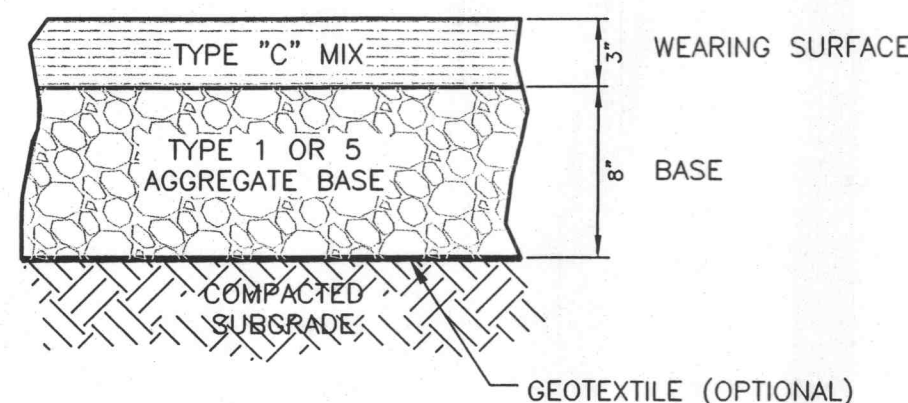


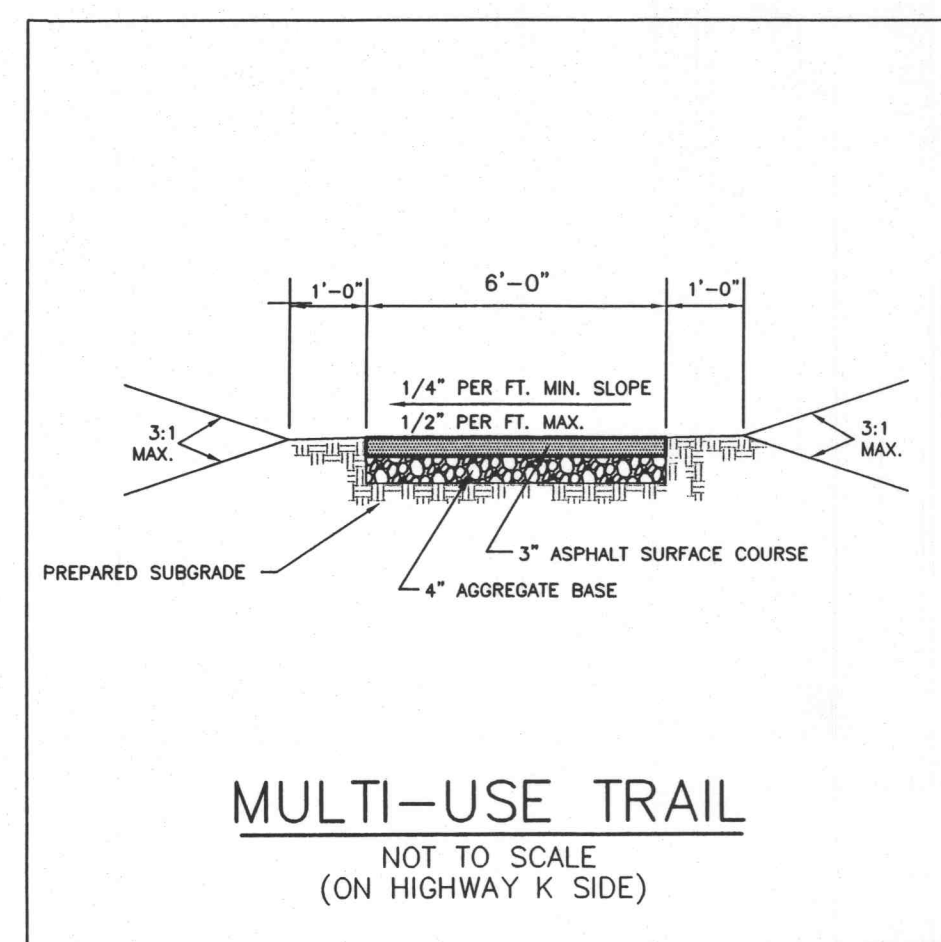
- AGGREGATE MATERIALS SHALL COMPLY WITH ASTM D 2321.
- CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
- GEOTEXTILE TO BE MIRAFI 600X WOVEN POLYPROPYLENE GEOTEXTILE AS MANUFACTURED BY NICOLON MIRAFI, NARCROSS, GA OR EQUAL, APPROVED BY ENGINEER.
- IN RIGHT-OF-WAY: 15' MAX. JOINT SPACING AND LONGITUDINAL TIE BARS @ 30" O.C. SPACING ON A PREPARED SUBGRADE WITH A MIN. COMPACTION OF 90 PROCTOR. COMPACTION CURVES TO BE USED IN SUBGRADE TESTING WILL BE SUPPLIED TO THE CITY ENGINEERING DEPT. BY DEVELOPER. CRACK SEALANT SHALL BE IN ACCORDANCE WITH ASTM 1190 OR AN APPROVED EQUAL.
- IN RIGHT-OF-WAY: FINES NOT TO EXCEED 0-25% PASSING #30 SIEVE AND 0-8% PASSING #200 SIEVE, UNLESS OTHERWISE AUTHORIZED BY THE CITY.

CONCRETE PAVEMENT
NOT TO SCALE



- AGGREGATE MATERIALS SHALL COMPLY WITH ASTM D 2321.
- OPTIONAL GEOTEXTILE TO BE MIRAFI 600X WOVEN POLYPROPYLENE GEOTEXTILE AS MANUFACTURED BY NICOLON MIRAFI, NARCROSS, GA OR EQUAL, APPROVED BY ENGINEER.
- TYPE 'C' & 'X' ASPHALT MIXTURES TO COMPLY WITH CITY OF O'FALLON SPECIFICATIONS FOR CONSTRUCTION.

ASPHALT SURFACE
NOT TO SCALE



MULTI-USE TRAIL
NOT TO SCALE
(ON HIGHWAY K SIDE)

PERMANENT:

- TALL FESCUE - 30LBS./AC.
- SMOOTH BROME - 20 LBS./AC.
- COMBINED - FESCUE @ 15 LBS./AC. AND BROME @ 10LBS./AC.

TEMPORARY:

- WHEAT OR RYE - 150 LBS./AC. (3.5 LBS./1,000 SQ. FT.)
- OATS - 120 LBS./AC. (2.75 LBS./1,000 SQ. FT.)

% MODIFIED

SEEDING PERIODS:

- FESCUE OR BROME; MARCH 1 TO JUNE 1
AUGUST 1 TO OCTOBER 1
- WHEAT OR RYE; MARCH 15 TO NOVEMBER 1
- OATS; MARCH 15 TO SEPTEMBER 15

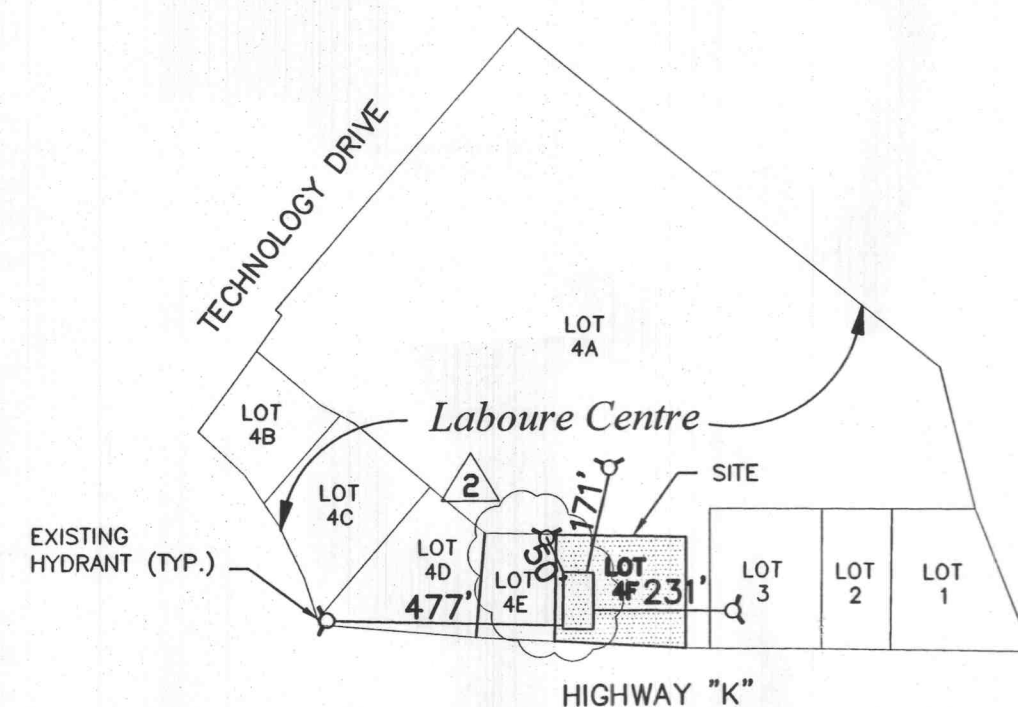
MULCH RATES: 100 LBS./1,000 SQ. FT. (4356 LBS./AC.)

FERTILIZER RATES:

- NITROGEN 30 LBS./AC.
- PHOSPHATE 30 LBS./AC.
- POTASSIUM 30 LBS./AC.
- LIME 600 LBS./AC. ENM*

*ENM = EFFECTIVE NEUTRALIZING MATERIAL PER STATE EVALUATION OF QUARRIED ROCK.

VEGETATIVE ESTABLISHMENT



EXISTING FIRE HYDRANT LOCATIONS

- NUMBER OF SURROUNDING HYDRANTS - 3
- NEAREST HYDRANT - 171'
- NEAREST FIRE STATION - 1.3 MILES (STATION #3, 6310 WELDON SPRING ROAD)
- FIRE ALARM SYSTEM - YES
- SPRINKLER SYSTEM - YES

GENERAL:

- SEEDING RATE 30# TALL FESCUE PER ACRE
- MULCHING RATE 100# PER 1,000 SQ. FT.
- FERTILIZER 30#/ACRE NITROGEN
30#/ACRE PHOSPHATE
30#/ACRE POTASSIUM
600#/ACRE ENM
- LIME

- WHEN GRADING OPERATION IS COMPLETE, THE SITE WILL BE SEEDED, FERTILIZED, LIMED, MULCHED AND TACKED AS PER ABOVE RATE.
- WHEN GRADING OPERATIONS ARE CEASED FOR 14 DAYS OR MORE, ALL DISTURBED AREA/S WILL BE SEEDED TO WHEAT AT THE RATE OF 90# PER ACRE.

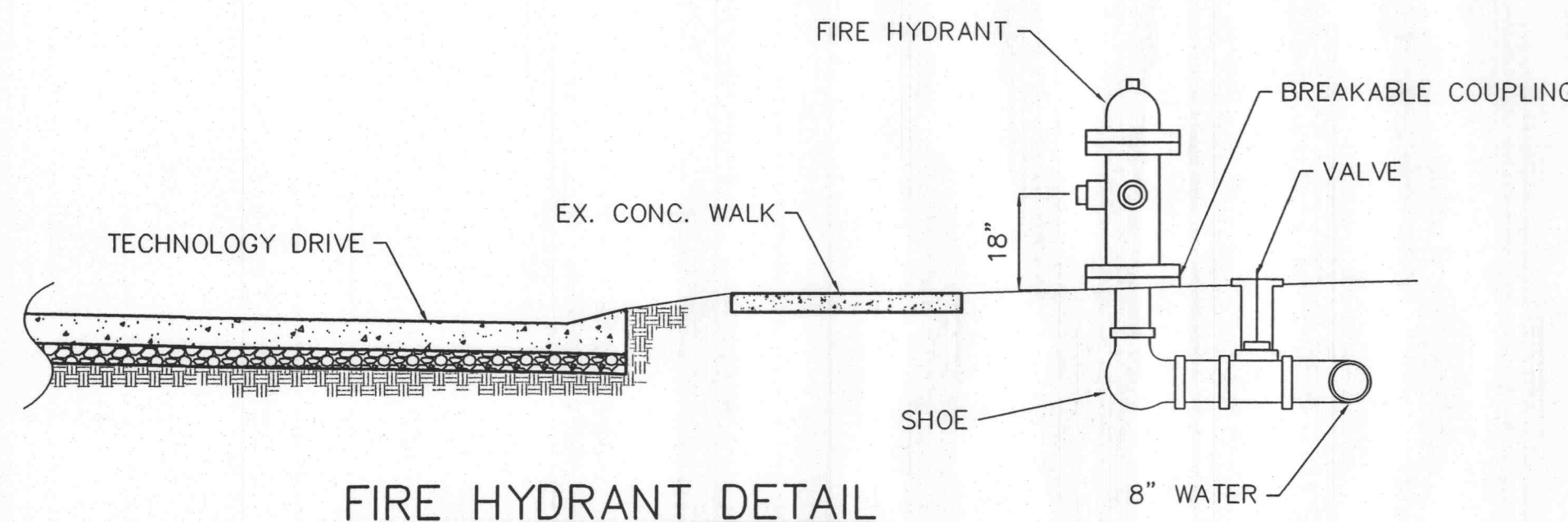
(FOR PROJECTS WITH BASINS, EROSION ISSUES OR STREAMS)

3. **DIVERSION AND SEDIMENT DAM;** UPON COMPLETION OF THE DAM AND DIVERSION, THEY WILL BE SEEDED, FERTILIZED, LIMED, MULCHED AND TACKED AND WHEAT WILL BE SOWN AT THE RATE OF 60# PER ACRE.

4. **WATERWAY;** A GEOTEXTILE STRAW NETTING WILL LINE THE BOTTOM AND SIDESLOPES OF THE WATERWAY. SEEDING WILL BE ACCORDING TO RATES DESCRIBED UNDER THE "GENERAL" HEADING.

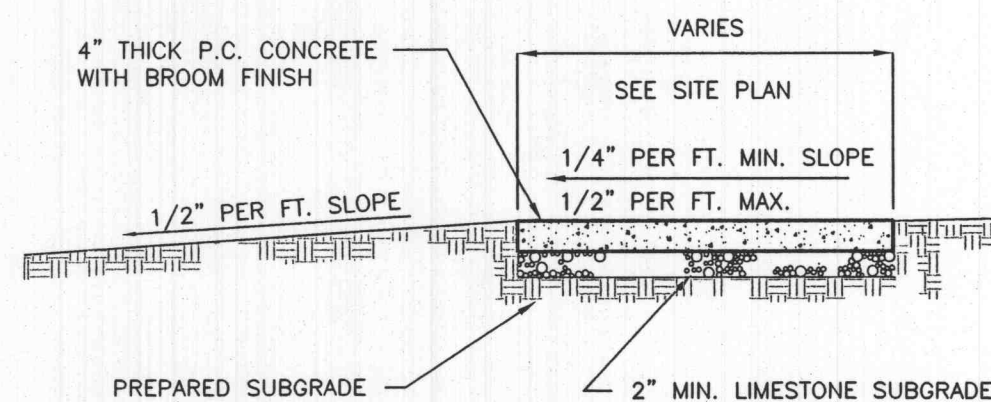
5. **VEGETATIVE FILTER;** REED CANARY-GRASS WILL BE SEEDED FOR A FILTER ALONG THE WATERLINE OF THE POND. THE STRIP WILL BE 50 FEET WIDE AT 24# PER ACRE.

SEEDING NOTES



FIRE HYDRANT DETAIL

NOT TO SCALE

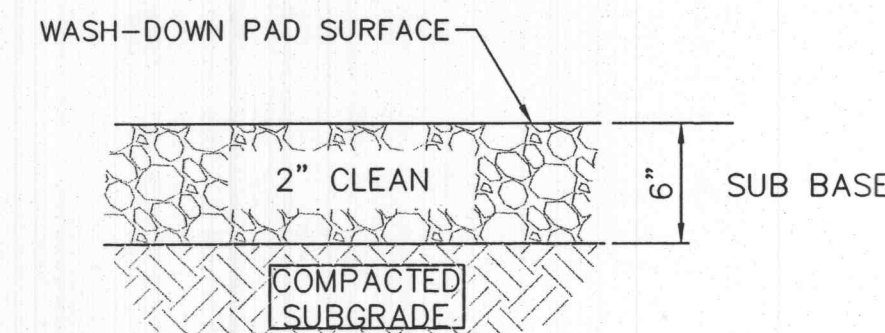


NOTE: MAXIMUM DISTANCE BETWEEN EXPANSION JOINT SHALL BE 10' WITH AT LEAST ONE CONTROL JOINT IN BETWEEN.

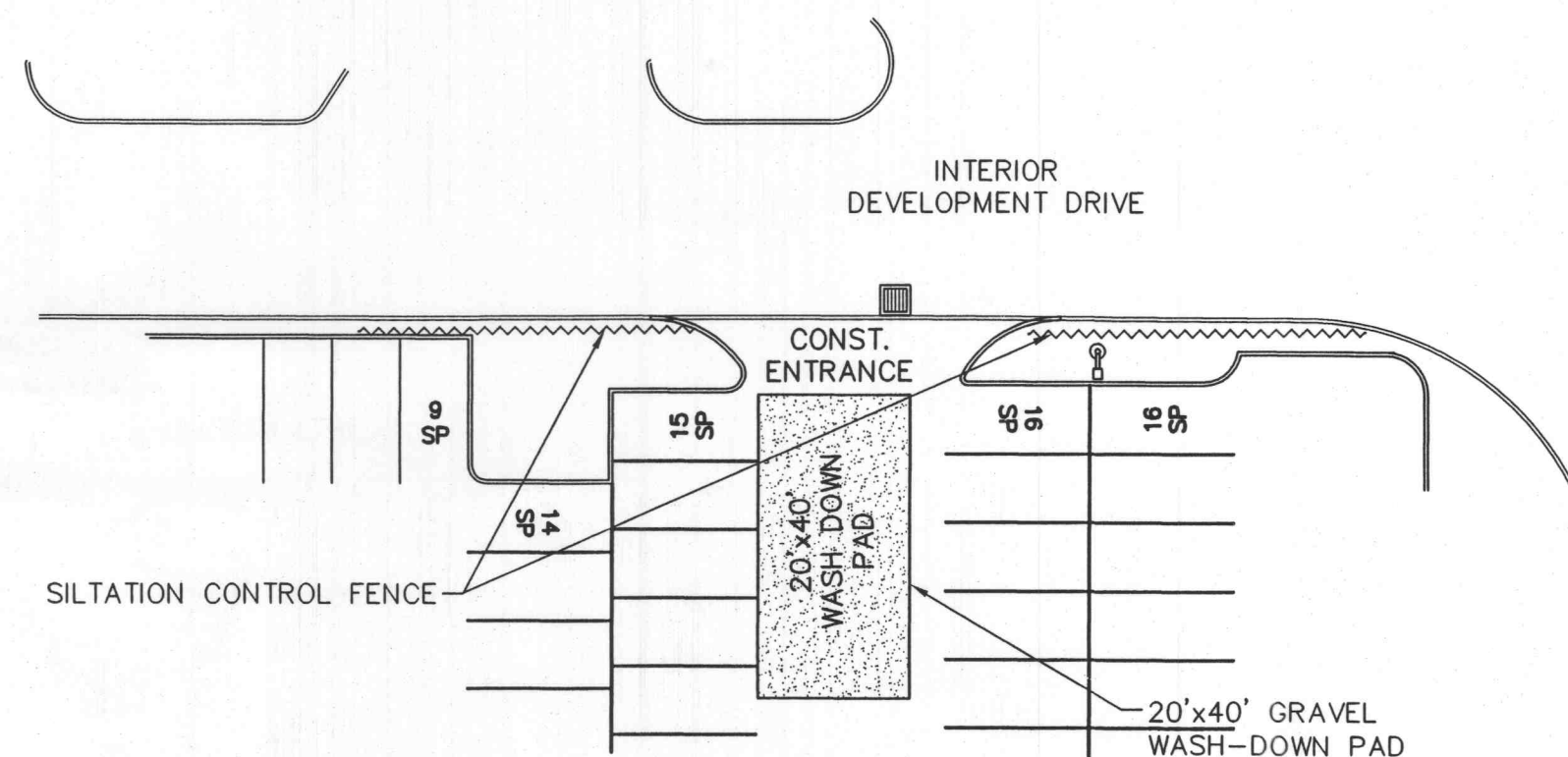
SIDEWALK ALONG DEVELOPMENT TO BE 4' IN WIDTH. REFER TO THE PLANS FOR SIDEWALK WIDTH AROUND THE BUILDING.

CONCRETE SIDEWALK

NOT TO SCALE



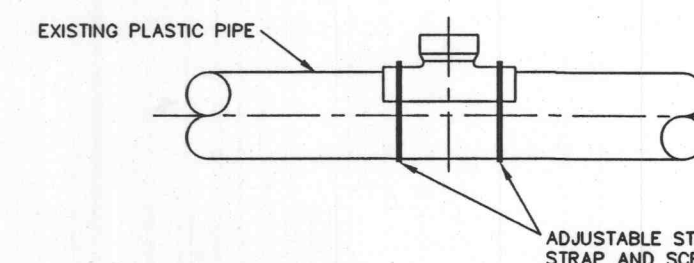
- CONTRACTOR TO PROVIDE TEMPORARY 20'x40' GRAVEL WASH-DOWN PAD.
- PAD TO BE 6 INCH DEEP OF 2 INCH DIAMETER CLEAN ROCK.
- WHEN PARKING LOT IS READY FOR CONSTRUCTION, MUD AND SILT TO BE REMOVE AND ADDITIONAL ROCK TO BE ADDED TO ACHIEVE REQUIRED GRADE FOR PAVING.



WASH-DOWN PAD DETAIL

NOT TO SCALE

PLASTIC SADDLE TEE OR WYE FITTING (SOLVENT WELD)



WHEN CONNECTION TO A PLASTIC PIPE IS ALLOWED AND A CONNECTION IS LARGER THAN 6" IN DIAMETER, A SOLVENT WELD OR TEE FITTING OF A SIMILAR MATERIAL MUST BE USED. (EXAMPLE: 10"x8")

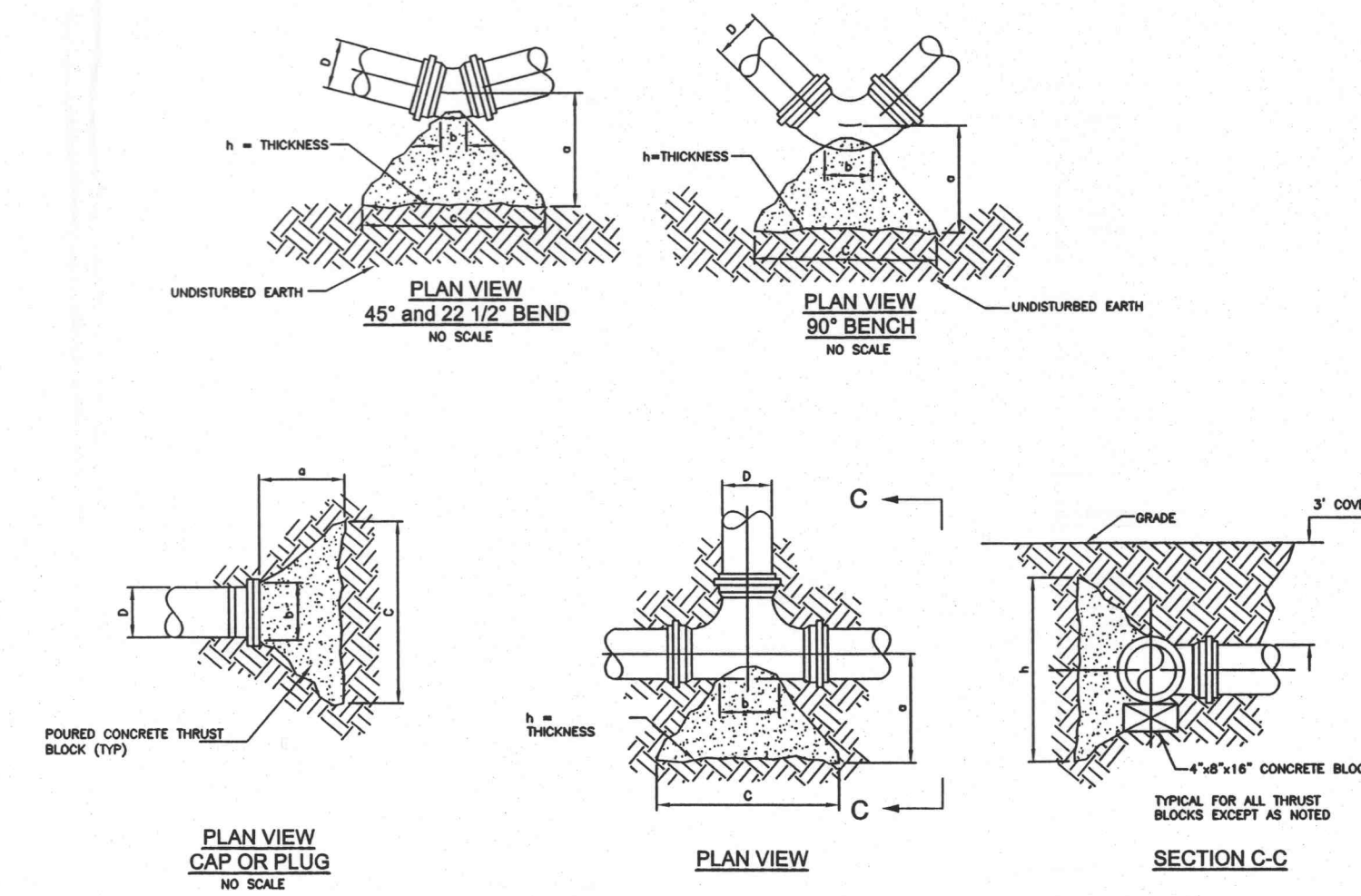
THIS IS ACCOMPLISHED BY CAREFULLY CUTTING A HOLE WITH A SAW IN THE MAIN AT THE REQUIRED LOCATION AFTER CUTTING AND SHAPING THE HOLE TO THE SIZE OF THE FITTING. THE FOLLOWING STEPS SHOULD BE TAKEN.

- CLEAN AND DRY BOTH THE SADDLE WYE SURFACE AND PIPE SURFACE TO BE SOLVENT CEMENTED.
- IMPORTANT: APPLY A LIBERAL, HEAVY COAT OF ONE-STEP SOLVENT CEMENT TO THE INSIDE SURFACE OF THE SADDLE WYE AND TO THE EXTERIOR WELDING SURFACE TO THE PIPE.
- WITHOUT DELAY, Wipe the SURFACES AND STRAP DOWN TIGHTLY. A BEAD OF SOLVENT SHOULD APPEAR AFTER THE SADDLE HAS BEEN STRAPPED DOWN TIGHTLY.
- USING A RAG OR PAPER TOWEL, WIPE BEAD AND ANY EXCESS SOLVENT CEMENT OFF PIPE AND SADDLE.
- ALLOW 30-60 MINUTES FOR SET-UP TIME BEFORE BACKFILLING. CURE TIME DEPENDS ON SIZE FIT OF MATERIALS BEING INSTALLED AND VARIOUS COLD DAMP CONDITIONS.
- A CLEAN, DRY BEDDING MATERIAL IS REQUIRED AROUND THE COMPLETED CONNECTION BEFORE BACKFILLING. THE BEDDING MATERIAL SHOULD BE ONE OF THE FOLLOWING:
 - 1 TO 3 CEMENT TO SAND MIX
 - "TYPE-X" CONCRETE
 - DCSD APPROVED BEDDING FOR SANITARY SEWERS.

8" & LARGER CONNECTION TO PLASTIC MAIN

NOT TO SCALE

DCSD
DWG. 20A



THRUST BLOCK DETAILS

NOT TO SCALE

WATER LINE NOTES:

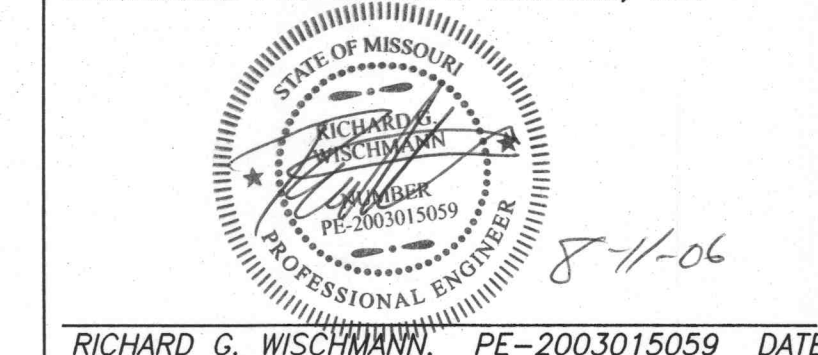
- FIRE HYDRANT SHALL HAVE NOT LESS THAN TWO 2 1/2 INCH OUTLETS AND ONE 1/2 INCH OUTLET, A 5 1/4 INCH VALVE, A 6 INCH BARREL AND SHALL BE OF THE BREAKAWAY DESIGN, FROST FREE WITH CHAIN, LEFT HAND OPEN DESIGN AND HAVE NATIONAL STANDARD THREADED.
- MINIMUM FIRE FLOW FROM A SINGLE FIRE HYDRANT SHALL BE FIFTEEN HUNDRED (1500) GALLONS PER MINUTE AT TWENTY (20) PSI RESIDUAL PRESSURE.
- EACH FIRE HYDRANT SHALL BE PROVIDED WITH A CONTROL VALVE IN THE HYDRANT CONNECTION SUCH THAT THE HYDRANT CAN BE REMOVED FROM SERVICE WITHOUT SHUTTING OFF WATER SUPPLY TO OTHER FIRE HYDRANTS.
- THE CENTER OF A HOSE NOZZLE OUTLET SHALL NOT BE LESS THAN EIGHTEEN (18) INCHES ABOVE GRADE AND THE OUTLETS MUST FACE THE STREET OR ACROSS DRIVE.
- THERE SHALL BE NO OBSTRUCTIONS, I.E. PLANTINGS, BUSHES, TREES, SIGNS, LIGHT STANDARDS, MAILBOXES, ETC. WITHIN SIX (6) FEET OF ANY FIRE HYDRANT, AND/OR FIRE DEPARTMENT CONNECTION TO AN AUTOMATIC SPRINKLER SYSTEM.
- PUBLIC FIRE HYDRANTS SHALL HAVE THE BONNETS COLOR CODED IN ACCORDANCE WITH ORDINANCE NO. 13 OF THE CITY OF O'FALLON FIRE PROTECTION DISTRICT.
- MISSOURI AMERICAN WATER COMPANY STANDARDS TO BE FOLLOWED FOR WATERLINE CONSTRUCTION.

O'FALLON P & Z FILE NO.: (905.01)

ENGINEERS CERTIFICATION:

The following applies to ALL sheets and documents involved in the preparation of the plans and documents for this project. The responsibility for Professional Engineering liability on this project is limited to the set of plans displaying the signature and an original stamped seal of the Engineer on each sheet. ALL responsibility is Disclaimed: until ALL review agency approvals are granted; for all other plan sheets issued prior to this issue date; for this set when another set is issued after this date; if the sheets are used individually instead of a set. This applies for ALL sheets and documents involved in this project whether this certification appears on it or not. Copyright. All Rights Reserved.

ZAVRADINOS PROFESSIONAL SERVICES, INC.



No.	Date	Description	By
Prepared For: JOHNNY YOON 523 Malinmoor Drive St. Charles, MO 63304 (314) 650-3937			Drawn by: JRE Checked by: SWP Issue date: 5-15-06 Job Number: 04152 Sheet: 7 of 11
Zavradinos Engineering and Surveying Engineers Surveyors Planners 17813 Edison Avenue, Suite 201 Chesterfield, MO 63005 636-946-5555			