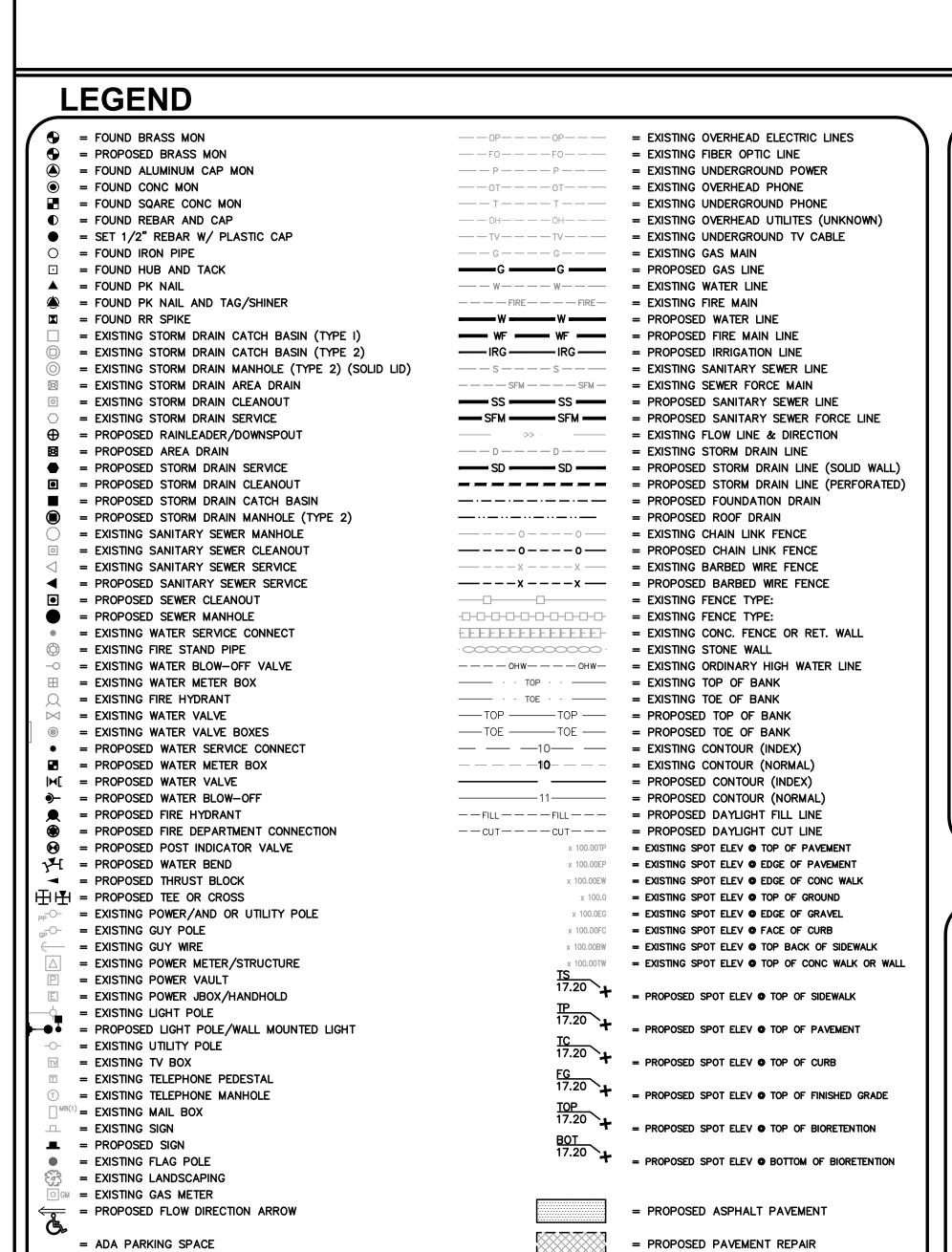
FLEXSPACE NORTH: PHASE 1 AS-BUILTS

CIVIL IMPROVEMENTS

BEING A PORTION OF THE NE 1/4, NW 1/4, SECTION 17, TOWNSHIP 39 NORTH, RANGE 2 EAST OF W.M.



DETAIL CALLOUT

PLANNING DEPARTMENT NOTES

1. IT IS THE APPLICANTS SOLE RESPONSIBILITY TO COMPLY WITH ALL APPLICABLE FEDERAL AND STATE REGULATIONS, AND TO OBTAIN ANY NECESSARY PERMITS PRIOR TO COMMENCEMENT OF CONSTRUCTION.

PARKING COUNT NOTE:

= PAVEMENT MARKINGS

1. 119 PARKING SPACES PROPOSED (4 ADA)

AS-BUILT DRAWING

FORMATION NOTED AS-BUILT "(AB)" HAS BEEN PROVIDED BY N.W. URVEYING ON 5/10/2023, 1/13/2024, 1/31/2024.

2. 162,000 SF BUILDING AREA @ 1 STALL PER 2,000 sf = 81 STALLS MINIMUM



= PROPOSED CONCRETE PAVEMENT

PROPOSED PERMEABLE PAVEMENT

ENGINEER'S CERTIFICATION: I HEREBY CERTIFY THAT THE IMPROVEMENTS OF FLEXSPACE NORTH HAVE BEEN INSPECTED BY FREELAND & ASSOCIATES, INC. AND TO THE BEST OF MY KNOWLEDGE. HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE CITY OF FERNDALE DEPARTMENT STANDARDS. THE CITY OF FERNDALE MUNICIPAL CODE, SUBSEQUENT STANDARDS

ADOPTED BY REFERENCE THEREIN, AND STANDARD ENGINEERING PRACTICE DATE: $\frac{2/8}{2024}$

WITHIN

WASHINGTON STATE DEPARTMENT

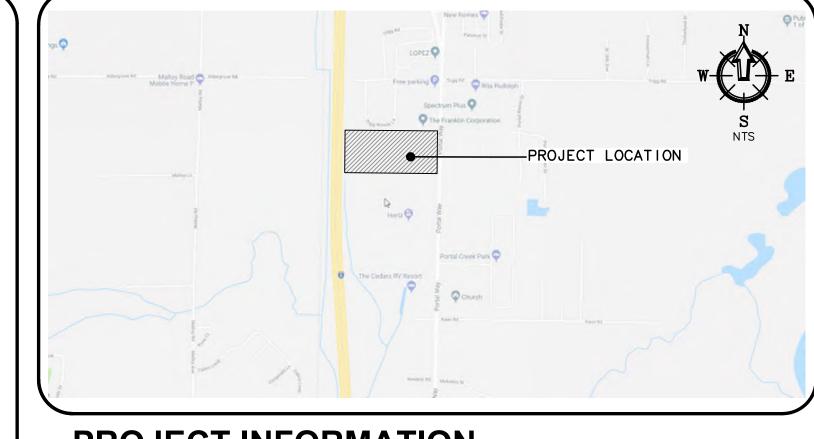
OF TRANSPORTATION

ABBREVIATIONS					
1'/1"	ONE FOOT/ONE INCH	O.C.	ON CENTER		
AĆ	ACRE	PC	POINT OF CURVATURE		
AD	ABSOLUTE VALUE OF THE ALGEBRAIC	PCL	PARCEL		
	GRADE DIFFERENCE	PERF	PERFORATED		
AF#	AUDITORS FILE NUMBER	PI	POINT OF INTERSECTION		
APPROX	APPROXIMATE	PIV	POST INDICATOR VALVE		
ASB/AB	AS-BUILT	POB	POINT OF BEGINNING		
ASPH	ASPHALT	PP PROP	POWER POLE		
BLDG	BUILDING	K	PROPERTY LENGTH OF VERTICAL CURVE PER		
BMP	BEST MANAGEMENT PRACTICE	N.	PERCENT GRADE DIFFERENCE		
BNDRY	BOUNDARY	PT/POT	POINT OF TANGENCY		
BVCS	BEGINNING OF VERTICAL CURVE STATION	PVC	POLYVINYL CHLORIDE		
BVCE	BEGINNING OF VERTICAL CURVE ELEVATION	PVI	POINT OF VERTICAL INFLECTION		
C CC	COMPACT PARKING STALL CURB CUT	PWR	POWER POWER		
CB	CATCH BASIN	R	RADIUS		
CL	CENTERLINE	R/C	REBAR WITH CAP		
CMP	CORRUGATED METAL PIPE	RCP	REINFORCED CONCRETE PIPE		
CNTRL	CONTROL	RET	RETAINING		
CO	CLEANOUT	RIM	RIM		
COR	CORNER	ROW	RIGHT-OF-WAY		
CPP	CORRUGATED POLYETHYLENE PIPE	RPP	REDUCED PRESSURE PRINCIPAL		
CONC	CONCRETE	RR	RAILROAD		
CSTC	CRUSHED SURFACING TOP COURSE	S	SOUTH		
CULV	CULVERT	SAN	SANITARY		
Ø	DIAMETER	SCH	SCHEDULE		
DEMO	DEMOLITION	SD	STORM DRAIN		
DI	DUCTILE IRON	SDCB	STORM DRAIN CATCH BASIN		
DWGS	DRAWINGS	SDCO	STORM DRAIN CLEANOUT		
<u>E</u> .	EAST	SDMH	STORM DRAIN MAN HOLE		
EA .	EACH	SERV	SERVICE		
EL/ELEV	ELEVATION	STND/STD	STANDARD		
ENC	REVOCABLE ENCROACHMENT PERMIT	SS	SANITARY SEWER		
EP/EOP	EDGE OF PAVEMENT	SSCO	SANITARY SEWER CLEANOUT		
ESMT	EASEMENT	SSMH	SANITARY SEWER MANHOLE		
EVCS	END OF VERTICAL CURVE STATION	ST	STREET		
EVCE	END OF VERTICAL CURVE ELEVATION	TBM TC	TEMPORARY BENCH MARK		
EX/EXIST	EXISTING		TOP OF CURB		
FDC	FIRE DEPARTMENT CONNECTION	TEL/TELE	TELEPHONE		
FFE/FF	FINISH FLOOR ELEVATION	TESC	TEMPORARY EROSION &		
FG	FINISH GRADE	TP	SEDIMENTATION CONTROL TOP OF PAVEMENT		
FH	FIRE HYDRANT	TS	TOP OF FAVEMENT		
FND	FOUND	TW	TOP OF WALL		
GND	GROUND	TYP	TYPICAL		
GUTT	GUTTER HIGH BOINT	UG	UNDERGROUND		
HP INV	HIGH POINT INVERT	VC	VERTICAL CURVE		
		VEG	VEGETATION		
IE/I.E.	INVERT ELEVATION	W	WEST		
IRRIG	IRRIGATION	WA	WATER		

SHEET INDEX

<u> </u>	
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C1.2	PROJECT OVERVIEW
C1.3	PHASING PLAN
C2.0	TEMPORARY EROSION AND SEDIMENTATION
	CONTROL PLAN
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C3.0	SITE LAYOUT & PAVING PLAN (WEST)
C3.1	SITE LAYOUT & PAVING PLAN (EAST)
C4.0	GRADING PLAN (WEST)
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C5.0	DRAINAGE PLAN (WEST)
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C7.0	SITE SECTIONS (BUILDING TO BUILDING)
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C8.3	SANITARY SEWER DETAILS

VICINITY MAP



	i	7) // -	Mana S					
PROJECT INFORMATION								
1 4	OWNER	CONTRACTOR	PUGET SOUND ENERGY	NATURAL GAS				
	FLEXSPACE NORTH, LLC 6208 PORTAL WAY FERNDALE, WA 98248 (360) 815-8806	PIONEER POST FRAME, INC DOUG SCOGGINS 6208 PORTAL WAY FERNDALE, WA 98248 (360) 380-4436 dougscoggins@comcast.net	LIZ BARTLETT 1600 PARK LANE BURLINGTON, WA 98233 425-466-2251 elizabeth.bartlett@pse.com	BRANDON HAUGNESS CASCADE NATURAL GAS (360) 788-2362 brandon.haugness@cngc.com				
	CIVIL ENGINEER	SURVEYOR	ARCHITECT	STRUCTURAL (BLDG)				
	FREELAND & ASSOCIATES, INC. NICK PALEWICZ, PE 220 W. CHAMPION ST., STE 200 BELLINGHAM, WA 98225 PHONE (360) 650-1408 npalewicz@freelandengineering.com	407 5TH STREET LYNDEN, WA 98264	HAVEN DESIGN WORKSHOP SEAN HEGSTAD, AP 5828 2nd AVENUE, STE #101 FERNDALE, WA 98248 (360) 527-2840 sean@haven-dw.com	MADRONA ENGINEERING, LLC CRAIG OLSON, P.E. 1315 TWEEDSMUIR COURT BELLINGHAM, WA 98226 (360) 510-0480 craig@madronaengineering.com				
	STRUCTURAL (WALL)	COMMUNICATIONS	COMMUNICATIONS					
	BRADLEY ENGINEERING, INC. DAVID BRADLEY, P.E. (360) 752-5795	BARB ROBINSON FRONTIER (360) 393-3131 brobinson@ftr.com	CASEY JONES COMCAST (360) 527-8243 casey_jones@cable.comcast.com					

GENERAL NOTES

LAND SURVEYOR

MAXIMUM

MONUMEN1

MINIMUM

NUMBER

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. A WRITTEN CONTRACT BETWEEN THE PROJECT OWNER AND A LICENSED GEOTECHNICAL FIRM IS REQUIRE AND WILL BE PROVIDED AT OR BEFORE THE PROJECT PRECONSTRUCTION MEETING. ALL SOIL OBSERVATIONS AND COMPACTION TESTING PER THE CITY OF FERNDALE STANDARDS WILL REQUIRED TO PROCEED WITH CONSTRUCTION AND/OR OBTAIN FINAL PROJECT ACCEPTANCE. A LIST OF MATERIAL TESTING AND COMPACTION TESTING REQUIREMENTS CAN BE PROVIDED BY THE CITY ANYTIME AT OR BEFORE THE PROJECTS SCHEDULED PRECONSTRUCTION MEETING. OBTAINING THIS LIST OF REQUIREMENTS PRIOR TO THE PROJECT PRECONSTRUCTION MEETING IS ADVISED TO DETERMINE THE SIZE, SCOPE AND COSTS
- 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 REVIEWS ALL PLANS AND OTHER CONSTRUCTION DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES. THROUGHOUT THE PERIOD OF CONSTRUCTION, CONTRACTOR SHALL COMPLY WITH THE THE TERMS OF ALL PERMITS.
- 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING SUB-SURFACE CONDITIONS AND SOILS
- 4. ALL DESIGNED STRUCTURES AND INFRASTRUCTURE SHALL BE STAKED AND MARKED APPROPRIATELY BY A LICENSED SURVEYOR PRIOR TO CONSTRUCTION AND INSPECTION.
- 5. 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.
- WHEN THE CONTRACTOR CONSIDERS THE WORK PHYSICALLY COMPLETE AND READY FOR FINAL INSPECTION, THE CONTRACTOR SHALL REQUEST THAT CITY INSPECTOR 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 2. 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)
- 8. A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN
- 9. 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.
- 10. PROOF OF LIABILITY INSURANCE SHALL BE SUBMITTED TO THE CITY PRIOR TO THE PRE-CONSTRUCTION MEETING.
- 11. NO WORK SHALL OCCUR BETWEEN 7:00 PM & 7:00 AM. NO EXCEPTIONS. 12. 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. 13. 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. 14. 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.
- 15. 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.
- 16. METHOD OF SURVEY, SURVEY DATA, AND SURVEY EQUIPMENT UTILIZED TO CREATE THE BASE MAP/EXISTING CONDITIONS ARE NOTED ON THE EXISTING CONDITIONS SHEET OF THIS PLAN SET.
- 17. COMPLETE PLAT SURVEY STAKING AND MONUMENTATION PER CITY STANDARD REQUIRED PRIOR TO

GENERAL REQUIREMENTS CONTINUED

WATER DETAILS

WATER DETAILS

OVERALL LANDSCAPE PLAN

WESTERN LANDSCAPE PLAN

EASTERN LANDSCAPE PLAN

LANDSCAPE DETAILS

C8.4

C8.5

- 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 3. 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.
- 18. A REVOCABLE ENCROACHMENT PERMIT SHALL BE OBTAINED PRIOR TO COMMENCING WORK IN THE PUBLIC RIGHT-OF-WAY.
- ALL UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE IN APPROXIMATE LOCATIONS ONLY AND THERE IS NO GUARANTEE THAT ALL UTILITIES ON THIS SITE ARE SHOWN. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTACT THE WASHINGTON STATE UTILITY LOCATED CENTER AT LEAST 48 HOURS BEFORE CONSTRUCTION.
- 20. THE CITY OF FERNDALE DOES NOT GUARANTEE THAT AS-BUILT INFORMATION ON RECORD FOR EXISTING UTILITIES ARE CORRECT. THE CITY REQUIRES THAT THE PROJECT OWNER/ENDINEER OF RECORD POT HOLE ALL EXISTING UTILITIES TO AVOID COSTLY DELAYS OR DEVIATION FROM YOUR APPROVED PLANS. ALL COSTS ASSOCIATED TO THESES DELAYS AND/OR DEVIATIONS FROM THE APPROVED PLANS DUE TO INACCURATE INFORMATION WILL BE THE RESPONSIBILITY OF THE PROJECT OWNER/CONTCTARATION, NOT THE CITY OF FERNDALE.

- 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. PRIOR TO IMPORTING OF MATERIAL FOR BASE AND CSTC THE CONTRACTOR SHALL PROVIDE EVIDENCE OF SATISFACTORY PASSING GRADING AND DEGRADATION TEST RESULTS TO THE ENGINEER.

- 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
- 2. SOIL RESIDUAL HERBICIDE SHALL BE PLACED WITHIN 24 HOURS OF PAVING.
- A TACK COAT OF ASPHALT SHALL BE APPLIED BETWEEN ALL COURSES OF ASPHALT. 4. ALL PAVEMENT REPAIR SHALL BE SAW-CUT BEFORE REMOVAL. AR-4000W SHALL BE APPLIED TO
- ALL EDGES OF EXISTING PAVEMENT. 5. ASPHALT CONCRETE PAVEMENT SHALL NOT BE PLACED NOR COMPACTED DURING HOURS OF
- 6. SUBGRADE SHALL BE CERTIFIED IN WRITTING BY THE ENGINEER PRIOR TO PAVING.

- 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. SEPARATION MUST BE MAINTAINED BETWEEN THE NEW WATER MAIN AND THE CITY'S WATER MAIN UNTIL PRESSURE AND BACTERIA TESTING ARE APPROVED BY THE CITY OF FERNDALE.
- 2. ALL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF FERNDALE DEVELOPMENT STANDARDS, SECTIONS 702 AND 705 AND THE MOST RECENT VERSION OF WSDOT STANDARD SPECIFICATIONS.
- 3. ALL BACKFILL SHALL BE IMPORTED GRAVEL AND SHALL CONFORM TO SECTION 2-09 OF THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION.
- 4. ALL PIPE SHALL HAVE A MINIMUM COVER OF 3.0 FEET AND HAVE A MAXIMUM OF 3.5 FEET OF COVER.

1. THE CONTRACTOR SHALL CLEAR, GRUB AND CLEAN UP THOSE AREAS SHOWN ON THE PLANS.

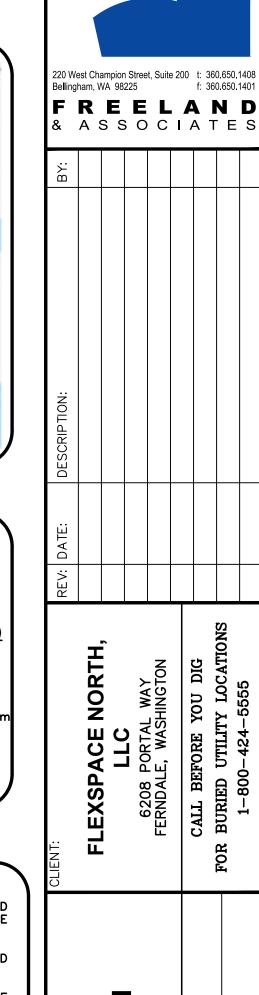
EARTHWORK CONTINUED

- 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.
- THE 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.

- 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
- 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 SPECIFICAITONS

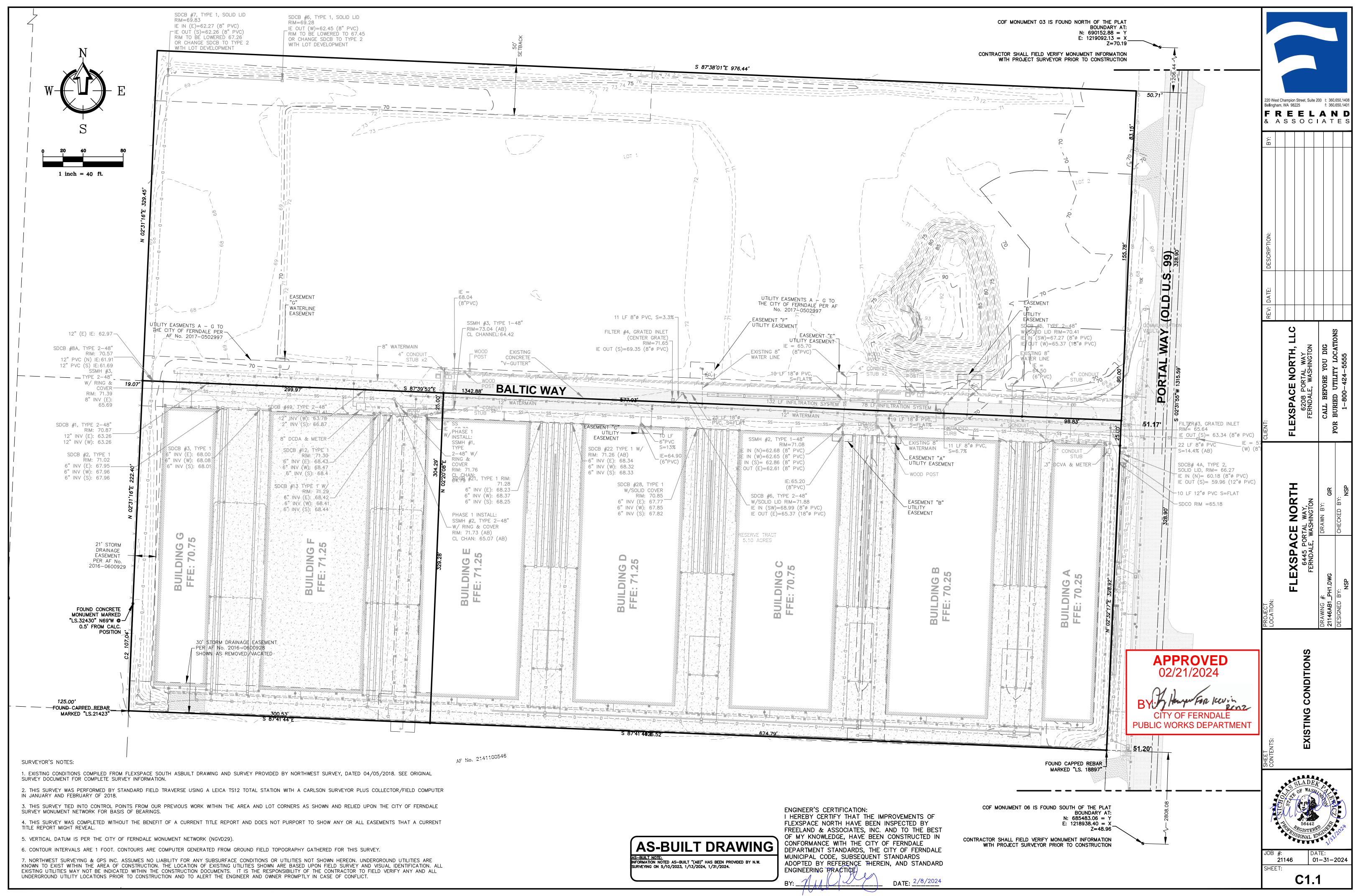
- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIRFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCITON, CURRENT EDITION AND THE CITY OF FERNDALE DEVELOPMENT STANDARDS SECTON 5 AND SHALL BE SUBJECT TO APPROVAL BY THE CITY OF
- FOUR INCH THROUGH TWELVE-INCH PIPE SHALL BE PVC PIPE CONFORMING TO ASTM D-3034, SDR-35 OR EQUAL. PIPE JOINTS SHALL BE MADE WITH FLEXIBLE GASKETS CONFOMING TO THE REQUIREMENTS OF SECTION 7-17.3G (2)E OF THE STANDARD SPECIFICATIONS.
- TRENCH EXCAVATION SHALL BE ACCORDING TO SECTION 7-08.3(1) OF THE STANDARD
- 4. 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 DRAWINGS SS-6 THROUGH SS-8, AND SS-13. MARK EACH SERVICE WITH A WHITE 2-INCH DIAMER SCHEDULE 40 PVC PIPE WITH THE TOP PAINTED GREEN, STENCILED WITH THE WORD "SEWER" IN BLACK TEXT AND THE DEPTH NOTED ON THE MARKER TO THE SERVICE INVERT.
- 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 STRUCTURES AND CONVEYANCE WILL BE JETTED AND CLEANED PRIOR TO CALLING FOR INSPECTION. LINES TOO DIRTY FOR INSPECTION WILL REQUIRE A REINSPECTION, ADDITIONAL FEES WILL APPLY FOR REQUIRED REINSPECTION.
- ALL MANHOLES WILL BE ACCORDING TO THE CITY OF FERNDALE STANDARD PLAN NO. SS-2. THROUGH SS-4 AND WSDOT MH TYPE 1 STANDARD PLAN B-15.20.01.
- 10. 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
- 12. 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. 13. ALL TESTING SHALL BE DONE IN THE PRESENCE AND UNDER THE SUPERVISION OF A REPRESENTATIVE OF THE CITY OF FERNDALE.

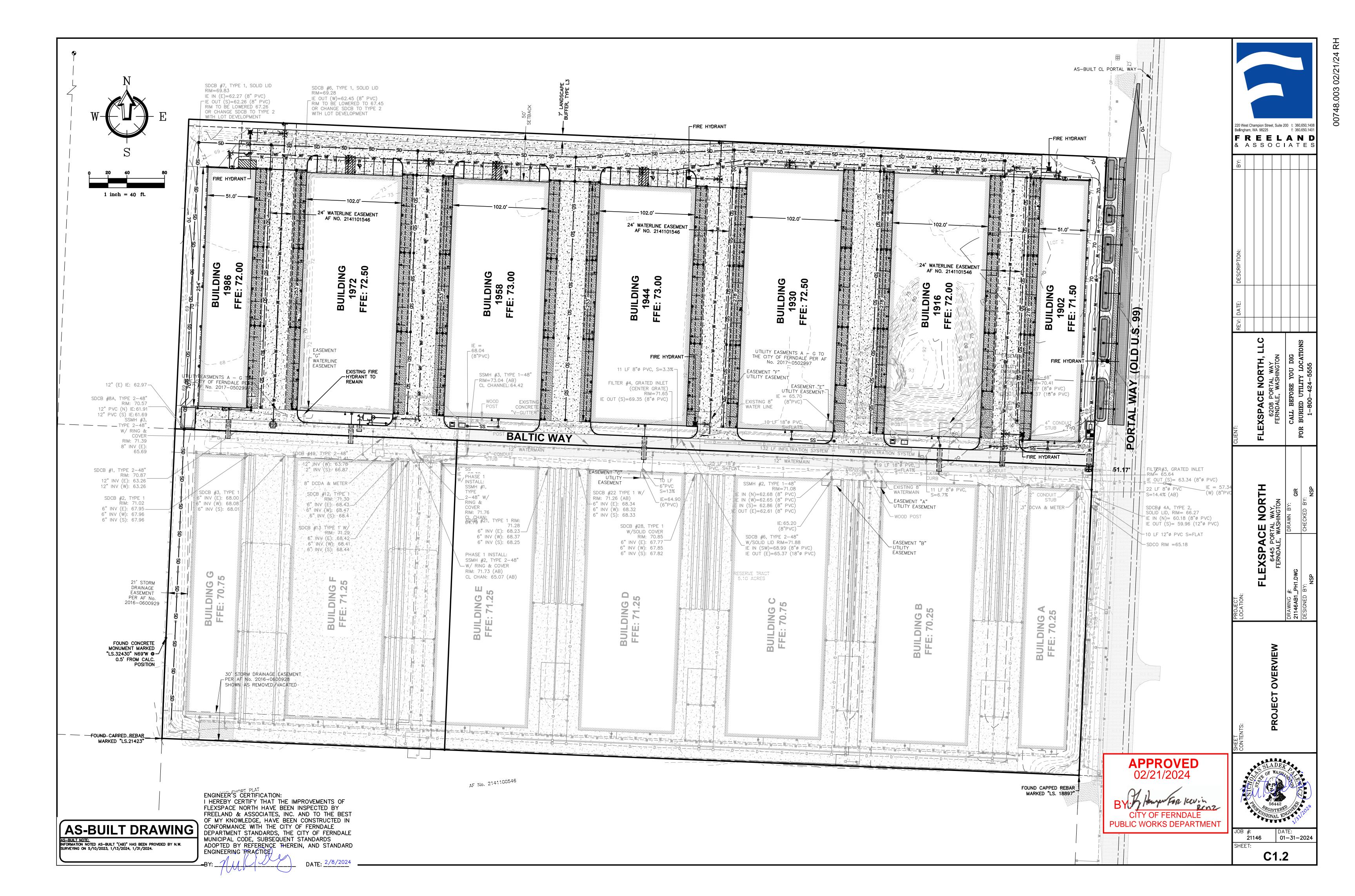


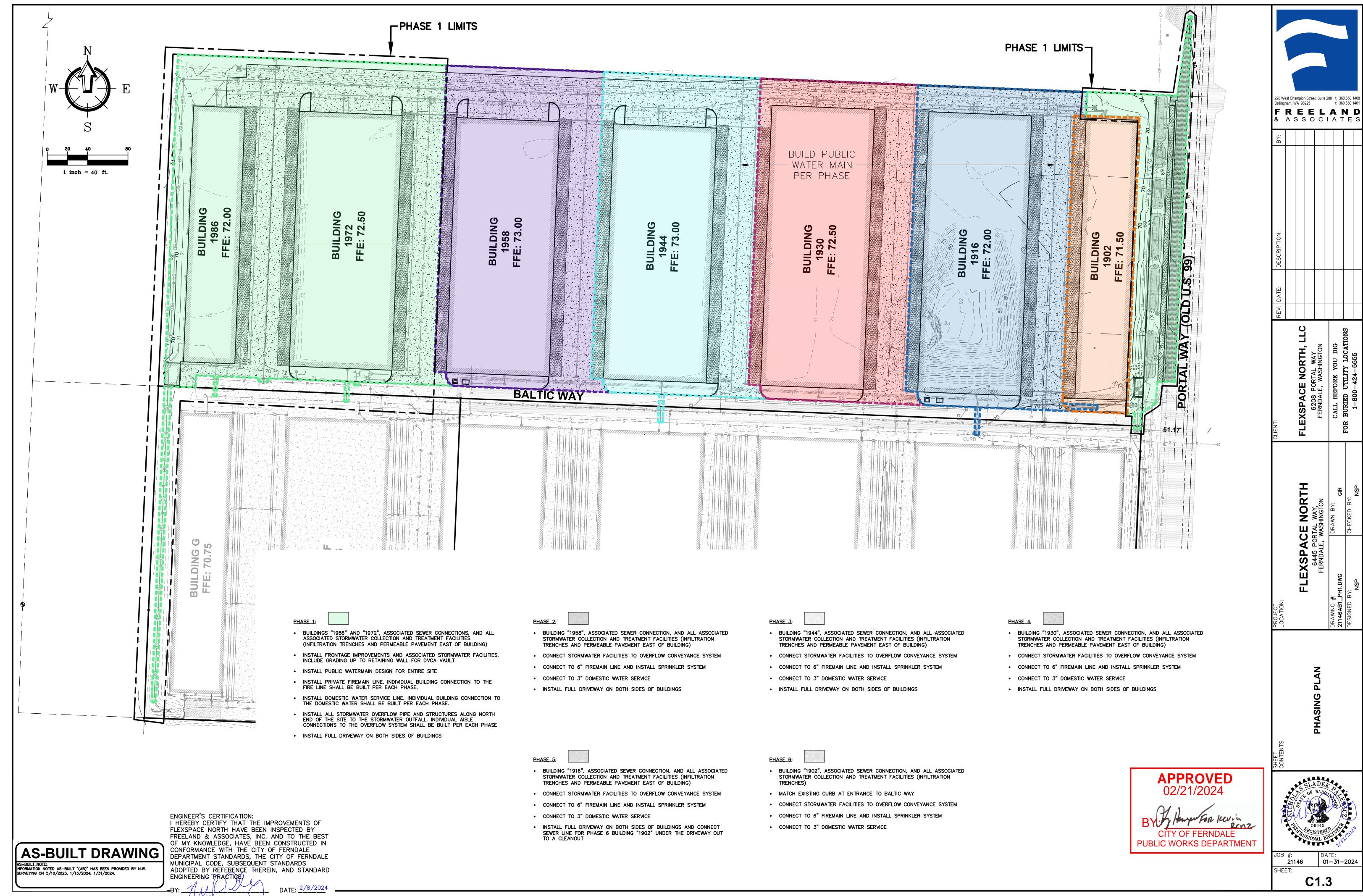
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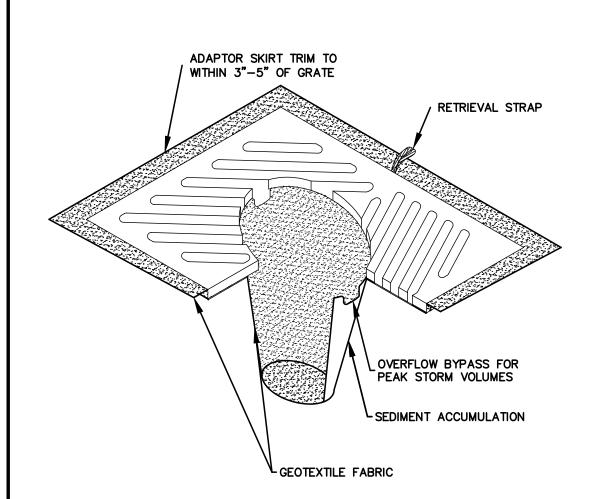
DATE: 2/8/2024

(SHEET FLOW OR SHALLOW CHANNEL FLOW)

Bellingham, WA 98225

FREELAND

& ASSOCIATE

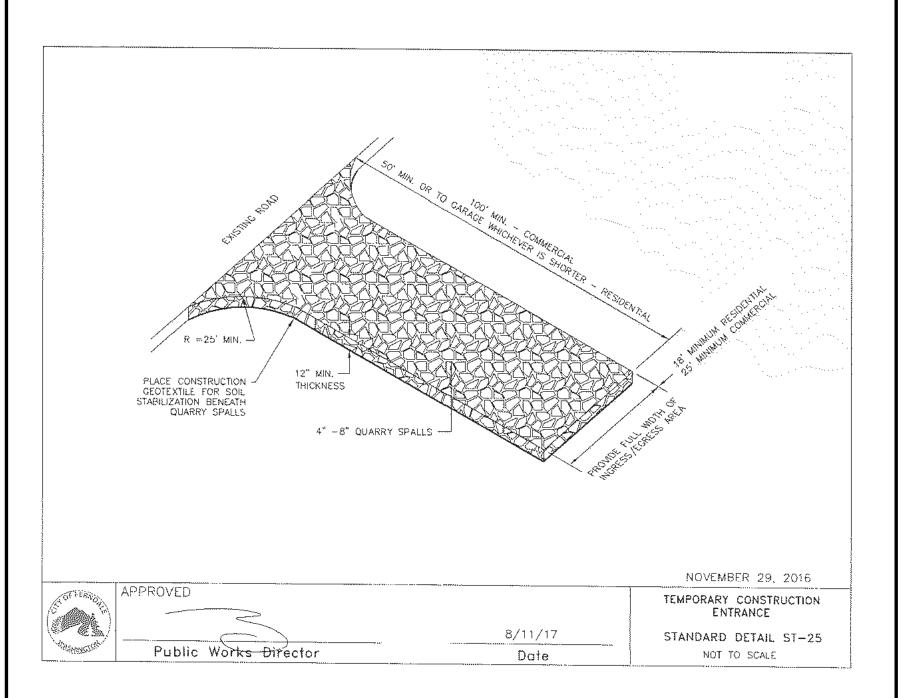


visible dark

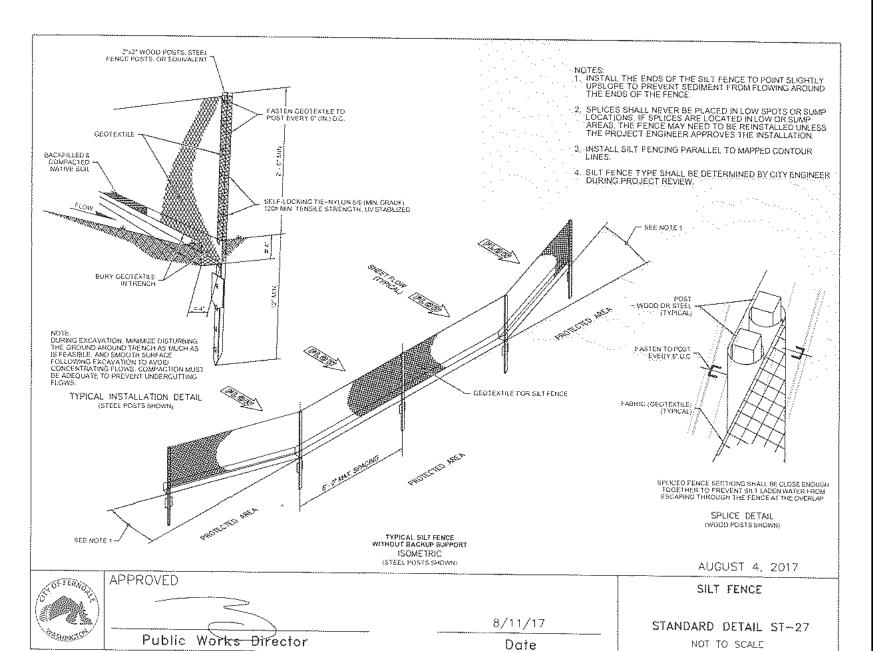
organic matter

- 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.





TEMPORARY CONSTRUCTION ENTRANCE/EXIT



AS-BUILT DRAWING

BMP C152: Sawcutting and Surfacing Pollution Prevention

Sawcutting and surfacing operations generate slurry and process water that contains fine particles and high pH (concrete cutting), both of which can violate the water quality standards in the receiving water. Concrete spillage or concrete discharge to surface waters of the State is prohibited. Use this BMP to minimize and eliminate process water and shurry created through sawcutting or surfacing from entering waters of the State.

Conditions of Use Utilize these management practices anytime sawcutting or surfacing operations take place. Sawcutting and surfacing operations include, but are not limited to, the following:

- Sawing
- Grinding
- · Roughening
- Hydro-demolition
- Bridge and road surfacing

 Vacuum slurry and cuttings during cutting and surfacing operations. Design and Installation Specifications

Maintenance

- . Slurry and cuttings shall not remain on permanent concrete or asphalt. pavement overnight.
- Slurry and cuttings shall not drain to any natural or constructed drainage conveyance including stormwater systems. This may require temporarily blocking catch basins.
- Dispose of collected slurry and cuttings in a manner that does not violate ground water or surface water quality standards. Do not allow process water generated during hydro-demolition,

surface roughening or similar operations to drain to any natural or constructed drainage conveyance including stormwater systems.

Dispose process water in a manner that does not violate ground water or surface water quality standards. • Handle and dispose cleaning waste material and demolition debris in a manner that does not cause contamination of water. Dispose of

sweeping material from a pick-up sweeper at an appropriate disposal Continually monitor operations to determine whether slurry, cuttings, or process water could enter waters of the state. If inspections show that a violation of water quality standards could occur, stop operations and

immediately implement preventive measures such as berms, barriers,

secondary containment, and vacuum trucks. Volume II - Construction Stormwater Pollution Prevention - August 2012





GENERAL NOTES ON TILL SOIL SLOPES GREATER THAN 33 PERCENT. DESIGN GUIDELINES

fractured subsoil

Reprinted from Guidelines and Resources For Implementing Soil Quality and

Depth BMP T5.13 in WDOE Stormwater Management Manual for Western

Washington, 2010, Washington Organic Recycling Council

Figure V-5.3.3 Planting Bed Cross-Section

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ESTABLISHING A MINIMUM SOIL QUALITY AND DEPTH IS NOT THE SAME AS PRESERVATION OF NATURALLY OCCURRING SOIL AND VEGETATION. HOWEVER, ESTABLISHING A MINIMUM SOIL QUALITY AND DEPTH WILL PROVIDE IMPROVED ON-SITE MANAGEMENT OF STORMWATER FLOW AND WATER QUALITY. SOIL ORGANIC MATTER CAN BE ATTAINED THROUGH NUMEROUS MATERIALS SUCH AS COMPOST. COMPOSTED WOODY MATERIAL. BIOSOLIDS, AND FOREST PRODUCT RESIDUALS. IT IS IMPORTANT THAT THE MATERIALS USED TO MEET THE SOIL QUALITY AND DEPTH BMF BE APPROPRIATE AND BENEFICIAL TO THE PLANT COVER TO BE ESTABLISHED. LIKEWISE IT IS IMPORTANT THAT IMPORTED TOPSOILS IMPROVE SOIL CONDITIONS AND DO NOT HAVE AN EXCESSIVE PERCENT OF CLAY FINES. THIS BMP CAN BE CONSIDERED INFEASIBLE

SOIL RETENTION: RETAIN, IN AN UNDISTURBED STATE, THE DUFF LAYER AND NATIVE TOPSOIL TO THE MAXIMUM EXTENT PRACTICABLE. IN ANY AREAS REQUIRING GRADING REMOVE AND STOCKPILE THE DUFF LAYER AND TOPSOIL ON SITE IN A DESIGNATED, CONTROLLED AREA, NOT ADJACENT TO PUBLIC RESOURCES AND

PORTIONS OF THE SITE WHERE FEASIBLE. SOIL QUALITY: ALL AREAS SUBJECT TO CLEARING AND GRADING THAT HAVE NOT BEEN COVERED BY IMPERVIOUS SURFACE, INCORPORATED INTO A DRAINAGE FACILITY OR ENGINEERED AS STRUCTURAL FILL OR SLOPE SHALL, AT PROJECT COMPLETION DEMONSTRATE THE FOLLOWING:

CRITICAL AREAS, TO BE REAPPLIED TO OTHER

1. A TOPSOIL LAYER WITH A MINIMUM ORGANIC MATTER CONTENT OF 10% DRY WEIGHT IN PLANTING BEDS, AND 5% ORGANIC MATTER CONTENT IN TURF AREAS, AND A PH FROM 6.0 TO 8.0 OR MATCHING THE PH OF THE UNDISTURBED SOIL. THE TOPSOIL LAYER SHALL HAVE MINIMUM DEPTH OF EIGHT INCHES EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS NEEDED TO MEET THE CRITERIA. SUBSOILS BELOW THE TOPSOIL LAYER SHOULD BE SCARIFIED AT LEAST 4 INCHES WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS, WHERE FEASIBLE.

2.MULCH PLANTING BEDS WITH 2 INCHES

OF ORGANIC MATERIAL

3.USE COMPOST AND OTHER MATERIALS THAT MEET THESE ORGANIC CONTENT REQUIREMENTS:

a. THE ORGANIC CONTENT FOR "PRE-APPROVED" AMENDMENT RATES CAN BE MET ONLY USING COMPOST MEETING THE COMPOST SPECIFICATION FOR BIORETENTION (BMP T7.30), WITH THE EXCEPTION THAT THE COMPOST MAY HAVE UP TO 35% BIOSOLIDS OR MANURE. THE COMPOST MUST ALSO HAVE AN ORGANIC MATTER CONTENT OF 40% TO 65%, AND A CARBON TO NITROGEN RATION BELOW 25:1. THI CARBON TO NITROGEN RATION MAY BE AS HIGH 35:1 FOR PLANTINGS COMPOSED ENTIRELY OF PLANTS NATIVE TO THE PUGET SOUND LOWLANDS REGION.

b.CALCULATED AMENDMENT RATES MAY BE MET THROUGH USE OF COMPOSTED MATERIALS MEETING (A.) ABOVE: OR OTHER ORGANIC MATERIALS AMENDED TO MEET THE CARBON TO NITROGEN RATIO REQUIREMENTS, AND MEETING THE

CONTAMINANT STANDARDS OF GRADE A COMPOST. THE RESULTING SOIL SHOULD BE CONDUCIVE TO THE TYPE OF VEGETATION TO BE ESTABLISHED.

IMPLEMENTATION OPTIONS: THE SOIL QUALITY DESIGN GUIDELINES LISTED ABOVE CAN BE MET BY USING ONE OF THE METHODS LISTED

AND SOIL, AND PROTECT FROM

1. LEAVE UNDISTURBED NATIVE VEGETATION

COMPACTION DURING CONSTRUCTION. 2.AMEND EXISTING SITE TOPSOIL OR SUBSOIL EITHER AT DEFAULT "PRE-APPROVED" RATES, OR AT CUSTOM CALCULATED RATES BASED ON TESTS OF THE SOIL AND AMENDMENT. 3.STOCKPILE EXISTING TOPSOIL DURING GRADING, AND REPLACE IT PRIOR TO PLANTING. STOCKPILED TOPSOIL MUST ALSO BE AMENDED IF NEEDED TO MEET THE ORGANIC MATTER OR DEPTH REQUIREMENTS, EITHER AT A DEFAULT "PRE-APPROVED" RATE OR AT A CUSTOM

4.IMPORT TOPSOIL MIX OF SUFFICIENT ORGANIC CONTENT AND DEPTH TO MEET THE REQUIREMENTS. MORE THAN ONE METHOD MAY BE USED ON DIFFERENT PORTIONS OF THE SAME SITE. SOIL THAT ALREADY MEETS THE DEPTH AND ORGANIC MATTER QUALITY STANDARDS, AND IS NOT COMPACTED, DOES NOT NEED TO BE AMENDED.

CALCULATED RATE.

CLEARING LIMITS AND NEARBY SENSITIVE AREAS AND THEIR BUFFERS, SHALL BE CLEARLY MARKED PRIOR TO BEGINNING LAND DISTURBING ACTIVITIES, WHICH INCLUDES CLEARING AND GRADING. THESE AREAS SHALL BE CLEARLY MARKED IN THE FIELD TO PREVENT DAMAGE AND OFFSITE

WASHINGTON STATE DEPARTMENT OF ECOLOGY BMP'S CONSIDERED FOR ELEMENT #1 INCLUDE: BMP C101: PRESERVING NATURAL VEGETATION BMP C103: HIGH VISIBILITY PLASTIC OR METAL FENCE

ELEMENT #2: ESTABLISH CONSTRUCTION ACCESS A SINGLE ENTRANCE POINT SHALL BE INSTALLED FOR CONSTRUCTION ACCESS TO THE PROPOSED ONSITE IMPROVEMENTS. EARTHWORK EQUIPMENT SHALL REMAIN WITHIN THE DISTURBED AREA TO THE MAXIMUM EXTENT PRACTICABLE. CONSTRUCTION TRAFFIC THAT SHALL ROUTINELY LEAVE THE SITE (E.G. WORK TRUCKS, PERSONAL VEHICLES) SHALL REMAIN ON PAVED SURFACES TO THE MAXIMUM EXTENT PRACTICABLE. PAVED ROADS & PARKING AREAS SHALL BE CLEANED AT THE END OF EACH DAY. SEDIMENT TRANSPORTED TO ROADS FROM THE SITE SHALL BE SWEPT AND DISPOSED OF AT A CONTROLLED SEDIMENT DISPOSAL AREA ON SITE OR REMOVED OFF SITE AND DISPOSED AT AN APPROVED FILL SITE. IF STREET WASHING IS NEEDED, IT SHALL ONLY OCCUR AFTER SEDIMENT HAS BEEN REMOVED AS DESCRIBED. THE RESULTING WASH WASTEWATER SHALL THEN BE CONTROLLED BY PUMPING IT BACK ON SITE. ALL CONSTRUCTION ACCESS POINTS SHALL

WASHINGTON STATE DEPARTMENT OF ECOLOGY BMPS CONSIDERED FOR ELEMENT #2 INCLUDE: BMP C105: STABILIZED CONSTRUCTION ENTRANCE HOUSEKEEPING/MAINTENANCE BMP: DAILY STREET SWEEPING HOUSEKEEPING/MAINTENANCE BMP: BMP C140 DUST CONTROL

BE RESTORED TO PRE-CONSTRUCTION OR PROPOSED CONDITIONS.

ELEMENT #3: CONTROL FLOW RATES FLOW RATES SHALL BE CONTROLLED TO THE MAXIMUM EXTENT PRACTICAL. THE CONTRACTOR SHALL PRESERVE VEGETATED AREAS ON OR NEAR THE SITE AS ALLOWABLE THROUGHOUT THE CONSTRUCTION PROCESS. TEMPORARY SEDIMENT TRAPS OR PONDS MAY BE DESIGNED BY AN ENGINEER IF THE CONTRACTOR, PROJECT ENGINEER, OR CESCL DEEMS NECESSARY.

ELEMENT #4: INSTALL SEDIMENT CONTROLS THE DUFF LAYER, NATIVE TOPSOIL, AND NATURAL AND EXISTING VEGETATION SHALL BE RETAINED IN AN UNDISTURBED STATE TO THE MAXIMUM EXTENT PRACTICABLE. ELEMENT #1 OF THIS PLAN. INCLUDING IMPLEMENTING PRESERVING NATURAL VEGETATION, SHALL HELP RETAIN SOME AREAS IN AN UNDISTURBED STATE. SILT FENCING SHALL BE INSTALLED DOWNHILL FROM DISTURBED AREAS TO TRAP AND RETAIN SEDIMENT ON SITE. OTHER SEDIMENT CONTROLS, SUCH AS TEMPORARY SEDIMENT TRAPS, SUMPS, GRAVEL FILER BERMS, STRAW WATTLES, ETC. MAY BE INSTALLED IF WARRANTED AS CONDITIONS CHANGE ON SITE DURING CONSTRUCTION.

WASHINGTON STATE DEPARTMENT OF ECOLOGY BMPS CONSIDERED FOR ELEMENT #4 INCLUDE: BMP C233: SILT FENCE

ELEMENT #5: STABILIZE SOILS IF CONSTRUCTION OCCURS IN THE DRY SEASON, (5/1 THROUGH 9/30) SOILS SHALL NOT REMAIN EXPOSED AND UNWORKED FOR MORE THAN 7 DAYS. IF CONSTRUCTION OCCURS IN THE WET SEASON (10/1 THROUGH 4/30) SOILS SHALL NOT REMAIN EXPOSED AND UNWORKED FOR MORE THAN 2 DAYS. WHEN ACTIVE GRADING IS IN PROGRESS, THE DEADLINE FOR SOIL STABILIZATION IS AT THE END OF A SHIFT BEFORE A HOLIDAY AND WEEKEND. BMPS THAT ARE EFFECTIVE IN STABILIZING SOILS AND PROTECTING THEM FROM EXPOSURE TO RAIN AND WIND OR OTHER CLIMATIC CONDITIONS SHALL BE IMPLEMENTED THROUGHOUT THE PROJECT. EVALUATION AND MONITORING OF BMP EFFECTIVENESS SHALL OCCUR ON A DAILY BASIS. IN ADDITION, IN THE EVENT OF FORECASTED PRECIPITATION EVENTS, ADDITIONAL MEASURES TO STABILIZE SOILS SHALL

BMPS THAT SHALL BE CONSIDERED THROUGHOUT CONSTRUCTION INCLUDE BUT ARE NOT LIMITED TO, TEMPORARY AND PERMANENT SEEDING, SODDING, MULCHING, PLASTIC COVERING, EROSION CONTROL FABRICS AND MATTING, THE EARLY APPLICATION OF GRAVEL BASE ON AREAS TO BE

PAVED, AND DUST CONTROL. WASHINGTON STATE DEPARTMENT OF ECOLOGY BMPS CONSIDERED FOR ELEMENT #5 INCLUDE:

BMP C120: TEMPORARY AND PERMANENT SEEDING BMP C121: MULCHING

BMP C122: NETS AND BLANKETS BMP C123: PLASTIC COVERING

BMP C124: SODDING BMP C125: TOPSOILING BMP C140: DUST CONTROL

ELEMENT #6: PROTECT SLOPES SIGNIFICANT CUT OR FILL SLOPES ARE NOT PROPOSED AS PART OF THIS PROJECT.

STORMWATER POLLUTION PREVENTION PLAN

STORM DRAIN INLETS ARE PROPOSED AS PART OF THIS PROJECT. OPERABLE STORM DRAIN INLETS ON THE SITE AND WITHIN 500 FEET DOWNSTREAM OF THE CONSTRUCTION AREA ROADS SHALL BE PROTECTED SO THAT STORMWATER RUNOFF DOES NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FILTRATION OR OTHER TREATMENT FOR SEDIMENT. STORM DRAIN INLET PROTECTION SHALL BE USED TO DETERMINE THE MOST APPROPRIATE INLET PROTECTION DESIGN FOR THE SITE AND THE DOWNSTREAM AREA.

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. CONSTRUCTION ACCESS POINTS AND APPROACHES SHALL BE MONITORED AND SWEPT TO MINIMIZE THE POTENTIAL OF SEDIMENT TRANSPORT. IF STREET WASHING OCCURS, THE WASH WASTEWATER SHALL BE PUMPED BACK ON SITE.

WASHINGTON STATE DEPARTMENT OF ECOLOGY BMPS CONSIDERED FOR ELEMENT #7 BMP C220: STORM DRAIN INLET PROTECTION

ELEMENT #8: STABILIZE CHANNELS AND OUTLETS NO CHÂNNELS ARE PROPOSED AS PART OF THIS PROJECT.

ELEMENT #9: CONTROL POLLUTANTS WASTE MATERIALS GENERATED ON SITE SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORMWATER; INCLUDING COVERING SOIL STOCKPILES. ROUTINE INSPECTIONS OF THE WASTE MATERIAL STORAGE AREAS SHALL BE CONDUCTED TO MAKE SURE THAT LEAKS OR SPILLS DO NOT OCCUR. ANY LEAKAGE OR SPILLS SHALL BE CLEANED UP IMMEDIATELY.

PROVIDE COVER, CONTAINMENT, AND PROTECTION FROM VANDALISM FOR ALL CHEMICALS, LIQUID PRODUCTS, PETROLEUM PRODUCTS, AND OTHER MATERIALS THAT HAVE THE POTENTIAL TO POSE A THREAT TO HUMAN HEALTH OR THE ENVIRONMENT. ON-SITE FUELING TANKS MUST INCLUDE SECONDARY CONTAINMENT. SECONDARY CONTAINMENT MEANS PLACING TANKS OR CONTAINERS WITHIN AN IMPERVIOUS STRUCTURE CAPABLE OF CONTAINING 110% OF THE VOLUME CONTAINED IN THE LARGEST TANK WITHIN THE CONTAINMENT STRUCTURE. DOUBLE-WALLED TANKS DO NOT REQUIRE ADDITIONAL SECONDARY CONTAINMENT.

MAINTENANCE OF HEAVY EQUIPMENT INVOLVING OIL CHANGES, HYDRAULIC SYSTEM DRAIN DOWN, SOLVENT AND DE-GREASING CLEANING AND/OR OTHER ACTIVITIES THAT MAY RESULT IN DISCHARGE OR SPILLAGE OF POLLUTANTS TO THE GROUND OR INTO STORMWATER RUNOFF SHALL BE CONDUCTED WITH SPILL PREVENTION MEASURES IN PLACE, INCLUDING CONDUCTING MAINTENANCE ON A TEMPORARY PAD THAT CAN BE USED TO CAPTURE LARGE SPILLS AND THE USE OF DRIP PANS. IN THE EVENT THAT EMERGENCY REPAIRS NEED TO BE PERFORMED AND CLIMATIC CONDITIONS MAY RESULT IN A PRECIPITATION EVENT PRIOR TO THE REPAIR BEING COMPLETED, THE REPAIR AREA, WHICH INCLUDES THE VEHICLE, SHALL BE COVERED WITH TARPS OR OTHER PLASTIC SHEETING. DISCHARGES, SPILLS, OR LEAKS SHALL BE CLEANED IMMEDIATELY. THE NOTIFICATION PROCEDURE OUTLINED IN THE PERMANENT SITE SWPPP IS AS FOLLOWS

ALL SPILLS SHALL BE REPORTED TO THE DEPARTMENT OF ECOLOGY, SPILL RESPONSE PROGRAM (425) 649-7000.

BMPS CONSIDERED FOR ELEMENT #9 INCLUDE: SPILL CLEANUP AND RESPONSE PRACTICES

ELEMENT #10: CONTROL DE-WATERING NO DE-WATERING IS PROPOSED AS PART OF THIS PROJECT. IF NECESSARY, CLEAN, NON-TURBID DE-WATERING WATER, SUCH AS WELL-POINT GROUND WATER, CAN BE DISCHARGED TO SYSTEMS TRIBUTARY TO STATE SURFACE WATERS. PROVIDED THE DE-WATERING FLOW DOES NOT CAUSE EROSION OR FLOODING OF RECEIVING WATERS. THESE CLEAN WATERS SHALL NOT BE ROUTED THROUGH A STORMWATER SEDIMENT

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

OTHER DISPOSAL OPTIONS, DEPENDING ON SITE CONSTRAINTS, MAY INCLUDE:

INFILTRATION

• TRANSPORT OFF SITE IN VEHICLE, SUCH AS A VACUUM FLUSH TRUCK, FOR LEGAL DISPOSAL IN A MANNER THAT DOES NOT POLLUTE STATE WATERS. ON-SITE TREATMENT USING CHEMICAL TREATMENT OR OTHER SUITABLE

TREATMENT TECHNOLOGIES. SANITARY SEWER DISCHARGE WITH LOCAL SEWER DISTRICT APPROVAL, OR USE OF A SEDIMENTATION BAG WITH OUTFALL TO A DITCH OR SWALE FOR SMALL VOLUMES OF LOCALIZED DEWATERING.

ALL TEMPORARY AND PERMANENT EROSION AND SEDIMENT CONTROL BMPS SHALL BE INSPECTED BY THE CESCL OR CONTRACTOR, AND SHALL BE MAINTAINED, AND REPAIRED BY THE CONTRACTOR TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. MAINTENANCE AND REPAIR SHALL BE CONDUCTED IN ACCORDANCE WITH THE RELEVANT BMP IDENTIFIED IN ELEMENTS #1 THROUGH #10. TEMPORARY EROSION AND SEDIMENT CONTROLS IDENTIFIED ABOVE SHALL BE INSPECTED DAILY DURING THE WET SEASON. NEEDED REPAIRS AND MAINTENANCE SHALL OCCUR WITHIN SEVEN (7) DAYS OR, IN THE EVENT OF A FORECAST OF INCLEMENT WEATHER, REPAIRS AND MAINTENANCE SHALL OCCUR IMMEDIATELY. 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 SOIL RESULTING FROM REMOVAL OF BMPS OR VEGETATION SHALL BE PERMANENTLY STABILIZED.

ELEMENT #12: MANAGE THE PROJECT

CONSTRUCTION
EXPOSED AREAS DURING THE CLEARING AND GRADING PROCESS SHALL BE MULCHED AS PART OF THE CLEARING AND GRADING ACTIVITIES. CLEARING AND GRADING ACTIVITIES SHALL OCCUR AFTER THE APPLICABLE PERMITS HAVE BEEN OBTAINED. REVEGETATION OF EXPOSED AREAS AND MAINTENANCE OF THAT VEGETATION SHALL OCCUR AS PART OF THE PLANTING PHASE OF THE PROJECT TO BE INSTALLED AFTER SUB-GRADE ROAD BASE MATERIAL HAS BEEN INSTALLED AND PRIOR TO FINAL GRAVEL SURFACING.

SEASONAL WORK LIMITATIONS

FROM MAY 1 THROUGH SEPTEMBER 30, SOIL SHALL NOT BE EXPOSED/UNWORKED FOR 7 DAYS. FROM OCTOBER 1 THROUGH APRIL 30, SOIL SHALL NOT REMAIN EXPOSED AND UNWORKED FOR MORE THAN 2 DAYS. IN ADDITION, WEATHER CONDITIONS SHALL CONTINUALLY BE MONITORED INCLUDING BEFORE HOLIDAYS AND WEEKENDS FOR PURPOSES OF PREPARING THE SITE FOR PREDICTED WEATHER CONDITIONS. BMPS THAT ARE EFFECTIVE IN STABILIZING SOILS AND PROTECTING THEM FROM EXPOSURE TO RAIN AND WIND OR OTHER CLIMATIC CONDITIONS SHALL BE IMPLEMENTED THROUGHOUT THE PROJECT. INSPECTION AND EVALUATION OF THE EFFECTIVENESS OF THE BMPS SHALL OCCUR ON A DAILY BASIS. IN ADDITION, IN THE EVENT OF FORECASTED PRECIPITATION EVENTS, ADDITIONAL MEASURES TO STABILIZE SOILS SHALL BE TAKEN.

COORDINATION WITH UTILITIES AND OTHER CONTRACTORS
THE STORMWATER MANAGEMENT REQUIREMENTS FOR ALL ASPECTS OF THE CONSTRUCTION PROJECT, INCLUDING UTILITIES, WERE CONSIDERED IN PREPARING THE CONSTRUCTION SWPPP.

INSPECTION AND MONITORING
AS PREVIOUSLY MENTIONED, ALL BMPS SHALL BE INSPECTED, MAINTAINED, AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. IN THE EVENT THAT INSPECTION AND/OR MONITORING REVEALS THAT THE BMPS IDENTIFIED IN THIS CONSTRUCTION SWPPP ARE INADEQUATE. DUE TO THE ACTUAL DISCHARGE OF OR POTENTIAL TO DISCHARGE A SIGNIFICANT AMOUNT OF ANY POLLUTANT, THIS SWPPP SHALL BE MODIFIED, AS APPROPRIATE, IN A

MAINTENANCE OF THE CONSTRUCTION SWPPP
THE CONSTRUCTION SWPPP SHALL BE RETAINED ON—SITE AND SHALL BE UPDATED ON A REGULAR BASIS. MODIFICATIONS TO THE CONSTRUCTION SWPPP SHALL BE MADE WHENEVER THERE IS A

OPERATION, OR MAINTENANCE **ELEMENT #13: PROTECT LOW IMP** CONTRÖL EROSION AND AVOID USES ONTO PERMEABLE PAVEN EQUIPMENT ON THE BASE MAT

ALL HEAVY EQUIPMENT SHOUL FACILITIES THAT HAVE BEEN E INFILTRATION RATE OF THE SO

SEDIMENT-LADEN RUNOFF ONT

PAVEMENTS FOULED WITH SEDI **PUBLIC WORKS DEPARTMENT** INFILTRATION TEST SHALL BE STORMWATER MANUAL OR THE

BMP T5.13 IS PROPOSED FOR THIS PROJECT. PROTECT COMPLETED LAWN AND LANDSCAPE AREAS FROM COMPACTION DUE TO CONSTRUCTION EQUIPMENT.

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SWPPI

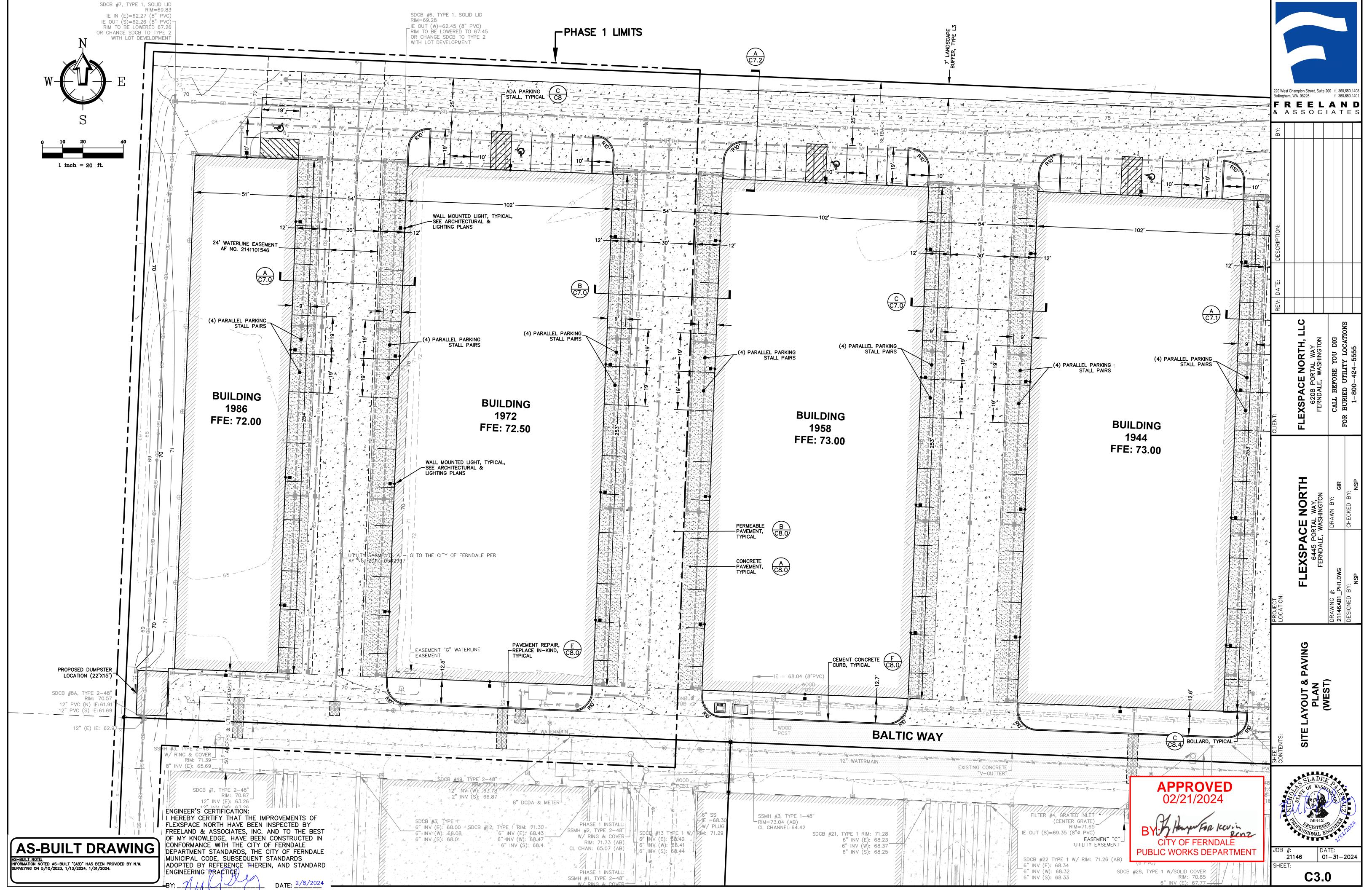
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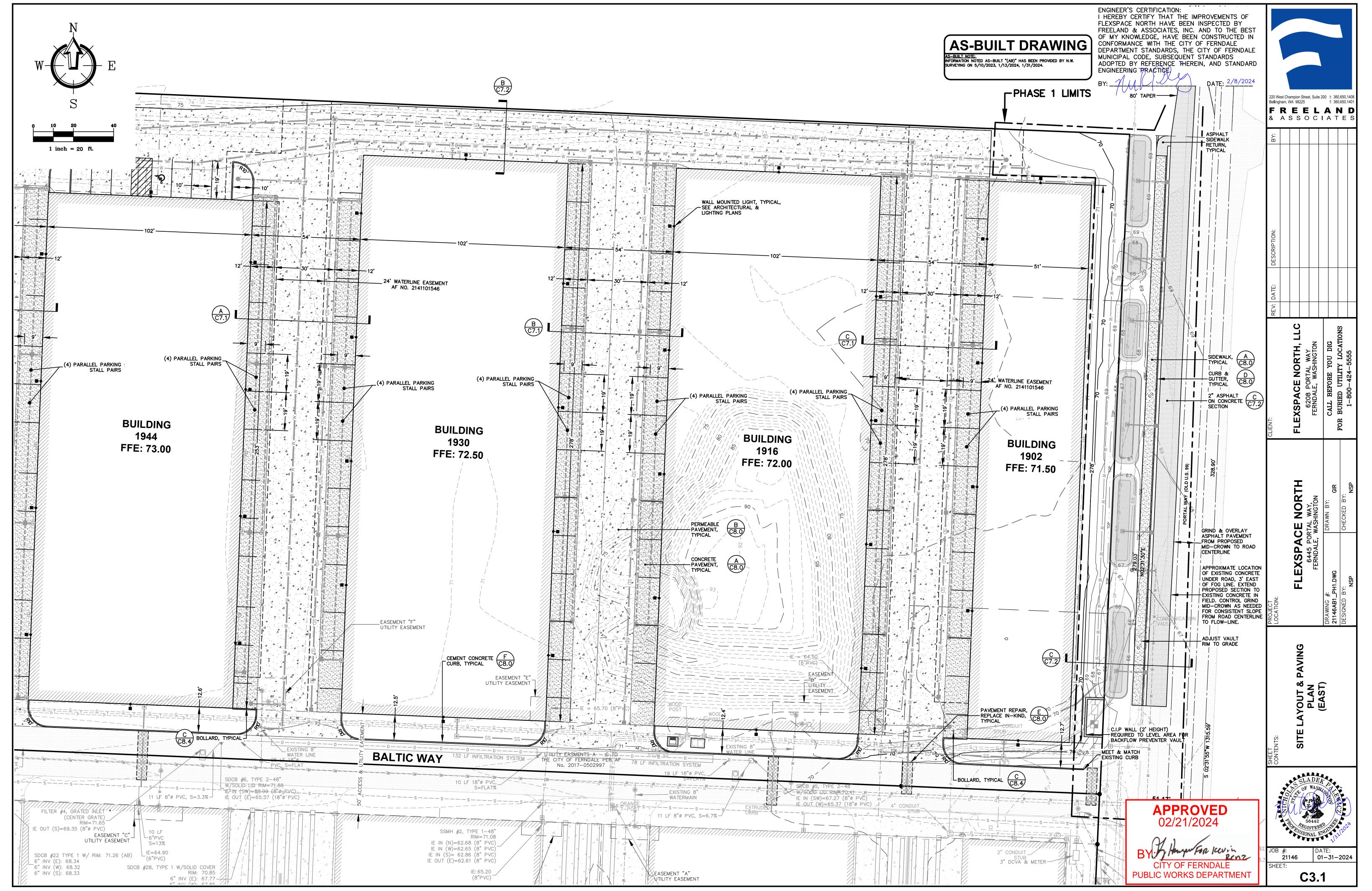
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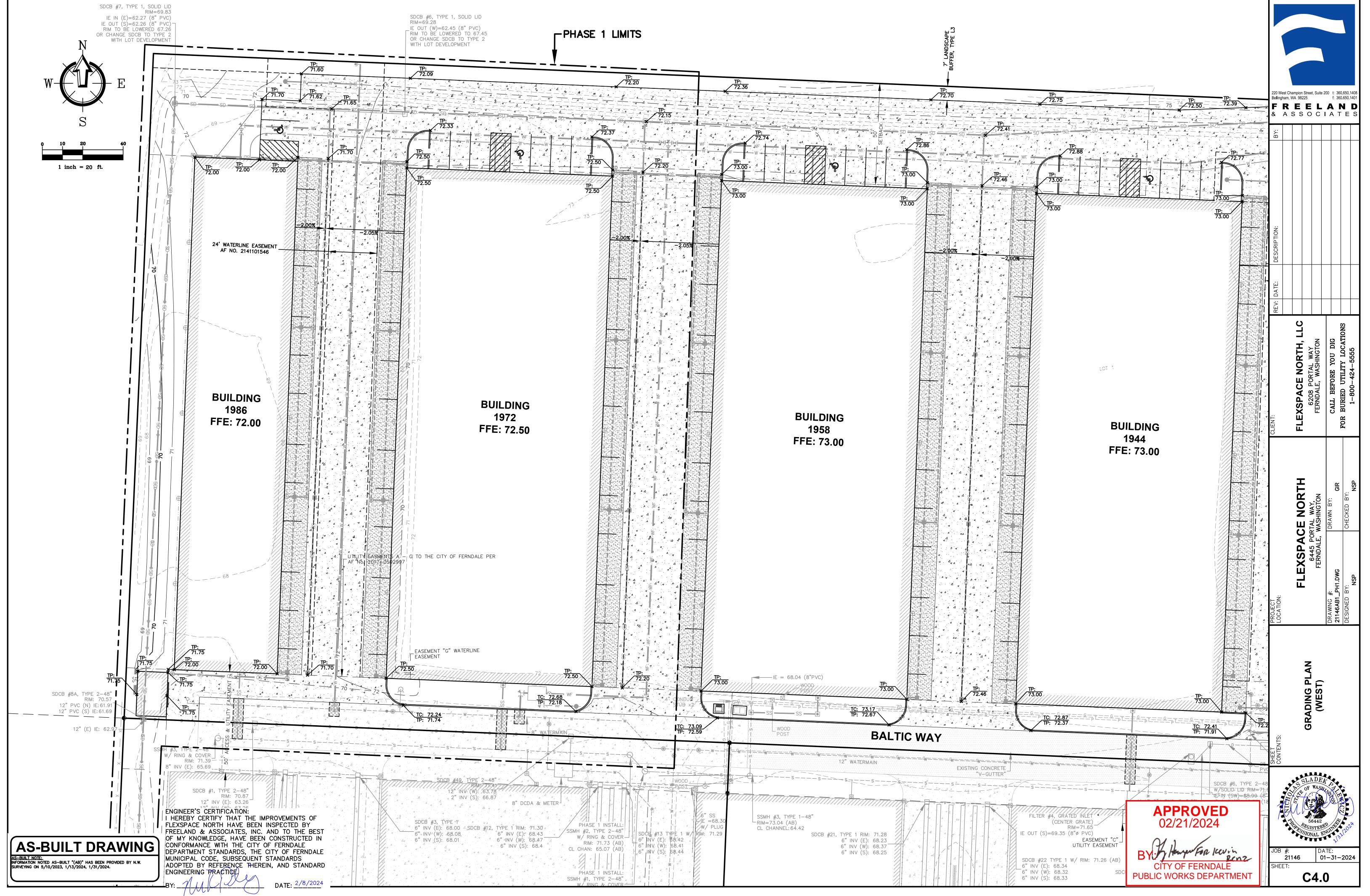
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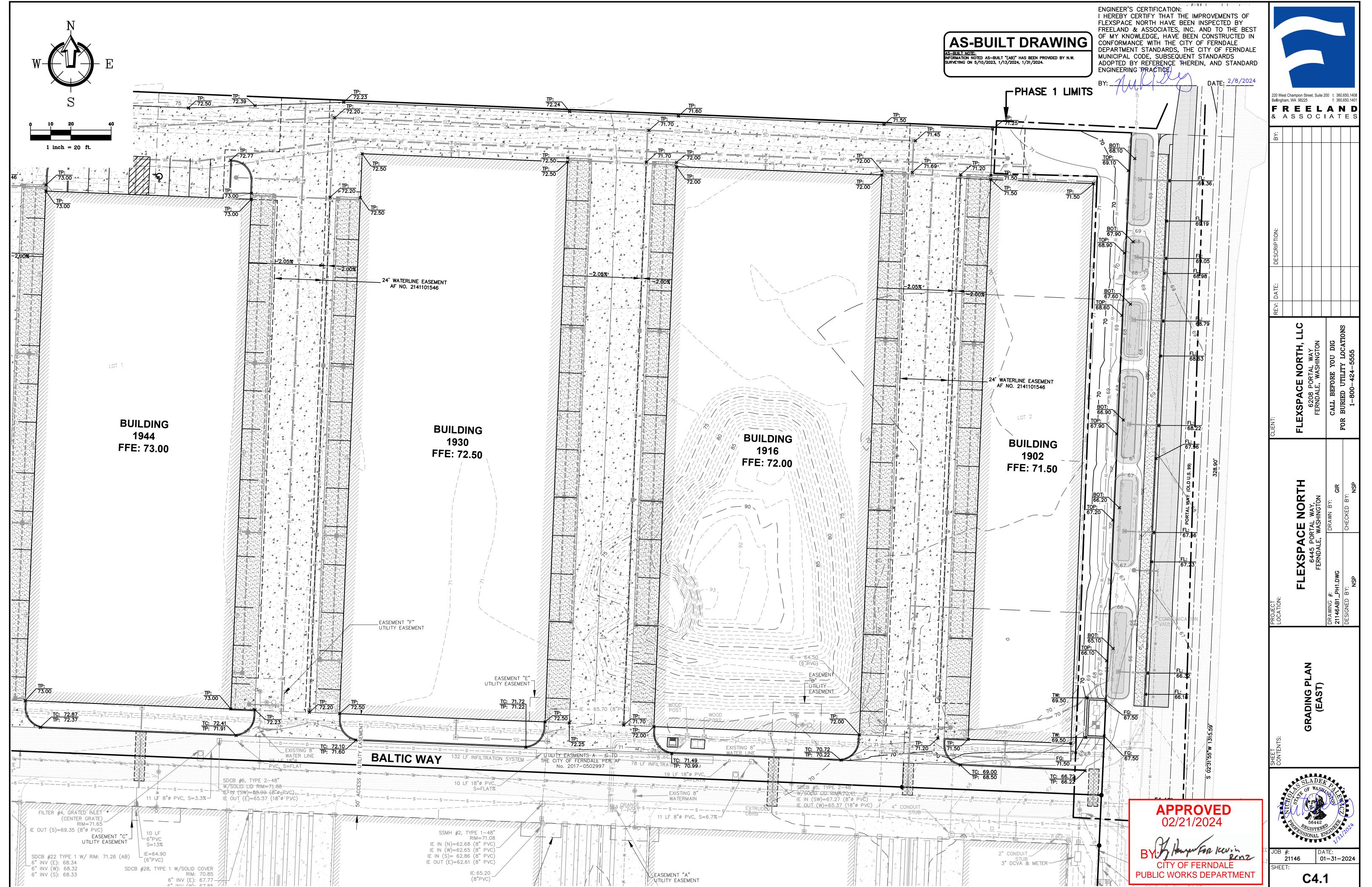


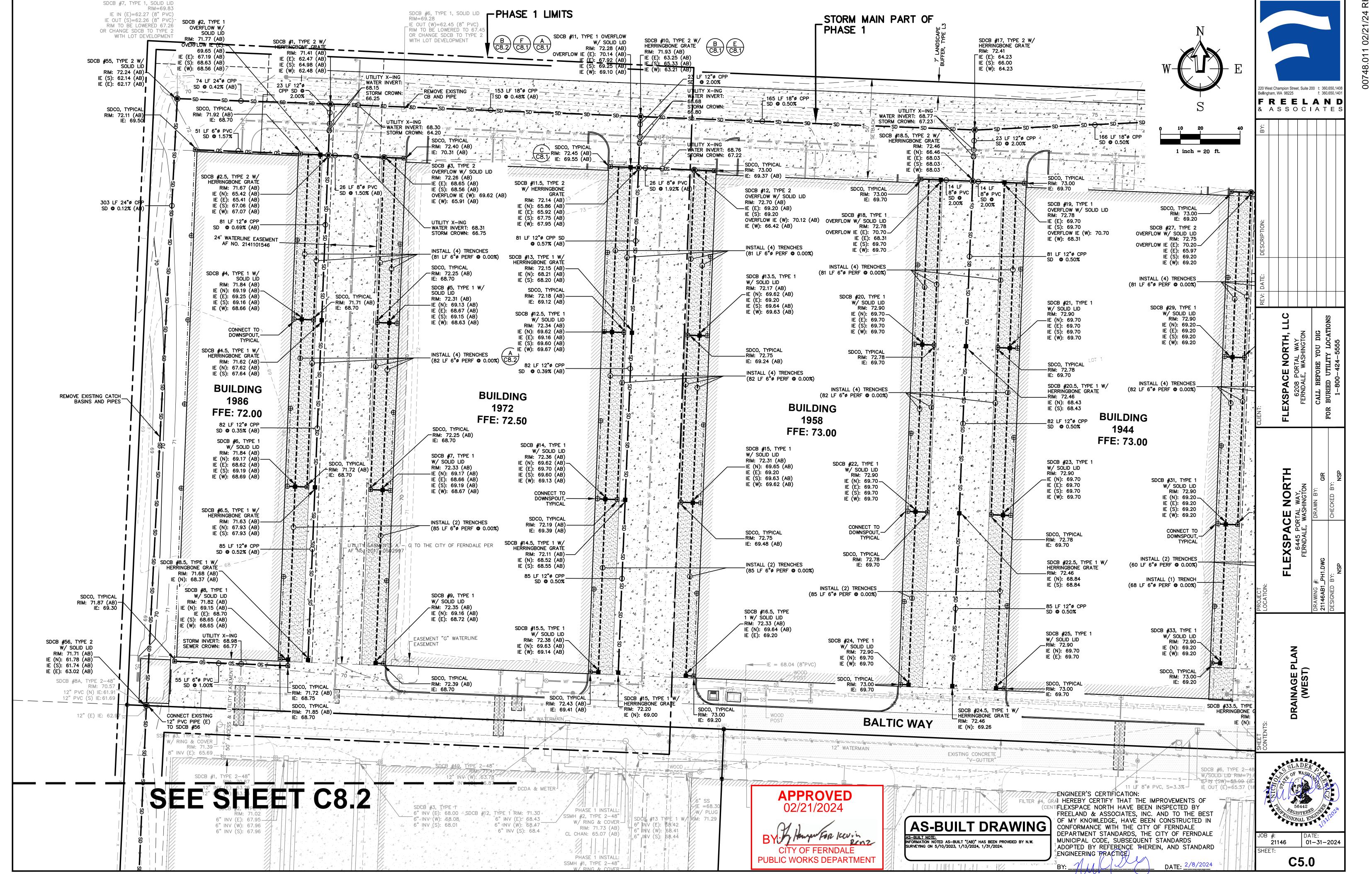
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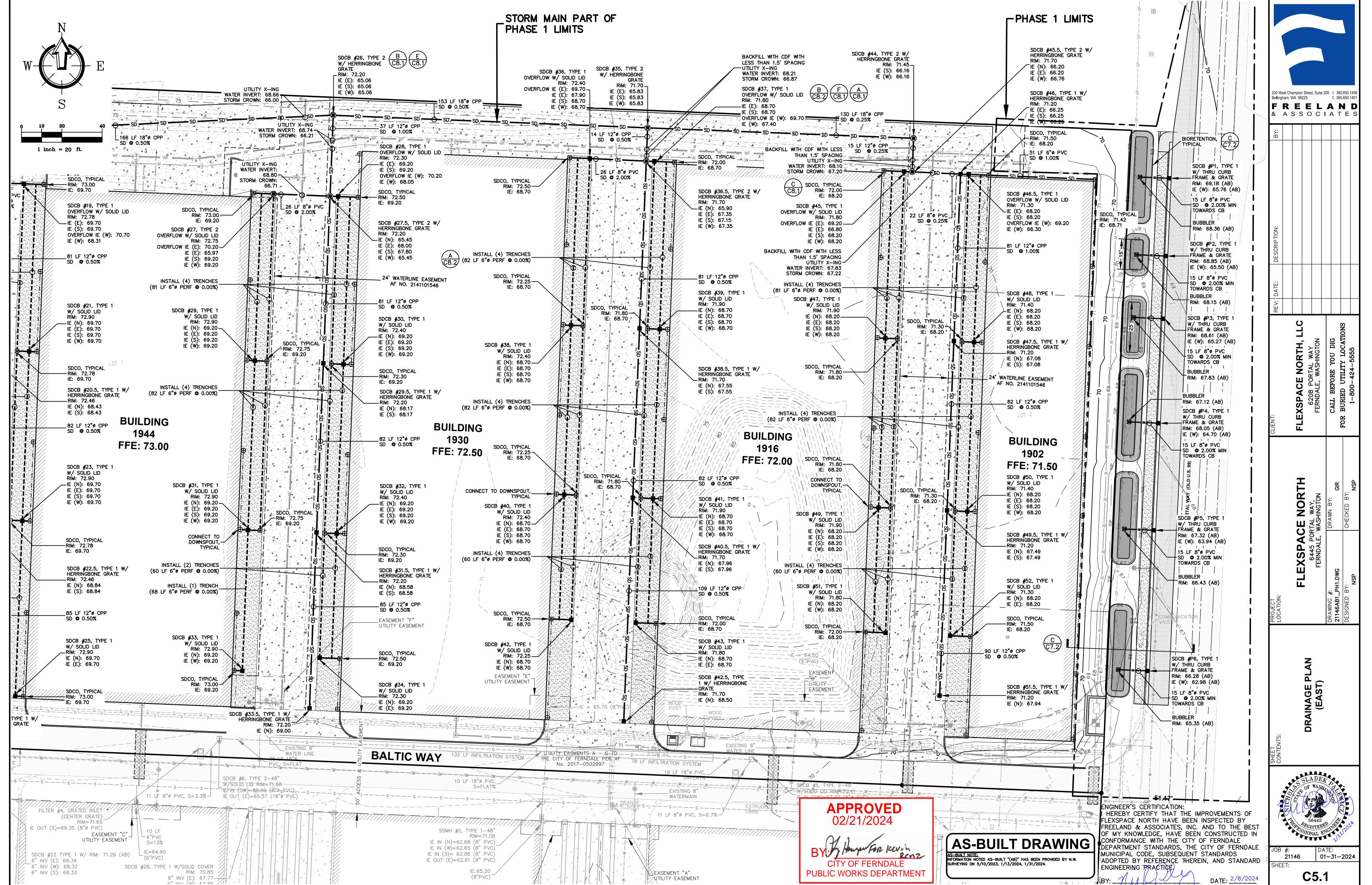


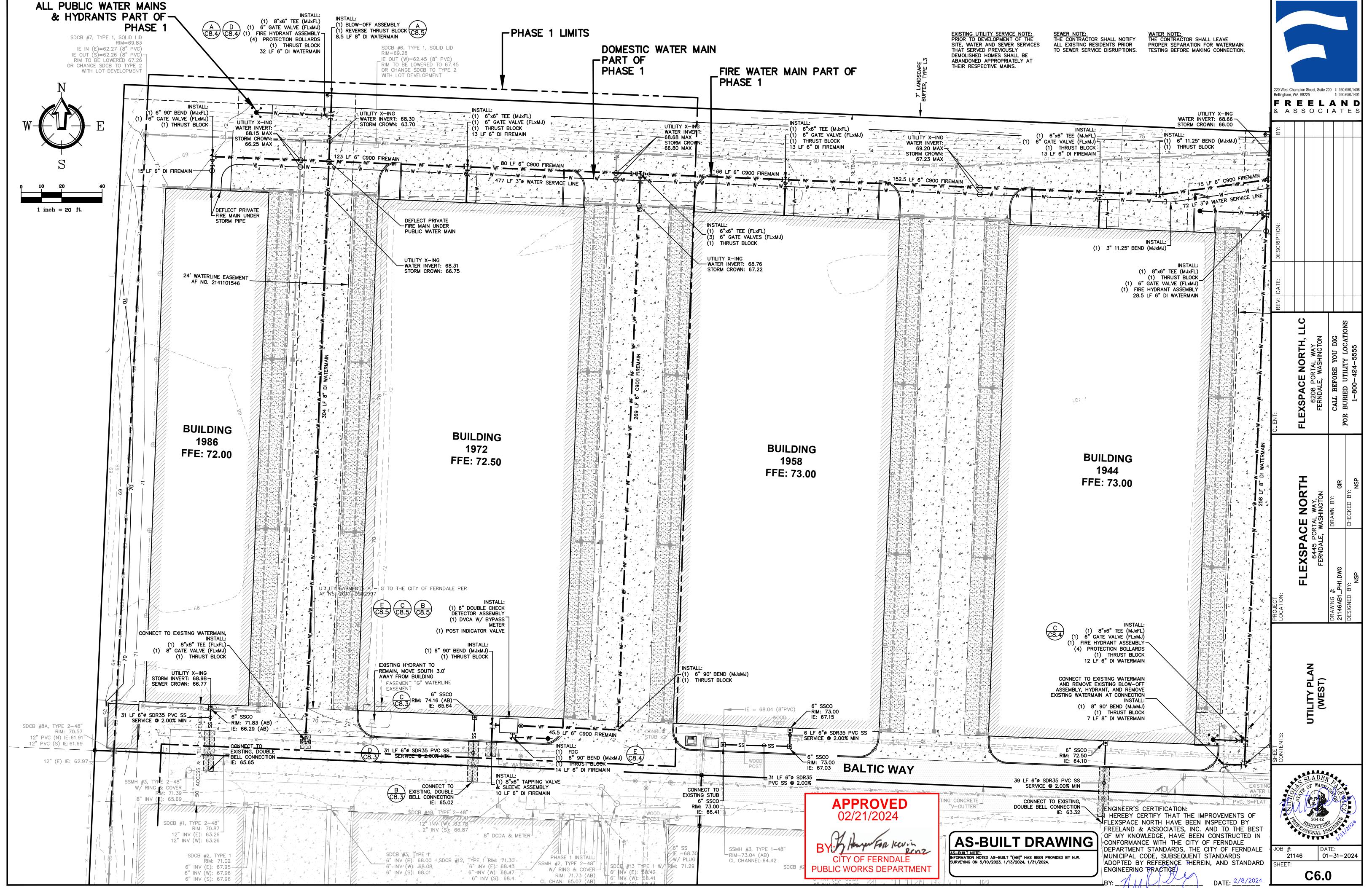


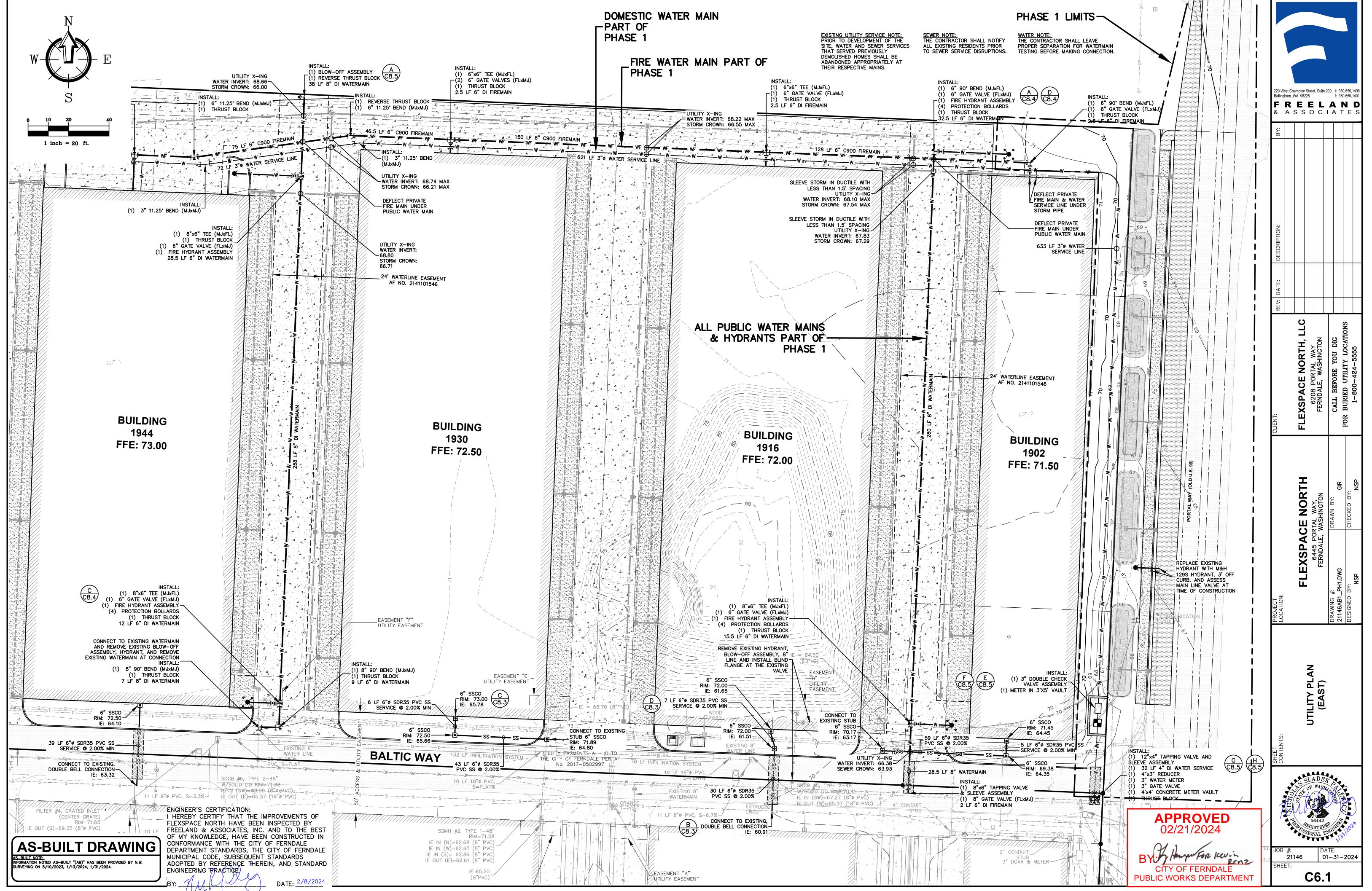








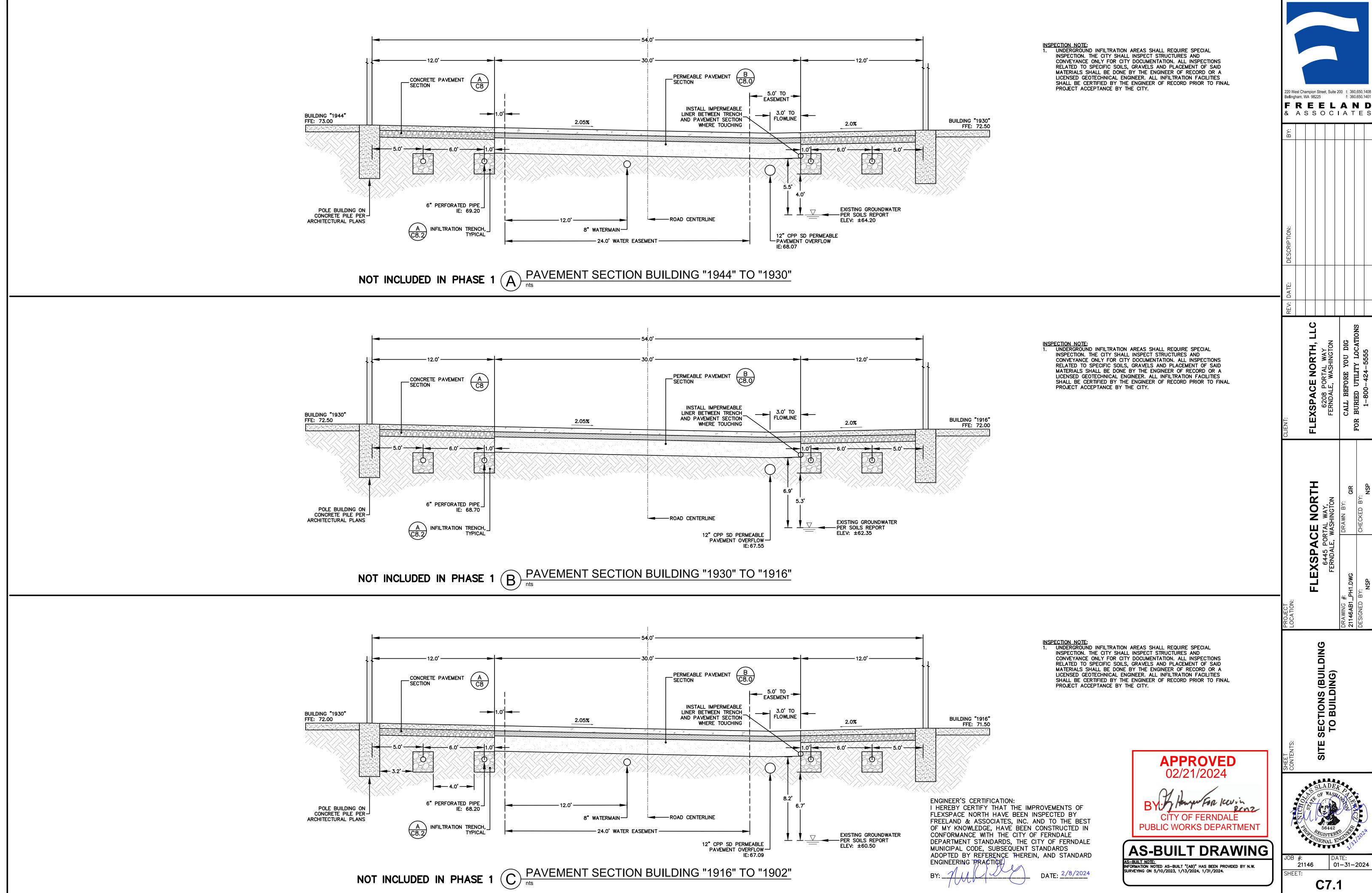


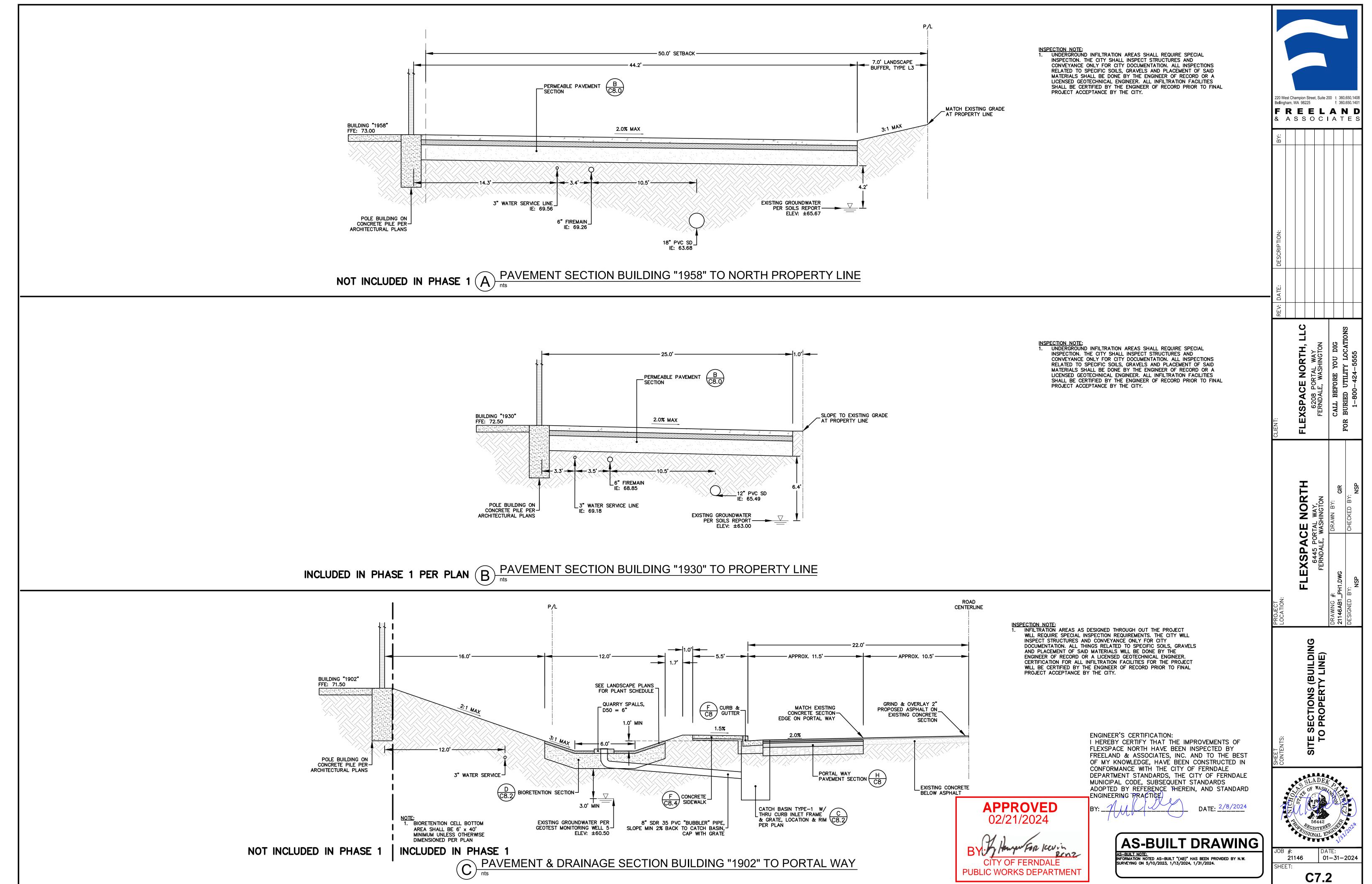


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C7.1





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FREELAND

& ASSOCIATES

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Bellingham, WA 98225

1. ALL DEPTHS REPRESENT COMPACTED DEPTHS. 1. ALL DEPTHS REPRESENT COMPACTED THICKNESSES. 2. CONTROL JOINTS (TOOLED) SHALL BE 10' O.C. MAXIMUM. CONTROL JOINTS SHALL BE 1/4 DEPTH OF SLAB. ALL CONSTRUCTION JOINTS SHALL BE DOWELED. 2. CONTROL JOINTS SHALL BE 1/4 DEPTH OF SLAB. 3. ALL TOPSOIL SHALL BE REMOVED UNDER PAVEMENT SECTION. 3. ALL CONSTRUCTION JOINTS SHALL BE DOWELED. 4. AFTER GRADING, THE EXISTING SUBRADE SHALL NOT BE COMPACTED OR SUBJECTED TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC. 5. IMMEDIATELY BEFORE BASE AGGREGATE AND CONCRETE PLACEMENT, REMOVE ANY ACCUMULATION OF FINE MATERIAL FROM EROSION WITH LIGHT EQUIPMENT AND SCARIFY SOIL TO A MINIMUM DEPTH OF 6 6. 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 7. BALLAST SECTION SHALL BE A BLEND OF CLEAN, CRUSHED, ANGULAR, WASHED ROCK WITH NO FINES RANGING FROM ₹" TO 11 IN GENERAL SIZE 8. TREATMENT LAYER SHALL BE A BLEND OF \$\frac{3}{4}\$ SILTY SAND AND \$\frac{1}{4}\$ CLEAN SAND COMPACTED TO 93% MAXIMUM DRY DENSITY. BOTH SAND TYPES ARE PRESENT ON SITE AND ARE SUITABLE FOR USE IN 9. A QUALIFIED GEOTECHNICAL PROFESSIONAL MUST BE PRESENT DURING THE EXCAVATION AND 6" PORTLAND CEMENT CONCRETE WITH 32 BACKFILL OF THE PERMEABLE CONCRETE TO ENSURE THAT THE LONG TERM INFILTRATION RATES, LBS. NOVOMESH 850 (OR EQUAL) PER SOIL CONDITIONS, TREATMENT LAYER, AND INFILTRATION CHARACTERISTICS MEET THE APPROVED CU.YD., 650 PSI FLEX STRENGTH @ 14 DESIGN. THIS SHALL BE ACCOMPLISHED BY PROVIDING THE CITY A MEMORANDUM, SIGNED AND SEALED BY THE PROJECT GEOTECHNICAL ENGINEER OR GEOLOGIST STATING THE FOUND GEOLOGICAL DAYS, 3,500 PSI COMPRESSIVE STRENGTH @ 28 DAYS, CONTROL JOINTS (TOOL OR CONDITIONS MATCH THE APPROVED DESIGN. SAWCUT) @ 10' O.C. 8" GRAVEL BASE - COMPACTED TO 95% MAX DENSITY, MODIFIED PROCTOR EXISTING SUBGRADE OR - STRUCTURAL FILL COMPACTED TO 95% MAX DENSITY GEOTEXTILE LAYER — CONCRETE PAVEMENT SUBGRADE AND GRAVEL BASE NOTES: (1) STRUCTURAL FILL SHALL BE PLACED IN HORIZONTAL LIFTS APPROXIMATELY 8 TO 10 INCHES IN LOOSE THICKNESS AND THOROUGHLY COMPACTED. THE FILL SHALL BE COMPACTED TO A MINIMUM OF 92 PERCENT, EXCEPT THE UPPER 24 INCHES OF SUBGRADE, WHICH SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY. (2) STRUCTURAL FILL SHALL CONSIST OF CLEAN, WELL-GRADED SANDY GRAVEL, GRAVELLY SAND, OR OTHER APPROVED NATURALLY OCCURRING GRANULAR MATERIAL (PIT RUN) WITH AT LEAST 40 PERCENT RETAINED ON THE NO. 4 SIEVE, OR A WELL-GRADED CRUSHED ROCK. —— 6" PERMEABLE PAVEMENT (3) DRY WEATHER STRUCTURAL FILL MAY CONTAIN UP TO 10% FINES PASSING THE U.S. NO. 200 SIEVE. WET WEATHER STRUCTURAL FILL MAY NOT CONTAIN MORE THAN 5 PERCENT FINES PASSING THE U.S. NO. 200 SIEVE. THE CONTRACTOR SHALL MONITOR THE WEATHER AND DETERMINE THE APPROPRIATE FILL TO UTILIZE ON SITE TO ENSURE THAT THE ABOVE COMPACTION REQUIREMENTS ARE MET. — 18" ENGINEERED TREATMENT SAND LAYER (4) IF APPROVED BY A GEOTECHNICAL ENGINEER, STRUCTURAL FILL NOT MEETING THE ABOVE REQUIREMENTS CAN BE USED FOR FILL BELOW 24" OF FINAL GRADE. THE CONTRACTOR SHALL NOTIFY EXISTING NATIVE SUBGRADE THE ENGINEER OF RECORD IN WRITING. GEOTECHNICAL RECOMENDATIONS/APPROVAL SHALL ACCOMPANY THE NOTIFICATION. B PERMEABLE PAVEMENT SECTION nts ON-SITE PAVEMENT SECTION nts ENGINEER'S CERTIFICATION: I HEREBY CERTIFY THAT THE IMPROVEMENTS OF FLEXSPACE NORTH HAVE BEEN INSPECTED BY FREELAND & ASSOCIATES, INC. AND TO THE BEST OF MY KNOWLEDGE, HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE CITY OF FERNDALE DEPARTMENT STANDARDS, THE CITY OF FERNDALE MUNICIPAL CODE, SUBSEQUENT STANDARDS ADOPTED BY REFERENCE THEREIN, AND STANDARD ENGINEERING PRACTICE. PLANE 2" DEPTH DEPRESSED OURS AND GUTTER SECTION AT CURE RAMPS AND DRIVEWAY ENTRANCES · 2" FIRST LIFT HMA--- See Standard Plan F-30,19 for Curb Expansion and Contraction Jent spacing, See Standard Specification, Sections 8-64 and 9-64 for additional requirements. 3" COMPACTED CRUSHED --SURFACING TOP COURSE AT CURE RAMPS, LANGENSS, AND DRIVEWAY ENTRANCES STANDARD PLAN F-10.12-04 8.00 22 - 5 000 to 600 to TRAFFIC OURS NOTE: 1. TAC REQUIRED BETWEEN PAVED SURFACES, USE CSS1 EXCEPT WHERE PETRO-TAC IS SPECIFIED. APR/L 21, 2017 PETRO-TAC PLACEMENT

8/11/17

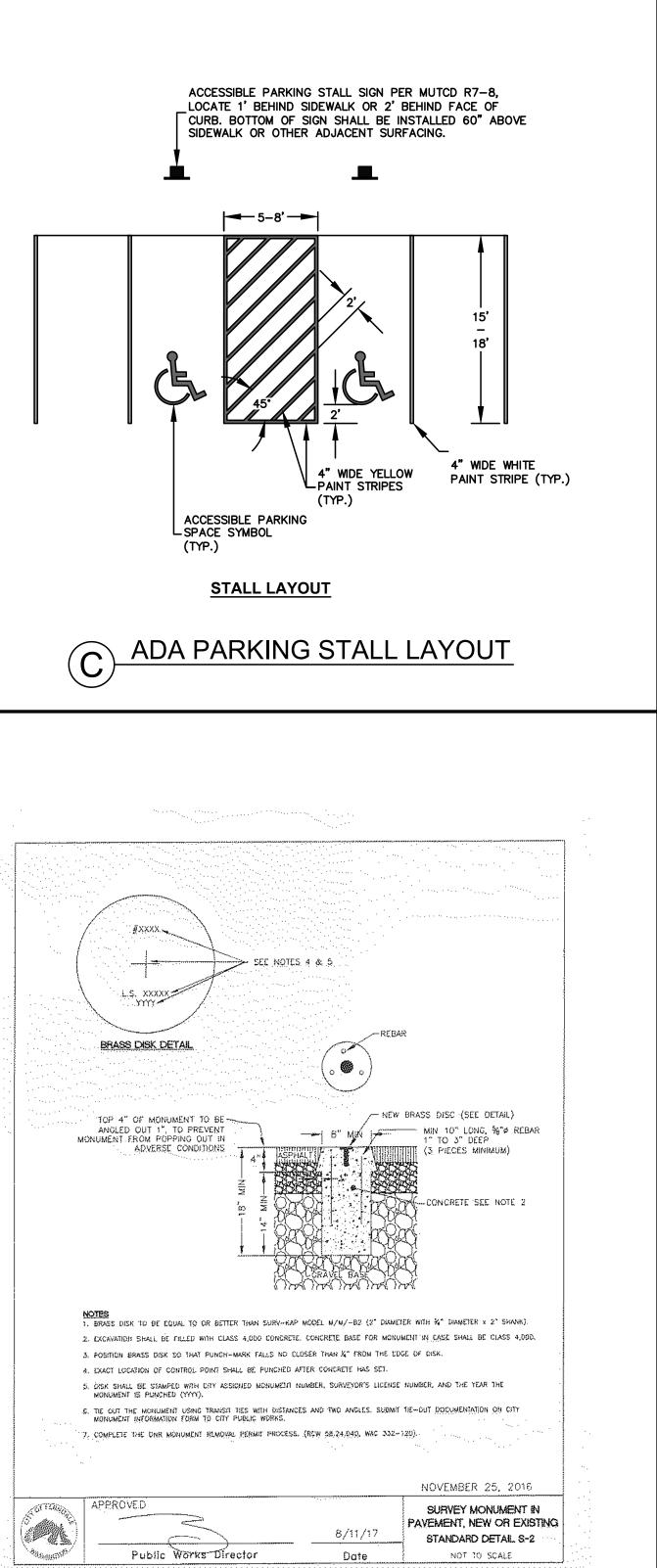
EXISTING ROADWAY RESTORATION REPAIR

Public Works Director

STANDARD DETAIL R-11A

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CONCRETE PEDESTRIAN CURB



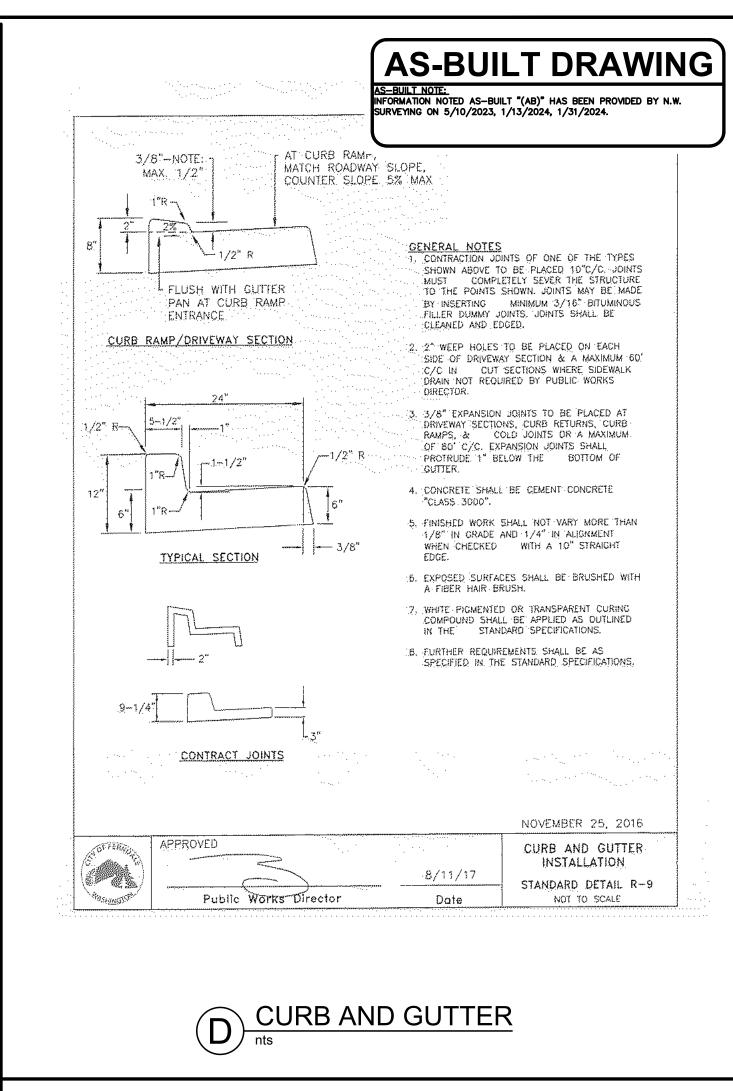
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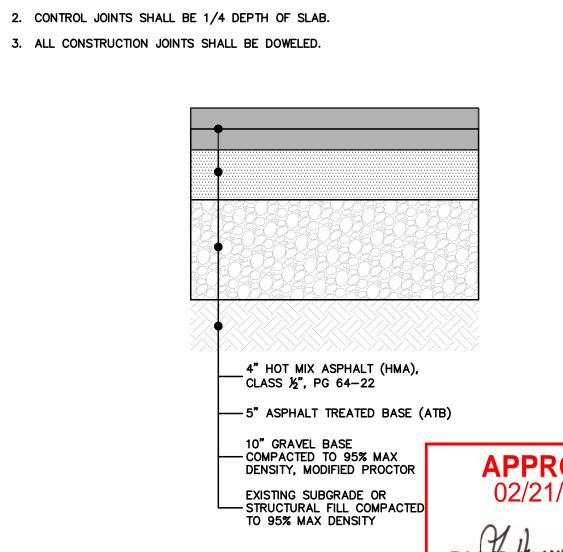
SEE PLAN FOR FOR ACTUAL CONFIGURATION &

WHITE PAINT STRIPE

LOCATIONS OF ACCESSIBLE STALLS & AISLES

ACCESSIBLE PARKING SYMBOL







SUBGRADE AND GRAVEL BASE NOTES:

1. ALL DEPTHS REPRESENT COMPACTED THICKNESSES.

(1) STRUCTURAL FILL SHALL BE PLACED IN HORIZONTAL LIFTS APPROXIMATELY 8 TO 10 INCHES IN LOOSE THICKNESS AND THOROUGHLY COMPACTED. THE FILL SHALL BE COMPACTED TO A MINIMUM OF 92 PERCENT, EXCEPT THE UPPER 24 INCHES OF SUBGRADE, WHICH SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY.

(2) STRUCTURAL FILL SHALL CONSIST OF CLEAN, WELL-GRADED SANDY GRAVEL, GRAVELLY SAND, OR OTHER APPROVED NATURALLY OCCURRING GRANULAR MATERIAL (PIT RUN) WITH AT LEAST 40 PERCENT RETAINED ON THE NO. 4 SIEVE, OR A WELL-GRADED CRUSHED ROCK.

(3) DRY WEATHER STRUCTURAL FILL MAY CONTAIN UP TO 10% FINES PASSING THE U.S. NO. 200 SIEVE. WET WEATHER STRUCTURAL FILL MAY NOT CONTAIN MORE THAN 5 PERCENT FINES PASSING THE U.S. NO. 200 SIEVE. THE CONTRACTOR SHALL MONITOR THE WEATHER AND DETERMINE THE APPROPRIATE FILL TO

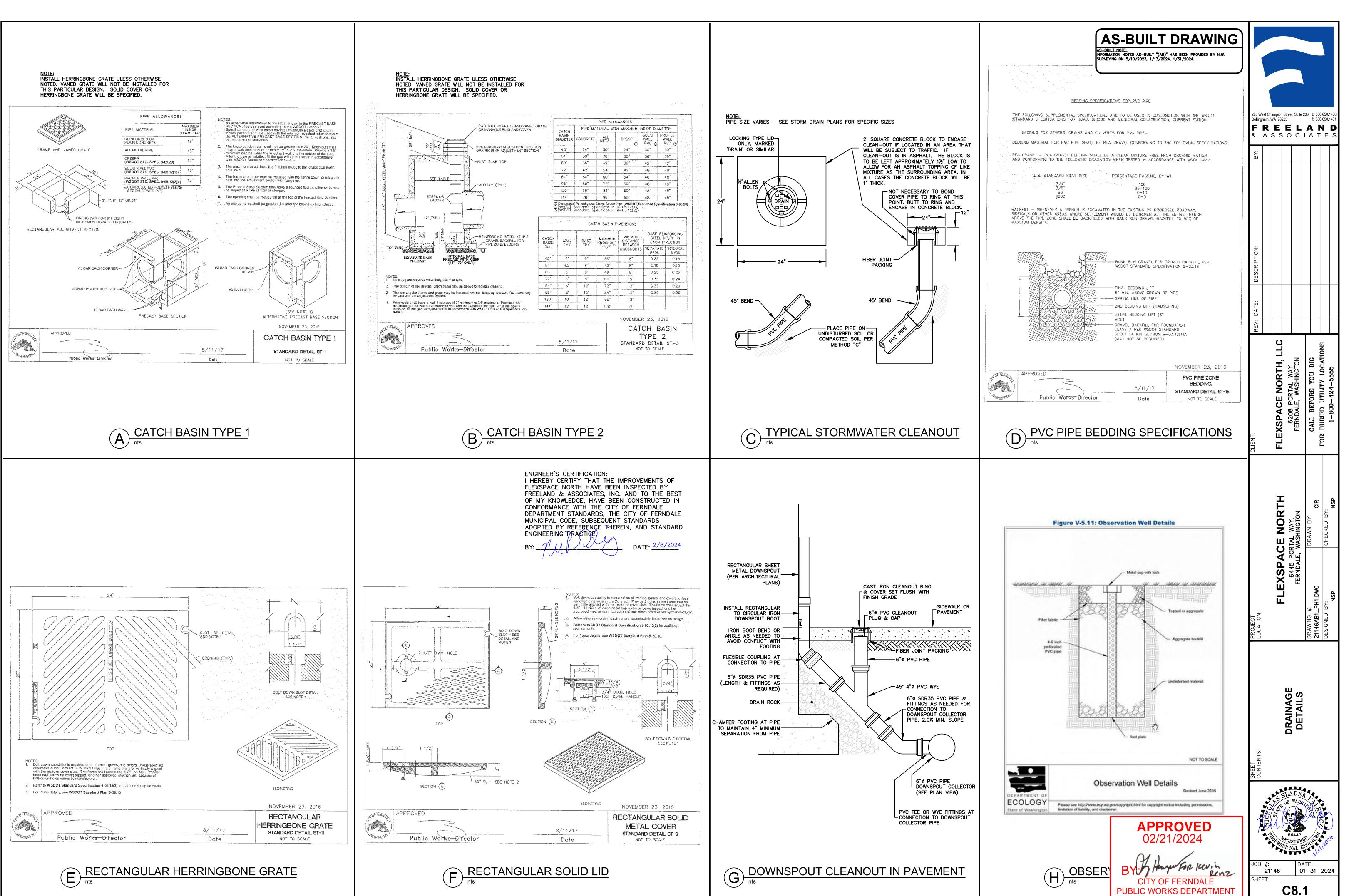
UTILIZE ON SITE TO ENSURE THAT THE ABOVE COMPACTION REQUIREMENTS ARE MET. (4) IF APPROVED BY A GEOTECHNICAL ENGINEER, STRUCTURAL FILL NOT MEETING THE ABOVE REQUIREMENTS CAN BE USED FOR FILL BELOW 24" OF FINAL GRADE. THE CONTRACTOR SHALL NOTIFY

PORTAL WAY PAVEMENT SECTION

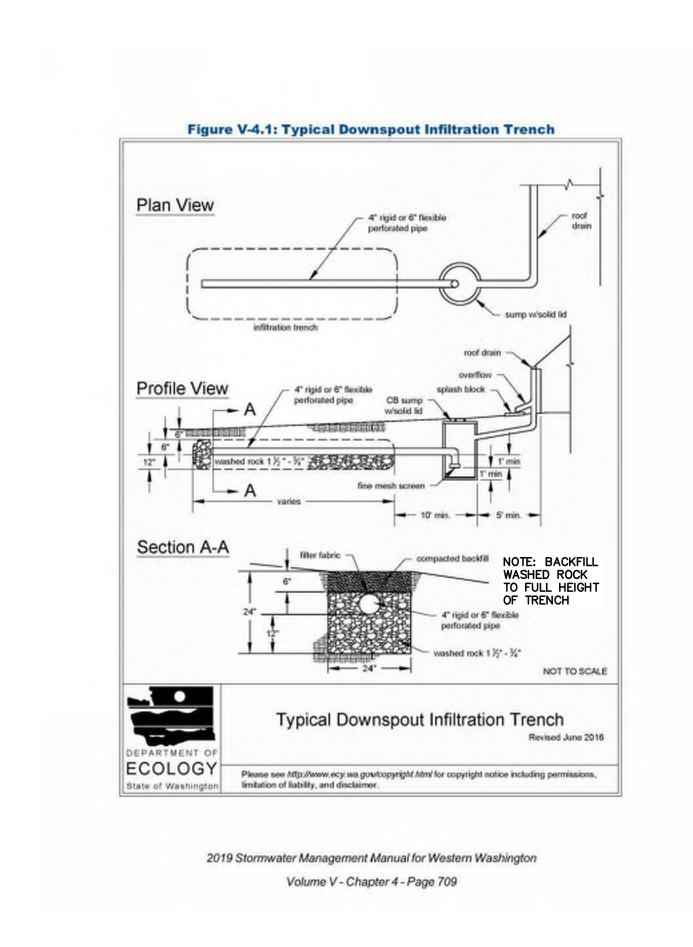
SIONAL ENG THE ENGINEER OF RECORD IN WRITING. GEOTECHNICAL RECOMENDATIONS/APPROVAL SHALL ACCOMPANY THE NOTIFICATION. 01-31-2024 21146

C8.0

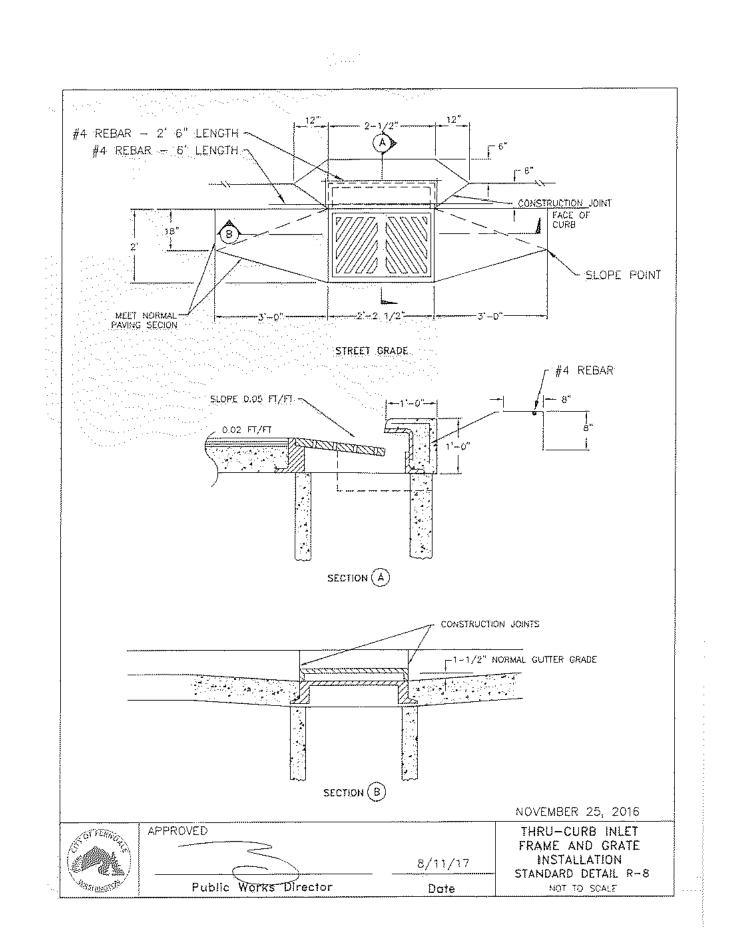
XSI



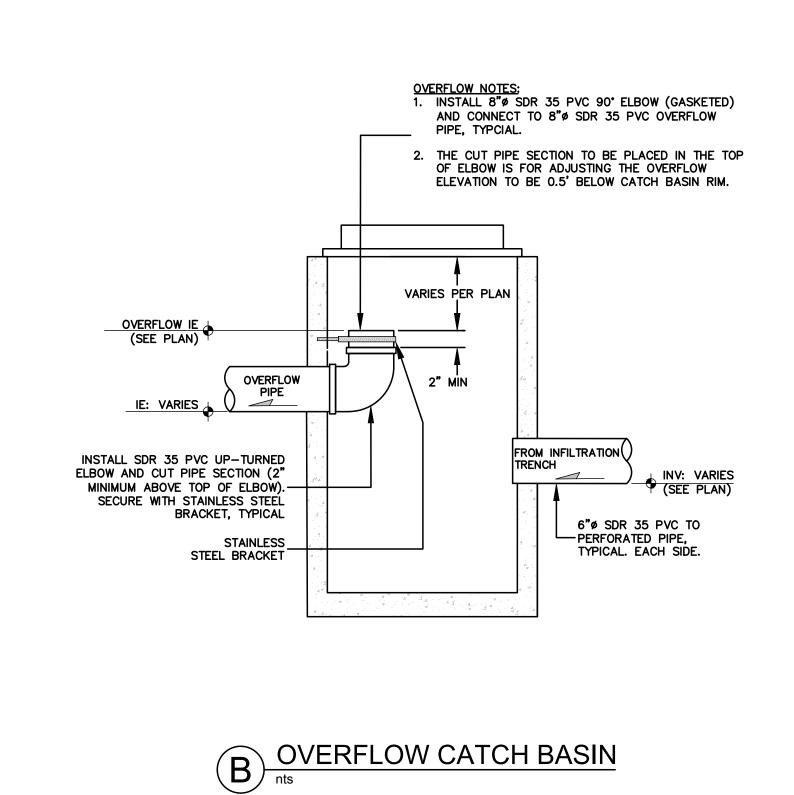
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THRU CURB INLET FRAME & GRATE



NOTES ON BIORETENTION SOIL MIX:

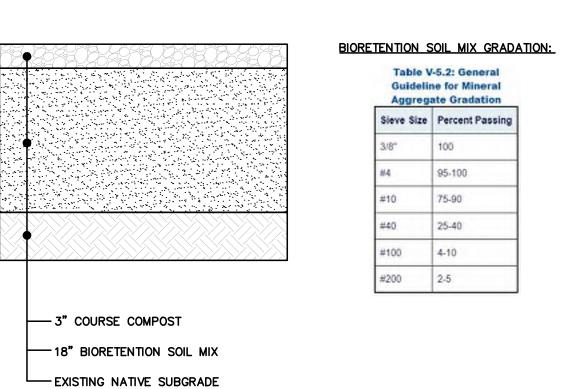
1. MINERAL AGGREGATE FOR DEFAULT BSM:

PERCENT FINES: A RANGE OF 2 TO 4 PERCENT PASSING THE #200 SIEVE IS IDEAL AND FINES SHOULD NOT BE ABOVE 5 PERCENT FOR A PROPER FUNCTIONING SPECIFICATION ACCORDING TO ASTM D422.

2. AGGREGATE GRADATION FOR DEFAULT BSM:

THE AGGREGATE PORTION OF THE BSM SHOULD BE WELL-GRADED. ACCORDING TO ASTM D 2487-98 (CLASSIFICATION OF SOILS FOR ENGINEERING PURPOSES (UNIFIED SOIL CLASSIFICATION SYSTEM)), WELL-GRADED SAND SHOULD HAVE THE

- COEFFICIENT OF UNIFORMITY (CU = D60/D10) EQUAL TO OR GREATER THAN 4
 COEFFICIENT OF CURVE (CC = (D30)2/D60 X D10) GREATER THAN OR EQUAL TO
- 1 AND LESS THAN OR EQUAL TO 3
 3. GRADATION GUIDELINE FROM THE 2019 DOE SWMMWW SHOWN IN TABLE BELOW



<u>COMPOST</u>

TO ENSURE THAT THE BSM WILL SUPPORT HEALTHY PLANT GROWTH AND ROOT DEVELOPMENT, CONTRIBUTE TO BIOFILTRATION OF POLLUTANTS, AND NOT RESTRICT INFILTRATION WHEN USED IN THE PROPORTIONS CITED HEREIN, THE FOLLOWING COMPOST STANDARDS ARE REQUIRED.

• MEETS THE DEFINITION OF "COMPOSTED MATERIALS" IN WAC 173-350-220 (INCLUDING CONTAMINANT LEVELS AND OTHER STANDARDS), AVAILABLE ONLINE AT

HTTP: //WWW.ECY.WA.GOV/PROGRAMS/SWFA/ORGANICS/SOIL.HTML

• PRODUCED AT A COMPOSTING FACILITY PERMITTED BY THE WA DEPARTMENT OF ECOLOGY. A CURRENT LIST OF PERMITTED FACILITIES IS AVAILABLE AT HTTP: //WWW.ECY.WA.GOV/PROGRAMS/SWFA/COMPOST/

• THE COMPOST PRODUCT MUST ORIGINATE A MINIMUM OF 65 PERCENT BY VOLUME FROM RECYCLED PLANT WASTE AS DEFINED IN WAC 173-350-100 AS "TYPE I FEEDSTOCKS." A MAXIMUM OF 35 PERCENT BY VOLUME OF OTHER APPROVED ORGANIC WASTE AS DEFINED IN WAC 173-350-100 AS "TYPE III", INCLUDING POSTCONSUMER FOOD WASTE, BUT NOT INCLUDING BIOSOLIDS, MAY BE SUBSTITUTED FOR RECYCLED PLANT WASTE. TYPE II AND IV FEEDSTOCKS SHALL NOT BE USED FOR THE COMPOST GOING INTO BIORETENTION FACILITIES OR RAIN GARDENS

- STABLE (LOW OXYGEN USE AND CO2 GENERATION) AND MATURE (CAPABLE OF SUPPORTING PLANT GROWTH) BY TESTS SHOWN BELOW. THIS IS CRITICAL TO PLANT SUCCESS IN A BIORETENTION SOIL MIXES.
 MOISTURE CONTENT RANGE: NO VISIBLE FREE WATER OR DUST PRODUCED WHEN HANDLING THE MATERIAL.
- TESTED IN ACCORDANCE WITH THE U.S. COMPOSTING COUNCIL "TESTING METHODS FOR THE EXAMINATION OF COMPOST AND COMPOSTING" (TMECC), AS ESTABLISHED IN THE COMPOSTING COUNCIL'S "SEAL OF TESTING ASSURANCE" (STA) PROGRAM. MOST WASHINGTON COMPOST FACILITIES NOW USE THESE TESTS.

 SCREENED TO THE SIZE GRADATIONS FOR FINE COMPOST UNDER TMECC TEST METHOD OF THE LOW.
- SCREENED TO THE SIZE GRADATIONS FOR FINE COMPOST UNDER TMECC TEST METHOD 02.02-B (GRADATIONS ARE SHOWN IN THE SPECIFICATION IN AN APPENDIX OF THE LOW IMPACT DEVELOPMENT TECHNICAL GUIDANCE MANUAL FOR PUGET SOUND)

PH BETWEEN 6.0 AND 8.5 (TMECC 04.11-A). IF THE PH FALLS OUTSIDE OF THE ACCEPTABLE RANGE, IT MAY BE MODIFIED WITH LIME TO INCREASE THE PH OR IRON SULFATE PLUS SULFUR TO LOWER THE PH. THE LIME OR IRON SULFATE MUST BE MIXED UNIFORMLY INTO THE SOIL PRIOR TO USE IN THE BIORETENTION AREA.

• MANUFACTURED INERT CONTENT LESS THAT 1% BY WEIGHT (TMECC 03.08-A)
• MINIMUM ORGANIC MATTER CONTENT OF 40% (TMECC 05.07-A)

• SOLUBLE SALT CONTENT LESS THAN 4.0 MMHOS/CM (TMECC 04.10-A)

- MATURITY GREATER THAN 80% (TMECC 05.05-A "GERMINATION AND VIGOR")
 STABILITY OF 7 OR BELOW (TMECC 05.08-B "CARBON DIOXIDE EVOLUTION RATE")
- CARBON TO NITROGEN RATIO (TMECC 04.01 "TOTAL CARBON" AND 04.02D "TOTAL KJELDAHL NITROGEN") OF LESS THAN 25:1. THE C:N RATIO MAY BE UP TO 35:1 FOR PLANTINGS COMPOSED ENTIRELY OF PUGET SOUND LOWLAND NATIVE SPECIES AND UP TO 40:1 FOR COARSE COMPOST TO BE USED AS A SURFACE MULCH (NOT IN A SOIL MIX).

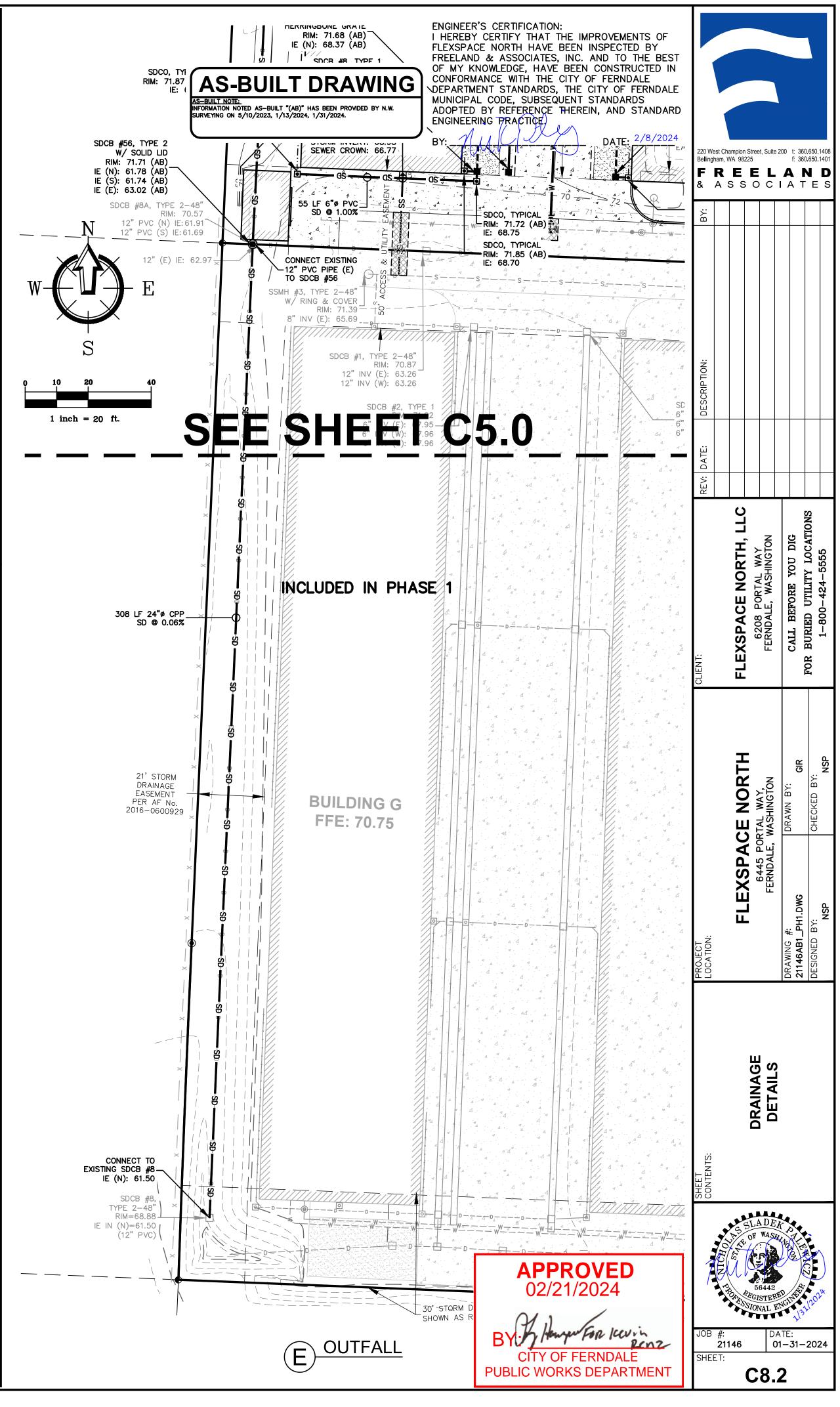
TESC

WITHOUT UNDERDRAIN:

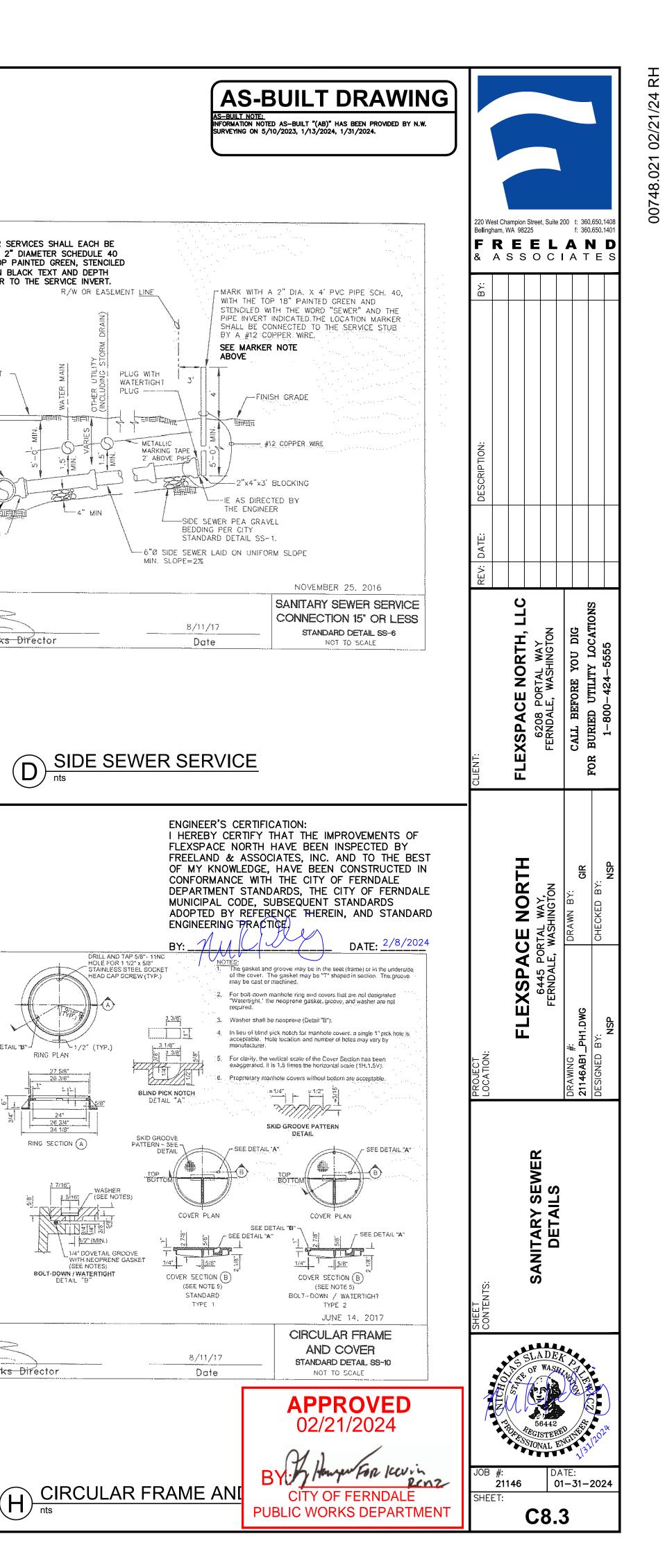
CONTROLLING EROSION AND SEDIMENT ARE MOST DIFFICULT DURING CLEARING, GRADING, AND CONSTRUCTION; ACCORDINGLY, MINIMIZING SITE DISTURBANCES TO THE GREATEST EXTENT PRACTICABLE IS THE MOST EFFECTIVE SEDIMENT MANAGEMENT. ALWAYS KEEP CONSTRUCTION TRAFFIC OFF OF BIORETENTION AREA.

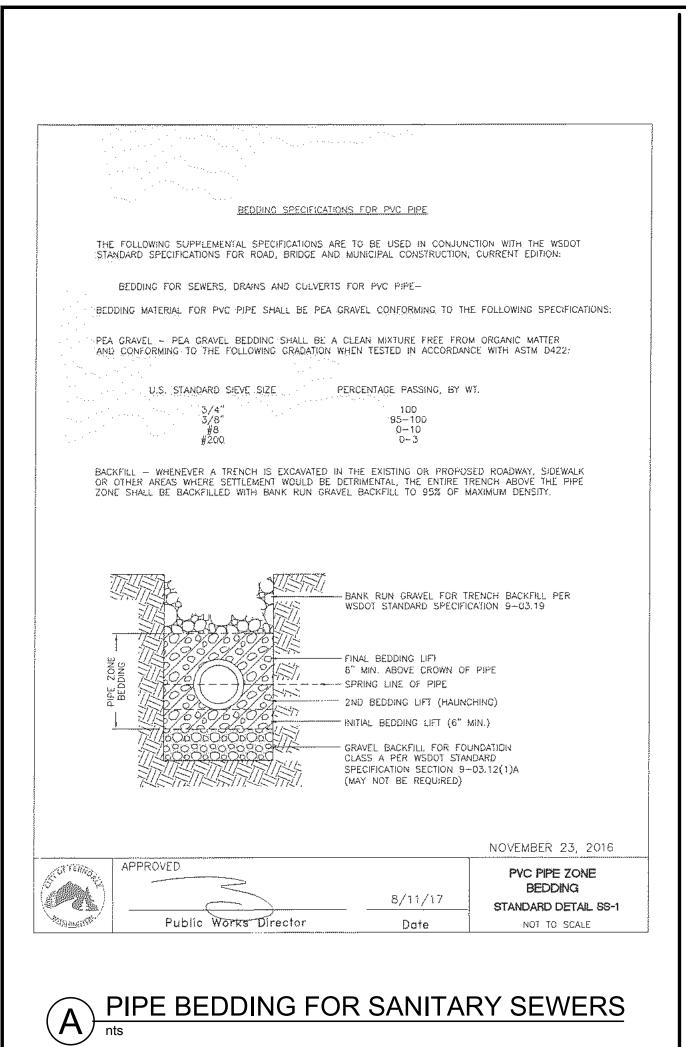
- BIORETENTION AREAS SHOULD NOT BE USED AS SEDIMENT CONTROL FACILITIES AND ALL DRAINAGE SHOULD BE DIRECTED AWAY FROM BIORETENTION AREAS AFTER INITIAL ROUGH GRADING. FLOW CAN BE DIRECTED AWAY FROM THE FACILITY WITH TEMPORARY DIVERSION SWALES OR OTHER APPROVED PROTECTION.
- 2. CONSTRUCTION ON BIORETENTION FACILITIES SHOULD NOT BEGIN UNTIL ALL CONTRIBUTING DRAINAGE AREAS ARE STABILIZED ACCORDING TO EROSION AND SEDIMENT CONTROL BMPs.
- 3. IF THE DESIGN INCLUDES CURB AND GUTTER, THE CURB CUTS AND INLETS SHOULD BE BLOCKED UNTIL BSM AND MULCH HAVE BEEN PLACED AND PLANTING IS COMPLETED.

 IF IT BECOMES UNAVOIDABLE TO PREVENT STORMWATER RUNOFF FROM ENTERING THE BIORETENTION FACILITY DURING CONSTRUCTION, ADDITIONAL SEDIMENT CONTROLS AND ALTERED CONSTRUCTION TECHNIQUES MUST BE EMPLOYED.
- 1. INSTALL ADDITIONAL SEDIMENT CONTROLS, SUCH AS A TEMPORARY FOREBAY TO LOCALIZE SEDIMENT.
- 2. LEAVE TEMPORARY GRADE AT LEAST 6 INCHES ABOVE FINAL GRADE.
- 3. LINE BIORETENTION FACILITY WITH PLASTIC OR 6 INCH THICK BLANKET OF MULCH.



D BIORETENTION SECTION AND PLANT SPECIFICATIONS
nts





→ MANHOLE RING AND COVER

- ECCENTRIC CONE SECTION

RECAST RISER SECTIONS

- CHANNEL AND SHELF

MANHOLE DIMENSION TABLE

MAXIMUM

KNOCKOUT

SIZE

36"

48"

E MANHOLE TYPE 1

- REINFORCING STEEL (TYP.)

DISTANCE BETWEEN

8/11/17

Date

0.19

0.25

CIRCULAR ADJUSTMENT SECTION (TYP.)

16" MAX.

48", 54", OR 60"

STEPS OR LADDER

BASE

THICKNESS

Public Works Director

SEPARATE BASE

WALL

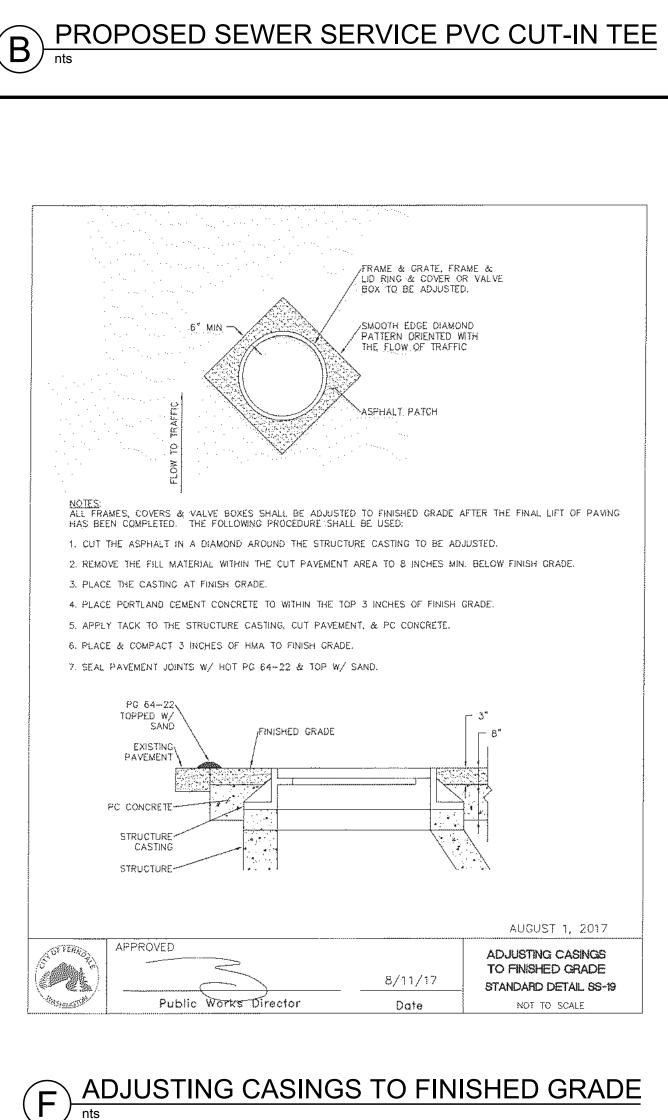
APPROVED

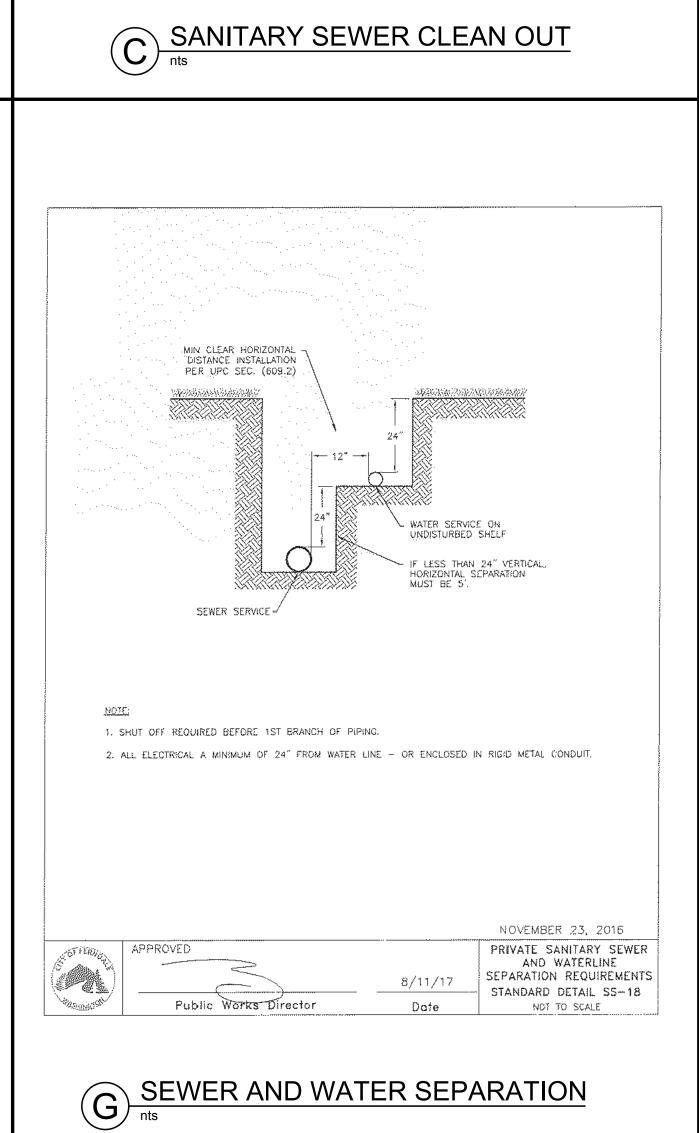
THICKNESS

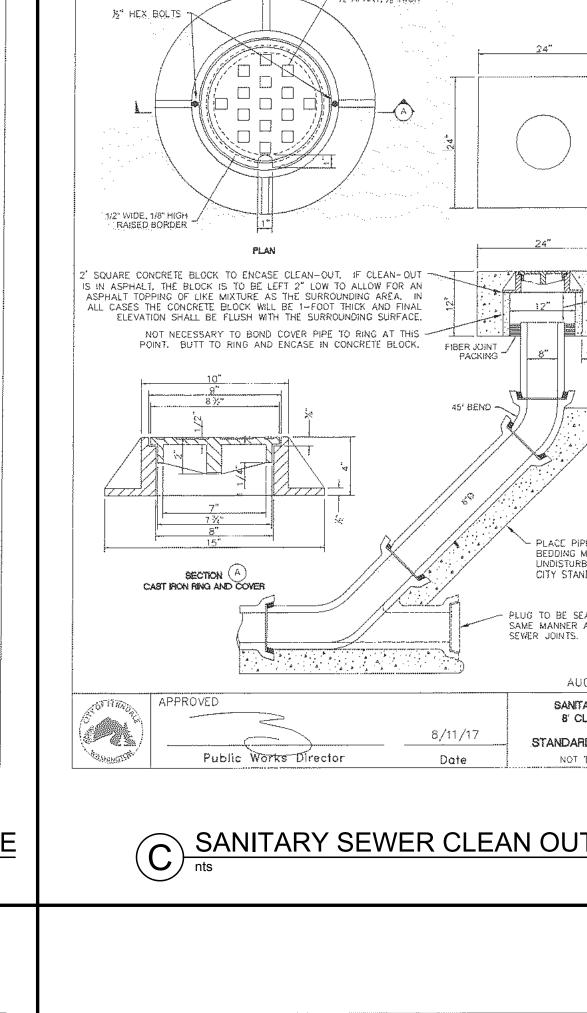
GRAVEL BACKFILL FOR _____ PIPE ZONE BEDDING ___

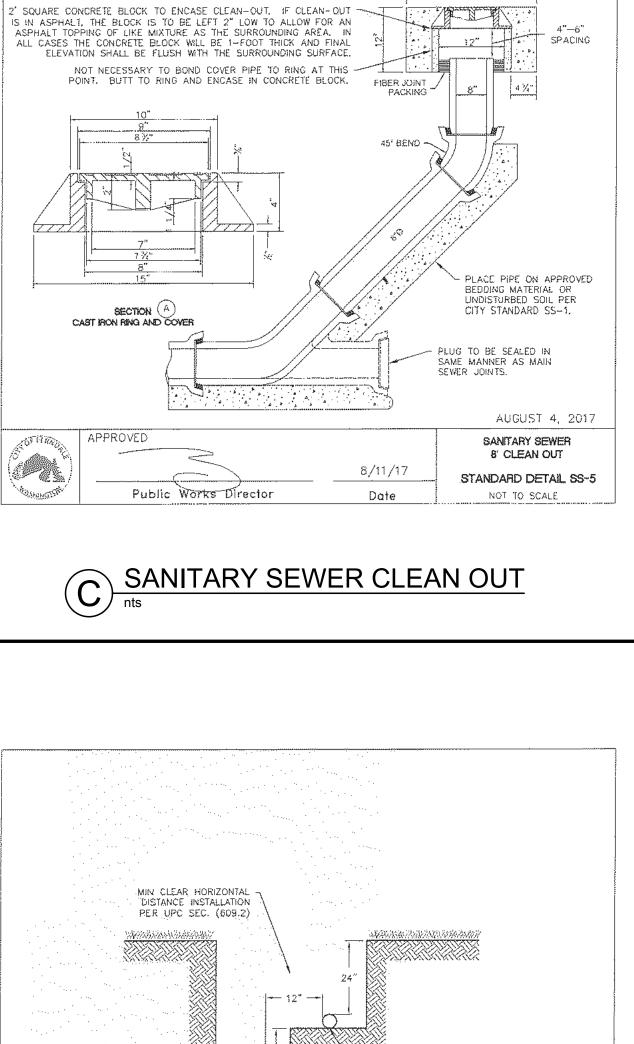
DIAM.

48"









MARKER NOTE;
1. PROPOSED SIDE SEWER SERVICES SHALL EACH BE

MARKED WITH A WHITE 2" DIAMETER SCHEDULE 40 PVC PIPE WITH THE TOP PAINTED GREEN, STENCILED

R/W OR EASEMENT LINE

PLUG ----

HEAD CAP SCREW (TYP.)

RING PLAN

RING SECTION (A)

1 5/16; / (SEE NOTES)

1/2" (MIN.)

BOLT-DOWN / WATERTIGHT DETAIL "8"

1/4" DÖVETAIL GROOVE

WITH WORD "SEWER" IN BLACK TEXT AND DEPTH

NOTED ON THE MARKER TO THE SERVICE INVERT.

EDGE OF PAVEMENT

SEWER MAIN,

TYPICAL ROMAC CB

SEWER SADDLE

Public Works Director

SIZE 15" OR LESS "

APPROVED

1/2" (TYP.) -/

RING PLAN

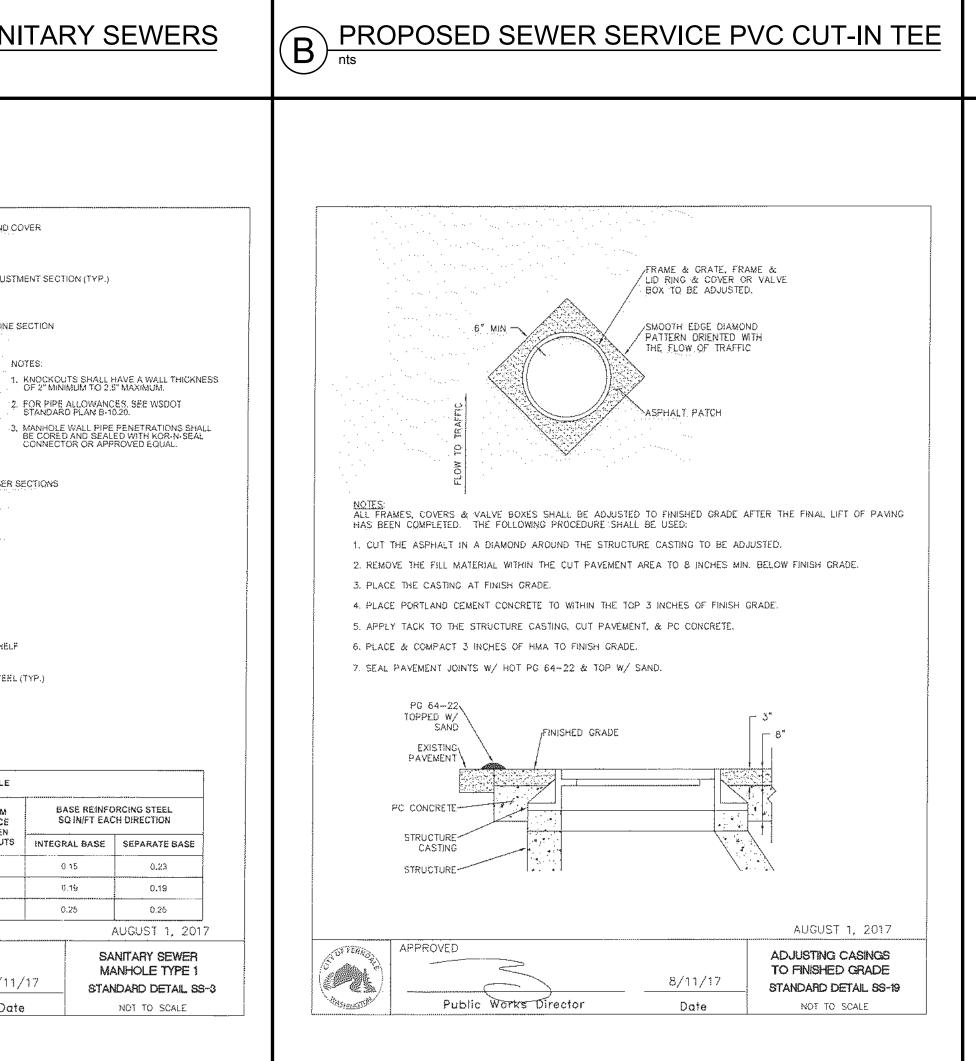
RING SECTION (A)

SPECIFY LETTERING

ISOMETRIC MEW

|APPROVED

Public Works Director



1, PVC PIPE AND FITTINGS SHALL MEET THE REQUIREMENTS OF ASTM 3034, SDR35.

SANITARY TEE ONLY.

DOUBLE BELL \

APPROVED

Public Works Director

-PROP. 6" PVC ASTM 3034, SDR 35

CUT-IN 8" X 6" TEE

8/11/17

Date

- EXIST. 8° PVC ASTM 3034, SDR 35 SEWER MAIN LINE

F DOUBLE BELL COUPLING

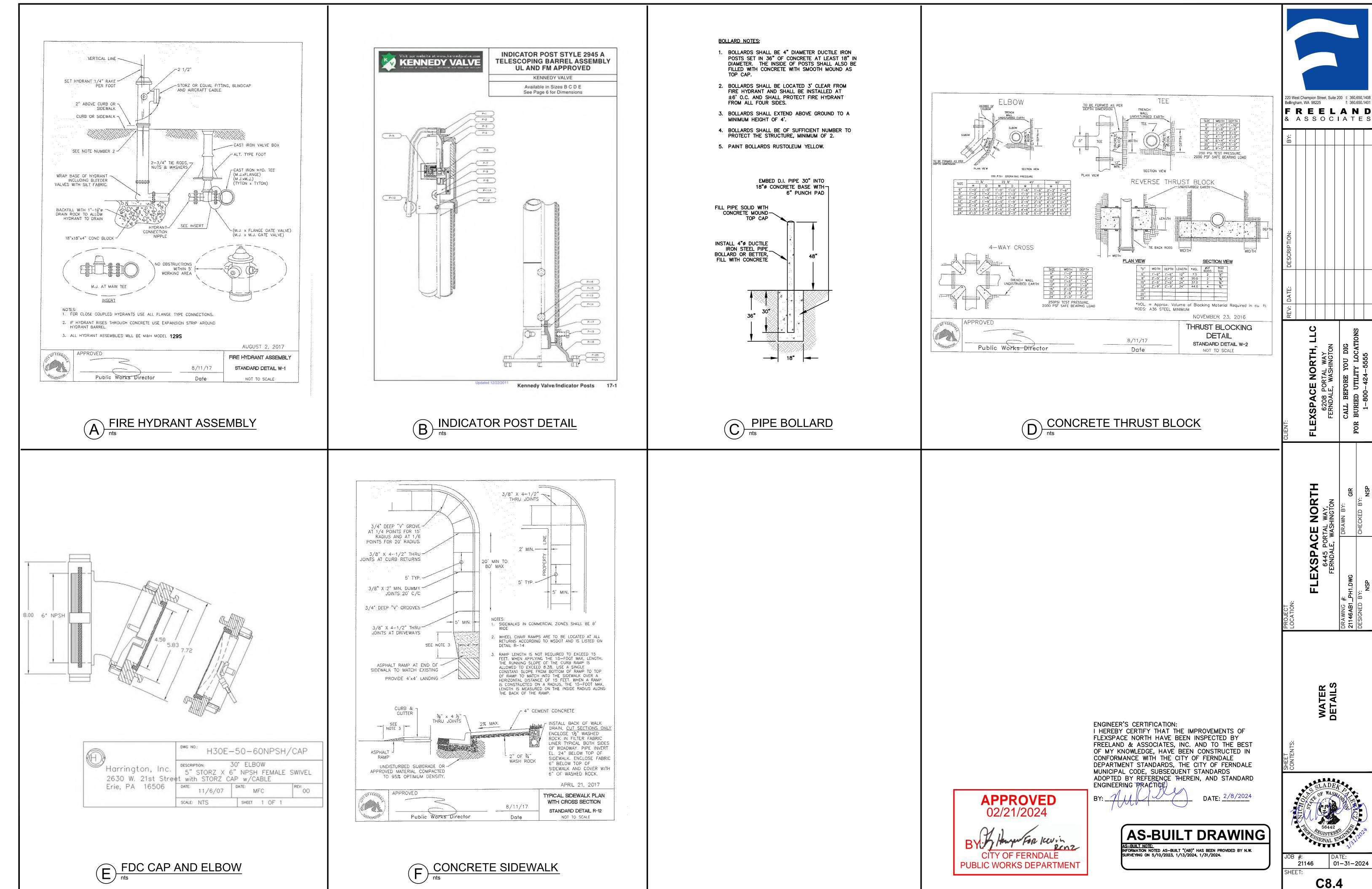
APRIL 18, 2017

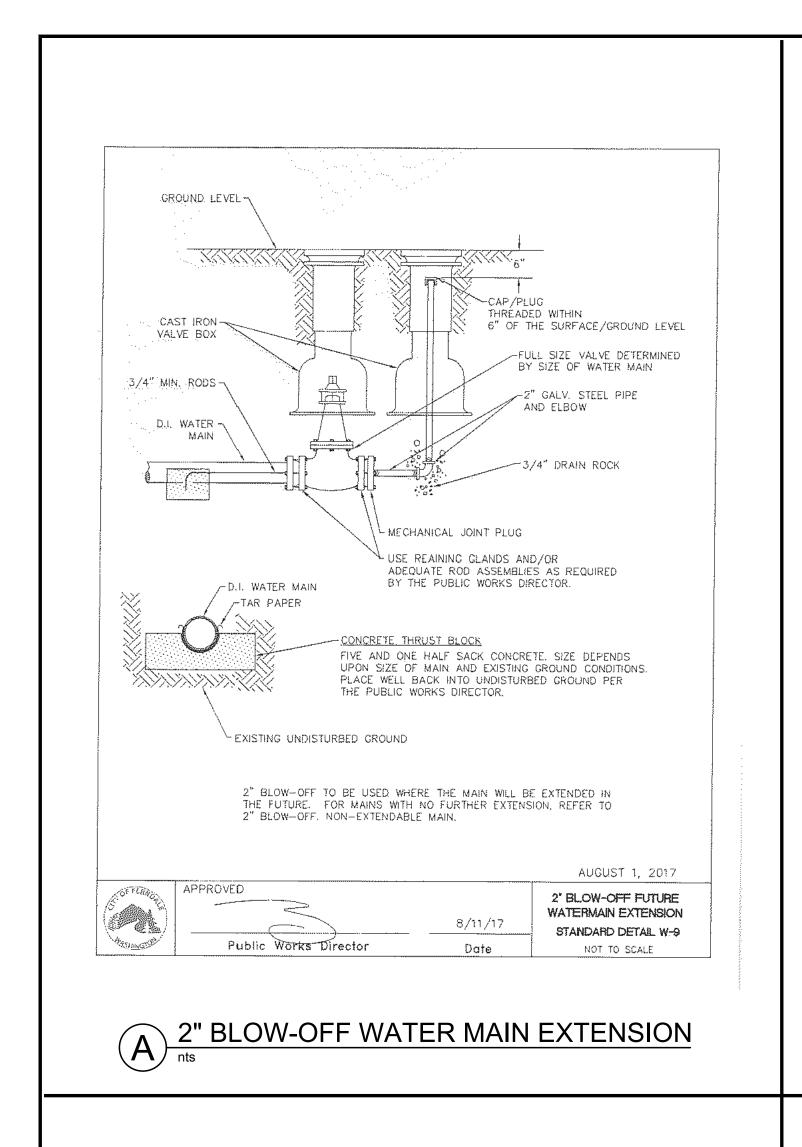
PROPOSED SEWER

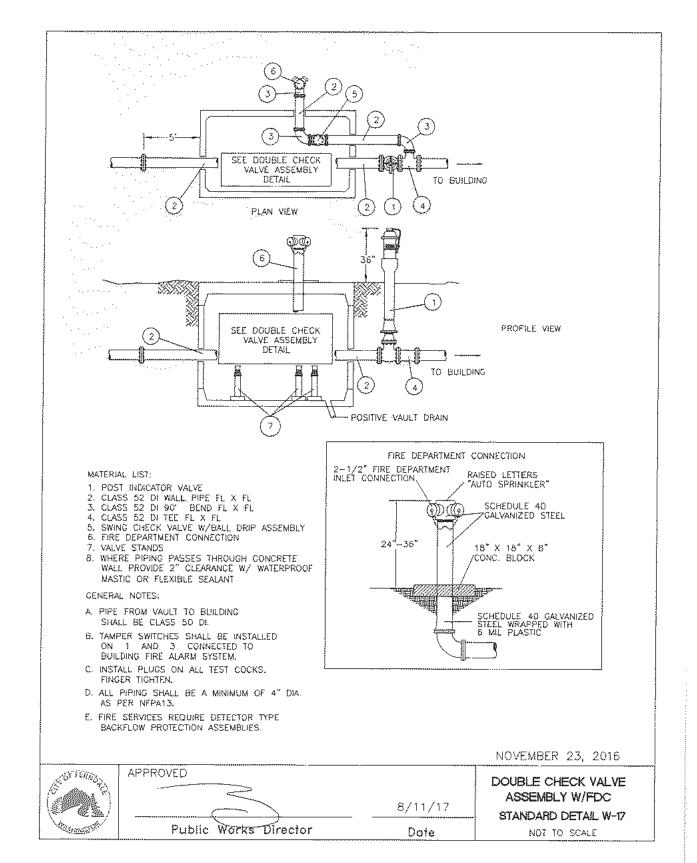
SERVICE PVC CUT-IN TEE

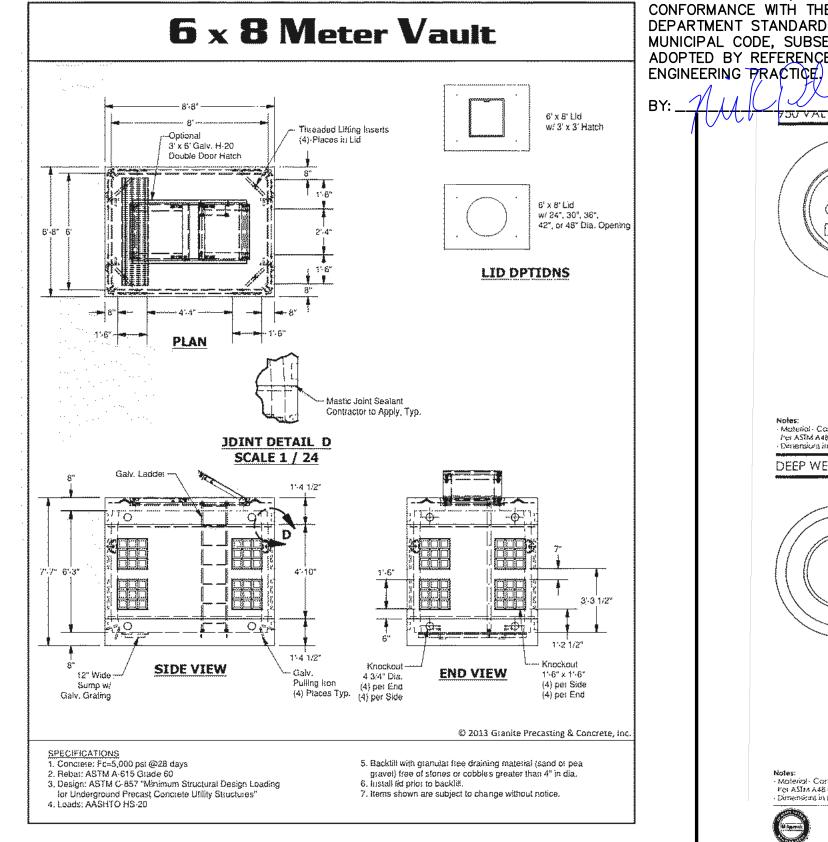
STANDARD DETAIL SS-17

NOT TO SCALE

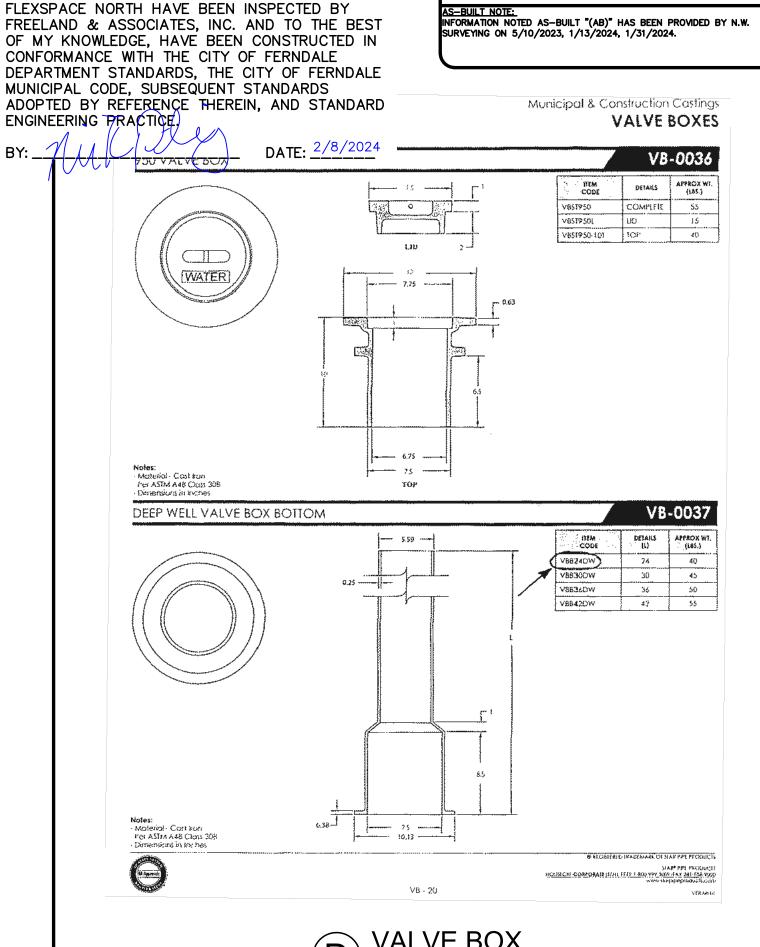








√ FIREMAIN DCVA 687-LA VAULT

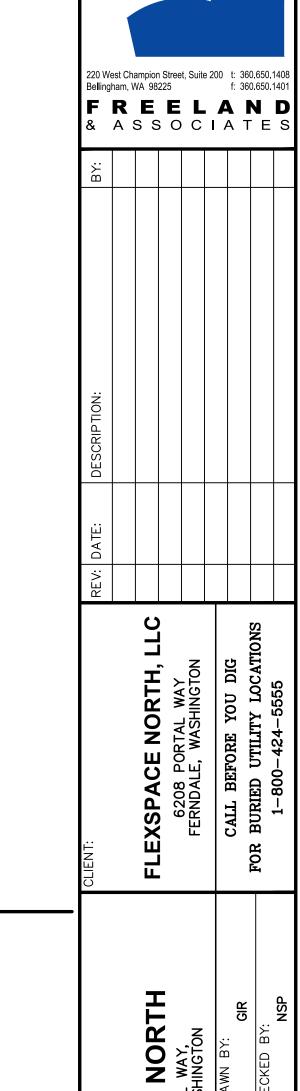


AS-BUILT DRAWING

ENGINEER'S CERTIFICATION:

I HEREBY CERTIFY THAT THE IMPROVEMENTS OF FLEXSPACE NORTH HAVE BEEN INSPECTED BY

FREELAND & ASSOCIATES, INC. AND TO THE BEST



ACE

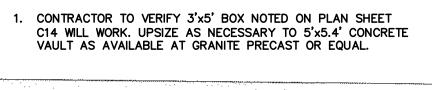
XSP, 6445 FFRNDAL

01-31-2024

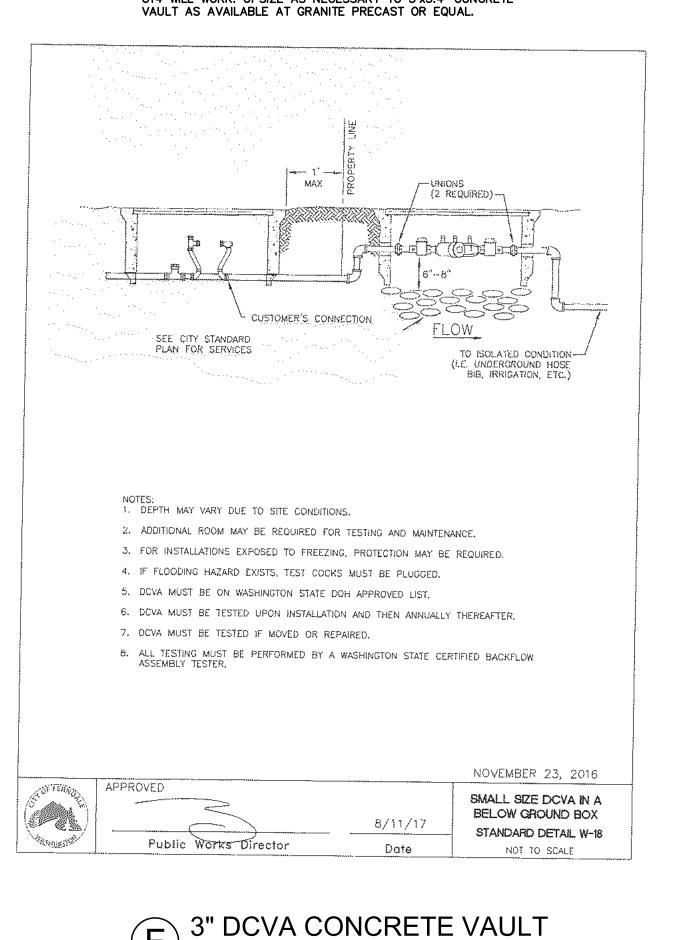
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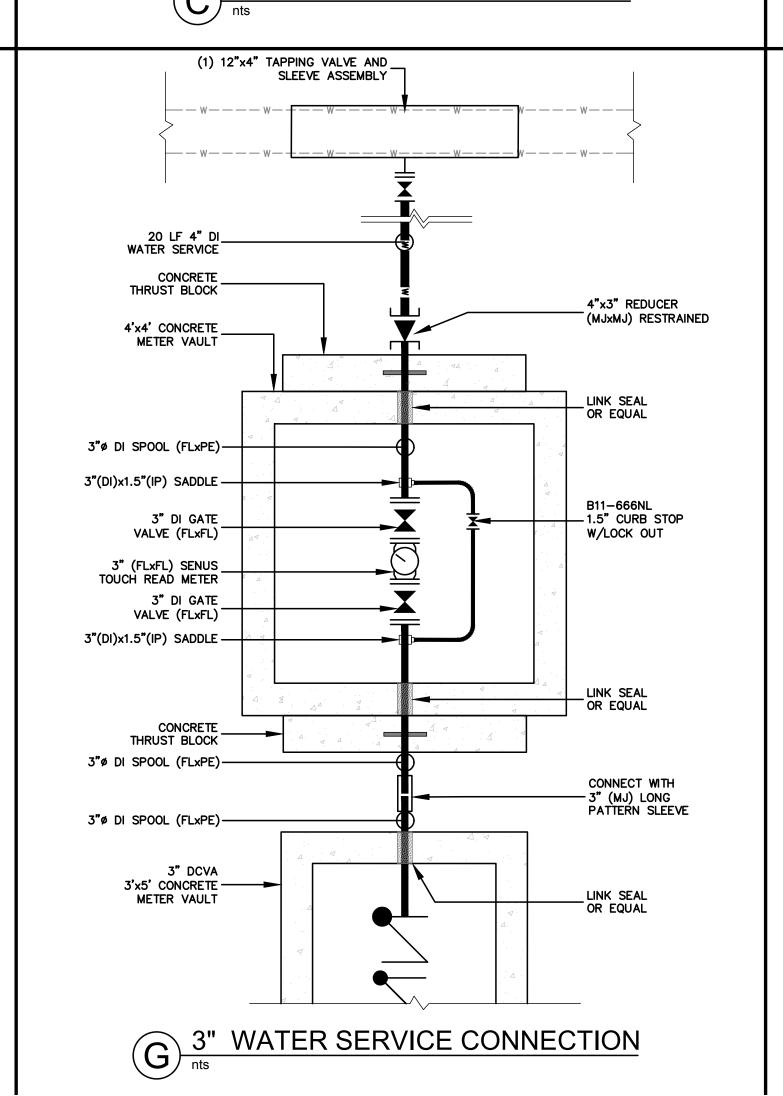
21146

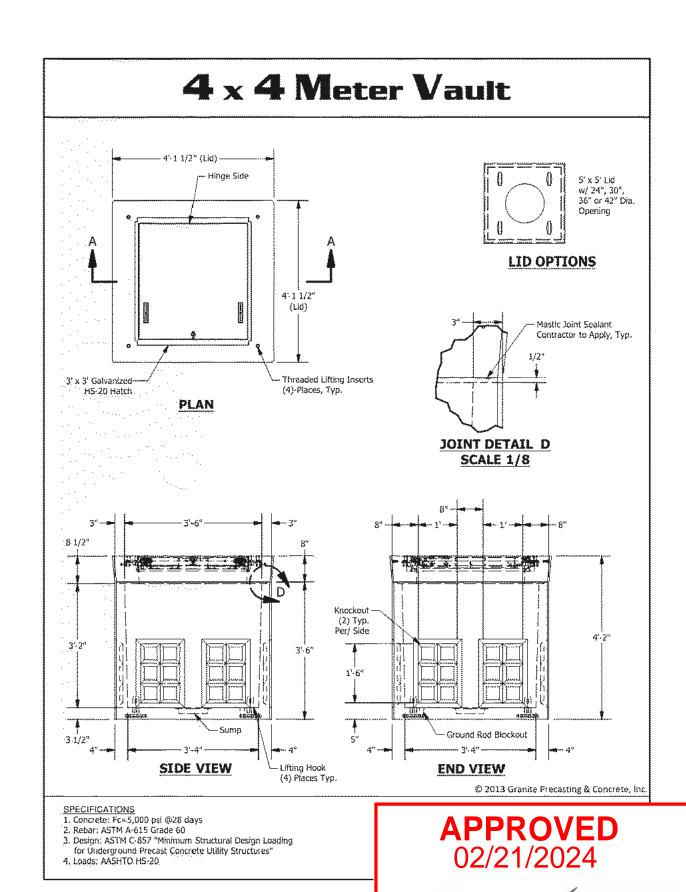




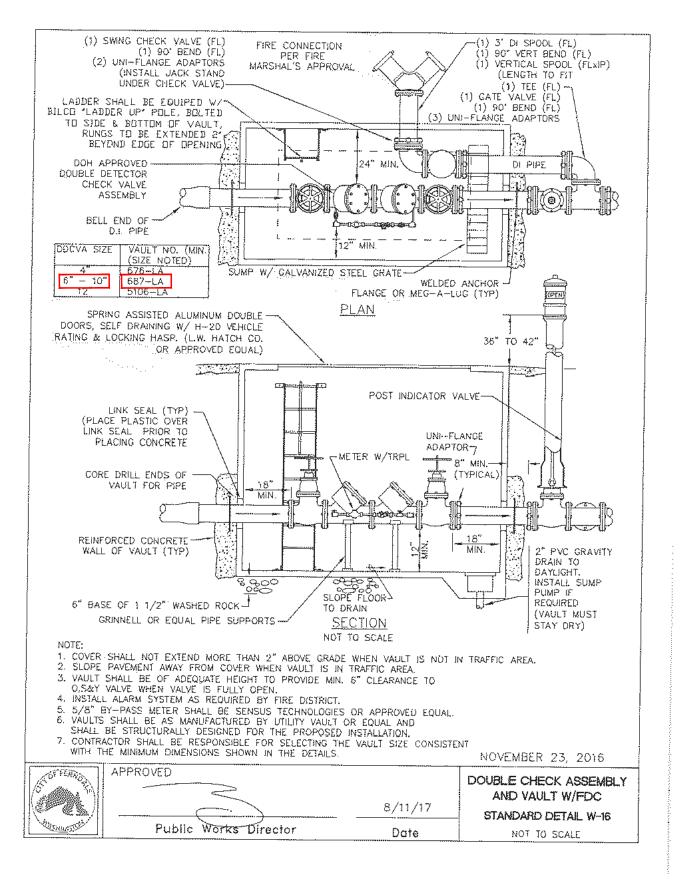
DCVA WITH FDC



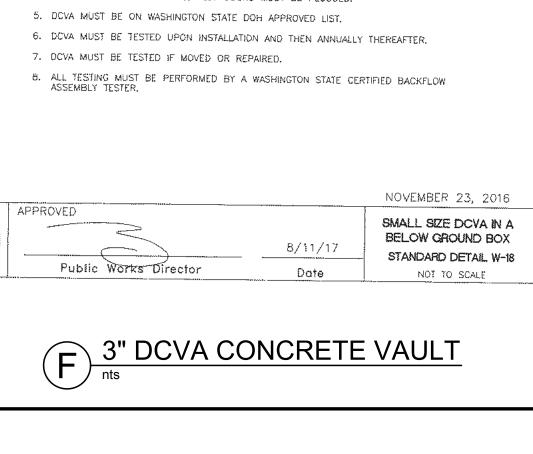


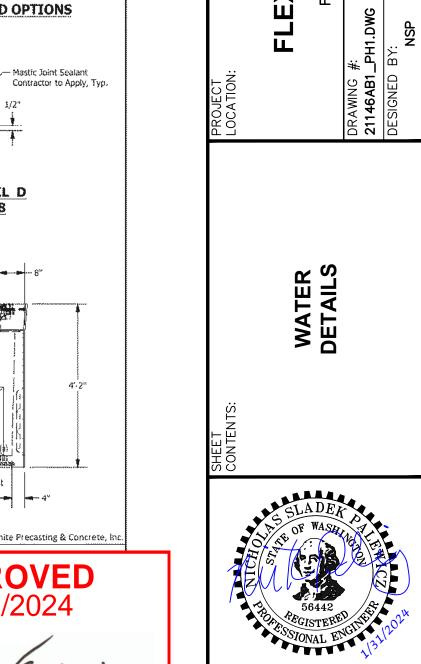


(H) 3" METER CON



E DOUBLE DETECTOR CHECK & VAULT W/ FDC





Renz

PUBLIC WORKS DEPARTMENT