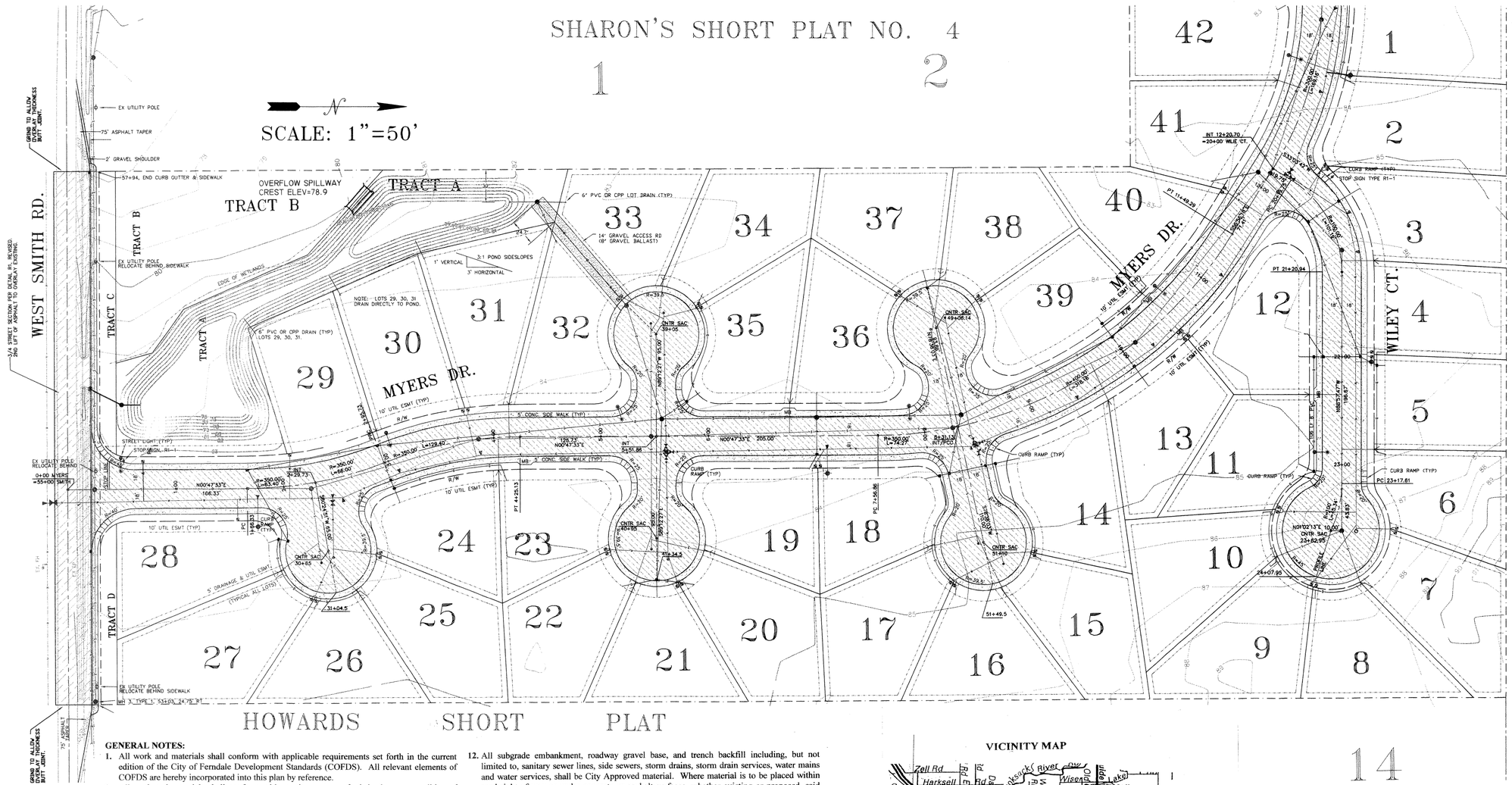


ABBREVIATIONS

CB - CATCH BASIN
CMP - CORRUGATED METAL PIPE
CNTR - CENTER
CPP - CORRUGATED POLYETHYLENE PIPE
CO - CLEAN OUT
CR - CURB RETURN
CT - COURT
DR - DRIVE
ELL - ELBOW
EP - EDGE OF PAVEMENT
ESMT - EASEMENT
EX - EXISTING
FH - FIRE HYDRANT
G - GUTTER
GG - GUTTER GRADE
GHP - GUTTER HIGH POINT
GV - GATE VALVE
HORIZ - HORIZONTAL
INT - INTERSECTION
INV - INVERT
L - LENGTH
LF - LINEAL FEET
LT - LEFT
MB - MAIL BOXES
MH - MAN HOLE
PC - POINT OF CURVATURE
PCC - POINT OF COMPOUND CURVATURE
PRC - POINT OF REVERSE CURVATURE
PT - POINT OF TANGENCY
R - RADIUS
RT - RIGHT
R/W - RIGHT OF WAY
S - SLOPE
SAC - CUL DE SAC
STA - STATION
TB - THRUST BLOCK
TYP - TYPICAL
UTIL - UTILITIES
VERT - VERTICAL
VPC - VERTICAL POINT OF CURVATURE
VPI - VERTICAL POINT OF INTERSECTION
VPT - VERTICAL POINT OF TANGENCY
W - WATER

CONTACT INFORMATION

Surveyor:
Construction Surveyors, Inc.
1500 I street
Bellingham, WA 98225
360-733-3383
Project Engineer - Craig Olson, PE
Madrona Engineering
2113 Tuttle Lane
Lummi Island, WA 98226
360-758-3150
Wetlands Consultant
Pegasus Eco-Terrestrial
2701 Northwest Ave, Suite B
Bellingham, WA 98226
360-647-8552

REVISION	DATE	DESCRIPTION
4	03/22/02	RESPOND TO CITY REQUIREMENTS
3	01/30/02	ADDED SMITH RD IMPROVEMENTS
2	10/31/01	ALL PER CITY REVIEW REQUIREMENTS
1	8/13/01	PER CITY REVIEW, REVISED ROAD PROFILE & STORM
7	01/01/03	Additional As-built data
6	12/17/02	As-built corrections
5	11/23/02	AS-BUILT DATA

00125.001 2-13-00 KE

Civil Construction Plans
SEC. 28, T. 39 N., R. 2 E., W.M.
WHATCOM COUNTY, WASHINGTON

Plat of Myers Estates
1376 WEST SMITH ROAD
FERNDALE, WASHINGTON 98248

Madrona Engineering
2113 TUTTLE LANE
LUMMI ISLAND, WASHINGTON 98262
TEL: 360.758.3150 FAX: 360.758.3189

SHEET: 1 OF: 12

GENERAL NOTES:

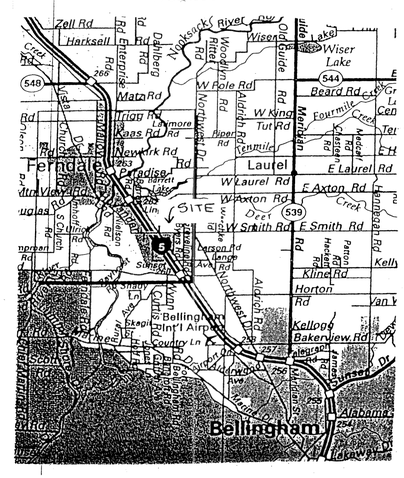
1. All work and materials shall conform with applicable requirements set forth in the current edition of the City of Ferndale Development Standards (COFDS). All relevant elements of COFDS are hereby incorporated into this plan by reference.
2. All work and materials shall conform with requirements set forth in the current edition of Standard Plans and Standard Specifications for Road, Bridge, and Municipal Construction, published by the Washington State Department of Transportation and the American Public Works Association, (herein after referred to as "WSDOT") except as modified herein. All relevant elements of WSDOT are hereby incorporated into this plan by reference. In the event of conflict between COFDS and WSDOT standards, the more stringent requirement shall apply.
3. MAINTENANENCE SECURITY: All facilities within this Plat shall be publicly maintained. As such, the Contractor is required to provide maintenance securities to the City of Ferndale in accordance with Section 502 of COFDS.
4. Existing utilities locations shown on this plan are presented in a general way only and are not necessarily complete. Locations of all existing utilities shall be independently verified by the Contractor prior to beginning construction. Call DIAL DIG at 1-800-424-5555 a minimum of 48 hours prior to beginning work. Any utilities, whether shown or not shown on this plan, which are damaged by the Contractor as a result of implementation of this plan shall be repaired or replaced by the Contractor at no additional cost to the Owner or Engineer.
5. All topographic data, including elevations of existing drainage, sewer and other structures was provided by Construction Surveyors, Inc. and was not independently verified by the Engineer. Contractor is responsible for verifying pertinent data prior to commencing related work.
6. Contractor shall promptly inform the Project Engineer (Craig Olson, P.E. 360-758-3150) or his appointee of any changes to the plan prior to construction of the change. Contractor shall keep a record of all changes to the plan and forward to the Project Engineer or his appointee at the first of each month and more often if requested by the Project Engineer or his appointee.
7. Contractor shall provide temporary and permanent traffic control facilities in conformance with the Manual On Uniform Traffic Control Devices (MUTCD), current edition, and as required by the City of Ferndale.
8. Contractor shall provide street illumination facilities in accordance with Section 707 of the COFDS. 100 watt High Pressure Sodium lamps installed on standard concrete octagon or round poles no less than 25 feet high and spaced not more than 250 feet apart. Pole locations are shown on the plan. Contractor shall conform with specifications shown in WSDOT Standard Plan J-11a unless otherwise approved by the Public Works Director.
9. Contractor shall restore all Public and Private property disrupted by the project to the satisfaction of the City of Ferndale.
10. Contractor shall obtain all required permits prior to commencement of the work.
11. Other Utilities and/or their subcontractors may be working in the area of this project. Contractor shall cooperate fully with other utilities and with the Engineer, and reviewing agency personnel.
12. All subgrade embankment, roadway gravel base, and trench backfill including, but not limited to, sanitary sewer lines, side sewers, storm drains, storm drain services, water mains and water services, shall be City Approved material. Where material is to be placed within road right-of-way or under concrete or asphalt surfaces, whether existing or proposed, said material shall be placed in maximum 8" (eight inch) lifts loose thickness, and compacted to 95% of maximum density as determined by ASTM D1559 or ASTM STP 399. Materials placed elsewhere shall be placed in 12" (twelve inch) lifts, loose thickness, and compacted to 90% of maximum density per ASTM D1559 or ASTM STP 399. Testing shall be performed by a qualified testing company prior to acceptance by the City of Ferndale.
13. Routine and final cleanup shall be included in the work.
14. Unless directed otherwise by the Owner or Project Engineer, stripped organic and excess excavation material shall become the property of the Contractor and shall be disposed of at a location arranged by the Contractor at no additional cost to the Owner or Engineer.

(Also see Other Notes.)

I hereby certify that the Civil improvements in the Plat of Myers Estates have been reviewed by Madrona Engineering and constructed in general conformance with the plans approved by the Public Works Director for said developmeat and the general specifications adopted by the City of Ferndale Department of Public Works.

B. CRAIG OLSON
STATE OF WASHINGTON
31795
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 09/07/04
01/07/03

VICINITY MAP



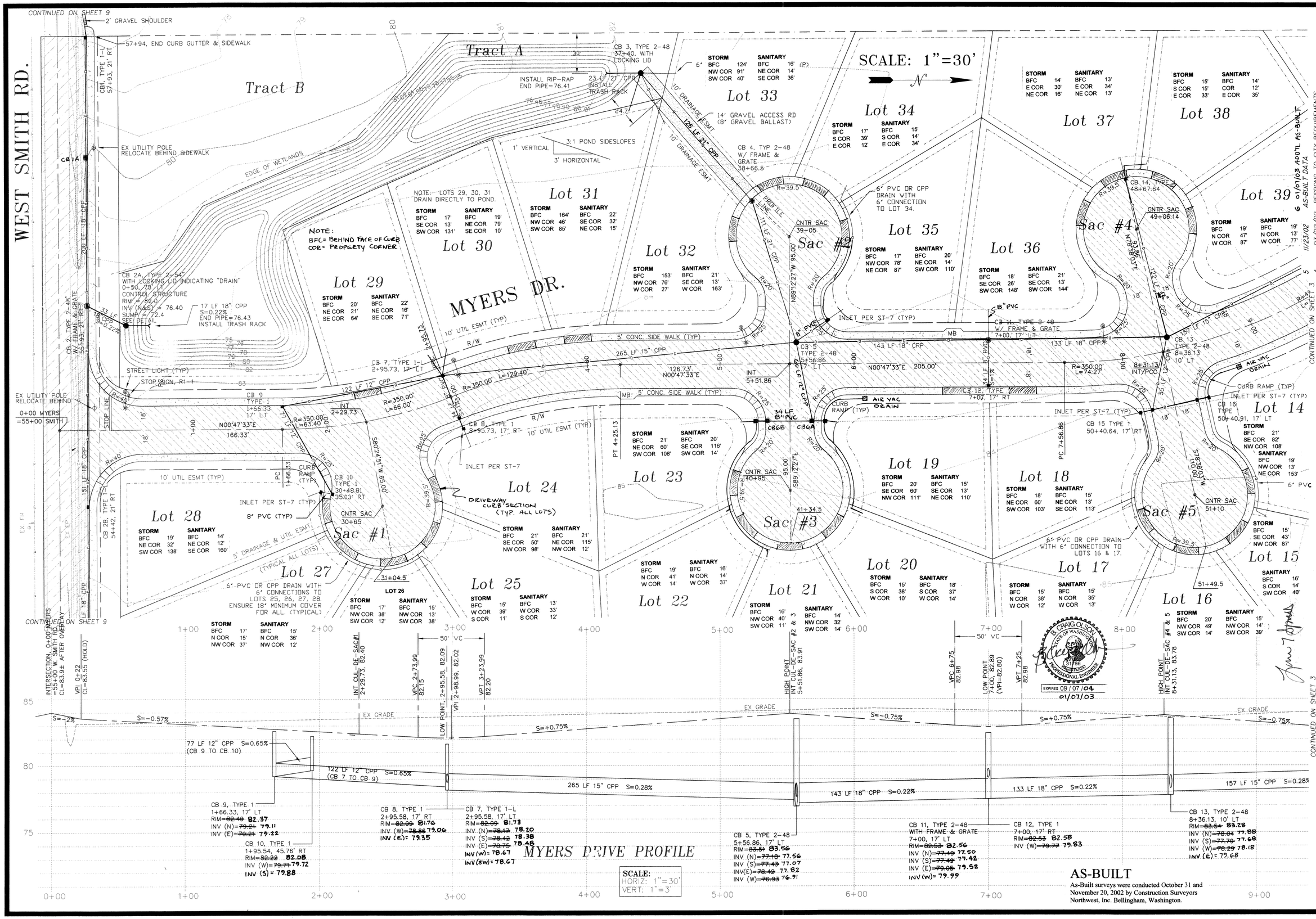
14

TABLE OF CONTENT

SHEET NO.	DESCRIPTION
1	Cover Sheet
2	Road & Storm Drain Plan & Profile 1
3	Road & Storm Drain Plan & Profile 2
4	Cul-de-sac # 2 & #3
5	Cul-de-sac #1, #4, #5
6	Detention Pond Plan
7	Water and Sanitary Sewer Plan & Profile 1
8	Water and Sanitary Sewer Plan & Profile 2
9	Smith Road Improvements
10	Water and Sanitary Sewer Notes & Details
11	Stormwater Pollution Prevention Plan
12	Construction Notes & Details

AS-BUILT

As-Built surveys were conducted October 31 and November 20, 2002 by Construction Surveyors Northwest, Inc. Bellingham, Washington.



REVISION	DATE	DESCRIPTION
3	01/30/02	ADDED SMITH RD. 3/4 ST. IMPROVEMENTS
2	10/31/01	ALL PER CITY REVIEW REQUIREMENTS
1	8/13/01	NEW ROAD PROFILE, REVISED STORM DRAIN
4	03/22/02	RESPOND TO CITY REQUIREMENTS
5	11/23/02	AS-BUILT DATA
6	01/01/03	ADD'L AS-BUILT

00125.002 2-13-06 KE

Road and Storm Drain 1

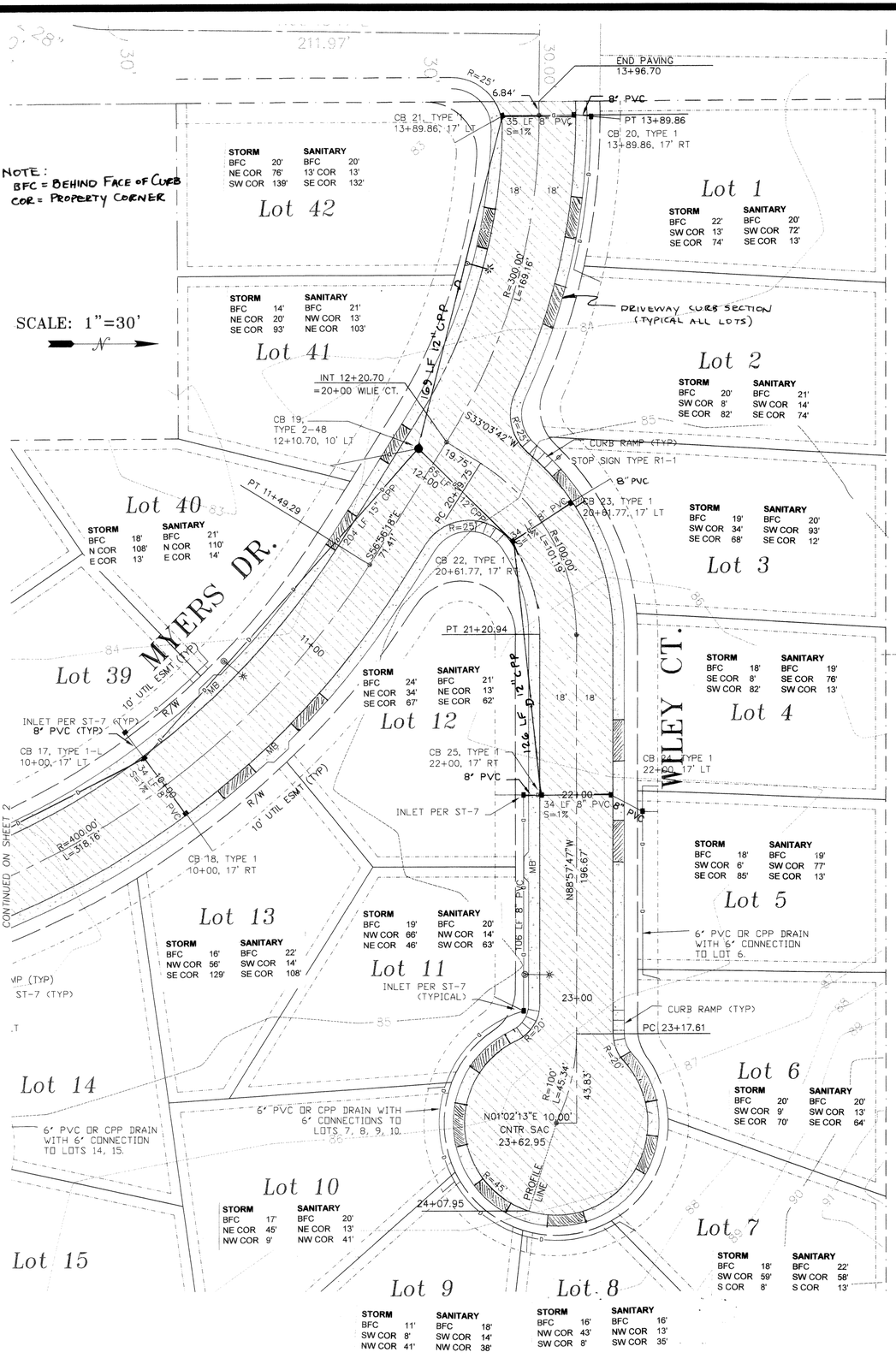
MEYERS DRIVE
PLAN AND PROFILE

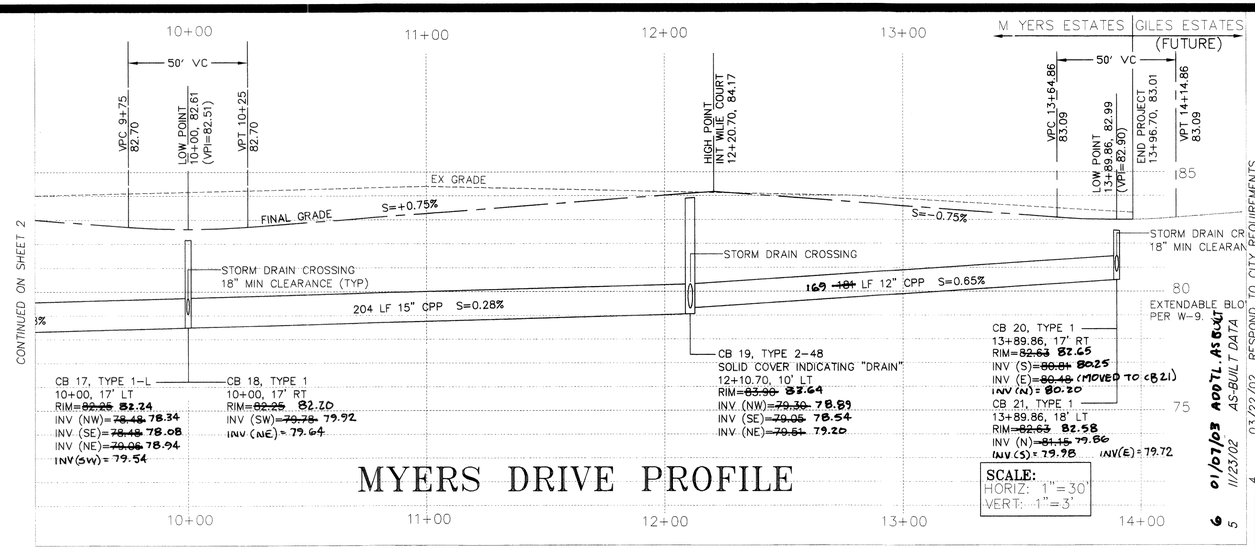
Plat of Myers Estates

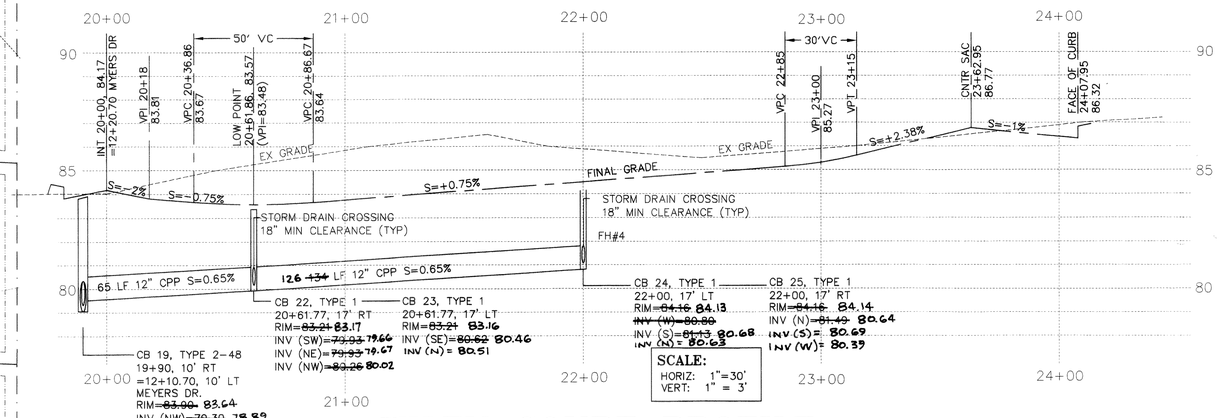
1376 WEST SMITH ROAD
FERNDALE, WASHINGTON 98248

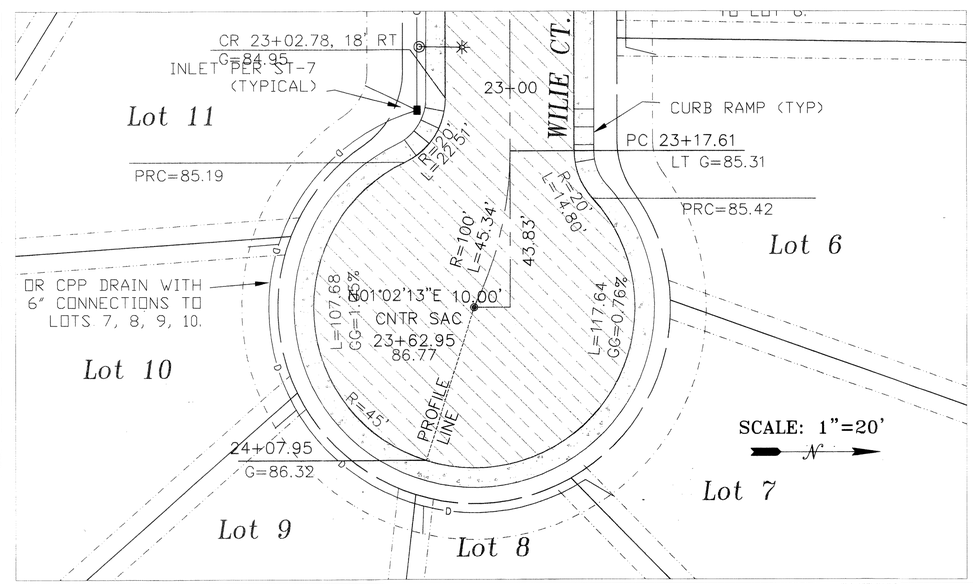
Madrona Engineering
2113 TUTTLE LANE
LUMMI ISLAND, WASHINGTON 98262
TEL: 360.758.3150 FAX: 360.758.3189

SHEET: 2 OF: 12









AS-BUILT

As-Built surveys were conducted October 31 and November 20, 2002 by Construction Surveyors Northwest, Inc. Bellingham, Washington.

B. CRAIG OLSON — STATE OF WASHINGTON — 31786 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 09/07/04
01/07/03

REVISION	DATE	DESCRIPTION
4	03/22/02	RESPOND TO CITY REQUIREMENTS
3	1/30/02	REVISED LOT DRAINS, MINOR GRAPHICAL IMPROVEMENTS
2	10/31/01	ALL PER CITY REVIEW REQUIREMENTS
1	8/13/01	NEW ROAD PROFILE, REVISED STORM DRAIN
5	11/23/02	AS-BUILT DATA
6	01/07/03	ADDTL. AS-BUILT

00125.003 2-13-04 KR

Road and Storm Drain 2

MEYERS DRIVE & WILIE COURT
PLAN AND PROFILE

Plat of Myers Estates

1376 WEST SMITH ROAD
FERNDALE, WASHINGTON 98248

Madrona Engineering
2113 TUTTLE LANE
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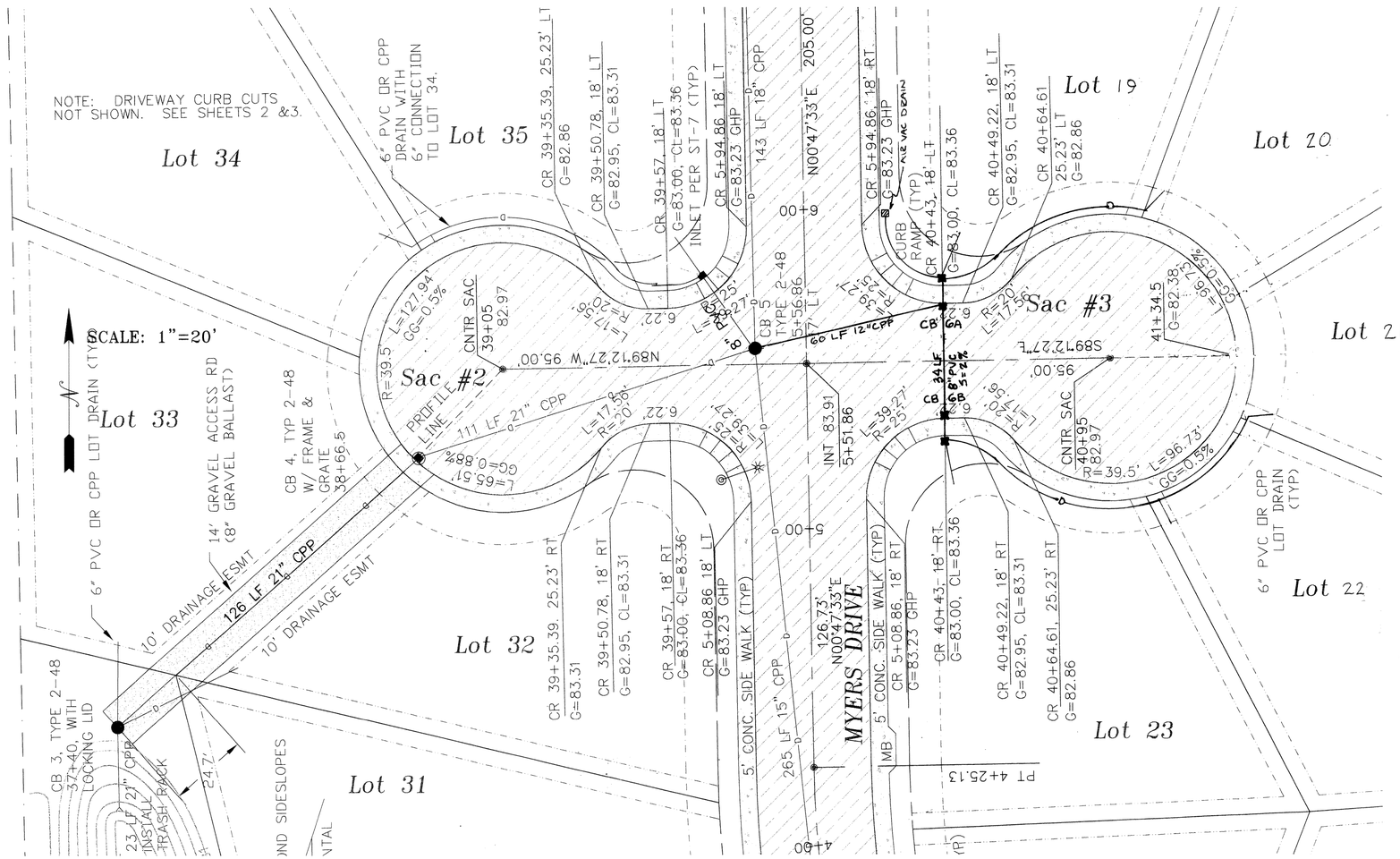
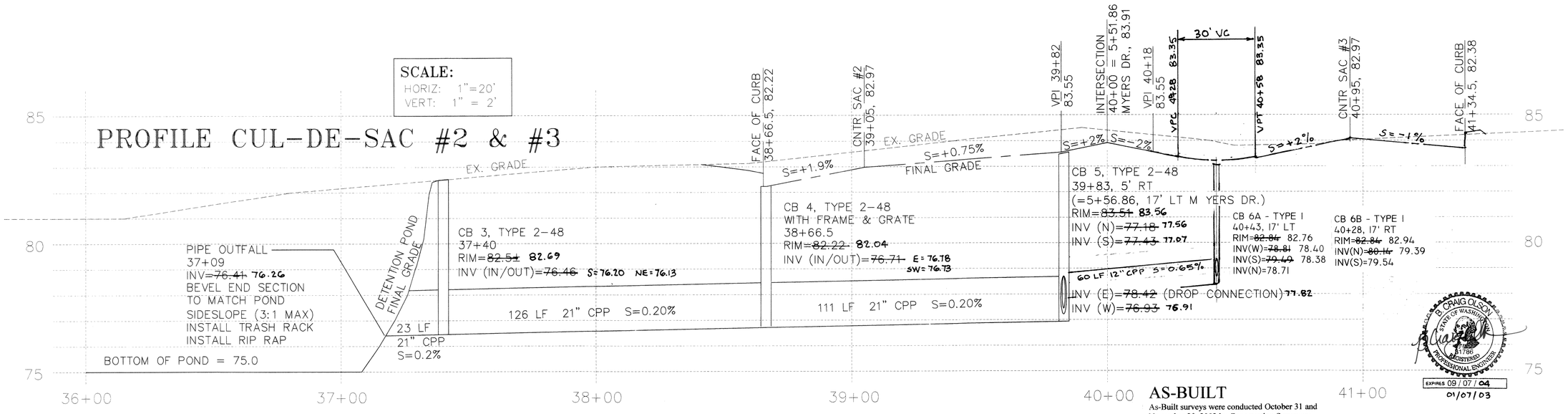
TEL: 360.758.3150 FAX: 360.758.3189

SHEET: 3 OF: 12





AS-BUILT

As-Built surveys were conducted October 31 and November 20, 2002 by Construction Surveyors Northwest, Inc. Bellingham, Washington.

B. CRAIG OLSON — STATE OF WASHINGTON — 31786 — REGISTERED PROFESSIONAL ENGINEER — EXPIRES 09/07/04

01/07/03

REVISION	DATE	DESCRIPTION
5	11/23/02	AS-BUILT DATA
4	03/22/02	RESPOND TO CITY REQUIREMENTS
3	01/30/02	ENLARGED DRAINAGE EASEMENT, REVISED CUL-DE-SACS
2	10/31/01	ALL PER CITY REVIEW REQUIREMENTS
1	8/13/01	NEW SHEET, ADDED CUL-DE-SAC PROFILE

D0125.001 2-13-06 KE

Cul-de-sacs #2 & #3

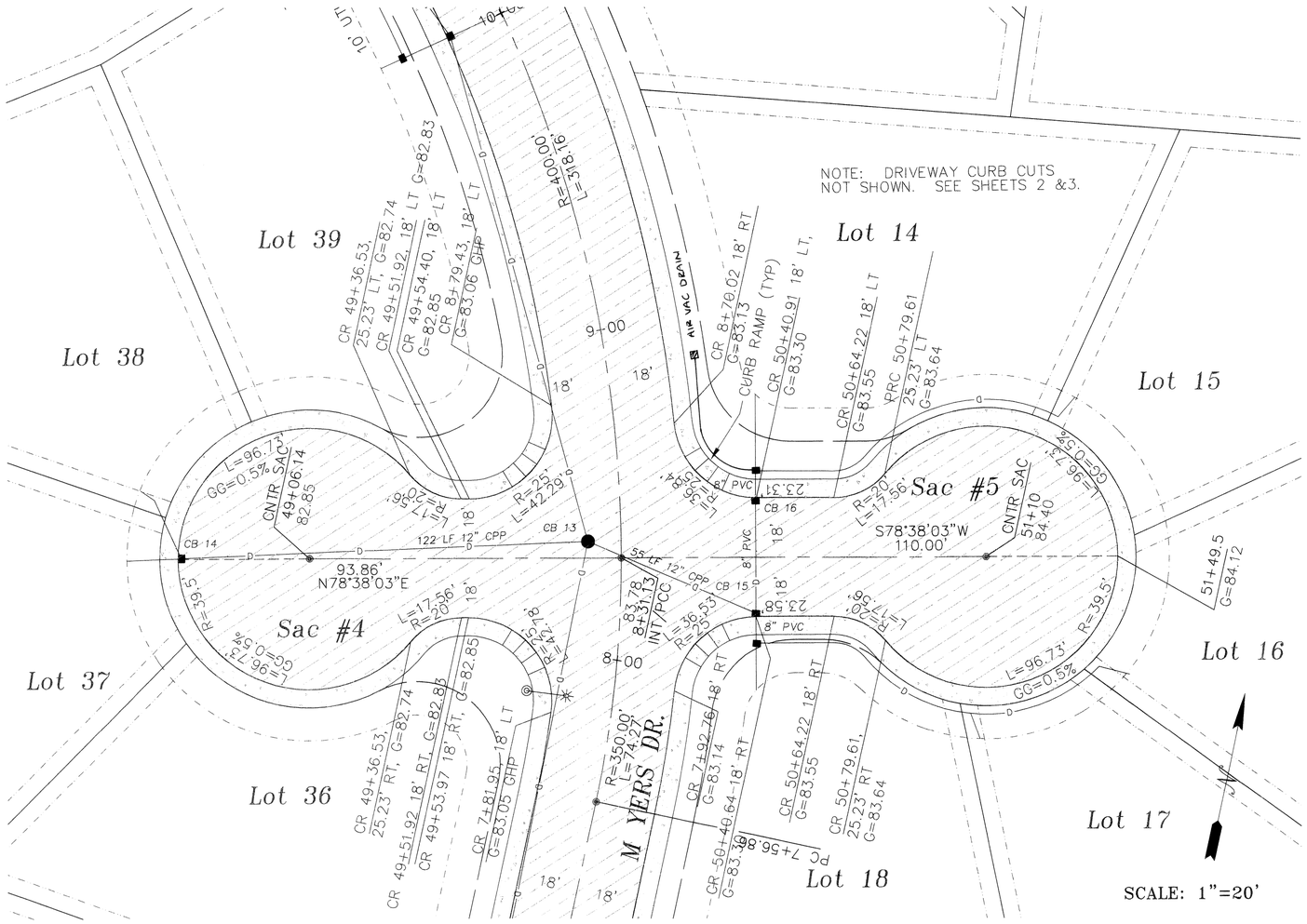
PLAN AND PROFILE
CURB & GUTTER DATA

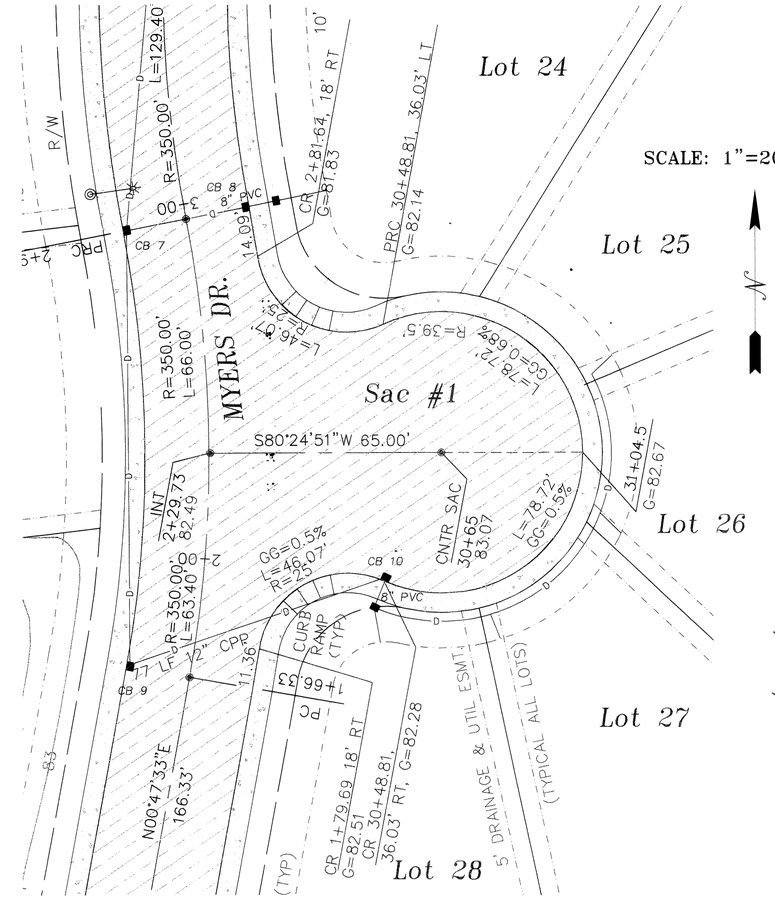
Plat of Myers Estates

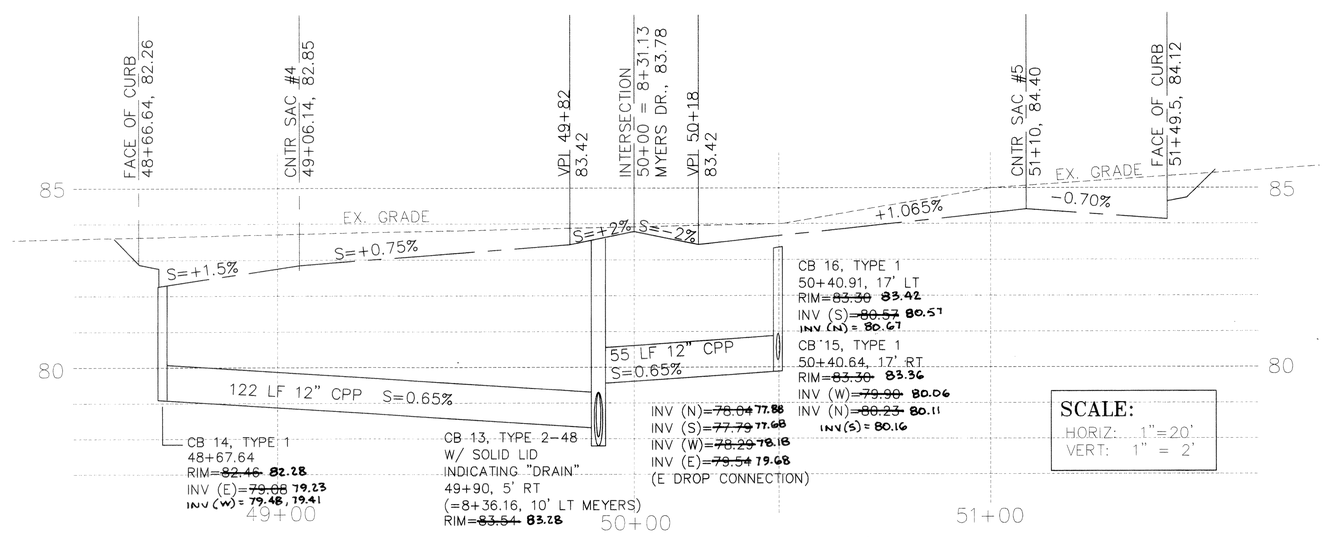
1376 WEST SMITH ROAD
FERNDALE, WASHINGTON 98248

Madrona Engineering
2113 TUTTLE LANE
LUMMI ISLAND, WASHINGTON 98262
TEL: 360.758.3150 FAX: 360.758.3189

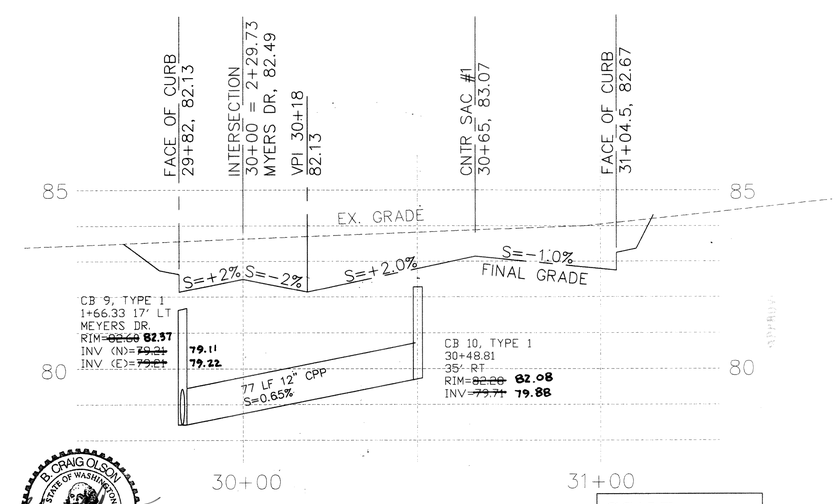
SHEET: 4 OF: 12







PROFILE CUL-DE-SAC #4 & #5



PROFILE
CUL-DE-SAC #1

AS-BUILT

As-Built surveys were conducted October 31 and November 20, 2002 by Construction Surveyors Northwest, Inc. Bellingham, Washington.

REVISION	DATE	DESCRIPTION
5	11/25/02	AS-BUILT DATA
4	03/22/02	RESPOND TO CITY REQUIREMENTS
3	01/30/02	REVISED CUL-DE-SACS
2	10/31/01	ALL PER CITY REVIEW REQUIREMENTS
1	8/13/01	NEW SHEET, ADDED CUL-DE-SAC PROFILES

001.25.005 2.13.06 KR

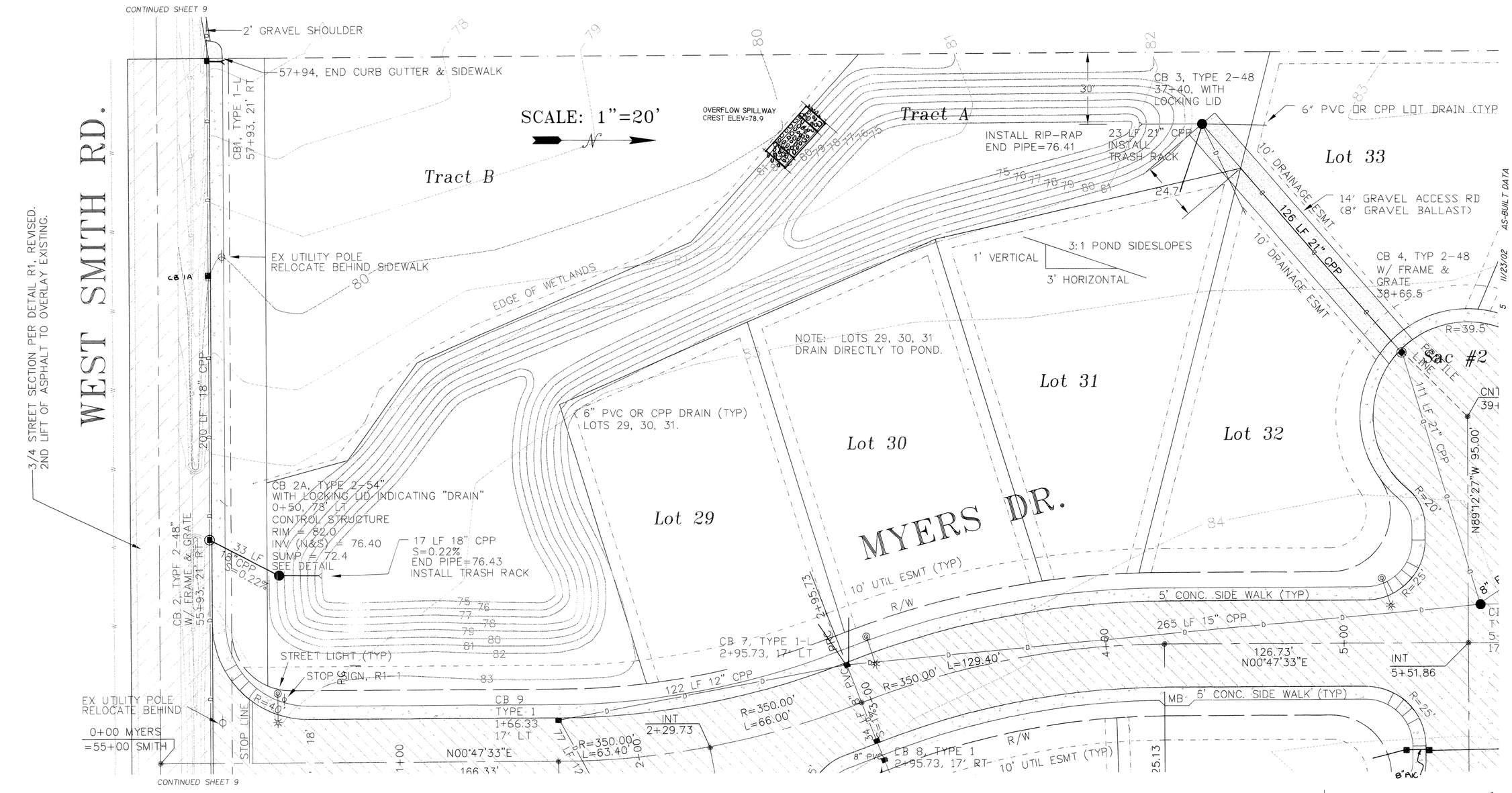
Cul-de-sac #1, #4 & #5

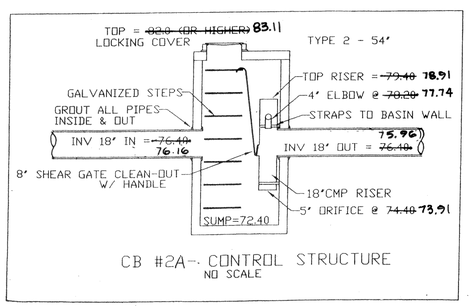
PLAN AND PROFILE
CURB & GUTTER DATA

Plat of Myers Estates

1376 WEST SMITH ROAD
FERNDALE, WASHINGTON 98248

Madrona Engineering
2113 TUTTLE LANE
LUMMI ISLAND, WASHINGTON 98262
TEL: 360.758.3150 FAX: 360.758.3189





CB #2A - CONTROL STRUCTURE
NO SCALE

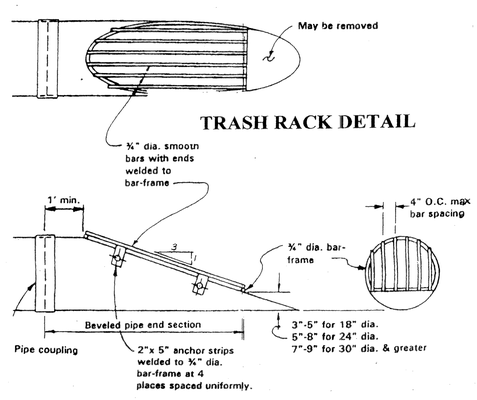
BIOFILTER SWALE and DETENTION POND NOTES:

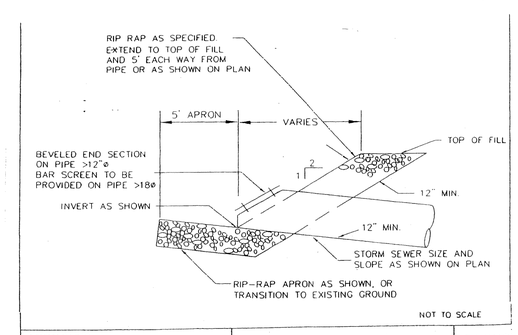
1. Subgrade of bioswale and Detention Pond areas shall be graded to four inches below finish grade.
2. Four inch depth of topsoil shall be placed in all areas to be seeded. Soil shall be graded smooth and rolled as per lawn installations to provide a suitable growing bed for the grass to be planted.
3. The following seed mix is to be used in the bioswale and pond areas:
   40% Redtop bentgrass — 5% Perennial rye
   30% Red fescue — 5% Russian wild rye
   20% Tall fescue
   Other seed mixes may be used if they are designed to grow in wet conditions and are approved by the City of Ferndale.
4. Establish grasses as follows (all weights per 1,000 square feet)

If Hydro-seeding	5 LB	seed mix
	7 LB	10-20-20 (N-P-K) fertilizer*
	50 LB	wood cellulose fiber mulch
If broadcast seeding	5 LB	seed mix
	7 LB	10-20-20 (N-P-K) fertilizer*
	70 LB	wood cellulose fiber mulch

   Fertilizer amount is only an estimate. Actual amount required will vary with soil type. Follow recommendations of seeding company.
5. Contractor shall maintain the seeded areas as needed to assure germination. This may include watering, mulching, reseeding, and or removal of sediment and regrading until a good stand of grass is established.

(Also see GENERAL NOTES and Other Notes)





APPROVED	CITY OF FERNDALE	DRAWING
Public Works Director — Date	CULVERT INLET/OUTLET DETAIL	ST-9

B. CRAIG OLSON — STATE OF WASHINGTON — 31786 — REGISTERED PROFESSIONAL ENGINEER
EXPIRES 09/07/04
01/07/03

AS-BUILT

As-Built surveys were conducted October 31 and November 20, 2002 by Construction Surveyors Northwest, Inc. Bellingham, Washington.

AS-BUILT DATA

REVISION	DATE	DESCRIPTION
4	03/22/02	RESPOND TO CITY REQUIREMENTS
3	11/30/02	REVISED POND LAYOUT & ACCESS
2	10/31/01	ALL PER CITY REVIEW REQUIREMENTS
1	8/13/01	REVISED POND ACCESS ROAD AND STORM DRAIN

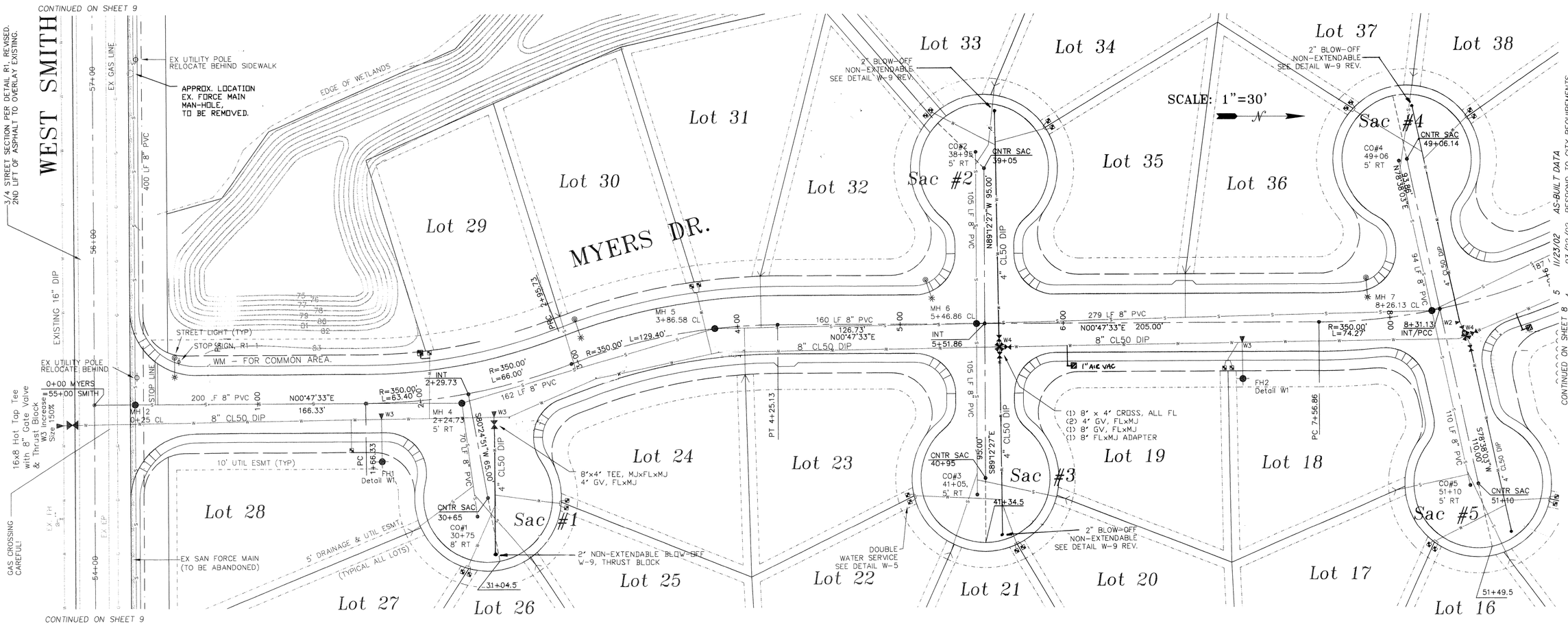
11/23/02

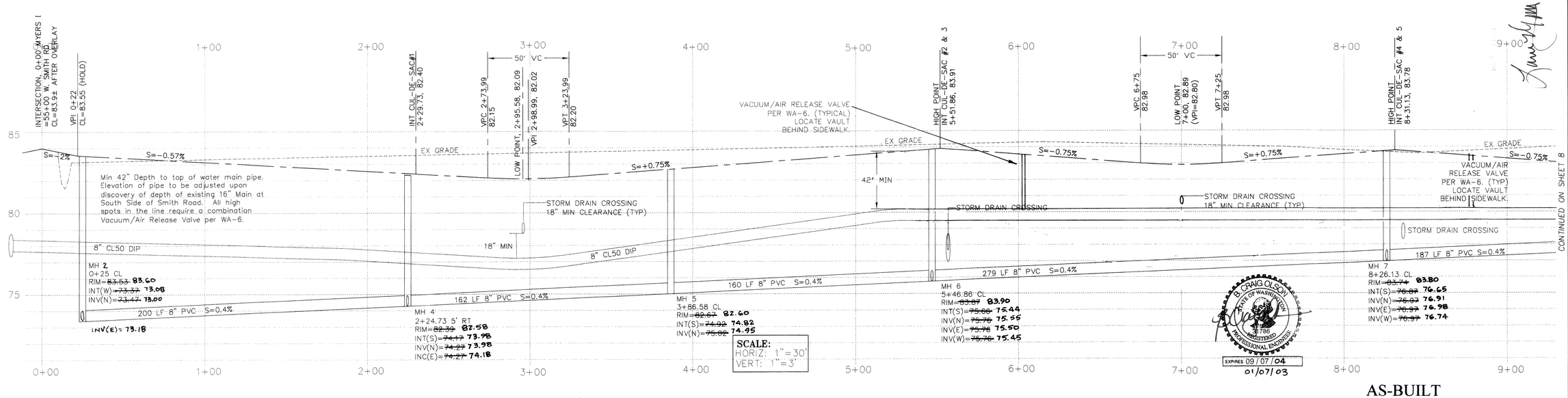
DC125.006 2-13-06 KR

Detention Pond Plan
NOTES AND DETAILS

Plat of Myers Estates
1376 WEST SMITH ROAD
FERNDALE, WASHINGTON 98248

Madrona Engineering
2113 TUTTLE LANE
LUMMI ISLAND, WASHINGTON 98262
TEL: 360.758.3150 FAX: 360.758.3189





SEWER/WATER PROFILE – MYERS DRIVE

STATE OF WASHINGTON B. CRAIG OLSON 36786 REGISTERED PROFESSIONAL ENGINEER
EXPIRES 09/07/04
01/07/03

AS-BUILT

As-Built surveys were conducted October 31 and November 20, 2002 by Construction Surveyors Northwest, Inc. Bellingham, Washington.

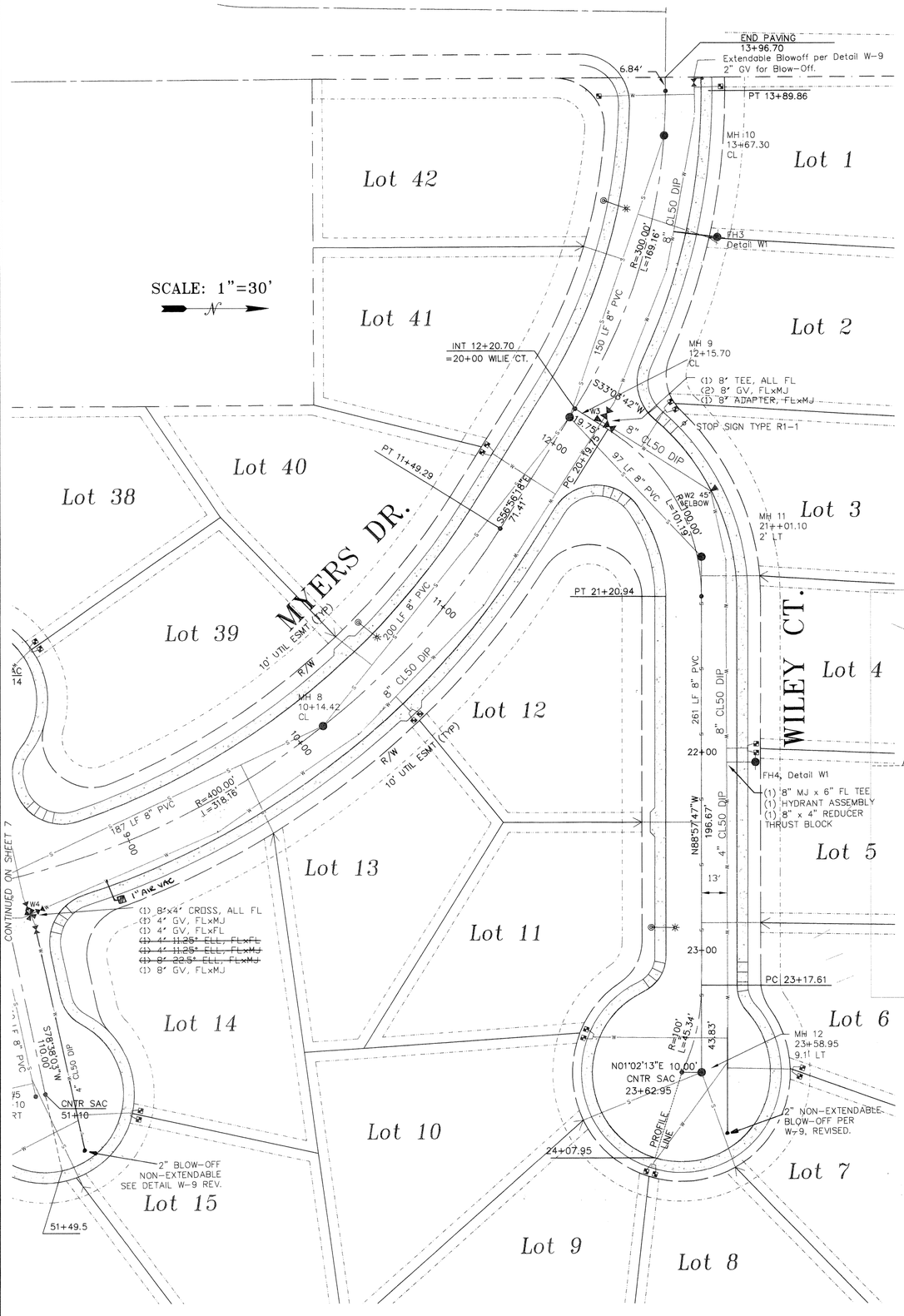
REVISION	DATE	DESCRIPTION
5	11/23/02	AS-BUILT DATA
4	03/22/02	RESPOND TO CITY REQUIREMENTS
3	1/30/02	WATERLINE PROFILE & MODIFICATIONS
2	10/31/01	ALL PER CITY REVIEW REQUIREMENTS
1	8/13/01	REVISED PER CITY REVIEW

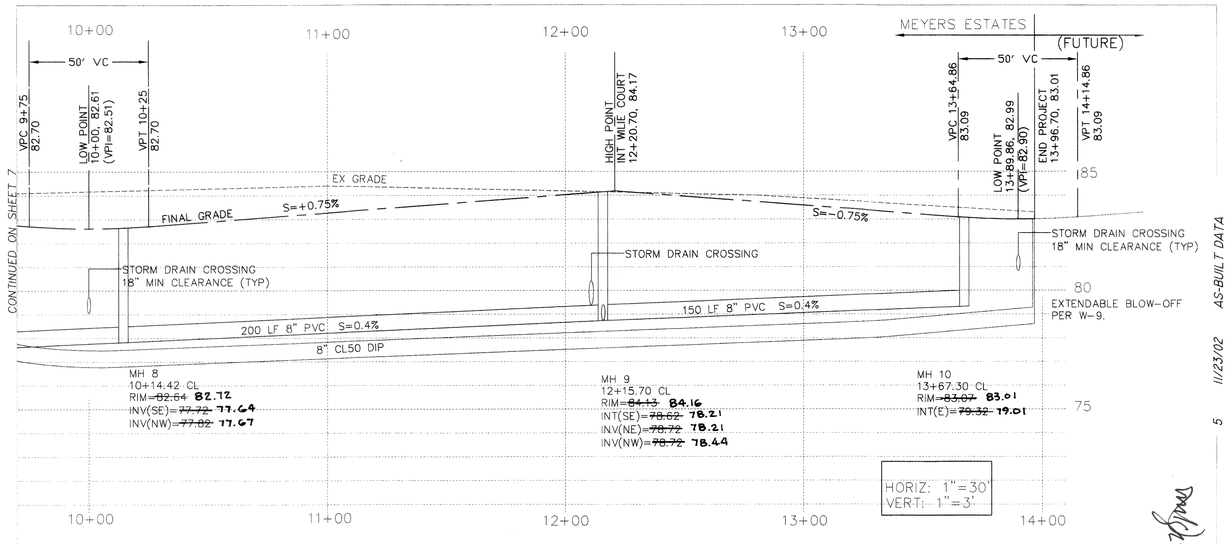
00125.007 8-13-00 KR

Water & Sanitary Sewer
PLAN & PROFILE
MEYERS DRIVE

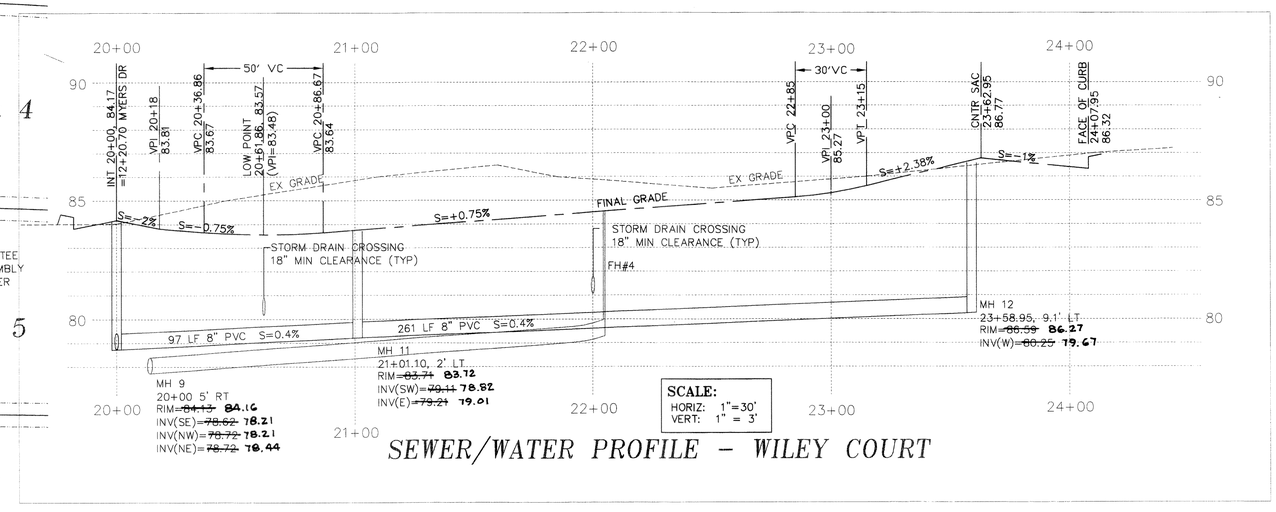
Plat of Myers Estates
1376 WEST SMITH ROAD
FERNDALE, WASHINGTON 98248

Pinner Engineering, Inc.
5070 Pacific Highway
FERNDALE, WASHINGTON 98248
TEL: 360.384.1285





SEWER/WATER PROFILE – MYERS DRIVE



SEWER/WATER PROFILE – WILEY COURT

REVISION	DATE	DESCRIPTION
5	11/23/02	AS-BUILT DATA
4	03/22/02	RESPOND TO CITY REQUIREMENTS
3	1/30/02	ADDED WATERLINE PROFILE
2	10/31/01	ALL PER CITY REVIEW REQUIREMENTS
1	8/13/01	REVISED PER CITY REVIEW

0012S.008 2:13:06 KB

Water & Sanitary Sewer

PLAN AND PROFILE
MEYERS DRIVE AND WILIE COURT

Plat of Myers Estates

1376 WEST SMITH ROAD
FERNDALE, WASHINGTON 98248

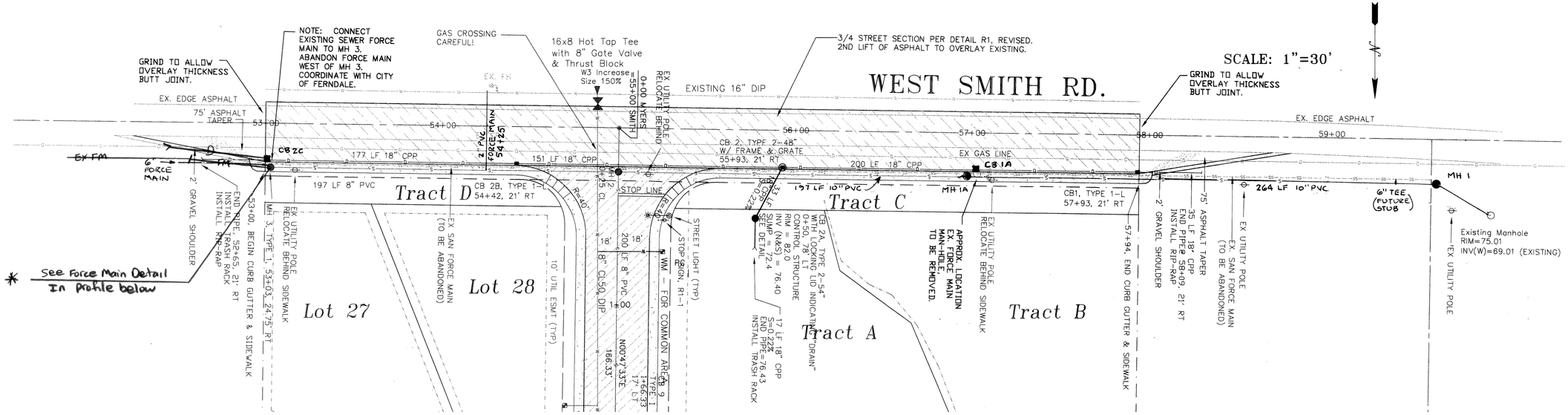
Pinner Engineering, Inc.
5070 Pacific Highway
FERNDALE, WASHINGTON 98248
TEL: 360.384.1285

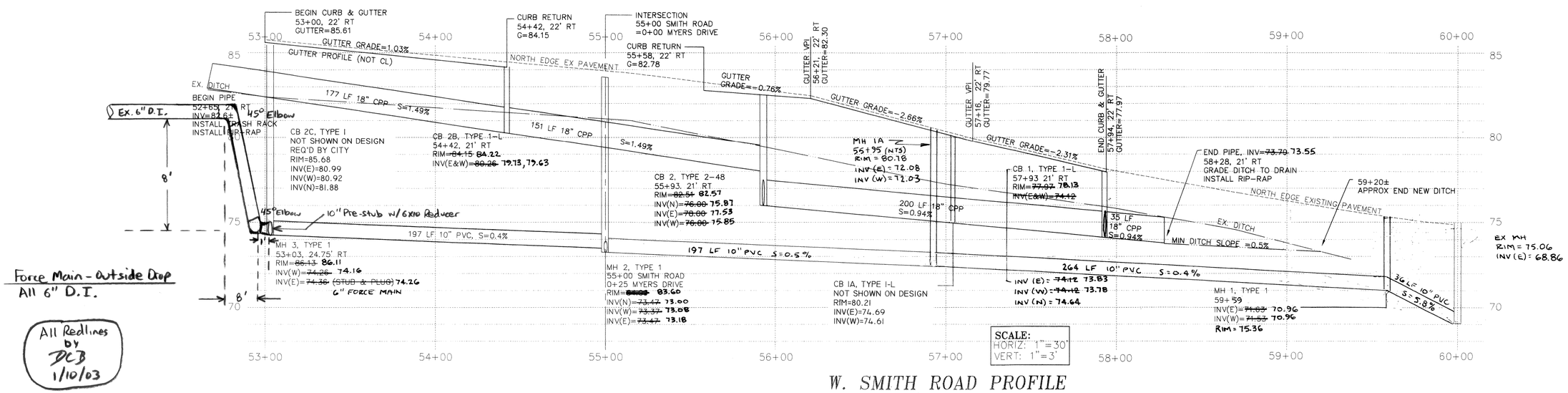
B. CRAIG OLSON
STATE OF WASHINGTON
21786
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 09/07/04
01/07/03

AS-BUILT

As-Built surveys were conducted October 31 and November 20, 2002 by Construction Surveyors Northwest, Inc. Bellingham, Washington.

SHEET: 8 OF: 12





W. SMITH ROAD PROFILE

SANITARY SEWER NOTES:

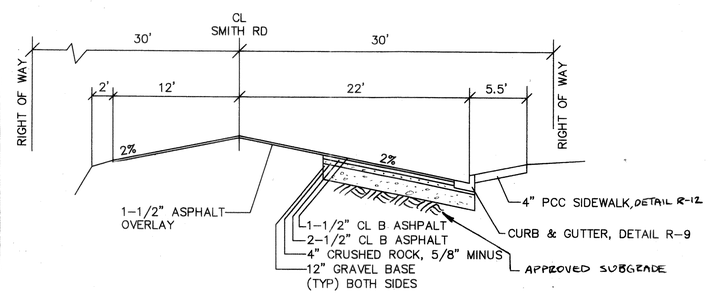
1) Contractor shall verify invert elevation of existing manhole on Smith Road prior to construction. The base inside the existing manhole shall be reshaped to a channel equivalent to that specified for a new manhole. All damage to existing facilities resulting from implementation of this plan shall be repaired or replaced at no additional expense to the Owner or Engineer.
2) All work and materials shall conform to applicable portions of the current edition of the Standard Plans and Standard Specifications.
3) PVC sewer pipe and fittings shall be solid wall construction and shall conform to the requirements of ASTM D 3034 SDR 35.
4) Joints for solid wall PVC pipe shall conform to ASTM D 3212 using elastomeric gaskets conforming to ASTM F 477.
5) Fittings for solid wall PVC pipe shall be injection molded, factory welded or factory solvent cemented.
6) The ends of all pipes shall be trimmed flush with the inside wall of the man hole. Pipe shall be grouted on both the inside and outside of the man hole wall OR use approved elastomeric boot.
7) Placement and compaction of trench backfill shall conform with GENERAL NOTE NO. 12, eight inch lifts compacted to 95% density modified proctor.
8) Bedding for PVC sanitary sewer pipe shall be six inch compacted depth of "Bedding Material for Thermo-Plastic Pipe" per Standard Specification 9-03.16. Pea gravel or other suitable material may be used with prior written approval from City of Ferndale personnel.
9) All man holes shall be Type 1 - 48 inch per Standard Plan B-23a, except as noted.
10) Trench backfill material for PVC sanitary sewer pipe shall consist of aggregate for gravel base as specified in Section 9-0.10, except that 100 percent of the material shall pass through a 2-1/2 inch seive opening.
11) All lots within this subdivion shall have a sanitary sewer service installed per detail SS-14 at locations shown on the plans.
12) Contractor shall provide Force Main abandonment plan to the City and shall coordinate with the City prior to abandonment procedure.
ALSO SEE GENERAL NOTES AND OTHER NOTES.

SMITH ROAD OVERLAY NOTES:

1) Existing Smith Road subgrade to be certified by a Geo-technical Engineer as being adequate for intended use prior to overlay. Inadequate subgrade will require full road reconstruction.
2) Amopave 4599 or Engineer-approved equal shall be place between asphalt lifts in accordance with manufacturer's instructions.
3) Sawcut existing asphalt road inside fog line prior to new road construction. Location of sawcut to be approved by Public Works Director.
4) Smith Road may require pre-level prior to final lift of asphalt.
5) Grind road ends to allow overlay thickness butt joint.

WATER NOTES:

1. **Water-related construction including trench excavation, pipe fitting installations and testing, and backfilling shall conform with applicable sections of the Standard Specifications including 7-09 to 7-15 and in accordance with the City of Ferndale Development Guidelines and Improvment Standards.**
2. **Water Main shall be Class 50 ductile iron pipe conforming with Section 9-30.1 of the Standard Specification. Water fittings for the ductile iron pipe shall meet requirements set forth in section 9-30.2 of the Standard Specifications.**
3. **Fire Hydrants shall conform with City of Ferndale Development Standards Section 705.A.5**
4. **Depth of cover from final grade to top of pipe shall be 42 inches minimum.**
5. **Use City of Ferndale standard Type K Copper pipe for all water services.**
6. **Pressure testing of the water main, disinfection, and "As-Builts" shall be in conformance with applicable sections of the Standard Specification. Test pressure shall be 150 psi above working pressure, but not less than 200 psi.**



SMITH ROAD 3/4 STREET SECTION

DETAIL R1, REVISED

AS-BUILT

As-Built surveys were conducted October 31 and November 20, 2002 by Construction Surveyors Northwest, Inc. Bellingham, Washington.

B. CRAIG OLSON, STATE OF WASHINGTON, 21786, REGISTERED PROFESSIONAL ENGINEER
EXPIRES 09/07/04
01/07/03

REVISION	DATE	DESCRIPTION
5	11/23/02	AS-BUILT DATA
4	03/22/02	RESPOND TO CITY REQUIREMENTS
3	1/30/02	ADDED 3/4 ST/ SECTION WITH UTILITIES
2	10/31/01	ADDED NOTES RE: EX. FORCE MAIN
1	8/13/01	REVISED SEWER LAYOUT

00125.009 2.13.06 KR

Smith Road Improvements

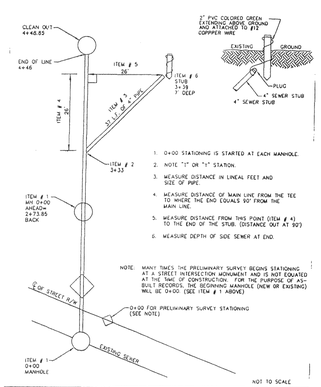
PLAN AND PROFILE
WEST SMITH ROAD

Plat of Myers Estates

1376 WEST SMITH ROAD
FERNDALE, WASHINGTON 98248

Madrona Engineering
2113 TUTTLE LANE
LUMMI ISLAND, WASHINGTON 98262
TEL: 360.758.3150 FAX: 360.758.3189

SHEET: 9 OF: 12

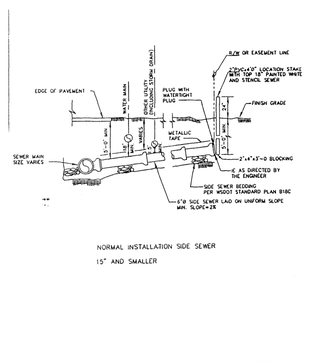


1. 0+00 STATIONING IS STARTED AT EACH MANHOLE.
2. NOTE "1" OR "1" STATION.
3. MEASURE DISTANCE IN LINEAL FEET AND SIZE OF PIPE.
4. MEASURE DISTANCE OF MAIN LINE FROM THE TEE TO WHERE THE END EQUALS 90' FROM THE MAIN LINE.
5. MEASURE DISTANCE FROM THIS POINT (ITEM # 4) TO THE END OF THE STUB (DISTANCE OUT AT 90')
6. MEASURE DEPTH OF SIDE SEWER AT END.

NOTE: MANY TIMES THE PRELIMINARY SURVEY BEGINS STATIONING AT A STREET INTERSECTION MONUMENT AND IS NOT EQUATED AT THE TIME OF CONSTRUCTION. FOR THE PURPOSE OF AS-BUILT RECORDS, THE BEGINNING MANHOLE (NEW OR EXISTING) WILL BE 0+00. (SEE ITEM # 1 ABOVE)

NOT TO SCALE

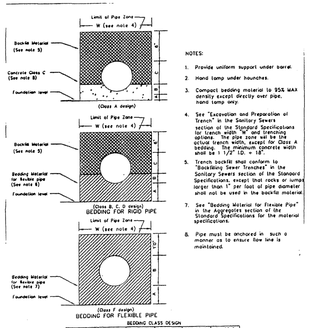
APPROVED Public Works Director Date	CITY OF FERNDALE SANITARY SEWER TYPICAL SIDE SERVICE	DRAWING SS-14



NORMAL INSTALLATION SIDE SEWER
15" AND SMALLER

NOT TO SCALE

APPROVED Public Works Director Date	CITY OF FERNDALE NORMAL INSTALLATION 15" AND SMALLER SEWER MAINS	DRAWING SS-6



NOTES:

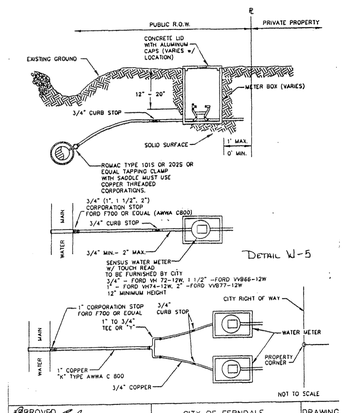
1. Provide uniform support under barrel.
2. Hand tamp under haunches.
3. Compact bedding material to 95% MAX density except directly over pipe, hand tamp only.
4. See "Excavation and Preparation of Trench" in the Sanitary Sewers section of the Standard Specifications for trench width. "W" and trenching material shall be in accordance with actual trench width, except for Class A bedding. The maximum concrete width shall be 1 1/2" I.D. + 18".
5. Trench backfill shall conform to "Backfilling Sewer Trenches" in the Sanitary Sewers section of the Standard Specifications, except that rocks or lumps larger than 1" per foot of pipe diameter shall not be used in the backfill material.
7. See "Bedding Material for Flexible Pipe" in the Aggregate section of the Standard Specifications for the material specifications.
8. Pipe must be anchored in such a manner as to ensure flow line is maintained.

DIMENSION	CLASS A	CLASS B	CLASS C	CLASS D	CLASS F
A	1/4 OD + 1 FT.	1/2 OD	1/8 OD	Zero	0.5
B	1/4 OD	1/2 OD	1/8 OD	Zero	0.5
C	1/4 OD	1/2 OD	1/8 OD	0.5	

* A + B* MIN. 27" I.D. and wider; 8" MIN. over 27" I.D.

NOT TO SCALE

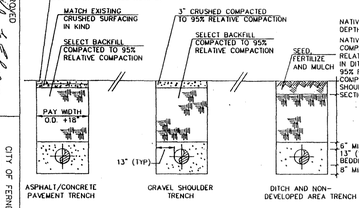
APPROVED Public Works Director Date	CITY OF FERNDALE PIPE BEDDING FOR SANITARY SEWERS	DRAWING SS-1



DETAIL W-5

NOT TO SCALE

APPROVED Public Works Director Date	CITY OF FERNDALE TYPICAL WATER SERVICE (3/4" TO 2")	DRAWING W-5



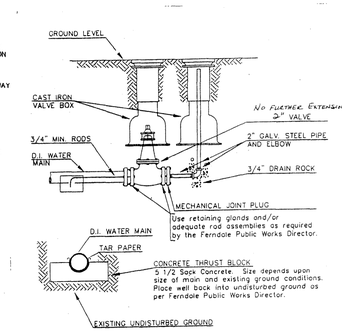
NOTES:
1. NATIVE BACKFILL SHALL BE COMPACTED TO 90% RELATIVE COMPACTION.
2. SELECT BACKFILL/CRUSHED SURFACE COURSE SHALL BE COMPACTED TO 95% COMPACTION.
3. PAVEMENT SHALL BE SAW CUT, TACKED, AND COMPACTED TO 92% OF ABSOLUTE DENSITY.
4. P.C.C. REPLACEMENT SHALL BE 2" GREATER THAN EXISTING COURSE, 7" MINIMUM, 6.5 P.C.C. (HES - AIR ENTRAINED)
5. ALL TRENCH RESTORATION SHALL MEET CITY STANDARDS.

TRENCHING DETAIL

DETAIL W-11

NOT TO SCALE

APPROVED Public Works Director Date	CITY OF FERNDALE TRENCHING DETAIL	DRAWING W-11

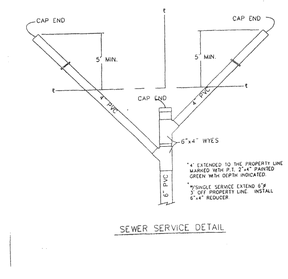


NON EXTENDABLE BLOW-OFF
DETAIL W-9 (REVISED)

2" blow-off to be used where the main will not be extended in future. Use this if blow-off is in pavement. If out of paved areas put assembly into meter box.

NOT TO SCALE

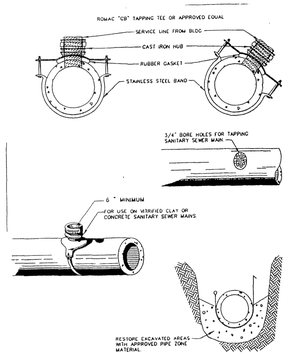
APPROVED Public Works Director Date	CITY OF FERNDALE 2" BLOW-OFF WATER MAIN EXTENSION	DRAWING W-9



SEWER SERVICE DETAIL

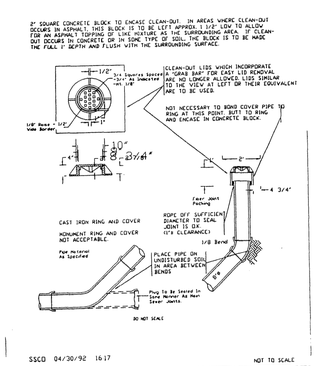
NOT TO SCALE

APPROVED Public Works Director Date	CITY OF FERNDALE DOUBLE SANITARY SEWER SERVICE	DRAWING SS-13



NOT TO SCALE

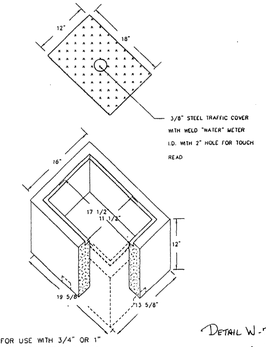
APPROVED Public Works Director Date	CITY OF FERNDALE SANITARY SEWER BANDED TAPPING TEE	DRAWING SS-12



SSCO 04/30/92 16:17

NOT TO SCALE

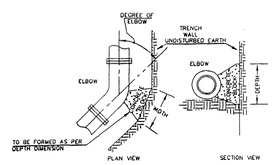
APPROVED Public Works Director Date	CITY OF FERNDALE 8" CLEAN OUT	DRAWING SS-5



DETAIL W-7

NOT TO SCALE

APPROVED Public Works Director Date	CITY OF FERNDALE 1 D METER BOX FOG TITE	DRAWING W-7



100 P.S.I. OPERATING PRESSURE

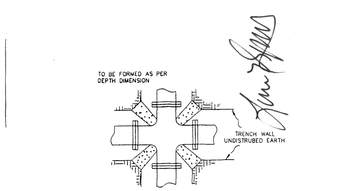
SIZE	11 1/4°		22 1/2°		45°		90°	
	W	U	W	U	W	U	W	U
6"	1'-0"	1'-0"	1'-0"	1'-0"	1'-6"	1'-6"	2'-3"	1'-6"
8"	1'-3"	1'-3"	1'-3"	1'-3"	2'-0"	1'-9"	3'-0"	2'-0"
10"	1'-6"	1'-6"	1'-6"	1'-6"	2'-3"	2'-0"	3'-6"	2'-3"
12"	2'-0"	1'-9"	2'-0"	1'-9"	3'-0"	2'-6"	4'-0"	2'-6"
16"	2'-6"	2'-3"	2'-6"	2'-3"	4'-0"	3'-0"	5'-0"	3'-0"
20"	3'-0"	2'-6"	3'-0"	2'-6"	4'-6"	3'-6"	6'-0"	3'-6"
24"	4'-0"	3'-0"	4'-0"	3'-0"	5'-0"	3'-0"	9'-0"	5'-0"

NOTE:
ALL ABOVE DIMENSIONS APPLY TO STABLE TRENCH WALLS, UNDER VARIBLE CONDITIONS SIZE OF THRUST BLOCK SHALL BE DETERMINED BY ENGINEER.

DETAIL W-2

NOT TO SCALE

APPROVED Public Works Director Date	CITY OF FERNDALE THRUST BLOCKING ELBOWS	DRAWING W-2



100 P.S.I. OPERATING PRESSURE

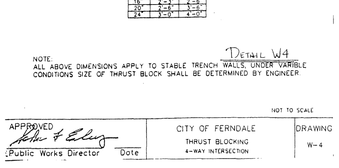
SIZE	WIDTH	DEPTH
6"	1'-6"	1'-6"
8"	2'-0"	1'-9"
10"	2'-6"	2'-0"
12"	3'-0"	2'-3"
16"	4'-0"	3'-0"
20"	5'-0"	3'-6"
24"	6'-0"	3'-0"

NOTE:
ALL ABOVE DIMENSIONS APPLY TO STABLE TRENCH WALLS, UNDER VARIBLE CONDITIONS SIZE OF THRUST BLOCK SHALL BE DETERMINED BY ENGINEER.

DETAIL W-3

NOT TO SCALE

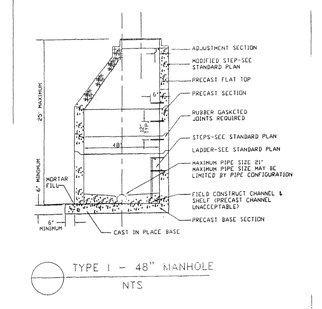
APPROVED Public Works Director Date	CITY OF FERNDALE THRUST BLOCKING TEES	DRAWING W-3



DETAIL W4

NOT TO SCALE

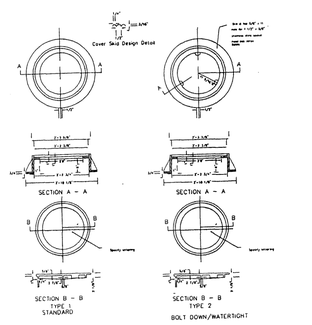
APPROVED Public Works Director Date	CITY OF FERNDALE THRUST BLOCKING 4-WAY INTERSECTION	DRAWING W-4



TYPE 1 - 48" MANHOLE
NTS

NOT TO SCALE

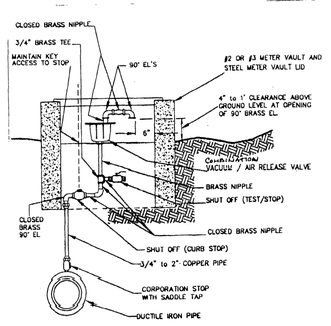
APPROVED Public Works Director Date	CITY OF FERNDALE TYPE 1 48" MANHOLE	DRAWING SS-2



NOTE:
Frame and gasket may be in one piece or composed of other.
For cast iron manhole only and frame and cover are not watertight, the concrete gasket and bolts and washers need not be used or required.
Unless otherwise shown on the Plans or specified in the Special provisions, Type 1, Standard Manhole Frame and Cover shall be used on sewer manholes.
In lieu of gasket and bolts the watertight cover alternate clamping system may be used (watertight cover) or CBU angular wedging.

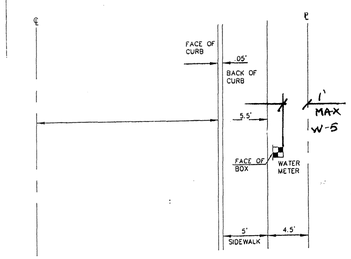
NOT TO SCALE

APPROVED Public Works Director Date	CITY OF FERNDALE MANHOLE RING & COVER	DRAWING SS-9



NOTES;
1. MAINTAIN CONSTANT RISE IN PIPING.

APPROVED City Engineer Date	REVISED DEC. 1999	CITY OF BELLINGHAM TYPICAL VACUUM/AIR RELEASE VALVE	DRAWING WA-6



WATER METER LOCATION
DETAIL W-14

NOT TO SCALE

APPROVED Public Works Director Date	CITY OF FERNDALE WATER METER LOCATION DETAIL	DRAWING W-14

100 P.S.I. OPERATING PRESSURE

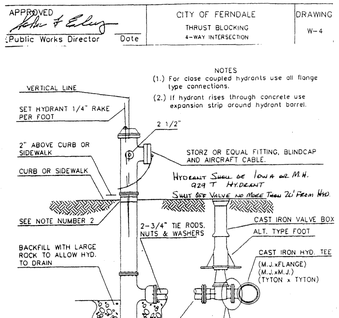
SIZE	WIDTH	DEPTH
6"	1'-6"	1'-6"
8"	2'-0"	1'-9"
10"	2'-6"	2'-0"
12"	3'-0"	2'-3"
16"	4'-0"	3'-0"
20"	5'-0"	3'-6"
24"	6'-0"	3'-0"

NOTE:
ALL ABOVE DIMENSIONS APPLY TO STABLE TRENCH WALLS, UNDER VARIBLE CONDITIONS SIZE OF THRUST BLOCK SHALL BE DETERMINED BY ENGINEER.

DETAIL W-3

NOT TO SCALE

APPROVED Public Works Director Date	CITY OF FERNDALE THRUST BLOCKING TEES	DRAWING W-3



DETAIL W-1

NOT TO SCALE

APPROVED Public Works Director Date	CITY OF FERNDALE FIRE HYDRANT ASSEMBLY	DRAWING W-1

B. CRAIG OLSON, STATE OF WASHINGTON, 31766, REGISTERED PROFESSIONAL ENGINEER
EXPIRES 09/07/04
01/07/03

REVISION	DATE	DESCRIPTION
2	3/22/02	REVISED W-14
1	8/13/01	REVISED PER CITY REVIEW

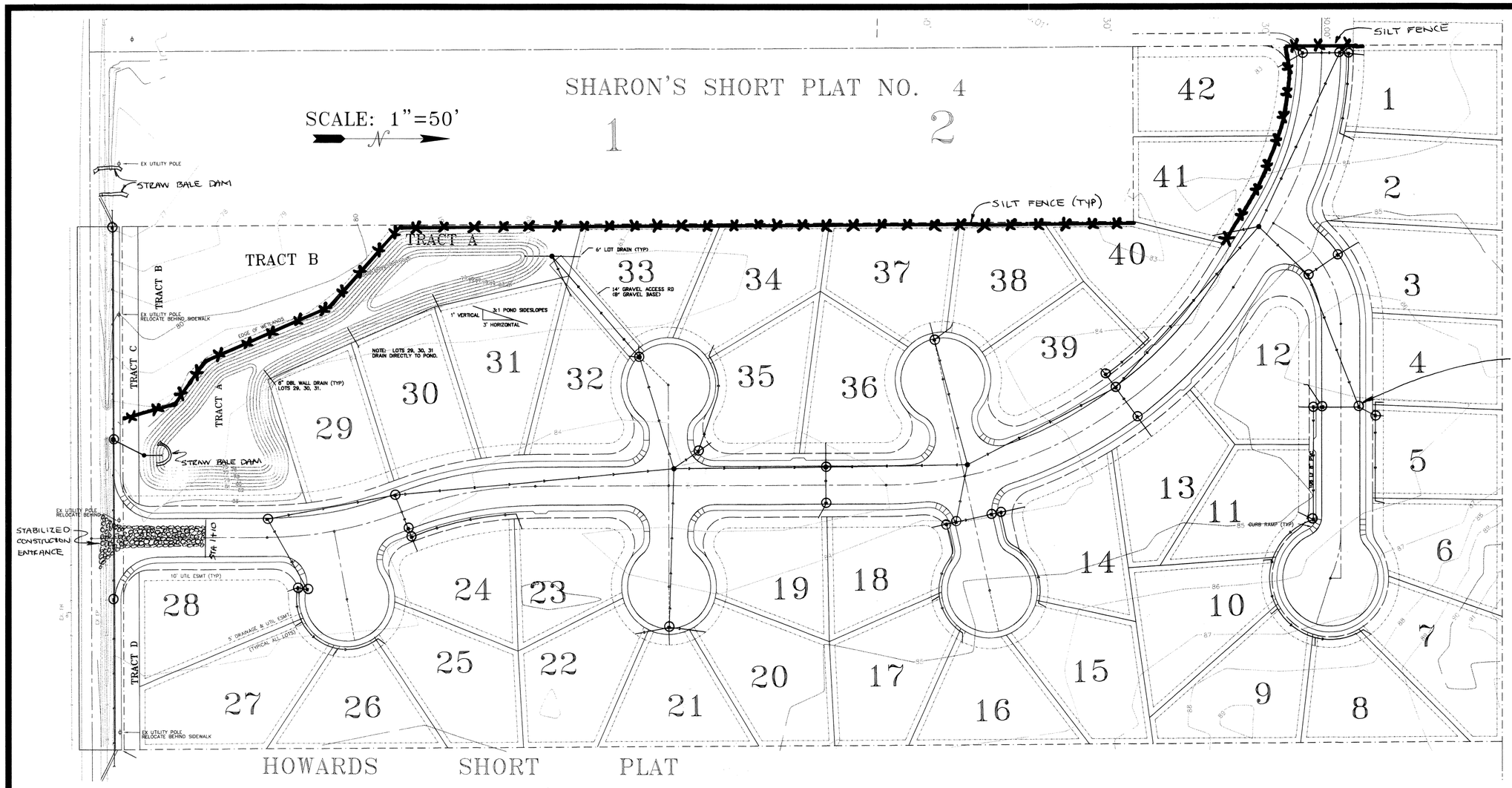
0012S. OLO 2/13/02 KR

Water and Sanitary Sewer
CONSTRUCTION NOTES & DETAILS

Plat of Myers Estates
1376 WEST SMITH ROAD
FERNDALE, WASHINGTON 98248

Pinner Engineering, Inc.
5070 Pacific Highway
FERNDALE, WASHINGTON 98248
TEL: 360.384.1285

SHEET: 10 OF: 12



Maintenance

- The entrance shall be maintained in a condition which will prevent tracking or flow of mud onto public rights-of-way. This may require periodic top dressing with 2-inch stone, as conditions demand, and repair and/or cleanout of any structures used to trap sediment. All materials spilled, dropped, washed, or tracked from vehicles onto roadways or into storm drains must be removed immediately.
- All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization is achieved or after the temporary BMPs are no longer needed. Trapped sediment shall be removed or stabilized on site. Disturbed soil areas resulting from removal shall be permanently stabilized.

STABILIZED CONSTRUCTION ENTRANCE

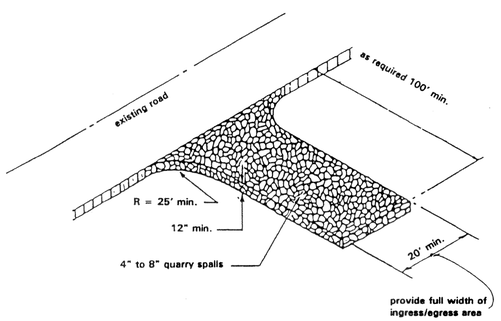
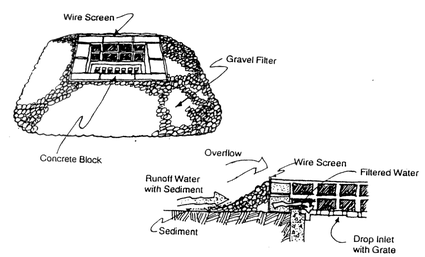


Figure II-5.24 Block and Gravel Filter



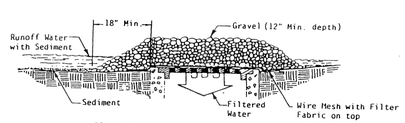
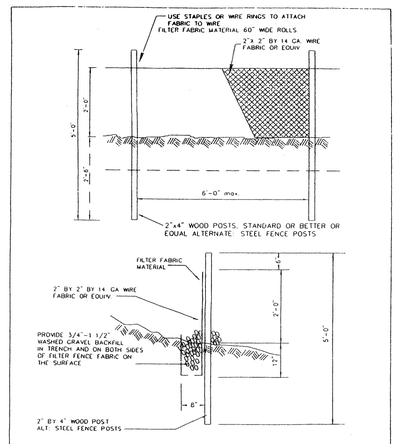
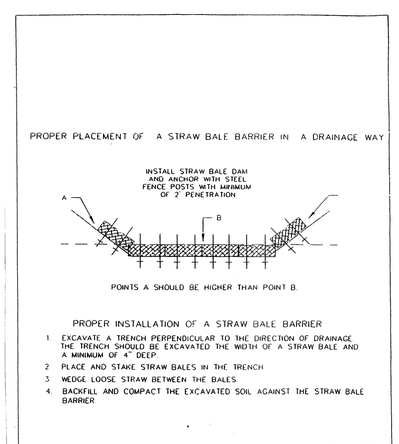


Figure II-5.25 Gravel and Wire Mesh Filter



APPROVED	CITY OF FERNDALE	DRAWING
Public Works Director Date	**SILT FENCE DETAIL**	ST-10



APPROVED	CITY OF FERNDALE	DRAWING
Public Works Director Date	STRAW BALE DAM DETAIL	ST-11

TEMPORARY EROSION / SEDIMENT CONTROL (TESC) NOTES:

1. The temporary erosion control system shall be installed prior to all other construction, except for CB inlet filters, which are to be placed immediately after the storm drain is installed.
2. Where possible, maintain natural vegetation for silt control.
3. As construction progresses and seasonal conditions dictate, the erosion control facilities shall be maintained and / or altered as required by the City or Engineer to insure continuing erosion / sedimentation control by Contractor's ways and means.
4. All temporary siltation controls shall be maintained in a satisfactory condition until such time that clearing and / or construction is completed, permanent drainage facilities are operational, and the potential for erosion has passed.
5. All disturbed land areas subject to erosion as determined by the City that will be left for 30 days or more shall be seeded with a mix and by a method approved by the City of Ferndale and maintained until seed germination is assured.
6. The right-of-way shall be kept clean. Tracking of mud and debris from the site will not be allowed. Failure to comply with this condition may result in all work on site being stopped until the condition is remedied.

(Also see GENERAL NOTES and Other Notes.)

B. CRAIG OLSON
STATE OF WASHINGTON
31786
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 09/07/04
01/07/03

REVISION	DATE	DESCRIPTION
3	1/30/02	ADDITIONAL SILT FENCES, REVISED OUTLET
2	10/31/01	ALL PER CITY REVIEW REQUIREMENTS
1	8/13/01	NEW SHEET

00125.011 2:13:06 PM

SWPPP
STORMWATER POLLUTION PREVENTION PLAN
NOTES AND DETAILS

Plat of Myers Estates
1376 WEST SMITH ROAD
FERNDALE, WASHINGTON 98248

Madrona Engineering
2113 TUTTLE LANE
LUMMI ISLAND, WASHINGTON 98262
TEL: 360.758.3150 FAX: 360.758.3189

SHEET: 11 OF: 12

DRAINAGE NOTES:

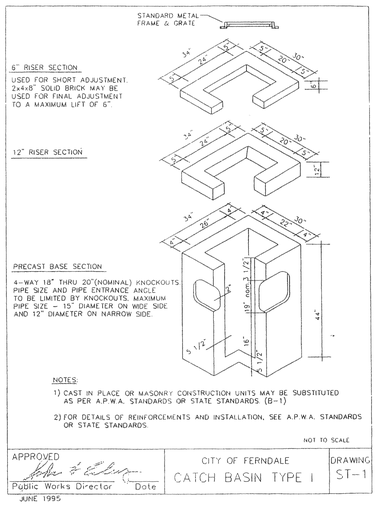
1. All work shall conform with applicable sections of the City of Ferndale Development Standards and with applicable sections of the Department of Ecology Stormwater Management Manual for the Puget Sound Basin, current edition, and with applicable sections of WSDOT Standard Plans and Standard Specifications.. Construction of Biofilter Swale shall conform with Section 1005 of the City of Ferndale Development Standards and with the Biofilter Swale information provided on this plan and shown in the Drainage Report.
2. IMPORTANT: Surface drainage on site is dependent upon **accurate** grading and paving. Subsurface drainage, including pipes and other structures, is dependent upon **accurate** elevation and placement of said facilities. Contractor shall utilize the services of a competent surveyor to assure proper installation of all drainage facilities.
3. Drainage structures, culverts, and conduits shall meet requirements set forth in APWA 9-05.
4. Rip-Rap shall conform to APWA Section 9-13.
5. PVC pipe shall be Polyvinyl Chloride Pipe conforming to the provisions of ASTM D 3034 SDR 35, and AASHTO M 278.
6. Perforated PVC pipe, if required, shall be Polyvinyl Chloride Pipe conforming to the provisions of ASTM D 3034 SDR 35, and AASHTO M 278.
7. CPP Pipe shall be smooth interior (N-12 type) Corrugated Polyethylene Pipe conforming to requirements set forth in AASHTO M 294.
8. All connections related to lot drainage services shall be made using factory-built components, including all Tees, Elbows and related appurtenances. No "cut-in" connections and no site-built fittings shall be allowed.

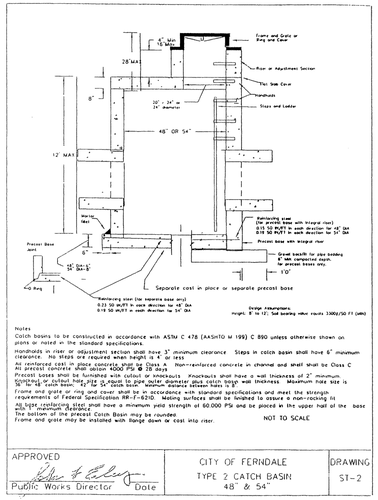
(Also see GENERAL NOTES and Other Notes.)

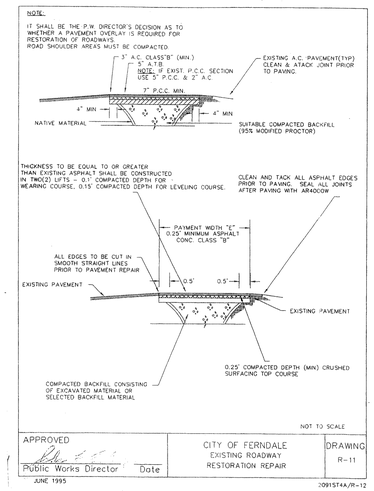
GRADING and PAVING NOTES:

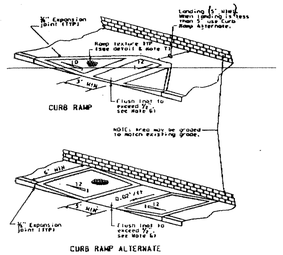
1. CLEARING and GRUBBING: All objectionable growth shall be stripped. Removal of trees, shrubs, and other organic material shall include the removal of stumps and roots to the extent that no root greater than 3 inches in diameter remains within 5 feet of an underground structure or utility line nor under footings or paved areas. Grubbing in open areas shall include removal of stumps and 3 inch roots to 2 feet below finish grade elevations.
2. SUBGRADE PREPARATION: All organic materials including, but not limited to, top soil, grass, and plant debris which is located in an area to be covered with concrete or asphalt or gravel shall be removed prior to placement of any other materials. Stripped material shall be disposed of at a location arranged by the Contractor. Subgrade shall be firm, unyielding soil free from organic materials. If additional excavation is required to remove undesirable subgrade materials, said excavation shall be done by the Contractor at no additional expense to the Owner.
3. Contractor shall fully grade the site to serve the final grades and typical sections shown on the plans.
4. Material placed under proposed building locations, in road right-of-ways, or under concrete or asphaltic concrete surfaces shall be placed in maximum eight inch lifts, loose thickness, and compacted per GENERAL NOTE No. 12.
5. Gravel ballast shall conform with APWA section 9-03.9(1).
6. Gravel base shall conform with APWA section 9-03.10, minimum eight inch depth, with maximum stone size of 5 inches in diameter, compacted to 95% ASTM D1559.
7. Crushed Surfacing Top course (CSTC), if required, shall conform with APWA section 9-03.9(3), minimum three inch depth, compacted to 95% ASTM D1559.
8. Asphaltic Concrete materials and installation shall conform with applicable sections of APWA section 5-04 and with the city of Ferndale Drawing R-4 as modified here-in.
9. All depths shown or referenced are fully compacted.

(Also see GENERAL NOTES, and Other Notes.)

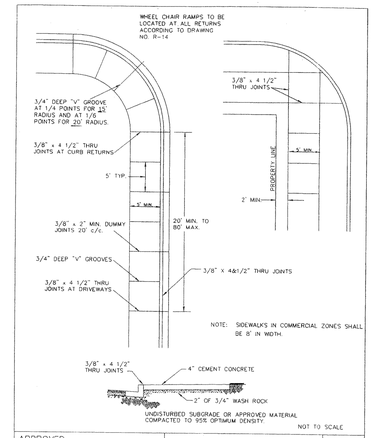


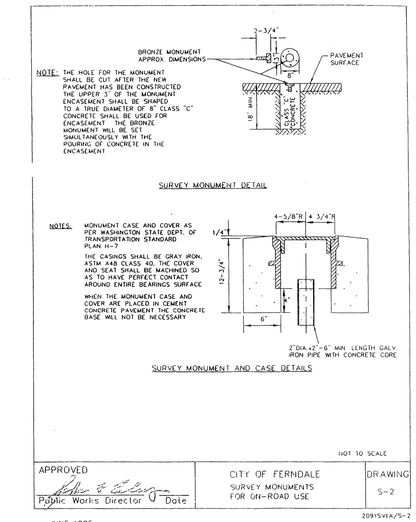


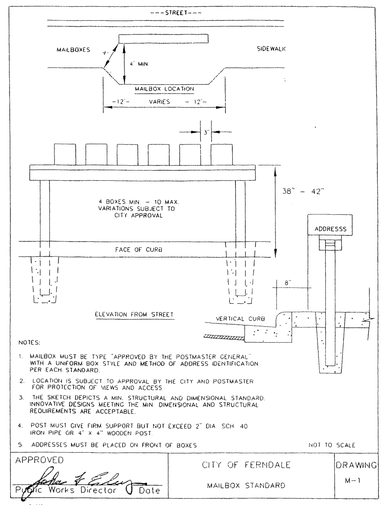


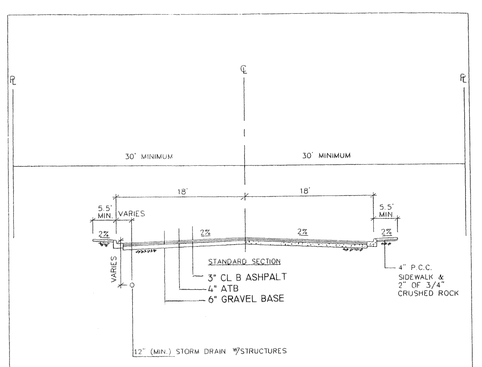


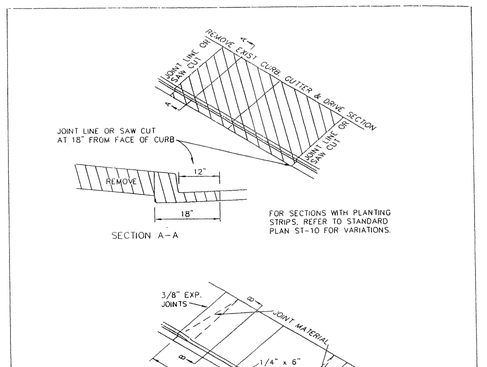
CEMENT CONCRETE SIDEWALK AND APPROACH DETAILS

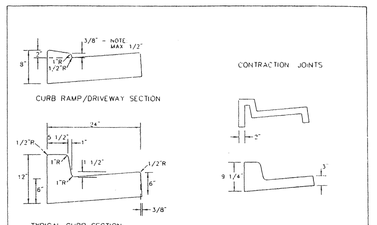


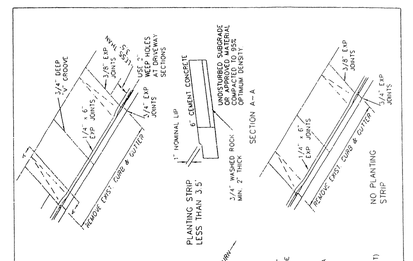


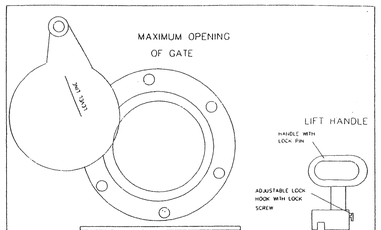












B. CRAIG OLSON
STATE OF WASHINGTON
31786
REGISTERED
PROFESSIONAL ENGINEER
EXPIRES 09/07/04
01/07/03

REVISION	DATE	DESCRIPTION
3	3/22/02	ADDED R-11, R-12, REVISED NOTES
2	10/31/01	ADDED TYPE 2 CB DETAIL
1	8/13/01	REVISED PER CITY REVIEW

00125.012 2.13.06

Notes and Details

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FERNDALE, WASHINGTON 98248

SHEET: 12 OF: 12