

LINEWORK

	BUILDING LINE (EXISTING)
	BUILDING LINE (PROPOSED)
	BUILDING COLUMN (EXISTING)
	BUILDING OVERHANG (EXISTING)
	CONCRETE (EXISTING)
	CONCRETE (PROPOSED)
	CURB (EXISTING)
	CURB (PROPOSED)
	DITCH CENTERLINE (EXISTING)
	DITCH CENTERLINE (PROPOSED)
	EASEMENT
	EDGE OF PAVEMENT (PROPOSED)
	EDGE OF PAVEMENT (EXISTING)
	FENCE (EXISTING)
	FENCE (PROPOSED)
	GRAVEL (EXISTING)
	GRAVEL (PROPOSED)
	LIP OF CURB (EXISTING)
	PLANTER (EXISTING)
	RAILROAD (EXISTING)
	RETAINING WALL (EXISTING)
	RETAINING WALL (PROPOSED)
	VEGETATION/SHRUB LINE (EXISTING)
	CONTOUR (EXISTING MINOR)
	** CONTOUR (EXISTING INDEX)
	** CONTOUR (PROPOSED INDEX)
	CONTOUR (PROPOSED MINOR)
	GRADE BREAK
	CATCHLINE
	CUT LINE
	FILL LINE
	PROPERTY LINE
	PROPERTY LINE
	RIGHT-OF-WAY (RECORD OR ADJACENT)
	RIGHT-OF-WAY (EXISTING)
	RIGHT-OF-WAY (CONSTRUCTION PLANS)
	RIGHT-OF-WAY (EXISTING USED)
	RIGHT-OF-WAY (PROPOSED)
	RIGHT-OF-WAY (EX. RECORD)
	RIGHT-OF-WAY (RECORD OR ADJACENT)
	CABLE TELEVISION (AERIAL) (EXISTING)
	CABLE TELEVISION (BURIED) (EXISTING)
	FIBER OPTIC LINE (AERIAL) (EXISTING)
	FIBER OPTIC LINE (BURIED) (EXISTING)
	TELEPHONE (AERIAL) (EXISTING)
	TELEPHONE (BURIED) (EXISTING)
	POWER (AERIAL) (EXISTING)
	POWER (BURIED) (EXISTING)
	UTILITY (AERIAL) (EXISTING)
	UTILITY (BURIED) (EXISTING)
	SANITARY SEWER (EXISTING)
	STORM DRAINAGE (EXISTING)
	CULVERT (EXISTING)
	WATER (EXISTING)
	WATER (PROPOSED)
	SEWER (PROPOSED)
	STORM DRAIN (PROPOSED)
	CULVERT (PROPOSED)
	STORM SERVICE (PROPOSED)
	ORANGE BARRIER FENCE
	SILT FENCE
	COMPOST BERM
	STRAW WATTLE

HATCH

	EXIST. CONCRETE HATCH
	EXIST. BUILDING HATCH
	EXIST. GRAVEL HATCH
	EXIST. GRAVEL HATCH
	PROP. GRAVEL HATCH
	PROP. GRAVEL HATCH
	EXIST. SAND HATCH

SURVEY SYMBOLS

FOUND (SET)	CALC'D (THEO)	PROPOSED	DESCRIPTION
		N/A	PK/HUB & TACK
		N/A	BENCH MARK
		N/A	FOUND REBAR
		N/A	REBAR SET
		N/A	SURFACE BRASS CAP
		N/A	CONC. MONUMENT
		N/A	MONUMENT IN CASE
		N/A	TRAVERSE POINT
		N/A	SPOT ELEVATION

UTILITY SYMBOLS

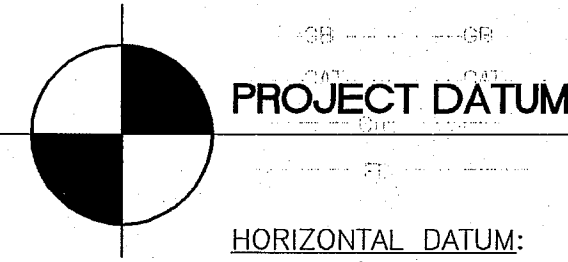
SYMBOL	EXIST.	PROP.	DESCRIPTION
			WATER METER
			WATER VALVE
			FIRE HYDRANT
			GAS METER
			GAS VALVE
			PAD MOUNTED TRANSFORMER
			POWER VAULT
			POWER METER
			GUY POLE
			UTILITY POLE
			ANCHOR
			TELE RISER
			CABLE RISER
			TELEPHONE VAULT
			SAN. SEWER CLEAN OUT
			SAN. SEWER MANHOLE
			STORM DRAIN
			STORM DRAIN
			STORM DRAIN CLEAN-OUT

EROSION CONTROL SYMBOLS

	SB	STRAW BALE
	IP	INLET PROTECTION
	CD	CHECK DAM

INDEX TO DRAWINGS

- C0.1 - COVER
- C1.1 - EXISTING CONDITIONS
- C2.1 - TESC NOTES AND DETAILS
- C2.2 - TESC PLAN
- C3.1 - STORM DRAINAGE PLAN
- C3.2 - STORM DRAINAGE DETAILS
- C3.3 - STORM DRAINAGE DETAILS



PROJECT DATUM

HORIZONTAL DATUM:
NAD 83/91 PER CITY OF FERNDAL
MONUMENTATION NETWORK

VERTICAL DATUM:
NGVD29 PER CITY OF FERNDAL BENCHMARKS

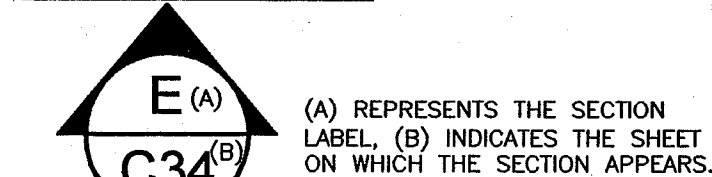
PROJECT BENCHMARK:
FERNDAL MONUMENT NO. 7: ALUMINUM CAP IN
CASING AT CHURCH ROAD NORTH OF MAIN
STREET PER CITY OF FERNDAL DATA SHEET.
ELEV.=147.15'

CALL
TWO BUSINESS DAYS
BEFORE YOU DIG
1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER

UTILITY SYMBOLS (CONT.)

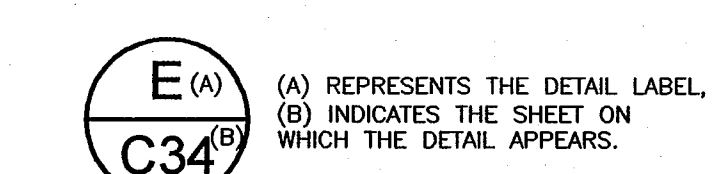
SYMBOL	EXIST.	PROP.	DESCRIPTION
			EMBANKMENT
			SIGN
			RIP RAP
			BOULDER
			SHRUB
			TREE (Conifer)*
			TREE (Deciduous)*
			STUMP-PLAN VIEW
			STUMP
			ROCKERY
			POWER JUNCTION BOX
			TELE JUNCTION BOX
			TRAFFIC SIG JUNCTION BOX
			SIGNAL CONTROLLER
			ELECTRICAL SERVICE CABINET
			STREET LIGHT

SECTION CALL-OUTS



(A) REPRESENTS THE SECTION LABEL. (B) INDICATES THE SHEET ON WHICH THE SECTION APPEARS.

DETAIL CALL-OUTS



(A) REPRESENTS THE DETAIL LABEL. (B) INDICATES THE SHEET ON WHICH THE DETAIL APPEARS.

SYMBOLS

	=DEGREES
	=PLUS/MINUS
	=DIAMETER
	=DELTA
	=CENTERLINE
	=FLOWLINE
	=PROPERTY LINE

GENERAL NOTES (CONT.)

- CONTRACTOR TO OBTAIN ENCROACHMENT PERMIT FROM CITY OF FERNDAL FOR ALL WORK WITHIN RIGHT OF WAY.
- CONTRACTOR TO MAINTAIN A MINIMUM OF ONE LANE OF TRAFFIC AT ALL TIMES. CONTRACTOR TO SUBMIT TRAFFIC CONTROL PLAN TO CITY OF FERNDAL FOR APPROVAL.
- ALL CONSTRUCTION TRAFFIC MUST USE HEIGHTS DRIVE. NO CONSTRUCTION TRAFFIC ON CRESTLINE ROAD. NO LOAD TRANSFERS ON HEIGHTS DRIVE OR CRESTLINE ROAD.

SURVEYOR'S NOTES:

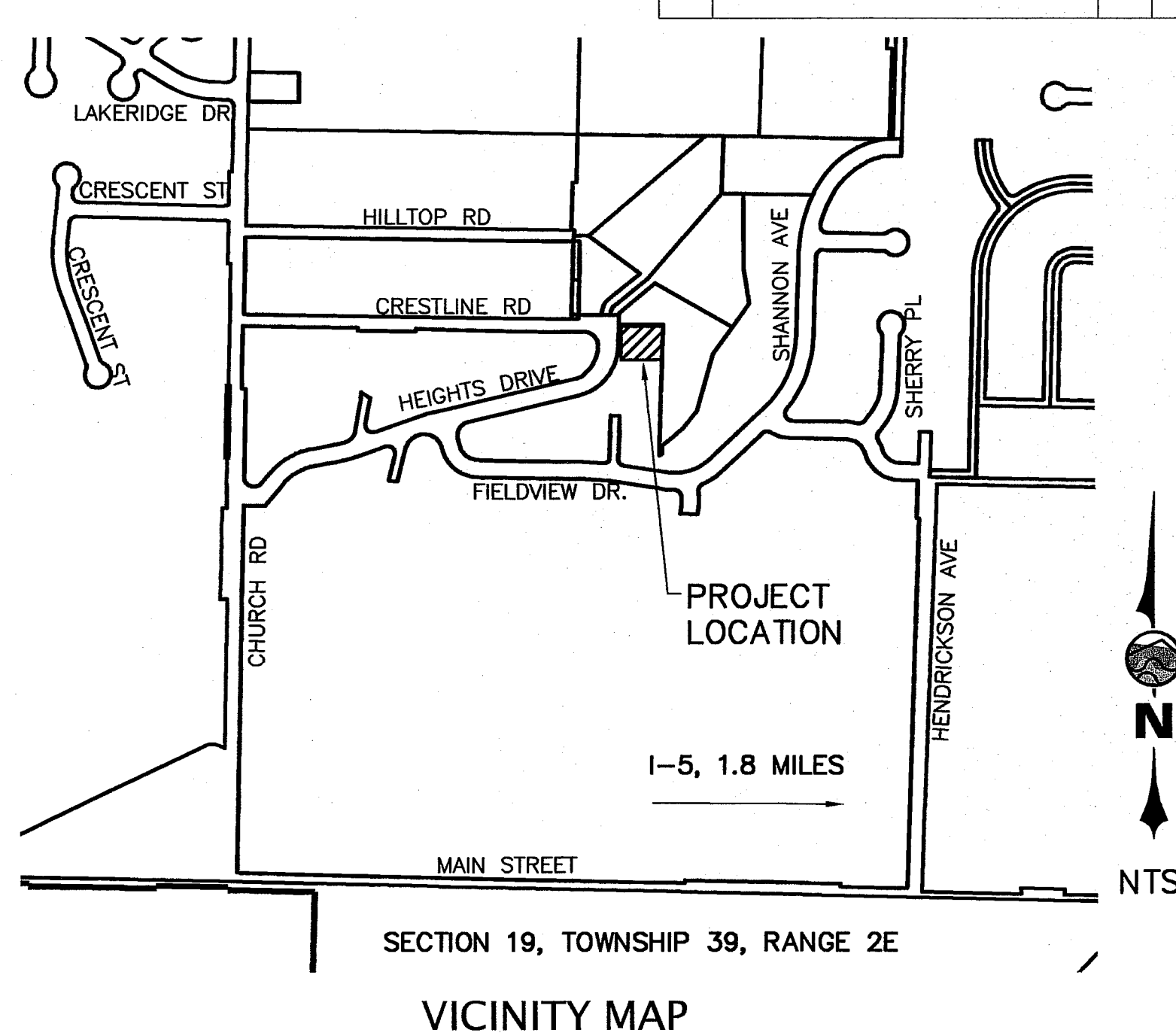
1) WILSON ENGINEERING LLC PERFORMED AN AS-BUILT SURVEY OF THE SITE SUBSEQUENT TO CONSTRUCTION. IN THE COURSE OF THIS SURVEY, VISIBLE SURFACE EVIDENCE OF UTILITIES WERE LOCATED INCLUDING AND LIMITED TO CATCH BASIN STRUCTURES AND CULVERTS. UNDERGROUND UTILITIES SHOWN ON THIS SURVEY ARE BASED UPON SURFACE INDICATORS MARKED BY OTHERS, AND WILSON ENGINEERING LLC IS NOT RESPONSIBLE FOR THE ULTIMATE ACCURACY OF THE ORIGINAL MARKINGS.

ABBREVIATIONS

AL	=ALIGNMENT
ANC	=UTILITY POLE ANCHOR
APPROX	=APPROXIMATE
ASPH or AC	=ASPHALT
ASSY	=ASSEMBLY
ASTM	=AMERICAN SOCIETY FOR TESTING & MATERIALS
BLDG	=BUILDING
BMP	=BEST MANAGEMENT PRACTICE
BVCS	=BEGIN VERTICAL CURVE STATION
BVCE	=BEGIN VERTICAL CURVE ELEVATION
CB	=CATCH BASIN
C/L	=CENTERLINE
CESSCL	=CERTIFIED EROSION SEDIMENT CONTROL LEAD
CMP	=CORRUGATED METAL PIPE
C.O.	=CLEAN OUT
CONC. C	=CONCRETE
COR	=CORNER
COP	=CORRUGATED POLYETHYLENE PIPE
CSTC	=CRUSHED SURFACING TOP COURSE
DO	=DISSOLVED OXYGEN
DR	=DRAIN FIELD
DF	=DIAMETER RATIO
EB	=EXPLORATION BORING
EFFL	=EFFLUENT
EG	=EXISTING GRADE
ELEV. EL	=ELEVATION
EOG	=EDGE OF GRAVEL
EOP	=EDGE OF PAVEMENT
EP	=EXPLORATION PIT
EXIST. EX	=EXISTING
EVCS	=END VERTICAL CURVE STATION
EVC	=END VERTICAL CURVE ELEVATION
FF	=FINISH FLOOR
FG	=FINISH GRADE
FL	=FLOWLINE OR FLANGE (CONNECTION)
FLC	=FLOWLINE OF CURB
FNC	=FENCE
GB	=GRADE BREAK
GMET	=GAS METER
GP	=GUY POLE
GPM	=GALLONS PER MINUTE
GRVLL	=GRAVEL
GUTT	=GUTTER
GV	=GAS VALVE
HDPE	=HIGH DENSITY POLYETHYLENE
HP	=HIGH POINT
HV	=HORIZONTAL VERTICAL
HWL	=HIGH WATER LEVEL
HYD	=HYDRANT
IC	=INVERT ELEVATION
INV	=INVERT
LF	=LINEAR FEET
LP	=LOW POINT
LUM	=LUMINAIRE
MAX	=MAXIMUM
MB	=MAIL BOX
MBR	=MEMBRANE BIO-REACTOR
MC	=MAINTENANCE CLEANING
MFEM	=MEMBRANE FILTRATION EQUIPMENT
MFR	=MANUFACTURER
MIN	=MINIMUM
MISC	=MISCELLANEOUS
MJ	=MECHANICAL JOINT
MLSS	=MIXED LIQUOR SUSPENDED SOLIDS
MW	=MONITORING WELL
NPDES	=NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
O.C.	=ON CENTER
O.C.E.W	=ON CENTER EACH WAY
OD	=OUTSIDE DIAMETER
OHP	=OVERHEAD POWER
OHT	=OVERHEAD TELEPHONE
OSHA	=OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PC	=POINT OF CURVATURE
PCO	=POINT OF CONTINUING CURVATURE
P/L	=PROPERTY LINE
PLC	=PROGRAMMABLE LOGIC CONTROLLER
PLR	=PLANTER
POL	=POLY ON LINE
PROP	=PROPOSED
PS	=PUMP STATION
PSI	=POUNDS PER SQUARE INCH
PT	=POINT OF TANGENCY
PVC	=POLYVINYL CHLORIDE
PVI	=POINT OF VERTICAL INTERSECTION
PW	=POTABLE WATER
R	=RADIUS
ROCK	=ROCK/BOULDER
RET	=REINFORCING
REC	=RECORD
REQ'D	=REQUIRED
RI	=RAPID INFILTRATION
RPBA	=REUSE PRESSURE BACKFLOW ASSEMBLY
RR	=RAILROAD
R/W	=RIGHT-OF-WAY
RW	=REUSE WATER
SCADA	=SUPERVISORY CONTROL AND DATA ACQUISITION
SCH	=SCHEDULE
SDCB	=STORM DRAIN CATCH BASIN
SD	=STORM DRAIN
SDMH	=STORM DRAIN MANHOLE
SFH	=SINGLE FAMILY HOUSING
SH	=SHRUB/BUSH
SN	=SIGN
SPK	=SPIKE
SS	=SANITARY SEWER
SSCO	=SANITARY SEWER CLEAN-OUT
SSMH	=SANITARY SEWER MANHOLE
STA	=STATION
STEP	=SEPTIC TANK EFFLUENT PUMP
S/W	=SIDEWALK
TBO	=TOP BACK OF CURB
TBD	=TO BE DETERMINED
TBM	=TEMPORARY BENCH MARK
T.O.W.	=TOP OF WALL
TYP	=TYPICAL
UP	=UTILITY POLE
VAC	=VACATED
VC	=VERTICAL CURVE
VCI	=VOLATILE CORROSION INHIBITOR
VEG	=VEGETATION
VFO	=VARIABLE FREQUENCY DRIVE
WAS	=WASTE ACTIVATED SLUDGE
WL	=WATERLINE
WM	=WATER METER
WS	=WATER SURFACE
WSDOT	=WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
WW	=WATER VALVE
WWTP	=WASTE WATER TREATMENT PLANT
YL	=YARD LIGHT

DIRECTIONAL ABBREVIATIONS

N	=NORTH
NE	=NORTHEAST
E	=EAST
SE	=SOUTHEAST
S	=SOUTH
SW	=SOUTHWEST
W	=WEST
NW	=NORTHWEST



GENERAL NOTES

- CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE ENGINEER.
- IF THERE ARE ANY DISCREPANCIES BETWEEN DIMENSIONS IN DRAWING AND EXISTING CONDITIONS WHICH WILL AFFECT THE WORK, THE CONTRACTOR SHALL BRING SUCH DISCREPANCIES TO THE ATTENTION OF THE ENGINEER FOR ADJUSTMENT BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FITTING OF ALL WORK AND FOR THE COORDINATION OF ALL TRADES, SUBCONTRACTORS, AND PERSONS ENGAGED UPON THIS CONTRACT.
- CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR OR REPLACE ANY EXISTING IMPROVEMENTS OR UNDERGROUND FACILITIES DAMAGED BY HIM, HIS SUBCONTRACTORS, OR HIS MATERIAL SUPPLIERS WITHIN 48 HOURS OF THE DAMAGE OCCURRENCE AND/OR AS REQUIRED BY THE CONSTRUCTION INSPECTOR.
- EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ARE FOR INFORMATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND DEPTH. THE ENGINEER ASSUMES NO RESPONSIBILITY THAT THE UTILITIES AND UNDERGROUND FACILITIES INDICATED WILL BE THE UTILITIES AND UNDERGROUND FACILITIES ENCOUNTERED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ELEVATIONS OF THE EXISTING STORM DRAINS, SEWERS, AND WATER TO BE EXTENDED, CROSSED, OR CONNECTED TO PRIOR TO COMMENCING THE WORK. NOTIFY ENGINEER IF ACTUAL IS DIFFERENT FROM PLANS.
- ALL TRENCHES AND EXCAVATIONS SHALL BE CONSTRUCTED IN STRICT COMPLIANCE WITH THE APPLICABLE SECTIONS OF WASHINGTON AND FEDERAL OSHA REQUIREMENTS AND OTHER APPLICABLE SAFETY ORDINANCES. CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR TRENCH SHORING DESIGN AND INSTALLATION.
- THE CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING STREETS, SURROUNDING LANDSCAPE, AND OTHER IMPROVEMENTS WITH A SMOOTH TRANSITION IN PAVING, CURBS, GUTTERS, SIDEWALKS, GRADING, ETC., AND TO AVOID ANY ABRUPT OR APPARENT CHANGES IN GRADES OR CROSS SLOPES, LOW SPOTS, OR HAZARDOUS CONDITIONS.
- CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR OBTAINING PERMITS FROM THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES FOR REMOVING AND REPLACING ALL SURVEY MONUMENTATION THAT MAY BE AFFECTED BY CONSTRUCTION ACTIVITY. PURSUANT TO WAC 332-120. APPLICATIONS MUST BE COMPLETED BY A REGISTERED LAND SURVEYOR. APPLICATIONS FOR PERMITS TO REMOVE MONUMENTS MAY BE OBTAINED FROM THE WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES (DNR), OR BY CONTACTING THEIR OFFICE BY TELEPHONE AT (206) 902-1190.

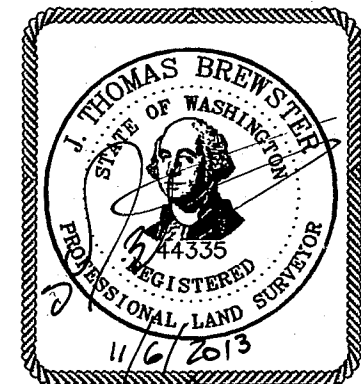
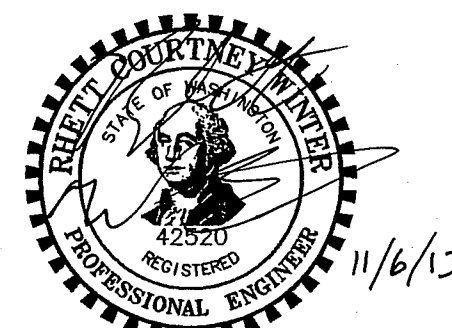
WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES
PUBLIC LAND SURVEY OFFICE
1111 WASHINGTON STREET S.E.
OLYMPIA, WASHINGTON 98504-7060

UPON COMPLETION OF CONSTRUCTION, ALL MONUMENTS DISPLACED, REMOVED, OR DESTROYED SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR, AT THE COST OF THE CONTRACTOR, PURSUANT TO THESE REGULATIONS. THE APPROPRIATE FORMS FOR REPLACEMENT OF SAID MONUMENTS SHALL BE COMPLETED AND FILED WITH DNR AT THE CONTRACTOR'S EXPENSE.

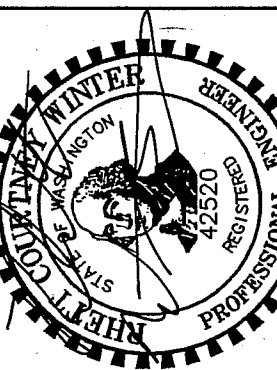
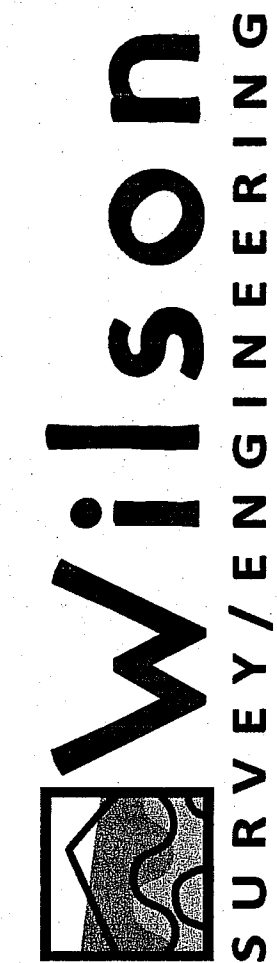
- REPLACE ALL FENCES, PAVEMENT STRIPING, SIGNAGE, AND OTHER SURFACE FEATURES AFFECTED BY CONSTRUCTION IN KIND.

I HEREBY CERTIFY THAT THE IMPROVEMENTS IN CRESTLINE STORMWATER IMPROVEMENTS HAVE BEEN INSPECTED BY WILSON ENGINEERING LLC AND, TO THE BEST OF MY KNOWLEDGE, HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE CITY OF FERNDAL DEVELOPMENT STANDARDS, THE CITY OF FERNDAL MUNICIPAL CODE, SUBSEQUENT STANDARDS ADOPTED BY REFERENCE THEREIN, AND STANDARD ENGINEERING PRACTICE.

I HEREBY CERTIFY THAT, SUBJECT TO THE LIMITATIONS OF SCOPE LISTED IN SURVEYOR'S NOTE #1, THE LOCATIONS, DEPTHS, AND AS-BUILT COMMENTS REFLECTING MATERIALS ACTUALLY USED DURING CONSTRUCTION ACCURATELY REFLECT EXISTING FIELD CONDITIONS AS DETERMINED BY ME OR UNDER MY DIRECT SUPERVISION ON 10/02/13.



WILSON ENGINEERING, LLC
805 DUPONT STREET
BELLINGHAM, WA 98225
(360) 733-6100 • FAX (360) 647-9061
www.wilsonengineering.com



DESIGNED BY
RCW
DRAWN BY
JCS
CHECKED BY
AWL

CITY OF FERNDAL
CRESTLINE STORMWATER IMPROVEMENTS
COVER SHEET

DATE
NOV. 2013
SCALE
AS SHOWN
JOB NUMBER
2011-039

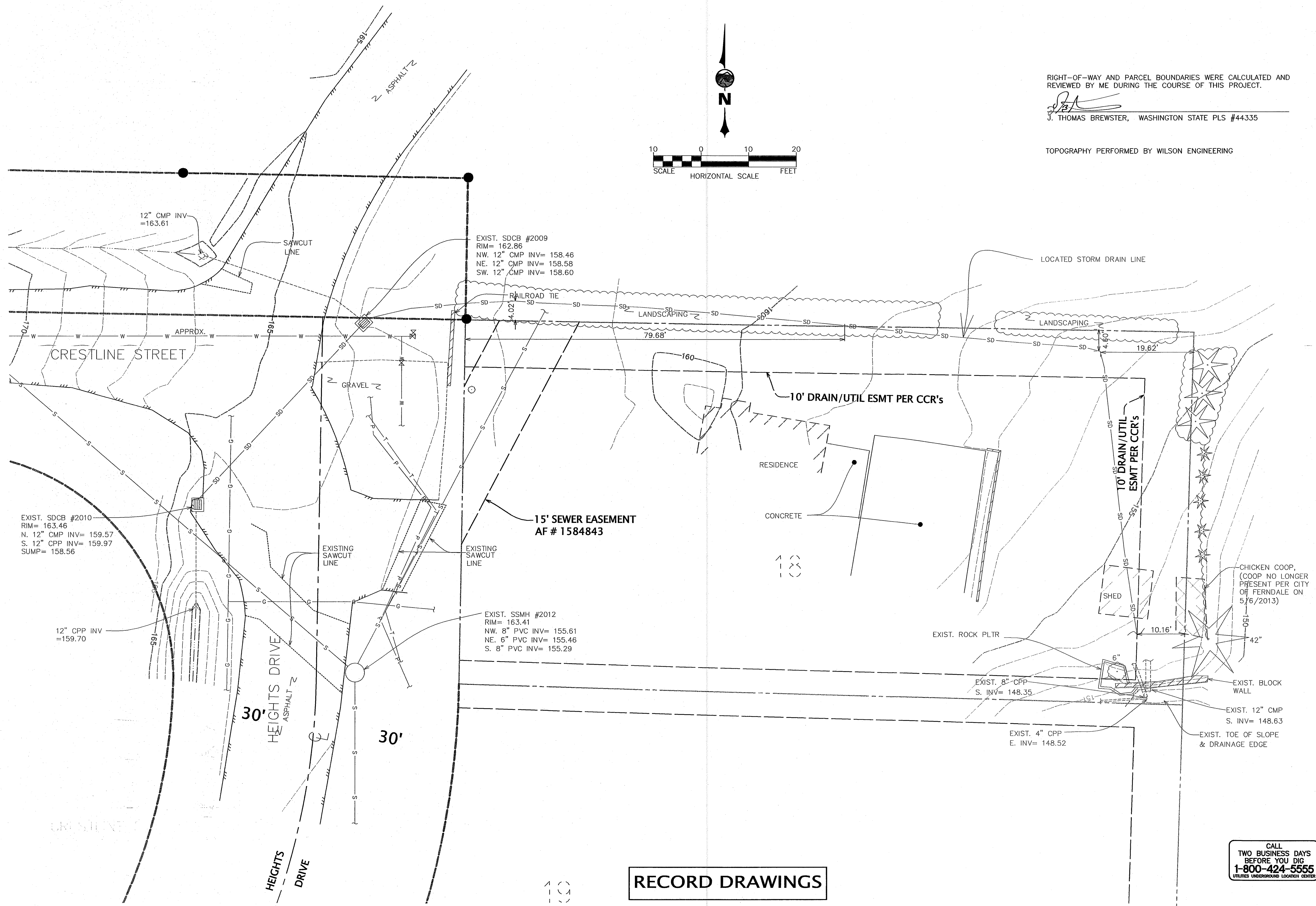
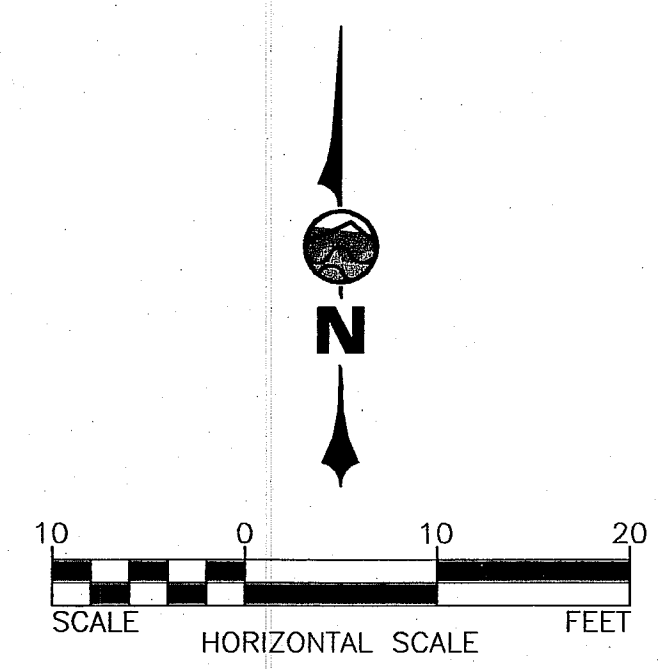
00556.001 11/13/13

NO.	REVISIONS	BY	DATE

RIGHT-OF-WAY AND PARCEL BOUNDARIES WERE CALCULATED AND REVIEWED BY ME DURING THE COURSE OF THIS PROJECT.

JTB
J. THOMAS BREWSTER, WASHINGTON STATE PLS #44335

TOPOGRAPHY PERFORMED BY WILSON ENGINEERING



WILSON ENGINEERING, LLC
805 DUPONT STREET
BELLINGHAM, WA 98225
(360) 733-6100 • FAX (360) 647-9061
www.wilsonengineering.com

DESIGNED BY: RCW
DRAWN BY: JCS
CHECKED BY: AWL

CITY OF FERNDALE

WASHINGTON

CRESTLINE STORMWATER IMPROVEMENTS

EXISTING CONDITIONS

C1.1

DATE: NOV, 2013
SCALE: AS SHOWN
JOB NUMBER: 2011-039

CALL
TWO BUSINESS DAYS
BEFORE YOU DIG
1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER

RECORD DRAWINGS

00556-002 11/13/13 SH

TEMPORARY EROSION AND SEDIMENT CONTROL PLAN

STANDARD NOTES

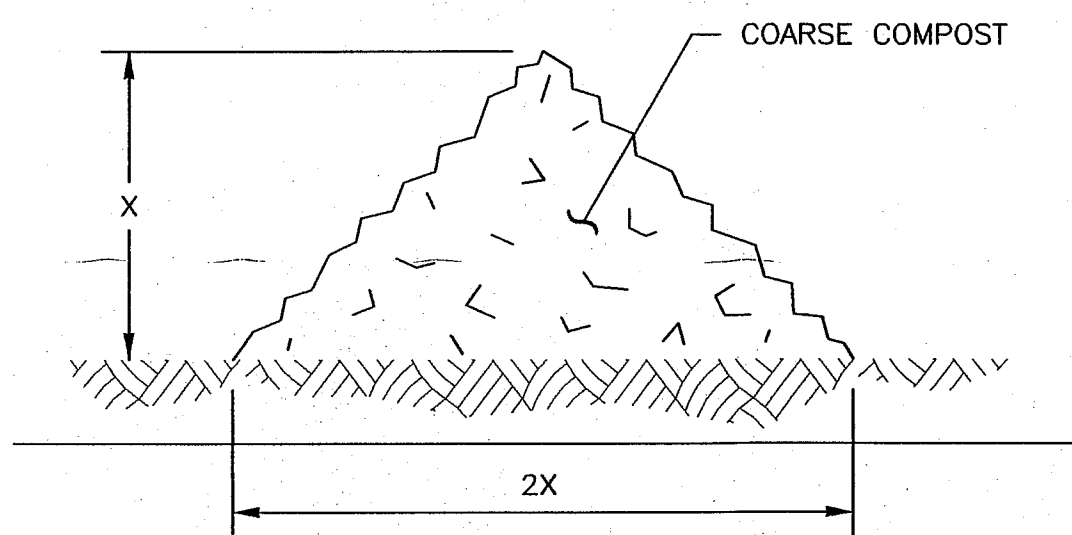
Approval of this erosion control (ESC) plan does not constitute an approval of permanent road or drainage design (e.g. size and location of roads, pipes, restrictors, channels, retention facilities, utilities, etc.).

The implementation of these ESC plans and the construction, maintenance, replacement, and upgrading of these ESC facilities is the responsibility of the applicant/contractor until all construction is completed and approved and vegetation/landscaping is established.

The ESC facilities shall be inspected daily by the applicant/contractor and maintained as necessary to ensure their continued functioning.

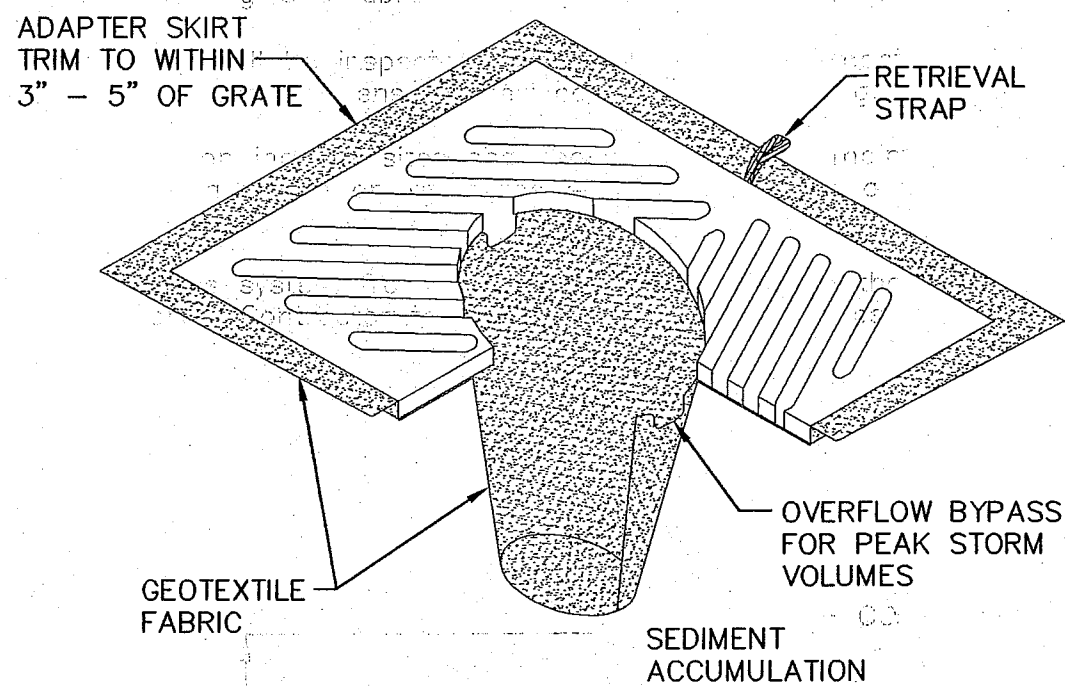
The ESC facilities on inactive sites shall be inspected and maintained a minimum of once a month or within the 48 hours following a major storm event.

A temporary bypass system from upstream catch basins to the outfall location may be necessary. Contractor to devise temporary system as needed.



X = 1.0' FOR SLOPES 4H:1V OR FLATTER
X = 1.5' FOR SLOPES STEEPER THAN 4H:1V

COMPOST BERM
NOT TO SCALE



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.

INLET PROTECTION
NOT TO SCALE

CONSTRUCTION SWPPP NARRATIVE

1. CONSTRUCTION STORMWATER POLLUTION PREVENTION ELEMENTS.

a. MARK CLEARING LIMITS. Buffer Zones (BMP C102) shall be established prior to construction around delineated wetland buffers and drainage swales. Compost Berms shall be installed prior to construction to protect and mark the Buffer Zones. See plans for Compost Berm locations. Temporary fencing shall be erected per landscape drawings prior to starting construction.

b. ESTABLISH CONSTRUCTION ACCESS. Since a construction entrance will not be practical for this project, extra attention will be needed to keep roads and other hard surfaces clean. Roads and asphalt parking areas shall be thoroughly cleaned at the end of each day. Sediment shall be removed from roads by shoveling or pickup sweeping and shall be transported to a controlled sediment disposal area. Street washing will be allowed only after sediment is removed in this manner. Street wash water shall be controlled by pumping back on site or otherwise to prevent from discharging into stormwater drain systems and systems tributary to State surface waters.

c. CONTROL FLOW RATES. Not applicable.

d. INSTALL SEDIMENT CONTROLS. Contractor to utilize silt fence, compost berms, or compost as needed to prevent sediment from leaving the site.

e. STABILIZE SOILS. From October 1 through April 30, no soils shall remain exposed and unworked for more than 2 days. From May 1 to September 30, no soils shall remain exposed and unworked for more than 7 days. This stabilization requirement applies to all soils on site, whether at final grade or not. Soils shall be stabilized at the end of the shift before a holiday or weekend if needed based on the weather forecast. Stabilization methods include: Temporary or Permanent Seeding (BMP C120), Mulching (BMP C121), and Surface Roughening (BMP C130). As much as practicable, contractor to keep trench spoils and stockpiles covered during rain events.

f. PROTECT SLOPES. The majority of the site is flat and stable. Slopes shall be protected by Mulching (BMP C121) and/or Permanent Seeding (BMP C120).

g. PROTECT DRAIN INLETS. Storm drain inlets operable during construction shall be protected so that stormwater runoff does not enter the conveyance system without first being filtered or treated to remove sediment. All roads and asphalt parking areas shall be kept clean. Sediment and street wash water shall not be allowed to enter storm drains. Inlets shall be inspected weekly at a minimum and daily during storm events. Inlet protection devices shall be cleaned or removed and replaced before six inches of sediment can accumulate. Inlets shall be protected by Storm Drain Inlet Protection (BMP C220).

h. STABILIZE CHANNELS AND OUTLETS. Due to the flat site concentrated flows are minimized.

i. CONTROL POLLUTANTS. All pollutants, including waste materials and demolition debris, that occur on site during construction shall be handled and disposed of in a manner that does not cause contamination of stormwater. Cover, containment, and protection from vandalism shall be provided for all chemicals, liquid products, petroleum products, and non-inert wastes present on the site. Use drip pans when servicing heavy equipment and vehicles. Apply fertilizers and pesticides in accordance with manufacturer's instructions to prevent stormwater runoff contamination.

j. CONTROL DEWATERING. Foundation, vault and trench de-watering may need to be hauled off site due to site constraints. Turbid water shall not be discharged to storm drain system or in a manner that would pollute downstream properties or wetlands.

k. MAINTAIN BMPs. Temporary and permanent erosion and sediment control BMPs shall be maintained and repaired as needed to assure continued performance of their intended function. Sediment control BMPs shall be inspected weekly and within 24 hours after a runoff producing storm event during the dry season and daily during the wet season. Temporary erosion and sediment control BMPs shall be removed within 30 days after final site stabilization is achieved or after the temporary BMPs are no longer needed.

l. MANAGE THE PROJECT. The Contractor is solely responsible for providing and maintaining these and such additional BMPs, as may be required to prevent erosion, control sediment, and prevent water pollution. Construction will also be phased, see Architectural Plans for project construction phasing.

2. PROJECT DESCRIPTION

a. TOTAL PROJECT AREA. 0.06 acres

b. TOTAL PROPOSED IMPERVIOUS AREA. 0 acres

c. TOTAL PROPOSED AREA TO BE DISTURBED. 0.06 acres

d. TOTAL VOLUME OF PROPOSED CUT/FILL. Cut = 5 CY, Fill = 5 CY. (Estimated volume between existing ground surface and proposed finish grades for base bid and all alternates. No shrink or swell factors applied.) Volumes are for SWPPP narrative only and are not intended for bidding or take-off purposes.

3. EXISTING SITE CONDITIONS

a. DESCRIPTION OF EXISTING TOPOGRAPHY. Site slopes from 5-10% generally from west to east.

b. DESCRIPTION OF EXISTING VEGETATION. Mostly grass with some landscape, gravel, and asphalt roadway.

c. DESCRIPTION OF EXISTING DRAINAGE. Existing drainage is also from west to east, but the pipe conveyance is failing. Ditch flow and pipe flow backs up and overflows catch basins in some storms to form overland flow.

4. ADJACENT AREAS

a. DESCRIPTION OF ADJACENT AREAS WHICH MAY BE AFFECTED BY SITE DISTURBANCE:

i. STREAMS. Schell Creek is approximately 100 feet from SDCB #1 and 175 feet from proposed rock-lined channel. The creek has a 25 foot buffer.

ii. LAKES. None

iii. WETLANDS. None known

iv. RESIDENTIAL AREAS. Project resides in a residential area.

v. ROADS. Crestline Street and Heights Drive border the project to the west.

vi. OTHER.

b. DESCRIPTION OF THE DOWNSTREAM DRAINAGE PATH LEADING FROM THE SITE TO THE RECEIVING BODY OF WATER (MINIMUM DISTANCE OF 400 YARDS.): Not applicable.

5. CRITICAL AREAS

a. DESCRIPTION OF CRITICAL AREAS THAT ARE ON OR ADJACENT TO THE SITE. None known

b. DESCRIPTION OF SPECIAL REQUIREMENTS FOR WORKING IN OR NEAR CRITICAL AREAS. NA

6. DESCRIPTION OF ONSITE SOILS: Unknown

7. EROSION PROBLEM AREAS: Unknown

8. CONSTRUCTION PHASING

a. CONSTRUCTION SEQUENCE. Not Applicable

b. CONSTRUCTION PHASING. Not Applicable.

9. CONSTRUCTION SCHEDULE

a. PROVIDE A PROPOSED CONSTRUCTION SCHEDULE. Begin construction Summer 2013. Completion date is Summer 2013. See general conditions of contract for contractual completion dates.

b. WET SEASON CONSTRUCTION ACTIVITIES. No construction is anticipated in wet season.

i. PROPOSED WET SEASON CONSTRUCTION ACTIVITIES. NA

ii. PROPOSED WET SEASON CONSTRUCTION RESTRAINTS FOR ENVIRONMENTALLY SENSITIVE/CRITICAL AREAS. NA

10. FINANCIAL/OWNERSHIP RESPONSIBILITY

a. IDENTIFY THE PROPERTY OWNER RESPONSIBLE FOR THE INITIATION OF BONDS AND/OR OTHER FINANCIAL SECURITIES. City of Ferndale.

b. DESCRIBE BONDS AND/OR OTHER EVIDENCE OF FINANCIAL RESPONSIBILITY FOR LIABILITY ASSOCIATED WITH EROSION AND SEDIMENTATION IMPACTS.

11. ENGINEERING CALCULATIONS

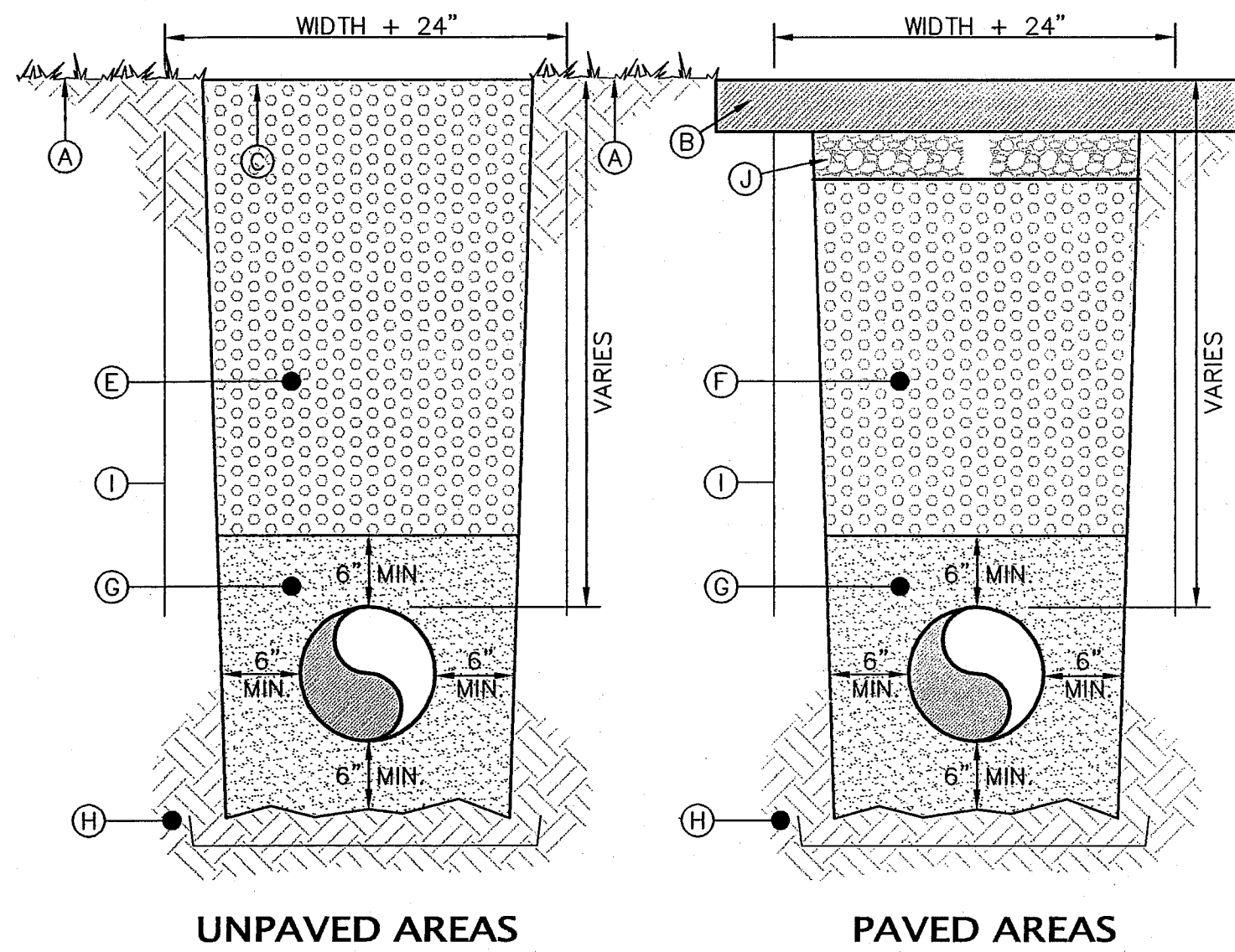
a. SEDIMENT PONDS/TRAPS. None used.

b. DIVERSIONS. None used.

c. WATERWAYS. None used.

d. RUNOFF/STORMWATER DETENTION CALCULATIONS. None needed.

12. SWPPP CONTACT. Questions or concerns regarding the design, installation, or function of erosion control BMPs should be directed to: Wilson Engineering, LLC, 805 Dupont Street, Suite 7, Bellingham, WA 98225, (360) 733-6100.



KEYED NOTES:

- A. HYDROSEED EXPOSED AREAS.
- B. NEW PAVEMENT, 2.5" THICK
- C. NEW LANDSCAPED SURFACE.
- D. NOT USED
- E. BANK RUN GRAVEL BACKFILL PER WSDOT 9-03.19 COMPACTED TO 90% MAX. DENSITY.
- F. BANK RUN GRAVEL BACKFILL PER WSDOT 9-03.12(3) COMPACTED TO 90% MAX. DENSITY
- G. PIPE ZONE GRAVEL BEDDING PER WSDOT 9-03.12(3) COMPACTED TO 90% MAX. DENSITY
- H. UNDISTURBED NATIVE MATERIAL
- I. ROCK EXCAVATION PAY LIMITS COMPACTED TO 90% MAX. DENSITY
- J. CRUSHED SURFACING TOP COURSE PER WSDOT 9-03.9(3), COMPACTED TO 95% MAX DENSITY. 2" THICK.

TYPICAL TRENCHING & BACKFILL
NOT TO SCALE

RECORD DRAWINGS

CALL
TWO BUSINESS DAYS
BEFORE YOU DIG
1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER

WILSON ENGINEERING, LLC
805 DUPONT STREET
BELLINGHAM, WA 98225
(360) 733-6100 • FAX (360) 647-9061
www.wilsonengineering.com

Wilson
SURVEY/ENGINEERING

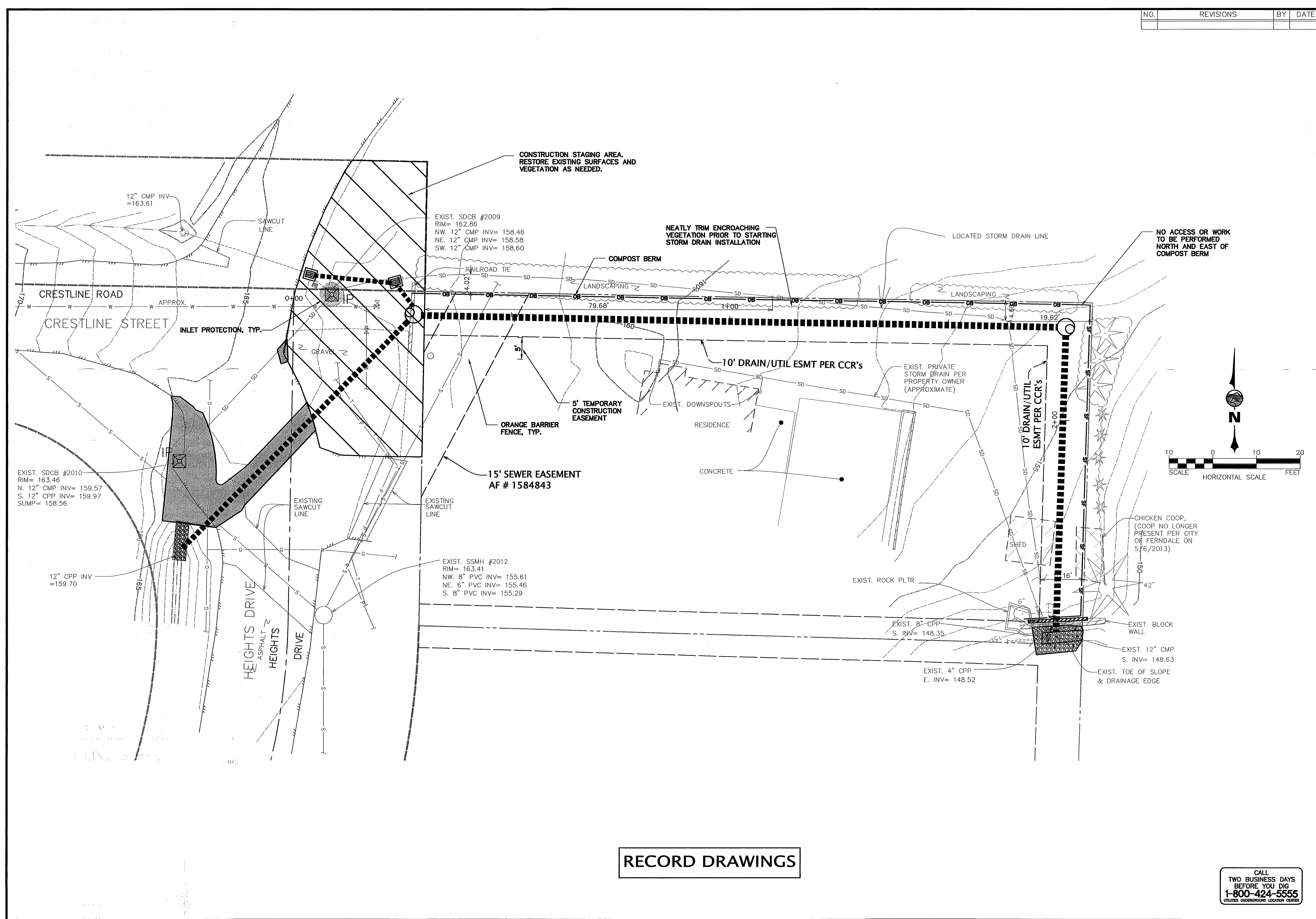


DESIGNED BY
RCW
DRAWN BY
JCS
CHECKED BY
ANL

CITY OF FERNDALE
WASHINGTON
CRESTLINE STORMWATER IMPROVEMENTS
TESC NOTES AND DETAILS

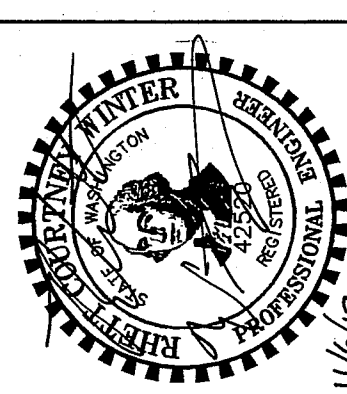
DATE
NOV, 2013
SCALE
AS SHOWN
JOB NUMBER
2011-039
SHEET
C2.1
OF
7

00556.003 11/13/13 SH



NO.	REVISIONS	BY	DATE

WILSON ENGINEERING, LLC
805 DUPONT STREET
BELLINGHAM, WA 98225
(360) 733-6100 • FAX (360) 647-9061
www.wilsonengineering.com



DESIGNED BY	RCW
DRAWN BY	JCS
CHECKED BY	AWL

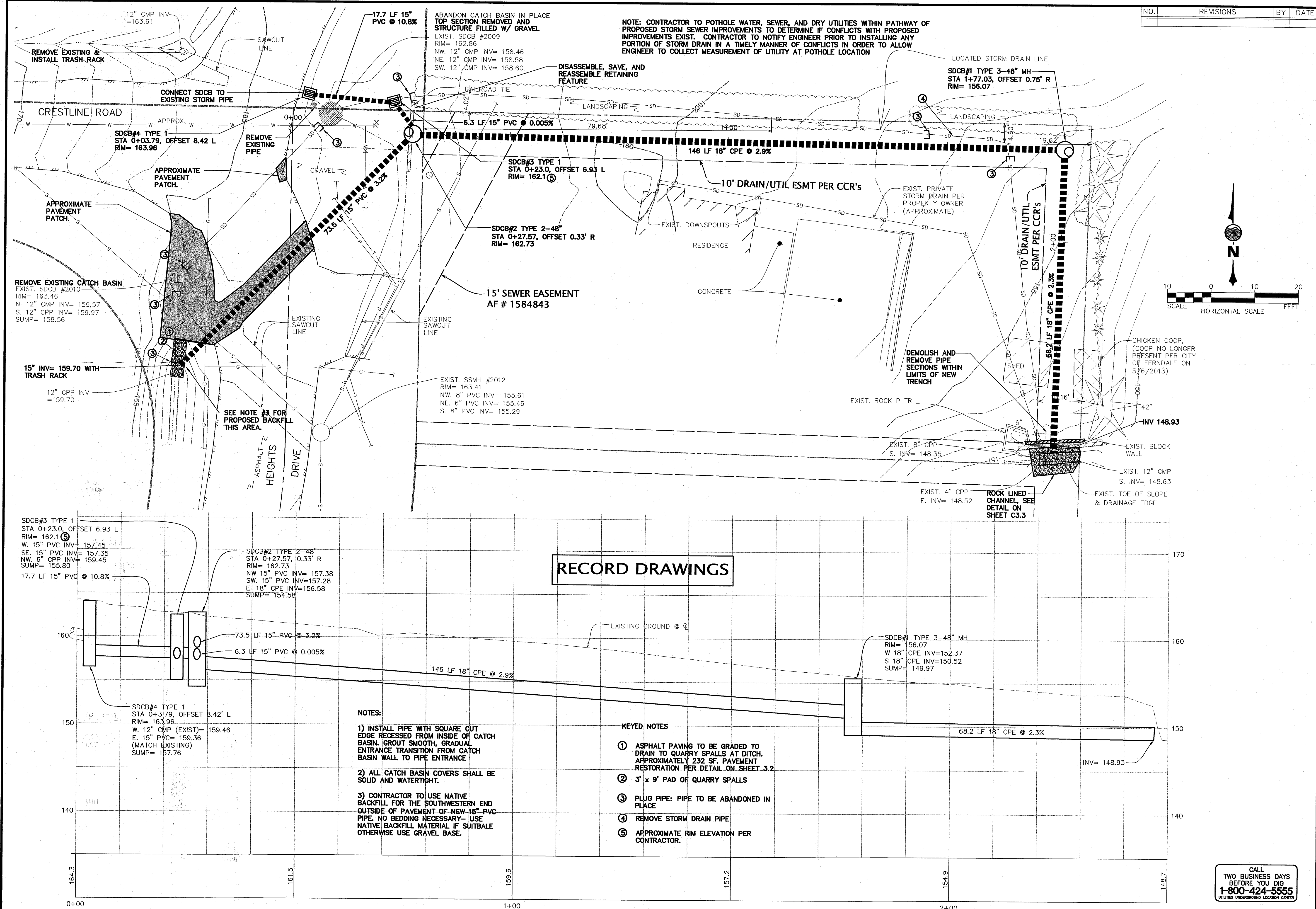
CITY OF FERNDALE
WASHINGTON
FERNDALE
CRESTLINE STORMWATER IMPROVEMENTS
TESC PLAN

DATE	NOV, 2013
SCALE	AS SHOWN
JOB NUMBER	2011-039
SHEET	C2.2
OF	7

RECORD DRAWINGS

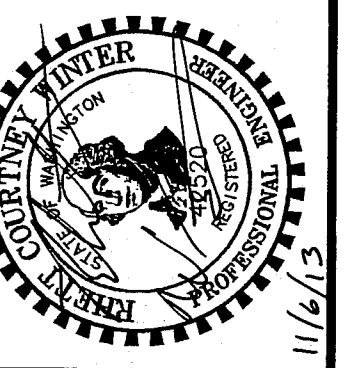
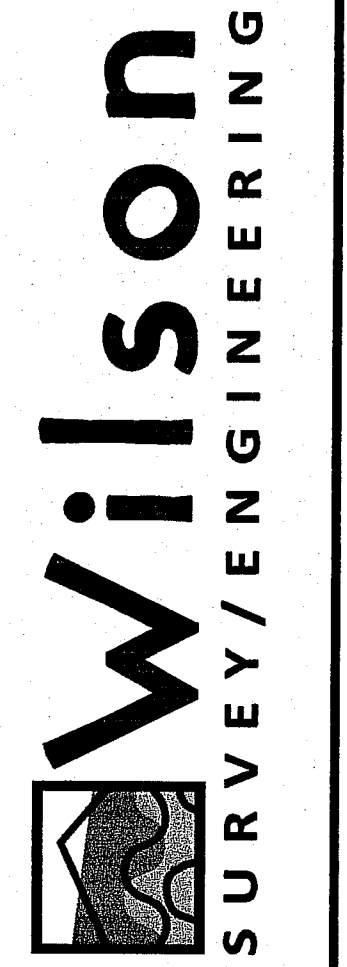
CALL
TWO BUSINESS DAYS
BEFORE YOU DIG
1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER

00556.004 11/13/13 SH



NO.	REVISIONS	BY	DATE

WILSON ENGINEERING, LLC
805 DUPONT STREET
BELLINGHAM, WA 98225
(360) 733-6100 • FAX (360) 847-9061
www.wilsonengineering.com



DESIGNED BY	RCW	DRAWN BY	JGS	CHECKED BY	AWL
CITY OF FERDALE	WASHINGTON	FERDALE	WASHINGTON	FERDALE	WASHINGTON
DATE	NOV. 2013	SCALE	AS SHOWN	JOB NUMBER	2011-039
SHEET	C3.1	OF	7		

- NOTES:**
- 1) INSTALL PIPE WITH SQUARE CUT EDGE RECESSED FROM INSIDE OF CATCH BASIN. GROUT SMOOTH, GRADUAL ENTRANCE TRANSITION FROM CATCH BASIN WALL TO PIPE ENTRANCE
 - 2) ALL CATCH BASIN COVERS SHALL BE SOLID AND WATERTIGHT.
 - 3) CONTRACTOR TO USE NATIVE BACKFILL FOR THE SOUTHWESTERN END OUTSIDE OF PAVEMENT OF NEW 15" PVC PIPE. NO BEDDING NECESSARY- USE NATIVE BACKFILL MATERIAL IF SUITABLE OTHERWISE USE GRAVEL BASE.
- KEYED NOTES**
- ① ASPHALT PAVING TO BE GRADED TO DRAIN TO QUARRY SPALLS AT DITCH. APPROXIMATELY 232 SF. PAVEMENT RESTORATION PER DETAIL ON SHEET 3.2
 - ② 3' x 9' PAD OF QUARRY SPALLS
 - ③ PLUG PIPE: PIPE TO BE ABANDONED IN PLACE
 - ④ REMOVE STORM DRAIN PIPE
 - ⑤ APPROXIMATE RIM ELEVATION PER CONTRACTOR.

CALL
TWO BUSINESS DAYS
BEFORE YOU DIG
1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER

00556.005 11/13/13 GH

NO.	REVISIONS	BY	DATE

**CATCH BASIN TYPE 2
STANDARD PLAN B-10.20-00**

SHEET 1 OF 1 SHEET
APPROVED FOR PUBLICATION
Herold J. Peterfoss 06-01-06
Washington State Department of Transportation

NOTES

- No slope is required when height is 4' or less.
- The bottom of the present catch basin may be sloped to facilitate cleaning.
- The rectangular frame and grate may be installed with the frame up or down. The frame may be cast into the adjustment section.
- Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum. Provide a 1.5" minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with Standard Specification 9-3.3.

CATCH BASIN DIMENSIONS

CATCH BASIN DIAMETER	WALL THICKNESS	BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS	BASE REINFORCING STEEL #/ft. IN EACH DIRECTION
48"	4"	8"	36"	8"	0.23
54"	4.5"	8"	42"	8"	0.19
60"	5"	8"	48"	8"	0.25
72"	5"	8"	60"	12"	0.24
84"	6"	12"	72"	12"	0.39
96"	6"	12"	84"	12"	0.39

PIPE ALLOWANCES

CATCH BASIN DIAMETER	PIPE MATERIAL WITH MAXIMUM INSIDE DIAMETER	SOLID WALL (INCHES)	PROFILE WALL (INCHES)
48"	CONCRETE 24"	30"	27"
54"	CONCRETE 30"	36"	33"
60"	CONCRETE 36"	42"	39"
72"	CONCRETE 42"	48"	45"
84"	CONCRETE 54"	60"	57"
96"	CONCRETE 66"	72"	69"

① Corrugated Polyethylene Storm Sower Pipe (Std. Spec. 9-06.20)
② (Std. Spec. 9-05.12(1))
③ (Std. Spec. 9-05.12(2))

**MANHOLE TYPE 3
STANDARD PLAN B-15.00-00**

SHEET 1 OF 1 SHEET
APPROVED FOR PUBLICATION
Herold J. Peterfoss 06-01-06
Washington State Department of Transportation

NOTES

- Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum.

MANHOLE DIMENSION TABLE

DIAM.	WALL THICKNESS	BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS	BASE REINFORCING STEEL #/ft. IN EACH DIRECTION
48"	4"	8"	36"	8"	0.23
54"	4.5"	8"	42"	8"	0.19
60"	5"	8"	48"	8"	0.25
72"	5"	8"	60"	12"	0.24
84"	6"	12"	72"	12"	0.39
96"	6"	12"	84"	12"	0.39

**CIRCULAR FRAME (RING) AND COVER
STANDARD PLAN B-30.70-03**

SHEET 1 OF 1 SHEET
APPROVED FOR PUBLICATION
Herold J. Peterfoss 06-01-06
Washington State Department of Transportation

NOTES

- The gasket and groove may be on the seat (frame) or in the underside of the cover. The gasket may be "T" shaped in section. The groove may be cast or machined.
- Red down capability is required on all frames, poles, and covers, unless specified otherwise in the Contract. Provide 3 holes in the frame that are vertically aligned with the gasket or cover hole. The frame shall accept the 3/8" x 1 1/4" x 2 1/2" hole cap screw by using applied, or other approved mechanism. Location of hole down hole varies by manufacturer.
- For set-down manhole ring and covers that are not designed "Weldtight," the required gasket, groove, or gasket hole is not required.
- Washer shall be required (Detail "B").
- In lieu of blind pick notch for manhole cover, a single "pick" hole is acceptable. Pick location and number of holes may vary by manufacturer.
- Alternative reinforcing designs are acceptable in lieu of the design shown.
- For clarity, the vertical scale of the Cover Section has been exaggerated, (i.e. 1.5 times the horizontal scale (1:1/2:1.5)).

**MANHOLE TYPE 3
STANDARD PLAN B-15.00-00**

SHEET 1 OF 1 SHEET
APPROVED FOR PUBLICATION
Herold J. Peterfoss 06-01-06
Washington State Department of Transportation

NOTES

- Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum.

MANHOLE DIMENSION TABLE

DIAM.	WALL THICKNESS	BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS	BASE REINFORCING STEEL #/ft. IN EACH DIRECTION
48"	4"	8"	36"	8"	0.23
54"	4.5"	8"	42"	8"	0.19
60"	5"	8"	48"	8"	0.25
72"	5"	8"	60"	12"	0.24
84"	6"	12"	72"	12"	0.39
96"	6"	12"	84"	12"	0.39

RECORD DRAWINGS

WILSON ENGINEERING, LLC
805 DUPONT STREET
SEATTLE, WA 98101
(206) 447-9061
www.wilsonengineering.com

Wilson
SURVEY/ENGINEERING

CITY OF FERNDALE
CRESTLINE STORMWATER IMPROVEMENTS
STORM DRAINAGE DETAILS

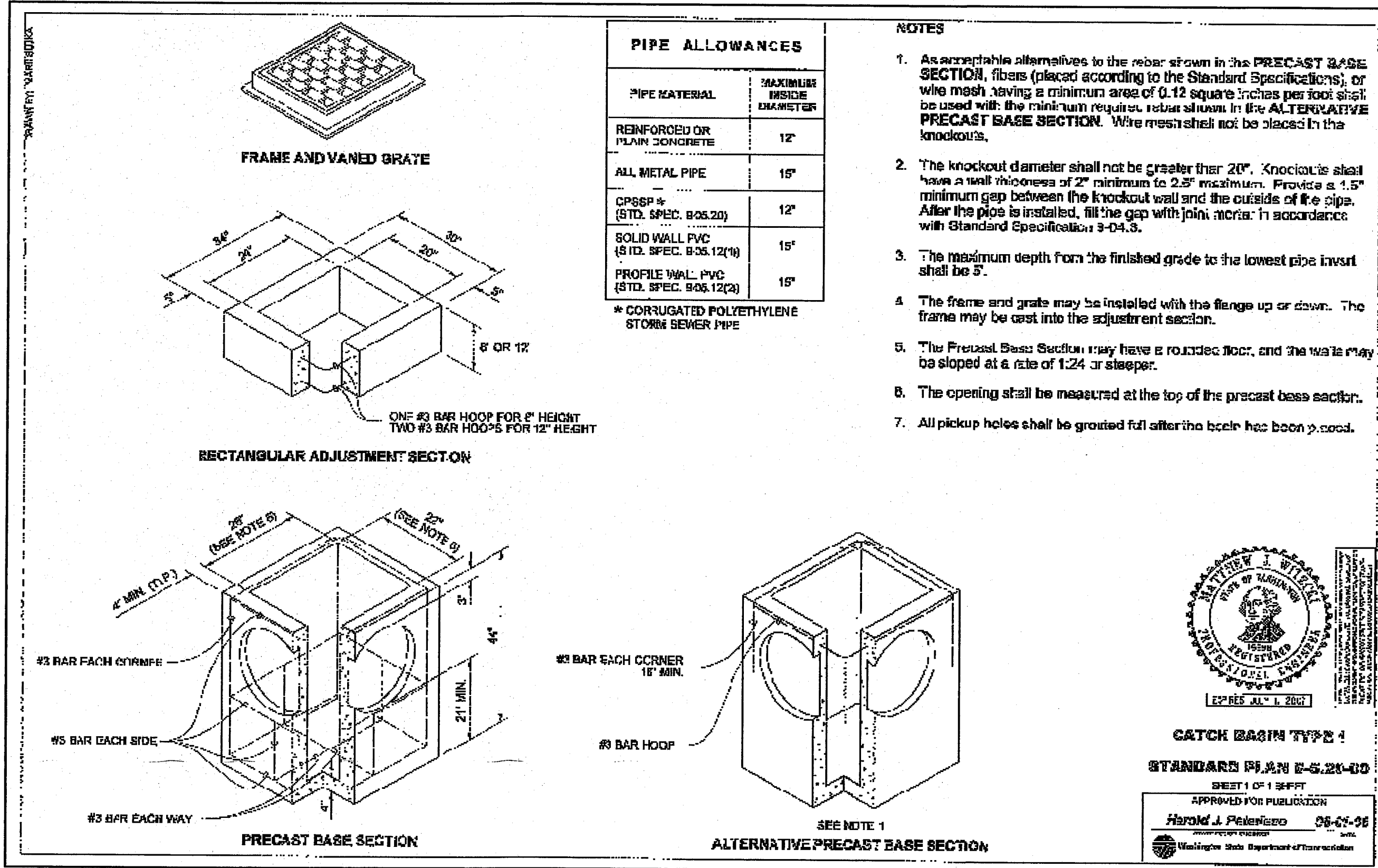
DESIGNED BY: RCW
DRAWN BY: JCS
CHECKED BY: AWL

DATE: NOV. 2013
SCALE: AS SHOWN
JOB NUMBER: 2011-039

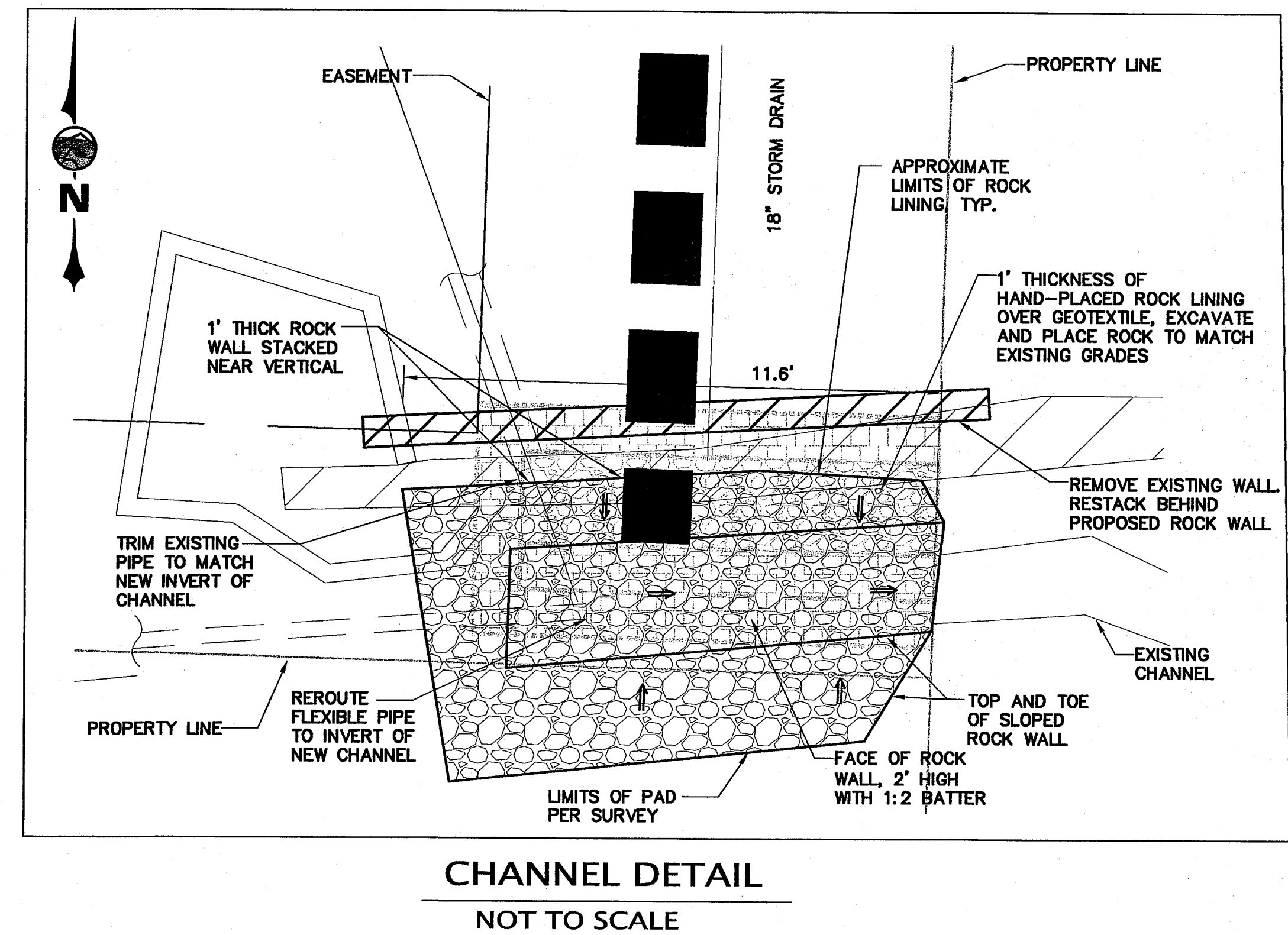
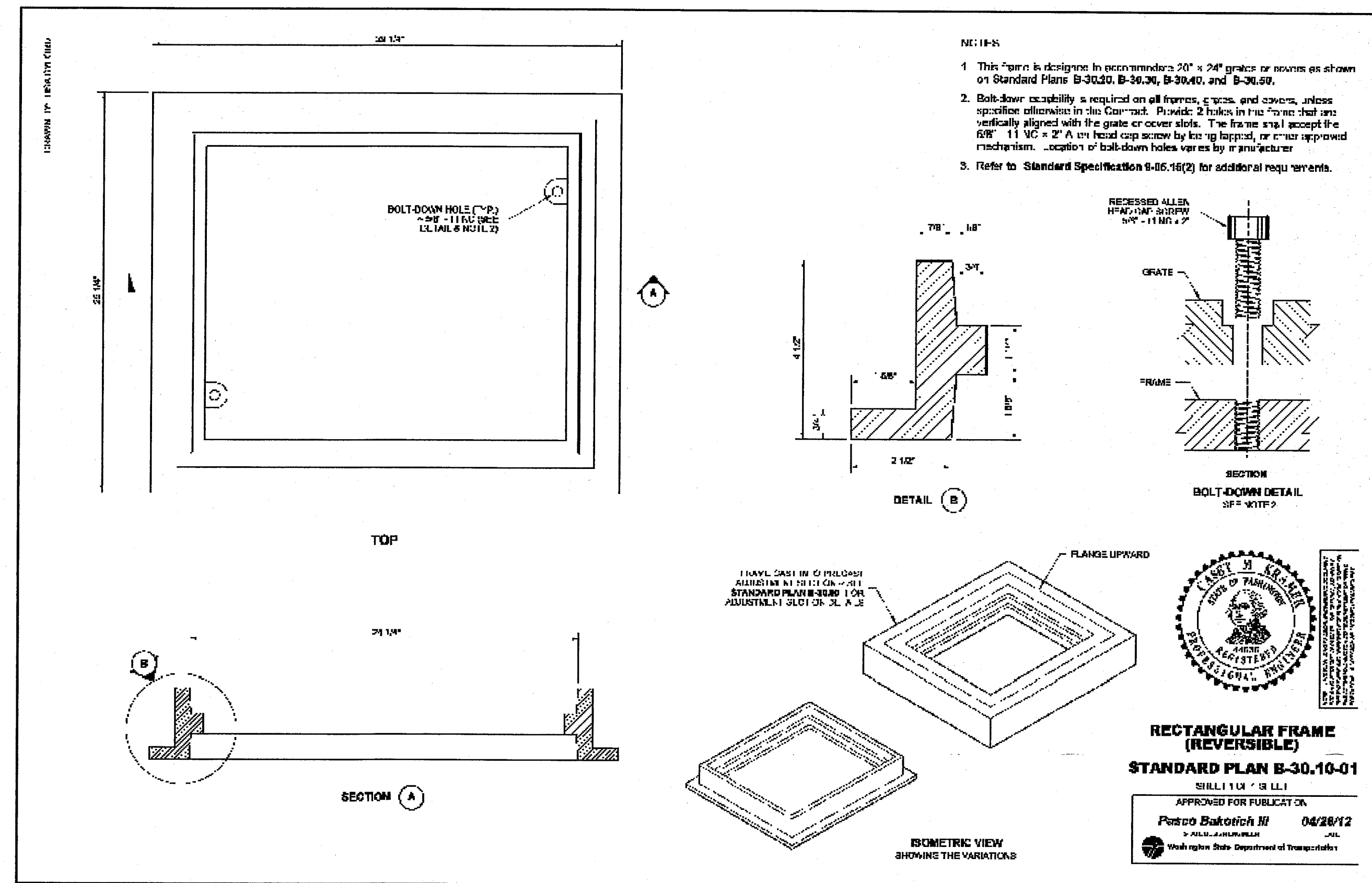
SHEET: C3.2 OF 7

CALL TWO BUSINESS DAYS BEFORE YOU DIG
1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER

00556.006 11/13/13 SH



RECORD DRAWINGS



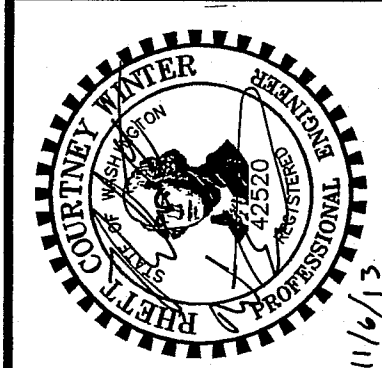
- NOTES:**
- GEOTEXTILE TO BE PLACED BETWEEN ALL SOIL AND ROCKLINED/ROCK WALL INTERFACES.
 - GEOTEXTILE TO BE WOVEN, HIGH SURVIVABILITY PER TABLE 4 OF WSDOT 9-33.2(1)
 - ROCK WALL LINING TO BE REASONABLY WELL GRADED AS FOLLOWS:
MAXIMUM STONE SIZE: 12 INCHES
MEDIAN STONE SIZE: 8 INCHES
MINIMUM STONE SIZE: 2 INCHES
 - ROCK WALL AND LINING TO HAND STACKED AND WELL CHINKED TO CREATE TIGHT, CONSOLIDATED SURFACE

CALL
TWO BUSINESS DAYS
BEFORE YOU DIG
1-800-424-5555
UTILITIES UNDERGROUND LOCATION CENTER

SHEET	C3.3	DATE	NOV. 2013	SCALE	AS SHOWN	JOB NUMBER	2011-039
		DESIGNED BY	RCW	DRAWN BY	JCS	CHECKED BY	AWL
		CITY OF FERNDALE FERNDALE CRESTLINE STORMWATER IMPROVEMENTS STORM DRAINAGE DETAILS					

Wilson
SURVEY/ENGINEERING

WILSON ENGINEERING, LLC
805 DUPONT STREET
BELLINGHAM, WA 98225
(360) 733-6100 • FAX (360) 647-9061
www.wilsonengineering.com



005556.007 11/21/13 84