

SUN ROSE

0 25 50 100 200

Drawing
C-1
of 12 Drawings
Project Number
2553

HDEV 2063

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT SNOWHOSH COUNTY ENGINEERING DESIGN AND DEVELOPMENT STANDARDS (E.D.D.S.), WASHINGTON STATE DEPARTMENT OF TRANSPORTATION 1998/AMERICAN PUBLIC WORKS ASSOCIATION SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, AND THE 1989 WSDOT HYDRAULICS MANUAL.
2. ALL WORK PERTAINING TO THIS PROJECT SHALL BE SUBJECT TO THE INSPECTION OF THE COUNTY INSPECTOR OR HIS DESIGNATED REPRESENTATIVE PRIOR TO ANY SITE WORK. THE CONTRACTOR SHALL CONTACT THE COUNTY INSPECTOR AT (206) 458-3385 TO SCHEDULE A PRECONSTRUCTION CONFERENCE.
3. PRIOR TO ANY SITE DISTURBING ACTIVITY INCLUDING CLEARING, LOGGING OR GRADING, THE SITE CLEARING LOGS SHOWN ON THESE PLANS SHALL BE LOCATED AND FIELD IDENTIFIED BY THE PROJECT SURVEYOR OR ENGINEER. THE PROJECT SURVEYOR OR ENGINEER'S NAME AND TELEPHONE NUMBER ARE SUMMIT SURVEYING (425) 814-8487.
4. THE DEVELOPER AND PROJECT ENGINEER ARE RESPONSIBLE FOR WATER QUALITY. A MONITORING PROGRAM SHALL BE ESTABLISHED BY THE PROJECT ENGINEER. THE PROJECT ENGINEER'S NAME AND PHONE NUMBER ARE R. ALAN MURRAY, P.E. (425) 513-2500.
5. ENGINEERED AS-BUILTS SHALL BE REQUIRED PRIOR TO FINAL APPROVAL.
6. PRIOR TO ANY DEVELOPMENT ACTIVITY (I.e. CLEARING, GRADING OR FILLING) ON THE SITE THE APPLICANT SHALL MARK WITH TEMPORARY MARKERS IN THE FIELD THE BOUNDARY OF ALL NPGA'S REQUIRED BY THIS CHAPTER, OR THE LIMITS OF THE PROPOSED SITE DISTURBANCE OUTSIDE OF THE NPGA'S, USING METHODS AND MATERIALS ACCEPTABLE TO THE COUNTY.
7. NPGA BOUNDARIES SHALL BE PERMANENTLY MARKED ON THE SITE PRIOR TO FINAL INSPECTION BY THE COUNTY, WITH BOTH NATIVE GROWTH PROTECTION AREA SIGNS AND ADJACENT MARKERS WHICH CAN BE MAGNETICALLY LOCATED (I.E. REBAR, RAILROAD, OR PERRY NAILS, etc.). THE APPLICANT MAY USE OTHER PERMANENT METHOD AND MATERIALS PROVIDED THEY ARE FIRST APPROVED BY THE COUNTY. WHERE AN NPGA BOUNDARY CROSSES ANOTHER BOUNDARY (I.E. LOT, TRACT, PLAY, ROAD, etc.), A REBAR MARKER WITH SURVEYORS' CAP AND LICENSE NUMBER MUST BE PLACED AT THE LINE CROSSING.
8. NPGA SIGNS SHOULD BE PLACED NO GREATER THAN 100 FEET APART AROUND THE PERIMETER OF THE NATIVE GROWTH PROTECTION AREA. MINIMUM PLACEMENT SHALL INCLUDE ONE TYPE 1 SIGN PER WETLAND AND AT LEAST ONE TYPE 1 SIGN SHALL BE PLACED IN ANY LOT THAT BORDERS THE NATIVE GROWTH PROTECTION AREA. THE DESIGN AND REVIEW OF THE NPGA SIGNS SHALL BE APPROVED BY THE COUNTY BIOLOGIST. PROPOSED LOCATIONS FOR THE NPGA SIGN SHOULD BE SUBMITTED TO THE LAND USE DIVISION FOR REVIEW AND APPROVAL. NO NPGA SIGNS SHALL BE PLACED WITHIN ROAD RIGHTS OF WAY.
9. NATIVE GROWTH PROTECTION AREA IS TO BE LEFT PERMANENTLY UNDISTURBED IN A SUBSTANTIALLY NATURAL STATE. NO CLEARING, GRADING, FILLING, BUILDING CONSTRUCTION OR PLACEMENT, OR ROAD CONSTRUCTION OF ANY KIND SHALL OCCUR, EXCEPT REMOVAL OF HAZARDOUS TREES. THE ACTIVITIES AS SET FORTH IN SCC 32.10.110(29) a,c,d, ARE ALLOWED WHEN APPROVED BY THE COUNTY.
10. ALL SITE WORK SHALL COMPLY WITH THESE PLANS AND THE CONDITIONS AND RECOMMENDATIONS OF:
 - A) GEOTECHNICAL ENGINEERING REPORT BY NELSON-COUVRETE & ASSOCIATES, INC. DATED AUGUST 7, 1996.
 - B) THE HYDRAULIC PROJECT APPROVAL, CONTROL NUMBER 00-077272-01, DATED MARCH 22, 1999.
11. A GEOTECHNICAL CONSULTANT SHALL BE PRESENT ONSITE DURING GRADING ACTIVITIES AS REQUIRED BY SNOWHOSH COUNTY PLANNING & DEVELOPMENT SERVICES TO PRESENT FIELD RECOMMENDATIONS AS REQUIRED. NECESSARY, THE GEOTECHNICAL CONSULTANT SHALL ALSO PROVIDE TESTING OF FILLS AND CUTS AS REQUIRED BY PLANNING & DEVELOPMENT SERVICES. SHALL FORWARD TEST RESULTS TO THE COUNTY AND SHALL CERTIFY THAT GRADING ACTIVITIES HAVE BEEN CONDUCTED UNDER GEOTECHNICAL CONSULTANT OBSERVATION.
12. A RIGHT-OF-WAY PERMIT IS REQUIRED FOR WORK IN COUNTY RIGHT-OF-WAY.
13. THE OWNER AND CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES SHOWN ON CONSTRUCTION PLANS ARE BASED ON BEST RECORDS AVAILABLE AND ARE SUBJECT TO VARIATION. FOR AID IN UTILITY LOCATION, CALL 1-800-424-5555.
14. THE CONTRACTOR SHALL NOTIFY MURRAY-TOBIASON, INC., AND COUNTY INSPECTOR PRIOR TO CONSTRUCTION OF ANY CONFLICTS BETWEEN THE PLANS AND FIELD CONDITIONS EXIST. SAID CONFLICTS SHALL BE RESOLVED PRIOR TO PROCEEDING WITH CONSTRUCTION.
15. THE CONTRACTOR SHALL KEEP TWO SETS OF PLANS ON SITE AT ALL TIMES FOR RECORDING AS-BUILT INFORMATION; ONE SET SHALL BE SUBMITTED TO MURRAY-TOBIASON, INC., AT COMPLETION OF CONSTRUCTION AND PRIOR TO FINAL ACCEPTANCE OF WORK.

PIPES

A. STORM DRAINAGE PIPES SHOWN ON PLAN SHALL BE CORRUGATED POLYETHYLENE PIPE (N-12) FOR DIAMETER 8" & GREATER, OR POLYVINYL CHLORIDE PIPE (PVC) FOR 6" PIPE FOR ROOF & FOOTING DRAINS UNLESS SPECIFIED OTHERWISE.

COVERAGE REQUIREMENTS FOR 12" PIPE

< 1.0' REQUIRES RCP (REINFORCED CONCRETE PIPE) MINIMUM.
1.0' - 1.5' REQUIRED FOR GF (CONCRETE PIPE) OR N-12 (CORRUGATED POLYETHYLENE PIPE) MINIMUM.
> 1.5' REQUIRED FOR 16 GAUGE CP (CORRUGATED METAL PIPE) MINIMUM.

B. ALL STORM SEWER PIPE SHALL CONFORM WITH CHAPTER 9 OF THE SNOHOMISH COUNTY ENGINEERING DESIGN AND DEVELOPMENT STANDARDS (E.D.D.S.) AND DIVISION 7 OF THE WSDOT/APWA SPECIFICATIONS.

C. ALL PIPE SHALL BE PLACED ON STABLE EARTH, OR IF IN THE OPINION OF THE COUNTY INSPECTOR, THE EXISTING FOUNDATION IS UNSATISFACTORY, THEN IT SHALL BE EXCAVATED BELOW GRADE AND BACK FILLED WITH COMPACTED GRAVEL MATERIAL TO SUPPORT THE PIPE.

D. THE BACKFILL SHALL BE PLACED EQUALLY ON BOTH SIDES OF THE PIPE OR PIPE-ARCH IN LAYERS WITH A LOOSE AVERAGE DEPTH OF 6", MAXIMUM DEPTH 8", THOROUGHLY TAMING 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 PIPE SHALL BE THE SAME AS DESCRIBED. REFER TO WSDOT STANDARD SPECIFICATION 7-04.3(3) AND STANDARD SPECIFICATION 2-03.3.1(4), METHOD B & C.

E. GALVANIZED STEEL CULVERT SHALL MEET THE REQUIREMENTS OF AASHTO DESIGNATION M-36, TYPE 1 & TYPE 2. PIPE SHALL HAVE ASPHALT TREATMENT 1 OR BETTER.

F. CORRUGATED ALUMINUM PIPE AND COUPLING BANDS SHALL MEET THE REQUIREMENTS OF AASHTO M196 AND M197.

G. DOUBLE WALLED (SMOOTH INTERIOR) CORRUGATED POLYETHYLENE PIPE, MEETING THE REQUIREMENTS OF AASHTO M252 IN 8" SIZE AND AASHTO M2945 IN SIZES 12" THROUGH 36", IS AN ACCEPTABLE ALTERNATIVE TO SCHEDULE A CULVERT PIPE, AS SHOWN ON WSDOT/APWA STANDARD PLAN B-17 AND FOR STORM SEWERS IN ACCORDANCE WITH SNOHOMISH COUNTY STANDARDS.

H. BAND SIZE SHALL BE 12" FOR PIPE LESS THAN 42" DIAMETER AND 49" X 33" ARCH PIPE.

I. BACKFILL AROUND PIPE AND IN THE TRENCH MUST BE COMPACTED TO AT LEAST 90 PERCENT OF THE MAXIMUM DRY DENSITY BASED ON ASTM D-1557, EXCEPT FOR THE UPPER 2 FEET OF BACKFILL WHICH SHOULD BE COMPACTED TO AT LEAST 95 PERCENT OF THE SAME STANDARD.

J. ALL NON-PERFORATED METAL PIPE SHALL HAVE NEOPRENE GASKETS AT THE JOINTS. O-RING GASKETS MAY BE USED FOR TYPE F COUPLING BAND.

K. A NOTE SPECIFYING THE GAGE AND BAND SIZE FOR ALL PIPES USED IN THE DESIGN SHALL BE PLACED ON THE PLANS.

L. CORRUGATED POLYETHYLENE PIPE THE MATERIAL SUPPLIED UNDER THIS SPECIFICATION SHALL BE HIGH DENSITY CORRUGATED POLYETHYLENE SMOOTH INTERIOR PIPE AND SHALL BE MANUFACTURED IN CONFORMITY WITH THE LATES AASHTO SPECIFICATIONS M252 OR M2945, TYPE S AND THE MATERIAL COMPOUND SHALL CONFORM TO ASTM D3350, PIPE JOINTS AND FITTINGS SHALL CONFORM TO AASHTO M294 COUPLERS SHALL COVER NOT LESS THAN ONE FULL CORRUGATION ON EACH ANNUAL SECTION OF PIPE.

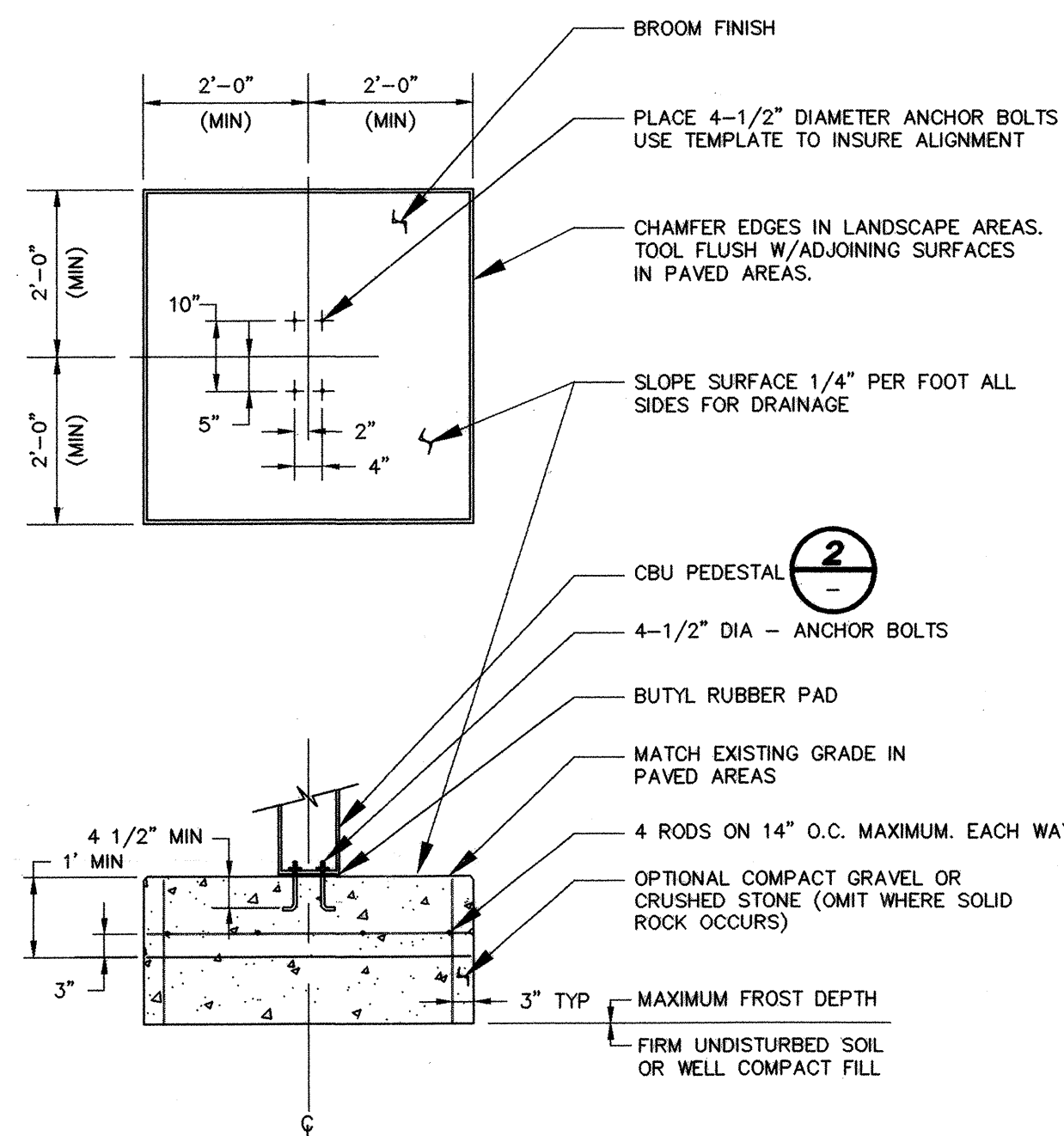
M. POLYVINYL CHLORIDE PIPE (PVC) PVC PIPE IS ALLOWED FOR INSTALLATION ON PRIVATE PROPERTY AND FOR CONNECTION OF ROOF & FOOTING DRAINS TO STORM DRAINAGE SYSTEMS WITH PUBLIC RIGHT-OF-WAY. THE MATERIALS SUPPLIED UNDER THIS SPECIFICATION SHALL BE SOLID WALL SEWER PIPE, SDR-35 PIPE, 4" TO 15" SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM D3034; PIPE 18" TO 24" SHALL MEET ASTM F679. RUBBER GASKETED PIPE JOINS AND FITTINGS SHALL CONFORM TO ASTM F477.

N. THE CULVERT ENDS SHALL BE BEVELED TO MATCH THE SIDE SLOPE. FIELD CUT OF CULVERT ENDS IS PERMITTED, WHEN APPROVED BY THE INSPECTOR.

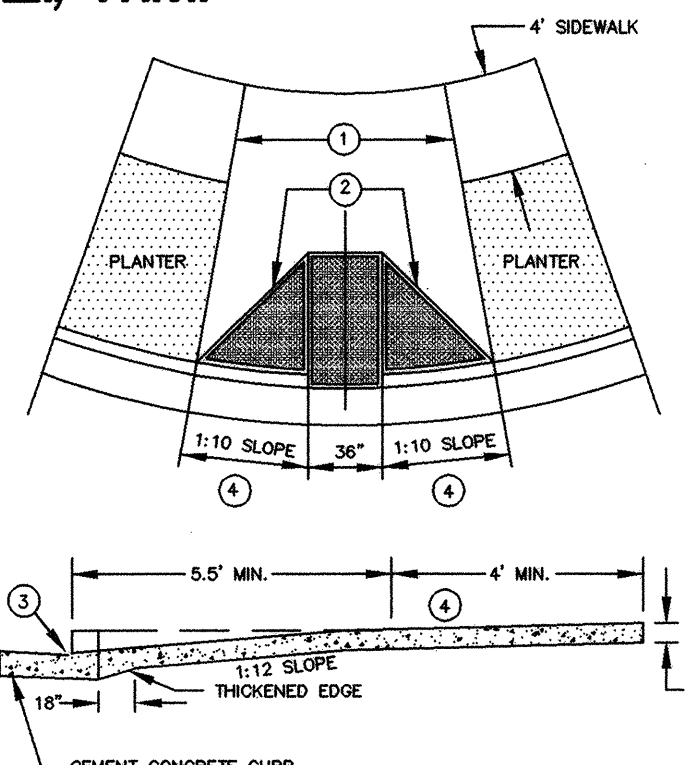
O. ALL FIELD CUT CULVERT PIPE SHALL BE TREATED WITH TREATMENT AS SHOWN IN THE STANDARD SPECIFICATIONS OR GENERAL SPECIAL PROVISIONS.

- A. ALL CATCH BASINS SHALL BE TYPE I UNLESS OTHERWISE NOTED.
- B. ALL CATCH BASINS WITH A DEPTH OVER 5.0 FEET TO THE FLOW LINE SHALL BE A TYPE II CB OR LARGER (MANHOLE).
- C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL MANHOLE, INLET, AND CATCH BASIN FRAMES AND GRATES JUST PRIOR TO POURING OR CURBS AND PAVING.
- D. ALL GRATES SHALL BE DEPRESSED 0.1 FEET BELOW PAVEMENT LEVEL.
- E. CATCH BASIN FRAME AND GRATES SHALL BE OLYMPIC FOUNDRY MODEL 5435, 5435A, OR 50503A. LOCKING TYPE OR EQUAL. MODEL 5435A IS REFERRED TO AS A "THROUGH CURB INLET" ON THE PLAN. MODEL 50503A IS REFERRED TO AS A "ROLLED GRATE INLET" IN THE PLAN.
- F. ALL TYPE II CATCH BASIN MANHOLES, INLET, AND CATCH BASINS SHALL HAVE LOCKING LIDS. ROLLED GRATE NOT APPROVED FOR OUTSIDE OF COUNTY RIGHT-OF-WAY OR FOR USE WITH TYPE II MANHOLE.
- G. STANDARD LADDER STEPS SHALL BE PROVIDED IN ALL CATCH BASINS AND MANHOLES EXCEEDING 5 FEET IN DEPTH.

- A. ALL CATCH BASINS SHALL BE TYPE 1 UNLESS OTHERWISE NOTED.
- B. ALL CATCH BASINS WITH A DEPTH OVER 5.0 FEET TO THE FLOW LINE SHALL BE A TYPE II CB OR LARGER (MANHOLE).
- C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL MANHOLE, INLET, AND CATCH BASIN FRAMES AND GRATES JUST PRIOR TO POURING OR CURBS AND PAVING.
- D. ALL GRATES SHALL BE DEPRESSED 0.1 FEET BELOW PAVEMENT LEVEL.
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- F. ALL TYPE II CATCH BASIN MANHOLES, INLET, AND CATCH BASINS SHALL HAVE LOCKING LIDS, ROLLED GRATE NOT APPROVED FOR OUTSIDE OF COUNTY RIGHT-OF-WAY OR FOR USE WITH TYPE II MANHOLE.
- G. STANDARD LADDER STEPS SHALL BE PROVIDED IN ALL CATCH BASINS AND MANHOLES EXCEEDING 5 FEET IN DEPTH.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING ALL MANHOLE, INLET, AND CATCH BASIN FRAMES AND GRATES JUST PRIOR TO POURING OF CURBS AND PAVING.
4. YARD BASINS (4' CP) WITH MULTIPLE CONNECTIONS SHALL EITHER HAVE MULTIPLE KNOCKOUTS OR BE CORE DRILLED. BOREN BASINS SHALL NOT BE ACCEPTED.
5. PRIOR TO SIDEWALK CONSTRUCTION, CONSTRUCT THE LOT DRAINAGE AND STUB-OUTS BEHIND THE SIDEWALK DRAINS AS REQUIRED. STUB-OUTS SHALL BE MARKED WITH 2" X 4" AND LABELED "STORM". LOCATIONS OF THESE INSTALLATIONS SHALL BE PLACED ON THE AS-BUILT CONSTRUCTION PLANS AND SUBMITTED TO SNOHOMISH COUNTY.
6. STORM WATER RETENTION/DETENTION FACILITIES STORM DRAINAGE PIPE AND CATCH BASINS SHALL BE FLUSHED AND CLEANED PRIOR TO SNOHOMISH COUNTY ACCEPTANCE.



NOTE: CBU UNITS TO BE INSTALLED TO PROVIDE
POSTAL CARRIER ACCESS FROM THE STREET



0.1"

CAST IRON GRATE
(IE. SATHER MFG CO 18" TILE GRATE
OR 18" ADS. GRATE OR EQUAL)

14" MIN.

2" MAX.

15"

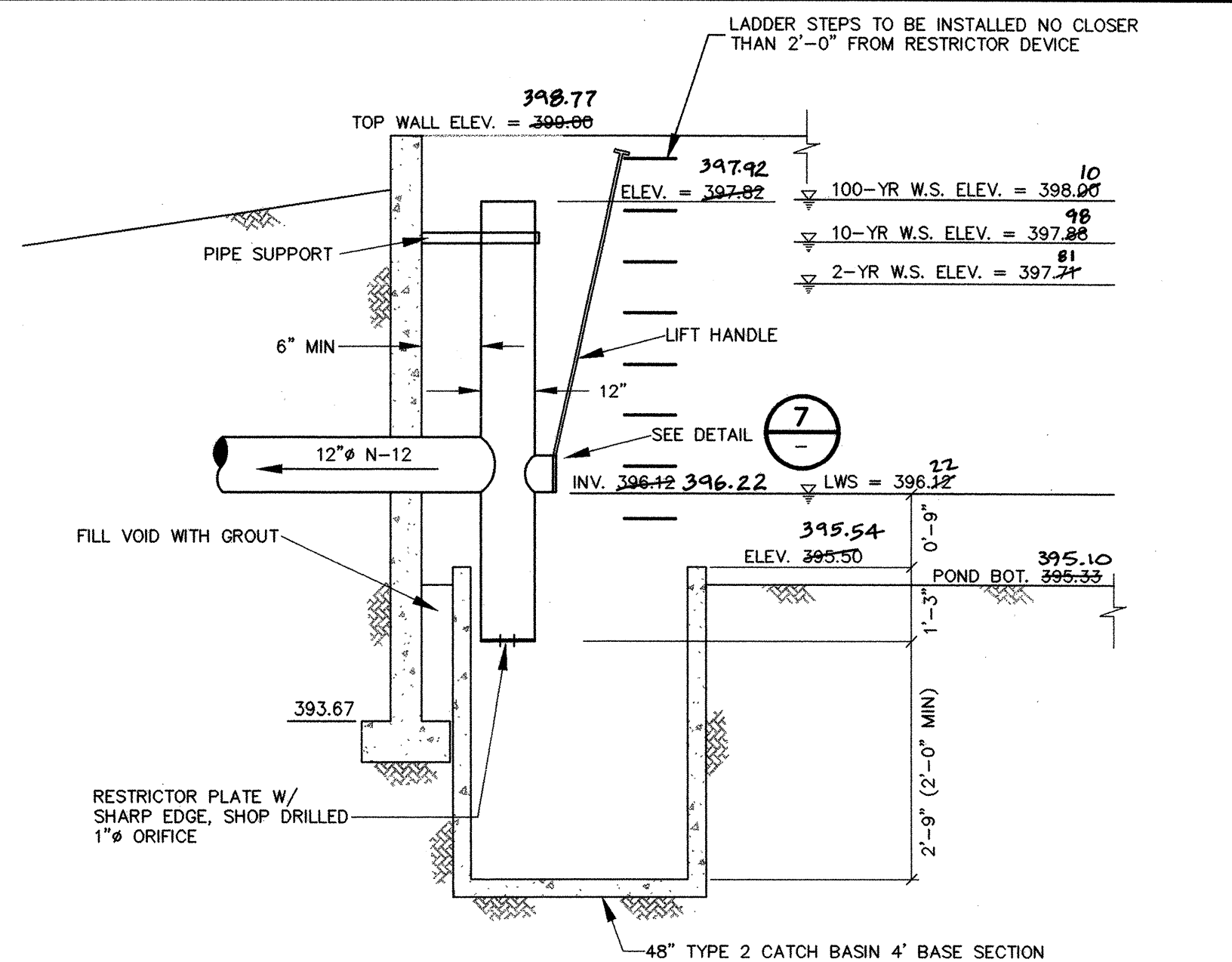
GROUT PIPE TO BASIN

6" ϕ PVC PIPE (TYP.)

NOTE:
CORE-DRILL HOLES
FOR YARD BASINS
WITH MULTIPLE
CONNECTIONS

18" ϕ C.P. OR "N-12" PIPE

6" MIN. WASHED ROCK



HOLES 6 PLACES ON 10 3/8" BOLT CIRCLE FOR BOLTING TO WEIR PLATE

LIFT HANDLE SHALL BE ATTACHED PER MANUFACTURER RECOMMENDATIONS

FRONT

SIDE

LIFT HANDLE

HANDLE /W LOCK PIN

ADJUSTABLE LOCK HOOK WITH LOCK SCREW

1" ROD (VAR. LENGTH)

WE HEREBY DECLARE ALL IMPROVEMENTS ARE
LOCATED AS SHOWN ON THESE AS-BUILTS PLANS.

BY:	_____	_____
	Project Engineer	Date
BY:	_____	_____
	Project Surveyor	Date
BY:	_____	_____
	Project Developer	Date

SNOHOMISH COUNTY PLANNING & DEVELOPMENT SERVICES
APPROVED FOR CONSTRUCTION

By: Kandolph P. Slight 8/17/99
R/W Permit No. 99111058

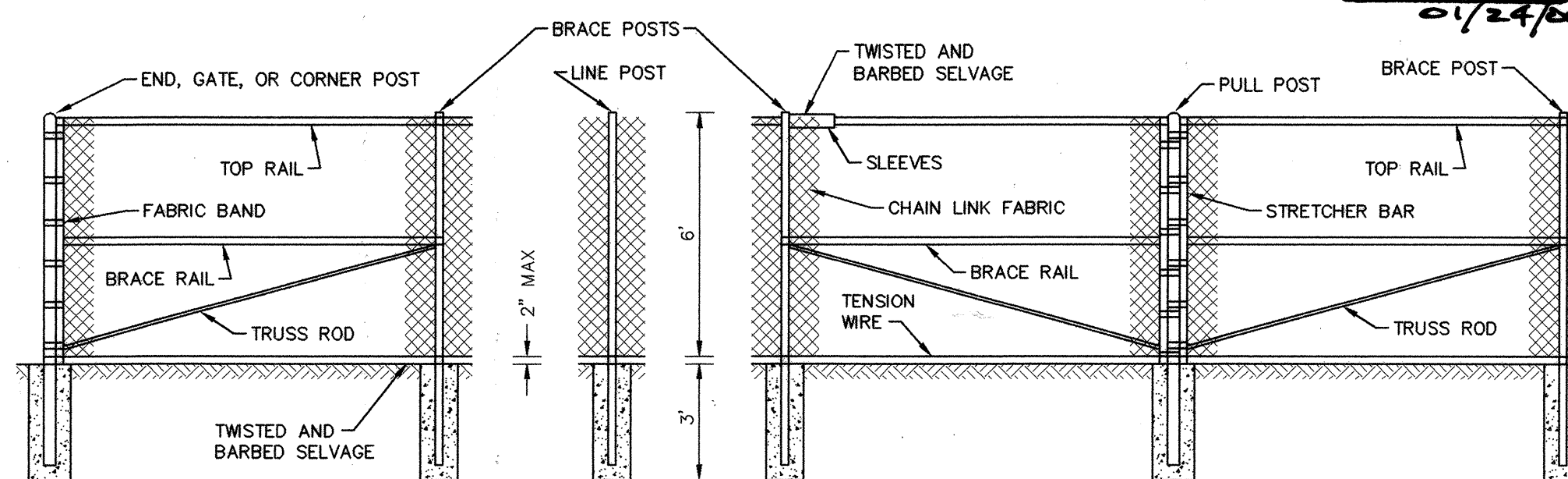
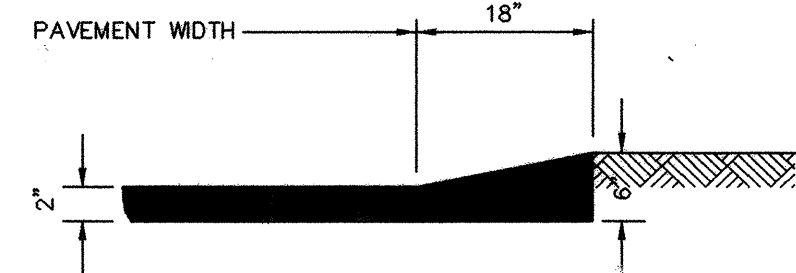
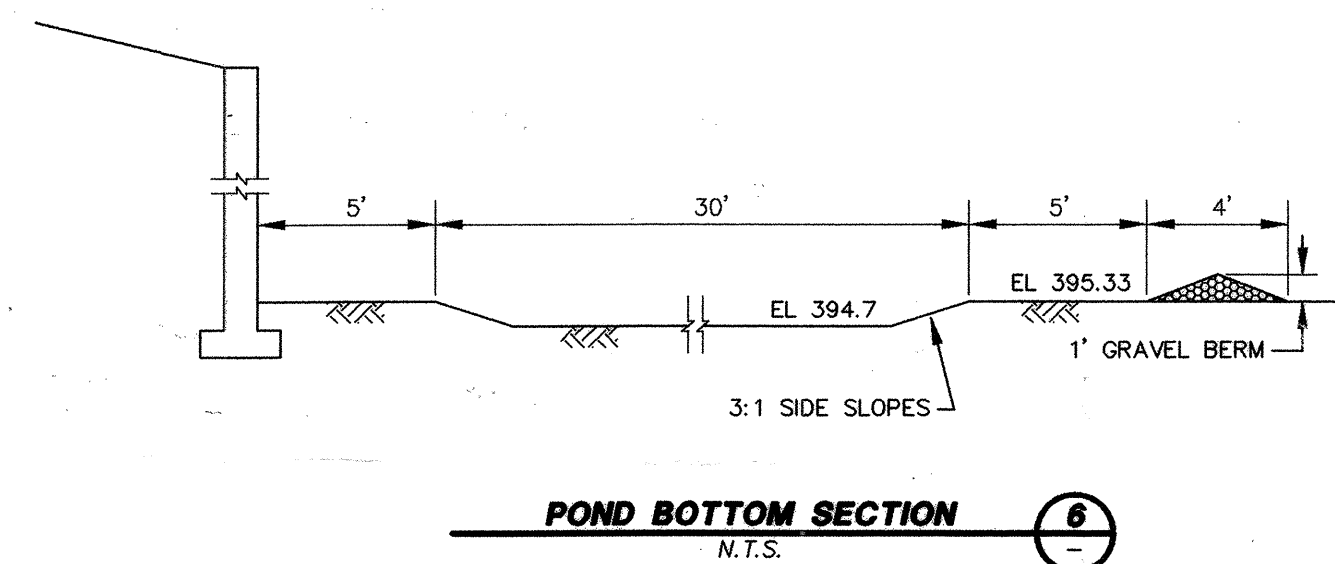
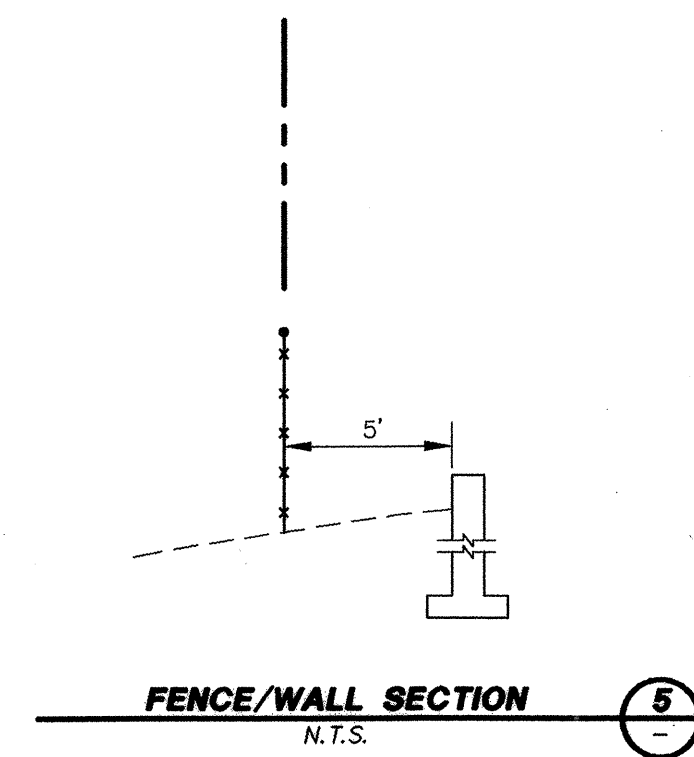
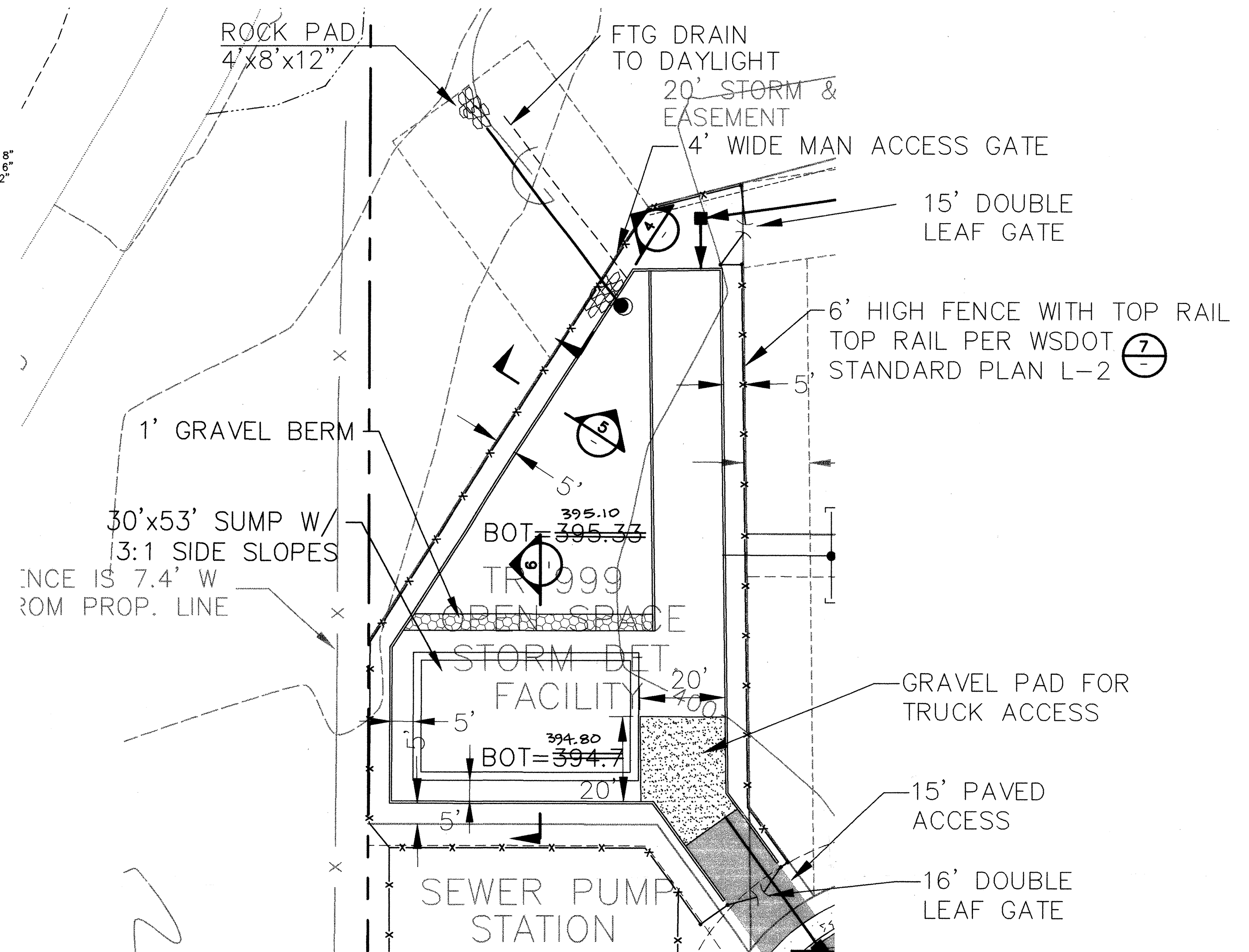
Designed by: KAO		Drawn by: KAO		Checked by: HAM	Issue Date: 3-26-99
No.	ISSUE C	Revision	By	Date	
1	PER SINGOMISH COUNTY COMMENTS		KAO	7-9-99	
2	PER SINGOMISH COUNTY COMMENTS		KAO	8-9-99	
3					
4					
5					

**Murray -
Tobiason, Inc.**
Planning • Civil & Structural Engineering • Landscape Architecture
628 • 128th Street Southwest, Suite 107 • Everett, Washington 98204-6368
Telephone: 425-513-2500 • Fax: 425-355-1307

SUN ROSE
TAX NOS. 332805-2-025-0001; 2-026-0000; 2-033-0001 98 101053
ROAD & DRAINAGE NOTES & DETAILS
Developer: Sundquist Homes, Inc., P.O. Box 958, Lynnwood, WA 98046-0958

Drawing
C-6
of 12 Drawings
Project Number
2553

HDEV 2064



NOTE: ALL POSTS SHALL BE 8'-8" IN LENGTH.



VAULT DETAIL

RELEASE RATE (CFS)	<u>2-YR</u>	<u>10-YR</u>	<u>100-YR</u>
REQUIRED	0.035	0.24	0.81
DESIGNED	0.03	0.21	0.80
AS-BUILT	0.03	0.19	0.61

RETENTION/DETENTION VOLUMES

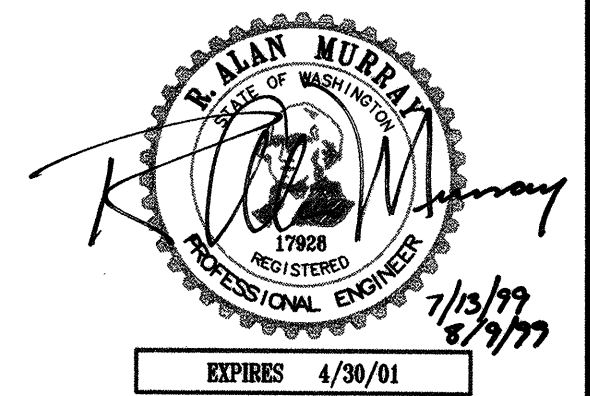
	DEAD STORAGE	DETENTION
REQUIRED VOLUME =	6,6756,098 CF	12,297 14,970 CF
DESIGN VOLUME =	6,6756,112 CF	12,297 14,970 CF
AS-BUILT VOLUME =	6,700 CF	12,297 14,970 CF
		3,823 CF

WE HEREBY DECLARE THAT THE ROAD AND
STORM DRAINAGE IMPROVEMENTS ARE LOCATED
AS SHOWN ON THESE RECORD DRAWINGS.

BY: C. J. D. K. R. L. Date: 01/29/00
Project Engineer/Inspector

BY: W. J. R. L. Date: 1/25/00
Plant Designer/Owner

BY: K. L. R. L. Date: 4/26/00
ENGINEER (POND ANALYSIS) DATE



SCALE: 1" = 20'

0 10 20 40 80

DATUM: N.G.V.D. 29
BENCH: SNO. CO. SURV. CONTROL PT 1364. CHILSELD SQUARE TOP OF
SIDE CURB S. SIDE OF 132ND ST. OPPOSITE SILVER CREEK
EQUESTRIAN CENTER. POINT IS APPROX. 100' WEST OF SECTION
CORNER AND 31' WEST OF BUS STOP PAD WEST OF WALK.
ELEVATION = 441.271 FEET

BASIS OF BEARING: PLAT OF IRISH WOODLANDS, V. 40, PGS. 249-250
HELD BEARING OF N 89 27'00" W ALONG THE
N LINE OF THE NE 1/4 SEC. 33-28-5E

NOTE: BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION
SUPPLIED BY: SUMMIT SURVEYING

WE HEREBY DECLARE ALL IMPROVEMENTS ARE
LOCATED AS SHOWN ON THESE AS-BUILT PLANS

BY:	_____	_____
	Project Engineer	Date
BY:	_____	_____
	Project Surveyor	Date
BY:	_____	_____
	Project Developer	Date

SNOHOMISH COUNTY PLANNING & DEVELOPMENT SERVICES
APPROVED FOR CONSTRUCTION

By: Randolph P. Sligitt 8/17/99

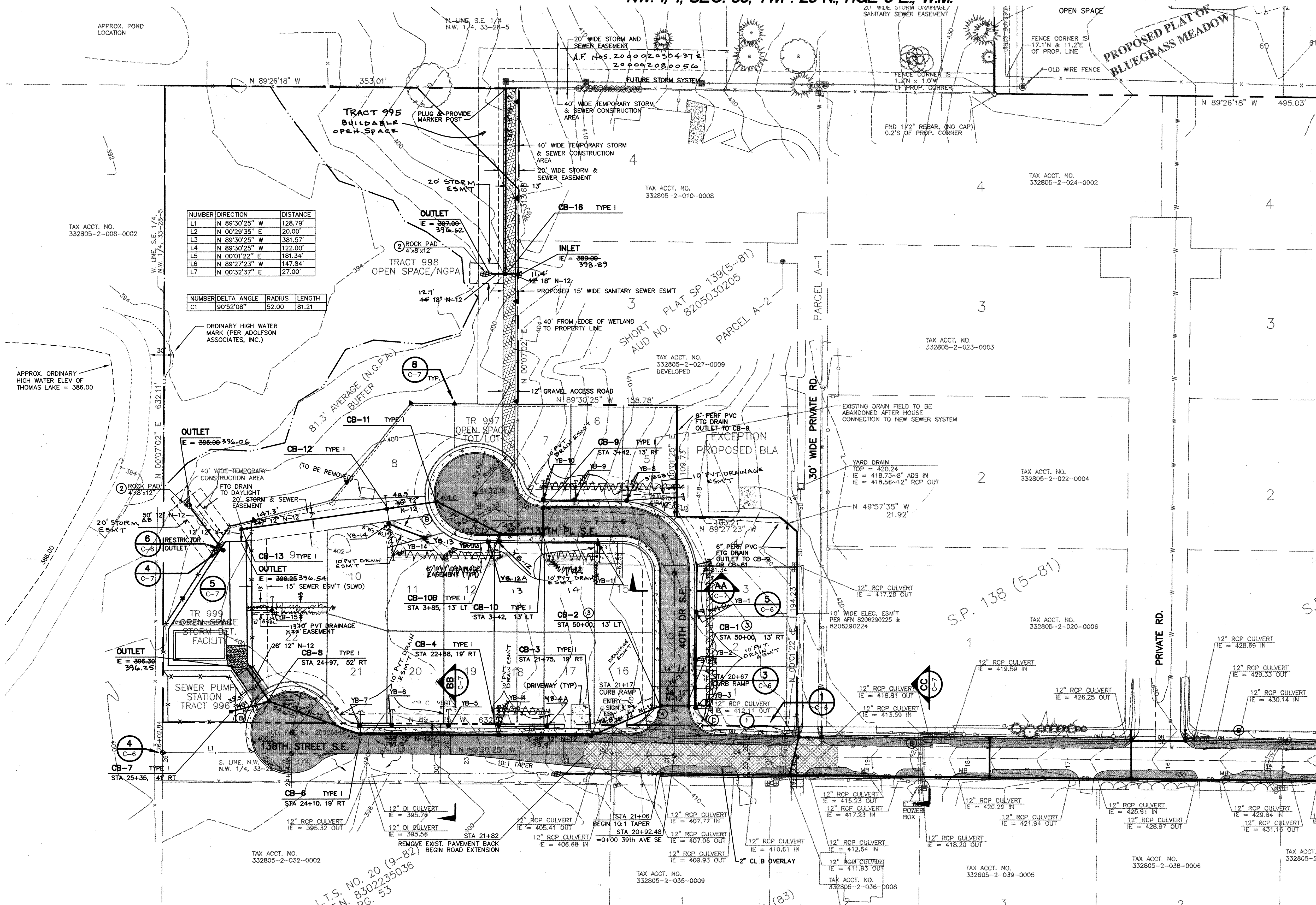
R/W Permit No. 99/11058

**Murray -
Tobiason, Inc.**
Planning • Civil & Structural Engineering • and more

SUN ROSE
TAX NOS. 332805-2-025-0001; 2-026-0000; 2-033-0001 PPN 98 101053
ROAD & DRAINAGE NOTES & DETAILS

Drawing
C-7
of 12 Drawings
Project Number
2553

NW 1/4, SEC. 33, TWP. 28 N., RGE 5 E., W.M.



NUMBER	DIRECTION	DISTANCE
L1	N 89°30'23" W	128.79
L2	N 00°29'35" E	20.00
L3	N 89°30'25" W	381.57
L4	N 89°30'25" W	122.00
L5	N 00°12'22" E	181.34
L6	N 89°27'23" W	147.84
L7	N 00°32'37" E	27.00

NUMBER	DELTA ANGLE	RADIUS	LENGTH
C1	90°52'08"	52.00	81.21

YARD BASIN SCHEDULE

NO.	RIM	INVERT	AS-BUILT	INVERT
1	412.25	409.75	411.78	408.82
2	412.25	409.25	410.81	408.05
3	412.00	408.75	410.44	407.23
4	404.50	402.50	405.13	402.13
5	403.00	400.50	403.17	400.62
6	401.50	399.00	401.10	398.35
7	401.25	398.75	400.93	397.52
8	409.50	407.00	409.76	407.11
9	406.75	404.25	406.78	404.14
10	405.00	402.50	404.77	401.25
11	408.50	406.00	408.01	405.41
12	405.50	403.00	402.67	399.20
13	402.00	399.50	401.89	399.25
14	401.75	399.25	401.96	398.10
15	400.75	398.25	400.77	398.12
4 A			407.08	404.53
12 A			402.39	399.26

ROOF FOOTING DRAIN CONNECTION

LOT NO.	DESCRIPTION	LOT NO.	DESCRIPTION
1	6" STUB TO YB-3	12	6" STUB TO YB-13
2	6" STUB TO YB-2	13	6" STUB TO YB-13
3	6" STUB TO YB-1	14	6" STUB TO YB-12
4	6" STUB TO YB-1	15	6" STUB TO YB-11
5	6" STUB TO YB-8	16	6" STUB TO YB-3
6	6" STUB TO YB-9	17	6" STUB TO YB-4
7	6" STUB TO YB-10	18	6" STUB TO YB-4
8	6" STUB TO YB-12	19	6" STUB TO YB-5
9	6" STUB TO YB-15	20	6" STUB TO YB-6
10	6" STUB TO YB-15	21	6" STUB TO YB-7
11	6" STUB TO YB-14	22	6" STUB TO YB-15

NOTE: ALL 6" DRAIN PIPING SHALL BE INSTALLED AT A MINIMUM OF 1% SLOPE OR PROVIDE 2.25' MIN DEPTH AT TERMINATION, WHERE DESIRABLE, OWNER MAY REQUIRE DEEPER INSTALLATIONS FOR WHICH YARD BASINS MUST BE REPLACED WITH 6" PVC CLEAN-OUT WITH CAST IRON COVER.

RETENTION/DETENTION VOLUMES

	DEAD STORAGE	DETENTION	2-YR	10-YR	100-YR
REQUIRED VOLUME =	6,675 CF	12,297 CF	10,264 CF	11,442 CF	12,297 CF
DESIGN VOLUME =	6,675 CF	12,297 CF	10,264 CF	11,442 CF	12,297 CF
AS-BUILT VOLUME =	6,700 CF	13,823 CF	10,463 CF	13,082 CF	13,823 CF

- CONSTRUCTION NOTES**
- PROPOSED LOCATION FOR NEW MAILBOXES. INSTALL TWO (2) CBU UNITS TO SERVE PLAT.
 - ROCK PAD SPECS: MAX. STONE SIZE = 12" MED. STOCK SIZE = 8" MIN. STOCK SIZE = 2"
 - PROVIDE THRU-CURB INLET

TYP. LOT IMPERVIOUS AREA = 2334 SQ. FT.

RELEASE RATES (CFS)

	2-YR	10-YR	100-YR
0.035	0.26	0.81	
0.03	0.21	0.80	
0.03	0.17	0.61	

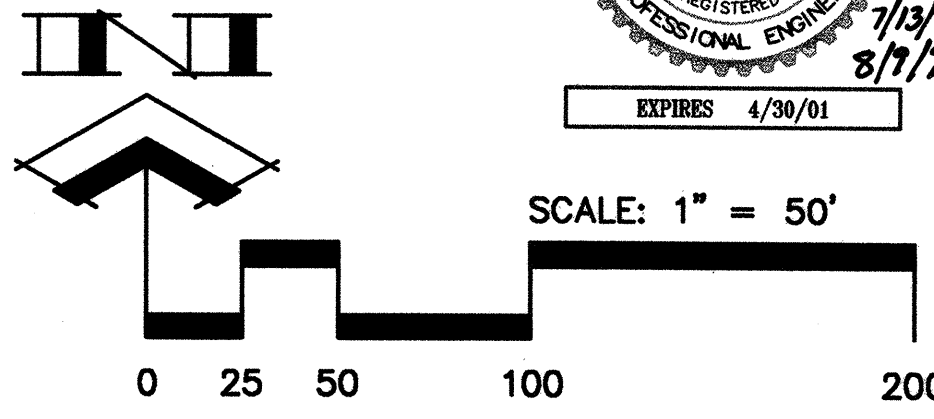
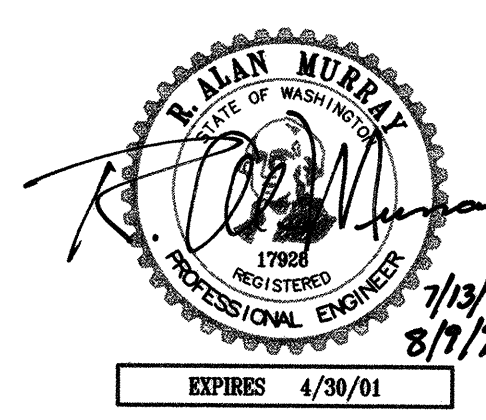
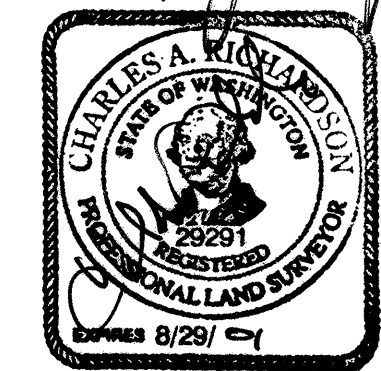
SIGN LEGEND

NO.	QUANTITY	TYPE	DESIGNATION
(A)	1	R1-1	STOP
(B)	4	R8-3	NO PARKING
(C)	1	D3	STREET NAME SIGN "144TH ST SE"

WE HEREBY DECLARE THAT THE ROAD AND STORM DRAINAGE IMPROVEMENTS ARE LOCATED AS SHOWN ON THESE RECORD DRAWINGS.

By: *Charles A. Kiehl* Date: 01/24/00
Project Engineer/Supervisor

By: *Ray J. Whit* Date: 11/25/00
Plat Developer/Owner



DATUM: N.G.V.D. 29
BENCH: SNO. CO. SURV. CONTROL PT 1364, CHILSELED SQUARE TOP OF CONC. CURB S. SIDE OF 132ND ST. OPPOSITE SILVER CRK. EQUESTRIAN CENTER. POINT IS APPROX. 100' WEST OF SECTION CORNER AND 31' WEST OF BUS STOP PAD AT BACK OF WALK. ELEVATION: 441.271 FEET

BASIS OF BEARING: PLAT OF IRISH WOODLANDS, V. 40, PGS. 249-250 HELD BEARING OF N 89°27'00" W ALONG THE N LINE OF THE NE 1/4, SEC. 33-28-5E.

NOTE: BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION SUPPLIED BY: SUMMIT SURVEYING

SNOHOMISH COUNTY DEPARTMENT OF PUBLIC WORKS
APPROVED FOR SIGNING AND CHANNELIZATION

By: JAMES H. BLOODGOOD, P.E.

US POSTAL SERVICE
APPROVED FOR MB LOCATION

By: *Shirley Lamborn*
US POSTMASTER

DATE: 3-10-99

WE HEREBY DECLARE ALL IMPROVEMENTS ARE LOCATED AS SHOWN ON THESE AS-BUILTS PLANS.

By: _____ Date: _____
Project Engineer

By: _____ Date: _____
Project Surveyor

By: _____ Date: _____
Project Developer

SNOHOMISH COUNTY PLANNING & DEVELOPMENT SERVICES
APPROVED FOR CONSTRUCTION

By: *Charles P. Shultz* 8/17/99
R/W Permit No. 9911058

Designed by:	Drawn by:	Checked by:	Issue Date:
KAO	KAO	RAM	3-28-99
Issue:	Revision:	Date:	
1	PER SNOHOMISH COUNTY COMMENTS	KAO	7-15-99
2			
3			
4			
5			

Murray - Tobison, Inc.
Planning - Civil & Structural Engineering - Landscape Architecture
626 - 12th Street Southwest, Suite 107 • Everett, Washington 98204-6368
Telephone: 425-513-2500 • Fax: 425-365-1307

SUN ROSE
2-026-0000; 2-033-0001
ROAD & DRAINAGE PLAN

TAX NOS. 332805-2-025-0001; 2-026-0000; 2-033-0001

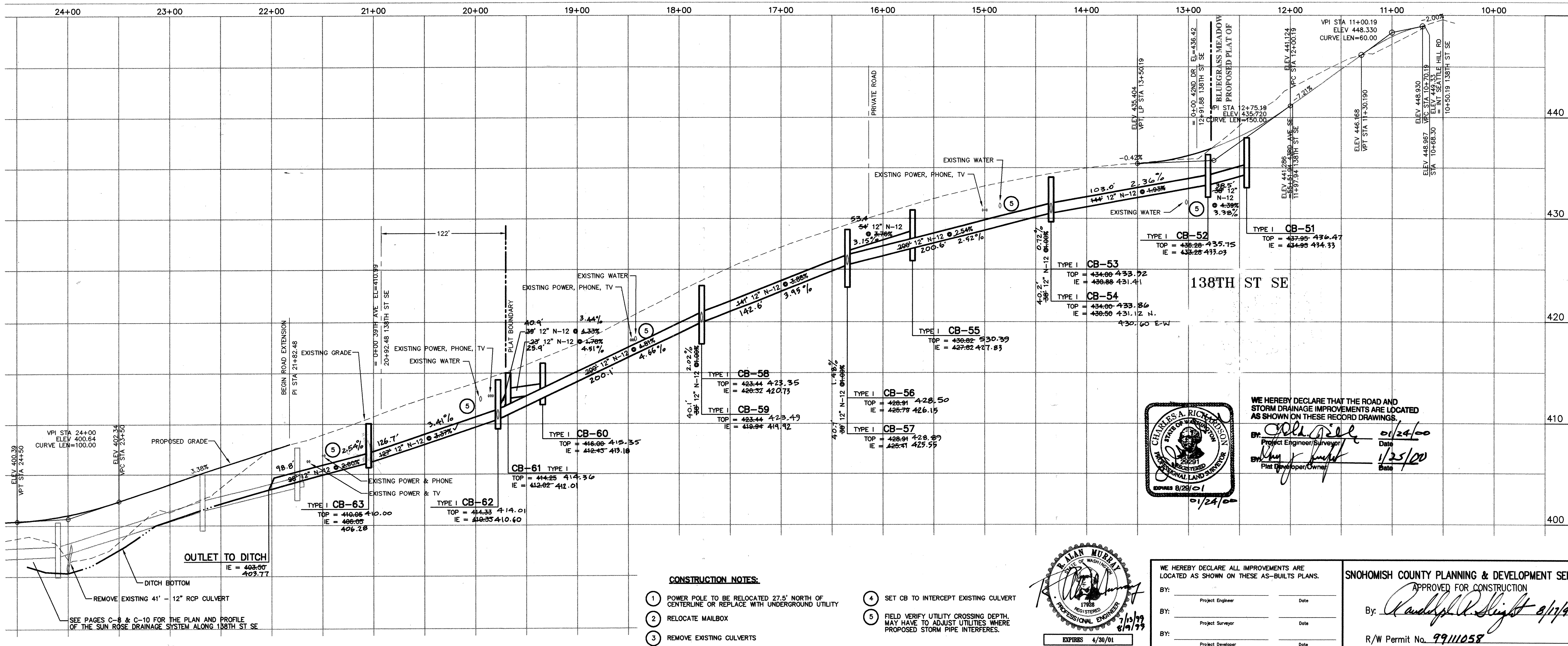
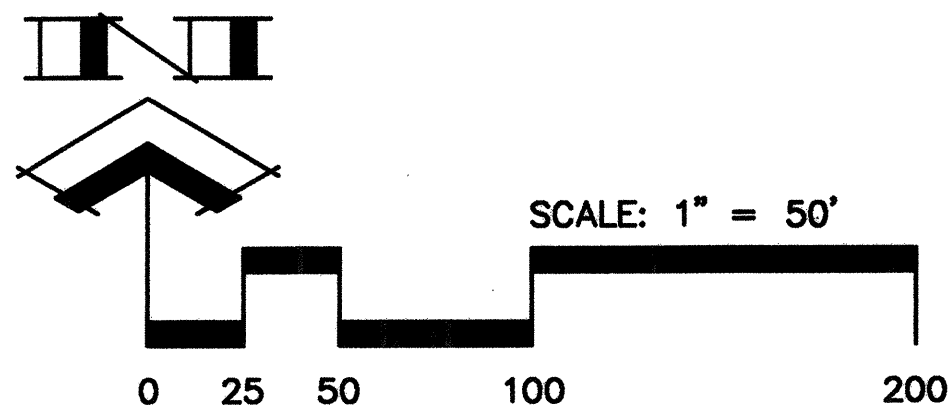
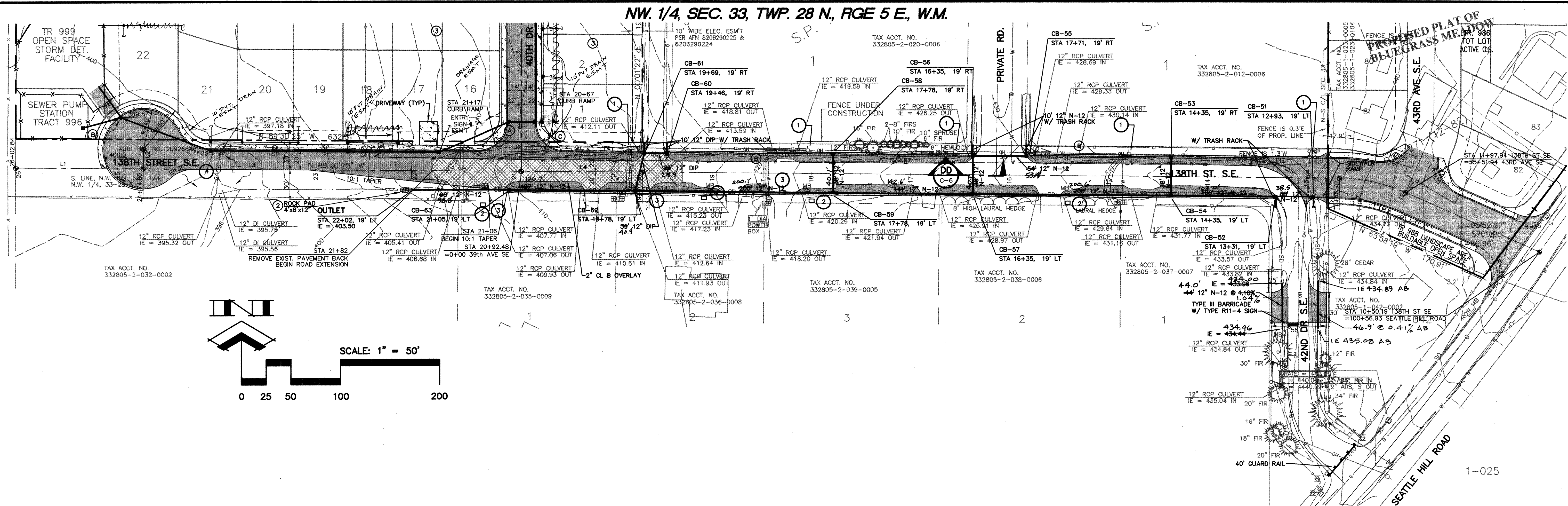
PFN 98 101053

Developer: Sundquist Homes, Inc., P.O. Box 958, Lynnwood, WA 98046-0958

Drawing C-8
of 12 Drawings
Project Number 2553

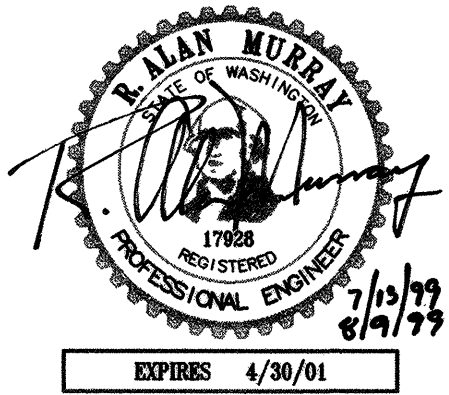
DATE: 3-10-99

HDEV 2066



CONSTRUCTION NOTES:

- POWER POLE TO BE RELOCATED 27.5' NORTH OF CENTERLINE OR REPLACE WITH UNDERGROUND UTILITY
- RELOCATE MAILBOX
- REMOVE EXISTING CULVERTS
- SET CB TO INTERCEPT EXISTING CULVERT
- FIELD VERIFY UTILITY CROSSING DEPTH. MAY HAVE TO ADJUST UTILITIES WHERE PROPOSED STORM PIPE INTERFERES.



WE HEREBY DECLARE ALL IMPROVEMENTS ARE LOCATED AS SHOWN ON THESE AS-BUILTS DRAWINGS.

By: _____ Date: _____
Project Engineer

By: _____ Date: _____
Project Surveyor

By: _____ Date: _____
Project Developer

SNOHOMISH COUNTY PLANNING & DEVELOPMENT SERVICES
APPROVED FOR CONSTRUCTION

By: *Randolph R. Knight* 8/17/99
Date

R/W Permit No. 9911058

SUN ROSE
TAX NOS. 332805-2-025-0001; 2-026-0000; 2-033-0001
ROAD & DRAINAGE PLAN - 138th ST SE

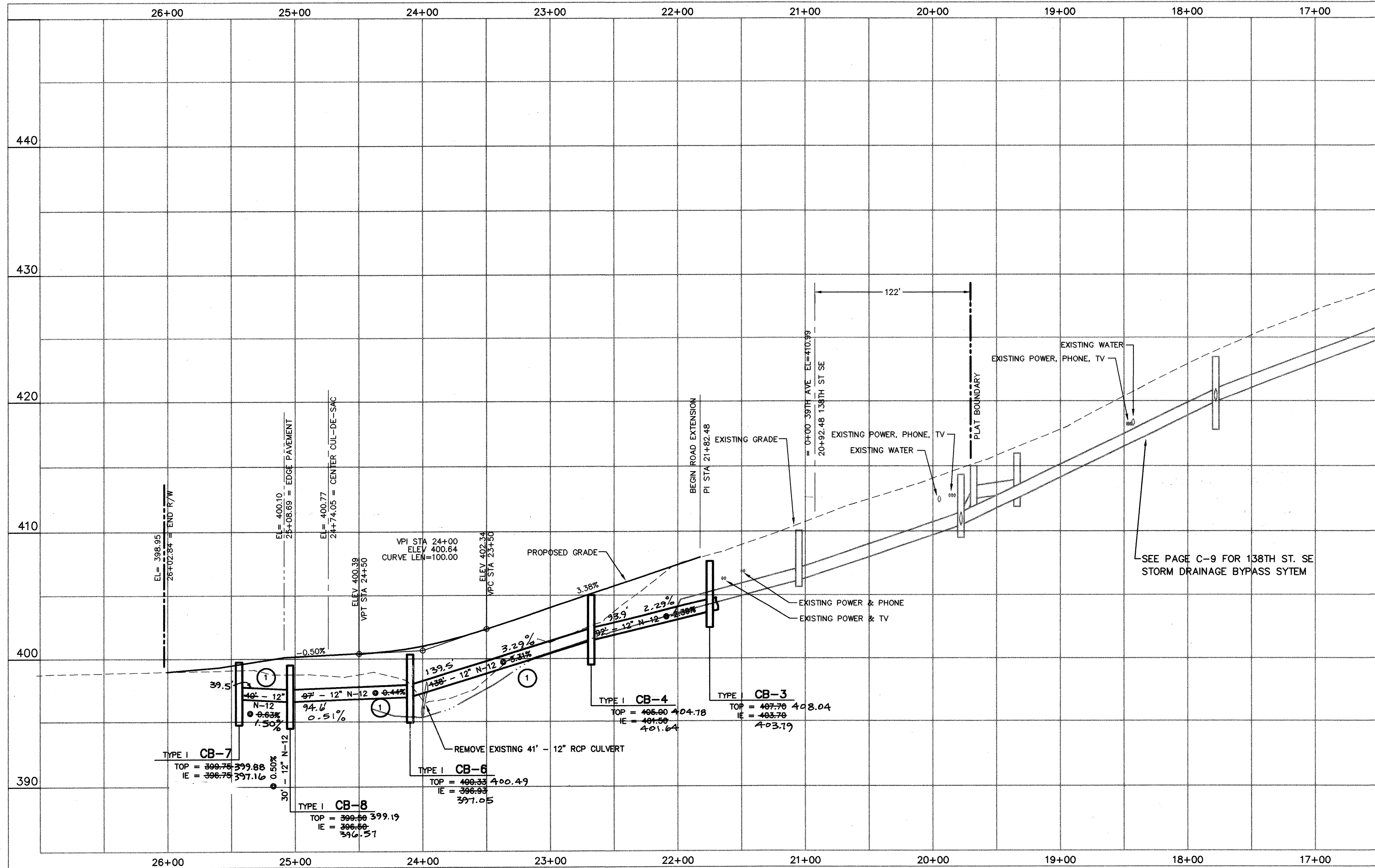
Murray - Tobiason, Inc.
Planning - Civil & Structural Engineering - Landscape Architecture
626 - 128th Street Southwest, Suite 107 • Everett, Washington 98204-6368
Telephone: 425-513-2500 • Fax: 425-355-1307

Designed by	Drawn by	Checked by	Issue Date
KAO	KAO	RAM	3-26-99
No.	ISSUE	Revision	By
1	PER SNOHOMISH COUNTY COMMENTS		KAO
2			
3			
4			
5			

Drawing **C-9**
of 12 Drawings
Project Number **2553**

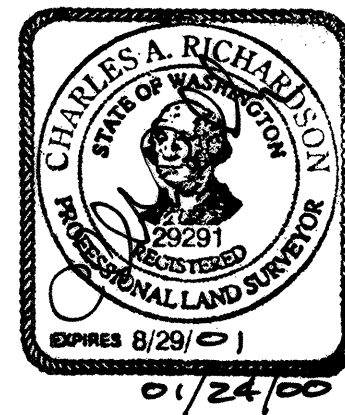
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NW 1/4, SEC. 33, TWP. 28 N, RGE 5 E, W.M.



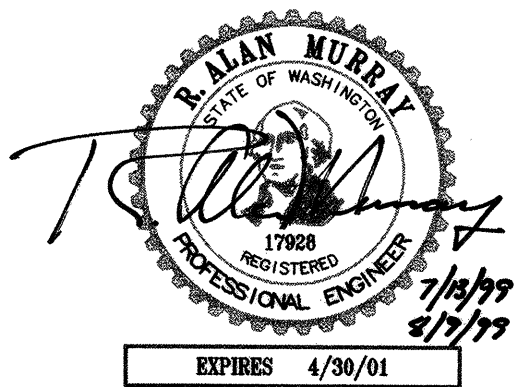
CONSTRUCTION NOTES:

- 1 ALL PIPE SHALL BE WATERTIGHT JOINED AND PROVIDE LOW PRESSURE AIR TEST TO SNOHOMISH COUNTY PER WSDOT/APWA SPECIFICATION 7-04.3(4).



WE HEREBY DECLARE THAT THE ROAD AND STORM DRAINAGE IMPROVEMENTS ARE LOCATED AS SHOWN ON THESE RECORD DRAWINGS.

By: *Charles A. Richardson* Date: 01/24/00
Project Engineer/Surveyor
By: *Murray J. Tobiason* Date: 1/25/00
Plat Developer/Owner



WE HEREBY DECLARE ALL IMPROVEMENTS ARE LOCATED AS SHOWN ON THESE AS-BUILT PLANS.

By: _____ Date: _____
Project Engineer
By: _____ Date: _____
Project Surveyor
By: _____ Date: _____
Project Developer

SNOHOMISH COUNTY PLANNING & DEVELOPMENT SERVICES
APPROVED FOR CONSTRUCTION
By: *Randolph L. Knight* 8/17/99
R/W Permit No. 99111058

HDEV 2068

**Murray -
Tobiason, Inc.**
Planning-Civil & Structural Engineering • Landscape Architecture
628 - 128th Street Southwest, Suite 107 • Everett, Washington 98204-6388
Telephone: 425-513-2500 • Fax: 425-355-1907

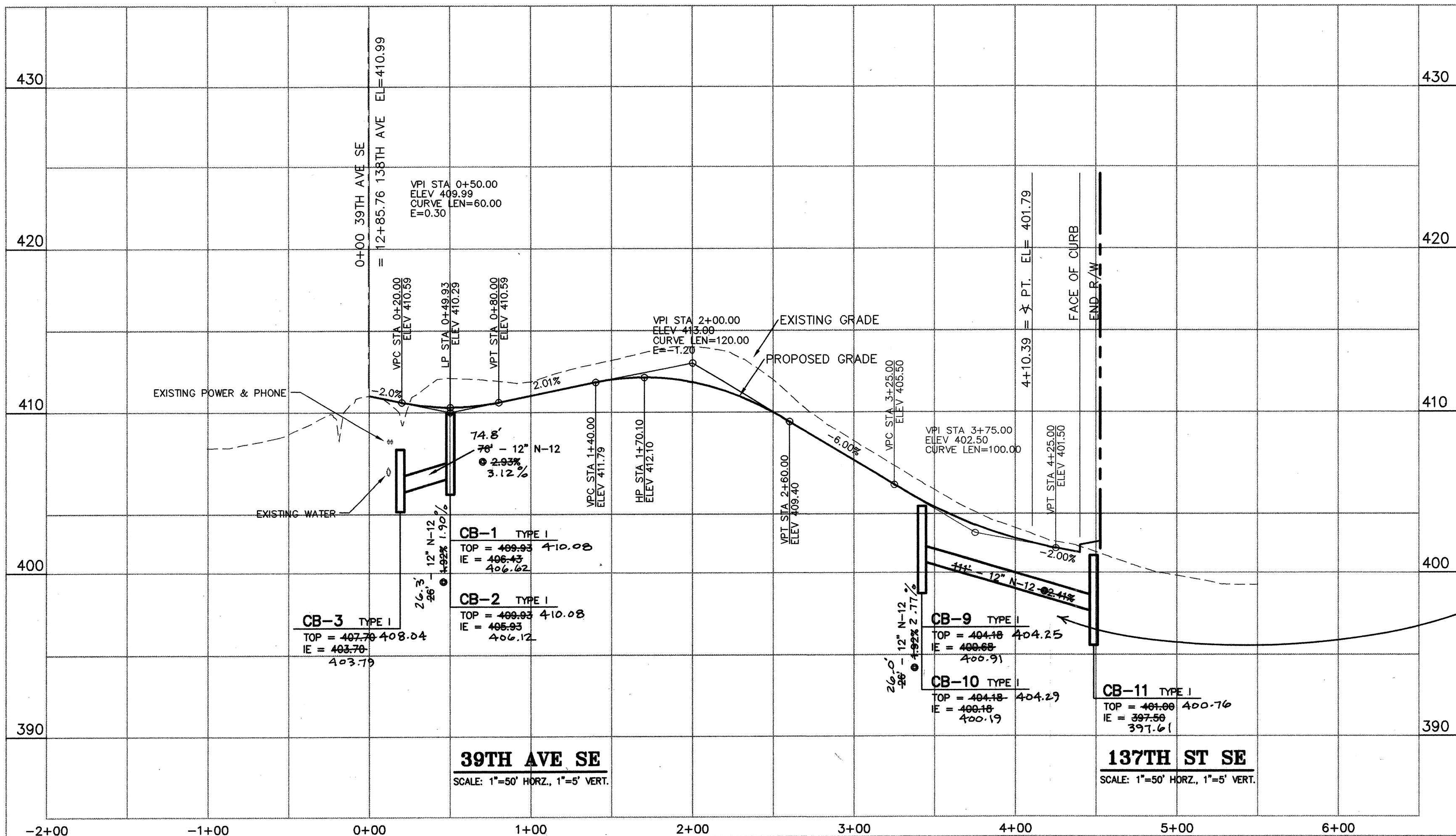
SUN ROSE
TAX NOS.
332805-2-025-0001; 2-026-0000; 2-033-0001 98 101053
ROAD AND DRAINAGE PROFILES
Developer: Sundquist Homes, Inc., P.O. Box 958, Lynnwood, WA 98046-0958

Drawing
C-10
of 12 Drawings
Project Number
2553

63 MURRAY & TOBIASON, INC.

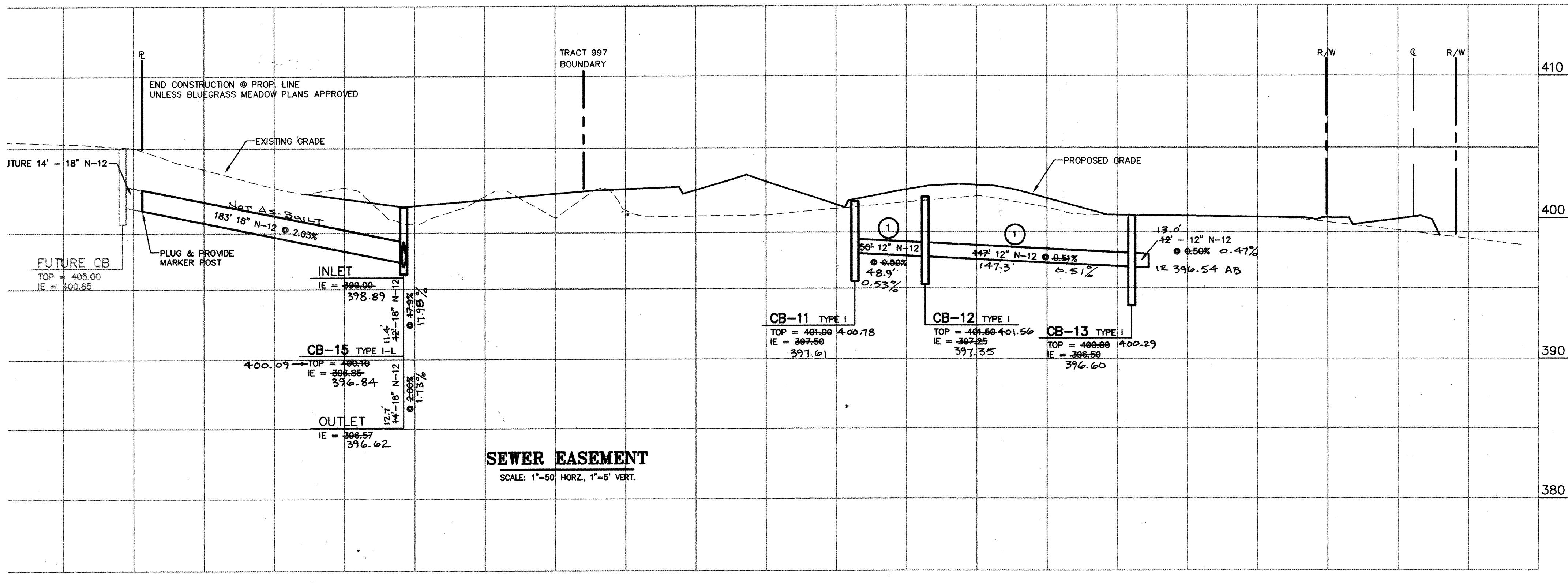
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NW 1/4, SEC. 33, TWP. 28 N, RGE 5 E., W.M.



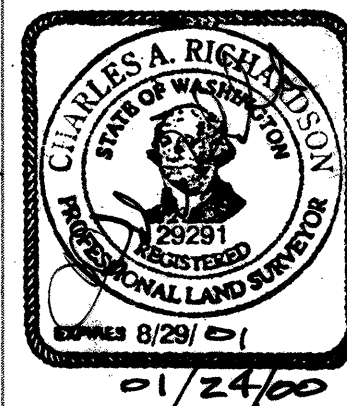
AS-BUILT
REVISED CONFIGURATION
(SEE SHEET C-8)
CB-10B TOP = 402.32
IE = 398.77
CB-10 TO CB-10B
43.3' @ 3.28%
CB-11 TOP = 400.76
IE = 397.61
CB-10B TO CB-11
71.9' @ 1.61%

CB-11 TOP = 400.76
IE = 397.61
CB-10B TO CB-11
71.9' @ 1.61%

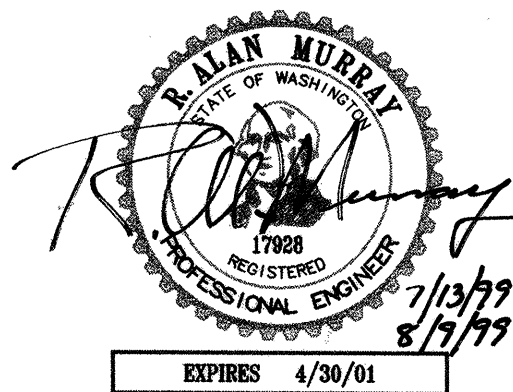


CONSTRUCTION NOTES:

- ALL PIPE SHALL BE WATERTIGHT JOINED AND PROVIDE LOW PRESSURE AIR TEST TO SNOHOMISH COUNTY PER WSDOT/APWA SPECIFICATION 7-04.3(4).



WE HEREBY DECLARE THAT THE ROAD AND STORM DRAINAGE IMPROVEMENTS ARE LOCATED AS SHOWN ON THESE RECORD DRAWINGS.
By: *[Signature]* Date: 01/24/00
Project Engineer/Supervisor
By: *[Signature]* Date: 1/25/00
Plot Developer/Owner



WE HEREBY DECLARE ALL IMPROVEMENTS ARE LOCATED AS SHOWN ON THESE AS-BUILTS PLANS.
BY: _____ Date: _____
Project Engineer
BY: _____ Date: _____
Project Surveyor
BY: _____ Date: _____
Project Developer

SNOHOMISH COUNTY PLANNING & DEVELOPMENT SERVICES
APPROVED FOR CONSTRUCTION
By: *[Signature]* Date: 8/17/99
R/W Permit No. 9911058

Designed By	Drawn By	Checked By	Issue Date
KAO	KAO	RAM	3-26-99
No.	Revision	By	Date
1	PER SNOHOMISH COUNTY COMMENTS	KAO	07-13-99
2			
3			
4			
5			

**Murray -
Tobiason, Inc.**
Planning • Civil & Structural Engineering • Landscape Architecture
828 - 128th Street Southwest, Suite 107 • Everett, Washington 98204-5368
Telephone: 425-513-2500 • Fax: 425-365-1307

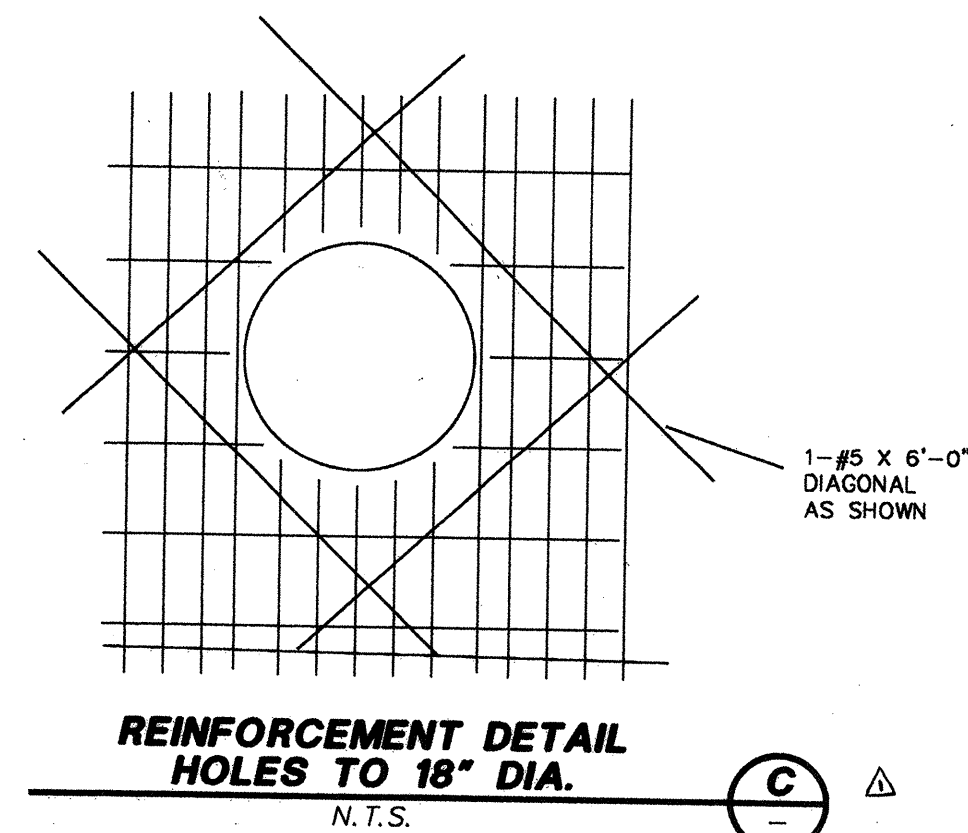
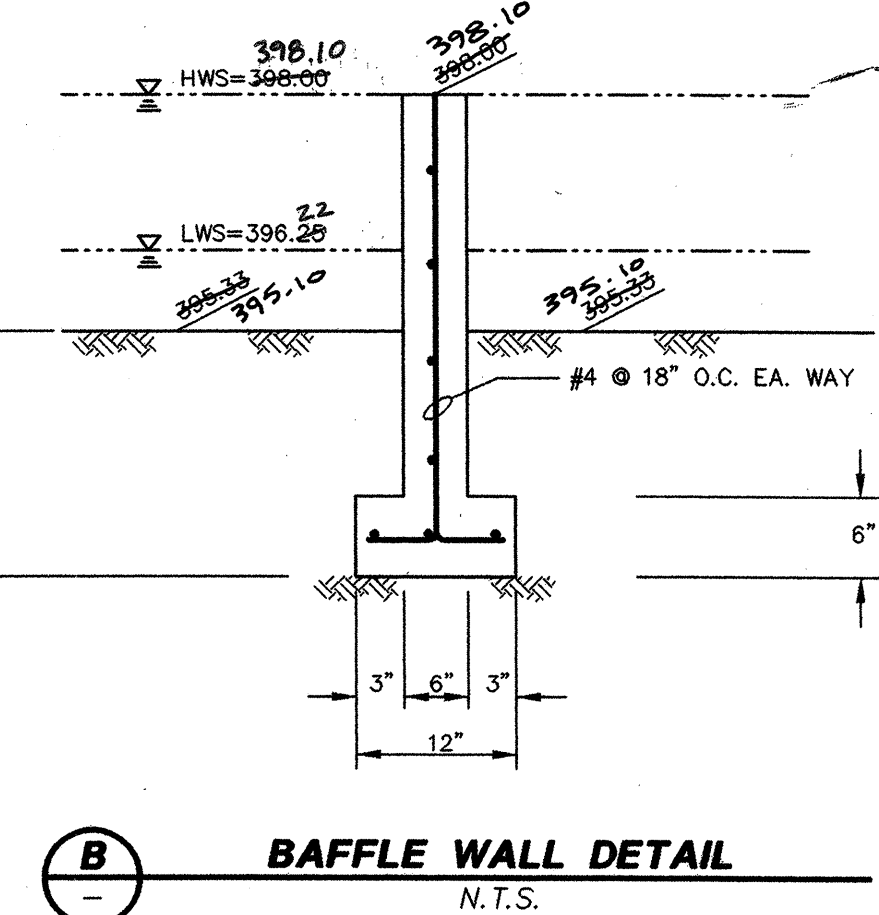
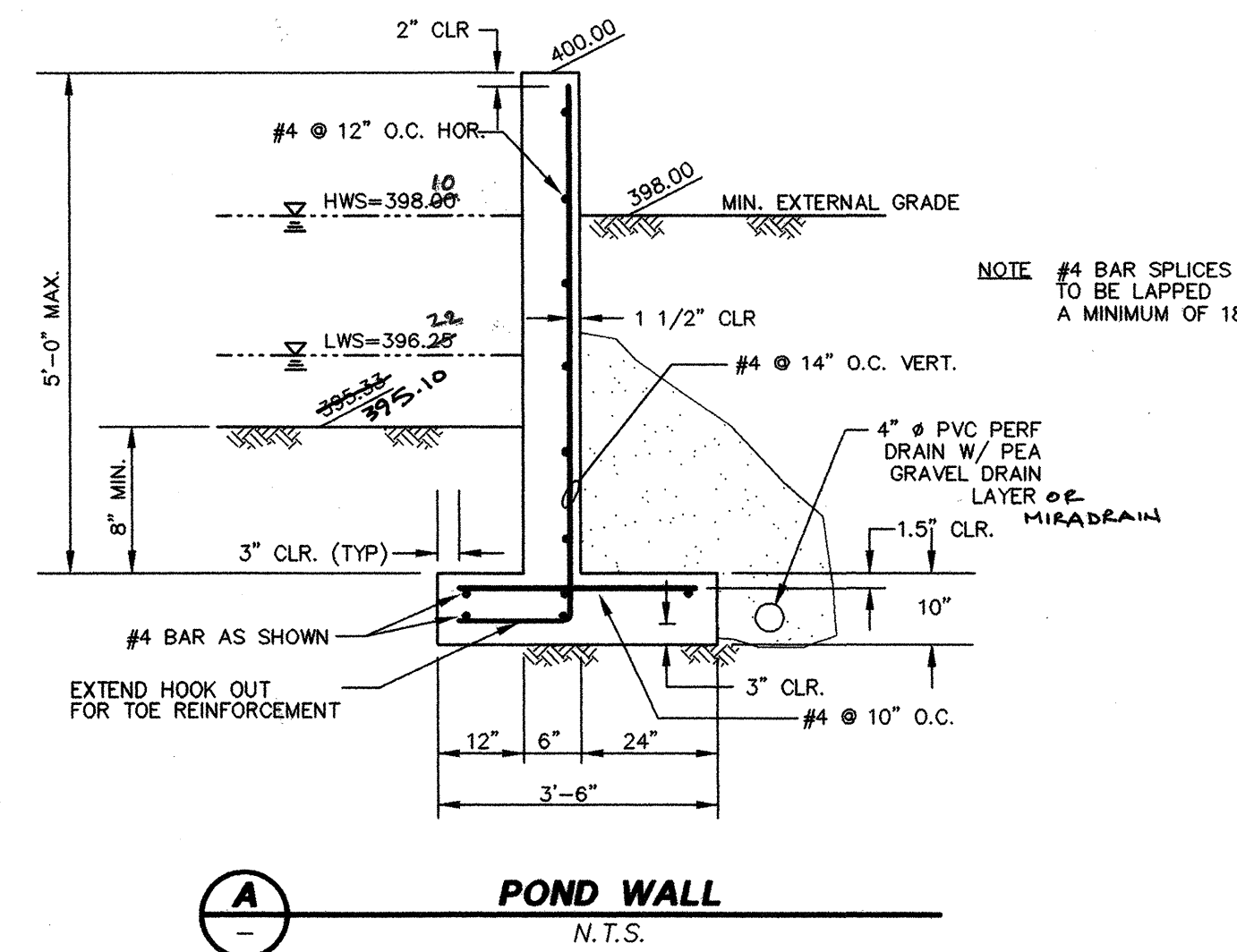
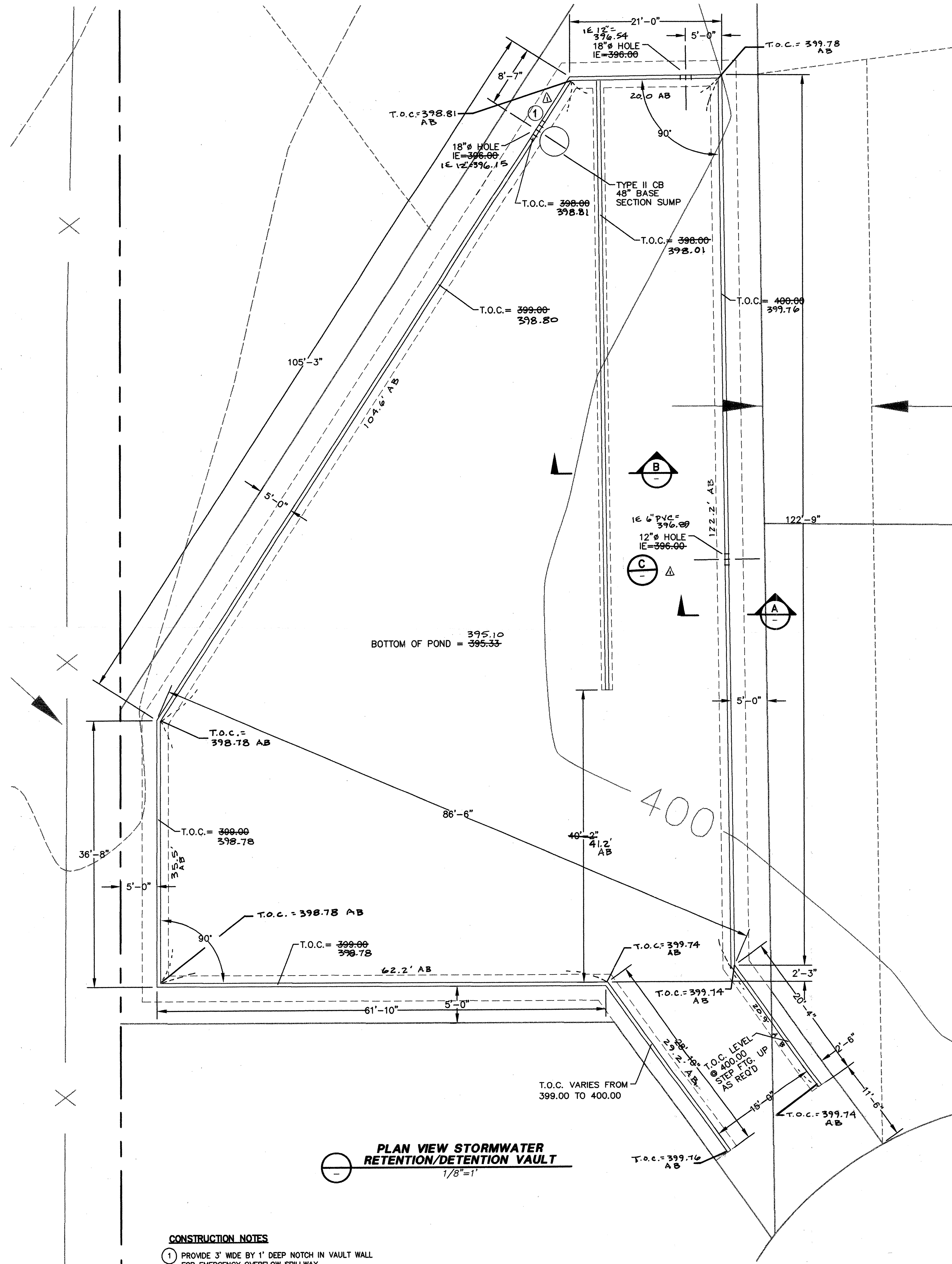
SUN ROSE
TAX NOS.
332805-2-025-0001; 2-026-0000; 2-033-0001 98 101053
ROAD AND DRAINAGE PROFILES
Developer: Sundquist Homes, Inc., P.O. Box 958, Lynnwood, WA 98046-0958

Drawing
C-11
of 12 Drawings
Project Number
2553

HDEV 2069

\\Station 8\dwg\2553\CONSTR\2553structural1.dwg Thu Mar 25 17:06:27 1999 Murray - Tobiason, Inc.

NW 1/4, SEC. 33, TWP. 28 N, RGE 5 E, W.M.



STRUCTURAL NOTES:

CODE REQUIREMENTS

ALL DESIGN AND CONSTRUCTION SHALL CONFORM TO THE UNIFORM BUILDING CODE, 1997 EDITION.

GENERAL

CONTRACTOR SHALL PROVIDE BRACING OR SUPPORT REQUIRED FOR TEMPORARY CONSTRUCTION AND FOR STRUCTURAL COMPONENTS AS REQUIRED DURING ERECTION. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO DESIGN AND PROVIDE ADEQUATE SHORING, BRACING, FORMWORK, ETC., AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION.

DESIGN LOADS

35 PCF SOIL ACTIVE
200 PCF SOIL PASSIVE
0.35 SOIL FRICTION COEFFICIENT
63 PCF HYDROSTATIC

CONCRETE

CONCRETE SHALL CONFORM TO AMERICAN CONCRETE INSTITUTE STANDARD 301. "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS." AN AIR ENTRAINING ADMIXTURE SHALL BE ADDED TO ALL CONCRETE EXPOSED TO EARTH OR WEATHER, PROVIDE A 5% +/- 1% ENTRAINMENT AIR MAXIMUM. SLUMP SHALL BE 4" AT TIME OF PLACING AND ALL CONCRETE SHALL BE VIBRATED IN PLACE.

f'_c = 2500 PSI @ 28 DAYS
(MIN 5-SACK MIX)

REINFORCING STEEL

GRADE 40 (f_y = 40 KSI) FOR DEFORMED BARS. MEDIUM CONCRETE COVER SHALL BE:

CONCRETE CAST AGAINST EARTH 3"
FORMED SURFACE EXPOSED TO EARTH OR WEATHER 1 1/2"

SOIL

FOOTINGS TO BE PLACED ON UNDISTURBED NATIVE SOIL OR COMPACTED STRUCTURAL FILL WITH MINIMUM 2000 PSF ALLOWABLE BEARING.

BACKFILL SHALL BE CLEAN GRANULAR MATERIAL, FREE OF ORGANICS OR OTHER DELETERIOUS MATTER. COMPACT IN 12 INCH LIFTS TO 90% OF MAX. DENSITY PER ASTM D-1557 (MODIFIED PROCTOR).

DATUM: N.G.V.D. 29
BENCH: SNO. CO. SURV. CONTROL PT 1364, CHILSELED SQUARE TOP OF CONC. CURB S. SIDE OF 132ND ST. OPPOSITE SILVER CRK. EQUESTRIAN CENTER. POINT IS APPROX. 180' WEST OF SECTION CORNER AND 31' WEST OF BUS STOP PAD AT BACK OF WALK. ELEVATION = 441.271 FEET

BASIS OF BEARING: PLAT OF IRISH WOODLANDS, V. 40, PGS. 249-250 HELD BEARING OF N 89 27'00" W ALONG THE N LINE OF THE NE 1/4, SEC. 33-28-5E.

NOTE: BOUNDARY AND TOPOGRAPHIC SURVEY INFORMATION SUPPLIED BY: SUMMIT SURVEYING

WE HEREBY DECLARE ALL IMPROVEMENTS ARE LOCATED AS SHOWN ON THESE AS-BUILTS PLANS.

By: _____ Date: _____
By: _____ Date: _____
By: _____ Date: _____

SNOHOMISH COUNTY PLANNING & DEVELOPMENT SERVICES
APPROVED FOR GRADING

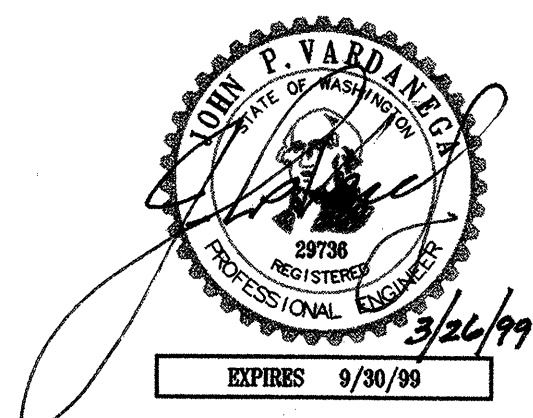
By: *Raulph D. Wright* 8/17/99
R/W Permit No. 9911058

Issue	Date	By	Check	By	Rev
1	7-8-99	KAO			
2					
3					
4					
5					

Murray - Tobiason, Inc.
Planning - Civil & Structural Engineering - Landscape Architecture
628 - 128th Street Southwest, Suite 107 • Everett, Washington 98204-6388
Telephone: 425-355-2500 • Fax: 425-355-1307

SUN ROSE
TAX NOS. 332805-2-025-0001; 2-026-0000; 2-033-0001
STRUCTURAL PLAN

Developer: Sundquist Homes, Inc., P.O. Box 958, Lynnwood, WA 98046-0958



Drawing
S-1
of 12 Drawings
2553

HDEV 2070