

# CASCADE D.A.F.O. ADDITION & REMODEL

1360 SUNSET AVENUE

CITY OF FERNDALE, WHATCOM COUNTY, WASHINGTON  
S 1/2, NE 1/4, SE 1/4, SEC 33, TWP 39 N , RNG 2 E, W.M.

## LEGEND

	= FND BRASS MON
	= FND ALUMINUM CAP MON
	= FND CONC MON
	= FND IRON PIPE
	= FND HUB AND TACK
	= FND PK NAIL
	= EXIST MAIL BOX
	= EXIST TELEPHONE PEDESTAL
	= EXIST POWER POLE
	= EXIST POWER POLE W/METER
	= EXIST POWER METER
	= EXIST UNDERGROUND TELEPHONE
	= EXIST LARGER DIA. TREE
	= EXIST SIGN
	= EXIST TOP OF BANK/RD SHOULDER
	= EXIST TOE OF BANK
	= EXIST CENTERLINE OF DITCH
	= INDICATES DRAINAGE DIRECTION
	= EXISTING WATER METER BOX
	= EXISTING WATER WELL
	= EXISTING WATER VALVE
	= EXISTING FIRE HYDRANT
	= EXIST WATER LINE
	= EXIST OVERHEAD POWER
	= EXIST UNDERGROUND TELEPHONE
	= EXIST SANITARY SEWER LINE
	= EXIST STORM DRAIN LINE
	= EXIST SANITARY SEWER CLEANOUT
	= EXISTING STOP SIGN
	= EXISTING CHAIN LINK FENCE
	= PROPOSED ELEV ON TOP OF PAVEMENT
	= PROPOSED ELEV ON TOP OF WALK
	= PROPOSED ELEV ON TOP OF CURB
	= PROPOSED STORM DRAIN CATCH BASIN (TYPE 1)
	= PROPOSED STORM DRAIN MANHOLE (TYPE 2)
	= PROPOSED STORM DRAIN LINE
	= PROPOSED SAN. SEWER LINE
	= PROPOSED WATER LINE
	= DETAIL CALLOUT

### Asbuilt Drawing Certification

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN THE CASCADE D.A.F.O. ADDITION AND REMODEL HAVE BEEN INSPECTED BY FREELAND & ASSOCIATES, INC. AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDALE PUBLIC WORKS.

By: Paul Enfield Date: 4.21.08

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1-800-424-5555

## SHEET INDEX

- C1) COVER SHEET
- C2) EXISTING CONDITIONS
- C3) TEMPORARY EROSION & SEDIMENTATION CONTROL PLAN
- C4) SITE PLAN
- C5) PAVING, GRADING & DRAINAGE PLAN
- C6) UTILITIES PLAN
- C7) WATER LINE PLAN & PROFILE
- C8) WATER LINE PLAN & PROFILE
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- C10) DETAILS
- C11) DETAILS
- C12) DETAILS
- C13) DETAILS
- C14) DETAILS & GENERAL NOTES
- C15) WETLAND MITIGATION PLAN

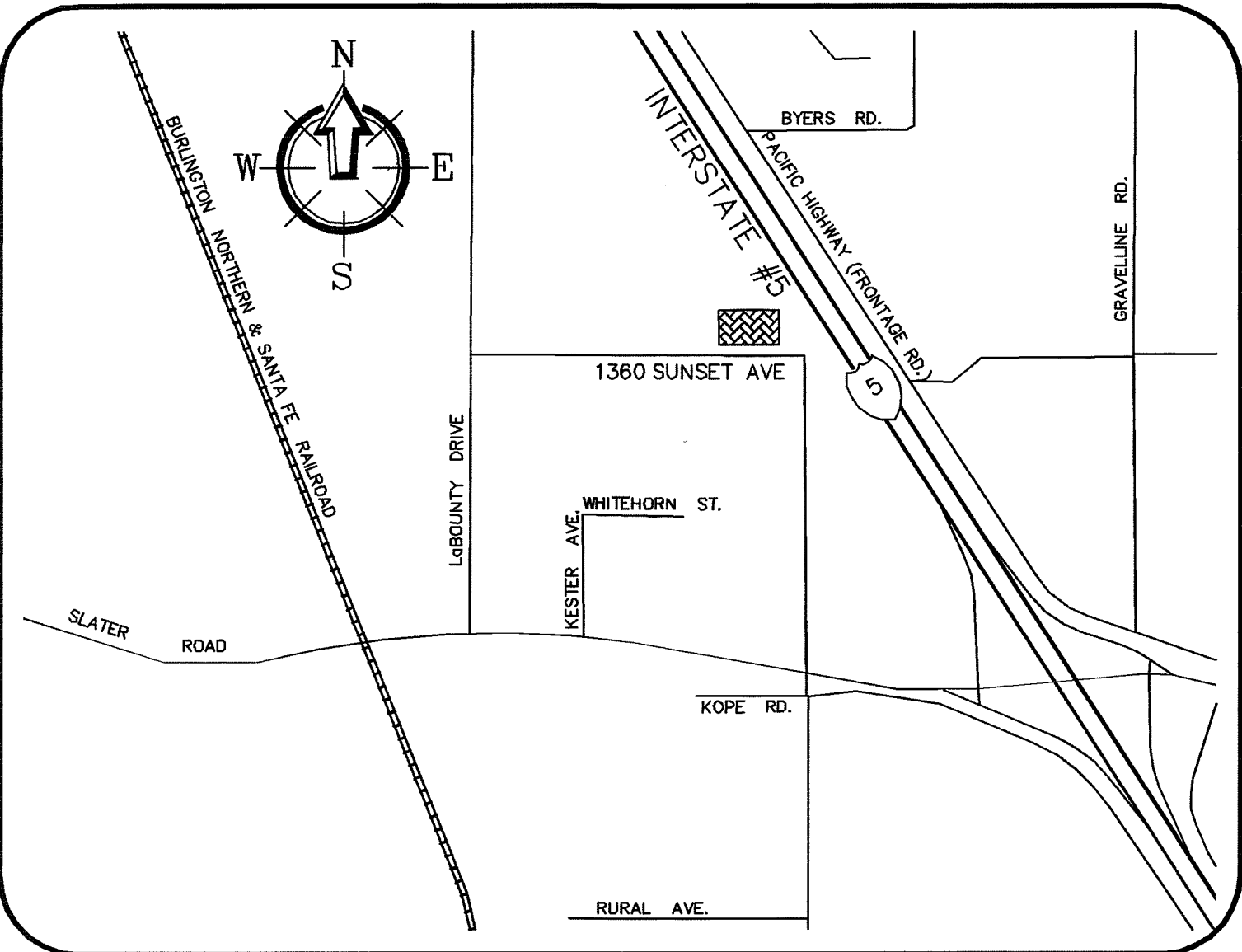
## ABBREVIATIONS

WL	= WATER LINE	IE	= INVERT ELEVATION
EL, ELEV	= ELEVATION	INV	= INVERT
D.I.	= DUCTILE IRON	SSCO	= SANITARY SEWER CLEANOUT
LF	= LINEAR FEET	SSMH	= SANITARY SEWER MANHOLE
FH	= FIRE HYDRANT	STA	= STATION
MJ	= MECHANICAL JOINT	AF NO.	= AUDITORS FILE NUMBER
FL	= FLANGE	UTIL	= UTILITY
TYP	= TYPICAL	APPROX	= APPROXIMATE
EX, EXST	= EXISTING	CONC	= CONCRETE
EXIST	= EXISTING	TEC	= TEMPORARY EROSION CONTROL
CL	= CENTERLINE	CPP	= CORRUGATED PLASTIC PIPE
FF, FFE	= FINISH FLOOR ELEVATION	C.O.F./COF	= CITY OF FERNDALE
EP, EOP	= EDGE OF PAVING	WSDOE	= WASHINGTON STATE DEPARTMENT OF ECOLOGY
R	= RADIUS	FGE	= FINISHED GRADE ELEVATION
FG	= FINISHED GRADE	SMMWW	= STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON.
TBC	= TOP BACK OF CURB		

## LEGAL DESCRIPTION

THAT PORTION OF THE SOUTH HALF OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 39 NORTH, RANGE 2 EAST OF W.M., LYING SOUTHWESTERLY OF PRIMARY STATE HIGHWAY NO. 1, EXCEPT COUNTY ROAD (SUNSET AVENUE) ALONG THE SOUTH LINE THEREOF AND EXCEPT THOSE PORTIONS CONVEYED TO THE STATE OF WASHINGTON BY DEED RECORDED OCTOBER 26, 1954 AND AUGUST 1, 1972 AS AUDITOR'S FILE NO. 783407 AND 1120337. SITUATE IN WHATCOM COUNTY, WASHINGTON.

## VICINITY MAP



## PROJECT INFORMATION

### OWNER

CASCADE DAFO  
RICH HELKE  
1360 SUNSET AVE  
FERNDAL, WA 98248  
(360) 384-1858  
(360) 384-4558 (FAX)

### ARCHITECT

RMC ARCHITECTS  
BRETT DETERING, AIA  
1223 RAILROAD AVE  
BELLINGHAM, WA 98225  
(360) 676-7733

### CIVIL ENGINEER

FREELAND & ASSOCIATES, INC.  
TONY FREELAND, PE  
J.P. SLAGLE, PE  
1408 NORTH GARDEN STREET  
BELLINGHAM, WA 98225  
(360) 650-1408  
(360) 650-1401 {FAX}

### CONTRACTOR

COLACURCIO BROTHERS CONSTRUCTION  
MANLEY MCINTYRE  
3287 H STREET  
BLAINE, WA 98230  
(360) 332-4044  
(360) 332-5079

### SURVEYOR

FREELAND & ASSOCIATES, INC.  
1408 NORTH GARDEN STREET  
BELLINGHAM, WA 98225  
(360) 650-1408  
(360) 650-1401 {FAX}

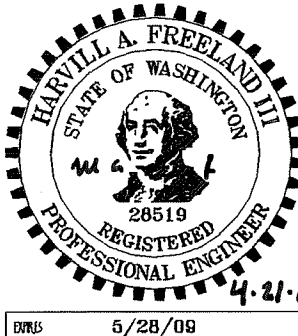
### AGENT

PAUL ENFIELD  
3320 OREGON PLACE  
BLAINE, WA 98230  
(360) 319-0555

APPROVED

JUN 16 2008

BY: Paul Enfield  
CITY OF FERNDALE



05037asb.dwg

AS-BUILT DRAWING SET  
CITY PROJECT #DE 2006-10

1408 North Garden Street  
Bellingham, WA 98225  
T: 360.650.1408  
F: 360.650.1401

DATE: 04-16-08  
JOB #: 05037  
SHEET: C1



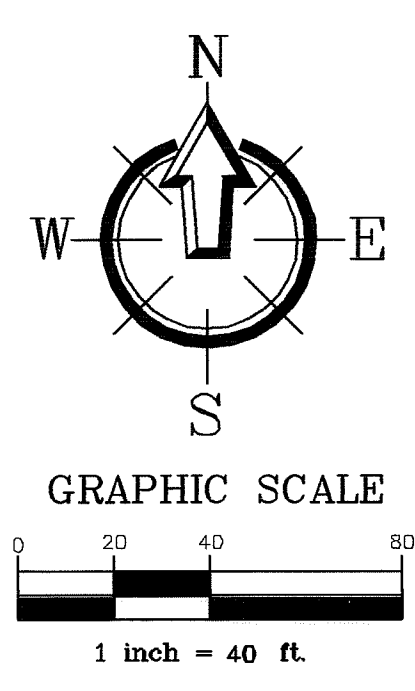
**FREELAND**  
& ASSOCIATES

AS-BUILT

00391.001 7-13-09 DD

00391002 7-13-09 20

AS-BUILT



TOPO NOTES:

- 1) FOR THIS SURVEY DATA WAS GATHERED BY FIELD TRAVERSE UTILIZING ELECTRONIC DATA COLLECTION. DATES OF FIELD SURVEY ARE AS FOLLOWS:  
1) INITIAL FIELD TIES TO SECTION 33 AND FERNDAL MONUMENT NETWORK; 9-03-04  
2) TOPOGRAPHIC SURVEY OF WETLAND DELINEATION AND EXISTING DITCHES; 01-16-06  
3) ADDITIONAL TOPOGRAPHY OF THE EXISTING IMPROVEMENTS AND NORTHERN AREAS; 03-16-06  
4) ADDITIONAL TOPOGRAPHY OF THE IMPROVEMENTS OF SUNSET AVE AND RURAL AVE; 01-17-07
- 2) THIS IS NOT A BOUNDARY SURVEY.
- 3) EQUIPMENT USED: TRIMBLE 5603 A  
EDM: ± 2 PPM, ± 2 MM
- 4) HORIZONTAL DATUM: CITY OF FERNDAL SURVEY MONUMENT NETWORK. WASHINGTON STATE NORTH ZONE, NAD 83/91.  
BASIS OF BEARINGS: SOUTH LINE OF SECTION 33, TOWNSHIP 39N, RANGE 2 EAST, W.M. BETWEEN THE MONUMENTS FOUND AT THE SE 1/4 CORNER AND SOUTH QUARTER OF SAID SECTION.  
BEARING: N89°17'28"E  
THE BOUNDARY OF THE PARCEL SHOWN HEREON IS BASED ON RECORD OF SURVEY FILED UNDER A.F. NO. 941214022, RECORDS OF WHATCOM COUNTY, WA. FIELD TIES TO THE EXISTING CORNERS PERFORMED AT THE TIME OF THIS TOPOGRAPHIC SURVEY VERIFY THE ACCURACY OF THIS PARCEL (SEE NOTE 2).
- 5) VERTICAL DATUM: VERTICAL CONTROL WAS BASED FROM FIELD TIES TO CITY OF FERNDAL SURVEY MONUMENT NETWORK.  
PROJECT BENCHMARK: "FERN 12" OF THE CITY OF FERNDAL SURVEY MONUMENT NETWORK. DATED JUNE, 2001.  
ELEVATION= 31.27'
- 6) FREELAND & ASSOCIATES, ASSUMES NO LIABILITY FOR ANY SUBSURFACE CONDITIONS OR FEATURES THAT MAY EXIST THAT ARE NOT DETECTABLE AND/OR NOT VISIBLE.
- 7) THIS TOPOGRAPHY MAP WAS DONE WITH THE BENEFIT OF A CURRENT TITLE REPORT. HOWEVER, FREELAND & ASSOCIATES IS NOT RESPONSIBLE FOR ANY EASEMENTS, COVENANTS, RESERVATIONS AND RESTRICTIONS NOT SHOWN HEREON, THAT MAY EXIST.
- 8) CONTOUR INTERVAL IS 1 FOOT AND ARE COMPUTER GENERATED FROM FIELD TOPOGRAPHY GATHERED FOR THIS SURVEY UTILIZING ELECTRONIC DATA COLLECTION. CONTOUR INTERVAL SHOWN DOES NOT MEET NATIONAL MAPPING STANDARDS AND ARE SHOWN FOR GRAPHIC PURPOSES ONLY. ACTUAL CONTOUR ACCURACY IS 2'.
- 9) THE 1-800 UTILITY LOCATE WAS NOT USED FOR THE BENEFIT OF THIS SURVEY.
- 10) A CLOSED FIELD TRAVERSE OF THIS SECTION WAS PERFORMED ON SEPTEMBER 3 AND 4, 2004. PERMANENT MONUMENTS THAT WERE SET DURING THE AFOREMENTIONED SURVEY STILL EXISTED AT THE TIME OF THE SURVEY OF THIS PARCEL. THESE MONUMENTS ARE EXCLUSIVE TO FREELAND AND ASSOCIATES AND MAINTAIN A FIXED RELATIONSHIP TO THE CITY OF FERNDAL SURVEY MONUMENT NETWORK. TIES TO THESE CONTROL POINTS ARE THE BASIS FOR THE ORIENTATION HORIZONTALLY AND VERTICALLY FOR THIS PROJECT.

Asbuilt Drawing Certification

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN THE CASCADE D.A.F.O. ADDITION AND REMODEL HAVE BEEN INSPECTED BY FREELAND & ASSOCIATES, INC. AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDAL PUBLIC WORKS.

By: Tim A. H Date: 4-21-09

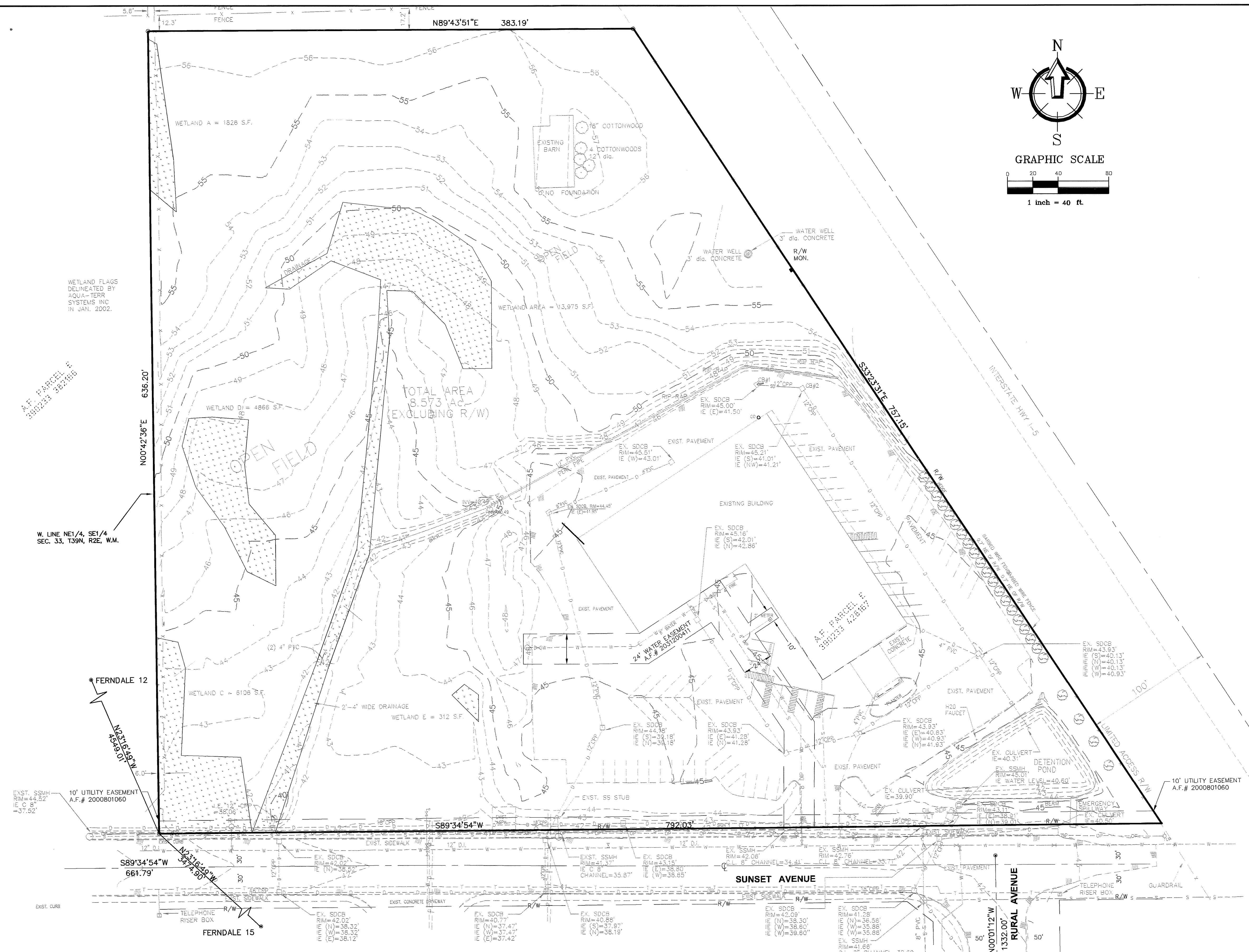
APPROVED

JUN 16 2008

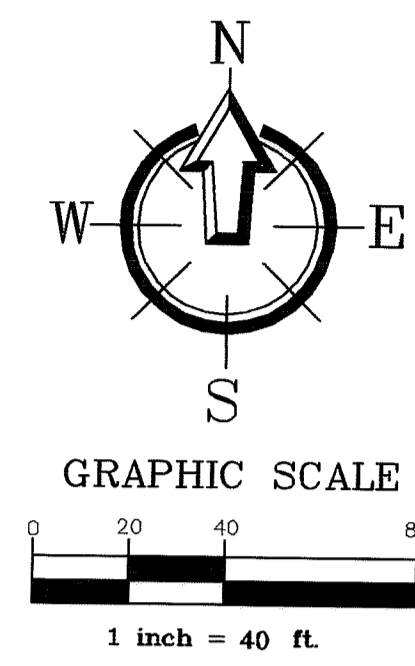
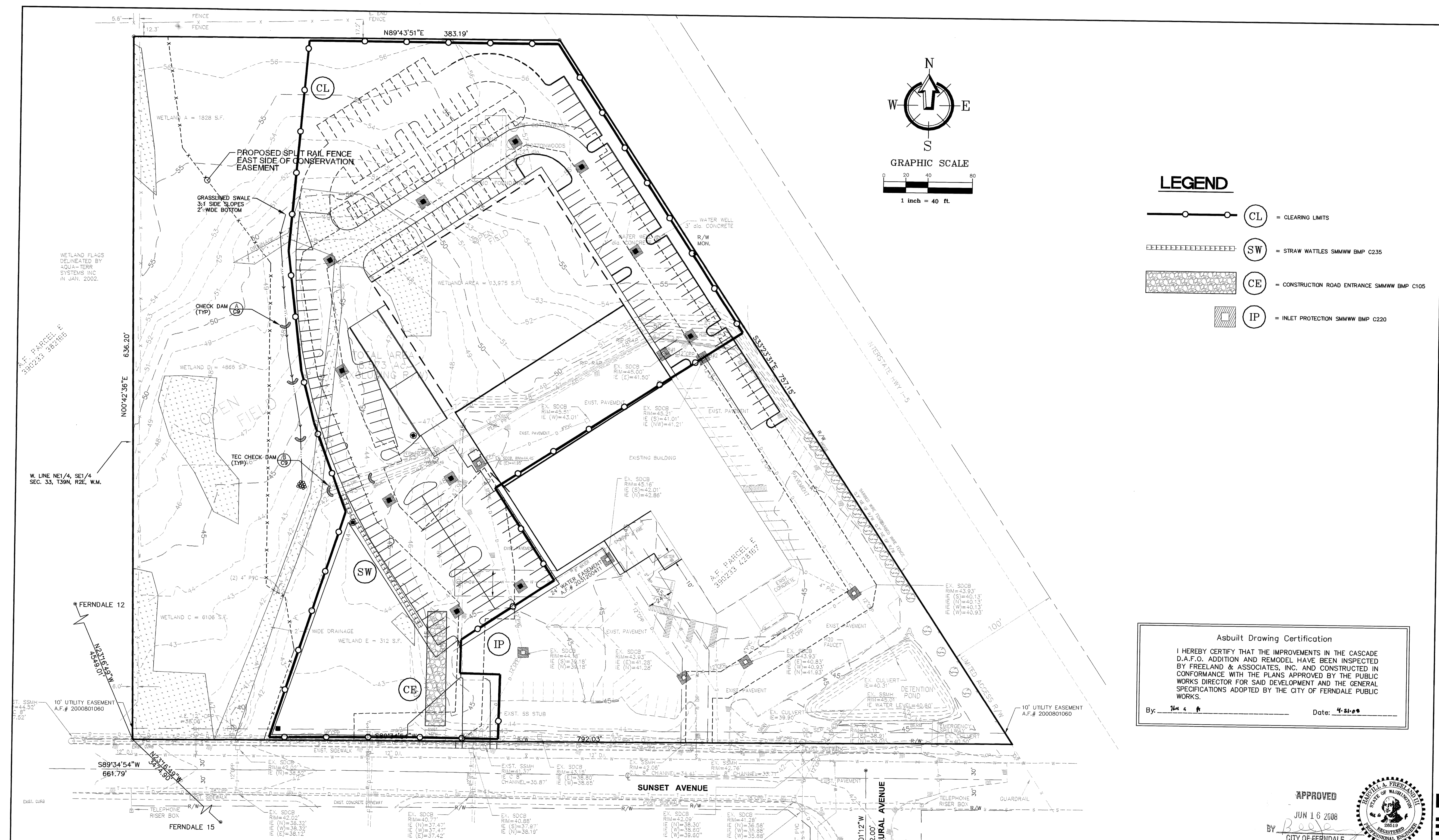
BY Blair

CITY OF FERNDAL

5/28/09



CALL BEFORE YOU DIG FOR BURIED UTILITY LOCATIONS 1-800-424-5555		<div>3 2 1</div> <div>03-03-08 11-27-07 2-2-07</div> <div>AS-BUILT REVISIONS AS-BUILT REVISIONS REVISED PER CITY ENGINEER REVIEW</div>		<div>AMM TCN JPS</div> <div>DESIGNED BY: HAF  DRAWN BY: AMN  CHECKED BY: HAF</div>		<div></div> <div>1408 North Garden Street Bellingham, WA 98225 t: 360.850.1408 f: 360.850.1401</div> <div><b>F R E E L A N D &amp; A S S O C I A T E S</b></div>		<div>CLIENT: <b>CASCADE D.A.F.O.</b> 1360 SUNSET AVENUE FERNDAL, WA 98248</div> <div>PROJECT LOCATION:  1360 SUNSET AVENUE FERNDAL, WA 98248</div>		SHEET CONTENTS:  <b>EXISTING CONDITIONS</b>		<div>DATE:  04-16-08</div> <div>OWG #: 05037asb</div> <div>JOB #: 05037</div> <div>SCALE: H: 1"=40' V: n/a</div> <div>SHEET: <b>C2</b></div>	
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**LEGEND**

- CL = CLEARING LIMITS
- SW = STRAW WATTLES SMMWW BMP C235
- CE = CONSTRUCTION ROAD ENTRANCE SMMWW BMP C105
- IP = INLET PROTECTION SMMWW BMP C220

**Asbuilt Drawing Certification**  
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By: Jim A. H. Date: 4-21-09

APPROVED  
JUN 16 2008  
BY: Beede  
CITY OF FERNDALE  
REGISTERED PROFESSIONAL ENGINEER  
5/28/08

CALL BEFORE YOU DIG  
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1-800-424-5555

No.	Date	REVISION
3	03-03-08	AS-BUILT REVISIONS
2	11-27-07	AS-BUILT REVISIONS
1	2-2-07	REVISED PER CITY ENGINEER REVIEW

DESIGNED BY:  
HAF  
DRAWN BY:  
AMN  
CHECKED BY:  
HAF

**FREELAND & ASSOCIATES**  
1408 North Garden Street  
Bellingham, WA 98225  
T: 360.650.1408  
F: 360.650.1401

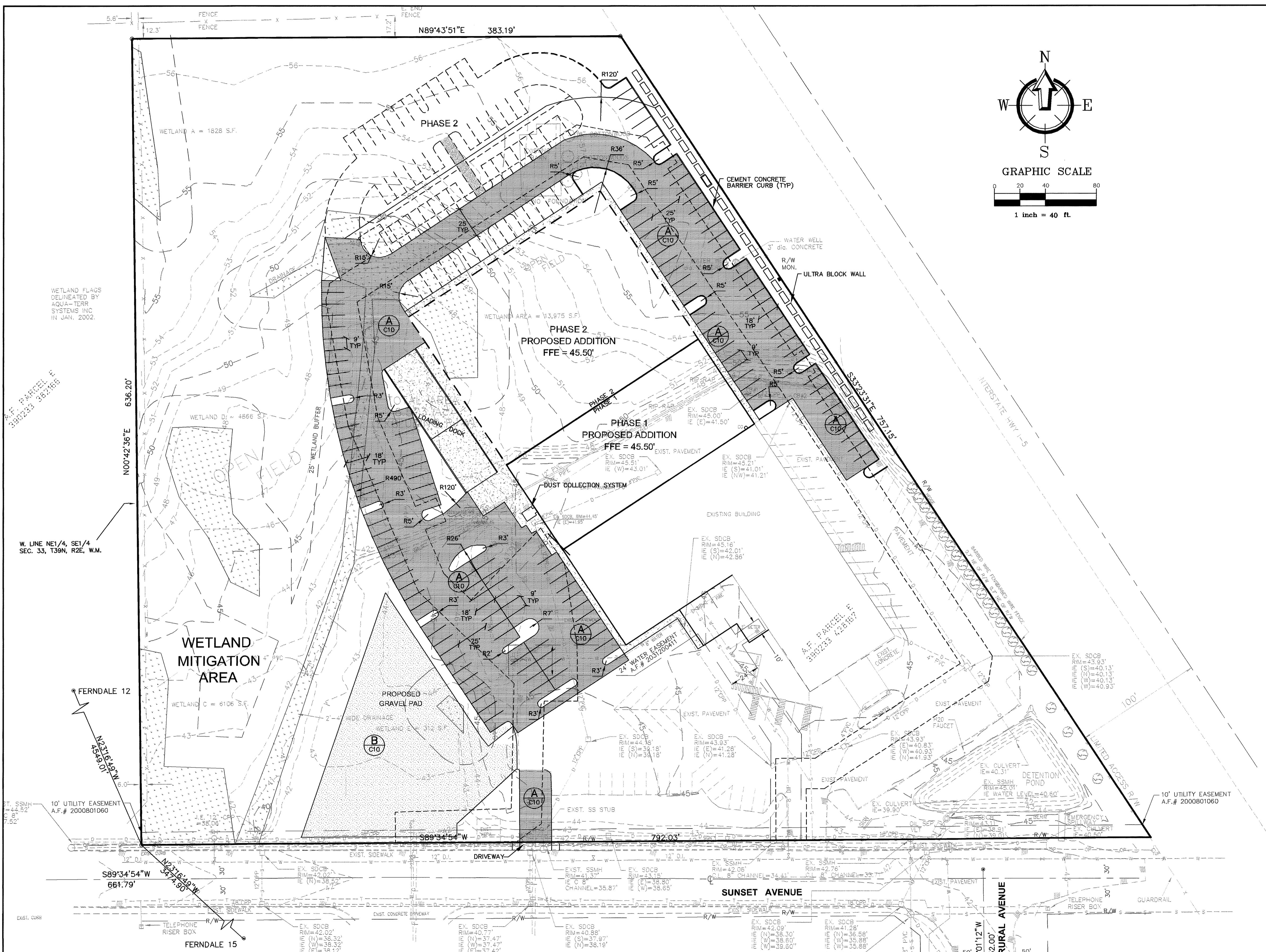
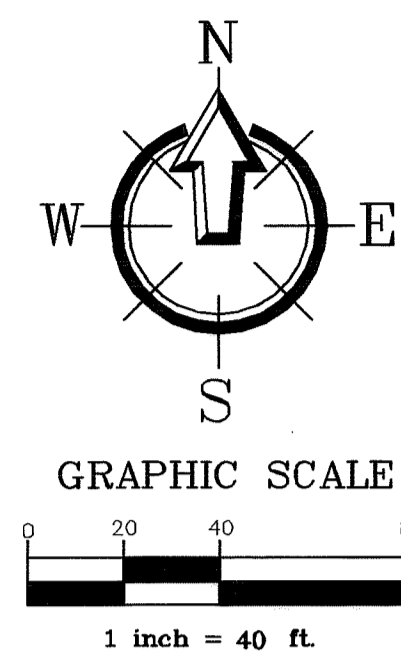
CLIENT:  
**CASCADE D.A.F.O.**  
1360 SUNSET AVENUE  
FERNDALE, WA 98248  
PROJECT LOCATION:  
1360 SUNSET AVENUE  
FERNDALE, WA 98248

SHEET CONTENTS:  
**TEMPORARY EROSION & SEDIMENTATION  
CONTROL PLAN**

DWG #: 05037asb  
JOB #: 05037  
SCALE: H: 1"=40' V: n/a  
DATE: 04-16-08  
SHEET: C3

00391.003 7/3/09 DD

**AS-BUILT**



Asbuilt Drawing Certification

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By: W. A. F. Date: 4-21-08

APPROVED

JUN 16 2008

BY: B. J. J.

CITY OF FERDALE

PROFESSIONAL ENGINEER

4-21-08

CALL BEFORE YOU DIG  
FOR BURIED UTILITY LOCATIONS  
1-800-424-5555

No.	Date	REVISION
3	03-03-08	AS-BUILT REVISIONS
2	11-27-07	AS-BUILT REVISIONS
1	2-2-07	REVISED PER CITY ENGINEER REVIEW

DESIGNED BY:  
HAF

DRAWN BY:  
AMN

CHECKED BY:  
HAF

1408 North Garden Street  
Bellingham, WA 98225

t: 360.850.1408  
f: 360.850.1401

CLIENT:

PROJECT LOCATION:

**FREELAND & ASSOCIATES**

CASCADE D.A.F.O.  
1360 SUNSET AVENUE  
FERDALE, WA 98248

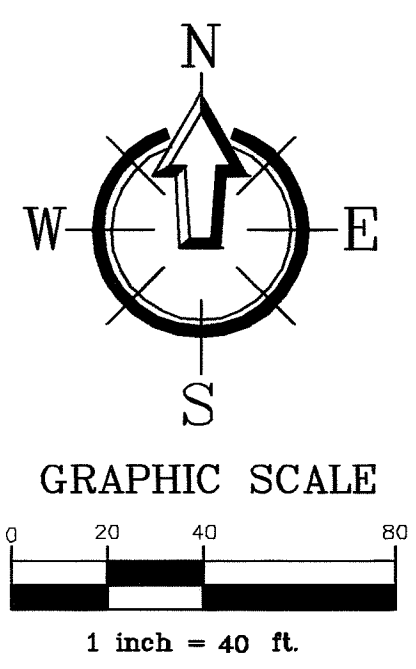
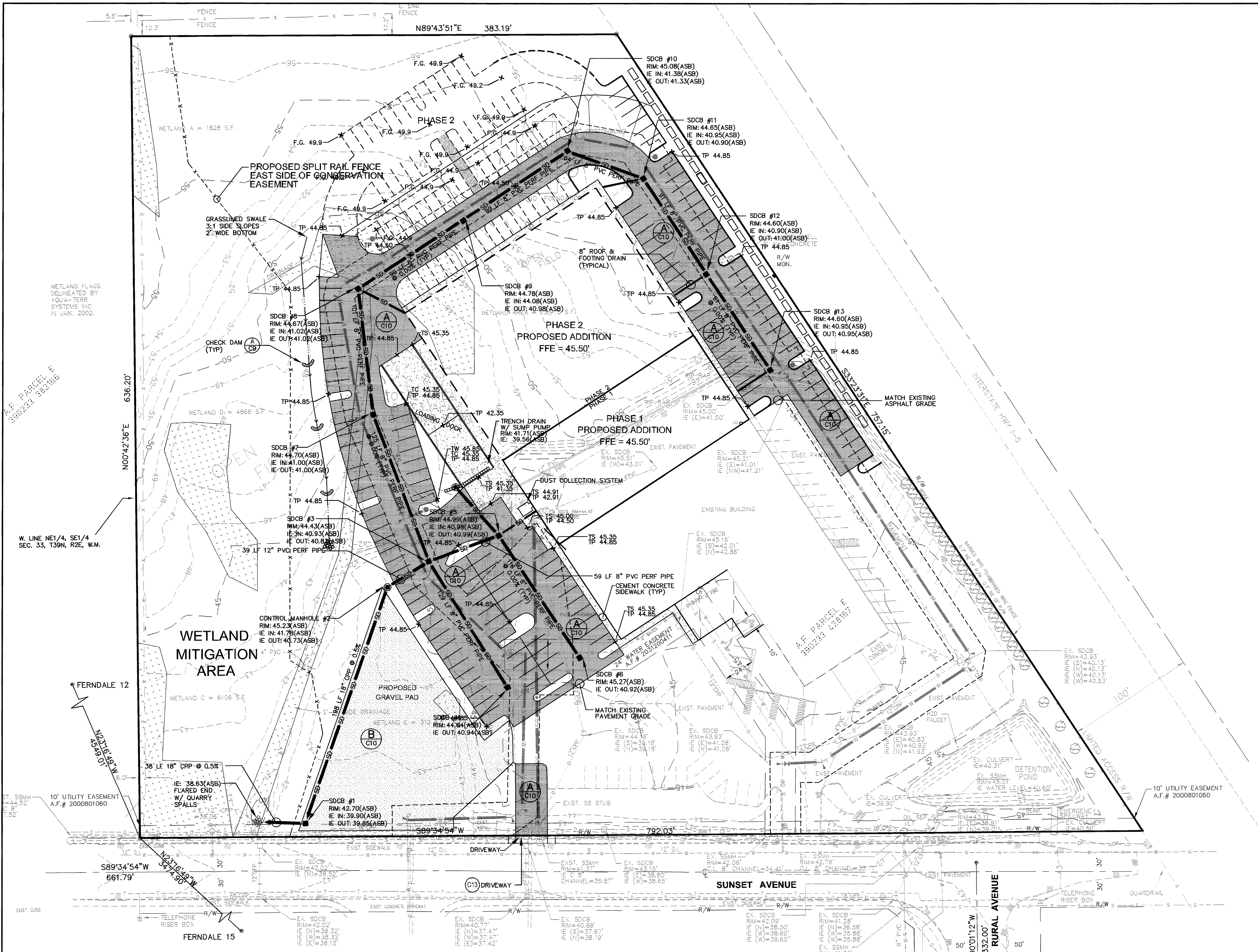
1360 SUNSET AVENUE  
FERDALE, WA 98248

SHEET CONTENTS:

SITE PLAN

DWG #:	05037asb	DATE:	04-16-08
JOB #:	05037	SHEET:	C4
SCALE:	H: 1"=40'	V: n/a	

AS-BUILT



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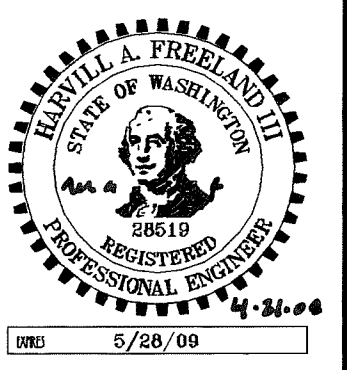
By: AGH Date: 4-21-08

APPROVED

JUN 16 2008

BY: [Signature]

CITY OF FERDALE



AS-BUILT

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No.	Date	REVISION
3	03-03-08	AS-BUILT REVISIONS
2	11-27-07	AS-BUILT REVISIONS
1	2-2-07	REVISED PER CITY ENGINEER REVIEW

DESIGNED BY:  
HAF

DRAWN BY:  
AMN

CHECKED BY:  
HAF



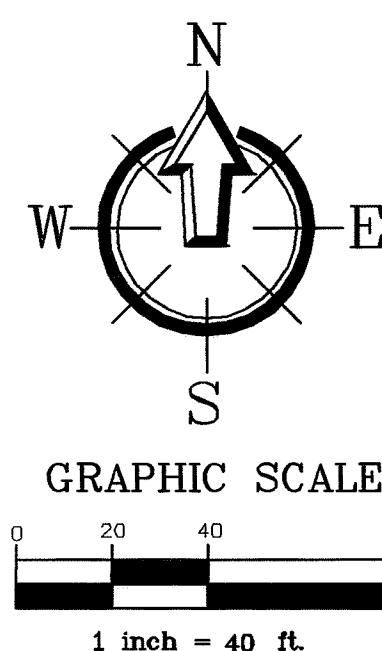
CLIENT: CASCADE D.A.F.O.  
1360 SUNSET AVENUE  
FERDALE, WA 98248

PROJECT LOCATION: 1360 SUNSET AVENUE  
FERDALE, WA 98248

PAVING, GRADING & DRAINAGE PLAN

DWG #:	05037asb	DATE:	04-16-08
JOB #:	05037	SHEET:	C5
SCALE:	H: 1"=40'	V: n/a	

00391.006 7/3/09 AD



NOTE: THE OWNER SHALL BEAR THE ENTIRE COST FOR THE CITY REPAIR/MAINTAIN THE WATERMAIN, OWNER RESPONSIBLE TO DEWATER/RESTORE THE INFILTRATION LAYERS, REPAIR ASSOCIATED ITEMS, AND REPAIR THE ENTIRE EXCAVATION INCLUDING PAVING.

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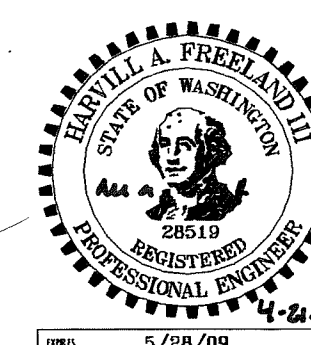
By: 44 a p Date: 4-21-08

APPROVED

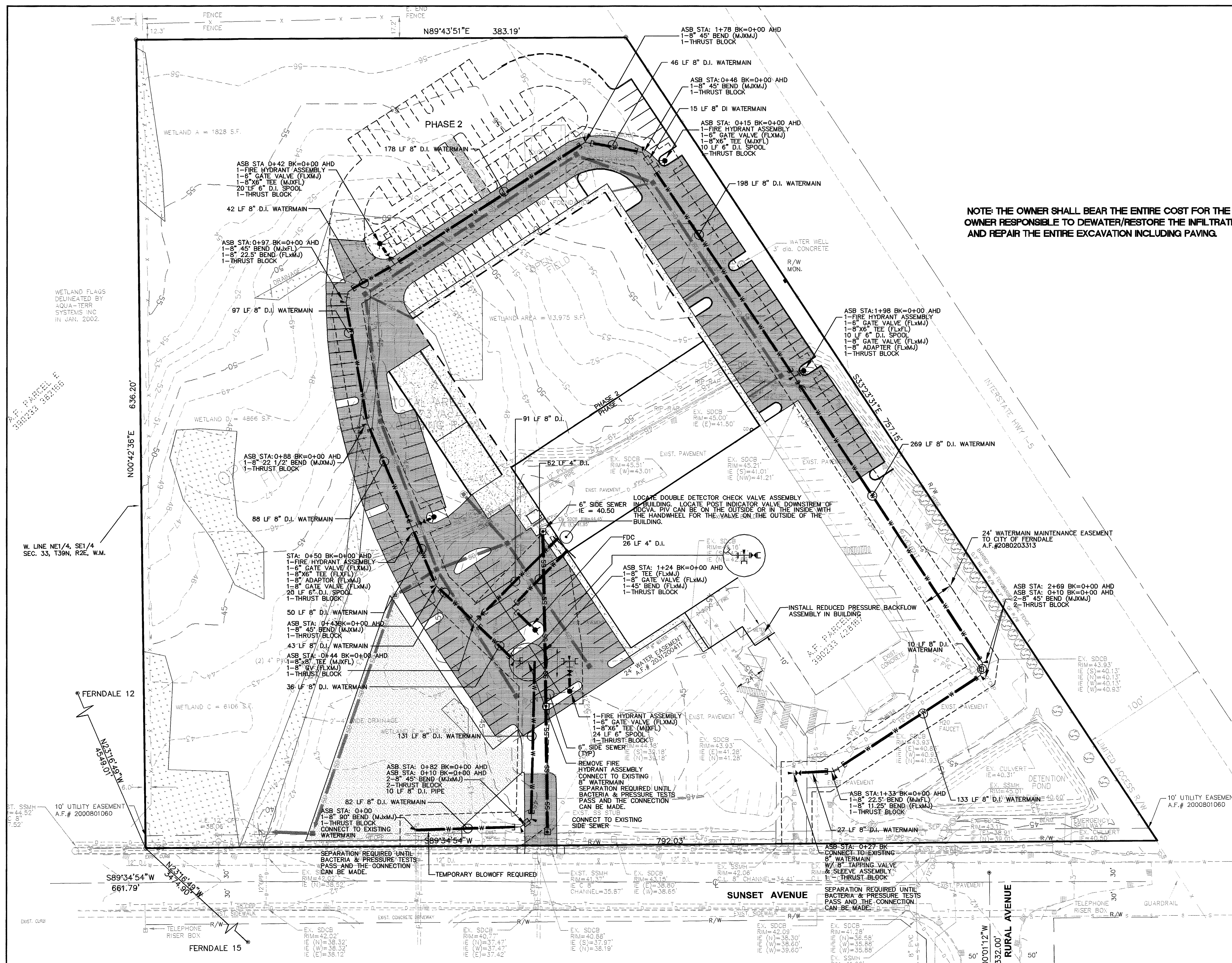
JUN 16 2008

BY Beale

CITY OF FERNDALE



AS-BUILT



CALL BEFORE YOU DIG  
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1-800-424-5555

No.	Date	REVISION
3	03-03-08	AS-BUILT REVISIONS
2	11-27-07	AS-BUILT REVISIONS
1	2-2-07	REVISED PER CITY ENGINEER REVIEW

DESIGNED BY:	HAF
DRAWN BY:	AMN
CHECKED BY:	HAF

1408 North Garden Street  
Bellingham, WA 98225  
t: 360.650.1408  
f: 360.650.1401

**FREELAND & ASSOCIATES**

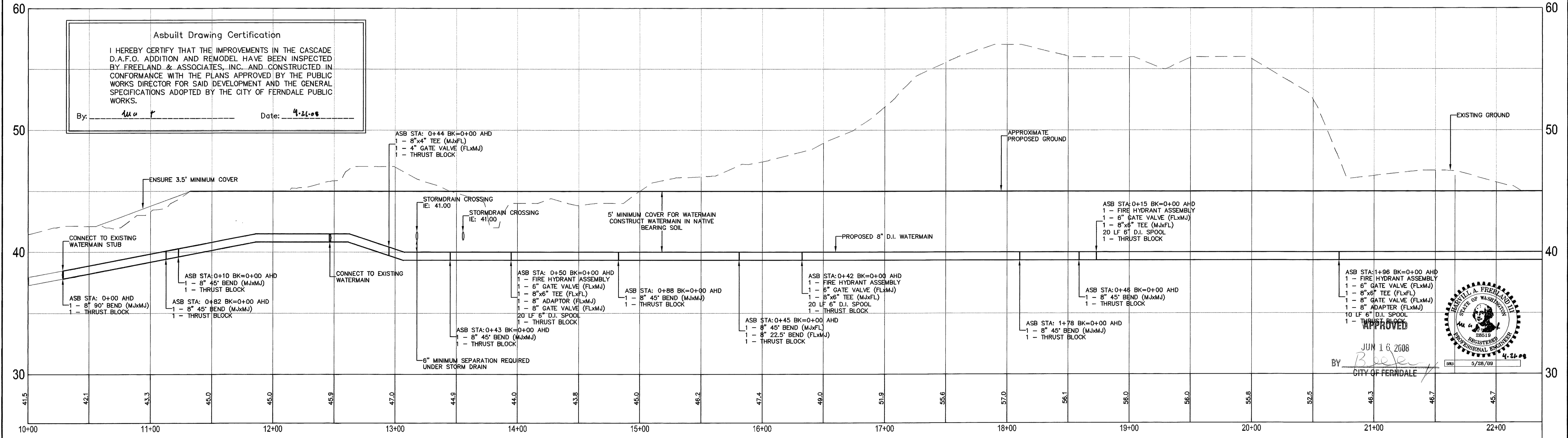
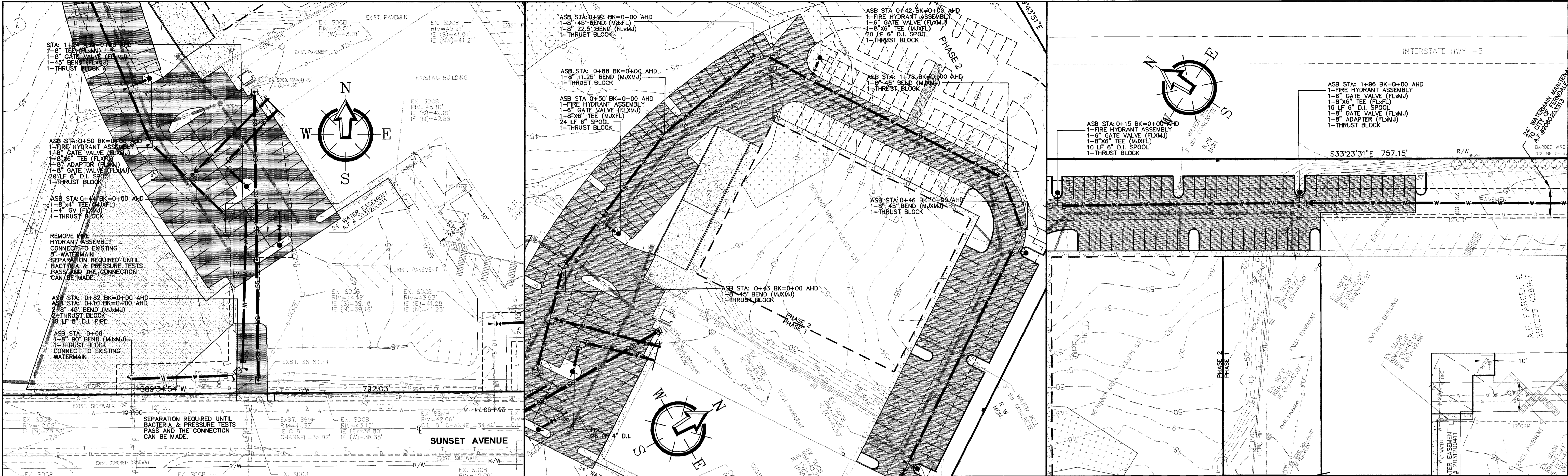
CLIENT: **CASCADE D.A.F.O.**  
1360 SUNSET AVENUE  
FERNDAL, WA 98248

PROJECT LOCATION: 1360 SUNSET AVENUE  
FERNDAL, WA 98248

SHEET CONTENTS:

**ASBUILT  
UTILITIES PLAN**

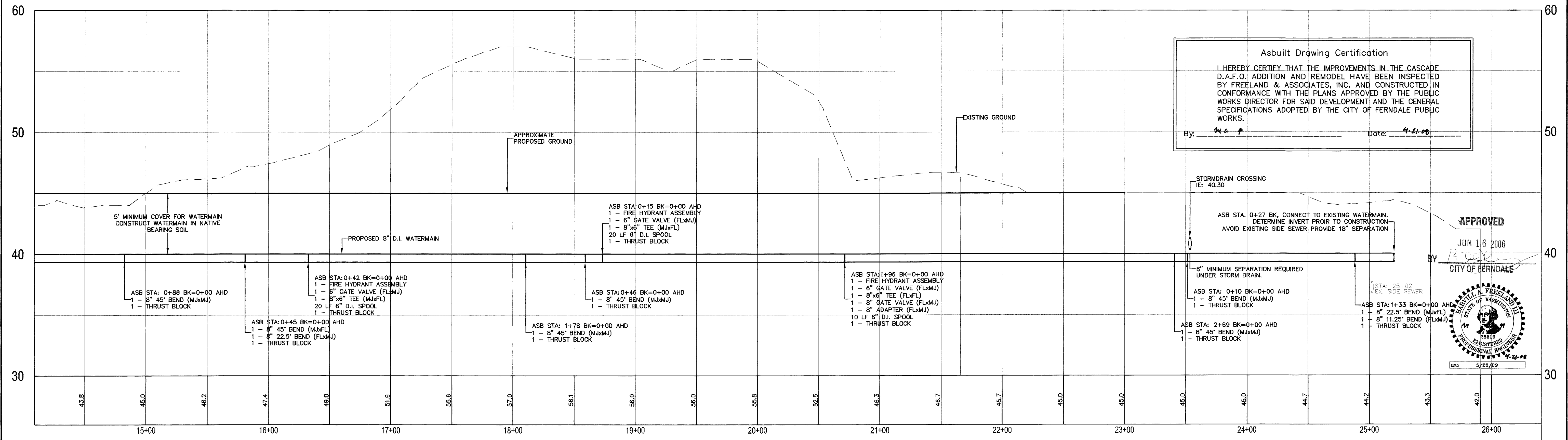
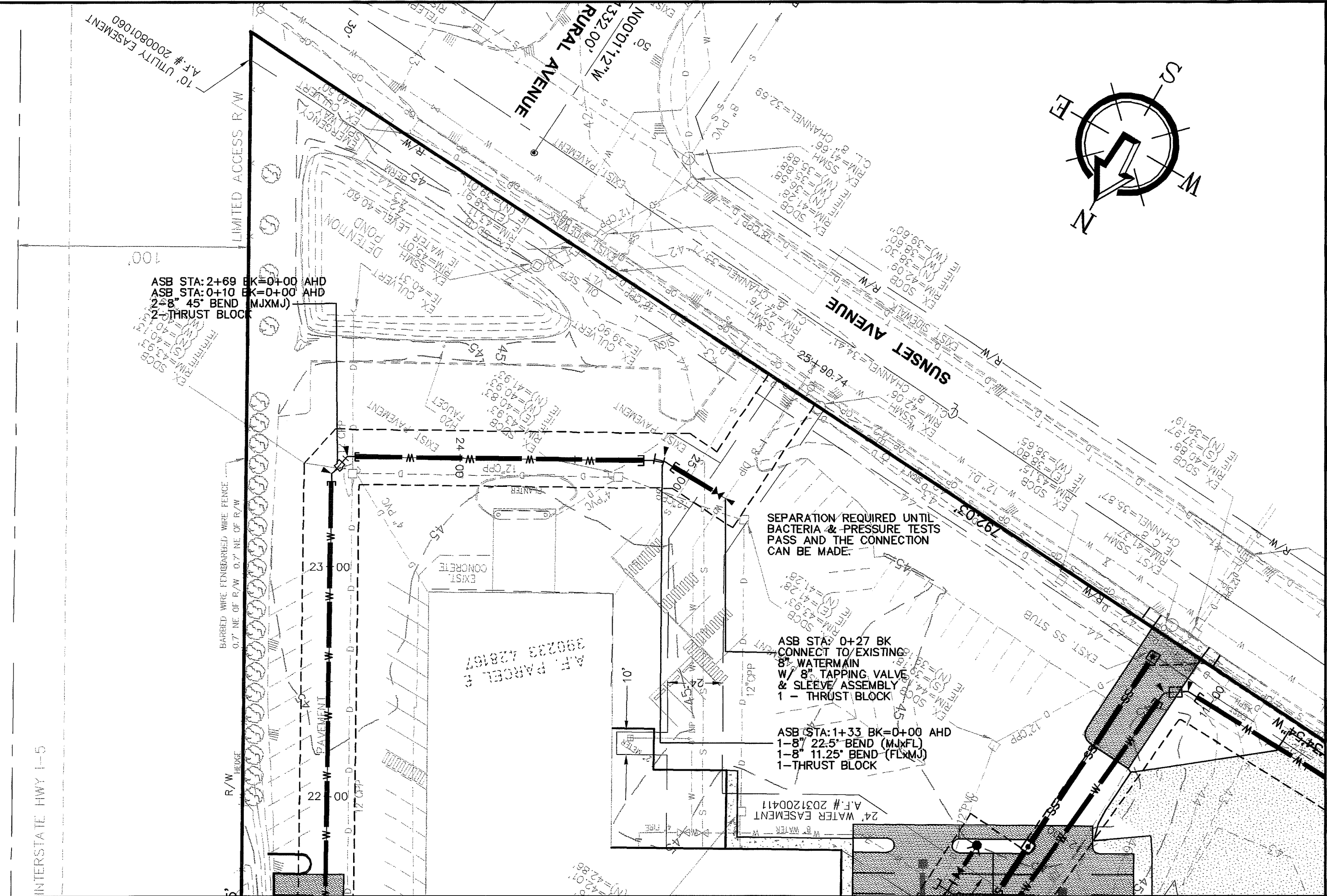
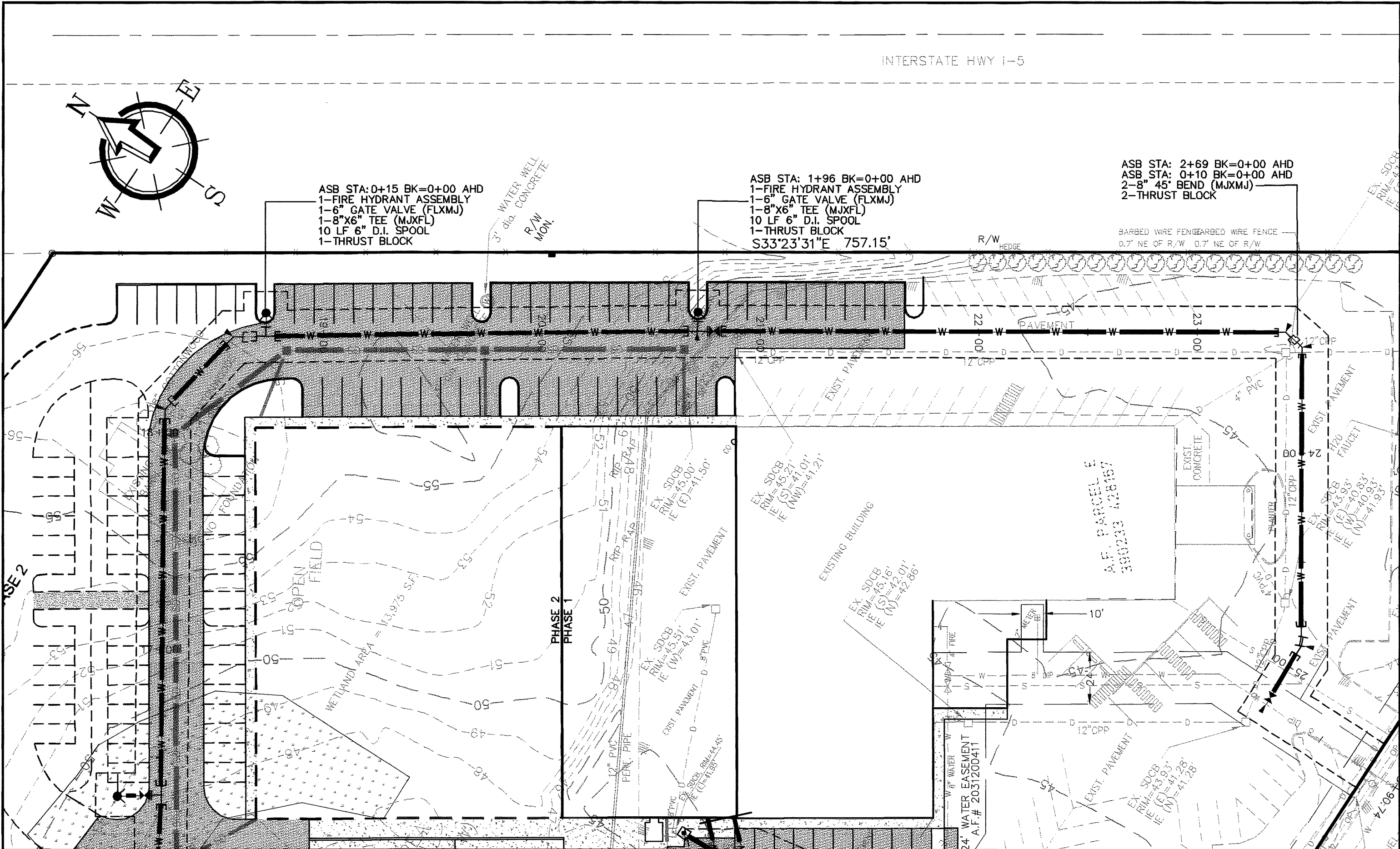
DWG #:	05037asb	DATE:	04-16-08
JOB #:	05037	SHEET:	C6
SCALE:	H: 1"=40'	V: n/a	



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FOR BURIED UTILITY LOCATIONS  
1-800-424-5555

3 2 1	03-03-08 11-27-07 2-2-07	AS-BUILT REVISIONS AS-BUILT REVISIONS ADDED PER CITY ENGINEER REVIEW	AMM TON JPS	DESIGNED BY: HAF DRAWN BY: AMM CHECKED BY: HAF	 1408 North Garden Street Bellingham, WA 98225 t: 360.650.1408 f: 360.650.1401	CLIENT: <b>CASCADE D.A.F.O.</b> 1360 SUNSET AVENUE FERNDAL, WA 98248	PROJECT LOCATION: 1360 SUNSET AVENUE FERNDAL, WA 98248	SHEET CONTENTS: <b>ASBUILT WATERLINE PLAN &amp; PROFILE</b>	OWG #: 05037asb JOB #: 05037 SCALE: H: 1"=40' V: 1"=4'	DATE: 04-16-08 SHEET: <b>C7</b>
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AS-BUILT



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No.	Date	REVISION
3	03-03-08	AS-BUILT REVISIONS
2	11-27-07	AS-BUILT REVISIONS
1	2-2-07	ADDED PER CITY ENGINEER REVIEW

DESIGNED BY:  
HAF

DRAWN BY:  
AMN

CHECKED BY:  
HAF

1408 North Garden Street  
Bellingham, WA 98225

T: 360.650.1408  
F: 360.650.1401

**FREELAND & ASSOCIATES**

CLIENT:  
**CASCADE D.A.F.O.**  
1360 SUNSET AVENUE  
FERNDAL, WA 98248

PROJECT LOCATION:  
1360 SUNSET AVENUE  
FERNDAL, WA 98248

SHEET CONTENTS:  
**ASBUILT  
WATERLINE PLAN & PROFILE**

DWG #:  
05037asb

JOB #:  
05037

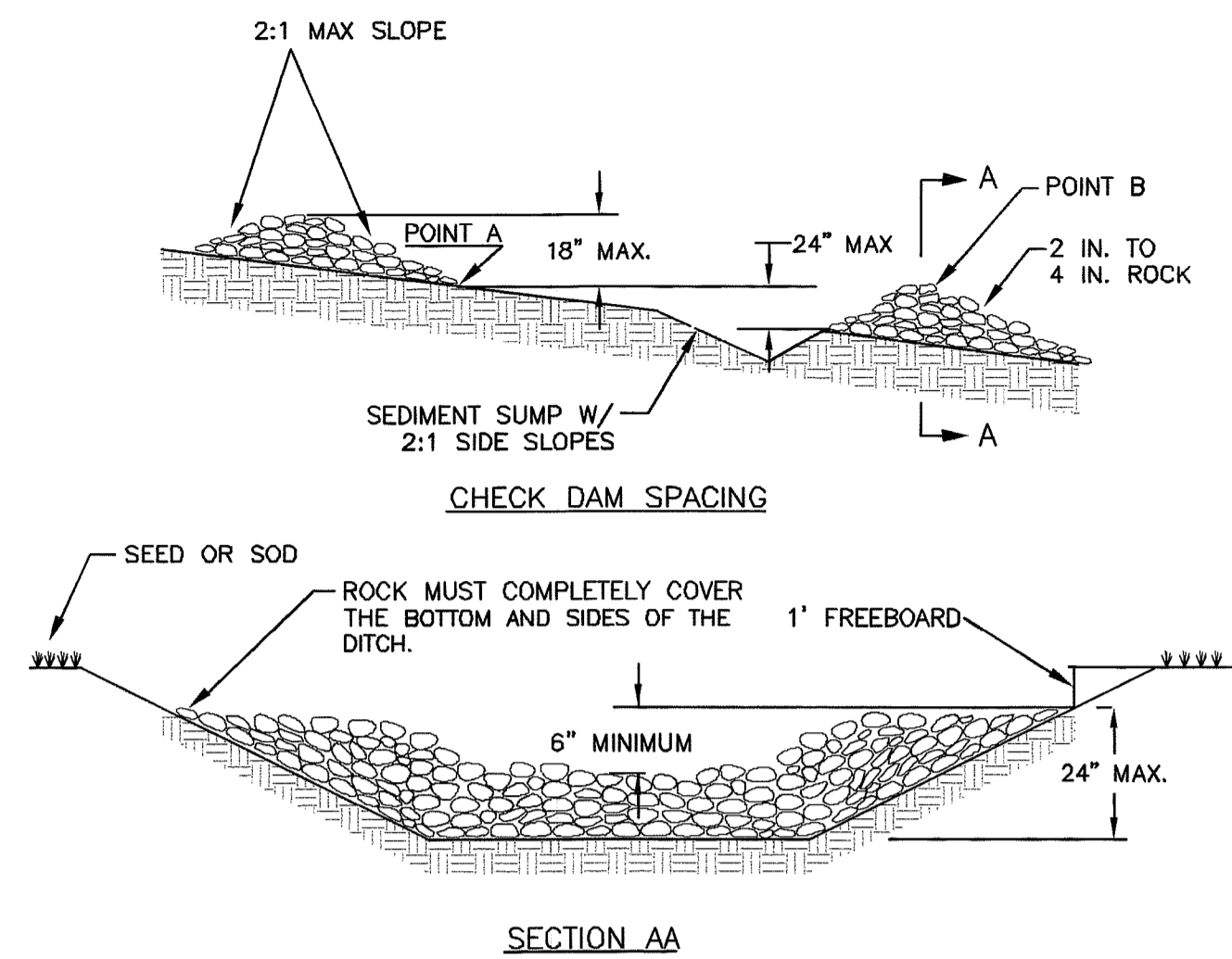
SCALE:  
H: 1"=40' V: n/a

DATE:  
04-16-08

SHEET:  
C8

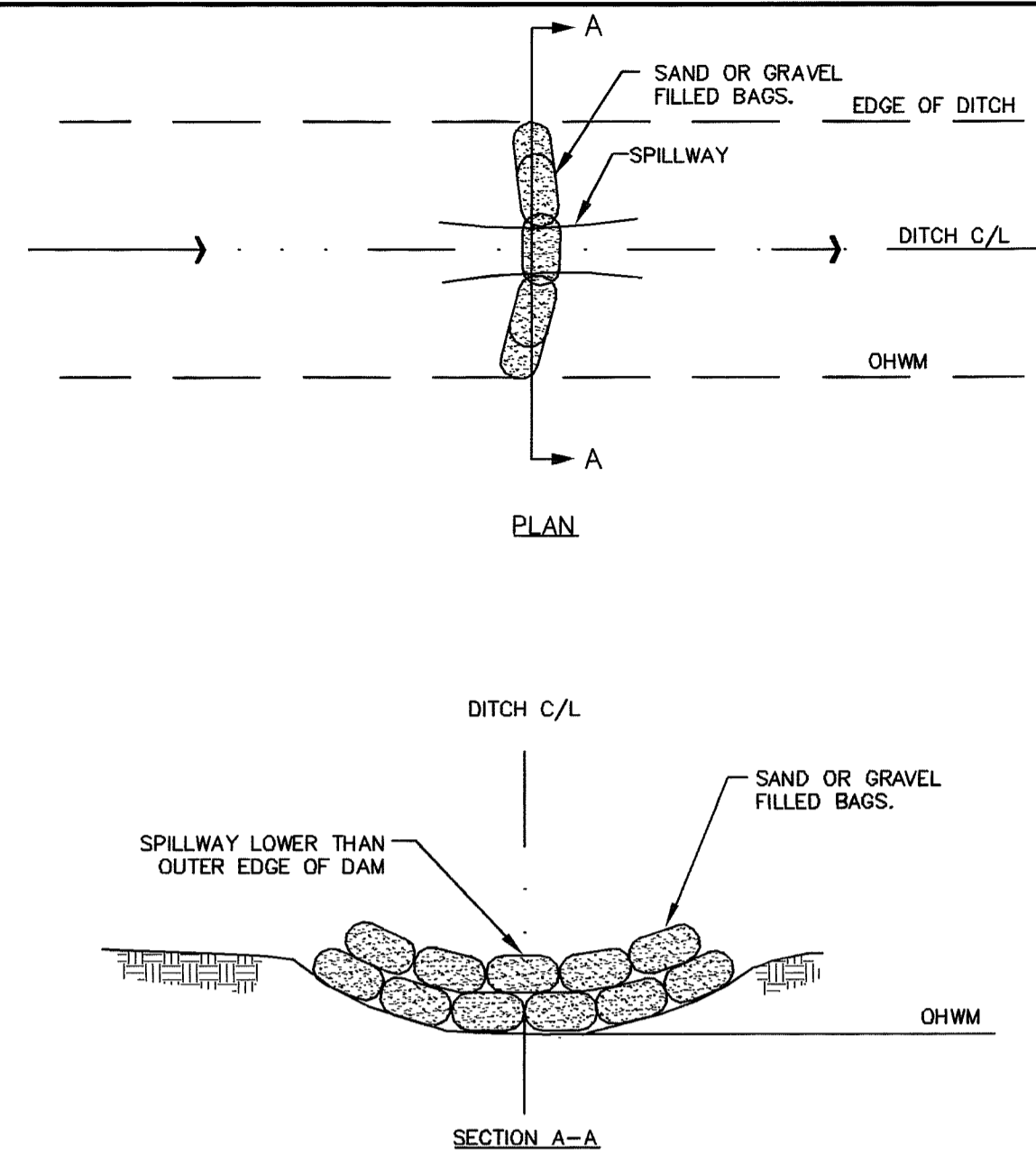
00391.008 7/13/09 DD

AS-BUILT

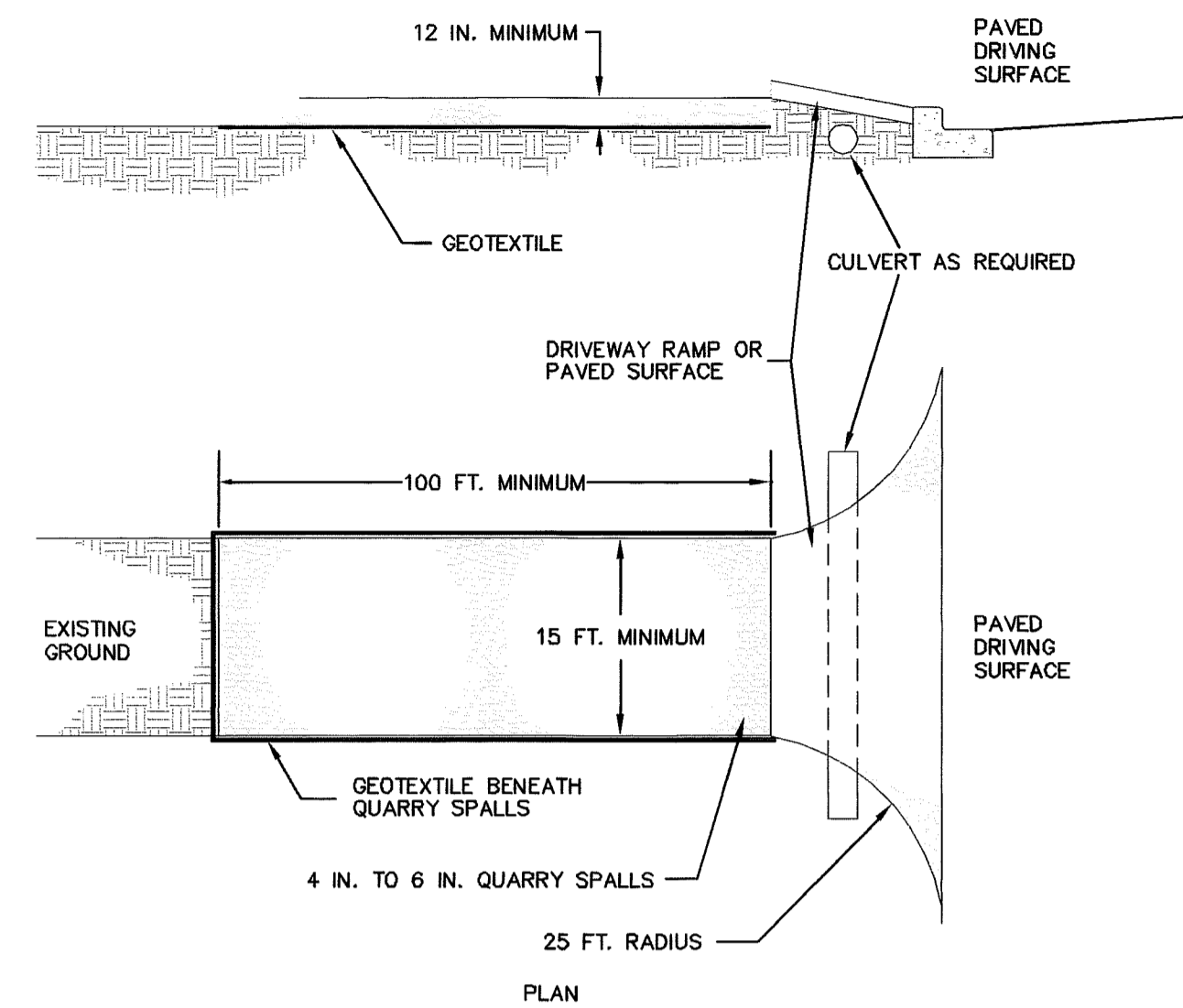


- NOTES:**
1. 50 FT MAXIMUM SPACING BETWEEN CHECK DAMS.
  2. ANY SEDIMENT DEPOSITION OF MORE THAN 0.5 FT. IN DEPTH SHALL BE REMOVED SO THAT THE CHANNEL IS RESTORED TO ITS ORIGINAL DESIGN CAPACITY.
  3. THE CHANNEL SHALL BE EXAMINED FOR SIGNS OF SCOURING AND EROSION OF THE BED AND BANKS. IF SCOURING OR EROSION HAS OCCURRED, AFFECTED AREAS SHALL BE PROTECTED BY RIP-RAP, AN EROSION CONTROL BLANKET, OR A NET.
  4. A 6-INCH SUMP SHALL BE PROVIDED IMMEDIATELY UPSTREAM OF CHECK DAM.
  5. CHECK DAMS SHALL BE CONSTRUCTED SO THAT POINTS A AND B ARE OF EQUAL ELEVATION.
  6. SANDBAG CHECK DAMS MAY BE SUBSTITUTED FOR ROCK CHECK DAMS AS APPROVED BY THE CITY.

## A ROCK CHECK DAM

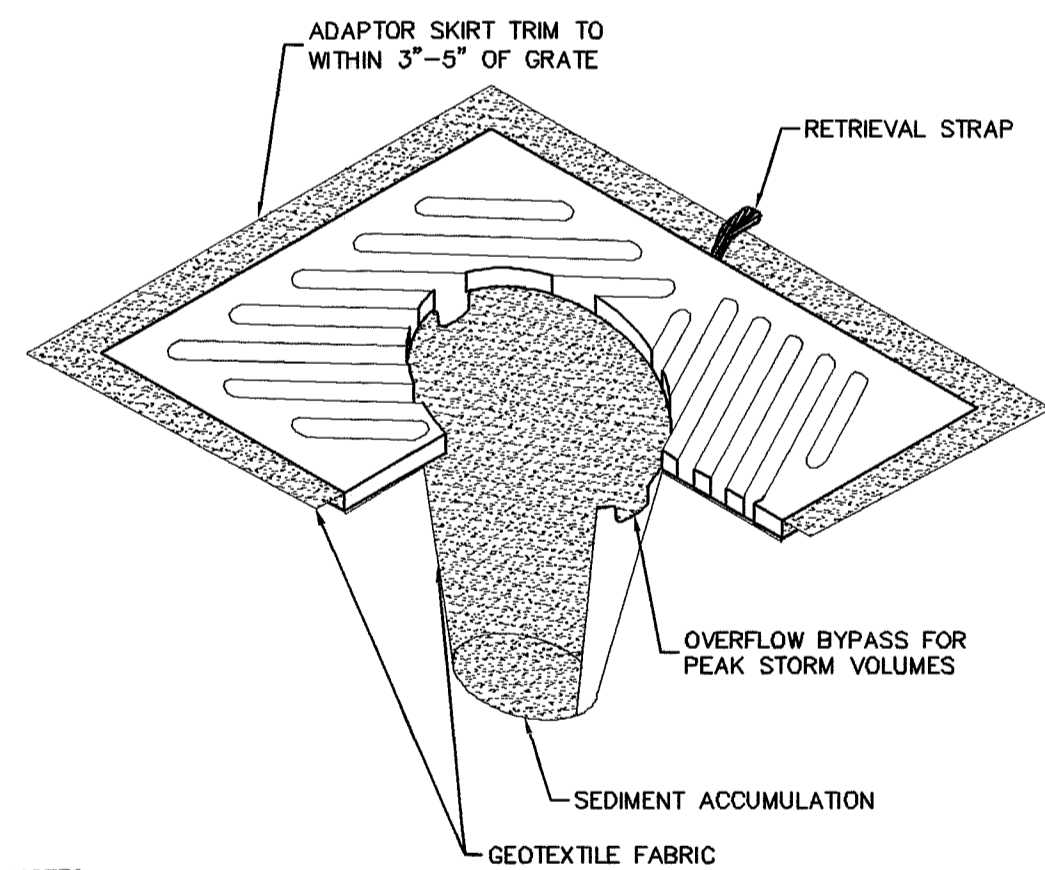


## B TEMPORARY EROSION CONTROL CHECK DAM



- NOTES:**
1. PAD SHALL BE REMOVED AND REPLACED WHEN SOIL IS EVIDENT ON THE SURFACE OF THE PAD OR AS DIRECTED BY THE CITY.
  2. PAD SHALL BE INSTALLED IN PLANTING STRIP AS APPROPRIATE.
  3. PAD THICKNESS SHALL BE INCREASED IF SOIL CONDITIONS DICTATE OR PER THE DIRECTION OF THE CITY.
  4. MINIMUM DIMENSIONS MAY BE MODIFIED AS REQUIRED BY SITE CONDITIONS UPON APPROVAL OF THE CITY.

## C CONSTRUCTION ROAD

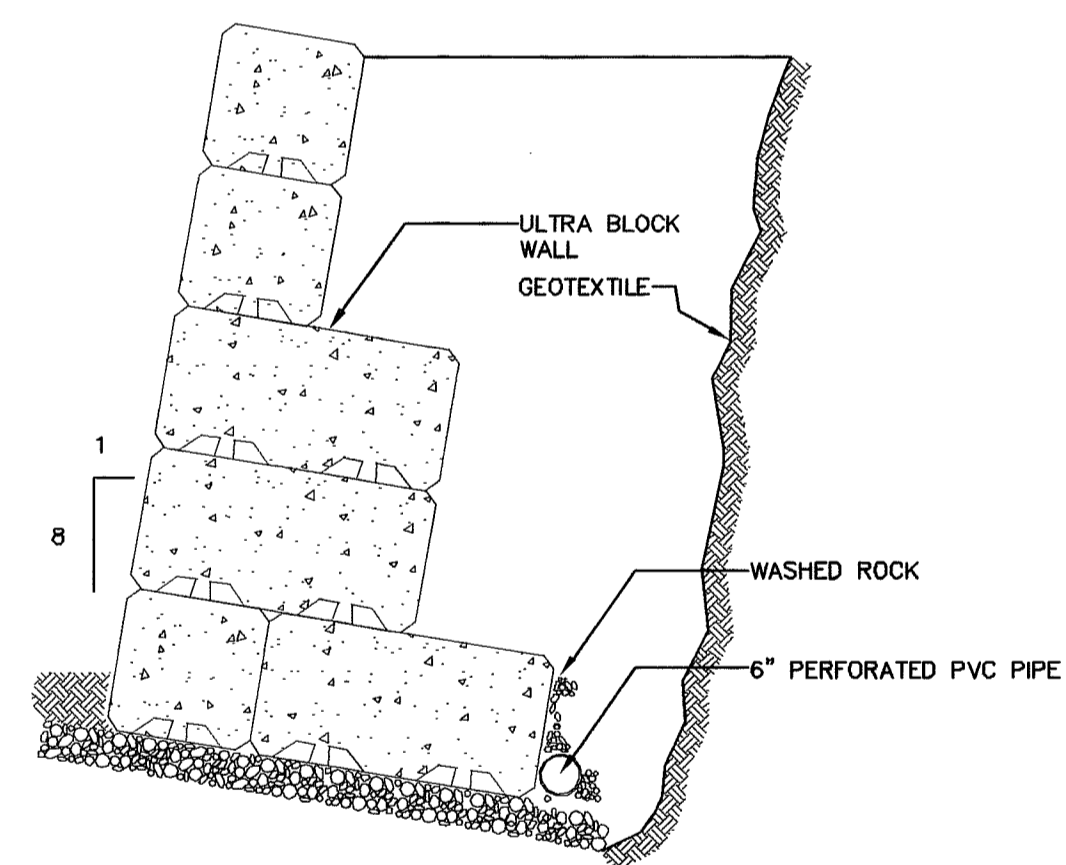


- NOTES:**
1. INSERT SHALL BE INSTALLED PRIOR TO CLEARING AND GRADING ACTIVITY, OR UPON PLACEMENT OF A NEW CATCH BASIN.
  2. SEDIMENT SHALL BE REMOVED FROM THE UNIT WHEN IT BECOMES HALF FULL.
  3. SEDIMENT REMOVAL SHALL BE ACCOMPLISHED BY REMOVING THE INSERT, EMPTYING, AND RE-INSERTING IT INTO THE CATCH BASIN.

## D CATCH BASIN INSERT

1. APPROVAL OF THE EROSION/SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).
2. THE IMPLEMENTATION OF THE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED, AND LANDSCAPING IS ESTABLISHED.
3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
4. THE TESC FACILITIES SHOWN ON THE PLANS MUST BE CONSTRUCTED PRIOR TO ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS.
5. THE ESC FACILITIES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED (E.G., ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS, AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT LEAVE THE SITE.
6. EXPOSED SOILS SHALL BE COVERED WITH MULCH OR COMPOST IN ORDER TO CONTROL DUST AND EROSION ON SITE (WSDOE BMP C121).
7. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
8. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.
9. STABILIZED CONSTRUCTION ENTRANCES AND WASH PADS SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
10. ANY AREA STRIPPED OF VEGETATION, INCLUDING ROADWAY EMBANKMENTS, WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF 7 DAYS, SHALL BE IMMEDIATELY STABILIZED WITH APPROVED ESC METHODS (E.G. SEEDING, MULCHING, NETTING, EROSION BLANKETS, ETC.) FROM MAY 1ST THROUGH SEPT. 30TH. A TWO DAY LIMIT SHALL BE PLACED ON EXPOSED SOILS OCTOBER 1ST THROUGH APRIL 30TH IN ACCORDANCE WITH DOE SMMWW.
11. PUBLIC RIGHTS-OF-WAY SHALL BE KEPT IN A CLEAN SERVICEABLE MANNER AT ALL TIMES. IN THE EVENT THAT MATERIAL IS DEPOSITED ON ROADWAYS, THE MATERIAL SHALL BE PROMPTLY REMOVED. MATERIALS ARE TO BE SWEEPED AND REMOVED PRIOR TO ANY FLUSHING. PUBLIC AND PRIVATE DRAINAGE WAYS SHALL BE PROTECTED FROM POLLUTION.
12. UPON COMPLETION OF PROJECT AND REMOVAL OF ALL TESC MEASURES, ALL AFFECTED CATCH BASINS MUST BE CLEANED OUT.

## E EROSION & SEDIMENTATION CONTROL NOTES



## F ULTRA BLOCK WALL

Asbuilt Drawing Certification

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN THE CASCADE D.A.F.O. ADDITION AND REMODEL HAVE BEEN INSPECTED BY FREELAND & ASSOCIATES, INC. AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDAL PUBLIC WORKS.

By: Am A F Date: 4-24-08

APPROVED

JUN 16 2008

BY B. Deery

CITY OF FERNDAL



5/28/09

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No.	Date	REVISION
3	03-03-08	AS-BUILT REVISIONS
2	11-27-07	AS-BUILT REVISIONS
1	2-2-07	REVISED PER CITY ENGINEER REVIEW

DESIGNED BY:	HAF
DRAWN BY:	AMN
CHECKED BY:	HAF



CLIENT: **CASCADE D.A.F.O.**  
1360 SUNSET AVENUE  
FERNDAL, WA 98248

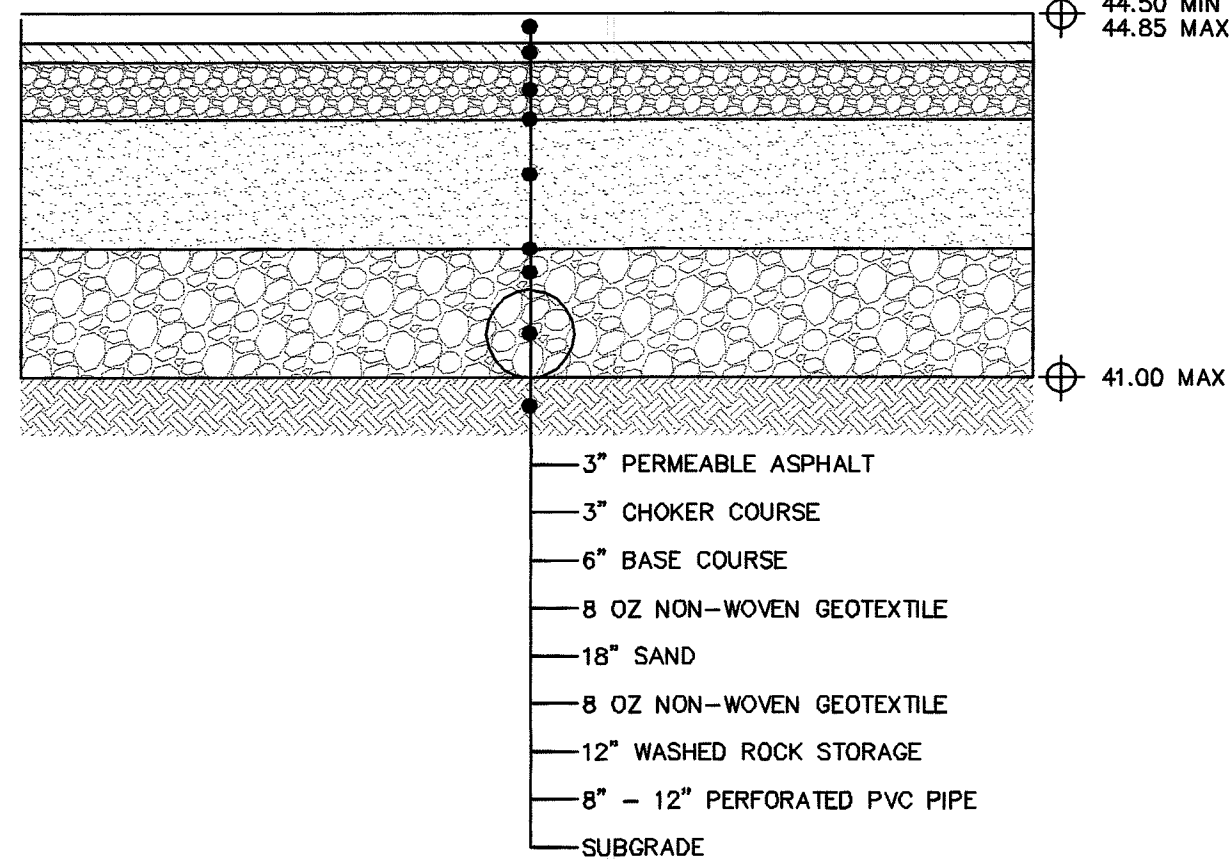
PROJECT LOCATION: 1360 SUNSET AVENUE  
FERNDAL, WA 98248

SHEET CONTENTS:  
**TEMPORARY EROSION & SEDIMENTATION CONTROL DETAILS**

DWG #:	05037asb	DATE:	04-16-08
JOB #:	05037	SHEET:	C9
SCALE:	H: 1"=40'	V: n/a	

00591.009 7-13-09 DD

AS-BUILT



SAND SPECIFICATION:

THE SAND IN THE FILTER LAYER MUST CONSIST OF A MEDIUM SAND MEETING THE SIZE GRADATION (BY WEIGHT) GIVEN IN THE TABLE BELOW. THE CONTRACTOR MUST OBTAIN A GRAIN SIZE ANALYSIS FROM THE SUPPLIER TO CERTIFY THAT THE NO 100 AND NO. 200 SIEVE REQUIREMENTS ARE MET.

SAND MEDIUM SPECIFICATION	
U.S. SIEVE NUMBER	PERCENT PASSING
4	95-100
8	70-100
16	40-90
30	25-75
50	2-25
100	<4
200	<2

A PERMEABLE ASPHALT PAVEMENT SECTION  
nts

PAVEMENT NOTES

- AFTER GRADING, THE EXISTING SUBRADE SHALL NOT BE COMPACTED OR SUBJECTED TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC.
- IMMEDIATELY BEFORE BASE AGGREGATE AND ASPHALT PLACEMENT, REMOVE ANY ACCUMULATION OF FINE MATERIAL FROM EROSION WITH LIGHT EQUIPMENT AND SCARIFY SOIL TO A MINIMUM DEPTH OF 6 INCHES.
- EROSION AND INTRODUCTION OF SEDIMENT SHALL BE STRICTLY CONTROLLED DURING AND AFTER CONSTRUCTION TO PREVENT CLOGGING OF THE VOID SPACES IN THE BASE MATERIAL AND PERMEABLE SURFACE.
- INSTALL CHOKER AND BASE COURSES AND COMPACT WITH AT LEAST 4 PASSES OF A 10-TON ROLLER.

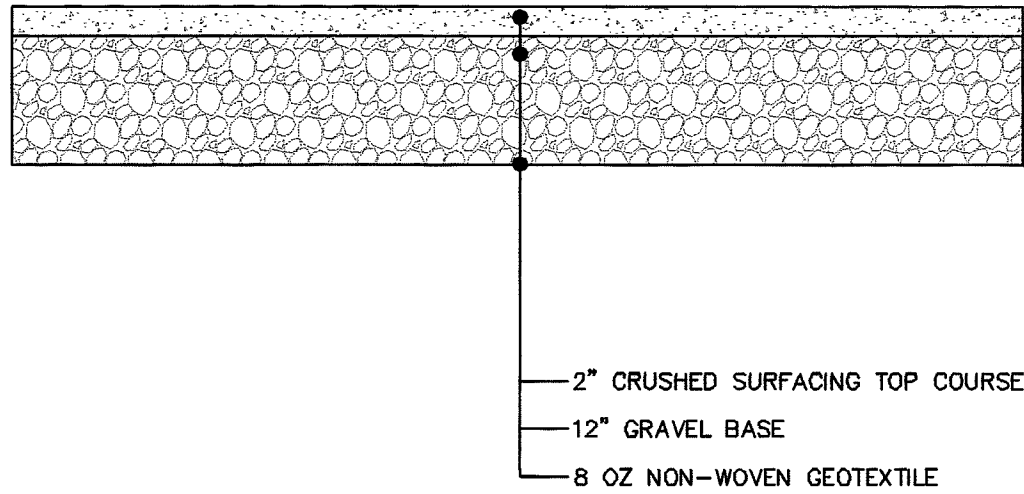
PAVEMENT SPECIFICATION

AGGREGATE GRADING	U.S. STANDARD SIEVE	PERCENT PASSING
	1/2	100
	3/8	92-98
	4	32-38
	8	12-18
	16	7-13
	30	0-5
	200	0-3

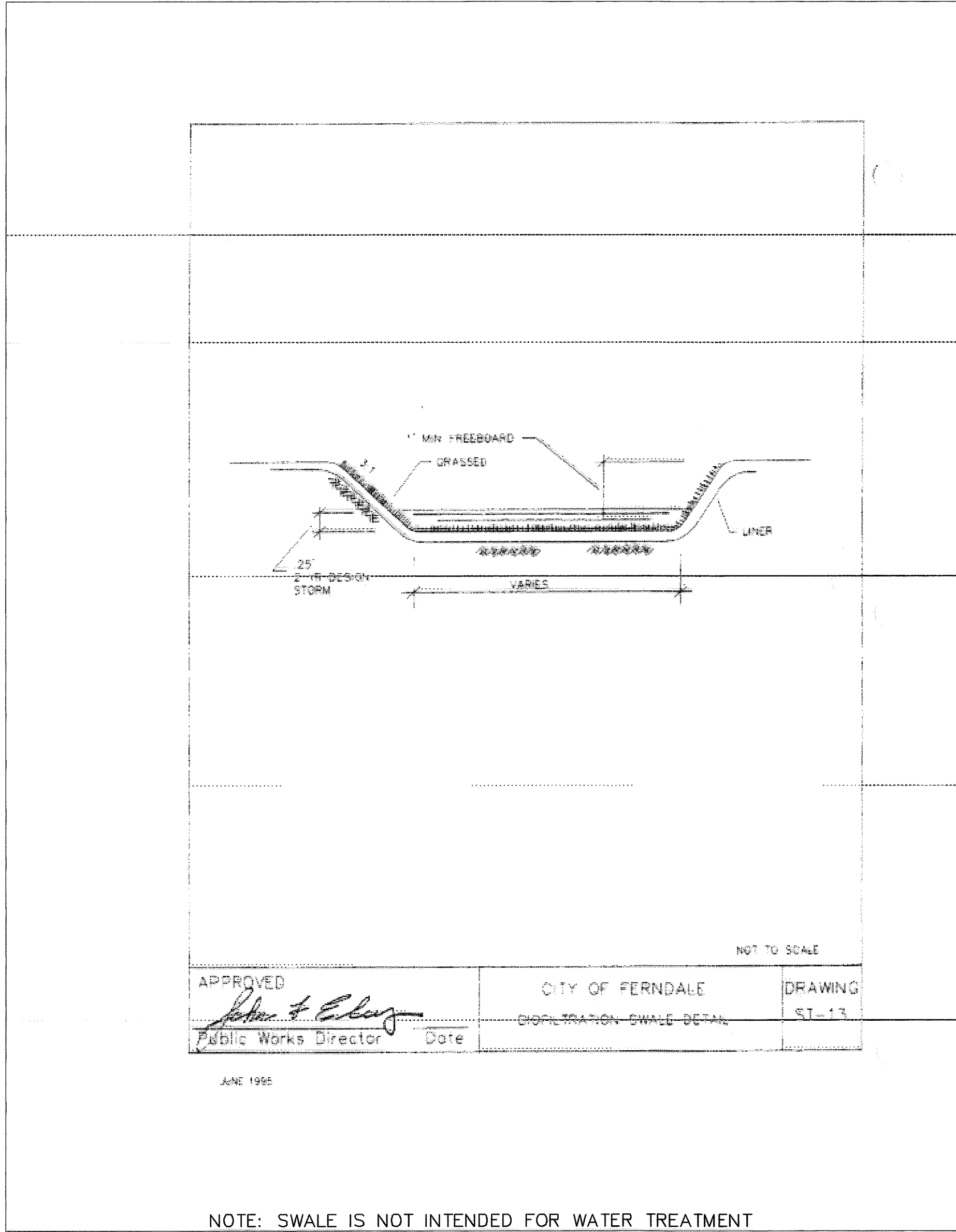
- A SMALL PERCENTAGE OF FINE AGGREGATE IS NECESSARY TO STABILIZE THE LARGER POROUS AGGREGATE FRACTION. THE FINER FRACTION ALSO INCREASES THE VISCOSITY OF THE ASPHALT CEMENT AND CONTROLS ASPHALT DRAINAGE CHARACTERISTICS.
- TOTAL VOID SPACE SHOULD BE APPROXIMATELY 16 PERCENT (CONVENTIONAL ASPHALT IS 2 TO 3 PERCENT).
- BITUMINOUS ASPHALT CEMENT**
  - CONTENT: 5.5 TO 6.0 PERCENT BY WEIGHT DRY AGGREGATE. THE MINIMUM CONTENT ASSURES ADEQUATE ASPHALT CEMENT FILM THICKNESS AROUND THE AGGREGATE TO REDUCE PHOTO-OXIDATION DEGRADATION AND INCREASE COHESION BETWEEN AGGREGATE. THE UPPER LIMIT IS TO PREVENT THE MIXTURE FROM DRAINING DURING TRANSPORT.
- GRADE: 85 TO 100 PENETRATION.
- AN ELASTOMERIC POLYMER CAN BE ADDED TO THE BITUMINOUS ASPHALT TO REDUCE DRAIN-DOWN.
- HYDRATED LIME CAN BE ADDED AT A RATE OF 1.0 PERCENT BY WEIGHT OF THE TOTAL DRY AGGREGATE TO MIXES WITH GRANITE STONE TO PREVENT SEPARATION OF THE ASPHALT FROM THE AGGREGATE AND IMPROVE TENSILE STRENGTH.

AGGREGATE SPECIFICATION

- CHOKER COURSE SHALL CONSIST OF 1.5 INCH TO SIEVE SIZE NO. 8 UNIFORMLY GRADED CRUSHED WASHED STONE.
- BASE COURSE SHALL BE UNIFORMLY GRADED CRUSHED ANGULAR THOROUGHLY WASHED STONE (AASHTO NO. 3).



B GRAVEL SECTION  
nts



C SWALE SECTION  
nts

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By: John A. Freeland Date: 4-24-08

APPROVED

JUN 16 2008

CITY OF FERNDAL



5/28/09

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No.	Date	REVISION
3	03-03-08	AS-BUILT REVISIONS
2	11-27-07	AS-BUILT REVISIONS
1	2-2-07	REVISED PER CITY ENGINEER REVIEW

DESIGNED BY:	HAF
DRAWN BY:	AMN
CHECKED BY:	HAF

1408 North Garden Street  
Bellingham, WA 98225  
t: 360.650.1408  
f: 360.650.1401

**FREELAND & ASSOCIATES**

CLIENT: **CASCADE D.A.F.O.**  
1360 SUNSET AVENUE  
FERNDAL, WA 98248

PROJECT LOCATION: 1360 SUNSET AVENUE  
FERNDAL, WA 98248

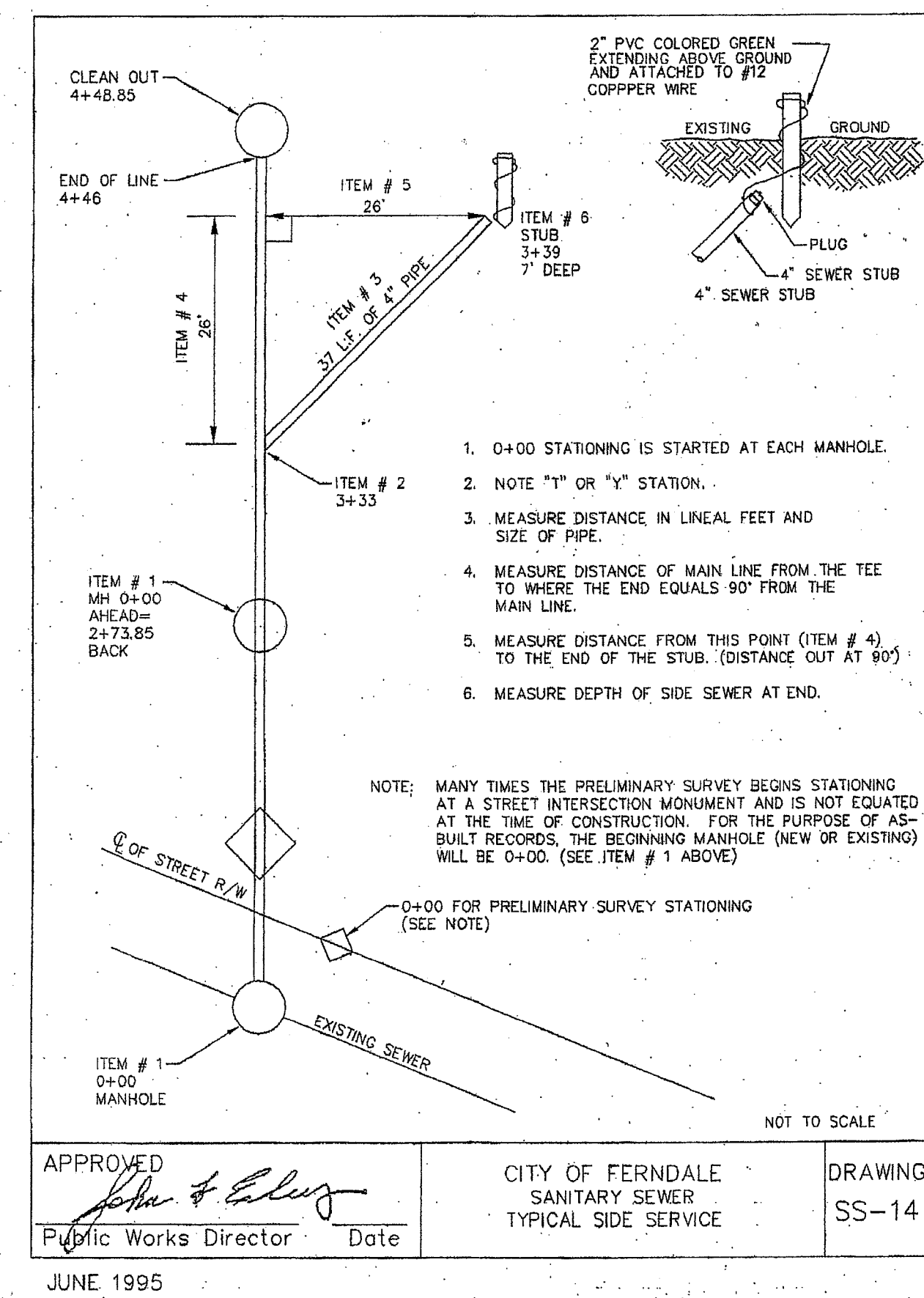
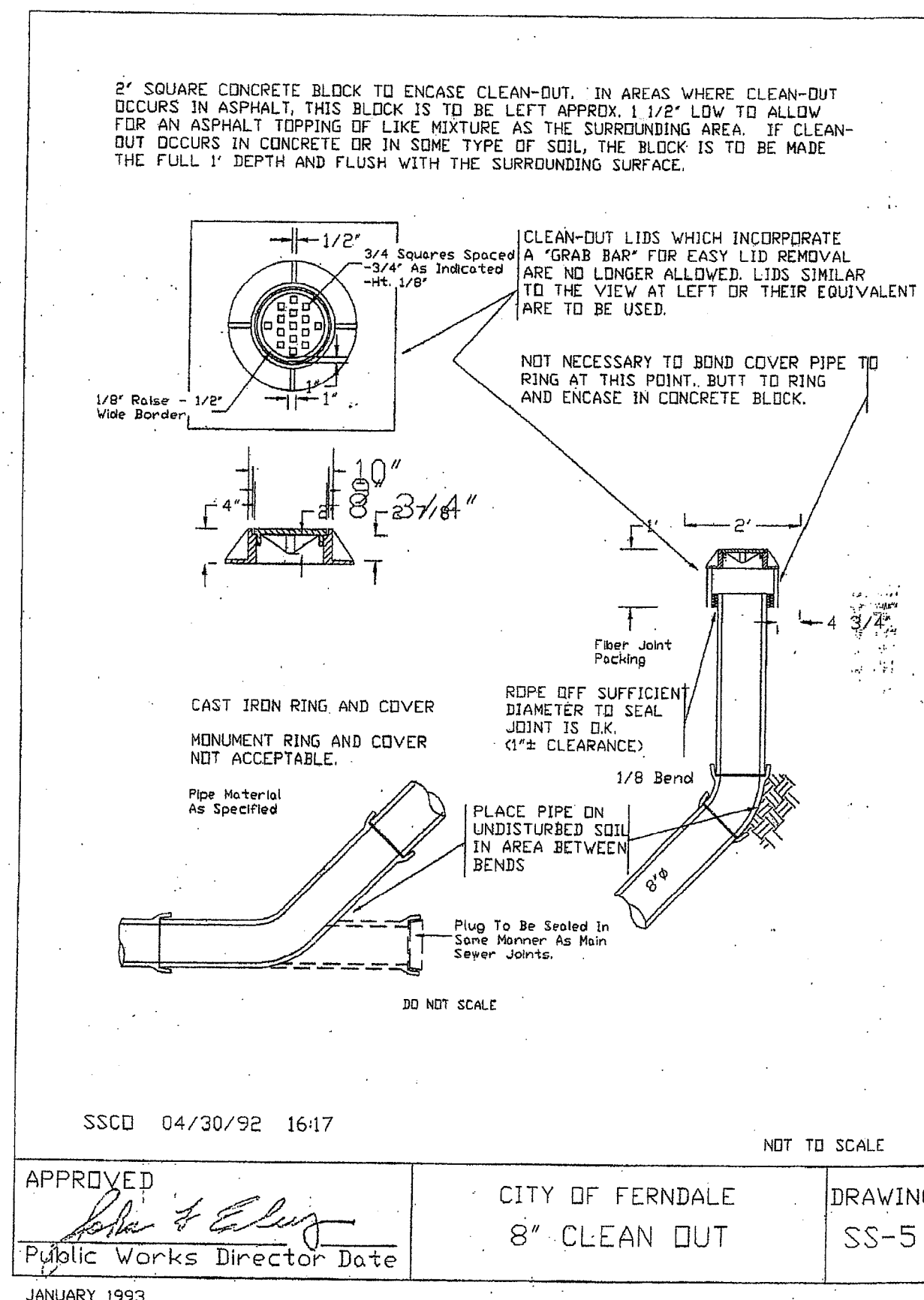
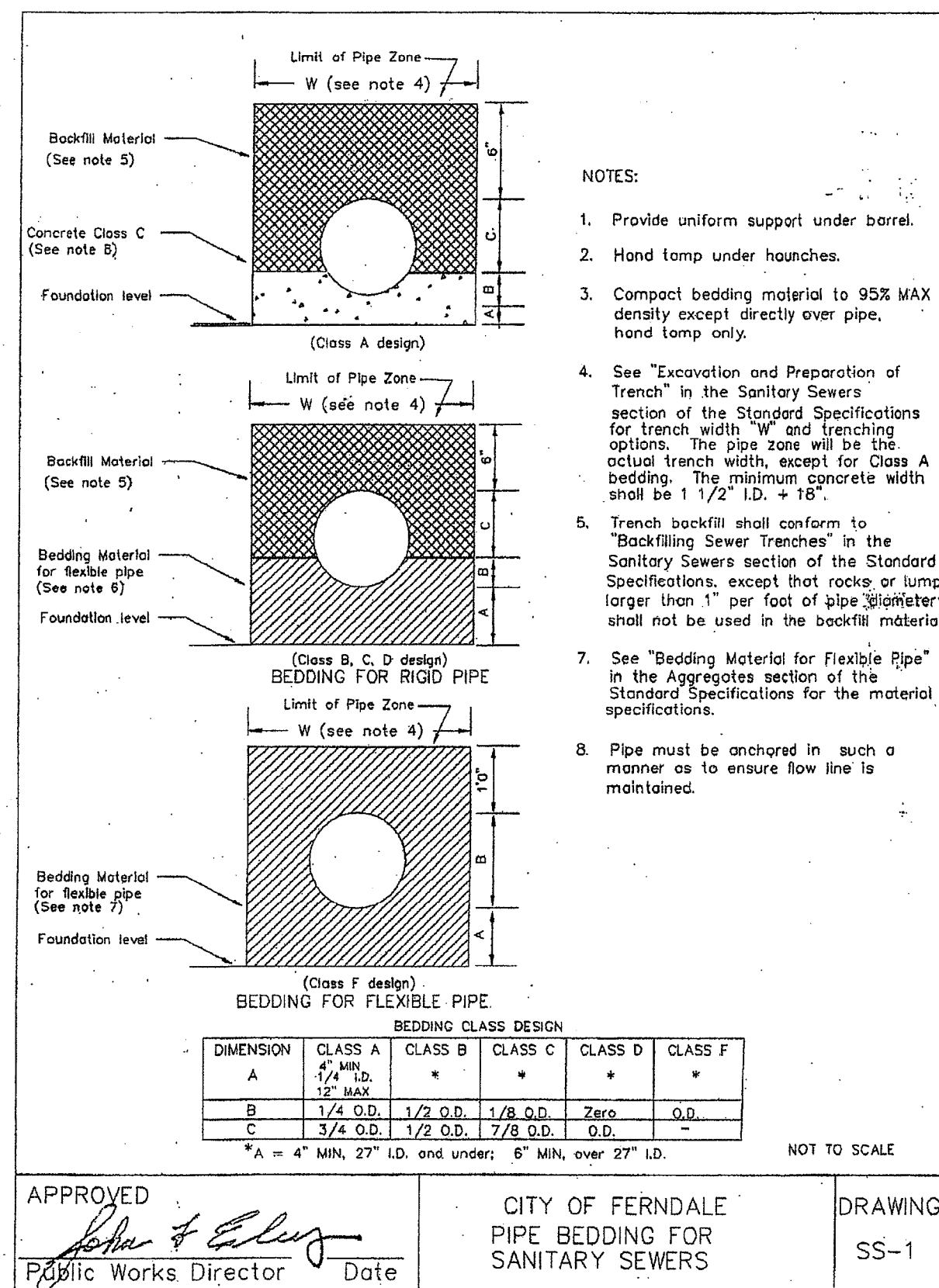
SHEET CONTENTS:

**DETAILS**

DWG #:	05037asb	DATE:	04-16-08
JOB #:	05037	SHEET:	C10
SCALE:	H: 1"=40'	V: n/a	

00391.010 7-13-09 DD

AS-BUILT



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By: *W. A. F.* Date: *4.26.08*

**APPROVED**

JUN 16 2008

BY: *Beep*

CITY OF FERNDAL

SEAL OF THE CITY OF FERNDAL  
REGISTERED PROFESSIONAL ENGINEER  
5/28/09

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No.	Date	REVISION
3	03-03-08	AS-BUILT REVISIONS
2	11-27-07	AS-BUILT REVISIONS
1	2-2-07	ADDED PER CITY ENGINEER REVIEW

DESIGNED BY:  
HAF

DRAWN BY:  
AMN

CHECKED BY:  
HAF

1408 North Garden Street  
Bellingham, WA 98225

1: 360.650.1408  
F: 360.650.1401

**FREELAND & ASSOCIATES**

CLIENT:  
**CASCADE D.A.F.O.**  
1360 SUNSET AVENUE  
FERNDAL, WA 98248

PROJECT LOCATION:  
1360 SUNSET AVENUE  
FERNDAL, WA 98248

SHEET CONTENTS:

**DETAILS**

DWG #: 05037asb

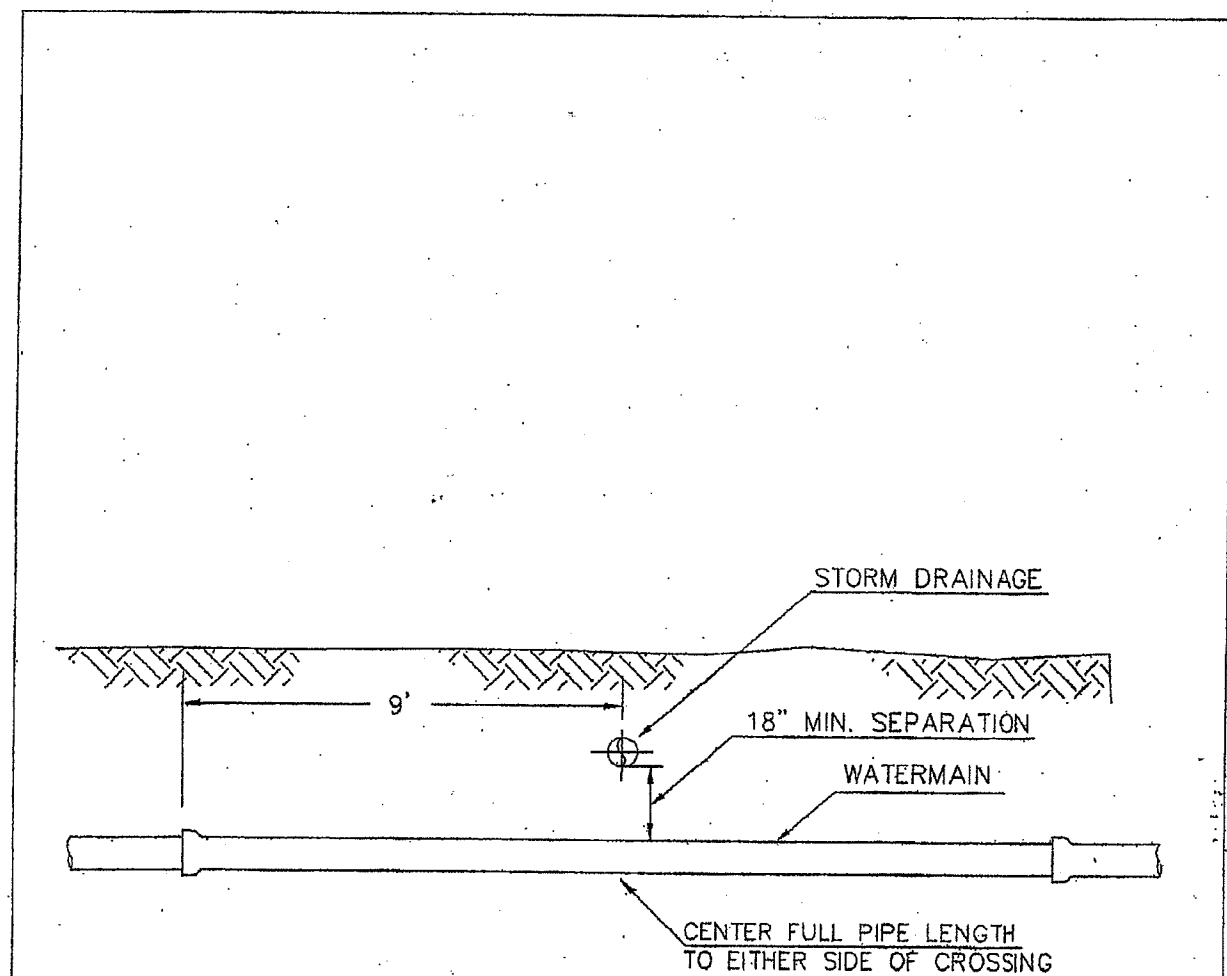
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SCALE: H: 1"=40' V: n/a

DATE: 04-16-08

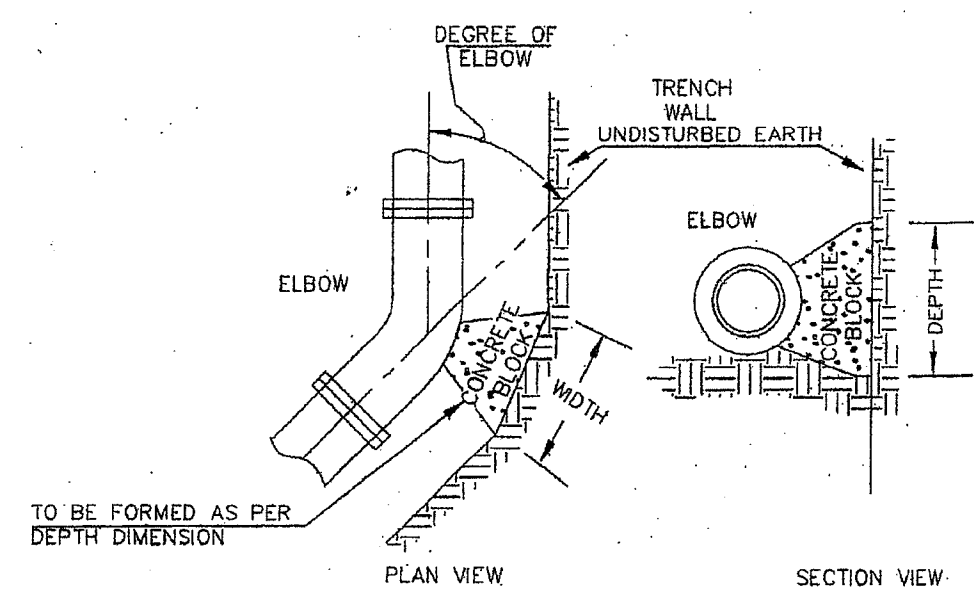
SHEET: **C11**

00391.01 7:13:09 DD



APPROVED *John & Elmer* CITY OF FERDALE WATER-CROSSING DETAIL DRAWING W-12  
Public Works Director Date

JUNE 1995



100 P.S.I. OPERATING PRESSURE

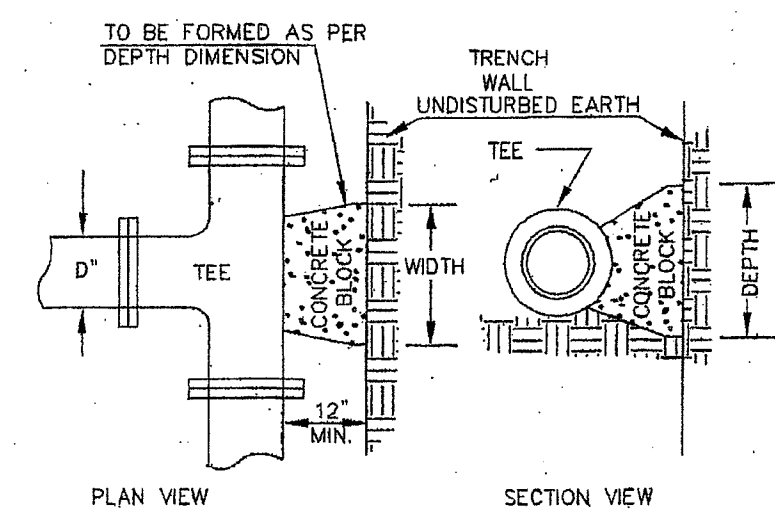
SIZE	11 1/4"	22 1/2"	45"	90"
6"	1'-0"	1'-0"	1'-0"	1'-0"
8"	1'-3"	1'-3"	1'-3"	1'-3"
10"	1'-9"	1'-9"	2'-3"	2'-3"
12"	2'-0"	2'-0"	2'-9"	2'-9"
16"	2'-9"	2'-9"	4'-0"	4'-0"
20"	3'-6"	3'-6"	4'-6"	4'-6"
24"	4'-6"	4'-6"	5'-6"	5'-6"

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

APPROVED *John & Elmer* CITY OF FERDALE THRUST BLOCKING ELBOWS DRAWING W-2  
Public Works Director Date

JUNE 1995

2091WA2A/W-2



100 P.S.I. OPERATING PRESSURE

SIZE	11 1/4"	22 1/2"	45"	90"
6"	1'-0"	1'-0"	1'-0"	1'-0"
8"	1'-3"	1'-3"	1'-3"	1'-3"
10"	1'-9"	1'-9"	2'-3"	2'-3"
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NOTE:  
ALL ABOVE DIMENSIONS APPLY TO STABLE TRENCH WALLS, UNDER VARIABLE CONDITIONS SIZE OF THRUST BLOCK SHALL BE DETERMINED BY ENGINEER.

APPROVED *John & Elmer* CITY OF FERDALE THRUST BLOCKING TEES DRAWING W-3  
Public Works Director Date

JUNE 1995

2091WA2A/W-3

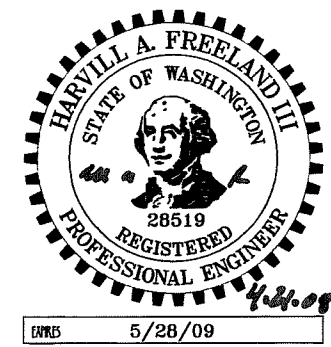
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By: *W. A. F.* Date: *4-21-08*

#### APPROVED

JUN 16 2008  
By: *B. O. O.*  
CITY OF FERDALE



5/28/09

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3	03-03-08	AS-BUILT REVISIONS
2	11-27-07	AS-BUILT REVISIONS
1	2-2-07	ADDED PER CITY ENGINEER REVIEW

DESIGNED BY: HAF  
DRAWN BY: AMN  
CHECKED BY: HAF



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t: 360.650.1408  
f: 360.650.1401  
**FREELAND & ASSOCIATES**

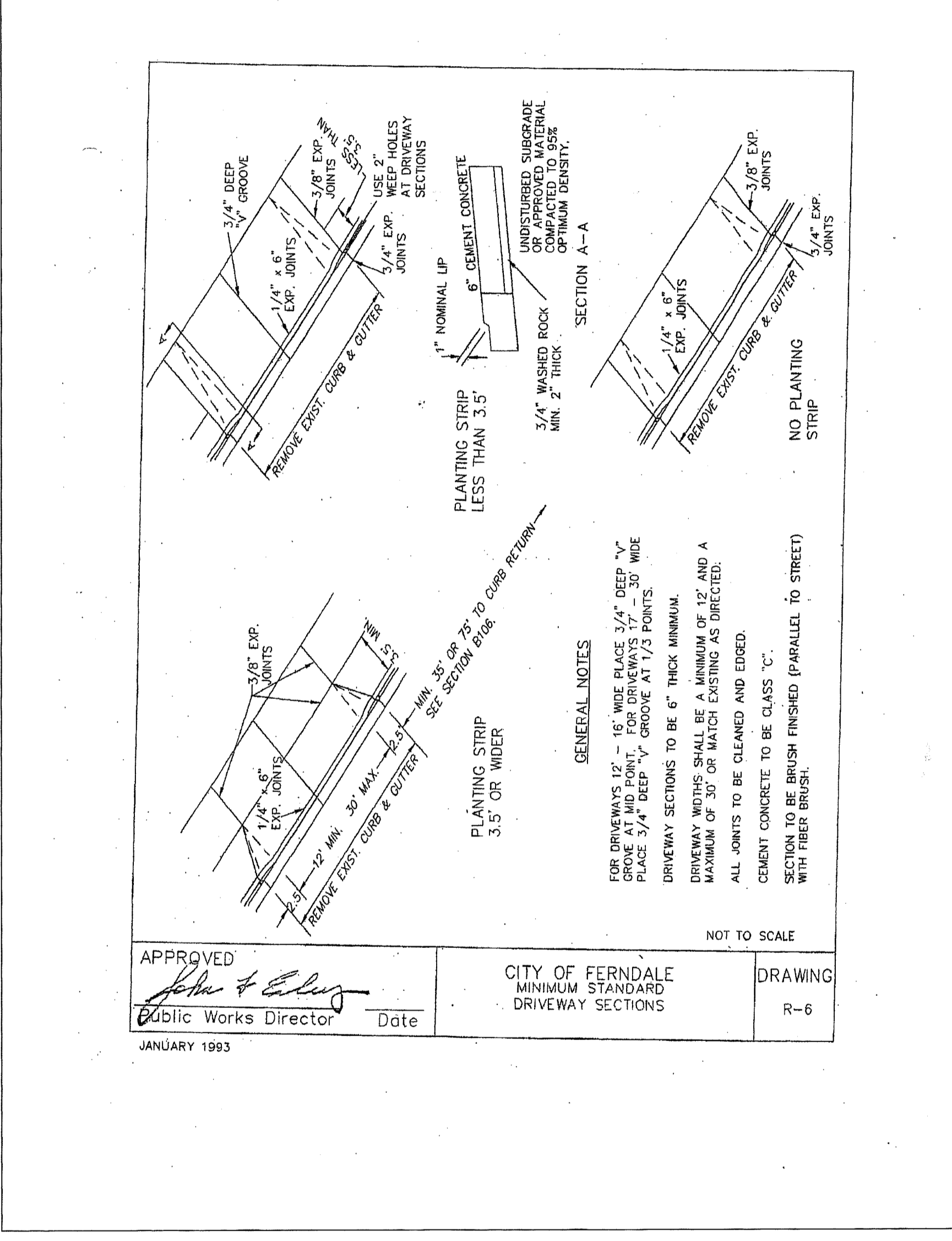
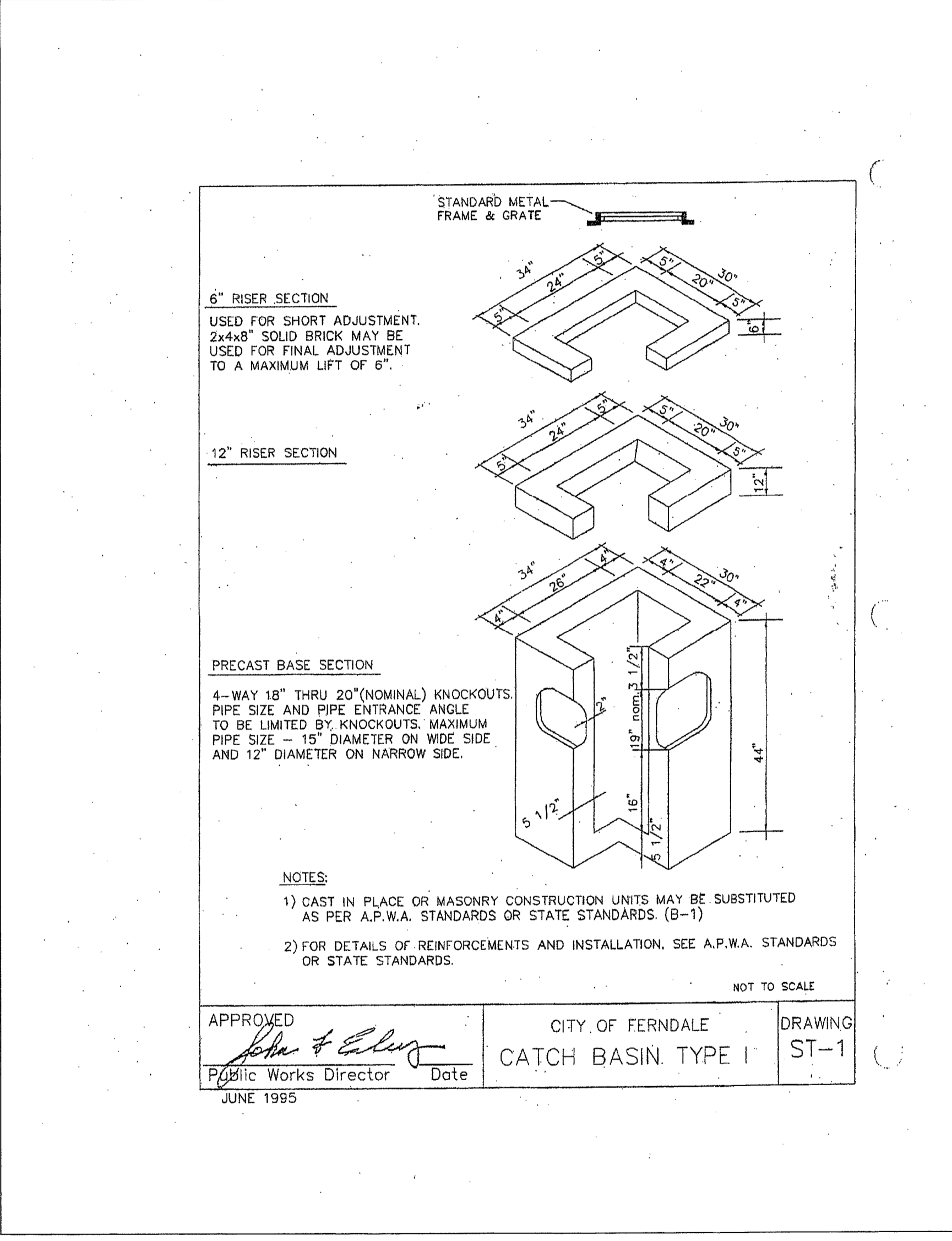
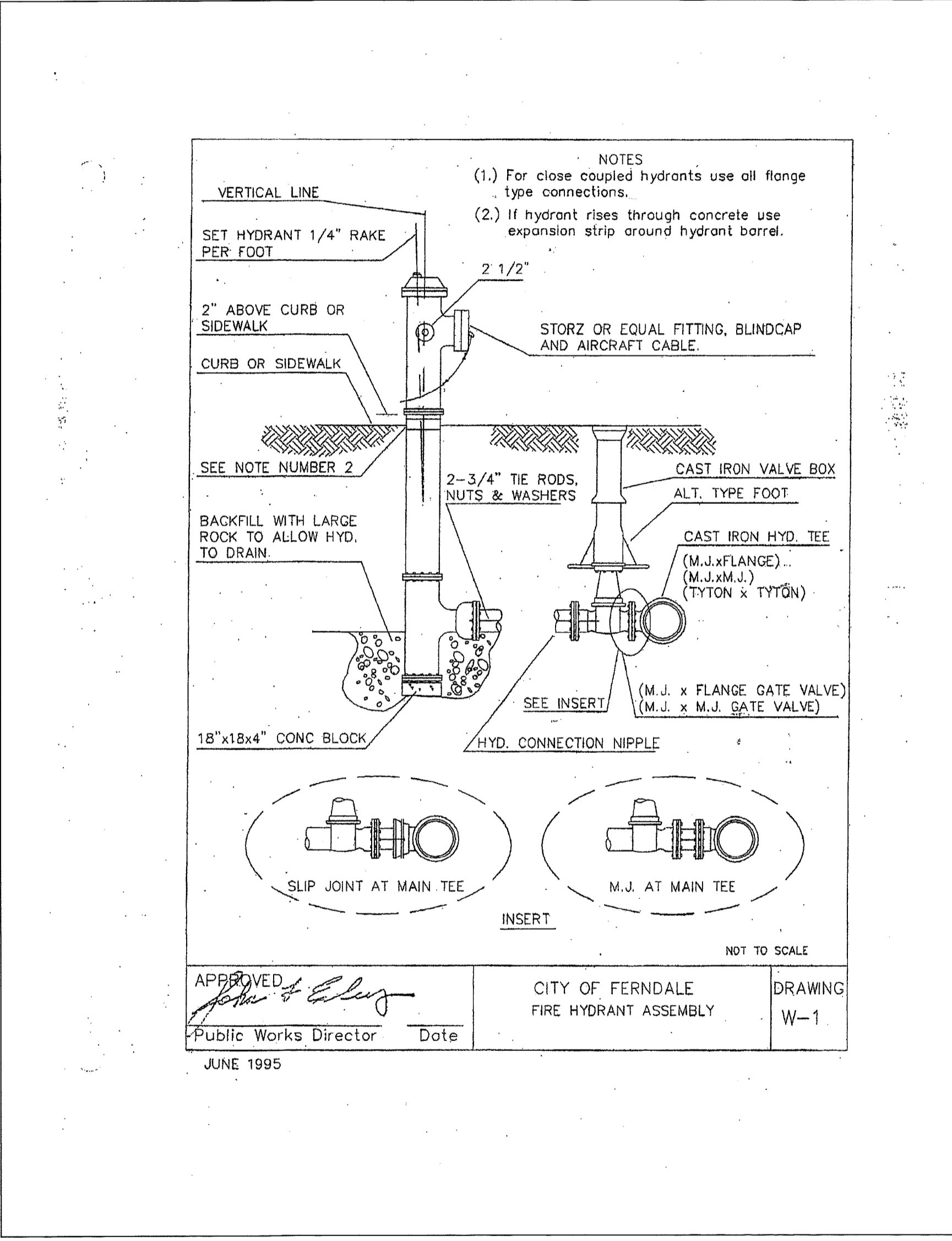
CLIENT: CASCADE D.A.F.O.  
1360 SUNSET AVENUE  
FERDALE, WA 98248  
PROJECT LOCATION: 1360 SUNSET AVENUE  
FERDALE, WA 98248

SHEET CONTENTS:

DETAILS

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JOB #: 05037  
SCALE: H: 1"=40' V: n/a  
DATE: 04-16-08  
SHEET: C12

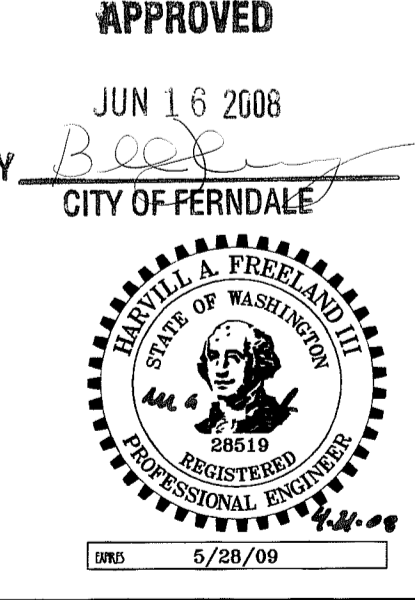
00391.012 7/3-09 DD



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By: W. A. F. Date: 4-21-08



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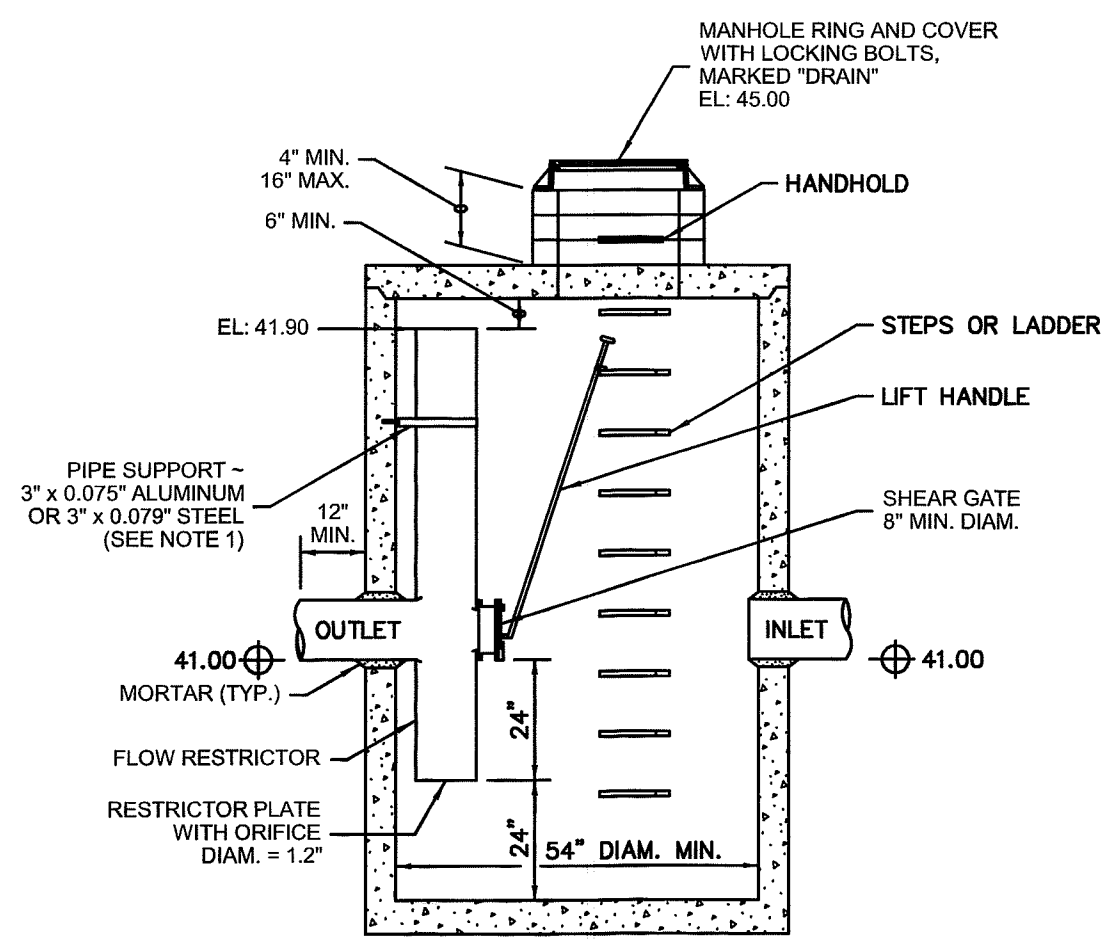
CLIENT: CASCADE D.A.F.O.  
1360 SUNSET AVENUE  
FERNDAL, WA 98248  
PROJECT LOCATION: 1360 SUNSET AVENUE  
FERNDAL, WA 98248

SHEET CONTENTS: DETAILS

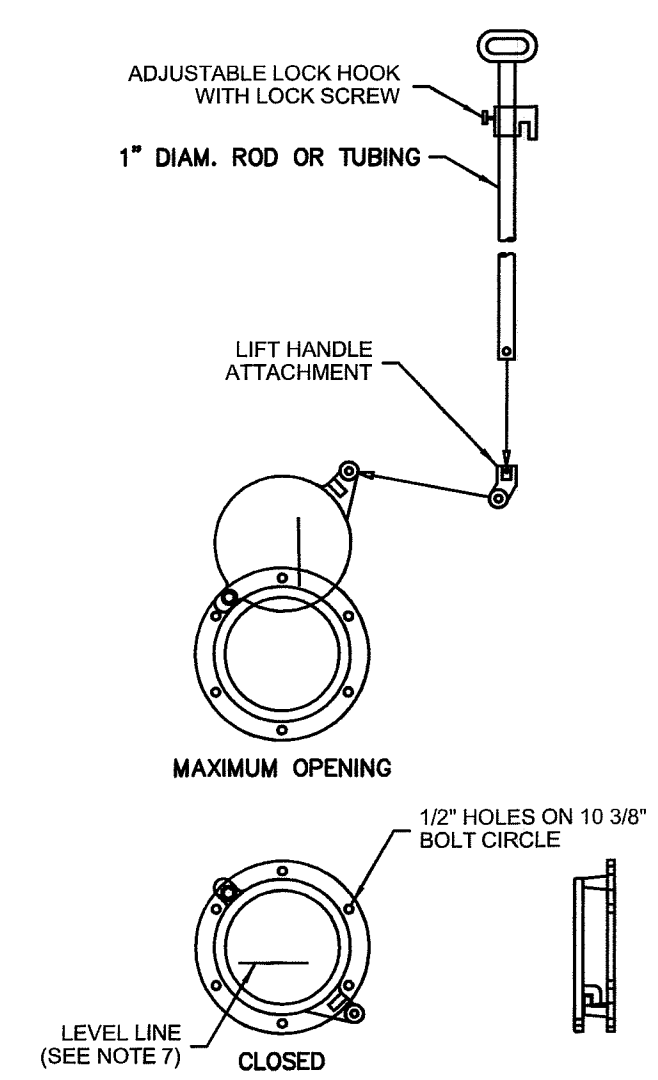
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JOB #: 05037  
SCALE: H: 1"=40' V: n/a  
DATE: 04-16-08  
SHEET: C13

AS-BUILT

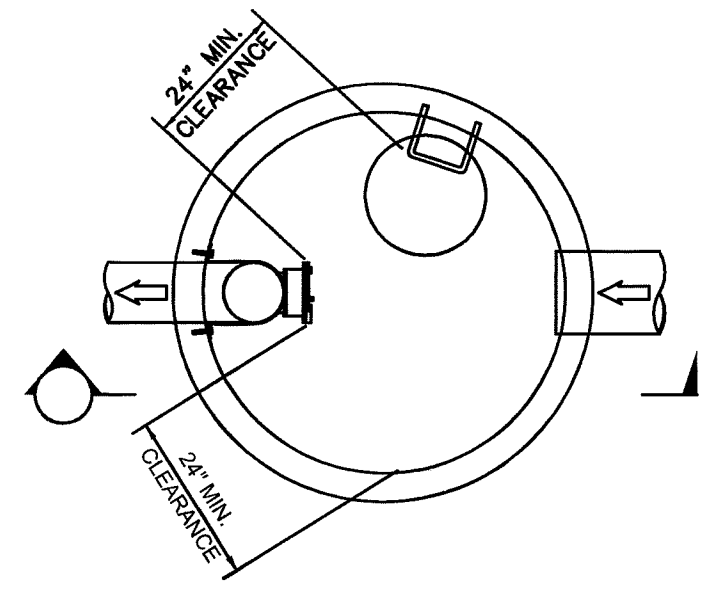
00391.013 7/13/09 DD



18" RISER ORIFICE SCHEDULE		
ELEVATION	ORIFICE DIAMETER	ELBOW PIPE DIAMETER
39.00	1.2"	N/A



- The pipe supports and the flow restrictor shall be constructed of the same material and be anchored at a maximum spacing of 36". Attach the pipe supports to the manhole with 5/8" stainless steel expansion bolts or embed the supports into the manhole wall 2".
- The vertical riser stem of the flow restrictor shall be the same diameter as the horizontal outlet pipe with a minimum diameter of 8".
- The flow restrictor shall be fabricated from one of the following materials:  
0.060" Corrugated Aluminum Alloy Drain Pipe  
0.064" Corrugated Galvanized Steel Drain Pipe with Treatment 1  
0.064" Corrugated Aluminized Steel Drain Pipe  
0.060" Aluminum alloy flat sheet, in accordance with ASTM B 209, 5052 H32 or EPS  
High Density Polyethylene Storm Sewer Pipe
- The frame and ladder or steps are to be offset so that: the shear gate is visible from the top; the climb-down space is clear of the riser and gate; the frame is clear of the curb.
- The multi-orifice elbows may be shown, or all placed on one side of the riser to assure ladder clearance. The size of the elbows and their placement shall be specified in the Contract.
- Restrictor plate with orifice as specified in the Contract. The opening is to be cut round and smooth.
- The shear gate shall be made of aluminum alloy in accordance with ASTM B 26 and ASTM B 275, designation ZG32A; or cast iron in accordance with ASTM A 48, Class 30B.  
The lift handle shall be made of a similar metal to the gate (to prevent galvanic corrosion), it may be of solid rod or hollow tubing, with adjustable hook as required.  
A neoprene rubber gasket is required between the riser mounting flange and the gate flange.  
Install the gate so that the level-line mark is level when the gate is closed.  
The mating surfaces of the lid and the body shall be machined for proper fit.
- All shear gate bolts shall be stainless steel.
- The shear gate maximum opening shall be controlled by limited hinge movement, a stop tab, or some other device.  
Alternative shear gate designs are acceptable if material specifications are met and flange bolt pattern matches.



GENERAL REQUIREMENTS

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, CURRENT EDITION AND THE CITY OF FERNDALE DEVELOPMENT STANDARDS AND SHALL BE SUBJECT TO APPROVAL BY THE CITY OF FERNDALE. IN THE EVENT OF A CONFLICT, THE MORE STRINGENT REQUIREMENT SHALL APPLY.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING SUB-SURFACE CONDITIONS AND SOILS TYPES.
  - THE SURVEYOR SHALL LAY OUT AND SET ANY CONSTRUCTION STAKES AND MARKS NEEDED TO ESTABLISH THE LINES, GRADES, SLOPES OR CROSS-SECTIONS AS SHOWN ON THE PLANS OR AS STAKED BY THE ENGINEER.
  - THROUGHOUT THE WORK, THE CONTRACTOR SHALL COMPLY WITH ALL PERMITS.
  - THE CONTRACTOR SHALL PROTECT ALL PRIVATE AND PUBLIC UTILITIES FROM DAMAGE RESULTING FROM THE WORK.
  - WHEN THE CONTRACTOR CONSIDERS THE WORK PHYSICALLY COMPLETE AND READY FOR FINAL INSPECTION, THE CONTRACTOR SHALL REQUEST THAT CITY INSPECTOR TO SCHEDULE A FINAL INSPECTION. THE INSPECTOR WILL MAKE A FINAL INSPECTION AND NOTIFY THE CONTRACTOR IN WRITING OF ALL PARTICULARS IN WHICH THE FINAL INSPECTION REVEALS THE WORK INCOMPLETE OR UNACCEPTABLE. THE CONTRACTOR SHALL IMMEDIATELY TAKE SUCH CORRECTIVE MEASURES AS ARE NECESSARY TO REMEDY THE LISTED DEFICIENCIES.
  - BEFORE ANY CONSTRUCTION OR DEVELOPMENT ACTIVITY A PRE-CONSTRUCTION MEETING MUST BE HELD BETWEEN THE CONTRACTOR, OWNER, CITY ENGINEER AND PROJECT ENGINEER. (MINIMUM 3 DAYS PRIOR TO STARTING WORK)
  - A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT, FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACTOR. ANY WORK WITHIN THE TRAVELED RIGHT-OF-WAY THAT MAY INTERRUPT NORMAL TRAFFIC FLOW SHALL REQUIRE AT LEAST ONE FLAGGER FOR EACH LANE OF TRAFFIC AFFECTED. ALL SECTIONS OF THE WSDOT STANDARD SPECIFICATIONS 1-07.23-PUBLIC CONVENIENCE AND SAFETY, SHALL APPLY.
  - PROOF OF LIABILITY INSURANCE SHALL BE SUBMITTED TO THE CITY PRIOR TO THE PRE-CONSTRUCTION MEETING.
  - NO WORK SHALL OCCUR BETWEEN 7:00 PM & 7:00 AM.
  - ALL HARD SURFACED PAVEMENTS MUST BE REPAIRED AT THE CLOSE OF EACH WORK DAY. THE REPAIRS CAN BE TEMPORARY WITH ASPHALT COLD MIX OR PERMANENT WITH HOT MIX ASPHALT OR CONCRETE. ALL REPAIRS SHALL BE ACCORDING TO CITY OF FERNDALE DRAWING R-11.
  - ALL WORK MUST BE INSPECTED BY A REPRESENTATIVE OF THE CITY OF FERNDALE ENGINEERING DIVISION, AND 24 HOURS NOTICE MUST BE GIVEN PRIOR TO STARTING WORK OR TO SCHEDULE INSPECTIONS IN ACCORDANCE WITH SECTION 302 OF THE DEVELOPMENT STANDARDS.
  - UPON COMPLETION OF THE PROJECT A CERTIFIED AS-BUILT PRINT SHALL BE PROVIDED TO THE CITY. AS-BUILTS SHALL BE ACCORDING TO CITY OF FERNDALE SPECIFICATIONS.
  - THE LOCATIONS OF UNDERGROUND FACILITIES SHOWN ON THESE PLANS ARE BASED ON FIELD SURVEYS AND LOCAL UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES TO LOCATE THEIR FACILITIES PRIOR TO STARTING CONSTRUCTION. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR DAMAGE AND REPAIR TO THESE FACILITIES CAUSED BY HIS WORK FORCE. CALL 1-800-424-5555 FOR UTILITY LOCATE 48 HOURS PRIOR TO WORK. CONTRACT TO HOLD. THE CONTRACTOR SHALL NOTIFY THE ENGINEER PROMPTLY OF ANY CONFLICT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ALL ADJACENT UTILITIES WHICH INCLUDE BUT ARE NOT LIMITED TO: WATER, SEWER, STORM SEWER, POWER, TELEPHONE, CABLE TV, IRRIGATION, AND STREET LIGHTING. CONTRACTOR SHALL RESTORE ALL PRIVATE AND PUBLIC PROPERTY DISTURBED BY THE PROJECT UPON COMPLETION OF THE PROJECT.
  - A REVOCABLE ENCROACHMENT PERMIT SHALL BE OBTAINED PRIOR TO COMMENCING WORK IN THE PUBLIC RIGHT OF WAY.
- STORM DRAINAGE**
- ALL PIPE AND APPURTENANCES SHALL BE LAID ON A PROPERLY PREPARED FOUNDATION IN ACCORDANCE WITH WSDOT 7-08. THIS SHALL INCLUDE LEVELING AND COMPACTING THE TRENCH BOTTOM, THE TOP OF THE FOUNDATION MATERIAL AND ANY REQUIRED PIPE BEDDING, TO A UNIFORM GRADE SO THAT THE ENTIRE PIPE IS SUPPORTED BY A UNIFORMLY DENSE UNYIELDING BASE.
  - ALL DRAINAGE STRUCTURES, SUCH AS CATCH BASINS AND MANHOLES, NOT LOCATED WITHIN A TRAVELED ROADWAY OR SIDEWALK, SHALL HAVE SOLID LOCKING LIDS. ALL DRAINAGE STRUCTURES ASSOCIATED WITH A PERMANENT RETENTION/DETENTION FACILITY SHALL HAVE SOLID LOCKING LIDS.
  - ALL CATCH BASIN GRATES SHALL INCLUDE THE STAMPING "OUTFALL TO STREAM, DUMP NO POLLUTANTS."
  - ALL DRIVEWAY CULVERTS LOCATED WITHIN THE RIGHT-OF-WAY SHALL BE OF SUFFICIENT LENGTH TO PROVIDE A MINIMUM 3:1 SLOPE FROM THE EDGE OF THE DRIVEWAY TO THE BOTTOM OF THE DITCH. CULVERTS SHALL HAVE BEVELED END SECTIONS PER WSDOT
  - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE LOCATIONS OF ALL STUB-OUT CONVEYANCE LINES WITH RESPECT TO THE UTILITIES (E.G. POWER, GAS, TELEPHONE, TELEVISION).

SANITARY SEWER SPECIFICATIONS

- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, CURRENT EDITION AND THE CITY OF FERNDALE DEVELOPMENT STANDARDS SECTION 5 AND SHALL BE SUBJECT TO APPROVAL BY THE CITY OF FERNDALE.
- FOUR INCH THROUGH TWELVE-INCH PIPE SHALL BE PVC PIPE CONFORMING TO ASTM D-3034, SDR-35 OR EQUAL. PIPE JOINTS SHALL BE MADE WITH FLEXIBLE GASKETS.
- TRENCH EXCAVATION SHALL BE ACCORDING TO SECTION 7-08.3(1)A OF THE STANDARD SPECIFICATIONS.
- THE BEDDING SHALL BE PEA GRAVEL PER SS-1.
- PIPE LAYING SHALL MEET THE REQUIREMENTS OF SECTION 7-08.3(2)B OF THE STANDARD SPECIFICATIONS.
- ALL SIDE SEWERS SHALL BE CONSTRUCTED ACCORDING TO THE CITY OF FERNDALE STANDARD PLAN SS-6 THROUGH SS-8. CONNECT SIDE SEWERS PER COF DWG SS-12.
- ALL TRENCH BACKFILL UNDER EXISTING OR FUTURE PAVING SHALL BE BANK RUN GRAVEL, CLASS "B" AND SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY.
- ALL SEWER PIPE WILL BE PRESSURE TESTED AND WILL SCANNED BY MEANS OF A TV CAMERA PRIOR TO ACCEPTANCE BY THE CITY OF FERNDALE.
- ALL MANHOLES WILL BE ACCORDING TO THE CITY OF FERNDALE STANDARD PLAN NO. SS-2 THROUGH SS-4.
- ALL CLEANOUTS SHALL BE ACCORDING TO CITY OF FERNDALE STANDARD PLAN NO. SS-5.
- ALL HARD SURFACED PAVEMENTS MUST BE REPAIRED AT THE CLOSE OF EACH WORK DAY. THE REPAIRS CAN BE TEMPORARY WITH ASPHALT COLD MIX OR PERMANENT WITH HOT MIX ASPHALT OR CONCRETE.
- ALL WORK MUST BE INSPECTED AND APPROVED BY A REPRESENTATIVE OF THE CITY OF FERNDALE PUBLIC WORKS, AND 24 HOURS NOTICE MUST BE GIVEN PRIOR TO STARTING WORK OR TO SCHEDULE INSPECTIONS.
- ALL TESTING SHALL BE DONE IN THE PRESENCE AND UNDER THE SUPERVISION OF A REPRESENTATIVE OF THE CITY OF FERNDALE.

BASES

- GRAVEL BASES AND BALLAST MAXIMUM PARTICLE SIZE PASSING THE U.S. NO. 200 SIEVE SHALL NOT EXCEED 5%.
- BALLAST, GRAVEL BASE AND CRUSHED SURFACING SHALL BE COMPACTED TO AT LEAST 95% OF ITS MAXIMUM DRY DENSITY.
- THE CONTRACTOR OR PROPONENT SHALL BE RESPONSIBLE FOR ALL COMPACTION TESTING. ALL TESTING SHALL BE THROUGH ENGINEERING REVIEW ACCOUNT AND PAID FOR BY THE OWNER.

PAVEMENTS

- WHERE SHOWN ON THE PLANS, PAVEMENT MARKINGS SHALL BE OBLITERATED UNTIL BLEMISHES CAUSED BY THE PAVEMENT MARKING REMOVAL CONFORM TO THE COLORATION OF THE ADJACENT PAVEMENT.
- SOIL RESIDUAL HERBICIDE SHALL BE PLACED WITHIN 24 HOURS OF PAVING.
- A TACK COAT OF ASPHALT SHALL BE APPLIED BETWEEN ALL COURSES OF ASPHALT.
- ALL PAVEMENT REPAIR SHALL BE SAW-OUT BEFORE REMOVAL. AR-4000W SHALL BE APPLIED TO ALL EDGES OF EXISTING PAVEMENT.
- ASPHALT CONCRETE PAVEMENT SHALL NOT BE PLACED NOR COMPACTED DURING HOURS OF DARKNESS.
- SUBGRADE SHALL BE CERTIFIED IN WRITING BY THE ENGINEER PRIOR TO PAVING.

WATER MAINS

- TEST PRESSURE FOR WATERMAIN ACCEPTANCE SHALL BE 225 p.s.i. AT THE HIGHEST POINT ON THE WATER LINE AND SHALL BE DONE ACCORDING TO CITY OF FERNDALE REQUIREMENTS. ALL PURIFICATION ACCEPTANCE TESTING SHALL BE ACCORDING TO CITY OF FERNDALE REQUIREMENTS. THE PIPE WILL NOT PASS UNLESS A ZERO BACTERIA COUNT IS OBTAINED FOR TWO CONSECUTIVE TESTS 24 HOURS APART.
- ALL BACKFILL SHALL BE IMPORTED GRAVEL AND SHALL CONFORM TO SECTION 7-09.1(1)E OF THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION.
- ALL PIPE SHALL HAVE A MINIMUM COVER OF 3.5 FEET.

EARTHWORK

- THE CONTRACTOR SHALL CLEAR, GRUB AND CLEAN UP THOSE AREAS SHOWN ON THE PLANS.
- THE CONTRACTOR SHALL EXCAVATE AND GRADE TO THE ALIGNMENT, GRADE AND CROSS-SECTIONS SHOWN IN THE PLANS OR ESTABLISHED BY THE ENGINEER. IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL ENGINEERING STUDY.
- MAXIMUM DENSITY AND OPTIMUM MOISTURE FOR GRANULAR MATERIALS WILL BE DETERMINED USING ASTM D-1557 TEST METHOD.
- UNSUITABLE MATERIAL NOT FIT FOR A SUB-GRADE SHALL BE EXCAVATED TO THE BOUNDARIES SET BY THE ENGINEER AND REPLACED WITH A SUITABLE BACKFILL MATERIAL.

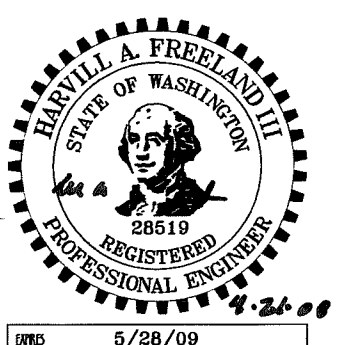
Asbuilt Drawing Certification

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN THE CASCADE D.A.F.O. ADDITION AND REMODEL HAVE BEEN INSPECTED BY FREELAND & ASSOCIATES, INC. AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERNDALE PUBLIC WORKS.

By: M G F Date: 4-24-08

APPROVED

JUN 16 2008  
BY: R. [Signature]  
CITY OF FERNDALE

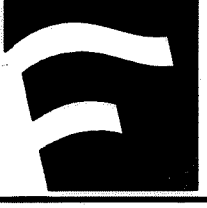


A CONTROL MANHOLE NTS

CALL BEFORE YOU DIG  
FOR BURIED UTILITY LOCATIONS  
1-800-424-5555

No.	Date	REVISION
3	03-03-08	AS-BUILT REVISIONS
2	11-27-07	AS-BUILT REVISIONS
1	2-2-07	REVISED PER CITY ENGINEER REVIEW

AMM	DESIGNED BY:
TCN	HAF
JPS	DRAWN BY:
	AMN
By	CHECKED BY:
	HAF



1408 North Garden Street  
Bellingham, WA 98225  
t: 360.650.1408  
f: 360.650.1401  
**FREELAND & ASSOCIATES**

CLIENT: **CASCADE D.A.F.O.**  
1360 SUNSET AVENUE  
FERNDALE, WA 98248  
PROJECT LOCATION: 1360 SUNSET AVENUE  
FERNDALE, WA 98248

SHEET CONTENTS:  
**DETAILS & GENERAL NOTES**

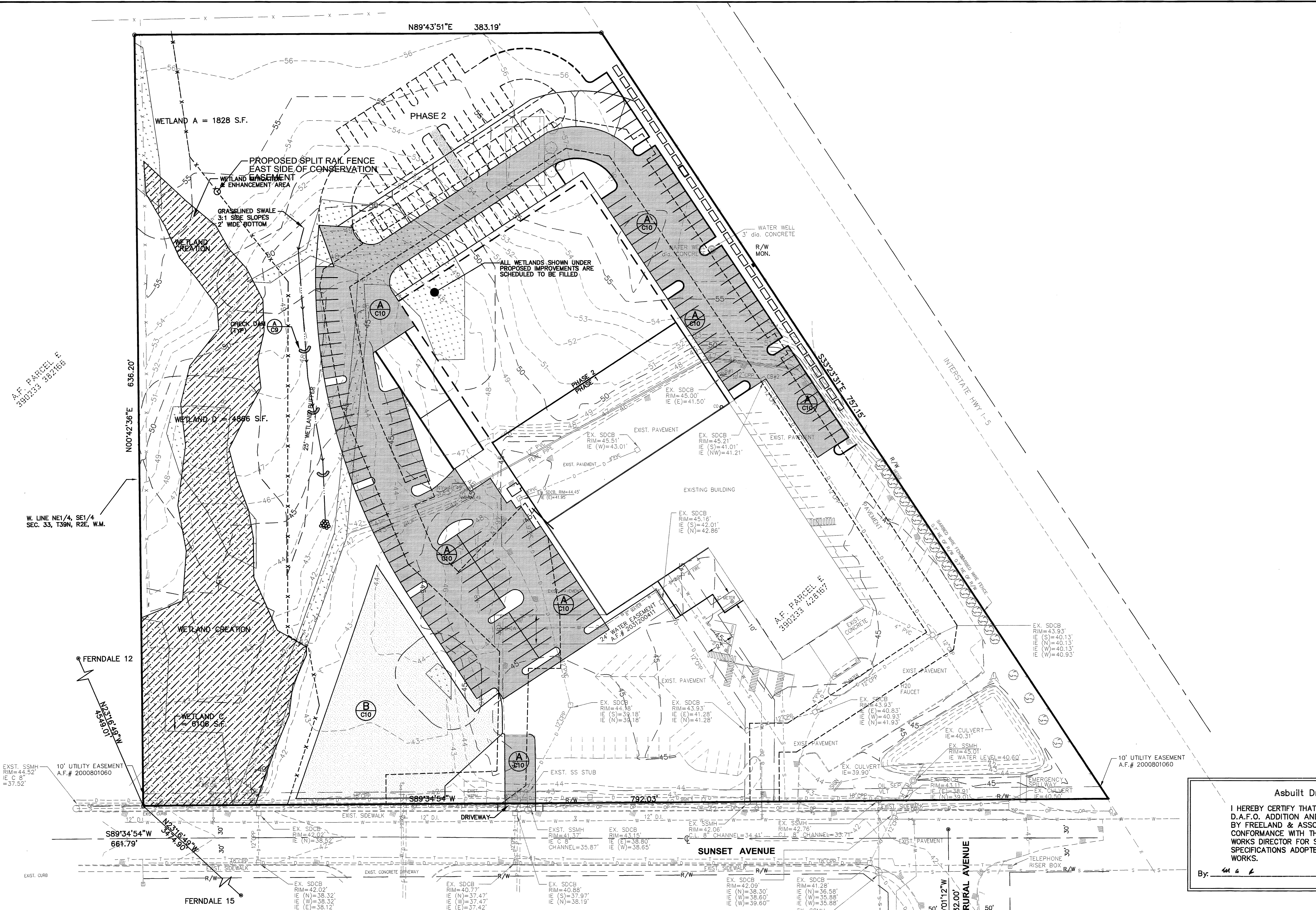
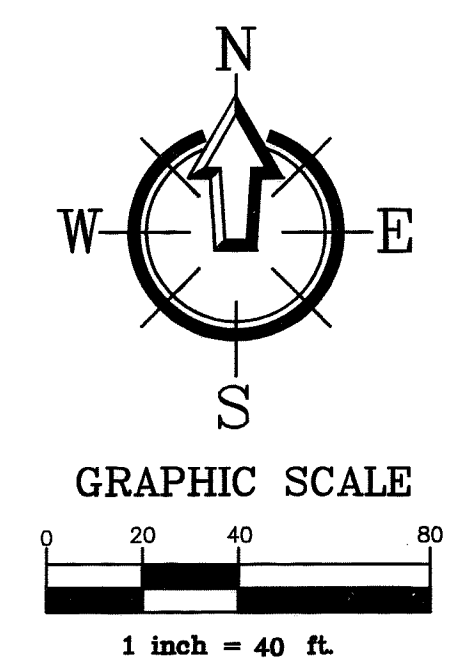
DWG #:	05037asb	DATE:	
JOB #:	05037		04-16-08
SCALE:	H: 1"=40'	V: n/a	SHEET: <b>C14</b>

AS-BUILT

00391.04 7/3-09 D0

00391.015 7/13/09 DD

AS-BUILT



APPROVED  
JUN 16 2008  
BY *[Signature]*  
CITY OF FERDALE

Asbuilt Drawing Certification  
I HEREBY CERTIFY THAT THE IMPROVEMENTS IN THE CASCADE D.A.F.O. ADDITION AND REMODEL HAVE BEEN INSPECTED BY FREELAND & ASSOCIATES, INC. AND CONSTRUCTED IN CONFORMANCE WITH THE PLANS APPROVED BY THE PUBLIC WORKS DIRECTOR FOR SAID DEVELOPMENT AND THE GENERAL SPECIFICATIONS ADOPTED BY THE CITY OF FERDALE PUBLIC WORKS.  
By: *[Signature]* Date: 4-26-08

CALL BEFORE YOU DIG  
FOR BURIED UTILITY LOCATIONS  
1-800-424-5555

No.	Date	REVISION
3	03-03-08	AS-BUILT REVISIONS
2	11-27-07	AS-BUILT REVISIONS
1	2-2-07	REVISED PER CITY ENGINEER REVIEW

DESIGNED BY: JPS  
DRAWN BY: JPS  
CHECKED BY: HAF  
FREELAND & ASSOCIATES  
1408 North Garden Street  
Bellingham, WA 98225  
T: 360.650.1406  
F: 360.650.1401

CLIENT: CASCADE D.A.F.O.  
1360 SUNSET AVENUE  
FERDALE, WA 98248  
PROJECT LOCATION: 1360 SUNSET AVENUE  
FERDALE, WA 98248

SHEET CONTENTS:  
WETLAND MITIGATION

DWG #: 05037asb  
JOB #: 05037  
SCALE: H: 1"=40' V: n/a  
DATE: 04-16-08  
SHEET: C15