Exhibit A

DESCRIPTION OF THE WORK

Supplement

The project includes the relocation of material bin ecology blocks, demolition of the existing material bin concrete slabs and asphalt between the slabs, construction of two separate steel-framed roof structures over new concrete slabs and associated footings, installation of a new concrete slab between the two new material bins, re-establishment of the existing ecology blocks to establish the material storage bins, and installation of asphalt from the new concrete slab to the existing asphalt driveway. Additionally, 4-inch-diameter stormwater pipe will be installed for downspouts and connect to the existing conveyance system on site.

Proposal Form (continued)

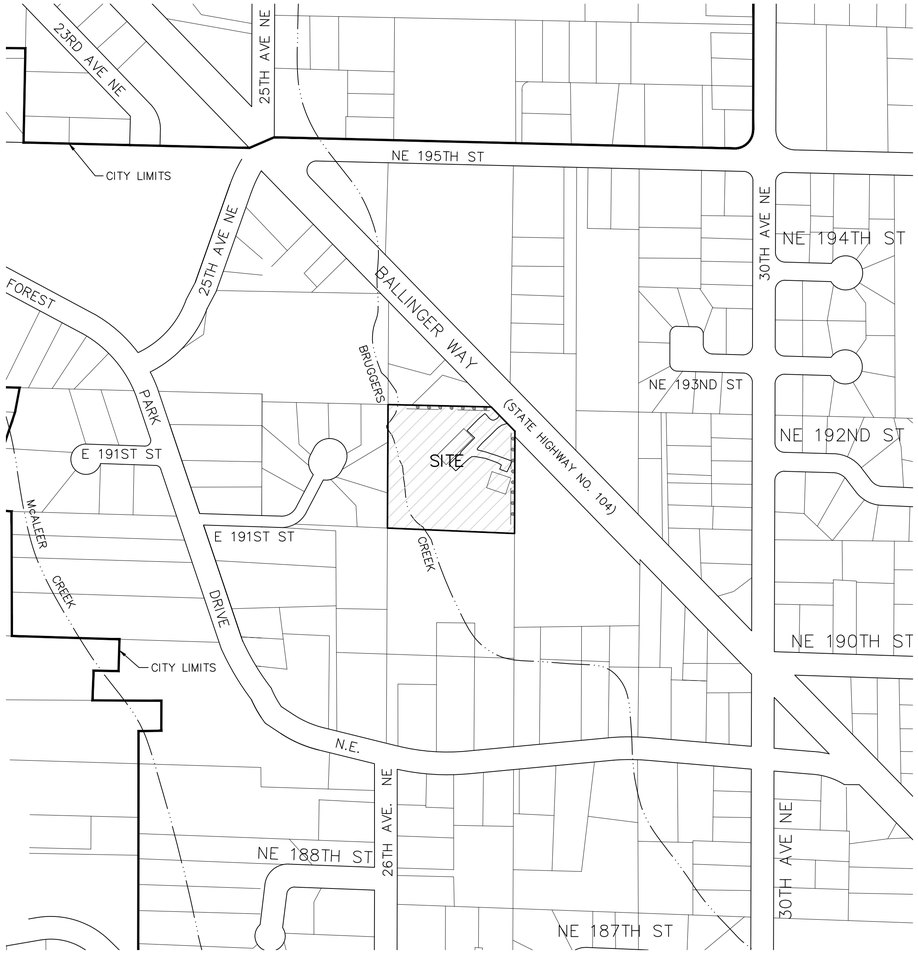
For the complete performance of all Work required by Contract Documents for that project entitled "**Public Works Facility Material Bin Covers**" the following Bid is submitted. Show cents to two decimal points. Do not include applicable retail sales tax in unit price bid amounts as tax is entered separately in the bid schedule. Where conflict occurs between the unit price and the extended price specified for any item, the Unit Price shall prevail, and totals shall be corrected to conform thereto. If any Unit Price is left blank, it will be considered no charge for that bid item, regardless of what has been placed in the Extended Price column.

BID SCHEDULE

Item No.	Item Description	Unit	Qty	Unit Cost	Bid Price
1	Minor Changes	FA	1	$5,000.00	$5,000.00
2	Construction Surveying	LS	1	5000	4000
3	SPCC Plan	LS	1	1200	1200
4	Trimming and Cleanup	LS	1	2500	2500
5	Remove and Reset Ultra Block Bin Walls	LS	1	3000	3000
6	Adjustment of Utility Cover	EA	2	650	1300
7	HMA CL. ½" PG 58-22	TN	7	380	2660
8	PVC Storm Drainpipe, 4-in. Diam.	LF	160	38	6090
9	Connection to Drainage Structure	EA	2	1000	2000
10	Erosion Control and Water Pollution Control	LS	1	1500	1500
11	Foundations	LS	1	137,750	130,050
12	Structural Framing and Roof	LS	1	238698	238,698
				Total Bid Items	396766
				WA State Sales Tax - 10.2	40,678 36
				PROJECT TOTAL	439,444 36

END OF PROPOSAL FORM

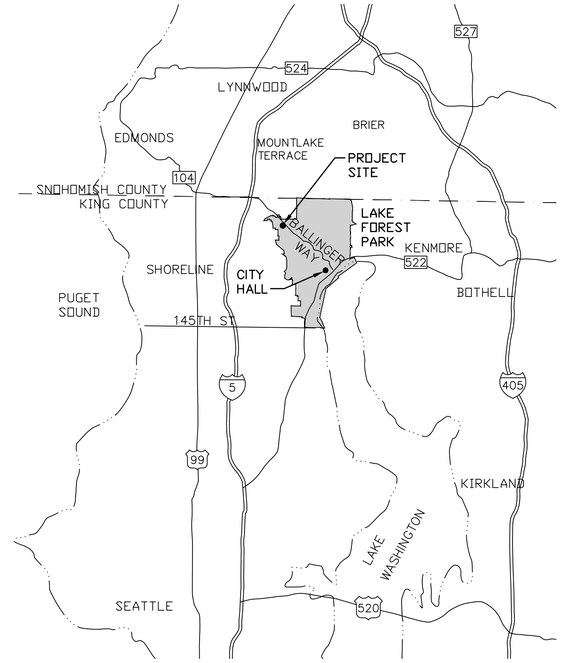
CITY OF LAKE FOREST PARK
PUBLIC WORKS FACILITY
MATERIAL BIN COVERS



VICINITY MAP
SCALE 1" = 200'

Sheet List Table

SHEET NUMBER	SHEET TITLE
G001	COVER SHEET
G002	SYMBOLS & ABBREVIATIONS
C101	SITE PLAN, DRAINAGE AND TESC PLAN
S001	GENERAL NOTES
S002	GENERAL NOTES
S003	SPECIAL INSPECTIONS
S101	DEMOLITION PLAN
S102	FOUNDATION PLAN
S103	FOUNDATION PLAN
S104	CANOPY PLAN
S201	ELEVATIONS
S301	CANOPY SECTIONS AND DETAILS
S302	FOUNDATION SECTIONS AND DETAILS



PROJECT LOCATION MAP
NOT TO SCALE

FINAL PACKAGE

JOHN RUSSELL JORDAN
STATE OF WASHINGTON
50442
REGISTERED
PROFESSIONAL ENGINEER

ORIGINAL COPY OF DIGITALLY SIGNED DOCUMENT AVAILABLE UPON REQUEST

FILE NAME: P:\KRP\P24\24235 LFP 2024 DEV REV SVCS\CAD\ENGINEERING\SHEETS\P24235_CVR.DWG
SAVE TIME: 5/28/2024 11:08:22 AM PLOT TIME: 6/27/2024 8:04 AM
USER NAME: MATT PELSBURY

DESIGNED	CEN				
DRAWN	BJM				
CHECKED	JRF				
SYM	REVISION	DATE	BY	APP'D	

PACE

PACE Engineers
11255 Kirkland Way, Suite 300
Kirkland, WA 98033
p. 425.827.2014
www.paceengrs.com

CITY OF LAKE FOREST PARK
PUBLIC WORKS DEPARTMENT
17425 BALLINGER WAY NE
LAKE FOREST PARK, WA 98155

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DATE **6/12/2024**
SCALE **AS SHOWN**

PUBLIC WORKS FACILITY MATERIAL BIN COVERS

COVER SHEET

PACE PROJECT NO. **24235**
DWG NAME: P24235_CVR.DWG
SHEET **G001** OF **12**

TOPOGRAPHIC & MISCELLANEOUS UTILITY SYMBOLS

- CENTERLINE
- PROPERTY LINE OR R/W
- EASEMENT LINE
- BREAK LINE
- EXISTING STRUCTURE
- PROPOSED STRUCTURE
- EXISTING FENCE
- PROPOSED FENCE
- EXISTING CONTOUR LINE
- PROPOSED CONTOUR LINE
- EXISTING SLOPE
- EXISTING DITCH OR EDGE OF WATER
- PROPOSED DITCH OR EDGE OF WATER
- OVERHEAD TELEPHONE LINE
- UNDERGROUND TELEPHONE LINE
- OVERHEAD TV LINE
- UNDERGROUND TV LINE
- GAS LINE
- OVERHEAD POWER LINE
- UNDERGROUND POWER LINE
- EXISTING GUARDRAIL
- PROPOSED GUARDRAIL
- DRINKING FOUNTAIN
- MONITORING WELL
- SATELLITE DISH
- TELEPHONE BOOTH
- EXISTING GAS METER
- EXISTING GAS VALVE
- EXISTING UTILITY POLE
- EXISTING UTILITY POLE ANCHOR
- STREET LIGHT
- EXISTING TELEPHONE RISER
- MAIL BOX
- EXISTING RIP RAP
- PROPOSED RIP RAP
- EXISTING ROCKERY
- PROPOSED ROCKERY
- EXISTING SIGN
- PROPOSED SIGN
- EXISTING TREE (CONIFER)
- EXISTING TREE (DECIDUOUS)
- EXISTING YARD LIGHT
- SPOT ELEVATION AT POINT SHOWN (45.63)
- SPOT ELEVATION AT DECIMAL POINT (45.63)
- TOP OF CURB ELEVATION / GUTTER ELEVATION (TC45.63 / G45.13)
- EDGE OF TREES OR BRUSH
- NATURAL GROUND
- CONCRETE
- WET AREA
- IRRIGATION CONTROL VALVE
- HOSE BIBB

WATER SYMBOLS

- EXISTING WATERLINE
- PROPOSED WATERLINE
- EXISTING CAP/PLUG
- PROPOSED CAP/PLUG
- EXISTING COUPLING
- PROPOSED COUPLING
- EXISTING REDUCER
- PROPOSED REDUCER
- PROPOSED THRUST BLOCK
- EXISTING WATER METER
- PROPOSED WATER METER
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- EXISTING FLANGE JOINT
- PROPOSED FLANGE JOINT
- EXISTING MECHANICAL JOINT
- PROPOSED MECHANICAL JOINT
- EXISTING HUB OR PUSH-ON JOINT
- PROPOSED HUB OR PUSH-ON JOINT
- EXISTING AIR RELIEF VALVE
- PROPOSED AIR RELIEF VALVE
- EXISTING BLOWOFF
- PROPOSED BLOWOFF
- EXISTING BUTTERFLY VALVE
- PROPOSED BUTTERFLY VALVE
- PRESSURE REDUCING VALVE
- EXISTING CHECK VALVE
- PROPOSED CHECK VALVE
- EXISTING GATE VALVE
- PROPOSED GATE VALVE
- EXISTING PLUG VALVE
- PROPOSED PLUG VALVE

SANITARY/STORM SEWER SYMBOLS

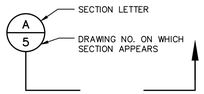
- EXISTING FORCE MAIN
- PROPOSED FORCE MAIN
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- EXISTING COMBINED SEWER
- EXISTING SANITARY SEWER CLEAN OUT
- PROPOSED SANITARY SEWER CLEAN OUT
- EXISTING SANITARY SEWER MANHOLE
- PROPOSED SANITARY SEWER MANHOLE
- EXISTING STORM DRAIN CATCH BASIN
- PROPOSED STORM DRAIN CATCH BASIN
- EXISTING STORM DRAIN CULVERT
- PROPOSED STORM DRAIN CULVERT
- EXISTING STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN MANHOLE
- STORM DRAIN INLET

SURVEY SYMBOLS

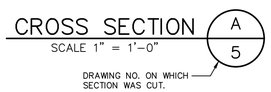
- FOUND SECTION CORNER
- FOUND QUARTER CORNER
- FOUND SIXTEENTH CORNER
- FOUND CLOSING CORNER
- FOUND MEANDER CORNER (MC)
- SOIL BORING
- TAX LOT NUMBER
- OWNERSHIP TIE
- ANGLE POINT
- BENCHMARK
- FOUND IRON PIPE/REBAR
- SET IRON PIPE/REBAR
- FOUND MONUMENT IN CASE
- FOUND SURFACE MONUMENT
- FOUND/SET LEAD & TACK, PK NAIL
- FOUND/SET HUB W/TACK
- SECTION CENTER

SECTION & DETAIL NUMBERING SYSTEM

(1) SECTION CUT ON DRAWING 4



(2) ON DRAWING 15 THIS SECTION IS SHOWN



(3) DETAILS ARE CROSS-REFERENCED IN A SIMILAR MANNER EXCEPT THAT DETAILS ARE IDENTIFIED BY NUMBER RATHER THAN BY LETTER.

NOTE:
SECTION & DETAIL NUMBERING SYSTEM MAY OR MAY NOT BE USED.

PROJECT RELATED SYMBOLS

ABBREVIATIONS

AB	ANCHOR BOLT	EQ	EQUAL	MCC	MOTOR CONTROL CENTER	RM	ROOM
AC	ASPHALTIC CONCRETE, ACRE	EQUIP	EQUIPMENT	MCU	MASTER CONTROL UNIT	RP	RADIUS POINT, REFERENCE POINT
ACP	ASBESTOS CEMENT PIPE	EQUIV	EQUIVALENT	MECH	MECHANICAL	RPM	REVOLUTIONS PER MINUTE
AGG	AGGREGATE	ESMT	EASEMENT	MFG	MANUFACTURED	RR	RAILROAD
AL	ALUMINUM	EST	ESTIMATE	MFR	MANUFACTURER	RT	RIGHT
ALT	ALTERNATE	EVC	END VERTICAL CURVE	MG	MILLION GALLONS	R/W	RIGHT OF WAY
ALUM	ALUMINUM	EW	EACH WAY	MGD	MILLION GALLONS PER DAY		
ANC	ANCHOR	EXCL	EXCLUDING	MG/L	MILLIGRAMS PER LITER	S	SOUTH, SLOPE, SANITARY SEWER
APPROX	APPROXIMATE(LY)	EXIST	EXISTING	MGR	MANAGER	SCFM	STANDARD CUBIC FEET PER MINUTE
APWA	AMERICAN PUBLIC WORKS ASSOCIATION	EXT	EXTERIOR	MH	MANHOLE	SCH	SCHEDULE
ASPH	ASPHALT			MHHW	MEAN HIGH HIGH WATER	SD	STORM DRAIN
ASSY	ASSEMBLY	F	FAHRENHEIT, FACE, FAN	MI	MILE	SE	SOUTHEAST
ATB	ASPHALT TREATED BASE	FF	FINISH FLOOR	MIC	MONUMENT IN CASE	SEC	SECOND
AVAR	AIR VACUUM & AIR RELEASE VALVE	FAB	FABRICATE(D), FABRICATION	MIN	MINIMUM, MINUTE	SECT	SECTION
AUTO	AUTOMATIC	F/F	FACE TO FACE	MISC	MISCELLANEOUS	SF	SQUARE FEET
AUX	AUXILIARY	FH	FIRE HYDRANT	MJ	MECHANICAL JOINT	SHT	SHEET
AVE	AVENUE	FIN GR	FINISHED GRADE	ML	MILLILITER	SIM	SIMILAR
AWWA	AMERICAN WATER WORKS ASSOCIATION	FL	FLANGE, FLOW LINE	MLLW	MEAN LOWER LOW WATER	SL	SLOPE, SLEEVE
		FM	FORCE MAIN	MLW	MEAN LOW WATER	SPEC	SPECIFICATIONS
BF	BUTTERFLY VALVE	FO	FIBER OPTIC	MOC	MIDDLE OF CURVE	SQ	SQUARE
BLDG	BUILDING	FPM	FEET PER MINUTE	MON	MONUMENT	SS	STAINLESS STEEL, SANITARY SEWER
BLK	BLOCK	FPS	FEET PER SECOND	MPH	MILES PER HOUR	ST	STREET
BM	BEAM, BENCHMARK	FRP	FIBERGLASS REINFORCED PIPE	MSL	MEAN SEA LEVEL	STA	STATION
BO	BLOW OFF	FT	FEET, FOOT			STD	STANDARD
BOD	BIOCHEMICAL OXYGEN DEMAND	FTG	FOOTING	N	NORTH	STL	STEEL
BOT	BOTTOM	FUT	FUTURE	N/A	NON APPLICABLE	STOR	STORAGE
BRG	BEARING			NE	NORTHEAST	STRUCT	STRUCTURAL
BRK	BREAK	G	GUTTER, GAS	NEG	NEGATIVE	SUPERV	SUPERVISOR
BST	BITUMINOUS SURFACE TREATMENT	GA	GAGE	NIC	NOT IN CONTRACT	SUPT	SUPPORT
BTU	BRITISH THERMAL UNIT	GAL	GALLON	NO	NUMBER	SW	SOUTHWEST
BULKHDS	BULKHEADS	GALV	GALVANIZED	NS	NOT SPECIFIED	SY	SQUARE YARD
		GD	GUARD	NTS	NOT TO SCALE	SYM	SYMMETRICAL
CB	CATCH BASIN	GEN	GENERAL	NT WT	NET WEIGHT		
C TO C	CENTER TO CENTER	GIP	GALVANIZED IRON PIPE	NW	NORTHWEST	T	TOP
CF	CUBIC FEET	GPD	GALLONS PER DAY			TAN	TANGENT
CFH	CUBIC FEET PER HOUR	GPM	GALLONS PER MINUTE	O2	OXYGEN	T & M	TIME & MATERIALS
CFM	CUBIC FEET PER MINUTE	GR	GRADE, GRAVEL	OC	ON CENTERS	TB	TOP OF BANK
CFS	CUBIC FEET PER SECOND	GRTG	GRATING	OD	OUTSIDE DIAMETER, OUTSIDE DIMENSION	TBM	TEMPORARY BENCHMARK
CI	CAST IRON	GV	GATE VALVE	OH	OVERHEAD, OVERHANG	TC	TOP OF CURB
CIP	CAST IRON PIPE	GYP	GYPSUM	OHP	OVERHEAD POWER LINE	TFR	TRANSFORMER
CJ	CONSTRUCTION JOINT			OHP&T	OVERHEAD POWER & TELEPHONE	THD'D	THREADED
CL	CENTERLINE, CLASS	HDPE	HIGH DENSITY POLYETHYLENE	OPT	OPTIONAL	THK	THICK
CL2	CHLORINE	HH	HAND HOLE	ORIG	ORIGINAL	THRU	THROUGH
CMP	CORRUGATED METAL PIPE	HOR	HORIZONTAL	OZ	OUNCE	TOC	TOP OF CONCRETE
CMU	CONCRETE MASONRY UNIT	HP	HIGH PRESSURE, HIGH POINT, HORSEPOWER			TOP	TOP OF PIPE
CO	CLEANOUT	HT	HEIGHT	P	POST, PER, POWER	TRM	TRANSMITTER
CO2	CARBON DIOXIDE	HTR	HEATER	PC	POINT OF CURVATURE	TRN	TRANSDUCER
COMB	COMBINATION	H/V	HEATING AND VENTILATING	PE	PLAIN END	TYP	TYPICAL
CONC	CONCRETE, CONCENTRIC	HVAC	HEATING, VENTILATING, AND AIR CONDITIONING	PERF	PERFORATED	TWP	TOWNSHIP
CONT	CONTINUOUS	HW	HIGH WATER	PH	PHASE		
CONST	CONSTRUCTION	HWY	HIGHWAY	PI	POINT OF INTERSECTION	UBC	UNIFORM BUILDING CODE
CRIB	CRIBBING	HYD	HYDRANT	PK	PEAK	UG	UNDERGROUND
CS	COMBINED SEWER	HZ	HERTZ (CYCLES PER SECOND)	PL	PROPERTY LINE	UGP	UNDERGROUND POWER LINE
CTR	CENTER			PLTR	PLANTER	ULID	UTILITY LOCAL IMPROVEMENT DISTRICT
CULV	CULVERT	ID	INSIDE DIAMETER	PNEU	PNEUMATIC	U/P	UTILITY POLE
CV	CHECK VALVE	IE	INVERT ELEVATION	PP	POWER POLE	USGS	UNITED STATES GEOLOGICAL SURVEY
CY/DAY	CUBIC YARD PER DAY	IN	INCH	PRES	PRESSURE		
CYL	CYLINDER	INCL	INCLUDING	PRV	PRESSURE REGULATING VALVE	VAR	VARIES
		INSUL	INSULATE(D), INSULATION	PS	PUBLIC SEWER	VC	VERTICAL CURVE
D	DITCH	INV	INVERT	PSF	POUNDS PER SQUARE FOOT	VCP	VITRIFIED CLAY PIPE
DET	DETAIL	IRRG	IRRIGATION	PSIA	POUNDS PER SQUARE INCH ABSOLUTE	VERT(S)	VERTICAL(S)
DI	DUCTILE IRON			PSIG	POUNDS PER SQUARE INCH GAGE	VF	VERTICAL FOOT
DIA	DIAMETER	K	KIP (1,000 POUNDS)	PT	POINT, POINT OF TANGENCY	VOL	VOLUME
DIAG	DIAGRAM	KV	KILOVOLT	PUD	PUBLIC UTILITY DISTRICT	VPI	VERTICAL POINT OF INTERSECTION
DIFF	DIFFERENTIAL	KVA	KILOVOLT AMPERE	PVC	POLYVINYL CHLORIDE	VSS	VOLATILE SUSPENDED SOLIDS
DIM	DIMENSION	KW	KILOWATT	PVI	POINT OF VERTICAL INTERSECTION		
DIST	DISTRICT			PVT	PAVEMENT	W	WEST, WATER
DN	DOWN	LB	POUND(S)			W/	WITH
DNR	DEPARTMENT OF NATURAL RESOURCES	LC	LENGTH OF CURVE	QTY	QUANTITY	W/O	WITHOUT
DR	DRIVEWAY	LEV	LEVEL			WD	WATER DISTRICT
DO	DISSOLVED OXYGEN	LF	LINEAL FOOT(FEET)	R	RADIUS, RANGE	WM	WATER MAIN, WATER METER, WIRE MESH
DWG(S)	DRAWING(S)	LFT	LEFT	RAD	RADIUS	WS	WATER SURFACE
		LID	LOCAL IMPROVEMENT DISTRICT	RCP	REINFORCED CONCRETE PIPE	WT	WEIGHT
E	EAST	LS	LUMP SUM	RECEPT	RECEPTIONIST	WWF	WELDED WIRE FABRIC
EA	EXHAUST AIR, EACH	LT	LEFT	RECIRC	RECIRCULATION	WWM	WELDED WIRE MESH
ECC	ECCENTRIC	LTG	LIGHTING	RECP	RECEPTACLE		
EFF	EFFLUENT	LW	LOW WATER	RED	REDUCE(R)	YD	YARD
EL	ELEVATION (ELEV)			REF	REFERENCE	YR	YEAR
ELECT	ELECTRICAL	MAINT	MAINTENANCE	REG	REGULATOR		
ELL	ELBOW	MAS	MASONRY	REINF	REINFORCED, REINFORCING	#	NUMBER, POUNDS
EMBD	EMBEDDED	MAT'L	MATERIAL	REQ'D	REQUIRED	&	AND
EMER	EMERGENCY	MAX	MAXIMUM	RESIL	RESILIENT	@	AT
ENGR	ENGINEER	MB	MAILBOX	RGE	RANGE	ø	DIAMETER, PHASE
				RJ	RESTRAINT JOINT		

PROJECT RELATED NOTES

FINAL PACKAGE

JOHN RUSSELL JORDAN — STATE OF WASHINGTON — 50442 — REGISTERED PROFESSIONAL ENGINEER

ORIGINAL COPY OF DIGITALLY SIGNED DOCUMENT AVAILABLE UPON REQUEST

SYM	REVISION	DATE	BY	APP'D
0	ISSUE FOR CONSTRUCTION	05/06/24		

DESIGNED CEN
DRAWN BJM
CHECKED JRF

PACE

PACE Engineers
11255 Kirkland Way, Suite 300
Kirkland, WA 98033
p. 425.827.2014
www.paceengrs.com

CITY OF LAKE FOREST PARK
PUBLIC WORKS DEPARTMENT
17425 BALLINGER WAY NE
LAKE FOREST PARK, WA 98155

VERIFY SCALE
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0 1"
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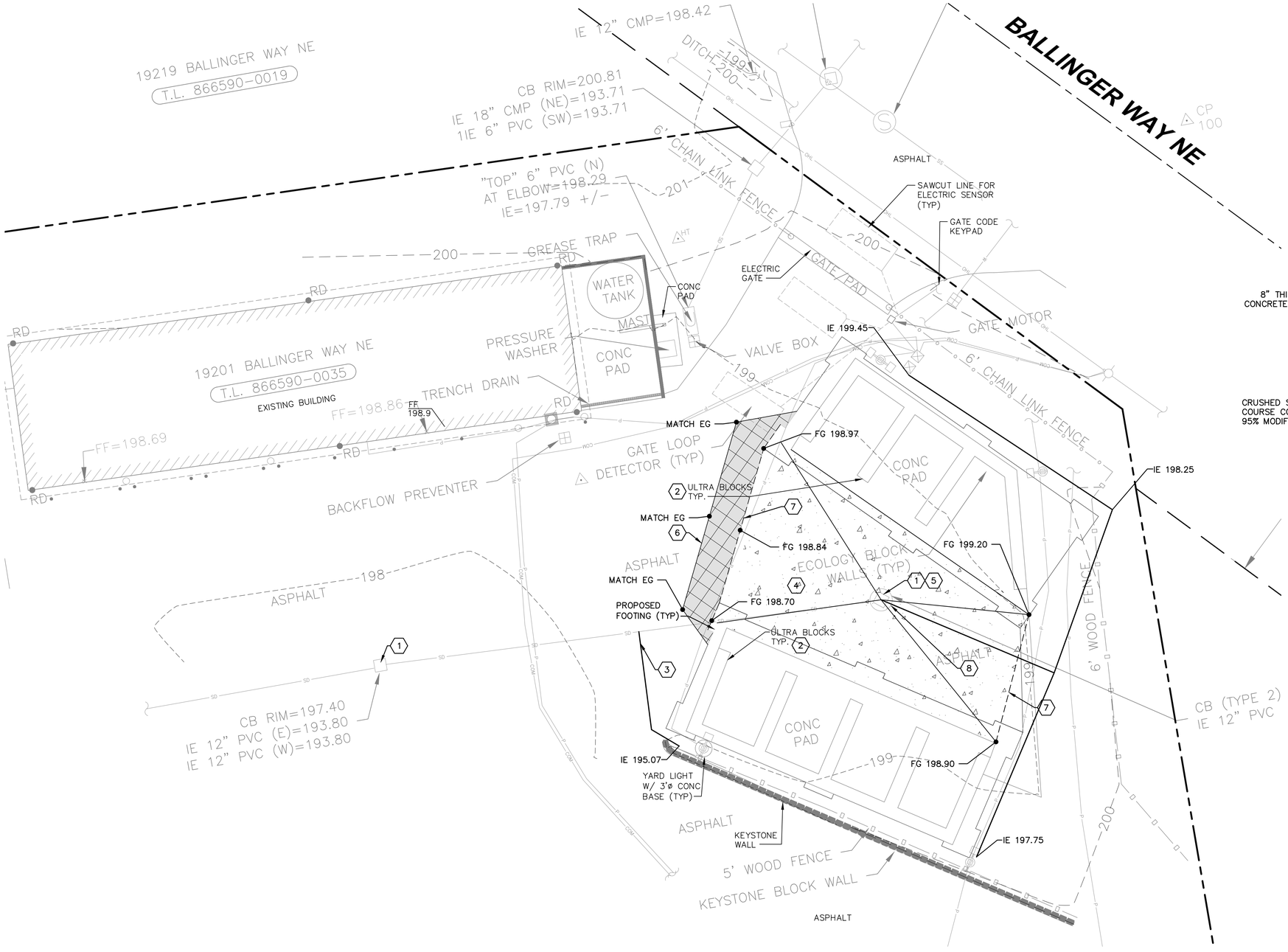
DATE 6/12/2024
SCALE AS SHOWN

PUBLIC WORKS FACILITY MATERIAL BIN COVERS

SYMBOLS & ABBREVIATIONS

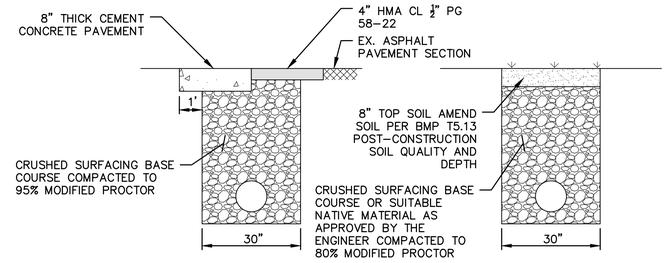
PACE PROJECT NO. 24235
DWG NAME: P24235_LEGEND.DWG
SHEET G002 OF 12

FILE NAME: P:\KIR\P24\24235 LFP 2024 ARV RDV SVCS\CAD\ENGINEERING\SHEETS\P24235_LEGEND.DWG
SAVE TIME: 5/6/2024 10:28:47 AM
PLOT TIME: 6/27/2024 8:05 AM
USER NAME: MATT PELLSBURY

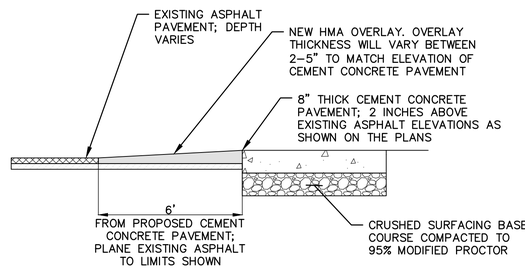


CONSTRUCTION NOTES

1. INSTALL CATCH BASIN INSERTS IN ALL CB'S
2. REMOVE ULTRA BLOCK WALLS AND STORE BLOCKS ON SITE IN A LOCATION DESIGNATED BY THE ENGINEER.
3. CONNECT 4 INCH PVC STORM DRAIN PIPE @ S=0.02 ft/ft TO EXISTING 12 INCH STORM DRAIN PIPE USING KOR-N-SEAL BOOT. BACKFILL TRENCH AND RESTORE PAVEMENT PER TYPICAL TRENCH DETAIL THIS SHEET.
4. 8" THICK CEMENT CONCRETE PAVEMENT PER DETAIL THIS SHEET.
5. ADJUST EXISTING TYPE 1 CATCH BASIN LID TO FINISHED GRADE.
6. PLANE EXISTING ASPHALT PAVING FOR CONSTRUCTION HMA OVERLAY FROM EXISTING ASPHALT ELEVATION TO PROPOSED CEMENT CONCRETE PAVEMENT.
7. SAWCUT EXISTING ASPHALT PAVING FOR CONSTRUCTION OF CEMENT CONCRETE PAVEMENT BETWEEN THE TWO MATERIAL STORAGE BINS.
8. CONNECT 4 INCH PVC STORM DRAIN PIPE @ S=0.02 ft/ft TO EXISTING TYPE 1 CATCH BASIN USING KOR-N-SEAL BOOT. BACKFILL TRENCH AND INSTALL PAVEMENT PER TYPICAL TRENCH DETAIL THIS SHEET.



1 — TYPICAL TRENCH DETAILS



2 — PLANING AND OVERLAY AREA

LEGEND

- CEMENT CONCRETE
- PLANING AND OVERLAY AREA (PER DETAIL THIS SHEET)

N

HORIZ. 0 5 10 20
Scale In Feet

FINAL PACKAGE

JOHN RUSSELL HORN — STATE OF WASHINGTON — 50442 — REGISTERED PROFESSIONAL ENGINEER

ORIGINAL COPY OF DIGITALLY SIGNED DOCUMENT AVAILABLE UPON REQUEST

SYM	REVISION	DATE	BY	APP'D
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SCALE **AS SHOWN**

PUBLIC WORKS FACILITY MATERIAL BIN COVERS

SITE PLAN, DRAINAGE AND TESC PLAN

PACE PROJECT NO. **24235**
DWG NAME: P24235_SITE.DWG
SHEET **C101** OF **12**

FILE NAME: P:\KIR\P24\24235 LFP 2024_RDV RDV SVCS\CAD\ENGINEERING\SHEETS\P24235_SITE.DWG
SAVE TIME: 6/26/2024 3:10:26 PM PLOT TIME: 6/27/2024 8:05 AM
USER NAME: MATT PELSBURY

GENERAL STRUCTURAL NOTES

GENERAL:

1. THESE STRUCTURAL NOTES SUPPLEMENT THE DRAWINGS. IF ERRORS, DISCREPANCIES, OR OMISSIONS ARE DISCOVERED IN THE DRAWINGS, SPECIFICATIONS OR THESE NOTES OR IF ANY DISCREPANCIES ARE FOUND BETWEEN DRAWINGS AND SITE CONDITIONS, THE CONTRACTOR SHALL IMMEDIATELY REPORT THE ERRORS, DISCREPANCIES, OR OMISSIONS TO THE ENGINEER WHO SHALL RESPOND IN WRITING. ANY WORK DONE BY THE CONTRACTOR AFTER DISCOVERY OF SUCH DISCREPANCY SHALL BE DONE AT THE CONTRACTOR'S RISK.
2. CONDITIONS SHOWN AS EXISTING ARE BASED ON INFORMATION PROVIDED TO THE STRUCTURAL ENGINEER WHEN DRAWINGS WERE PREPARED. NO WARRANTY IS IMPLIED AS TO ACCURACY OF THESE EXISTING CONDITIONS.
3. THE CONTRACTOR SHALL VERIFY THE ACCURACY OF ALL EXISTING CONDITIONS DESCRIBED IN THE CONTRACT DOCUMENTS WITH FIELD MEASUREMENTS AND OBSERVATIONS PRIOR TO PROCEEDING WITH ANY WORK OR FABRICATION.
4. WHEN PERFORMING WORK, INCLUDING SHOP DRAWING DEVELOPMENT, CONSIDER REQUIREMENTS OF CONTRACT DOCUMENTS IN THEIR ENTIRETY (E.G., PIPING, CONDUITS, EMBEDMENTS, ACCESSORIES, ETC.).
5. STRUCTURAL DRAWINGS, AS PART OF CONTRACT DOCUMENTS, INDICATE INFORMATION SUFFICIENT TO CONVEY DESIGN INTENT. CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. UNLESS OTHERWISE SHOWN, THEY DO NOT INDICATE METHOD OF CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION AND CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AS REQUIRED FOR THE WORK.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF ALL ERECTION BRACING, FORM WORK, AND TEMPORARY SHORING REQUIRED FOR THE WORK.
8. THE CONTRACTOR SHALL PROVIDE ADEQUATE EXCAVATION PROCEDURES, SHORING, BRACING, AND ERECTION PROCEDURES COMPLYING WITH NATIONAL, STATE, AND LOCAL SAFETY ORDINANCES. CONTRACTOR IS RESPONSIBLE FOR MEETING ALL SAFETY REQUIREMENTS FOR THE PROJECT.
9. OBSERVATION VISITS TO SITE BY FIELD REPRESENTATIVES OF STRUCTURAL ENGINEER DO NOT INCLUDE REVIEW OF CONSTRUCTION MEANS AND METHODS OR SPECIAL AND CONTINUOUS INSPECTIONS. OBSERVATIONS ARE SOLELY FOR THE PURPOSE OF DETERMINING IF CONTRACTOR UNDERSTANDS DESIGN INTENT CONVEYED IN CONTRACT DOCUMENTS. OBSERVATIONS DO NOT GUARANTEE CONTRACTOR'S PERFORMANCE AND ARE NOT TO BE CONSTRUED AS SUPERVISION OR INSPECTION OF CONSTRUCTION.
10. MODIFICATIONS OR SUBSTITUTIONS MAY BE CONSIDERED PROVIDED A WRITTEN REQUEST, SUBJECT TO REVIEW, IS SUBMITTED TO STRUCTURAL ENGINEER PRIOR TO ITS USE, INSTALLATION IN THE FIELD, OR INCLUSION ON ANY SHOP DRAWING. COSTS ASSOCIATED WITH REVIEW, APPROVAL, AND INSTALLATION SHALL BE BORNE BY CONTRACTOR.
11. THE CAD DRAWING FILES ARE THE PROPERTY OF THE STRUCTURAL ENGINEER AND WILL NOT BE RELEASED TO THE CONTRACTOR OR SUBCONTRACTOR FOR THEIR USE.
12. ALL ABBREVIATIONS OF REFERENCED STANDARDS ARE PER IBC CHAPTER 35.
13. CONTRACTOR IS RESPONSIBLE FOR THE CONSTRUCTION OF WIND OR SEISMIC FORCE RESISTING SYSTEM/COMPONENT AS LISTED IN THE "STATEMENT OF SPECIAL INSPECTION". CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE GOVERNING CODE AUTHORITY AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON SUCH SYSTEM OR COMPONENT PER IBC SECTION 1704.4.

DESIGN CODES:

1. PERFORM CONSTRUCTION AND WORKMANSHIP IN COMPLIANCE WITH CONTRACT DOCUMENTS AND THE FOLLOWING CODES:
   - A. 2018 INTERNATIONAL BUILDING CODE
   - B. 2018 WASHINGTON STATE BUILDING CODE
2. ALL REFERENCE TO OTHER CODES AND STANDARDS (ACI, ASTM, ETC.) SHALL BE FOR THE LATEST OR MOST CURRENT EDITION AVAILABLE.
3. DESIGN CRITERIA:
   - A. LIVE LOADS:
     - ROOF LIVE LOAD: PFL = 20 PSF
     - TRUCK LOAD: We = 50,000 LBS
     - HAUL/MATERIAL LOAD: GM = 150 PCF
   - B. SNOW LOADS:
     - GROUND SNOW LOADS: Pg = 20 PSF
     - SNOW EXPOSURE FACTOR: Ce = 1.1
     - SNOW LOAD IMPORTANCE FACTOR: Is = 0.8
     - THERMAL FACTOR: Ct = 1.2
     - ROOF SNOW LOAD: Pf = 16 PSF
   - C. WIND DESIGN DATA:
     - BASIC WIND SPEED Vult = 92 MPH
     - RISK CATEGORY: I
     - WIND EXPOSURE C
   - D. EARTHQUAKE DESIGN DATA:
     - RISK CATEGORY: I
     - SEISMIC IMPORTANCE FACTOR: Ie = 1
     - MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS Ss = 1.265g, S1 = 0.442g
     - SITE CLASS: D
     - DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS: SDS = 1.012g, SD1 = 0.545g
     - SEISMIC DESIGN CATEGORY: D
   - E. SOIL DATA (PER GEOTECHNICAL REPORT BY SHANNON AND WILSON, INC DATED 3/24/2011)
     - ULTIMATE FOOTING BEARING CAPACITY σ = 6,000 PSF
     - SOIL UNIT WEIGHT γ = 120 PCF

SHOP DRAWINGS:

1. SUBMIT SHOP DRAWINGS TO ENGINEER FOR THE FOLLOWING:
   - A. CONCRETE MIX DESIGN
   - B. REINFORCING STEEL
   - C. STRUCTURAL AND MISCELLANEOUS STEEL INCLUDING WELD INSERTS AND ANCHORS
   - D. METAL BUILDING SYSTEMS AND COMPONENTS
   - E. BAR JOISTS, GIRDERS, AND STEEL DECK
2. REINFORCING STEEL SHOP DRAWINGS SHALL INDICATE REINFORCING PLACEMENT, INCLUDING SPLICE LOCATIONS AND LENGTHS. PROMPTLY NOTIFY STRUCTURAL ENGINEER PRIOR TO DEVELOPING REINFORCING STEEL SHOP DRAWINGS IF INSUFFICIENT CLEAR DISTANCES BETWEEN REINFORCING STEEL OR OTHER CONGESTION IS ENCOUNTERED. PREPARE SHOP DRAWINGS IN COMPLIANCE WITH ACI 315, PART B.
3. SUBMIT CONCRETE DESIGN MIX DATA FOR EACH TYPE AND COMPRESSIVE STRENGTH OF CONCRETE REQUIRED TO STRUCTURAL ENGINEER. BASE DESIGN MIX ON FIELD EXPERIENCE OR TRIAL MIXTURES, OR BOTH, AS STIPULATED IN ACI 318 SECTION 19.2
4. SHOP DRAWING SUBMITTALS:
   - A. CONTRACTOR SHALL REVIEW THE SUBMITTALS FOR COMPLETENESS AND COMPLIANCE WITH CONTRACT DOCUMENTS AND STAMP SHOP DRAWINGS DOCUMENTING THIS REVIEW PRIOR TO SUBMISSION.
   - B. SUBMIT SHOP DRAWINGS TO STRUCTURAL ENGINEER FOR REVIEW. DO NOT COMMENCE FABRICATION UNTIL REVIEW PROCESS IS COMPLETED.
   - C. WHEN AN ENGINEER IS REQUIRED TO SIGN AND STAMP SHOP DRAWINGS AND CALCULATIONS, THE SEAL SHALL INDICATE THAT THE ENGINEER IS REGISTERED IN THE STATE OF WASHINGTON.
   - D. SHOP DRAWINGS ARE NOT A PART OF CONTRACT DOCUMENTS, AND REVIEW IS FOR GENERAL CONFORMANCE WITH DESIGN INTENT ONLY. STRUCTURAL ENGINEER'S REVIEW DOES NOT CONSTITUTE AN AUTHORIZATION TO DEVIATE FROM THE CONTRACT OR THE BUILDING CODE.
   - E. SHOP DRAWINGS WILL BE REJECTED FOR INCOMPLETENESS, LACK OF COORDINATION WITH OTHER PORTIONS OF CONTRACT DOCUMENTS, LACK OF CALCULATIONS (IF REQUIRED), OR WHERE MODIFICATIONS OR SUBSTITUTIONS ARE INDICATED WITHOUT PRIOR REVIEW.
   - F. SUBMIT SHOP DRAWINGS AND CALCULATIONS TO GOVERNING CODE AUTHORITY WHEN SPECIFICALLY INDICATED OR REQUESTED.
   - G. MAINTAIN A COPY OF ALL SHOP DRAWINGS ACCEPTED BY STRUCTURAL ENGINEER AT SITE DURING CONSTRUCTION PERIOD.
   - H. STRUCTURAL ENGINEER REQUIRES 10 WORKING DAYS AFTER RECEIPT OF SHOP DRAWINGS AND CALCULATIONS FOR PROCESSING.

FOUNDATIONS:

1 FOUNDATION ELEVATIONS ARE AS SHOWN ON DRAWINGS.

2 FOUNDATIONS SHALL BE FOUNDED ON FIRM, UNDISTURBED SOIL OR ON APPROVED STRUCTURAL FILL.

3 STRUCTURAL FILL SHALL CONSIST OF CLEAN, WELL-GRADED SAND, SAND AND GRAVEL, OR CRUSHED ROCK OR AS SPECIFIED IN THE SOILS REPORT.

4 STRUCTURAL FILL SHALL BE PLACED IN LOOSE LIFTS NOT EXCEEDING 8" IN THICKNESS AND SHALL BE COMPACTED TO 92% OF THE MAXIMUM DRY DENSITY AS OBTAINED BY MODIFIED PROCTOR (ASTM D1557).

5 EXPOSED SOIL SHALL BE INSPECTED FOR COMPLIANCE WITH THE SOILS REPORT BY THE INSPECTION AGENCY REPRESENTATIVE PRIOR TO CONSTRUCTING CONCRETE FORMS AND/OR PLACING REINFORCING STEEL. ANY EXCESS OR NON-COMPLYING MATERIAL AS DETERMINED BY THE INSPECTION AGENCY REPRESENTATIVE SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE SOILS ENGINEER.

6 THE CONTRACTOR SHALL READ THE SOILS REPORT PRIOR TO BEGINNING GRADING AND FOUNDATION EXCAVATION WORK. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE GEOTECHNICAL AND STRUCTURAL ENGINEERS OF ANY SOIL CONDITION NOT CONSISTENT WITH THE SOILS REPORT THAT IS DISCOVERED DURING THE COURSE OF SITE WORK.

7 CONTRACTOR SHALL BRACE OR PROTECT ALL BUILDING AND PIT WALLS BELOW GRADE FROM LATERAL LOADS UNTIL ATTACHING FLOORS ARE COMPLETELY IN PLACE AND HAVE ATTAINED FULL DESIGN STRENGTH. CONTRACTOR SHALL PROVIDE FOR THE DESIGN, PERMITS AND INSTALLATION OF SUCH BRACING. RETAINING WALLS SHALL HAVE ATTAINED FULL DESIGN STRENGTH PRIOR TO BEING BACKFILLED.

8 CONTRACTOR SHALL PROVIDE FOR THE DESIGN AND INSTALLATION OF ALL CRIBBING, SHEATHING AND SHORING REQUIRED TO SAFELY RETAIN ALL EARTH BANKS.

9 ALL WALKWAYS AND OTHER EXTERIOR SLABS ON GRADE MAY NOT BE SHOWN ON THE STRUCTURAL PLANS. USE 4" THICK CONCRETE SLABS WITH 6x6-W1.4xW1.4 WWF MATS, UNLESS SHOWN OTHERWISE.

10 CONTRACTOR SHALL PROVIDE FOR DE-WATERING OF EXCAVATIONS FROM SURFACE WATER, GROUND WATER OR SEEPAGE.

NON-SHRINK GROUT:

1 CONFORM WITH ASTM C1107 AND CRD-C621 CORPS OF ENGINEERS "SPECIFICATIONS FOR NON-SHRINK GROUT".

2 SPECIFIED 28 DAY COMPRESSIVE STRENGTH: 5,000 PSI

3 DO NOT PRE-GROUT PLATES.

ANCHORS IN CONCRETE & MASONRY

1. INSTALL ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
2. INSTALL WITH IBC SPECIAL INSPECTION ACCORDING TO SPECIAL INSPECTION PROGRAM.
3. ALL ANCHORS SHALL BE ICC/ICBO APPROVED
4. MECHANICAL ANCHORS, WHERE SPECIFIED ON THE DRAWINGS, SHALL CONFORM TO THE FOLLOWING:
   - A. CONCRETE EXPANSION ANCHORS: HILTI KWIK BOLT TZ (ESR-1917)
   - B. CONCRETE UNDERCUT ANCHORS: HILTI HAD (ESR-1546)
   - C. GROUTED REINFORCED CMU EXPANSION ANCHORS HILTI KWIK BOLT 3 (ESR-2302)
5. ADHESIVE ANCHORS, WHERE SPECIFIED ON THE DRAWINGS, SHALL CONFORM TO THE FOLLOWING:
   - A. CONCRETE EPOXY ANCHORS: HILTI HIT-RE 500-V3 (ESR-3814)
   - B. GROUTED REINFORCED CMU EPOXY ANCHORS: HILTI HIT-HY 200 (ESR-3187)
   - C. UNGROUTED OR UNREINFORCED MASONRY EPOXY ANCHORS: HILTI HIT-HY 70 (ESR-2682)

   ACCEPTABLE ADHESIVE INJECTION GEL SYSTEMS:
   - HILTI-RE-500-SD - HILTI (ESR 2322)
   - SET-XP - SIMPSON STRONG TIE (ESR 2508)
6. DRILLING SHALL BE PERFORMED WITH A ROTARY HAMMER DRILL AND CARBIDE TIPPED DRILL BIT IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE APPLICABLE ICC EVALUATION REPORT.
7. BORE HOLE CLEANING PROCEDURES MUST COMPLY WITH THE MANUFACTURER'S INSTRUCTIONS AND THE APPLICABLE ICC EVALUATION REPORT IN ORDER TO PRODUCE A DRY, DUST-FREE HOLE.
8. INJECTION OF ADHESIVE SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND THE APPLICABLE ICC EVALUATION REPORT IN ORDER TO PRODUCE AN AIR-VOID FREE INJECTION.
9. SPECIAL CONDITIONS SUCH AS WATER SATURATED CONCRETE, WATER-FILLED HOLES, UNDERWATER AND OVERHEAD INSTALLATIONS MUST BE APPROVED BY THE ENGINEER OF RECORD AND COMPLY WITH THE APPLICABLE ICC-ES REPORT.
10. STEEL ANCHORING ELEMENTS SHALL BE THE SIZE AND GRADE SHOWN ON THE DRAWINGS AND MUST BE CLEAN, DRY AND FREE OF ANY OIL OR CONTAMINANTS.
11. SUBSTITUTIONS FOR ANCHOR SYSTEMS MUST BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO INSTALLATION AND SHALL HAVE A VALID ICC-ES EVALUATION IN ACCORDANCE WITH THE APPLICABLE BUILDING CODE.
12. ALL ANCHOR EMBED DEPTHS SPECIFIED ON THESE DRAWINGS ARE EFFECTIVE EMBEDMENT DEPTHS. ADDITIONAL ANCHOR LENGTH AND OR HOLE DEPTH SHALL BE PROVIDED AS REQUIRED BY THE ANCHOR MANUFACTURER AND ASSOCIATED CODE APPROVALS..

CONCRETE (CAST IN PLACE):

1. ALL CONCRETE WORK TO CONFORM TO IBC CHAPTER 19.
2. PROVIDE NORMAL WEIGHT AGGREGATES OF NATURAL SAND AND ROCK COMPLYING WITH ASTM C33 (AGGREGATE SIZE).
3. PROVIDE PORTLAND CEMENT CONFORMING TO ASTM C150, TYPE II.
4. ALL CONCRETE SHALL BE NORMAL WEIGHT (145 PCF) AND SHALL DEVELOP A MINIMUM 28 DAY LABORATORY CURED, COMPRESSIVE CYLINDER STRENGTH OF:
   - 5,000 PSI FOR STRUCTURAL CONCRETE, UNO
   - 5,000 PSI FOR FOUNDATIONS AND INTERIOR SLABS ON GRADE
5. SAMPLES FOR STRENGTH TESTS OF EACH CLASS OF CONCRETE PLACED EACH DAY SHALL BE TAKEN NOT LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 50 CUBIC YARDS OF CONCRETE, NOR LESS THAN EACH 5000 SQUARE FEET OF SURFACE AREA FOR SLABS OR WALLS. FREQUENCY OF TESTING MAY BE CHANGED AT THE DISCRETION OF THE ENGINEER. SAMPLES AS IDENTIFIED IN THESE SPECIFICATIONS SHALL CONSIST OF A MINIMUM OF (5) CAST CYLINDERS: (1) TO BE CURED UNDER JOB CONDITIONS AND (4) IN AN APPROVED COMMERCIAL LABORATORY. CYLINDERS SHALL BE TESTED FOR COMPRESSIVE STRENGTH AS FOLLOWS:
   - (2) LAB CURED AT 7 DAYS
   - (2) LAB CURED AT 28 DAYS
   - (1) FIELD CURED AT 28 DAYS

   SLUMP, AIR ENTRAINMENT, LOCATION IN STRUCTURE, ETC. SHALL BE MEASURED AND RECORDED FOR EACH SET OF CYLINDERS, PER ASTM STANDARDS.
6. CONCRETE CYLINDER AND TESTING SHALL CONFORM TO ASTM STANDARDS.
7. CONCRETE, FORMS, MIXING, PLACING, AND CURING SHALL CONFORM TO THE ACI MANUAL OF CONCRETE PRACTICE, LATEST EDITION, AND SPECIFICATIONS.
8. CONCRETE SLUMP NOT TO EXCEED 4 (± 1) INCHES. FOR SLAB ON GRADE, WALLS, SLAB ON METAL DECK, AND SUSPENDED SLABS, SLUMP NOT TO EXCEED 4 (+0, -1) INCHES.
9. CONCRETE SHALL BE PLACED IN ONE CONTINUOUS OPERATION.
12. SIZE AND LOCATION OF SLEEVES THRU FLOORS OR WALLS FOR MECHANICAL OR ELECTRICAL ACCESS SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACING CONCRETE.
13. SHORE ALL SELF-SUPPORTING SLABS AND BEAMS UNTIL JOB-CURED CYLINDERS INDICATE A MINIMUM AVERAGE OF 80% OF THE DESIGNATED MINIMUM CYLINDER STRENGTH.
14. DO NOT USE CONCRETE OR GROUT CONTAINING CHLORIDES.
15. DO NOT EMBED CONDUITS, PIPES, OR SLEEVES IN STRUCTURAL CONCRETE, INCLUDING SLABS ON METAL DECK, EXCEPT WHERE SPECIFICALLY DETAILED OR ACCEPTED BY STRUCTURAL ENGINEER. LOCATE ELECTRICAL CONDUIT 3" APART MINIMUM AND WITHIN MIDDLE THIRD OF MEMBER.
16. MAINTAIN CONCRETE ABOVE 50 DEGREES FAHRENHEIT AND IN A MOIST CONDITION FOR A MINIMUM OF 7 DAYS AFTER PLACEMENT UNLESS OTHERWISE ACCEPTED BY STRUCTURAL ENGINEER.
18. ALL ANCHOR BOLTS IN CONCRETE SHALL CONFORM TO ASTM SPECIFICATION A301 AND SHALL BE OF THE SIZE INDICATED ON THE DRAWINGS.
19. FORM EXPOSED CORNERS OF COLUMNS, BEAMS, WALLS, ETC., WITH 3/4-INCH CHAMFERS UNLESS DETAILED OTHERWISE.
20. BASE PLATES AND ANCHOR BOLTS BELOW GRADE SHALL BE COVERED WITH A MINIMUM OF 3" OF CONCRETE.
21. APPROVED BONDING AGENT MANUFACTURERS AS FOLLOWS:
    - EUCLID
    - ALTERNATIVE MANUFACTURERS TO BE SENT TO STRUCTURAL ENGINEER FOR APPROVAL
22. SUBMIT SHOP DRAWINGS TO STRUCTURAL ENGINEER INDICATING LOCATIONS OF CONCRETE CONSTRUCTION JOINTS FOR REVIEW PRIOR TO PLACING CONCRETE.
    LOCATE JOINTS TO MINIMIZE EFFECTS OF SHRINKAGE. JOINT LOCATIONS SHALL ALSO BE PLACED AT POINTS OF LOW STRESS AND SHALL CONFORM TO ACI 318, SECTION 26.5.6

REINFORCING STEEL:

1. REINFORCING BARS SHALL BE NEW BILLET STEEL AND SHALL CONFORM TO:
   - ALL REINFORCEMENT UNO: ASTM A706, GRADE 60
   - REINFORCING AT FOUNDATION, SUSPENDED SLAB, SLAB ON GRADE, AND ALL TIES: ASTM A615, GRADE 60

   ASTM A615, GRADE 60 REINFORCING MAY BE USED IN LIEU OF ASTM A706 REINFORCING AS PERMITTED BY ACI 318, UNLESS NOTED OTHERWISE.
2. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185
3. ALL WELDED REINFORCING STEEL, METAL INSERTS, AND CONNECTIONS SHALL CONFORM TO ACI AND CRSI STANDARDS.
4. ALL WELDING OF REINFORCING STEEL SHALL COMPLY WITH AWS D1.4. IF WELDING OF REINFORCING STEEL OTHER THAN A706 IS DESIRED, SUBMIT PROPOSED PROCEDURE, INDICATING CONFORMANCE TO CODE AND REQUIREMENTS OF GOVERNING CODE AUTHORITY, TO STRUCTURAL ENGINEER FOR ACCEPTANCE AND TO GOVERNING CODE AUTHORITY FOR APPROVAL PRIOR TO EXECUTION. WELDERS SHALL BE CERTIFIED AS REQUIRED BY GOVERNING CODE AUTHORITY.
5. NO TACK WELDING OF REINFORCING STEEL IS PERMITTED WITHOUT PRIOR REVIEW BY STRUCTURAL ENGINEER.
6. SECURELY TIE ANCHOR BOLTS, REINFORCING STEEL, INSERTS, ETC., IN PLACE PRIOR TO POURING CONCRETE OR GROUT. BARS ADJACENT TO EARTH SHALL BE SUPPORTED BY CEMENT MORTAR CUBES.
7. ALL REINFORCING BAR BENDS SHALL BE MADE COLD. BARS SHALL NOT BE RE-BENT.
8. REINFORCEMENT SHALL BE DETAILED, FABRICATED, AND PLACED IN ACCORDANCE WITH ACI CODE 318 AND ACI MANUAL 315 UON. ALL REINFORCEMENT SHALL BE FREE OF LOOSE MILL AND RUST SCALE, OIL, DIRT, AND COATINGS OF ANY MANNER THAT WILL REDUCE BOND. ALL REINFORCEMENT SHALL BE CONTINUOUS WITH ADEQUATE LAPS AS SPECIFIED HEREIN.
9. DOWELS BETWEEN FOOTINGS AND WALLS OR COLUMNS SHALL BE THE SAME GRADE, SIZE AND SPACING AS THE VERTICAL REINFORCING, RESPECTIVELY, UNO.
10. CHAIRS OR SPACERS FOR REINFORCING SHALL BE PLASTIC OR PLASTIC COATED WHEN RESTING ON EXPOSED SURFACES.
11. NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY SO DETAILED AND REVIEWED BY THE STRUCTURAL ENGINEER.
12. REINFORCING LAP SPLICES (INCHES) SHALL CONFORM WITH ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", AS SHOWN BELOW, UNO ON DRAWINGS.

	3,000 PSI		4,000 PSI		5,000 PSI	
BAR SIZE	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	28"	22"	24"	19"	22"	17"
#4	37"	29"	32"	25"	29"	22"
#5	47"	36"	40"	31"	36"	28"
#6	56"	43"	48"	37"	43"	33"
#7	81"	63"	70"	54"	63"	49"
#8	93"	72"	80"	62"	72"	55"
#9	105"	81"	91"	70"	81"	63"
#10	118"	91"	102"	79"	91"	70"
#11	131"	101"	113"	87"	101"	78"

LAP SPICE NOTES:
- A. TOP BARS ARE DEFINED AS HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12" OF CONCRETE IS PLACED BELOW THE BARS.
- B. SPLICE LENGTH BASIS: CLASS B, CASE 1 SPLICE, WITH CENTER-TO-CENTER BAR SPACING OF GREATER THAN (3) BAR DIAMETERS.
- C. INCREASE SPLICE LENGTHS BY 50% IF CLEAR DISTANCES ARE LESS THAN 2 BAR DIAMETERS, BUT NEVER LESS THAN MINIMUM CLEAR DISTANCES INDICATED BELOW.

13. MAINTAIN THE FOLLOWING MINIMUM CLEAR DISTANCES BETWEEN REINFORCING STEEL (OR ENCASED STRUCTURAL STEEL) AND FACE OF CONCRETE UNO:
    - A. CONCRETE CAST AGAINST AND PERMANENTLY IN CONTACT WITH GROUND: 3"
    - B. CONCRETE EXPOSED TO WEATHER OR IN CONTACT WITH GROUND: 2"
    - C. CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
      - SLABS, WALLS, AND JOISTS, #11 AND SMALLER 3/4"
      - BEAMS, COLUMNS, PEDESTALS AND TENSION TIES 1-1/2"
14. DOWEL CONCRETE WALLS TO FOOTING WITH BARS OF SAME SIZE AND SPACING AS WALL REINFORCEMENT, UNO.
15. PLACE (2) #5 BARS x OPENING DIMENSION PLUS 4'-0" EACH SIDE OF ALL OPENINGS AND (2) #5 x 4'-0" DIAGONAL BARS AT EACH CORNER OF ALL SLAB OPENINGS GREATER THAN 1'-6" PLACED AT EACH LAYER OF REINFORCING STEEL.
16. PROVIDE TEMPERATURE & SHRINKAGE REINFORCEMENT IN ALL SLABS AS FOLLOWS, UNO:
    - 4" SLAB - #3 @ 12" AT RIGHT ANGLE TO MAIN REINFORCEMENT
    - 6" SLAB - #4 @ 16" AT RIGHT ANGLE TO MAIN REINFORCEMENT
    - 8" SLAB - #4 @ 12" AT RIGHT ANGLE TO MAIN REINFORCEMENT
17. TERMINATE ALL CONT. BARS WITH STD HOOK AT EACH END.

FINAL PACKAGE

SCOTT DAWSON — STATE OF WASHINGTON — 23011360 — REGISTERED PROFESSIONAL ENGINEER

ORIGINAL COPY OF DIGITALLY SIGNED DOCUMENT AVAILABLE UPON REQUEST

FILE NAME: P:\WR\P24\24235 LFP 2024_DEV REV SVCS\(24)ENGINEERING\SHEETS\P24235_STR GN.DWG
SAVE TIME: 6/26/2024, 2:51:26 PM PLOT TIME: 6/27/2024 8:05 AM
USER NAME: MATT PELSMAN

DESIGNED SRD
DRAWN KAM
CHECKED SAL

SYM	REVISION	DATE	BY	APP'D
0	ISSUE FOR CONSTRUCTION	05/06/24		

PACE Engineers
11255 Kirkland Way, Suite 300
Kirkland, WA 98033
p. 425.827.2014
www.paceengrs.com

CITY OF LAKE FOREST PARK
PUBLIC WORKS DEPARTMENT
17425 BALLINGER WAY NE
LAKE FOREST PARK, WA 98155

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DATE 6/12/2024
SCALE AS SHOWN

PUBLIC WORKS FACILITY MATERIAL BIN COVERS

GENERAL NOTES

PACE PROJECT NO. 24235
DWG NAME: P24235_STR GN.DWG
SHEET S001 OF 12

GENERAL STRUCTURAL NOTES

STRUCTURAL STEEL (MATERIAL & FABRICATION):

1. STRUCTURAL STEEL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO THE BUILDING CODE AND AISC STANDARDS USING LOADS AS DEFINED IN AISC-360 SECTION B3-3 "DESIGN FOR STRENGTH USING LOAD AND RESISTANCE FACTOR DESIGN (LRFD)".
2. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING, UNO:
   - WIDE FLANGE SHAPES — ASTM A992
   - PLATES AND BARS — ASTM A529 GRADE 50
   - CHANNELS AND ANGLES — ASTM A36
   - HOLLOW ROUND SECTIONS — ASTM A500-C
   - HOLLOW RECTANGULAR SECTIONS — ASTM A500-C
   - ROUND PIPE — ASTM A53-B
   - ANCHOR RODS EMBEDED IN CONCRETE — ASTM F-1554
   - CONNECTION BOLTS — A325-N-STD
   - OPEN CHANNEL STRUT — ASTM A653, GRADE 33
3. FABRICATE AND ERECT STRUCTURAL STEEL IN COMPLIANCE WITH THE LATEST REVISION OF "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" AND IBC CHAPTER 22.
4. AISC QUALITY CERTIFIED LICENSED FABRICATOR IS REQUIRED FOR ALL STRUCTURAL STEEL.
5. ALL STRUT BOLTS TO CONFORM TO MANUFACTURER SPECIFICATIONS OR SAE J429 GR 2, UNO.
6. VERIFY ALL MATERIAL FINISHES WITH OWNER.
7. HEADED STUD CONNECTORS (WHS) SHALL CONFORM TO AWS D1.1 SECTION 7 AND SHALL BE FABRICATED FROM COLD DRAWN STEEL CONFORMING TO ASTM A-108 WITH A MINIMUM TENSILE STRENGTH OF 65KSI. STUD WELDING, INSPECTION AND TESTING SHALL CONFORM TO AWS REQUIREMENTS.
8. ALL STEEL EXPOSED TO WEATHER, MOISTURE, SOIL, OR AS NOTED SHALL BE HOT DIP GALVANIZED PER ASTM A123.
9. WHERE SPECIFIED, GALVANIZED STEEL SHALL CONFORM TO ASTM A123 WITH MINIMUM COATING THICKNESS GRADE 60. VENT HOLES ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE INDICATED ON THE SHOP DRAWINGS.
10. HIGH-STRENGTH BOLTS:
    A. ALL BOLTS SHALL BE INSTALLED AS PRETENSIONED HIGH-STRENGTH BOLTS COMPLYING WITH ASTM A325N.
    B. MINIMUM PRETENSION OF HIGH-STRENGTH BOLTS SHALL COMPLY WITH TABLE 8.1 OF "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS" (RCSC 2014).
    C. VERIFICATION OF MINIMUM PRETENSION OF HIGH-STRENGTH BOLTED CONNECTIONS TO COMPLY WITH ONE OF THE FOLLOWING METHODS PER RCSC 2014, SECTION 8.2:
       i. TURN-OF-NUT PRETENSIONING
       ii. CALIBRATED-WRENCH PRETENSIONING
       iii. DIRECT-TENSION-INDICATOR PRETENSIONING
    D. INSPECTION OF HIGH-STRENGTH BOLTED CONNECTIONS TO COMPLY WITH SPECIFICATIONS SECTION N5.6 AND AISC 341 CHAPTER J7.
    E. INSPECTION OF SLIP-CRITICAL CONNECTIONS TO COMPLY WITH RCSC 2014 SECTION 9.3.

STRUCTURAL STEEL (WELDING):

1. BASIC REQUIREMENTS
   A. WELD STRUCTURAL STEEL IN COMPLIANCE WITH ANSI/AWS D1.1 AND AISC SPECIFICATION, CHAPTER J.
   B. WELDERS SHALL BE CERTIFIED AS REQUIRED IN THE PLANS AND BY GOVERNING CODE AUTHORITY.
   C. WELDING SHALL BE DONE BY ELECTRIC ARC PROCESS USING LOW-HYDROGEN ELECTRODES WHOSE SPECIFIED TENSILE STRENGTH IS NOT LESS THAN 70 KSI UNO, AND 80 KSI FOR ALL ASTM 913 STEEL.
   D. WELDING MAY BE PERFORMED USING SUBMERGED ARC PROCESS WITH AUTOMATIC WELDING (SAW-1).
   E. SUBMIT ALL PRE-QUALIFIED JOINT WELDING PROCEDURES FOR REVIEW.
   F. SHOP WELDS MUST BE PERFORMED IN AN AISC CERTIFIED FABRICATOR'S SHOP.
   G. UNLESS A LARGER SIZE FILLET WELD IS INDICATED, PROVIDE MINIMUM SIZE OF WELD PER AISC SPECIFICATION, SECTION J2 AND TABLE J2.4.
   H. NO ATTEMPT HAS BEEN MADE TO DIFFERENTIATE BETWEEN SHOP AND FIELD-WELDED CONNECTIONS.
2. PROJECT WELDING REQUIREMENTS
   A. THE PROJECT WELDING REQUIREMENTS SHALL APPLY TO ALL SHOP AND FIELD WELDS.
   B. THE INSPECTOR SHALL VERIFY COMPLIANCE WITH THE APPROVED PROJECT WELDING REQUIREMENTS. ANY DEVIATION OR LACK OF COMPLIANCE WITH THE APPROVED REQUIREMENTS SHALL BE REPORTED IMMEDIATELY TO THE STRUCTURAL ENGINEER AND CONTRACTOR.
   C. ALL FULL PENETRATION WELDS SHALL BE INSPECTED BY ULTRASONIC OR OTHER APPROVED NON-DESTRUCTIVE TESTING PROCEDURES. RESULTS OF TESTS SHALL BE SUBMITTED IN REPORT FORM TO THE ENGINEER.
   D. IN ADDITION TO REQUIREMENTS DESCRIBED ELSEWHERE IN THE CONTRACT DOCUMENTS, THE APPROVED PROJECT WELDING REQUIREMENTS SHALL, AT A MINIMUM, CONSIST OF THE FOLLOWING (REFER TO AWS D1.1):
      i. WELDING PROCEDURE SPECIFICATION (WPS) FOR EACH WELD AND POSITION AS REQUIRED BY AWS D1.1.
      ii. SUPPLEMENTAL WELDING PROCEDURE.
      iii. SHOP DRAWINGS THAT REFERENCE THE APPROPRIATE WPS FOR EACH WELD REQUIRED FOR EACH CONNECTION AND REQUIRED SUPPLEMENTAL WELDING PROCEDURE.
      iv. WELDER PERFORMANCE QUALIFICATIONS APPROVED BY THE DEPUTY INSPECTOR.
      v. QUALIFICATION BY TESTING OF ANY WELDING PROCEDURE THAT IS NOT PRE-QUALIFIED PER AWS D1.1.

METAL DECKING:

1 ALL METAL DECKING SHALL BE AS INDICATED IN THE DRAWINGS

4 DECKING SHALL BE CONTINUOUS ON 4 OR MORE SUPPORTS.

6 CONNECT DECKING TO SUPPORTING MEMBERS WITH 1/2" DIAMETER PUDDLE WELDS, STANDARD WELDING WASHERS.

7 WELDERS SHALL BE AWS CERTIFIED FOR LIGHT GAUGE METAL WELDING.

COLD FORMED STEEL FRAMING:

1. ALL FABRICATION, ERECTION, AND IDENTIFICATION OF COLD FORMED STEEL FRAMING SHALL CONFORM TO IBC SECTIONS 2209, 2210, 2211, AND AISI "SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS".
2. MATERIAL:
   A. ASTM A653/653M, GRADE D (Fy = 50 KSI) FOR 51 MIL AND THICKER STOCK
   B. ASTM A653/653M, GRADE A (Fy = 33 KSI) FOR 43 MIL AND THINNER STOCK
3. FASTENING OF COMPONENTS SHALL BE WITH SELF-DRILLING SHEET METAL (SDSM) SCREWS, UNLESS NOTED OTHERWISE:
   A. SCREW SPACING AND EDGE DISTANCE SHALL BE NOT LESS THAN 3X THE NOMINAL SCREW DIAMETER.
   B. PENETRATIONS OF SCREWS THROUGH JOINED MATERIAL SHOULD NOT BE LESS THAN (3) EXPOSED THREADS.
   C. WHERE FEASIBLE, INSTALL SCREWS FROM THINNER MATERIAL TO THICKER MATERIAL.
   D. SCREWS SHALL BE INSTALLED AND TIGHTENED IN ACCORDANCE WITH SCREW MANUFACTURER'S RECOMMENDATIONS.
4. WHERE INDICATED, FASTENING OF COMPONENTS SHALL BE WITH WELDING:
   A. ALL WELDS SHALL BE OF SUFFICIENT SIZE TO ENSURE THE STRENGTH OF THE CONNECTION.
   B. ALL WELDING SHALL CONFORM WITH AWS SPECIFICATIONS. TOUCH UP WELDS WITH ZINC RICH PAINT.
   C. WELDERS SHALL BE AWS CERTIFIED FOR COLD FORMED METAL WELDING.
   D. WELDING ELECTRODES SHALL BE E60XX.
   E. WELDING IS ONLY ACCEPTABLE ON MATERIAL 43 MIL AND THICKER.
5. STEEL STUDS OR JOISTS SHALL HAVE STIFFENED LIPS UNLESS NOTED OTHERWISE AND SHALL BE MANUFACTURED BY MEMBERS OF THE STEEL STUD MANUFACTURER'S ASSOCIATION. SIZES AND GAUGE ARE AS NOTED ON DRAWINGS.
6. PROVIDE ALL ACCESSORIES INCLUDING, BUT NOT NECESSARILY LIMITED TO, TRACKS, CLIPS, WEB STIFFENERS, ANCHORS, FASTENING DEVICES, AND OTHER ACCESSORIES REQUIRED FOR A COMPLETE AND PROPER INSTALLATION.
7. END BLOCKING SHALL BE PROVIDED WHERE JOIT ENDS ARE NOT OTHERWISE RESTRAINED FROM ROTATION.
8. JOISTS SHALL BE LOCATED DIRECTLY OVER BEARING STUDS, UNLESS NOTED OTHERWISE, WITHIN A TOLERANCE OF 1/2".
9. SPLICES IN AXIALLY LOADED STUDS SHALL NOT BE PREMITTED.
10. EACH FLANGE OF STUDS SHALL BE SECURELY ATTACHED TO FLANGES OF BOTH UPPER AND LOWER TRACKS.
11. WHEN METAL STUDS ARE USED IN BEARING WALL CONSTRUCTION, STUDS MUST FIT TIGHTLY INTO THE TOP AND BOTTOM TRACKS. END GAPS WILL NOT BE ALLOWED.
12. METAL STUDS TO BE "C" STUDS OF SIZE AND GAUGE AS SHOWN ON THE DRAWINGS. ALL STUDS SHALL BE 33 KSI STEEL OF STANDARD COMMERCIAL QUALITY. METAL STUD BEARING WALLS MUST BE SHEATHED OR OTHERWISE BRACED ON BOTH SIDES IN THEIR WEAK DIRECTION PRIOR TO BEING SUBJECTED TO VERTICAL LOADS.

WELDING NOTES:

THINNER BASE MATERIAL	NOT OVER 1/4" [6.5]	OVER 1/4" [6.5] TO 5/16" [8]	OVER 5/16" [8] TO 7/16" [11]	OVER 7/16" [11] TO 9/16" [14.5]	OVER 9/16" [14.5] TO 3/4" [19]	OVER 3/4" [19] TO 7/8" [22]	OVER 7/8" [22] TO 1" [25]
WELD SIZE *	5/32" [4]	3/16" [5]	1/4" [6.5]	5/16" [8]	7/16" [11]	1/2" [13]	5/8" [15]

1. ALL WELDS ARE DOUBLE FILLET AND ALL DOUBLE FILLET WELD SIZES ARE PER THE TABLE HEREIN U.N.O.
   * INDICATES DOUBLE CONTINUOUS WELD.
2. ALL WELD SIZES GIVEN IN THE TABLE ARE LEG SIZE
3. ALL STRUCTURAL WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1
4. ALL BUTT WELDS TO BE FULL PENETRATION AND ACHIEVE FULL STRENGTH WITH BACK GOUGING WHENEVER NECESSARY, U.N.O.. ONE-SIDED WELDING TO BE APPLIED ONLY WHERE SPECIFICALLY APPROVED BY THE OWNER, USING OWNER APPROVED PROCESS
5. ALL ONE-SIDED FILLET WELDS LEG SIZES SHALL BE CONTINUOUS AND 1/16TH INCH SMALLER THAN THE THICKNESS OF THE BASE MATERIAL, U.N.O.
6. ALL STEEL PLATES/MEMBERS IN CONTACT WITH OTHER STEEL PLATES/MEMBERS WHICH DO NOT SATISFY THE REQUIREMENTS OF A BUTT WELD TO BE DOUBLE FILLET WELD AND ACHIEVE FULL STRENGTH OF BASE MATERIAL U.N.O.

ABBREVIATIONS

AB	ANCHOR BOLT	CJP	COMPLETE JOINT PENETRATION
ABT	ABOUT	CL	CENTERLINE
AC	ASPHALTIC CONCRETE	CLR	CLEAR
ACI	AMERICAN CONCRETE INSTITUTE	CO	CLEANOUT
ADDL	ADDITIONAL	COL	COLUMN
ALT	ALTERNATE	CONC	CONCRETE
APPRX	APPROXIMATE	CONN	CONNECTION
ARCH	ARCHITECTURAL	CONST	CONSTRUCTION
B TO B	BACK TO BACK	CONT	CONTINUOUS, CONTINUITY
BLDG	BUILDING	CONTD	CONTINUED
BLK	BLOCK	CSK	COUNTERSINK
BLKG	BLOCKING	Db	BAR DIAMETER
BM	BEAM	DBL	DOUBLE
BOF	BOTTOM OF FOOTING	DEG	DEGREES
BOP	BOTTOM OF PIPE	DET	DETAIL
BOS	BOTTOM OF STEEL	DIA	DIAMETER
BOT	BOTTOM	DIM	DIMENSION
BP	BASE PLATE	DWG	DRAWING
BRCG	BRACING	DWL	DOWEL
BRG	BEARING	(E)	EXISTING
BRKT	BRACKET	EA	EACH
BTWN	BETWEEN	EF	EACH FACE
C	COPE	ELECT	ELECTRICAL
CB	CATCH BASIN	ELEV	ELEVATION
CH PL	CHECKER PLATE	EQUIP	EQUIPMENT
CJ	CONTROL JOINT	ETC	ET CETERA
		EW	EACH WAY

EXIST	EXISTING	HP	HIGH POINT
EXP	EXPANSION	HR	HANDRAIL
F'c	COMPRESSIVE STRENGTH OF CONCRETE, PSI	HS	HIGH STRENGTH
F'm	COMPRESSIVE STRENGTH OF MASONRY, PSI	HSB	HIGH STRENGTH BOLT
F's	TENSILE STRENGTH OF STEEL, PSI	HSS	HOLLOW STRUCTURAL SECTION
FCO	FLOOR CLEANOUT	HT	HEIGHT
FD	FLOOR DRAIN	IBC	INTERNATIONAL BUILDING CODE
FDN	FOUNDATION	ID	INSIDE DIAMETER
FF	FAR FACE	IE	INVERT ELEVATION
FIN	FINISH	IN	INCH OR INCHES
FL EL	FLOW ELEVATION	INS	INSULATION
FLG	FLANGE	IWO	IN WAY OF
FLR	FLOOR	JT	JOINT
FMD	FORMED METAL DECK	K	KIPS
FOS	FACE OF STEEL	KSI	KIPS PER SQUARE INCH
FS	FAR SIDE	LAT	LATERAL
FT	FOOT OR FEET	LBS	POUNDS
FT-K	FOOT KIPS	LG	LONG
FTG	FOOTING	LL	LIVE LOAD
GA	GAUGE	LLH	LONG LEG HORIZONTAL
GALV	GALVANIZED	LLV	LONG LEG VERTICAL
GLB	GLULAM BEAM	LONGIT	LONGITUDINAL
GRD	GRADE	LP	LOW POINT
HCA	HEADED CONCRETE ANCHOR	LT	LIGHT
HDG	HOT DIPPED GALVANIZED	LVF	LOW VELOCITY FASTENER
HGR	HANGER	MANUF	MANUFACTURER
HORIZ	HORIZONTAL	MAX	MAXIMUM

MB	MACHINE BOLT	PT	PRESSURE TREATED
MECH	MECHANICAL	R	RADIUS
MEZZ	MEZZANINE	REF	REFERENCE
MH	MANHOLE	REINF	REINFORCING
MIN	MINIMUM	REQ	REQUIREMENT
MISC	MISCELLANEOUS	REQD	REQUIRED
MO	MASONRY OPENING	RET W	RETAINING WALL
(N)	NEW	REV	REVISION
NF	NEAR FACE	SC	SLIP CRITICAL
NIC	NOT IN CONTRACT	SCH	SCHEDULE
NO	NUMBER	SECT	SECTION
NOM	NOMINAL	SEL S	SELECT STRUCTURAL
NS	NEAR SIDE	SHT	SHEET
NTS	NOT TO SCALE	SIM	SIMILAR
O TO O	OUT TO OUT	SLH	SHORT LEG HORIZONTAL
OC	ON CENTER	SLV	SHORT LEG VERTICAL
OD	OUTSIDE DIAMETER	SN	SNIPE
OH	OPPOSITE HAND	SOG	SLAB ON GRADE
OPG	OPENING	SPA	SPACES OR SPACING
OPP	OPPOSITE	SPECS	SPECIFICATIONS
PCF	POUNDS PER CUBIC FOOT	SQ	SQUARE
PJF	PREMOLDED JOINT FILLER	SS	STAINLESS STEEL
PL	PLATE	SSLT	SHORT SLOTTED BOLT HOLE
PLCS	PLACES	STD	STANDARD
PROJ	PROJECTION	STIFF	STIFFENER
PSF	POUNDS PER SQUARE FOOT	STL	STEEL
PSI	POUNDS PER SQUARE INCH	STRUCT	STRUCTURAL

SYMM	SYMMETRICAL
T & B	TOP & BOTTOM
THD	THREAD
TOC	TOP OF CONCRETE
TOS	TOP OF STEEL
TS	TUBE STEEL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
WP	WORKPOINT
WS	WATERSTOP
WT	WEIGHT

FINAL PACKAGE

SCOTT DAWSON — STATE OF WASHINGTON — 23031360 — REGISTERED PROFESSIONAL ENGINEER

ORIGINAL COPY OF DIGITALLY SIGNED DOCUMENT AVAILABLE UPON REQUEST

FILE NAME: P:\VDR\P24\24235_LFP 2024_DCI_REV SVCS\CAD\ENGINEERING\SHEETS\P24235_STR GN.DWG
SAVE TIME: 6/26/2024 2:21:26 PM PLOT TIME: 6/27/2024 8:05 AM
USER NAME: MATT PELSKOFF

DESIGNED SRD
DRAWN KAM
CHECKED SAL

SYM	REVISION	DATE	BY	APP'D
0	ISSUE FOR CONSTRUCTION	05/06/24		

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PACE Engineers
11255 Kirkland Way, Suite 300
Kirkland, WA 98033
p. 425.827.2014
www.paceengrs.com

CITY OF LAKE FOREST PARK
PUBLIC WORKS DEPARTMENT
17425 BALLINGER WAY NE
LAKE FOREST PARK, WA 98155

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 [redacted] 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

DATE 6/12/2024
SCALE AS SHOWN

PUBLIC WORKS FACILITY MATERIAL BIN COVERS

GENERAL NOTES

PACE PROJECT NO. 24235
DWG NAME: P24235_STR GN.DWG
SHEET S002 OF 12

ENGINEER'S QUALITY ASSURANCE PROGRAM

STRUCTURAL OBSERVATION:

1. STRUCTURAL OBSERVATION IS REQUIRED FOR THE STRUCTURAL SYSTEM IN ACCORDANCE WITH IBC SECTION 1704.6. STRUCTURAL OBSERVATION IS THE VISUAL OBSERVATION OF THE ELEMENTS AND CONNECTIONS OF THE STRUCTURAL SYSTEM AT SIGNIFICANT CONSTRUCTION STAGES AND THE COMPLETED STRUCTURE FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS. STRUCTURAL OBSERVATION DOES NOT WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED OF THE BUILDING INSPECTOR OR THE SPECIAL INSPECTOR.
2. THE OWNER SHALL EMPLOY A REGISTERED DESIGN PROFESSIONAL TO PERFORM THE STRUCTURAL OBSERVATION. THE STRUCTURAL ENGINEER SHALL BE REGISTERED OR LICENSED IN THE STATE OF WASHINGTON. THE DEPARTMENT OF BUILDING AND SAFETY RECOMMENDS THE USE OF THE STRUCTURAL ENGINEER RESPONSIBLE FOR THE STRUCTURAL DESIGN WHEN THEY ARE INDEPENDENT OF THE CONTRACTOR.
3. THE OWNER OR OWNER'S REPRESENTATIVE SHALL COORDINATE AND CALL FOR A MEETING BETWEEN THE STRUCTURAL ENGINEER RESPONSIBLE FOR THE STRUCTURAL DESIGN, STRUCTURAL OBSERVER, CONTRACTOR, AFFECTED SUBCONTRACTORS, AND DEPUTY INSPECTORS. THE PURPOSE OF THE MEETING SHALL BE TO IDENTIFY THE MAJOR STRUCTURAL ELEMENTS AND CONNECTIONS THAT AFFECT THE VERTICAL AND LATERAL LOAD SYSTEMS OF THE STRUCTURE AND TO REVIEW SCHEDULING OF THE REQUIRED OBSERVATIONS. A RECORD OF THE MEETING SHALL BE INCLUDED IN THE FIRST OBSERVATION REPORT SUBMITTED TO THE BUILDING INSPECTOR.
4. THE STRUCTURAL OBSERVER SHALL PERFORM SITE VISITS AT THOSE STEPS IN THE PROGRESS OF THE WORK THAT ALLOW FOR CORRECTION OF DEFICIENCIES WITHOUT SUBSTANTIAL EFFORT OR UNCOVERING OF THE WORK INVOLVED. AT A MINIMUM, THE FOLLOWING SIGNIFICANT CONSTRUCTION STAGES REQUIRE A SITE VISIT AND AN OBSERVATION REPORT FROM THE STRUCTURAL OBSERVER:

CONSTRUCTION STAGE		ELEMENTS/CONNECTIONS TO BE OBSERVED
A.	FOUNDATIONS:	BASE MATERIAL COMPACTION.
		FOLLOWING PLACEMENT OF REINFORCING STEEL, EMBEDDED PLATES AND ANCHOR BOLTS, ETC.
B.	STRUCTURAL STEEL, CONCRETE, WOOD, MASONRY, ETC.:	FOLLOWING FABRICATION AND AT 30% STAGE OF STEEL ERECTION
		AT 95% STAGE OF STEEL ERECTION.

5. THE STRUCTURAL OBSERVER SHALL PREPARE A REPORT FOR EACH SIGNIFICANT STAGE OF CONSTRUCTION OBSERVED. THE ORIGINAL OF THE OBSERVATION REPORT SHALL BE SENT TO THE BUILDING INSPECTOR'S OFFICE AND SHALL BE SIGNED AND SEALED (WET OR ELECTRONIC STAMP) BY THE STRUCTURAL OBSERVER. ONE COPY OF THE OBSERVATION REPORT SHALL BE ATTACHED TO THE APPROVED PLANS. COPIES OF THE REPORT SHALL ALSO BE GIVEN TO THE OWNER, CONTRACTOR, AND DEPUTY INSPECTOR.
6. A FINAL OBSERVATION REPORT MUST BE SUBMITTED TO THE BUILDING OFFICIAL, OWNER, AND STRUCTURAL ENGINEER THAT STATES THAT THE SITE VISITS HAVE BEEN MADE, THAT ALL REPORTED DEFICIENCIES HAVE, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, BEEN CORRECTED, AND THAT THE STRUCTURAL SYSTEM IN GENERAL CONFORMS TO THE APPROVED PLANS AND SPECIFICATIONS.

STATEMENT OF SPECIAL INSPECTION

1. TESTING LABORATORY SHALL SUBMIT REPORTS INDICATING RESULTS AND OBSERVATIONS OF TESTS AND INSPECTIONS AND STATING COMPLIANCE OR NONCOMPLIANCE WITH CONTRACT DOCUMENTS TO STRUCTURAL ENGINEER AND TO GOVERNING CODE AUTHORITY. CONTRACTOR SHALL REIMBURSE OWNER FOR COSTS RELATED TO TESTS AND INSPECTIONS OF UNIDENTIFIABLE MATERIALS OR MATERIALS FURNISHED WITHOUT CERTIFIED LABORATORY TEST REPORTS, MATERIALS FOUND DEFICIENT AFTER INITIAL TESTS AND INSPECTIONS, OR MATERIALS REPLACING DEFICIENT MATERIALS. SEE SPECIFICATIONS FOR ADDITIONAL TEST AND INSPECTION REQUIREMENTS.
2. PROVIDE CEMENT, AGGREGATES, REINFORCING STEEL, STRUCTURAL STEEL, HIGH-STRENGTH BOLTS, ETC., FROM IDENTIFIABLE TESTED STOCK. SUBMIT CERTIFIED LABORATORY TEST REPORTS TO STRUCTURAL ENGINEER AND TO GOVERNING CODE AUTHORITY. IF MATERIALS CANNOT BE IDENTIFIED OR IF CERTIFIED LABORATORY TEST REPORTS CANNOT BE MADE AVAILABLE, TESTING LABORATORY WILL PERFORM TESTS TO DETERMINE CONFORMANCE WITH CONTRACT DOCUMENTS AS DIRECTED BY STRUCTURAL ENGINEER.
3. TESTING LABORATORY SHALL PROVIDE SPECIAL INSPECTION, COMPLYING WITH IBC SECTION 1701 (UNO), FOR THE FOLLOWING:
   A. FOUNDATION PREPARATION
   B. REINFORCING STEEL PLACEMENT
   C. EMBEDDED BOLTS & PLATES
   D. CONCRETE SAMPLING & STRENGTH TESTING
   E. SHOP & FIELD WELDING INCLUDING SHEAR STUDS
   F. HIGH-STRENGTH BOLT INSTALLATION
   G. POST-INSTALLED CONCRETE ANCHORS
4. TESTING LABORATORY SHALL REVIEW CONCRETE MIX DESIGN DATA AND SHALL PERFORM THE CONCRETE TESTS SPECIFIED IN THE TABLE BELOW AT FREQUENCY INDICATED IN REQUIRED INSPECTIONS OF REINFORCED CONCRETE IN QUALITY ASSURANCE SECTION.
5. TESTING LABORATORY SHALL PERFORM THE TESTS IN STRUCTURAL STEEL SPECIFIED IN THE TABLE BELOW AS INDICATED IN REQUIRED INSPECTIONS OF STRUCTURAL STEEL IN QUALITY ASSURANCE SECTION.
6. TESTING LABORATORY SHALL PERFORM THE TESTS FOR COMPACTED STRUCTURAL FILL SPECIFIED IN THE TABLE BELOW AS INDICATED IN REQUIRED INSPECTIONS OF STRUCTURAL FILL IN QUALITY ASSURANCE SECTION.
7. THE FOLLOWING REQUIREMENTS SHALL APPLY TO WELDING INSPECTIONS PERFORMED FOR THE PROJECT:
   A. THE LEAD WELDING INSPECTOR SHALL BE A CERTIFIED WELDING INSPECTOR (CWI) PER AWS-QC1 STANDARDS, SHALL BE APPROVED BY THE STRUCTURAL OBSERVER AND CERTIFIED BY THE BUILDING OFFICIAL AS A REGISTERED DEPUTY INSPECTOR FOR STRUCTURAL STEEL WELDING (ICC-ES CERTIFICATION), AND SHALL POSSESS A MINIMUM LEVEL OF UT LEVEL II CERTIFICATION. OTHER WELDING INSPECTORS PERFORMING VISUAL INSPECTION UNDER THE SUPERVISION OF THE LEAD WELDING INSPECTOR SHALL POSSESS ICC-ES CERTIFICATION, AND PERSONS PERFORMING NONDESTRUCTIVE TESTING SHALL POSSESS UT LEVEL II CERTIFICATION. NOT MORE THAN FOUR NON-CWI INSPECTORS SHALL BE UNDER THE SUPERVISION OF A CWI. CERTIFICATION BY ICC-ES IS NOT AN ACCEPTABLE SUBSTITUTE FOR CLA CERTIFICATION.
   B. ALL INSPECTION REQUIREMENTS SHALL BE REQUIRED BY AWS D1.1 AND THE QUALITY ASSURANCE SECTION INCLUDING INSPECTION TABLES.

TABLE 1705.3

REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD	IBC REFERENCE
1. INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT	-	X	ACI 318: Ch. 20.25.2, 25.3,26.6.1-26.6.3	1908.4
2. REINFORCING BAR WELDING:	-			
A. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A706:		X	AWS D1.4 ACI 318:26.6.4	-
B. INSPECT SINGLE-PASS FILET WELDS, MAXIMUM 3/16" AND		X		
C. INSPECT ALL OTHER WELDS.	X			
3. INSPECT ANCHORS CAST IN CONCRETE	-	X	ACI 318: 17.8.2	-
4. INSPECT ANCHORS POST-INTALLED IN HARDENED CONCRETE MEMBERS.(b)				
A. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENDION LOUDS.	X		ACI 318: 17.8.2.4	-
B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4A.		X	ACI 318: 17.8.2	
5. VERIFY USE OF REQUIRED DESIGN MIX	-	X	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-	ASTM C172 ASTM C31 ACI 318:26.5, 26.12	1908.10
7. INSPECT CONCRETE AND SHORTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-	ACI 318:26-5	1908.6, 1908.7, 1908.8
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X	ACI 318:26.5-26.5.5	1908.9
9. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES				
A. APPLICATION OF PRESTRESSING FORCES: AND	X	-	ACI 318:26.10	-
B. GROUTING OF BONDED PRESTRESSING TENDONS.	X	-		-
10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	-	X	ACI 318:26.9	-
11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	-	X	ACI 318: 26.11.2	-
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X	ACI 318: 26.11.1.2 (b)	-

For SI: 1 inch = 25.4mm.

a. Where Applicable, see Section 1705.12, Special inspections for seismic resistance.

b. Specific requirements for special inspection shall be included in the research report for the anchor issued by approved source in accordance with 17.8.2 in ACI 318, or other qualification procedures. Where specific requirements are not provided, special inspection requirements shall be specified by the registered design professional and shall be approved by the building official prior to the commencement of the work.

TABLE 1705.6

REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIAL.	-	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X

FILE NAME: P:\KR\P24\24235 LFP 2024_DEV_RBV SVCS\CAD\ENGINEERING\SHEETS\P24235_STR GN.DWG
SAVE TIME: 6/26/2024 2:51:26 PM PLOT TIME: 6/27/2024 8:06 AM
USER NAME: MATT PEDERSEN

DESIGNED SRD	0	ISSUE FOR CONSTRUCTION	05/06/24		
DRAWN KAM					
CHECKED SAL					
	SYM	REVISION	DATE	BY	APP'D

PACE

PACE Engineers
11255 Kirkland Way, Suite 300
Kirkland, WA 98033
p. 425.827.2014
www.paceengrs.com

CITY OF LAKE FOREST PARK
PUBLIC WORKS DEPARTMENT
17425 BALLINGER WAY NE
LAKE FOREST PARK, WA 98155

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.
0 1"

DATE 6/12/2024
SCALE AS SHOWN

PUBLIC WORKS FACILITY MATERIAL BIN COVERS

SPECIAL INSPECTIONS

SCOTT DAWSON
STATE OF WASHINGTON
23031360
REGISTERED PROFESSIONAL ENGINEER

FINAL PACKAGE

ORIGINAL COPY OF DIGITALLY SIGNED DOCUMENT AVAILABLE UPON REQUEST

PACE PROJECT NO. 24235
DWG NAME: P24235_STR GN.DWG
SHEET S003 OF 12

ASPHALT DEMOLITION

CONCRETE SLAB DEMOLITION

1 / S101 DEMOLITION PLAN
NTS

FINAL PACKAGE

SCOTT DAWSON
STATE OF WASHINGTON
23031360
REGISTERED
PROFESSIONAL ENGINEER

ORIGINAL COPY OF DIGITALLY SIGNED DOCUMENT AVAILABLE UPON REQUEST

SYM	REVISION	DATE	BY	APP'D
0	ISSUE FOR CONSTRUCTION	05/06/24		

DESIGNED SRD
DRAWN KAM
CHECKED SAL

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PACE Engineers
11255 Kirkland Way, Suite 300
Kirkland, WA 98033
p. 425.827.2014
www.paceengrs.com

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PUBLIC WORKS DEPARTMENT
17425 BALLINGER WAY NE
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VERIFY SCALE
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

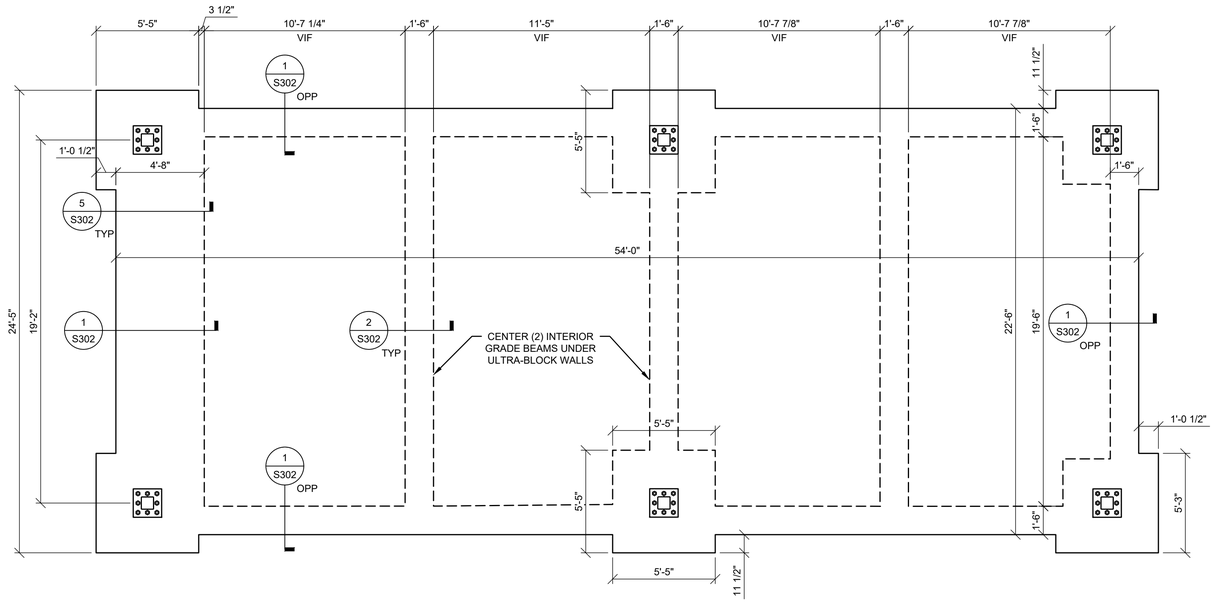
DATE **6/12/2024**
SCALE **AS SHOWN**

PUBLIC WORKS FACILITY MATERIAL BIN COVERS

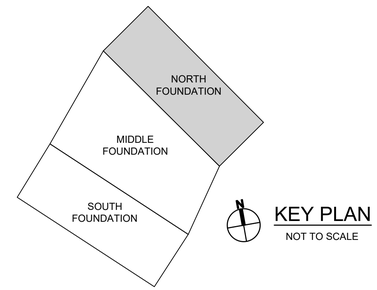
DEMOLITION PLAN

PACE PROJECT NO. **24235**
DWG NAME: P24235_DEMO.DWG
SHEET **S101** OF **12**

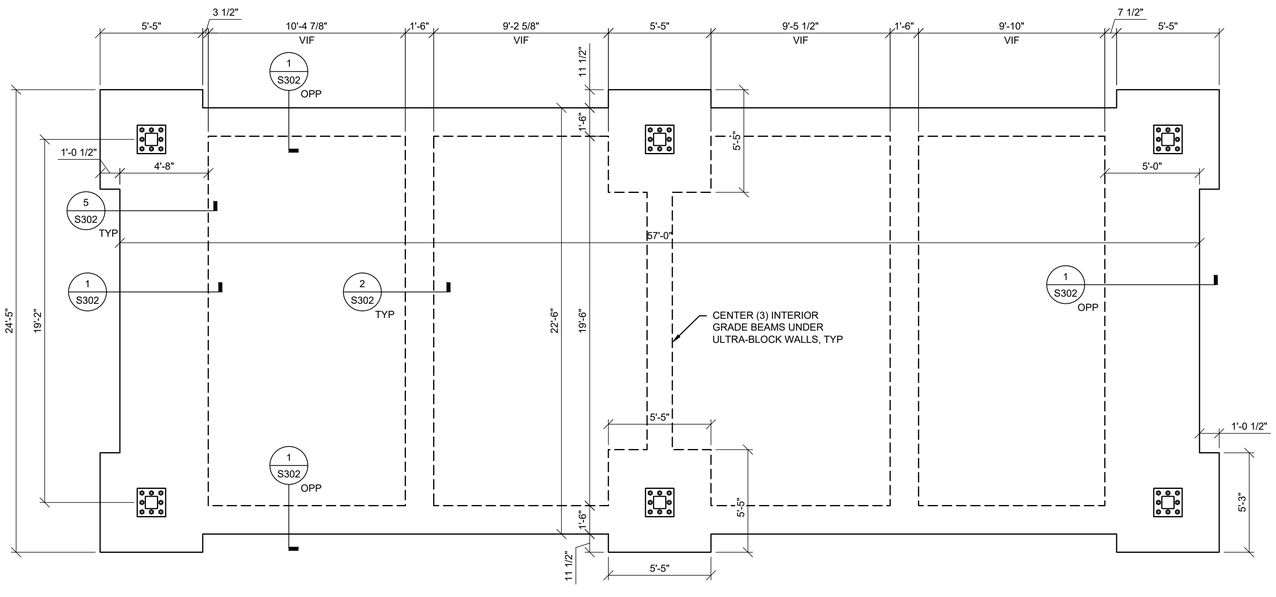
FILE NAME: P:\WRV\P24\24235 LFP 2024 DEV. REV SVCS\CAD\ENGINEERING\SHEETS\P24235_DEMO.DWG
SAVE TIME: 6/6/2024 10:28:33 AM PLOT TIME: 6/27/2024 8:06 AM
USER NAME:MATT PILSBURY



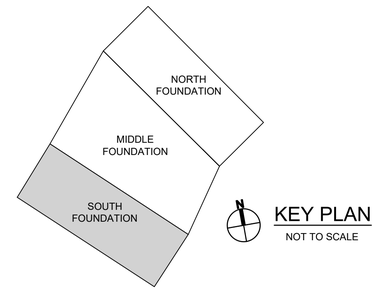
1 S102 NORTH FOUNDATION
1/4"=1'-0"



KEY PLAN
NOT TO SCALE



2 S102 SOUTH FOUNDATION
1/4"=1'-0"



KEY PLAN
NOT TO SCALE

FINAL PACKAGE

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STATE OF WASHINGTON
23031366
REGISTERED
PROFESSIONAL ENGINEER

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FILE NAME: P:\KIRV\P24\24235 LFP 2024 DEV. REV SWCS\CAD\ENGINEERING\SHEETS\P24235_FNDT.DWG
SAVE TIME: 6/27/2024 8:03:34 AM PLOT TIME: 6/27/2024 8:05 AM
USER NAME: MATT PLESSER

DESIGNED SRD
DRAWN KAM
CHECKED SAL

SYM	REVISION	DATE	BY	APP'D
0	ISSUE FOR CONSTRUCTION	05/06/24		

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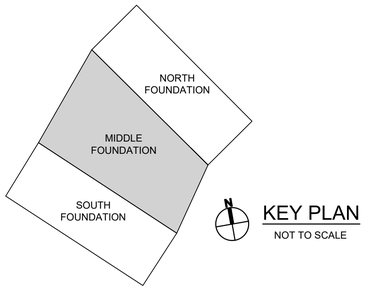
PUBLIC WORKS FACILITY MATERIAL BIN COVERS

FOUNDATION PLAN

PACE PROJECT NO. 24235
DWG NAME: P24235_FNDT.DWG
SHEET S102 OF 12



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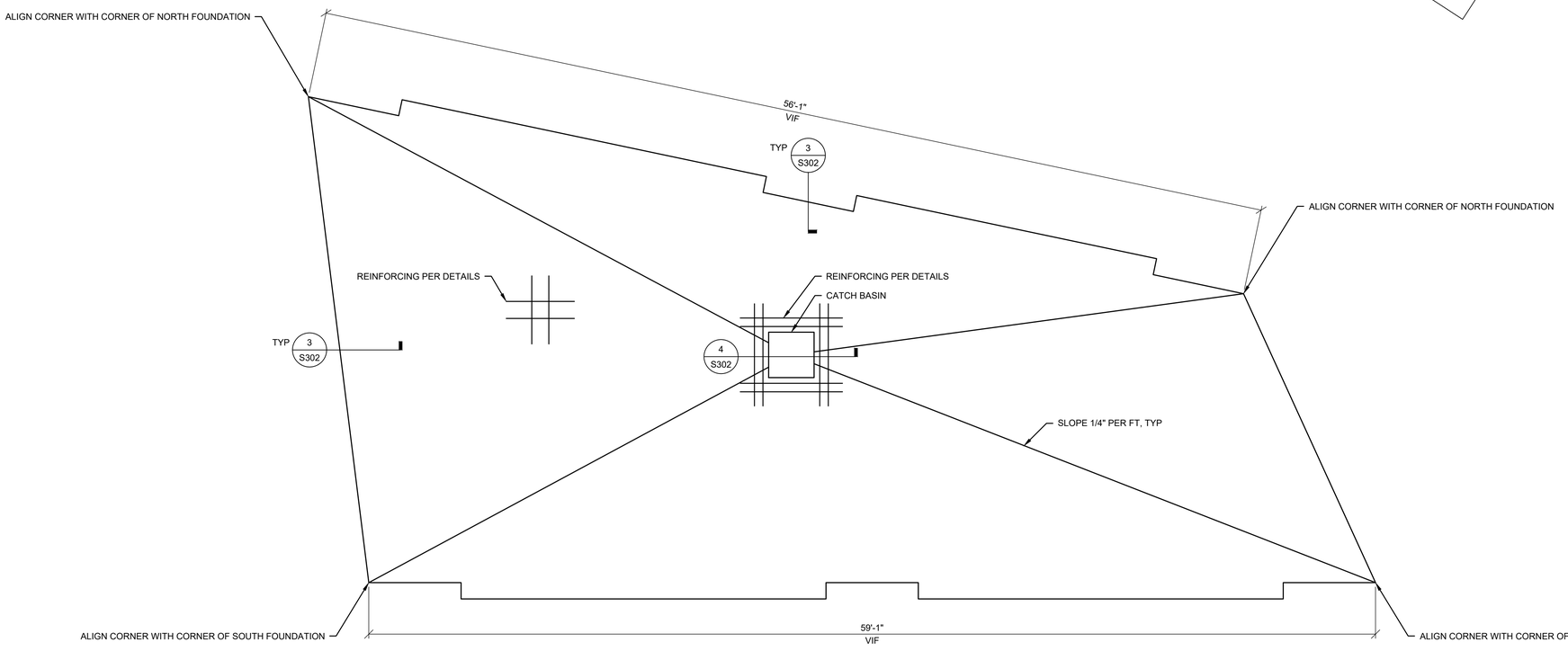

1 S103 MIDDLE FOUNDATION
1/4"=1'-0"

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USER NAME: MATT PELSBURY
PLOT TIME: 6/27/2024 8:06 AM

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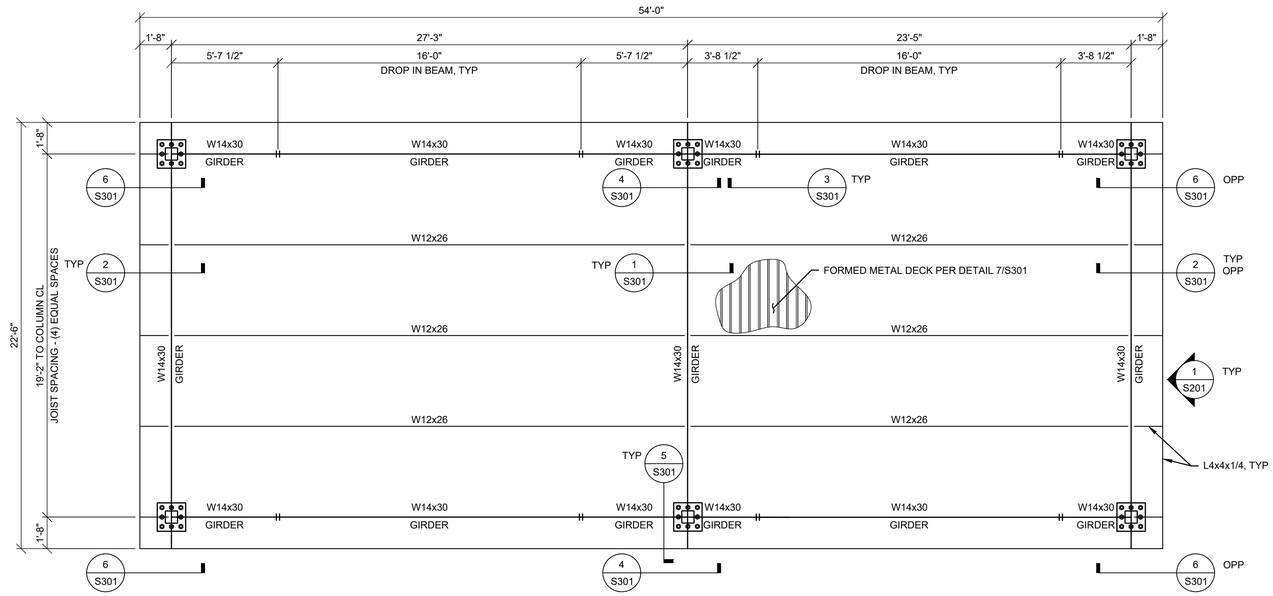
PUBLIC WORKS FACILITY MATERIAL BIN COVERS

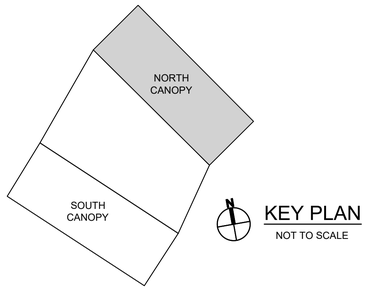
FOUNDATION PLAN

PACE PROJECT NO. **24235**
DWG NAME: P24235_FNDT.DWG
SHEET **S103** OF **12**

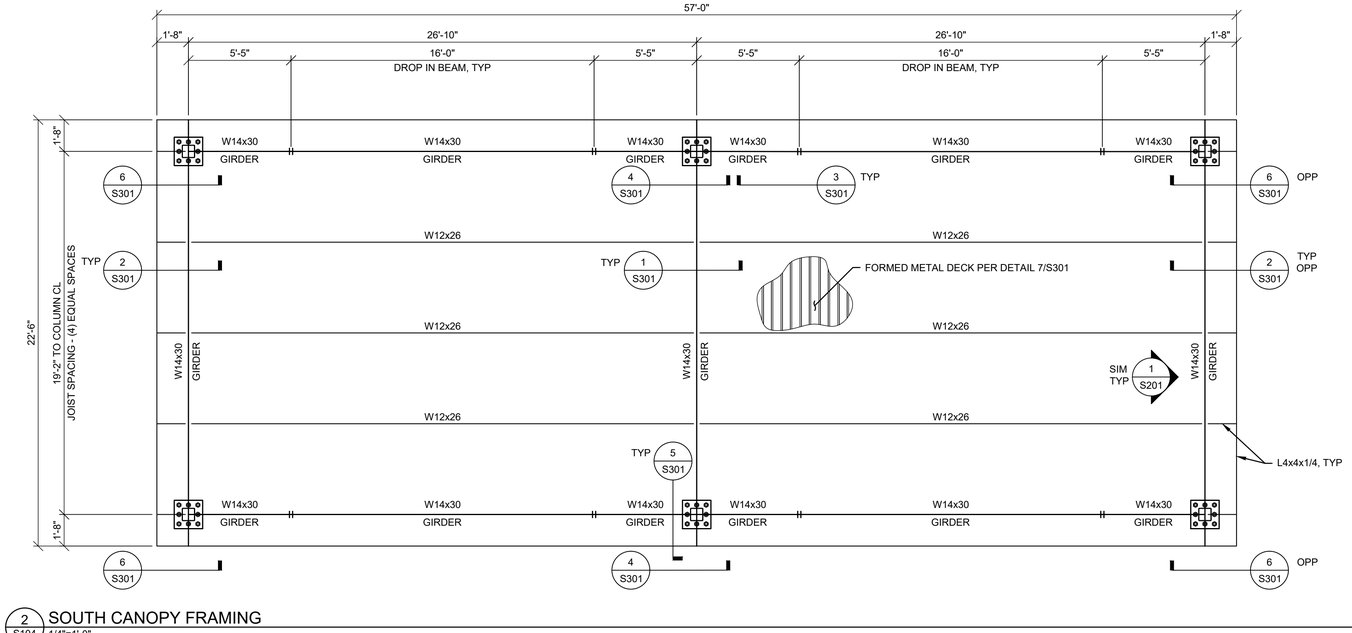
GENERAL NOTES

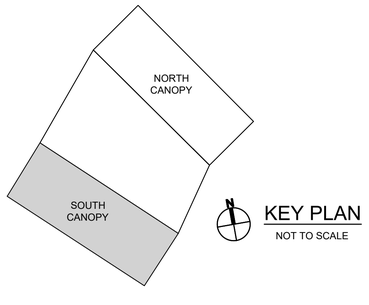
1. EFFORTS TO EVENLY DISTRIBUTE SOLAR PANELS OVER THE CANOPY ARE RECOMMENDED TO BE MADE SUCH THAT THE CENTER OF GRAVITY OF THE INSTALLED SOLAR PANELS IS WITHIN TWO FEET OF THE CENTER OF STIFFNESS OF THE CANOPY STRUCTURE TO AVOID A STRUCTURAL HORIZONTAL IRREGULARITY 1B IN SEISMIC DESIGN CATEGORY D AS DEFINED IN ASCE7-16. SEE ASCE7-16, SECTION 12.3.3.1.





1 S104 NORTH CANOPY FRAMING
1/4"=1'-0"





2 S104 SOUTH CANOPY FRAMING
1/4"=1'-0"

FINAL PACKAGE

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FILE NAME: P:\VR\P24\24235 LFP 2024 DEV REV SVCS\CAD\ENGINEERING\SHEETS\P24235_CPLAN.DWG
SAVE TIME: 6/6/2024 10:38:20 AM PLOT TIME: 6/27/2024 8:03 AM
USER NAME: MATT PELSKORT

DESIGNED SRD	0	ISSUE FOR CONSTRUCTION	05/06/24		
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CHECKED SAL					
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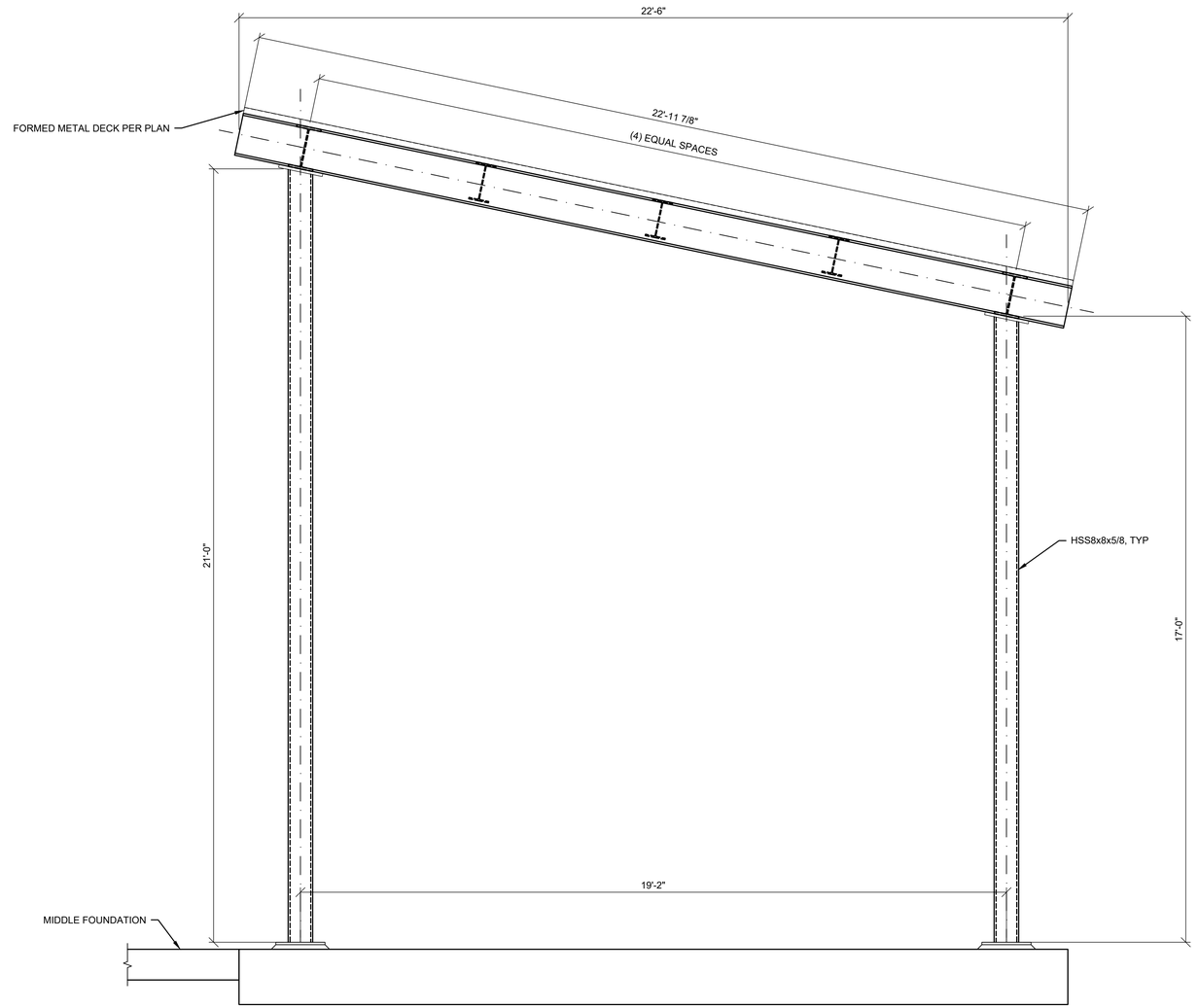
PUBLIC WORKS FACILITY MATERIAL BIN COVERS

CANOPY PLAN

PACE PROJECT NO. 24235
DWG NAME: P24235_CPLAN.DWG
SHEET S104 OF 12



1 / S201 TYPICAL CANOPY ELEVATION
1/2" = 1'-0"

FINAL PACKAGE

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USER NAME: AMY PILSBURY

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PUBLIC WORKS FACILITY MATERIAL BIN COVERS

ELEVATIONS

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STATE OF WASHINGTON
23031360
REGISTERED PROFESSIONAL ENGINEER

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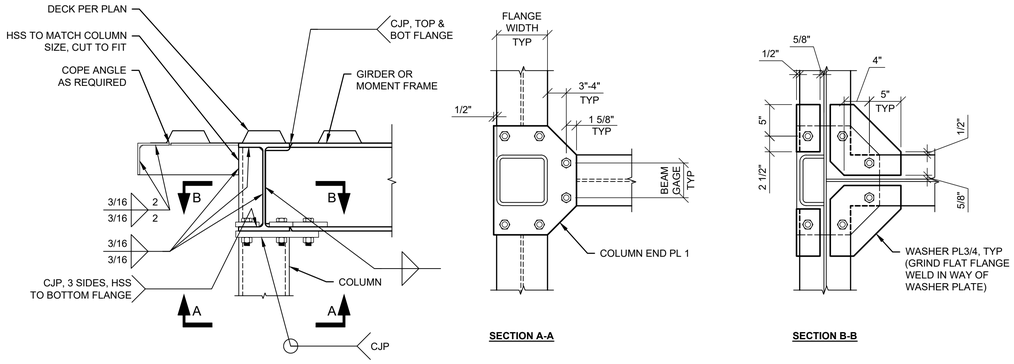
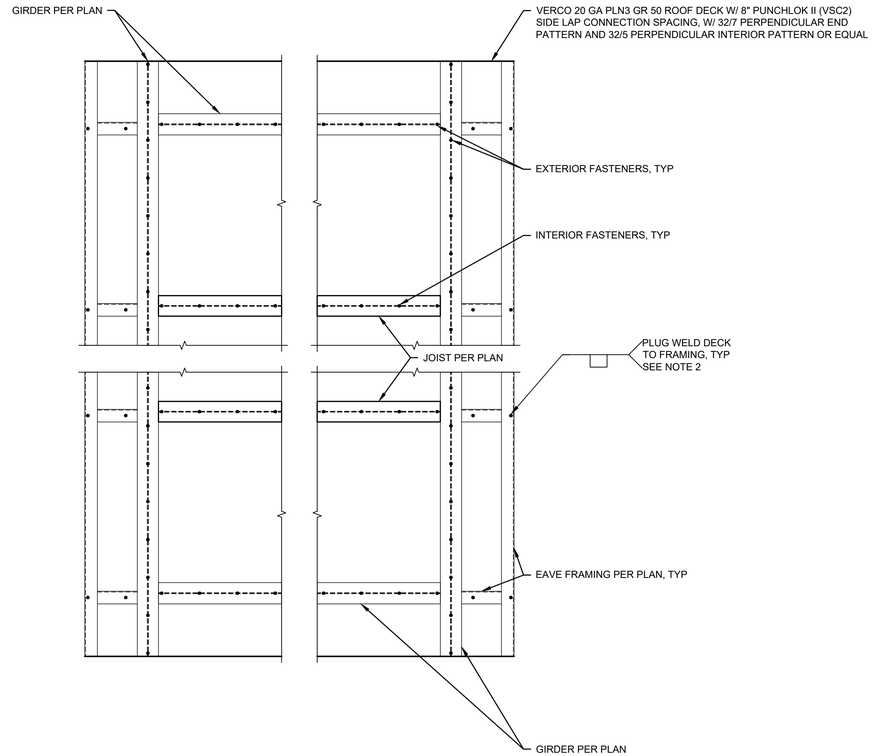
PACE PROJECT NO. 24235
DWG NAME: P24235_ELEVS.DWG
SHEET S201 OF 12



6 S301 JOIST SHEAR CONNECTION WITH EVE OUTRIGGER

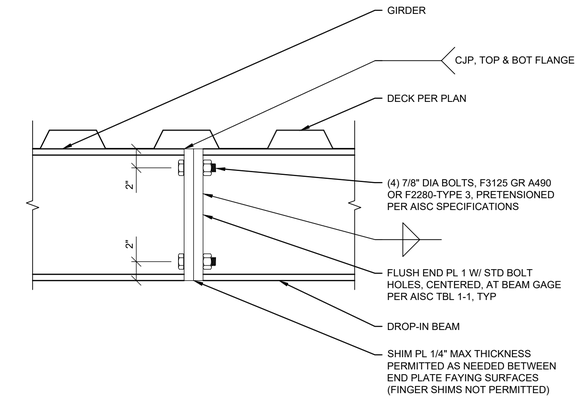
Scale: 1" = 1'-0"

NOTES:
1. FASTENING IS PERMITTED TO BE APPLIED OFF-CENTER FROM THE SUPPORTING FRAMING.
2. FASTENERS TO DECK FRAMING TO BE HILTI X-ENP-19 PAF OR EQUAL. IN LIEU OF FASTENERS, PLUG WELDING IS PERMITTED AT THE SAME FASTENER PATTERN INDICATED.
3. EXTERIOR FASTENER PATTERN SHALL BE APPLIED TO GIRDER/MOMENT FRAME BEAMS. INTERIOR FASTENER PATTERN SHALL BE APPLIED TO JOISTS.



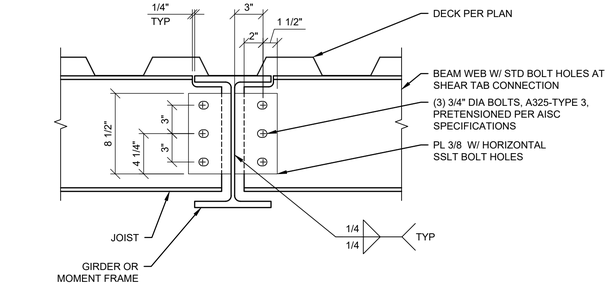
7 S301 FORMED METAL DECK

Scale: 1/2" = 1'-0"



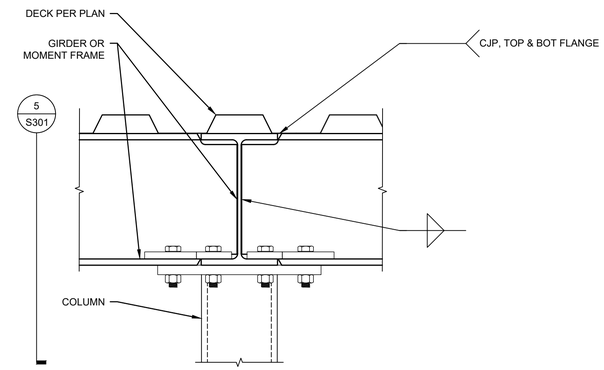
3 S301 OUTRIGGER/DROP-IN BEAM FLUSH END PLATE CONNECTION

Scale: 1-1/2" = 1'-0"



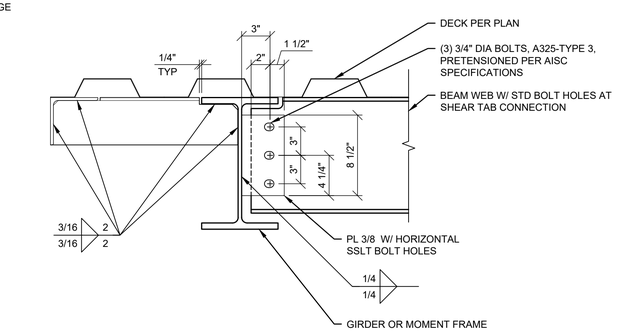
1 S301 JOIST SHEAR CONNECTION

Scale: 1-1/2" = 1'-0"



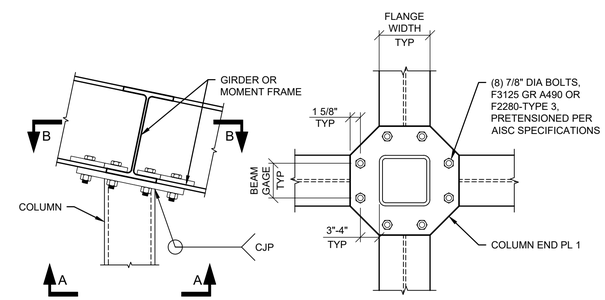
4 S301 DOUBLE-SIDED OUTRIGGER GIRDER CONNECTION

Scale: 1-1/2" = 1'-0"



2 S301 JOIST SHEAR CONNECTION WITH EVE OUTRIGGER

Scale: 1-1/2" = 1'-0"



5 S301 BEAM-COLUMN MOMENT FRAME CONNECTION

Scale: 1" = 1'-0"

FINAL PACKAGE

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PUBLIC WORKS FACILITY MATERIAL BIN COVERS

CANOPY SECTIONS AND DETAILS

PACE PROJECT NO. 24235
DWG NAME: P24235_DET01.DWG
SHEET S301 OF 12

FILE NAME: P:\KIR\P24\24235 LFP 2024 JBV REV SVCS\CAD\ENGINEERING\SHEETS\P24235_DET01.DWG
PLOT TIME: 6/27/2024 8:03:27 AM
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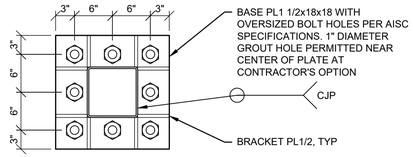
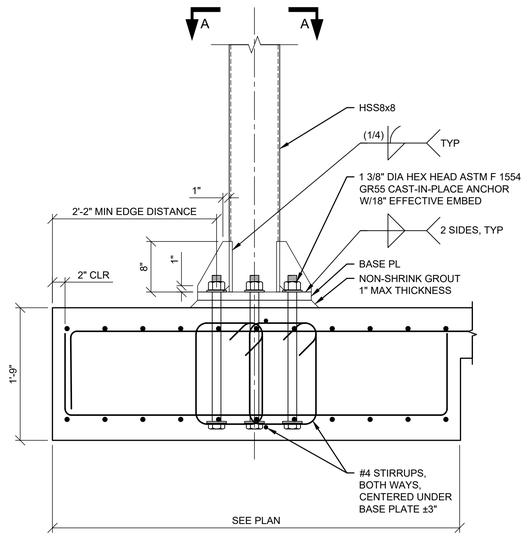
USER NAME: MATT PELSBURY

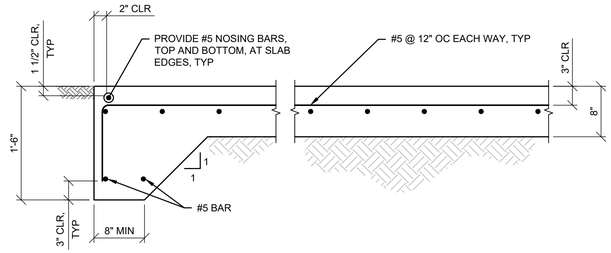


SECTION A-A



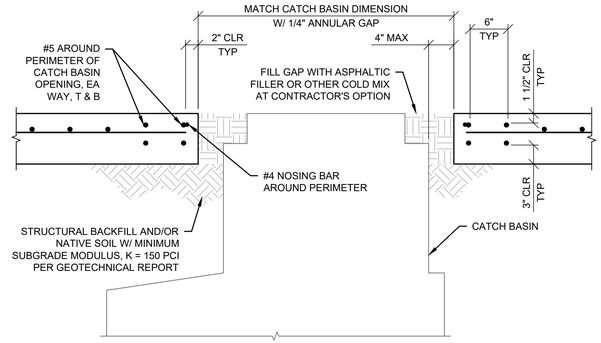
5 S302 CANOPY BASE PLATE AND ANCHORAGE
Scale: 1" = 1'-0"

NOTES:
1. CONCRETE STRENGTH f'c = 4000 PSI (MIN).
2. PROVIDE STANDARD 90-DEGREE HOOK AT BAR ENDS.



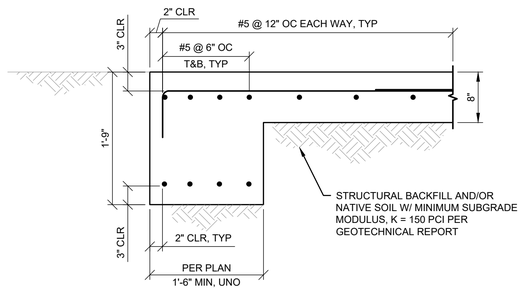
3 S302 MIDDLE FOUNDATION
Scale: 1" = 1'-0"

NOTES:
1. FOLLOW LENGTHS DEFINED IN THE SPLICE LENGTH TABLE IN THE GENERAL NOTES FOR LENGTHS OF BARS TO EXTEND BEYOND THE BOUNDARIES OF THE SLAB OPENING, BOTH WAYS. ADDITIONALLY, PROVIDE #4 NOSING BARS PARALLEL TO SLAB OPENING EDGE, ALL AROUND.



4 S302 CATCH BASIN SLAB EDGING
Scale: 1" = 1'-0"

NOTES:
1. CONCRETE STRENGTH f'c = 5000 PSI.
2. PROVIDE STANDARD 90-DEGREE HOOK AT BAR ENDS.



1 S302 EDGE GRADE BEAM AND SLAB ON GRADE
Scale: 1" = 1'-0"

NOTES:
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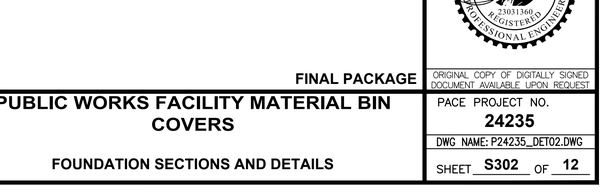
2. PROVIDE STANDARD 90-DEGREE HOOK AT BAR ENDS.



2 S302 INNER GRADE BEAM AND SLAB ON GRADE
Scale: 1" = 1'-0"

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SAVE TIME: 6/27/2024 8:04:06 AM PLOT TIME: 6/27/2024 8:05 AM
USER NAME: MATT PELSBURY

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PUBLIC WORKS FACILITY MATERIAL BIN COVERS

FOUNDATION SECTIONS AND DETAILS

PACE PROJECT NO. 24235
DWG NAME: P24235_DET02.DWG
SHEET S302 OF 12

SECTION 5

GENERAL REQUIREMENTS

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GENERAL REQUIREMENTS
TABLE OF CONTENTS

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INTRODUCTION TO THE SPECIAL PROVISIONS

INTRODUCTION TO THE SPECIAL PROVISIONS

(January 4, 2024 APWA GSP, Option A)

The work on this project shall be accomplished in accordance with the Standard Specifications for Road, Bridge and Municipal Construction, 2024 edition, as issued by the Washington State Department of Transportation (WSDOT) and the American Public Works Association (APWA), Washington State Chapter (hereafter "Standard Specifications"). The Standard Specifications, as modified or supplemented by these Special Provisions, all of which are made a part of the Contract Documents, shall govern all of the Work.

These Special Provisions are made up of both General Special Provisions (GSPs) from various sources, which may have project-specific fill-ins; and project-specific Special Provisions. Each Provision either supplements, modifies, or replaces the comparable Standard Specification, or is a new Provision. The deletion, amendment, alteration, or addition to any subsection or portion of the Standard Specifications is meant to pertain only to that particular portion of the section, and in no way should it be interpreted that the balance of the section does not apply.

The GSPs are labeled under the headers of each GSP, with the effective date of the GSP and its source. For example:

(March 8, 2013 APWA GSP)

(April 1, 2013 WSDOT GSP)

(May 1, 2013 LFP GSP)

Project specific special provisions are labeled without a date as such:

(*****)

Also incorporated into the Contract Documents by reference are:

- Manual on Uniform Traffic Control Devices for Streets and Highways, currently adopted edition, with Washington State modifications, if any
- Standard Plans for Road, Bridge and Municipal Construction, WSDOT Manual M21 01, 2024 edition
- City of Lake Forest Park Development Standards/Municipal Code

Contractor shall obtain copies of these publications, at Contractor's own expense.

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DIVISION 1

GENERAL REQUIREMENTS

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DIVISION 1

GENERAL REQUIREMENTS

DESCRIPTION OF THE WORK

(March 13, 1995 APWA/WSDOT GSP) *Supplement*

This Contract provides for the improvement of City of Lake Forest Park Public Works Yard Material Storage Bins, all in accordance with the attached Contract Plans, these Contract Provisions, and the Standard Specifications.

The project includes the relocation of material bin ecology blocks, demolition of the existing material bin concrete slabs and asphalt between the slabs, construction of two separate steel-framed roof structures over new concrete slabs and associated footings, installation of a new concrete slab between the two new material bins, re-establishment of the existing ecology blocks to establish the material storage bins, and installation of asphalt from the new concrete slab to the existing asphalt driveway. Additionally, 4-inch-diameter stormwater pipe will be installed for downspouts and connect to the existing conveyance system on site.

1-01 DEFINITIONS AND TERMS

1-01.3 Definitions

(January 19, 2022 APWA GSP) *Modification*

Delete the heading Completion Dates and the three paragraphs that follow it, and replace them with the following:

Dates

Bid Opening Date
The date on which the Contracting Agency publicly opens and reads the Bids.

Award Date
The date of the formal decision of the Contracting Agency to accept the lowest responsible and responsive Bidder for the Work.

Contract Execution Date
The date the Contracting Agency officially binds the Agency to the Contract.

Notice to Proceed Date
The date stated in the Notice to Proceed on which the Contract time begins.

Substantial Completion Date
The day the Engineer determines the Contracting Agency has full and unrestricted use and benefit of the facilities, both from the operational and safety standpoint, any remaining traffic disruptions will be rare and brief, and only minor incidental work, replacement of temporary substitute facilities, plant establishment periods, or correction or repair remains for the Physical Completion of the total Contract.

Physical Completion Date
The day all of the Work is physically completed on the project. All documentation required by the Contract and required by law does not necessarily need to be furnished by the Contractor by this date.

Completion Date
The day all the Work specified in the Contract is completed and all the obligations of the Contractor under the contract are fulfilled by the Contractor. All documentation required by the Contract and required by law must be furnished by the Contractor before establishment of this date.

Final Acceptance Date
The date on which the Contracting Agency accepts the Work as complete.

Supplement this Section with the following:

All references in the Standard Specifications or WSDOT General Special Provisions, to the terms "Department of Transportation", "Washington State Transportation Commission", "Commission", "Secretary of Transportation", "Secretary", "Headquarters", and "State Treasurer" shall be revised to read "Contracting Agency".

All references to the terms "State" or "state" shall be revised to read "Contracting Agency" unless the reference is to an administrative agency of the State of Washington, a State statute or regulation, or the context reasonably indicates otherwise.

All references to "State Materials Laboratory" shall be revised to read "Contracting Agency designated location".

All references to "final contract voucher certification" shall be interpreted to mean the Contracting Agency form(s) by which final payment is authorized, and final completion and acceptance granted.

Additive
A supplemental unit of work or group of bid items, identified separately in the Bid Proposal, which may, at the discretion of the Contracting Agency, be awarded in addition to the base bid.

Alternate
One of two or more units of work or groups of bid items, identified separately in the Bid Proposal, from which the Contracting Agency may make a choice between different methods or material of construction for performing the same work.

Business Day
A business day is any day from Monday through Friday except holidays as listed in Section 1-08.5.

Contract Bond
The definition in the Standard Specifications for "Contract Bond" applies to whatever bond form(s) are required by the Contract Documents, which may be a combination of a Payment Bond and a Performance Bond.

Contract Documents
See definition for "Contract".

Contract Time
The period of time established by the terms and conditions of the Contract within which the Work must be physically completed.

Notice of Award
The written notice from the Contracting Agency to the successful Bidder signifying the Contracting Agency's acceptance of the Bid Proposal.

Notice to Proceed
The written notice from the Contracting Agency or Engineer to the Contractor authorizing and directing the Contractor to proceed with the Work and establishing the date on which the Contract time begins.

Traffic
Both vehicular and non-vehicular traffic, such as pedestrians, bicyclists, wheelchairs, and equestrian traffic.

1-02 BID PROCEDURES AND CONDITIONS

1-02.5 Proposal Forms

(July 31, 2017 APWA GSP) *Replacement*

Delete this section and replace it with the following:

The Proposal Form will identify the project and its location and describe the work. It will also list estimated quantities, units of measurement, the items of work, and the materials to be furnished at the unit bid prices. The bidder shall complete spaces on the proposal form that call for, but are not limited to, unit prices; extensions; summations; the total bid amount; signatures; date; and, where applicable, retail sales taxes and acknowledgment of addenda; the bidder's name, address, telephone number, and signature; the bidder's UDBE/DBE/M/WBE commitment, if applicable; a State of Washington Contractor's Registration Number; and a Business License Number, if applicable. Bids shall be completed by typing or shall be printed in ink by hand, preferably in black ink. The required certifications are included as part of the Proposal Form.

The Contracting Agency reserves the right to arrange the proposal forms with alternates and additives, if such be to the advantage of the Contracting Agency. The bidder shall bid on all alternates and additives set forth in the Proposal Form unless otherwise specified.

1-02.6 Preparation of Proposal

(January 4, 2024 APWA GSP, Option B) *Supplement*

Supplement the second paragraph with the following:

4. If a minimum bid amount has been established for any item, the unit or lump sum price must equal or exceed the minimum amount stated.
5. Any correction to a bid made by interlineation, alteration, or erasure, shall be initialed by the signer of the bid.

Delete the last two paragraphs, and replace them with the following:

The Bidder shall submit with their Bid a completed Contractor Certification Wage Law Compliance form, provided by the Contracting Agency. Failure to return this certification as part of the Bid Proposal package will make this Bid Nonresponsive and ineligible for Award. A Contractor Certification of Wage Law Compliance form is included in the Proposal Forms.

The Bidder shall make no stipulation on the Bid Form, nor qualify the bid in any manner.

A bid by a corporation shall be executed in the corporate name, by the president or a vice president (or other corporate officer accompanied by evidence of authority to sign).

A bid by a partnership shall be executed in the partnership name, and signed by a partner. A copy of the partnership agreement shall be submitted with the Bid Form if any DBE requirements are to be satisfied through such an agreement.

A bid by a joint venture shall be executed in the joint venture name and signed by a member of the joint venture. A copy of the joint venture agreement shall be submitted with the Bid Form if any DBE requirements are to be satisfied through such an agreement.

1-02.7 Bid Deposit

(March 8, 2013 APWA GSP) *Supplement*

Supplement this section with the following:

Bid bonds shall contain the following:

1. Contracting Agency-assigned number for the project;
2. Name of the project;
3. The Contracting Agency named as obligee;
4. The amount of the bid bond stated either as a dollar figure or as a percentage which represents five percent of the maximum bid amount that could be awarded;
5. Signature of the bidder's officer empowered to sign official statements. The signature of the person authorized to submit the bid should agree with the signature on the bond, and the title of the person must accompany the said signature;
6. The signature of the surety's officer empowered to sign the bond and the power of attorney.

If so stated in the Contract Provisions, bidder must use the bond form included in the Contract Provisions.

If so stated in the Contract Provisions, cash will not be accepted for a bid deposit.

1-02.13 Irregular Proposals

(January 4, 2024 APWA GSP) *Replacement*

Delete this section and replace it with the following:

1. A Proposal will be considered irregular and will be rejected if:
   a. The Bidder is not prequalified when so required;
   b. The Bidder adds provisions reserving the right to reject or accept the Award, or enter into the Contract;
   c. A price per unit cannot be determined from the Bid Proposal;
   d. The Proposal form is not properly executed;
   e. The Bidder fails to submit or properly complete a subcontractor list (WSDOT Form 271-015), if applicable, as required in Section 1-02.6;

f. The Bidder fails to submit or properly complete a Disadvantaged Business Enterprise Certification (WSDOT Form 272-056), if applicable, as required in Section 1-02.6;

g. The Bidder fails to submit Written Confirmations (WSDOT Form 422-031) from each DBE firm listed on the Bidder's completed DBE Utilization Certification that they are in agreement with the bidder's DBE participation commitment, if applicable, as required in Section 1-02.6, or if the written confirmation that is submitted fails to meet the requirements of the Special Provisions;

h. The Bidder fails to submit DBE Good Faith Effort documentation, if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to demonstrate that a Good Faith Effort to meet the Condition of Award in accordance with Section 1-07.11;

i. The Bidder fails to submit a DBE Bid Item Breakdown (WSDOT Form 272-054), if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to meet the requirements of the Special Provisions;

j. The Bid Proposal does not constitute a definite and unqualified offer to meet the material terms of the Bid invitation.

2. A Proposal may be considered irregular and may be rejected if:

a. The Proposal does not include a unit price for every Bid item;

b. Any of the unit prices are excessively unbalanced (either above or below the amount of a reasonable Bid) to the potential detriment of the Contracting Agency;

c. The authorized Proposal Form furnished by the Contracting Agency is not used or is altered;

d. The completed Proposal form contains unauthorized additions, deletions, alternate Bids, or conditions;

e. Receipt of Addenda is not acknowledged;

f. A member of a joint venture or partnership and the joint venture or partnership submit Proposals for the same project (in such an instance, both Bids may be rejected); or

g. If Proposal form entries are not made in ink.

1-02.15 Pre Award Information

(December 30, 2022 APWA GSP) *Modification*

Revise this section to read:

Before awarding any contract, the Contracting Agency may require one or more of these items or actions of the apparent lowest responsible bidder:

1. A complete statement of the origin, composition, and manufacture of any or all materials to be used,

2. Samples of these materials for quality and fitness tests,

3. A progress schedule (in a form the Contracting Agency requires) showing the order of and time required for the various phases of the work,

4. A breakdown of costs assigned to any bid item,
5. Attendance at a conference with the Engineer or representatives of the Engineer,
6. Obtain, and furnish a copy of, a business license to do business in the city or county where the work is located.
7. Any other information or action taken that is deemed necessary to ensure that the bidder is the lowest responsible bidder.

1-04 SCOPE OF THE WORK

1-04.6 Variation in Estimated Quantities

(December 30, 2022 APWA GSP, Option B) *Modification*

Revise the first paragraph to read:

Payment to the Contractor will be made only for the actual quantities of Work performed and accepted in conformance with the Contract. When the accepted quantity of Work performed under a unit item varies from the original Proposal quantity, payment will be at the unit Contract price for all Work unless the total accepted quantity of any Contract item, adjusted to exclude added or deleted amounts included in change orders accepted by both parties, increases or decreases by more than 25 percent from the original Proposal quantity, and if the total extended bid price for that item at time of award is equal to or greater than 10 percent of the total contract price at time of award. In that case, payment for contract work may be adjusted as described herein:

1-05 CONTROL OF WORK

1-05.7 Removal of Defective and Unauthorized Work

(October 1, 2005 APWA GSP) *Supplement*

Supplement this section with the following:

If the Contractor fails to remedy defective or unauthorized work within the time specified in a written notice from the Authorized Representative, or fails to perform any part of the work required by the Contract Documents, the Authorized Representative may correct and remedy such work as may be identified in the written notice, with Contracting Agency forces or by such other means as the Contracting Agency may deem necessary.

If the Contractor fails to comply with a written order to remedy what the Authorized Representative determines to be an emergency situation, the Authorized Representative may have the defective and unauthorized work corrected immediately, have the rejected work removed and replaced, or have work the Contractor refuses to perform completed by using Contracting Agency or other forces. An emergency situation is any situation when, in the opinion of the Authorized Representative, a delay in its remedy could be potentially unsafe, or might cause serious risk of loss or damage to the public.

Direct or indirect costs incurred by the Contracting Agency attributable to correcting and remedying defective or unauthorized work, or work the Contractor failed or refused to perform, shall be paid by the Contractor. Payment will be deducted by the Authorized Representative from monies due, or to become due, the Contractor. Such direct and

indirect costs shall include in particular, but without limitation, compensation for additional professional services required, and costs for repair and replacement of work of others destroyed or damaged by correction, removal, or replacement of the Contractor's unauthorized work.

No adjustment in contract time or compensation will be allowed because of the delay in the performance of the work attributable to the exercise of the Contracting Agency's rights provided by this Section.

The rights exercised under the provisions of this section shall not diminish the Contracting Agency's right to pursue any other avenue for additional remedy or damages with respect to the Contractor's failure to perform the work as required.

1-05.11 Final Inspection

Delete this section and replace it with the following:

1-05.11 Final Inspections and Operational Testing

(October 1, 2005 APWA GSP) *Replacement*

1-05.11(1) Substantial Completion Date

When the Contractor considers the work to be substantially complete, the Contractor shall so notify the Authorized Representative and request the Authorized Representative establish the Substantial Completion Date. The Contractor's request shall list the specific items of work that remain to be completed in order to reach physical completion. The Authorized Representative will schedule an inspection of the work with the Contractor to determine the status of completion. The Authorized Representative may also establish the Substantial Completion Date unilaterally.

If, after this inspection, the Authorized Representative concurs with the Contractor that the work is substantially complete and ready for its intended use, the Authorized Representative, by written notice to the Contractor, will set the Substantial Completion Date. If, after this inspection the Authorized Representative does not consider the work substantially complete and ready for its intended use, the Authorized Representative will, by written notice, so notify the Contractor giving the reasons therefor.

Upon receipt of written notice concurring in or denying substantial completion, whichever is applicable, the Contractor shall pursue vigorously, diligently and without unauthorized interruption, the work necessary to reach Substantial and Physical Completion. The Contractor shall provide the Authorized Representative with a revised schedule indicating when the Contractor expects to reach substantial and physical completion of the work.

The above process shall be repeated until the Authorized Representative establishes the Substantial Completion Date and the Contractor considers the work physically complete and ready for final inspection.

1-05.11(2) Final Inspection and Physical Completion Date

When the Contractor considers the work physically complete and ready for final inspection, the Contractor by written notice, shall request the Authorized Representative to schedule a final inspection. The Authorized Representative will set a date for final inspection. The Authorized Representative and the Contractor will then make a final inspection and the Authorized Representative will notify the Contractor in writing of all particulars in which the final inspection reveals the work incomplete or unacceptable. The

Contractor shall immediately take such corrective measures as are necessary to remedy the listed deficiencies. Corrective work shall be pursued vigorously, diligently, and without interruption until physical completion of the listed deficiencies. This process will continue until the Authorized Representative is satisfied the listed deficiencies have been corrected.

If action to correct the listed deficiencies is not initiated within seven (7) days after receipt of the written notice listing the deficiencies, the Authorized Representative may, upon written notice to the Contractor, take whatever steps are necessary to correct those deficiencies pursuant to Section 1-05.7.

The Contractor will not be allowed an extension of contract time because of a delay in the performance of the work attributable to the exercise of the Authorized Representative's right hereunder.

Upon correction of all deficiencies, the Authorized Representative will notify the Contractor and the Contracting Agency, in writing, of the date upon which the work was considered physically complete. That date shall constitute the Physical Completion Date of the contract, but shall not imply acceptance of the work or that all the obligations of the Contractor under the contract have been fulfilled.

Add the following New Section.

1-05.16 Water and Power

(October 1, 2005 APWA GSP) *New*

The Contractor shall make necessary arrangements, and shall bear the costs for power and water necessary for the performance of the work, unless the contract includes power and water as a pay item.

Add the following New Section.

1-05.17 Oral Agreements

(LFP GSP) *New*

No oral agreement or conversation with any officer, agent, or employee of the Contracting Agency, either before or after execution of the contract, shall affect or modify any of the terms or obligations contained in any of the documents comprising the contract. Such oral agreement or conversation shall be considered as unofficial information and in no way binding upon the Contracting Agency, unless subsequently put in writing and signed by the Contracting Agency.

1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

1-07.1 Laws to be Observed

(October 1, 2005 APWA GSP) *Supplement*

Supplement this section with the following:

In cases of conflict between different safety regulations, the more stringent regulation shall apply.

The Washington State Department of Labor and Industries shall be the sole and paramount administrative agency responsible for the administration of the provisions of the Washington Industrial Safety and Health Act of 1973 (WISHA).

The Contractor shall maintain at the project site office, or other well-known place at the project site, all articles necessary for providing first aid to the injured. The Contractor shall establish, publish, and make known to all employees, procedures for ensuring immediate removal to a hospital, or doctor's care, persons, including employees, who may have been injured on the project site. Employees should not be permitted to work on the project site before the Contractor has established and made known procedures for removal of injured persons to a hospital or a doctor's care.

The Contractor shall have sole responsibility for the safety, efficiency, and adequacy of the Contractor's plant, appliances, and methods, and for any damage or injury resulting from their failure, or improper maintenance, use, or operation. The Contractor shall be solely and completely responsible for the conditions of the project site, including safety for all persons and property in the performance of the work. This requirement shall apply continuously, and not be limited to normal working hours. The required or implied duty of the Authorized Representative to conduct construction review of the Contractor's performance does not, and shall not, be intended to include review and adequacy of the Contractor's safety measures in, on, or near the project site.

1-08 PROSECUTION AND PROGRESS

Add the following new section.

1-08.0 Preliminary Matters

1-08.0(1) Preconstruction Conference

(October 10, 2008 APWA GSP) *New*

Prior to the Contractor beginning the work, a preconstruction conference will be held between the Contractor, the Authorized Representative and such other interested parties as may be invited. The purpose of the preconstruction conference will be:

1. To review the initial progress schedule;
2. To establish a working understanding among the various parties associated or affected by the work;
3. To establish and review procedures for progress payment, notifications, approvals, submittals, etc.;
4. To establish normal working hours for the work;
5. To review safety standards and traffic control; and
6. To discuss such other related items as may be pertinent to the work.

The Contractor shall prepare and submit at the preconstruction conference the following:

1. A breakdown of all lump sum items;
2. A preliminary schedule of working drawing submittals; and
3. A list of material sources for approval if applicable.

1-08.0(2) Hours of Work

(December 8, 2014 APWA GSP) *New*

Except in the case of emergency or unless otherwise approved by the Engineer, the normal working hours for the Contract shall be any consecutive 8-hour period between 7:00 a.m.

and 6:00 p.m. Monday through Friday, exclusive of a lunch break. If the Contractor desires different than the normal working hours stated above, the request must be submitted in writing prior to the preconstruction conference, subject to the provisions below. The working hours for the Contract shall be established at or prior to the preconstruction conference.

All working hours and days are also subject to local permit and ordinance conditions (such as noise ordinances).

If the Contractor wishes to deviate from the established working hours, the Contractor shall submit a written request to the Engineer for consideration. This request shall state what hours are being requested, and why. Requests shall be submitted for review no later than 48 hours prior to the day(s) the Contractor is requesting to change the hours.

If the Contracting Agency approves such a deviation, such approval may be subject to certain other conditions, which will be detailed in writing. For example:

1. On non-Federal aid projects, requiring the Contractor to reimburse the Contracting Agency for the costs in excess of straight-time costs for Contracting Agency representatives who worked during such times. (The Engineer may require designated representatives to be present during the work. Representatives who may be deemed necessary by the Engineer include, but are not limited to: survey crews; personnel from the Contracting Agency's material testing lab; inspectors; and other Contracting Agency employees or third party consultants when, in the opinion of the Engineer, such work necessitates their presence.)
2. Considering the work performed on Saturdays, Sundays, and holidays as working days with regard to the contract time.
3. Considering multiple work shifts as multiple working days with respect to contract time even though the multiple shifts occur in a single 24-hour period.
4. If a 4-10 work schedule is requested and approved the non-working day for the week will be charged as a working day.
5. If Davis Bacon wage rates apply to this Contract, all requirements must be met and recorded properly on certified payroll

1-08.4 Notice to Proceed

Delete this section and replace it with the following:

1-08.4 Notice to Proceed and Prosecution of Work

(July 23, 2015 APWA GSP) *Replacement*

Notice to Proceed will be given after the contract has been executed and the contract bond and evidence of insurance have been approved and filed by the Contracting Agency. The Contractor shall not commence with the work until the Notice to Proceed has been given by the Engineer. The Contractor shall commence construction activities on the project site within ten days of the Notice to Proceed Date, unless otherwise approved in writing. The Contractor shall diligently pursue the work to the physical completion date within the time specified in the contract. Voluntary shutdown or slowing of operations by the Contractor shall not relieve the Contractor of the responsibility to complete the work within the time(s) specified in the contract.

When shown in the Plans, the first order of work shall be the installation of high visibility fencing to delineate all areas for protection or restoration, as described in the Contract. Installation of high visibility fencing adjacent to the roadway shall occur after the placement of all necessary signs and traffic control devices in accordance with 1-10.1(2). Upon construction of the fencing, the Contractor shall request the Engineer to inspect the fence. No other work shall be performed on the site until the Contracting Agency has accepted the installation of high visibility fencing, as described in the Contract.

1-08.5 Time for Completion

(December 30, 2022 APWA GSP, Option A) *Modification*

Revise the third and fourth paragraphs to read:

Contract time shall begin on the first working day following the Notice to Proceed Date.

Each working day shall be charged to the contract as it occurs, until the contract work is physically complete. If substantial completion has been granted and all the authorized working days have been used, charging of working days will cease. Each week the Engineer will provide the Contractor a statement that shows the number of working days: (1) charged to the contract the week before; (2) specified for the physical completion of the contract; and (3) remaining for the physical completion of the contract. The statement will also show the nonworking days and all partial or whole days the Engineer declares as unworkable The statement will be identified as a Written Determination by the Engineer. If the Contractor does not agree with the Written Determination of working days, the Contractor shall pursue the protest procedures in accordance with Section 1-04.5. By failing to follow the procedures of Section 1-04.5, the Contractor shall be deemed as having accepted the statement as correct. If the Contractor is approved to work 10 hours a day and 4 days a week (a 4-10 schedule) and the fifth day of the week in which a 4-10 shift is worked would ordinarily be charged as a working day then the fifth day of that week will be charged as a working day whether or not the Contractor works on that day.

Revise the sixth paragraph to read:

The Engineer will give the Contractor written notice of the completion date of the contract after all the Contractor's obligations under the contract have been performed by the Contractor. The following events must occur before the Completion Date can be established:

1. The physical work on the project must be complete; and
2. The Contractor must furnish all documentation required by the contract and required by law, to allow the Contracting Agency to process final acceptance of the contract. The following documents must be received by the Project Engineer prior to establishing a completion date:
    a. Certified Payrolls (per Section 1-07.9(5)).
    b. Material Acceptance Certification Documents
    c. Monthly Reports of Amounts Credited as DBE Participation, as required by the Contract Provisions.
    d. Final Contract Voucher Certification

e. Copies of the approved "Affidavit of Prevailing Wages Paid" for the Contractor and all Subcontractors

f. A copy of the Notice of Termination sent to the Washington State Department of Ecology (Ecology); the elapse of 30 calendar days from the date of receipt of the Notice of Termination by Ecology; and no rejection of the Notice of Termination by Ecology. This requirement will not apply if the Construction Stormwater General Permit is transferred back to the Contracting Agency in accordance with Section 8-01.3(16).

g. Property owner releases per Section 1-07.24

1-08.9 Liquidated Damages

(March 3, 2021 APWA GSP, Option B) *Modification*

Revise the second and third paragraphs to read:

Accordingly, the Contractor agrees:

1. To pay (according to the following formula) liquidated damages for each working day beyond the number of working days established for Physical Completion, and
2. To authorize the Engineer to deduct these liquidated damages from any money due or coming due to the Contractor.

Liquidated Damages Formula

LD=0.15C/T

Where:

LD = liquidated damages per working day (rounded to the nearest dollar)

C = original Contract amount

T = original time for Physical Completion

When the Contract Work has progressed to Substantial Completion as defined in the Contract, the Engineer may determine the Contract Work is Substantially Complete. The Engineer will notify the Contractor in writing of the Substantial Completion Date. For overruns in Contract time occurring after the date so established, the formula for liquidated damages shown above will not apply. For overruns in Contract time occurring after the Substantial Completion Date, liquidated damages shall be assessed on the basis of direct engineering and related costs assignable to the project until the actual Physical Completion Date of all the Contract Work. The Contractor shall complete the remaining Work as promptly as possible. Upon request by the Project Engineer, the Contractor shall furnish a written schedule for completing the physical Work on the Contract.

1-09 MEASUREMENT AND PAYMENT

1-09.6 Force Account

(December 30, 2022 APWA GSP) *Supplement*

Supplement this section with the following:

The Contracting Agency has estimated and included in the Proposal, dollar amounts for all items to be paid per force account, only to provide a common proposal for Bidders. All

such dollar amounts are to become a part of Contractor's total bid. However, the Contracting Agency does not warrant expressly or by implication, that the actual amount of work will correspond with those estimates. Payment will be made on the basis of the amount of work actually authorized by the Engineer.

1-09.7 Mobilization

(LFP GSP) *Supplement*

This section is supplemented with the following:

Mobilization shall include, but not be limited to, the following items: the movement of the Contractor's personnel, equipment, supplies, and incidentals to the project site; the establishment of their office, buildings, and other facilities necessary for work on the project; providing sanitary facilities for the Contractor's personnel; obtaining permits or licenses required to complete the project not furnished by the City; and other work and operations which must be performed or costs that must be incurred.

For the purposes of this Contract, all costs for mobilization shall be included in the various bid items and no additional payments will be made.

1-09.13 Claims Resolution

1-09.13(3) Claims $250,000 or Less

1-09.13(3)A Administration of Arbitration

(January 19, 2022 APWA GSP) *Modification*

Revise the third paragraph to read:

The Contracting Agency and the Contractor mutually agree to be bound by the decision of the arbitrator, and judgment upon the award rendered by the arbitrator may be entered in the Superior Court of the county in which the Contracting Agency's headquarters is located, provided that where claims subject to arbitration are asserted against a county, RCW 36.01.050 shall control venue and jurisdiction of the Superior Court. The decision of the arbitrator and the specific basis for the decision shall be in writing. The arbitrator shall use the Contract as a basis for decisions.

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SECTION 6

CSI SPECIFICATIONS

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CSI SPECIFICATIONS
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DIVISION 1

GENERAL REQUIREMENTS

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SECTION 01 22 13

UNIT PRICE MEASUREMENT

PART 1 – GENERAL

1.01 General

A. No separate or additional measurement and payment will be made for any work done under Division 1 General Construction Provisions but shall be considered incidental to the work and shall be included in the various unit price or lump sum bid items, as applicable.

1.02 Computations of Quantities

A. Measurements of Area

Units of square foot, square yard, or acre shall be measured in place in the horizontal plane. No adjustments shall be made in the area for the slope, uneven contours, overlap of materials, penetrations, anchor trenches, repairs or wasted materials. If an area that is to be measured exceeds 10,000 square feet, the area shall be surveyed as described in the Specifications. All quantities shall be measurements to the lines shown on the Drawings unless otherwise specified. All measurements and computations of quantities will be made by the Engineer.

B. Measurements of Volume

Computations for the volume of prismoids in cubic feet or cubic yards shall be by the method of average end areas. All quantities shall be measured to the lines and grades shown on the Drawings unless otherwise specified. All measurements and computations of quantities will be made by the Engineer.

C. Measurements of Weight

Weight quantities, such as pounds or tons, shall be measured by certified scale and recorded on a weight ticket. The weight ticket must be from a certified scale in accordance with the Standard Specifications Section 1-09.2(1). Adjustments may be made for wasting of material, or for using material in applications other than described in the Contract Documents. Measurement will be made only within any limits shown on the Contract Drawings.

D. Measurements of Length

Linear quantities, such as linear feet for piping systems, shall be measured in the horizontal plane along the pipe alignment and shall include the length through the elbows, tees, and fittings. The number of the linear quantity will be measured from the center of manhole to the center of manhole and to the pay limits as shown on the Drawings. No adjustments will be made in the length for the slope, uneven contours, overlap of materials, repairs or wasted material. All measurements and computations of quantities will be made by the Engineer.

1.03 Measurement

A. The unit or lump sum contract prices shall constitute full payment for furnishing all labor, equipment, materials, permits and agreements, overhead and profit and

performing all operations required to complete the work as defined in the Contract Documents. Notwithstanding the omission or mention of any incidental work, the contract price and payment shall also constitute full compensation for all work incidental to completion of the item, unless such work is otherwise specifically mentioned for separate payment under another bid item.

B. All measurements and computations will be made by the Engineer or Owner's Representative. The Contractor may perform quantity surveys for comparison. If there is a discrepancy where the measured quantity cannot be agreed upon, the Engineer or Owner's Representative measurements will be used.

C. When any vehicle delivers to the project materials which have the unit designation of weight, the driver of the vehicle shall give the Owner's representative a legible weight ticket with the following information:

   1. Vehicle identification number;
   2. The date and time the load was weighed;
   3. The tare weight of the vehicle for each day;
   4. The gross weight of the loaded vehicle as registered on the scale; and
   5. The legal gross weight of the vehicle as permitted by the Washington State Department of Transportation.

D. The terms "construct, install, erect, place, provide and prepare" shall mean that the pay item is complete and in place.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION 01 22 13

SECTION 01 22 16

UNIT PRICE PAYMENT

PART 1 – GENERAL

1.01 Final Pay Quantity

A. Final Pay Quantity: When the estimated quantities for a specific portion of the work are designated on the Plans or in the Contract Documents as final pay quantities, said estimated quantities shall be the final quantities for which payment for such specific portion of the work will be made.

B. The estimated quantities for such specific portion of the work shall be considered as approximate only and no guarantee is made that the estimated quantities equal quantities that can be determined by computations, based on the details and dimensions shown on the Plans. No allowance will be made in the event that the quantities based on computations do not equal the estimated quantities.

C. Change to the final quantities will be made only if the dimensions of said portions of the work shown on the Plans are revised by the Engineer. If such dimensions are revised and such revisions result in an increase or decrease in the quantities of such work, the final quantities for payment will be revised in the amount represented by the changes in the dimensions.

D. When portions of an item have been designated as final pay quantities in the contract documents, those portions that are not so designated will be measured and paid for in accordance with the applicable provisions of these Specifications and the Special Provisions.

PART 2 – PRODUCTS

2.01 Bid Item Descriptions

A. Bid Item #1: Minor Changes – Force Account

Measurement and Payment for this item shall be per Force Account.

For the purposes of bidding equality, the Contracting Agency has furnished an estimated quantity for this item of work. Payment will be made only for the actual amount of work performed as authorized and deemed necessary by the Engineer.

B. Bid Item #2: Construction Surveying

Measurement and Payment for this item shall be per Lump Sum.

The lump sum price “Construction Surveying” shall be full compensation for the cost of all labor, equipment, materials, mobilization, and supervision utilized to perform the work specified including any resurveying, checking, correction of errors, replacement of missing or damaged stakes, coordination efforts, and Record Drawings.

C. Bid Item #3: SPCC Plan

Measurement and Payment for this item shall be per Lump Sum.

The lump sum price for SPCC Plan shall be full compensation for all costs associated with creating and updating the accepted SPCC Plan, and all costs associated with the setup of prevention measures and for implementing the current SPCC Plan as required by this Specification.

D. Bid Item #4: Trimming and Cleanup

Measurement and payment for this item shall be per lump sum.

The completed work described in these contract documents and in accordance with all applicable codes, ordinances and laws shall constitute the lump sum work for this item as listed in the proposal. The lump sum price bid for this item shall be full compensation for all labor and materials to clean and return the site to its pre-construction state including topsoil and seeding in vegetated areas.

E. Bid Item #5: Remove and Reset Ultra-Block Bin Walls

Measurement and payment for this item shall be per lump sum.

The lump sum price for remove and reset ultra-block walls shall be full compensation for furnishing all materials, labor, tools, mobilization, and equipment necessary to remove the ultra-block walls, transport, store in an owner approved on-site location, providing new block shapes to accommodate the structural members, reassembly of the wall after completion of the concrete slabs.

F. Bid Item #6: Adjustment of Utility Cover

Measurement and payment for this item shall be per each.

The unit contract price per each of “Adjustment of Utility Cover” shall be as full compensation for all work to adjust valve boxes, frames and grates and lids of franchise or public utilities within the area to receive HMA or concrete, including removal, marking offsets to reset, cleaning, and installation.

G. Bid Item #7: HMA Cl. ½” PG 58-22

Measurement and payment for this item shall be per ton.

The unit contract price per ton for “HMA Cl. ½” PG 58-22” shall be full compensation for furnishing all material, labor, tools, mobilization, and equipment necessary to install the HMA in the areas and to the depth as shown on the Contract Plans.

H. Bid Item #8: PVC Storm Drain Pipe, 4-Inch Diam.

Measurement and payment for this bid item shall be per lineal foot.

The lump sum price per lineal foot for PVC Storm Drain Pipe, 4-Inch Diam. shall be full compensation for all work for the complete installation, including mobilization, all wyes, tees, special fitting, joint material, pipe, dewatering, removal and disposal of excavated material, removal and disposal of existing pavement, removal and disposal of existing pipe, furnishing and placing crushed surfacing top course for trench backfill, compaction, cleaning and testing necessary for the completion of the installation to the required lines and grades.

I. Bid Item #9: Connection to Drainage Structure.

Measurement and payment for this bid item shall be per each.

The unit contract price per each for "Connection to Drainage Structure" shall be full compensation for all work and materials for each connection.

J. Bid Item #10: Erosion Control and Water Pollution Control

Measurement for this item shall be per lump sum.

The lump sum price for erosion and sediment control shall constitute full compensation for providing all labor, materials, mobilization, supplies, equipment, and tools necessary to complete all items of work in accordance with these specifications and applicable drawings. This item includes but is not necessarily limited to: Provision, installation, and maintenance of catch basin protective devices (inserts), straw wattles, gutter line filter bags to prevent sediment transport, installation maintenance and removal of temporary culverts, daily maintenance and cleaning of roadways and rerouting of surface drainage as necessary to prevent sediment inflow into the storm system. The lump sum price shall also cover removal and disposal of the temporary erosion and sedimentation control facilities and restoration of the area upon completion of the project. Restoration to include mulching and hay cover of disturbed areas. This work shall be performed as requested and required by the District and all other applicable jurisdictions.

K. Bid Item #11: Foundations

Measurement and payment for this bid item shall be per lump sum.

The lump sum price bid for foundations constitutes full compensation for all labor, material, mobilization, supplies and equipment necessary to complete this item in accordance with drawings and specifications. Work shall include but not be limited to sawcutting, excavation, removing and disposing of excavated material, concrete formwork, structural reinforcement, and providing submittals on materials for approval by the Engineer.

L. Bid Item #12: Structural Framing and Roof

Measurement and payment for this bid item shall be per lump sum.

The lump sum (LS) price bid for structural framing and roof as shown on the contract drawings shall be full compensation for, but not limited to, the following:

1. Mobilization.
2. Provide and install all fasteners, columns, beams, side walls, and roofing.
3. Gutter and downspouts.
4. Building construction shall meet all State and local building codes.
5. Provide submittals on all materials for approval by the Engineer.

PART 3 – EXECUTION (NOT USED)

END OF SECTION 01 22 16

SECTION 01 31 13

PROJECT COORDINATION

PART 1 – GENERAL

1.01 Related Requirements Specified Elsewhere

A. Section 01 11 00 – Summary of Work

B. Section 01 31 19 – Project Meetings

C. Section 01 45 23 – Testing and Inspection Services

1.02 Policy In Practice

A. Engineer is the Owner's Advisor and Consultant:

1. Inspection and Testing Laboratories are to furnish data and guidance only and make no decisions involving changes in the contract.

2. All job-related problems shall be handled through the Resident Engineer or Inspector.

B. Owner's desires and instructions are to be channeled through the Engineer regarding all phases of the Contract.

C. Contract related communication from Contractor shall be handled through the Engineer.

D. Coordination of all subcontractors is the responsibility of the Contractor.

E. Documents of the Contract are directed to the Contractor and not to the subcontractors involved.

F. The Contractor is solely responsible for construction methods and the results thereof regardless of any advice, information, methodology, or scheduling unless such advice, methodology, or scheduling is written into the Contract or given in writing by the Engineer or the Owner.

1.03 Coordination of Trades and Subcontractors

A. Coordination is the responsibility of the Contractor. They shall assure coordination with suppliers, mechanical and electrical contractors, and all trades to the end that:

1. All necessary equipment, work, and structures are scheduled, installed, and tested in proper sequence.

2. The Contractor shall assure that electrical and mechanical equipment, wiring and control equipment, piping and plumbing, grading and all problems of supply, installation, and scheduling are coordinated and that the relations of all elements are carried out in an orderly manner in accordance with the Contract.

3. Contractor shall coordinate all suppliers of equipment, controls, and electrical supplies before submittal of shop drawings.

1.04 Coordination Of Utilities

A. Contractor shall schedule and supply utilities as required in the Contract.

1.05 Private Agencies

A. Contractor shall coordinate their schedule and activities with the Owner and the Engineer as the necessity arises and as required by the Contract:

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION 01 31 13

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 – GENERAL

1.01 Workmanship

A. All Work shall be done by competent craftsmen skilled in the specific Work and trade involved. Materials and equipment shall be installed in a neat and workman like manner following the best practice of the trade.

B. All Work performed by the Contractor which is, in the opinion of the Engineer, below normal accepted standards of workmanship for each trade involved shall be remade to the satisfaction of the Engineer, at no additional cost to the Commission.

1.02 Material Inspection Control

A. The Contractor shall keep daily tabulations on all quantities used on the Project and such tabulation shall be available to the Engineer at all times to provide a basis for inspection and payment controls. Where various measurable materials are incorporated into the items that are paid for on a unit or lump sum basis, the Engineer will require the Contractor to provide documentation of the various quantities involved prior to payment.

1.03 Inspections of Work

A. The Contractor shall notify all appropriate governing authorities at proper stages of construction to obtain required inspections, testing, approvals, etc., regardless of inspections conducted by the Engineer. The Contractor shall notify the Engineer of all scheduled inspections, tests, etc. a minimum of 24 hours in advance to allow the Engineer to be present for such inspections

B. The Engineer will conduct regular and frequent inspections of all materials and completed Work. The Contractor shall keep the Engineer apprised of construction progress and current activities to allow proper scheduling of inspections of each completed phase of the Work.

1.04 Manufacturers' Instructions

A. Comply with all product and material manufacturer's instructions for preparation and installation. Should instructions conflict with the Contract documents, request clarification from the Engineer prior to proceeding.

1.05 Manufacturers' Certifications

A. When required by individual specification Sections submit manufacturer's certificate indicating that products meet or exceed specified requirements.

1.06 Field Measurements

A. The Contractor shall field verify all measurements, dimensions, and elevations prior to the start of Work. The Engineer shall be promptly notified of any discrepancies between the plans and existing conditions prior to proceeding with the Work.

1.07 Defective Work

A. The Contractor shall remove and replace or correct any Work which has been found to be defective or not in compliance with Contract requirements, at no additional cost to the Commission.

B. Do not proceed with other Work related to or affected by the defective Work until the defective Work has been corrected to the satisfaction of the Engineer.

1.08 Testing and Inspections

A. Tests and inspections required by codes, ordinances, or by a plan approval authority, and which are made by a legally constituted authority, shall be the responsibility of and paid by the Contractor, unless otherwise provided in the Contract documents.

Tests and inspections performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor.

B. Neither the observations of the Commission in the administration of the contract, nor inspections, tests, or approvals by persons other than the Contractor, shall relieve the Contractor from the Contractor's obligations to perform the Work in accordance with the Contract documents.

C. When inspection and testing by the Commission or an independent agency is called for in the specifications, the Contractor shall afford access and reasonable time in the construction sequence for such tests and inspections to be performed. The Contractor shall cooperate with the agencies and provide incidental labor and services necessary for removal and delivery of test Samples, and for the inspections and taking of measurements. Provide any necessary patching and restoration where test Samples have been removed.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION 01 40 00

SECTION 01 41 00

REGULATORY REQUIREMENTS

PART 1 – GENERAL

1.01 Permits, Codes, and Regulations

A. The Contractor shall obtain and pay all fees for any/all licenses, permits, inspections, and approvals required by laws, ordinances, and rules of appropriate governing/approving agencies necessary for proper completion of the Work.

B. All Work shall conform to current applicable codes, regulations and standards, which shall be regarded as the minimum standard of quality for material and workmanship. The Contractor shall provide all labor, materials and equipment necessary for compliance with code requirements or interpretations, although not specifically detailed in the Drawings or specifications. The Contractor shall be familiar with all applicable codes and standards prior to bidding.

1.02 Variations with Codes, Regulations, and Standards

A. Nothing in the Drawings and specifications shall be construed as permitting Work not conforming to codes, permits or regulations. The Contractor shall promptly submit written notice to the Engineer of any observed variations or discrepancies between the Contract documents and governing codes and regulations.

B. Appropriate modifications to the Contract documents will be made by Contract Change Order to incorporate changes to the Work resulting from code and/or regulatory requirements. The Contractor assumes responsibility for all Work contrary to such requirements if Work proceeds without notice.

C. The Contractor shall not be relieved from complying with any requirements of these Contract documents which may exceed, but not conflict with requirements of governing codes.

1.03 Coordination with Regulatory Agencies

A. The Contractor shall be responsible for coordination of the Work with all appropriate governing/regulating authorities and/or agencies.

B. The Contractor shall provide advance notification to all proper officials of the Project schedule and any schedule revisions necessary throughout the Project duration, in order to allow proper scheduling of inspection visits by said authorities at proper stages of Work completion.

C. Regulation coordination shall be aside from any and all inspections conducted by the Engineer. The Contractor shall notify the Engineer of any/all scheduled inspections involving outside regulating officials, so as to allow the Engineer to be present for these inspections.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION 01 41 00

SECTION 01 57 13

TEMPORARY EROSION AND SEDIMENT CONTROL

PART 1 – GENERAL

1.01 Description

A. Work Included: Provide protection of the environment during the construction of the project to reduce soil erosion and siltation to the lowest reasonably achievable level. Provide protection of wetlands, stream buffers, bed and bank areas outside of work limits.

1.02 General

A. Exercise every reasonable precaution, throughout the life of the project, to prevent the eroding of soil and the silting of rivers, streams, lakes, reservoirs, other water impoundments, ground or roadway surfaces, or other property. Erosion control practices to be used for this project are shown on the drawings and are to conform to Department of Health and Ecology regulations.

B. Contractor shall comply with the requirements of the NPDES General Permit for stormwater-associated with construction activities and the Stormwater Pollution Prevention Plan for the project.

PART 2 – PRODUCTS

2.01 General

A. Erosion control products shall comply with State and Local MS4 standards.

B. Contractor shall provide submittals for each erosion control device / product for review and approval prior to ordering and installation.

PART 3 – EXECUTION

3.01 General

A. Construct and maintain all erosion control measures until the substantial completion of the project.

3.02 Maintenance

A. Place all erosion control devices or measures prior to any land disturbing activity within the drainage area they are located.

B. Periodically check erosion control devices and clean or otherwise remove silt build-up as necessary to maintain them in proper working order.

3.03 Removal

A. Remove temporary structures after protected areas have been stabilized when authorized by the Engineer.

3.04 Inspection

A. Contractor shall be in accordance with the approved Stormwater Pollution Prevention Plan for the project.

END OF SECTION 01 57 13

SECTION 01 66 00

MATERIALS STORAGE, HANDLING, AND PROTECTION

PART 1 – GENERAL

1.01 Scope

A. The work under this section includes, but is not necessarily limited to, the furnishing of all labor, tools and materials necessary to properly store and protect all materials, equipment, products and the like, as necessary for the proper and complete performance of the work.

1.02 Delivery and Handling

A. All materials shall be handled carefully and in such a manner as to preserve their quality. Materials damaged during delivery or handling shall not be used without approval from the Owner. Contractor shall also comply with any manufacturer-specific delivery and handling requirements.

1.03 Storage And Protection

A. Storage

1. The Contractor is responsible for obtaining any material storage site that is required. Storage of materials on the project site is subject to the approval of the Owner within the project limits and approved easements.
2. Maintain ample way for foot traffic at all times, except as otherwise approved by the Engineer.
3. All property damaged by reason of storing of material shall be properly replaced at no additional cost to the Owner.
4. Packaged materials shall be delivered in original unopened containers and so stored until ready for use.
5. All materials shall meet the requirements of these specifications at the time that they are used in the work.
6. Store products in accordance with manufacturer's instructions.

B. Protection

1. Use all means necessary to protect the materials, equipment and products of every section before, during and after installation and to protect the installed work and materials of all other trades.
2. All materials shall be delivered, stored and handled to prevent the inclusion of foreign materials and damage by water, breakage, vandalism or other causes.
3. Substantially constructed weather tight storage sheds, with raised floors, shall be provided and maintained as may be required to adequately protect those materials and products stored on the Site which may require protection from damage by the elements.

C. Replacements: In the event of damage, immediately make all repairs and replacements necessary for the approval of the Engineer and at no additional cost to the Owner.

D. Equipment and products stored outdoors shall be supported above the ground on suitable wooden blocks or braces arranged to prevent excessive deflection or bending between sup- ports. Items such as pipe, structural steel and sheet construction products shall be stored with one end elevated to facilitate drainage.

E. Tarps and other coverings shall be supported above the stored equipment or materials on wooden strips to provide ventilation under the cover and minimize condensation. Tarps and covers shall be arranged to prevent ponding of water.

1.04 Extended Storage

A. In the event that certain items of major equipment such as air compressors, pumps and mechanical aerators have to be stored for an extended period of time, the Contractor shall provide satisfactory long-term storage facilities which are acceptable to the Engineer and Owner. The Contractor shall provide all special packaging, protective coatings, power, nitrogen purge, desiccants, lubricants and exercising necessary or recommended by the manufacturer to properly maintain and protect the equipment during the period of extended storage.

1.05 Owner Furnished Equipment

A. The Contractor shall provide storage and protection for all Owner furnished equipment and mate- rials, including extended storage as specified above.

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION 01 66 00

SECTION 01 71 13

MOBILIZATION AND DEMOBILIZATION

PART 1 – GENERAL

1.01 Section Includes

A. Mobilization and demobilization requirements.

1.02 References

A. American Public Works Association.

1. APWA Plan 412: Invert Cover

1.03 Definitions

A. Mobilization includes bringing all necessary equipment to the site to do the Work. It includes all labor, materials, and equipment to set up temporary offices, buildings, facilities, signs, and utilities.

B. Demobilization includes removing all construction equipment and debris so site is left clean.

1.04 Temporary Facilities

A. Field Office: CONTRACTOR's choice.

B. Utilities: Provide power, telephone, water, storm and sanitary facilities, and all other temporary utilities required.

C. Security and Protection: Construct and maintain temporary fencing for the protection of materials, tools, and equipment. Obtain prior approval for all fence locations.

D. Construction and Support: Set up and maintain in a neat and orderly manner temporary roads and paving, dewatering facilities, enclosures, identification signs and bulletin boards, waste disposal and temporary heat. Provide and maintain temporary all-weather pedestrian walkways and road detours.

E. Invert Cover: Install covers as shown in APWA Plan 412 or Drawings. Installation must be tight so no debris can by-pass the cover and enter the piping below.

PART 2 – PRODUCTS

2.01 Materials

A. Temporary Materials: CONTRACTOR's choice.

PART 3 – EXECUTION

3.01 Installations

A. Relocate and modify temporary facilities as required.

B. Install temporary utility service or connect to existing service.

C. Locate field offices, storage sheds, sanitary facilities and other temporary construction and support facilities for easy access. Use of gasoline-burning, open flame, or salamander type heating units is prohibited.

D. Use local standards and codes for erection of adequate fences and barricades. Maintain all signing, barricades, fencing, drainage, and other items as required to protect public and private property from damage caused by construction operations.

E. Coordinate location of storage areas to avoid interference with drainage, traffic, or private property.

F. Provide and maintain all temporary signage required by the Work.

3.02 Removals

A. Completely remove temporary materials and equipment:

1. When construction needs can be met because of permanent installation, and

2. At completion of the Work.

B. Clean or repair damage caused by installation or use of temporary facilities.

C. Restore areas to original or to specified conditions at completion of the Work.

END OF SECTION 01 71 13

SECTION 01 77 00

CLOSEOUT PROCEDURES

PART 1 – GENERAL

1.01 General

A. It is intent of these contract documents that the Contractor shall deliver a complete and operable facility capable of performing its intended functions and ready for use.

1.02 Cleanup

A. Throughout the period of construction, the Contractor shall keep the work site free and clean of all rubbish and debris, and shall promptly remove from any portion of the site, or from property adjacent to the site of the work, all unused materials, surplus earth and debris, excepting select material which may be required for refilling or grading.

B. Upon completion of the work, and prior to the final acceptance, the Contractor shall remove from the vicinity of the work all plant, surplus material and equipment belonging to him or used under his direction during construction.

1.03 Waste Disposal

A. The Contractor shall be responsible to dispose of surplus material, waste products and debris. If arrangements are made to dispose of materials on private property, the Contractor shall obtain written permission from the property owner to disposal of any material.

B. No separate or extra payment of any kind will be made for handling, hauling and disposal of any surplus materials, waste products, or debris, but shall be considered as incidental to the work, and shall be included in applicable unit price or lump sum bid items.

1.04 Releases from Private Citizens and Business Impacted by Hauling Operations

A. Contractor shall provide written releases from all private citizens and businesses impacted by the hauling operation stating that existing claims for damages have been resolved.

1.05 Project Record Document

A. The Contractor shall maintain at the site, available to the Owner and Engineer, one copy of the contract documents, drawings, shop drawings, change orders and other modifications in good order and marked to record all changes made during construction. These documents shall be delivered to the Engineer upon completion and prior to acceptance of the work. The set of contract drawings shall show any change in the final location of streets, sewers, driveways, alleys and relocated utilities included in the work. Marking of the drawings shall be kept current and be done at the time the material and equipment is installed. These drawings shall be presented monthly to the Engineer for review.

1.06 Touch-Up and Repair

A. The Contractor shall touch-up or repair finished surfaces on structures, equipment, fixtures or installations that have been damaged prior to final acceptance. Surfaces on

which such touch-up or repair cannot be successfully accomplished shall be completely refinished or, in the case of hardware and similar small items, the item shall be replaced.

1.07 Cost

A. All costs in conjunction with work performed under this section shall be considered incidental to the construction bid items and no separate or additional payment will be made.

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION 01 77 00

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DIVISION 2

EXISTING CONDITIONS

02 41 14 Pavement Removal

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SECTION 02 41 14

PAVEMENT REMOVAL

PART 1 – GENERAL

1.01 Section Includes

A. Remove public works yard pavement/concrete under material storage bins as shown on the Contract Plans.

1.02 Measurement Procedures

A. Double saw cutting required for pavement removal or T-patches will not be measured or paid for separately.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 Preparation

A. Implement traffic control plan requirements.

B. Coordinate utility locations, Section 01 31 13.

C. Preserve all active utilities.

D. Notify neighborhood at least 48 hours before day and time of operation.

E. Mark existing utilities on redline drawings.

3.02 Protection

A. Install Invert Covers, Section 01 71 13.

B. Trees:

1. Avoid or minimize damage to trees and tree roots.

2. Provide certified arborist observation of root cuts larger than four (4) inches diameter. Roots provide anchorage, storage of energy, and absorption and conduction of water and mineral elements. Loss of root connection affects health and stability of tree and safety of people and property. Notify ENGINEER of such root cut.

C. Existing Surfaces:

1. Protect adjacent surfaces including concrete walls, planters, carriage walks, driveway approaches, rock walls, rock gardens concrete steps, sidewalks, and curb cut assemblies. Replace damaged facilities at no additional cost to City.

2. Use rubber cleats or Pavement pads when operating backhoes, outriggers, track equipment, or any other equipment on or crossing paved surfaces.

3. Restore paved surfaces that are damaged by removal operations at no additional cost to the CITY. Match the existing Pavement surface plus 1 inch.

D. Environment:

1. Control dust, Section 01 57 00.
2. Protect plant and animal habitat. Follow federal, state or local protection requirements.

E. Repair or replace any damage at no additional cost to City.

3.03 Remove Portland Cement Concrete Pavement

A. Cutting:

1. DO NOT use machine mounted impact hammers.
2. Make concrete cuts straight, vertical, true, full-depth.
3. Cut along perimeter of panel to be removed. Where edge of existing surface is cracked, broken, or deteriorated, make the cut so the defective surface can be removed.
4. Cut along any edge that is damaged during construction, including cavities underneath caused by construction or concrete removal.

B. Removal:

1. Remove concrete to the nearest expansion joint or vertical saw cut.
2. Remove panels without damaging remaining panels.
3. Remove all bonding inhibitors.

3.04 Remove Asphalt Concrete Pavement

A. Cutting:

1. Use any method that produces a true, vertical, full-depth cut.
2. When asphalt concrete overlays Portland cement concrete Pavement, DO NOT use machine mounted impact hammers.
3. If an edge of an existing surface is cracked, broken, or deteriorated, make the cut so the defective surface can be removed.
4. Re-cut along any edge that is damaged during construction, and where cavities underneath pavement are caused by construction.

B. Removal: Remove asphalt pavement without damaging remaining.

3.05 Remove Concrete Flat Work

A. Saw cut flat work at weakened plane joints. Saw cut full depth.

B. Where edge of existing surface is cracked, broken, or deteriorated, make the cut so the defective surface can be removed.

C. Saw along any edge that is damaged during construction, including cavities underneath caused by construction.

D. If flat work that is not scheduled for removal is damaged, remove and replace the flat work at no additional cost to CITY.

3.06 Cleaning

A. Remove all debris and dust. Clean surrounding rails, sidewalks, Driveways, Driveway approaches, landscaping, concrete flat work, and other objects in vicinity of work.

END OF SECTION 02 41 14

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DIVISION 3

CONCRETE

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SECTION 03 10 00

CONCRETE FORMWORK

PART 1 – GENERAL

1.01 DESCRIPTION OF WORK

A. This section specifies formwork, embedded items, and form ties for cast-in-place concrete.

1.02 RELATED WORK DESCRIBED ELSEWHERE:

A. The provisions and intent of the Contract, including the General Conditions, Special Conditions, and General Requirements apply to this work as if specified in this Section. Work related to this Section is described in:

Section 03 20 00	Concrete Reinforcement
Section 03 30 00	Cast-in-Place Concrete

1.03 QUALITY ASSURANCE (CODES AND STANDARDS)

A. ACI 301-20 - Specifications for Structural Concrete Construction.

B. ACI 347-14(21) - Guide to Formwork for Concrete.

C. Formwork and methods of construction shall conform to the requirements of the Department of Labor & Industries of the State of Washington and OSHA Standards.

PART 2 – PRODUCTS

2.01 GENERAL

A. The Contractor shall provide formwork and those materials required to develop the strength and finishes required of the finished concrete. Except where noted herein, the formwork system used is the Contractor's choice, provided it performs in the manner specified.

1. Form materials: Contractor may use any forming materials and methods which will achieve the finish qualities specified in Section 03 30 00.

2. Form coatings: Provide commercial formulation form coating compounds that will not bond with, stain, or adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces requiring bond or adhesion or impede wetting of surfaces to be cured with water or curing compound.

3. Form ties: Form ties shall be bolts or rods designed so that no metal shall be within the thickness of the reinforcement cover of the finished concrete surface, and to provide a void to be grouted to seal opening. The detail used shall be watertight for concrete in contact with earth or water.

2.02 EMBEDDED ITEMS

A. Anchor Bolts: Refer to the General Notes section of the Structural Drawings.

B. Embedded Conduit: Rigid embedded conduit shall be hot-dipped galvanized steel. Conduit shall be approved and listed by Underwriters Laboratories, Inc. and bear the UL label.

C. Miscellaneous Embedded Items: Exposed items permanently embedded in concrete within the thickness of the concrete reinforcement cover shall be hot-dipped galvanized, nonferrous or other approved nonrusting material.

PART 3 – EXECUTION

3.01 FORM DESIGN

A. Forms shall be designed on the basis of deflection. Slab, beam and girder forms shall be cambered for dead load. Forms shall be braced and supported as required.

3.02 FINISH TOLERANCES

A. Set and maintain concrete forms so as to ensure completed work is within the tolerance limits of ACI 301 Table 4.3.1 - Tolerances for Formed Surfaces.

3.03 FORM TIE HOLES

A. Form tie holes shall be pointed up fully with mortar of 1 part cement to 3 parts sand.

3.04 EMBEDDED ITEMS

A. Position in form in location shown. Provide adequate support to prevent displacement during concreting. Do not place concrete before receiving approval of placing plan.

3.05 FORM CLEANING

A. Dirt, chips, sawdust, and other foreign matter shall be removed from within the form before any concrete is deposited therein. Forms previously used shall be cleaned of dirt, mortar and other foreign matter before being reused.

B. Temporary openings shall be provided at the base of column and wall forms and at other points where necessary to facilitate cleaning and inspection immediately before depositing concrete.

3.06 FORM REMOVAL

A. Refer to ACI 347 Section 3.7 - Removal of Forms and Supports.

END OF SECTION 03 10 00

SECTION 03 20 00

CONCRETE REINFORCEMENT

PART 1 – GENERAL

1.01 DESCRIPTION OF WORK

A. This section specifies reinforcing steel for use in reinforced concrete.

1.02 RELATED WORK DESCRIBED ELSEWHERE:

A. The provisions and intent of the Contract, including the General Conditions, Special Conditions, and General Requirements apply to this work as if specified in this Section. Work related to this Section is described in:

Section 03 10 00	Concrete Formwork
Section 03 30 00	Cast-in-Place Concrete

1.03 QUALITY ASSURANCE (CODES AND STANDARDS)

ACI 301-0520	Specifications for Structural Concrete Construction for Buildings
ACI 315-99	Details and Detailing of Concrete Reinforcement
ACI 318-0514	Building Code Requirements for Reinforced Structural Concrete
ASTM A615	Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
ASTM A706	Low-Alloy Steel Deformed Bars for Concrete Reinforcement
CRSI	Manual of Standard Practice

1.04 SUBMITTALS

A. Mill Tests: Furnish certified copies of mill test reports showing compliance with these specifications.

B. Shop Drawings: Submit shop drawings for reinforcing steel prepared in accordance with ACI 315.

1. Indicate bending diagrams, placing diagrams, splicing, laps, dimensions, and details of bar reinforcing and accessories.

2. Shop drawings shall not be reproductions of the contract drawings and details.

1.05 ENVIRONMENTAL REQUIREMENTS

A. All materials, reinforcement, and surfaces contacting concrete shall be free of frost, snow, mud, and standing water during work.

PART 2 – PRODUCTS

2.01 STEEL REINFORCEMENT

A. Reinforcing steel shall consist of deformed bars of the sizes called for on the contract drawings. Steel shall conform to ASTM A615 (A706 if welded), Grade 60.

B. Welded wire reinforcement shall conform to ASTM 496.

2.02 TIE WIRE

A. Use No. 16 gauge double-annealed wire.

2.03 ACCESSORIES

A. Provide bar supports and other accessories necessary to secure reinforcement against displacement. Where bottom surface of concrete is exposed, use plastic protected chairs conforming to CRSI Manual of Standard Practice.

PART 3 – EXECUTION

3.01 FABRICATION

A. Clean, bend and splice reinforcement in accordance with ACI 315 . Hooks shall conform to Table 1 of ACI 315. Do not straighten or field bend reinforcement.

3.02 PLACING REINFORCING STEEL

A. All reinforcement, when placed, shall be free from rust, scale, oil, grease, clay, and other coatings or foreign substances that would reduce or destroy bond. Rusting of reinforcement shall not be a basis for rejection, provided that the rusting has not reduced the effective cross-sectional area of the reinforcement, and provided that the loose rust shall be removed prior to placing. Where cover over the reinforcement is not indicated, it shall be in accordance with ACI 318.

3.03 SETTING MISCELLANEOUS MATERIAL

A. Place and secure anchors and bolts, pipe sleeves, conduits, and other such items in position before concrete is placed.

END OF SECTION 03 20 00

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 – GENERAL

1.01 DESCRIPTION OF WORK

A. This section specifies the materials and labor required for the manufacture and erection of cast-in-place concrete.

1.02 RELATED WORK DESCRIBED ELSEWHERE:

A. The provisions and intent of the Contract, including the General Conditions, Special Conditions, and General Requirements apply to this work as if specified in this Section. Work related to this Section is described in:

Section 03 10 00	Concrete Formwork
Section 03 20 00	Concrete Reinforcement

1.03 REFERENCED STANDARDS

ACI PRC-211.1-22	Selecting Proportions for Normal-Density and High Density-Concrete
ACI PRC 211.1-91	Guide to Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete
ACI 301-0520	Specifications for Structural Concrete Construction.
ACI 304.2R-9617	Guide to Placing Concrete by Pumping Methods.
ACI 305R-2099	Guide to Hot Weather Concreting.
ACI 306R-1688	Guide to Cold Weather Concreting.
ASTM	American Society of Testing and Materials (ASTM) specific references as noted.

1.04 QUALITY CONTROL

A. Control of Materials: Materials indicated to be tested in this section shall be tested by a reputable independent testing laboratory and the results of such testing shall be submitted for review by the Engineer. Tests shall be performed in accordance with the referenced standards. Materials which do not meet the requirements of the referenced standards shall not be used.

1.05 SUBMITTALS

A. Mill Certificates: Furnish certified copies of cement mill test reports showing compliance with these specifications.

B. Aggregate Test Reports

1. The Contractor shall furnish evidence to the Engineer that aggregate used in the work meet requirements specified herein. The cost of testing shall be borne by the Contractor.

2. If Engineer deems that additional testing if aggregate is necessary, he may select samples from any of the aggregate to be used in the job for testing by a qualified laboratory. Such material shall not be used in the work until test reports are available. If in such tests the materials fail to meet specified requirements, aggregate will be rejected, and the expense of testing shall be borne by the

Contractor. If such tests show the aggregate to be satisfactory, cost of additional testing will be borne by the City.

C. Admixture Report: Contractor shall submit copies of tests showing conformance with ASTM requirements.

PART 2 – PRODUCTS

2.01 CEMENT

A. Type II. Only one brand of cement shall be used throughout one structure. Insofar as possible, all cement used in the work shall be taken from stock bins at the place of manufacture, bins in which the cement shall have been tested and found to comply with these specifications.

B. Cement shall be suitably stored and protected from exposure to the atmosphere. In the event the cement shows signs of deterioration, it shall not be used unless additional tests show that it conforms to the requirements stated above.

2.02 POZZOLAN

A. ASTM C 618, Class F.

2.03 AGGREGATES

A. Fine and coarse aggregate for concrete shall conform to ASTM C 33.

B. Aggregate gradations shall meet the requirements of the following standards:

1. Coarse aggregate gradation shall meet the requirements of ASTM C 33, Size 467 (1 1/2-inch maximum aggregate size)

2. Fine aggregate shall meet the fine aggregate gradation requirements of ASTM C 33.

2.04 WATER

A. Water may be any potable water, clean and free from injurious amounts of oil, acid, alkali, and organic materials.

2.05 ADMIXTURES

A. Water reducing agent: Water reducing admixture shall comply with ASTM C 494. Admixture shall be free of calcium chloride. In addition to ASTM requirements, use shall be in strict accordance with the manufacturer's printed recommendations. When added to the mix, it shall reduce by at least 12% of the total water required without any loss of workability. Contractor shall use the type best suited for job conditions on the approval of Engineer. Water reducing agent shall be Pozzolith 300N or 300R as manufactured by Master Builders; Plastiment, Plastocrete or Sikacrete as manufactured by Sika Chemical Corp.; or equivalent.

B. Air entraining agent:

1. Materials proposed for use as air entraining admixture shall conform to ASTM C 260. Air entraining agent added shall result in an entrained air content of 4% + 1%. The content in concrete shall be determined by pressure method (ASTM C 231) or gravity method (ASTM C 138).

2. Admixture shall be a sulfonated hydrocarbon type with a cement catalyst. The air entraining admixture shall be added at concrete mixer or batching plant at approximately ¾ to 3 ounces per sack of cement or in such quantities as to give the above specified air contents. Use Darex AEA as manufactured by Construction Products Division of Grace & Co., MB AE-10 by Master Builders, or equivalent.

C. Other admixtures shall not be used unless approved by the Engineer prior to use.

2.06 GROUT

A. Non-metallic, non-shrink grout conforming to ASTM C 1107.

2.07 MIX DESIGN AND CONTROL

A. Concrete

1. Quality: Concrete exposed to sewage, or in contact with ground shall be composed of cement, pozzolan, aggregate, water, water reducing agent, and air entraining agent. Concrete shall be designated by class with a required 28-day strength. The exact proportions of materials shall be such as to produce a workable, dense, impermeable concrete of the required strength.

2. Pozzolan shall be added where concrete is exposed to earth, water or sewage and where watertight construction is required.

3. Maximum water-cement ratio shall be 0.42 by weight.

4. Concrete shall have a minimum 28-day strength of 4,000 psi (Minimum cement content shall be as indicated on the structural drawings.

5. Consistency: Adequate water shall be used to produce the necessary workability for placement. However, in no case shall the slump determined in accordance with ASTM C 143 exceed the following values:

   a. Vertical wall sections, columns: 4-inches

   b. Footings, beams, slabs: 3-inches

   c. Plain concrete: 2-inches

B. Control tests: Characteristics of the concrete shall be controlled as follows:

1. Mix design: Before beginning concrete work, Contractor shall determine proper proportions of materials for each strength and class of concrete. Mix shall consist of the exact proportions proposed for the particular mix. Mix designs shall be prepared at the contractor's expense, by a recognized inspection and testing laboratory acceptable to the Engineer, and shall show the expected strength, corresponding slump, air content, all ingredient weights, and other physical properties necessary to check each design mix. Where more than grading of course aggregates will be used, tests shall be made for the finest gradation to be used.

2. Laboratory tests: Each mix design shall be checked by the laboratory by the preparation of 2 trail batches, one with 2-inch slump, one with 5-inch slump, from each of which 6 standard test cylinders shall be cast and cured as specified for the job concrete. Three cylinders from each batch shall be tested at age 7-days, two at age 14-days and one at age 28-days. Certified copies of laboratory reports shall be sent to the Engineer from the testing laboratory. No concrete placement shall

commence prior to approval of the test results by the Engineer. Laboratory reports shall state whether the item reported pass specifications and shall include a resume of the qualities of the mixes.

3. Field trial mix: After completion of mix design work and prior to concreting operations, Contractor shall establish, based upon the design mixes, field proportions for concrete to be used in the work. Manufacture of the field trial concrete shall be accomplished utilizing equipment which will be used on the job. Adjustments shall be made in design mixes to provide a dense, homogeneous, durable concrete with good workability and finishing qualities. Six standard test cylinders shall be obtained from each field trial mix and tested as in mix design. Engineer shall be notified in advance of any field trial mix work and no field trial mix shall be made without the accepted testing laboratory present.

PART 3 – EXECUTION

3.01 BATCHING AND MIXING

A. Batching: Concrete batching equipment shall be provided to determine and control accurately the relative amounts of cement, pozzolan, water, admixtures, sand, and aggregate gradation entering the concrete. Cement, pozzolan, sand, and coarse aggregate shall be measured by direct weighing. Water and admixture shall be determined by direct weighing or volumetric measurement.

B. Mixing: Concrete shall be in a batch mixer which will ensure uniform distribution of materials throughout the mass so the mixture is uniform in color and is homogeneous. Concrete shall be placed within 1 hour after water is first added to the batch. Mixer shall be equipped with a suitable charging hopper and a water storage and measuring device controlled from a case which can be kept locked. Mixer shall be so constructed that water can be discharged only while the mixer is being charged. The entire contents of the mixing drum shall be discharged before recharging. Volume of mixed materials per batch shall not exceed the rated capacity of the mixer.

C. Transit mixed concrete: At the Contractor's option, transit mixed concrete may be used. Transit concrete shall comply with applicable portions of this specification and ASTM C 94. Batch tickets shall be provided with each truckload of concrete. No water may be added at the job without authorization from Engineer. In no case shall water be added without adequate means for measuring and recording the amount added.

3.02 CONCRETE FOR PUMPING

A. Special care shall be taken when concrete is to be transported by pumping.

1. Standards: the following standards shall govern:

a. ACI PRC-211.1

b. ACI 304.2R

2. Pumping: Type of pump to be used shall be approved by the Engineer.

a. No aluminum pipe will be allowed in the pumping process.

b. Minimum bend radius for piping shall be 5 feet.

c. During temporary stops in pumping, the hopper shall remain nearly full to prevent segregation.

3. Mix design shall be in accordance with the above standards. An average loss of slump of ½ to ¾ inch per 100 feet of pipeline shall be accommodated in the mix design and batching process.

4. Aggregates: In concrete that is to be pumped, all aggregate shall fall in the middle of ASTM C 33 gradation limits.

5. Admixtures: Any admixtures used to improve pumpability shall follow Paragraph 2.05 Admixtures, and Paragraph 2.13 Mix Design and Control.

3.03 PROTECTION REQUIREMENTS

A. Cold weather concreting shall be in accordance with ACI 306R.

B. Hot weather concreting shall be in accordance with ACI 305R.

C. Protection of concrete construction: Surfaces shall be protected against injury. During the first 72 hours after placing concrete, any wheeling, working or walking on concrete shall not be permitted. Slabs subject to wear shall be covered with a layer of sand or other suitable material as soon as concrete has set. Sisal craft paper or other similar tough, waterproof paper may be used, provided joints between adjacent strips of paper are carefully sealed. This does not alter requirements for proper curing as specified in Paragraph 3.07, Curing Concrete.

D. No concrete shall be placed during rain unless acceptable protective shelter is provided; and during such weather, concrete placed within the preceding 12 hours shall be protected with waterproof canvas or other suitable coverings. These shall be provided and kept ready at hand.

E. Concrete construction shall be protected from excessive loading. Installation of mechanical and electrical equipment shall be accomplished by employing shores, bearing plates, frames, cranes and temporary beams.

3.04 CONSTRUCTION JOINTS

A. General: Concrete in each unit of construction shall be placed continuously. Before concrete is placed on or against concrete which has set, forms shall be retightened, and the surface of the set concrete shall be cleaned of foreign matter. Wetting of concrete surfaces on which concrete is deposited shall be required and all free moisture removed. Where watertight construction is required, a 1/2 sack of cement per cubic yard shall be added to the lowest 12-inch strip placed at the base of wall pours.

B. Construction: A rough surface of exposed concrete aggregate shall be produced using a surface retardant at construction joints. Where required by Engineer, the limit of the treated surface shall be held 1-inch away from joint edges. Within 24 hours after placing, retarded surface mortar shall be removed either by high pressure water jetting, stiff brushing or a combination of both so as to expose coarse aggregates with a minimum surface amplitude of 1/8-inch. A rough surface may also be produced by sandblasting followed by high pressure jetting.

C. Locations: Construction joints shall be at locations approved by the engineer and shall be kept to a minimum consistent with sound construction practices. Unless otherwise

noted on the Contract Drawings, walls exceeding 60 feet in length shall be cast in panels not to exceed 40 feet in length. Where the number of panels is three or more, panels shall be cast in an alternating pattern with the minimum lapsed time between adjacent panel pours of 24 hours. Vertical joints shall be grooved at exposed surfaces. Grooves subject to wetting or weather shall be caulked with a joint sealer.

3.05 DEPOSITING CONCRETE

A. Concrete shall not be placed until forms and reinforcement have been approved by Engineer. Concrete shall be conveyed from mixer to place of final deposit as rapidly as possible by methods which will prevent separation or loss of ingredients. It shall be deposited in the form as nearly as practicable in its final position so as to maintain a plastic surface approximately horizontal. Concrete shall not be dropped more than 6 feet unless a suitable chute or tube is used. Form for walls or other sections of considerable height shall be provided with openings or other devices which will permit the concrete to be placed in a manner which will avoid accumulations of hardened concrete on form or metal reinforcement. Under no circumstances shall concrete that has partially hardened be deposited in the work. Temporary joints shall not remain exposed for more than 45 minutes before adjacent concrete placed.

B. Immediately after depositing, concrete shall be compacted by means of high-frequency mechanical internal vibrators which shall be 7,000 cycles per minute minimum. The number and type of vibrators shall be acceptable to the Engineer and shall include a spare standby unit. Concrete shall be worked around reinforcement and embedded fixtures and into the corners of the forms.

3.06 CURING CONCRETE

A. Immediately following placement, concrete shall be protected from premature drying, hot and cold temperatures, rain, flowing water and mechanical injury. Final curing shall continue for not less than 7 days.

1. Approved methods include ponding or continuous fog spray and liquid membrane-forming compounds as described below, except as specified elsewhere in this section.

a. Application of liquid membrane-forming compound shall conform to ASTM C309. Material shall maintain a maximum moisture loss of 0.11 pounds per square foot of surface in 72 hours when used at a coverage of 400 square feet per gallon and tested in accordance with ASTM C 156. The curing compound shall be used at a maximum of 400 square feet per gallon.

2. Formed surfaces shall be kept moist prior to stripping forms. Immediately following stripping of forms, concrete shall be cured by the curing compound method.

3.07 REPAIR OF CONCRETE CONSTRUCTION

A. Repair surface defects in accordance with ACI 301, Paragraph 5.3.7.

3.08 FIELD TESTING

A. Concrete shall be sampled and tested in accordance with ACI 301 during the progress of the work. Slump and air content tests shall accompany all test cylinders for

strength. Engineer shall be notified 48 hours ahead of scheduled pours. Contractor shall notify Engineer 24 hours in advance of any cancellation of pours.

1. Any additional testing required because of apparent failure of concrete to meet specification requirements shall be paid by Contractor. When there is a question as to quality of the structure because of cylinder strength test failures, strength tests made on specimens secured from the structure and tested in accordance with ASTM C42 will be required.
2. Samples of concrete will be obtained in accordance with ASTM C 172 and will be transported to a place on the site where air and slump tests can be made and cylinders stored without being disturbed for the first 24 hours. Cylinders for strength tests shall be made in accordance with ASTM C 31 and ASTM C 94. Contractor shall assemble cylinders in a convenient location each day, after 24 hours cure, for pick-up by the testing laboratory.

B. Cylinders shall be made as required by ACI 301 for strength tests, following applicable ASTM standards. Strength tests shall be in accordance with ASTM C 39. If a specimen shows manifest evidence of improper sampling, molding, or testing, it will be discarded.

C. Slump tests shall be made following the procedure in ASTM C 143. Slump tests shall be made for concrete from any batch from which strength tests are made.

1. If the measured slump falls outside the limits specified, a check test shall be made immediately on another portion of the same sample. In the event of a second failure, concrete will be considered to have failed to meet requirements of the specifications and be unacceptable.

D. Air content tests shall be made in accordance with either ASTM C 138 or ASTM C 231.

1. If the measured air content falls outside limits specified, a check test will be made immediately on another portion of the same sample. In the event of a second failure, concrete will be considered to have failed to meet requirements of the specifications and be unacceptable.

E. Failure of Contractor to perform required tests shall be cause for rejection of the subject work.

F. Manholes which will be subjected to hydrostatic pressure shall be tested for watertightness.

3.09 CLEANUP

A. Upon completion of the work and prior to final inspection, the Contractor shall thoroughly clean all concrete surfaces.

END OF SECTION 03 30 00

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DIVISION 5

METALS

05 10 00 Structural Metals

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SECTION 05 10 00

STRUCTURAL METALS

PART 1 – GENERAL

1.01 DESCRIPTION

This section specifies structural metals consisting of standard shapes, fasteners, rods, and plates that are used in structural supports and connections.

1.02 QUALITY ASSURANCE

A. General:

1. Structural assemblies and shop and field welding shall meet the requirements of Specification of Structural Steel Buildings, American Institute of Steel Construction (AISC).

2. The use of salvaged, reprocessed, or scrap materials shall not be permitted.

1.03 REFERENCES

IBC	Chapter 20 (International Building Code)
IBC	Chapter 22 (International Building Code)
AISC 360-16	Specification for Structural Steel Buildings.
AISC	Specification for Architectural Exposed Structural Steel.
AWS D1-1	Structural Welding Code.
ASTM A123	Zinc (Hot Dipped Galvanized) Coatings on Iron and Steel Products.
ASTM A153	Zinc Coating (Hot Dip) on Iron and Steel Hardware.
ANSI/NAAMM MBG 531-0017	Metal Bar Grating Manual

1.04 SUBMITTALS

A. Submit under provisions of Section 5 General Requirements of these Contract Documents.

B. Shop Drawings:

1. Indicate profiles, sizes, spacing, and location of structural members, openings, attachments, and fasteners.

2. Connections.

3. Indicate welded connections with AWS A2.4 welding symbols. Indicate net weld lengths.

C. Manufacturer's Mill Certificate: Submit under provisions of Section 01 40 00 certifying that products meet or exceed specified requirements.

D. Welder's Certificate: Submit under provisions of Section 01 40 00, certifying welders employed on the Work, verifying AWS and WABO certified qualifications within the previous 12 months.

1.05 FABRICATION

A. Fabricate structural steel members in accordance with AISC Specification for Structural Steel Buildings.

B. Perform Work in accordance with AISC - Specification for Architectural Exposed Structural Steel.

1.06 QUALIFICATIONS

A. Fabricator: Company specializing in performing the work of this Section shall have a minimum of three years documented experience.

B. Erector: Company specializing in performing the work of this Section shall have a minimum of three years documented experience.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Steel: Refer to the General Notes section of the Structural Drawings.

B. Welding Materials: AWS D1.1

C. Galvanizing: All structural steel shall be galvanized unless shown or indicated otherwise. Galvanize by the hot-dip process in conformance with ASTM A 123 and A 153.

2.02 FASTENERS

A. Refer to the General Notes section of the Structural Drawings.

B. Washers: Provide washers of the same material and finish as the bolt under all nuts.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work. Measurements shall be verified at the job.

3.02 INSTALLATION

A. General:

Metalwork which is bent, broken, or otherwise damaged shall be repaired or replaced by the contractor.

B. Guardrails:

Fabricate pipe railings to dimensions and details shown, with smooth bends and welded joints ground smooth and flush. Adjust railings prior to anchoring to ensure matching alignment at butting joints.

C. Platform Gratings:

All grating shall be provided welded anchorage per ANSI/NAAMM MBG 531.

3.03 FIELD QUALITY CONTROL

A. Field inspection will be performed under the provisions of Section 01 40 00.

3.04 CLEANING

A. Damaged surfaces of galvanized metals shall be repaired with high zinc dust content paint meeting the requirements Military Specification MIL-P-21035.

END OF SECTION 05 10 00

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DIVISION 7

THERMAL AND MOISTURE PROTECTION

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SECTION 07 41 13

PREFORMED METAL STANDING SEAM ROOFING

PART 1 – GENERAL

1.01 DESCRIPTION OF WORK

This section specifies prefinished, prefabricated structural standing seam roof system with continuous interlocking field formed seams, flashings, counterflashings, fasciae, backings, gutters, downspouts, and associated accessories.

1.02 RELATED WORK DESCRIBED ELSEWHERE

01 41 00	Regulatory Requirements
01 66 00	Materials Storage, Handling, and Protection
05 10 00	Structural Metals
07 62 00	Sheet Metal Flashing and Trim
33 40 00	Stormwater Utilities

1.03 REFERENCES

NAAMM	Metal Finish Handbook
SMACNA	Architectural Sheet Metal Manual

1.04 STRUCTURAL REQUIREMENTS

A. Panel structural properties shall be determined in accordance with the latest edition of American Iron and Steel Institute's "Cold Formed Steel Design Manual." Design loads shall be as indicated on the structural drawings.

1.05 SUBMITTALS

A. Submit shop drawings and product data under provisions of Section 5 General Requirements of these Contract Documents. Indicate on shop drawings material profile, thickness, fastenings and anchoring methods, finish colors, and installation details including fascia panels. All panels shall be full length – no end laps allowed.

B. Submit samples, 12" long x full width panel, showing gage and seam profile for Owner's approval. Submit color samples for Owner's approval.

1.06 DELIVERY, STORAGE AND HANDLING

A. Deliver and store products under provisions of Sections 01 65 00 and 01 66 00.

B. Stack material to prevent twisting, bending, abrasion, and to provide ventilation. Slope to insure drainage.

C. Prevent contact with materials during storage which may cause discoloration or staining.

1.07 WARRANTY

A. Provide 20-year warranty.

B. Warranty: Include coverage for degradation of metal finish.

1.08 APPLICATOR QUALIFICATIONS

A. Five years minimum experience in application of high-performance standing seam roofs.

B. Minimum of five satisfactory projects on similar type roofs.

PART 2 – PRODUCTS

2.01 ROOFING

Per structural drawings.

2.02 ACCESSORIES

A. System accessories: Provide components required for a complete system including trim, copings, fascia, corner units, ridge closures, clips, flashings, sealants, gaskets, fillers, closure strips, backing, and similar items. Match material and finish of metal roof panels.

B. Flashing and Trim: Formed from 22-gauge material. Conform to Section 07 62 00. Provide as required to seal against weather and to provide a finished appearance. Locations include, but are not limited to eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers.

C. Gutters and Downspouts: Conform to Section 33 40 00.

2.03 FABRICATION

A. Fabricate and finish metal panels and accessories at the factory to the greatest extent possible.

B. Flashing and Trim: Comply with the recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of item indicated.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Examine roof framing to verify that it is clean, dry and free of snow or ice.

B. Field measure site conditions prior to fabricating work.

3.02 INSTALLATION

A. Standing Seam System: Comply with manufacturer's instructions for assembly, installation, and erection in order to achieve a weather-tight installation. Install in accordance with approved shop drawings.

B. Dissimilar Metals: Where sheet metal is in contact with dissimilar metals, execute juncture to facilitate drainage and minimize possibility for galvanic action. At point of contact with dissimilar metal, coat metal with protective paint or tape which can be placed between metals.

C. Field apply sealant to penetrations, transitions, and other locations necessary for airtight, waterproof installation.

3.03 CLEANING

A. Clean exposed surfaces of work promptly after completion of installation.

3.04 INSPECTION

A. Field inspection will be performed under the provisions of Section 01 41 00.

B. Inspection will involve surveillance of work during installation as ascertain compliance with specified requirements.

END OF SECTION 07 41 13

SECTION 07 62 00

SHEET METAL FLASHING AND TRIM

PART 1 – GENERAL

1.01 Scope

A. The work under this section of the specifications shall include furnishing all supervision, labor, materials, tools and equipment and performing all operations necessary for the complete installation of gutters and flashing system as described in these Specifications in a first class workmanlike manner.

B. Prior to installation of gutter, flashing and metal roof the Contractor shall install a cedar 5/4" X 6" fascia on the gutter face of the structure. The gable ends shall receive a 1" x 2" ceder fascia on top of a 5/4" x 6" cedar.

C. The Contractor shall install flashing around the perimeter of the roof. The flashing shall embed a minimum of 6" under the metal roof and down the exterior 2" X 8" cedar fascia on the north wall. Flashing shall embed between the two fascia pieces on the remaining three walls.

1.02 Shop Painting of Galvanized Metal

A. After fabrication but before installation, treat surfaces as follows: Wipe surfaces clean with turpentine, mineral spirits or naphtha. Remove all traces of oil, grease or dirt; rinse thoroughly. Treat with Neilson "Galvaprep #5", or equal. Paint on coat accepted zinc-chromite paint. Touch up damaged areas in shop coat to be concealed after installation. Touch up and finish painting of exposed surfaces is specified in Section 09900.

PART 2 – PRODUCTS

2.01 General

A. Materials best commercial quality, thickness not less than noted. Use heavier gauges where called for in item specification or noted on drawings.

2.02 Prefinished Steel

A. Pre-finished coil sheets: 24 gauge steel conforming to ASTM A446 - Structural Grade C with Zincalume galvanized coating and surface finish to have Kynar 500 finish.

2.03 Color

A. Color/colors as selected by Owner.

2.04 Accessory Materials and Components

A. Concealed continuous cleat of galvanized steel sized to suit application.

B. Miscellaneous metal accessories - form from factory finished coil stock.

2.05 Lead

A. ASTM B 29, chemical lead, weight 4 pounds per square foot.

2.06 Solder

A. Best commercial quality, type most suitable for metal to be soldered.

2.07 Nails

A. Hot-dip galvanized steel for galvanized steel and zinc alloy matching finish on prefinished metals.

2.08 Plastic Cement

A. Carey, Johns-Manville, Pioneer Flintkote, Pabco, or accepted equal. Asphalt flashing cement recommended by manufacturer for the purpose.

PART 3 – EXECUTION

3.01 Fabrication

A. Form to detail of sheet metal of uniform length with all gutters continuous. Form sections square, true, and accurate to size, free from distortion and other defects detrimental to appearance or performance. Make allowances for expansion and contraction. Use concealed fasteners whenever possible. Make lap joints with openings away from prevailing winds, laps three (3) inches minimum. Hem exposed edges of flashings on underside 1/2 inch. Backpaint flashings with bituminous paint where expected to be in contact with cementitious materials or dissimilar metals. Use continuous cleats at exterior and interior down leg. Provide fasteners into interior face of down leg.

3.02 Workmanship

A. Examine all surfaces to be covered with flashing; report any improper or defective previous work and do not proceed with work under this Section until previous defective work is corrected. Neatly form all work to size, shape, and dimensions shown or required for the work; make all angles and lines in true alignment. Erect all work straight, sharp, plumb and level in true plane free of bulges and waves. Fabricate all items in maximum sheet lengths, and hold number of joints to a minimum. After soldering, remove all flux or acid with neutralizing chemical, wash surface with water and then let dry, ready for shop painting or installation, as applicable. Where welding is employed or indicated, employ only mechanics skilled in welding metal being worked; grind exposed welds smooth to match adjacent surfaces and remove slag and spatter before priming. Repair zinc coating damaged by welding with two coats of "ZRC," or accepted zinc-rich compound.

B. Wherever metals of different galvanic range are to be in contact, provide industry-approved separation by bituminous paint coats, bitumen-saturated felts, or tinning, as applicable and accepted.

C. Make allowances for expansion and contraction for material being used. Shop form, lap and solder or weld corners and angles into one piece 18" to 24" each way from corner or angle. Hem all drip legs of copings and flashings at 45 degrees and secure drips with nailed concealed continuous edge strips of same gauge and material. Use concealed fastenings wherever possible. Make any lap joints with opening away from prevailing winds; laps 3" minimum.

3.03 Metal Flashing/Counter flashings

A. Provide pre-finished 24 gauge where indicated on drawings or required for a weather tight job. Exposed corners shop formed and soldered, extending at least 1 foot each side of corner. Use concealed fastenings wherever possible. Where necessary to expose nailing, use large-head nails capped with lead. Leave system watertight and weather tight.

B. Form to detail in standard sheet lengths of sheet metal, width to overlap base flashings at least 3 inches. Joints at angles shop-formed as above, lapped at least 3 inches elsewhere. Where installed in concrete or masonry, set in zinc alloy flashing reglet, Superior, Fry, Pioneer or accepted, installed in accordance with manufacturer's instructions. Provide counter flashing wherever roofs intersect vertical surfaces or elsewhere indicated. Lap sloping flashing at least 6 inches in direction of flow.

C. Sheet metal to extend at least 5 inches under roofing on each side of valley, with 1/2" fold for cleating, deflector in center. Open portion of valley not less than 5 inches at top, increasing 1/8 inch per foot in direction of flow. Lay sheets over 30 pound roofing felt. Nail at tops only; secure sides with cleats spaced 24 inches o.c.; lap at least 6 inches in direction of flow.

3.04 Sheet Metal Fascia and Copings

A. Form to detail in standard sheet lengths of sheet metal. Set fascias with 1/4 inch space between sections for expansion. Bed flange in plastic cement; nail through flange one inch from front edge. Space nails not over 6 inches apart, or as required by roofing manufacturer. Provide concealed splice plates at joints; bed in plastic cement. All corners to be shop-formed and soldered.

3.05 Sheet Metal Gutters

A. No. 24 U.S. Standard gauge pre-finished at exposed gutters. Custom fabricate as detailed similar to Plate 2, Style A of the Architect Sheet Metal Manual (ASMM). Provide expansion joints as required, per Plate 8.

B. Provide expansion joints where shown or as required per Plate 8, similar of the ASMM.

C. Provide integral outlet tubes, stainless steel downspouts strainers, neoprene and connectors as necessary. Provide 1/4" hardware cloth per Plate 23, Figure B of the ASMM.

D. Provide hanging straps similar to Plate 14, Figure A, at 30 inches on center.

3.06 Plastic Downspouts

A. Exterior downspouts to be Schedule 40 PVC with accessories as detailed or required. Coordinate with fabricated gutters and downspouts hangers. Downspout hangers, not less than one top and bottom and one each 8 feet or less of vertical run. Provide screws, of type accepted, for wall material behind hanger, use lead expansion shields or self-drilling anchors in masonry .

END OF SECTION 07 62 00

DIVISION 31

EARTHWORK

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SECTION 31 11 00

DEMOLITION, CLEARING, AND GRUBBING

PART 1 – GENERAL

1.01 DESCRIPTION

A. Work included:

Demolition, clearing, and grubbing required for this work includes, but is not necessarily limited to:

1. Removal of miscellaneous items;
2. Felling of trees, and removal of stumps, limbs, roots, and tree debris;
3. Dust control;
4. Removal of ultra-block walls and dividers,
5. Demolition and removal of portions of concrete slabs for footings
6. Removal of all debris and organic materials,
7. Removal of wood fence

B. Related work described elsewhere:

02 41 14	Pavement Removal
31 22 00	Grading
31 23 00	Excavating and Fill

C. Definitions:

The term “demolition, clearing, and grubbing,” as used herein, includes the removal of all existing objects (except for those objects designated to remain) down to the existing ground level, plus such other work as is described in this section of the Specifications.

1.02 QUALITY ASSURANCE / CONTROL:

A. In addition to complying with all pertinent codes and regulations, comply with the requirements of all insurance carriers providing coverage for this work.

1.03 JOB CONDITIONS

A. Dust Control:
Use all means necessary to prevent the spread of dust during performance of the work of this section. Thoroughly moisten all surfaces as required to prevent dust from being a nuisance to the public, neighbors, and concurrent performance of other work on this site.

B. Protection:
Use all means necessary to protect existing objects designated to remain and, in the event of damage, immediately make all repairs and replacements necessary to the approval of the City and at no additional cost to the City.

C. Clean Up:
Clean all streets and surrounding walks of sand, debris, and excess materials caused by construction. Sweep streets at the end of each day's work as required for dust control or mud removal operations. At the end of each day, the right of way and easement areas shall be restored for normal traffic, pedestrian use, and vehicle parking.

1.04 EXPLOSIVES

A. Do not use explosives on this work.

1.05 PREPARATION

A. Notification:

Notify the City a minimum of two full working days prior to commencing the work of this section.

B. Site inspection:

1. Prior to all work of this section, carefully inspect the entire site and all object designated to be removed and to be preserved.
2. Locate all existing utility lines and determine all requirements for disconnecting and capping.
3. Locate all existing active utility lines traversing the site and determine the requirements for their protection.

C. Clarification:

1. The drawings to not purport to show all objects existing on the site.
2. Before commencing the work of this section, verify with the City all objects to be removed and all objects to be preserved.

D. Scheduling:

1. Schedule all work in a careful manner with all necessary consideration for neighbors and the public.
2. Avoid interference with the use of, and passage to and from, adjacent buildings and facilities.

E. Disconnection of utilities:

1. Before starting site operations, verify with City that all necessary disconnections of all utility services designated to be removed have taken place.

F. Protection of utilities:

1. Preserve in operating condition all utilities traversing the site and designated to remain.

1.06 CLEARING AND GRUBBING:

A. Tree removal:

1. Remove all trees and tree stumps, unless designated to remain, together with all roots, to a minimum depth of three feet below the existing grade or finish grade,

whichever is lower, within a radius of eight feet beyond perimeter of trunk at ground line.

2. In all holes created by tree removal, fill with clean soil and then compact to the density specified for fills in section 31 23 00 of these specifications.

B. Grubbing:

1. Remove all turf, shrubs, surface rocks, stumps, roots, vegetation, and debris within the limits of construction.

1.07 REMOVAL OF DEBRIS:

A. Remove all debris from the site and dispose of all removed material legally. Leave the site in a neat and orderly condition to the approval of the City.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END SECTION 31 11 00

SECTION 31 20 00

EARTH MOVING

PART 1 – GENERAL

1.01 DESCRIPTION

A. Scope:

1. This section specifies earthwork which consists of excavation, filling, grading, and disposal of excess material. Unless the new imported fill material has a specific unit price bid item, all costs associated with furnishing and placing materials per specifications are considered incidental to the contract.

B. Definitions:

1. Compaction: The degree of compaction is specified as percent compaction. Maximum or relative densities refer to dry soil densities obtainable at optimum moisture content.
2. Excavation Slope: Excavation slope shall be defined as an inclined surface formed by removing material from below existing grade.
3. Embankment Slope: Embankment slope shall be defined as an inclined surface formed by placement of material above existing grade.

1.02 RELATED WORK SPECIFIED ELSEWHERE

31 11 00	Demolition, Clearing, and Grubbing
31 41 00	Shoring
32 12 16	Asphalt Paving
33 40 00	Stormwater Utilities

1.03 QUALITY ASSURANCE

A. References:

1. This section contains references to the following documents. They are a part of this section as specified and modified. In case of conflict between the requirements of this section and the listed documents, the requirements of this section shall prevail.

Reference	Title
ASTM C136-84a	Standard Method for Sieve Analysis of Fine and Coarse Aggregates
ASTM D1557-78	Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures using 10-lb (4.5-kg) Rammer and 18-inch. (457-mm) Drop.
ASTM D2922	Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
ASTM D3017-88	Test Method for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
WSDOT	Standard Specifications for Road, Bridge, and Municipal Construction

B. Tests:

1. The Contractor will take samples and perform moisture content, gradation, compaction, and density tests during placement of backfill materials to check compliance with these specifications. The Contractor shall remove surface material at locations designated by the Engineer and provide such assistance as necessary for sampling and testing. The Engineer may direct the Contractor to construct inspection trenches in compacted or consolidated backfill to determine that the Contractor has complied with these specifications.

2. Tests will be made in accordance with the following:

Test	Standard Procedure
Moisture Content	ASTM D3017
Gradation	ASTM C136
Density In-Place	ASTM D2922
Moisture-Density Relationships	ASTM D1557

1.04 SUBMITTALS

A. Samples of fill materials to be used shall be submitted 30 days in advance of use. Samples shall consist of 0.5 cubic feet of each type of material.

PART 2 – PRODUCTS

2.01 FILL MATERIALS

A. Type A:

1. Type A material shall be used for structural backfill and shall be a select granular material (pit run) free from organic matter and of such size and gradation that the specified compaction can be readily attained. Material shall have a sand equivalent value of not less than 20 and shall conform to the following gradation:

U.S. standard Sieve size	Percent by Weight Passing
3 inches	100
1-1/2 inches	95-100
No. 4	35-80
No. 10	10-70
No. 40	0-50
No. 100	0-30
No. 200	0-5 (wet sieving)

2. The coefficient of uniformity shall be 3 or greater.

3. The material may be an imported quarry waste, clean natural sand or gravel, select trench excavation, or a mixture thereof.

B. TYPE C:

1. Type C material shall be unclassified material which is free from peat, wood, roots, bark, debris, garbage, rubbish or other extraneous material. The maximum size of stone shall not exceed 6 inches. If the material excavated from the site meets these requirements, it may be classified as Type C.

C. Type D:

1. Type D material shall be granular material commonly known as pea gravel and shall conform to the following gradation:

U.S. standard sieve size	Percent by weight passing
3/4-Inch	100
3/8-Inch	95 – 100
No. 8	0 - 5

D. Type E:

1. Type E material shall be crushed rock conforming to WSDOT Section 9-03.9(3) for crushed surfacing top course with the following gradation:

U.S. standard Sieve size	Percent by weight passing
3/4-Inch	100
1/2-Inch	80-100
No. 4	46-66
No. 40	8-24
No. 200	10.0 Max

E. Type F:

1. Type F material shall be crushed rock conforming to WSDOT Section 9-03.9(3) for crushed surfacing base course with the following gradation:

U.S. standard Sieve size	Percent by weight passing
1 1/4-Inch	100
1-Inch	80-100
5/8-Inch	50-80
No. 4	25-45
No. 40	3-18
No. 200	7.5 Max

Type F material shall be composed of hard, durable sound pieces having a specific gravity of not less than 2.65.

F. Type G:

1. Type G material shall be naturally occurring or processed granular material conforming to WSDOT Section 9-03.14(1) for Gravel Borrow free of organic debris and other deleterious material with the following gradation:

U.S. standard Sieve size	Percent by weight passing
4-Inch	100
2-Inch	75-100
No. 4	50-80
No. 40	30 Max
No. 200	7.0 Max

G. Type I:

1. Type I material shall be unclassified native materials and may be obtained from excavation on site. The material may contain extraneous material such as demolition waste, unsuitable material excavated from beneath structures, and clearing and grubbing debris up to 50 percent by volume. Extraneous material shall be thoroughly mixed, and the maximum size of organic particles shall be 6 inches.

H. TYPE H:

1. Type H material shall be 6-inch riprap. Riprap shall be graded rock having a range of individual rock weights as follows:

Weight of stone	Percent smaller by weight
10 pounds	100
5 pounds	80 100
2 pounds	45 80
1 pound	15 45
1/2 pound	5 15
Below 1/2 pound	0 5

Specific gravity shall be between 2.5 and 2.82.

2.02 GEOTEXTILE FABRIC

A. Filter Fence Fabric:

1. Woven polypropylene, monofilament yarn.
2. Inert to biological degradation.
3. Resistant to alkalines and acids in soils.
4. Resistant to ultraviolet radiation.
5. Physical properties:
   a. Minimum thickness: 17 mils per ASTM D1777.
   b. Weight: 3.0 oz/sy ASTM D3776
   c. Minimum grab strength: 120 lbs. per ASTM D4632.
   d. Maximum grab elongation: 30% max per ASTM D4632.
   e. Mullen burst: 280 psi per ASTM D3786.
   f. Coefficient of water permeability: 0.01 cm/sec per ASTM D4491.
   g. Water flow rate: 40 gal/min/sf per ASTM D4491.

PART 3 – EXECUTION

3.01 GENERAL

A. Control of Water:

1. The Contractor shall keep excavations reasonably free from water during construction. The static water level shall be drawn down a minimum of 2 feet below

the bottom of excavations to maintain the undisturbed state of natural soils and allow the placement of any fill to the specified density. Disposal of water shall not damage property or create a public nuisance. The Contractor shall have on hand pumping equipment and machinery in good working condition for emergencies and shall have workmen available for its operation. Dewatering systems shall operate continuously until backfill has been completed to 1 foot above the normal static groundwater level.

2. Groundwater shall be controlled to prevent softening of the bottom of excavations, or formation of "quick" conditions. Dewatering systems shall not remove natural soils. The Contractor shall control surface runoff to prevent entry or collection of water in excavations.

3. Release of groundwater to its static level shall be controlled to prevent disturbance of the natural foundation soils or compacted fill and to prevent flotation or movement of structures or pipelines.

B. Overexcavation:

Where the undisturbed condition of natural soils is inadequate for support of the planned construction, the Engineer will direct the Contractor to over-excavate to adequate supporting soils. The excavated space shall be filled to the specified elevation with approved backfill material.

C. Surplus Material:

1. Surplus excavated material shall be disposed of offsite in accordance with applicable ordinances and environmental requirements.

2. Material shall not be stockpiled to a depth greater than 5 feet above finished grade within 25 feet of any excavation or structure except for those areas designated to be pre-consolidated. For these areas, the depth of stockpiled material shall be as specified. The Contractor shall maintain stability of the soil adjacent to any excavation.

3. Any materials stockpiled for reuse must be protected from wind or rain erosion, by covering with tarps or other effective methods.

D. Hauling:

When hauling is done over highways or city streets, the loads shall be trimmed and the vehicle shelf areas shall be cleaned after each loading. The loads shall be watered after trimming to eliminate dust.

E. Finish Grading:

1. Finished surfaces shall be smooth, compacted and free from irregularities. The degree of finish shall be that normally obtainable with a blade-grader.

2. Finished grade shall be as specified by the contours plus or minus 0.10 foot except where a local change in elevation is required to match sidewalks, curbs, manholes and catch basins, or to ensure proper drainage. Allowance for topsoil and grass cover, and subbase and pavement thickness shall be made so that the specified thickness of topsoil can be applied to attain the finished grade.

3. When the work is in an intermediate stage of completion, the lines and grades shall be as specified plus or minus 0.5 foot to provide adequate drainage.

F. Control of Erosion:

The Contractor shall maintain earthwork surfaces true and smooth and protected from erosion. Where erosion occurs, the Contractor shall provide fill or shall excavate as necessary to return earthwork surfaces to the grade and finish specified.

3.02 CLASSIFICATION OF FILL

A. Fill material shall be placed in horizontal layers and compacted with power operated tampers, rollers, idlers, or vibratory equipment.

B. Material type, maximum layer depth, relative compaction, and general application are specified in Table A. Unless otherwise specified, fill classes shall be used where specified in Table A under general application.

TABLE A:
FILL CLASSIFICATIONS

Fill Class	Material Type	Maximum Layer Depth (inches)	Minimum Compaction Density (%) (per ASTM D1557)	General Application
A	A	8	95	Backfill for all structure excavations.
C	C		90	Embankments.
D	D	As required by trench detail.	Hand work material under pipe haunches.	Bedding material for pipe in trenches as required by the trench detail on the plans and the pipe manufacturer.
E	E	4	95	Shoulder material, gravel surfacing, leveling course and top course in pavement sections.
F	F	4	95	Leveling course and base material under concrete structures and slabs and pavement section.
G	G	8	95	Subgrade and backfill material used under new pavement and structures to depths shown on plans or as approved by Engineer.
I	I	8	95	Native materials used for backfill with approval of the Engineer. Use for trench backfill where approved by the Engineer.
H[c]	H	-	-	Embankment slope face

[c] Rip-Rap shall be machine placed.

C. General:

1. The Engineer will maintain control of the use of imported materials for fill.

2. Use native materials as fill only after approval by the Engineer.

3.03 EARTHWORK FOR STRUCTURES

A. Structure Excavation:

1. Except as otherwise shown or specified, any method of excavation within the work limits and easements shown may be used which meets the intent of the Contract Documents and does not damage adjacent improvements. At those locations where the excavation extends below the static groundwater level, or the natural soils are saturated and of low strength, provide dewatering as required and take whatever precautions are necessary to maintain the undisturbed state of the foundation soils at and below the bottom of the excavation.

2. The bottom shall not be more than 0.15-foot above or below the lines and grades specified. If the elevation of structure excavation is not specified, the excavation shall be not more than 0.15-foot above or below the elevation specified for fill material below the structure. Vary slopes no more than 0.2-foot from the specified grade unless the excavation is in rock where the maximum variation shall be 0.5 feet.

3. If the excavation is carried below the lines and grades specified on the Drawings or if the bottom of the excavation is disturbed because of the Contractor's operations and requires additional excavation and backfill, fill such excavated space to the proper elevation with Class F backfill or other Engineer approved backfill.

4. Unless otherwise specified, extend excavations a sufficient distance from walls and footings to allow for placing and removal of forms, installation of services, and for inspection, except where concrete is specified to be placed directly against excavated surfaces.

5. Sheeting, shoring, or bracing, when required: Per Section 31 41 00 – Shoring.

B. Foundation Treatment:

1. Whenever any structure excavation is substantially completed to grade, notify the Engineer, for inspection of the foundation.

2. Place no base courses, concrete, or masonry until the foundation has been inspected by the Engineer.

3. If directed by the Engineer, dig test pits and make test borings and foundation bearing tests. Payment thereof will be as specified elsewhere in the contract documents.

C. Over excavation:

1. Where the undisturbed condition of natural soils is inadequate for support of the planned construction, over-excavate the area to a depth directed by the Engineer.

2. Fill the excavated space to the specified elevation with class backfill shown on the Drawings or an Engineer approved backfill.

3. The quantity and placement of such material will be paid for as specified in Section 1-09 Measurement and Payment of the Special Conditions.

D. Excavated Material:

1. Dispose of excess excavated material immediately in a Contractor provided off-site dumpsite. Stockpiling of unsuitable materials on site will not be permitted.
2. Do not stockpile material to a depth greater than 5 feet above foundation grade within 25 feet of any excavation or structure. Use construction methods which preserve the stability of the soil adjacent to any excavation.
3. Protect any materials stockpiled for reuse from wind, rain, or erosion, by covering with tarps or other approved methods.

E. Structure Backfill:

1. Unless otherwise specified, place all fill materials in accordance with Table A.
2. After completion of construction below the elevation of the final grade, and prior to backfilling, remove all concrete forms and clean the excavation of debris.
3. Do not place structure backfill until the subgrade portions of the structure have been inspected by the Engineer.
4. Place and compact Type A backfill material as specified in Table A in uniform layers and bring up uniformly on all sides of the structure.
5. Accomplish compaction of structure backfill by using power-operated tampers, rollers, or vibratory equipment. Perform compaction within 2 feet of walls with hand-operated vibratory compactors.
6. Limit weight of compaction equipment and machinery adjacent to structures as required to avoid damaging the structure during backfill.

3.04 EARTHWORK FOR PIPELINES AND CONDUITS

A. Earthwork for pipelines and conduits is specified in Table A and on the Drawings.

B. Pipeline Excavation:

1. Except as otherwise noted or specified, any method of excavation within the work limits shown may be used which meets the intent of the Contract Documents and does not damage adjacent improvements.
2. Keep trench width to a minimum. Unless shown otherwise, trench width shall not be less than O.D. +18 inches or greater than O.D. +24 inches, measured at a point 6 inches above the crown of the pipe. Trenches must be of sufficient width to permit proper installation and bedding of the pipe and to provide the required compaction of backfill. Excavation for manholes and other structures connected to the pipelines shall be sufficient to provide a minimum of 12 inches between their surfaces and the sides of the excavation. Provide sheeting, shoring, or bracing per Section 31 41 00 – Shoring.
3. Perform all excavation of every description and of whatever materials encountered to the depth indicated on the Drawings or specified. Excavate all trenches to true and smooth bottom grades and in accordance with the grades shown. Prepare the trench bottom to provide uniform bearing and support for each length of pipe.

4. Exercise sound construction practices in excavating the trench and maintaining it so that no damage will occur to any foundation, structure, pole line, pipeline, or other adjacent facility because of slough or slopes, or from any other cause. If, as a result of the excavation, there is ground deformation which may endanger other property, immediately take remedial action to correct the problem.
5. Prior to installation of bedding and pipe, bring the trench bottom to grade as indicated for the type of bedding specified, and compact the subgrade as necessary by tamping, with mechanical compactors to provide a foundation capable of supporting the pipe in its proper position.
6. Take care not to excavate below the depth specified. Backfill excavation below that depth with Engineer approved fill and compact as specified herein at no cost to the City. When excavating the trench, the bottom of the trench exposes peat, soft clay, quicksand, or other unsuitable foundation material, remove such material (over-excavate) to a depth directed by the Engineer and backfill with Engineer approved fill. Material removed from the trench shall be removed directly into trucks and hauled to a legal disposal site. Stockpiling of unsuitable material at the work site will not be allowed.

C. Pipeline Bedding:

1. Place bedding material meeting the requirements of Table A under the pipe and to a depth as shown on Drawings.
2. Ram and tamp the bedding material around the pipe by the use of shovels or other approved hand-held tools, so as to provide firm and uniform support under the full length of the pipe. Compact the bedding between the pipe and trench wall using mechanical methods.
3. Take care to prevent any damage to pipe or its protective coating.

D. Pipeline Backfill:

1. Backfill trenches shall be backfilled as soon after the pipe is installed in the trench as possible unless otherwise specified.
2. Backfilling of trenches in the vicinity of manholes or other appurtenances will not be permitted until the mortar in the masonry has become thoroughly hardened.
3. Backfill above the pipe zone in such a manner that the pipe will not be shifted out of position nor damaged by impact or overloading.
4. Compact backfill as specified in Table A.
5. To the greatest extent practical, materials excavated from the trench meeting the requirements of Table A will be used for trench backfill.
6. Remove all materials determined by the Engineer to be unsuitable for backfill at the time of excavation and replace with backfill material per the requirements of Table A.

3.05 SUBBASE FOR PAVEMENT and structures

A. Place Type G fill in accordance with Table A and as shown on the drawings.

B. Scarify the prepared subgrade to a depth of at least 12 inches, moisture-condition, and recompact to at least 95 percent of the maximum density unless otherwise specified.

3.06 FINISH GRADE

A. Grade all areas covered by the work, including excavated and filled sections and transition areas, uniformly to the elevations shown.

B. Finish surface reasonably smooth, compacted, and free from any irregular surface changes and free draining.

C. The surface of areas to be paved on which a base course is to be placed: Vary not more than 0.05 foot from established grade and cross section.

END OF SECTION 31 20 00

SECTION 31 22 00

GRADING AND EXCAVATING

PART 1 – GENERAL

1.01 WORK INCLUDED

A. Excavating and grading of:

1. Roadways (including the removal of slides).Borrow pits.
2. Waterways and ditches (including structure inlet and outlet ditches, channels, waterways, etc., even though they extend beyond the highway limits).
3. Intersections.
4. Approaches.
5. Benches under side-hill embankments.

B. Excavating of unsuitable material from roadbed and beneath embankment areas.

C. Excavating selected material found in the roadway which is required for specific use in the construction.

D. Construction and removal of detours.

1.02 RELATED WORK

A. Specified elsewhere:

31 11 00	Demolition, Clearing and Grubbing
31 25 00	Erosion and Sediment Controls

1.03 CLASSIFICATION OF EXCAVATION MATERIALS

A. Road and Drainage Excavation (unclassified): all excavation regardless of the nature of the excavated material except borrow, channel, undercutting and solid rock excavation provided for in the Bid Form.

B. Borrow excavation: material required for construction and obtained from approved sources outside the rights-of-way limits or other designated areas. Flattening of approved cut slopes graded under previous contracts is permitted for use as borrow provided the material is satisfactory. Borrow material other than solid rock shall be AASHTO A-6 or no worse than the predominant soil type in the roadway excavation, based on AASHTO classification if A-6 is not reasonably available.

Removal and placement of borrow is classified as:

1. Borrow Excavation (solid rock): non-degradable rock which cannot be economically excavated by the proper use of a power shovel or explosives.
2. Borrow Excavation (unclassified): all approved material including Borrow Excavation (solid rock).
3. Borrow Excavation (select material): designated material.

C. Channel Excavation (unclassified): removal and disposal of all material excavated from existing or new channels with a bottom width of more than fourteen feet as shown on the drawings.

D. Road and Drainage Excavation (unclassified); Channel excavation with a bottom width fourteen feet or less, as shown on the drawings.

E. Solid Rock Excavation: An excavation classification only when it is provided for in the Bid Form and defined as follows:

1. Excavation of rock which cannot be economically excavated without the use of explosives;

2. Any rock, boulder, fragment of rock or concrete having a volume of at least 1/2 cubic yard or a fragment excavated from a formation having a volume greater than 1/2 cubic yard.

1.04 REFERENCE STANDARDS

A. Determine maximum density and optimum moisture in accordance with the "Standard Method of Test for Moisture Density Relationship of Soils Using a 5.5 Pound Rammer and a 12-inch Drop", AASHTO Designation T 99, Method A.

B. Compact all designated materials to 95% of maximum density unless otherwise specified.

C. Rock borings or soundings, if provided, are:

1. For information purposes only.

2. No guarantee of existing conditions.

3. No substitute for investigations deemed necessary by Contractor.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.01 PREPARATION

A. Prior to beginning excavation, grading, and embankment operations in any area, install all necessary soil erosion control measures (Section 31 25 00) prior to any clearing, grubbing, and demolition in accordance with Sections 31 11 00 and 02 41 00.

3.02 EMBANKMENT

A. Construct embankments by placing and compacting approved embankment materials:

1. In reasonably close conformity with the lines, grades, and typical cross-sections shown on the drawings or established by the City Engineer or their agent.

2. Use Road and Drainage, Channel, and Borrow Excavation materials only.

3. Compact the top 6 inches of the roadbed in both cut and fill sections, unless otherwise specified.

4. Place roadway embankment materials consisting predominantly of soil in horizontal layers not to exceed 10 inches in depth and compact each layer.

B. Provide adequate surface drainage for embankments at all times.

3.03 UNDERCUTTINGS

A. Remove and dispose of unsatisfactory materials:

1. Below grade in cut sections.
2. Areas where embankments are to be placed.
3. Below the foundation elevation of pipe and box culverts.

B. Stripping, stockpiling and placing of topsoil and step-benching for hillside embankments is not classified as undercutting.

3.04 CLEAN-UP AND DISPOSAL OF DEBRIS - AND EXCESS EXCAVATION

A. Dress for final inspection all excavated and graded areas to within reasonably close conformity to the lines, grades and cross-section shown on the drawings:

1. Producing a uniform, satisfactory finish.
2. Scale rock cuts of all loose fragments and leave in a neat, safe and workmanlike condition.
3. Clean the entire rights-of-way or easement of all vegetation unless otherwise specified on the drawings.
4. Clear and clean all structures of all objectionable materials and obstructions.
5. Perform final dressing prior to sodding or seeding operations when these items are in the Contract.

B. Dress spoil banks, waste areas, etc., in a satisfactory manner.

C. Dispose of excess material created by trimming slopes, resloping, and shaping outside the rights-of-way.

D. Promptly remove cleared debris from site.

E. Obtain permission from applicable regulatory authority for disposal of debris to waste disposal site.

F. Satisfactorily dispose of all excess excavated material by hauling to the City's landfill, unless otherwise directed by the City Engineer or their agent. No separate payment shall be made for disposal of waste materials, all costs incidental thereto shall be included in the contract price for associated work. Unless otherwise noted all fees shall be the contractor's responsibility.

3.05 MEASUREMENT AND PAYMENT

A. The City Engineer or their agent shall: Measure accepted excavation in its original position on the basis of the cubic yard by cross-sectioning the area excavated. Determine cross-sections by conventional manual surveys, aerial surveys, or a combination of the two. Compute volumes from the cross-section measurements by the average end area method.

1. No measurement for payment for hauling of excavation and borrow materials shall be made except overhaul of Road and Drainage Excavation (unclassified or additional material) which shall be paid for as provided below.
2. Measurement for payment of road and drainage excavation (unclassified) shall include over-breakage of rock not attributable to carelessness of the Contractor which has been removed and disposed of.
3. Measurement for payment of excavation required to bench side-hill slopes of embankments shall be in accordance with the following requirements:
    a. Excavation in solid rock shall be paid for as Road and Drainage Excavation (unclassified) whether the excavation material is bladed and dozed or picked up and hauled.
    b. Excavation other than solid rock shall be paid for as Road and Drainage Excavation (unclassified) only when it is picked up and hauled.
4. Measurement for payment of any Grading and Excavation item shall be made directly only when it is provided for on the Bid Form. When not provided for on the Bid Form, payment for any grading and excavating shall be included in the payment for the items with which it is associated.
5. Excavation required to correct slides or prevent potential slides, provided blasting is not required, and the dressing, reshaping or flattening of the affected slopes shall be paid for as Road and Drainage Excavation (additional material):
    a. At a rate equal to 1.2 times the unit price bid for road and drainage excavation (unclassified).
    b. If it becomes necessary to flatten a slope to correct a slide or prevent a potential slide after the cut has been started but not completed, payment under Road and Drainage Excavation (additional material) shall be limited to material removed by the original staked slope lines and the newly established slope line above the elevation to which the cut has been made.
    c. Seeding, sod and other incidental items required to repair the slide area shall be paid for at the contract unit price bid for the respective items.

B. Payment for accepted quantities of excavation and grading as provided above and when provided for on the Bid Form shall be at contract unit price for:

Excavation	Per cubic yard
Embankment	Not be paid for directly
Borrow Excavation (Unclassified)	Per cubic yard
Borrow Excavation (Solid Rock)	Per cubic yard
Borrow Excavation (Select)	Per cubic yard
Channel Excavation	Per cubic yard
Undercutting	Per cubic yard
Finishing	Not be paid for directly
Clean-up	Not be paid for directly
Solid Rock Excavation	Per cubic yard (if provided on Bid Form)

END OF SECTION 31 22 00

SECTION 31 23 00

EXCAVATION AND FILL

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. This WORK shall consist of excavation, embankment fill, disposal of excess material, shaping, and compaction of all material encountered within the limits of WORK, including excavation and fill for structures. The excavation shall include, but is not limited to, the native soils which shall be excavated for the PROJECT WORK. All WORK shall be completed in accordance with these SPECIFICATIONS, the lines and grades, and typical cross-sections shown on the DRAWINGS.

B. All excavation shall be classified, "unclassified excavation," or "muck excavation" or "rock excavation," as hereafter described. All embankment shall be classified "embankment material" as hereafter described.

1.02 RELATED SECTIONS

A. The following is a list of SPECIFICATIONS which may be related to this section:

01 57 13	Temporary Erosion and Sediment Control
31 11 00	Demolition, Clearing and Grubbing.
31 25 00	Erosion and Sediment Controls

1.03 REFERENCES

A. The following is a list of standards which may be referenced in this section:

1. ASTM International (ASTM):

a. D698, Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft^3 (600 kN-m/m^3)).

b. D4253, Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table.

1.04 DEFINITIONS

A. Embankment Material shall consist of approved material acquired from excavation or from outside sources, hauled and placed in embankments.

B. Muck Excavation shall consist of the removal of mixtures of soils and organic matter not suitable for foundation material and replacement with approved material.

C. Rock Excavation shall consist of igneous, metamorphic and sedimentary rock which cannot be excavated without the use of rippers, and all boulders or other detached stones each having a volume of one-half (1/2) cubic yard or more, as determined by physical or visual measurement. It shall also include replacement with approved material as required.

D. Unclassified Excavation shall consist of the excavation of all materials of whatever character required of the WORK, obtained within the PROJECT limits.

1.05 QUALITY ASSURANCE

A. Final topography and/or cross-sections shall be surveyed of areas that are to finished grade and compared to the design section for accuracy.

B. Final grade shall match design grades within the tolerances discussed in PART 3 EXECUTION.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Embankment Material may consist of approved material acquired from excavations or material hauled from outside the PROJECT limits.

B. Suitable material identified onsite shall be used first for embankments and backfill.

C. Excess excavated native soils which are not used as embankment or backfill shall become the property of CONTRACTOR and shall be disposed of offsite by CONTRACTOR, in a location acceptable to ENGINEER.

D. Muck Excavation shall also include the replacement of excavated muck with uniformly graded rock, riprap, onsite or imported soils, or other material, whichever is most suitable for the specific situation encountered.

E. ENGINEER will determine which type of aggregate or other material which shall be used after observing the specific site conditions.

F. Structural Backfill:

1. When specified on the DRAWINGS or as required by ENGINEER, Class I structural backfill shall meet the following gradation requirements:

	% BY WEIGHT PASSING
SIEVE SIZE	SQUARE MESH SIEVES
2-inch	100
No. 4	30 - 100
No. 50	10 – 60
No. 200	5 – 20

2. In addition, this material shall have a liquid limit not exceeding thirty five (35) and a plasticity index of not over six (6).

3. Impervious structural backfill, where shown or specified, shall consist of material having one hundred percent (100%) finer than two (2) inches in diameter and a minimum of thirty-five percent (35%) passing a No. 200 U.S. Standard Sieve.

PART 3 – EXECUTION

3.01 GENERAL EXCAVATION/EMBANKMENT

A. General:

1. The excavation and embankment shall be finished to reasonably smooth and uniform surfaces.

2. Variation from the subgrade plane shall not be more than eight-tenths (0.08) foot in soil or more than eight-tenths (0.08) foot above or one-half (0.50) foot below in rock.
3. Where bituminous or concrete surfacing materials are to be placed directly on the subgrade, the subgrade plane shall not vary more than four-tenths (0.04) foot.
4. Materials shall not be wasted without permission of ENGINEER.
5. Excavation operations shall be conducted so that material outside of the limits of slopes will not be disturbed.
6. Prior to beginning grading operations in any area, all necessary clearing and grubbing in that area shall have been performed in accordance with Section 31 11 00, Demolition, Clearing and Grubbing, of these SPECIFICATIONS.
7. CONTRACTOR shall notify ENGINEER in sufficient time before beginning excavation or embankment such that the necessary topography and/or cross- sections may be taken. CONTRACTOR shall not excavate beyond the dimensions and elevations established, and material shall not be removed prior to surveying the site.
8. When CONTRACTOR's excavating operations encounter remains of prehistoric people's dwelling sites or artifacts of historical or archaeological significance, the operations shall be temporarily discontinued.
    a. ENGINEER will contact archaeological authorities to determine the disposition thereof.
    b. When directed, CONTRACTOR shall excavate the site in such a manner as to preserve the artifacts encountered and shall remove them for delivery to the custody of the proper state authorities.
    c. Such excavation will be considered and paid for as extra WORK.

B. Excavation:
    1. Unclassified:
        a. All excess suitable material excavated from the PROJECT site and not used for embankment shall be removed from the PROJECT site and become the property of CONTRACTOR.
        b. Where material encountered within the limits of the WORK is considered unsuitable for embankment (fills) on any portion of this PROJECT WORK, such material shall be excavated as directed by ENGINEER and replaced with suitable fill material.
        c. All unsuitable excavated material from excavation consisting of any type of debris (surface or buried), excavated rock, bedrock or rocks larger than six (6) inches in diameter, and boulders shall be hauled from the PROJECT site and disposed of by CONTRACTOR at CONTRACTOR's expense.
        d. Debris is defined as "anything that is not earth which exists at the job site."

2. Muck:
    a. Where excavation to the finished grade section results in a subgrade or slopes of unsuitable soil, ENGINEER may require CONTRACTOR to remove the unsuitable materials and backfill to the finished graded section with approved material.
    b. Disposal of the unsuitable material and replacement with suitable material shall be at CONTRACTOR's expense.
3. Good surface drainage shall be provided around all permanent cuts to direct surface runoff away from the cut face.
4. Rock:
    a. Unless otherwise specified, rock shall be excavated to a minimum depth of 0.5 foot below subgrade within the limits of the channel area, and the excavation shall be backfilled with material shown on the DRAWINGS or as designated by ENGINEER.
    b. Disposal of material and replacement with suitable approved material shall be at CONTRACTOR's expense.

C. Embankment Construction:
1. Embankment construction shall consist of constructing all fill areas, including preparation of the areas upon which they are to be placed, the placing and compacting of approved material within areas where unsuitable materials have been removed, and the placing and compacting of Embankment Material in holes, pits and other depressions within the PROJECT area.
2. Only approved materials shall be used in the construction of embankments and backfills.
3. Approved materials shall consist of clean onsite cohesive soils or approved imported soils.
4. Onsite cohesive soils or imported soils shall be placed and compacted in horizontal lifts, using equipment and procedures that produce recommended moisture contents and densities throughout the lift and embankment height. Onsite or imported cohesive soils shall be compacted within a moisture content range of two percent (2%) below, to two percent (2%) above optimum moisture content and compacted to ninety-five percent (95%) of the Maximum Standard Proctor Density (ASTM D698).
5. When embankment is to be placed and compacted on hillsides, or when new embankment is to be compacted against existing embankments, or when embankment is built one-half (1/2) width at a time, the slopes that are steeper than four-to-one (4:1) when measured longitudinally or at right angles to the adjacent ground shall be continuously benched over those areas where it is required as the WORK is brought up in layers.
    a. Benching shall be well "keyed" and where practical a minimum of eight (8) feet. Each horizontal cut shall begin at the intersection of the original ground and the vertical sides of the previous cuts.

b. Material thus cut out shall be recompacted along with the new Embankment Material at CONTRACTOR's expense.

6. The ground surface underlying all fills shall be carefully prepared by removing all organic matter, scarification to a depth of eight (8) inches and recompacting to ninety-five percent (95%) of the Maximum Standard Proctor Density (ASTM D698) at optimum moisture content + or - two percent (2%) prior to fill placement.
7. Embankment Material shall be placed in horizontal layers not exceeding 8 inches (loose measurement) and shall be compacted to ninety five percent (95%) of the Maximum Standard Proctor Density (ASTM D698) at optimum moisture content + or - two percent (2%).
    a. Effective spreading equipment shall be used on each lift to obtain uniform thickness prior to compacting.
    b. As the compaction of each layer progresses, continuous leveling and manipulating required to ensure uniform density.
8. For embankments which serve as berms, the downstream portion shall be keyed into the subsurface soils a minimum of three (3) feet to enhance the stability of the slope.
9. Materials which are removed from excavations beneath the water table may be over the optimum moisture content and shall be required to be dried out prior to reusing them.
10. Cross hauling or other action as appropriate will be ordered when necessary to ensure that the best available material is placed in critical areas of embankments, including the top two (2) feet of all embankments. No additional payment will be made for cross hauling ordered by ENGINEER.
11. Frozen materials shall not be used in construction of embankments.
12. During the construction of the channels, the channel bottom shall be maintained in such condition that it will be well drained at all times.
13. Excavation or embankment (fill), and structural backfill WORK either completed or in a stage of completion that is either eroded or washed away or becomes unstable as a result of either rains, snow, snow melt, channel flows, or lack of proper water control shall be either removed and replaced, recompacted, or reshaped as directed by ENGINEER and in accordance with the DRAWINGS and SPECIFICATIONS at CONTRACTOR's sole expense.
14. Removed unsuitable materials shall be hauled away and disposed of at CONTRACTOR's expense. Placing of replacement materials for removed unsuitable materials shall be purchased, placed, and compacted at CONTRACTOR's expense.

D. Proof Rolling:
    1. Proof rolling with a heavy rubber-tired roller shall be required, if designated on the DRAWINGS or when ordered by ENGINEER.
    2. Proof rolling shall be done after specified compaction has been obtained. Areas found to be weak and those areas which failed shall be ripped, scarified, wetted if

necessary, and recompacted to the requirements for density and moisture at CONTRACTOR's expense.

3. Proof rolling shall be done with equipment and in a manner acceptable to ENGINEER. Proof rolling as shown on the DRAWINGS or as ordered by ENGINEER shall not be measured and paid for separately, but shall be included in the unit prices bid for the WORK.

3.02 EXCAVATION AND BACKFILL FOR STRUCTURES

A. Poor foundation material for any of the WORK shall be removed, by CONTRACTOR, as directed by ENGINEER.

1. CONTRACTOR will be compensated for removal and replacement of such materials in accordance with Muck Excavation.

B. CONTRACTOR is cautioned that construction equipment may cause the natural soils to pump or deform while performing excavation WORK inside and on footings, structural floor slabs, or other structure foundation areas.

C. C. CONTRACTOR shall remove and replace at CONTRACTOR's expense any foundation materials which are:

1. Saturated by either surface or subsurface flows because of the lack of adequate water control or dewatering work by CONTRACTOR.

2. Frozen for any reason.

3. Disturbed by CONTRACTOR's WORK or caused to become unacceptable for foundation material purposes by means of CONTRACTOR's equipment, manpower, or methods of WORK.

D. Dewatering shall not be conducted by pumping from inside footings, structural floor slabs, or other structure foundation limits. This may decrease the supporting capacity of the soils.

E. Care shall be taken when excavating the foundations to avoid disturbing the supporting materials. Excavation by either hand or careful backhoe soil removal, may be required in excavating the last few inches of material to obtain the subgrade of any item of the concrete WORK.

F. Any over-excavated subgrades that are due to CONTRACTOR's actions, shall be brought back to subgrade elevations, as indicated on the DRAWINGS, by CONTRACTOR and at CONTRACTOR's expense in the following manner:

G. For over-excavations of two (2) inches or less, either backfill and compact with approved granular materials; backfill with one-half (1/2) inch crushed rock; or fill with concrete at the time of the appurtenant structure concrete pour.

H. For over-excavations greater than two (2) inches, backfill and compact with an approved granular material.

1. All granular footings, structural floor slabs, or other structure areas shall be compacted with a vibratory plate compactor prior to placement of concrete, reinforcing, or bedding materials.

2. Backfill, and fill within three (3) feet adjacent to all structures and for the full height of walls, shall be selected non-swelling material.
    a. It shall be granular, well graded, and free from stones larger than two (2) inches.
    b. Material may be job excavated, but shall selectively be required as determined by ENGINEER.
    c. Stockpiled material, other than topsoil from the excavation, shall be used for backfilling unless an impervious structural backfill is specified.
    d. The backfill material shall consist of either clean onsite granular material free of stones larger than two (2) inches in diameter with no more than twenty percent (20%) passing the No. 200 sieve, or equivalent imported materials.
    e. All backfill around the structures shall be consolidated by mechanical tamping.
    f. The material shall be placed in six-inch (6") loose lifts within a range of two percent (2%) above to two percent (2%) below the optimum moisture content and compacted to ninety-five percent (95%) of Maximum Standard Proctor Density (ASTM D698) for cohesive soils, or to seventy-five percent (75%) relative density for pervious material as determined by the relative density of cohesionless soils test, ASTM D4253.
3. Impervious structural backfill shall be placed in six-inch (6") loose lifts within a range of two percent (2%) above to two percent (2%) below the optimum moisture content and compacted to ninety-five percent (95%) of Maximum Standard Proctor Density for cohesive soils as determined by ASTM D698.

END OF SECTION 31 23 00

SECTION 31 25 00

EROSION AND SEDIMENTATION CONTROLS

PART 1 – GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

31 11 00	Demolition, Clearing and Grubbing
31 22 00	Grading
31 23 00	Excavating and Fill
31 41 00	Shoring
33 40 00	Stormwater Utilities

1.02 QUALITY CONTROL

A. Conform to regulatory requirements.

1.03 SCHEDULE

A. Required sedimentation control facilities must be constructed and in operation prior to site clearing and other construction to ensure that sediment-laden water is detained to the greatest extent possible.

B. Sediment facilities shall be maintained in a satisfactory condition until such time that construction is completed.

C. The implementation, maintenance, replacement, and additions to erosion/sedimentation control systems shall be the responsibility of the Contractor.

PART 2 – PRODUCTS

2.01 FILTER FABRIC

A. Filter fabric for the silt fencing barriers shall be Mirafi 140, or equivalent.

2.02 WIRE

A. Wire for the silt curtain shall be 2 x 2 mesh, 14-gauge galvanized wire.

2.03 SUPPORT POSTS

A. Support posts for the silt fencing barriers shall be 2-inch by 2-inch, Doug-FR No. 1 or better wood posts or 1-1/2-inch by 4/8-inch medium weight steel fence posts.

2.04 CLEAR PLASTIC COVERING

A. Clear plastic covering for protection of slopes and cuts shall meet the requirements of the NBS Voluntary Product Standard, PS 17 for Polyethylene sheeting having a minimum thickness of 6 mil.

2.05 CATCH BASIN FILTERS AND INSERTS

A. Catch basin filters and inserts include:

1. Siltsack by Atlantic Construction Fabrics Inc, (800) 448-3636;
2. StreamGuard by Foss Environmental, (800) 909-3677;
3. Emcon Insert, Emcon NW, (425) 462-1280;

4. Beaver Dam or Dandy Bag, Dandy Products Inc, (800) 591-2284;
5. Envirodrain;
6. Drain Warden; or approved equal.

B. Simply placing a piece of geotextile under the grate is not acceptable.

PART 3 – EXECUTION

3.01 EROSION/SEDIMENT CONTROL

A. The Contractor will be allowed to use water to wash roadways, driveways, sidewalks, etc. during construction. Sweepers shall be used as frequently as deemed necessary by the Engineer. It is the Contractor's responsibility to keep streets and roadways free of mud, dirt, gravel, dust, and debris.

B. At the conclusion of each day's operations or when directed by the Engineer, the Contractor shall clean all roadways, streets and appurtenances, of all material and debris left by their or their subcontractors' operations. If the City is forced to clean up after the Contractor's operations, the cost of time and materials will be deducted from the Contractor's payment.

C. The Contractor shall coordinate with the Engineer on required control measures prior to beginning construction.

D. Temporary water pollution/erosion control work shall consist of Best Management Practices (BMPs) to protect water quality as shown on the Contract Plans, specified in these specifications, as set forth in the various permits, or as directed by the Engineer. Said work is intended to provide prevention control and abatement of water pollution, erosion, sedimentation within the limits of the project and to minimize damage to the work, adjacent properties, streams, and other bodies of water.

1. All construction shall be in accordance with City and County Codes, Permit Conditions, and all other applicable codes, ordinances and policies.
2. The temporary erosion control system shall be installed prior to all other construction.
3. Where possible, maintain natural vegetation for silt control.
4. As construction progresses and seasonal conditions dictate, more siltation control facilities may be required to ensure complete siltation control. During the course of construction, it shall be the obligation and responsibility of the Contractor to address any new conditions that may be created by their activities and to provide additional facilities over and above the minimum requirements as may be needed.
5. Where shown in the plans or as directed by the Engineer, the Contractor shall construct silt fencing in accordance with the standard detail. Approved fabrics are woven geotextiles specifically manufactured for silt fence applications. The silt fence shall prevent soil carried by runoff water from going beneath, through, or over the top of the silt fence, but shall allow the water, without soil, to pass through the fence. As determined by the Engineer, damaged and otherwise improperly functioning portions of silt fence shall be repaired and replaced by the Contractor at no additional cost to the City.

6. All temporary siltation controls shall be maintained in a satisfactory condition until such time that clearing and/or construction is completed, permanent drainage facilities are operational, and the potential for erosion has passed.
7. All disturbed land areas unworked for ten (10) days or more shall be protected from erosion by a method approved by the Engineer.
8. The Contractor shall designate fueling area(s) and receive approval of the Engineer prior to using the fueling area(s). All equipment must be fueled and serviced in the designated area(s). The Contractor shall clean up and restore any area contaminated with fuel, grease, oil, solvents, etc. at no additional cost to the City.

E. Since each bidder may approach a project differently, it is the Contractor's responsibility to assess temporary water pollution/erosion control needs to maintain water quality in accordance with the requirements, conditions, and regulations of applicable codes, orders, ordinances, laws, and permits. The Contractor's bid shall reflect this assessment.

F. Unless a specific bid item for temporary water pollution/erosion control has been provided in the Proposal/ Construction Contract, such work shall be considered incidental to and included in the various bid items of work and no separate payment shall be made.

G. Erosion/sediment control provisions shall meet or exceed the requirements of the local agency having jurisdiction.

H. When provisions are specified and shown on the drawings, they are the minimum requirements.

I. Contractor shall take steps to minimize sediment-laden waters from entering receiving bodies of water.

3.02 FILTER FABRIC FENCES

A. Filter fabric fence shall consist of filter fabric fastened to wire fabric with staples or wire rings.

B. Wire shall be fastened to posts set at 4-foot centers.

C. Fabric shall be buried into ground approximately 8 inches to prevent silt from washing under fabric.

3.03 PLACING CLEAR PLASTIC COVERING

A. Clear plastic covering shall be installed on erodible embankment slopes as shown in the plans or as designated by the Engineer.

END OF SECTION 31 25 00

SECTION 31 41 00

SHORING

PART 1 – GENERAL

1.01 RELATED WORK SPECIFIED ELSEWHERE

31 22 00	Grading
31 23 00	Excavating and Fill
33 40 00	Stormwater Utilities

1.02 QUALITY ASSURANCE

A. Contractor to provide, place, and maintain responsibility for shoring, sheeting, bracing, sloping, or otherwise support the sides of trenches, and excavations, including embankments, by a means of sufficient strength to protect employees. Such shoring and associated responsibilities shall be in accordance with federal, state, and local safety requirements (the most stringent requirement prevailing).

PART 2 – PRODUCTS

2.01 SHORING SYSTEMS

A. Materials used shall be at the Contractor's option.

PART 3 – EXECUTION

3.01 SAFETY REQUIREMENTS

A. Shoring shall be placed in accordance with federal, state, and local safety requirements (the most stringent requirement prevailing).

3.02 SHORING SYSTEMS

A. The Contractor to provide all shoring systems needed to protect the work, adjacent property and improvements, utilities, etc., and to provide safe working conditions.

B. Removal of all shoring systems to be accomplished in such a manner as to fulfill all of the above requirements and shall also be accomplished in such a manner as to prevent any damage to the work.

C. Damages resulting from improper shoring or from failure to shore shall be the sole responsibility of the Contractor.

D. The Contractor shall submit their proposed excavation and shoring plan to the Engineer for review prior to the start of construction.

END OF SECTION 31 41 00

DIVISION 32

EXTERIOR IMPROVEMENTS

32 12 16 Asphalt Paving

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SECTION 32 12 16

ASPHALT PAVING

PART 1 – GENERAL

1.01 DESCRIPTION

A. Work included:

The work shall consist of placing one or more layers of plant mix hot asphalt (HMA) on a prepared foundation or base to the lines, grades, thickness and typical sections shown on the contract drawings. Asphaltic pavement required for this work is indicated on the drawings and includes, but is not necessarily limited to:

1. Final preparation of subgrade;
2. Mineral aggregate base course under new pavement;
3. Asphalt surfacing materials;
4. Placing Asphaltic pavement;
5. Sealing joints with existing pavement

B. Related work described elsewhere:

31 11 00	Demolition, Clearing and Grubbing
31 22 00	Grading
31 23 00	Excavating and Fill

C. Standard Specifications:

This section specifies paving which consists of asphalt concrete pavement. The following specifications make reference to standard specifications are referenced, same shall be understood to be WSDOT/APWA Standard Specifications for Road and Bridge Construction or the most current edition.

1.02 QUALITY ASSURANCE:

A. Referenced Standards:

Reference	Title
ASTM D1557-78	Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-lb. (4.5-kg) Rammer and 18-in. (457-mm) Drop.
ASTM D994	Preformed Expansion Joint Filler for Concrete (Bituminous Type)
WSDOT	Washington State Department of Transportation and American Public Works Association, Standard Specifications for Road, Bridge, and Municipal Construction.

B. Testing:

1. Testing will be conducted by the Independent Testing Laboratory to determine compliance with the specified degree of compaction and moisture content and compressive strength of the asphalt concrete.

C. Qualifications of Workmen:

1. Provide one person who shall be thoroughly trained and experienced in the skills required, who shall be completely familiar with the design and application of work described in this section, and who shall be present at all times during the progress of the work and who shall direct all work performed under this section.

2. For actual finishing of Asphaltic surfaces and operation of the required equipment, use only personnel who are thoroughly trained and experienced in the skills required.

D. Inspection:

1. City Engineer and/or their representative will inspect the work routinely to assure compliance with the drawings and specifications.

2. Where the term standard specifications is noted same shall refer to WSDOT/APWA 2010 Standard Specifications for Road, Bridge, and Municipal Construction or most current edition.

PART 2 – PRODUCTS

2.01 PRODUCT HANDLING:

A. Protection:

1. Use all means necessary to protect all materials before, during, and after installation.

B. Replacements:

1. In the event of damage, immediately make all repairs and replacements necessary to the approval and at no additional cost to the City.

2.02 DUST CONTROL:

A. Use all means necessary to prevent spread of dust during performance of the work of this section. Thoroughly moisten all surfaces as required to prevent dust from being a nuisance to the public.

2.03 MINERAL AGGREGATE BASE COURSE:

A. Aggregate base shall conform to specifications referenced in Sections 31 11 00 Demolition, Clearing and Grubbing, 31 22 00 Grading, and 31 23 00 Excavating and Fill.

2.04 ASPHALTIC MATERIALS:

A. Tack Coat

1. Emulsified asphalt shall be Grade MC 250, Class A.

B. ASPHALT CONCRETE:

1. HMA Class 3/8 inch unless specified otherwise.

2. Aggregate: Conform to Section 31 22 00.
3. Asphalt Binder: In accordance with PG 64-22, meeting requirements of AASHTO M 320.
4. Mixing Asphaltic materials:
    a. All asphalt concrete shall be hot plant mixed and shall be furnished from a commercial asphalt hot mix plant.
    b. The mixture shall have a temperature between 300°F. and 320°F. when it leaves the plant.

2.05 OTHER MATERIALS:

A. All other materials, not specifically described but required for proper and complete installation of Asphaltic pavement, shall be as selected by the Contractor subject to approval of the City.

PART 3 – EXECUTION

3.01 SURFACE CONDITIONS:

A. Inspection:

Prior to the work of this section, verify that the Asphaltic pavement may be installed in accordance with the original design, pertinent codes and regulations, and pertinent portions of referenced standards.

B. Discrepancies:

In the event of discrepancy, immediately notify the City. Do not proceed with the installation in areas of discrepancy until all such discrepancies have been resolved.

3.02 PLACEMENT OF CRUSHED SURFACING:

A. Placement:
    1. Place the specified base materials over the areas to receive new paving as indicated on the drawings.
    2. Achieve the thickness of base shown on the drawings.
    3. Compact to a uniformly smooth and hard surface as shown on the drawings.

3.03 PLACEMENT OF ASPHALT PAVEMENT:

A. Receipt of materials:
    1. City will not accept material unless it is covered with tarpaulins until unloaded, and unless it has a temperature of 280 degrees F.
    2. Do not place Asphaltic pavement when the atmospheric temperature is below 45 degrees F nor in fog, rain, or other unsuitable conditions.

B. Spreading:
    1. The mixture shall be laid upon an approved surface, spread, and struck off to the required grade and elevation established on the contract drawings. HMA pavers shall be self-contained, power propelled units, provided with an internally heated

vibratory screed. The HMA shall be spread in a manner which requires the least handling.

2. Spread in two layers of 0.10 feet per layer minimum.

C. Finishing:

1. After the material has been spread to the proper depth, roll with the specified equipment until the surface is hard, smooth, and unyielding.
2. Roll the surfaces in at least two directions until no roller marks are visible.

D. Flood Testing

1. Schedule:
   a. Perform a flood test in the presence of the City.
2. Method:
   a. Perform the flooding by use of a hose.
   b. If a depression is found where water ponds to a depth of more than a ¼ inch, fill or otherwise correct to provide proper drainage.
   c. Feather and smooth the edges of fill so that the joint, between fill and original surface is invisible.

END OF SECTION 32 12 16

DIVISION 33

UTILITIES

33 40 00 Stormwater Utilities

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SECTION 33 40 00

STORMWATER UTILITIES

PART 1 – GENERAL

1.01 DESCRIPTION

A. Work included

Constructing a gutter system, downspouts and piped conveyance system to connect to the existing storm drainage conveyance system.

1.02 QUALITY ASSURANCE

A. Qualification of workers:

1. Provide one person who shall be thoroughly trained and experienced in the skills required, who shall be completely familiar with the design and application of work described in this section, and who shall be present at all times during the progress of the work and who shall direct all work performed under this section.
2. For actual installation of drainage system and operation of the required equipment, use only personnel who are thoroughly trained and experienced in the skill required.

B. Inspection:

1. City and/or their representative will inspect the work routinely to assure compliance with the drawings and specifications.

C. Standards

Where the term Standard Specifications is noted, same shall refer to the WSDOT/APWA Standard Specifications for Road, Bridge and Municipal Construction, current edition. The Contractor shall maintain a copy of the referenced standards (specifications and standard plans) continuously at the job site for reference.

PART 2 – PRODUCTS

2.01 PRODUCT HANDLING

A. Protection:

Use all means necessary to protect all materials before, during, and after installation.

B. Replacements:

In the event of damage, immediately make all repairs and replacements necessary to the approval and at no additional cost to the City.

2.02 PIPE

A. Pipe materials and fittings shall be solid-wall PVC pipe and shall conform to the requirements of ASTM 3034 SDR 35.

2.03 GUTTERS

A. Gutters shall be K style seamless aluminum 5-inch gutters with a minimum thickness of 0.027 inches. Downspouts shall be aluminum 3 inch by 4 inch with a minimum thickness of 0.024 inches.

PART 3 – EXECUTION

3.01 SURFACE CONDITIONS

A. Inspection:

Prior to the work of this section, verify that the drainage system may be installed in accordance with the original design, pertinent codes and regulations, and pertinent portions of referenced standards. Excavate and determine elevation of side sewer as part of verification.

B. Discrepancies:

In the event of discrepancy, immediately notify the City. Do not proceed with the installation in areas of discrepancy until all such discrepancies have been resolved.

3.02 CONSTRUCTION

A. Construct all features including trenching in accordance with Standard Specifications including detention pipes and structure. Provide sand bedding around all flexible pipes per Standard Specifications. Excavate and determine elevation for existing storm drainpipe. Compact pipe trench and detention system backfill to densities specified for embankment.

B. Installation of gutters and downspout shall conform to the manufacturer's recommendations.

END OF SECTION 33 40 00

SECTION 7

APPENDICES

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APPENDIX A
WAGE RATES

The State of Washington prevailing wage rates applicable for this public works project, which is located in King County, may be found at the following website address of the Department of Labor and Industries: https://fortress.wa.gov/lni/wagelookup/prvWagelookup.aspx

Based on the bid submittal deadline for this project, the applicable effective date for prevailing wages for this project is August 15, 2024. A copy of the applicable prevailing wage rates is also available for view at the office of the Owner, located at 17425 Ballinger Way NE, Lake Forest Park, WA 98155. Upon request, the Owner will mail a hard copy of the applicable prevailing wages for this project.

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State of Washington
Department of Labor & Industries
Prevailing Wage Section - Telephone 360-902-5335
PO Box 44540, Olympia, WA 98504-4540

Washington State Prevailing Wage

The PREVAILING WAGES listed here include both the hourly wage rate and the hourly rate of fringe benefits. On public works projects, worker's wage and benefit rates must add to not less than this total. A brief description of overtime calculation requirements are provided on the Benefit Code Key.

Journey Level Prevailing Wage Rates for the Effective Date: 08/15/2024

County	Trade	Job Classification	Wage	Holiday	Overtime	Note	*Risk Class
King	Asbestos Abatement Workers	Journey Level	$59.07	5D	1H		View
King	Boilermakers	Journey Level	$74.29	5N	1C		View
King	Brick Mason	Journey Level	$69.07	7E	1N		View
King	Brick Mason	Pointer-Caulker-Cleaner	$69.07	7E	1N		View
King	Building Service Employees	Janitor	$29.33	5S	2F		View
King	Building Service Employees	Traveling Waxer/Shampooer	$29.78	5S	2F		View
King	Building Service Employees	Window Cleaner (Non-Scaffold)	$32.93	5S	2F		View
King	Building Service Employees	Window Cleaner (Scaffold)	$33.93	5S	2F		View
King	Cabinet Makers (In Shop)	Journey Level	$22.74		1		View
King	Carpenters	Acoustical Worker	$74.96	15J	4C		View
King	Carpenters	Bridge, Dock And Wharf Carpenters	$74.96	15J	4C		View
King	Carpenters	Floor Layer & Floor Finisher	$74.96	15J	4C		View
King	Carpenters	Journey Level	$74.96	15J	4C		View
King	Carpenters	Scaffold Erector	$74.96	15J	4C		View
King	Cement Masons	Application of all Composition Mastic	$72.87	15J	4U		View
King	Cement Masons	Application of all Epoxy Material	$72.37	15J	4U		View
King	Cement Masons	Application of all Plastic Material	$72.87	15J	4U		View
King	Cement Masons	Application of Sealing Compound	$72.37	15J	4U		View
King	Cement Masons	Application of Underlayment	$72.87	15J	4U		View
King	Cement Masons	Building General	$72.37	15J	4U		View
King	Cement Masons	Composition or Kalman Floors	$72.87	15J	4U		View
King	Cement Masons	Concrete Paving	$72.37	15J	4U		View
King	Cement Masons	Curb & Gutter Machine	$72.87	15J	4U		View
King	Cement Masons	Curb & Gutter, Sidewalks	$72.37	15J	4U		View
King	Cement Masons	Curing Concrete	$72.37	15J	4U		View
King	Cement Masons	Finish Colored Concrete	$72.87	15J	4U		View

King	Cement Masons	Floor Grinding	$72.87	15J	4U		View
King	Cement Masons	Floor Grinding/Polisher	$72.37	15J	4U		View
King	Cement Masons	Green Concrete Saw, self-powered	$72.87	15J	4U		View
King	Cement Masons	Grouting of all Plates	$72.37	15J	4U		View
King	Cement Masons	Grouting of all Tilt-up Panels	$72.37	15J	4U		View
King	Cement Masons	Gunite Nozzleman	$72.87	15J	4U		View
King	Cement Masons	Hand Powered Grinder	$72.87	15J	4U		View
King	Cement Masons	Journey Level	$72.37	15J	4U		View
King	Cement Masons	Patching Concrete	$72.37	15J	4U		View
King	Cement Masons	Pneumatic Power Tools	$72.87	15J	4U		View
King	Cement Masons	Power Chipping & Brushing	$72.87	15J	4U		View
King	Cement Masons	Sand Blasting Architectural Finish	$72.87	15J	4U		View
King	Cement Masons	Screed & Rodding Machine	$72.87	15J	4U		View
King	Cement Masons	Spackling or Skim Coat Concrete	$72.37	15J	4U		View
King	Cement Masons	Troweling Machine Operator	$72.87	15J	4U		View
King	Cement Masons	Troweling Machine Operator on Colored Slabs	$72.87	15J	4U		View
King	Cement Masons	Tunnel Workers	$72.87	15J	4U		View
King	Divers & Tenders	Bell/Vehicle or Submersible Operator (Not Under Pressure)	$129.71	15J	4C		View
King	Divers & Tenders	Dive Supervisor/Master	$93.94	15J	4C		View
King	Divers & Tenders	Diver	$129.71	15J	4C	8V	View
King	Divers & Tenders	Diver On Standby	$88.94	15J	4C		View
King	Divers & Tenders	Diver Tender	$80.82	15J	4C		View
King	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 0-30.00 PSI	$93.26	15J	4C		View
King	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 30.01 - 44.00 PSI	$98.26	15J	4C		View
King	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 44.01 - 54.00 PSI	$102.26	15J	4C		View
King	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 54.01 - 60.00 PSI	$107.26	15J	4C		View
King	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 60.01 - 64.00 PSI	$109.76	15J	4C		View
King	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 64.01 - 68.00 PSI	$114.76	15J	4C		View
King	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 68.01 - 70.00 PSI	$116.76	15J	4C		View
King	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 70.01 - 72.00 PSI	$118.76	15J	4C		View

King	Divers & Tenders	Hyperbaric Worker - Compressed Air Worker 72.01 - 74.00 PSI	$120.76	15J	4C		View
King	Divers & Tenders	Manifold Operator	$80.82	15J	4C		View
King	Divers & Tenders	Manifold Operator Mixed Gas	$85.82	15J	4C		View
King	Divers & Tenders	Remote Operated Vehicle Operator/Technician	$80.82	15J	4C		View
King	Divers & Tenders	Remote Operated Vehicle Tender	$75.41	15J	4C		View
King	Dredge Workers	Assistant Engineer	$79.62	5D	3F		View
King	Dredge Workers	Assistant Mate (Deckhand)	$79.01	5D	3F		View
King	Dredge Workers	Boatmen	$79.62	5D	3F		View
King	Dredge Workers	Engineer Welder	$81.15	5D	3F		View
King	Dredge Workers	Leverman, Hydraulic	$82.77	5D	3F		View
King	Dredge Workers	Mates	$79.62	5D	3F		View
King	Dredge Workers	Oiler	$79.01	5D	3F		View
King	Drywall Applicator	Journey Level	$75.73	15O	11S		View
King	Drywall Tapers	Journey Level	$75.73	15O	11S		View
King	Electrical Fixture Maintenance Workers	Journey Level	$38.69	5L	1E		View
King	Electricians - Inside	Cable Splicer	$109.35	7C	4E		View
King	Electricians - Inside	Cable Splicer (tunnel)	$117.52	7C	4E		View
King	Electricians - Inside	Certified Welder	$105.63	7C	4E		View
King	Electricians - Inside	Certified Welder (tunnel)	$113.43	7C	4E		View
King	Electricians - Inside	Construction Stock Person	$51.53	7C	4E		View
King	Electricians - Inside	Journey Level	$101.92	7C	4E		View
King	Electricians - Inside	Journey Level (tunnel)	$109.35	7C	4E		View
King	Electricians - Motor Shop	Journey Level	$48.68	5A	1B		View
King	Electricians - Powerline Construction	Cable Splicer	$93.00	5A	4D		View
King	Electricians - Powerline Construction	Certified Line Welder	$85.42	5A	4D		View
King	Electricians - Powerline Construction	Groundperson	$55.27	5A	4D		View
King	Electricians - Powerline Construction	Heavy Line Equipment Operator	$85.42	5A	4D		View
King	Electricians - Powerline Construction	Journey Level Lineperson	$85.42	5A	4D		View
King	Electricians - Powerline Construction	Line Equipment Operator	$73.35	5A	4D		View
King	Electricians - Powerline Construction	Meter Installer	$55.27	5A	4D	8W	View
King	Electricians - Powerline Construction	Pole Sprayer	$85.42	5A	4D		View
King	Electricians - Powerline Construction	Powderperson	$63.50	5A	4D		View
King	Electronic Technicians	Journey Level	$65.66	7E	1E		View
King	Elevator Constructors	Mechanic	$111.26	7D	4A		View
King	Elevator Constructors	Mechanic In Charge	$120.27	7D	4A		View

King	Fabricated Precast Concrete Products	All Classifications - In-Factory Work Only	$21.34	5B	1R		View
King	Fence Erectors	Fence Erector	$50.07	15J	11P	8Y	View
King	Fence Erectors	Fence Laborer	$50.07	15J	11P	8Y	View
King	Flaggers	Journey Level	$50.07	15J	11P	8Y	View
King	Glaziers	Journey Level	$79.16	7L	1Y		View
King	Heat & Frost Insulators And Asbestos Workers	Journey Level	$87.15	15H	11C		View
King	Heating Equipment Mechanics	Journey Level	$96.42	7F	1E		View
King	Hod Carriers & Mason Tenders	Journey Level	$62.49	15J	11P	8Y	View
King	Industrial Power Vacuum Cleaner	Journey Level	$16.28		1		View
King	Inland Boatmen	Boat Operator	$61.41	5B	1K		View
King	Inland Boatmen	Cook	$56.48	5B	1K		View
King	Inland Boatmen	Deckhand	$57.48	5B	1K		View
King	Inland Boatmen	Deckhand Engineer	$58.81	5B	1K		View
King	Inland Boatmen	Launch Operator	$58.89	5B	1K		View
King	Inland Boatmen	Mate	$57.31	5B	1K		View
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Cleaner Operator	$49.48	15M	11O		View
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Foamer Operator	$49.48	15M	11O		View
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Grout Truck Operator	$49.48	15M	11O		View
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Head Operator	$47.41	15M	11O		View
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Technician	$41.20	15M	11O		View
King	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	TV Truck Operator	$44.31	15M	11O		View
King	Insulation Applicators	Journey Level	$74.96	15J	4C		View
King	Ironworkers	Journeyman	$87.80	15K	11N		View
King	Laborers	Air, Gas Or Electric Vibrating Screed	$59.07	15J	11P	8Y	View
King	Laborers	Airtrac Drill Operator	$60.90	15J	11P	8Y	View
King	Laborers	Ballast Regular Machine	$59.07	15J	11P	8Y	View
King	Laborers	Batch Weighman	$50.07	15J	11P	8Y	View
King	Laborers	Brick Pavers	$59.07	15J	11P	8Y	View
King	Laborers	Brush Cutter	$59.07	15J	11P	8Y	View
King	Laborers	Brush Hog Feeder	$59.07	15J	11P	8Y	View
King	Laborers	Burner	$59.07	15J	11P	8Y	View
King	Laborers	Caisson Worker	$60.90	15J	11P	8Y	View
King	Laborers	Carpenter Tender	$59.07	15J	11P	8Y	View
King	Laborers	Cement Dumper-paving	$60.15	15J	11P	8Y	View

King	Laborers	Cement Finisher Tender	$59.07	15J	11P	8Y	View
King	Laborers	Change House Or Dry Shack	$59.07	15J	11P	8Y	View
King	Laborers	Chipping Gun (30 Lbs. And Over)	$60.15	15J	11P	8Y	View
King	Laborers	Chipping Gun (Under 30 Lbs.)	$59.07	15J	11P	8Y	View
King	Laborers	Choker Setter	$59.07	15J	11P	8Y	View
King	Laborers	Chuck Tender	$59.07	15J	11P	8Y	View
King	Laborers	Clary Power Spreader	$60.15	15J	11P	8Y	View
King	Laborers	Clean-up Laborer	$59.07	15J	11P	8Y	View
King	Laborers	Concrete Dumper/Chute Operator	$60.15	15J	11P	8Y	View
King	Laborers	Concrete Form Stripper	$59.07	15J	11P	8Y	View
King	Laborers	Concrete Placement Crew	$60.15	15J	11P	8Y	View
King	Laborers	Concrete Saw Operator/Core Driller	$60.15	15J	11P	8Y	View
King	Laborers	Crusher Feeder	$50.07	15J	11P	8Y	View
King	Laborers	Curing Laborer	$59.07	15J	11P	8Y	View
King	Laborers	Demolition: Wrecking & Moving (Incl. Charred Material)	$59.07	15J	11P	8Y	View
King	Laborers	Ditch Digger	$59.07	15J	11P	8Y	View
King	Laborers	Diver	$60.90	15J	11P	8Y	View
King	Laborers	Drill Operator (Hydraulic, Diamond)	$60.15	15J	11P	8Y	View
King	Laborers	Dry Stack Walls	$59.07	15J	11P	8Y	View
King	Laborers	Dump Person	$59.07	15J	11P	8Y	View
King	Laborers	Epoxy Technician	$59.07	15J	11P	8Y	View
King	Laborers	Erosion Control Worker	$59.07	15J	11P	8Y	View
King	Laborers	Faller & Bucker Chain Saw	$60.15	15J	11P	8Y	View
King	Laborers	Fine Graders	$59.07	15J	11P	8Y	View
King	Laborers	Firewatch	$50.07	15J	11P	8Y	View
King	Laborers	Form Setter	$60.15	15J	11P	8Y	View
King	Laborers	Gabian Basket Builders	$59.07	15J	11P	8Y	View
King	Laborers	General Laborer	$59.07	15J	11P	8Y	View
King	Laborers	Grade Checker & Transit Person	$62.49	15J	11P	8Y	View
King	Laborers	Grinders	$59.07	15J	11P	8Y	View
King	Laborers	Grout Machine Tender	$59.07	15J	11P	8Y	View
King	Laborers	Groutmen (Pressure) Including Post Tension Beams	$60.15	15J	11P	8Y	View
King	Laborers	Guardrail Erector	$59.07	15J	11P	8Y	View
King	Laborers	Hazardous Waste Worker (Level A)	$60.90	15J	11P	8Y	View
King	Laborers	Hazardous Waste Worker (Level B)	$60.15	15J	11P	8Y	View
King	Laborers	Hazardous Waste Worker (Level C)	$59.07	15J	11P	8Y	View
King	Laborers	High Scaler	$60.90	15J	11P	8Y	View
King	Laborers	Jackhammer	$60.15	15J	11P	8Y	View
King	Laborers	Laserbeam Operator	$60.15	15J	11P	8Y	View

King	Laborers	Maintenance Person	$59.07	15J	11P	8Y	View
King	Laborers	Manhole Builder-Mudman	$60.15	15J	11P	8Y	View
King	Laborers	Material Yard Person	$59.07	15J	11P	8Y	View
King	Laborers	Mold Abatement Worker	$59.07	15J	11P	8Y	View
King	Laborers	Motorman-Dinky Locomotive	$62.59	15J	11P	8Y	View
King	Laborers	nozzleman (concrete pump, green cutter when using combination of high pressure air & water on concrete & rock, sandblast, gunite, shotcrete, water blaster, vacuum blaster)	$62.49	15J	11P	8Y	View
King	Laborers	Pavement Breaker	$60.15	15J	11P	8Y	View
King	Laborers	Pilot Car	$50.07	15J	11P	8Y	View
King	Laborers	Pipe Layer (Lead)	$62.49	15J	11P	8Y	View
King	Laborers	Pipe Layer/Tailor	$60.15	15J	11P	8Y	View
King	Laborers	Pipe Pot Tender	$60.15	15J	11P	8Y	View
King	Laborers	Pipe Reliner	$60.15	15J	11P	8Y	View
King	Laborers	Pipe Wrapper	$60.15	15J	11P	8Y	View
King	Laborers	Pot Tender	$59.07	15J	11P	8Y	View
King	Laborers	Powderman	$60.90	15J	11P	8Y	View
King	Laborers	Powderman's Helper	$59.07	15J	11P	8Y	View
King	Laborers	Power Jacks	$60.15	15J	11P	8Y	View
King	Laborers	Railroad Spike Puller - Power	$60.15	15J	11P	8Y	View
King	Laborers	Raker - Asphalt	$62.49	15J	11P	8Y	View
King	Laborers	Re-timberman	$60.90	15J	11P	8Y	View
King	Laborers	Remote Equipment Operator	$60.15	15J	11P	8Y	View
King	Laborers	Rigger/Signal Person	$60.15	15J	11P	8Y	View
King	Laborers	Rip Rap Person	$59.07	15J	11P	8Y	View
King	Laborers	Rivet Buster	$60.15	15J	11P	8Y	View
King	Laborers	Rodder	$60.15	15J	11P	8Y	View
King	Laborers	Scaffold Erector	$59.07	15J	11P	8Y	View
King	Laborers	Scale Person	$59.07	15J	11P	8Y	View
King	Laborers	Sloper (Over 20")	$60.15	15J	11P	8Y	View
King	Laborers	Sloper Sprayer	$59.07	15J	11P	8Y	View
King	Laborers	Spreader (Concrete)	$60.15	15J	11P	8Y	View
King	Laborers	Stake Hopper	$59.07	15J	11P	8Y	View
King	Laborers	Stock Piler	$59.07	15J	11P	8Y	View
King	Laborers	Swinging Stage/Boatswain Chair	$50.07	15J	11P	8Y	View
King	Laborers	Tamper & Similar Electric, Air & Gas Operated Tools	$60.15	15J	11P	8Y	View
King	Laborers	Tamper (Multiple & Self-propelled)	$60.15	15J	11P	8Y	View
King	Laborers	Timber Person - Sewer (Lagger, Shorer & Cribber)	$60.15	15J	11P	8Y	View
King	Laborers	Toolroom Person (at Jobsite)	$59.07	15J	11P	8Y	View
King	Laborers	Topper	$59.07	15J	11P	8Y	View
King	Laborers	Track Laborer	$59.07	15J	11P	8Y	View

King	Laborers	Track Liner (Power)	$60.15	15J	11P	8Y	View
King	Laborers	Traffic Control Laborer	$53.54	15J	11P	9C	View
King	Laborers	Traffic Control Supervisor	$56.73	15J	11P	9C	View
King	Laborers	Truck Spotter	$59.07	15J	11P	8Y	View
King	Laborers	Tugger Operator	$60.15	15J	11P	8Y	View
King	Laborers	Tunnel Work-Compressed Air Worker 0-30 psi	$175.79	15J	11P	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 30.01-44.00 psi	$180.82	15J	11P	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 44.01-54.00 psi	$184.50	15J	11P	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 54.01-60.00 psi	$190.20	15J	11P	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 60.01-64.00 psi	$192.32	15J	11P	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 64.01-68.00 psi	$197.42	15J	11P	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 68.01-70.00 psi	$199.32	15J	11P	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 70.01-72.00 psi	$201.32	15J	11P	9B	View
King	Laborers	Tunnel Work-Compressed Air Worker 72.01-74.00 psi	$203.32	15J	11P	9B	View
King	Laborers	Tunnel Work-Guage and Lock Tender	$62.59	15J	11P	8Y	View
King	Laborers	Tunnel Work-Miner	$62.59	15J	11P	8Y	View
King	Laborers	Vibrator	$60.15	15J	11P	8Y	View
King	Laborers	Vinyl Seamer	$59.07	15J	11P	8Y	View
King	Laborers	Watchman	$45.51	15J	11P	8Y	View
King	Laborers	Welder	$60.15	15J	11P	8Y	View
King	Laborers	Well Point Laborer	$60.15	15J	11P	8Y	View
King	Laborers	Window Washer/Cleaner	$45.51	15J	11P	8Y	View
King	Laborers - Underground Sewer & Water	General Laborer & Topman	$59.07	15J	11P	8Y	View
King	Laborers - Underground Sewer & Water	Pipe Layer	$60.15	15J	11P	8Y	View
King	Landscape Construction	Landscape Construction/Landscaping Or Planting Laborers	$45.51	15J	11P	8Y	View
King	Landscape Construction	Landscape Operator	$82.25	15J	11G	8X	View
King	Landscape Maintenance	Groundskeeper	$17.87		1		View
King	Lathers	Journey Level	$75.73	15O	11S		View
King	Marble Setters	Journey Level	$69.07	7E	1N		View
King	Metal Fabrication (In Shop)	Fitter/Certified Welder	$42.17	15I	11E		View
King	Metal Fabrication (In Shop)	General Laborer	$30.07	15I	11E		View
King	Metal Fabrication (In Shop)	Mechanic	$43.63	15I	11E		View
King	Metal Fabrication (In Shop)	Welder/Burner	$39.28	15I	11E		View
King	Millwright	Journey Level	$76.51	15J	4C		View
King	Modular Buildings	Cabinet Assembly	$16.28		1		View
King	Modular Buildings	Electrician	$16.28		1		View

King	Modular Buildings	Equipment Maintenance	$16.28		1		View
King	Modular Buildings	Plumber	$16.28		1		View
King	Modular Buildings	Production Worker	$16.28		1		View
King	Modular Buildings	Tool Maintenance	$16.28		1		View
King	Modular Buildings	Utility Person	$16.28		1		View
King	Modular Buildings	Welder	$16.28		1		View
King	Painters	Journey Level	$51.71	6Z	11J		View
King	Pile Driver	Crew Tender	$80.82	15J	4C		View
King	Pile Driver	Journey Level	$75.41	15J	4C		View
King	Plasterers	Journey Level	$70.91	7Q	1R		View
King	Plasterers	Nozzleman	$74.91	7Q	1R		View
King	Playground & Park Equipment Installers	Journey Level	$16.28		1		View
King	Plumbers & Pipefitters	Journey Level	$103.19	6Z	1G		View
King	Power Equipment Operators	Asphalt Plant Operators	$83.62	15J	11G	8X	View
King	Power Equipment Operators	Assistant Engineer	$78.65	15J	11G	8X	View
King	Power Equipment Operators	Barrier Machine (zipper)	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Batch Plant Operator: concrete	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Boat Operator	$83.95	7A	11H	8X	View
King	Power Equipment Operators	Bobcat	$78.65	15J	11G	8X	View
King	Power Equipment Operators	Brokk - Remote Demolition Equipment	$78.65	15J	11G	8X	View
King	Power Equipment Operators	Brooms	$78.65	15J	11G	8X	View
King	Power Equipment Operators	Bump Cutter	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Cableways	$83.62	15J	11G	8X	View
King	Power Equipment Operators	Chipper	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Compressor	$78.65	15J	11G	8X	View
King	Power Equipment Operators	Concrete Finish Machine - Laser Screed	$78.65	15J	11G	8X	View
King	Power Equipment Operators	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	$82.25	15J	11G	8X	View
King	Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Over 42 M	$83.62	15J	11G	8X	View
King	Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Conveyors	$82.25	15J	11G	8X	View
King	Power Equipment Operators	Cranes Friction: 200 tons and over	$86.48	7A	11H	8X	View
King	Power Equipment Operators	Cranes, A-frame: 10 tons and under	$78.95	7A	11H	8X	View
King	Power Equipment Operators	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	$84.77	7A	11H	8X	View
King	Power Equipment Operators	Cranes: 20 tons through 44 tons with attachments	$83.20	7A	11H	8X	View

King	Power Equipment Operators	Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments	$85.66	7A	11H	8X	View
King	Power Equipment Operators	Cranes: 300 tons and over or 300' of boom including jib with attachments	$86.48	7A	11H	8X	View
King	Power Equipment Operators	Cranes: 45 tons through 99 tons, under 150' of boom(including jib with attachments)	$83.95	7A	11H	8X	View
King	Power Equipment Operators	Cranes: Friction cranes through 199 tons	$85.66	7A	11H	8X	View
King	Power Equipment Operators	Cranes: through 19 tons with attachments, a-frame over 10 tons	$82.56	7A	11H	8X	View
King	Power Equipment Operators	Crusher	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Deck Engineer/Deck Winches (power)	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Derricks, On Building Work	$83.62	15J	11G	8X	View
King	Power Equipment Operators	Dozers D-9 & Under	$82.25	15J	11G	8X	View
King	Power Equipment Operators	Drill Oilers: Auger Type, Truck Or Crane Mount	$82.25	15J	11G	8X	View
King	Power Equipment Operators	Drilling Machine	$84.46	15J	11G	8X	View
King	Power Equipment Operators	Elevator and man-lift: permanent and shaft type	$78.65	15J	11G	8X	View
King	Power Equipment Operators	Finishing Machine, Bidwell And Gamaco & Similar Equipment	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Forklift: 3000 lbs and over with attachments	$82.25	15J	11G	8X	View
King	Power Equipment Operators	Forklifts: under 3000 lbs. with attachments	$78.65	15J	11G	8X	View
King	Power Equipment Operators	Grade Engineer: Using Blue Prints, Cut Sheets, Etc	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Gradechecker/Stakeman	$78.65	15J	11G	8X	View
King	Power Equipment Operators	Guardrail Punch	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	$83.62	15J	11G	8X	View
King	Power Equipment Operators	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Horizontal/Directional Drill Locator	$82.25	15J	11G	8X	View
King	Power Equipment Operators	Horizontal/Directional Drill Operator	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Hydralifts/Boom Trucks Over 10 Tons	$82.56	7A	11H	8X	View
King	Power Equipment Operators	Hydralifts/boom trucks: 10 tons and under	$78.95	7A	11H	8X	View
King	Power Equipment Operators	Leverman	$85.33	15J	11G	8X	View
King	Power Equipment Operators	Loader, Overhead, 6 Yards. But Not Including 8 Yards	$83.62	15J	11G	8X	View

King	Power Equipment Operators	Loaders, Overhead Under 6 Yards	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Loaders, Plant Feed	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Loaders: Elevating Type Belt	$82.25	15J	11G	8X	View
King	Power Equipment Operators	Locomotives, All	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Material Transfer Device	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Mechanics: All (Leadmen - $0.50 per hour over mechanic)	$84.46	15J	11G	8X	View
King	Power Equipment Operators	Motor Patrol Graders	$83.62	15J	11G	8X	View
King	Power Equipment Operators	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	$83.62	15J	11G	8X	View
King	Power Equipment Operators	Oil Distributors, Blower Distribution & Mulch Seeding Operator	$78.65	15J	11G	8X	View
King	Power Equipment Operators	Outside Hoists (Elevators and Manlifts), Air Tuggers, Strato	$82.25	15J	11G	8X	View
King	Power Equipment Operators	Overhead, bridge type Crane: 20 tons through 44 tons	$83.20	7A	11H	8X	View
King	Power Equipment Operators	Overhead, bridge type: 100 tons and over	$84.77	7A	11H	8X	View
King	Power Equipment Operators	Overhead, bridge type: 45 tons through 99 tons	$83.95	7A	11H	8X	View
King	Power Equipment Operators	Pavement Breaker	$78.65	15J	11G	8X	View
King	Power Equipment Operators	Pile Driver (other Than Crane Mount)	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Plant Oiler - Asphalt, Crusher	$82.25	15J	11G	8X	View
King	Power Equipment Operators	Posthole Digger, Mechanical	$78.65	15J	11G	8X	View
King	Power Equipment Operators	Power Plant	$78.65	15J	11G	8X	View
King	Power Equipment Operators	Pumps - Water	$78.65	15J	11G	8X	View
King	Power Equipment Operators	Quad 9, Hd 41, D10 And Over	$83.62	15J	11G	8X	View
King	Power Equipment Operators	Quick Tower: no cab, under 100 feet in height base to boom	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Remote Control Operator On Rubber Tired Earth Moving Equipment	$83.62	15J	11G	8X	View
King	Power Equipment Operators	Rigger and Bellman	$78.95	7A	11H	8X	View
King	Power Equipment Operators	Rigger/Signal Person, Bellman(Certified)	$82.56	7A	11H	8X	View
King	Power Equipment Operators	Rollagon	$83.62	15J	11G	8X	View
King	Power Equipment Operators	Roller, Other Than Plant Mix	$78.65	15J	11G	8X	View
King	Power Equipment Operators	Roller, Plant Mix Or Multi-lift Materials	$82.25	15J	11G	8X	View
King	Power Equipment Operators	Roto-mill, Roto-grinder	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Saws - Concrete	$82.25	15J	11G	8X	View
King	Power Equipment Operators	Scraper, Self Propelled Under 45 Yards	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Scrapers - Concrete & Carry All	$82.25	15J	11G	8X	View
King	Power Equipment Operators	Scrapers, Self-propelled: 45 Yards And Over	$83.62	15J	11G	8X	View

King	Power Equipment Operators	Service Engineers: Equipment	$82.25	15J	11G	8X	View
King	Power Equipment Operators	Shotcrete/Gunite Equipment	$78.65	15J	11G	8X	View
King	Power Equipment Operators	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	$82.25	15J	11G	8X	View
King	Power Equipment Operators	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	$83.62	15J	11G	8X	View
King	Power Equipment Operators	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	$84.46	15J	11G	8X	View
King	Power Equipment Operators	Shovel, Excavator, Backhoes: Over 90 Metric Tons	$85.33	15J	11G	8X	View
King	Power Equipment Operators	Slipform Pavers	$83.62	15J	11G	8X	View
King	Power Equipment Operators	Spreader, Topsider & Screedman	$83.62	15J	11G	8X	View
King	Power Equipment Operators	Subgrader Trimmer	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Tower Bucket Elevators	$82.25	15J	11G	8X	View
King	Power Equipment Operators	Tower Crane: over 175' through 250' in height, base to boom	$85.66	7A	11H	8X	View
King	Power Equipment Operators	Tower crane: up to 175' in height base to boom	$84.77	7A	11H	8X	View
King	Power Equipment Operators	Tower Cranes: over 250' in height from base to boom	$86.48	7A	11H	8X	View
King	Power Equipment Operators	Transporters, All Track Or Truck Type	$83.62	15J	11G	8X	View
King	Power Equipment Operators	Trenching Machines	$82.25	15J	11G	8X	View
King	Power Equipment Operators	Truck Crane Oiler/Driver: 100 tons and over	$83.20	7A	11H	8X	View
King	Power Equipment Operators	Truck crane oiler/driver: under 100 tons	$82.56	7A	11H	8X	View
King	Power Equipment Operators	Truck Mount Portable Conveyor	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Vac Truck (Vactor Guzzler, Hydro Excavator)	$82.88	15J	11G	8X	View
King	Power Equipment Operators	Welder	$83.62	15J	11G	8X	View
King	Power Equipment Operators	Wheel Tractors, Farmall Type	$78.65	15J	11G	8X	View
King	Power Equipment Operators	Yo Yo Pay Dozer	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Asphalt Plant Operators	$83.62	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Assistant Engineer	$78.65	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Barrier Machine (zipper)	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Batch Plant Operator, Concrete	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Boat Operator	$83.95	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Bobcat	$78.65	15J	11G	8X	View
King	Power Equipment Operators-	Brokk - Remote Demolition	$78.65	15J	11G	8X	View

	Underground Sewer & Water	Equipment					
King	Power Equipment Operators-Underground Sewer & Water	Brooms	$78.65	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Bump Cutter	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cableways	$83.62	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Chipper	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Compressor	$78.65	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Concrete Finish Machine - Laser Screed	$78.65	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	$82.25	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Over 42 M	$83.62	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Conveyors	$82.25	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cranes Friction: 200 tons and over	$86.48	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cranes, A-frame: 10 tons and under	$78.95	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	$84.77	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cranes: 20 tons through 44 tons with attachments	$83.20	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments	$85.66	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cranes: 300 tons and over or 300' of boom including jib with attachments	$86.48	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cranes: 45 tons through 99 tons, under 150' of boom(including jib with attachments)	$83.95	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cranes: Friction cranes through 199 tons	$85.66	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Cranes: through 19 tons with attachments, a-frame over 10 tons	$82.56	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Crusher	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Deck Engineer/Deck Winches (power)	$82.88	15J	11G	8X	View

King	Power Equipment Operators-Underground Sewer & Water	Derricks, On Building Work	$83.62	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Dozers D-9 & Under	$82.25	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Drill Oilers: Auger Type, Truck Or Crane Mount	$82.25	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Drilling Machine	$84.46	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Elevator and man-lift: permanent and shaft type	$78.65	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Finishing Machine, Bidwell And Gamaco & Similar Equipment	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Forklift: 3000 lbs and over with attachments	$82.25	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Forklifts: under 3000 lbs. with attachments	$78.65	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Grade Engineer: Using Blue Prints, Cut Sheets, Etc	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Gradechecker/Stakeman	$78.65	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Guardrail Punch	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	$83.62	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Horizontal/Directional Drill Locator	$82.25	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Horizontal/Directional Drill Operator	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Hydralifts/boom trucks: 10 tons and under	$78.95	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Hydralifts/boom trucks: over 10 tons	$82.56	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Leverman	$85.33	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Loader, Overhead, 6 Yards. But Not Including 8 Yards	$83.62	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Loaders, Overhead Under 6 Yards	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Loaders, Plant Feed	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Loaders: Elevating Type Belt	$82.25	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Locomotives, All	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Material Transfer Device	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Mechanics: All (Leadmen - $0.50 per hour over mechanic)	$84.46	15J	11G	8X	View

King	Power Equipment Operators-Underground Sewer & Water	Motor Patrol Graders	$83.62	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	$83.62	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Oil Distributors, Blower Distribution & Mulch Seeding Operator	$78.65	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Outside Hoists (Elevators and Manlifts), Air Tuggers, Strato	$82.25	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Overhead, bridge type Crane: 20 tons through 44 tons	$83.20	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Overhead, bridge type: 100 tons and over	$84.77	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Overhead, bridge type: 45 tons through 99 tons	$83.95	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Pavement Breaker	$78.65	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Pile Driver (other Than Crane Mount)	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Plant Oiler - Asphalt, Crusher	$82.25	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Posthole Digger, Mechanical	$78.65	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Power Plant	$78.65	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Pumps - Water	$78.65	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Quad 9, Hd 41, D10 And Over	$83.62	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Quick Tower: no cab, under 100 feet in height base to boom	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Remote Control Operator On Rubber Tired Earth Moving Equipment	$83.62	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Rigger and Bellman	$78.95	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Rigger/Signal Person, Bellman(Certified)	$82.56	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Rollagon	$83.62	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Roller, Other Than Plant Mix	$78.65	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Roller, Plant Mix Or Multi-lift Materials	$82.25	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Roto-mill, Roto-grinder	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Saws - Concrete	$82.25	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Scraper, Self Propelled Under 45 Yards	$82.88	15J	11G	8X	View

King	Power Equipment Operators-Underground Sewer & Water	Scrapers - Concrete & Carry All	$82.25	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Scrapers, Self-propelled: 45 Yards And Over	$83.62	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Shotcrete/Gunite Equipment	$78.65	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	$82.25	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	$83.62	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	$84.46	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes: Over 90 Metric Tons	$85.33	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Slipform Pavers	$83.62	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Spreader, Topsider & Screedman	$83.62	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Subgrader Trimmer	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Tower Bucket Elevators	$82.25	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Tower Crane: over 175' through 250' in height, base to boom	$85.66	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Tower crane: up to 175' in height base to boom	$84.77	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Tower Cranes: over 250' in height from base to boom	$86.48	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Transporters, All Track Or Truck Type	$83.62	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Trenching Machines	$82.25	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Truck Crane Oiler/Driver: 100 tons and over	$83.20	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Truck crane oiler/driver: under 100 tons	$82.56	7A	11H	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Truck Mount Portable Conveyor	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Vac Truck (Vactor Guzzler, Hydro Excavator)	$82.88	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Welder	$83.62	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Wheel Tractors, Farmall Type	$78.65	15J	11G	8X	View
King	Power Equipment Operators-Underground Sewer & Water	Yo Yo Pay Dozer	$82.88	15J	11G	8X	View
King	Power Line Clearance Tree Trimmers	Journey Level In Charge	$57.22	5A	4A		View

King	Power Line Clearance Tree Trimmers	Spray Person	$54.32	5A	4A		View
King	Power Line Clearance Tree Trimmers	Tree Equipment Operator	$57.22	5A	4A		View
King	Power Line Clearance Tree Trimmers	Tree Trimmer	$51.18	5A	4A		View
King	Power Line Clearance Tree Trimmers	Tree Trimmer Groundperson	$38.99	5A	4A		View
King	Refrigeration & Air Conditioning Mechanics	Journey Level	$95.89	6Z	1G		View
King	Residential Brick Mason	Journey Level	$69.07	7E	1N		View
King	Residential Carpenters	Journey Level	$36.44		1		View
King	Residential Cement Masons	Journey Level	$46.64		1		View
King	Residential Drywall Applicators	Journey Level	$74.96	15J	4C		View
King	Residential Drywall Tapers	Journey Level	$36.36		1		View
King	Residential Electricians	Journey Level	$48.80		1		View
King	Residential Glaziers	Journey Level	$28.93		1		View
King	Residential Insulation Applicators	Journey Level	$28.18		1		View
King	Residential Laborers	Journey Level	$29.73		1		View
King	Residential Marble Setters	Journey Level	$27.38		1		View
King	Residential Painters	Journey Level	$23.47		1		View
King	Residential Plumbers & Pipefitters	Journey Level	$45.40		1		View
King	Residential Refrigeration & Air Conditioning Mechanics	Journey Level	$96.42	7F	1E		View
King	Residential Sheet Metal Workers	Journey Level	$96.42	7F	1E		View
King	Residential Soft Floor Layers	Journey Level	$57.11	5A	3J		View
King	Residential Sprinkler Fitters (Fire Protection)	Journey Level	$63.61		1		View
King	Residential Stone Masons	Journey Level	$69.07	7E	1N		View
King	Residential Terrazzo Workers	Journey Level	$62.36	7E	1N		View
King	Residential Terrazzo/Tile Finishers	Journey Level	$24.39		1		View
King	Residential Tile Setters	Journey Level	$21.04		1		View
King	Roofers	Journey Level	$64.45	5A	3H		View
King	Roofers	Using Irritable Bituminous Materials	$67.39	5A	3H		View
King	Sheet Metal Workers	Journey Level (Field or Shop)	$96.42	7F	1E		View
King	Shipbuilding & Ship Repair	New Construction Boilermaker	$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	New Construction Carpenter	$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	New Construction Crane Operator	$43.16	7V	1		View
King	Shipbuilding & Ship Repair	New Construction Electrician	$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	New Construction Heat & Frost Insulator	$87.15	15H	11C		View
King	Shipbuilding & Ship Repair	New Construction Laborer	$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	New Construction Machinist	$51.85	7X	4J		View

King	Shipbuilding & Ship Repair	New Construction Operating Engineer	$43.16	7V	1		View
King	Shipbuilding & Ship Repair	New Construction Painter	$51.95	7X	4J		View
King	Shipbuilding & Ship Repair	New Construction Pipefitter	$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	New Construction Rigger	$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	New Construction Sheet Metal	$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	New Construction Shipwright	$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	New Construction Warehouse/Teamster	$43.16	7V	1		View
King	Shipbuilding & Ship Repair	New Construction Welder / Burner	$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Boilermaker	$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Carpenter	$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Crane Operator	$45.06	7Y	4K		View
King	Shipbuilding & Ship Repair	Ship Repair Electrician	$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Heat & Frost Insulator	$87.15	15H	11C		View
King	Shipbuilding & Ship Repair	Ship Repair Laborer	$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Machinist	$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Operating Engineer	$45.06	7Y	4K		View
King	Shipbuilding & Ship Repair	Ship Repair Painter	$51.95	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Pipefitter	$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Rigger	$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Sheet Metal	$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Shipwright	$51.85	7X	4J		View
King	Shipbuilding & Ship Repair	Ship Repair Warehouse / Teamster	$45.06	7Y	4K		View
King	Sign Makers & Installers (Electrical)	Journey Level	$58.04	0	1		View
King	Sign Makers & Installers (Non-Electrical)	Journey Level	$37.08	0	1		View
King	Soft Floor Layers	Journey Level	$66.32	15J	4C		View
King	Solar Controls For Windows	Journey Level	$16.28		1		View
King	Sprinkler Fitters (Fire Protection)	Journey Level	$95.49	5C	1X		View
King	Stage Rigging Mechanics (Non Structural)	Journey Level	$16.28		1		View
King	Stone Masons	Journey Level	$69.07	7E	1N		View
King	Street And Parking Lot Sweeper Workers	Journey Level	$19.09		1		View
King	Surveyors	Assistant Construction Site Surveyor	$82.56	7A	11H	8X	View
King	Surveyors	Chainman	$78.95	7A	11H	8X	View
King	Surveyors	Construction Site Surveyor	$83.95	7A	11H	8X	View
King	Surveyors	Drone Operator (when used in conjunction with survey work only)	$78.95	7A	11H	8X	View
King	Surveyors	Ground Penetrating Radar Operator	$78.95	7A	11H	8X	View
King	Telecommunication Technicians	Journey Level	$65.66	7E	1E		View

King	Telephone Line Construction - Outside	Cable Splicer	$40.36	5A	2B		View
King	Telephone Line Construction - Outside	Hole Digger/Ground Person	$26.92	5A	2B		View
King	Telephone Line Construction - Outside	Telephone Equipment Operator (Light)	$33.74	5A	2B		View
King	Telephone Line Construction - Outside	Telephone Lineperson	$38.15	5A	2B		View
King	Terrazzo Workers	Journey Level	$62.36	7E	1N		View
King	Tile Setters	Journey Level	$62.36	7E	1N		View
King	Tile, Marble & Terrazzo Finishers	Finisher	$53.19	7E	1N		View
King	Traffic Control Stripers	Journey Level	$89.54	15L	1K		View
King	Truck Drivers	Asphalt Mix Over 16 Yards	$74.95	15J	11M	8L	View
King	Truck Drivers	Asphalt Mix To 16 Yards	$74.02	15J	11M	8L	View
King	Truck Drivers	Dump Truck	$74.02	15J	11M	8L	View
King	Truck Drivers	Dump Truck & Trailer	$74.95	15J	11M	8L	View
King	Truck Drivers	Other Trucks	$74.95	15J	11M	8L	View
King	Truck Drivers - Ready Mix	Transit Mix	$74.95	15J	11M	8L	View
King	Well Drillers & Irrigation Pump Installers	Irrigation Pump Installer	$17.71		1		View
King	Well Drillers & Irrigation Pump Installers	Oiler	$16.28		1		View
King	Well Drillers & Irrigation Pump Installers	Well Driller	$18.00		1		View

Benefit Code Key – Effective 3/2/2024 thru 8/30/2024 (Updated 3/20/2024)

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Overtime Codes

Overtime calculations are based on the hourly rate actually paid to the worker. On public works projects, the hourly rate must be not less than the prevailing rate of wage minus the hourly rate of the cost of fringe benefits actually provided for the worker.

1. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

B. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

C. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

D. The first two (2) hours before or after a five-eight (8) hour workweek day or a four-ten (10) hour workweek day and the first eight (8) hours worked the next day after either workweek shall be paid at one and one-half times the hourly rate of wage. All additional hours worked and all worked on Sundays and holidays shall be paid at double the hourly rate of wage.

E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

F. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.

G. The first ten (10) hours worked on Saturdays and the first ten (10) hours worked on a fifth calendar weekday in a four-ten hour schedule, shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

H. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions or equipment breakdown) shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

I. All hours worked on Sundays and holidays shall also be paid at double the hourly rate of wage.

J. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over ten (10) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage.

K. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

M. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Benefit Code Key – Effective 3/2/2024 thru 8/30/2024 (Updated 3/20/2024)

Overtime Codes Continued

1. N. All hours worked on Saturdays (except makeup days) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

O. The first ten (10) hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays, holidays and after twelve (12) hours, Monday through Friday and after ten (10) hours on Saturday shall be paid at double the hourly rate of wage.

P. All hours worked on Saturdays (except makeup days if circumstances warrant) and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

Q. The first two (2) hours after eight (8) regular hours Monday through Friday and up to ten (10) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays (except Christmas day) shall be paid at double the hourly rate of wage. All hours worked on Christmas day shall be paid at two and one-half times the hourly rate of wage.

R. All hours worked on Sundays and holidays shall be paid at two times the hourly rate of wage.

U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays (except Labor Day) shall be paid at two times the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.

V. All hours worked on Sundays and holidays (except Thanksgiving Day and Christmas day) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Thanksgiving Day and Christmas day shall be paid at double the hourly rate of wage.

W. All hours worked on Saturdays and Sundays (except make-up days due to conditions beyond the control of the employer)) shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

X. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over twelve (12) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage. When holiday falls on Saturday or Sunday, the day before Saturday, Friday, and the day after Sunday, Monday, shall be considered the holiday and all work performed shall be paid at double the hourly rate of wage.

Y. All hours worked outside the hours of 5:00 am and 5:00 pm (or such other hours as may be agreed upon by any employer and the employee) and all hours worked in excess of eight (8) hours per day (10 hours per day for a 4 x 10 workweek) and on Saturdays and holidays (except labor day) shall be paid at one and one-half times the hourly rate of wage. (except for employees who are absent from work without prior approval on a scheduled workday during the workweek shall be paid at the straight-time rate until they have worked 8 hours in a day (10 in a 4 x 10 workweek) or 40 hours during that workweek.) All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and Labor Day shall be paid at double the hourly rate of wage.

Z. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid the straight time rate of pay in addition to holiday pay.

Benefit Code Key – Effective 3/2/2024 thru 8/30/2024 (Updated 3/20/2024)

Overtime Codes Continued

2. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

   B. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.

   F. The first eight (8) hours worked on holidays shall be paid at the straight hourly rate of wage in addition to the holiday pay. All hours worked in excess of eight (8) hours on holidays shall be paid at double the hourly rate of wage.

   M. This code appears to be missing. All hours worked on Saturdays, Sundays and holidays shall be paid at double the hourly rate of wage.

   R. All hours worked on Sundays and holidays and all hours worked over sixty (60) in one week shall be paid at double the hourly rate of wage.

   U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked over 12 hours in a day or on Sundays and holidays shall be paid at double the hourly rate of wage.

3. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

   F. All hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sunday shall be paid at two times the hourly rate of wage. All hours worked on paid holidays shall be paid at two and one-half times the hourly rate of wage including holiday pay.

   H. All work performed on Sundays between March 16th and October 14th and all Holidays shall be compensated for at two (2) times the regular rate of pay. Work performed on Sundays between October 15th and March 15th shall be compensated at one and one half (1-1/2) times the regular rate of pay.

   J. All hours worked between the hours of 10:00 pm and 5:00 am, Monday through Friday, and all hours worked on Saturdays shall be paid at a one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

   K. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage. All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.

   After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more. When an employee returns to work without at least eight (8) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the eight (8) hours rest period.

Benefit Code Key – Effective 3/2/2024 thru 8/30/2024 (Updated 3/20/2024)

Overtime Codes Continued

4. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

A. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturdays, Sundays and holidays shall be paid at double the hourly rate of wage

C. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay. On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay, except that if the job is down on Monday through Friday due to weather conditions or other conditions outside the control of the employer, the first ten (10) hours on Saturday may be worked at the straight time rate of pay. All hours worked over twelve (12) hours in a day and all hours worked on Sunday and Holidays shall be paid at two (2) times the straight time rate of pay.

D. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturday, Sundays and holidays shall be paid at double the hourly rate of pay. Rates include all members of the assigned crew.

EXCEPTION:
On all multipole structures and steel transmission lines, switching stations, regulating, capacitor stations, generating plants, industrial plants, associated installations and substations, except those substations whose primary function is to feed a distribution system, will be paid overtime under the following rates:

The first two (2) hours after eight (8) regular hours Monday through Friday of overtime on a regular workday, shall be paid at one and one-half times the hourly rate of wage. All hours in excess of ten (10) hours will be at two (2) times the hourly rate of wage. The first eight (8) hours worked on Saturday will be paid at one and one-half (1-1/2) times the hourly rate of wage. All hours worked in excess of eight (8) hours on Saturday, and all hours worked on Sundays and holidays will be at the double the hourly rate of wage.

All overtime eligible hours performed on the above described work that is energized, shall be paid at the double the hourly rate of wage.

E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

On a four-day, ten-hour weekly schedule, either Monday thru Thursday or Tuesday thru Friday schedule, all hours worked after ten shall be paid at double the hourly rate of wage. The Monday or Friday not utilized in the normal four-day, ten hour work week, and Saturday shall be paid at one and one half (1½) times the regular shift rate for the first eight (8) hours. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

G. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

I. The First eight (8) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of eight (8) per day on Saturdays shall be paid at double the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Benefit Code Key – Effective 3/2/2024 thru 8/30/2024 (Updated 3/20/2024)

Overtime Codes Continued

4. J. The first eight (8) hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of eight (8) hours on a Saturday shall be paid at double the hourly rate of wage. All hours worked over twelve (12) in a day, and all hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.

K. All hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage, so long as Saturday is the sixth consecutive day worked. All hours worked over twelve (12) in a day Monday through Saturday, and all hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.

L. The first twelve (12) hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on a Saturday in excess of twelve (12) hours shall be paid at double the hourly rate of pay. All hours worked over twelve (12) in a day Monday through Friday, and all hours worked on Sundays shall be paid at double the hourly rate of wage. All hours worked on a holiday shall be paid at one and one-half times the hourly rate of wage, except that all hours worked on Labor Day shall be paid at double the hourly rate of pay.

S. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, work performed in excess of (10) hours shall be paid at one and one half (1-1/2) times the hourly rate of pay. On Monday through Friday, work performed outside the normal work hours of 6:00 a.m. and 6:00 p.m. shall be paid at one and one-half (1-1/2) times the straight time rate, (except for special shifts or multiple shift operations).

All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All work performed on Sundays and holidays shall be paid at double the hourly rate of wage. When an employee returns to work without at least eight (8) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

Multiple Shift Operations: When the first shift of a multiple shift (a two or three shift) operation is started at the basic straight time rate or at a specific overtime rate, all shifts of that day's operation shall be completed at that rate. Special Shifts: The Special Shift Premium is the basic hourly rate of pay plus $2.00 an hour. When due to conditions beyond the control of the employer or when an owner (not acting as the contractor), a government agency or the contract specifications require more than four (4) hours of a special shift can only be performed outside the normal 6am to 6pm shift then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they shall be paid the special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday).

U. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. (Except on makeup days if work is lost due to inclement weather, then the first eight (8) hours on Saturday may be paid the regular rate.) All hours worked over twelve (12) hours Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Overtime Codes Continued

4. X. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage. Work performed outside the normal shift of 6 am to 6pm shall be paid at one and one-half the straight time rate, (except for special shifts or three shift operations). All work performed on Sundays and holidays shall be paid at double the hourly rate of wage. Shifts may be established when considered necessary by the Employer.

The Employer may establish shifts consisting of eight (8) or ten (10) hours of work (subject to WAC 296-127-022), that shall constitute a normal forty (40) hour work week. The Employer can change from a 5-eight to a 4-ten hour schedule or back to the other. All hours of work on these shifts shall be paid for at the straight time hourly rate. Work performed in excess of eight hours (or ten hours per day (subject to WAC 296-127-022) shall be paid at one and one-half the straight time rate.

When due to conditions beyond the control of the Employer, or when contract specifications require that work can only be performed outside the regular day shift, then by mutual agreement a special shift may be worked at the straight time rate, eight (8) hours work for eight (8) hours pay. The starting time shall be arranged to fit such conditions of work.

When an employee returns to work without at a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

Overtime Codes Continued

11. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.

B After an employee has worked eight (8) hours, all additional hours worked shall be paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

C The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, and all hours on Sunday shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage. All non-overtime and non-holiday hours worked between 4:00 pm and 5:00 am, Monday through Friday, shall be paid at a premium rate of 15% over the hourly rate of wage.

D. All hours worked on Saturdays and holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays shall be paid at double the hourly rate of wage.

After an employee has worked eight (8) hours, all additional hours worked shall be paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

E. The first two (2) hours after eight (8) regular hours Monday through Friday, the first ten (10) hours on Saturday, and the first ten (10) hours worked on Holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked over ten (10) hours Monday through Saturday, and Sundays shall be paid at double the hourly rate of wage.

After an employee has worked eight (8) hours, all additional hours worked shall be paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

Benefit Code Key – Effective 3/2/2024 thru 8/30/2024 (Updated 3/20/2024)

Overtime Codes Continued

11. F. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

    On a four-day, ten-hour weekly schedule, either Monday thru Thursday or Tuesday thru Friday schedule, all hours worked after ten shall be paid at double the hourly rate of wage. The Monday or Friday not utilized in the normal four-day, ten hour work week, and Saturday shall be paid at one-half times the hourly rate of wage for the first eight (8) hours. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

    G. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage.

    All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.

    After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of nine (9) hours or more. When an employee returns to work without at least nine (9) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the nine (9) hours rest period.

    H. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage.

    All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.

    After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of ten (10) hours or more. When an employee returns to work without at least ten (10) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the ten (10) hours rest period.

    J. All hours worked on holidays shall be paid at double the hourly rate of wage.

    K. On Monday through Friday hours worked outside 4:00 am and 5:00 pm, and the first two (2) hours after eight (8) hours worked shall be paid at one and one-half times the hourly rate. All hours worked over 10 hours per day Monday through Friday, and all hours worked on Saturdays, Sundays, and Holidays worked shall be paid at double the hourly rate of wage.

    L. An employee working outside 5:00 am and 5:00 pm shall receive an additional two dollar ($2.00) per hour for all hours worked that shift. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.

Benefit Code Key – Effective 3/2/2024 thru 8/30/2024 (Updated 3/20/2024)

Overtime Codes Continued

11. M. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay.

Work performed outside the normal work hours of 5:00 a.m. and 6:00 p.m. shall be paid at one and one-half (1-1/2) times the straight time rate, (except for special shifts or multiple shift operations). When the first shift of a multiple shift (a two or three shift) operation is started at the basic straight time rate or at a specific overtime rate, all shifts of that day's operation shall be completed at that rate. When due to conditions beyond the control of the Employer or when contract specifications require that work can only be performed outside the regular day shift of 5:00 am to 6:00 pm, then a special shift may be worked at the straight time rate, plus the shift pay premium when applicable. The starting time of work will be arranged to fit such conditions of work. Such shift shall consist of eight (8) hours work for eight (8) hours pay or ten (10) hours work for ten (10) hours pay for four ten shifts.

On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay. All work performed after 6:00 pm Saturday to 5:00 am Monday, all work performed over twelve (12) hours, and all work performed on holidays shall be paid at double the straight time rate of pay.

Shift Pay Premium: In an addition to any overtime already required, all hours worked between the hours of 6:00 pm and 5:00 am shall receive an additional two dollars ($2.00) per hour.

N. All work performed over twelve hours in a shift and all work performed on Sundays and Holidays shall be paid at double the straight time rate.

Any time worked over eight (8) hours on Saturday shall be paid double the straight time rate, except employees assigned to work six 10-hour shifts per week shall be paid double the straight time rate for any time worked on Saturday over 10 hours.

O. All work performed on Saturdays, Sundays, and Holidays shall be paid at one and one half (1-1/2) times the straight time rate of pay.

Benefit Code Key – Effective 3/2/2024 thru 8/30/2024 (Updated 3/20/2024)

Overtime Codes Continued

11. P. Work performed in excess of ten (10) hours of straight time per day when four ten (10) hour shifts are established and all work on Saturdays, except for make-up days shall be paid at time and one-half (1 ½) the straight time rate.

Work performed outside the normal work hours of 5:00 a.m. and 6:00 p.m. shall be paid at one and one-half (1-1/2) times the straight time rate, (except for special shifts or multiple shift operations). When the first shift of multiple shift (a two or three shift) operation is started at the basic straight time rate or at a specific overtime rate, all shifts of that day's operation shall be completed at that rate. When due to conditions beyond the control of the Employer or when contract specifications require that work can only be performed outside the regular day shift of 5:00 a.m. to 6:00 p.m., then a special shift may be worked at the straight time rate, plus the shift pay premium when applicable. The starting time of work will be arranged to fit such conditions of work. Such shifts shall consist of eight (8) hours work for eight (8) hours pay or ten (10) hours work for ten (10) hours pay for four ten-hour shifts.

In the event the job is down due to weather conditions, then Saturday may, be worked as a voluntary make-up day at the straight time rate. However, Saturday shall not be utilized as a make-up day when a holiday falls on Friday. All work performed on Sundays and holidays and work in excess of twelve (12) hours per day shall be paid at double (2x) the straight time rate of pay.

After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

When an employee returns to work without a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

Q. All hours worked between the hours of 6:00 pm and 6:00 am, Monday through Saturday, shall be paid at a premium rate of 35% over the hourly rate of wage. Work performed on Sundays shall be paid at double time. All hours worked on holidays shall be paid at double the hourly rate of wage.

R On Monday through Saturday hours worked outside 6:00 am and 7:00 pm, and all hours after eight (8) hours worked shall be paid at one and one-half times the hourly rate. All hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.

When a holiday falls on a Saturday, the Friday before shall be the observed holiday. When a holiday falls on a Sunday, the following Monday shall be the observed holiday.

S. The first ten (10) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. In the event the job is down due to weather conditions, or other conditions beyond the control of the Employer, then Saturday may be worked at the straight time rate, for the first eight (8) hours, or the first ten (10) hours when a four day ten hour workweek has been established.

All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

When an employee returns to work without a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

Benefit Code Key – Effective 3/2/2024 thru 8/30/2024 (Updated 3/20/2024)

Holiday Codes

5. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, and Christmas Day (7).

B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, the day before Christmas, and Christmas Day (8).

C. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).

D. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8).

H. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Day after Thanksgiving Day, And Christmas (6).

I. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6).

K. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, The Day Before Christmas, And Christmas Day (9).

L. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (8).

N. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, The Friday After Thanksgiving Day, And Christmas Day (9).

P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday And Saturday After Thanksgiving Day, The Day Before Christmas, And Christmas Day (9). If A Holiday Falls On Sunday, The Following Monday Shall Be Considered As A Holiday.

Q. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6).

R. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Day After Thanksgiving Day, One-Half Day Before Christmas Day, And Christmas Day. (7 1/2).

S. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, And Christmas Day (7).

Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).

Benefit Code Key – Effective 3/2/2024 thru 8/30/2024 (Updated 3/20/2024)

Holiday Codes Continued

6. G. Paid Holidays: New Year's Day, Martin Luther King Jr. Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and Christmas Eve Day (11).

H. Paid Holidays: New Year's Day, New Year's Eve Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, Christmas Day, The Day After Christmas, And A Floating Holiday (10).

T. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Last Working Day Before Christmas Day, And Christmas Day (9).

Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). If a holiday falls on Saturday, the preceding Friday shall be considered as the holiday. If a holiday falls on Sunday, the following Monday shall be considered as the holiday.

Holiday Codes Continued

7. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any Holiday Which Falls On A Sunday Shall Be Observed As A Holiday On The Following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

C. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

D. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Unpaid Holidays: President's Day. Any paid holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any paid holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

E. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

F. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the last working day before Christmas day and Christmas day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

Benefit Code Key – Effective 3/2/2024 thru 8/30/2024 (Updated 3/20/2024)

Holiday Codes Continued

7. G. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

H. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

I. Holidays: New Year's Day, President's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Day Before Christmas Day And Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

J. Holidays: New Year's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

K. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

L. Holidays: New Year's Day, Memorial Day, Labor Day, Independence Day, Thanksgiving Day, the Last Work Day before Christmas Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

N. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. When Christmas falls on a Saturday, the preceding Friday shall be observed as a holiday.

P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

Q. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

S. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, Christmas Day, the Day after Christmas, and A Floating Holiday (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.

V. Holidays: New Year's Day, President's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, the day before or after Christmas, and the day before or after New Year's Day. If any of the above listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.

W. Holidays: New Year's Day, Day After New Year's, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Eve Day, Christmas Day, the day after Christmas, the day before New Year's Day, and a Floating Holiday.

Holiday Codes Continued

7. X. Holidays: New Year's Day, Day before or after New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and the day before or after Christmas day. If a holiday falls on a Saturday or on a Friday that is the normal day off, then the holiday will be taken on the last normal workday. If the holiday falls on a Monday that is the normal day off or on a Sunday, then the holiday will be taken on the next normal workday.

Y. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day. (8) If the holiday falls on a Sunday, then the day observed by the federal government shall be considered a holiday and compensated accordingly.

Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, Christmas Eve, and Christmas Day (9). Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday. Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

Holiday Codes Continued

15. G. New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, the last scheduled workday before Christmas, and Christmas Day (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.

H. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

I. Holidays: New Year's Day, President's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Day Before Christmas Day And Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

J. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

K. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

L. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

M. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Eve Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.

Benefit Code Key – Effective 3/2/2024 thru 8/30/2024 (Updated 3/20/2024)

Holiday Codes Continued

15. N. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

O. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, the day before Christmas day, and Christmas Day (10). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

Note Codes

8. D. Workers working with supplied air on hazmat projects receive an additional $1.00 per hour.

L. Workers on hazmat projects receive additional hourly premiums as follows -Level A: $0.75, Level B: $0.50, And Level C: $0.25.

M. Workers on hazmat projects receive additional hourly premiums as follows: Levels A & B: $1.00, Levels C & D: $0.50.

N. Workers on hazmat projects receive additional hourly premiums as follows -Level A: $1.00, Level B: $0.75, Level C: $0.50, And Level D: $0.25.

S. Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.

T. Effective August 31, 2012 – A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.

U. Workers on hazmat projects receive additional hourly premiums as follows – Class A Suit: $2.00, Class B Suit: $1.50, And Class C Suit: $1.00. Workers performing underground work receive an additional $0.40 per hour for any and all work performed underground, including operating, servicing and repairing of equipment. The premium for underground work shall be paid for the entire shift worked. Workers who work suspended by a rope or cable receive an additional $0.50 per hour. The premium for work suspended shall be paid for the entire shift worked. Workers who do "pioneer" work (break open a cut, build road, etc.) more than one hundred fifty (150) feet above grade elevation receive an additional $0.50 per hour.

Benefit Code Key – Effective 3/2/2024 thru 8/30/2024 (Updated 3/20/2024)

Note Codes Continued

8. V. In addition to the hourly wage and fringe benefits, the following depth and enclosure premiums shall be paid. The premiums are to be calculated for the maximum depth and distance into an enclosure that a diver reaches in a day. The premiums are to be paid one time for the day and are not used in calculating overtime pay.

   Depth premiums apply to depths of fifty feet or more. Over 50' to 100' - $2.00 per foot for each foot over 50 feet. Over 101' to 150' - $3.00 per foot for each foot over 101 feet. Over 151' to 220' - $4.00 per foot for each foot over 220 feet. Over 221' - $5.00 per foot for each foot over 221 feet.

   Enclosure premiums apply when divers enter enclosures (such as pipes or tunnels) where there is no vertical ascent and is measured by the distance travelled from the entrance. 25’ to 300’ - $1.00 per foot from entrance. 300’ to 600’ - $1.50 per foot beginning at 300’. Over 600’ - $2.00 per foot beginning at 600’.

   W. Meter Installers work on single phase 120/240V self-contained residential meters. The Lineman/Groundmen rates would apply to meters not fitting this description.

   X. Workers on hazmat projects receive additional hourly premiums as follows - Class A Suit: $2.00, Class B Suit: $1.50, Class C Suit: $1.00, and Class D Suit: $0.50. Special Shift Premium: Basic hourly rate plus $2.00 per hour.

   When due to conditions beyond the control of the Employer or when an owner (not acting as the contractor), a government agency or the contract specifications requires that work can only be performed outside the normal 5 am to 6pm shift, then the special shift premium will be applied to the basic hourly rate. When an employee works on a special shift, they shall be paid a special shift premium for each hour worked unless they are in OT or Double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

   Y. Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay.

   Swinging Stage/Boatswains Chair: Employees working on a swinging state or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents ($0.75) per hour above the classification rate.

   Z. Workers working with supplied air on hazmat projects receive an additional $1.00 per hour.

   Special Shift Premium: Basic hourly rate plus $2.00 per hour. When due to conditions beyond the control of the Employer or when an owner (not acting as a contractor), a government agency or the contract specifications require that more than (4) hours of a special shift can only be performed outside the normal 6 am to 6pm shift, then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they will be paid a special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

Benefit Code Key – Effective 3/2/2024 thru 8/30/2024 (Updated 3/20/2024)

Note Codes Continued

9. A. Workers working with supplied air on hazmat projects receive an additional $1.00 per hour.

Special Shift Premium: Basic hourly rate plus $2.00 per hour. When due to conditions beyond the control of the Employer or when an owner (not acting as the contractor), a government agency or the contract specifications require that more than four (4) hours of a special shift can only be performed outside the normal 6 am to 6pm shift, then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they shall be paid a special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

Certified Crane Operator Premium: Crane operators requiring certifications shall be paid $0.50 per hour above their classification rate.

Boom Pay Premium: All cranes including tower shall be paid as follows based on boom length:

(A) – 130’ to 199’ – $0.50 per hour over their classification rate.
(B) – 200’ to 299’ – $0.80 per hour over their classification rate.
(C) – 300’ and over – $1.00 per hour over their classification rate.

B. The highest pressure registered on the gauge for an accumulated time of more than fifteen (15) minutes during the shift shall be used in determining the scale paid.

Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay. Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents ($0.75) per hour above the classification rate.

C. Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay. Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents ($0.75) per hour above the classification rate.

Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. These classifications are only effective on or after August 31, 2012.

D. Industrial Painter wages are required for painting within industrial facilities such as treatment plants, pipelines, towers, dams, bridges, power generation facilities and manufacturing facilities such as chemical plants, etc., or anywhere abrasive blasting is necessary to prepare surfaces, or hazardous materials encapsulation is required.

E. Heavy Construction includes construction, repair, alteration or additions to the production, fabrication or manufacturing portions of industrial or manufacturing plants, hydroelectric or nuclear power plants and atomic reactor construction. Workers on hazmat projects receive additional hourly premiums as follows -Level A: $1.00, Level B: $0.75, Level C: $0.50, And Level D: $0.25.

Note Codes Continued

9. F. Industrial Painter wages are required for painting within industrial facilities such as treatment plants, pipelines, towers, dams, power generation facilities and manufacturing facilities such as chemical plants, etc., or anywhere abrasive blasting is necessary to prepare surfaces, or hazardous materials encapsulation is required.

H. One (1) person crew shall consist of a Party Chief. (Total Station or similar one (1) person survey system). Two (2) person survey party shall consist of a least a Party Chief and a Chain Person. Three (3) person survey party shall consist of at least a Party Chief, an Instrument Person, and a Chain Person.

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APPENDIX B
GEOTECHNICAL REPORT

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SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

ALASKA
CALIFORNIA
COLORADO
FLORIDA
MINNESOTA
MISSOURI
OREGON
WASHINGTON

March 24, 2011

Mr. Jason Henry, P.E.
Hammond Collier Wade Livingstone
4010 Stone Way North, Suite 300
Seattle, WA 98103

RE: AMENDMENT TO GEOTECHNICAL REPORT FOUNDATION DESIGN RECOMMENDATION, LAKE FOREST PARK PUBLIC WORKS MATERIAL BIN COVER PROJECT, LAKE FOREST PARK, WASHINGTON

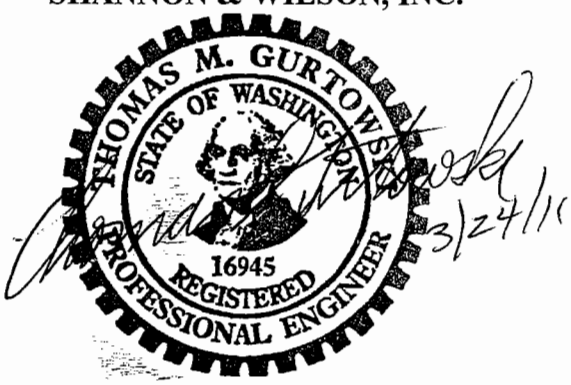
Dear Mr. Henry:

This letter provides an amendment to Section 5.2, Foundation Design Recommendations, of our Lake Forest Park Public Works Material Bin Cover Project geotechnical report, dated March 4, 2011. We estimate ultimate footing bearing capacity to be 6,000 pounds per square foot. At this pressure, a 4-foot-wide square footing could settle approximately 2 inches and a 2- foot-wide square footing could settle approximately 1 inch. Settlement is elastic and occurs as load is applied. We recommend a resistance factor of 0.7 for cohesionless soils, per NEHRP Recommended Seismic Provisions for New Buildings and Other Structures, FEMA P-750 (2009) Resource Paper 4.

Please call me at (206) 695-6801 if you have any questions about this amendment or if we may be of further service to you.

Sincerely,

SHANNON & WILSON, INC.



Thomas M. Gurtowski, P.E.
Vice President

TMG/hkw

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400 NORTH 34TH STREET · SUITE 100
P.O. BOX 300303
SEATTLE, WASHINGTON 98103
206·632·8020 FAX 206·695·6777
TDD: 1·800·833·6388
www.shannonwilson.com

Geotechnical Report
Lake Forest Park Public Works
Material Bin Cover Project
Lake Forest Park, Washington

March 4, 2011

Submitted To:
Mr. Jason Henry, P.E.
Hammond Collier Wade Livingstone
4010 Stone Way North, Suite 300
Seattle, Washington 98103

By:
Shannon & Wilson, Inc.
400 N 34th Street, Suite 100
Seattle, Washington 98103

21-1-21483-001

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GEOTECHNICAL REPORT
LAKE FOREST PARK PUBLIC WORKS MATERIAL BIN COVER PROJECT
LAKE FOREST PARK, WASHINGTON

1.0 INTRODUCTION

This report presents geotechnical engineering conclusions and recommendations for the proposed Lake Forest Park Public Works Material Bin Cover project in Lake Forest Park, Washington. The project is located at 19201 Ballinger Way, as shown in Vicinity Map, Figure 1. This report presents a summary of previous test pit explorations, subsurface soil conditions, and the results of engineering studies and analyses.

Our scope of services was completed in general accordance with our Proposal for Geotechnical Services, dated July 23, 2010.

2.0 SITE AND PROJECT DESCRIPTION

An existing maintenance facility building and two series of uncovered material holding bins constructed of ecology blocks and asphalt parking occupy the project site.

It is our understanding that the proposed material bin cover project will consist of constructing two 58- by 25-foot roofed structures over both sets of existing material bins. Columns on spread footings will support the roofed structure. The existing slab-on-grade at the material bin structures will be incorporated into the new construction.

3.0 PREVIOUS SUBSURFACE EXPLORATIONS

Four test pits, designated TP-1 to TP-4, were previously excavated and sampled on June 19, 2002, at the approximate locations shown in the Site and Exploration Plan, Figure 2. The previous test pits were excavated to depths of approximately 4.0 to 8.0 feet. These explorations were part of Shannon & Wilson, Inc. geotechnical efforts to generally characterize subsurface conditions for the Lake Forest Park Public Works Maintenance Facility Project, Lake Forest, Washington. The results of the previous subsurface explorations are presented in our technical memorandum, Shannon & Wilson, Inc. Technical Memorandum, Subsurface Explorations, Public Works Maintenance Facility, Lake Forest Park, Washington, June 2002. Test pits TP-3 and TP-4 are closest to the proposed material bin covers. We have summarized the results in this report, as they pertain to the proposed Material Bin Cover project. Detailed descriptions of the soil encountered in the test pits are presented in Figures A-2 through A-5 of Appendix A.

4.0 SITE SUBSURFACE CONDITIONS

4.1 General

Locations of previous soil explorations and proposed structures are shown in the Site and Exploration Plan, Figure 2.

Subsurface soil conditions were predominately characterized based on the logs of two previous test pit explorations, designated TP- 3 and TP-4, which are closest to the proposed material bin covers. The explorations indicated fill approximately 2 feet below the ground surface that generally consists of loose, silty, gravelly sand with scattered organics. Based on previous explorations, fill varies in composition, density, and thickness. Underlying fill at TP-4 was stiff, sandy, silty clay with gravel. This soil would be suitable to support spread footings.

Fill may be up to 8 feet thick, as observed in TP-1, and may contain silt, sand, and debris (i.e., tree stumps, roots, and construction debris). Cobbles and up to 3-foot-diameter boulders were encountered in TP-2 and TP-3 and could be included in the matrix of the native material.

4.2 Groundwater

Soil samples were classified as moist and groundwater was not observed except in test pit TP-1 at a depth of 8.0 feet. TP-1 is located approximately 150 feet from the proposed structures. It is possible that during prolonged wet weather conditions, the perched groundwater could be exposed at shallower depths than 8.0 feet.

5.0 ENGINEERING CONCLUSIONS AND RECOMMENDATIONS

5.1 General

Based on the results of the previous explorations and laboratory testing, we performed engineering analyses to develop recommendations for design of the proposed material bin cover. The following list is based on our understanding of the existing subsurface conditions and the proposed site layout. Our analyses include:

- Evaluation of subsurface conditions and site geology
- Foundation design
- Floor slabs and underslab drainage
- Construction considerations

5.2 Foundation Design Recommendations

We understand that the proposed material bin covers will be supported on spread footings. Based on the subsurface conditions encountered in the test pit explorations, it is our opinion that footings could be designed for an allowable bearing pressure of up to 2,000 pounds per square foot. We recommend that the allowable bearing capacities be increased by one-third when used with alternative basic load combinations that include wind or earthquake loads. This recommendation is in accordance with the International Building Code (IBC) 2009, Section 1806.

The allowable bearing capacity is based on the assumption that the subgrade preparation and our compaction recommendations are followed. If fill as described herein or unanticipated loose, soft, or unsuitable soil is encountered beneath footings, it should be removed and replaced with compacted structural fill. Structural fill should be compacted to a dense, unyielding condition according to our recommendations presented in Section 5.5.2, Fill Placement, Compaction and Use of On-site Soils.

5.3 Floor Slabs

We recommend that slab-on-grade be supported by dense, native soil or compacted structural fill placed directly onto dense or stiff, native soil. If unanticipated loose, soft, or unsuitable soil is encountered, it should be removed and replaced with compacted structural fill. Structural fill should be compacted to a dense, unyielding condition according to our recommendations presented in Section 5.5.2, Fill Placement, Compaction and Use of On-Site Soils. A modulus of subgrade reaction of 150 pounds per cubic inch may be used to design the slab, assuming dense structural fill or native subgrades will be present.

We recommend placing a capillary break consisting of a minimum 4-inch layer of washed pea gravel (⅜-inch to No. 8 sieve size), or ⅝-inch-minus crushed rock, as shown in Figure 3, Typical Below-grade Wall and Floor Slab Subdrainage and Backfill. We recommend a 10-mil-thick vapor barrier be installed only under slabs of heated spaces.

5.4 Subdrainage and Surface Water Drainage Control

We recommend installing a subdrain system along the outside of the perimeter footings to prevent the buildup of hydrostatic pressures. The subdrain system should consist of a perforated or slotted, 4-inch (minimum)-diameter plastic pipe bedded in ⅜-inch to No. 8 size, washed pea gravel. Refer to Figure 3 for typical wall subdrainage and backfilling recommendations. A

perimeter subdrain is not necessary if the slab is 18 inches or more above surrounding ground elevation or shallow (less than approximately 4 feet deep) continuous wall footings are designed.

Where a perforated or slotted drain pipe from a subdrain system connects into a tightline, we recommend that a low-permeability concrete collar or dam be placed along the first 2 feet of the tightline to force all water into the tightline. Cleanouts should be provided at convenient locations along all drain lines, such as at the building corners.

To promote surface water drainage, provisions should be made to direct it away from structures and to prevent water from seeping into the ground adjacent to the structures. Ground surface should be sloped away and surface and downspout water should not be introduced into site backfill. Surface water should be collected in catch basins and, along with downspout water, be conveyed in a nonperforated pipe (tightline) to an approved discharge point.

5.5 Earthwork

5.5.1 General

In our opinion, earthwork operations can be accomplished with conventional excavation equipment (hydraulic excavators, etc.). Following site preparation, earthwork operations can proceed.

5.5.2 Fill Placement, Compaction, and Use of On-site Material

We do not recommend the reuse of on-site fill materials at the project site due to the expected construction debris, organics, and high (>20 percent) fines content of these soils.

Structural fill should be placed in uniform lifts and compacted to a dense and unyielding condition, to at least 95 percent of the Modified Proctor maximum dry density (ASTM International D 1557-09). The thickness of soil layers before compaction should not exceed 8 inches for heavy equipment compactors or 4 inches for hand-operated mechanical compactors.

5.5.3 Imported Structural Fill

Imported structural fill soil should consist of a well-graded mixture of sand and gravel, free of organics, debris, and rubbish, and should contain not more than 15 percent fines (material passing the No. 200 mesh sieve, based on the minus ¾-inch fraction). The fines should be nonplastic and the moisture content of the soil should be within ±2 percent of optimum. All imported structural fill should have a maximum particle size of 3 inches.

During wet weather or in wet conditions where control of soil moisture is difficult, imported structural fill material should consist of clean, granular soil, of which not more than 5 percent by dry weight passes the No. 200 mesh sieve, based on wet sieving the fraction passing the ¾-inch sieve. The fines should be nonplastic.

5.6 Groundwater Control

Groundwater was not observed during test pit excavation and is not likely to be encountered during construction. If groundwater is encountered, sumps and pumps can likely remove accumulations and flows of groundwater into open excavations installed in the bottom of the excavations.

6.0 CONSTRUCTION CONSIDERATIONS

6.1 Obstructions

Unanticipated conditions are commonly encountered and cannot be fully determined by merely taking soil samples or making explorations. Construction debris was encountered in the test pit excavations and could impact excavations.

6.2 Erosion Control

The Contractor should employ proper erosion control measures during construction, especially if construction takes place during wet weather. Covering work areas, soil stockpiles, or slopes with plastic sheeting held down with sandbags, use of sumps to remove accumulations of rainwater, and other measures should be employed as necessary to permit proper completion of the work. Bales of straw, geotextile silt fences, and drain inlet sediment screens/collection systems should be appropriately located to control sediment movement and soil erosion.

6.3 Wet Weather Earthwork

Wet weather generally begins about mid-October and continues through about May, although rainy periods may occur at any time of year. Some of the soil at the site contains sufficient silts and fines to produce an unstable mixture when wet. Such soils are susceptible to changes in water content and they tend to become unstable and difficult or impossible to compact if their moisture content significantly exceeds the optimum. If earthwork at the site continues into the wet season, or if wet conditions are encountered, we recommend the following:

- The ground surface in and surrounding the construction area should be sloped as much as possible to promote runoff of precipitation away from work areas and to prevent ponding of water.
- Fill material should consist of clean, well-graded, pit-run sand and gravel soils, of which not more than 5 percent fines by dry weight pass the No. 200 mesh sieve, based on wet sieving the fraction passing the ¾-inch mesh sieve. The gravel content should range from between 20 to 60 percent retained on a No. 4 mesh sieve. The fines should be nonplastic.
- No soil should be left uncompacted and exposed to moisture. A smooth-drum vibratory roller or equivalent should roll the surface to seal out as much water as possible.
- In-place soils or fill soils that become wet and unstable and/or too wet to suitably compact should be removed and replaced with clean, granular soil.
- Excavation and placement of structural fill material should be observed on a full-time basis by a geotechnical engineer (or representative) experienced in earthwork to determine that all work is being accomplished in accordance with the project specifications and our recommendations.
- Grading and earthwork should not be accomplished during periods of heavy, continuous rainfall.

We suggest that these recommendations for wet weather earthwork be included in the contract specifications.

7.0 CONSTRUCTION OBSERVATION ASSUMPTIONS

For this project, we will assign an experienced geotechnical field representative who will be onsite during footing and slab subgrade preparation and other earthwork as necessary. We will observe and evaluate foundation construction activities to confirm that they are accomplished in accordance with our recommendations and the approved project plans.

Our services will be provided on a full-time or on-call basis as required by the construction activities. We will rely on the Contractor to inform us of the times that we are needed at the project site. At least 24 hours advance notice is requested. Additional services, as required by conditions at the project site, will be provided at the request of the Owner. Additional authorization may be required for services that are beyond our currently anticipated scope of work.

While at the project site, our field representative will advise the Contractor of our observations and opinions. Recommendations that may affect the contract costs will be made to the Owner or

their designated representative. We will contact the Owner or their representative directly if and when any immediate action needs to be taken. Our duties will not include any review or responsibility for the adequacy of the safety measures at or near the site, or any environmental assessment or evaluation regarding the presence or absence of hazardous or toxic materials in the soil, surface water, groundwater, or air at this project site.

Our field representative will prepare daily field activity reports (FARs) summarizing the day's work, including the locations of the work area and our opinions regarding the adequacy of the work. Copies of our daily FARs will be sent to the City of Lake Forest Park. Please inform us if additional copies are required.

Office supervision and engineering services related to our fieldwork will be required. Mr. Martin Page will be project manager and will provide engineering consulting services, as required, such as: (a) making visits to the site to review unusual conditions, (b) making engineering evaluations and providing recommendations as conditions dictate, (c) attending meetings, (d) supervising field personnel, and (e) providing other services as requested by the Owner.

8.0 LIMITATIONS

This report was prepared for the exclusive use of the City of Lake Forest Park and Hammond Collier Wade Livingstone for specific application to design of facilities discussed in this report. The report is provided for information of factual data only, and not as a warranty of subsurface conditions, such as those interpreted from the exploration logs and discussions of subsurface conditions included in this report.

The analyses, conclusions, and recommendations contained in this report are based on site conditions as they presently exist. We assume that the results of the exploratory test pits made for this project represent the subsurface conditions throughout the sites; i.e., the subsurface conditions everywhere are not significantly different from those disclosed by the explorations. If conditions different from those described in this report are observed or appear to be present during construction, we should be advised at once so that we can review these conditions and reconsider our recommendations, where necessary. If there is a substantial lapse of time between submission of our report and the start of work at the site, or if conditions have changed due to natural causes or construction operations at or near the site, it is recommended that this report be reviewed to determine the applicability of the conclusions and recommendations considering the changed conditions and time lapse.

Within the limitations of the scope, schedule, and budget, the analyses, conclusions, and recommendations presented in this report were prepared in accordance with generally accepted professional geotechnical engineering principles and practice in this area at the time this report was prepared. We make no other warranty, either express or implied.

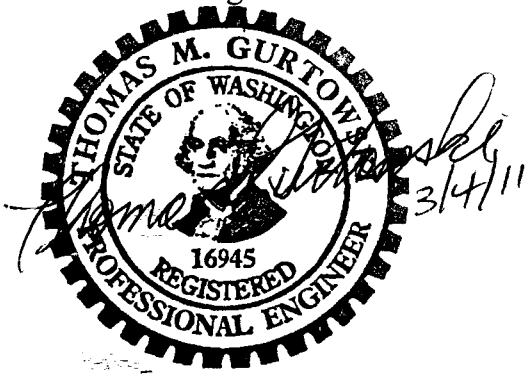
Unanticipated soil conditions are commonly encountered and cannot be fully determined by merely taking soil samples or completing test pit excavations. Such unexpected conditions frequently require that additional expenditures be made to attain a properly constructed project. Therefore, some contingency fund is recommended to accommodate such potential extra costs.

The scope of our services for this report did not include any evaluation regarding the presence or absence of wetlands. Nor were assessments or evaluations regarding the presence or absence of hazardous or toxic substances in the soil, groundwater, or air on or below this site in our scope of work.

Shannon & Wilson, Inc. has prepared Appendix B, "Important Information About Your Geotechnical/Environmental Report" to assist you and others in understanding the use and limitations of our reports.

SHANNON & WILSON, INC.

Hilja K. Welsh
Geotechnical Engineer



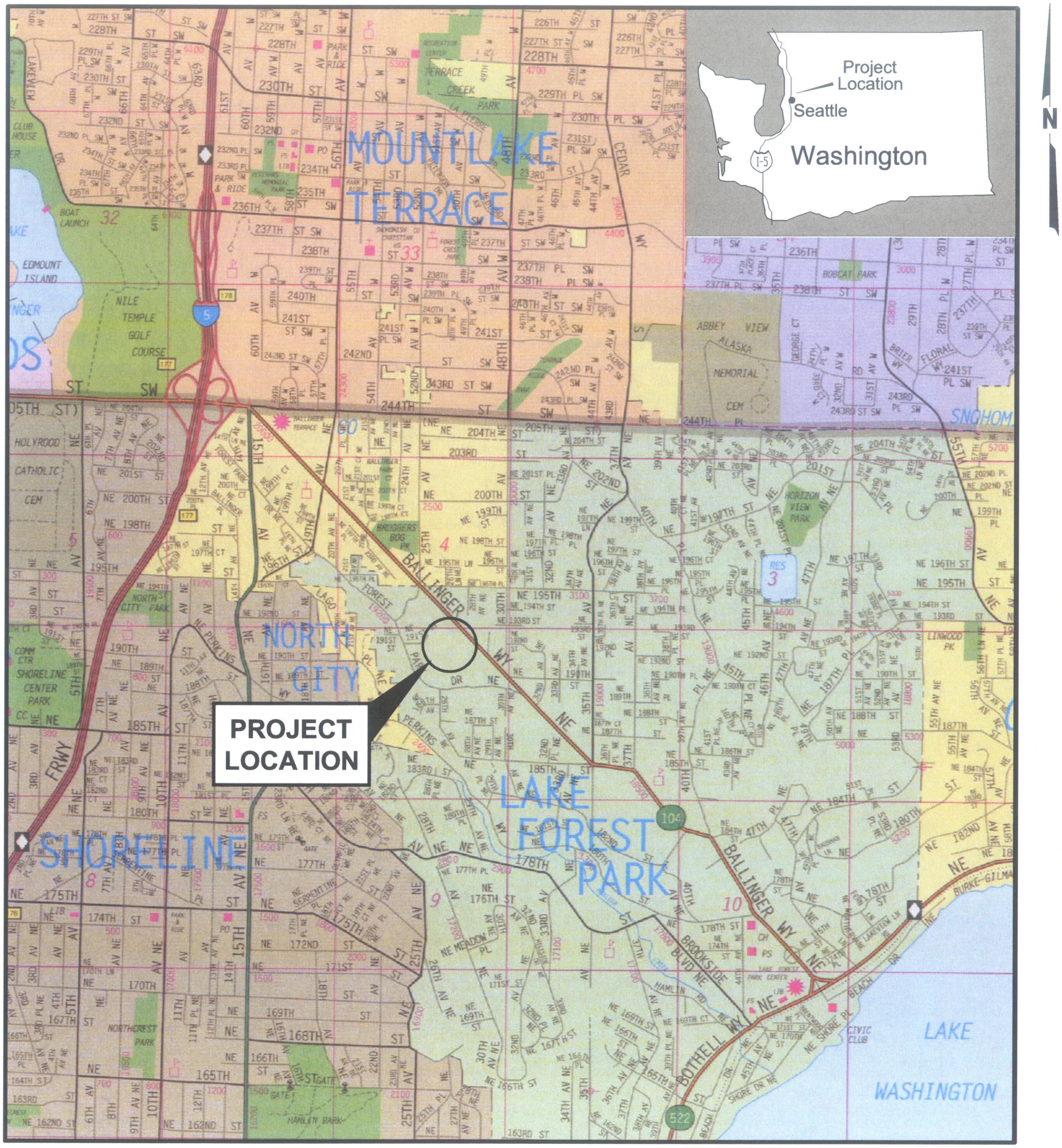
Thomas M. Gurtowski, P.E.
Vice President

HKW:TMG/hkw

9.0 REFERENCES

ASTM International, 2009, Standard test methods for laboratory compaction characteristics of soil using modified effort (56,000 ft-lb/ft^3 [2,700 kN-m/m^3]), D1557-09: West Conshohocken, Pa., ASTM International, Annual book of standards, v. 04.08, soil and rock (I): D420 - D5876, 14 p., available: www.astm.org.

International Code Council, Inc. 2009, International building code: Country Club Hills, Ill., International Code Council, Inc., 676 p.



0 1/4 1/2 1

Scale in Miles

NOTE

Lake Forest Park Public Works
Material Bin Cover Project
Lake Forest Park, Washington

VICINITY MAP

March 2011 | 21-1-21483-001

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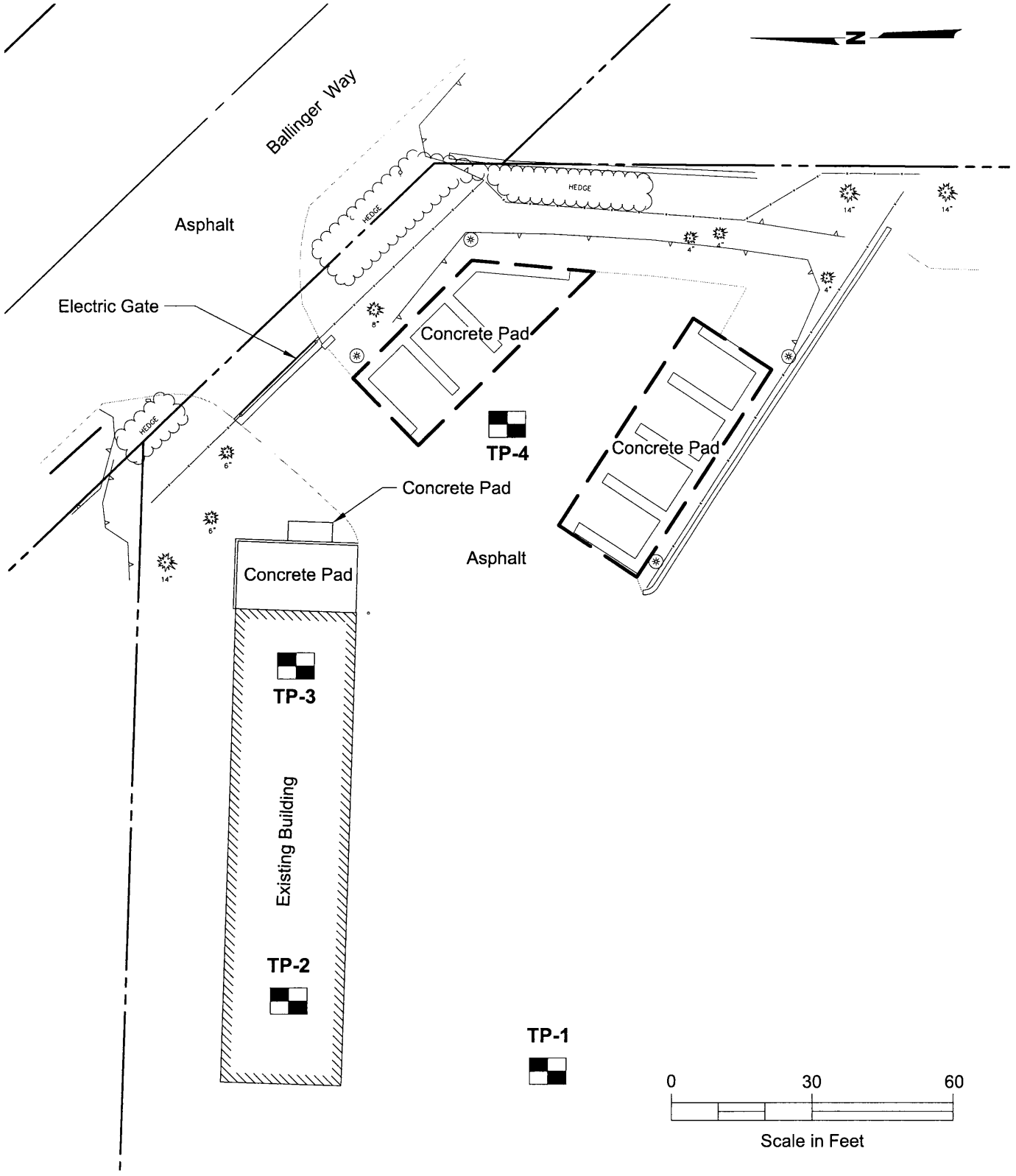
FIG. 1

File: J:\211\21483-001\21-1-21486-001 Fig. 1.dwg Date: 03-04-2011 Author: bac



LEGEND

TP-1 Previous Test Pit Designation and Approximate Location Performed by Shannon & Wilson.

Proposed Material Bin Covers

Existing Structures

NOTE

Figure adapted from drawing file *1104001Bmap.dwg* received 03-04-2001.

Lake Forest Park Public Works
Material Bin Cover Project
Lake Forest Park, Washington

SITE AND EXPLORATION PLAN

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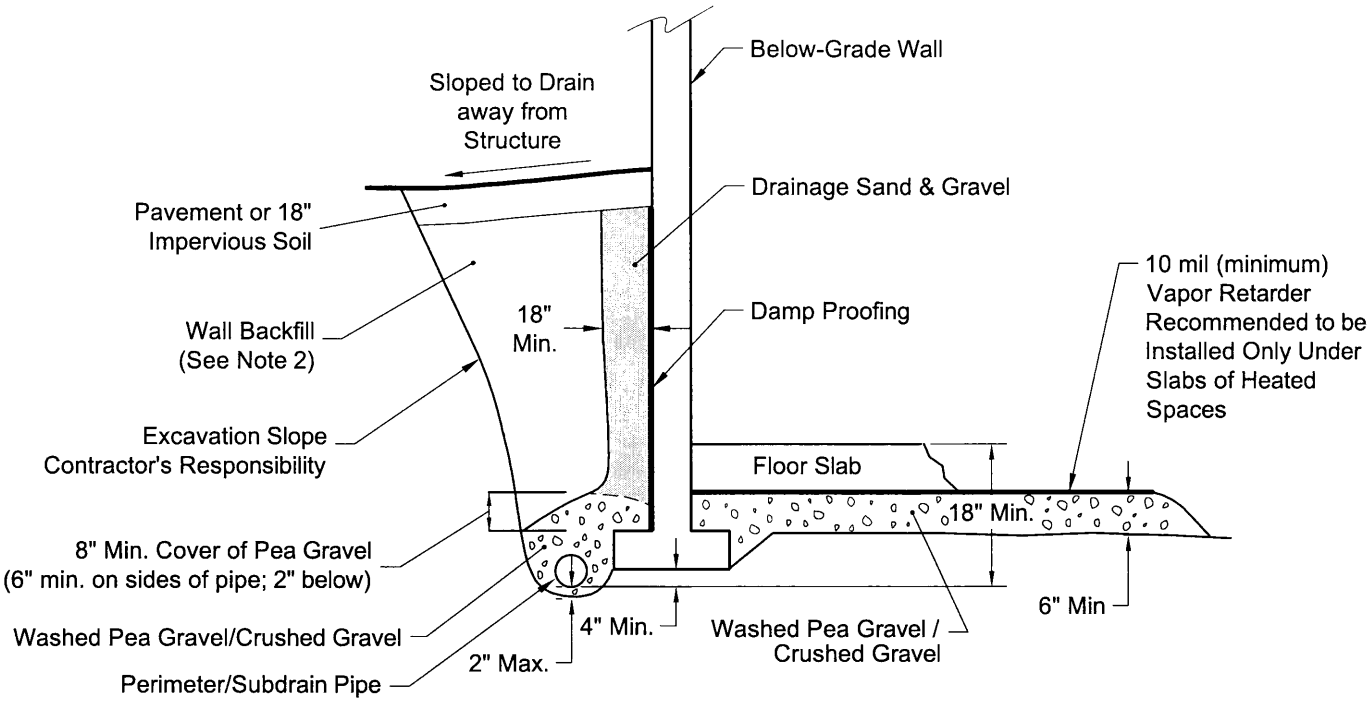
FIG. 2

File: J:\21\21483-001\21-1-21486-001 Fig. 2.dwg Date: 03-04-2011 Author: bac



Not to Scale

NOTES

1. Washed pea gravel / crushed rock beneath floor slab could be hydraulically connected to perimeter/subdrain pipe. Use of 1" diameter weep holes as shown is one applicable method. Crushed gravel should consist of 3/4" minus. Washed pea gravel should consist of 3/8" to No. 8 standard sieve.
2. Wall backfill should meet WSDOT Gravel Backfill for Walls Specification 9-03-12(2).
3. Drainage sand and gravel backfill within 18" of wall should be compacted with hand-operated equipment. Heavy equipment should not be used to compact backfill, as such equipment operated near the wall could increase lateral earth pressures and possibly damage the wall.
4. All wall backfill should be placed in layers not exceeding 4" loose thickness for light equipment and 8" for heavy equipment and should be densely compacted. Beneath paved or sidewalk areas, compact to at least 95% Modified Proctor maximum density (ASTM: D1557). In landscaping areas, compact to 90% minimum.
5. Drainage sand and gravel may be replaced with a geocomposite core sheet drain placed against the wall and connected to the subdrain pipe. The geocomposite core sheet should have a minimum transmissivity of 3.0 gallons/minute/foot when tested under a gradient of 1.0 according to ASTM D4716.
6 The subdrain should consist of 4" diameter (minimum), slotted or perforated plastic pipe meeting the requirements of AASHTO M 304; 1/8-inch maximum slot width; 3/16- to 3/8-inch perforated pipe holes in the lower half of pipe, with lower third segment unperforated for water flow; tight joints; sloped at a minimum of 6"/100' to drain; cleanouts to be provided at regular intervals.
7. Surround subdrain pipe with 8 inches (minimum) of washed pea gravel (2" below pipe) or 5/8" minus crushed gravel.
8. See text for floor slab subgrade preparation.

MATERIALS

Drainage Sand & Gravel:

Sieve Size	% Passing by Weight
1-1/2"	100
3/4"	90 to 100
1/4"	75 to 100
No. 8	65 to 92
No. 30	20 to 65
No. 50	5 to 20
No. 100 (by wet sieving)	0 to 2 (non-plastic)

3/4"-Minus Crushed Gravel:

Sieve Size	% Passing by Weight
3/4"	100
1/2"	75 to 100
1/4"	0 to 25
No. 100 (by wet sieving)	0 to 2 (non-plastic)

Lake Forest Park Public Works
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Lake Forest Park, Washington

TYPICAL BELOW-GRADE WALL AND FLOOR SLAB SUBDRAINAGE AND BACKFILL

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FIG. 3

File: J:\211\21483-001\21-1-21483-001 Fig 3.dwg Date: 03-04-2011 Author: bac

APPENDIX A

PREVIOUS SUBSURFACE EXPLORATIONS

APPENDIX A

PREVIOUS SUBSURFACE EXPLORATIONS

TABLE OF CONTENTS

FIGURES

APPENDIX A

PREVIOUS SUBSURFACE EXPLORATIONS

Four test pits, designated TP-1 to TP-4, were previously excavated and sampled on June 19, 2002, at the approximate locations shown in the Site and Exploration Plan, Figure 2. The test pits were excavated to depths of approximately 4.0 to 8.0 feet. The logs of the test pits are presented as Figures A-2 to A-5. Approximate locations of the exploration test pits are shown in Figure 2 in the main text of this report. A soil classification and log key is presented in Figure A-1 as a reference for symbols and information presented on the test pit logs. For more information about conducting test pit excavations and classification methodology, please refer to our technical memorandum, Shannon and Wilson, Inc. Technical Memorandum, Subsurface Explorations, Public Works Maintenance Facility, Lake Forest Park, Washington, June 2002.

Shannon & Wilson, Inc. (S&W), uses a soil classification system modified from the Unified Soil Classification System (USCS). Elements of the USCS and other definitions are provided on this and the following page. Soil descriptions are based on visual-manual procedures (ASTM D 2488-93) unless otherwise noted.

S&W CLASSIFICATION OF SOIL CONSTITUENTS

- MAJOR constituents compose more than 50 percent, by weight, of the soil. Major consituents are capitalized (i.e., SAND).
- Minor constituents compose 12 to 50 percent of the soil and precede the major constituents (i.e., silty SAND). Minor constituents preceded by "slightly" compose 5 to 12 percent of the soil (i.e., slightly silty SAND).
- Trace constituents compose 0 to 5 percent of the soil (i.e., slightly silty SAND, trace of gravel).

MOISTURE CONTENT DEFINITIONS

Dry	Absence of moisture, dusty, dry to the touch
Moist	Damp but no visible water
Wet	Visible free water, from below water table

ABBREVIATIONS

ATD	At Time of Drilling
Elev.	Elevation
ft	feet
FeO	Iron Oxide
MgO	Magnesium Oxide
HSA	Hollow Stem Auger
ID	Inside Diameter
in	inches
lbs	pounds
Mon.	Monument cover
N	Blows for last two 6-inch increments
NA	Not applicable or not available
NP	Non plastic
OD	Outside diameter
OVA	Organic vapor analyzer
PID	Photo-ionization detector
ppm	parts per million
PVC	Polyvinyl Chloride
SS	Split spoon sampler
SPT	Standard penetration test
USC	Unified soil classification
WOH	Weight of hammer
WOR	Weight of drill rods
WLI	Water level indicator

GRAIN SIZE DEFINITION

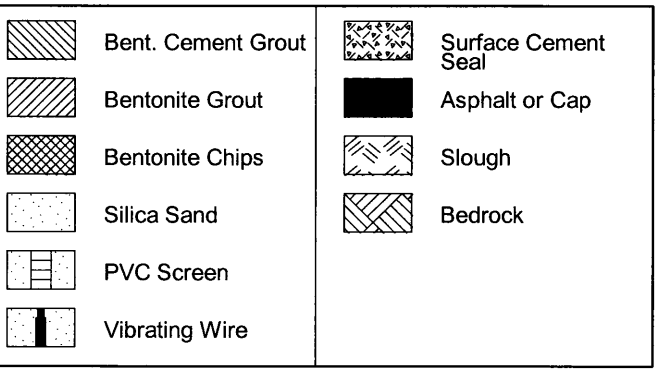
DESCRIPTION	SIEVE NUMBER AND/OR SIZE
FINES	< #200 (0.08 mm)
SAND* - Fine - Medium - Coarse	 #200 to #40 (0.08 to 0.4 mm) #40 to #10 (0.4 to 2 mm) #10 to #4 (2 to 5 mm)
GRAVEL* - Fine - Coarse	 #4 to 3/4 inch (5 to 19 mm) 3/4 to 3 inches (19 to 76 mm)
COBBLES	3 to 12 inches (76 to 305 mm)
BOULDERS	> 12 inches (305 mm)

* Unless otherwise noted, sand and gravel, when present, range from fine to coarse in grain size.

RELATIVE DENSITY / CONSISTENCY

COARSE-GRAINED SOILS		FINE-GRAINED SOILS	
N, SPT, BLOWS/FT.	RELATIVE DENSITY	N, SPT, BLOWS/FT.	RELATIVE CONSISTENCY
0 - 4	Very loose	Under 2	Very soft
4 - 10	Loose	2 - 4	Soft
10 - 30	Medium dense	4 - 8	Medium stiff
30 - 50	Dense	8 - 15	Stiff
Over 50	Very dense	15 - 30	Very stiff
		Over 30	Hard

WELL AND OTHER SYMBOLS



Lake Forest Park Public Works
Material Bin Cover Project
Lake Forest Park, Washington

SOIL CLASSIFICATION AND LOG KEY

March 2011 21-1-21483-001

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FIG. A-1
Sheet 1 of 2

BORING_CLASS1 21-21483 SOIL CLASIFICATION ONLY.GPJ SWNEW.GDT 3/4/11

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)
(From USACE Tech Memo 3-357)

MAJOR DIVISIONS			GROUP/GRAPHIC SYMBOL		TYPICAL DESCRIPTION
COARSE-GRAINED SOILS *(more than 50% retained on No. 200 sieve)*	Gravels *(more than 50% of coarse fraction retained on No. 4 sieve)*	Clean Gravels *(less than 5% fines)*	GW		Well-graded gravels, gravels, gravel/sand mixtures, little or no fines.
			GP		Poorly graded gravels, gravel-sand mixtures, little or no fines
		Gravels with Fines *(more than 12% fines)*	GM		Silty gravels, gravel-sand-silt mixtures
			GC		Clayey gravels, gravel-sand-clay mixtures
	Sands *(50% or more of coarse fraction passes the No. 4 sieve)*	Clean Sands *(less than 5% fines)*	SW		Well-graded sands, gravelly sands, little or no fines
			SP		Poorly graded sand, gravelly sands, little or no fines
		Sands with Fines *(more than 12% fines)*	SM		Silty sands, sand-silt mixtures
			SC		Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS *(50% or more passes the No. 200 sieve)*	Silts and Clays *(liquid limit less than 50)*	Inorganic	ML		Inorganic silts of low to medium plasticity, rock flour, sandy silts, gravelly silts, or clayey silts with slight plasticity
			CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		Organic	OL		Organic silts and organic silty clays of low plasticity
	Silts and Clays *(liquid limit 50 or more)*	Inorganic	MH		Inorganic silts, micaceous or diatomaceous fine sands or silty soils, elastic silt
			CH		Inorganic clays of medium to high plasticity, sandy fat clay, or gravelly fat clay
		Organic	OH		Organic clays of medium to high plasticity, organic silts
HIGHLY-ORGANIC SOILS	Primarily organic matter, dark in color, and organic odor		PT		Peat, humus, swamp soils with high organic content (see ASTM D 4427)

NOTE: No. 4 size = 5 mm; No. 200 size = 0.075 mm

NOTES

1. Dual symbols *(symbols separated by a hyphen, i.e., SP-SM, slightly silty fine SAND)* are used for soils with between 5% and 12% fines or when the liquid limit and plasticity index values plot in the CL-ML area of the plasticity chart.

2. Borderline symbols *(symbols separated by a slash, i.e., CL/ML, silty CLAY/clayey SILT; GW/SW, sandy GRAVEL/gravelly SAND)* indicate that the soil may fall into one of two possible basic groups.

Lake Forest Park Public Works
Material Bin Cover Project
Lake Forest Park, Washington

SOIL CLASSIFICATION AND LOG KEY

March 2011 21-1-21483-001

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FIG. A-1
Sheet 2 of 2

BORING_CLASS2 21-21483 SOIL CLASIFICATION ONLY.GPJ SWNEW.GDT 3/4/11

File: J:\211\21483-001\21-1-21483-001 TPs.dwg Date: 03-04-2011 Author: bac

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LOG OF TEST PIT TP-1

JOB NO: 21-1-09723-001 DATE: 6-19-02 LOCATION: See Site and Exploration Plan

PROJECT: Lake Forest Park Public Works Maintenance Facility

SOIL DESCRIPTION	Ground Water	% Water Content	Samples	Depth, Ft.
Surface Grass				0
(1) Loose, light brown, silty, fine gravelly SAND; moist; scattered organics; SM.				
(2) Soft, dark brown, slightly sandy SILT; moist; numerous organics; (Fill) ML.		2.2	S-1	2
(3) Medium dense, brown, slightly silty, fine gravelly SAND; moist; asphalt debris; (Fill) SM.				4
(4) Medium dense, gray, slightly clayey, silty, gravelly SAND; moist; (Fill) SM-GM.		4.6	S-2	
(5) Medium dense, gray, clayey, silty, gravelly SAND; wet; (Fill) SM-GM.		5.6	S-3	6
(6) Medium dense, gray, slightly silty, gravelly SAND; wet; scattered cobbles (rounded) and tree stumps; (Fill) SM-GM.	▽	5.8	S-4	8
(7) Soft, dark brown, organic SILT; moist; OL.				10
				12

Sketch of North Pit Side Surface Elevation: N/A

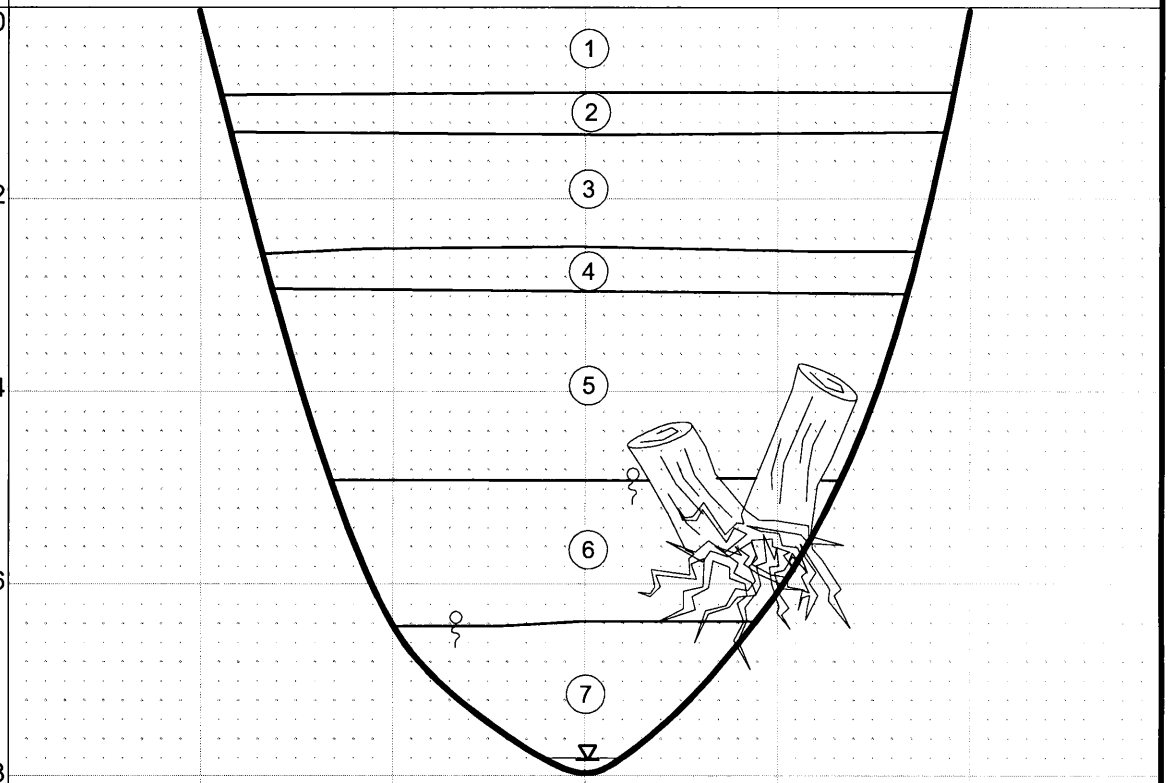

FIG. A-2

File: J:\211\21483-001\21-1-21483-001 TPs.dwg Date: 03-04-2011 Author: bac

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

LOG OF TEST PIT TP-2

JOB NO: 21-1-09723-001 DATE: 6-19-02 LOCATION: See Site and Exploration Plan

PROJECT: Lake Forest Park Public Works Maintenance Facility

SOIL DESCRIPTION	Ground Water	% Water Content	Samples	Depth, Ft.
Surface Grass				
(1) Loose to medium dense, brown, slightly silty, gravelly SAND; moist; asphalt debris; numerous boulders; scattered organics; encountered cedar log; (Fill) SM.	None Observed			
(2) Medium dense to dense, gray brown, slightly silty, slightly clayey, gravelly SAND; moist; encountered scattered cobbles and boulders up to 2.5 feet in diameter; SM-GM.		3.0	S-1	
		5.2	S-2	

Sketch of North Pit Side Surface Elevation: N/A

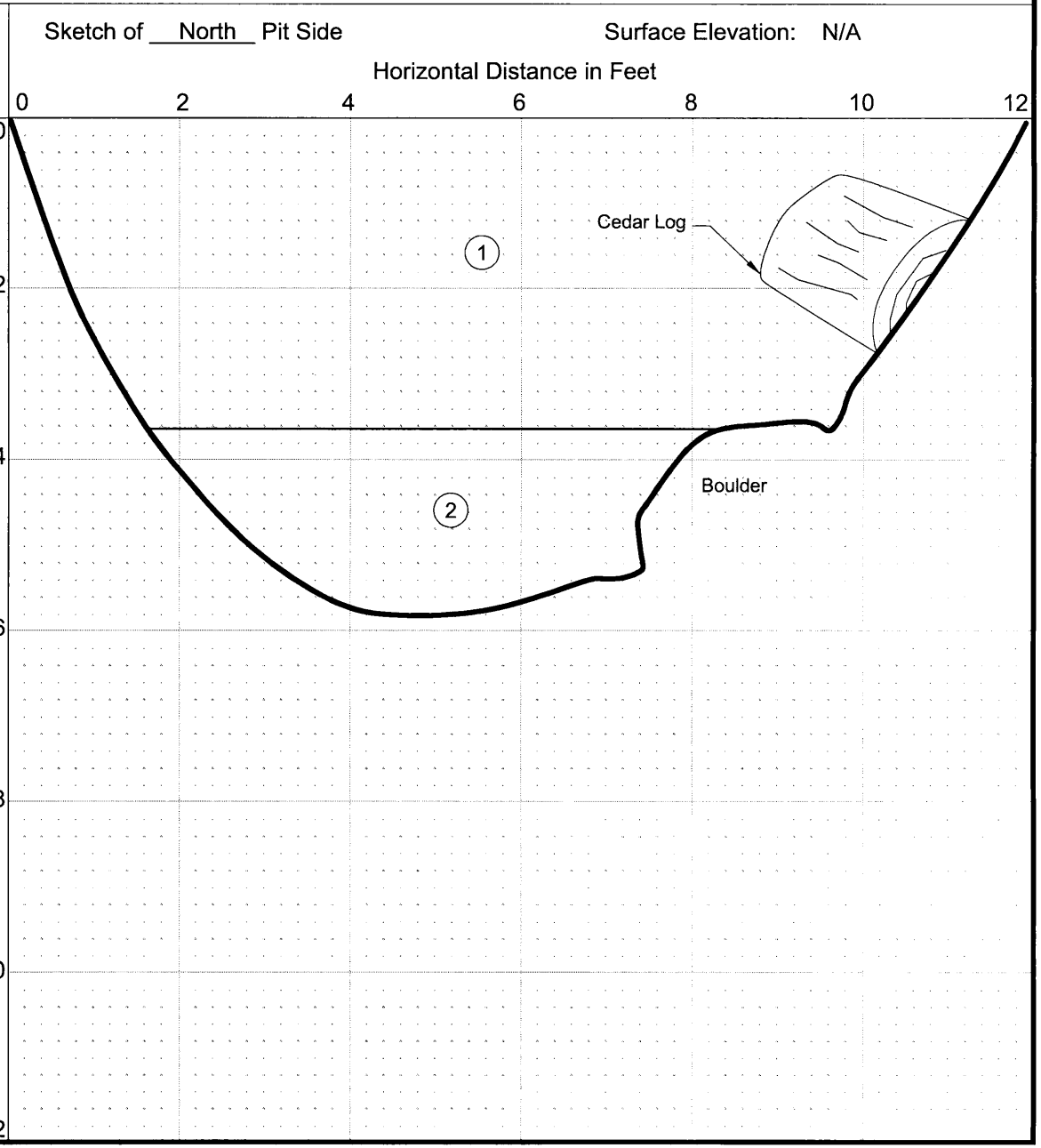

FIG. A-3

File: J:\211\21483-001\21-1-21483-001 TPs.dwg Date: 03-04-2011 Author: bac

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

LOG OF TEST PIT TP-3

JOB NO: 21-1-09723-001 DATE: 6-19-02 LOCATION: See Site and Exploration Plan

PROJECT: Lake Forest Park Public Works Maintenance Facility

SOIL DESCRIPTION	Ground Water	% Water Content	Samples	Depth, Ft.
Surface Grass				0
(1) Loose, brown, silty, gravelly SAND; moist; scattered organics; (Fill) SM.	None Observed			
(2) Medium dense, gray, silty, clayey, gravelly SAND; moist; SM-GC.		2.0	S-1	2
(3) Medium dense to dense, gray brown, silty, gravelly SAND; moist; scattered cobbles and occasional boulders up to 2-foot diameter, gravels rounded; SM-GM.				4
		5.6	S-2	6
				8
				10
				12

Sketch of North Pit Side Surface Elevation: N/A

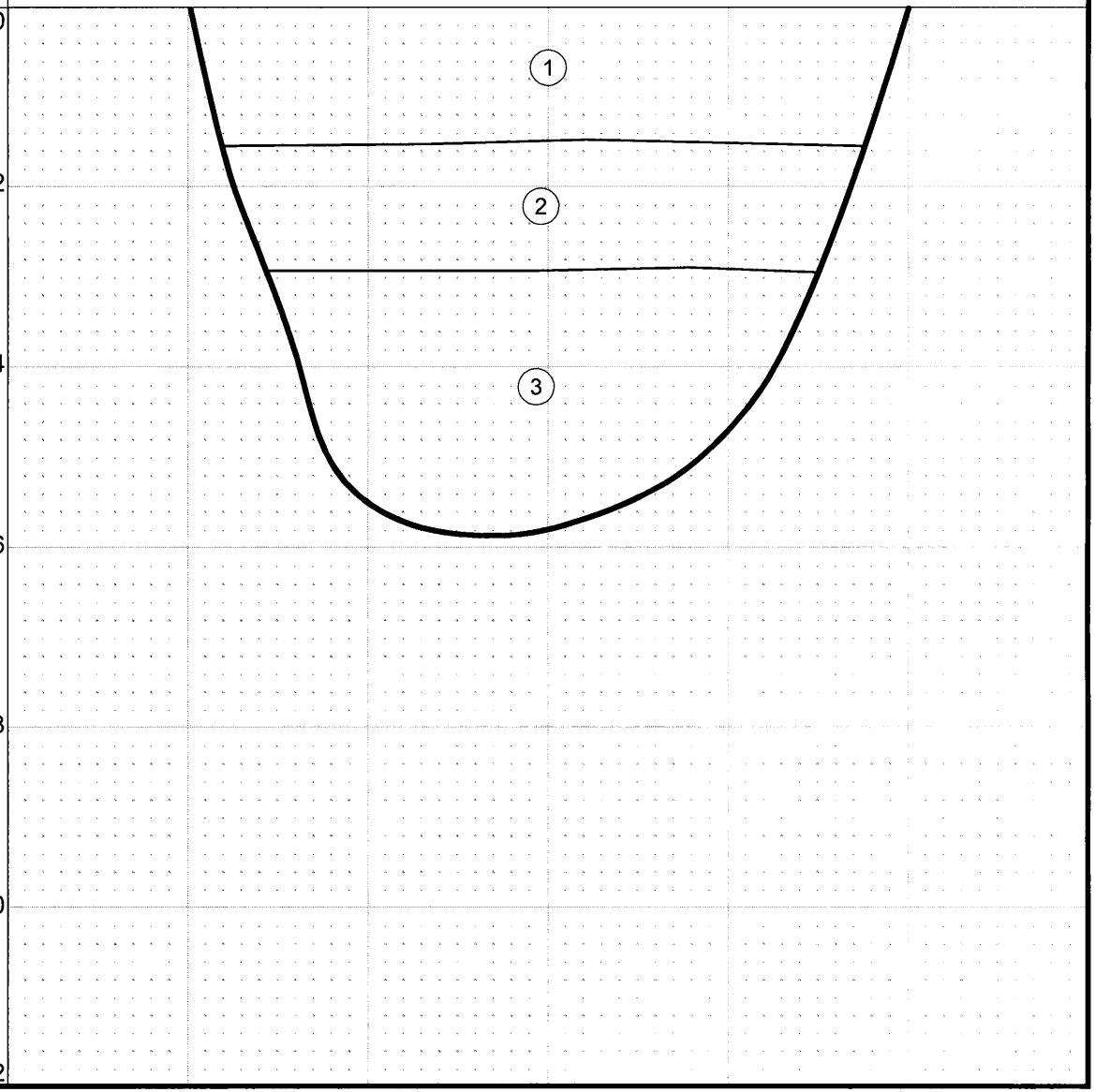

FIG. A-4

File: J:\211\21483-001\21-1-21483-001 TPs.dwg Date: 03-04-2011 Author: bac

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

LOG OF TEST PIT TP-4

JOB NO: 21-1-09723-001 DATE: 6-19-02 LOCATION: See Site and Exploration Plan

PROJECT: Lake Forest Park Public Works Maintenance Facility

SOIL DESCRIPTION	Ground Water	% Water Content	Samples	Depth, Ft.
Surface Grass	None Observed			0
(1) Loose, brown, slightly silty, gravelly SAND; moist; occasional organics, gravels are rounded; SM.		1.4	S-1	
(2) Stiff, gray, fine to medium sandy, silty CLAY; moist; occasional coarse gravel; CL.		4.2	S-2	4
				6
				8
				10
				12

Sketch of North Pit Side Surface Elevation: N/A

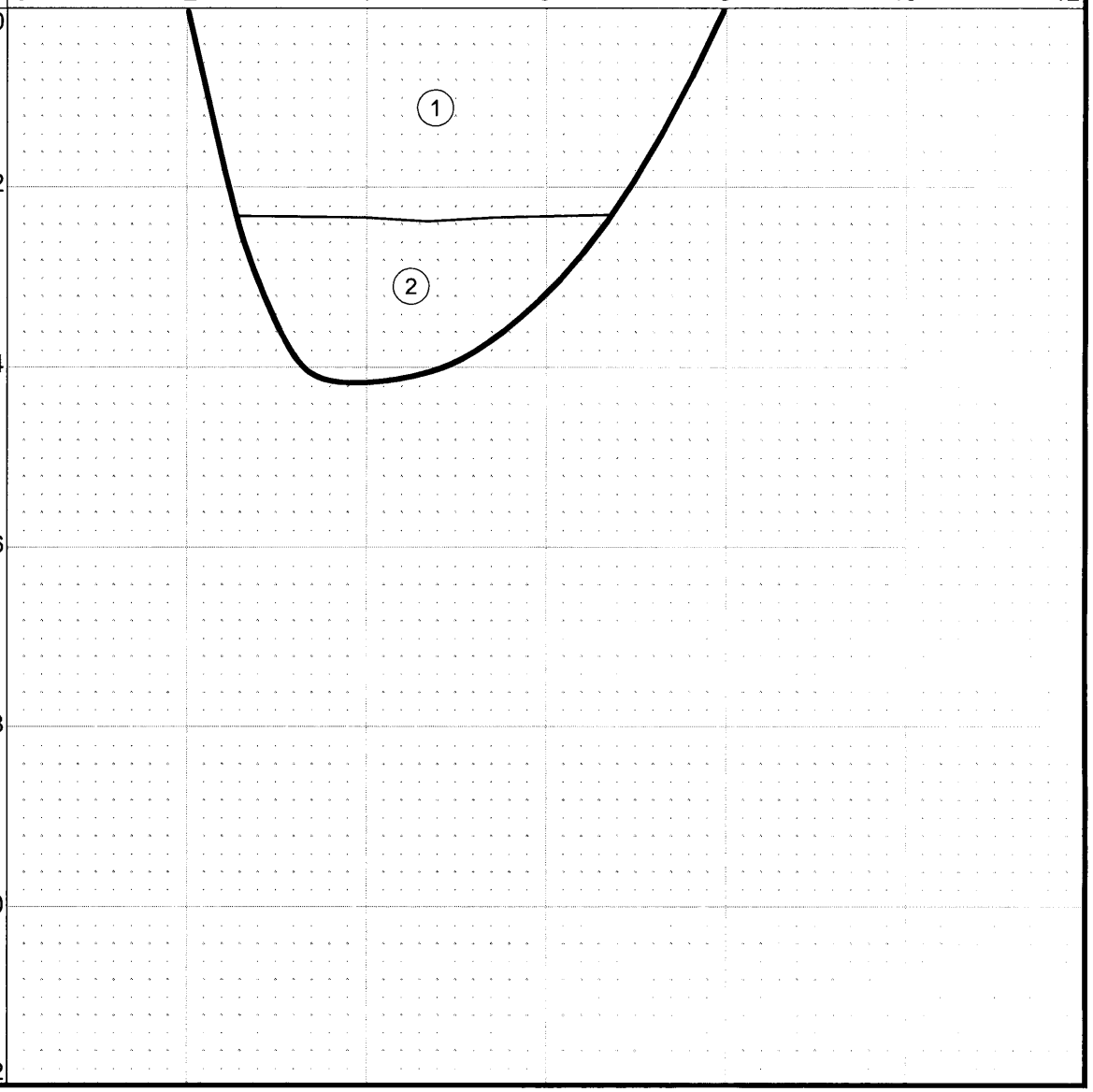

FIG. A-5

APPENDIX B

IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL/ENVIRONMENTAL REPORT

SHANNON & WILSON, INC.
Geotechnical and Environmental Consultants

Attachment to and part of Report 21-1-21483-001

Date: March 4, 2011
To: Mr. Jason Henry, P.E.
Hammond Collier Wade Livingstone

IMPORTANT INFORMATION ABOUT YOUR GEOTECHNICAL/ENVIRONMENTAL REPORT

CONSULTING SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES AND FOR SPECIFIC CLIENTS.

Consultants prepare reports to meet the specific needs of specific individuals. A report prepared for a civil engineer may not be adequate for a construction contractor or even another civil engineer. Unless indicated otherwise, your consultant prepared your report expressly for you and expressly for the purposes you indicated. No one other than you should apply this report for its intended purpose without first conferring with the consultant. No party should apply this report for any purpose other than that originally contemplated without first conferring with the consultant.

THE CONSULTANT'S REPORT IS BASED ON PROJECT-SPECIFIC FACTORS.

A geotechnical/environmental report is based on a subsurface exploration plan designed to consider a unique set of project-specific factors. Depending on the project, these may include: the general nature of the structure and property involved; its size and configuration; its historical use and practice; the location of the structure on the site and its orientation; other improvements such as access roads, parking lots, and underground utilities; and the additional risk created by scope-of-service limitations imposed by the client. To help avoid costly problems, ask the consultant to evaluate how any factors that change subsequent to the date of the report may affect the recommendations. Unless your consultant indicates otherwise, your report should not be used: (1) when the nature of the proposed project is changed (for example, if an office building will be erected instead of a parking garage, or if a refrigerated warehouse will be built instead of an unrefrigerated one, or chemicals are discovered on or near the site); (2) when the size, elevation, or configuration of the proposed project is altered; (3) when the location or orientation of the proposed project is modified; (4) when there is a change of ownership; or (5) for application to an adjacent site. Consultants cannot accept responsibility for problems that may occur if they are not consulted after factors which were considered in the development of the report have changed.

SUBSURFACE CONDITIONS CAN CHANGE.

Subsurface conditions may be affected as a result of natural processes or human activity. Because a geotechnical/environmental report is based on conditions that existed at the time of subsurface exploration, construction decisions should not be based on a report whose adequacy may have been affected by time. Ask the consultant to advise if additional tests are desirable before construction starts; for example, groundwater conditions commonly vary seasonally.

Construction operations at or adjacent to the site and natural events such as floods, earthquakes, or groundwater fluctuations may also affect subsurface conditions and, thus, the continuing adequacy of a geotechnical/environmental report. The consultant should be kept apprised of any such events, and should be consulted to determine if additional tests are necessary.

MOST RECOMMENDATIONS ARE PROFESSIONAL JUDGMENTS.

Site exploration and testing identifies actual surface and subsurface conditions only at those points where samples are taken. The data were extrapolated by your consultant, who then applied judgment to render an opinion about overall subsurface conditions. The actual interface between materials may be far more gradual or abrupt than your report indicates. Actual conditions in areas not sampled may differ from those predicted in your report. While nothing can be done to prevent such situations, you and your consultant can work together to help reduce their impacts. Retaining your consultant to observe subsurface construction operations can be particularly beneficial in this respect.

A REPORT'S CONCLUSIONS ARE PRELIMINARY.

The conclusions contained in your consultant's report are preliminary because they must be based on the assumption that conditions revealed through selective exploratory sampling are indicative of actual conditions throughout a site. Actual subsurface conditions can be discerned only during earthwork; therefore, you should retain your consultant to observe actual conditions and to provide conclusions. Only the consultant who prepared the report is fully familiar with the background information needed to determine whether or not the report's recommendations based on those conclusions are valid and whether or not the contractor is abiding by applicable recommendations. The consultant who developed your report cannot assume responsibility or liability for the adequacy of the report's recommendations if another party is retained to observe construction.

THE CONSULTANT'S REPORT IS SUBJECT TO MISINTERPRETATION.

Costly problems can occur when other design professionals develop their plans based on misinterpretation of a geotechnical/environmental report. To help avoid these problems, the consultant should be retained to work with other project design professionals to explain relevant geotechnical, geological, hydrogeological, and environmental findings, and to review the adequacy of their plans and specifications relative to these issues.

BORING LOGS AND/OR MONITORING WELL DATA SHOULD NOT BE SEPARATED FROM THE REPORT.

Final boring logs developed by the consultant are based upon interpretation of field logs (assembled by site personnel), field test results, and laboratory and/or office evaluation of field samples and data. Only final boring logs and data are customarily included in geotechnical/environmental reports. These final logs should not, under any circumstances, be redrawn for inclusion in architectural or other design drawings, because drafters may commit errors or omissions in the transfer process.

To reduce the likelihood of boring log or monitoring well misinterpretation, contractors should be given ready access to the complete geotechnical engineering/environmental report prepared or authorized for their use. If access is provided only to the report prepared for you, you should advise contractors of the report's limitations, assuming that a contractor was not one of the specific persons for whom the report was prepared, and that developing construction cost estimates was not one of the specific purposes for which it was prepared. While a contractor may gain important knowledge from a report prepared for another party, the contractor should discuss the report with your consultant and perform the additional or alternative work believed necessary to obtain the data specifically appropriate for construction cost estimating purposes. Some clients hold the mistaken impression that simply disclaiming responsibility for the accuracy of subsurface information always insulates them from attendant liability. Providing the best available information to contractors helps prevent costly construction problems and the adversarial attitudes that aggravate them to a disproportionate scale.

READ RESPONSIBILITY CLAUSES CLOSELY.

Because geotechnical/environmental engineering is based extensively on judgment and opinion, it is far less exact than other design disciplines. This situation has resulted in wholly unwarranted claims being lodged against consultants. To help prevent this problem, consultants have developed a number of clauses for use in their contracts, reports and other documents. These responsibility clauses are not exculpatory clauses designed to transfer the consultant's liabilities to other parties; rather, they are definitive clauses that identify where the consultant's responsibilities begin and end. Their use helps all parties involved recognize their individual responsibilities and take appropriate action. Some of these definitive clauses are likely to appear in your report, and you are encouraged to read them closely. Your consultant will be pleased to give full and frank answers to your questions.

The preceding paragraphs are based on information provided by the
ASFE/Association of Engineering Firms Practicing in the Geosciences, Silver Spring, Maryland

Exhibit B

GENERAL CONDITIONS

1.01 ALTERATION OR MODIFICATION OF SPECIFICATIONS AND PLANS

No alteration or modification of the terms and conditions of the Contract will be binding unless outlined in detail in a separate written addendum, and then only when properly signed and attested by the City.

1.02 ADDITIONS OR DELETIONS

The City reserves the right to add or delete work from this Contract, subject to appropriate adjustments to the contract price.

1.03 NOTICE TO PROCEED

The Notice to Proceed will be given after the Contract has been executed and approved by the City or, where applicable, by State or Federal agencies responsible for funding any portion of the Project. The Contract Time allowed for Substantial Completion of the Work shall begin within ten (10) calendar days after the date the Notice to Proceed is issued. The Contractor shall not commence the Work until the Notice to Proceed has been given by the City.

1.04 HOURS OF WORK

Contractor shall work within the allowed work hours in the City of Lake Forest Park:

- Monday – Friday 7:00 a.m. to 8:00 p.m.
- Saturday and holidays 9:00 a.m. to 6:00 p.m.
- Sundays No Construction.
- Holidays: no construction will be allowed on New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day and Christmas Day.

1.05 CONSTRUCTION TIME LIMIT

All of the work and materials contemplated to be included in this Project shall be completed within the time as stated in Contract ("Contract Time"). Contractor agrees to pursue completion of the Project at all reasonable times and to discontinue only if delayed by inclement weather. In the event that Contractor shall fail to proceed with the contemplated work for more than ten working days, Contractor shall be deemed to have abandoned the Project, and the City may elect to terminate the Contract and thereafter proceed to complete the Contract through its own forces or through an independent third party. In such event the Contractor herein shall be responsible for all expenses reasonably incurred by the City in completing the work. The contractor will also be responsible for all legal, engineering or other costs caused by the Contractor's abandonment, failure or refusal to complete the Project within the time provided.

1.06 DELAYS & EXTENSION OF TIME

A. The Contractor herewith specifically waives claims for damages for any hindrance or delay, excepting unreasonable delays caused by the City. In Lieu thereof, the Contractor will be

granted equitable extensions of time for which liquidated damages will not otherwise be claimed by the City under the following circumstances:

1. A delay caused the Contractor by any suit or other legal action against the City will entitle the Contractor to an equivalent extension of time, unless the period of such delay exceeds ninety (90) calendar days. When such period is exceeded, the City will, upon request of the Contractor, in writing, either negotiate a termination of the Contract or grant a further extension of time, whichever may at the time be in the best interests of the City.
2. Time lost due to inclement weather which could not have been anticipated by Contractor, subject to the approval of the City, will entitle the Contractor to an extension equivalent to the total time lost, whether it be a single continuous period or the accumulated total of several periods.
3. f the volume of the specified work, measured in dollars, is increased over the total value shown in the Contractor's Bid Proposal, at the time the award of the Contract is made, the Contractor will, if the City agrees, be granted an extension of time proportionately equal to the impact on the Contract Time caused by the increase in the total value.
4. Should other unforeseen conditions occur beyond the reasonable control of Contractor, or should performance of work under a Change Order make the work more complex or difficult than originally specified and shown on the Plans, and such work, in the Contractor's opinion, requires more time to execute than allowed by the Contract, the Contractor shall notify the City in writing prior to the performance of such work, setting forth in detail its estimate of the added time required for such work. The City will, if such estimate is approved, allow an equitable extension of the Contract Time.

B. Suspension of work by City

1. The City may order all or any of the Work suspended for such period as it deems proper because of unsuitable weather or such other conditions beyond the control of the Contractor that prevent satisfactory and timely performance of the Work, or because of the failure of the Contractor to perform any provisions of the Contract or orders given to their. The Contractor shall not suspend work unless ordered or authorized to do so by the City, and the Contractor shall immediately comply with such an order when given. The Contractor shall resume the suspended work when ordered by the City to do so.
2. Suspension of work by the City shall not be grounds for any claim by the Contractor for damages. The periods of suspension including but not limited to unsuitable weather conditions beyond the control of the Contractor that prevent satisfactory and timely performance of the Work, shall be allowed as non-working calendar days unless the City concludes that the Contractor could have performed the suspended work if they had diligently prosecuted the Work prior to such suspension, and the Contract completion date shall be extended by such number of calendar days of parts thereof. This time extension shall be the Contractor's sole remedy and the Contractor shall not be entitled to any damages for delays associated with such suspension of work. Any suspension due to the failure of the Contractor to carry orders or perform work shall not be grounds for allowance of time but shall be counted as workdays and not relieve the Contractor from any responsibility assigned under the Contract.

3. Upon encountering asbestos or materials suspected of containing asbestos, the Contractor shall stop work in the subject area and not remove, cut, or repair said material, nor shall the contractor enter or work in any area suspected of containing asbestos with damaged covering material, until so directed by the City or as specified by the Contract. The Contractor shall make every effort to minimize the impact of any disruption or stoppage of work, and promptly notify the City's Representative.

1.07 CONTRACT RESTRICTION

Time of Completion: The work of this Contract shall commence within ten (10) days the Notice to Proceed and shall be fully completed within the specified number of calendar days in the Contract. It is hereby understood and mutually agreed, by and between the Contractor and the City, that the date of beginning and the time for completion as specified in the Contract to be done hereunder are ESSENTIAL CONDITIONS of this Contract. The Contractor agrees that said Work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the City, that the time for the completion of the Work described herein is a reasonable time for the completion of the same, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

1.08 LIMITATIONS REGARDING CONTRACTOR'S CLAIMS FOR DAMAGES

A. All claims to the City for all work and damages of any kind arising from this Contract, shall be limited to the maximum amount appropriated by the City for this Project. Funds for this Project are limited and are public funds derived through Federal, State, Utility and or City taxes or property assessments appropriated for this Project through the budgeting process. The City's decision to award this Project is based upon the supposition that all costs will be held within the appropriated amount. The total Project appropriation shall be as stated in the City budget authorizing the Work herein. In the event the Project funding or appropriation equals the amount under Contract and an irreconcilable dispute between the City and the Contractor which the Contractor views as a breach of contract by the City excusing the Contractor from further performance, the Contractor and the City may agree to increase the Project appropriation and preserve the rights of both parties to future settlements or final resolution by a court of law.

B. Contractor agrees to limit all claims for extra work or damages of any kind whatsoever relating to this Contract to prices established by the units and lump sums bid herein and/or direct costs as provided under the force account provisions of WSDOT APWA, Section 1-09.6. By acceptance of a contract for the work herein, Contractor waives all claims for payment of damages which include or are computed on total costs of job performance, extended overhead, or other similar methods which do not relate to the prices stated herein or are not specific as to the actual, direct costs of contract work as defined in the WSDOT APWA force account provisions.

C. The above stated limitations on claims for damages shall apply only to disputed claims and shall not be construed to apply to payments for extra work pursuant to mutually agreed change orders or force account work in accordance with Sections 1-04.4 and 1-09.6 of the WSDOT APWA Standard Specifications incorporated herein; and is specifically understood that the City shall be responsible to appropriate funds for all work performed in accordance with Section 1-04 of the WSDOT APWA Standard Specifications.

1.09 EQUIPMENT AND MATERIALS SPECIFIED

Within these Contract Documents, certain items are specified by brand, style, trade name, or manufacturer in order to set forth a standard of quality, and/or preference by the City. It is not the intent of these General Conditions to exclude other processes or materials of a type and quality equal to those designated. Whenever a manufacturer's name, brand, or item designation is given, it shall be understood that the words "or equal" follow such name or designation whether in fact they do so or not. The phrase "or equal" is not to be construed so as to mean that material and equipment will be approved as equal by the City; such approval shall not be effective unless and until the item has been specifically approved in advance and in writing by the City. No additional compensation or extension of time will be allowed the Contractor for any changes required to adopt substitute material or equipment therefore, the Contractor's proposal, including any approved substitutions shall include all costs for any modifications to the Work which may be necessary for approval and adaptation of the proposed substituted equipment.

1.10 SAFETY MEASURES

A. All Work under this Contract shall be performed in a safe manner. The Contractor and all subcontractors shall observe all rules and regulations of the Washington State Department of Labor and Industries, rules and regulations of OSHA, WISHA or any other jurisdiction, and all other applicable safety standards. The Contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the Work. This requirement shall apply continuously and not be limited to normal working hours.

B. The City's Project Manager's review of the Contractor's work plan, sequence, schedule or performance does not and is not intended to include review or approval of the adequacy of the Contractor's safety measures in, on, or near the construction site. The Project Manager does not purport to be a safety expert, is not so engaged in that capacity under this Contract, and has neither the authority nor the responsibility to enforce construction safety laws, rules, regulations, or procedures, or to order the stoppage of Work for claimed violations thereof.

C. The Contractor shall exercise every precaution at all times for the prevention of accidents and the protection of persons (including employees) and property. All exposed moving parts of equipment capable of inflicting injury by accidental contact shall be protected with sturdy removable guards in accordance with applicable safety regulations.

1.11 CHANGES IN THE WORK

A. The City may, at any time, without notice to the sureties, and without invalidating this Contract, by order designated or indicated to be a change order or directive, make any change, including modifications to, additions to or deletions from the Work within the general scope of the Contract, including but not limited to changes:

1. In the Plans and Specifications;
2. In the quantities or performance of the Work;
3. In the City-furnished facilities, equipment, materials, services or site; or
4. Directing acceleration or suspension of the performance of the Work.

B. If the Contractor intends to assert a claim for a change in work they shall, within ten (10) calendar days after the furnishing of its notice, submit to the City a written statement setting forth the general nature and monetary and other impact of such order, unless this period is extended, in writing, by the City.

C. Approval of certain changes and overruns must be made by the City. Therefore, it is imperative that changes or overruns be anticipated to allow enough time for approval prior to commencing the affected work.

D. Changes in the Work may be authorized in accordance with the General Conditions; charges for the work covered by approved change orders shall be submitted by the Contractor on an approved breakdown sheet and, unless otherwise agreed, the costs shall be determined in the following manner:

   1. Additive Changes: Include direct labor costs, including foreman; direct costs of materials and equipment to be entered into the work; ownership or rental costs of any equipment during the time of use on the extra work per the current blue book; insurance; social security, old age and unemployment contributions; industrial insurance; direct contributions to labor as fringe benefits; subcontractor's proposals; plus a maximum of 10% of the total of the items listed hereinbefore as overhead and profit, which shall include the cost of performance bonds, and the cost of all "offsite, extended, or unabsorbed" overhead. The markup for overhead and profit, including the cost of performance bonds, for work performed by major subcontractors including mechanical and electrical subcontractors, shall be limited to a maximum of 8%.

   2. Deductive Changes: Include direct labor costs, including foreman; direct costs of materials and equipment to be entered into, or omitted from, the work; ownership or rental costs of any equipment during the time of use for the period of the change; insurance; social security, old age and unemployment contributions; industrial insurance; direct contributions to labor as fringe benefits; subcontractor's proposals; plus 8% of the total items listed hereinbefore as a factor for overhead and profit. The factor for overhead and profit which shall be deducted for the work of major subcontractors including mechanical and electrical subcontractors shall be 5%.

E. Subcontract Proposals: Where a proposal from a subcontractor is involved in a change in the Work, the Contractor shall require that the subcontractor's proposal for the extra work be governed by the same requirements that govern the Contractor's costs for the extra work.

F. The Contractor shall not be entitled to any claim for 'extended overhead' or 'unabsorbed overhead', or any off-site overhead.

G. Change Order Form: Use approved and provided by the City for change orders.

1.12 INCREASED OR DECREASED QUANTITIES

In the case of unit prices, when accepted quantities of Work vary from the original bid quantities, payment will be at the unit contract prices for accepted work unless the total quantity of any contract item increases or decreases by more than 25% of the original bid quantity.

1.13 ONE-YEAR WARRANTY

A. The Contractor shall and hereby does warranty the work for a period of one (1) year after the date of final acceptance by the City of the Work. The Contractor shall repair, remove and replace any and all such Work, together with any other Work which may be displaced in so doing, that is found to be defective in workmanship and/or materials within said one-year period, without expense whatsoever to the City, ordinary wear and tear and unusual abuse or neglect expected. In the event of failure to comply with the above-mentioned conditions within two (2) weeks after being notified in writing, the City is hereby authorized to proceed to have the defects remedied and made good at the expense of the Contractor who hereby agrees to pay the cost and charges thereof immediately on demand. Such action by the City will not relieve the Contractor of the warranties required by this section or elsewhere in the Contract.

B. If a Performance and Payment Bond is used rather than retainage, the bonds shall continue in full force and effect until Final Acceptance of the physical Work by the City.

C. If in the opinion of the City, defective Work creates a dangerous condition or requires immediate correction or attention to prevent further loss to the City or to prevent interruption of the operation of the City, the City will attempt to give the notice required by this section. If the Contractor cannot be contacted or does not comply with the City's request for correction within a reasonable time as determined by the City, the City may, notwithstanding the provisions of this section, proceed to make such correction, the cost of which shall be charged against the Contractor. Such action by the City will not relieve the Contractor of the warranties required by this section or elsewhere in the Contract.

1.14 METHODS AND EQUIPMENT

The methods and equipment adopted by the Contractor shall be such as will secure a satisfactory quality of Work and will enable the Contractor to complete the Work in the time agreed upon. The selection and use of these methods and equipment is the responsibility of the Contractor.

1.15 LICENSES, INSPECTIONS, PERMITS, AND TAXES

The Contractor shall procure all permits and licenses, required inspections, pay all charges, fees and taxes, and give all notices necessary and incidental to the due and lawful prosecution of the Work.

1.16 WORKER'S BENEFITS

A. The Contractor shall make all payments required for unemployment compensation under Title 50 RCW and for industrial insurance and medical aid required under Title 51 RCW. If any payment required by Title 50 or Title 51 is not made when due, the City may retain such payments from any money due the Contractor and pay the same into the appropriate fund.

B. The Contractor shall include in the various items in the Bid Proposal all costs for payment of unemployment compensation and for providing either or both of the insurance coverage's. The Contractor will not be entitled to any additional payment for: (1) failure to include such costs, or (2) determinations made by the US Department of Labor or the Washington State Department of Labor and industries regarding the insurance coverage.

C. After Final Completion of all Work on the Project, the Contractor shall submit a "Request for Release" to the Washington State Department of Labor and industries on the form they

provide. The "Request for Release" form of the Department of Labor and Industries is also for the purpose of obtaining a release with respect to the payments of industrial insurance and medical aid premiums.

1.17 POSSESSION

The City reserves the right to use and occupy any portion of the improvements which have been completed sufficiently to permit use and occupancy, and such use and occupancy shall not be construed as an acceptance of the Work as a whole or any part thereby. Any claims which the City may have against the Contractor shall not be deemed to have been waived by such use and occupancy.

1.18 RISK OF LOSS

The Contractor will assume all risk of loss of materials, equipment or other supplies through theft, fire, act of God, or any other cause until the final acceptance of the Project has been submitted by the Engineer, and approval thereof by the City, which approval shall constitute acceptance of the Project by the City, and risk of loss shall thereafter transfer to the City. No partial payment or advance by the City shall change the risk of loss as herein provided.

1.19 APPLICABLE LAW AND FORUM

A. Except as hereinafter specifically provided, this Contract shall be governed by and construed according to the laws of the State of Washington. Any suit arising therefrom shall be brought in King County Superior Court, which forum shall have sole and exclusive jurisdiction and venue.

1.20 RETAINAGE

A. Retainage will be held back at 5% of each pay request. Retainage will be held in an account at the direction of the Contractor, per the forms included in these documents. Any costs associated with holding these funds in any account shall be borne by the Contractor. Retainage shall be available to the City to meet obligations which the Contractor incurs but does not meet, or to meet obligations to the City or City's Representative incurred through conditions of the Contract. Retainage does not relieve the Contractor of any obligations of the Contract, nor of any financial obligation which retainage is not sufficient to meet. Retainage or use of retainage shall not reduce the Contractor's requirements under this Contract.

   1. Per RCW 60.28.050: "Upon final acceptance of a contract the officer disbursing the payment shall notify the Department of Revenue of the completion of contracts over $20,000. Such officer shall not make any payment until it has received from the Department of Revenue a certificate that all taxes, increases and penalties due from the contractor and all taxes due and to become due with respect to such contract have been paid in full."

   2. Per RCW 60.28.011, requires the disbursing office must also observe a forty-five (45) day period from the date of semi-final acceptance, before the release of retainage to allow a reasonable period of public notification in order to place any liens or claims. The date of semi-final acceptance is the date the Council authorizes same.

B. It is the Contractor's responsibility to see that all subcontractors comply with the above. Progress payments will not be released until all subcontractors have complied.

C. If the Contractor wishes to set up an escrow account for retainage deposits, an escrow agreement must be submitted for review at least thirty (30) days prior to first deposit.

1.21 DISPUTE RESOLUTION

A. Should the parties be unable to resolve a dispute arising from the operation of the Contract, the parties agree to submit the dispute to binding arbitration as provided by RCW 7.04 et. seq. The arbitrator shall be as selected by the parties or, if the parties are unable to agree, as appointed by the presiding Judge of King County; the prevailing party shall be awarded costs as a part of the decision of the arbitrator.

B. "Costs" shall include, without limiting the generality of such term, expense of investigation of any claim, consulting engineering expense, expense of depositions, exhibits, witness fees, including reasonable expert witness fees and reasonable attorney's fees, and also includes all such costs and fees incurred in connection with any appeals. The obligation of payment under this clause shall be incorporated in any decision rendered in such action.

1.22 NONDISCRIMINATION AND AFFIRMATIVE ACTION

Unless the Contractor is exempt by Presidential Executive Order 11246 as amended by Executive Order 11375, the Contractor agrees not to discriminate against any client, employee, or applicant for employment of services because of race, creed, color, national origin, sex, marital status, age, or the presence of any sensory, mental or physical handicap with regard to, but not limited to, the following: employment upgrading; demotion or transfer; recruitment or recruitment advertising; lay-offs or termination's; rates of pay or other forms of compensation; selection for training; rendition of services. It is further understood that any Contractor who is in violation of this clause or an applicable Affirmative Action Program shall be barred forthwith from receiving awards of any purchase order from the City of Lake Forest Park unless a satisfactory showing is made that discriminatory practices or noncompliance with applicable Affirmative Action Programs have terminated and that a recurrence of such acts is unlikely; this includes the compliance with Sections 503 and 504 of the Vocational Rehabilitation Act of 1973 and Sections 2012 and 2014 of the Vietnam Era Veterans Readjustment Act of 1984.

1.23 MINORITY AND WOMEN BUSINESS ENTERPRISE

Contractor agrees that they shall actively solicit the employment of minority group members. Contractor further agrees that he shall actively solicit bids for the subcontracting of goods or services from certified, qualified minority or women contractors and businesses. Contractor further agrees to consider the grant of subcontracts to said minority and women bidders on the basis of substantially equal proposals in the light most favorable to said contractors and businesses. Upon request Contractor shall furnish evidence of their compliance with these requirements of employment and solicitation.

END OF GENERAL CONDITIONS