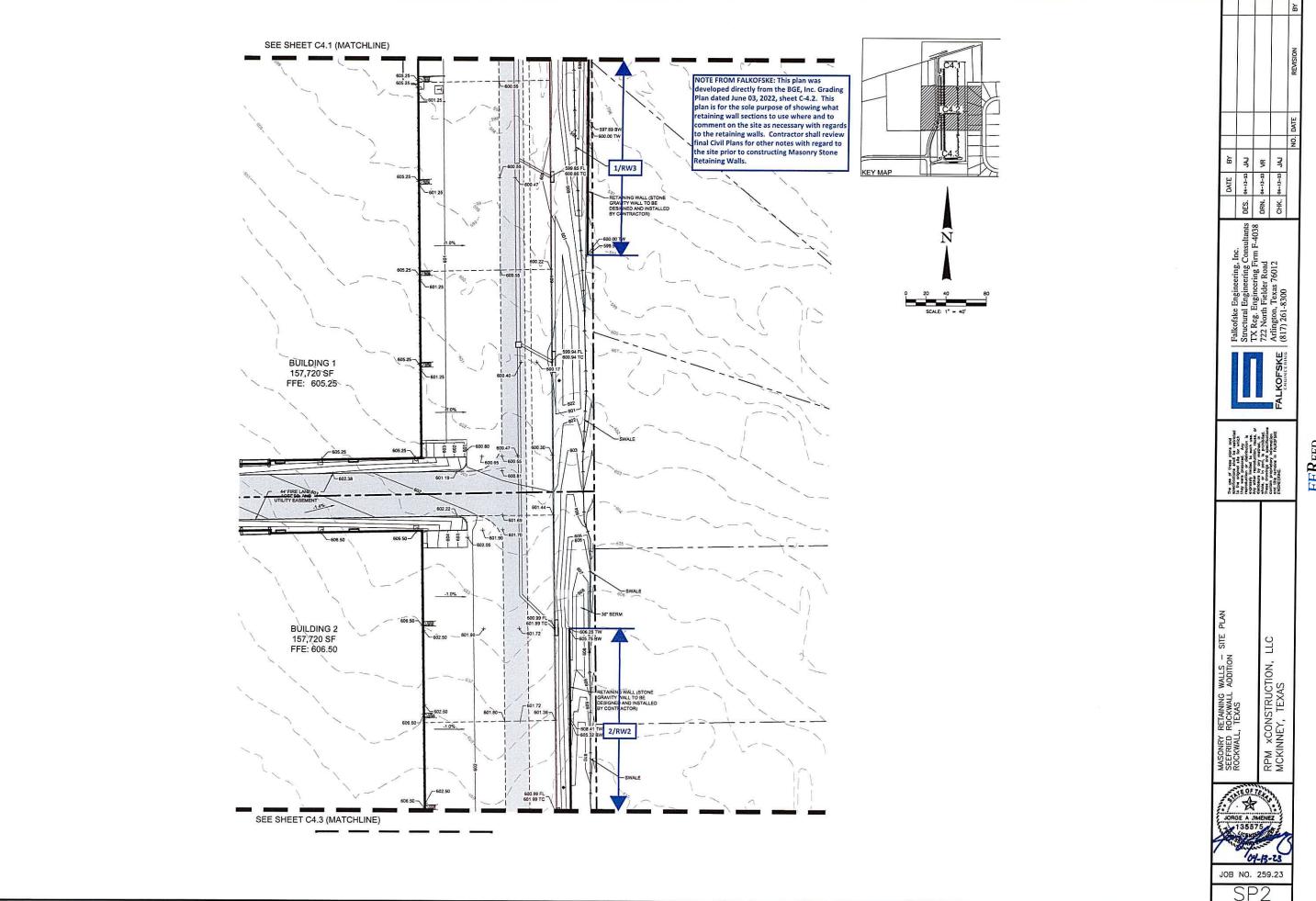


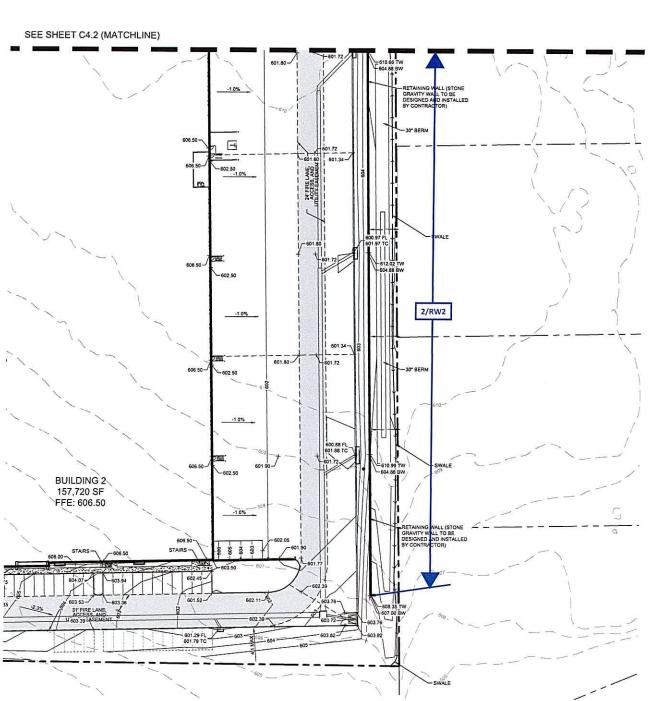
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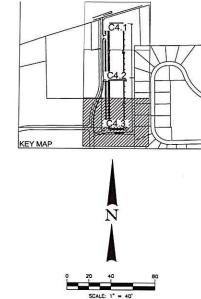
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NOTE FROM FALKOFSKE: This plan was developed directly from the BGE, Inc. Grading Plan dated June 03, 2022, sheet C-4.3. This plan is for the sole purpose of showing what retaining wall sections to use where and to comment on the site as necessary with regards to the retaining walls. Contractor shall review final Civil Plans for other notes with regard to the site prior to constructing Masonry Stone Retaining Walls.

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DATE BY 04-13-23 JAJ 04-13-23 VR 04-13-23 JAJ

ORN. CHK.

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VALLS – SITE PLAN ADDITION

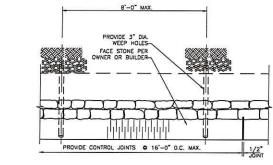
MASONRY RETAINING WALLS – SITE SEERIED ROCKWALL ADDITION ROCKWALL, TEXAS

RPM XCONSTRUCTION, LLC MCKINNEY, TEXAS

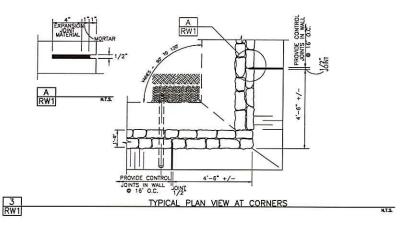
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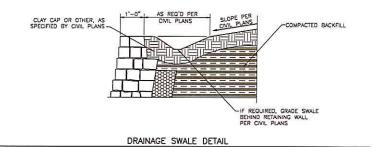
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SP3



TYPICAL PLAN VIEW AT BASE





GENERAL NOTES

1. Design

1.1. Design Codes

International Building Code, 2018 Edition

1.2. Geotechnical Report

Firm: Reed Engineering Group, LTD.
Report No. 24432 Dated: December 29, 2021 1500 psf and 2500 psf (Remediated

1.3. Design Parameters

Soil Type*	Friction Angle	Cohesion (psf)	Unit Weight (c
Retained Backfill (On site clay)	26 dea	0 psf	120 pcf
Foundation Soils (1500 psf)	26 deg	0 psf	120 pcf
Remediated Base (2500 psf)	35 deg	0 psf	135 pcf

*See materials below for a description of each Soil Type.

Factors of Safety:

Lateral earth pressures are calculated using Coulombs Lateral Earth Pressure Theory. Designs have been performed to accept loading per the proposed loading conditions based on the Civil Grading Plans. A live loading of 250 psf has been used for all walls supporting

Retaining walls should not have solid fence (such as wood fence) placed on top of wall other than that shown on these plans. Retaining walls shall not have additional surcharge placed above wall other than that shown on these plans. Retaining walls shall not have slope at base or lop of wall that exceed that which is shown on these plans. The retaining walls noted above require speed that which is shown on these plans. The retaining walls noted above require speed that which is shown on these plans.

2. Materials

2.1. Soil Types

- a. Retained Backfill
- a. On site clayey soils
 a.b. Properly compacted on-site fill soils, verification by others.
 ac. Free draining granular backfill, clean, non-plastic, relatively well-graded.

- Foundation Soils (Allowable Bearing = 1500 psf min)

 Bearing on Stiff Natural Undisturbed Clayey or Sandy Soils or Compacted and Tested Fill Soils

 Bearing on Stiff Natural Undisturbed Clayey or Sandy Soils or Compacted and Tested Fill Soils

 Fill Soils So
- Foundation Soits (Allowable Bearing = 2500 psf min)

 a. Bearing on Remediated Bases
 b. Friction Angle between Base of Wall and Soil 28 deg

 c. Material per dimension stone, section 2.2

Drainage Material d.a. Free draining granular backfill, clean, non-plastic, relatively well-graded

- 2.2. Dimension Stone Average Density of masonry wall varies from 135pcf to 145pcf. Stone size varies from 4" to 18".
 - Face stone shall be coordinated between contractor and owner/developer.

 Recycled concrete 4* to 18* may be used in place of dimension stone, contractors option.

2.3. Rebar/Welded Wire Fabric (If Required)

- All steel reinforcement shall be new billet steel conforming to ASTM A-615, Grade 60 with fy=60ksi, b. All reinforcement shall not have deleterious material on it.
 All welded wire fabric shall have minimum fy=65ksi and be hot dip galvanized.

2.4. Drainage Materials

- Weep pipes shall be PVC or corrugated HDPE pipe.
 Drainage zone shall be separated from retained backfill by mirafi 140N filter fabric or approved equal.

2.5 Portland Cement Mortar for Retaining Wall Construction.

The portland coment mortar used for construction of the masonry stone retaining walls shall be provided with the following proportions per cubic yard of concrete. The portland cement mortar supplier shall provide "batch teckets" clearly indicating that the appropriate amount of materials are provided in each truck load. The batch tickets shall clearly indicate the amount batched, the date, the project name and shall be provided to Falkofske Engineering, Inc. for review, documentation, and file.

Contents	Amount per cubic yard	Specific Gravity	Volume ft^3
Type 1 Portland cement:	414 lbs	3.15	2.11
Type F Fly Ash	103 lbs	2.93	0.56
Fine Aggregate (sand):	2753 lbs	2.59	17.03
Potable Water	430.01 lbs	51.56 Gallons	6.89
Sika Air (or equivalent)	As Required (oz)	1.5%	0.41
			27.0 Total

Note: the portland cement mortar supplier material weights may vary slightly based on the specific gravity of the materials used.

Concrete retarders may be used at the discretion of the masonry wall contractor. A greater amount of retarder is typically used during hot periods and a less amount of retarder is typically used during cool weather.

Please note that the above proportions will provide a portland cement mortar with a compressive strength of about fc = 2500 psi. Falkofske Engineering, Inc. does not require any concrete testing provided the above proportions are verified by way of the "batch

3. Construction

3.1 Preparation Work

- Prior to grading or excavation of the site, confirm the location of the retaining walls and all underground features, including utility location within the area of construction. Ensure surrounding structures are protected from effects of well excavation, and construction.
 Coordinate installation of underground utilities and other improvements with wall installation.

- If a mortared footing is over-excavated, then the dimension stone shall be placed mortared. If a dry stone footing is over excavated, then the dimension stone does not need to be mortared. In Fill over-excavated area in front of the wall footing with compacted on site soils before the wall construction exceeds 4 feet in height.

 c. In areas where the walls are installed in a cut, the required excavation shall extend horizontally to the extent of the width of the retaining wall. The wall may be built to the cut. If the wall is over cut, then soil shall either be compacted or the drainage zone may be widened.

3.3 Wall Construction

- a. The wall shall be constructed to the dimensions as shown on these plans. Front leads, back leads, and string lines shall be set for each wall. Care shall be taken to install the mortar zones the correct thickness, and to place drainage behind the wall as required.
 b. Control joints shall be installed at a maximum of 16°-0° o.c. per these plans.
 c. Weep pipes shall be placed at 8°0° o.c. max.
 d. Face rock type shall be coordinated between the architect, owner, and retaining wall contractor.

3.4 Retained Backfill Placement

- Retained backfill shall be placed per the recommendations of the geotechnical engineer, but should not be less than 93% Standard Proctor Maximum Dry Density (ASTM D698).
 Fill should be placed in maximum 8" thick compacted fits.
 Large compaction equipment (equipment heavier than 7.500 lb) shall remain a minimum of 1.5x the height of the wall away from the back of the wall for a period of 2 weeks from the time of
- d. After a period of 2 weeks from the time of construction large compaction equipment may be used
- behind the wall but shall stay a minimum of 5-0° away from the back of the wall.

 e. Soil placed with in 5'-0° of the back of the wall shall be placed using handheld compaction
- equipment.

 If the wall is in a cut situation the wall may be built up to the cut. If the wall is overcut the drainage zone may be widened to the cut or compacted fill may be placed between the drainage zone and

3.6 Retaining Wall Performance, Maintenance, and Other Comments

- a. Control joints are provided in the retaining wall to allow for minor movements due to settlement and shrink swell of the soils. Some cracking may occur in the face of the retaining wall. This cracking, if minor (less than 3/8°), may be cosmetically repaired as desired.

 b. The retaining walls are designed to allow surface water to flow over the tops of the retaining walls. Care should be taken during and after construction to not allow water to pond behind the retaining walls, as this can have a negative impact on the stability of the retaining walls.

 c. If downspouls are located near the back of the retaining wall they should either be plumbed through the retaining wall to drain below the wall or collected and tied into the storm sever system. Perforated subsurface pipes shall not be used behind the retaining walls.

 Restility draining ever the fone of the walls shall be maintained through the life of the structure.
- 1. Positive drainage over the top of the walls shall be maintained throughout the life of the structure
- If swales are placed behind the wall they shall remain clean and free draining. If water is found to be pointing in the swale it shall be fixed to allow water to freely stain as soon as possible.

 Any broken sprinklers behind the retaining wall shall be turned off and repaired as soon as

3.7 Cold Weather Construction of Retaining Walls

Construction Requirements for temperatures between 32°F and 25°F:

- a. The guidelines above for construction requirements for temperatures between 40°F and 32°F and
- the following shall be met.

 b. The mortar temperature shall be maintained above freezing until used in masonry stone retaining
- wall.

 Visible ice and snow shall be removed from the top surface of existing foundations and masonry to receive new construction. These surfaces shall be heated to above freezing, using methods that receive new construction. These surfaces snaw be incomed on the result in damage, do not result in damage, which is sufficiently covered with weather-resistive membrane for 48 hours after being completed.

Construction Requirements for temperatures between 25°F and 20°F

- a. The guidelines above for construction requirements for temperatures between 40°F and 32°F, the construction guidelines for temperatures between 32°F and 25°F, and the following shall be met. b. Masonry (two stone) surfaces under construction shall be headed to 40°F.
 c. Wind breaks or enclosures shall be provided when the wind velocity exceeds 15 miles per hour.
 d. Newly constructed masonry shall be completely covered with weather-resistive insulating blankets, or equal protection, for 48 hours after being completed.

The above procedures comes from sections 2104.3.2.1, 2104.3.2.2, 2104.3.2.3, 2104.3.3.3, and 2104.3.3.4 of the international Building Code, and is in compliance with Masony Standards Joint Committee recommendations for co

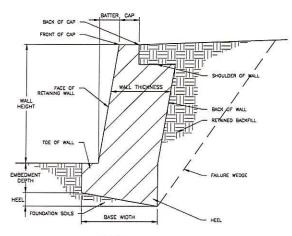
4. Construction Observations

4.1 Construction Observations by Falkofske Engineering, Inc.

- a. Falkofske Engineering, Inc. will perform construction observation, but only as a means
- of verification of the contractors quality control performance. b. Falkofske Engineering, Inc. will act as the Special Inspector for this project. Contractor shall contact Falkofske Engineering to set up inspections, at least 1 day before
- c. All required materials testing shall be performed by an approved materials testing
- Falkofske Engineering, inc. is not responsible for means, methods, and material furnished by the retaining wall contractor.

4.2 Construction Observations by Others

a. Construction observations as required by the city shall be coordinated by the contractor.



LEGEND

\$ \$ \$ \$ OES. alkofske Engineering, Inc. tructural Engineering Consult X Reg. Engineering Firm F-4 22 North Fielder Road Arlington, Texas 76012 317) 261-8300

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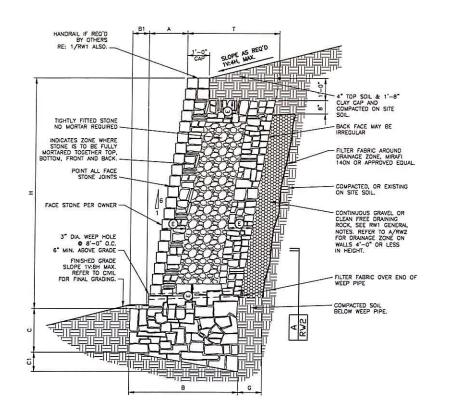
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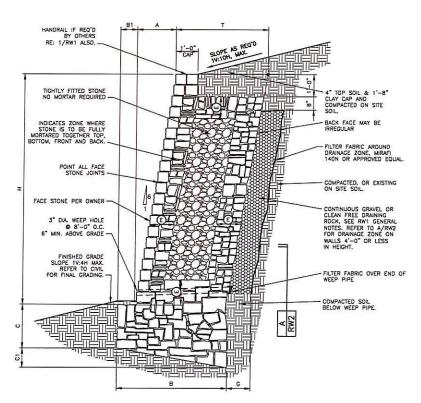
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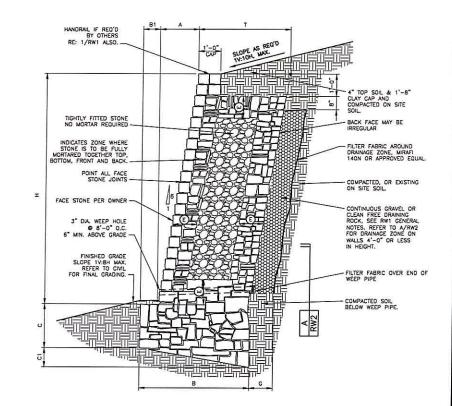
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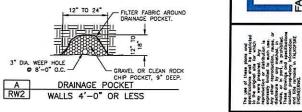
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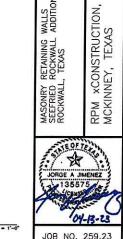




	EET RF1)	AL MOTES SHI	s see cener		Y WALL SCH MATURAL UNDE		BEARDIC CAP	1500 pef -	
CAPA	DRAMAGE ZONE THICKNESS G	THICKNESS OF WALL T	ZONE E	BATTER	BASE DEPTH (HEEL) C1	BASE DEPTH (TOE) C	TO€ B1	BASE WIOTH B	HEIGHT HEIGHT
	SEE A/RW2	1'-0"	MORTAGED	0'-2"	0'-3"	0'-6"	0'-2"	1'-2"	1'-0"
1	SEE A/RW2	1'-0"	MORTARED	0'-4"	0'-3"	0'-9"	0'-2"	1'-2"	2'-0"
1	SEE A/RW2	1'-4"	MORTARED	0'-6"	0'-4"	0'-9"	0'-3"	1'-7"	3'-0"
1500	SEE A/RW2	1'-11"	MORTARED	0'-8"	0'-5"	1'-0"	0'-4"	2'-3"	4'-0"
1	1'-0"	2'-4"	0'-8"	0'-10"	0'-6"	1'-3"	0'-5"	2'-9"	5'-0"
1	1'-0"	2'-10"	0'-10"	1'-0"	0'-8"	1'-6"	0'-7"	3'-5"	6,-0,
					RITERIA	DESIGN CI	WALL		
		SURCHARGE 4	SLOPE OF BACK OF WALL	PRICTION ANGLE BASE	PASSIVE PRESSURE Pp	ACTIVE PRESSURE	SLOPE BOT	SLOPE TOP	BEARHO Qu
	1	0 psf	99.45 deg	17 deg	26 deg	26 deg	7.13 deg	5.71 deg	1500PSF

HEIGHT.	BASE WIOTH B	TOE B1	DEPTH (TOE)	DEPTH (HEEL) C1	BATTER	MONTH TO	OF WALL	DRAMAGE ZONE THICKNESS G	CAPACITY
1'-0"	1'-2"	0'-2"	0'-6"	0'-3*	0'-2"	FULLY MORTARED	1'-0"	SEE A/RW2	
2'-0"	1'-3"	0'-2"	0'-9"	0'-3"	0'-4"	MORTARED	1'-1"	SEE A/RW2	
3'-0"	1'-9"	0,-3,	0'-9"	0'-4"	0'-6"	MORTANED	1'-6"	SEE A/RW2	1500 paf
4'-0"	2'-7"	0'-4"	1'-0"	0'-6"	0'-8"	MORTARED	2'-3"	SEE A/RW2	
5'-0°	3'-1"	0'-5"	1'-6"	0'-7"	0'-10"	0'-8*	2'-8"	1'-0"	
6'-0"	3'-10"	0'-7"	1'-9"	0'-9"	1'-0"	0'-10"	3'-3"	1'-0"	
		VAL.	DESIGN C	RITERIA					
BEARING Go	SLOPE TOP	SLOPE BOT	ACTIVE PRESSURE 00	PASSME PRESSURE Op	PRICTION ANGLE BASE	SLOPE OF BACK OF WALL	SURCHARDE		
1500PSF	14 deg	7.13 deg	26 deg	26 deg	17 deg	99.46 deg	0 psf	1	

HEIGHT H	BASE WIOTH B	TOE B1	DEPTH (TOE)	BASE DEPTH (HEEL) C1	BATTER	E E	THECKNESS OF WALL T	DRANAGE ZONE THICKNESS G	BEARING CAPACITY
1'-0"	1'-2"	0'-2"	1'-0"	0,-3,	0'-2"	MORTARED	1'-0"	SEE A/RW2	
2'-0"	1'-2"	0'-2"	1'-0"	0'-3"	0'-4"	RULLY	1"-0"	SEE A/RW2	
3'-0"	1'-8"	0'-3"	1'-3"	0'-4"	0"-6"	MORTARED	1'-5"	SEE A/RW2	2500 psf
4'-0"	2'-3"	0'-4"	1'-9"	0'-5"	0'-8"	MORTARED	1'-11"	SEE A/RW2	
5'-0"	2'-9"	0'-5"	2'-6"	0'-6"	0'-10"	0'-8"	2'-4"	1'-0"	
6'-0"	3'-4"	0'-7"	3'-6"	0'-8"	1'-0"	0'-10"	2'-9"	1'-0"	
7'-0"	3'-11"	0'-8"	4'-6"	0'-9"	1'-2"	0'-10"	3'-3"	1'-0"	
8'-0"	4'-8"	0'-10"	5'6"	0'-10"	1'-4"	1'-0"	3'-10"	1"-0"	
		WAL	L DESIGN C	RITERIA				1	
BEARING Go	SLOPE TOP	SLOPE BOT	ACTIME PRESSURE On	PASSME PRESSURE Op	FRICTION ANGLE BASE	SLOPE OF WALL	SURCHARGE		
2500PSF	5.71 deg	14 deg	26 deg	25 deg	17 deg	99.46 deg	0 paf	1	



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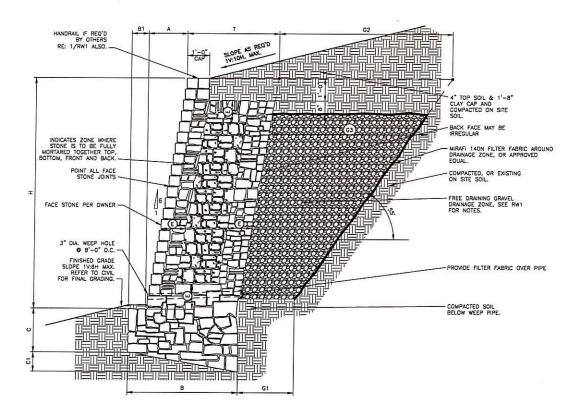
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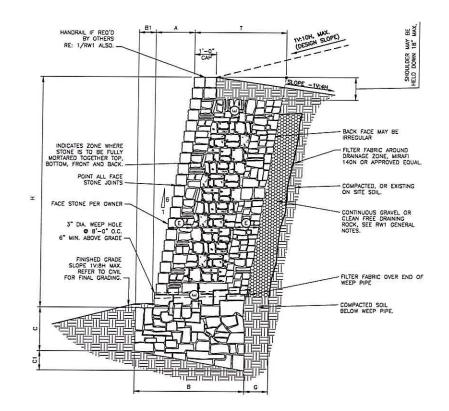
1 RW2

TYPICAL WALL SECTION - 1V:10H MAX SLOPE ABOVE WALL

1V:8H MAX SLOPE BELOW WALL BEARING IN CLAYEY OR SANDY SOILS



			30IL3 - RV1)	ULE UNDISTURBED L NOTES SHEET	TALL SCHED TIPP MATURAL SEE CENERA	CUPACITY (3	pef - BEARING	1500 QR C0			
CAPACI	GRAVEL G3	CRAVEL (TOP) G2	(BOTTOM) G1	THICKNESS OF WALL T	MORTARED ZONE E	BATTER	BASE DEPTH (HEEL) C1	DEPTH (TOE) BASE	TOE B1	BASE WIDTH B	HEARI HEARI HEARI
1500 p	3'-11" 3'-0"	3'-11"	1'-6"	4'-3"	FULLY	0'-10"	0"-11"	1'-3"	0'-8"	4"-11"	5'-0"
1750 p	3'-9"	4'-7"	1'-8"	5'-0"	MORTARED	1'-0"	1'-1"	1'-6"	0'-11"	5'-11"	6,-0,
_							RITERIA	L DESIGN C	WAL		
			SURCHARGE	SLOPE OF BACK OF WALL	FRICTION ANGLE BASE	PASSINE PRESSURE Op	ACTIME PRESSURE WALLS >4'	ACTIME PRESSURE WALLS <4'	SLOPE BOT	SLOPE TOP	BEARING Qu
			0 psf	99.46 deg	17 deg	26 deg	35 deg	26 deg	7.13 deg	5.71 deg	1500psf



	EET RW1)	al notes see	MASONRY WALL SCHEDULE 1800 pd - Bearing Capacity (Stiff natural undisturbed soils see general notes i										
BEARING	ORANAGE ZONE THICKNESS G	THICKNESS OF WALL T	E E	BATTER A	BASE DEPTH (HEEL) C1	BASE DEPTH (TOE) C	TOE B1	BASE WIDTH B	HEIGHT.				
	1'-0"	1"-0"	MORTARED	0'-2"	0,-3,	0'-6"	0'-2"	1'-2"	1'-0"				
	1'-0"	1'-0"	MONTARED	0'-4"	0,-3,	0,-8.	0'-2"	1'-2"	2'-0"				
1500 psf	1'-0"	1'-4"	MORTARED	0'-6"	0'-4"	0'-9"	0'-3"	1'-7"	2,-0.				
	1'-0"	1'-11"	MORTARED	0'-8"	0"-5"	1'-0"	0'-4"	2'-3"	4'-0"				
	1'-0"	2'-4"	MORTANED	0'-10"	0'-6"	1'-3"	0'-5"	2'-9"	5'-0"				
	1'-0"	2'-10"	MORTARED	1'-0"	0,-8.	1'-6"	0'-7"	3'-5*	6'-0"				
					RITERIA	DESIGN CI	WALL						
		SURCHWAGE	STONE OL.	FRICTION ANGLE BASE	PASSIVE PRESSURE Op	ACTIME PRESSURE 94	SLOPE BOT	SLOPE TOP	BEARING On				
	1	0 psf	99.46 deg	17 deg	26 deg	26 deg	7.13 deg	5.71 deg	1500PSF				



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CC RPM xCONSTRUCTION, MCKINNEY, TEXAS

JORGE A JIMENEZ 135575 04-13-23

1 RW3

TYPICAL WALL SECTION - 1V:10H MAX SLOPE ABOVE WALL

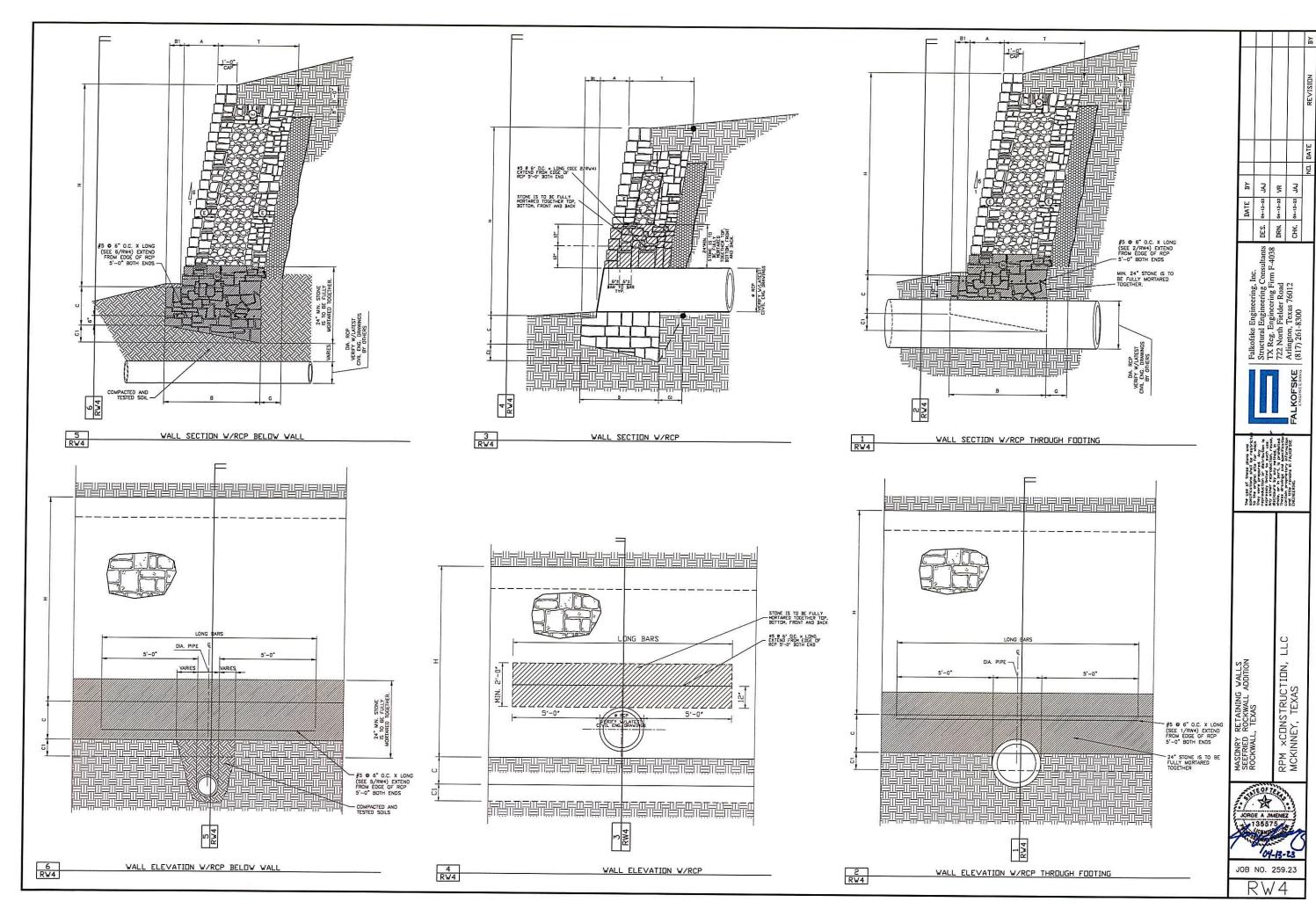
1V:8H MAX SLOPE BELOW WALL

BEARING IN CLAYEY OR SANDY SOILS

JOB NO. 259.23 RW3

1/2" = 1'-0"

RW3



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"CERTIFIED CORRECT"

BY: RL
DATE: 1/3/25