

MORRIS COUNTY SOIL CONSERVATION DISTRICT NOTES:

- ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE INSTALLED IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION. IN NEW JERSEY AND WILL BE IN PLACE PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
- ANY DISTURBED AREA THAT WILL BE LEFT EXPOSED FOR MORE THAN THIRTY (30) DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC SHALL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PROHIBITS TEMPORARY SEEDING, THE DISTURBED AREA WILL BE MULCHED WITH STRAW OR HAY AND TACKED IN ACCORDANCE WITH THE NEW JERSEY STANDARDS. SEE NOTE 22 BELOW.
- PERMANENT VEGETATION IS TO BE ESTABLISHED ON EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. MULCH IS TO BE USED FOR PROTECTION UNTIL VEGETATION IS ESTABLISHED. SEE NOTE 23 BELOW.
- IMMEDIATELY FOLLOWING FINAL DISTURBANCE OR ROUGH GRADING, CRITICAL AREAS (STEEP SLOPES, SANDY SOILS, WET CONDITIONS) SUBJECT TO EROSION WILL RECEIVE A TEMPORARY SEEDING IN ACCORDANCE WITH NOTE 22 BELOW.
- TEMPORARY DIVERSION BERMS ARE TO BE INSTALLED ON ALL CLEARED ROADWAYS AND EASEMENT AREAS.
- PERMANENT SEEDING AND STABILIZATION TO BE IN ACCORDANCE WITH THE STANDARDS FOR PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION COVER. SPECIFIED RATES AND LOCATIONS SHALL BE ON THE APPROVED SOIL EROSION AND SEDIMENT CONTROL PLAN.
- THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SO THAT ALL STORM WATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
- ALL SEDIMENTATION STRUCTURES (SILT FENCE, INLET FENCES, AND SEDIMENT BASINS) WILL BE INSPECTED AND MAINTAINED DAILY.
- STOCKPILES SHALL NOT BE LOCATED WITHIN 50' OF A FLOODPLAIN, SLOPE, DRAINAGE FACILITY, OR ROADWAY. ALL STOCKPILE BASES SHALL HAVE A SILT FENCE PROPERLY ENTRENCHED AT THE TOE OF SLOPE.
- A STABILIZED CONSTRUCTION ACCESS SHALL BE INSTALLED, WHENEVER AN EARTHEN ROAD INTERSECTS WITH A PAVED ROAD, SET THE STABILIZED CONSTRUCTION ACCESS DETAIL AND CHART FOR DIMENSIONS.
- ALL NEW ROADWAYS WILL BE TREATED WITH SUITABLE SUBBASE UPON ESTABLISHMENT OF FINAL GRADE ELEVATIONS.
- PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.
- BEFORE DISCHARGE POINTS BECOME OPERATIONAL, ALL STORM DRAINAGE OUTLETS WILL BE STABILIZED AS REQUIRED.
- ALL DETERIORATING OPERATIONS MUST BE DISCHARGED DIRECTLY INTO A SEDIMENT FILTER AREA. THE FILTER SHOULD BE COMPOSED OF A FABRIC OR APPROVED MATERIAL. SEE THE DETAILING DETAIL.
- ALL SEDIMENT BASINS WILL BE CLEARED WHEN THE CAPACITY HAS BEEN REDUCED BY 50%. A CLEAN OUT ELEVATION WILL BE IDENTIFIED ON THE PLAN AND A MARKER INSTALLED ON THE SITE.
- DURING AND AFTER CONSTRUCTION, THE APPLICANT WILL BE RESPONSIBLE FOR THE MAINTENANCE AND UPKEEP OF THE DRAINAGE STRUCTURES, VEGETATION COVER, AND ANY OTHER MEASURES DEEMED APPROPRIATE BY THE DISTRICT. SUE RESPONSIBILITY WILL END WHEN COMPLETED WORK IS APPROVED BY THE MORRIS COUNTY SOIL CONSERVATION DISTRICT.
- ALL TREES OUTSIDE THE DISTURBANCE LIMIT INDICATED ON THE SUBJECT PLAN OR THOSE TREES WITHIN THE DISTURBANCE AREA WHICH ARE DESIGNATED TO REMAIN AFTER CONSTRUCTION ARE TO BE PROTECTED WITH TREE PROTECTION DEVICES.
- THE MORRIS COUNTY SOIL CONSERVATION DISTRICT MAY REQUEST ADDITIONAL MEASURES TO MINIMIZE ON-SITE OR OFF-SITE EROSION PROBLEMS DURING CONSTRUCTION.
- THE MORRIS COUNTY SOIL CONSERVATION DISTRICT MUST BE NOTIFIED, IN WRITING, AT LEAST 48 HOURS PRIOR TO ANY LAND DISTURBANCE, AND A PRE-CONSTRUCTION MEETING HELD.
- CONTRACTOR TO SET UP A MEETING WITH THE INSPECTOR FOR A PERIODIC INSPECTIONS OF THE TEMPORARY SEDIMENT BASIN PRIOR TO AND DURING ITS CONSTRUCTION.
- TOPSOIL STOCKPILE PROTECTION
 - APPLY GROUND LIMESTONE AT A RATE OF 90 LBS. PER 1000 SQ. FT.
 - APPLY FERTILIZER (10-20-10) AT A RATE OF 11 LBS. PER 1000 SQ. FT.
 - APPLY PERENNIAL RYEGRASS SEED AT 1 LB. PER 1000 SQ. FT. AND ANNUAL RYEGRASS AT 1 LB. PER 1000 SQ. FT.
 - MULCH STOCKPILE WITH STRAW OR HAY AT A RATE OF 90 LBS. PER 1000 SQ. FT.
 - APPLY A LIQUID MULCH BINDER OR TACK TO STRAW OR HAY MULCH
 - PROPERLY ENTRENCH A SILT FENCE AT THE BOTTOM OF THE STOCKPILE
- TEMPORARY STABILIZATION SPECIFICATIONS
 - APPLY GROUND LIMESTONE AT A RATE OF 90 LBS. PER 1000 SQ. FT.
 - APPLY FERTILIZER (10-20-10) AT A RATE OF 11 LBS. PER 1000 SQ. FT.
 - APPLY PERENNIAL RYEGRASS SEED AT 1 LB. PER 1000 SQ. FT. AND ANNUAL RYEGRASS 1 LB. PER 1000 SQ. FT.
 - MULCH STOCKPILE WITH STRAW OR HAY AT A RATE OF 90 LBS. PER 1000 SQ. FT.
 - APPLY A LIQUID MULCH BINDER OR TACK TO STRAW OR HAY MULCH
- PERMANENT STABILIZATION SPECIFICATIONS
 - APPLY TOPSOIL TO A DEPTH OF 6 INCHES (UNSETTLED)
 - APPLY GROUND LIMESTONE AT A RATE OF 90 LBS. PER 1000 SQ. FT. AND WORK FOUR INCHES INTO SOIL
 - APPLY FERTILIZER (10-20-10) AT A RATE OF 11 LBS. PER 1000 SQ. FT.
 - APPLY HARD FESCUE SEED AT 7.7 LBS. PER 1000 SQ. FT., CREeping RED FESCUE SEED AT 7.7 LBS. PER 1000 SQ. FT. AND PERENNIAL RYEGRASS SEED AT 0.25 LBS. PER 1000 SQ. FT.
 - MULCH STOCKPILE WITH STRAW OR HAY AT A RATE OF 90 LBS. PER 1000 SQ. FT.
 - APPLY A LIQUID MULCH BINDER OR TACK TO STRAW OR HAY MULCH

* NOTE: 48 HOURS PRIOR TO ANY SOIL DISTURBANCE, NOTICE IN WRITING, SHALL BE GIVEN TO THE MORRIS COUNTY SOIL CONSERVATION DISTRICT AND A PRE-CONSTRUCTION MEETING HELD.
REVISED JANUARY 2015

DUST CONTROL NOTES:
TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCED ON-SITE AND OFF-SITE DAMAGE AND HEALTH HAZARDS AND IMPROVE TRAFFIC SAFETY, THE FOLLOWING METHODS SHALL BE EMPLOYED AS REQUIRED TO CONTROL THE GENERATION OF DUST FROM CONSTRUCTION SITES AND SUBSEQUENT BLOWING AND DEPOSITION INTO LOCAL SURFACE WATER RESOURCES.

DUST CONTROL WITH MULCHES ONLY:
STRAW MULCH (HAY MULCH MAY BE SUBSTITUTED IF APPROVED BY THE DISTRICT) IS TO BE SPREAD UNIFORMLY AT THE RATE OF 2 TO 2 1/2 TONS PER ACRE (TOTAL GROUND SURFACE COVERAGE). THIS PRACTICE IS LIMITED TO PERIODS WHEN VEGETATIVE COVER CANNOT BE ESTABLISHED DUE TO THE SEASON OR OTHER CONDITIONS. MULCH MUST BE ANCHORED IN ACCORDANCE WITH NEW JERSEY STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL. MULCH ALONE CAN ONLY BE USED FOR SHORT PERIODS AND WILL REQUIRE MAINTENANCE AND RENEWAL. OTHER MULCH MATERIALS MAY BE UTILIZED IF APPROVED BY THE DISTRICT.

DUST CONTROL WITH VEGETATIVE COVER:
SEE STABILIZATION NOTES FOR TEMPORARY AND PERMANENT VEGETATIVE STABILIZATION CONTROL PROCEDURES.

DUST CONTROL WITH SPRAY ON ADHESIVES:
TO BE USED ON MINERAL SOILS AS THEY ARE NOT EFFECTIVE ON MUCKY SOILS. TRAFFIC TO BE KEPT OFF THESE AREAS.

MATERIAL	WATER DILUTION	NOZZLE TYPE	APPLY GALLONS/ACRE
ANIONIC ASPHALT EMULSION	7:1	COARSE SPRAY	1200
LATEX EMULSION	12.5:1	FINE SPRAY	235
RESIN IN WATER	4:1	FINE SPRAY	380
POLYACRYLAMIDE (PAM) SPRAY		FOR POLYACRYLAMIDE (PAM) SPRAY OR DRY APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS. MAY ALSO BE USED AS AN ADDITIVE TO SEDIMENT BASINS TO FLOCCULATE AND PRECIPITATE SUSPENDED COLLOIDS.	
POLYACRYLAMIDE (PAM)-DRY			
ACIDULATED SOY BEAN SOAP STICK	NONE	COARSE SPRAY	1200

OTHER DUST CONTROL MEASURES:
TILLAGE: TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE, THIS IS A TEMPORARY EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART AND SPRING-TOOTHED HARROWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.

SPRINKLING: SITE IS SPRINKLED UNTIL THE SURFACE IS WET.

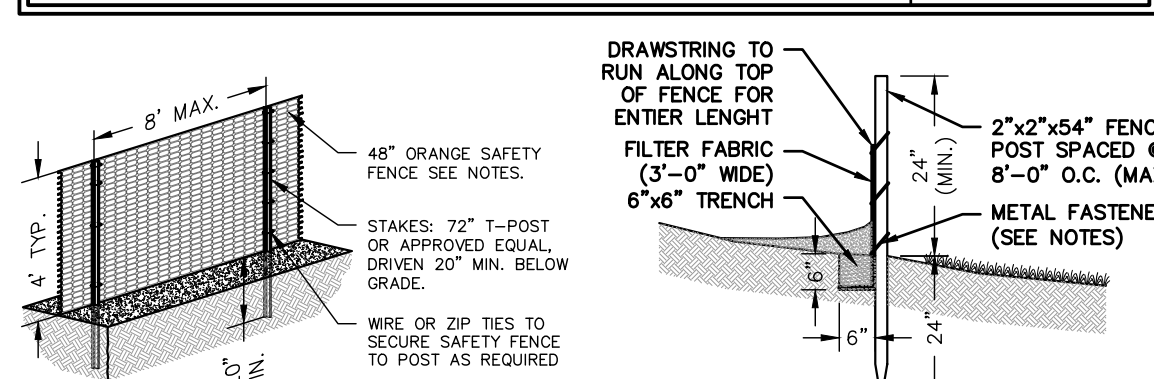
BARRIERS: SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY AND SIMILAR MATERIALS CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING.

CALCIUM CHLORIDE: SHALL BE IN THE FORM OF LOOSE, DRY GRANULES OR FLAKES FINE ENOUGH TO BE FEED THROUGH COMMONLY USED SPREADERS AT A RATE THAT WILL KEEP SURFACE MOST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE. IF USED ON STEEP SLOPES, THEN USE OTHER PRACTICES TO PREVENT WASHING INTO STREAMS OR ACCUMULATION AROUND PLANTS.

STONE: COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

SOIL COMPACTION MITIGATION EXCEPTION:
PER THE NJ STATE PLAN POLICY MAP, LAST REVISED 01/16/18, THE SITE IS LOCATED WITH THE METROPOLITAN PLANNING AREA 1 (PA1) AND CONSIDERED AN URBAN REDEVELOPMENT AREA AS DEFINED BY THE STANDARDS, AND IS THEREFORE EXCEPT FROM SOIL COMPACTION MITIGATION.

PROJECT CONSTRUCTION SEQUENCE	
INSTALL TEMPORARY SEDIMENT CONTROL MEASURE: CONSTRUCTION ENTRANCE, SILT FENCE, TREE PROTECTION, ETC..	1 DAY
CONSTRUCT PROPOSED STORMWATER FACILITIES	5 DAYS
CONSTRUCT SITE IMPROVEMENTS: DRIVEWAY, WALK WAYS, RETAINING WALLS PATIO, ETC..	30 DAYS
CONSTRUCT PROPOSED BUILDING	60 DAYS
PERMANENT STABILIZATION OF SITE	3 DAYS
REMOVE TEMPORARY STABILIZATION	1 DAY
TOTAL	99 DAYS



NOTES:
1. FILTER FABRIC TO BE INSTALLED ON ALL LIMITS OF DISTURBANCE AND AROUND ANY TRENCH AND STAMP IN PLACE.
2. CONSTRUCTION FENCING TO BE ORANGE POLYETHYLENE OR POLYPROPYLENE AND SHALL BE HIGHLY VISIBLE. THE FENCE MATERIAL SHALL HAVE A ULTRAVIOLET COATING.
3. FENCING MUST REMAIN IN PLACE AND MAINTAINED DURING ALL PHASES OF CONSTRUCTION AND CHANGES TO THE PROTECTIVE FENCING MUST BE APPROVED.
4. FOR HEAVY DUTY SILT FENCE, INSTALL WIRE MESH (4 GA W/ 4\"/>

CONSTRUCTION FENCE
SCALE: N.T.S.

SILT FENCE DETAIL
SCALE: N.T.S.

STORMWATER MANAGEMENT CALCULATIONS

STORAGE REQUIRED:
A 10 YEAR STORM EVENT OF ONE HOUR DURATION RESULTS IN A RAINFALL OF 1.95 INCHES. 1.95 INCHES OF RUNOFF APPLIED TO THE PROPOSED INCREASE IN IMPERVIOUS = 1.95 IN x 1888 S.F. / 12 = 274.3 C.F. = **2,051.9 GALLONS**

STORAGE PROVIDED UTILIZING: CULTEC RECHARGER 330X1HD CHAMBERS

CHAMBER INFO	ARRANGEMENT CONFIG
UNIT LENGTH: 102.0' or 8.50'	3 UNITS x 1 ROWS = 3 UNITS
ADJ. LENGTH: 84.0' or 7.00'	(ROWS SPACED @ 50' or 4.83' ± 1)
WIDTH: 52.0' or 4.33'	
HEIGHT: 30.5' or 2.54'	
VOLUME: 7.46 CUF	STONE FILL ABOVE: 6' or 0.50'
	BELOW: 6' or 0.50'
* ADJ. LENGTH INCLUDES OVERLAP OF UNITS FOR INSTALLATION	VOID RATIO: 40%

CHAMBER STORAGE VOLUME (V_s)
3 UNITS x 52.22 CUF/UNIT = 156.66 CF

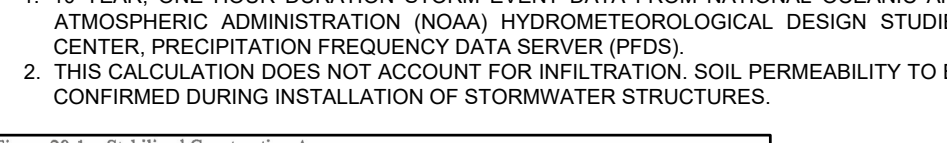
EXCAVATION VOLUME (V_e)
LENGTH: (1 UNIT @ 50.0' UNIT) + (2 UNITS @ 7.00' UNIT) + (2 x 1.00' STONE) = 24.50'
WIDTH: (1 UNIT @ 4.33' UNIT) + (0 UNITS @ 4.83' UNIT) + (2 x 1.00' STONE) = 6.33'
HEIGHT: (1 UNIT @ 2.54' UNIT) + (0.50' ABOVE) + (0.50' BELOW) = 3.54'
VOLUME: (LENGTH: 24.50') x (WIDTH: 6.33') x (HEIGHT: 3.54') = 549.00 CF

STONE STORAGE VOLUME (V_s)
VOLUME: (V_e: 549.00 CF) - (V_s: 156.66 CF) x (VOID RATIO: 40%) = 156.94 CF

TOTAL STORAGE VOLUME (V_t)
VOLUME: (V_e: 156.66 CF) + (V_s: 156.94 CF) = 313.60 CF or 2,346 GALLONS

NOTES:
1. 10 YEAR, ONE HOUR DURATION STORM EVENT DATA FROM NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) HYDROMETEOROLOGICAL DESIGN STUDIES CONSERVATION PRECIPITATION FREQUENCY DATA SERV (PFDS)
2. THIS CALCULATION DOES NOT ACCOUNT FOR INFILTRATION. SOIL PERMEABILITY TO BE CONFIRMED DURING INSTALLATION OF STORMWATER STRUCTURES.

Figures 29-1: Stabilized Construction Access



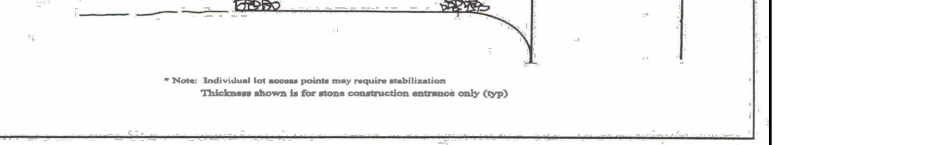
Percent Slope	Length of Stone Required of Roadway	Coarse Grained Soil	Fine Grained Soils
0 to 2%	50 ft	100 lb	100 lb
2 to 5%	100 ft	100 lb	200 lb
5 to 8%	150 ft	100 lb	200 lb

* As prescribed by local ordinance or other governing authority.



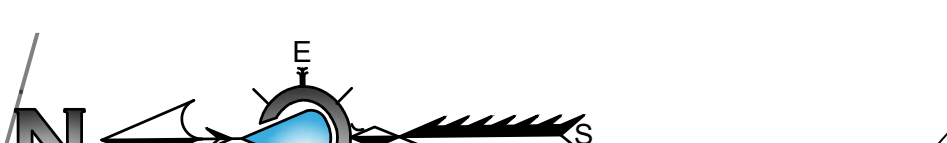
Percent Slope	Length of Stone Required of Roadway	Coarse Grained Soil	Fine Grained Soils
0 to 2%	50 ft	100 lb	100 lb
2 to 5%	100 ft	100 lb	200 lb
5 to 8%	150 ft	100 lb	200 lb

* As prescribed by local ordinance or other governing authority.



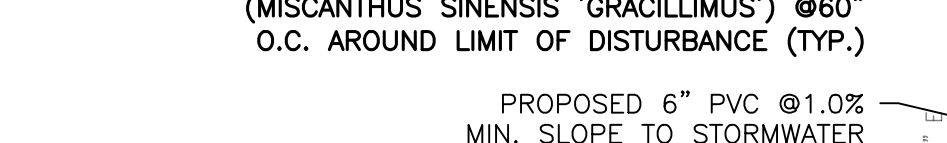
Percent Slope	Length of Stone Required of Roadway	Coarse Grained Soil	Fine Grained Soils
0 to 2%	50 ft	100 lb	100 lb
2 to 5%	100 ft	100 lb	200 lb
5 to 8%	150 ft	100 lb	200 lb

* As prescribed by local ordinance or other governing authority.



Percent Slope	Length of Stone Required of Roadway	Coarse Grained Soil	Fine Grained Soils
0 to 2%	50 ft	100 lb	100 lb
2 to 5%	100 ft	100 lb	200 lb
5 to 8%	150 ft	100 lb	200 lb

* As prescribed by local ordinance or other governing authority.



Percent Slope	Length of Stone Required of Roadway	Coarse Grained Soil	Fine Grained Soils
0 to 2%	50 ft	100 lb	100 lb
2 to 5%	100 ft	100 lb	200 lb
5 to 8%	150 ft	100 lb	200 lb

* As prescribed by local ordinance or other governing authority.



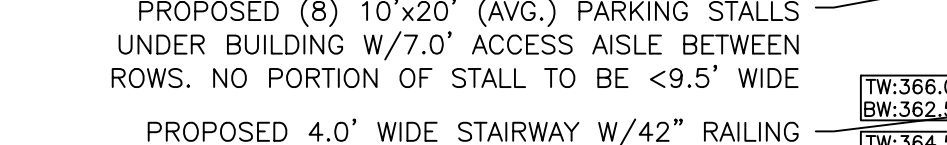
Percent Slope	Length of Stone Required of Roadway	Coarse Grained Soil	Fine Grained Soils
0 to 2%	50 ft	100 lb	100 lb
2 to 5%	100 ft	100 lb	200 lb
5 to 8%	150 ft	100 lb	200 lb

* As prescribed by local ordinance or other governing authority.



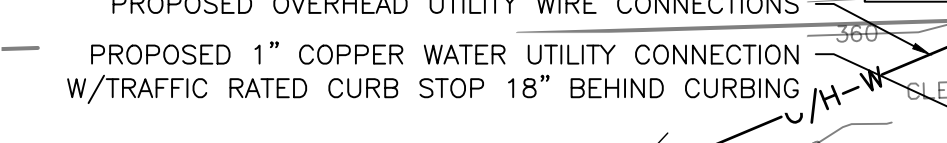
Percent Slope	Length of Stone Required of Roadway	Coarse Grained Soil	Fine Grained Soils
0 to 2%	50 ft	100 lb	100 lb
2 to 5%	100 ft	100 lb	200 lb
5 to 8%	150 ft	100 lb	200 lb

* As prescribed by local ordinance or other governing authority.



Percent Slope	Length of Stone Required of Roadway	Coarse Grained Soil	Fine Grained Soils
0 to 2%	50 ft	100 lb	100 lb
2 to 5%	100 ft	100 lb	200 lb
5 to 8%	150 ft	100 lb	200 lb

* As prescribed by local ordinance or other governing authority.



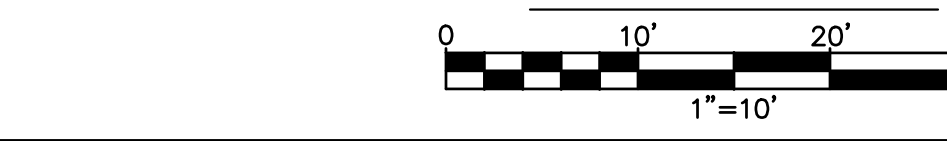
Percent Slope	Length of Stone Required of Roadway	Coarse Grained Soil	Fine Grained Soils
0 to 2%	50 ft	100 lb	100 lb
2 to 5%	100 ft	100 lb	200 lb
5 to 8%	150 ft	100 lb	200 lb

* As prescribed by local ordinance or other governing authority.



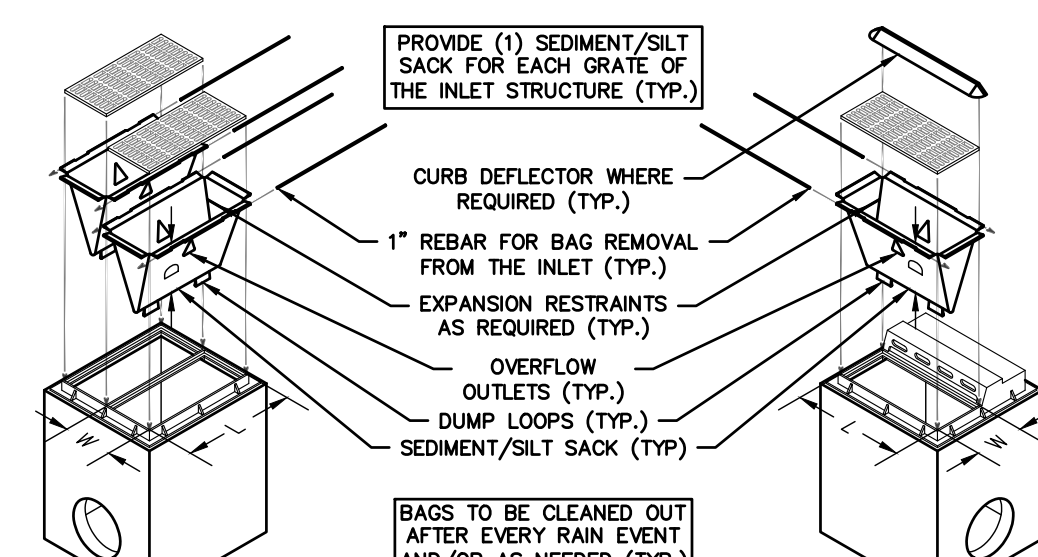
Percent Slope	Length of Stone Required of Roadway	Coarse Grained Soil	Fine Grained Soils
0 to 2%	50 ft	100 lb	100 lb
2 to 5%	100 ft	100 lb	200 lb
5 to 8%	150 ft	100 lb	200 lb

* As prescribed by local ordinance or other governing authority.



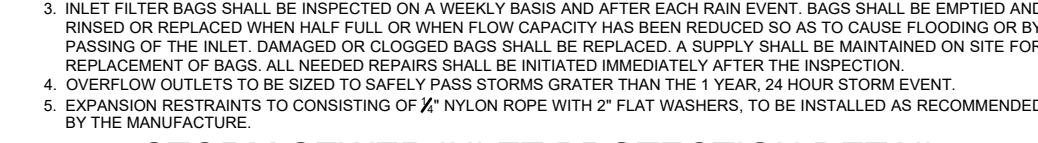
Percent Slope	Length of Stone Required of Roadway	Coarse Grained Soil	Fine Grained Soils
0 to 2%	50 ft	100 lb	100 lb
2 to 5%	100 ft	100 lb	200 lb
5 to 8%	150 ft	100 lb	200 lb

* As prescribed by local ordinance or other governing authority.

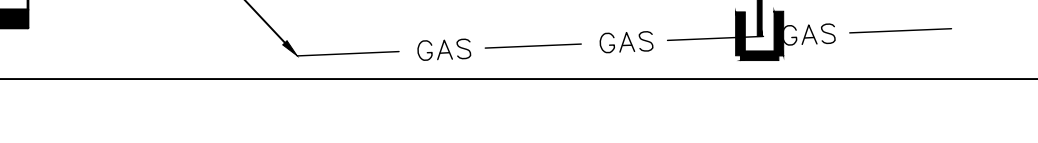
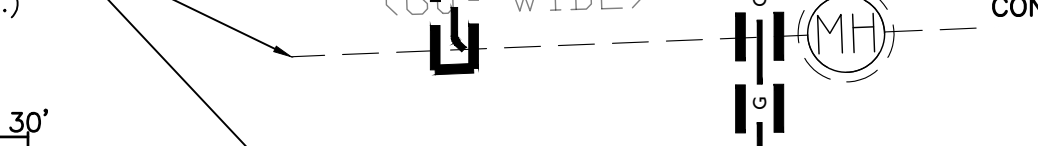
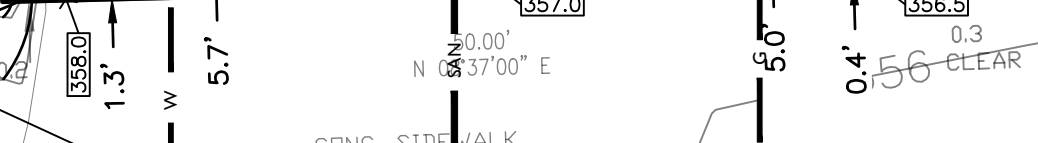
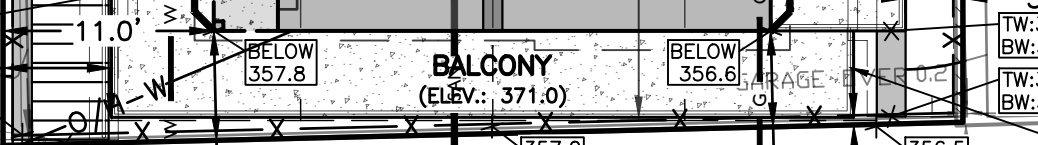
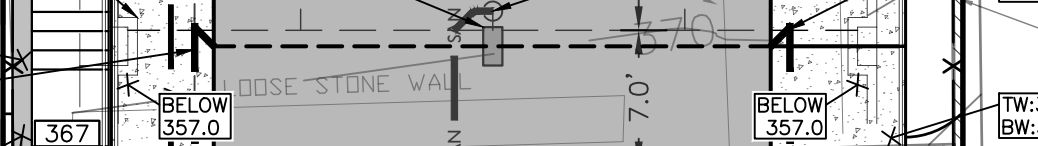
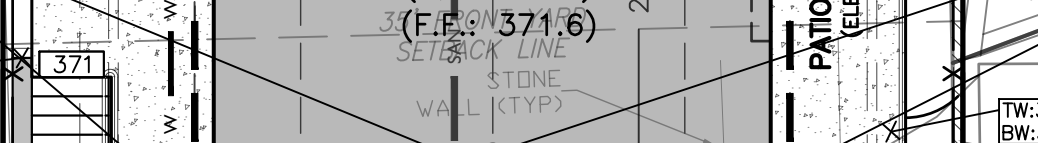
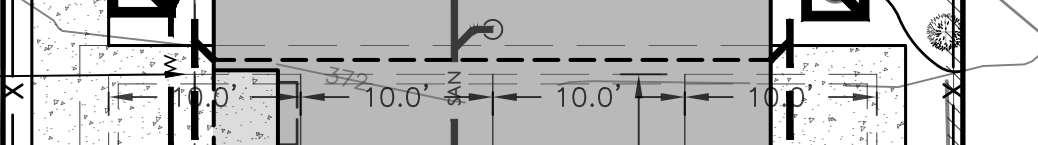
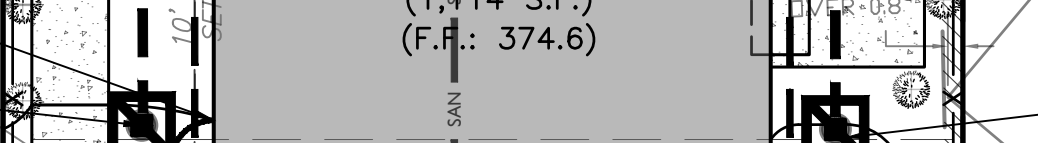
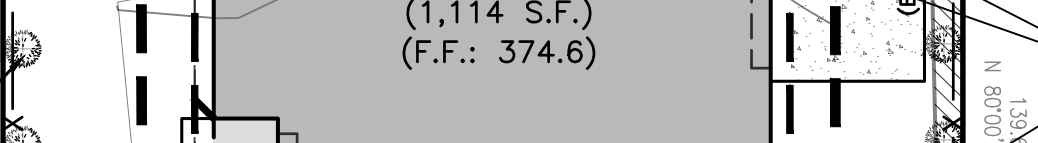
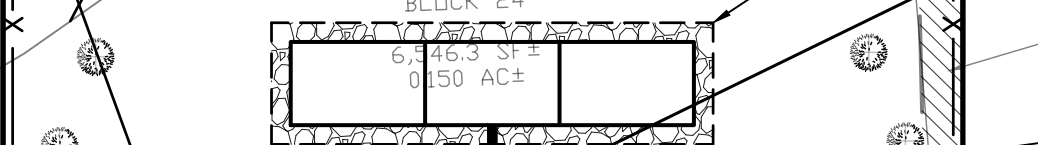
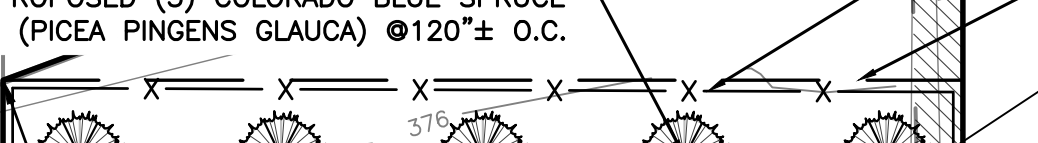
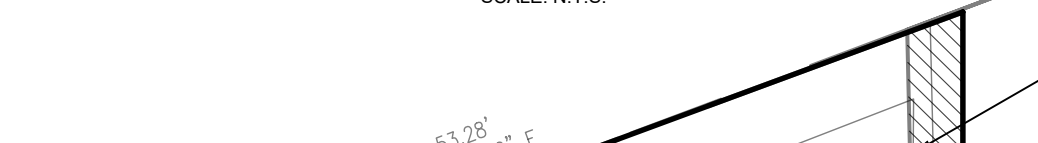


NOTES:
1. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO AN ACTIVE SEDIMENT BASIN OR TRAP.
2. 1' LENGTH, W = WIDTH, D = DEPTH, DEPTH NOT TO EXCEED DEPTH OF BASIN TO TOP OF HIGHEST PIPE.
3. INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RAIN EVENT. BAGS SHALL BE EMPLOYED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED 50% AS TO CAUSE FLOODING OR BY PASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION.
4. OVERFLOW OUTLETS TO BE SIZED TO SAFELY PASS STORMS GREATER THAN THE 1 YEAR, 24 HOUR STORM EVENT.
5. EXPANSION RESTS TO BE CONSTRUCTED OF 3/4" X 10" X 10" W/ 1/4" PLAT WASHERS. TO BE INSTALLED AS RECOMMENDED BY THE MANUFACTURER.

SCALE: N.T.S.



SCALE: N.T.S.



ITEM	EXISTING	PROPOSED
BUILDING	1,015 SF/15.5%	2,502 SF/38.2%
ACCESSORY BUILDINGS	83 SF/ 1.3%	0 SF/ 0.0%
TOTAL BUILDING COVERAGE	1,098 SF/16.8%	2,502 SF/38.2%
DRIVEWAY	951 SF/14.5%	45 SF/ 0.7%
WALLS	94 SF/ 1.4%	0 SF/ 0.0%
WALKS/PATIOS/MISC.	0 SF/ 0.0%	1,284 SF/19.6%
TOTAL IMPERVIOUS COVERAGE	2,143 SF/32.7%	3,831 SF/58.5%

BUILDING & IMPERVIOUS COVER

EXISTING FENCING TO BE REPAIRED OR REPLACE WHERE REQUIRED (TYP.)

CONSTRUCTION FENCING TO BE INSTALLED AROUND WORK SITE

PROPOSED LIMIT OF DISTURBANCE AREA: 6,085.0 S.F. (0.140 ACRES)

PROPOSED STORMWATER INFILTRATION CHAMBERS W/STONE SURROUND, SEE DETAILS (TYP.)

INLETS TO BE PROTECTED DURING FULL COURSE OF CONSTRUCTION

122.2 SF± OVERLAP PRODUCED BY DB 22912 PG 1897 AND DB 20750 PG 614

PROPOSED 12" LAWN INLET GRATE ELEV.: 374.5 INV. ELEV.: 369.8

PROPOSED 12" LAWN INLET GRATE ELEV.: 374.0 INV. ELEV.: 370.0

EXISTING SITE IMPROVEMENTS (GARAGE, SHED, DRIVEWAY ETC..) TO BE REMOVED (TYP.)

PROPOSED 12" LAWN INLET GRATE ELEV.: 371.9 INV. ELEV.: 370.4

PROPOSED 12" LAWN INLET GRATE ELEV.: 371.9 INV. ELEV.: 370.4

PROPOSED RAILING TO END WHERE PATIO/ BALCONY MEETS EXISTING GRADE (TYP.)

SANITARY COLLECTION SYSTEM BY OTHERS (TYP.)

PROPOSED ROOF DRAIN CONNECTIONS THRU BUILDING SLAB AS REQUIRED (TYP.)

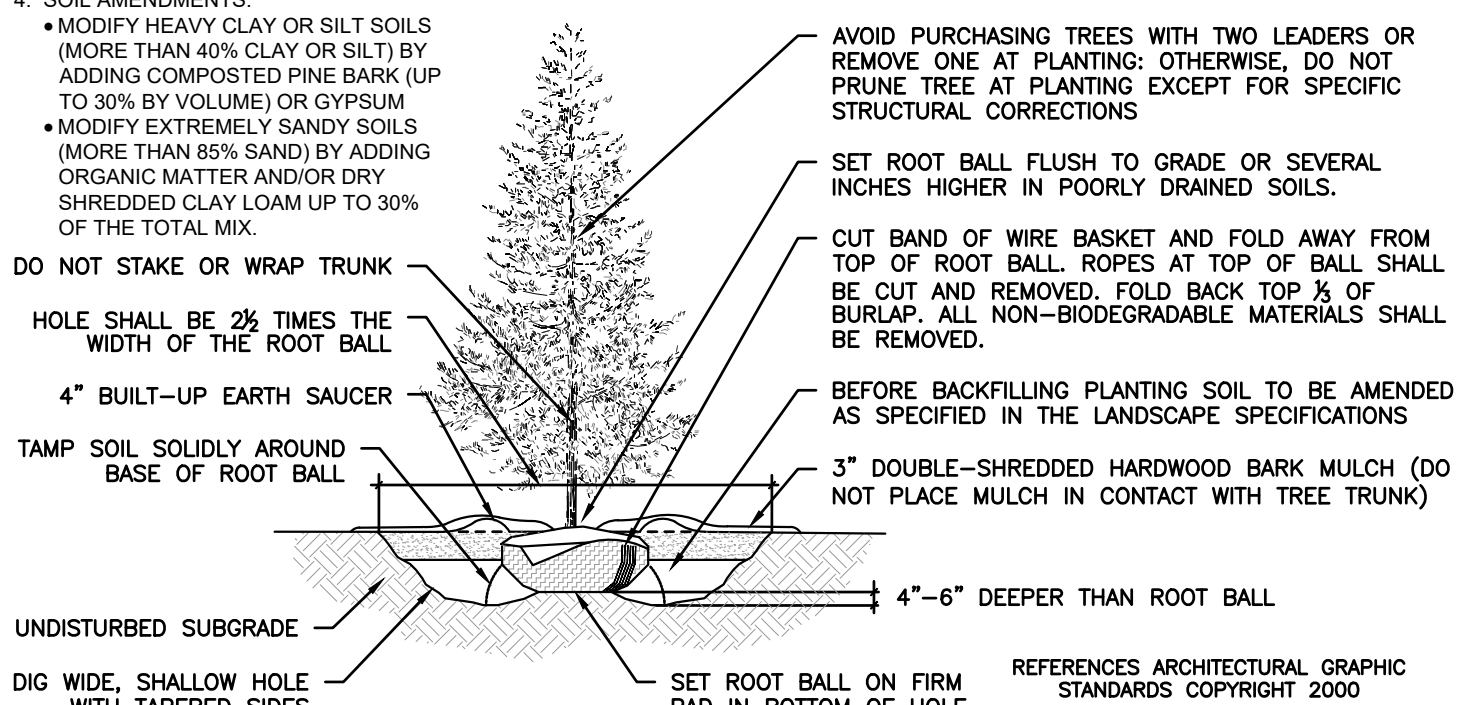
PROPOSED WALKWAY/BALCONY W/2.0% MAX. SLOPE AWAY FROM BUILDING & 42" RAILING ALONG EXPOSED EDGES, AS REQUIRED (TYP.)

PROPOSED GAS UTILITY CONNECTION W/TRAFFIC RATED CURB STOP 18" BEHIND CURBING (TYP.)

EXISTING CURBING & SIDEWALK TO BE REPLACED TO THE NEAREST TRAVERSE JOINT AS REQUIRED

PROPOSED LIMIT OF SAW-CUT & PAVEMENT RE

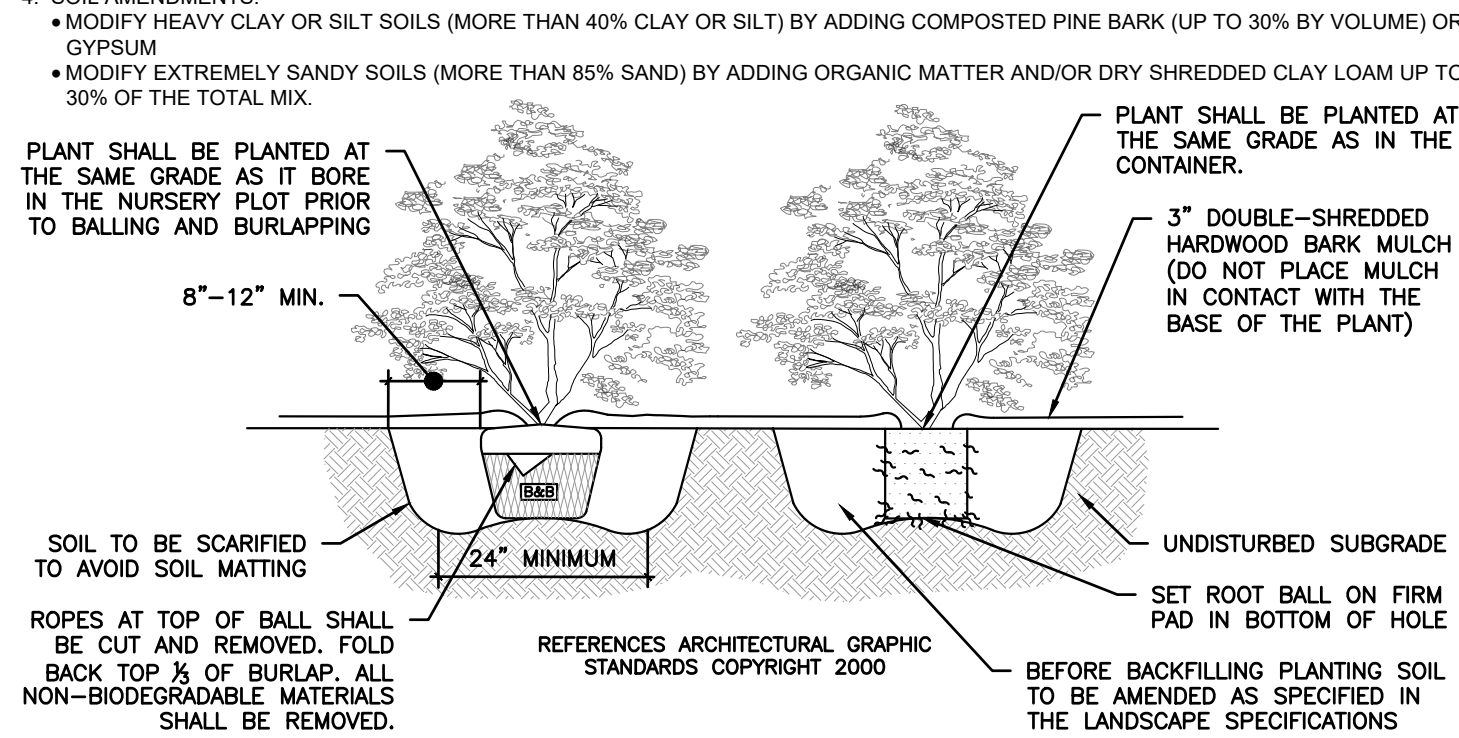
- NOTES:
1. FOR CONTAINER-GROWN TREES, USE FINGER OR SMALL HAND TOOLS TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
 2. THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
 3. BOTTOM OF PLANTING PIT EXCAVATIONS SHOULD BE SCARIFIED TO AVOID MATTING OF SOIL.
 4. SOIL AMENDMENTS:
 - MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
 - MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.



EVERGREEN TREE PLANTING DETAIL

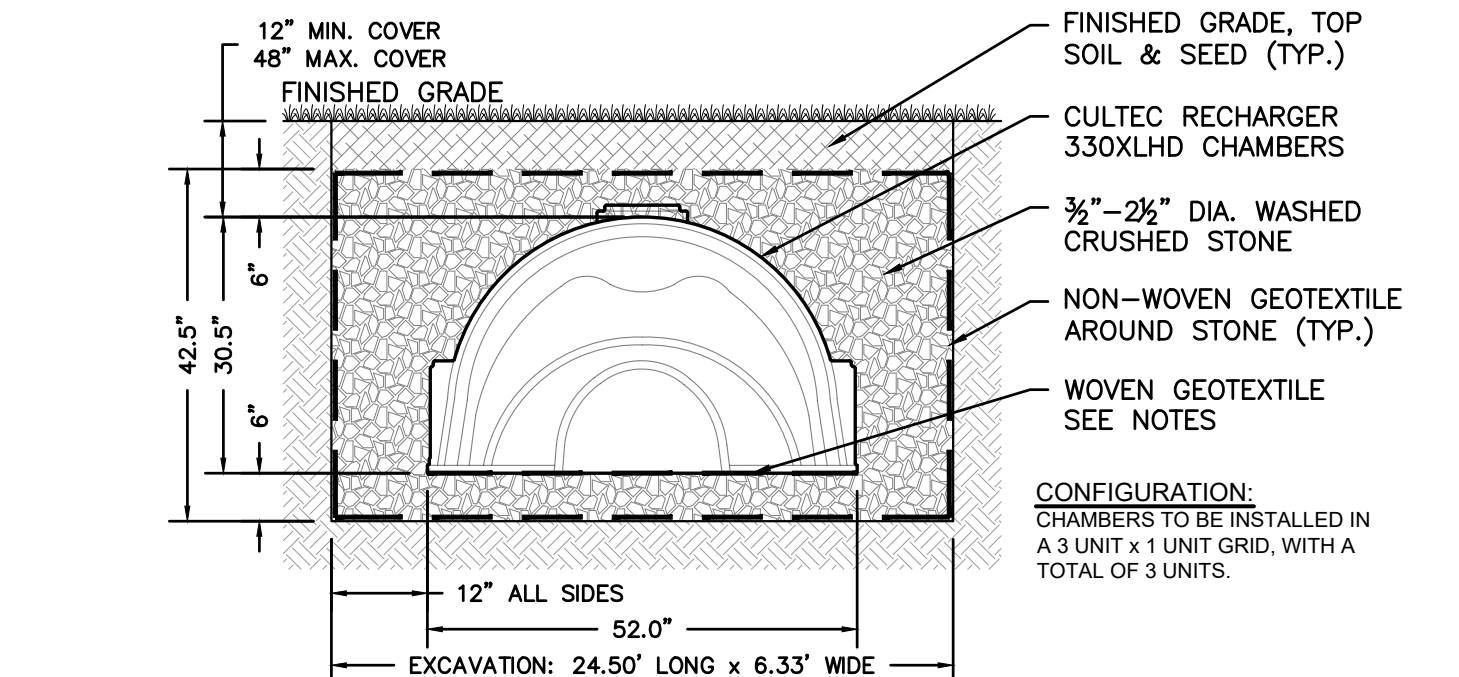
SCALE: N.T.S.

- NOTES:
1. FOR CONTAINER-GROWN PLANTS, USE FINGER OR SMALL HAND TOOLS TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
 2. THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
 3. BOTTOM OF PLANTING PIT EXCAVATIONS SHOULD BE SCARIFIED TO AVOID MATTING OF SOIL.
 4. SOIL AMENDMENTS:
 - MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
 - MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.



SHRUB PLANTING DETAIL

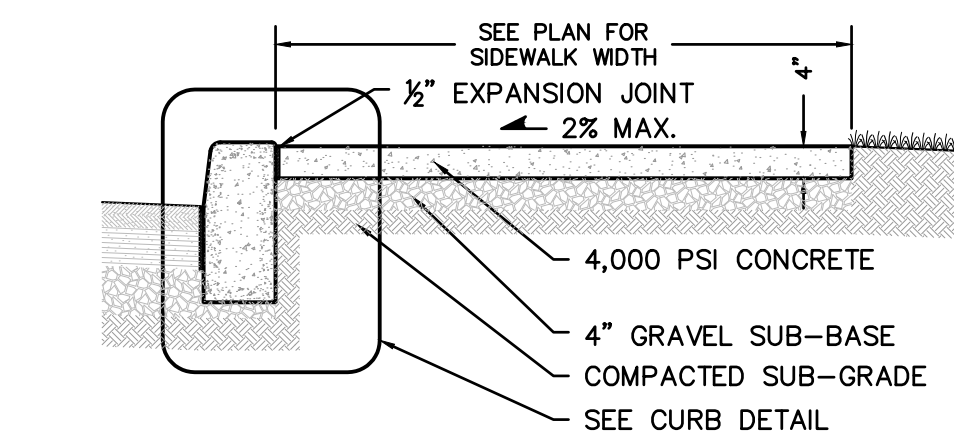
SCALE: N.T.S.



- NOTES:
1. STORMWATER RECHARGE UNITS TO BE AS MANUFACTURED BY CULTECH INC. OF BROOKFIELD, CT OR APPROVED EQUAL.
 2. REFER TO MANUFACTURERS CURRENT RECOMMENDED INSTALLATION GUIDELINES.
 3. WOVEN GEOTEXTILE FOR SOIL PROTECTION, TO BE PLACED BENEATH ALL INTERNAL MANIFOLD FEATURES AND INLET/OUTLET PIPES.

STORMWATER RECHARGE CHAMBERS

SCALE: N.T.S.



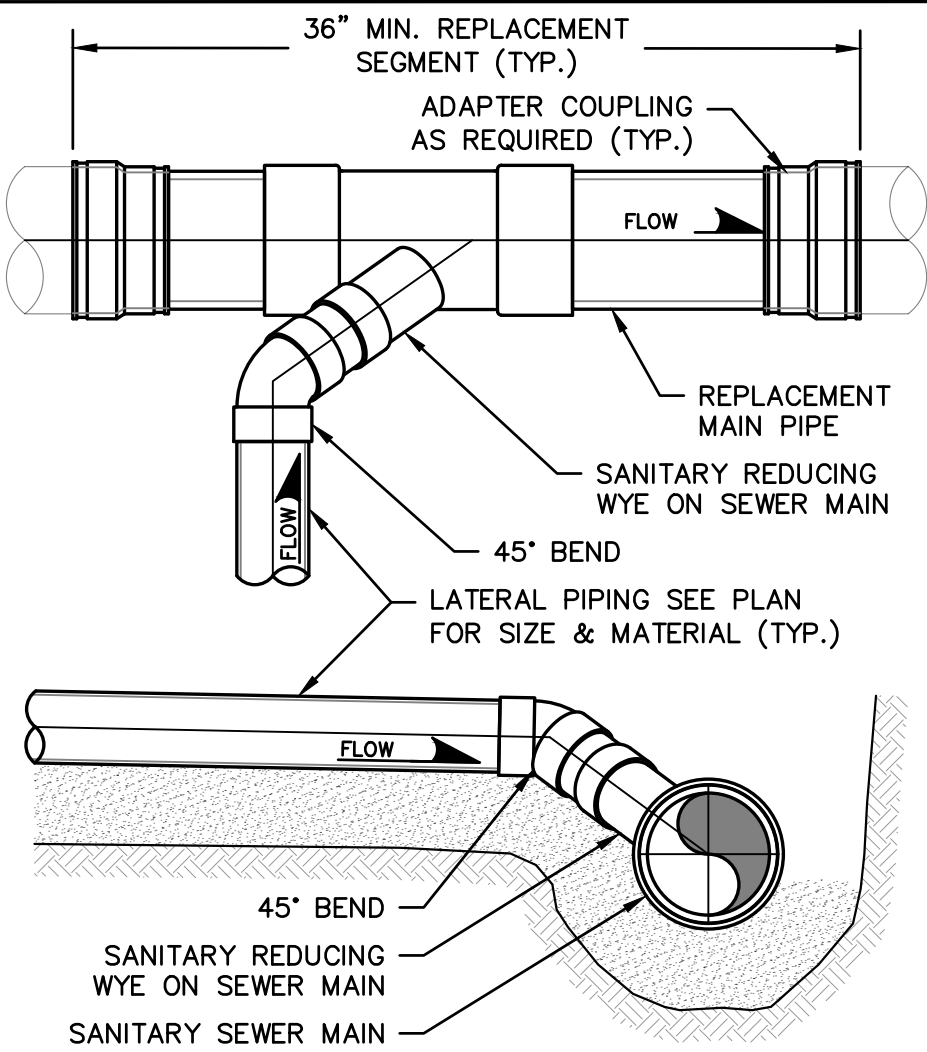
SIDEWALKS AND DRIVEWAY APRONS §143-73.K:
ALL CONCRETE SIDEWALKS AND DRIVEWAY APRON SLOPES SHALL BE ADA COMPLIANT, INCLUDING RUNNING SLOPE AND CROSS SLOPE.

SIZE:
CONCRETE SIDEWALKS SHALL BE FOUR FEET WIDE WHERE THERE IS NO EXISTING SIDEWALK AND SHALL BE THE SAME WIDTH AS THE SIDEWALK BEING REPLACED WHERE THERE IS EXISTING SIDEWALK. WHERE THE BOROUGH FINDS THE EXISTING SIDEWALK TOO NARROW AND CONDITIONS ALLOW FOR A WIDENING, THE SIDEWALK SHALL BE FOUR FEET WIDE OR THE MAXIMUM ALLOWABLE CONDITIONS. THE SIDEWALK SHALL BE FOUR INCHES THICK, EXCEPT AT DRIVEWAYS. AT DRIVEWAYS, INCLUDING APRONS, THE SIDEWALK SHALL BE SIX INCHES THICK WITH REINFORCING.

STRENGTH AND REINFORCING:
THE CONCRETE SHALL BE 4,000 PSI STRENGTH. REINFORCING SHALL BE 10 GAUGE, SIX-INCH-BY-SIX-INCH WELDED WIRE FABRIC. STEEL OR PLASTIC FILLERS MAY BE USED TO PROVIDE THE EQUIVALENT STRENGTH AS WIRE FABRIC.

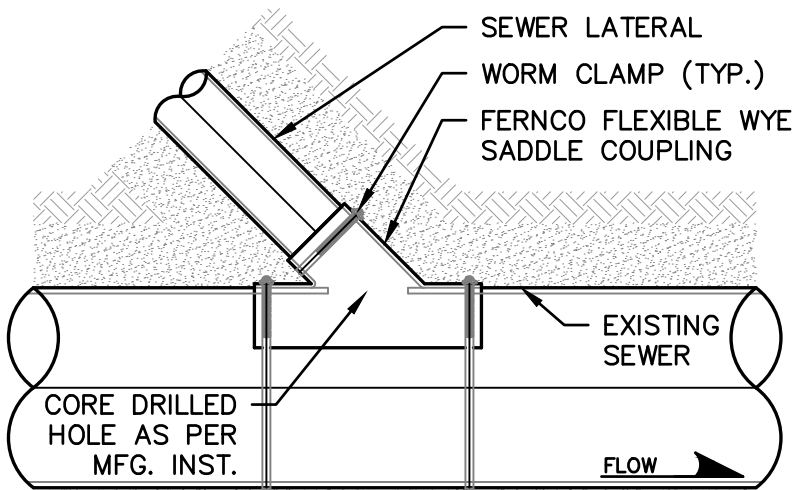
CONCRETE SIDEWALK AT CURB

SCALE: N.T.S.



LATERAL CONNECTION DETAIL

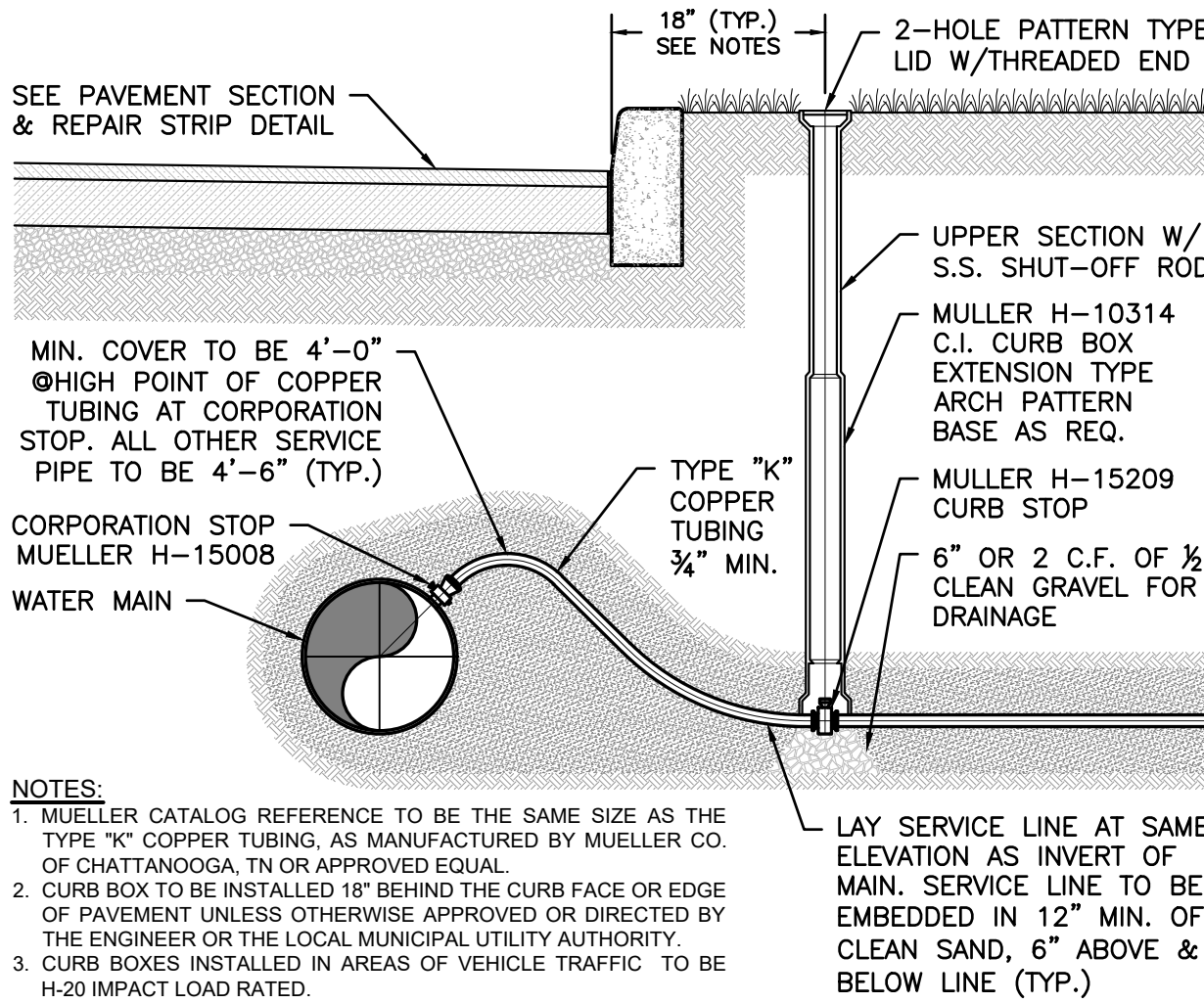
SCALE: N.T.S.



- NOTES:
1. ALL LATERAL CONNECTIONS OVER 6" TO BE MADE IN A MANHOLE.
 2. FLEXIBLE SADDLE COUPLING TO BE AS MANUFACTURED BY FERNCO, 300 SOUTH DAYTON STREET, DAYTON, OH 45423 OR APPROVED EQUAL.
 3. FLEXIBLE SADDLE COUPLING TO BE INSTALLED AS PER MANUFACTURERS RECOMMENDED INSTRUCTIONS.

SANITARY SADDLE CONNECTION DETAIL

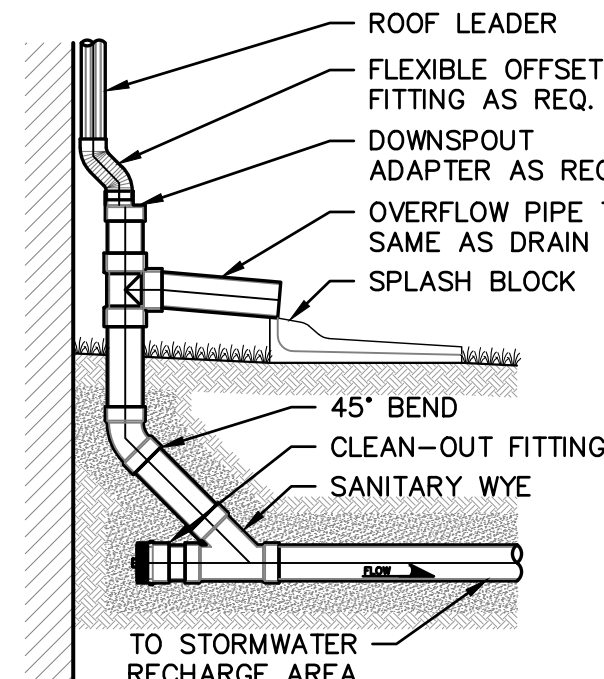
SCALE: N.T.S.



- NOTES:
1. MUELLER CATALOG REFERENCE TO BE THE SAME SIZE AS THE TYPE "K" COPPER TUBING, AS MANUFACTURED BY MUELLER CO. OF CHATTANOOGA, TN OR APPROVED EQUAL.
 2. CURB BOX TO BE INSTALLED 18" BEHIND THE CURB FACE OR EDGE OF PAVEMENT UNLESS OTHERWISE APPROVED OR DIRECTED BY THE ENGINEER OR THE LOCAL MUNICIPAL UTILITY AUTHORITY.
 3. CURB BOXES INSTALLED IN AREAS OF VEHICLE TRAFFIC TO BE H-20 IMPACT LOAD RATED.

WATER SERVICE CONNECTION DETAIL

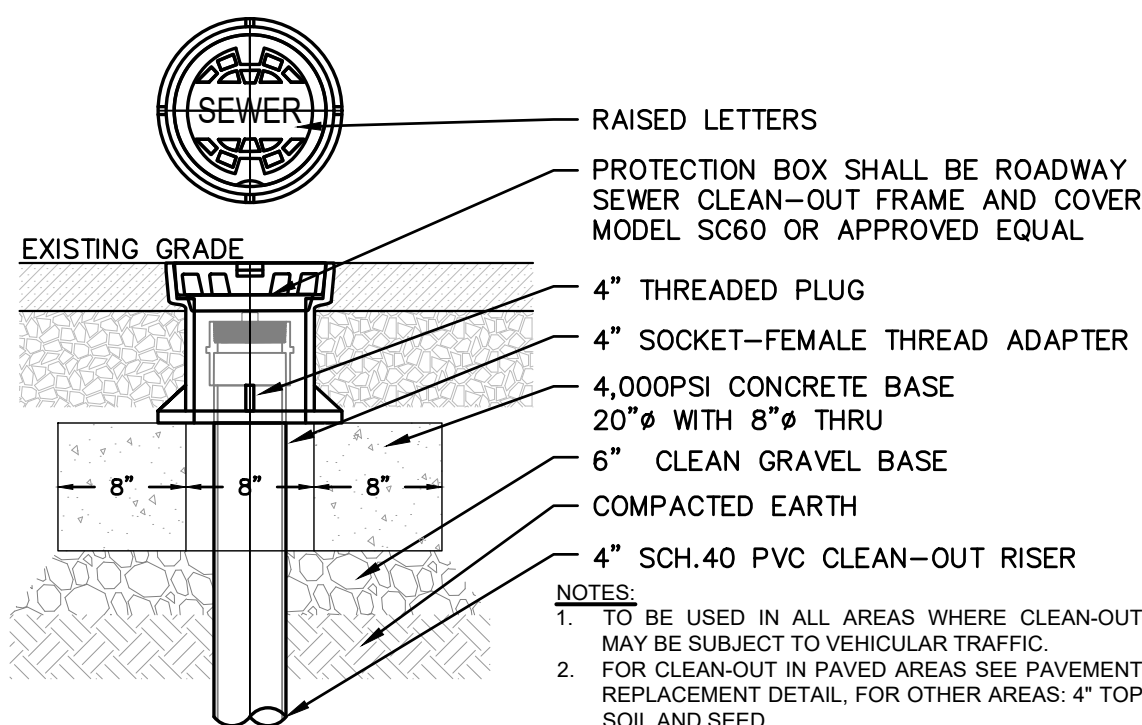
SCALE: N.T.S.



- NOTES:
1. ALL PIPING TO BE THE SAME SIZE AND MATERIAL AS SPECIFIED IN THE PLANS.
 2. CLEAN-OUT TO BE INSTALLED AT ALL LOCATIONS MARKED ON THE PLANS AND EVERY 50 FEET ALONG ROUTING TO RECHARGE AREA, UNLESS OTHERWISE SPECIFIED.

ROOF LEADER STORMWATER DISCHARGE DETAIL

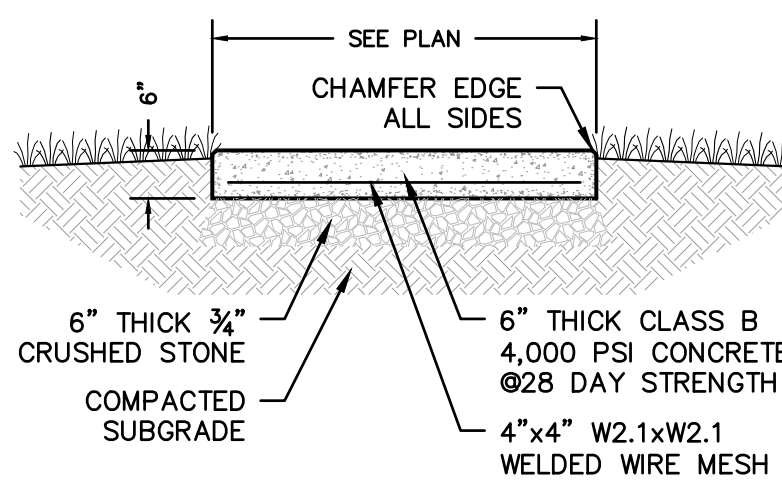
SCALE: N.T.S.



- NOTES:
1. TO BE USED IN ALL AREAS WHERE CLEAN-OUT MAY BE SUBJECT TO VEHICULAR TRAFFIC.
 2. FOR CLEAN-OUT IN PAVED AREAS SEE PAVEMENT REPLACEMENT DETAIL, FOR OTHER AREAS, 4" TOP SOIL AND SEED.

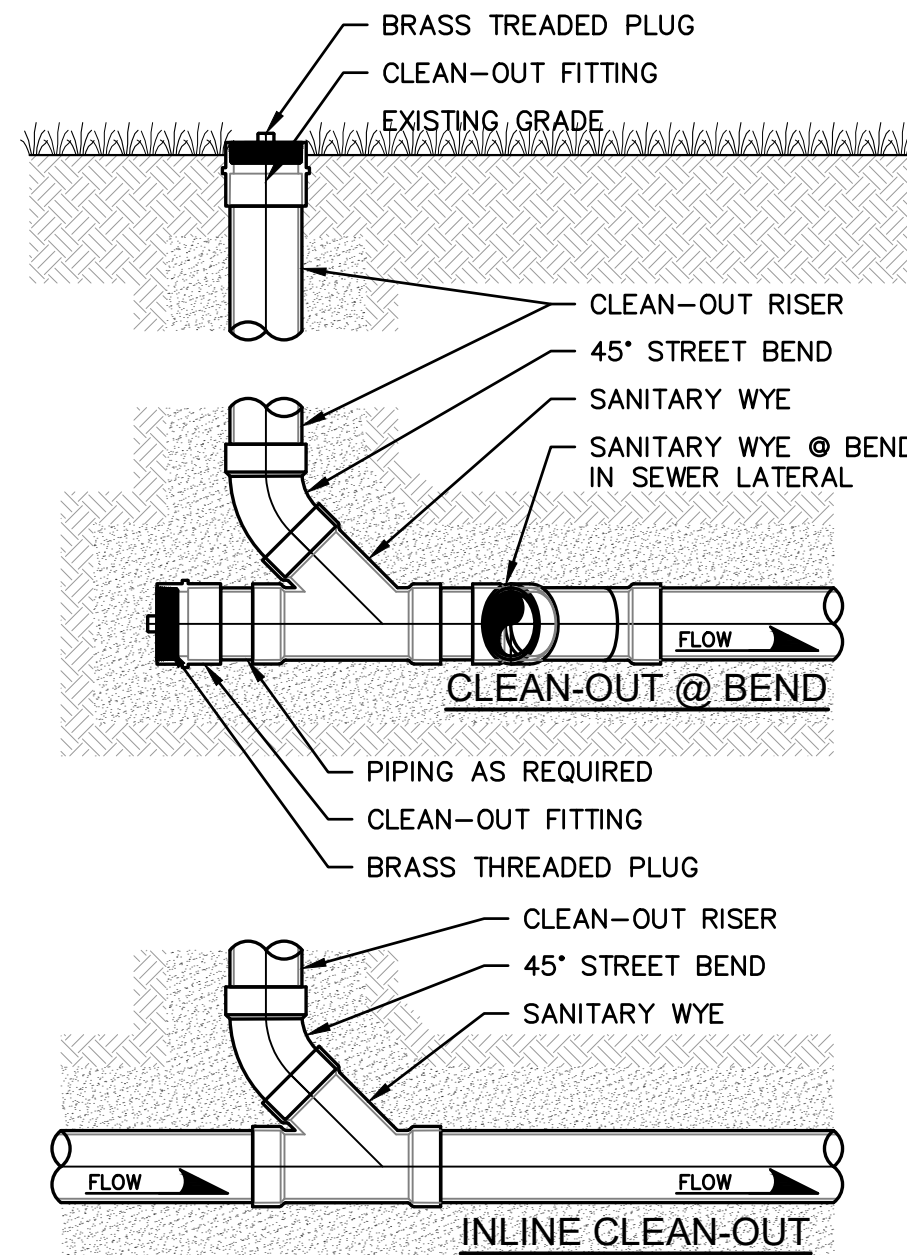
CLEAN-OUT PROTECTION BOX DETAIL

SCALE: N.T.S.



CONCRETE EQUIPMENT PAD

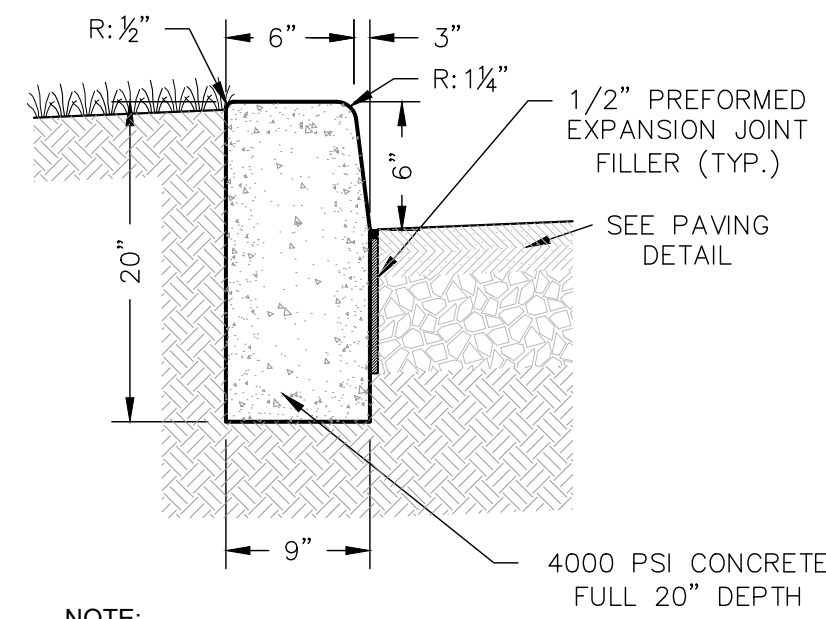
SCALE: N.T.S.



- NOTES:
1. CLEAN-OUTS TO BE INSTALLED AT ALL LOCATIONS MARKED IN THE PLANS AND EVERY 75 FEET ALONG SEWER LATERAL, UNLESS OTHERWISE SPECIFIED. DO NOT INSTALL CLEAN-OUTS IN INACCESSIBLE AREAS.
 2. ALL CLEAN-OUT PIPING TO BE THE SAME SIZE AND MATERIAL AS SEWER LATERAL UNLESS OTHERWISE SPECIFIED. SEE PLAN FOR PIPE INFORMATION.
 3. ALL NON-STREET SOCKET WELDED FITTINGS TO BE SPACED AT TWICE STANDARD SOCKET DEPTH.
 4. SANITARY WYE & 45" STREET BEND CAN BE REPLACED WITH LONG SWEEP.
 5. FOR CLEAN-OUTS IN AREAS OF VEHICULAR TRAFFIC, SEE CLEAN-OUT PROTECTION BOX DETAIL.

STORMWATER CLEAN-OUT DETAIL

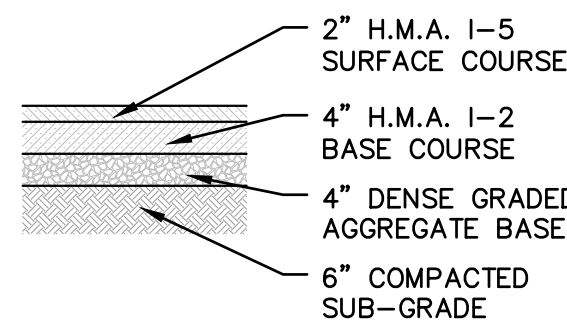
SCALE: N.T.S.



NOTE:
TRANSVERSE JOINT 1/2" WIDE SHALL BE INSTALLED IN THE CURB 20" APART AND SHALL BE FILLED WITH PERFORMED BITUMINOUS IMPREGATED FIBER JOINT FILLER, COMPLYING WITH THE REQUIREMENTS OF AASHTO M-213. RECESSED 1/2" FROM FRONT FACE AND TOP OF CURB.

POURED CONCRETE CURB

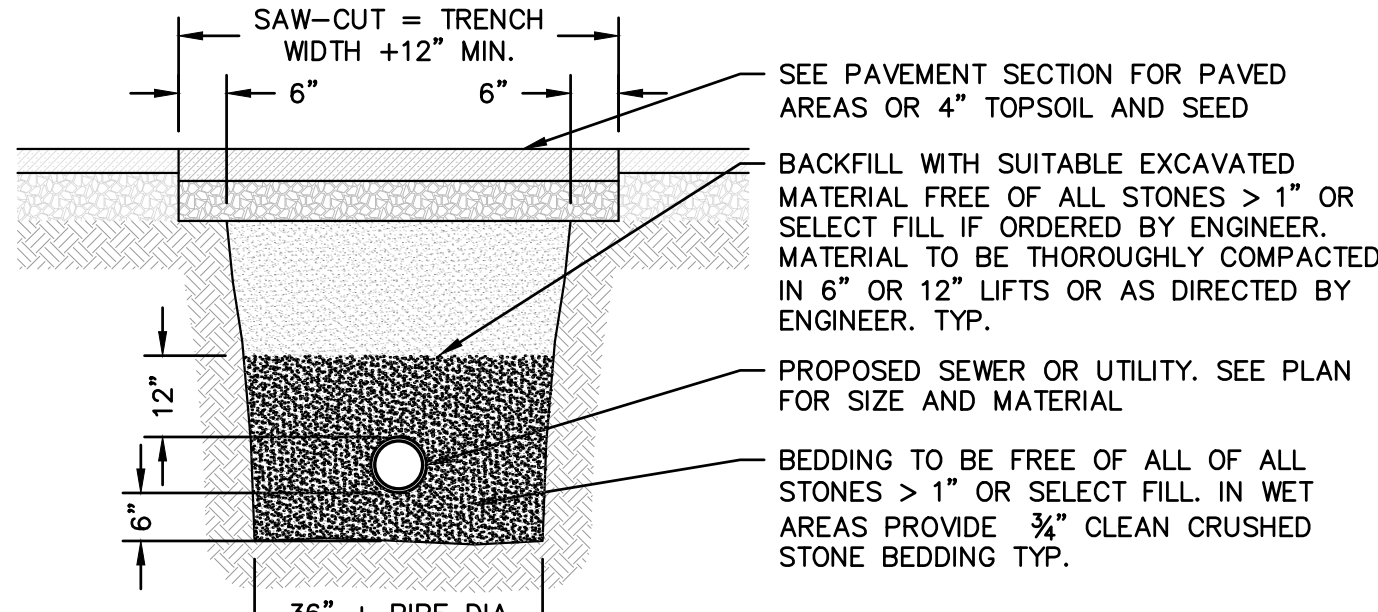
SCALE: N.T.S.



- NOTES:
1. ALL PAVEMENT SHALL BE INSTALLED IN ACCORDANCE TO §143-73.A AS REQUIRED.
 2. IN LIEU OF DENSE GRADED (DGA), RECYCLED CONCRETE AGGREGATE (RCA) IS ACCEPTABLE. ALL MUST MEET NJDOT SPECIFICATIONS AND BE CERTIFIED BY AN NJDOT APPROVED PLANT OF ORIGIN. ALL RCA SHIPMENTS MUST BE FREE OF FOREIGN MATERIALS AND CONTAMINANTS.
 3. SAW-CUT PAVEMENT PRIOR TO EXCAVATION.
 4. UNIFORMITY SPRAY TACK COAT WHEN PLACING HOT MIX ASPHALT ON PAVED SURFACE.

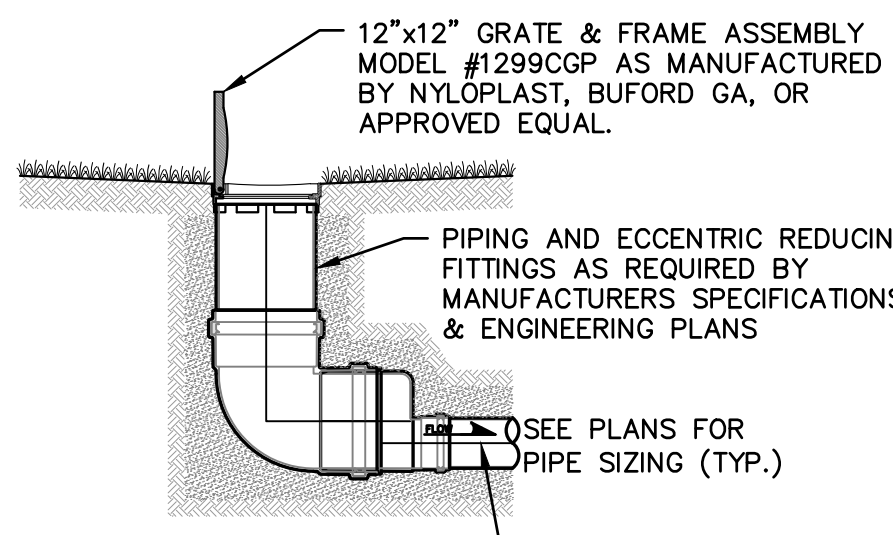
BOROUGH OF BUTLER PAVEMENT SECTION & REPAIR STRIP DETAIL

SCALE: N.T.S.



UTILITY PIPE TRENCH DETAIL

SCALE: N.T.S.



- NOTES:
1. ALL PIPING TO BE THE SAME SIZE AND MATERIAL AS SPECIFIED IN THE PLANS.
 2. BACKFILL MATERIAL SHALL BE CRUSHED STONE OR OTHER GRANULAR MATERIAL MEETING THE REQUIREMENTS OF CLASS I, CLASS II, OR CLASS III MATERIAL AS DEFINED IN ASTM D2321. BEDDING AND BACKFILL FOR DRAINAGE INLETS SHALL BE PLACED & COMPACTED UNIFORMLY IN ACCORDANCE WITH ASTM D2321.

12"x12" LAWN INLET DETAIL

SCALE: N.T.S.

RETAINING WALLS GRATER THAN 4.0' IN HEIGHT SHALL BE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER (PE). THE DESIGN SHALL PROVIDE STABILITY CALCULATIONS, AND BE APPROVED BY ALL APPLICABLE LOCAL MUNICIPAL AUTHORITIES. ENGINEER SHALL PROVIDE POST CONSTRUCTION CERTIFICATION AS REQUIRED

TYPICAL RETAINING WALL >4.0'

SCALE: N.T.S.

REV	COMMENT	DATE
TITLE: CONSTRUCTION DETAILS		PROJECT: PROPOSED TOWNHOUSES
APPLICANT: KFW REALTY, LLC		DRAWN BY: BEB
DATE: 3/31/2023		SCALE: SEE SCALE
PROJECT NO.: 4220.22		SHEET NO.: 2 OF 2
MORRIS COUNTY		NEW JERSEY
J.R. HOUSER		T.C. VANDERVALK
PROFESSIONAL ENGINEER		PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 24GE04747700		NEW JERSEY LICENSE NO. 24GA28163600
PENNSYLVANIA LICENSE NO. PE079324		NEW JERSEY LICENSE NO. 24GE05185800