

BUILDING CODE
2021 INTERNATIONAL BUILDING CODE
FOUNDATIONS

1. THE FOUNDATION DESIGN IS BASED ON THE RECOMMENDATION IN THE GEOTECHNICAL REPORT # EX-9013 PROVIDED BY EARTH SOLUTIONS NW LLC. DATE MAY 5, 2023. FOUNDATION WORK SHALL BE PERFORMED IN ACCORDANCE WITH THIS REPORT.

2. THE FOUNDATION DESIGN IS BASED ON THE FOLLOWING VALUES:
 ALLOW. SOIL BEARING = 2500 PSF
 SOIL FRICTION = .4
 EQUIV. FLUID PRESSURES:
 *ACTIVE PRESSURE = 35 PCF
 *PASSIVE PRESSURE = 300 PCF
 *(WALLS RESTRAINED AGAINST ROTATION SHALL BE DESIGNED FOR AN EQUIV. FLUID PRESSURE OF 55 PCF).
 SEISMIC SURCHARGE = 8H

3. ALL FOOTINGS SHALL BE FOUNDED AT LEAST 18" BELOW THE UNDISTURBED GROUND SURFACE OR TO FROST DEPTH. ALL FOOTINGS SHALL BE FOUNDED ON COMPACTED FILL OR UNDISTURBED NATURAL GRADE UNLESS OTHERWISE NOTED.

4. COMPACTION: MATERIAL FOR FILLING AND BACKFILLING SHALL CONSIST OF THE EXCAVATED MATERIAL AND/OR IMPORTED BORROW AND SHALL BE FREE OF ORGANIC MATTER, TRASH, LUMBER, OR OTHER DEBRIS. ALL WALLS SHALL BE ADEQUATELY BRACED PRIOR TO BACKFILLING. FILL AND BACKFILL SHALL BE DEPOSITED IN LAYERS NOT TO EXCEED 8 INCHES THICK, PROPERLY MOISTENED TO APPROXIMATE OPTIMUM REQUIREMENTS AND THOROUGHLY ROLLED OR COMPACTED WITH APPROVED EQUIPMENT IN SUCH A MANNER AND EXTENT AS TO PRODUCE A RELATIVE COMPACTION OF 90% OF MAXIMUM POSSIBLE DENSITY AS DETERMINED BY ASTM D1557. HAND TAMPERS SHALL WEIGH AT LEAST 50 POUNDS EACH AND SHALL HAVE A FACE AREA NOT IN EXCESS OF 64 SQUARE INCHES. HAND TAMPERS MAY BE OPERATED EITHER MANUALLY OR MECHANICALLY AND SHALL BE USED WHERE LARGER POWER DRIVEN COMPACTION EQUIPMENT CANNOT BE USED. FILL OVER 12" DEEP SHALL COMPLY WITH A GEOTECHNICAL REPORT.

REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60 (fy = 60 KSI) FOR BAR SIZES NO. 5 & LARGER, GRADE 40 (fy = 40 KSI) FOR NO. 3 AND NO. 4 BARS.

2. ALL REINFORCING STEEL SHALL BE LAPPED AS NOTED ON THE PLANS. WHERE LAP OR SPLICE LOCATIONS ARE NOT SPECIFICALLY INDICATED ON THE CONSTRUCTION DOCUMENTS, LAPS AND/OR SPLICES SHALL BE 42 BAR DIA AND BE WELL STAGGERED.

3. COMPLETE REINFORCING PLACEMENT DRAWINGS PREPARED IN ACCORDANCE WITH ACI 315 SHALL BE REVIEWED BY THE ENGINEER AND AVAILABLE ON THE JOB SITE PRIOR TO THE PLACING OF CONCRETE.

4. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A82 AND A185 AND SHALL BE 6x6 W2.1/W2.1 UNLESS OTHERWISE NOTED. LAP REINFORCEMENT 6" MINIMUM.

5. ANCHOR BOLTS, DOWELS AND OTHER EMBEDDED ITEMS SHALL BE SECURELY TIED IN PLACE BEFORE CONCRETE IS POURED. SLAB ON GRADE REINFORCEMENT SHALL BE PLACED AT MID-DEPTH OF SLAB AND SHALL BE HELD SECURELY IN PLACE WITH MECHANICAL DEVICES DURING PLACING OF THE CONCRETE.

6. REINFORCEMENT SHALL PLACED CONTINUOUS AROUND CORNERS AND INTERSECTIONS UNLESS SPECIFIED OTHERWISE.

CONCRETE

1. ALL CONCRETE UNLESS OTHERWISE NOTED SHALL BE REGULAR WEIGHT HARD ROCK TYPE (150 PCF) AGGREGATES SHALL CONFORM TO ASTM C33 WITH PROVEN SHRINKAGE CHARACTERISTICS OF LESS THAN 0.05%.

2. CONCRETE COMPRESSIVE DESIGN STRENGTHS AT 28 DAYS (F'c) SHALL BE:

CONCRETE EXPOSURE & COMPRESSIVE DESIGN STRENGTHS			
DESIGNATION	CONDITIONS	EXPOSURE CLASS	MIN. f'c (psi)
HEATED: SLABS, BEAMS, GIRDERS, COLUMNS, PIERS, AND BURRIED FOOTINGS	INTERIOR CONC. & FOOTINGS	F0	2500
FOUNDATION WALLS, UN-HEATED: SLABS, BEAMS, GIRDERS, COLUMNS, PIERS, PILE CAPS, SHEAR WALLS	FREEZING & THAWING CYCLES WITH LIMITED EXPOSURE TO WATER	F1	3500

3. ALL CONCRETE WITH A DESIGNATED COMPRESSIVE STRENGTH EXCEEDING 2500 PSI SHALL REQUIRE SPECIAL INSPECTION BY AN INSPECTOR APPROVED BY THE BUILDING DEPARTMENT AND THE ENGINEER. EXCEPTION: NO INSPECTION IS REQUIRED WHERE CONCRETE EXCEEDING 2500 PSI IS DESIGNATED FOR WEATHERING PURPOSES ONLY.

4. CEMENT SHALL CONFORM TO ASTM C150, TYPE I, CSA NORMAL.

5. MAXIMUM SLUMP SHALL NOT EXCEED 4 INCHES IN FLATWORK.

6. PLACEMENT OF CONCRETE SHALL BE IN CONFORMANCE WITH ACI 301.

7. CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION FOR A MINIMUM OF FIVE (5) DAYS AFTER PLACEMENT. ALTERNATE METHODS WILL BE APPROVED IF SATISFACTORY PERFORMANCE CAN BE ASSURED.

8. KEYED CONSTRUCTION JOINTS SHALL BE USED IN ALL CASES. ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED AND ALL LAITANCE SHALL BE REMOVED. ALL VERTICAL JOINTS SHALL BE THOROUGHLY WETTED AND SLUSHED WITH A COAT OF NEAT CEMENT IMMEDIATELY BEFORE PLACING NEW CONCRETE.

9. SUBMIT LOCATION OF POUR JOINTS PRIOR TO PLACEMENT. POUR JOINTS SHALL BE LOCATED TO MINIMIZE EFFECTS OF SHRINKAGE AS WELL AS PLACED AT POINTS OF LOW STRESS. MAXIMUM AREA OF POUR JOINTS IS 400 SF.

10. MINIMUM CONCRETE COVERAGE OF REINFORCING STEEL FOR FORMED WORK SHALL BE AS FOLLOWS:
 EXPOSED TO EARTH OR WEATHER (#5 OR SMALLER): 1 1/2"
 EXPOSED TO EARTH OR WEATHER (#6 OR LARGER): 2"
 *NOTE: CONCRETE CAST AGAINST GROUND SHALL HAVE 3" MINIMUM COVERAGE

11. PIPES OTHER THAN ELECTRICAL CONDUITS SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE EXCEPT WHERE SPECIFICALLY APPROVED.

12. LEAN CONCRETE SHALL BE 2 SACKS OF CEMENT PER CUBIC YARD OF CONCRETE.

13. CONCRETE MIXES SHALL BE PROVIDED IN ACCORDANCE WITH ACI 318.

14. CONCRETE EXPOSED TO SULFATES, CONCRETE WITH LOW PERMEABILITY REQUIREMENTS, AND CONCRETE WITH CHLORIDE ION CONTENT REQUIRE ADDITIONAL MIX DESIGN CONSIDERATIONS. IN THE EVENT OF THESE REQUIREMENTS THE ENGINEER SHALL BE NOTIFIED BY THE CLIENT IN A WRITING AND DESIGN MIXES SHALL BE PROVIDED PER ACI 318.

CEMENT CONTENT			
F'c (PSI)	LBS/CUBIC YARD (MIN.)	SACKS PER CUBIC YARD (MIN.)	NOTES
2500	470	5	NOTE A
3500	564	6	-

NOTE 1: MIXES SHALL BE PROPORTIONED TO PRODUCE A SLUMP OF 5" OR LESS. NO MORE THAN A 1" PLUS TOLERANCE SHALL BE ALLOWED.

NOTE 2: AIR ENTRAINMENT IS REQUIRED FOR ALL CONCRETE EXPOSED TO WEATHER. FOR 3/4" AGGREGATE AN ENTRAINMENT OF 6% IS REQ'D. FOR 1/2" AGGREGATE AN AIR ENTRAINMENT OF 7% IS REQ'D.

NOTE 3: POZZOLANS ARE NOT PERMITTED IN THE MIX DESIGN UNLESS APPROVED BY THE ENGINEER.

A) WHERE SPECIAL INSPECTION IS NOT REQUIRED UNDER SECTION 1704.4 OF THE I.B.C., CONCRETE SHALL HAVE A MINIMUM CEMENT CONTENT OF 5 SACKS PER CUBIC YARD OF CONCRETE.

B) FOR STRENGTHS ABOVE 4000 PSI, PROPORTIONS SHALL BE ESTABLISHED BY THE METHODS SPECIFIED ACI 318.

C) DESIGN MIX (OTHER THAN AS SPECIFIED IN THIS TABLE) SHALL BE SUBMITTED TO THE BUILDING OFFICIAL TWO WEEKS PRIOR TO FIRST USE.

GENERAL

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CONTRACT DRAWINGS.

2. DURING THE CONSTRUCTION PERIOD THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE BUILDING. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING, BRACING AND GUYS IN ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL SAFETY ORDINANCES. ANY DEVIATION MUST BE APPROVED PRIOR TO ERECTION.

3. ALL ERECTION PROCEDURES SHALL CONFORM TO OSHA STANDARDS. ANY DEVIATION MUST BE APPROVED BY OSHA PRIOR TO ERECTION.

4. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION PROCEDURES INCLUDING LAGGING, SHORING AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS AND UTILITIES IN ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL SAFETY ORDINANCES.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER AND BE RESOLVED BEFORE PROCEEDING WITH THE WORK.

6. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED SUBJECT TO REVIEW BY THE ENGINEER.

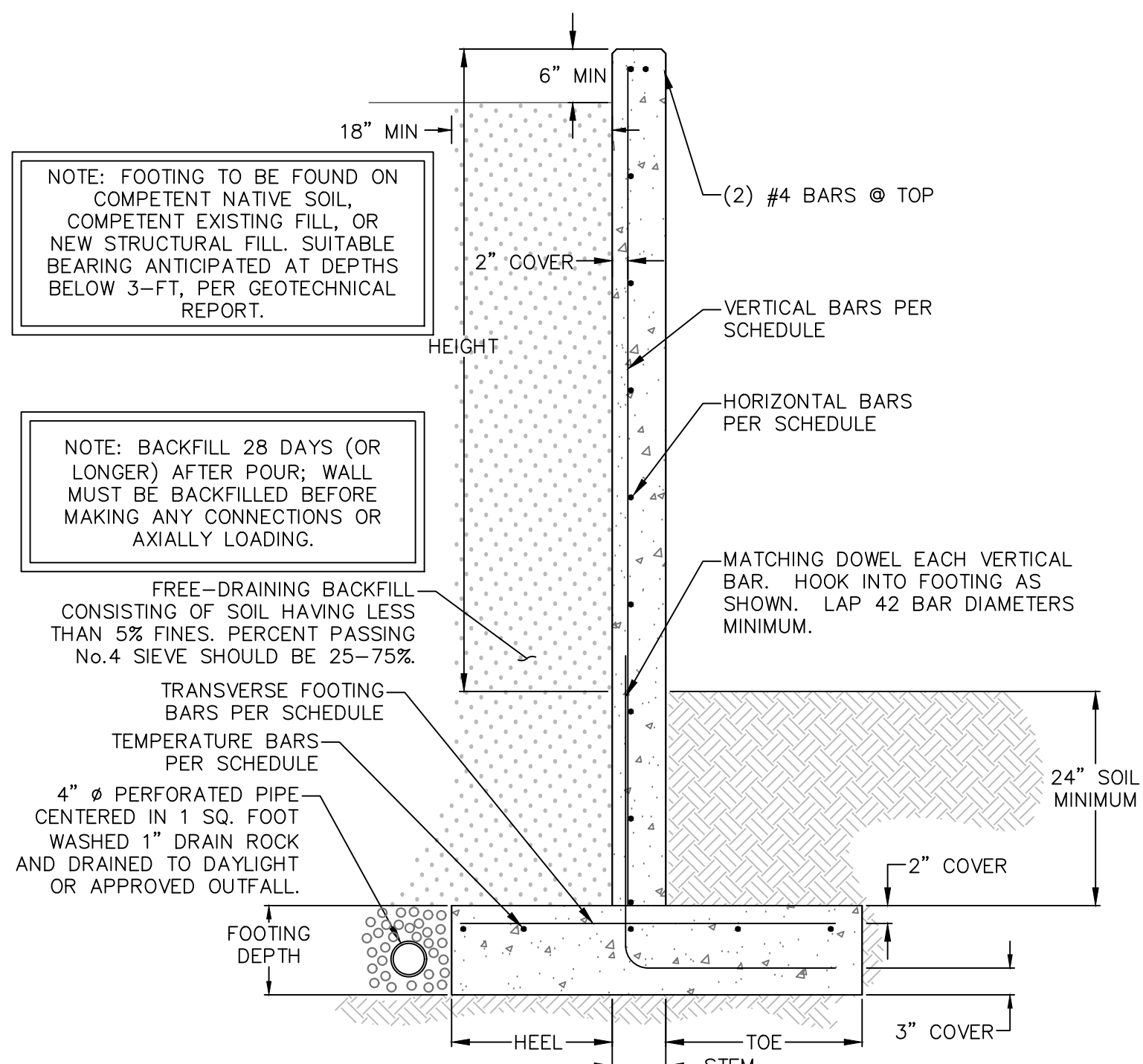
7. ALL DETAILS DESIGNATED AS STANDARD OR TYPICAL SHALL OCCUR IN ADDITION TO ANY OTHER SPECIFIC DETAIL CALLED OUT.

8. COORDINATE WITH MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF ALL OPENINGS REQUIRED FOR DUCTS, PIPES, PIPE SLEEVES, ELECTRICAL CONDUITS, AND OTHER ITEMS TO BE EMBEDDED IN CONCRETE OR OTHERWISE INCORPORATED IN STRUCTURAL WORK.

9. PROVIDE OPENINGS AND SUPPORTS, AS REQUIRED PER STANDARD DETAILS FOR HEATERS, MECHANICAL EQUIPMENT, VENTS, DUCTS, PIPING, ETC. ALL SUSPENDED MECHANICAL EQUIPMENT SHALL BE SWAY OR LATERALLY BRACED.

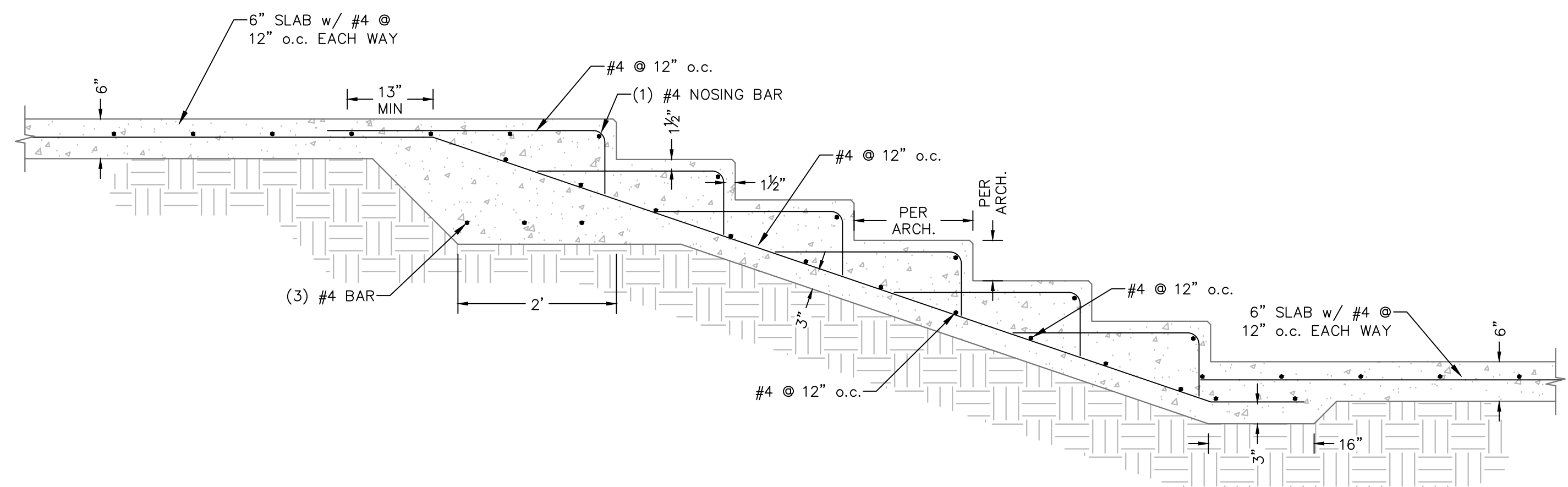
10. ALL INFORMATION SHOWN ON THE DRAWINGS RELATIVE TO EXISTING CONDITIONS IS GIVEN AS THE BEST PRESENT KNOWLEDGE BUT WITHOUT GUARANTEE OF ACCURACY. WHERE ACTUAL CONDITIONS CONFLICT WITH THE DRAWINGS, THEY SHALL BE REPORTED TO THE ENGINEER SO THAT THE PROPER REVISIONS MAY BE MADE. MODIFICATION TO DETAILS OF CONSTRUCTION SHALL NOT BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER.

11. ARCHITECTURAL AND MECHANICAL PLANS ARE CONSIDERED A PART OF THE STRUCTURAL DESIGN DRAWINGS AND ARE TO BE USED TO DEFINE DETAIL CONFIGURATIONS INCLUDING; BUT NOT LIMITED TO RELATIVE LOCATION OF MEMBERS, ELEVATIONS, DIMENSIONS AND LOCATIONS OF ALL OPENINGS, ETC.

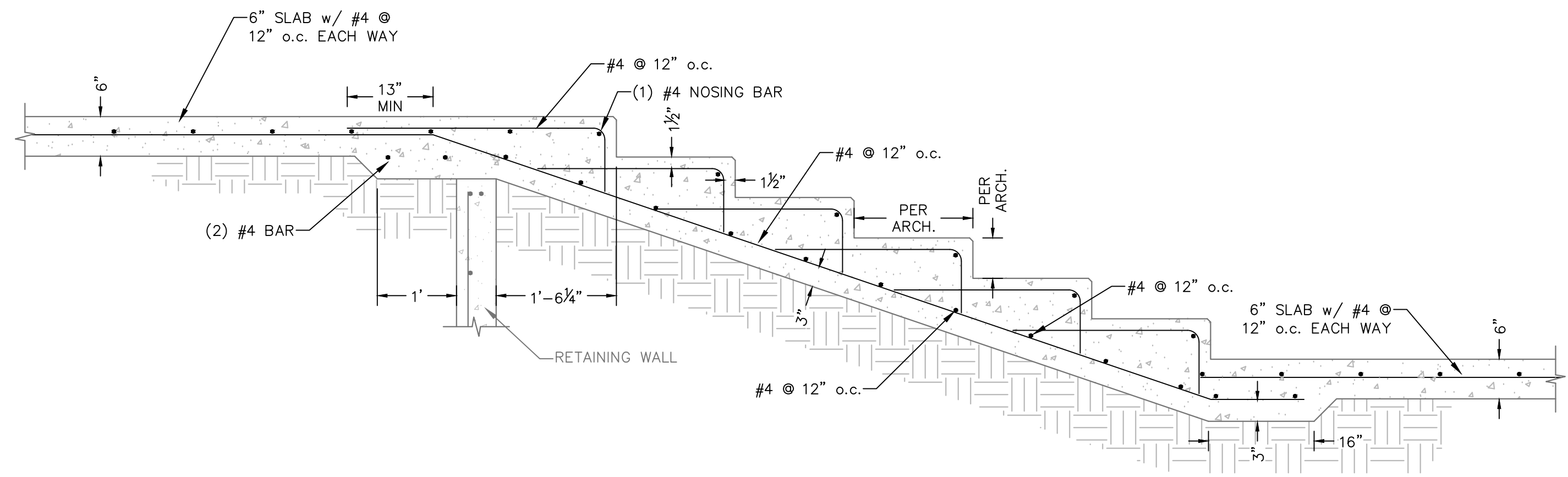


FOUNDATION WALL SCHEDULE—SLAB AT TOP								
HEIGHT	HEEL	STEM	TOE	FOOTING DEPTH	VERTICAL BARS	HORIZONTAL BARS	TRANSVERSE FOOTING BARS	TEMPERATURE BARS
3FT-6IN	18"	6"	15"	10"	#4 @ 9" o/c	#4 @ 12" o/c	#4 @ 10" o/c	#4 @ 10" o/c
4FT	18"	6"	18"	10"	#4 @ 8" o/c	#4 @ 12" o/c	#4 @ 10" o/c	#4 @ 10" o/c
4FT-6IN	18"	6"	21"	10"	#4 @ 6" o/c	#4 @ 12" o/c	#4 @ 10" o/c	#4 @ 10" o/c

1 CANTILEVER RETAINING WALL SCHEDULE



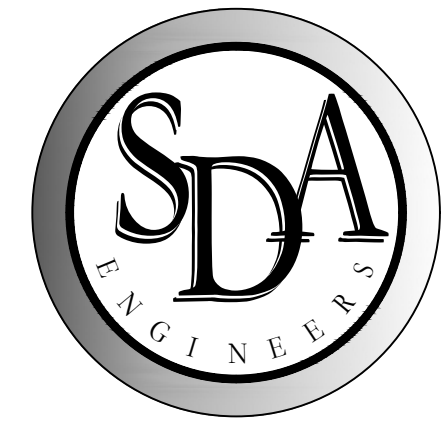
2 CONCRETE STAIR ON GRADE



3 CONCRETE STAIR ON GRADE @ RETAINING WALL

SYMBOL LEGEND:

BLKG.	BLOCKING
BOT.	BOTTOM
EXIST.	EXISTING
FDN	FOUNDATION
FTG	FOOTING
HDR	HEADER
MAX	MAXIMUM
MIN	MINIMUM
o.c.	ON CENTER
SHTG.	SHEATHING
TYP.	TYPICAL
UNO	UNLESS NOTED OTHERWISE
(JST#_)	JOIST
(BM#_)	BEAM
(RAF#_)	RAFTER
(STRG#_)	STRINGER
(RB#_)	ROOF BEAM
(UB#_)	UPPER LEVEL BEAM
(MB#_)	MAIN LEVEL BEAM
(BB#_)	BASEMENT LEVEL BEAM
(DB#_)	DECK BEAM



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NO.	DATE	BY	REVISION
0	02-24-24	CRJ	ISSUED

ROJAS RETAINING WALLS
 6236 EAST MERCER WAY
 MERCER ISLAND, WA 98040

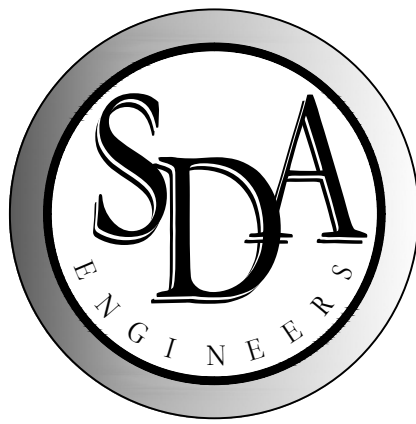


FEB 27, 2023

Drawn By: CHRIS L.
 Checked By: CHRIS
 Date: 02-24-2024

SDA JOB NO.
 9993

STRUCTURAL NOTES
 S-1.0



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NO. DATE BY REVISION
0 02-24-24 CRL ISSUED

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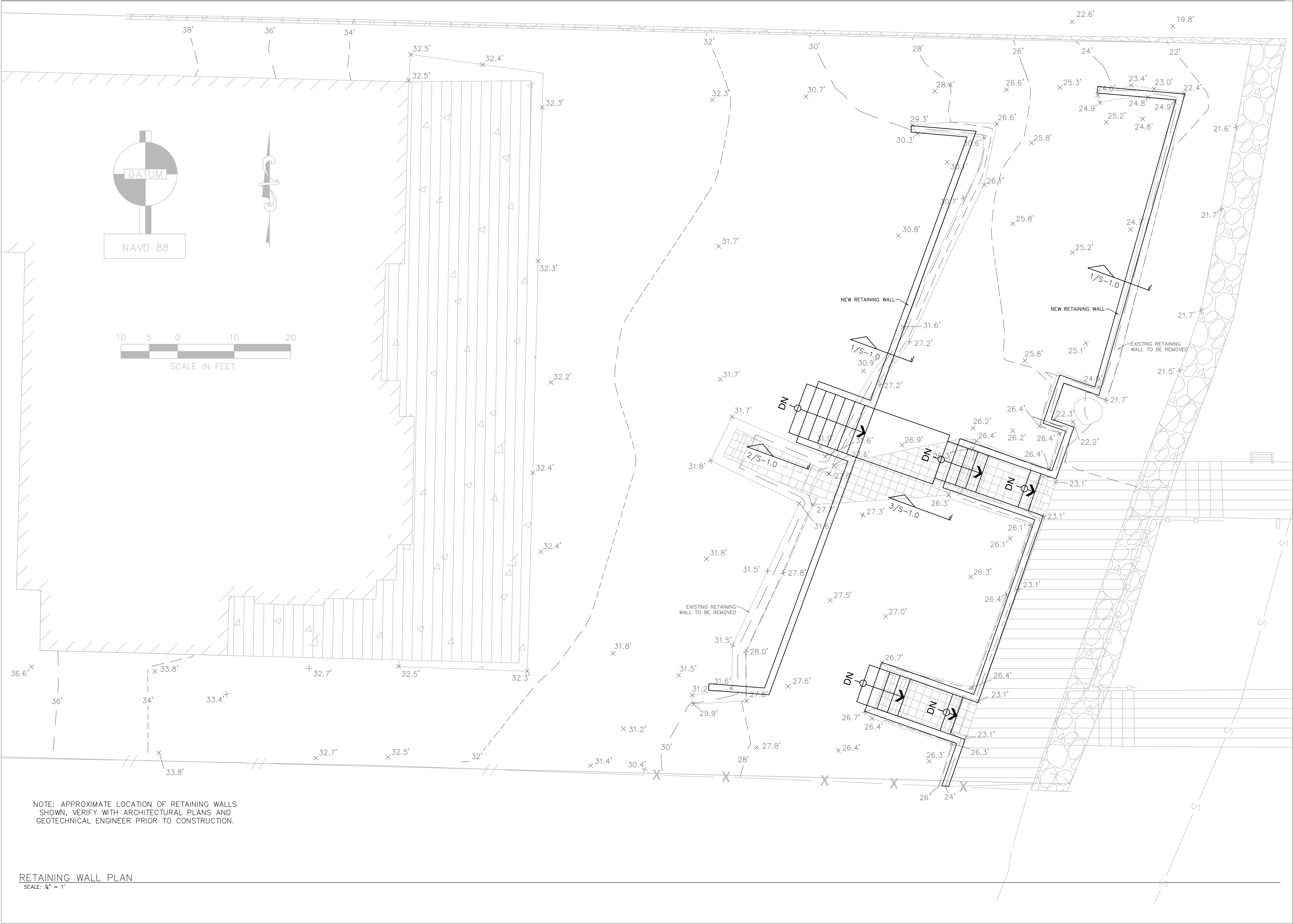


FEB 27, 2023

Drawn By: CHRIS L.
Checked By: CHRIS
Date: 02-24-2024

SDA JOB NO.
9993

STRUCTURAL
PLAN
S-1.1



NOTE: APPROXIMATE LOCATION OF RETAINING WALLS SHOWN, VERIFY WITH ARCHITECTURAL PLANS AND GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.

RETAINING WALL PLAN
SCALE: 1/4" = 1'