AS BUILTS
RETAINING WALL
RTG 7/17/17

ASSOCIATES, INC.
RETAINING WALLS
Mailing: P.O. Box 557; Pilot Point, TX 76258
Delivery: 1016 N. Industrial Blvd.; Pilot Point, TX 76258
Phone: (830) 980-4037 Fax: (830) 438-4863

December 13, 2016

Helker & Crawford Constructors, LP
720 Valley Ridge Circle, Suite I
Lewisville, Texas 75057

Attention: Mr. Chad Violette

Pavestone Anchor Diamond Pro Beveled Geotechnical Design Submittal
Rooms To Go
Rockwall, TX

Enclosed please find the engineering design submittals for your approval for the modular block retaining walls on the above referenced project.

We appreciate the opportunity to work with Helker & Crawford, please contact us should you have any questions or need additional information.

☐ NO EXCEPTIONS
☒ EXCEPTIONS AS NOTED
☐ REJECTED – RESUBMIT

(1 page)
Obtain written approval from owner for exact material color and facade.

Review is only for general conformance with design concept of project and general compliance with the Contract Documents. Contractor is responsible for confirming and correlating dimensions at job site; for information which pertains to fabrication processes or construction techniques; and for coordination of work of all trades. Review of shop drawings shall not relieve contractor, any Subcontractor, and/or Material Supplier of responsibility from deviation from requirements of Contract Documents nor for errors or omissions in shop drawings. Contractor is responsible for conforming to review authority specifications on any and all materials used and procedures implemented.

DATE: 16 December 2016

BY: Daniel Stoltz PE

Morgan Mueller
Sales Administrator
JDK Associates, Inc.

CATES-CLARK
CATES-CLARK & ASSOCIATES, LLP
Consulting Engineers Dallas, Texas

SynchroPile, Inc.
Firm Registration F-8831

Project No. ZA16-0602
December 8, 2016

5123 Blanco Road
San Antonio, Texas 78216
Phone: 210-541-0540
Fax: 210-340-6434
phil.king@synchropile.com

JDK Associates, Inc.
P.O. Box 557
Pilot Point, Texas 76258-0557

Attention: Mr. James S. Kenney
President

Geotechnical Design, Modular Retaining Wall
Pavestone Anchor Diamond Pro Beveled Face Units
Rooms To Go - Rockwall
IH-30 and Greencrest
Rockwall, Texas

This letter presents Plans and Specifications detailing the typical layout of the Pavestone Anchor Diamond Pro Beveled Face Modular Retaining Walls to be used on the Rooms To Go project, located at IH-30 and Greencrest in Rockwall, Texas. Our services in developing these plans and specifications were performed in general accordance with our Proposal No. ZA16-0602, dated December 8, 2016. Our services were requested and authorized by Ms. Morgan Mueller with JDK in an email.

Geotechnical Data. The design is based on geotechnical data developed by Alpha Testing, Inc., and presented in their Report No. G152918, dated February 5, 2015. Their study was performed for subsurface exploration and foundation analysis for the proposed facility. For our design, we have assumed the soils in the retaining wall area are similar to those revealed by the Alpha borings. Should different soils be encountered during the construction of the wall, it may be necessary to revise the design presented herein.

Special Inspections. As indicated in the attached specifications, Special Inspections from a licensed engineering company is a recommendation of this design (unless required by the City of Rockwall). Therefore, if the Owner follows this recommendation they will need to arrange for a licensed engineering firm to provide special inspection services of the contractor's work in accordance with IBC Chapter 17 (See IB 132).

Global Stability Analysis. Our design was performed without the need to perform a Global Stability Analysis (GSA). This analysis was not within our scope of work and therefore was not performed. It may be a requirement or recommendation of other parties that a GSA be performed, and if so it can be performed if requested.

Limitations. The attached design is to be utilized within the scope of work presented in our proposal, and is for the exclusive use of JDK Associates. This design is not intended to be used for any other purposes. SynchroPile, Inc makes no claim or representation concerning any activity or condition falling outside the specified purposes to which this design is directed, said purposes being specifically limited to the scope of work as defined in said agreement. Inquiries as to said scope of work or concerning any activity or condition not specifically contained therein should be directed to SynchroPile, Inc., for determination and, if necessary, further investigation.

The professional services that form the basis for this design have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable geotechnical engineers practicing in the same locality. No warranty, express or implied, is made as to the professional advice set forth.

* * *

We appreciate being of service to JDK Associates on this project. Please call if we can be of additional assistance.

Sincerely,
SynchroPile, Inc., Firm Registration F-8831

Philip G. King, P.E., D.GE, F.ASCE
President

STATE OF TEXAS
PHILIP G. KING
85411
REGISTERED PROFESSIONAL ENGINEER
12-8-16

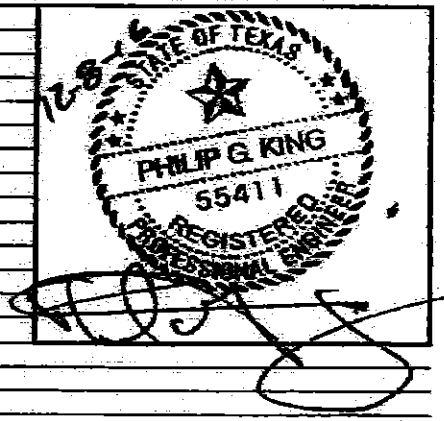
tbm/PGK(c:\ZA16-0602let.doc)
Copies Submitted: (1)

Concrete Modular Retaining Wall
Pavestone Anchor Diamond Pro Beveled Face Units
JDK Project No. 996
Rooms To Go – Rockwall Project
IH-30 at Greencrest
Rockwall, Texas

General Notes

1. This Specification, the attached Design Plans, and Letter dated December 8, 2016, are combined to make up the complete design package; and are for the exclusive use of JDK Associates.
2. Location and final finished height of the wall shall be as shown on the Site Drainage plan sheet developed for the project by the Site Civil Engineer. Any discrepancies between the Project Specifications and Plans developed for the project and these specifications and attached plans shall be forwarded in writing to SynchroPile, Inc. for clarification. Analyses were performed and design developed based on subsurface data developed by Alpha Testing, Inc., and presented in their Report No. G152918, dated February 5, 2015.
3. Upper layer of Modular Concrete Units shall be stepped down uniformly across the wall as to shape the wall to grade contours.
4. The Modular Concrete Units shall be "Pavestone Anchor Diamond Pro Beveled Face" Retaining Wall Units as manufactured under license from Anchor Wall Systems.
5. **The first course (lowest course) of Modular Concrete Units shall be placed a minimum depth of 12 inches below lowest adjacent grade.**
6. Geogrid shall be Synteen SF 20 and SF 35, as directed in the following table (Page 2), Manufactured by Geo-Synthetics, Inc. (or equivalent).
7. At completion of project, Contractor to verify with Owner that safety handrails and fences are provided at the top of wall to meet local ordinances and codes. Design of handrails and fences are not included in this specification. Design details are provided on the attached plan sheets.
8. During and after general construction, no excavations, embedments or embodiments are to occur into the reinforced zone or within 6 ft of it, nor are excavations to occur below the toe of the wall without prior consultation with SynchroPile, Inc. The Contractor is to verify that this specification requirement is passed on the Owner.
9. During construction and prior to final placement of topsoil and/or pavement behind the wall, construction equipment and vehicles shall stay a minimum of 3 ft from back of wall. This requirement shall be passed on to the owner and/or General Contractor.
10. Positive drainage away from the wall (both top and bottom) shall be maintained prior to final placement of topsoil and/or pavement adjacent to the wall. The grades above the wall shall be such to address erosion issues above or below the wall. This requirement shall be passed on to the owner and/or General Contractor.
11. Unless noted otherwise on the site civil plans, the front face of the retaining wall shall be set at a slope ranging from near vertical to 8 vertical to 1 horizontal (8:1) slope as required to shape the wall.
12. The drainage of water from behind the wall is accomplished by the drainage of water through the reinforced gravel fill material (as specified herein) from behind the wall and through the face of the wall via the joints between the individual wall units.
13. Geogrid Placement is presented in the Following Table:

Maximum Wall Height, ft. [1]	No. of Wall Unit Courses	Geogrid Length, ft.[2] (Behind Front Face of Wall Unit)		Geogrid Placement, Height From Base of Wall, ft.									
		Top Grid Layer	Remaining Grid Layers	Grid "A"	Grid "B"	Grid "C"	Grid "D"	Grid "E"	Grid "F"	Grid "G"	Grid "H"	Grid "I"	Grid "J"
2.00	3	3.5	-	1.33	-	-	-	-	-	-	-	-	
2.67	4	3.5	-	1.33	-	-	-	-	-				
3.33	5	3.5	-	1.33	-	-	-	-	-				
4.00	6	4.5	3.5	3.33	1.33	-	-	-	-				
4.67	7	4.5	3.5	3.33	1.33	-	-	-	-				
5.33	8	4.5	3.5	3.33	1.33	-	-	-	-				
6.00	9	5.0	4.0	4.67	3.33	1.33	-	-	-				
6.67	10	5.5	4.5	5.33	3.33	1.33	-	-	-				
7.33	11	5.5	4.5	5.33	3.33	1.33	-	-	-				
8.00	12	6.5	5.5	7.33	5.33	3.33	1.33	-	-				



Notes: 1) Wall Height is measured from base of bottom layer of Modular Concrete Units to top of wall (top of cap unit); and
2) Geogrid length is measured as the distance behind the front face of the MSE units.
3) Geogrid shall be Synteen SF 20 for all layers.

Specification Guidelines

SPECIFICATION FOR SEGMENTAL RETAINING WALL SYSTEMS

PART 1: GENERAL

1.01 Description

A. Work includes furnishing and installing segmental retaining wall (SRW) units to the lines and grades designated on the project's final construction drawings or as directed by the Architect/Engineer.

B. Also included are furnishing and installing appurtenant materials required for construction of the retaining wall as shown on the construction drawings.

1.02 Reference Standards

A. Segmental Retaining Wall Units

1. ASTM C 1372 - Standard Specification for Segmental Retaining Wall Units
2. ASTM C 140 - Standard Test Methods of Sampling and Testing Concrete Masonry Units

B. Geosynthetic Reinforcement

1. ASTM D 4595 - Tensile Properties of Geotextiles by the Wide-Width Strip Method
2. ASTM D 5262 - Test Method for Evaluating the Unconfined Creep Behavior of Geosynthetics
3. GRI:GG1 - Single Rib Geogrid Tensile Strength
4. GRI:GG5 - Geogrid Pullout

C. Soils

1. ASTM D 698 - Moisture Density Relationship for Soils, Standard Method
2. ASTM D 422 - Gradation of Soils
3. ASTM D 424 - Atterberg Limits of Soil

D. Mortar

1. ASTM C 270 -Standard Specification for Mortar for Unit Masonry

E. Drainage Pipe

1. ASTM D 3034 - Specification for Polyvinyl Chloride (PVC) Plastic Pipe
2. ASTM D 1248 - Specification for Corrugated Plastic Pipe

F. Engineering Design

1. "NCMA Design Manual for Segmental Retaining Walls", 3rd Edition

2. Any discrepancies between the Project Specifications and Plans developed for the project and these specifications and attached plans shall be forwarded in writing to SynchroPile, Inc. for clarification and final determination of applicable document.

1.03 Submittals

A. Material Submittals: Samples of all products used in the work of this section.

B. Manufacturer's specifications (latest edition) for proposed materials, method of installation and list of materials proposed for use.

1.04 Delivery, Storage and Handling

A. Contractor shall check materials upon delivery to assure that specified type and grade of materials have been received and proper color and texture of SRW units have been received.

B. Contractor shall prevent excessive mud, wet concrete, epoxies, and like materials that may affix themselves, from coming in contact with materials.

C. Contractor shall store and handle materials in accordance with manufacturer's recommendations.

D. Contractor shall protect materials from damage. Damaged materials shall not be incorporated into the retaining wall.

PART 2: MATERIALS

2.01 Segmental Retaining Wall Units

A. SRW units shall be machine formed, Portland Cement concrete blocks specifically designed for retaining wall applications. SRW units currently approved for this project are "Pavestone Anchor Diamond Pro Beveled Face" Retaining Wall Units as manufactured under license from Anchor Wall Systems.

B. Color of SRW units shall be selected by the owner or his representative.

C. Texture: Split-Rock Face.

D. Meet requirements of ASTM C1372, except the maximum water absorption shall be limited to 7 percent, and unit height dimensions shall not vary more than plus or minus 1/16 inch from that specified in the ASTM reference, not including textured face.

E. Unit Face Area: Not less than 0.67 square feet.

F. Include an integral concrete shear connection flange/locator.

H. SRW units shall be sound and free of cracks or other defects that would interfere with the proper placing of the unit or significantly impair the strength or permanence of the structure. Cracking or excessive chipping may be grounds for rejection. Units showing cracks longer than 1/2" shall not be used within the wall. Units showing chips visible at a distance of 30 feet from the wall shall not be used within the wall.

I. Concrete used to manufacture SRW units shall have a minimum 28 days compressive strength of 3,000 psi. Compressive strength test specimens shall conform to the saw-cut coupon provisions of Section 5.2.4 of ASTM C140 with the following exception: Coupon shall be taken from the least dimension of the unit of a size and shape representing the geometry of the unit as a whole.

J. SRW units' molded dimensions shall not differ more than + 1/8 inch from that specified, except height which shall be + 1/16 inch as measured in accordance with ASTM C140.

2.02 Mortar

A. Mortar used shall consist of a Type S, Grade NS, Class 25.

2.03 Drainage Pipe

A. Drainage Pipe shall be perforated or slotted PVC or corrugated HDPE pipe manufactured in accordance with D3034 and/or ASTM F405. The pipe may be covered with a geotextile filter fabric to function as a filter.

2.04 Geosynthetic Reinforcement

A. Geogrid shall be Synteen SF 20, SF 35, SF 55, SF 80 or SF 110, Manufactured by Geo-Synthetics, Inc, or equivalent, and having the property requirements described within the manufacturer's specifications and required by the design (or equivalent).

B. The type, strength, and placement location of the reinforcing geosynthetic shall be as determined by the Wall Design Engineer, as shown on the final, P.E. sealed retaining wall plans.

2.05 Leveling Pad

A. Material shall consist of compacted crushed stone or unreinforced concrete as shown on the construction drawing. "Pea gravel" or any other poorly graded stone shall not be permitted. The leveling pad should extend laterally at least a distance of 6 inches from the toe and heel of the lowermost SRW unit. A minimum of two inches of concrete can be used for the leveling pad is founded on competent rock.

2.06 Reinforced (Infill) Soil and Drainage Aggregate

Reinforced Select Fill shall consist of clean 1-1/2" minus crushed stone or crushed gravel meeting the gradation listed below. This material will also serve as Drainage Aggregate. "Pea gravel" shall not be used.

Sieve Size	Percent Passing
1-1/2 inch	100
3/4 inch	75-100
No. 4	0 - 10
No. 50	0 - 5

PART 3:CONSTRUCTION

3.01 Quality Control / Quality Assurance

A. The wall installation contractor is responsible for quality control (QC) of installation of all materials. Contractor's field construction supervisor shall have demonstrated experience and be qualified to direct all work at the site. The contractor should enlist the assistance of a qualified party to verify the correct installation of all materials according to these specifications and the construction drawings.

B. The Owner, at his own expense, should retain a qualified professional to perform quality assurance (QA) checks of the contractor's work.

C. Work found to be deficient according to these specifications or the construction drawings must be corrected at the contractor's expense.

D. The Owner, at his own expense, should (unless required by the City of Rockwall) retain a licensed engineering company to perform the following **Special Inspections** (in accordance with IBC Chapter 17 (See IB 132)), including field reports to verify proper construction in accordance with these specifications:

D.1 Observed that proper materials (backfill, modular blocks and grid etc.) are used in the wall construction;

D.2 Verify proper construction of the Foundation Preparation and Base Leveling Pad;

D.3 Verify proper construction of the modular blocks, geogrid, and backfill, including compaction of the backfill material;

D.4 Notify SynchroPile of any occurrence of changed conditions from those listed in these design documents.

D.5 Verify condition of finished grades, above and below the wall, meets the design requirements contained herein.

3.02 Excavation

A. Contractor shall excavate to the lines and grades shown on the project grading plans. Contractor shall take precautions to minimize over-excavation. Contractor shall be careful not to disturb embankment and foundation materials beyond lines shown. Do not excavate within 3 ft of existing trees. Place guy lines to tie back and support trees during excavation.

B. Contractor shall verify location of existing structures and utilities prior to excavation. Contractor shall ensure all surrounding structures are protected from the effects of wall excavation. Excavation support, if required, is the responsibility of the Contractor

3.03 Foundation Preparation

A. Foundation soil shall be excavated as required for leveling pad and specified number of SRW units (See General Notes), or as directed by the Engineer.

B. Foundation soil shall be in an undisturbed state, or compacted to a density to support the wall with minimum settlement (notify Engineer of any concerns with unsuitable or less than optimal foundation soils).

C. Unsuitable soils shall be removed and replaced with acceptable material under the guidance of the Engineer.

D. Extend areas requiring fill to a slope of no greater than 4 horizontal to 1 vertical (4:1) for a distance until natural grade is achieved.

3.04 Base Leveling Pad

A. Leveling pad materials shall be placed upon an approved foundation to a minimum thickness of 3", or as directed by the Engineer.

B. Foundation soil shall be approved by the Engineer to confirm that the actual foundation soil conditions meet or exceed assumed design conditions.

C. Compact aggregate base material to provide a level, hard surface on which to place the first course of units.

D. Prepare base materials to ensure complete contact with retaining wall units. Gaps are not allowed.

3.05 SRW ERECTION

A. General: Erect units in accordance with manufacturer's instructions and recommendations, and as specified herein.

B. Place first course of concrete wall units on the prepared base material. Check units for level and alignment. Maintain the same elevation at the top of each unit within each section of the base course.

C. Ensure that foundation units are in full contact with natural or compacted soil base.

D. Place concrete wall units side-by-side for full length of wall alignment. Alignment may be done by using a string line measured from the back of the block. Gaps are not allowed between the foundation concrete wall units.

E. Place 12 inches (minimum) of drainage aggregate between, and directly behind, the concrete wall units. Fill voids in retaining wall units with drainage aggregate. Provide a drainage zone behind the wall units to within 9 inches of the final grade. Cap the backfill and drainage aggregate zone with 9 inches of impervious material.

F. Install drainage pipe at the lowest elevation possible, to maintain gravity flow of water to outside of the reinforced zone. Slope the main collection drainage pipe, located just behind the concrete retaining wall units, 2 percent (minimum) to provide gravity flow to the daylighted areas. Daylight the main collection drainage pipe through the face of the wall, and/or to an appropriate location away from the wall system at each low point or at 50-foot (maximum) intervals along the wall. Alternately, the drainage pipe can be connected to a storm sewer system at 50-foot (maximum) intervals.

G. Remove excess fill from top of units and install next course. Ensure drainage aggregate and backfill are compacted before installation of next course.

H. Check each course for level and alignment. Adjust units as necessary to maintain level and alignment prior to proceeding with each additional course.

I. Install each succeeding course. Backfill as each course is completed. Pull the units forward until the locating surface of the unit contacts the locating surface of the units in

the preceding course. Interlock wall segments that meet at corners by overlapping successive courses. Attach concrete retaining wall units at exterior corners with adhesive specified.

3.06 Geosynthetic Reinforcement Placement

A. All geosynthetic reinforcement shall be installed in accordance with geosynthetic manufacturer's recommendations at the proper elevation and orientation as shown on the retaining wall plan profiles and details, or as directed by the Wall Design Engineer.

B. At the elevations shown on the final plans, the geosynthetic reinforcement shall be laid horizontally on compacted infill and on top of the concrete SRW units. Embedment of the geosynthetic in the SRW units shall be consistent with SRW manufacturer's recommendations. Correct orientation of the geosynthetic reinforcement shall be verified by the Contractor to be in accordance with the geosynthetic manufacturer's recommendations. The highest strength direction of the geosynthetic must be perpendicular to the wall face.

C. Geosynthetic reinforcement layers shall be one continuous piece for their entire embedment length. Overlap of the geosynthetic in the design strength direction (perpendicular to the wall face) shall not be permitted. Horizontally adjacent sections of geosynthetic reinforcement shall be butted in a manner to assure 100 percent coverage after placement. Gapping between horizontally adjacent layers of geosynthetic (partial coverage) will not be allowed.

D. Tracked construction equipment shall not be operated directly on the geosynthetic reinforcement. A minimum of 6 inches of backfill is required prior to operation of tracked vehicles over the geosynthetic. Turning should be kept to a minimum. Rubber-tired equipment may pass over the geosynthetic reinforcement at slow speeds (less than 5 mph).

E. The geosynthetic reinforcement shall be in tension and free of wrinkles prior to placement of soil fill. The nominal tension shall be applied to the reinforcement and secured in place with staples, stakes or by hand tensioning until reinforcement is covered by six inches of fill.

3.07 Drainage Materials

Drainage aggregate shall be installed to the line, grades, and sections shown on the final plans. Drainage aggregate shall be placed to the minimum thickness shown on the construction plans between and behind units (a minimum of one cubic foot for each exposed square foot of wall face unless otherwise noted on the final wall plans).

3.08 Select Fill Placement

A. Crushed Rock Reinforced select fill material shall be placed in 6-inch maximum compacted lifts using at least three (3) passes of a lightweight hand operated mechanical tamper, plate, or roller. The crushed stone material shall be densely compacted per TxDOT Item 423.3 E. The backfill shall be placed and spread in such a manner as to eliminate wrinkles or movement of the geosynthetic reinforcement and the SRW units.

B. At completion of wall construction, general clay backfill shall be placed level with the final top of wall elevation. If final grading, paving, landscaping, and/or storm drainage

installation adjacent to the wall is not placed immediately after wall completion, temporary grading and drainage shall be provided to ensure water runoff is not directed at the wall nor allowed to collect or pond behind the wall until final construction adjacent to the wall is completed.

3.09 SRW Caps

A. SRW caps shall be properly aligned and glued to underlying units with a flexible, high-strength concrete adhesive. Rigid adhesive or mortar are not acceptable.

B. Caps shall overhang the top course of units by 3/4 to 1 inch. Slight variation in overhang is allowed to correct alignment at the top of the wall.

C. Cut cap units as necessary to obtain the proper fit.

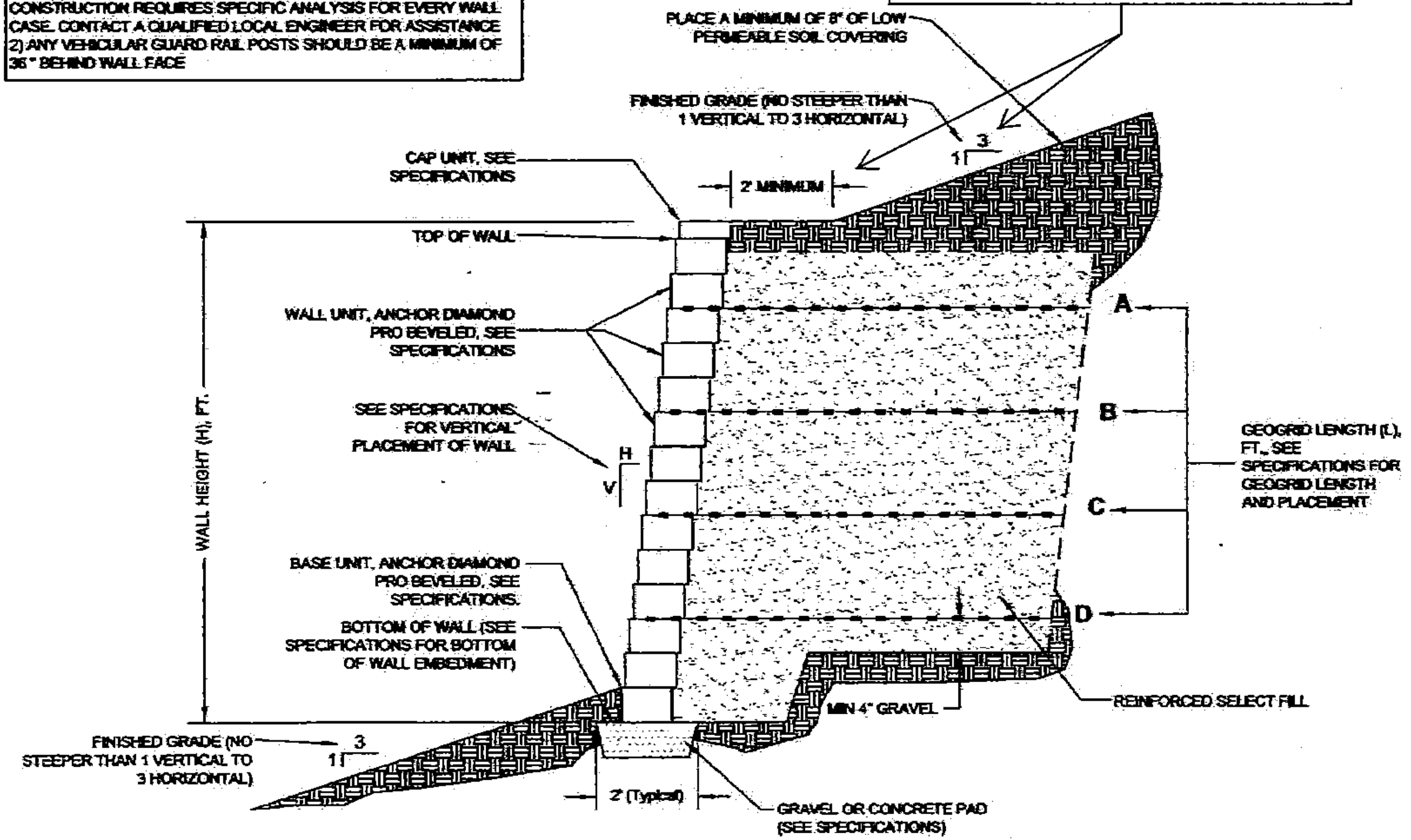
3.10 Construction Adjacent to Completed Wall

A. The Owner or Owner's Representative is responsible for ensuring that construction by others adjacent to the wall does not disturb the wall or place temporary construction loads on the wall that exceed design loads, including loads such as water pressure, temporary grades, or equipment loading. Heavy paving or grading equipment shall be kept a minimum of three feet behind the back of the wall face. Equipment with wheel loads in excess of 150 psf live load shall not be operated within 10 feet of the face of the retaining wall during construction adjacent to the wall. Care should be taken by the General Contractor to ensure water runoff is directed away from the wall structure until final grading and surface drainage collection systems are completed.

END OF SECTION

NOTES:
1) WIND LOADED FENCE OR GUARD RAIL DESIGN AND CONSTRUCTION REQUIRES SPECIFIC ANALYSIS FOR EVERY WALL CASE. CONTACT A QUALIFIED LOCAL ENGINEER FOR ASSISTANCE
2) ANY VEHICULAR GUARD RAIL POSTS SHOULD BE A MINIMUM OF 36" BEHIND WALL FACE

contractor to verify compliance with existing grades and proposed top of wall grades


PLACE A MINIMUM OF 8" OF LOW PERMEABLE SOIL COVERING
FINISHED GRADE (NO STEEPER THAN 1 VERTICAL TO 3 HORIZONTAL)
3
1
CAP UNIT, SEE SPECIFICATIONS
2' MINIMUM
TOP OF WALL
WALL UNIT, ANCHOR DIAMOND PRO BEVELED, SEE SPECIFICATIONS
SEE SPECIFICATIONS FOR VERTICAL PLACEMENT OF WALL
H
V
WALL HEIGHT (H), FT.
A
B
C
D
GEOGRID LENGTH (L), FT., SEE SPECIFICATIONS FOR GEOGRID LENGTH AND PLACEMENT
BASE UNIT, ANCHOR DIAMOND PRO BEVELED, SEE SPECIFICATIONS.
BOTTOM OF WALL (SEE SPECIFICATIONS FOR BOTTOM OF WALL EMBEDMENT)
MIN 4" GRAVEL
REINFORCED SELECT FILL
FINISHED GRADE (NO STEEPER THAN 1 VERTICAL TO 3 HORIZONTAL)
2' (Typical)
GRAVEL OR CONCRETE PAD (SEE SPECIFICATIONS)

Anchor™ Diamond Pro® Typical Reinforced Section

NOT TO SCALE

SHEET 1 OF 3

SYNCHROPILE, INC.

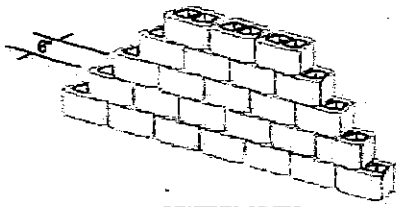
TBPE FIRM REGISTRATION NO. F-6831

5123 Blanco Road
San Antonio Texas 78216
Phone: 210-641-0540
Fax: 210-340-6434

ANCHOR DIAMOND PRO (BEVELED) MODULAR RETAINING WALL

ROOMS TO GO - ROCKWALL
IH-30 AND GREENCREST
ROCKWALL, TEXAS

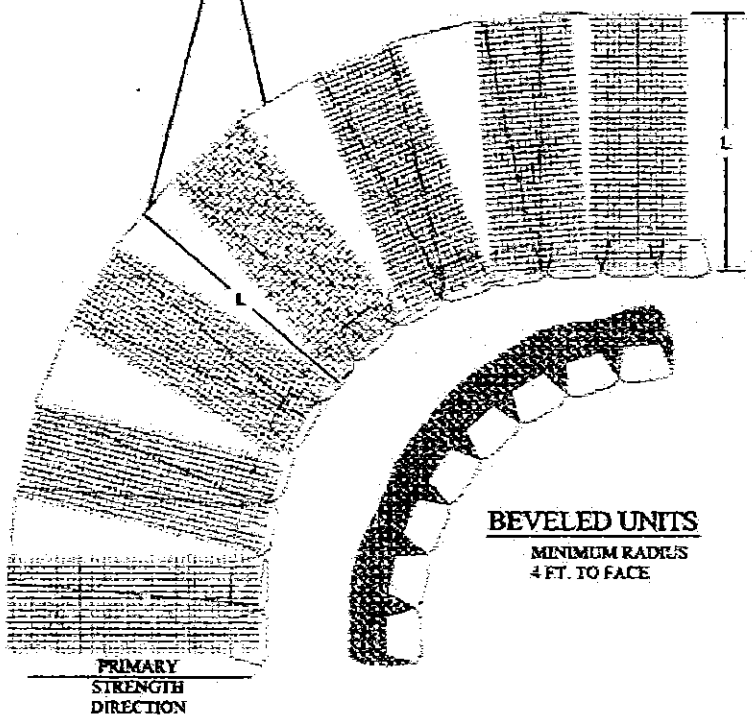
PHILIP Q. KING
55411
STATE OF TEXAS
REGISTERED PROFESSIONAL ENGINEER



BEVELED UNITS

Anchor™ Diamond Pro®
Reinforcement Connection Detail
NOT TO SCALE

PLACE ADDITIONAL REINFORCEMENT ON THE NEXT COURSE OF SEGMENTAL UNITS IMMEDIATELY ABOVE THE SPECIFIED PLACEMENT ELEVATION IN A MANNER THAT ELIMINATES GAPS LEFT BY THE PREVIOUS LAYER OF GEOSYNTHETIC AT THE SPECIFIED REINFORCEMENT ELEVATION.



Anchor™ Diamond Pro®
Inside Curve Details
NOT TO SCALE

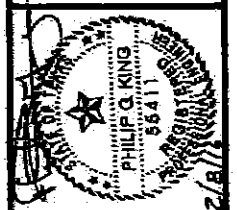
SHEET 2 OF 3

SYNCHROPILE, INC.
TBPE FIRM REGISTRATION NO. F-6831
6123 Blanco Road
San Antonio Texas 78216
Phone: 210-641-0840
Fax: 210-340-0434

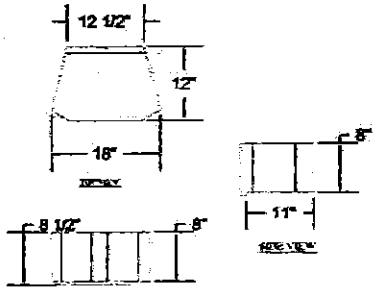
ANCHOR DIAMOND PRO (BEVELED)
MODULAR RETAINING WALL

ROOMS TO GO - ROCKWALL
IH-30 AND GREENCREST
ROCKWALL, TEXAS

PROJ. NO. 2A-IH-GRE
DATE: 12/8/2014

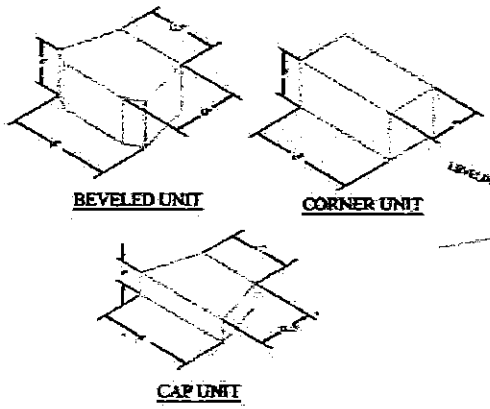


12/8/14

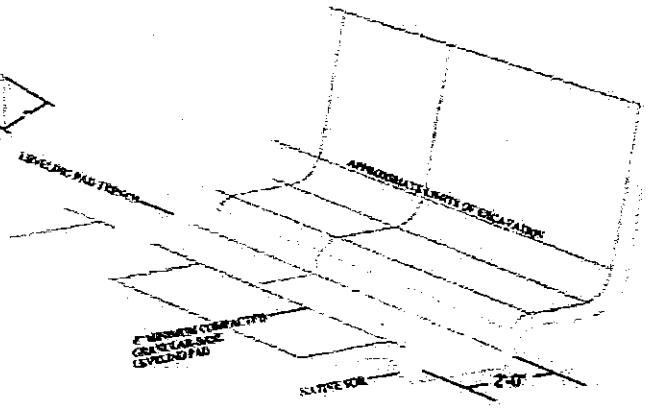


BEVELED UNITS

Anchor™ Diamond Pro®
Individual Block Views



Anchor™ Diamond Pro®
Isometric Block Details



Anchor™ Diamond Pro®
Typical Base Preparation

STEP 1 - PLACE REINFORCEMENT SO THAT LITTLE OR NO OVERLAP OCCURS IN THE RADIUS AREA. IF OVERLAP OCCURS, PLACE 2 TO 3 INCHES OF FILL BETWEEN THE REINFORCEMENT LAYERS.

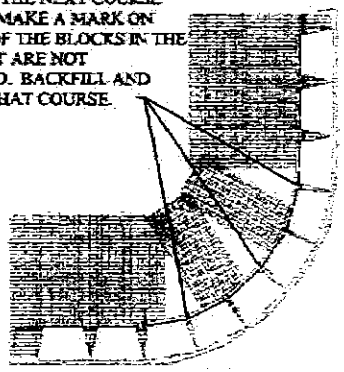
2 TO 3 INCHES OF FILL REQUIRED BETWEEN OVERLAPPED REINFORCEMENT FOR PROPER SOIL AND REINFORCEMENT INTERACTION

PRIMARY STRENGTH DIRECTION

L

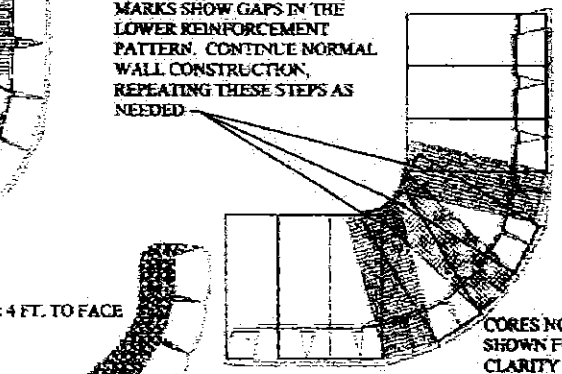
L

STEP 2: LAY THE NEXT COURSE OF BLOCK. MAKE A MARK ON THE BACK OF THE BLOCKS IN THE AREAS THAT ARE NOT REINFORCED. BACKFILL AND COMPACT THAT COURSE.



BEVELED UNITS
MINIMUM RADIUS: 4 FT. TO FACE

STEP 3: PLACE REINFORCEMENT IN THE AREAS WHERE THE MARKS SHOW GAPS IN THE LOWER REINFORCEMENT PATTERN. CONTINUE NORMAL WALL CONSTRUCTION, REPEATING THESE STEPS AS NEEDED.



CORES NOT SHOWN FOR CLARITY

Anchor™ Diamond Pro®
Outside Curve Details

SHEET 3 OF 3

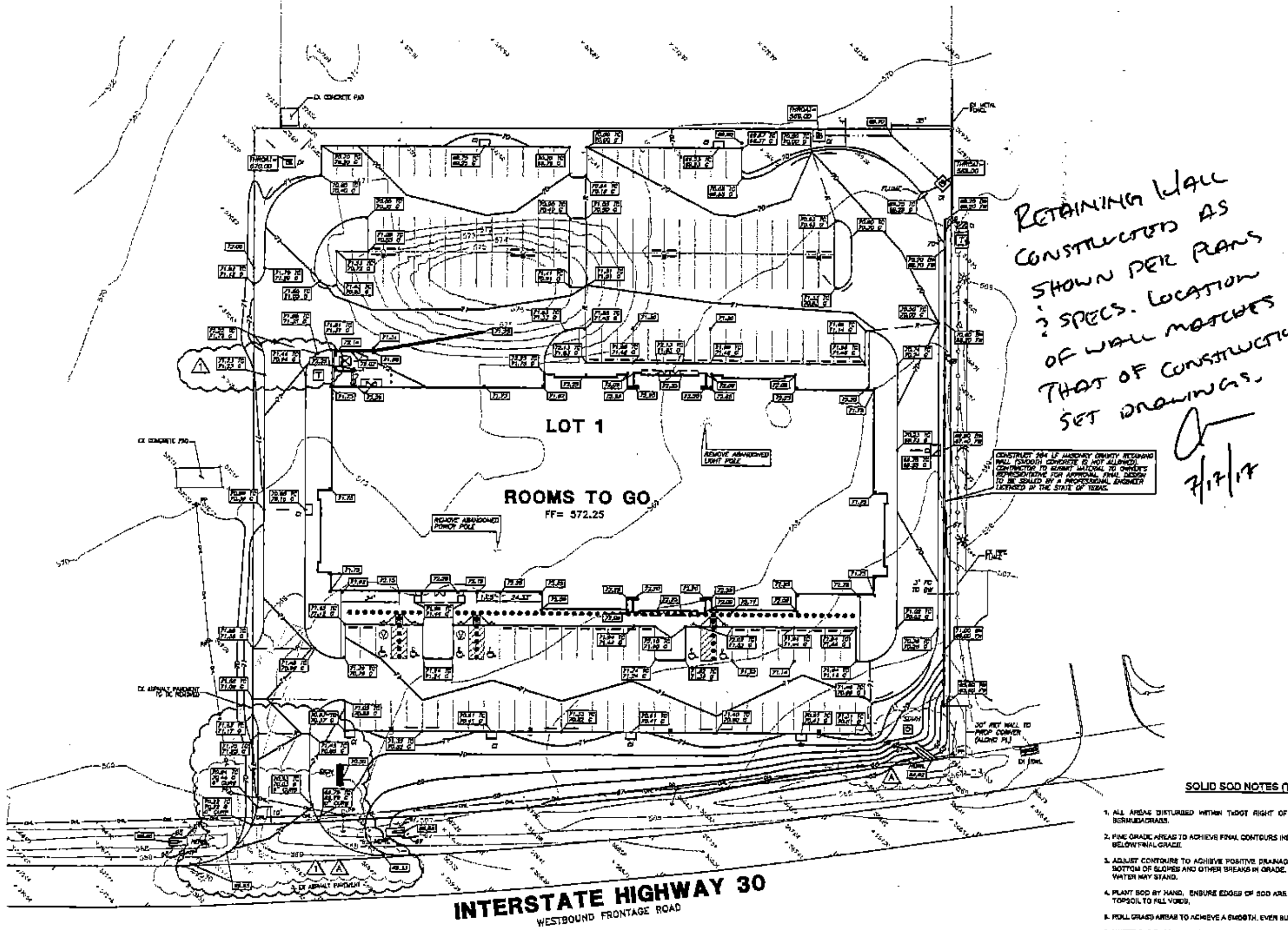
SYNCHROPILE, INC.
TBPE FIRM REGISTRATION NO. F-6931
8103 Blanco Road
San Antonio, Texas 78216
Phone: 210-641-0810
Fax: 210-340-8434

ANCHOR DIAMOND PRO (BEVELED)
MODULAR RETAINING WALL

ROOMS TO GO - ROCKWALL
IH-30 AND GREENCREST
ROCKWALL, TEXAS

PROJ. NO. 2018-0008
DATE: 10/9/2018

STATE OF TEXAS
PHILIP G. KING
85411
REGISTERED
ENGINEER
7/8/21



LEGEND

- EXISTING CONTOUR
- PROPOSED CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- PROPOSED TOP OF CURB (TC) & GUTTER (G) ELEVATION
- PROPOSED FINISHED GRADE AT BACK OF WALL (BW) & FACE OF WALL (FW)
- RIDGE (GRADE BREAK)
- ACCESSIBLE ROUTE

0 15' 30' 60'
1"=30'

GRADING GENERAL NOTES

1. GEOTECHNICAL REPORT: SITE PREPARATION, GRADING, FILL COMPACTION, AND BUILDING PAD PREPARATION SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT PREPARED FOR THIS PROJECT BY ALPHA TESTING, INC. PROJECT NO. G152818, DATED FEBRUARY 5, 2016. IN THE EVENT OF A CONFLICT BETWEEN THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND THE NOTES ON THE GRADING PLAN, THE GEOTECHNICAL REPORT SHALL GOVERN.
2. TOPOGRAPHIC SURVEY: TOPOGRAPHIC SURVEY INFORMATION IS BASED ON THE TOPOGRAPHIC SURVEY PREPARED BY ADAMS SURVEYING COMPANY, LLC, DATED 01/20/2016.
3. EXISTING CONDITIONS: PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXISTING CONDITIONS, INCLUDING GRADES AND DIMENSIONS. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER OF ANY DISCREPANCIES.
4. UNDISTURBED AREAS: PRIOR TO COMMENCING CLEARING, GRADING OR SITE CONSTRUCTION, THE CONTRACTOR SHALL MEET WITH THE DEVELOPER AND/OR ENGINEER AT THE SITE TO ASCERTAIN THE AREA(S) OF THE PROJECT SITE THAT ARE TO BE PROTECTED AND PRESERVED.
5. EROSION CONTROL: EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO COMMENCING CLEARING, STRIPPING AND GRADING OPERATIONS. REFER TO THE EROSION CONTROL PLAN FOR THE SEQUENCE OF EROSION CONTROL DEVICES TO BE INSTALLED.
6. PROPOSED GRADES: THE PROPOSED ELEVATIONS AND CONTOURS SHOWN ARE TO FINISHED GRADE. THE PROPOSED CONTOURS ARE APPROXIMATE. THE PROPOSED SPOT ELEVATIONS AND GRADIENTS ARE TO BE USED IN THE EVENT OF ANY DISCREPANCY WITH THE PROPOSED CONTOURS. MINOR ADJUSTMENT TO FINISH GRADE TO ACCOMPLISH SPOT DRAINAGE IS ACCEPTABLE.
7. ACCESSIBLE ROUTES/PARKING: SIDEWALKS AND CROSSWALKS ALONG ACCESSIBLE ROUTES SHALL BE IN ACCORDANCE WITH TAS AND ADA STANDARDS WITH A MAXIMUM RUNNING SLOPE OF 5% AND A MAXIMUM CROSS SLOPE OF 2%. ACCESSIBLE PARKING SPACES SHALL HAVE A MAXIMUM SLOPE OF 2% IN ALL DIRECTIONS.
8. STRIPPING AND DEBRIS REMOVAL: THE BUILDING PAD(S), AREAS TO BE PAVED, AND ALL AREAS THAT ARE TO RECEIVE FILL MATERIAL SHALL BE STRIPPED OF VEGETATION, TREES, ROOTS, STUMPS, DEBRIS AND OTHER ORGANIC MATERIAL. THE DEPTH OF THE STRIPPING SHALL BE BASED ON THE DEPTH OF SURFACE SOIL CONTAINING ORGANIC MATERIAL. ALL TREES, INCLUDING STUMPS AND ROOT SYSTEMS, VEGETATION, DEBRIS AND OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OFF SITE. STRIPPED TOPSOIL SHALL BE STOCKPILED IN A LOCATION ON THE SITE APPROVED BY THE DEVELOPER.
9. BURNING: BURNING SHALL NOT BE ALLOWED ON THE PROJECT SITE UNLESS APPROVED IN WRITING BY THE GOVERNING AUTHORITIES AND THE DEVELOPER.
10. PROOF-ROLLING: AFTER COMPLETION OF THE NECESSARY STRIPPING, CLEARING AND EXCAVATION AND PRIOR TO PLACING ANY REQUIRED FILL, THE EXPOSED SUBGRADE SHALL BE EVALUATED BY PROOF ROLLING WITH A HEAVY PNEUMATIC TIRED ROLLER, LOADED DUMP TRUCK OR SIMILAR EQUIPMENT WEIGHING APPROXIMATELY 10 TONS TO CHECK FOR POCKETS OF SOFT OR LOOSE MATERIAL. THE PROOF-ROLLING PROCEDURES SHOULD BE OBSERVED BY THE GEOTECHNICAL ENGINEER OR DESIGNATED REPRESENTATIVE. ANY UNDESIRABLE MATERIAL EXPOSED FROM PROOF-ROLLING SHALL BE REMOVED. PRIOR TO THE PLACEMENT OF ANY FILL, THE EXPOSED SUBGRADE SHOULD BE SCARIFIED TO A MINIMUM DEPTH OF 8 INCHES AND RECOMPACTED.
11. CONTROLLED FILL: ALL SOILS USED FOR CONTROLLED FILL SHALL BE FREE OF ROOTS, VEGETATION, AND OTHER DELETERIOUS OR UNDESIRABLE MATTER. THE FILL MATERIAL SHALL BE PLACED IN LEVEL, UNIFORM LIFTS, WITH EACH LIFT COMPACTED TO THE MINIMUM DRY DENSITY WITHIN THE COMPACTION SOIL MOISTURE RANGES RECOMMENDED. THE LOOSE LIFT DEPTH SHALL NOT EXCEED 8". EACH LAYER SHALL BE PROPERLY PLACED, MIXED, SPREAD AND COMPACTED IN ACCORDANCE WITH THE FILL COMPACTION SECTION.
12. FILL COMPACTION: FILL COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. ALL COMPACTED AREAS OUTSIDE THE BUILDING FOOTPRINT SHALL BE COMPACTED TO 95% STANDARD PROCTOR USING A SHEEPSFOOT ROLLER.
13. BUILDING PADS: THE BUILDING PADS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
14. LANDSCAPE AREAS: REFER TO THE LANDSCAPE PLAN FOR SOIL REQUIREMENTS IN LANDSCAPE AREAS.
15. TESTING: TESTING SHALL BE PERFORMED BY A QUALIFIED TESTING LABORATORY, EMPLOYED AND PAID DIRECTLY BY THE OWNER. TESTING SHALL BE PERFORMED, AT A MINIMUM, IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT. IN THE EVENT THE RESULTS OF THE INITIAL TESTING DO NOT COMPLY WITH THE PLANS AND SPECIFICATIONS, SUBSEQUENT TESTS NECESSARY TO DETERMINE THE ACCEPTABILITY OF CONSTRUCTION SHALL BE AT THE CONTRACTOR'S EXPENSE.
16. DETENTION SYSTEM: THE DETENTION SYSTEM (REFER TO SHEETS C5.2 & C6.2) IS REQUIRED TO BE FULLY INSTALLED AND PREPARED FOR USE PRIOR TO PLACEMENT OF ANY CONCRETE PAVEMENT (INCLUDING BUILDING SLAB).

SOLID SOD NOTES (TxDOT R.O.W.)

1. ALL AREAS DISTURBED WITHIN TxDOT RIGHT OF WAY SHALL BE SOLID SOD WITH COMMON BERMUDAGRASS.
2. FINE GRADE AREAS TO ACHIEVE FINAL CONTOURS INDICATED. LEAVE AREAS TO RECEIVE SOD 1-INCH BELOW FINAL GRADE.
3. ADJUST CONTOURS TO ACHIEVE POSITIVE DRAINAGE. PROVIDE UNIFORM ROUNDING AT TOP AND BOTTOM OF SLOPES AND OTHER BREAKS IN GRADE. CORRECT IRREGULARITIES AND AREAS WHERE WATER MAY STAND.
4. PLANT SOD BY HAND. ENSURE EDGES OF SOD ARE TOUCHING. TOP DRESS JOINTS BY HAND WITH TOPSOIL TO FILL VOIDS.
5. ROLL GRASS AREAS TO ACHIEVE A SMOOTH, EVEN SURFACE, FREE FROM UNNATURAL UNDULATIONS.
6. WATER SOD THOROUGHLY AS SOD OPERATION PROGRESSES.
7. CONTRACTOR SHALL MAINTAIN ALL LAWN AREAS UNTIL FINAL ACCEPTANCE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: MOWING, WATERING, WEEDING, CULTIVATING, CLEANING AND REPLACING DEAD OR BARE AREAS TO KEEP PLANTS IN A VIGOROUS, HEALTHY CONDITION.
8. CONTRACTOR SHALL GUARANTEE ESTABLISHMENT OF AN ACCEPTABLE TURF AREA AND SHALL PROVIDE REPLACEMENT FROM LOCAL SUPPLY IF NECESSARY.

BENCHMARKS:

CITY BENCHMARK: CITY OF ROCKWALL CONTROL MONUMENT (3 INCH BRASS CAP SET IN CONCRETE) IN THE MEDIAN OF SUMMIT RIDGE DRIVE AT THE INTERSECTION OF SUMMIT RIDGE DRIVE & F.M. 740 (RIDGE ROAD). PUBLISHED ELEV= 578.63'

SITE BENCHMARK:
1. "X" CUT ON SIDEWALK AT THE NORTHWEST CORNER OF GREENCREST BOULEVARD & INTERSTATE 30 WESTBOUND FRONTAGE ROAD. ELEVATION= 569.31'
2. "X" CUT ON THE HEADWALL OF AN 18" RCP LOCATED BETWEEN THE WESTBOUND FRONTAGE ROAD AND MAIN LANES OF INTERSTATE 30 AT GREENCREST BOULEVARD. ELEVATION= 568.84'
3. IRON ROD SET WITH A YELLOW PLASTIC CAP STAMPED "ADAMS SURVEYING 5610" NEAR THE NORTHEAST CORNER OF THE PROPOSED SUBJECT TRACT. ELEVATION= 568.50'
4. IRON ROD SET WITH A YELLOW PLASTIC CAP STAMPED "ADAMS SURVEYING 5610" NEAR THE SOUTHEAST CORNER OF THE PROPOSED SUBJECT TRACT. ELEVATION= 564.07'

ALL CONSTRUCTION IN I.H. 30 RIGHT-OF-WAY SHALL CONFORM TO TEXAS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES" DATED JUNE, 2004, THE MOST CURRENT EDITION, AND ALL OTHER TEXAS HIGHWAY DEPARTMENT STANDARDS, SPECIFICATIONS AND REQUIREMENTS.

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY DANIEL B. STEWART, P.E. 107767 ON 07-06-16

CALL BEFORE YOU DIG 1-800-245-4545 TEXAS ONE CALL SYSTEM

DANIEL B. STEWART 107767 LICENSED PROFESSIONAL ENGINEER

REV.	DATE	REMARKS

GRADING PLAN

ROOMS TO GO

N.E.Q. I.H. 30 & GREENCREST BOULEVARD

THE CITY OF ROCKWALL, TEXAS

CATES-CLARK

DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
CCA	CCA	03/22/16	1"=30'	ABC	112-009 GRADING	C4.1

R:\2WS\112-009\DWG\112-009 GRADING.dwg, 7/5/2016 2:21:34 PM, Joseph