIPE SHALL BE MEASURED IN COMPLIANCE WITH ASTM-2122 STANDARD TEST METHOD OF DETERMINING DIMENSIONS OF THERMOPLASTIC PIPE AND FITTINGS. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.

DIAMETER, INCHES

DEPTH (FT.)	48	60	72
	TIME, SECONDS		
8 OR LESS	20	26	33
10	25	33	41
12	30	39	49
14	35	46	57
16	40	52	67
18	45	59	73
20	50	65	81
22	55	72	89
24	59	78	97
26	64	85	105
28	69	91	113
30	74	98	121

MINIMUM TEST TIMES FOR VARIOUS MANHOLE DIAMETERS

MANHOLE VACUUM TEST

ALL SANITARY SEWER MANHOLES SHALL BE VACUUM TESTED USING THE FOLLOWING PROCEDURES FROM ASTM C-1244.

A. PREPARATION OF THE MANHOLE

1. ALL LIFT HOLES SHALL BE PLUGGED.
2. ALL PIPES ENTERING THE MANHOLE SHALL BE TEMPORARILY PLUGGED TAKING CARE TO SECURELY BRACE THE PIPES AND PLUGS TO PREVENT THEM BEING DRAWN INTO THE MANHOLE.

B. PROCEDURE

1. THE FIRST HEAD SHALL BE PLACED AT THE TOP OF THE MANHOLE IN THE CASTING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

2. A VACUUM OF 10" OF MERCURY (4.9 PSI) SHALL BE DRAWN ON THE MANHOLE, THE VALVE ON THE VACUUM LINE OF THE TEST HEAD CLOSED, AND THE VACUUM PUMP SHUT OFF, THE TIME SHALL BE MEASURED FOR THE VACUUM TO DROP TO 9" OF MERCURY (4.4 PSI).

3. THE MANHOLE SHALL PASS IF THE TIME FOR THE VACUUM READING TO DROP FROM 10" OF MERCURY (4.9 PSI) TO 9" OF MERCURY (4.4 PSI) MEETS OR EXCEEDS THE VALUES INDICATED ON THE TABLE.

4. IF THE MANHOLE FAILS THE INITIAL TEST, NECESSARY REPAIRS SHALL BE MADE BY AN APPROVED METHOD, THE MANHOLE SHALL THEN BE RETESTED UNTIL A SATISFACTORY TEST IS OBTAINED.

* ALL SANITARY SEWER TESTING IS THE RESPONSIBILITY OF THE CONTRACTOR.

NOTES

1. NO WORK SHALL BE APPROVED OR ACCEPTED BY THE VILLAGE UNLESS 2 WORKING DAY'S NOTICE OF COMMENCING WORK IS GIVEN TO THE VILLAGE.
2. ALL TEMPORARY PAVEMENT AND SIDEWALK SHALL BE MAINTAINED BY THE CONTRACTOR OR DEVELOPMENT AT HIS OWN EXPENSE IN A SUITABLE AND SAFE CONDITION FOR TRAFFIC UNTIL PERMANENT REPLACEMENT IS MADE OR THE PROJECT IS FINALLY ACCEPTED BY THE VILLAGE.
3. ROOF DRAINS, FOUNDATION DRAINS, SUMP PUMPS, AND OTHER CLEAR WATER CONNECTIONS TO THE SANITARY SEWER SYSTEM ARE PROHIBITED.
4. WHEN SEWER CONSTRUCTION BEGINS, THE SEWER AT THE EXISTING MANHOLE, IF SMALLER OR EQUAL TO 12", SHALL BE PLUGGED BY HAVING A POLYETHYLENE BAG PLACED INTO THE SEWER PIPE APPROXIMATELY 6" AND THEN POUR CONCRETE INTO AND AROUND THE SEWER PIPE AS DIRECTED BY THE VILLAGE, SIZED LARGER THAN 12" WILL BE PLUGGED BY OTHER APPROVED METHODS. NO PLUGS SHALL BE REMOVED UNTIL CONSTRUCTION IS COMPLETED AND THEN ONLY AS DIRECTED BY THE VILLAGE.
5. CONSTRUCTION OF SANITARY SEWER SHALL INCLUDE THE VILLAGE DYE TESTING AS DETERMINED BY THE VILLAGE OF ALL PIPES TO BE CONNECTED TO THE NEW SEWER PRIOR TO BACKFILLING.
6. WHEN A CASTING OR OTHER PUBLIC PROPERTY IS ABANDONED IT REMAINS VILLAGE PROPERTY.
7. NEW SEWERS MUST HAVE EPA APPROVAL.

EXCAVATION AND PIPE LAYING

1. THE LAYING OF THE PIPE SHALL COMMENCE AT THE LOWEST POINT, WITH THE BELL END LAID UPGRADE. THE PIPE SHALL BE CENTERED IN THE TRENCH AND ALL PIPE SHALL BE LAID WITH ENDS ABUTTING AND TRUE TO LINE AND GRADE.
2. LASER SHALL BE USED UNLESS OTHERWISE APPROVED.

UTILITY STAKING

1. LASER METHOD — OFFSET AND GRADE AT EACH MANHOLE. OFFSET AND GRADE 50' AND 100' OUT FROM EACH MANHOLE UNLESS OTHERWISE APPROVED.

TESTING

1. BEFORE ANY SEWER LINE IS PLACED INTO SERVICE OR ACCEPTED BY THE VILLAGE, IT SHALL BE SUBJECTED TO AND PASS LOW PRESSURE AIR TEST. EACH RUN BETWEEN MANHOLES, WITH ALL SERVICE LATERALS STUBBED INTO PROPERTY LINES, SHALL BE TESTED BEFORE BEING ACCEPTED. THE CONTRACTOR OR DEVELOPER SHALL FURNISH ALL EQUIPMENT AND MATERIAL NECESSARY TO CONDUCT THIS TEST. THE TRENCH SHALL BE COMPLETELY BACKFILLED BEFORE TESTING.
2. SEE SANITARY TESTING NOTES.
3. BEFORE FINAL ACCEPTANCE BY THE VILLAGE AND SERVICE LINE IS PUT INTO USE, ALL SANITARY SEWERS AND MANHOLES SHALL BE THOROUGHLY CLEANED OF ALL FOREIGN MATTER BY USE OF A SEWER-JET, OR EQUAL, TYPE OF EQUIPMENT.

PIPE

1. ALL PIPE AND SPECIALS SHALL BE PVC SDR-35 UNLESS OTHERWISE APPROVED BY THE VILLAGE. MINIMUM DIAMETER OF PIPE SHALL BE 8".
2. DUCTILE IRON PIPE WILL BE USED IN STREAM CROSSINGS AND WHERE MINIMUM SEPARATION CAN NOT BE MAINTAINED.
3. ALL JOINTS SHALL BE OF THE BELL AND SPIGOT TYPE, THE BELLS BEING FORMED INTEGRALLY WITH THE PIPE. THE BELL SHALL CONTAIN A FACTORY INSTALLED ELASTOMETRIC GASKET WHICH IS POSITIVELY RETAINED. NO SOLVENT CEMENT JOINTS WILL BE PERMITTED IN FIELD CONSTRUCTION EXCEPT AS SPECIFICALLY AUTHORIZED BY THE VILLAGE.

HOUSE CONNECTIONS

1. NO SERVICE LINE SHALL BE ALLOWED TO CONNECT DIRECTLY INTO A MANHOLE, SUBJECT TO APPROVAL BY THE VILLAGE IN SPECIFIC CLASS.
2. THE ENDS OF ALL SERVICE LINES TO TEES SHALL BE ACCURATELY LOCATED, MAPPED, AND GIVEN TO THE VILLAGE WITHIN 15 DAYS AFTER INSTALLATION.
3. BEFORE MAKING A CONNECTION TO AN EXISTING SEWER TAP OR SEWER LATERAL, THE CONTRACTOR SHALL CHECK THE EXISTING PIPE BY UTILIZING A SEWER EEL, STRAP, OR SEWER ROD TO SEE THAT THE EXISTING PIPE IS CONNECTED TO THE MAIN SEWER. IF NECESSARY, THE VILLAGE WILL PROVIDE, AT THE CONTRACTOR EXPENSE, A HYDRAULIC SEWER CLEANER WHICH WILL PRODUCE LARGE VOLUMES OF WATER TO CHECK THE LATERAL.
4. A PERMIT TO OPEN INTO, ALTER, OR DISTURB ANY PUBLIC SEWER MUST BE OBTAINED.
5. ALL ABANDONED SEWER LATERALS SHALL BE CAPPED AT THE OWNERS EXPENSE.

FLEXIBLE PIPES

POLYVINYL CHLORIDE

DUCTILE IRON

MATERIAL SPECIFICATIONS

ASTM D-3034 (SDR-35)
PIPE STIFFNESS = 46 PSI

ANSI A-21.51 &
AWWA C-151

JOINT SPECIFICATIONS

ELASTOMERIC GASKET
ASTM D-3212

ANSI A-21.11
AWWA C-111

1. SDR = OUTSIDE DIAMETER DIVIDED BY WALL THICKNESS.
2. THE SPECIFICATIONS ABOVE SHALL BE THOSE MOST RECENTLY ADOPTED BY THE APPROPRIATE STANDARDS SETTING ORGANIZATIONS.