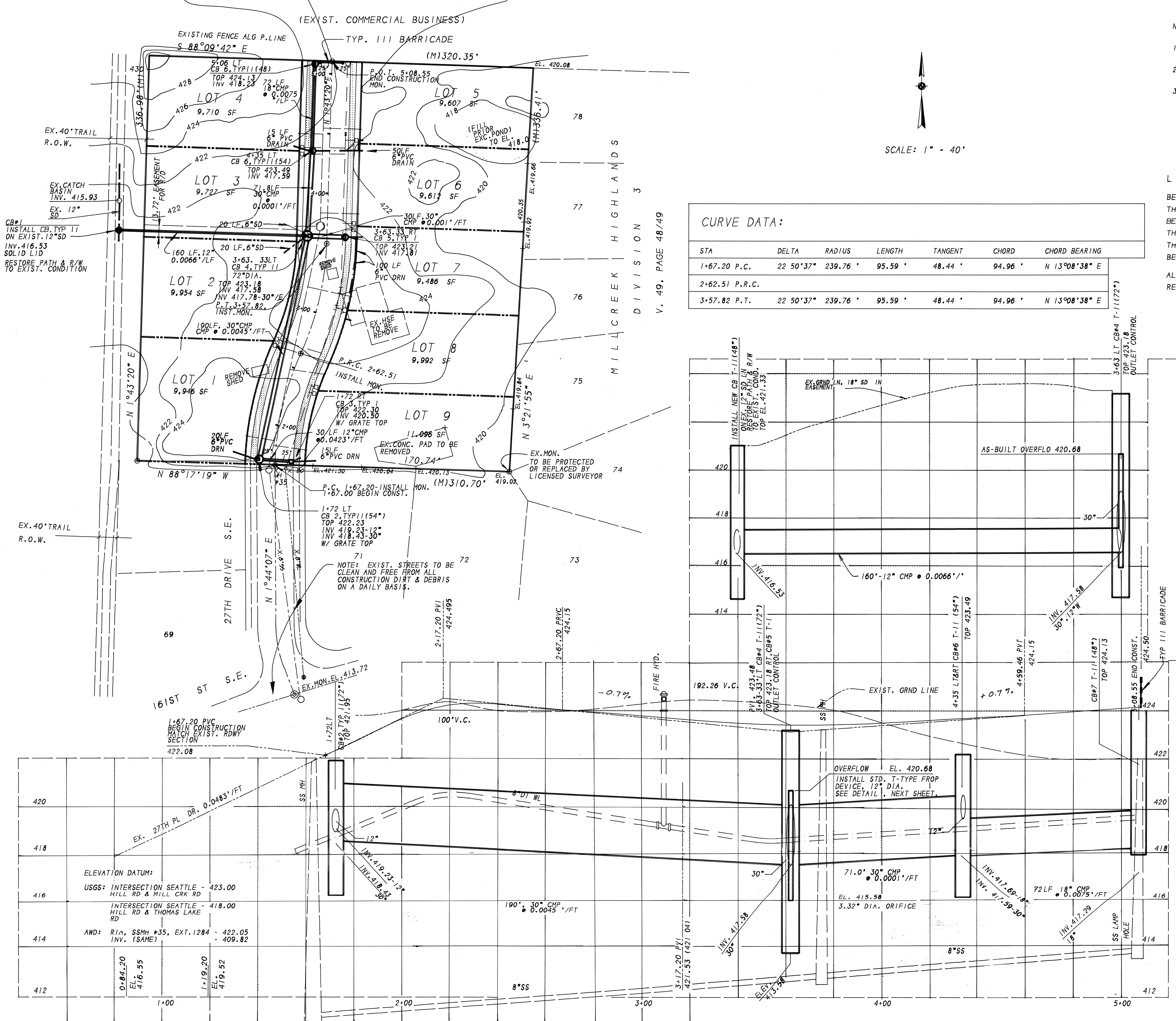


SE 1/4, SEC. 5, T. 27N., R. 5E., W.M.



- NOTES:**
1. WASHING OF DRIVEWAYS TO REMOVE CONSTRUCTION RELATED DIRT IS FORBIDDEN.
 2. ALL CATCH BASIN STRUCTURES SHALL BE FLAT FRAME AND GRATE PER MILL CREEK STM03 & STM04.
 3. SEE ALSO AND USE ALDERWOOD W.D. "HILLCREST GLEN" EXT. NO. 1529 FOR CONSTRUCTION OF WATER SYSTEM AND SANITARY SEWERS. BRING ANY APPARENT CONFLICT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING, OR PROCEEDING FURTHER WITH ANY CONSTRUCTION.

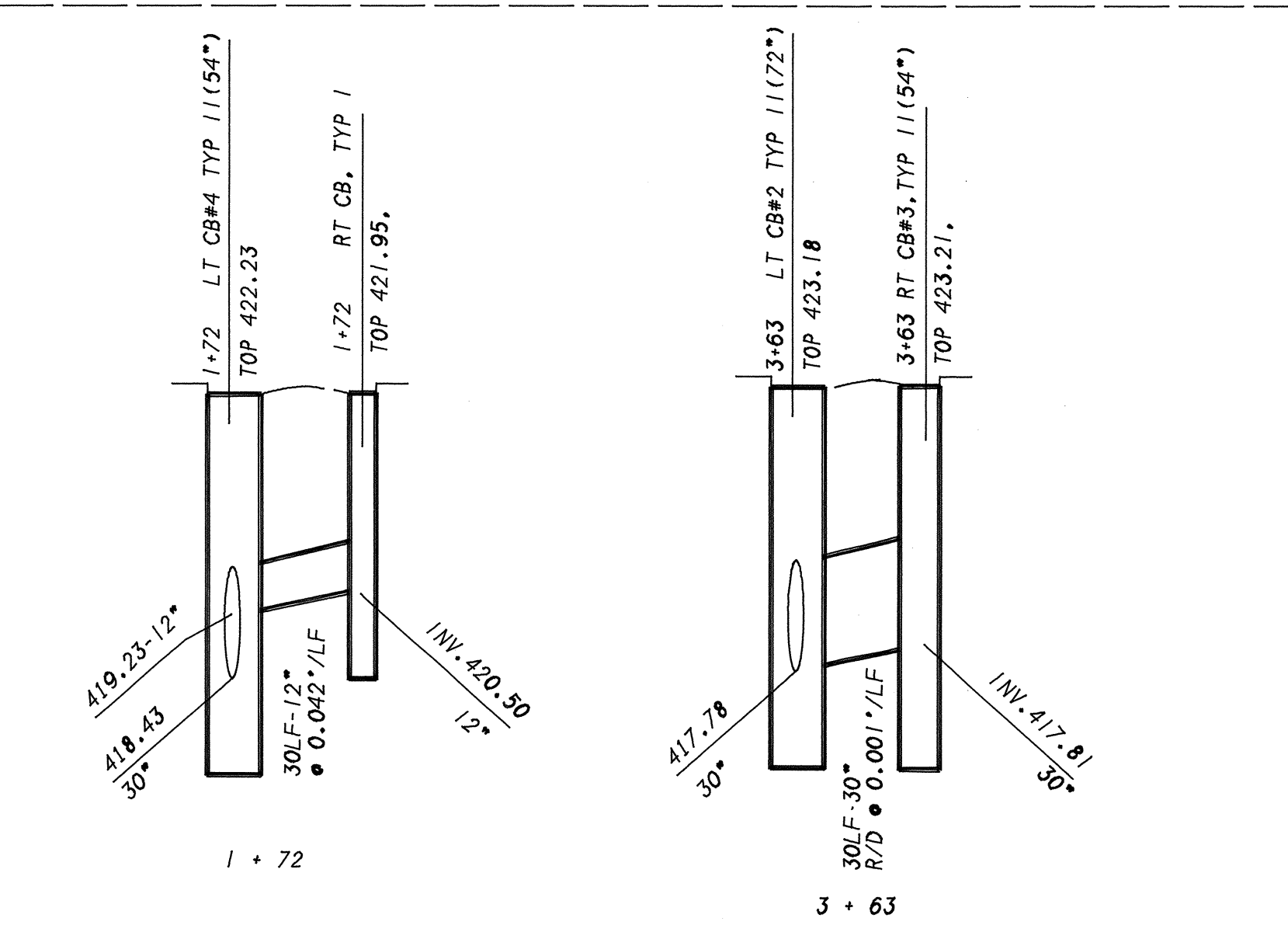
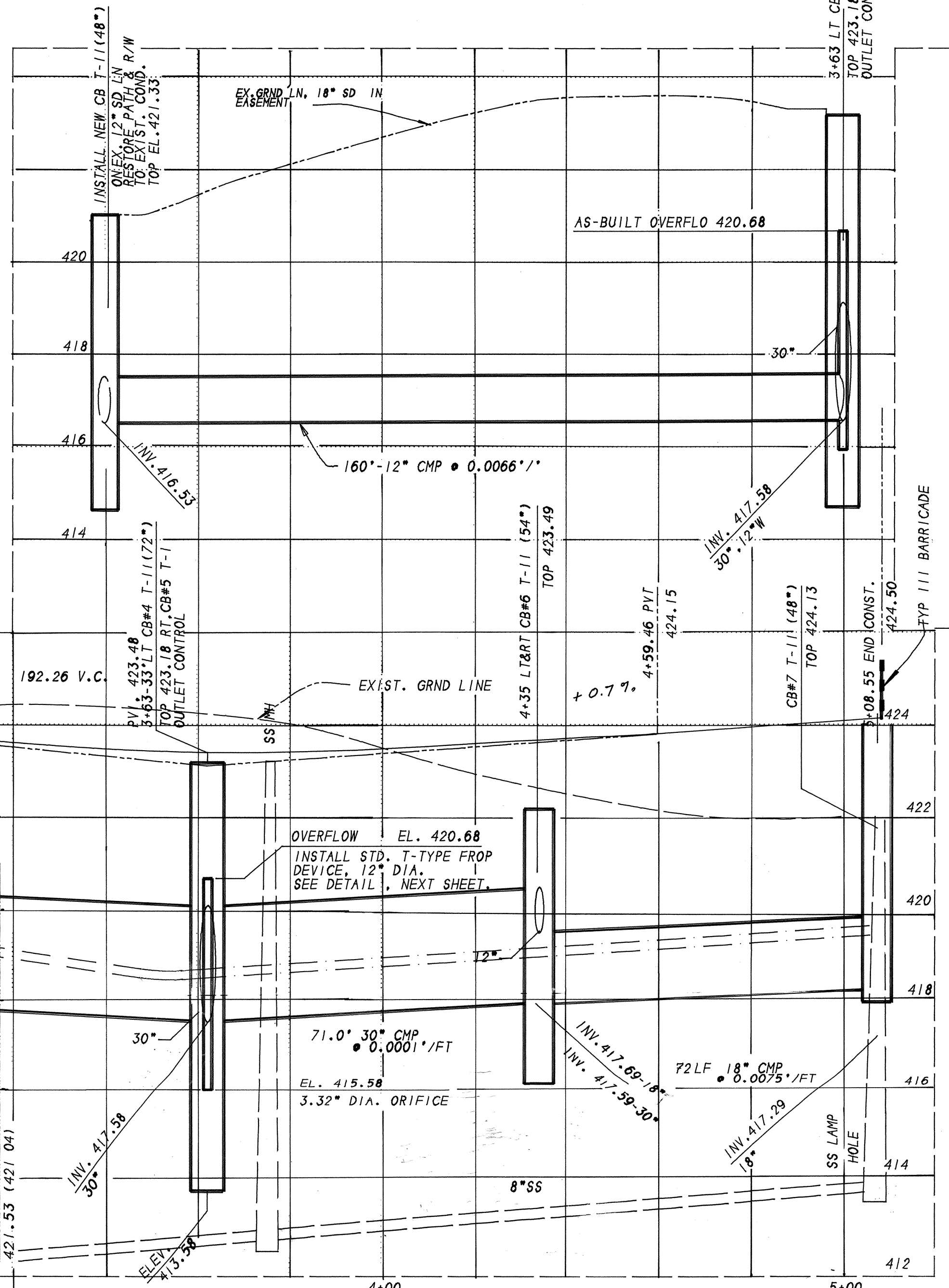
LEGAL DESCRIPTION:

BEGINNING AT THE SOUTH QUARTER CORNER OF SECTION 5, TOWNSHIP 27 NORTH, RANGE 5 EAST, W.M.; THENCE N 1°43'20" E, 1.210.34'; THENCE S 88°17'19" E, 59.61' TO THE TRUE POINT OF BEGINNING. THENCE S 88°17'19" E, 310.68'; THENCE N 3°21'55" E, 336.41'; THENCE N 88°09'42" W, 320.33'; THENCE S 1°43'20" W, 336.98' TO CLOSE AT THE TRUE POINT OF BEGINNING; CONTAINS 2.438 ACRES, BEING TRACT 3, ELWOOD'S LITTLE FARMS, ACCORDING TO THE UNRECORDED PLAT THEREOF.

ALL SITUATE IN SNOHOMISH COUNTY, WASHINGTON, SUBJECT TO EASEMENTS, RESTRICTIONS, AND RESERVATIONS OF RECORD.

CURVE DATA:

STA	DELTA	RADIUS	LENGTH	TANGENT	CHORD	CHORD BEARING
1+67.20 P.C.	22 50'37"	239.76'	95.59'	48.44'	94.96'	N 13°08'38" E
2+62.51 P.R.C.						
3+57.82 P.T.	22 50'37"	239.76'	95.59'	48.44'	94.96'	N 13°08'38" E



APPROVED FOR CONSTRUCTION

BY: CITY OF MILL CREEK, CITY ENGINEER

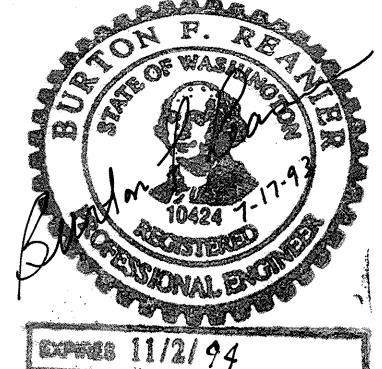
DATE	NO.	REVISION	BY
JULY 1993	1	REVISION TO AS-BUILT	BR
JUNE 1993	1	AS-BUILT	BR
JULY 1992	1	REVISED PER CITY OF MILL CREEK REVIEW	BR

BURTON F. REANIER, PE, PLS
111 EVERETT MALL WAY, EVERETT, WASHINGTON 98208

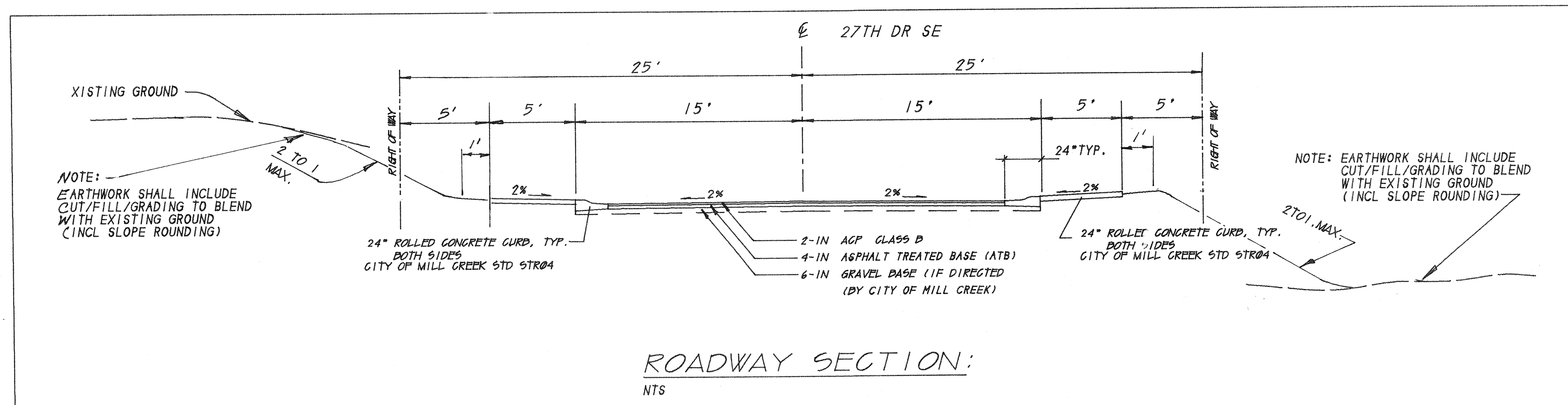
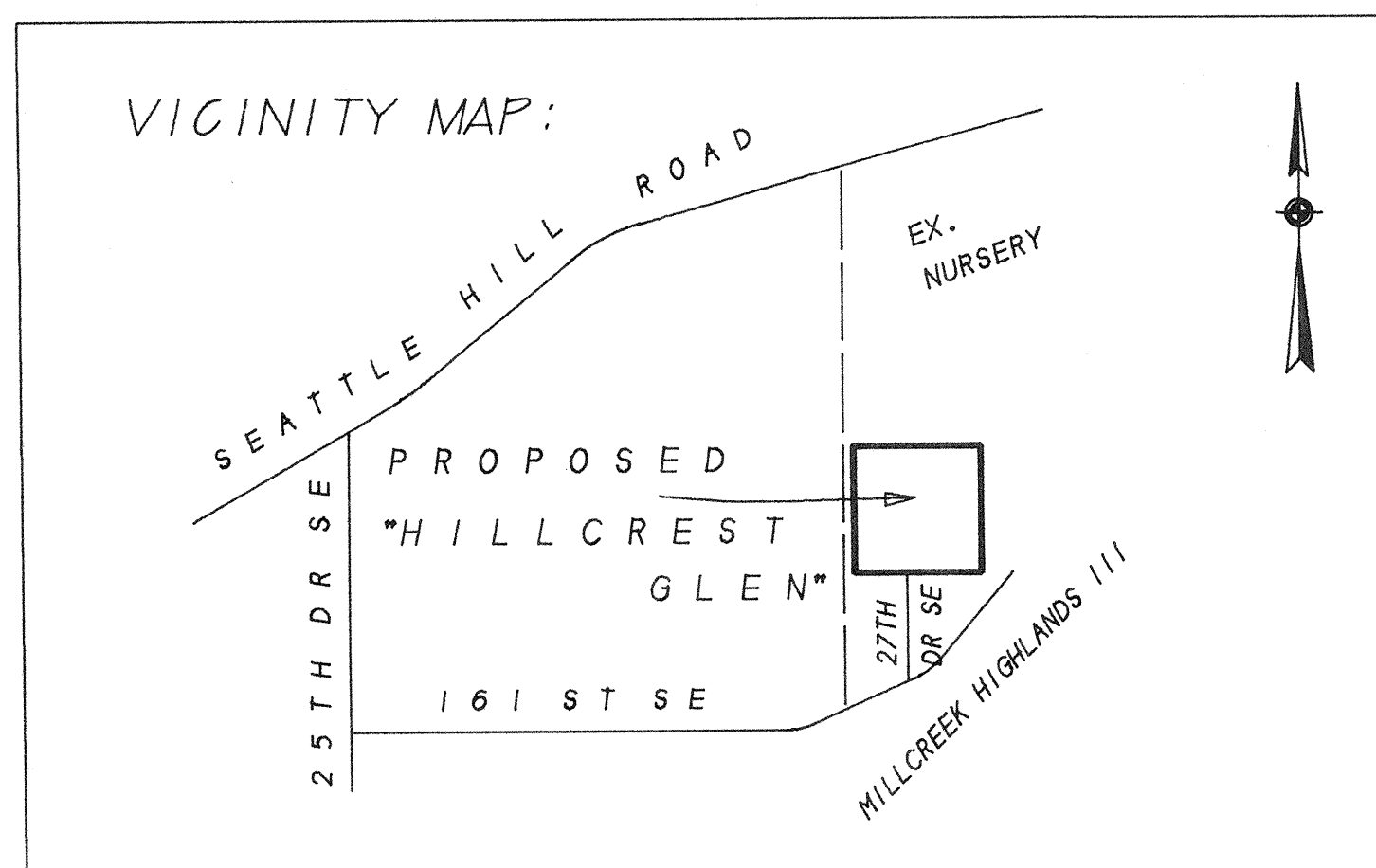
ROAD AND STORM DRAIN PLAN
HILLCREST GLEN

MILL CREEK PARTNERSHIP
2000 FAIRVIEW AVE NO., SEATTLE, WASHINGTON 98104

DATE: 7-17-93 DESIGNER: F.B. DWN: RL SHT 1 OF 1



HILLCREST GLEN



INDEX TO PLANS

- 1 CIVIL PLANS TITLE PAGE
- 2 GRADING & T.E.S.C.P.
- 3 TESCP NOTES AND DETAILS
- 4 ROAD & STORM DRAIN
- 5 STORM DRAIN NOTES
- 6 STREET CONST - MISC. DETAILS
- 7 STREET CONST - MISC. DETAILS
- 8 STREET CONST - MISC. DETAILS

GENERAL NOTES

1. THE FOLLOWING SPECIFICATIONS ARE HEREBY MADE A PART OF THESE PLANS, AND SHALL CONTROL THE WORK ON THIS PROJECT: CITY OF MILL CREEK ORDINANCES, SPECIFICATIONS, STANDARDS, PROCEDURES, AND REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN, KNOW, CONFORM TO, AND APPLY ALL OF REQUIREMENTS CONTAINED THEREIN TO THIS PROJECT WORK. THE CONTRACTOR SHALL CONTACT ALL GOVERNMENT OFFICES AND UTILITIES WITH JURISDICTION OVER THIS SITE NOT 90 DAYS PRIOR TO START OF WORK AND ARRANGE FOR PRE-CONSTRUCTION CONFERENCES, LOCATION, AND PROTECTION OF EXISTING UTILITIES AND IMPROVEMENTS.
2. THE OWNER WILL PROVIDE ONE (1) SET OF CONSTRUCTION CONTROL MARKERS FOR EACH MAJOR FEATURE TO BE CONSTRUCTED. THE CONTRACTOR SHALL USE SAID MARKERS AND SET HIS/HER OWN CONSTRUCTION STAKES, AND SHALL PROTECT AND PRESERVE THE MARKERS PROVIDED BY THE OWNER. ANY REPLACEMENT OF THE ORIGINAL MARKERS SHALL BE AT CONTRACTOR EXPENSE.
3. ATTENTION OF THE CONTRACTOR IS CALLED TO THE BID PROPOSAL, GENERAL CONDITIONS, SPECIAL PROVISIONS, AND THESE PLANS. THE CONTRACTOR SHALL INCLUDE ALL COSTS TO PROVIDE A COMPLETE PROJECT IN THE PRICE(S) FOR THE WORK, AND SHALL DELIVER A COMPLETE PROJECT FREE OF LIENS AND ENCUMBRANCES TO THE OWNER PRIOR TO FINAL PAYMENT AND RELEASE FROM THIS CONTRACT.
4. THE CONTRACTOR SHALL NOT ENTER THE PROJECT LANDS AND BEGIN WORK UNTIL SATISFACTORY EVIDENCE OF INSURANCE, PERMITS, AND ANY REQUIRED BONDING HAVE BEEN RECEIVED AND APPROVED BY THE OWNER AND THE CITY OF MILL CREEK.
5. THE CONTRACTOR SHALL COORDINATE DIRECTLY WITH, AND SHALL BE HIS/HER OWN ADVOCATE WITH THE CITY OF MILL CR., UTILITIES, AND ANY OTHER AGENCIES OR PERSON WITH INTEREST IN THIS PROJECT OR SITE.
6. UPON NOTICE TO PROCEED FROM THE OWNER, THE CONTRACTOR SHALL SOLELY BE RESPONSIBLE FOR

THE SITE.

7. ALL MATERIALS FOR THIS WORK SHALL BE NEW AND SHALL CONFORM TO CITY OF MILL CREEK SPECIFICATIONS.
8. THE CONTRACTOR SHALL PROVIDE HIS/HER OWN LEGAL SITE AWAY FROM THE PROJECT FOR DISPOSAL OF ALL UNSUITABLE, SURPLUS, AND WASTE MATERIALS.
9. GRADED SLOPES AND ALL OTHER DISTURBED AREAS SHALL BE ROUNDED, GRADED TO BLEND TO ADJACENT TERRAIN, AND RE-SEEDED AS PER MILL CREEK REQUIREMENTS.

PREPARED BY:

BURTON F. REANIER, PE, PLS
P.O. BOX 484
KENMORE, WA 98028

Burton F. Reanier
7-15-92
92

APPROVED FOR CONSTRUCTION:

BY:

CITY OF MILL CREEK, CITY ENGINEER

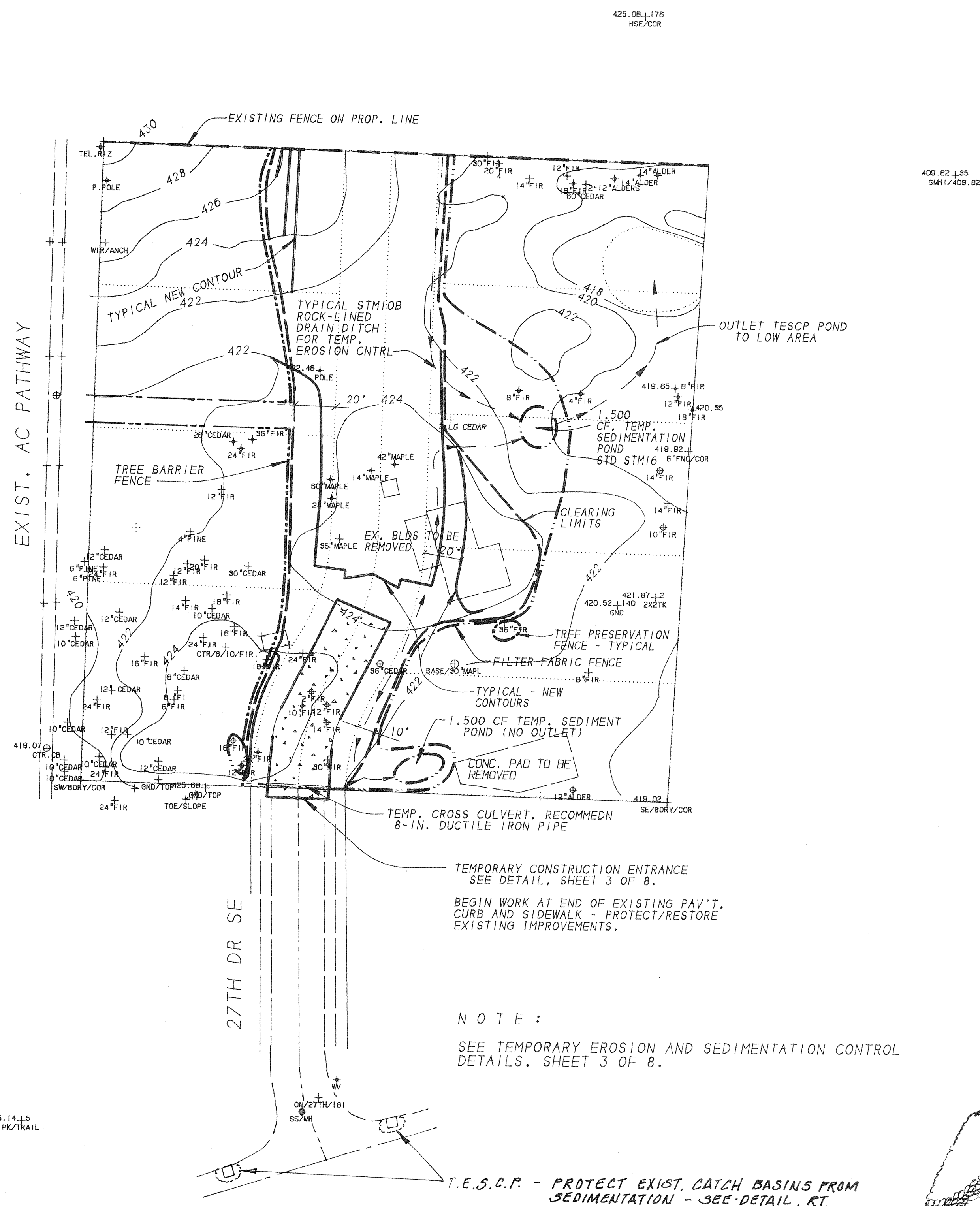
DATE

MILL CREEK PARTNERSHIP
2000 FAIRVIEW AVENUE NORTH
SEATTLE, WASHINGTON

SE 1/4, SEC. 5, T. 27N., R. 5E., W.M.

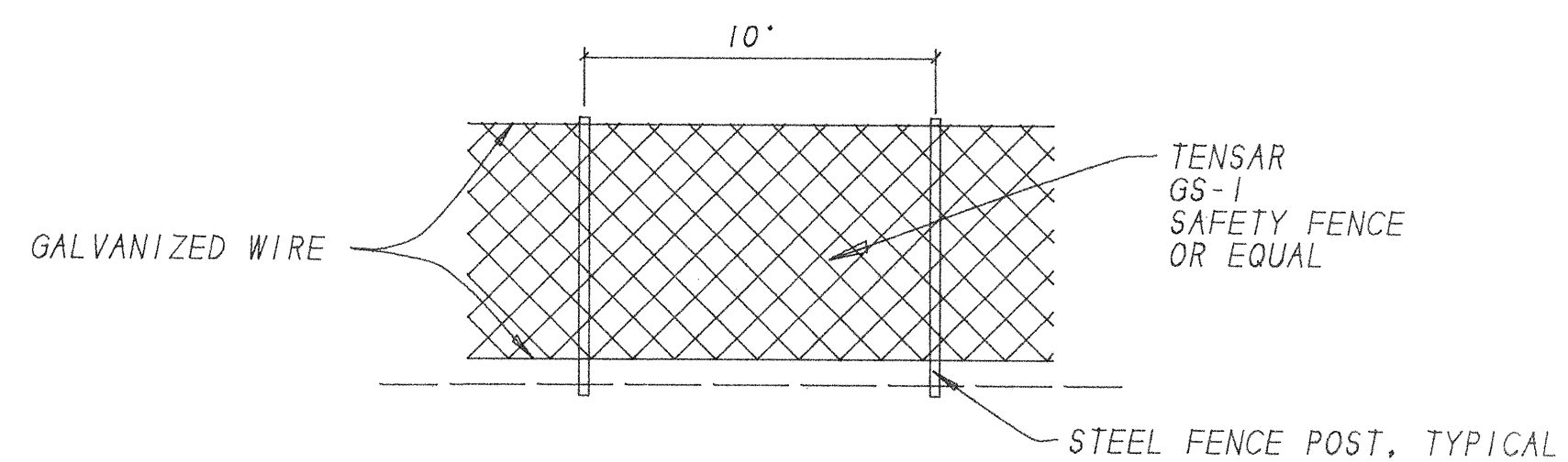


SCALE: 1" = 40'



NOTES :

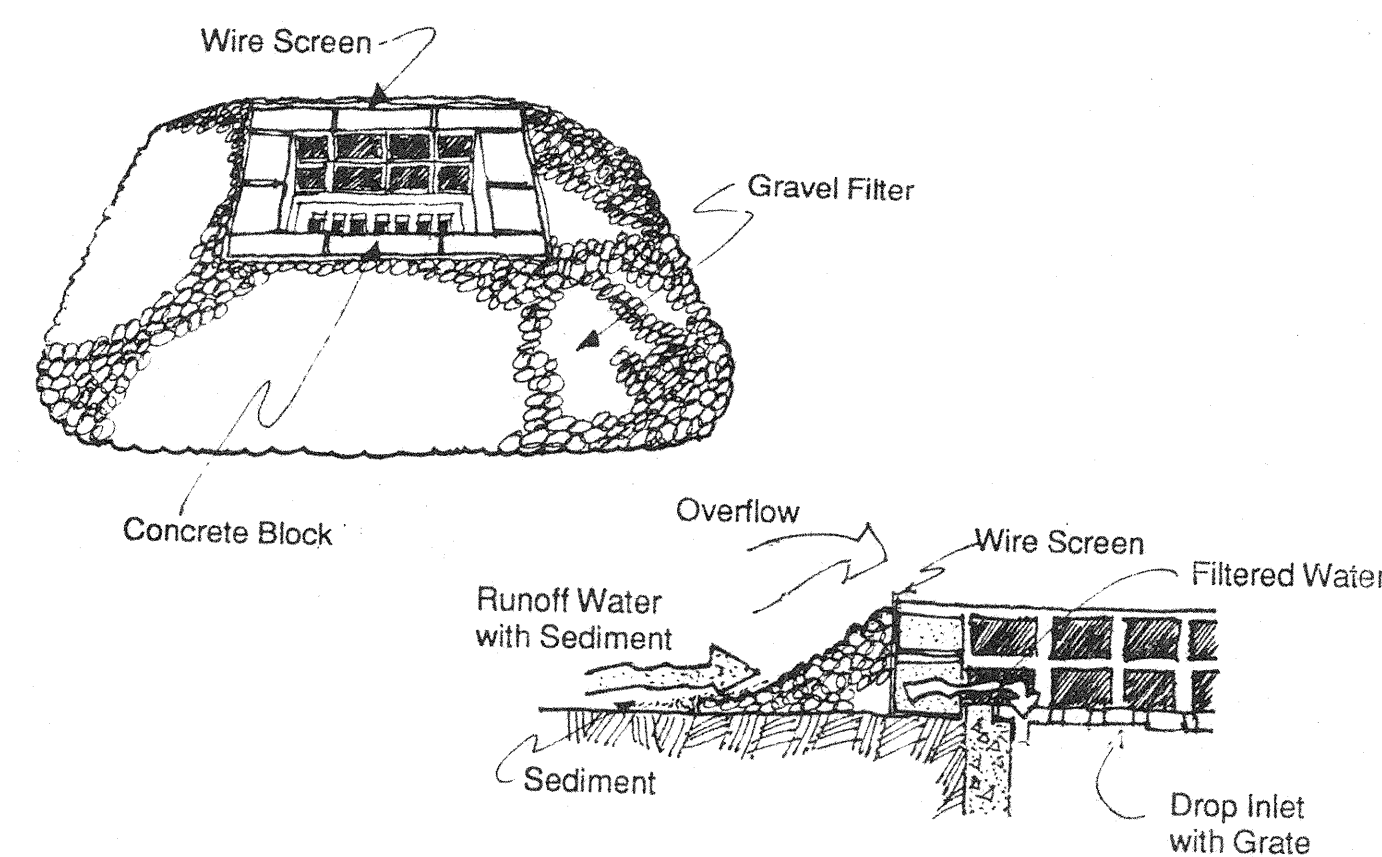
1. SEE PRELIMINARY PLAT FOR DETAILS NOT SHOWN ON THIS SHEET.
2. TREES TO REMAIN WILL BE MARKED WITH WHITE & BLUE RIBBON.
3. GRADING ADJACENT TO TREES TO REMAIN WILL BE RESTRICTED TO A MIN. OF 10-FT. AND AT ALL LOCATIONS, NO CLOSER THAN THE TREE PRESERVATION FENCE.
4. PRIOR TO BUILDING DEMOLITION, OBTAIN AND RECEIVE APPROVAL FROM THE CITY THAT ADEQUATE TREE PRESERVATION METHODS ARE IN PLACE.
5. NO CLEARING OF LOTS ALLOWED.
6. IDENTIFY CLEARING LIMITS AND STAKE R/W CENTERLINE PRIOR TO THE START OF ANY CONSTRUCTION.
7. WHERE POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL.
8. ALL SILTATION FENCING SHALL BE INSTALLED PRIOR TO CONSTRUCTION.



1. CLIP FENCE TO GALVANIZED WIRE.
2. WIRE FENCE TO STEEL FENCE POSTS.
3. FOR TREE PRESERVATION. PLACE FENCE AT TREE DRIP LINE.

TREE PRESERVATION AND CONSTRUCTION BARRIER FENCE

NTS



APPROVED FOR CONSTRUCTION:
BY: _____
CITY OF MILL CREEK, CITY ENGINEER DATE _____

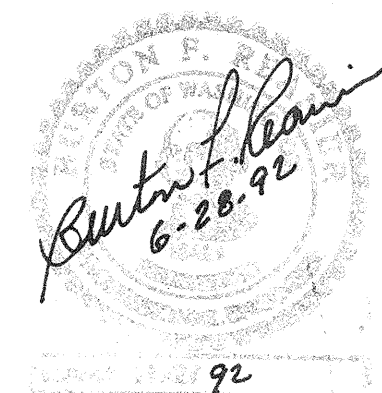
DATE	NO.	REVISION	BY

BURTON F. REANIER, PE, PLS
111 EVERETT MALL WAY, EVERETT, WASHINGTON 98208

TREE PRESERVATION - EROSION CONTROL
HILLCREST GLEN

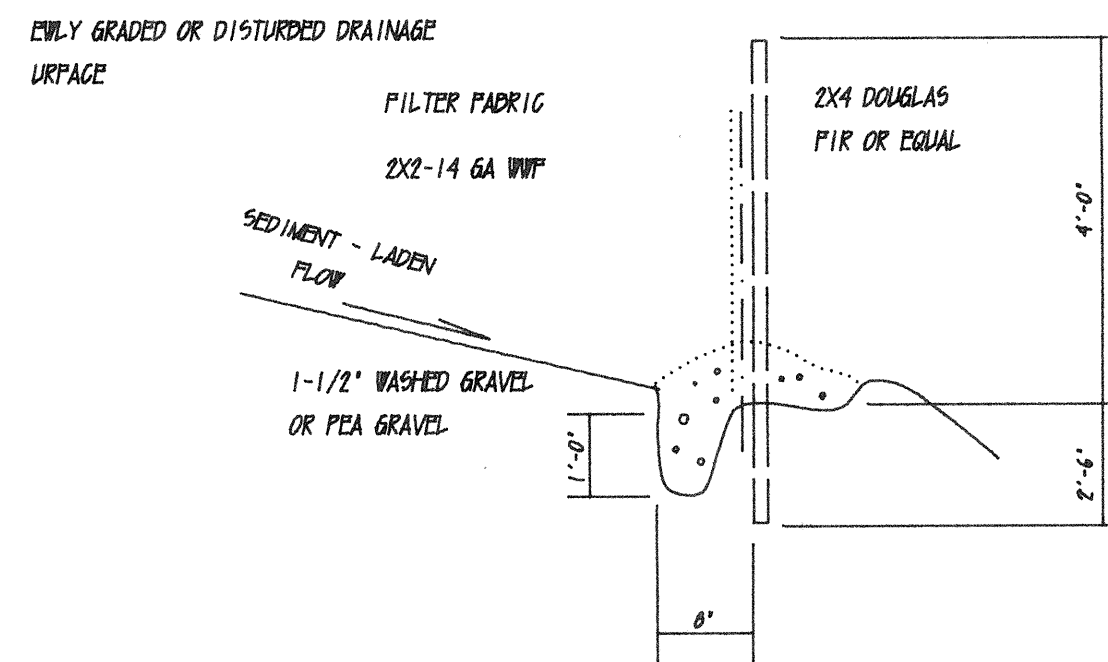
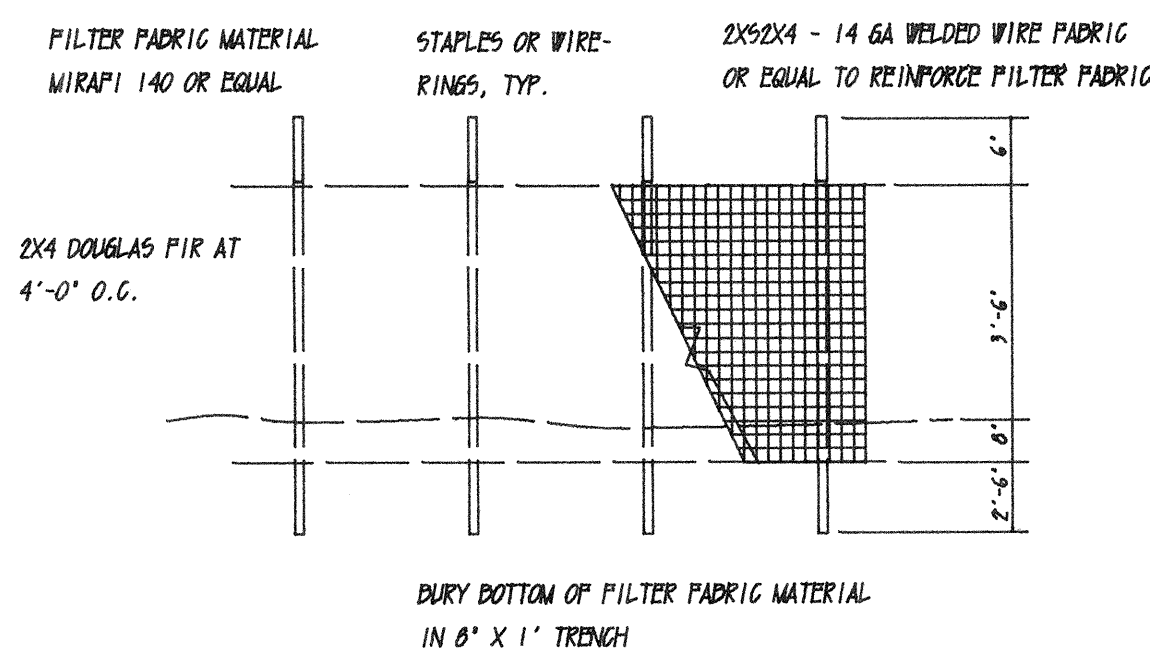
MILL CREEK PARTNERSHIP
2000 FAIRVIEW AVE N., SEATTLE, WASHINGTON 98124

DATE: 6-28-92	DESIGNER: F.B.	DWN: BK
SURVEY:		SHT 2 OF 8



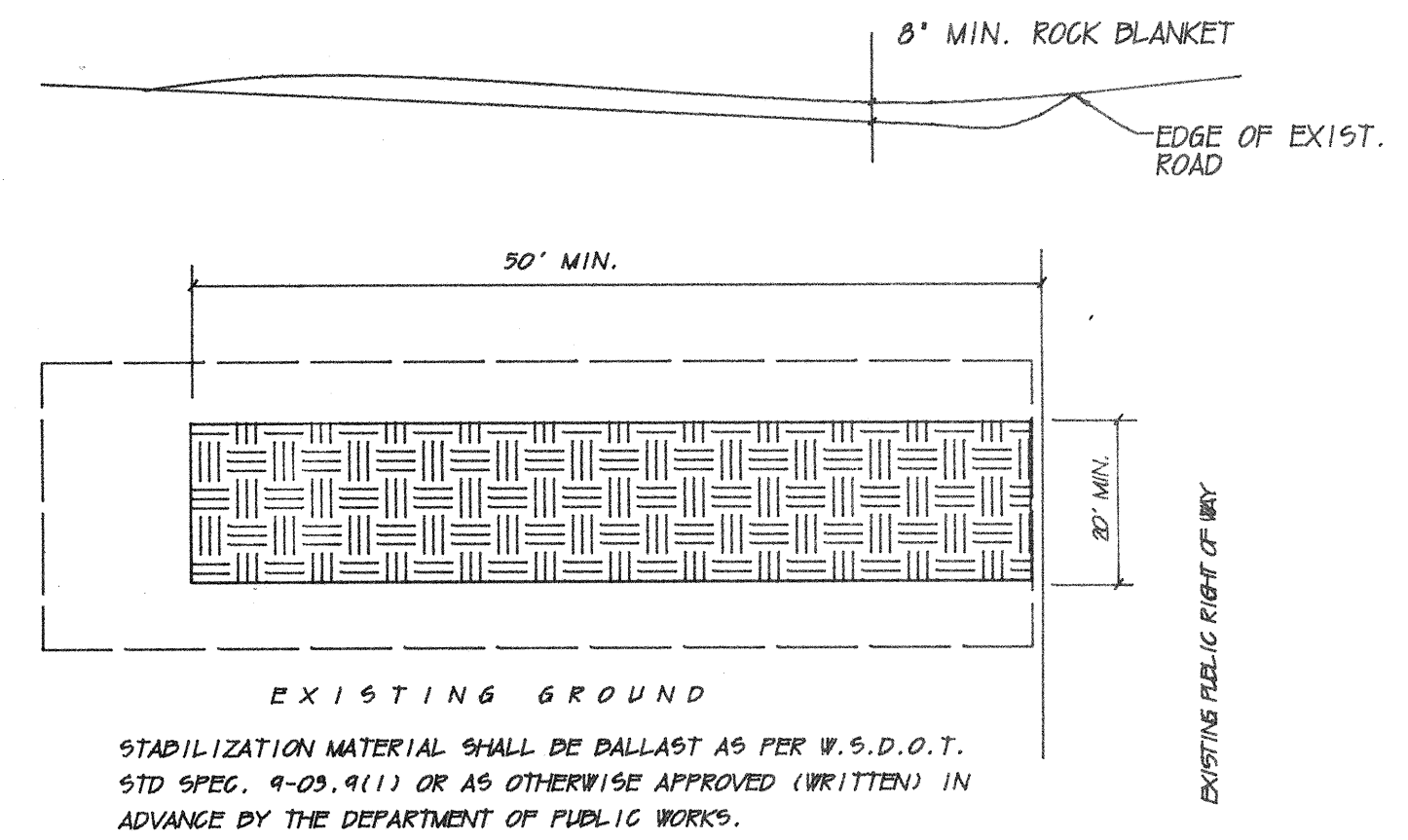
T. E. S. G. P. NOTES

1. ALL LIMITS OF CLEARING AND AREAS OF VEGETATION PRESERVATION AS DELINEATED ON THE PLANS SHALL BE CLEARLY MARKED IN THE FIELD AND MONITORED DURING CONSTRUCTION.
2. ALL REQUIRED SEDIMENTATION / EROSION CONTROL FEATURES MUST BE CONSTRUCTED AND IN OPERATION PRIOR TO LAND CLEARING AND/OR OTHER CONSTRUCTION TO INSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER THE NATURAL DRAINAGE SYSTEM. ALL EROSION AND SEDIMENT FACILITIES SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED AND POTENTIAL FOR ON-SITE EROSION HAS ABATED. THE IMPLEMENTATION, MAINTENANCE, REPLACEMENT, AND ADDITIONS TO THE EROSION/SEDIMENTATION CONTROL SYSTEM SHALL BE THE RESPONSIBILITY OF THE PERMITTEE.
3. THE EROSION/SEDIMENTATION CONTROL SYSTEMS DEPICTED ON THIS DRAWING ARE INTENDED TO BE MINIMUM REQUIREMENTS TO MEET ANTICIPATED SITE CONDITIONS. AS CONSTRUCTION PROGRESSES AND/OR UNEXPECTED OR SEASONAL CONDITIONS DICTATE, THE PERMITTEE SHOULD ANTICIPATE THAT ADDED EROSION/SEDIMENTATION CONTROL FEATURES MAY BE NEEDED TO INSURE FULL SILTATION CONTROL ON SITE. IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE PERMITTEE TO RESPOND TO ANY SUCH CHANGED CONDITIONS THAT MAY OCCUR, AND TO PROVIDE ADDITIONAL FEATURES OVER AND ABOVE THE MINIMUM REQUIREMENTS DURING THE COURSE OF CONSTRUCTION. THE INTENT AT ALL TIMES IS TO PROVIDE EROSION/SEDIMENTATION FACILITIES AS MAY BE NEEDED TO PROTECT ADJACENT PROPERTIES AND THE WATER QUALITY OF THE RECEIVING DRAINAGE SYSTEM.
4. APPROVAL OF THIS PLAN IS FOR EROSION/SEDIMENTATION CONTROL ONLY. IT DOES NOT CONSTITUTE AN APPROVAL OF THE STORM DRAINAGE DESIGN, SIZE, NOR LOCATION OF PIPES, RESTRICTORS, CHANNELS AND/OR RETENTION FACILITIES UNLESS SPECIFICALLY NOTED.
5. ALL DISTURBED AREAS WHICH HAVE BEEN STRIPPED OF VEGETATION AND WHERE NO WORK IS ANTICIPATED FOR A PERIOD OF 30 DAYS OR MORE MUST BE IMMEDIATELY STABILIZED WITH MULCHING, GRASS PLANTING, OR OTHER APPROVED EROSION CONTROL TREATMENT APPLICABLE TO THE SEASONAL CONDITIONS AT THE TIME. GRASS SEEDING ALONE WILL BE ACCEPTABLE ONLY DURING THE MONTHS OF APRIL THRU SEPTEMBER INCLUSIVE. SEEDING MAY PROCEED, HOWEVER, WHENEVER IT IS IN THE INTEREST OF THE PERMITTEE, BUT MUST BE AUGMENTED WITH MULCHING, MATTING (NETTING), OR OTHER TREATMENT APPROVED BY THE DEPARTMENT OF PUBLIC WORKS, EVEN THOUGH OUTSIDE THE TIME PERIOD SPECIFIED.
6. A MINIMUM 3-FT HIGH FENCE IS REQUIRED FOR ALL EROSION/SEDIMENTATION CONTROL PONDS WHERE THE DEAD STORAGE DEPTH EXCEEDS 6 INCHES.



SILTATION FENCE DETAIL

NOT TO SCALE



STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

PURPOSE

THIS MEASURE IS A STABILIZED PAD OF CRUSHED STONE OR HOG FUEL LOCATED AT ANY POINT WHERE TRAFFIC WILL BE ENTERING OR LEAVING THE CONSTRUCTION SITE TO REDUCE OR ELIMINATE THE TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY.

CONDITIONS WHERE PRACTICE APPLIES

A STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSTALLED AT ALL LOCATIONS WHERE CONSTRUCTION TRAFFIC ENTERS AND DEPARTS FROM THE SITE.

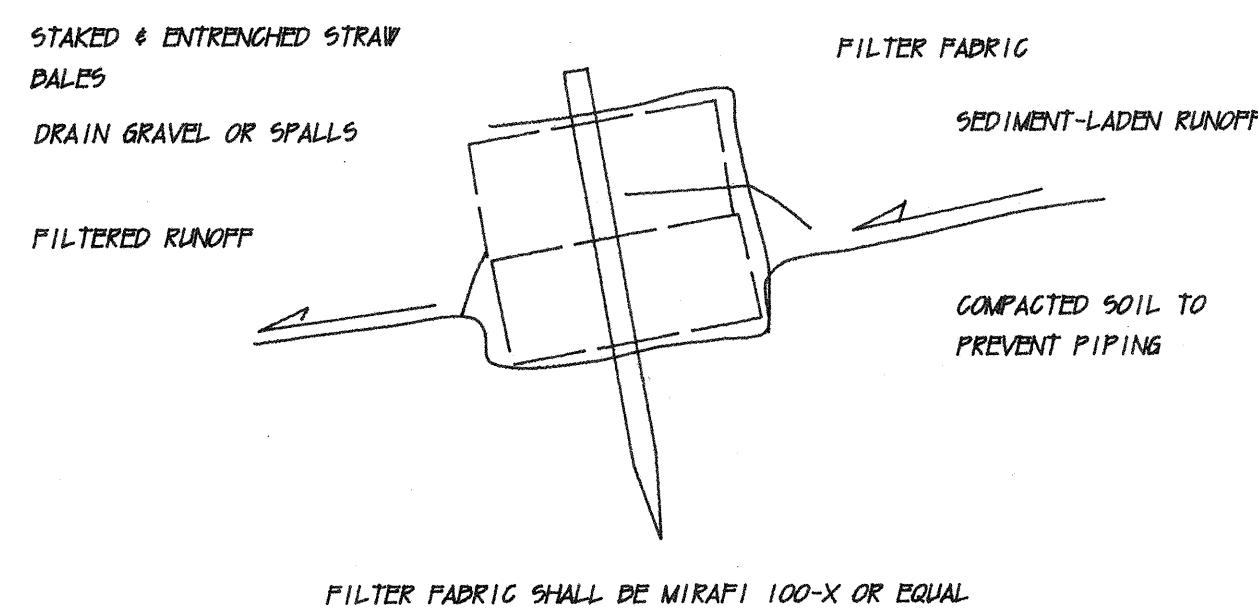
SPECIFICATION

BALLAST SHALL BE CRUSHED STONE, 2 1/2 INCHES TO 1 1/4 INCHES GRADATION. THICKNESS OF ROCK MAT SHALL BE NOT LESS THAN 8 INCHES. WIDTH OF ROCK MAT SHALL BE NOT LESS THAN 20 FEET AT ANY LOCATION. LENGTH OF ROCK MAT SHALL BE 50 FT MINIMUM.

THE STABILIZED ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS OF WAY. PERIODIC TOP-DRESSING OF STONE WILL BE FURNISHED AT ANY TIME AND LOCATION WHERE THE MAT IS INEFFECTIVE. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS DIRECTLY INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT POND.

NOTES:

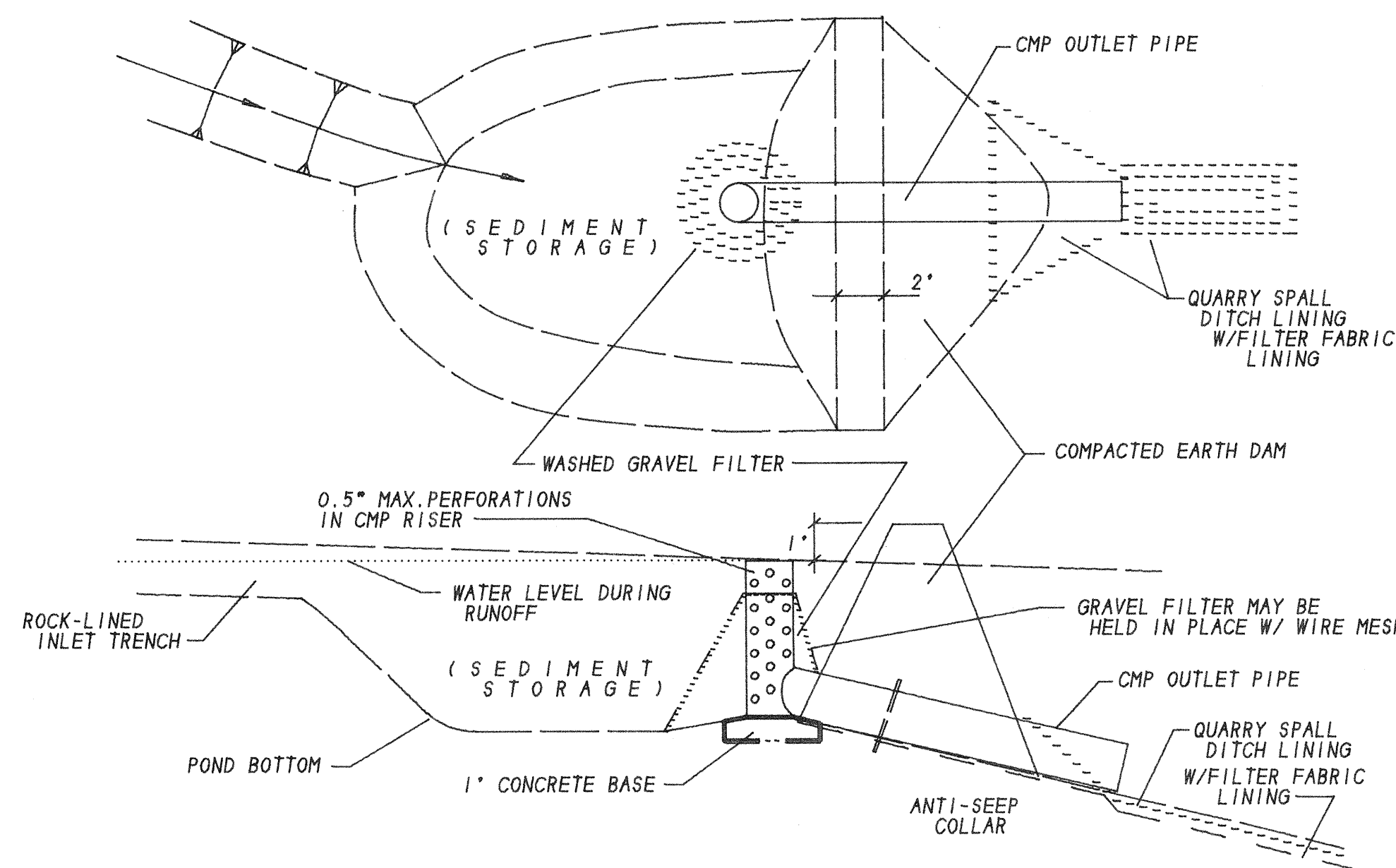
1. QUARRY SPALL LINING SHALL BE 4" (-)
2. COMPACTED EARTH DAM SHALL BE CLAY-RICH MATERIAL COMPACTED TO 95% RELATIVE DENSITY. HAND COMPACTION IS REQUIRED TO FINISH IF NECESSARY.
3. VOLUME OF SEDIMENT TRAP IS SHOWN ON THE PLANS AT EACH LOCATION. LIMITS OF WORK SHALL BE SET IN FIELD BY THE ENGINEER.
4. LENGTH OF BASIN MUST BE AT LEAST 3 TIMES THE WIDTH.
5. ALL RUNOFF SHALL BE INTERCEPTED AT THE UPSTREAM END OF THE BASIN.



TYPICAL - STAKE BALES AS NECESSARY TO HOLD POSITION, 2 STAKES PER DALE
1 - FT MINIMUM FREEBOARD

STRAW DALE SILTATION CONTAINMENT

NOT TO SCALE



TYPICAL SEDIMENT BASIN

NOT TO SCALE

DATE	NO.	REVISION	BY

BURTON F. REANIER, PE, PLS
111 EVERETT MALL WAY, EVERETT, WASHINGTON 98208
206 348 6700

EROSION CONTROL DETAILS

HILLCREST GLEN

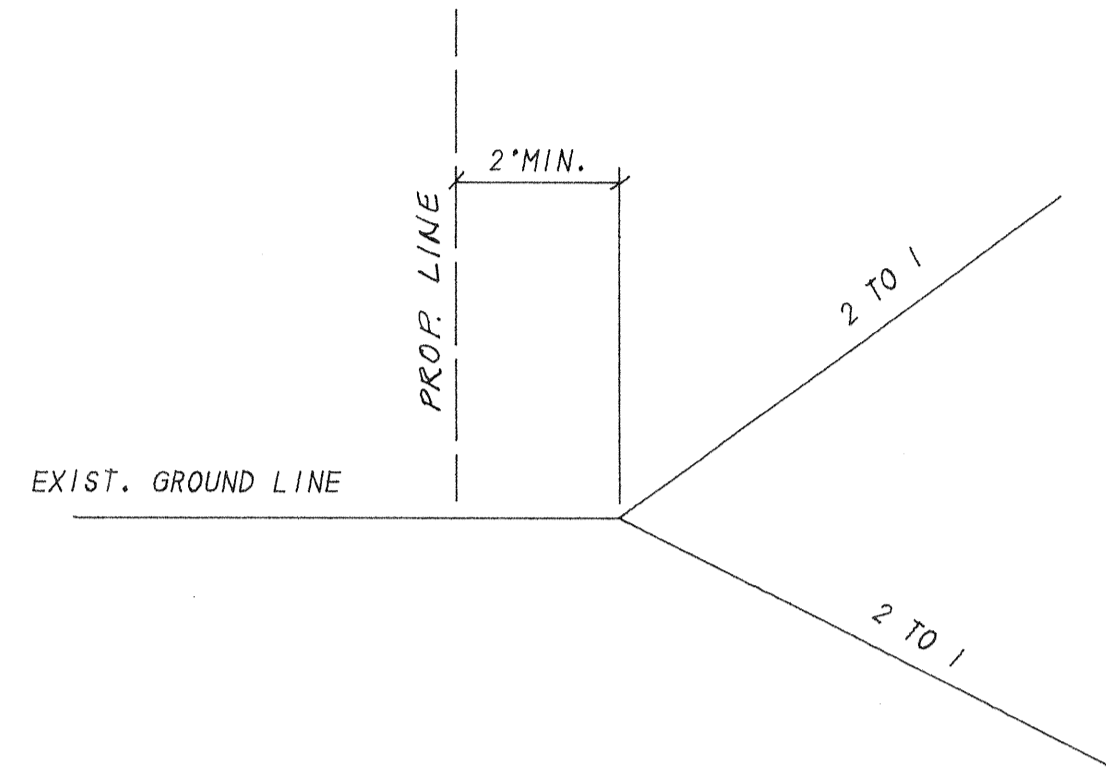
DATE: 6/18/92	DESIGNER:	BFR	DWN:	BFR
FILE: RSECTS	SHT 3 OF 8			



SE 1/4, SEC 5, T. 27N., R. 5 E., W.M.

GENERAL DRAINAGE NOTES

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF MILL CRK STANDARDS AND SPECIFICATIONS, AND WASHINGTON STATE DEPARTMENT OF TRANSPORTATION 1991 STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION. AND THE 1989 WSDOT HYDRAULICS MANUAL.
2. ALL WORK WITHIN THE SITE AND CITY RIGHT-OF-WAY SHALL BE SUBJECT TO THE INSPECTION OF THE CITY ENGINEER OR DESIGNATED REPRESENTATIVE.
3. PRIOR TO ANY SITE WORK, THE CONTRACTOR SHALL CONTACT THE CITY ENGINEER TO SCHEDULE A PRECONSTRUCTION CONFERENCE. ENGINEERED AS-BUILT PLANS SHALL BE COMPILED TO REFLECT FIELD CHANGES AND SUBMITTED TO THE CITY PRIOR TO FINAL APPROVAL.
4. THE TEMPORARY EROSION/SEDIMENTATION CONTROL FACILITY SHALL BE CONSTRUCTED PRIOR TO ANY GRADING OR EXTENSIVE LAND CLEARING IN ACCORDANCE WITH THE APPROVED TEMPORARY EROSION/SEDIMENTATION CONTROL PLAN. THESE FACILITIES MUST BE SATISFACTORILY MAINTAINED UNTIL CONSTRUCTION AND LANDSCAPING IS COMPLETED AND THE POTENTIAL FOR ON-SITE EROSION HAS PASSED.
5. UNLESS OTHERWISE NOTED, ALL STORM SEWER PIPE SHALL BE CONCRETE (CP) NONREINFORCED, ASTM C-14 (24" DIAMETER AND LARGER TO BE REINFORCED, ASTM C-76), OR CORRUGATED METAL (CMP). ALL PIPE SHALL HAVE RUBBER GASKETS.
6. ALL PIPE SHALL BE PLACED ON STABLE EARTH, OR IF IN THE OPINION OF THE CITY ENGINEER THE EXISTING FOUNDATION IS UNSATISFACTORY, THEN IT SHALL BE EXCAVATED BELOW GRADE AND BACK FILLED IN ACCORDANCE WITH STANDARD SPECIFICATIONS. NEVER INSTALL PIPE ON SOIL, FROZEN EARTH, LARGE BOULDERS OR ROCK.
7. THE BACKFILL SHALL BE PLACED EQUALLY ON BOTH SIDES OF THE PIPE OR PIPE-ARCH IN LAYERS WITH A LOOSE AVERAGE DEPTH OF 6-INCHES, MAXIMUM DEPTH 8-INCHES, THOROUGHLY TAMPING EACH LAYER. THESE COMPACTED LAYERS MUST EXTEND FOR ONE DIAMETER ON EACH SIDE OF THE PIPE OR TO THE SIDE OF THE TRENCH. MATERIALS TO COMPLETE THE FILL OVER THE PIPE SHALL BE THE SAME AS DESCRIBED. (REFER TO WSDOT STD. SPEC. 7-04.3(3) AND STD. SPEC. 2-03.3(14)G, METHOD D AND G.
8. ALL GRATES (INLET AND CATCH BASIN) SHALL BE DEPRESSIONED 0.1 FT BELOW PAVEMENT LEVEL.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL MANHOLE, INLET, AND CATCH BASIN FRAMES AND GRATES TO FINAL GRADE JUST PRIOR TO POURING OF CURBS AND PAVING.
10. ALL CATCH BASINS WITH DEPTH OVER 5.0 FEET TO THE FLOW LINE SHALL BE A TYPE 11 CB (MANHOLE).
11. ALL TYPE 11 CATCH BASIN MANHOLES AND ALL INLET AND CATCH BASINS OUTSIDE OF PUBLIC R.O.W. SHALL HAVE LOCKING LIDS.
12. ALL STRUCTURAL FILLS SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DENSITY BY MODIFIED PROCTOR TEST.
13. STANDARD LADDER STEPS SHALL BE PROVIDED IN ALL CATCH BASINS/MANHOLES EXCEEDING 4 FEET IN DEPTH.
14. CATCH BASIN FRAME AND GRATES SHALL BE PER MILL CREEK STD SMO3, STM 04, AND STM 05.
15. BACKFILL TRENCH OF NEW UTILITIES SHALL BE COMPACTED TO 95% RELATIVE COMPACTION UNDER ROADWAYS, AND 90% RELATIVE COMPACTION OFF ROADWAYS, AS SPECIFIED IN SECTION 2-03.3(14)D AND SECTION 2-03.3(14)D.
16. PRIOR TO SIDEWALK CONSTRUCTION, THE CITY ENGINEER WILL EVALUATE INDIVIDUAL LOT DRAINAGE AND DIRECT THE INSTALLATION OF CATCH BASIN STUD CUTS AND/OR BEHIND SIDEWALK FRENCH DRAINS AS REQUIRED. STUD-CUTS SHALL BE MARKED WITH A 2"X4" AND LABELED "STORM." LOCATIONS OF THESE INSTALLATIONS SHALL BE PLACED ON THE AS-BUILT CONSTRUCTION PLANS AND SUBMITTED TO THE CITY.
17. STORM WATER, PIPE SYSTEM, RETENTION/DETENTION FACILITIES MUST BE FLUSHED AND CLEANED PRIOR TO CITY OF MILL CREEK ACCEPTANCE.
18. PROVIDE AND MAINTAIN TEMPORARY SEDIMENTATION CONTROLS AT ALL TIMES OF ANY CONSTRUCTION TO INSURE SEDIMENT LADEN WATERS DO NOT ENTER THE NATURAL DRAINAGE SYSTEM.
19. ALL DISTURBED AREAS SUCH AS RETENTION FACILITIES, ROADWAY BACKSLOPES, ETC., SHALL BE SEEDED WITH A PERENNIAL GROUND COVER GRASS TO MINIMIZE EROSION. GRASS SEEDING WILL BE DONE USING AN APPROVED HYDROSEEDER OR AS OTHERWISE APPROVED BY CITY OF MILL CRK. EXPOSED EARTH NOT WORKED FOR 30 DAYS SHALL BE SEEDED.
20. ALL EARTH WORK SHALL BE PERFORMED IN ACCORDANCE WITH CITY STANDARDS. PRECONSTRUCTION SOILS INVESTIGATION MAY BE REQUIRED TO EVALUATE SOILS STABILITY.
21. IF CUT AND FILL SLOPES EXCEED A MAXIMUM OF TWO FEET HORIZONTAL TO ONE FOOT VERTICAL, A ROCK OR CONCRETE RETAINING WALL MAY BE REQUIRED. ALL ROCK RETAINING WALLS GREATER THAN EIGHT(8) FEET IN HEIGHT ARE TO FOLLOW CITY SPECIFICATIONS AND ARE TO BE DESIGNED AND CERTIFIED BY A LICENSED CIVIL ENGINEER EXPERIENCED IN SOIL MECHANICS.
22. STOCKPILES ARE TO BE LOCATED IN SAFE AREAS, AND ADEQUATELY PROTECTED BY TEMPORARY SEEDING AND MULCHING, HYDRO-SEED PREFERRED, SILTATION FENCED.
23. IMMEDIATELY FOLLOWING FINISH GRADING, PERMANENT VEGETATION (CONSISTING OF RAPID, PERSISTENT AND LEGUME) WILL BE APPLIED. (MINIMUM 80# PER ACRE) THIS IS TO INCLUDE THE FOLLOWING: 20% ANNUAL, PERENNIAL, OR HYBRID RYE GRASS; 40 CREEPING RED FESCUE; 40% WHITE CLOVER. HYDRO-SEED PREFERRED.
24. FERTILIZER: SHALL BE APPLIED AT 400# PER ACRE OF 10-20-20 (10 POUNDS PER 100 SQUARE FEET) OR EQUIVALENT.
25. PREPARATION OF SURFACE: ALL AREAS TO BE SEEDED SHALL BE CULTIVATED TO THE SATISFACTION OF THE CITY ENGINEER. THIS MAY BE ACCOMPLISHED BY DISCING, RAKING, OR HARROWING, OR OTHER ACCEPTABLE MEANS.
26. SITE CONSTRUCTION ACCEPTANCE: WILL BE SUBJECT TO A WELL ESTABLISHED GROUND COVER THAT FULFILLS THE REQUIREMENT OF THE APPROVED CONSTRUCTION PLANS AND CITY OF MILL CREEK STANDARDS.

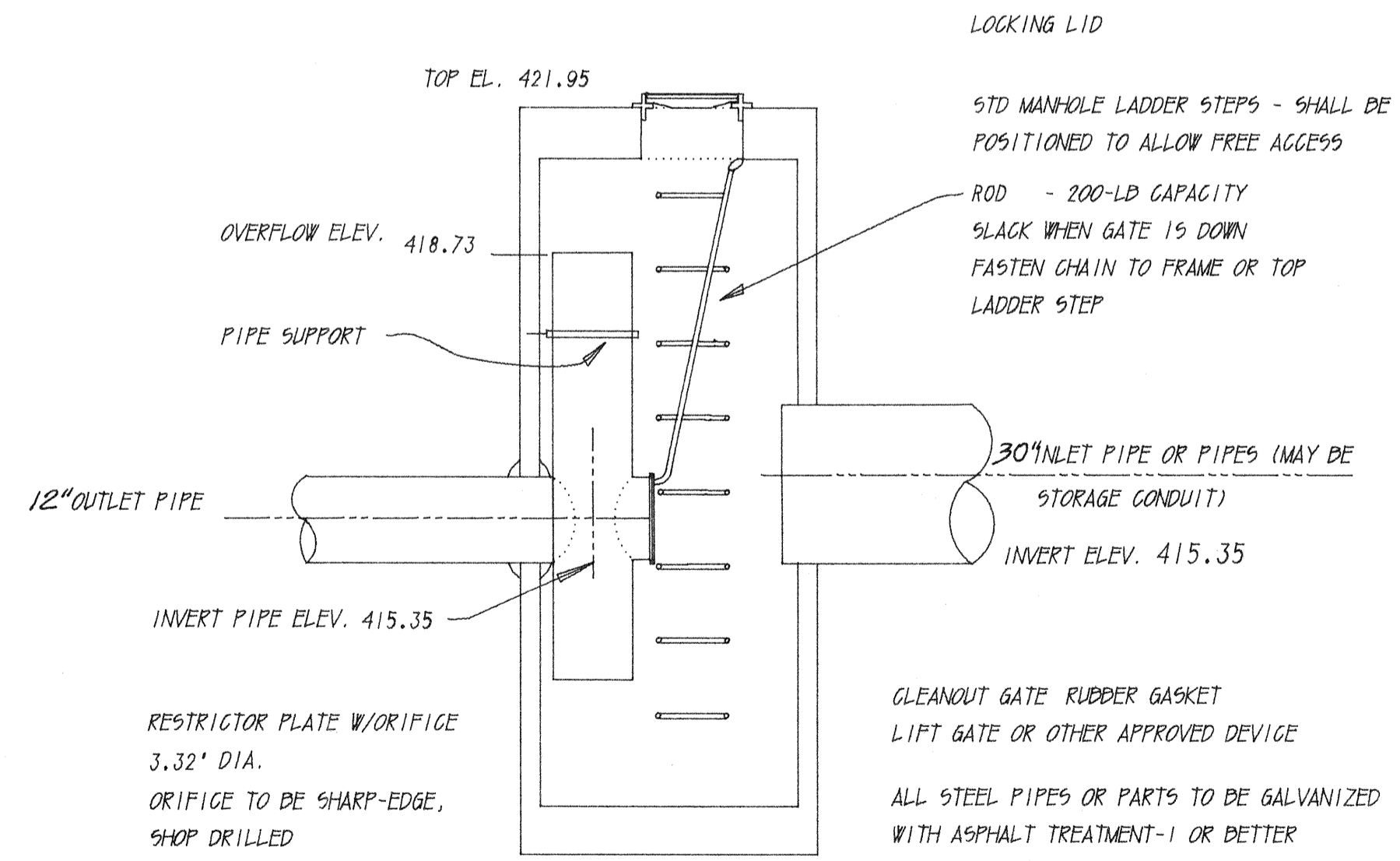


TYPICAL CROSS SECTION
MIN. 2-FT SETBACK FOR
CUTS AND FILLS

NTS
TAKEN FROM UBC, 1985 ED., CH. 70, SEC. 7011

NOTES:

1. PIPE SIZES AND SLOPES AS PER PLANS.
2. THE OUTLET PIPE FLOW CAPACITY SHALL BE NOT LESS THAN THE COMBINED INLET FLOW QUANTITY.
3. METAL PARTS SHALL BE CORROSION RESISTANT - GALVANIZED OR ALUMINIZED, TYPE 2. ANY GALVANIZED STEEL PARTS SHALL BE ASPHALT TREATED.
4. MANHOLE STEPS OR LADDER SHALL BE POSITIONED SO THAT THE CLEANOUT GATE IS VISIBLE FROM THE TOP. CLEANDOWN SPACE SHALL BE CLEAR OF THE CONTROL RISER AND CLEANOUT GATE.
5. THE ORIFICE SHALL BE SHOP DRILLED, SHARP EDGED AND REMOVEABLE FOR INSPECTION OR CHANGE.



TYPE 11 CATCH BASIN - 72-INCH DIA.

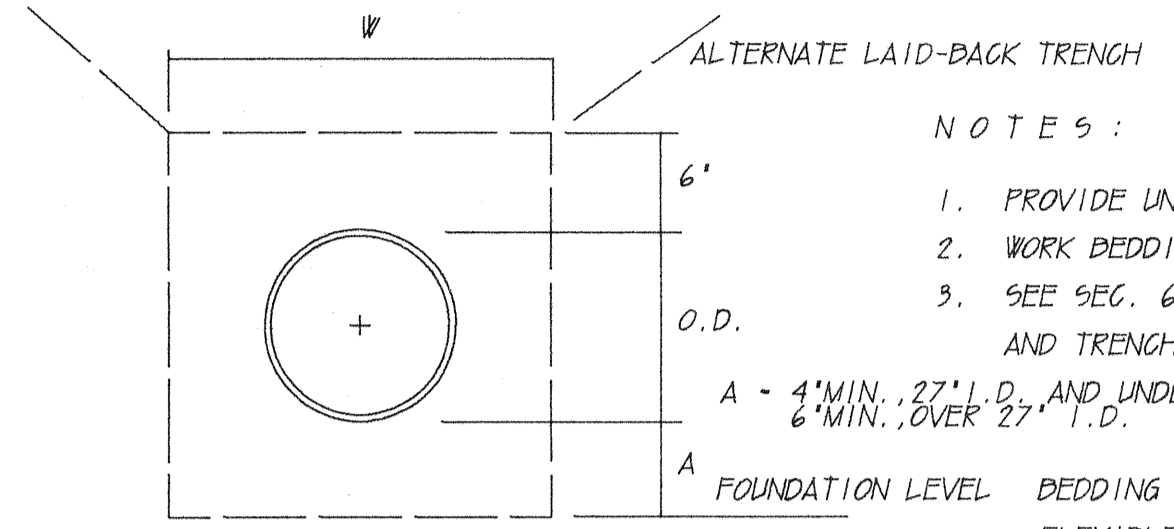
OUTLET CONTROL MANHOLE
AND DEVICE DETAIL-1+72LT
PER MILL CREEK STD SMO7A

NOT TO SCALE

APPROVED FOR CONSTRUCTION:
CITY OF MILL CREEK, CITY ENGINEER.

BY: _____ DATE _____

DATE	NO.	REVISION	BY



NOTES:

1. PROVIDE UNIFORM SUPPORT UNDER PIPE BARREL.
 2. WORK BEDDING UNDER PIPE HAUNCHES.
 3. SEE SEC. 61.3 FOR TRENCH WIDTH-'W' AND TRENCHING OPTIONS.
- A - 4" MIN., 27" I.D., AND UNDER
6" MIN., OVER 27" I.D.
- FOUNDATION LEVEL BEDDING MATERIAL, TYPE 2 FLEXIBLE PIPE, SEE 61.2.03 BELOW FOR GRADATION.

61-3. EXCAVATION.

61-3.01. GENERAL. THE LENGTH OF TRENCH EXCAVATION IN ADVANCE OF PIPE LAYING SHALL BE KEPT TO A MINIMUM AND IN NO CASE SHALL EXCEED 150 FEET UNLESS SPECIFICALLY AUTHORIZED BY THE ENGINEER.

THE MAXIMUM PERMISSIBLE TRENCH WIDTH BETWEEN THE FOUNDATION LEVEL AND THE TOP OF THE ZONE SHALL BE 40 INCHES FOR PIPE 15 INCHES OR SMALLER INSIDE DIA., OR 1-1/2 I.D. PLUS 18 INCHES FOR PIPE 18 INCHES OR LARGER. IF THE MAXIMUM TRENCH WIDTH IS EXCEEDED WITHOUT WRITTEN AUTHORIZATION OF THE ENGINEER, THE CONTRACTOR SHALL BE REQUIRED AT HIS OWN EXPENSE TO PROVIDE PIPE OF HIGHER STRENGTH CLASSIFICATION OR TO PROVIDE A HIGHER CLASS OF BEDDING AS REQUIRED BY THE ENGINEER.

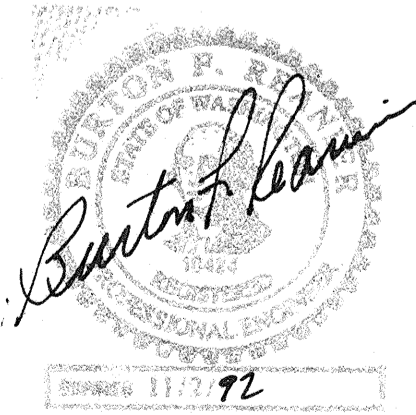
TRENCHES MUST BE OF SUFFICIENT WIDTH TO PERMIT PROPER INSTALLATION OF THE PIPE AND BEDDING BUT NEED NOT BE WIDER THAN THE PIPE INSIDE DIA. PLUS 24 INCHES FOR PIPE 24 INCHES I.D. OR SMALLER, OR INSIDE DIA. PLUS 36 INCHES FOR PIPE LARGER THAN 24 INCHES. ABOVE THE TOP OF THE PIPE ZONE, THE CONTRACTOR MAY EXCAVATE TO WHATEVER WIDTH HE CHOOSES WITHIN SAFETY REGULATIONS. EXCAVATION FOR MANHOLES AND OTHER STRUCTURES CONNECTED TO THE PIPELINES SHALL BE SUFFICIENT TO PROVIDE A MINIMUM OF 12 INCHES BETWEEN THE OUTER STRUCTURE SURFACE AND THE EXCAVATION.

ALL MATERIAL EXCAVATED FROM TRENCHES AND PILED ADJACENT TO THE TRENCH SHALL BE PLACED AND MAINTAINED SO THAT THE TOE OF THE PILED MATERIAL IS AT LEAST TWO FEET FROM THE EDGE OF THE TRENCH. IT SHALL BE PILED IN SUCH A MANNER AS WILL CAUSE A MINIMUM OF INCONVENIENCE TO PUBLIC TRAVEL, AND PROVISION SHALL BE MADE FOR MERGING TRAFFIC WHERE NECESSARY. FREE ACCESS SHALL BE PROVIDED TO ALL FIRE HYDRANTS, WATER VALVES AND METERS, AND CLEARANCE SHALL BE ALLOWED FOR FREE FLOW OF STORM WATER IN GUTTERS, CONDUITS, OR NATURAL WATERCOURSES.

61.2.03 BEDDING MATERIAL TYPE 2, FLEXIBLE

PASSING 3/4" SQUARE SIEVE	100 %
PASSING 1/2" "	70-100
PASSING # 4 SIEVE	55-100
PASSING # 10 SIEVE	35-95
PASSING # 20 SIEVE	20-80
PASSING # 40 SIEVE	10-55
PASSING # 100 SIEVE	0-10
PASSING # 200 SIEVE	0-3
SAND EQUIVALENT	35 MINIMUM

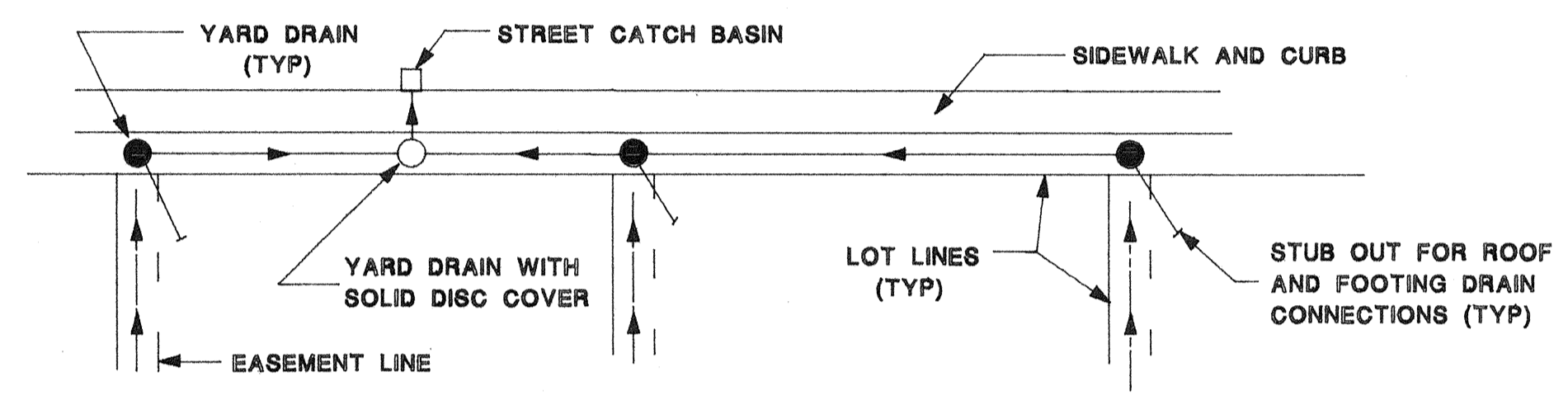
TYPE "F": BEDDING FOR PIPE IN TRENCHES
NOT TO SCALE



BURTON F. REANIER, PE, PLS 111 EVERETT MALL WAY, EVERETT, WASHINGTON 98208		
NOTES AND DETAILS HILL CREST GLEN		
DATE: July 92	DESIGNER: SL	DWN: EL
SURVEY: F.B.	SHT 5 OF 8	

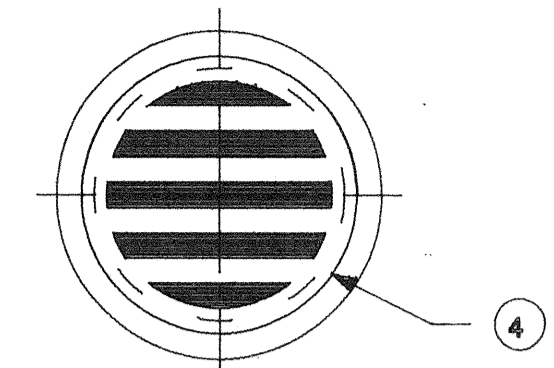
NOTES:

1. YARD DRAINS TO BE CONSTRUCTED FROM CONCRETE PIPE, IN ACCORDANCE WITH ASTM C 14 UNLESS OTHERWISE SHOWN ON THE PLANS OR NOTED IN THE SPECIFICATIONS.
2. CUTOUT HOLE SIZE IS EQUAL TO OUTLET PIPE OUTSIDE DIAMETER PLUS YARD DRAIN WALL THICKNESS.
3. CONNECTION TO OUTLET PIPE TO BE MORTARED AND MADE FLUSH WITH INSIDE OF THE YARD DRAIN WALL.
4. CAST IRON BELL GRATE. FITS INTO BELL RECESS AND EXTENDS FLUSH WITH FACE OF BELL. THE GRATE SHALL HAVE SLOTS (HOLES) THAT CONSTITUTE 50 PERCENT OPEN AREA FOR DRAINAGE. INLET BELL SURFACE SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITION.
5. WASHED DRAIN ROCK. 6 INCHES MINIMUM DEPTH.
6. VARIES 12 INCHES OR 18 INCHES.
7. SPECIAL CAST YARD DRAIN MAY BE REQUIRED FOR MULTIPLE PIPE CONNECTIONS.

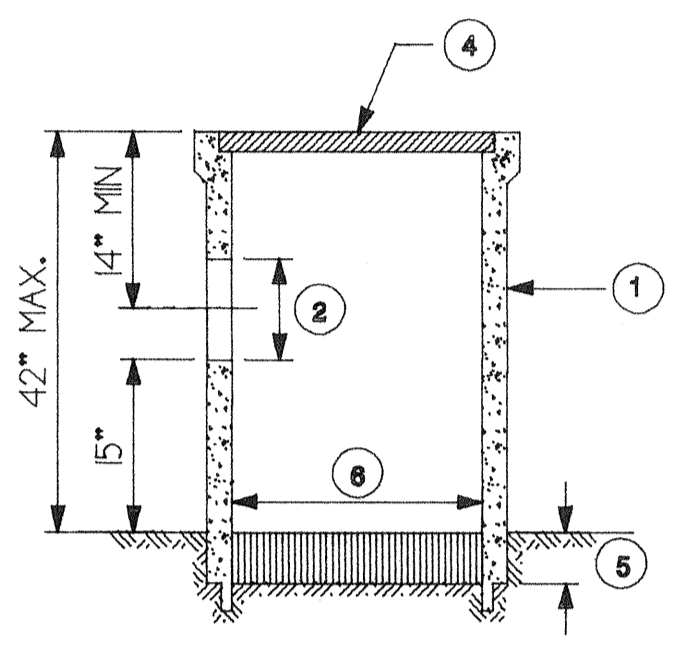


TYPICAL LOT PLACEMENT

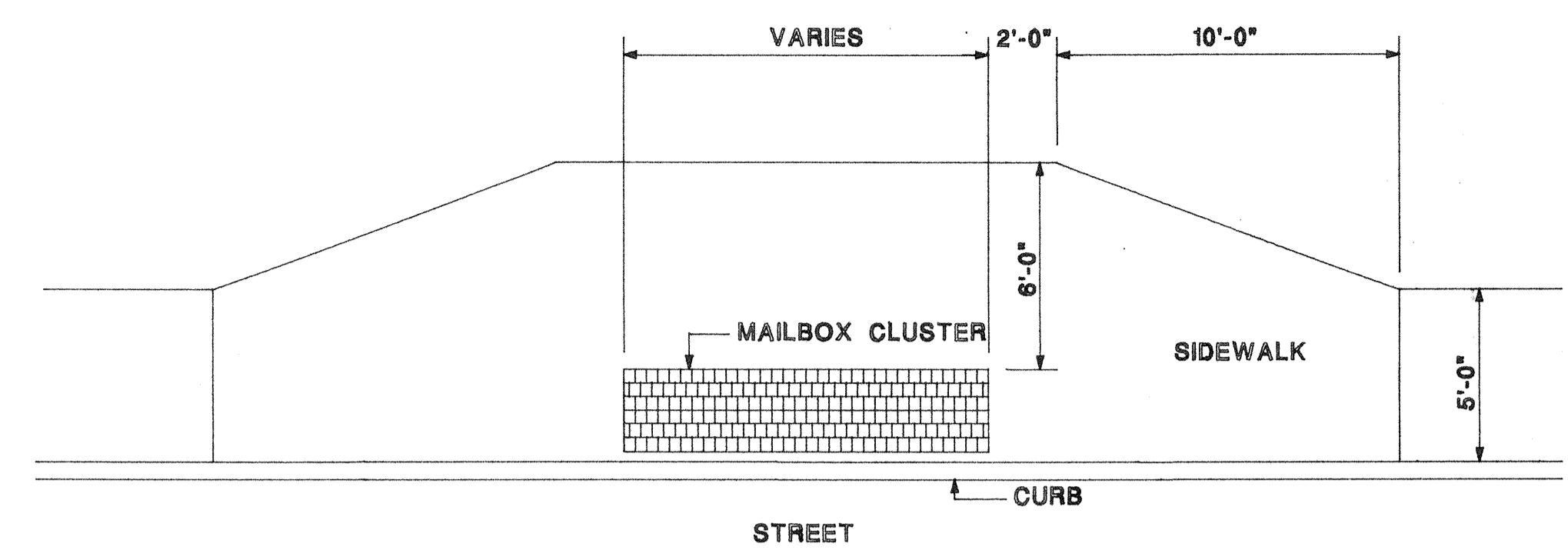
YARD DRAIN CONNECTIONS



PLAN VIEW

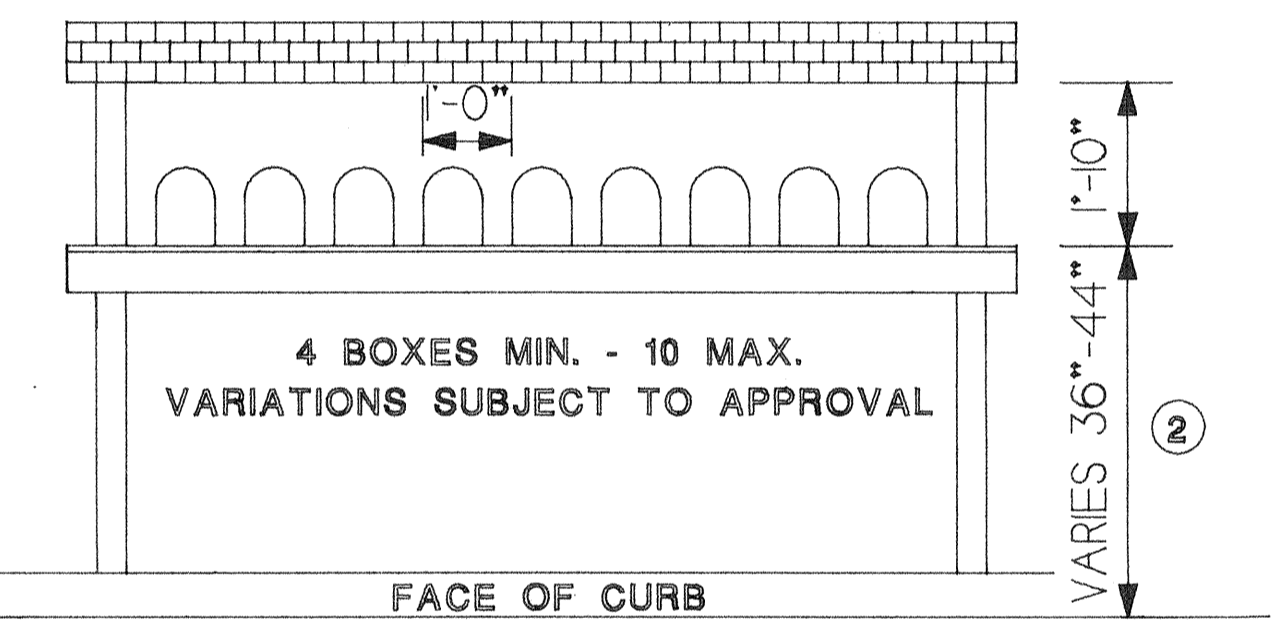


ELEVATION VIEW

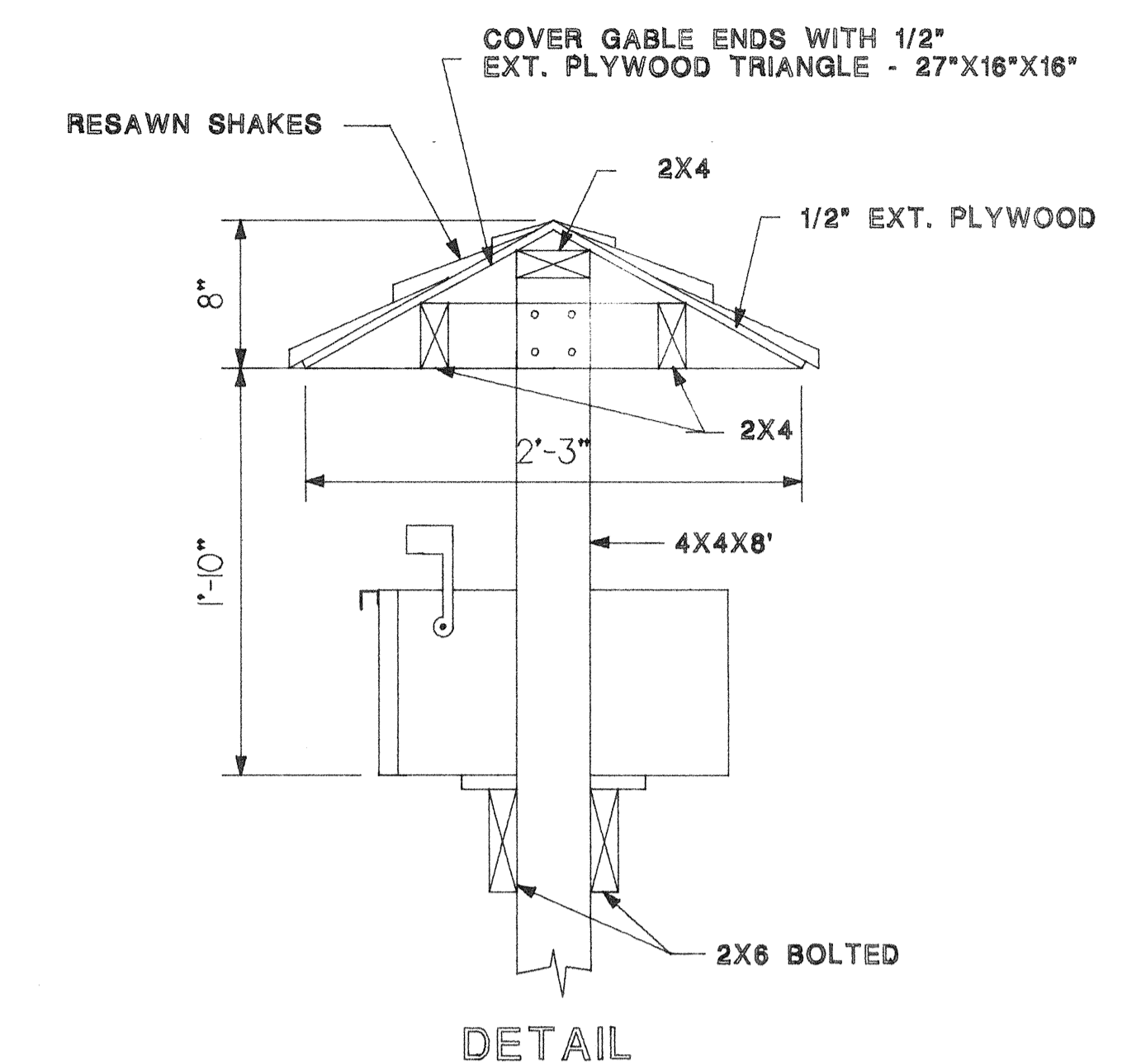


NOTES:

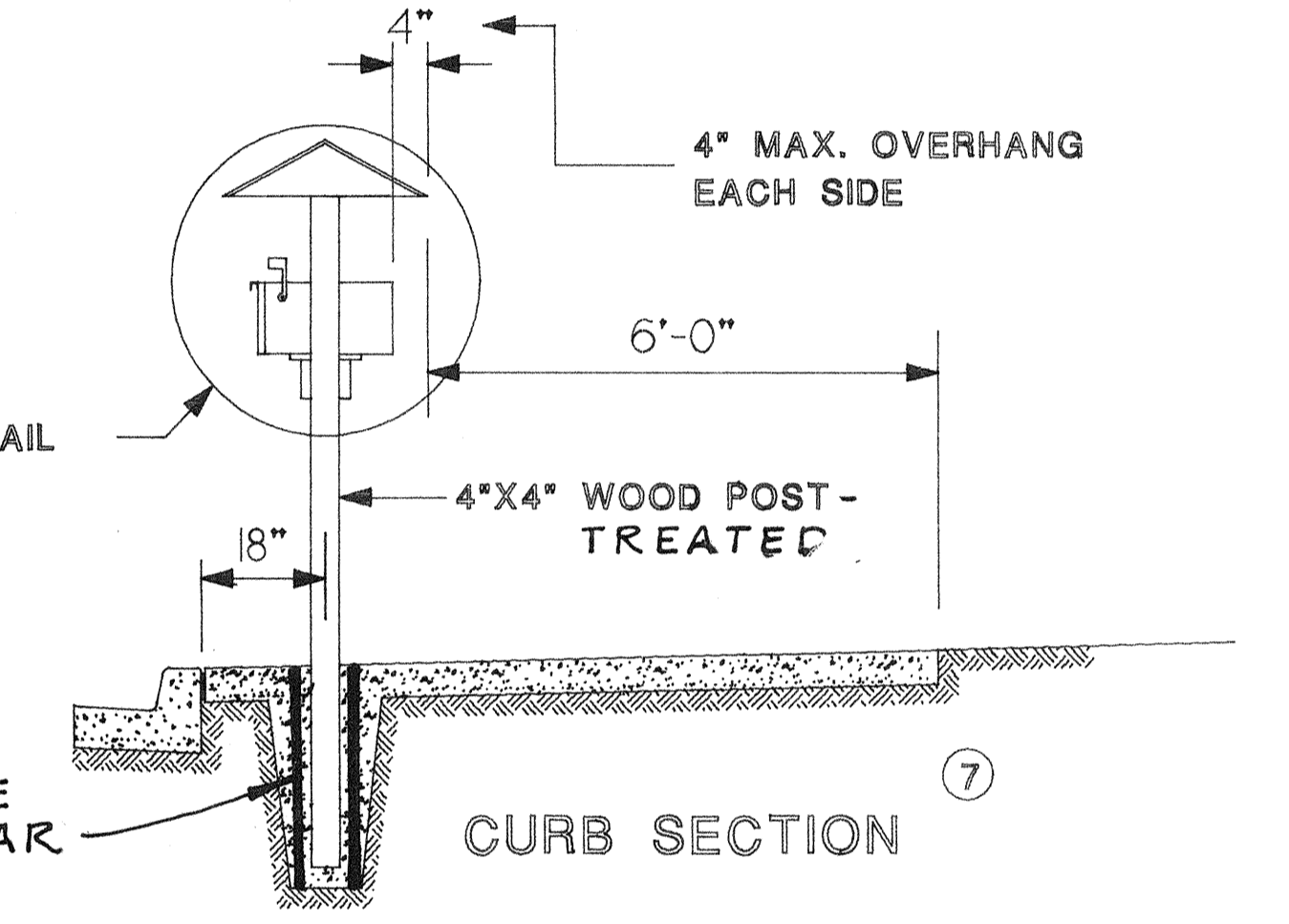
1. FOR ACCESS AND SUBCOLLECTOR STREETS WHERE THE POSTED SPEED LIMIT IS 25 MPH OR LESS. FOR ALL OTHER STREETS, MAILBOX TURNOUTS CONFORMING TO STD DWG 6-156 WILL BE REQUIRED.
2. MAILBOX HEIGHT VARIES ACCORDING TO THE TYPE OF DELIVERY VEHICLE. WHERE MAIL DELIVERY IS ACCOMPLISHED BY MAIL TRUCKS ("MOUNTED" ROUTES), THE MAILBOX HEIGHTS SHALL BE 44 INCHES. WHERE MAIL DELIVERY IS ACCOMPLISHED BY PASSENGER VEHICLE ("RURAL" ROUTES), THE MAILBOX HEIGHT SHALL BE 36 TO 38 INCHES. THESE HEIGHTS WILL BE DETERMINED BY THE POSTMASTER DURING PLAN REVIEW.
3. MAILBOXES MUST BE POSTMASTER APPROVED WITH A UNIFORM BOX STYLE AND METHOD OF ADDRESS IDENTIFICATION.
4. LOCATIONS OF MAILBOXES ARE SUBJECT TO APPROVAL BY THE COUNTY FOR PROTECTION OF VIEWS AND ACCESS.
5. THIS DRAWING DEPICTS A MINIMUM STRUCTURAL AND DIMENSIONAL STANDARD. ALTERNATIVE DESIGNS WILL REQUIRE APPROVAL BY THE ENGINEER.
6. ALL WOOD TO BE PRESSURE TREATED FIR OR HEMLOCK.
7. FOR MAILBOX CLUSTER LOCATION IN SHOULDER SECTION, REFER TO STANDARD DRAWING 6-150, SHOULDER SECTION.



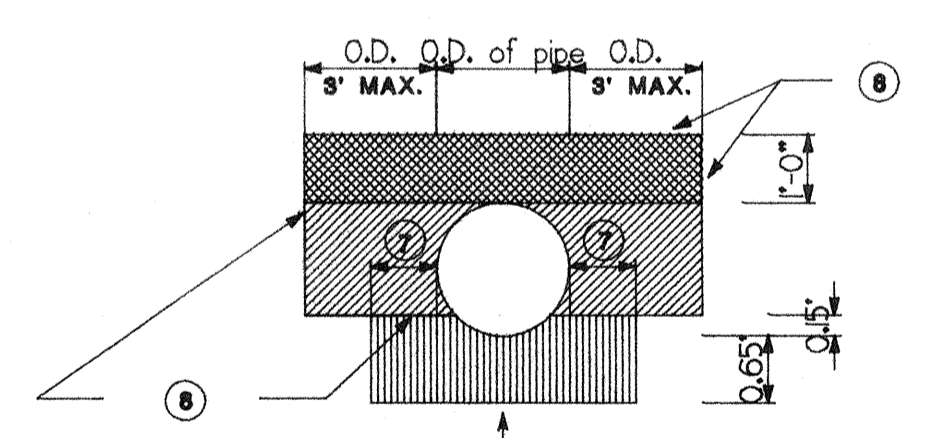
MAILBOX CLUSTER - WOOD STRUCTURE



DETAIL

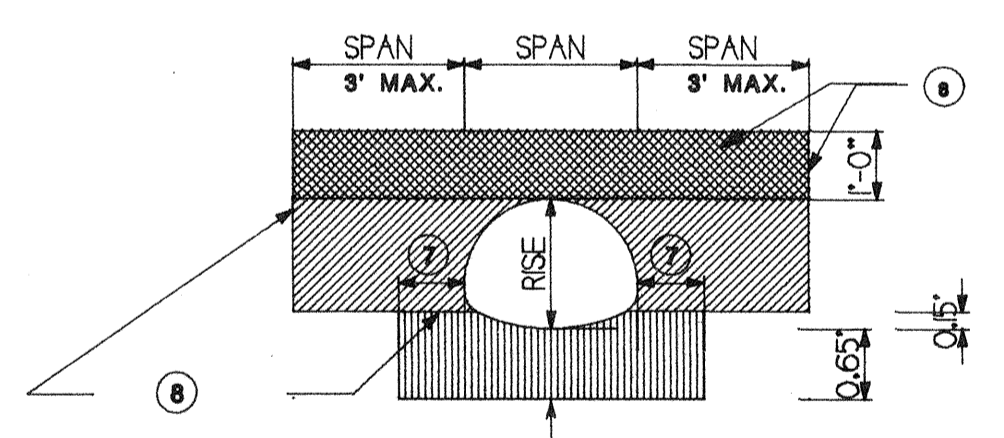


CURB SECTION



DESIGN A

(For Metal, Concrete and Corrugated Polyethylene Type S (CCP-S))

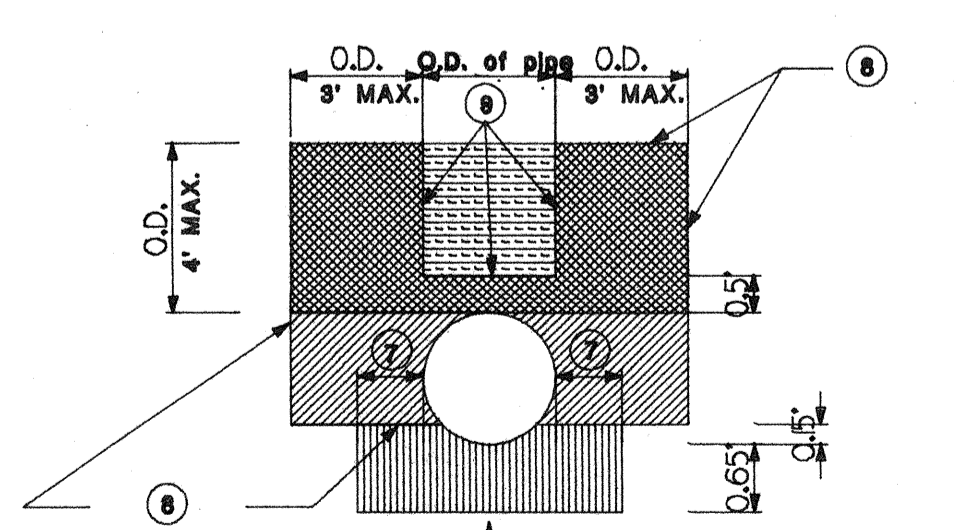


TYPICAL PIPE-ARCH INSTALLATION

**LEGEND
PIPE COMPACTION ZONE**

- ZONE 1. BACKFILL MATERIAL PLACED IN 0.5' LOOSE LAYERS AND COMPACTED TO 95% MAXIMUM DENSITY.
- ZONE 2. METHOD B OR C COMPACTION (WSDOT/APWA 2-03.3(14)C)
- ZONE 3. BALED STRAW OR HAY WITH WIRES OR STRINGS (DRY, COMMERCIAL QUALITY)
- GRAVEL BACKFILL FOR PIPE BEDDING.

WSDOT/APWA PLAN B-11



DESIGN C

(For Concrete Pipe With Circular Reinforcement Only)

PIPE COMPACTION DESIGNS AND BACKFILL

**CLEARANCE BETWEEN PIPES
MULTIPLE INSTALLATIONS**

CIRCULAR PIPE	12" TO 24"	12"
CONCRETE, METAL & CCP-S	30" TO 96"	DIA./2
DESIGN A (DIAMETER)	102" TO 180"	48"
CIRCULAR PIPE	12" TO 36"	2XDIA.
CONCRETE ONLY	42" TO 96"	72"
DESIGN C (DIAMETER)	102" TO 180"	72"
PIPE - ARCH	18" TO 36"	12"
METAL ONLY (SPAN)	48" TO 142"	SPAN/3
	148" TO 198"	48"

PIPE COMPACTION DESIGNS AND BACKFILL

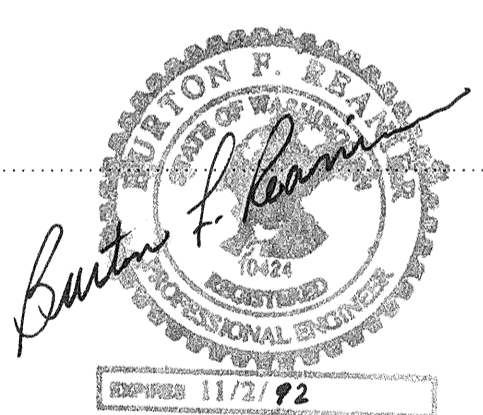
NOTES:

1. PIPE COMPACTION LIMITS SHOWN ON THIS PLAN ARE FOR PIPE CONSTRUCTION IN AN EMBANKMENT. FOR PIPE CONSTRUCTION IN A TRENCH, THE HORIZONTAL LIMITS OF THE PIPE COMPACTION ZONE SHALL BE THE WALLS OF THE TRENCH.
2. ALL STEEL AND ALUMINUM PIPE AND PIPE ARCHES AND CORRUGATED POLYETHYLENE PIPE, TYPE-S (CCP-S) SHALL BE INSTALLED IN ACCORDANCE WITH DESIGN A.
3. CONCRETE PIPE WITH ELLIPTICAL REINFORCEMENT SHALL BE INSTALLED IN ACCORDANCE WITH DESIGN A.
4. CONCRETE PIPE, PLAIN OR WITH CIRCULAR REINFORCEMENT, SHALL BE INSTALLED WITH DESIGN A OR A COMBINATION OF DESIGNS A AND C, AS DETERMINED BY THE ENGINEER.
5. FOR DESIGN C, IT IS ESSENTIAL THAT THE WALLS FOR ZONE 3 BE CONSTRUCTED AS NEAR VERTICAL AS POSSIBLE.
6. O.D. IS EQUAL TO THE OUTSIDE DIAMETER OF A PIPE OR THE OUTSIDE SPAN OF PIPE-ARCH. THE DIMENSIONS SHOWN AS O.D. WITH 3' AND 4' MAXIMUM SHALL BE O.D. UNTIL O.D. EQUALS 3' AND 4' AT WHICH POINT 3' AND 4' SHALL BE USED.
7. 1'-0" FOR DIAMETERS 12" THROUGH 42" AND FOR SPANS THROUGH 50". 2'-0" FOR DIAMETERS GREATER THAN 42" AND FOR SPANS GREATER THAN 50".
8. LIMITS OF PIPE COMPACTION.
9. LIMITS OF DESIGN C TRENCH CONSTRUCTION.

WSDOT/APWA PLAN B-11

APPROVED FOR CONSTRUCTION:
CITY OF MILL CREEK, CITY ENGINEER

BY: _____ DATE _____

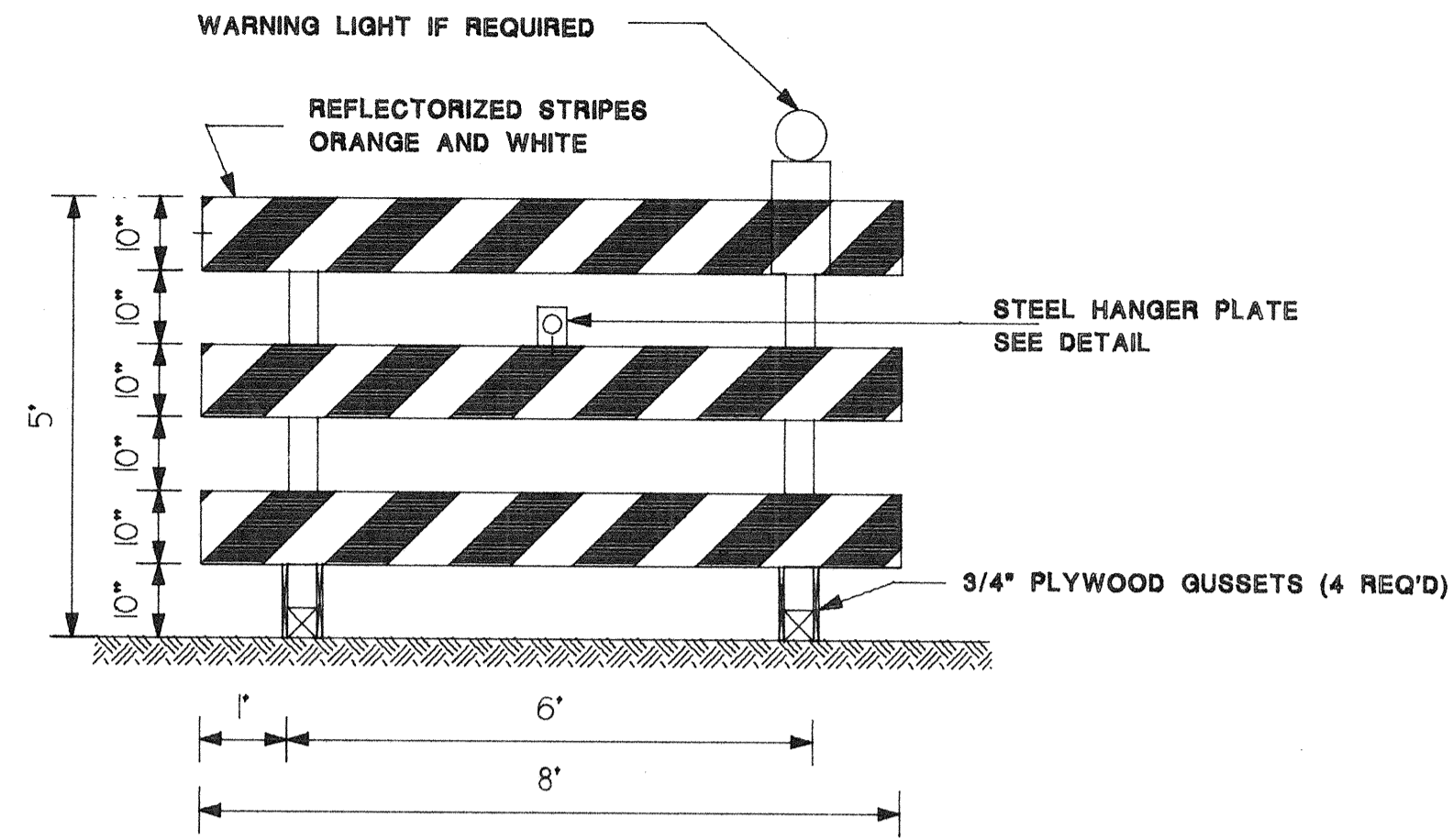


DATE	NO.	REVISION	BY

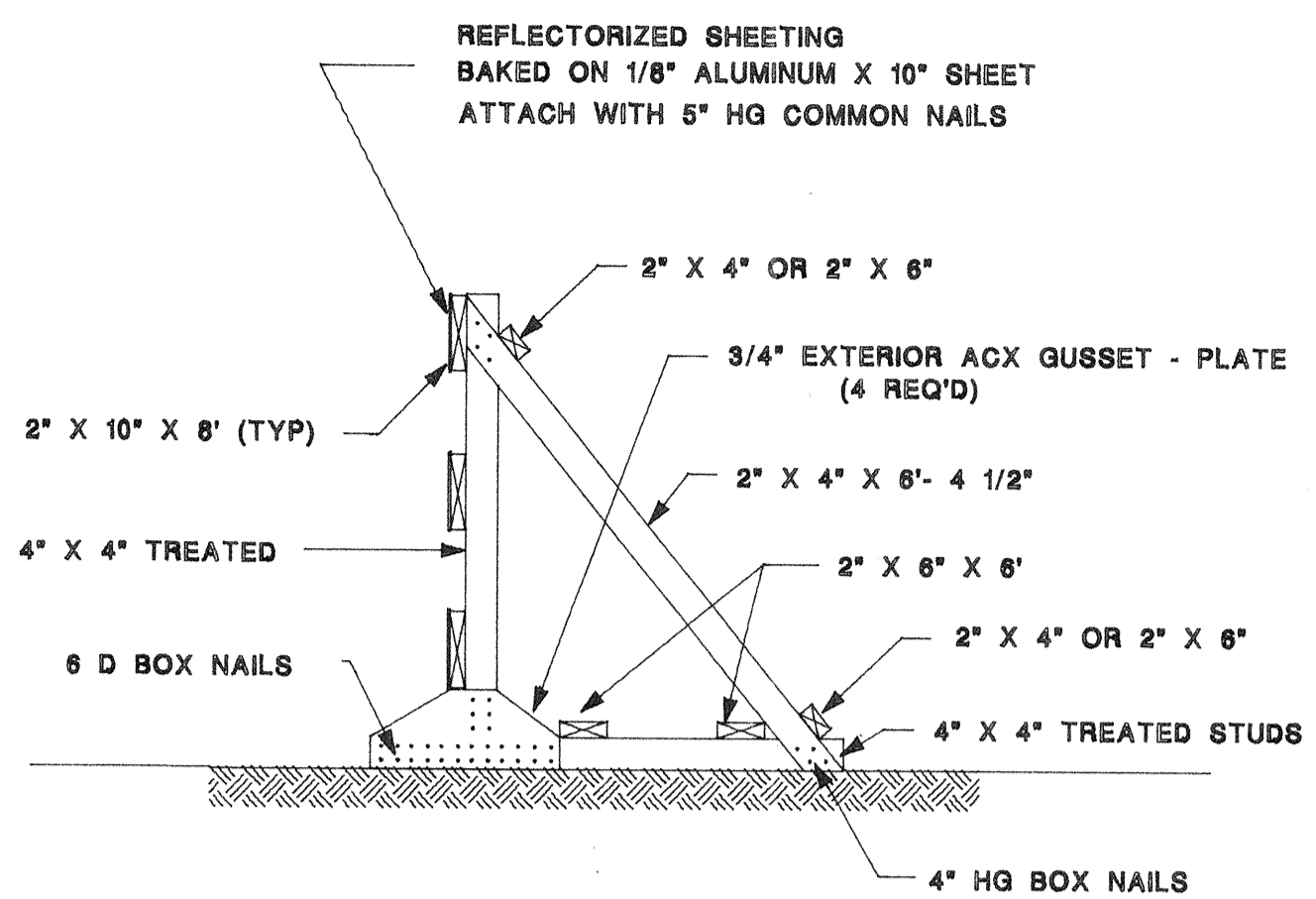
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111 EVERETT MALL WAY, EVERETT, WASHINGTON 98208

STREET CONST - MISC. DETAILS
HILLCREST GLEN

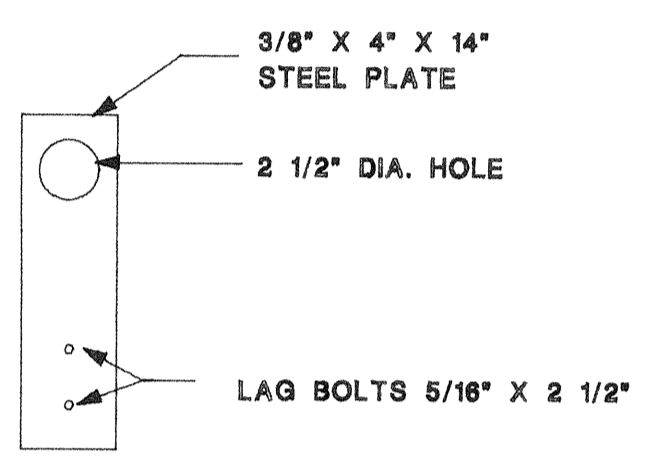
DATE:	DESIGNER:	DWN:
SURVEY:	F.B. MLC3-STPT	SHT 6 OF 8



FRONT VIEW
(Right (R) Barricade Shown)



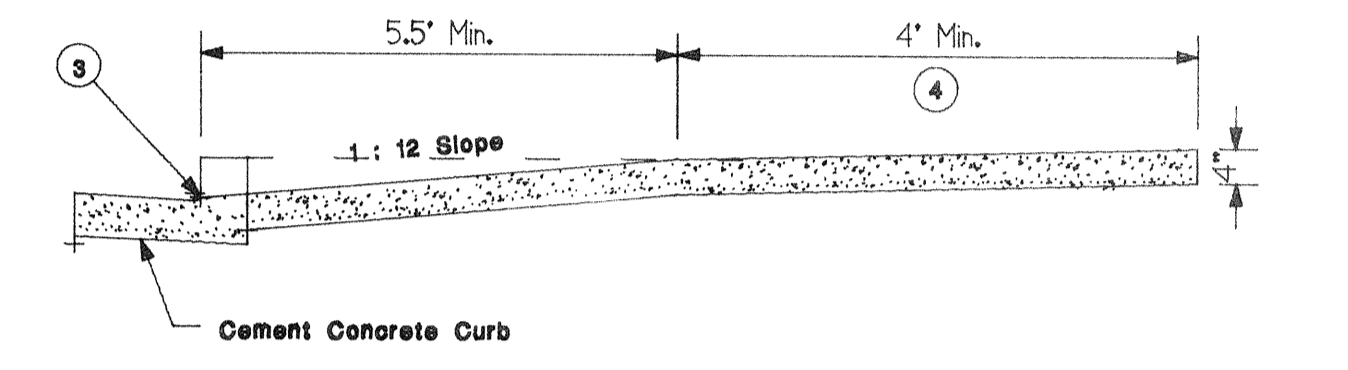
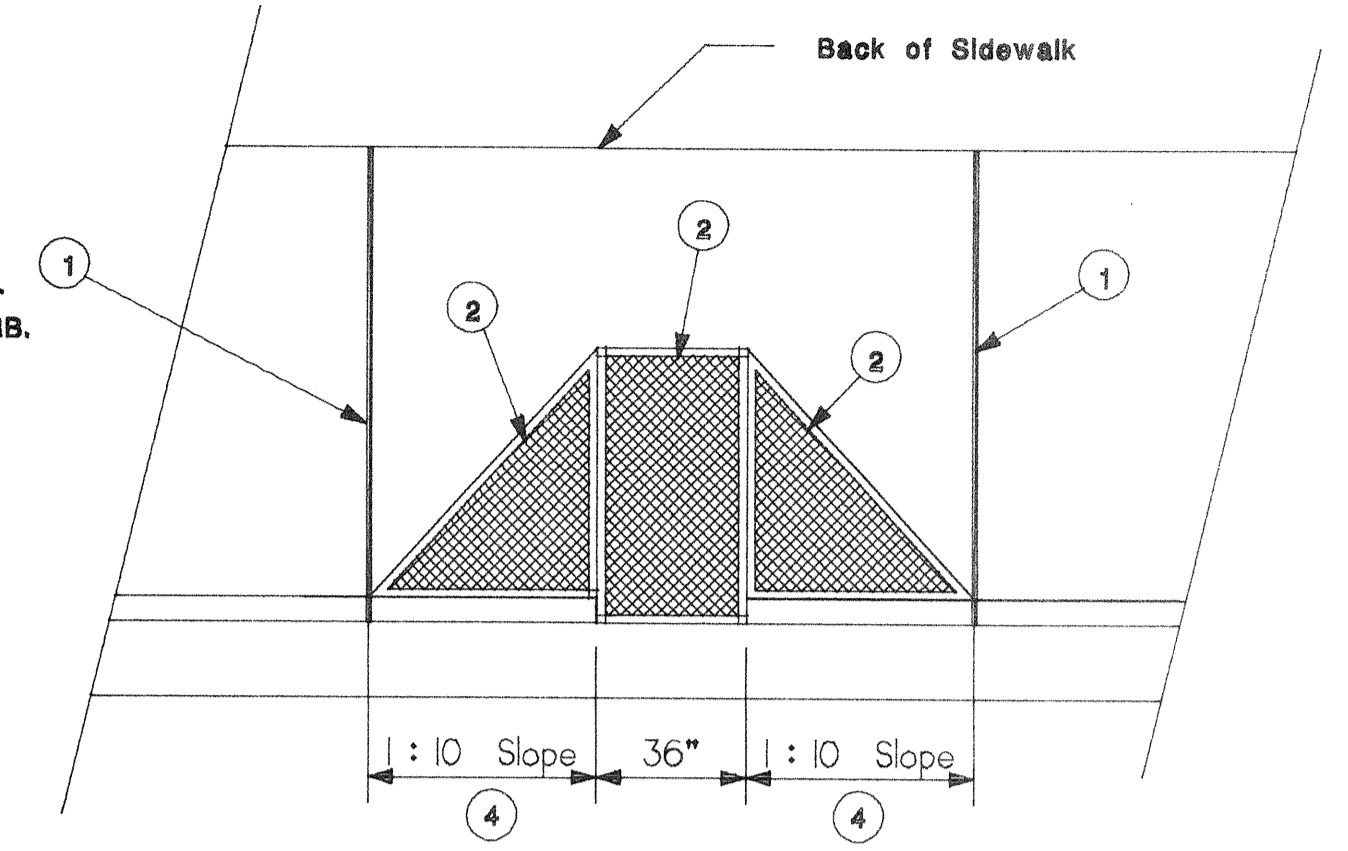
SIDE VIEW



STEEL HANGER PLATE
DETAIL

NOTES:

1. FULL DEPTH EXPANSION JOINT, 3/8" MIN. WIDTH. PREMOLDED JOINT FILLER.
2. RAMP TEXTURING IS TO BE DONE WITH AN EXPANDED METAL GRATE PLACED AND REMOVED FROM WET CONCRETE TO LEAVE A DIAMOND PATTERN. THE LONG AXIS OF THE DIAMOND PATTERN SHALL BE PERPENDICULAR TO CURB. GROOVES SHALL BE 1/8" DEEP AND 1/4" WIDE.
3. 1/2" MAX. LIP AT GUTTER LINE.
4. IF LANDING AREA IS LESS THAN 4', DECREASE SIDE RAMP SLOPE TO 1 : 12.

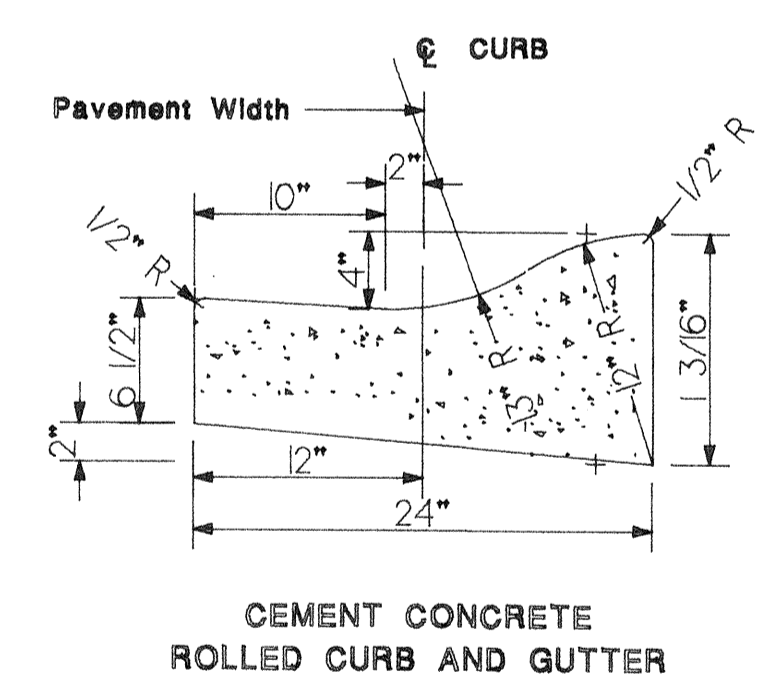


TYPE A CURB RAMP

NOTES:

1. BARRICADES SHALL BE INSTALLED IN ACCORDANCE WITH PART VI OF THE MUTCD OR BETTER.
2. LUMBER SHALL BE STANDARD GRADE OR BETTER.
3. RIGHT (R) BARRICADES ARE PLACED TO THE RIGHT OF TRAFFIC. LEFT (L) BARRICADES ARE PLACED TO THE LEFT OF TRAFFIC.
4. WHERE A BARRICADE(S) EXTENDS ENTIRELY ACROSS A ROADWAY, THE STRIPES SHALL SLOPE DOWNWARD IN THE DIRECTION TOWARD WHICH TRAFFIC MUST TURN IN DETOURING. WHERE BOTH RIGHT AND LEFT TURNS ARE PROVIDED, THE CHEVRON STRIPING SHALL SLOPE DOWNWARD IN BOTH DIRECTIONS FROM THE CENTER OF THE BARRICADE.

TYPE III BARRICADE

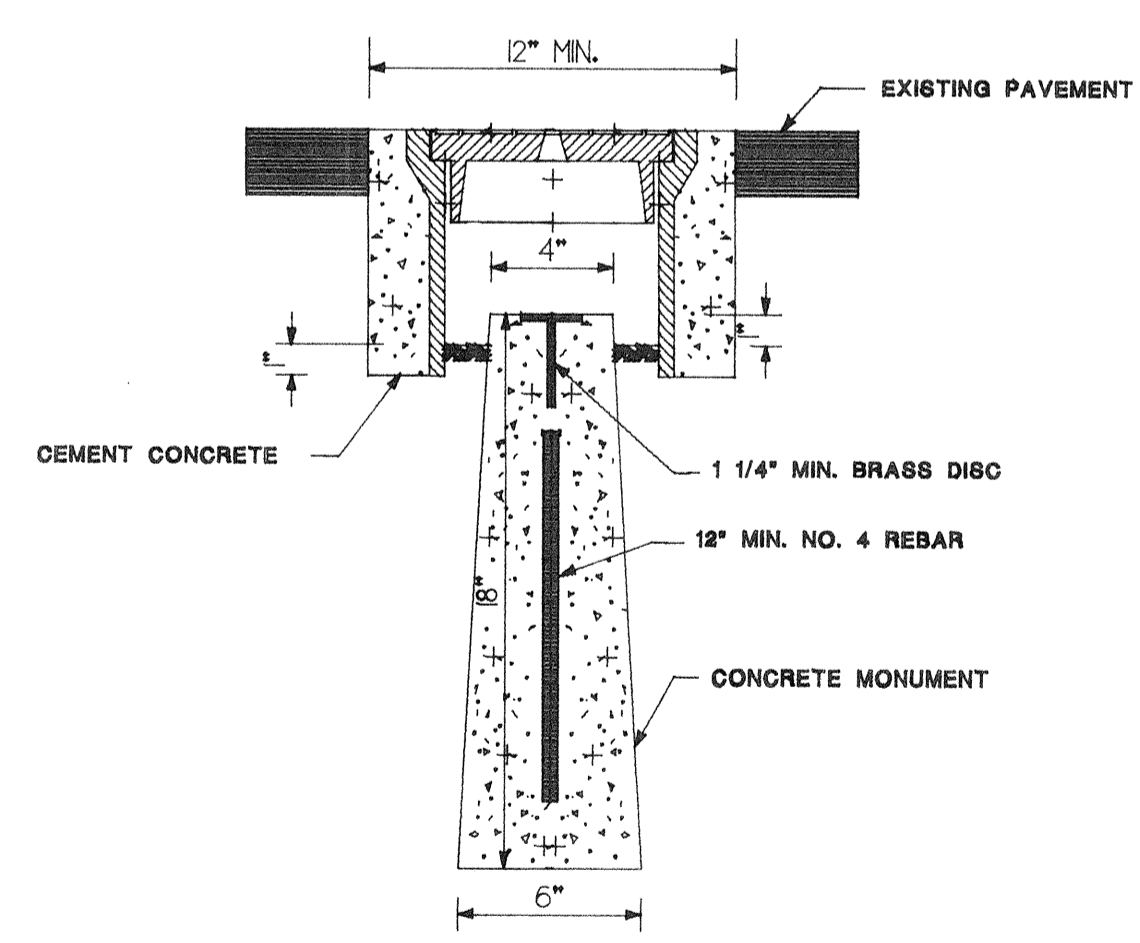


CEMENT CONCRETE
ROLLED CURB AND GUTTER

NOTES:

1. CONSTRUCTION OF CURB DETAILS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION AS PUBLISHED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND THE AMERICAN PUBLIC WORKS ASSOCIATION. (WSDOT/APWA SPECIFICATIONS) UNLESS OTHERWISE MODIFIED BELOW.
2. ALL CONCRETE SHALL BE AIR ENTRAINED CONCRETE CLASS 3000.
3. FORMS SHALL BE TRUE TO LINE AND GRADE AND SECURELY STAKED. STEEL FORMS ONLY SHALL BE USED ON TANGENT SECTIONS. WOOD FORMS MAY BE USED ON CURVED SECTIONS.
4. FULL DEPTH EXPANSION JOINTS CONSISTING OF 3/8 INCH MINIMUM PREMOLDED JOINT MATERIAL SHALL BE PLACED ADJACENT TO CATCH BASINS, INLETS AND AT POINTS OF TANGENCY ON STREETS AND DRIVEWAY RETURNS. MAXIMUM SPACING SHALL BE 30 FEET.
5. CONTRACTION JOINTS (DUMMY JOINTS) CONSISTING OF 3/8" MIN. X 2" OF PREMOLDED JOINT MATERIAL SHALL BE CONSTRUCTED AT INTERVALS OF 10 FEET.
6. ALL JOINTS SHALL BE CLEAN AND EDGED.
7. FINISH SHALL BE A LIGHT BROOM FINISH.
8. FINISHED CURBS AND GUTTERS SHALL BE SPRAYED WITH A CLEAR CURING COMPOUND.
9. VERTICAL CURB WILL BE REQUIRED IN ALL CASES EXCEPT ON ACCESS AND AND SUBCOLLECTOR STREETS. FOR THESE STREETS, VERTICAL OR ROLLED CURBS WILL BE ALLOWED AT THE DISCRETION OF THE DEVELOPER.
10. TOP OF CURB AT ACCESS POINT APPROACH.

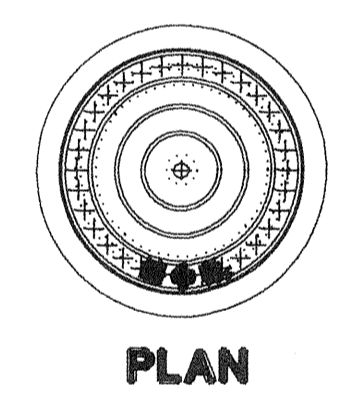
CURB DETAILS



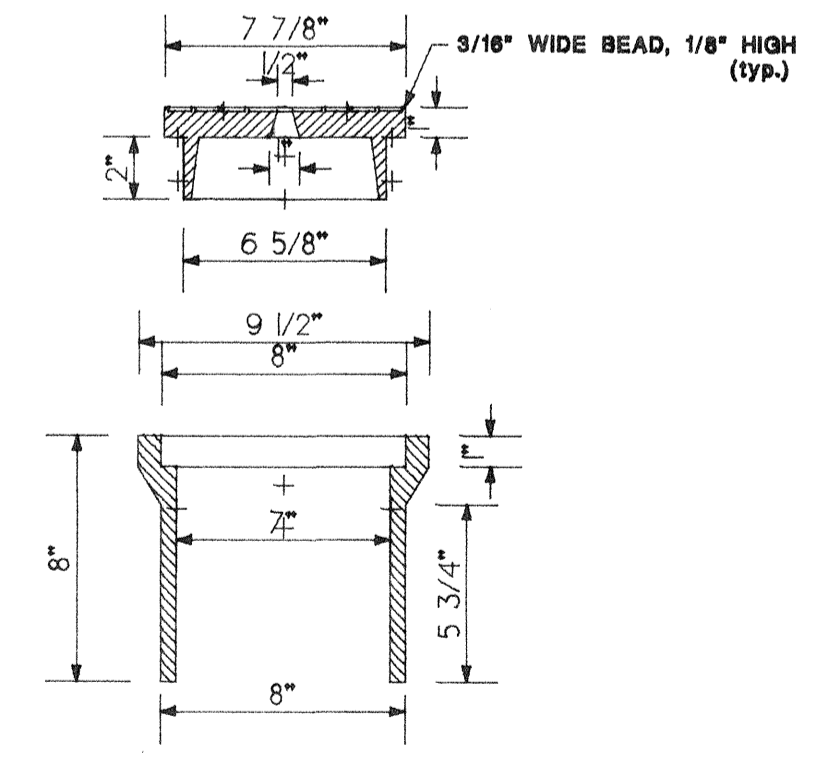
NOTES:

1. THE OFF-STREET MONUMENT SHALL BE THE SAME EXCEPT USING A NO. 8 REBAR AND WITHOUT A CASE AND COVER. THE OFF-STREET MONUMENT SHALL BE 3" ABOVE GRADE.
2. MONUMENT CASE AND COVER SHALL BE CAST IRON.

MONUMENT DETAILS



PLAN



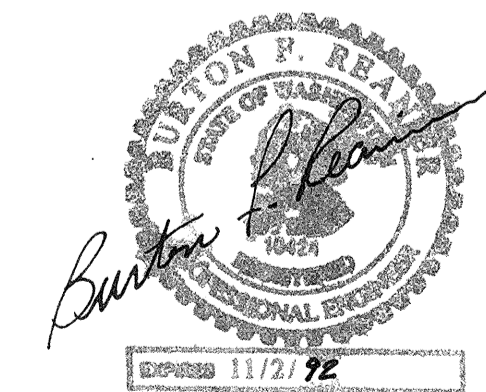
SECTION

NOTES:

1. CONSTRUCTION OF SIDEWALKS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION AS PUBLISHED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND THE AMERICAN PUBLIC WORKS ASSOCIATION. (WSDOT/APWA SPECIFICATIONS) UNLESS OTHERWISE MODIFIED BELOW.
2. ALL CONCRETE SHALL BE AIR ENTRAINED CONCRETE CLASS 3000.
3. FORMS SHALL BE TRUE TO LINE AND GRADE AND SECURELY STAKED. STEEL FORMS ONLY SHALL BE USED ON TANGENT SECTIONS. WOOD FORMS MAY BE USED ON CURVED SECTIONS.
4. EXPANSION JOINTS CONSISTING OF 3/8" FULL DEPTH PREMOLDED JOINT MATERIAL SHALL BE PLACED ADJACENT TO CATCH BASINS, INLETS AND AT POINTS OF TANGENCY ON STREETS AND DRIVEWAY RETURNS. MAXIMUM SPACING SHALL BE 30 FEET.
5. CONTRACTION JOINTS (DUMMY JOINTS) CONSISTING OF 3/8" MIN. X 2" OF PREMOLDED JOINT MATERIAL SHALL BE CONSTRUCTED AT INTERVALS NOT TO EXCEED 10 FEET. WHEN SIDEWALKS ARE PLACED BY SUB-CONTRACTORS, A PREMOLDED JOINT OF 3/8" MIN. X 2" SHALL BE USED. CONTRACTION JOINTS SHALL BE LOCATED TO MATCH THE JOINTS IN THE CURB. JOINTS IN THE CURB AND SIDEWALK SHALL BE SEPARATED BY A PLASTIC STRIP. JOINT SEALANTS FOR ALL CONTRACTION JOINTS SHALL MEET THE REQUIREMENTS OF SECTION 8-04 OF THE WSDOT/APWA SPECIFICATIONS.
6. ALL JOINTS SHALL BE CLEAN AND EDGED.
7. CURB AND SIDEWALKS SHALL BE A MINIMUM OF 4 INCHES THICK (4 INCHES THICK FOR ROLLED CURBS) EXCEPT IN PAVED AREAS WHERE A MINIMUM OF 6 INCHES IS REQUIRED. SEE ALSO STANDARD DRAWINGS 8-100 AND 8-101.
8. THE WIDTH OF SIDEWALKS SHALL BE 4 TO 8 FEET FOR RESIDENTIAL PROPERTY USES AND 7 FEET FOR COMMERCIAL/INDUSTRIAL PROPERTY USES.
9. BROOM MARKING SHALL BE PLACED ON 8 FOOT CENTERLINE AND TO CORRESPOND TO THE MARKING ON EXISTING SIDEWALKS. WHEN THE SIDEWALK WIDTH EXCEEDS 8 FEET, A LONGITUDINAL BROOM AT THE CENTER OF THE SIDEWALK SHALL BE PROVIDED.
10. ADDITIONAL WIDTH TO MAINTAIN A MINIMUM OF 6 FEET OF CLEAR SIDEWALK SHALL BE PROVIDED WHEN OBSTRUCTIONS SUCH AS UTILITY BOXES.
11. FINISH SHALL BE A LIGHT BROOM FINISH.
12. GRADE, SLOPE OR EQUIVALENT. SEE STANDARD DRAWINGS 8-100, 8-101.

SIDEWALK DETAILS

DATE	NO.	REVISION	BY



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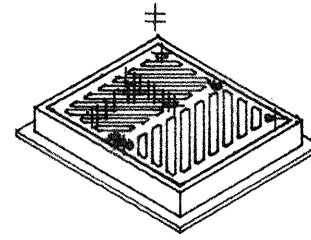
STREET CONST - MISC. DETAILS
HILLCREST GLEN

DATE:	DESIGNER:	DWN:
SURVEY:	F.B. MLCSTDT 1	SHT 7 OF 8

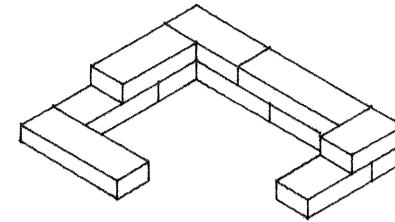
APPROVED FOR CONSTRUCTION:
CITY OF MILL CREEK, CITY ENGINEER

BY: _____ DATE _____

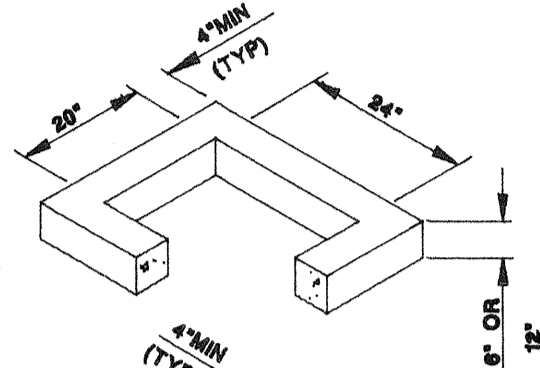
LOCKING FRAME AND GRATE
(SEE STD DWG 9-140 FOR DETAILS)



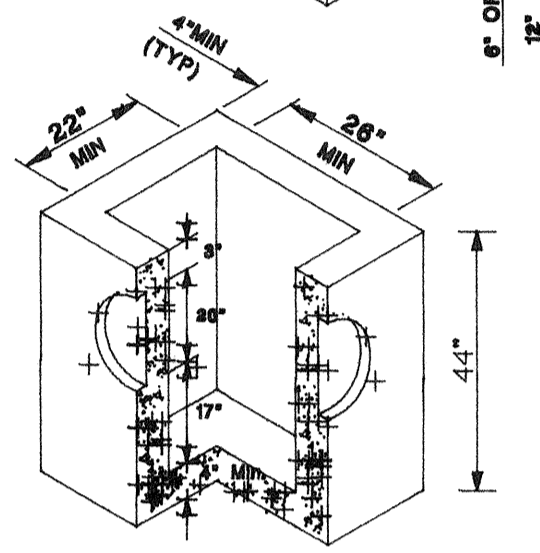
2"X4"X8" SOLID BRICK
USED FOR FINAL ADJUSTMENT
TO GRADE. 6" HIGH MAX.



6" OR 12" CONCRETE
RISER SECTION
CLASS 4000 CONCRETE



PRECAST BASE SECTION
(MEASUREMENT AT THE TOP
OF THE BASE)

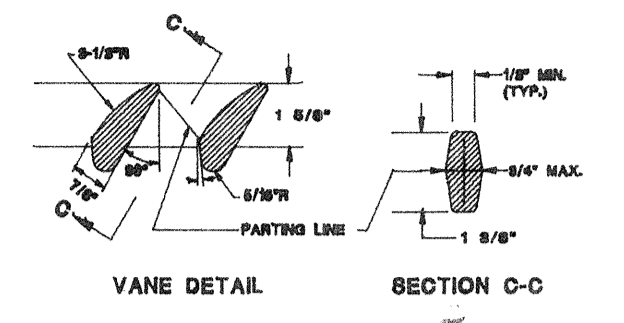
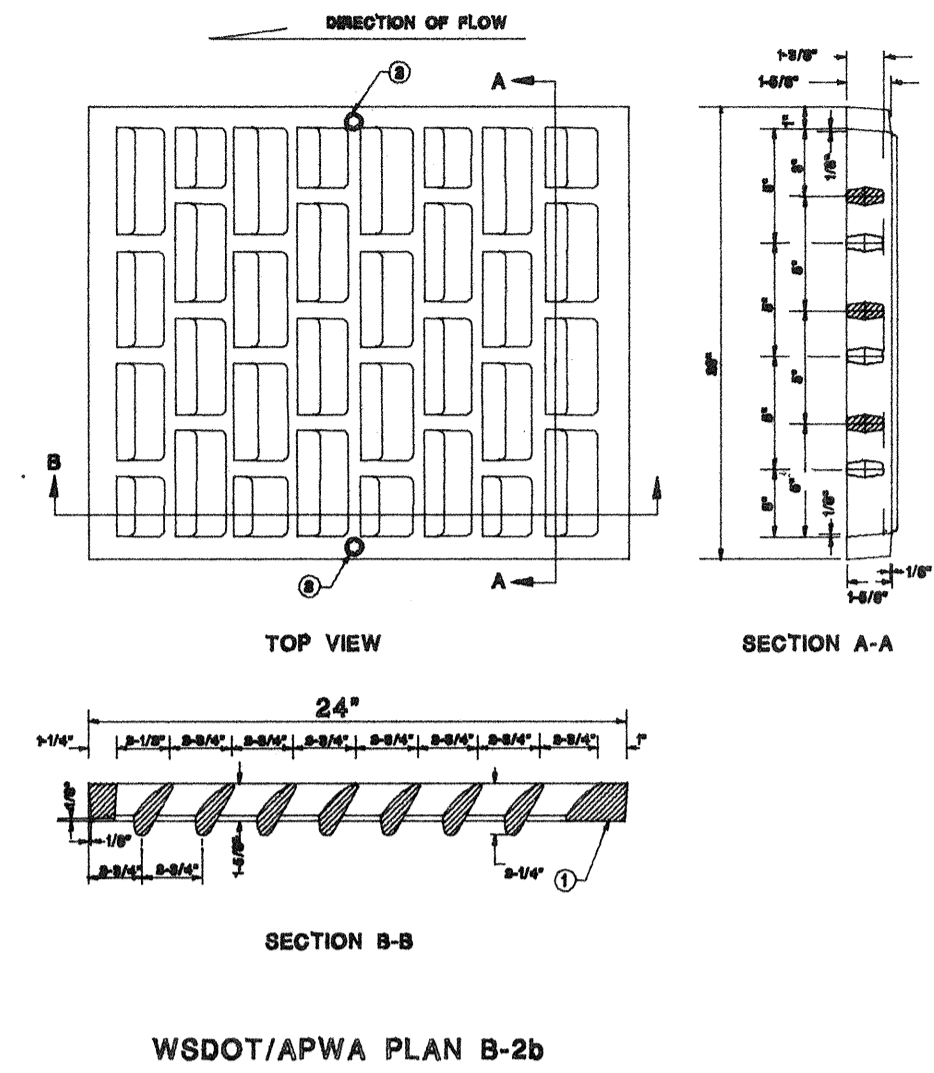


NOTES:

1. CATCH BASINS TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C 478 (AASHTO M 199) & ASTM C 890 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE WSDOT/APWA SPECIFICATIONS.
2. REINFORCING SHALL BE EQUIVALENT TO WELDED WIRE FABRIC HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT. WELDED WIRE FABRIC SHALL COMPLY TO ASTM A 497 (AASHTO M221). WIRE FABRIC SHALL NOT BE PLACED IN THE KNOCKOUTS.
3. THE BOTTOM OF THE PRECAST BASE SECTION MAY BE ROUNDED
4. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM.
5. KNOCKOUTS MAY BE ON ALL 4 SIDES WITH MAXIMUM DIAMETER OF 20". KNOCKOUTS MAY BE EITHER ROUND OR "D" SHAPE. PIPE TO BE INSTALLED IN FACTORY SUPPLIED KNOCKOUTS.
6. KNOCKOUT OR CUTOUT HOLE SIZE IS EQUAL TO PIPE OUTER DIAMETER PLUS CONCRETE INLET WALL THICKNESS.
7. THE TAPER ON THE SIDES OF THE PRECAST BASE SECTION AND RISER SECTION SHALL NOT EXCEED 1/2" PER FT.
8. CONCRETE INLET FRAME AND GRATE SHALL BE IN ACCORDANCE WITH THE WSDOT/APWA SPECIFICATIONS AND MEET THE STRENGTH REQUIREMENTS OF FEDERAL SPECIFICATION RR-F-821D. MATING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT.
9. FRAME AND GRATE MAY BE INSTALLED WITH FLANGE DOWN OR CAST INTO RISER.

WSDOT/APWA PLAN B-1
CITY OF EVERETT STD DWG 402

CATCH BASIN TYPE 1



NOTES:

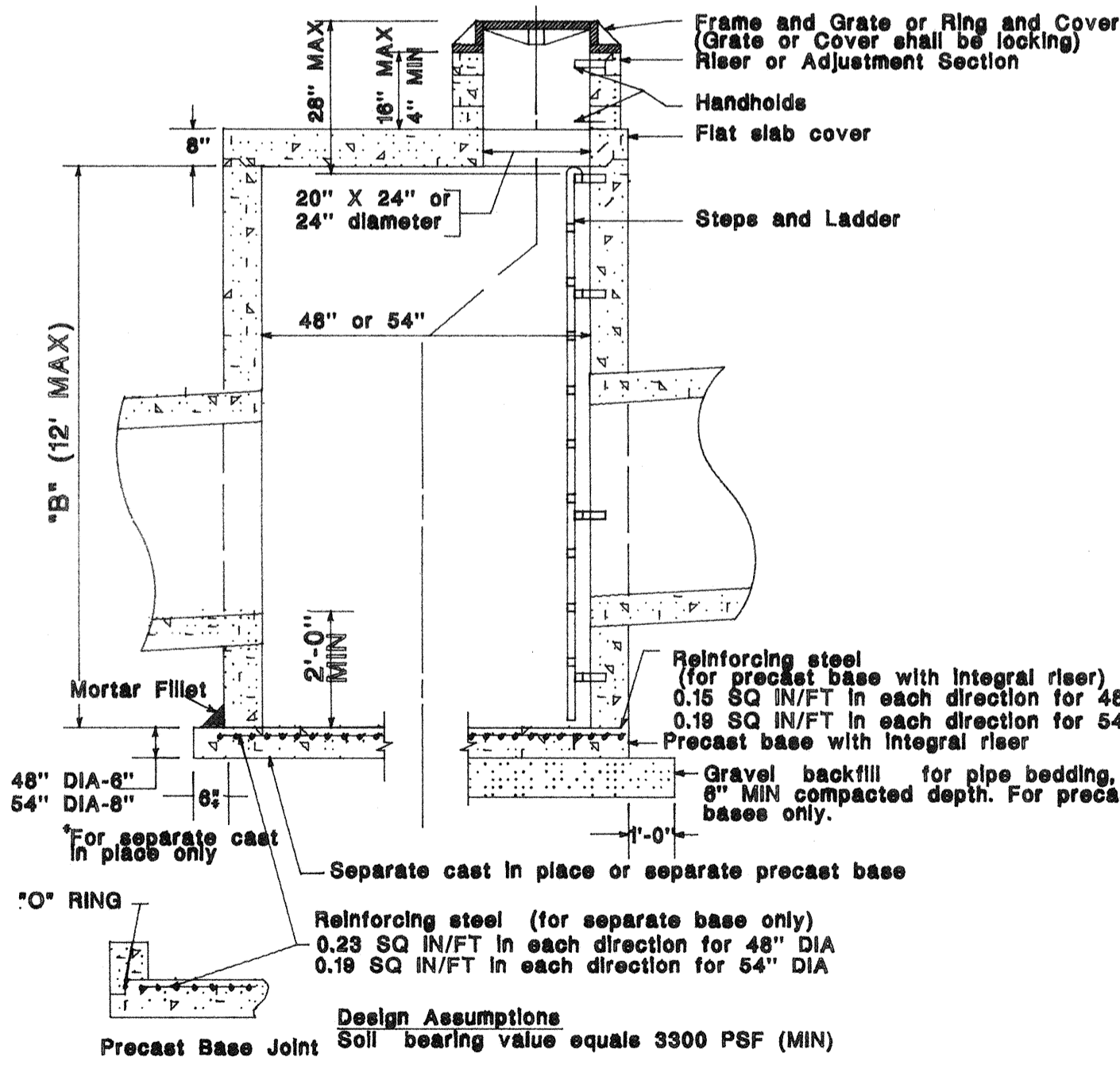
1. MATERIAL USED SHALL BE DUCTILE IRON PER ASTM-A536, GRADE 60-55-08, WITH BITUMINOUS COATING.
2. WHEN LOCKING GRATE REQUIRED HOLES WILL BE PROVIDED IN CASTING TO ALLOW FOR TWO 5/8" DIA STAINLESS STEEL SOCKET HEAD CAP SCREWS. NO PART OF SCREW WILL PROTRUDE ABOVE GRATE.
3. GRATE TO BE USED WITH FRAME SHOWN IN STD DWG 9-140.

VANED GRATE FOR CATCH BASIN AND INLET

NOTES

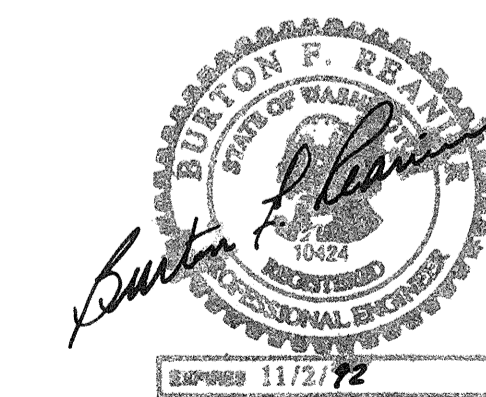
1. Catch Basins to be constructed in accordance with ASTM C 478 (AASHTO M 199) & ASTM C 890 unless otherwise shown on plans or noted in the WSDOT/APWA Specifications.
2. Handholds in riser or adjustment section shall have 3" minimum clearance. Steps in catch basin shall have 8" minimum clearance. No steps are required when "B" is 4' or less.
3. All reinforced cast in place concrete shall be Class 4000. All precast concrete shall obtain 4000 PSI @ 28 days.
4. Precast bases shall be furnished with cutouts or knockouts. Knockouts shall have a wall thickness of 2" minimum.
5. Knockout or cutout hole size is equal to pipe outer diameter plus catch basin wall thickness. Maximum hole size is 36" for 48" catch basin, 42" for 54" catch basin. Minimum distance between holes is 8".
6. Frame and grate or ring and cover shall be in accordance with WSDOT/APWA Specifications and meet the strength requirements of Federal Specification RR-F-821D. Mating surfaces shall be finished to assure non-rocking fit.
7. All base reinforcing steel shall have a minimum yield strength of 60,000 PSI and be placed in the upper half of the base with 1" minimum clearance.
8. The bottom of the precast Catch Basin may be rounded.
9. For details showing frame and grate, ring and cover see Standard Drawing 9-140, "Metal Frame and Grate (20 X 24)" or Standard Drawing 9-170, "Manhole Ring and Cover".
10. For details showing ladder, steps, handrail and top slab see Standard Drawing 9-074, "Catch Basin Details".
11. Frame and grate may be installed with flange down or cast into riser.

WSDOT/APWA PLAN B-6



CATCH BASIN TYPE 2 - 48" & 54"

DATE	NO.	REVISION	BY



BURTON F. REANIER, PE, PLS 111 EVERETT MALL WAY, EVERETT, WASHINGTON 98208		
STREET CONST - MISC. DETAILS HILLCREST GLEN		
DATE:	DESIGNER:	DWN:
SURVEY:	F.B. MLC&STDT	SHT 8 OF 8

APPROVED FOR CONSTRUCTION:
CITY OF MILL CREEK, CITY ENGINEER

BY: _____ DATE _____