

SAWARNE LUMBER MILL SITE PHASE II: STORMWATER POND

FERNDALE, WASHINGTON

SECTION 29 TOWNSHIP 39 RANGE 02E

GENERAL NOTES:

- ALL WORK AND MATERIALS SHALL CONFORM TO THESE PLANS AND TO THE REQUIREMENTS OF THE CURRENT EDITION OF THE STATE OF WASHINGTON, DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION," THE CITY OF FERNDALE DEVELOPMENT STANDARDS (COFDS) AND THE 2005 VERSION OF THE DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON (DOE MANUAL). IN CASE OF A CONFLICT BETWEEN PLANS, REGULATORY STANDARDS OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT WILL PREVAIL.
- PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER CONSTRUCTION DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES. THROUGHOUT THE PERIOD OF CONSTRUCTION, CONTRACTOR SHALL COMPLY WITH THE TERMS OF ALL PERMITS.
- THE CONTRACTOR MUST HAVE A FULL SET OF CITY CONTRACT DOCUMENTS ON THE SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
- CONSTRUCTION NOISE SHALL BE LIMITED TO BETWEEN 7 a.m. TO 8 p.m., MONDAY THROUGH SATURDAY.
- THE CONTRACTOR SHALL CONTACT THE UTILITIES UNDERGROUND LOCATION CENTER AT LEAST 72 HOURS PRIOR TO STARTING CONSTRUCTION. (PHONE: 1-800-424-5555). THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL OF THE VARIOUS UTILITY COMPANIES TO ARRANGE FOR FIELD LOCATIONS OF ALL EXISTING UTILITY FACILITIES. NO EXTRA COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR COSTS INCURRED BECAUSE OF DAMAGE DONE TO EXISTING FACILITIES BY THE CONTRACTOR'S WORK FORCE, INCLUDING COSTS FOR REPAIRS, WHICH WILL BE THE CONTRACTOR'S SOLE RESPONSIBILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ALL EXISTING UTILITIES AND TO NOTIFY THE ENGINEER PROMPTLY OF ANY CONFLICT BETWEEN THE APPROVED PLANS AND THE LOCATION OF ANY EXISTING UTILITIES.
- THE CONTRACTOR SHALL PROTECT ALL PRIVATE AND PUBLIC UTILITIES FROM DAMAGE RESULTING FROM THE WORK. CONTRACTOR SHALL RESTORE ALL PRIVATE AND PUBLIC PROPERTY DISRUPTED BY THE PROJECT IMMEDIATELY AFTER CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY CLEARING OR GRADING IN CONFORMANCE WITH THE EROSION & SEDIMENTATION CONTROL PLAN AND THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP). THE SWPPP SHALL BE ONSITE AT ALL TIMES DURING CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING WITH REPRESENTATIVES OF THE CITY OF FERNDALE PUBLIC WORKS DEPARTMENT AND THE PROJECT ENGINEER A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. THE CITY WILL SCHEDULE THE MEETING.
- ALL WORK AND MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE CITY OF FERNDALE PUBLIC WORKS DEPARTMENT. REPRESENTATIVES FROM THE CITY OF FERNDALE PUBLIC WORKS DEPARTMENT MUST INSPECT ALL WORK IDENTIFIED ON THE PLANS, BOTH PUBLIC AND PRIVATE. THE CONTRACTOR SHALL CALL AT LEAST 48 HOURS IN ADVANCE TO SCHEDULE INSPECTIONS AS FOLLOWS:
 - PLACEMENT OF TEMPORARY EROSION CONTROL MEASURES.
 - CONSTRUCTION OF STORMWATER MANAGEMENT FACILITIES.
- 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.
- THE CONTRACTOR SHALL INFORM THE ENGINEER AND OBTAIN APPROVAL FROM THE CITY OF FERNDALE PUBLIC WORKS DIRECTOR OF ANY PROPOSED DEVIATION FROM THE APPROVED PLANS PRIOR TO CONSTRUCTION OF THE REVISED IMPROVEMENTS. THE CONTRACTOR SHALL KEEP RECORDS OF ALL DEVIATIONS AND SHALL FORWARD THEM TO THE ENGINEER AND TO THE CITY OF FERNDALE PUBLIC WORKS DEPARTMENT.
- AS-BUILT DATA SHALL BE PROVIDED TO THE CITY OF FERNDALE UPON COMPLETION OF CONSTRUCTION AND PROVIDED IN CITY OF FERNDALE DATUM - VERTICAL (NGVD 29) AND HORIZONTAL (NAD 83/91). CONTACT THE CITY FOR MORE INFORMATION ON SUBMITTAL REQUIREMENTS.
- SITE CLEARING SHALL INCLUDE THE LOCATION AND REMOVAL OF ALL ABOVE GROUND AND BURIED DEBRIS AND WASTE THAT MAY BE PRESENT.
- AT THE END OF ALL SITE CONSTRUCTION, THE CONTRACTOR SHALL CLEAN ALL DEBRIS FROM ALL NEW AND AFFECTED CATCH BASINS AND STORMWATER CONVEYANCES. DEBRIS SHALL NOT BE ALLOWED TO ENTER STREAMS OR OFF-SITE STORMWATER SYSTEMS.



PUBLIC WORKS DEPARTMENT
2095 MAIN STREET / P.O. BOX 936
FERNDALE, WA 98248
(360) 384-4006

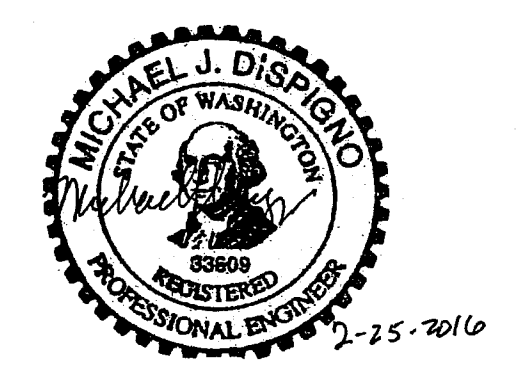
PROJECT CERTIFICATION FOR:
SAWARNE LUMBER LAYDOWN AREA EXPANSION-PHASE 1
PERMIT NUMBER 11007.LDP

This certification must be received by the City for project acceptance.

As the Engineer of Record, I hereby affirm, to the best of my knowledge and consistent with the industry standard level of care, that all infrastructure improvements at 5530 Nordic Way shown on these Record Drawings reflect the work as constructed and that all modifications meet the performance standards of the Approved Civil Plans and specifications for the Sawarne Lumber Mill Site Phase II Stormwater Pond. The plans referenced were provided and sealed by Michael J. DiSpigno, P.E. on June 22, 2015, and approved by the City of Ferndale on June 24, 2015. Sheet 5 of the approved plans was submitted by Michael J. DiSpigno on July 8, 2015, with revisions. The revised sheet was approved by the City of Ferndale on July 13, 2015, and replaced original sheet 5 in the plan set.

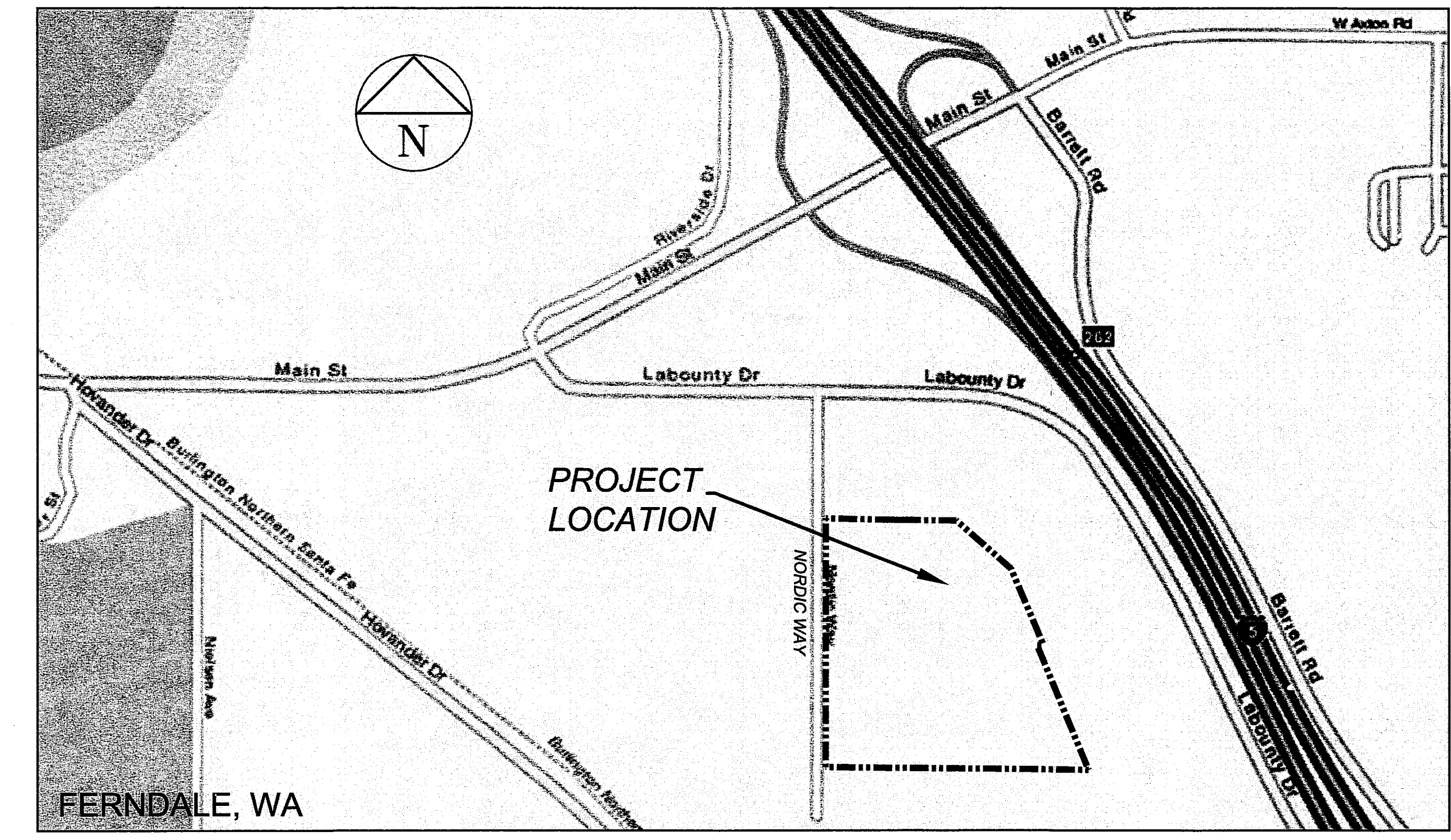
Engineer of Record:

Michael J. DiSpigno
Print Name
February 25, 2016
Date



TO BE COMPLETED BY CITY STAFF
PROJ #:
INSPECTOR:

Stamp and Signature



VICINITY MAP
(NTS)

LEGEND

EXISTING	PROPOSED	
		PROPERTY LINE
		PARCEL LINE
		EASEMENT
		SEWER
		WATER
		STORM DRAIN
		STORM DRAIN CATCH BASIN
		SILT FENCE
		MAJOR CONTOUR
		MINOR CONTOUR
		DITCH
		ASPHALT

DETAIL NUMBER

DETAIL SHEET NUMBER
##

SECTION LETTER
X
SECTION SHEET NUMBER
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APPROVED
FEB 29 2016
BY: [Signature]
CITY OF FERNDALE

PROJECT DIRECTORY

CONTRACT DRAWINGS FOR:

SAWARNE LUMBER
5530 NORDIC WAY
FERNDALE, WA 98248-9138
(360) 380-1290

CONSULTING ENGINEER:

CASCADE ENGINEERING GROUP, PS, INC.
119 GRAND AVENUE, SUITE D
BELLINGHAM, WA 98225
360-306-8161
MICHAEL J. DISPIGNO, PE

SHEET INDEX

- | | |
|----|--|
| C1 | COVER SHEET, SHEET INDEX, LEGEND, & VICINITY MAP |
| C2 | EXISTING CONDITIONS |
| C3 | SWPPP NOTES |
| C4 | SWPPP SITE PLAN |
| C5 | GRADING AND DRAINAGE PLAN |
| C6 | GRADING CROSS SECTIONS |
| C7 | GRADING AND DRAINAGE DETAILS |
| C8 | LANDSCAPE PLANTING SCHEDULE |



RECORD DRAWING - 2/25/2016

FERNDALE, WASHINGTON

SAWARNE MILL SITE
PHASE 2: STORMWATER POND
COVER SHEET, INDEX, LEGEND, & VICINITY MAP



CASCADE
ENGINEERING GROUP, P.S., INC.
119 Grand Avenue, Suite D
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REVISIONS DATE

DATE: 2/25/2016
DESIGN: MJD
DRAWN: ELR
CHECKED:

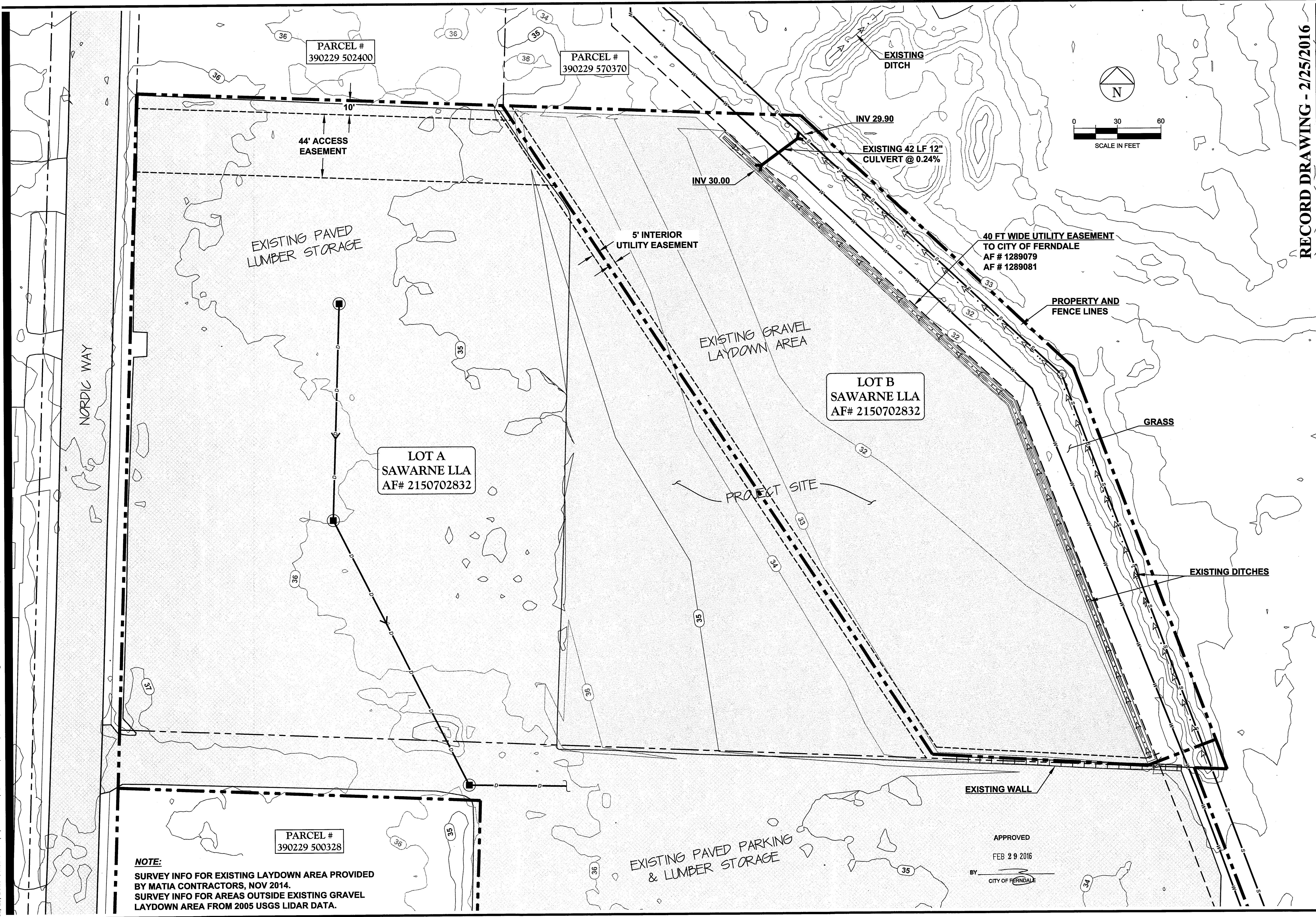
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PROJECT NUMBER:

FTSL0002

SHEET NO.
C1
of 8

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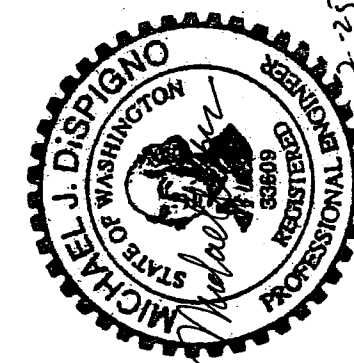


RECORD DRAWING - 2/25/2016

FERNDAL, WASHINGTON

SAWARNE MILL SITE PHASE 2: STORMWATER POND

EXISTING CONDITIONS



CASCADE
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REVISIONS DATE

DATE: 2/25/2016
DESIGN: MJD
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SCALE: AS SHOWN

PROJECT NUMBER:

FTSL0002

SHEET NO.

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005495.002 3/15/16 SH

STORMWATER POLLUTION PREVENTION PLAN (SWPPP):

THIS STORMWATER POLLUTION PREVENTION PLAN IS PROVIDED IN GENERAL ACCORDANCE WITH THE TERMS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FOR CONSTRUCTION ACTIVITIES. THE CONTRACTOR IS ADVISED THAT THE PROJECT AREA MAY DRAIN TO WETLANDS AND/OR STATE WATERS AND THAT THE CONTRACTOR IS RESPONSIBLE TO PROTECT THE RECEIVING WATERS FROM DELETERIOUS EFFECTS OF CONSTRUCTION.

THE CONTRACTOR IS REQUIRED TO HAVE A COPY OF THE SWPPP ONSITE AT ALL TIMES.

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE EROSION CONTROL MEASURES SHOWN OR DESCRIBED IN THE CONTRACT DOCUMENTS AND ANY ADDITIONAL MEASURES THAT MAY BE REQUIRED BY THE CONTRACTORS MEANS AND METHODS OF CONSTRUCTION AS NEEDED TO CONTROL EROSION AND SEDIMENT AT THE CONSTRUCTION SITE AND TO PREVENT VIOLATION OF SURFACE WATER QUALITY, GROUND WATER QUALITY, OR SEDIMENT MANAGEMENT STANDARDS. EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE COURSE OF CONSTRUCTION AND UNTIL ALL DISTURBED EARTH IS STABILIZED IN FINISH GRADES.

THE FOLLOWING DESCRIBES HOW THE CONSTRUCTION SWPPP ADDRESSES EACH OF THE 12 REQUIRED ELEMENTS. REFER TO THESE PLANS FOR DRAWINGS OF THE PROJECT, VICINITY MAP, SITE MAP, CONVEYANCE SYSTEMS, EROSION AND SEDIMENT CONTROL MEASURES, AND EROSION AND SEDIMENT CONTROL DETAILS.

ELEMENT #1: PRESERVE VEGETATION/MARK CLEARING LIMITS
1. PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES (INCLUDING CLEARING AND GRADING) CLEARLY MARK ALL CONSTRUCTION LIMITS AS SHOWN ON THE DRAWINGS.

2. SILT FENCE, GEOTEXTILE ENCASED BARRIERS, CONSTRUCTION FENCE, ORANGE PLASTIC FENCE, OR OTHER APPROVED MEASURES MAY BE USED TO MARK THE CLEARING LIMITS AT THE CONTRACTOR'S OPTION.

3. THE DUFF LAYER, NATIVE TOPSOIL, AND NATURAL VEGETATION SHALL BE RETAINED IN AN UNDISTURBED STATE TO THE MAXIMUM DEGREE PRACTICABLE.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C101: PRESERVING NATURAL VEGETATION
BMP C103: HIGH VISIBILITY PLASTIC OR METAL FENCE

ELEMENT #2: ESTABLISH CONSTRUCTION ACCESS
1. CONSTRUCTION VEHICLE ACCESS AND EXIT SHALL UTILIZE EXISTING SITE APPROACH ROADS AND PAVED AREAS TO MINIMIZE TRACKING OF SEDIMENT ONTO PUBLIC ROADS.

2. IF SEDIMENT IS TRACKED OFF SITE, PUBLIC ROADS SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY, OR MORE FREQUENTLY DURING WET WEATHER. SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR PICKUP SWEEPING AND SHALL BE TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA.

3. STREET WASHING IS ALLOWED ONLY AFTER SEDIMENT IS REMOVED AS DESCRIBED ABOVE. STREET WASH WASTEWATER SHALL BE CONTROLLED BY PUMPING BACK ON SITE OR OTHERWISE BE PREVENTED FROM DISCHARGING INTO SYSTEMS TRIBUTARY TO WATERS OF THE STATE.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C105: STABILIZED CONSTRUCTION ENTRANCE
BMP C107: CONSTRUCTION ROAD / PARKING AREA STABILIZATION

ELEMENT #3: CONTROL FLOW RATES
1. PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM EROSION DUE TO INCREASES IN THE VELOCITY AND PEAK VOLUMETRIC FLOW RATE OF STORMWATER RUNOFF FROM THE PROJECT SITE.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C207: CHECK DAMS
BMP C208: TRIANGULAR SILT DIKE
BMP C235: STRAW WATTLES

ELEMENT #4: INSTALL SEDIMENT CONTROLS
1. THE DUFF LAYER, NATIVE TOPSOIL, AND NATURAL VEGETATION SHALL BE RETAINED IN AN UNDISTURBED STATE TO THE MAXIMUM DEGREE PRACTICABLE.

2. SEDIMENT CONTROL BMPs SHALL BE CONSTRUCTED AS ONE OF THE FIRST STEPS IN GRADING. THESE BMPs SHALL BE FUNCTIONAL BEFORE OTHER LAND DISTURBING ACTIVITIES TAKE PLACE.

3. PRIOR TO LEAVING THE CONSTRUCTION SITE, STORMWATER RUNOFF FROM DISTURBED AREAS SHALL PASS THROUGH AN APPROPRIATE SEDIMENT REMOVAL BMP. RUNOFF FROM FULLY STABILIZED AREAS MAY BE DISCHARGED WITHOUT A SEDIMENT REMOVAL BMP, BUT MUST MEET THE FLOW CONTROL PERFORMANCE STANDARD OF ELEMENT #3.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C232: GRAVEL FILTER BERM
BMP C233: SILT FENCE
BMP C235: STRAW WATTLES
BMP C236: VEGETATIVE FILTRATION

ELEMENT #5: STABILIZE SOILS
1. EXPOSED AND UNWORKED SOILS SHALL BE STABILIZED BY APPLICATION OF EFFECTIVE BMPs THAT PROTECT THE SOIL FROM EROSION FORCES OF RAINDROPS, FLOWING WATER, AND WIND.

2. TO PREVENT EROSION, NO SOILS SHALL REMAIN EXPOSED AND UNWORKED FOR MORE THAN THE TIME PERIODS SET FORTH BELOW:

DURING THE WET SEASON (OCTOBER 1 - APRIL 30): 2 DAYS
DURING THE DRY SEASON (MAY 1 - SEPT. 30): 7 DAYS

THIS STABILIZATION REQUIREMENT APPLIES TO ALL SOILS ON SITE, WHETHER AT FINAL GRADE OR NOT. THESE TIMES MAY BE ADJUSTED BY THE LOCAL PERMITTING AUTHORITY IF IT CAN BE SHOWN THAT SITE CONDITIONS OR THE AVERAGE TIME BETWEEN STORM EVENTS JUSTIFIES A DIFFERENT STANDARD.

3. SOILS SHALL BE STABILIZED AT THE END OF THE SHIFT BEFORE A HOLIDAY OR WEEKEND IF NEEDED BASED ON THE WEATHER FORECAST.

4. SOIL STOCKPILES SHALL BE STABILIZED FROM EROSION, PROTECTED WITH SEDIMENT TRAPPING MEASURES, AND WHERE POSSIBLE, BE LOCATED AWAY FROM STORM DRAIN INLETS, WATERWAYS, AND DRAINAGE CHANNELS.

5. APPLICABLE BMPs INCLUDE, BUT ARE NOT LIMITED TO: TEMPORARY AND PERMANENT SEEDING, SODDING, MULCHING, PLASTIC COVERING, EROSION CONTROL FABRICS AND MATTING, SOIL APPLICATION OF POLYACRYLAMIDE (PAM), THE EARLY APPLICATION OF GRAVEL BASE ON AREAS TO BE PAVED AND DUST CONTROL. SELECT SOIL STABILIZATION MEASURES SHALL BE APPROPRIATE FOR THE TIME OF YEAR, SITE CONDITIONS, ESTIMATED DURATION OF USE, AND THE POTENTIAL WATER QUALITY IMPACTS.

6. REMOVE ALL EROSION CONTROL MEASURES AS SOON AS PRACTICAL AFTER ESTABLISHMENT OF UNIFORM GRASS GROWTH OR INSTALLATION OF OTHER PERMANENT STABILIZATION MEASURES. REPAIR ANY DAMAGE TO STABILIZED SURFACES AFTER REMOVAL OF TESC MEASURES.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C120: TEMPORARY AND PERMANENT SEEDING
BMP C121: MULCHING
BMP C122: NETS AND BLANKETS
BMP C123: PLASTIC COVERING
BMP C125: TOPSOILING

ELEMENT #6: PROTECT SLOPES
1. DESIGN, CONSTRUCT, AND PHASE CUT AND FILL SLOPES IN A MANNER THAT WILL MINIMIZE EROSION. APPLICABLE PRACTICES INCLUDE, BUT ARE NOT LIMITED TO, REDUCING CONTINUOUS LENGTH OF SLOPE WITH TERRACING AND DIVERSIONS, REDUCING SLOPE STEEPNESS, AND ROUGHENING SLOPE SURFACES (e.g., TRACK WALKING).

2. OFF-SITE STORMWATER RUN-ON OR GROUNDWATER SHALL BE DIVERTED AWAY FROM SLOPES AND DISTURBED AREAS WITH INTERCEPTOR DIKES, PIPES, AND/OR SWALES. OFF-SITE STORMWATER SHOULD BE MANAGED SEPARATELY FROM STORMWATER GENERATED ON THE SITE.

3. DO NOT CLEAR AND GRUB SLOPES GREATER THAN 4 (HORIZONTAL):1 (VERTICAL) UNLESS FURTHER WORK RESULTING IN STABILIZATION OF THE SLOPES TO BE CLEARED AND GRUBBED IS SCHEDULED.

4. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES, CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS.

5. CHECK DAMS SHALL BE PLACED AT REGULAR INTERVALS WITHIN CONSTRUCTED CHANNELS THAT ARE CUT DOWN A SLOPE.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C120: TEMPORARY AND PERMANENT SEEDING
BMP C207: CHECK DAMS
BMP C208: TRIANGULAR SILT DIKE

ELEMENT #7: PROTECT DRAIN INLETS
1. ALL STORM DRAIN INLETS OPERABLE DURING CONSTRUCTION AND ALL INLETS WITHIN 200' DOWNSTREAM OF THE PROJECT SITE SHALL BE PROTECTED WITH CATCH BASIN FILTERS SO THAT STORMWATER RUNOFF DOES NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR TREATED TO REMOVE SEDIMENT. CATCH BASIN FILTERS IN THE ROADWAY WILL BE OIL AND SEDIMENT FILTERS AND CATCH BASIN FILTERS OUTSIDE OF THE ROADWAY WILL BE SEDIMENT FILTERS.

2. APPROACH ROADS SHALL BE KEPT CLEAN. SEDIMENT AND STREET WASH WATER SHALL NOT BE ALLOWED TO ENTER STORM DRAINS WITHOUT PRIOR AND ADEQUATE TREATMENT.

3. INLET PROTECTION DEVICES SHALL BE CLEANED OR REMOVED AND REPLACED WHEN SEDIMENT HAS FILLED ONE-THIRD OF THE AVAILABLE STORAGE (OR WHEN FILLED WITH SIX-INCHES OF SEDIMENT).

SUGGESTED BMPs TO BE USED:
BMP C220: STORM DRAIN INLET PROTECTION

ELEMENT #8: STABILIZE CHANNELS AND OUTLETS
1. ALL TEMPORARY ON-SITE CONVEYANCE CHANNELS SHALL BE DESIGNED, CONSTRUCTED AND STABILIZED TO PREVENT EROSION FROM THE EXPECTED PEAK 10 MINUTE VELOCITY OF FLOW FROM A TYPE 1A, 10-YR, 24-HR FREQUENCY STORM FOR THE DEVELOPED CONDITION. ALTERNATIVELY, THE 10-YR, 1-HR FLOW RATE INDICATED BY AN APPROVED CONTINUOUS RUNOFF MODEL, INCREASED BY A FACTOR OF 1.6, MAY BE USED.

2. STABILIZATION, INCLUDING ARMORING MATERIAL, ADEQUATE TO PREVENT EROSION OF OUTLETS, ADJACENT STREAM BANKS, SLOPES, AND DOWNSTREAM REACHES SHALL BE PROVIDED AT THE OUTLETS OF ALL CONVEYANCE SYSTEMS.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C202: CHANNEL LINING
BMP C209: OUTLET PROTECTION

ELEMENT #9: CONTROL POLLUTANTS
1. ALL POLLUTANTS, INCLUDING WASTE MATERIALS AND DEMOLITION DEBRIS, THAT OCCUR ONSITE SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER.

2. COVER, CONTAINMENT, AND PROTECTION FROM VANDALISM SHALL BE PROVIDED FOR ALL CHEMICALS, LIQUID PRODUCTS, PETROLEUM PRODUCTS, AND OTHER MATERIALS THAT HAVE THE POTENTIAL TO POSE A THREAT TO HUMAN HEALTH OR THE ENVIRONMENT. ONSITE FUELING TANKS SHALL INCLUDE SECONDARY CONTAINMENT.

3. MAINTENANCE, FUELING, AND REPAIR OF HEAVY EQUIPMENT AND VEHICLES SHALL BE CONDUCTED USING SPILL PREVENTION AND CONTROL MEASURES. CONTAMINATED SURFACES SHALL BE CLEANED IMMEDIATELY FOLLOWING ANY SPILL INCIDENT.

4. WHEEL WASH OR TIRE BATH WASTEWATER SHALL BE DISCHARGED TO A SEPARATE ONSITE TREATMENT SYSTEM OR TO THE SANITARY SEWER WITH LOCAL SEWER DISTRICT APPROVAL.

5. APPLICATION OF FERTILIZERS AND PESTICIDES, SHALL BE CONDUCTED IN A MANNER AND AT APPLICATION RATES THAT WILL NOT RESULT IN LOSS OF CHEMICAL TO STORMWATER RUNOFF. MANUFACTURERS' LABEL REQUIREMENTS FOR APPLICATION RATES AND PROCEDURES SHALL BE FOLLOWED.

6. BMPs SHALL BE USED TO PREVENT OR TREAT CONTAMINATION OF STORMWATER RUNOFF BY pH MODIFYING SOURCES. THESE SOURCES INCLUDE, BUT ARE NOT LIMITED TO: BULK CEMENT, CEMENT KILN DUST, FLY ASH, NEW CONCRETE WASHING AND CURING WATERS, WASTE STREAMS GENERATED FROM CONCRETE GRINDING AND SAWING, EXPOSED AGGREGATE PROCESSES, AND CONCRETE PUMPING AND MIXER WASHOUT WATERS. PERMITTEES SHALL ADJUST THE pH OF STORMWATER IF NECESSARY TO PREVENT VIOLATIONS OF WATER QUALITY STANDARDS.

7. PERMITTEES SHALL OBTAIN WRITTEN APPROVAL FROM ECOLOGY PRIOR TO USING CHEMICAL TREATMENT, OTHER THAN CARBON DIOXIDE OR DRY ICE TO ADJUST pH.

8. DUST CONTROL BMPs SHALL BE UTILIZED AS REQUIRED TO PREVENT WIND TRANSPORT OF DUST FROM DISTURBED SOIL SURFACES ONTO ROADS, DRAINAGE WAYS, AND SURFACE WATERS.

SUGGESTED BMPs/BMPs TO BE USED:
BMP C140: DUST CONTROL
BMP C151: CONCRETE HANDLING
BMP C152: SAWCUTTING AND SURFACING POLLUTION PREVENTION

ELEMENT #10: CONTROL DEWATERING
1. FOUNDATION, VAULT, AND TRENCH DEWATERING WATER, WHICH HAVE SIMILAR CHARACTERISTICS TO STORMWATER RUNOFF AT THE SITE, SHALL BE DISCHARGED INTO A CONTROLLED CONVEYANCE SYSTEM PRIOR TO DISCHARGE TO A SEDIMENT TRAP OR SEDIMENT POND.

2. CLEAN, NON-TURBID DEWATERING WATER, SUCH AS WELL-POINT GROUND WATER, CAN BE DISCHARGED TO SYSTEMS TRIBUTARY TO, OR DIRECTLY INTO SURFACE WATERS OF THE STATE, AS SPECIFIED IN ELEMENT #8, PROVIDED THE DEWATERING FLOW DOES NOT CAUSE EROSION OR FLOODING OF RECEIVING WATERS. CLEAN DEWATERING WATER SHOULD NOT BE ROUTED THROUGH STORMWATER SEDIMENT PONDS.

3. OTHER DEWATERING DISPOSAL OPTIONS MAY INCLUDE:
a) INFILTRATION.
b) TRANSPORT OFF SITE IN A VEHICLE, SUCH AS A VACUUM FLUSH TRUCK, FOR LEGAL DISPOSAL IN A MANNER THAT DOES NOT POLLUTE STATE WATERS.
c) ECOLOGY APPROVED ON-SITE CHEMICAL TREATMENT OR OTHER SUITABLE TREATMENT TECHNOLOGIES.
d) SANITARY SEWER DISCHARGE WITH LOCAL SEWER DISTRICT APPROVAL, IF THERE IS NO OTHER OPTION.
e) USE OF A SEDIMENTATION BAG (DIRTBAG OR APPROVED EQUAL) WITH OUTFALL TO A DITCH OR SWALE FOR SMALL VOLUMES OF LOCALIZED DEWATERING.

4. HIGHLY TURBID CONTAMINATED DEWATERING WATER FROM CONSTRUCTION EQUIPMENT OPERATION, CLAMSHELL DIGGING, CONCRETE TREMIE POUR, OR WORK INSIDE A COFFERDAM SHALL BE HANDLED SEPARATELY FROM STORMWATER.

ELEMENT #11: MAINTAIN BMPs
1. INSPECT EROSION CONTROL DEVICES ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. MAKE NECESSARY REPAIRS AND MAINTENANCE TO ENSURE CONTINUED PERFORMANCE OF EROSION AND SEDIMENT CONTROLS.

2. WHEN SEDIMENT ACCUMULATION IN SEDIMENTATION STRUCTURES, OTHER THAN INLET PROTECTION DEVICES, HAS REACHED A POINT ONE-THIRD DEPTH OF SEDIMENT STRUCTURE OR DEVICE, OR IF FLOW THROUGH THE DEVICE IS REDUCED BY MORE THAN ONE-THIRD CAPACITY, THE CONTRACTOR SHALL REMOVE AND REPLACE DISPOSABLE DEVICES OR CLEAN AND DISPOSE OF SEDIMENT.

3. 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. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOILS SHALL BE PERMANENTLY STABILIZED.

ELEMENT #12: MANAGE THE PROJECT
1. PHASING OF CONSTRUCTION:

a) DEVELOPMENT PROJECTS SHALL BE PHASED WHERE FEASIBLE IN ORDER TO PREVENT, TO THE MAXIMUM EXTENT PRACTICABLE, THE TRANSPORT OF SEDIMENT FROM THE DEVELOPMENT SITE DURING CONSTRUCTION. RE-VEGETATION OF EXPOSED AREAS AND MAINTENANCE OF THAT VEGETATION SHALL BE AN INTEGRAL PART OF THE CLEARING ACTIVITIES FOR ANY PHASE.

b) CLEARING AND GRADING ACTIVITIES FOR DEVELOPMENTS SHALL BE PERMITTED ONLY IF CONDUCTED PURSUANT TO AN APPROVED SITE DEVELOPMENT PLAN (e.g., SUBDIVISION APPROVAL) THAT ESTABLISHES APPROVED AREAS OF CLEARING, GRADING, CUTTING AND FILLING. WHEN ESTABLISHING THESE PERMITTED CLEARING AND GRADING AREAS, CONSIDERATION SHOULD BE GIVEN TO MINIMIZING REMOVAL OF EXISTING TREES AND MINIMIZING DISTURBANCE AND COMPACTION OF NATIVE SOILS EXCEPT AS NEEDED FOR BUILDING PURPOSES. THESE PERMITTED CLEARING AND GRADING AREAS AND ANY OTHER AREAS REQUIRED TO PRESERVE CRITICAL OR SENSITIVE AREAS, BUFFERS, NATIVE GROWTH PROTECTION EASEMENTS, OR TREE RETENTION AREAS AS MAY BE REQUIRED BY LOCAL JURISDICTIONS, SHALL BE DELINEATED ON THE SITE PLANS AND THE DEVELOPMENT SITE.

2. SEASONAL WORK LIMITATIONS:
FROM OCTOBER 1 THROUGH APRIL 30, CLEARING, GRADING, AND OTHER SOIL DISTURBING ACTIVITIES SHALL ONLY BE PERMITTED IF SHOWN TO THE SATISFACTION OF THE LOCAL PERMITTING AUTHORITY THAT THE TRANSPORT OF SEDIMENT FROM THE CONSTRUCTION SITE TO RECEIVING WATERS WILL BE PREVENTED THROUGH A COMBINATION OF THE FOLLOWING:

a) SITE CONDITIONS INCLUDING EXISTING VEGETATIVE COVERAGE, SLOPE, SOIL TYPE, AND PROXIMITY TO RECEIVING WATERS; AND
b) LIMITATIONS ON ACTIVITIES AND THE EXTENT OF DISTURBED AREAS; AND
c) PROPOSED EROSION AND SEDIMENT CONTROL MEASURES.

BASED ON THE INFORMATION PROVIDED AND LOCAL WEATHER CONDITIONS, THE LOCAL PERMITTING AUTHORITY MAY EXPAND OR RESTRICT THE SEASONAL LIMITATION ON SITE DISTURBANCE. THE LOCAL PERMITTING AUTHORITY SHALL TAKE ENFORCEMENT ACTION - SUCH AS NOTICE OF VIOLATION, ADMINISTRATIVE ORDER, PENALTY, OR STOP-WORK ORDER UNDER THE FOLLOWING CIRCUMSTANCES:
- IF, DURING THE COURSE OF ANY CONSTRUCTION ACTIVITY OR SOIL DISTURBANCE DURING THE SEASONAL LIMITATION PERIOD, SEDIMENT LEAVES THE CONSTRUCTION SITE CAUSING A VIOLATION OF THE SURFACE WATER QUALITY STANDARD; OR
- IF CLEARING AND GRADING LIMITS OR EROSION AND SEDIMENT CONTROL MEASURES SHOWN IN THE APPROVED PLAN ARE NOT MAINTAINED.

THE FOLLOWING ACTIVITIES ARE EXEMPT FROM THE SEASONAL CLEARING AND GRADING LIMITATIONS:

a) ROUTINE MAINTENANCE AND NECESSARY REPAIR OF EROSION AND SEDIMENT CONTROL BMPs;
b) ROUTINE MAINTENANCE OF PUBLIC FACILITIES OR EXISTING UTILITY STRUCTURES THAT DO NOT EXPOSE THE SOIL OR RESULT IN THE REMOVAL OF THE VEGETATIVE COVER TO SOIL; AND
c) ACTIVITIES WHERE THERE IS ONE HUNDRED PERCENT INFILTRATION OF SURFACE WATER RUNOFF WITHIN THE SITE IN APPROVED AND INSTALLED EROSION AND SEDIMENT CONTROL FACILITIES.

3. COORDINATE WITH UTILITIES AND OTHER CONTRACTORS:
THE PRIMARY PROJECT PROPOONENT SHALL EVALUATE, WITH INPUT FROM UTILITIES AND OTHER CONTRACTORS, THE STORMWATER MANAGEMENT REQUIREMENTS FOR THE ENTIRE PROJECT, INCLUDING THE UTILITIES, WHEN IMPLEMENTING THE CONSTRUCTION SWPPP.

4. INSPECTION AND MONITORING:
A) A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL SHALL BE IDENTIFIED AT THE PRE-CONSTRUCTION MEETING AND SHALL BE ON-SITE OR ON-CALL AT ALL TIMES. EMERGENCY CONTACT INFORMATION SHALL BE KEPT ON-SITE. CERTIFICATION MAY BE THROUGH THE CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL CERTIFICATION PROGRAM OFFERED BY WSDOT, ASSOCIATED GENERAL CONTRACTORS OF WASHINGTON - EDUCATION FOUNDATION, OR ANY EQUIVALENT LOCAL OR NATIONAL CERTIFICATION AND/OR TRAINING PROGRAM.

B) IF INSPECTION AND/OR WATER MONITORING OF SITE RUNOFF REVEALS THAT THE BMPs IDENTIFIED IN THE CONSTRUCTION SWPPP ARE INADEQUATE, THE CONTRACTOR SHALL IMMEDIATELY ADD BMPs TO THE SWPPP AS NECESSARY.

C) SITE LOG BOOK: THE CONTRACTOR MUST MAINTAIN A SITE LOG BOOK THAT CONTAINS A RECORD OF THE IMPLEMENTATION OF THE SWPPP AND OTHER PERMIT REQUIREMENTS, INCLUDING THE INSTALLATION AND MAINTENANCE OF BMPs, SITE INSPECTIONS, AND STORMWATER MONITORING.

D) SITE INSPECTIONS: THE CONTRACTOR MUST INSPECT ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES, ALL BMPs, AND ALL STORMWATER DISCHARGE POINTS AT LEAST ONCE EVERY CALENDAR WEEK AND WITHIN 24 HOURS OF ANY DISCHARGE FROM THIS SITE. THE CONTRACTOR MUST EXAMINE STORMWATER VISUALLY FOR THE PRESENCE OF SUSPENDED SEDIMENT, TURBIDITY, DISCOLORATION, AND OIL SHEEN. THE EFFECTIVENESS OF BMPs MUST BE EVALUATED AND DETERMINE IF IT IS NECESSARY TO INSTALL, MAINTAIN, OR REPAIR BMPs TO IMPROVE THE QUALITY OF STORMWATER DISCHARGES.

THE CONTRACTOR MUST SUMMARIZE THE RESULTS OF EACH INSPECTION IN AN INSPECTION REPORT OR CHECKLIST AND ENTER THE REPORT/CHECKLIST INTO, OR ATTACH IT TO, THE SITE LOG BOOK. SEE THE DOE'S CONSTRUCTION STORMWATER GENERAL PERMIT, SECTION S.4.B.5. FOR INFORMATION REQUIREMENTS FOR COMPLETING THE INSPECTION FORMS.

E) TURBIDITY/TRANSPARENCY SAMPLING REQUIREMENTS
a. SAMPLING FREQUENCY
• THE CONTRACTOR MUST SAMPLE ALL DISCHARGE LOCATIONS AT LEAST ONCE EVERY CALENDAR WEEK WHEN STORMWATER DISCHARGES FROM THE SITE OR ENTERS ANY ON-SITE SURFACE WATERS OF THE STATE.
• SAMPLES MUST BE REPRESENTATIVE OF THE FLOW AND CHARACTERISTICS OF THE DISCHARGE.
• SAMPLING IS NOT REQUIRED WHEN THERE IS NO DISCHARGE DURING A CALENDAR WEEK.
• SAMPLING IS NOT REQUIRED OUTSIDE OF NORMAL WORKING HOURS OR DURING UNSAFE CONDITIONS.
• IF THE CONTRACTOR IS UNABLE TO SAMPLE DURING A MONITORING PERIOD, THE CONTRACTOR MUST INCLUDE A BRIEF EXPLANATION IN THE MONTHLY DISCHARGE MONITORING REPORT (DMR).
• SAMPLING IS NOT REQUIRED BEFORE CONSTRUCTION ACTIVITY BEGINS.
b. SAMPLING LOCATIONS
• SAMPLING IS REQUIRED AT ALL POINTS WHERE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY IS DISCHARGED OFF SITE.
• THE CONTRACTOR MUST IDENTIFY ALL SAMPLING POINT(S) ON THE SWPPP SITE MAP AND CLEARLY MARK THESE POINTS IN THE FIELD WITH A FLAG, TAPE, STAKE OR OTHER VISIBLE MARKER.
c. SAMPLING AND ANALYSIS METHODS
• THE CONTRACTOR PERFORMS TURBIDITY ANALYSIS WITH A CALIBRATED TURBIDITY METER (TURBIDIMETER) EITHER ON SITE OR AT AN ACCREDITED LAB. THE CONTRACTOR MUST RECORD THE RESULTS IN THE SITE LOG BOOK IN NEPHELOMETRIC TURBIDITY UNITS (NTU).
• THE CONTRACTOR PERFORMS TRANSPARENCY ANALYSIS ON SITE WITH A 1½ - INCH DIAMETER, 60 - CENTIMETER (CM) - LONG TRANSPARENCY TUBE. THE CONTRACTOR WILL RECORD THE RESULTS IN THE SITE LOG BOOK IN CENTIMETERS (CM).
• SEE TABLE BELOW FOR MONITORING BENCHMARKS. SEE THE DOE'S CONSTRUCTION STORMWATER GENERAL PERMIT, SECTION S.4.C.5 FOR TURBIDITY/TRANSPARENCY BENCHMARK VALUES AND REPORTING TRIGGERS.

TABLE 4. MONITORING AND REPORTING REQUIREMENTS

PARAMETER	UNIT	ANALYTICAL METHOD	SAMPLING FREQUENCY	BENCHMARK VALUE	PHONE REPORTING TRIGGER VALUE
TURBIDITY	NTU	SM2130 or EPA 160.1	WEEKLY, IF DISCHARGING	25 NTU	250 NTU
TRANSPARENCY	CM	MANUFACTURER INSTRUCTIONS, OR ECOLOGY GUIDANCE	WEEKLY, IF DISCHARGING	33 CM	6 CM

5. THE CONSTRUCTION SWPPP SHALL BE RETAINED ON-SITE. THE CONTRACTOR'S TESC RECORD OF RAINFALL, TESC MEASURES, AND INSPECTION SHALL BECOME PART OF THE SWPPP. THE CONSTRUCTION SWPPP SHALL BE MODIFIED BY THE CONTRACTOR'S TESC RECORD WHENEVER THERE IS A SIGNIFICANT CHANGE IN THE DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF ANY BMP.

APPROVED

FEB 29 2016

BY 
CITY OF FREDERICK

FERNDAL, WASHINGTON

SAWARNE MILL SITE
PHASE 2: STORMWATER POND

SWPPP NOTES



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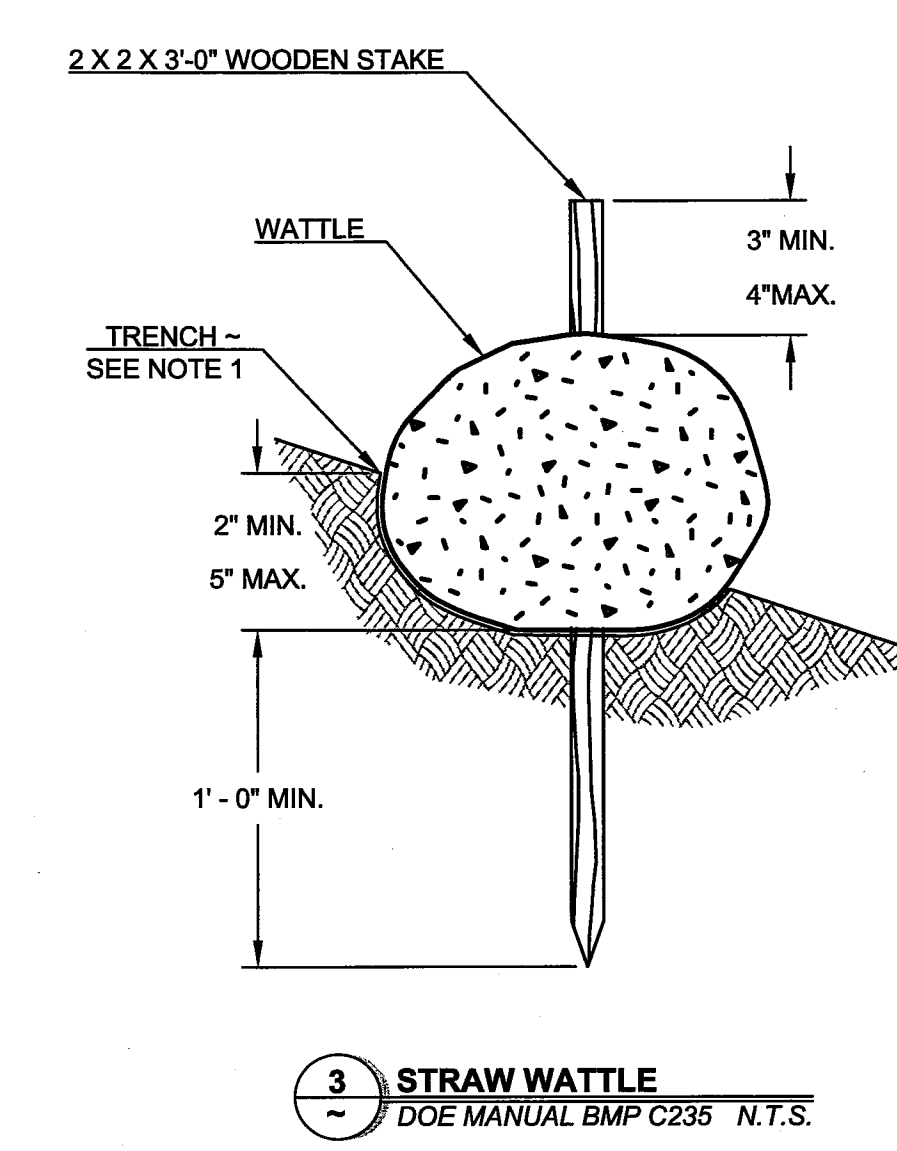
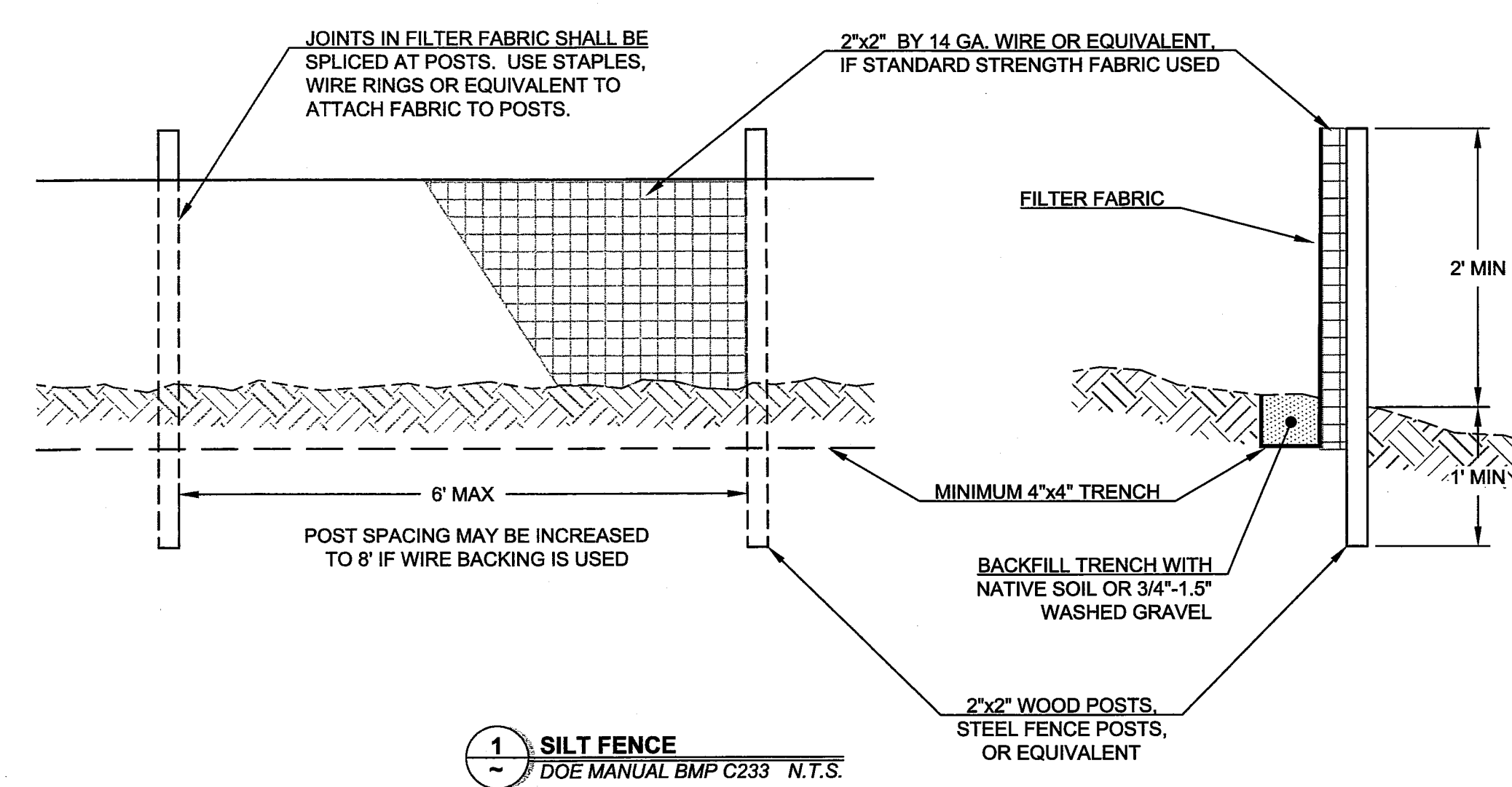
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OF

00595.003 2/15/16 JH




- NOTES:** REFERENCE: WSDOT STANDARD PLANS I-30.30-00
1. WATTLES SHALL BE IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION 9-14.5(5). INSTALL WATTLES ACROSS DITCH PERPENDICULAR TO FLOW AND IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION 8-01.3(10).
 2. SECURELY KNOT EACH END OF WATTLE. ABUT ADJACENT WATTLES TIGHTLY, END TO END, WITHOUT OVERLAPPING THE ENDS.
 3. PILOT HOLES MAY BE DRIVEN THROUGH THE WATTLES AND INTO THE SOIL WHEN SOIL CONDITIONS REQUIRE.
 4. WATTLES SHALL BE INSPECTED REGULARLY, AND IMMEDIATELY AFTER A RAINFALL PRODUCES RUNOFF, TO ENSURE THEY REMAIN THOROUGHLY ENTRENCHED AND IN CONTACT WITH THE SOIL.
 5. PERFORM MAINTENANCE IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION 8-01.3(15).

APPROVED
FEB 29 2016
BY _____
CITY OF PERDUE

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FERNDALE, WASHINGTON
SAWARNE MILL SITE
PHASE 2: STORMWATER POND
SWPPP SITE PLAN



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00595.004 3/15/16 SH

- 1) DATA FOR THIS SURVEY WAS GATHERED BY FIELD TRAVERSE UTILIZING ELECTRONIC DATA COLLECTION ON JANUARY 2016.
- 2) EQUIPMENT USED: LEICA TCRA1200+: 00'01.5" +/- 2 PPM, +/- 2 MM
- 3) HORIZONTAL DATUM: COF NETWORK NAD83/91
VERTICAL DATUM: NGVD29



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FERNDAL, WASHINGTON

SAWARNE MILL SITE PHASE 2: STORMWATER POND

GRADING AND DRAINAGE PLAN



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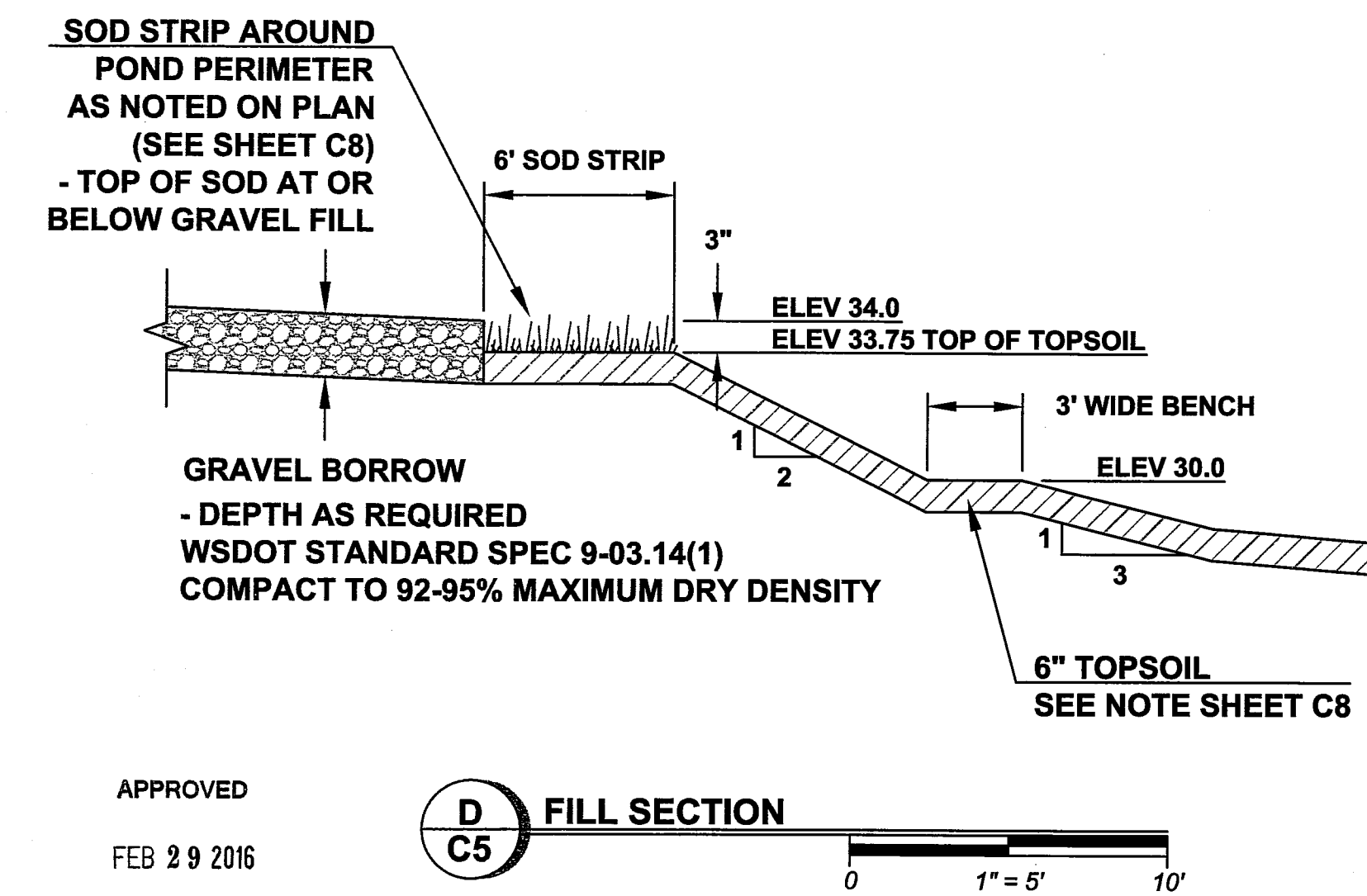
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OF

NOTES:

1. 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".
2. THE VERTICAL RISER STEM OF THE FLOW RESTRICTOR (12" DIAMETER) SHALL BE THE SAME DIAMETER AS THE HORIZONTAL OUTLET PIPE WITH A MINIMUM DIAMETER OF 8".
3. THE FLOW RESTRICTOR SHALL BE FABRICATED FROM ONE OF THE FOLLOWING MATERIALS:
0.60" CORRUGATED ALUMINUM ALLOY DRAIN PIPE
0.64" CORRUGATED GALVANIZED STEEL DRAIN PIPE WITH TREATMENT 1
0.64" CORRUGATED ALUMINIZED STEEL DRAIN PIPE
0.60" ALUMINUM ALLOY FLAT SHEET, IN ACCORDANCE WITH ASTM B 209, 5052 H32 OR EPS
HIGH DENSITY POLYETHYLENE STORM SEWER PIPE.
4. 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.
5. ~~THE MULTI-ORIFICE ELBOWS MAY BE LOCATED AS 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.~~
6. RESTRICTOR PLATE WITH ORIFICE AS SPECIFIED IN THE CONTRACT. THE OPENING IS TO BE CUT ROUND AND SMOOTH.
7. 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.

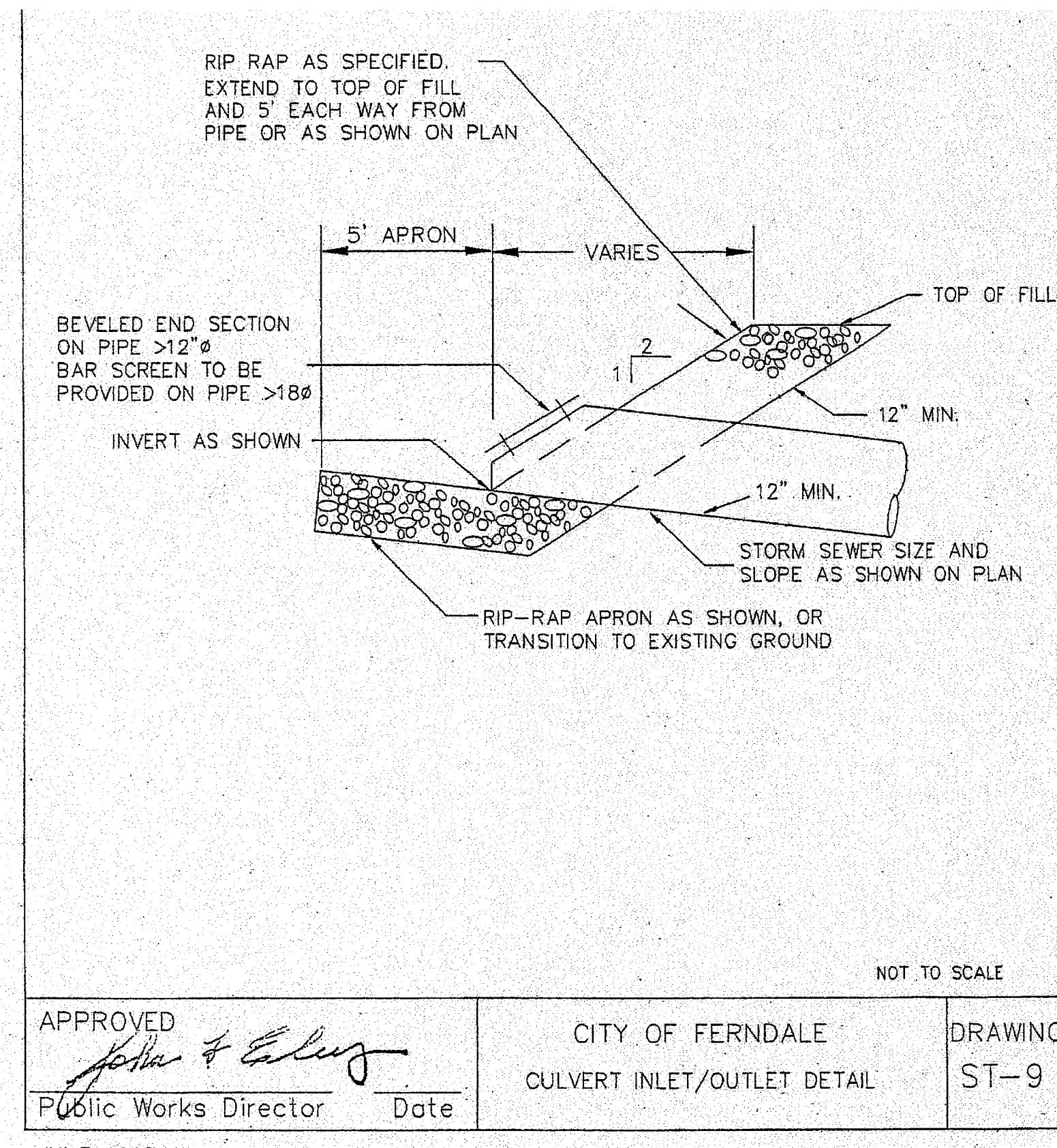
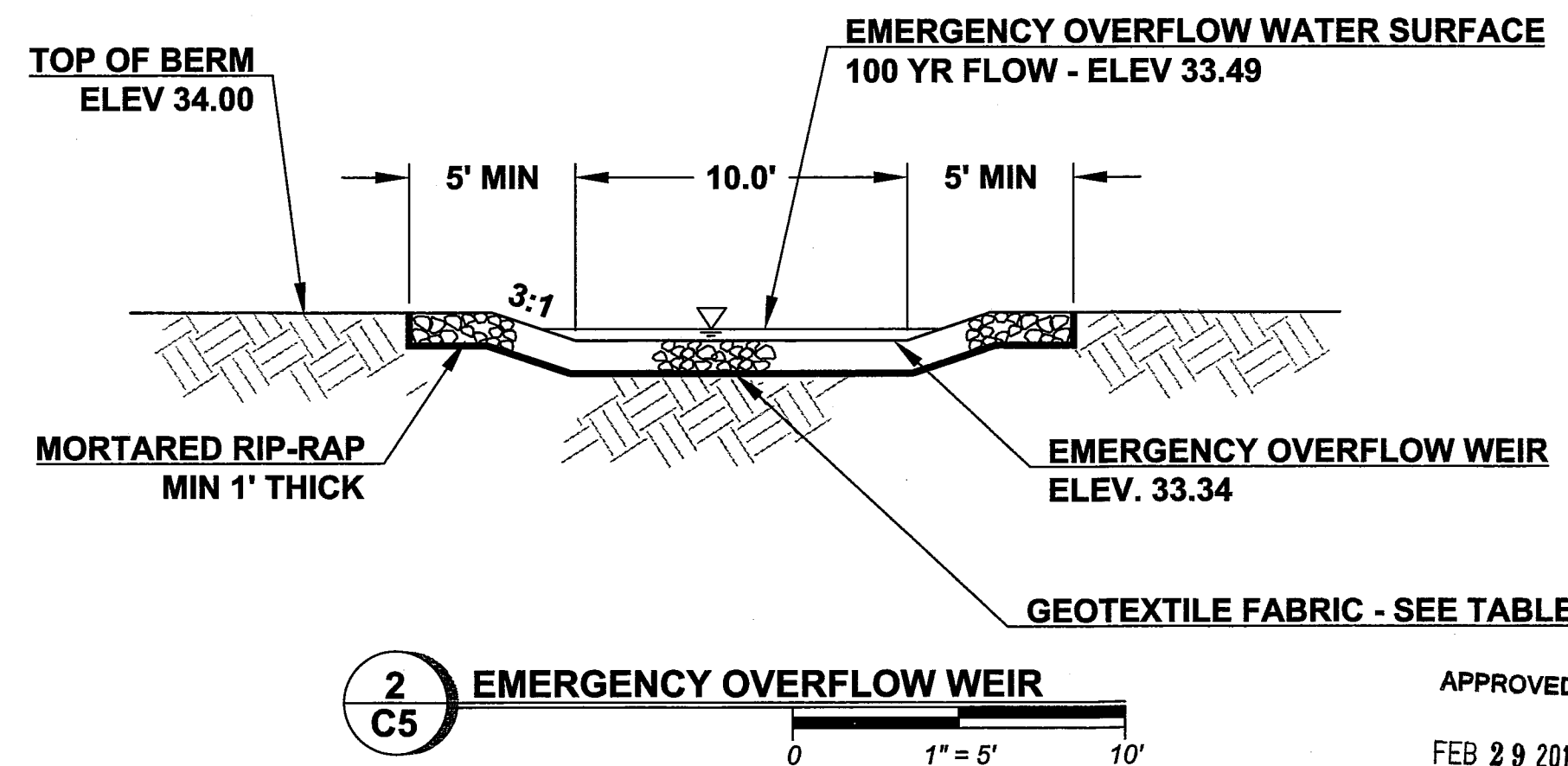
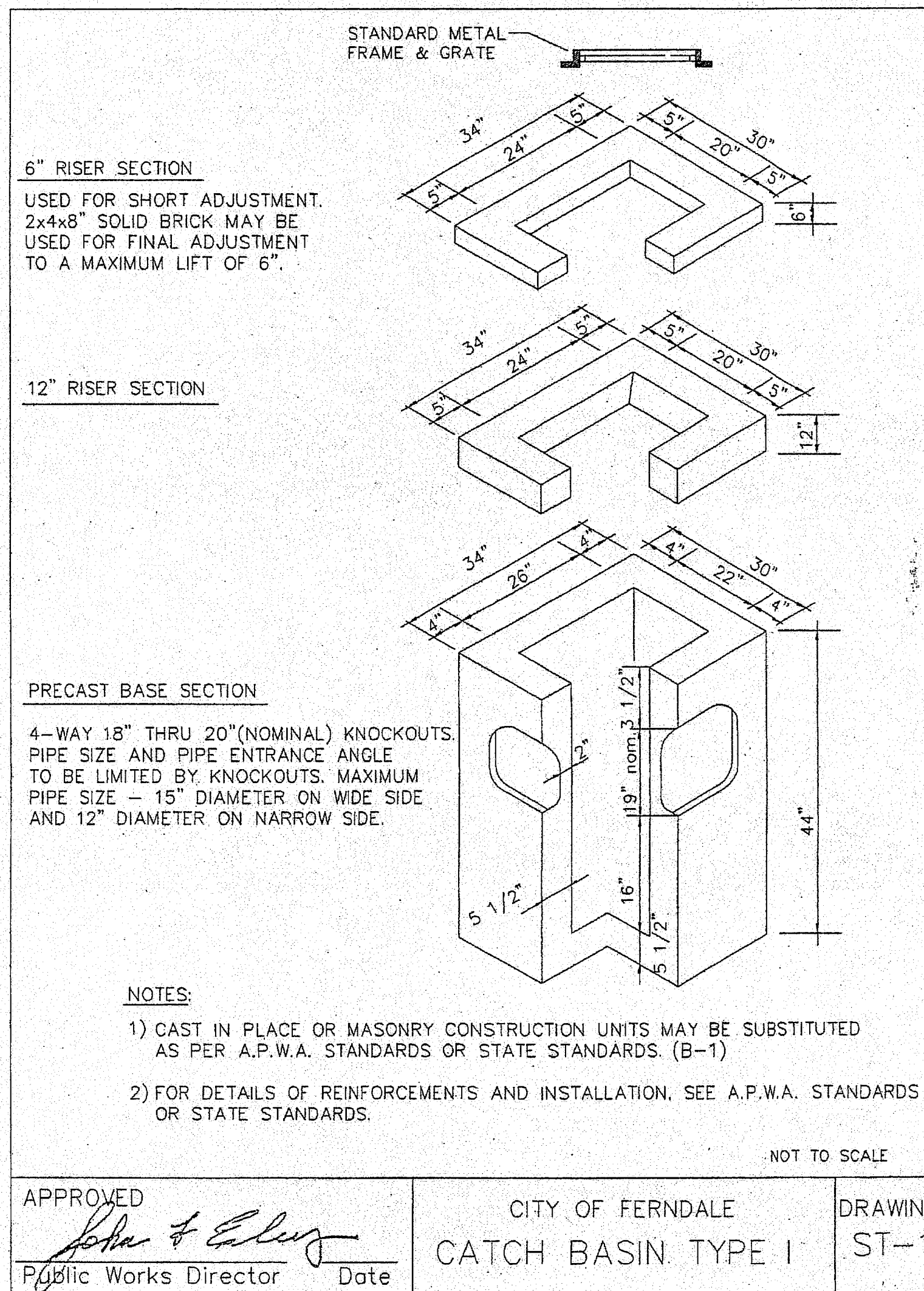
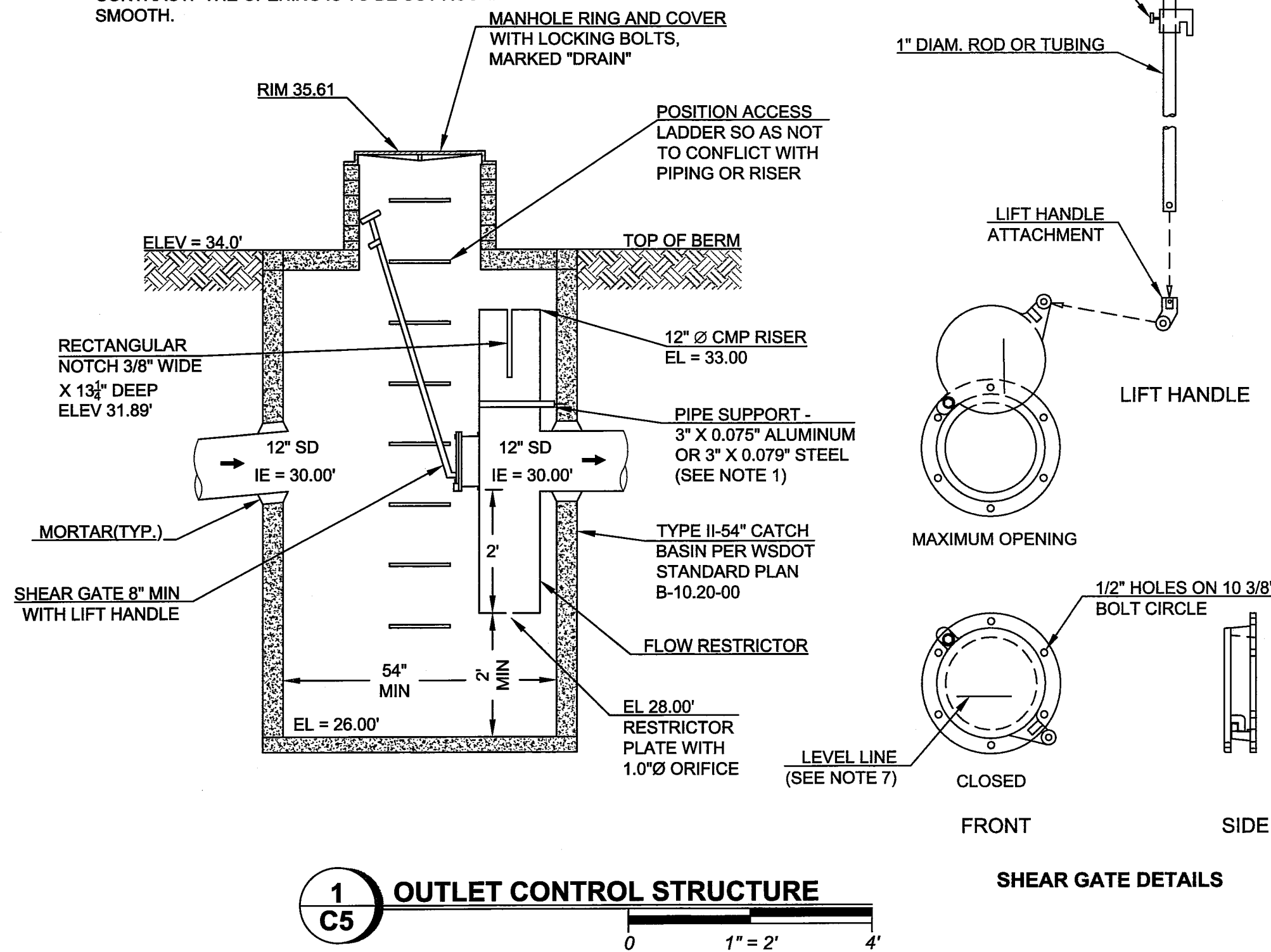
THE LIFT HANDLE SHALL BE MADE OF A SIMILAR METAL TO THE GATE (TO PREVENT GALVANIC CORROSION), IT MAY BE OF SOLID ROD OR HOLLOW TUBING, WITH ADJUSTABLE HOOK AS REQUIRED.

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.

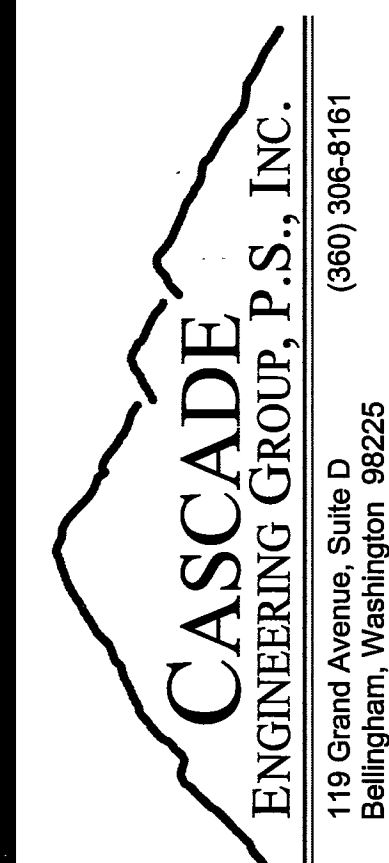
ALL SHEAR GATE BOLTS SHALL BE STAINLESS STEEL.
8. THE SHEAR GATE MAXIMUM OPENING SHALL BE CONTROLLED BY LIMITED HINGE MOVEMENT, A STOP TAB, OR SOME OTHER DEVICE.
9. ALTERNATE SHEAR GATE DESIGNS ARE ACCEPTABLE IF MATERIAL SPECIFICATIONS ARE MET AND FLANGE BOLT PATTERN MATCHES.



A separation geotextile shall be placed under the spalls to prevent fine sediment from pumping up into the rock pad. The geotextile shall meet the following standards:	
Grab Tensile Strength (ASTM D4751)	200 psi min.
Grab Tensile Elongation (ASTM D4632)	30% max.
Mullen Burst Strength (ASTM D3786-80a)	400 psi min.
AOS (ASTM D4751)	20-45 (U.S. standard sieve size)

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FERNDAL, WASHINGTON
SAWARNE MILL SITE
PHASE 2: STORMWATER POND
GRADING AND DRAINAGE DETAILS



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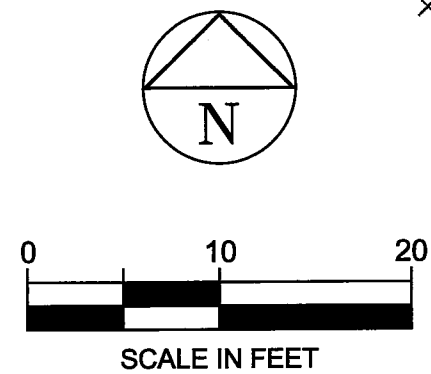
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TOPSOIL SPEC.

TOPSOILS SHALL BE NATIVE, NATURALLY HYDRIC WETLAND TOPSOIL CONSISTING OF SILTS, CLAYS, AND ORGANIC MATTER IN A COMBINATION THAT IS FREE FROM SUBSTANCES DETRIMENTAL TO PLANT GROWTH, SUCH AS NOXIOUS WEEDS, UNDESIRABLE PLANT ROOTS, REFUSE, STICKS, OR OTHER MATERIALS LARGER THAN 1 1/4 INCHES IN DIAMETER.

LANDSCAPE PLANTING SCHEDULE:

PLANTS FOR WATER DEPTH 0'-2'	BOTANICAL NAME:	COMMON NAME:	INSTALL SIZE:	SPACING:	QTY:	TOTAL AREA:
	JUNCUS EFFUSUS	COMMON RUSH	10" TUBES	1 FT ²	2,000	9,900 SF
	SCIRPUS MICROCARPUS	SMALL-FRUITED BULRUSH	10" TUBES	1 FT ²	5,000	
	CAREX OBNUPTA	SLOUGH SEDGE	10" TUBES	1 FT ²	2,900	
PLANTS FOR WATER DEPTH 2'-3'	BOTANICAL NAME:	COMMON NAME:	INSTALL SIZE:	SPACING:	QTY:	TOTAL AREA:
	CAREX OBNUPTA	SLOUGH SEDGE	10" TUBES	1 FT ²	1,100	3,400 SF
	SCIRPUS ACUTUS	HARDSTEM BULRUSH	10" TUBES	1 FT ²	2,300	

* NOTE:

- NATIVE TOPSOIL, IF AVAILABLE, SHOULD BE RE-INSTALLED ON THE DISTURBED SOIL SURFACE BEFORE SEEDING. AS DIRECTED BY THE OWNER, AREAS THAT WILL BE SEEDED AND NOT LANDSCAPED MAY NEED COMPOST OR MEAL-BASED MULCH INCLUDED IN THE HYDROSEED IN ORDER TO ESTABLISH VEGETATION.

HYDROSEED TURF MIX*

BOTANICAL NAME:	COMMON NAME:	% WEIGHT	% PURITY	% GERMINATION	TOTAL AREA:
FESTUCA ARUNDINACEA VAR.	DWARF TALL FESCUE	45	98	90	APPROX. 8,650 SF
LOLIUM PERENNE VAR. BARCLAY	DWARF PERENNIAL RYE	30	98	90	
FESTUCA RUBRA	RED FESCUE	20	98	90	
AGROSTIS TENUIS	COLONIAL BENTGRASS	5	98	90	
FERTILIZER:	USE SLOW RELEASE FERTILIZER 10-4-6 (N-P-K) AT A RATE OF 90 LBS PER ACRE.				
MULCH:	USE BONDED FIBER MATRIX AT A MINIMUM RATE OF 3,000 LBS. PER ACRE OF MULCH WITH A 10% TACKIFIER.				



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