TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 19, 2010

Mr. Larry Layfield
GELA Partners, Ltd.
2574 FM 2722
New Braunfels, Texas 78132-2870

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Hunters Village Shell Building; Located at 230 Hunters Village, approximately one mile west of the Highway 46 and Loop 337 intersection; New Braunfels, Texas
TYPE OF PLAN: Request for the Approval of a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer;
Edwards Aquifer Protection Program ID No. 1964.07; Investigation No. 796846; Regulated Entity No. RN105899991

Dear Mr. Layfield:

The Texas Commission on Environmental Quality (TCEQ) has completed its review of the WPAP Application for the above-referenced project submitted to the San Antonio Regional Office by KLove Engineering on behalf of GELA Partners, Ltd. on March 5, 2010. Final review of the WPAP was completed after additional material was received on May 18, 2010. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) and construction plans were prepared by a Texas Licensed Professional Engineer to be in general compliance with the requirements of 30 TAC Chapter 213. These planning materials were sealed, signed and dated by a Texas Licensed Professional Engineer. Therefore, based on the engineer's concurrence of compliance, the planning materials for construction of the proposed project and pollution abatement measures are hereby approved subject to applicable state rules and the conditions in this letter. The applicant or a person affected may file with the chief clerk a motion for reconsideration of the executive director's final action on this Edwards Aquifer Protection Plan. A motion for reconsideration must be filed no later than 23 days after the date of this approval letter. *This approval expires two (2) years from the date of this letter unless, prior to the expiration date, more than 10 percent of the construction has commenced on the project or an extension of time has been requested.*

BACKGROUND

The above referenced site is located within the 22.38 acre Hunter's Business Park. The Hunter's Business Park was approved by letter dated July 18, 2006 for the construction of 1.5 acres of street, drainage, a sedimentation/filtration basin, and associated utilities to service 14 lots within the business park (EAPP No. 1964.02). As a term of approval, the development of these lots would be addressed with a separate WPAP.

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 0.809 acres. It will include the construction of two buildings, parking area, access drive, and associated utilities. The impervious cover will be 0.53 acres (65.5 percent). Project wastewater will be disposed of by conveyance to the existing Gruene Water Recycling Center owned by the New Braunfels Utilities.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, a Vortechs system, designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 475.73 pounds of TSS generated from the 0.53 acres of impervious cover. The approved measure meets the required 80 percent removal of the increased load in TSS caused by the project and is described below.

Drainage Area	Vortechs Model	Drainage Area (acres)	Impervious Cover (acres)	Req. TSS Removal (lb/yr)	Design TSS Removal (lb/yr)
1	Vx5000	0.64	0.51	457.78	475.73
Uncaptured	---	0.02	0.02	17.95	
Total		**0.66**	**0.53**	**475.73**	**475.73**

GEOLOGY

According to the geologic assessment included with the application, the site is within the Person Formation of the Edwards Group. The site is described to be covered with approximately one foot thick clay soil with small rock outcrops. No features were reported. The San Antonio Regional Office did not conduct a site assessment.

SPECIAL CONDITIONS

I. All permanent pollution abatement measures shall be operational prior to occupancy of the facility.

II. All sediment and/or media removed from the permanent pollution abatement measures during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

III. According to the submitted application, one of the proposed buildings is to be an orthodontist office and the other is to be used either as office space or retail. Any use of this commercial property, other than the specified uses may require submittal and approval of a modification to the approved WPAP.

STANDARD CONDITIONS

1. Pursuant to Chapter 7 Subchapter C of the Texas Water Code, any violations of the requirements in 30 TAC Chapter 213 may result in administrative penalties.

2. The holder of the approved Edwards Aquifer protection plan must comply with all provisions of 30 TAC Chapter 213 and all best management practices and measures contained in the approved

plan. Additional and separate approvals, permits, registrations and/or authorizations from other TCEQ Programs (i.e., Stormwater, Water Rights, UIC) can be required depending on the specifics of the plan.

3. In addition to the rules of the Commission, the applicant may also be required to comply with state and local ordinances and regulations providing for the protection of water quality.

Prior to Commencement of Construction:

4. Within 60 days of receiving written approval of an Edwards Aquifer Protection Plan, the applicant must submit to the San Antonio Regional Office, proof of recordation of notice in the county deed records, with the volume and page number(s) of the county deed records of the county in which the property is located. A description of the property boundaries shall be included in the deed recordation in the county deed records. A suggested form (Deed Recordation Affidavit, TCEQ-0625) that you may use to deed record the approved WPAP is enclosed.

5. All contractors conducting regulated activities at the referenced project location shall be provided a copy of this notice of approval. At least one complete copy of the approved WPAP and this notice of approval shall be maintained at the project location until all regulated activities are completed.

6. Modification to the activities described in the referenced WPAP application following the date of approval may require the submittal of a plan to modify this approval, including the payment of appropriate fees and all information necessary for its review and approval prior to initiating construction of the modifications.

7. The applicant must provide written notification of intent to commence construction, replacement, or rehabilitation of the referenced project. Notification must be submitted to the San Antonio Regional Office no later than 48 hours prior to commencement of the regulated activity. Written notification must include the date on which the regulated activity will commence, the name of the approved plan and program ID number for the regulated activity, and the name of the prime contractor with the name and telephone number of the contact person. The executive director will use the notification to determine if the approved plan is eligible for an extension.

8. Temporary erosion and sedimentation (E&S) controls, i.e., silt fences, rock berms, stabilized construction entrances, or other controls described in the approved WPAP, must be installed prior to construction and maintained during construction. Temporary E&S controls may be removed when vegetation is established and the construction area is stabilized. If a water quality pond is proposed, it shall be used as a sedimentation basin during construction. The TCEQ may monitor stormwater discharges from the site to evaluate the adequacy of temporary E&S control measures. Additional controls may be necessary if excessive solids are being discharged from the site.

9. All borings with depths greater than or equal to 20 feet must be plugged with non-shrink grout from the bottom of the hole to within three (3) feet of the surface. The remainder of the hole must be backfilled with cuttings from the boring. All borings less than 20 feet must be backfilled with cuttings from the boring. All borings must be backfilled or plugged within four (4) days of completion of the drilling operation. Voids may be filled with gravel.

During Construction:

10. During the course of regulated activities related to this project, the applicant or agent shall comply with all applicable provisions of 30 TAC Chapter 213, Edwards Aquifer. The applicant shall remain responsible for the provisions and conditions of this approval until such responsibility is legally transferred to another person or entity.

11. This approval does not authorize the installation of temporary aboveground storage tanks on this project. If the contractor desires to install a temporary aboveground storage tank for use during construction, an application to modify this approval must be submitted and approved prior to installation. The application must include information related to tank location and spill containment. Refer to Standard Condition No. 6, above.

12. If any sensitive feature (caves, solution cavities, sink holes, etc.) is discovered during construction, all regulated activities near the feature must be suspended immediately. The applicant or his agent must immediately notify the San Antonio Regional Office of the discovery of the feature. Regulated activities near the feature may not proceed until the executive director has reviewed and approved the methods proposed to protect the feature and the aquifer from potentially adverse impacts to water quality. The plan must be sealed, signed, and dated by a Texas Licensed Professional Engineer.

13. Zero wells exist on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.

14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.

15. Intentional discharges of sediment laden storm water are not allowed. If dewatering becomes necessary, the discharge will be filtered through appropriately selected best management practices. These may include vegetated filter strips, sediment traps, rock berms, silt fence rings, etc.

16. The following records shall be maintained and made available to the executive director upon request: the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

17. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, and construction activities will not resume within 21 days. When the initiation of stabilization measures by the 14th day is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable.

After Completion of Construction:

18. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.

19. The applicant shall be responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. The regulated entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred. A copy of the transfer of responsibility must be filed with the executive director through San Antonio Regional Office within 30 days of the transfer. A copy of the transfer form (TCEQ-10263) is enclosed.

20. Upon legal transfer of this property, the new owner(s) is required to comply with all terms of the approved Edwards Aquifer protection plan. If the new owner intends to commence any new regulated activity on the site, a new Edwards Aquifer protection plan that specifically addresses the new activity must be submitted to the executive director. Approval of the plan for the new regulated activity by the executive director is required prior to commencement of the new regulated activity.

21. An Edwards Aquifer protection plan approval or extension will expire and no extension will be granted if more than 50 percent of the total construction has not been completed within ten years from the initial approval of a plan. A new Edwards Aquifer protection plan must be submitted to the San Antonio Regional Office with the appropriate fees for review and approval by the executive director prior to commencing any additional regulated activities.

22. At project locations where construction is initiated and abandoned, or not completed, the site shall be returned to a condition such that the aquifer is protected from potential contamination.

If you have any questions or require additional information, please contact Javier Anguiano of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4019.

Sincerely,

for Mark R. Vickery, P.G.
Executive Director
Texas Commission on Environmental Quality

MRV/JA/eg

Enclosure: Deed Recordation Affidavit, Form TCEQ-0625
Change in Responsibility for Maintenance of Permanent BMPs, Form TCEQ-10263

cc: Mr. Kevin W. Love, P.E., KLove Engineering
Mr. James C. Klien, P.E., City of New Braunfels
Mr. Thomas H. Hornseth, P.E., Comal County
Mr. Karl J. Dreher, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

KLove ENGINEERING
www.kloveengineering.com

Comal County

TCEQ

14250 Judson Road

San Antonio TX, 78233

Attn: Javier Anguiano

Re: Hunters Village Shell Building WPAP response letter for comments received on April 28, 2010.

1. The project will consist of two buildings and a parking lot. The proposed building will house an orthodontist office and the future building will be developed into a retail shop or small business office. The runoff from the future building was included in the treatment calculations.
2. Attachment G was revised to state that inspections should be performed quarterly.
3. The inspection/maintenance log was included with this response letter.
4. The curb opening in the parking lot is intended for the ultimate storm emergency bypass. The elevation of the pavement located at the opening is elevated so that the normal storm events will not flow through. Spot elevations were added to the drainage area map. This opening will prevent water from being trapped in the parking lot or from entering the building should the inlet ever be clogged .
5. The area west of the medical building was revised to clarify how the roof runoff will flow into the BMP. A cross section was added to show how the water will flow into the landscape drains and through a buried pipe and into the BMP for treatment.
6. An interceptor swale was added to catch the upgradiant runoff and prevent it from entering the site and disturbed areas. The water will be diverted to the front of the lot and dumped into the street, not entering the treatment area.
7. The drainage areas were modified to reflect the changes in grading. The same amount of treatment is required.
8. The impervious calculations were adjusted to show that the site is 0.53 acres of total impervious cover with Basin A consisting of 0.51 acres and Basin B consisting of 0.02 acres. The total treatment for the site will be the 0.53 acres, 0.51 acres entering the BMP, and 0.02 acres of overtreatment.

If you have any further questions or comments, please contact me.

Sincerely,

James McGarr, E.I.T.

143 Ranger Creek Road, Boerne, TX 78006 Phone: (210) 485-5683 Email: klove@kloveengineering.com

TCEQ
Protecting Texas by Reducing and Preventing Pollution

FAX TRANSMITTAL

DATE: **April 28, 2010** NUMBER OF PAGES *(including this cover sheet):* **3**

TO: Name **Mr. Kevin Love, P.E./Jimmy McGarr, E.I.T.**
Organization **KLove Engineering**
Email to **jmcgarr@kloveengineering.com**

TO: Name **Mr. Larry Layfield**
Organization **GELA Partners, Ltd.**
FAX Number **830/625-6497**

FROM: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Name **Javier Anguiano**
Division/Region **EAPP/San Antonio**
Telephone Number **210/403-4019**
FAX Number **210/545-4329**

NOTES:

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Hunters Village Shell Building; Located at 230 Hunters Village, approximately one mile west of the Highway 46 and Loop 337 intersection ; New Braunfels, Texas
TYPE OF PLAN: Request for the Approval of a Water Pollution Abatement Plan (WPAP); 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer; Edwards Aquifer Protection Program ID No. 1964.07; Investigation No. 796486; Regulated Entity No. RN105899991

Dear Mr. Love:

We are in the process of technically reviewing the WPAP application you submitted for the above-referenced project. Before we can proceed with our review, the following comments relating to the application must be addressed:

TCEQ-0587 Concerns:

1. As understood from our phone conversation earlier today, the proposed commercial activity that is to occur at the site is a medical office (orthodontics) and the proposed future building is to be used for storage, office space, or retail. Please confirm.

TCEQ-0600 Concerns:

2. Item 11, Attachment G states that inspection should be performed bi-annually. The Edwards Aquifer Technical Guidance Manual (RG-348, ed. 2005), Section 3.5.18 states that quarterly inspections are recommended. Please revise.

3. Item 11, Attachment G; please provide the inspection/maintenance log referenced in the plan.

Site Plan Concerns:

4. There appears to be an outfall located at the southwest corner of the parking lot (see Attachment I). Will this allow a stormwater runoff from a portion of the parking lot to by-pass treatment? Please explain and revise as necessary.

5. The area west of the proposed 3,758 SF medical building appears to be included within the drainage area (DA) of the PBMP (see Attachment I). As understood, roof runoff is to be captured by the proposed landscaped drains located within this same area. However, the proposed contours illustrate this area is directing stormwater runoff away from the permanent BMP (PBMP). Confirm the DA boundary and revise the site exhibits and/or the PBMP sizing calculations as necessary.

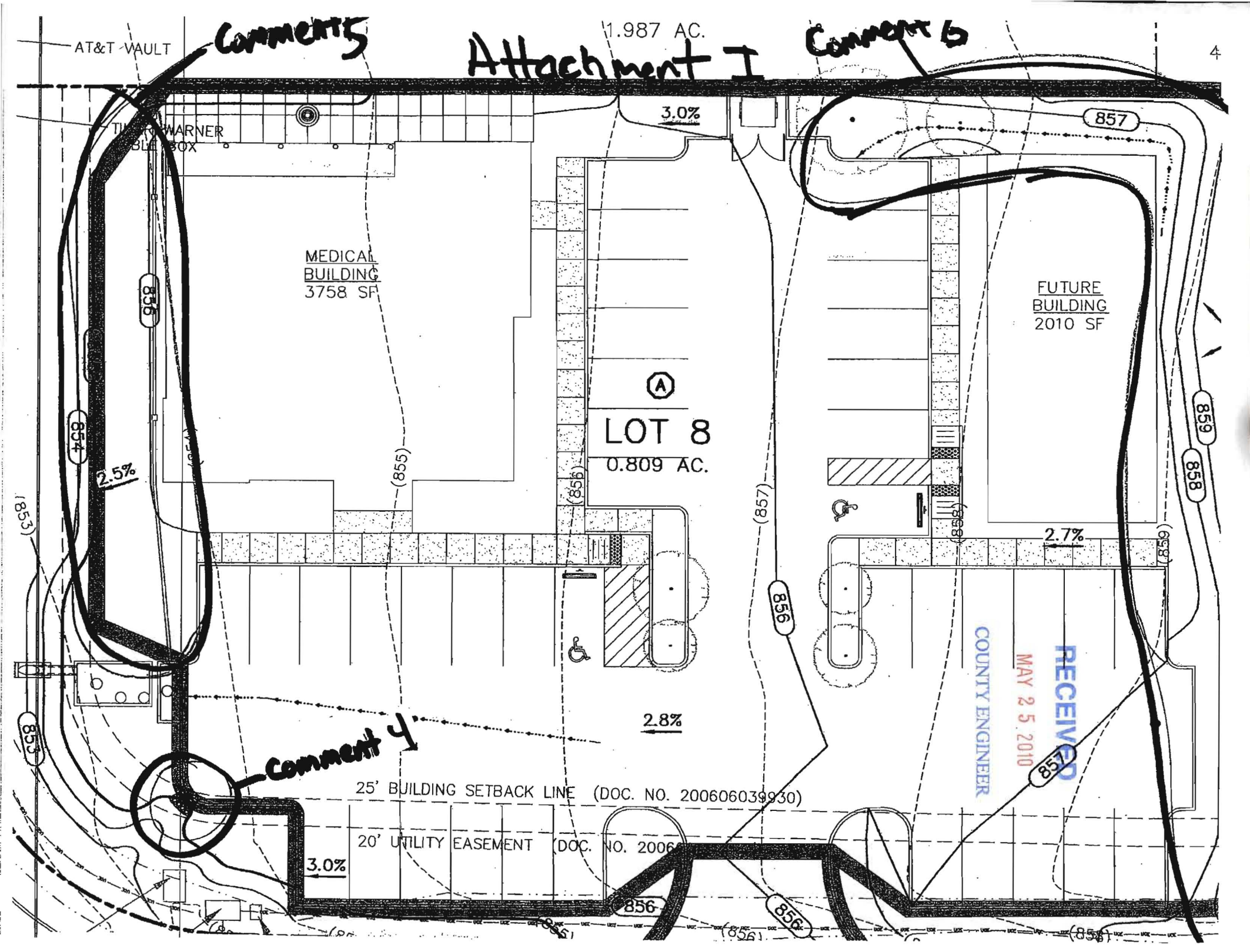
6. It appears that upgradient runoff will be allowed to enter the site and DA for the PBMP (see Attachment I). Since the selected PBMP efficiency is based on the DA to it, confirm the DA to the PBMP. Revise TCEQ-0600 Attachment B, the site exhibits, and the PBMP sizing calculations as necessary.

PBMP Sizing Calculations:

7. Correct the DA values from comments 6 and 7 as necessary.

8. Confirm if the total IC for the site is 0.51 ac (0.49 ac + 0.02 ac) or 0.53 ac (0.51 ac + 0.02 ac). Revise the calculations accordingly.

We ask that you submit **one original and four copies** of the amended materials to supplement the WPAP application to this office by no later than **14 days from the date of this letter** to avoid denial of the plan. If the response to this notice is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, a second notice will be sent to you requiring a response within 14 days from the notice date. If the response to the second is not received, is incomplete or inadequate, or provides new information that is incomplete or inadequate, the application will be denied unless you provide written notification that the application is being withdrawn. Please note that the application fee will be forfeited if the plan is not withdrawn. If you have any questions or require additional information, please contact Javier Anguiano of the Edwards Aquifer Protection Program of the San Antonio Regional Office at the number listed above.


Attachment I
Comment 5
Comment 6
Comment 4
AT&T VAULT
1.987 AC.
3.0%
857
MEDICAL BUILDING 3758 SF
FUTURE BUILDING 2010 SF
A
LOT 8
0.809 AC.
2.5%
2.7%
2.8%
3.0%
25' BUILDING SETBACK LINE (DOC. NO. 200606039930)
20' UTILITY EASEMENT (DOC. NO. 2006
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Inlets in Sag

Project: Hunters Village WPAP
Future 25 Year Flow

Date: 5/4/2010

5.70 flow rate in gutter (cfs)
4.96 Length of curb inlet required to catch all flow from street (ft.)

Q	5.7000	flow rate in gutter (cfs)
C	0.7000	orifice coefficient
A	1.8842	area of inlet opening (ft.^2)
g	32.2000	gravity (ft./sec.^2)
h	0.2900	head (ft.), taken as distance from top of water surface to center of orifice inlet opening
L	4.9585	length of inlet (ft.)
W	0.3800	inlet opening width (ft.)

Depth of Flow for Inlet capture
0.38 ft 4.56 in

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Hunters Creek Business Park
Date Prepared: 1/20/2010

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Bexar	
Total project area included in plan * =	0.81	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan * =	0.53	acres
Total post-development impervious cover fraction * =	**0.66**	
P =	**30**	inches
$L_{M\ TOTAL\ PROJECT}$ =	**432**	lbs.

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	0.64	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.51	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.80**	
$L_{M\ THIS\ BASIN}$ =	**416**	lbs.

Model Size or if you are choosing a larger model size) =	0	Model Size
Surface Area =	#N/A	ft^2
Overflow Rate =	#VALUE!	V_{or}
Rounded Overflow Rate =	#VALUE!	V_{or}
BMP Efficiency % =	#VALUE!	%
L_R Value =	#VALUE!	lbs
TSS Load Credit =	#VALUE!	lbs
Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.)	#VALUE!	
TSS Treatment by BMP (LM + TSS Uncapt.) =	#VALUE!	

21. Vortech

Required TSS Removal in BMP Drainage Area=	**416.16**	lbs
Impervious Cover Overtreatment=	0.0200	ac
TSS Removal for Uncaptured Area =	16.32	lbs
BMP Sizing		
Effective Area =	0.46	EA
Calculated Model Size(s) =	Vx5000	
Actual Model Size (if choosing larger model size) =	Vx5000	Pick Model Size
Surface Area =	38.48	ft^2
Overflow Rate =	0.013233	V_{or}
Rounded Overflow Rate =	0.013300	V_{or}
BMP Efficiency % =	83.00	%
L_R Value =	441.13	lbs
TSS Load Credit =	24.97	lbs
Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.)	Yes	
TSS Treatment by BMP (LM + TSS Uncapt.) =	432.48	

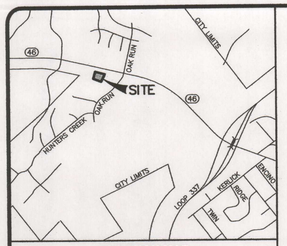
Vortechs Inspection & Maintenance Log

Vortech Model: _____ Location: _____

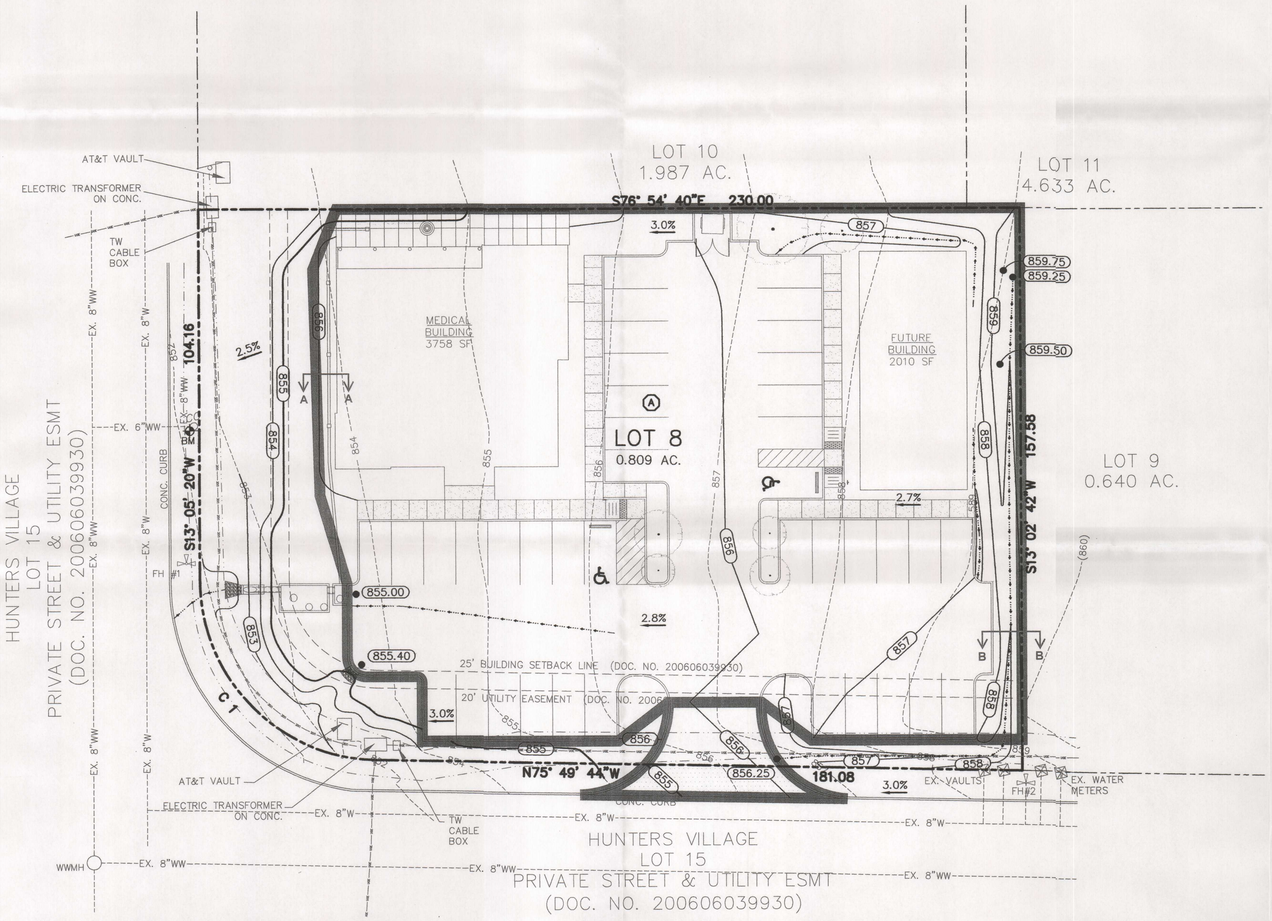
Date	Water depth to sediment[1]	Floatable Layer Thickness[2]	Describe Maintenance Performed	Maintenance Personnel	Comments
					RECEIVED MAY 25 2010 COUNTY ENGINEER

1. The water depth to sediment is determined by taking two measurements with a stadia rod: one measurement from the manhole opening to the top of the sediment pile and the other from the manhole opening to the water surface. If the difference between these measurements is less than eighteen inches the system should be cleaned out. Note: To avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile.

2. For optimum performance, the system should be cleaned out when the floating hydrocarbon layer accumulates to an appreciable thickness. In the event of an oil spill, the system should be cleaned immediately.



LOCATION MAP
NOT TO SCALE



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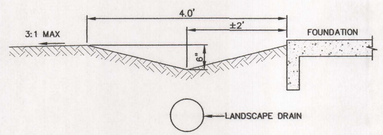
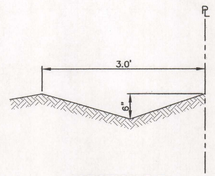
MAY 25 2010
COUNTY ENGINEER

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		PROPERTY (R.O.W.) LINE/ SUBDIVISION BOUNDARY
		ADJACENT PROPERTY
(000)		RECORD INFORMATION
☼		LIGHT POLE
ø		POWER POLE
←		DOWN GUY
T	T	TRANSFORMER (SIZE VARIES)
		FIRE HYDRANT
		WATER VALVE
		WATER METER
WM	WM	WATER METER VAULT
WTRMH		WATER MANHOLE
		TELEPHONE RISER
		CABLE TV RISER
		ELECTRIC BOX
		ELECTRIC METER
		GAS METER
		GAS VALVE
TCB	TCB	TRAFFIC CONTROL BOX
TSP	TSP	TRAFFIC SIGNAL POST
GMRK		UNDERGROUND GAS LINE MARKER
TSVR		TELEPHONE RISER
		GRATE INLET
	GIT	CURB INLET (SIZE VARIES)
	GT	GREASE TRAP (SIZE VARIES)
SS		STORMSEWER LINE
W	XX"W	WATER LINE
FIRE	XX"FL	FIRE LINE
WW	XX"WW	WASTEWATER LINE
WW LAT	XX"WW	WASTEWATER LATERAL LINE
G	G	GAS LINE
UGE	UGE	UNDERGROUND ELECTRIC LINE
OE	OE	OVERHEAD ELECTRIC
UT	UT	UNDERGROUND TELEPHONE
UC	UC	UNDERGROUND CABLE AND INTERNET
TC	TC	TELECOMMUNICATIONS LINE
EMH	EMH	ELECTRIC MANHOLE (SIZE VARIES)
WWMH	WWMH	WASTEWATER MANHOLE (SIZE VARIES)
SSMH	SSMH	STORMSEWER MANHOLE (SIZE VARIES)
TMH	TMH	TELEPHONE MANHOLE (SIZE VARIES)
CO	CO	WASTEWATER CLEANOUT
		CURB & GUTTER
		EDGE OF PAVEMENT
X X X		FENCE
	D	DUMPSTER
		CONCRETE SIDEWALKS
		WALL
DESC.		TREE TO REMAIN
DESC.		TREE TO BE REMOVED
		TREE PROTECTION
		SILT FENCE
		LIMITS OF CONSTRUCTION
		ROCK BERM
	IP	INLET PROTECTION
		STABILIZED CONSTRUCTION ENTRANCE
		CONCRETE WASHOUT PIT
		DIRECTION OF FLOW
678	678	CONTOUR
785.50	785.00	SPOT ELEVATION
		CONCRETE PAVEMENT
		ASPHALT PAVEMENT
		SWALE



SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE

DRAINAGE AREA (A) 0.64 ACRES 0.51 ACRES IMPERVIOUS
DRAINAGE AREA (B) 0.02 ACRES 0.02 ACRES IMPERVIOUS

"RECEIVED TCEQ" SAN ANTONIO REGION 2010 MAY 11 AM 10:51

NOTE:
MORE THAN 10 ACRES WITHIN A COMMON DRAINAGE AREA WILL NOT BE DISTURBED. THE ENTIRE SITE IS LOCATED WITHIN ZONE X, DEFINED BY FEMA MAP # 48091C0435F TO BE LOCATED OUTSIDE THE 100 YEAR FLOODPLAIN.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

KLove ENGINEERING
Site Development Engineering Services
Firm No. 11041
www.klovengineering.com (210) 485-5683

STATE OF TEXAS
KEVIN WILLIAM LOVE
93563
LICENSED
PROFESSIONAL ENGINEER
5/04/10

DATE
REVISIONS:

OWNER/DEVELOPER:
DR. LARRY LAYFIELD
230 HUNTERS VILLAGE
NEW BRAUNFELS, TX 78132

PROJECT:
230 HUNTERS VILLAGE
SHELL BUILDING
230 HUNTERS VILLAGE
NEW BRAUNFELS, TEXAS
DRAINAGE AREA MAP

DESIGNED BY:	KWL
DRAWN BY:	JMM
SCALE:	1"=20
DATE:	01/18/10
SHEET NO.	C1.0

Date: May 10, 2010, 5:38pm User ID: Ruben Quirino
File: Z:\Projects\Layfield - 230 Hunters Creek\TCEQ\DRAINAGE AREA MAP.dwg

KLove ENGINEERING
www.kloveengineering.com

TCEQ

14250 Judson Road

San Antonio TX, 78233

Attn: Javier Anguiano

Re: Hunters Village Shell Building WPAP response letter for comments received in e-mail on May 12, 2010.

1. The revised TSS removal calculations are attached with this letter.
2. The revised inspection maintenance schedule is attached with this letter.
3. The owner acknowledgement of the changes to the schedule is attached with this letter.

If you have any further questions or comments, please contact me.

Sincerely,

James McGarr, E.I.T.

143 Ranger Creek Road, Boerne, TX 78006 Phone: (210) 485-5683 Email: klove@kloveengineering.com

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Hunters Creek Business Park
Date Prepared: 1/20/2010

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the cell.
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project: Calculations from RG-348 Pages 3-27 to 3-30

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resulting from the proposed development = 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

County =	Comal	
Total project area included in plan * =	0.81	acres
Predevelopment impervious area within the limits of the plan * =	0.00	acres
Total post-development impervious area within the limits of the plan* =	0.53	acres
Total post-development impervious cover fraction * =	0.66	
P =	33	inches
$L_{M\ TOTAL\ PROJECT}$ =	476	lbs.

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area = 1

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	0.64	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.51	acres
Post-development impervious fraction within drainage basin/outfall area =	0.80	
$L_{M\ THIS\ BASIN}$ =	458	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = Vortechs
Removal efficiency = 0 percent

Aqualogic Cartridge Filter
Bioretention
Contech StormFilter
Constructed Wetland
Extended Detention
Grassy Swale
Retention / Irrigation
Sand Filter
Stormceptor
Vegetated Filter Strips
Vortechs
Wet Basin
Wet Vault

4. Calculate Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected BMP Type.

RG-348 Page 3-33 Equation 3.7: L_R = (BMP efficiency) x P x (A_I x 34.6 + A_P x 0.54)

where:

A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS Load removed from this catchment area by the proposed BMP

A_C = 0.62 acres
A_I = 0.60 acres
A_P = 0.02 acres
L_R = 0 lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area

Desired $L_{M\ THIS\ BASIN}$ = 0 lbs.

F = #DIV/0!

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. Calculations from RG-348 Pages 3-34 to 3-36

Rainfall Depth = #DIV/0! inches

Effective Area =	NA	EA
Calculated Model Size(s) =	#N/A	
Actual Model Size (if multiple values provided in Calculated Model Size or if you are choosing a larger model size) =	0	Model Size
Surface Area =	#N/A	ft^2
Overflow Rate =	#VALUE!	V_{or}
Rounded Overflow Rate =	#VALUE!	V_{or}
BMP Efficiency % =	#VALUE!	%
L_R Value =	#VALUE!	lbs
TSS Load Credit =	#VALUE!	lbs
Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.)	#VALUE!	
TSS Treatment by BMP (LM + TSS Uncapt.) =	#VALUE!	

21. Vortech

Required TSS Removal in BMP Drainage Area=	**457.78**	lbs
Impervious Cover Overtreatment=	0.0200	ac
TSS Removal for Uncaptured Area =	17.95	lbs

BMP Sizing

Effective Area =	0.46	EA
Calculated Model Size(s) =	Vx5000	
Actual Model Size (if choosing larger model size) =	Vx5000	Pick Model Size
Surface Area =	38.48	ft^2
Overflow Rate =	0.013233	V_{or}
Rounded Overflow Rate =	0.013300	V_{or}
BMP Efficiency % =	83.00	%
L_R Value =	485.25	lbs
TSS Load Credit =	27.47	lbs
Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.)	Yes	
TSS Treatment by BMP (LM + TSS Uncapt.) =	475.73	

Jimmy McGarr

From: Jimmy McGarr [jmcgarr@kloveengineering.com]
Sent: Wednesday, May 12, 2010 8:33 AM
To: 'Javier Anguiano'
Subject: FW: Hunters Village WPAP

Javier, Will this work for the owner acknowledgement of the change in maintenance schedule? Thanks for your help.

Jimmy McGarr, E.I.T.
Project Manager
Email: jmcgarr@kloveengineering.com
Web: www.kloveengineering.com

From: Larry Layfield [mailto:llayfield@sbcglobal.net]
Sent: Wednesday, May 12, 2010 8:27 AM
To: Jimmy McGarr
Subject: Re: Hunters Village WPAP

To Whom It May Concern:

I have reviewed and approve the necessary change in the inspection frequency. Please allow Kevin Love or Jimmy McGarr to proceed with the amended documentation.

Sincerely,

Larry L. Layfield, D.D.S.
President
GELA Partners, Inc.

On May 11, 2010, at 4:27 PM, Jimmy McGarr wrote:

Dr. Layfield,

TCEQ has requested that a change to the inspection frequency be changed from biannually to quarterly. The attached document reflects these changes. Review the document and let me know if you have any objections. Thanks.

Jimmy McGarr, E.I.T.
Project Manager

<image001.jpg>

143 Ranger Creek Rd.
Boerne, TX 78006
Office: (210) 485-5683
Email: jmcgarr@kloveengineering.com
Web: www.kloveengineering.com

RECEIVED
MAY 25 2010
COUNTY ENGINEER

INSPECTION SCHEDULE

After Rainfall	Biannually*	Quarterly	During Construction
		1 Vortech	

* At least one biannual inspection must occur during or immediately after a wet weather event.

MAINTENANCE SCHEDULE

Note: Additional Guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 3.5 or from Contech maintenance compliance certification program. (800)548-4667

1. Vortech
   a. *Inspection:* Inspections should be performed four times per year however more frequent inspections may be necessary depending on site activities and weather patterns. A simple inspection and maintenance log form is provided on the following page, and is also available on contechstormwater.com. The Vortechs system should be cleaned when inspection reveals that the sediment depth has accumulated to within 12 to 18 inches (300 to 450 mm) of the dry-weather water surface elevation. This determination can be made by taking two measurements with a stadia rod or similar measuring device; one measurement from the manhole opening to the top of the sediment pile and the other from the manhole opening to the water surface. Note: To avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile. Finer, silty particles at the top of the pile typically offer less resistance to the end of the rod than larger particles toward the bottom of the pile.
   b. *Sediment Removal:* Cleaning of the Vortechs system should be done during dry weather conditions when no flow is entering the system. Cleanout of the Vortechs system with a vacuum truck is generally the most effective and convenient method of excavating pollutants from the system. In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, an oil or gasoline spill should be cleaned out immediately. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these pollutants, it may be preferable to use adsorbent pads to solidify the oil since

K Love ENGINEERING

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

March 12, 2010

Mr. Thomas H. Hornseth, P.E.
Comal County Engineer
195 David Jonas Drive
New Braunfels TX 78132-3710

Re: Edwards Aquifer, Comal County
PROJECT NAME: 230 Hunters Village – Shell Building, located at 230 Hunters Village, New Braunfels, Texas
PLAN TYPE: Application for Approval of a Water Pollution Abatement Plan (WPAP) 30 Texas Administration Code (TAC) Chapter 213; Edwards Aquifer Protection Program
EAPP File No.: 1964.07

Dear Mr. Hornseth:

The referenced application administratively complete on March 10, 2010, is being forwarded to you pursuant to the Edwards Aquifer Rules. The Texas Commission on Environmental Quality (TCEQ) is required by 30 TAC Chapter 213 to provide copies of all applications to affected incorporated cities and underground water conservation districts for their comments prior to TCEQ approval.

Please forward your comments to this office by April 9, 2010.

The Texas Commission on Environmental Quality appreciates your assistance in this matter and your compliance efforts to ensure protection of the State's environment. If you or members of your staff have any questions regarding these matters, please feel free to contact the San Antonio Region Office at (210) 490-3096.

Sincerely

Lynn M. Bumguardner
Water Section Manager
San Antonio Regional Office

LMB/eg

196407

Water Pollution Abatement Plan

for

230 Hunters Village - Shell Building

PREPARED FOR:

GLEA Partners, Ltd.
2574 Ranch Road 2722
New Braunfels, TX.

PREPARED BY:

K Love
ENGINEERING
Site Development Engineering Services

March 4, 2010

RECEIVED

MAR 1 6 2010

COUNTY ENGINEER

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions regarding completion of this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided)*

☒ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application)*

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Attachments ☒ Yes ☐ No — Describe Any Attachments: *(ex. Title V Application, Waste Transporter Application, etc.)*

3. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	4. Regulated Entity Reference Number *(if issued)*
CN		RN

SECTION II: Customer Information

5. Effective Date for Customer Information Updates (mm/dd/yyyy): 01/31/2010

6. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check only one of the following:*

☒ Owner ☐ Operator ☐ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ Voluntary Cleanup Applicant ☐ Other: _____

7. General Customer Information

☒ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State) ☐ No Change**

If "No Change" and Section I is complete, skip to Section III – Regulated Entity Information.

8. Type of Customer:			
☐ Corporation	☐ Individual	☐ Sole Proprietorship- D.B.A	
☐ City Government	☐ County Government	☐ Federal Government	☐ State Government
☐ Other Government	☐ General Partnership	☒ Limited Partnership	☐ Other:

9. Customer Legal Name *(If an individual, print last name first: ex: Doe, John)*	*If new Customer, enter previous Customer below*	*End Date:*
GELA Partners, Ltd.		

10. Mailing Address:								
	2574 Ranch Road 2722							
	City	New Braunfels	State	TX	ZIP	78132	ZIP + 4	2870

11. Country Mailing Information *(if outside USA)*	12. E-Mail Address *(if applicable)*
	llayfield@sbcglobal.net

13. Telephone Number	14. Extension or Code	15. Fax Number *(if applicable)*
(830) 227-5545		(830) 625-6497

16. Federal Tax ID *(9 digits)*	17. TX State Franchise Tax ID *(11 digits)*	18. DUNS Number *(if applicable)*	19. TX SOS Filing Number *(if applicable)*
262416240	32036720947		800963243

20. Number of Employees ☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

21. Independently Owned and Operated? ☒ Yes ☐ No

SECTION III: Regulated Entity Information

22. General Regulated Entity Information *(If 'New Regulated Entity" is selected below this form should be accompanied by a permit application)*

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information ☐ No Change** *(See below)*

**If "NO CHANGE" is checked and Section I is complete, skip to Section IV, Preparer Information.

23. Regulated Entity Name *(name of the site where the regulated action is taking place)*

230 Hunters Village - Shell Building

24. Street Address of the Regulated Entity: *(No P.O. Boxes)*	230 Hunters Village							
	City	New Braunfels	State	TX	ZIP	78130	ZIP + 4	
25. Mailing Address:	2574 Ranch Road 2722							
	City	New Braunfels	State	TX	ZIP	78132	ZIP + 4	2870

26. E-Mail Address:	llayfield@sbcglobal.net

27. Telephone Number	28. Extension or Code	29. Fax Number *(if applicable)*
(830) 227-5545		(830) 625-6497

30. Primary SIC Code (4 digits)	31. Secondary SIC Code (4 digits)	32. Primary NAICS Code (5 or 6 digits)	33. Secondary NAICS Code (5 or 6 digits)
8021	8072	621210	621399

34. What is the Primary Business of this entity? *(Please do not repeat the SIC or NAICS description.)*

Orthodontists Offices

Questions 34 – 37 address geographic location. Please refer to the instructions for applicability.

35. Description to Physical Location:	1 mile west from the intersection of Hwy 46 and Loop 337, New Braunfels, left onto Hunters Village, site located on the inside of the nuckle culde-sac, (left side of the road).

36. Nearest City	County	State	Nearest ZIP Code
New Branufels	Comal	TX	78132

37. Latitude (N) In Decimal:	29.7194		38. Longitude (W) In Decimal:	98.1694	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	43	10	98	10	10

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form or the updates may not be made. If your Program is not listed, check other and write it in. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☒ Edwards Aquifer	☐ Industrial Hazardous Waste	☐ Municipal Solid Waste
		1964.07 Per Elane		
☐ New Source Review – Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS	☐ Sludge
☐ Stormwater	☐ Title V – Air	☐ Tires	☐ Used Oil	☐ Utilities
☐ Voluntary Cleanup	☐ Waste Water	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	James McGarr	41. Title:	Project Manager

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(210) 485-5683		(see) e-mail	jmcgarr@kloveengineering.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 9 and/or as required for the updates to the ID numbers identified in field 39.

(See the Core Data Form instructions for more information on who should sign this form.)

Company:	GELA Partners, Ltd.	**Job Title:**	Owner
Name *(In Print)* :	Dr. Larry Layfield	**Phone:**	(830) 227-5545
Signature:	Larry L Layfield MD	**Date:**	2-22-13

RECEIVED
MAR 16 2010
COUNTY ENGINEER

General Information Form
For Regulated Activities on the
Edwards Aquifer Recharge and Transition Zones
and Relating to 30 TAC §213.4(b) & §213.5(b)(2)(A), (B)
Effective June 1, 1999

REGULATED ENTITY NAME: 230 Hunters Village - Shell Building
COUNTY: Comal STREAM BASIN: Blieder Creek

EDWARDS AQUIFER: _X RECHARGE ZONE
__ TRANSITION ZONE

PLAN TYPE: _X WPAP __ AST __ EXCEPTION
__ SCS __ UST __ MODIFICATION

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person: Larry Layfield
Entity: GELA Partners, Ltd.
Mailing Address: 2574 Ranch Road 2722
City, State: New Braunfels Zip: 78132
Telephone: 830-227-5545 FAX: 830-625-6497

Agent/Representative (If any):

Contact Person: Kevin Love
Entity: KLove Engineering
Mailing Address: 143 Ranger Creek Rd.
City, State: Boerne, Texas Zip: 78006
Telephone: 210 744-5530 FAX:

2. _X This project is inside the city limits of New Braunfels.
__ This project is outside the city limits but inside the ETJ (extra-territorial jurisdiction) of _____.
__ This project is not located within any city's limits or ETJ.

3. The location of the project site is described below. The description provides sufficient detail and clarity so that the TCEQ's Regional staff can easily locate the project and site boundaries for a field investigation.

From TCEQ regional offices, travel south on Judson Road approximately 1.5 miles to I-35 North. Head North on I-35 for 14 miles and exit onto TX-337 Loop. Head north on 337 to TX-46 and turn left. Go north on TX-46 for 1 mile and turn left onto Hunters Village. Site is located on the inside of the knuckle culde-sac.

4. _X **ATTACHMENT A - ROAD MAP**. A road map showing directions to and the location of the project site is attached at the end of this form.

5. _X **ATTACHMENT B - USGS / EDWARDS RECHARGE ZONE MAP**. A copy of the official 7 ½ minute USGS Quadrangle Map (Scale: 1" = 2000') of the Edwards Recharge Zone is attached behind this sheet. The map(s) should clearly show:

X Project site.
X USGS Quadrangle Name(s).
X Boundaries of the Recharge Zone (and Transition Zone, if applicable).
X Drainage path from the project to the boundary of the Recharge Zone.

6. X Sufficient survey staking is provided on the project to allow TCEQ regional staff to locate the boundaries and alignment of the regulated activities and the geologic or manmade features noted in the Geologic Assessment. **The TCEQ must be able to inspect the project site or the application will be returned.**

7. X **ATTACHMENT C - PROJECT DESCRIPTION**. Attached at the end of this form is a detailed narrative description of the proposed project.

8. Existing project site conditions are noted below:
__ Existing commercial site
__ Existing industrial site
X Existing residential site
X Existing paved and/or unpaved roads
__ Undeveloped (Cleared)
__ Undeveloped (Undisturbed/Uncleared)
__ Other: _____

PROHIBITED ACTIVITIES

9. X I am aware that the following activities are prohibited on the **Recharge Zone** and are not proposed for this project:

(1) waste disposal wells regulated under 30 TAC Chapter 331 of this title (relating to Underground Injection Control);
(2) new feedlot/concentrated animal feeding operations, as defined in 30 TAC §213.3;
(3) land disposal of Class I wastes, as defined in 30 TAC §335.1;
(4) the use of sewage holding tanks as parts of organized collection systems; and
(5) new municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41(b), (c), and (d) of this title (relating to Types of Municipal Solid Waste Facilities).

10. X I am aware that the following activities are prohibited on the **Transition Zone** and are not proposed for this project:

(1) waste disposal wells regulated under 30 TAC Chapter 331 (relating to Underground Injection Control);
(2) land disposal of Class I wastes, as defined in 30 TAC §335.1; and
(3) new municipal solid waste landfill facilities required to meet and comply with Type I standards which are defined in §330.41 (b), (c), and (d) of this title.

ADMINISTRATIVE INFORMATION

11. The fee for the plan(s) is based on:

X For a Water Pollution Abatement Plan and Modifications, the total acreage of the site where regulated activities will occur.

__ For an Organized Sewage Collection System Plans and Modifications, the total linear footage of all collection system lines.
__ For a UST Facility Plan or an AST Facility Plan, the total number of tanks or piping systems.
__ A Contributing Zone Plan.
__ A request for an exception to any substantive portion of the regulations related to the protection of water quality.
__ A request for an extension to a previously approved plan.

12. Application fees are due and payable at the time the application is filed. If the correct fee is not submitted, the TCEQ is not required to consider the application until the correct fee is submitted. Both the fee and the Edwards Aquifer Fee Form have been sent to the Commission's:

__ TCEQ cashier
__ Austin Regional Office (for projects in Hays, Travis, and Williamson Counties)
_X_ San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)

13. _X_ Submit one (1) original and three (3) copies of the completed application to the appropriate regional office for distribution by the TCEQ to the local municipality or county, groundwater conservation districts, and the TCEQ's Central Office.

14. _X_ No person shall commence any regulated activity until the Edwards Aquifer Protection Plan(s) for the activity has been filed with and approved by the executive director.
__ No person shall commence any regulated activity until the Contributing Zone Plan for the activity has been filed with the executive director.

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **GENERAL INFORMATION FORM** is hereby submitted for TCEQ review. The application was prepared by:

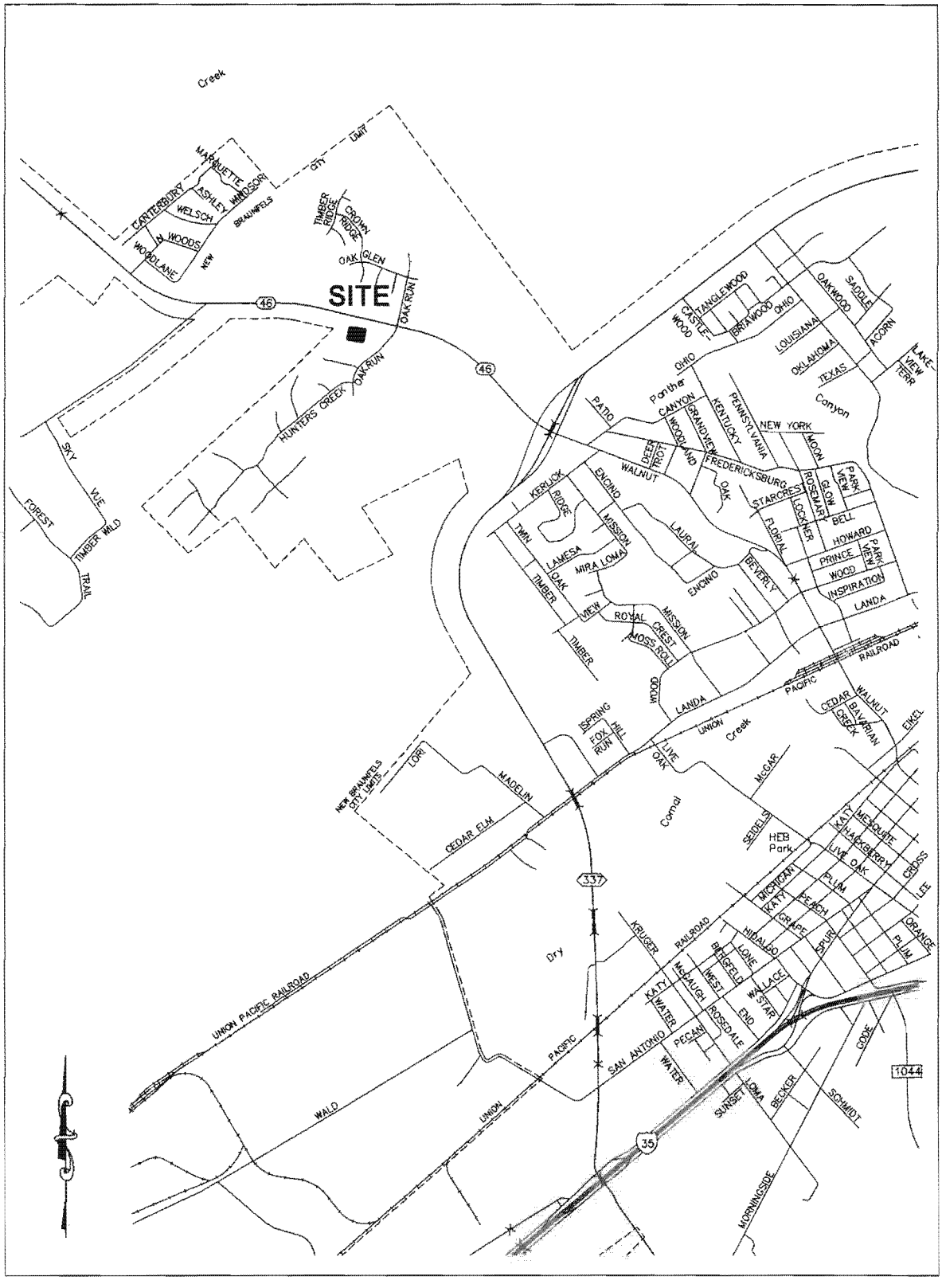
Larry Layfield
Print Name of Customer/Agent

Larry L. Layfield PMP
Signature of Customer/Agent

2-22-10
Date

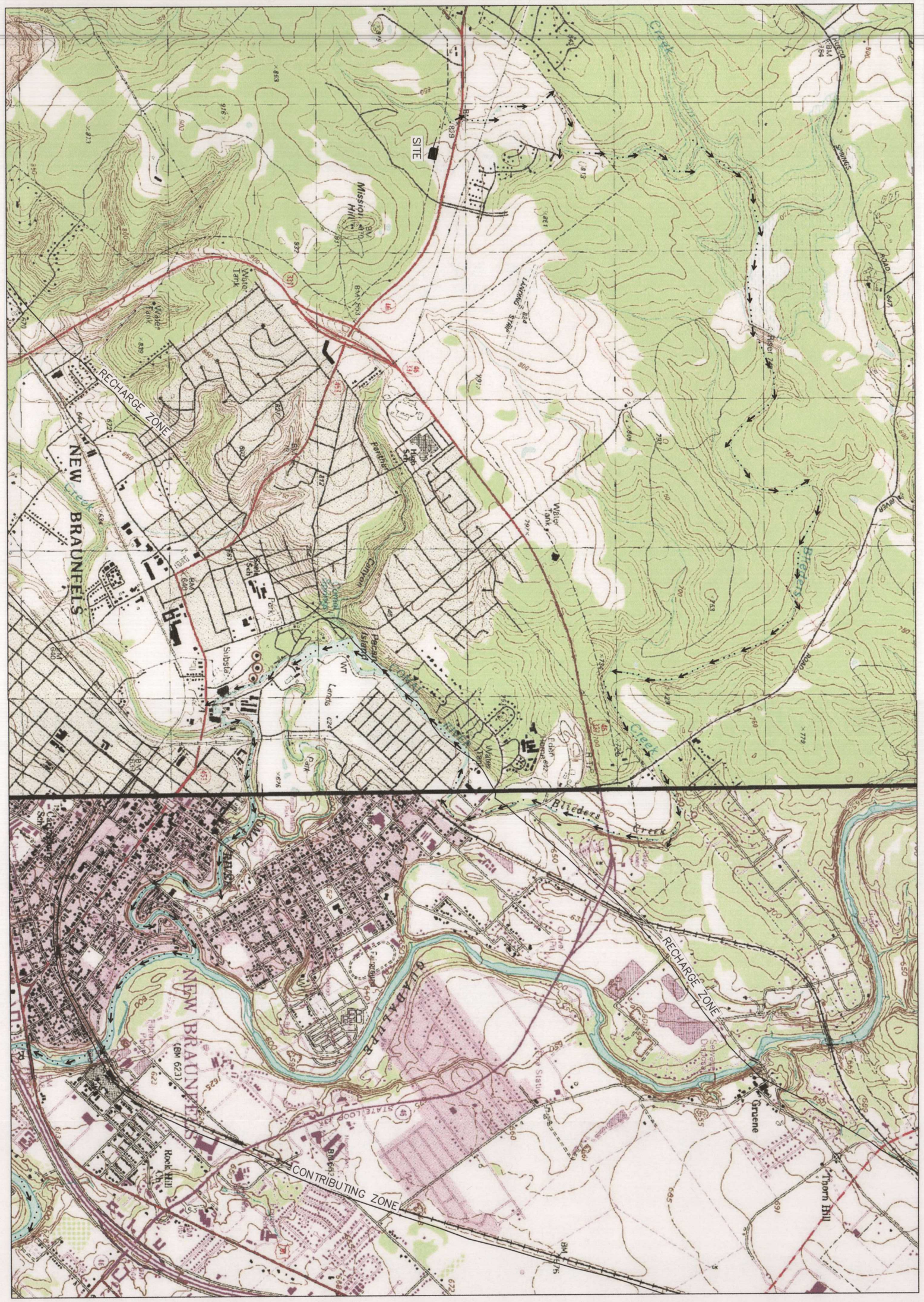
If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.



LOCATION MAP

SCALE 1" = 3000'



USGS QUAD MAP
230 HUNTERS VILLAGE – SHELL BUILDING

SCALE 1" = 2000'

K Love ENGINEERING
Site Development Engineering Services
Firm No. 11042
www.kloveengineering.com (210) 485-5683

ATTACHMENT C
Project Description

The Hunters Village site is currently an undeveloped lot that will contain two small business buildings and a parking lot. These improvements will cover a combined area of 0.51 acres. The site is located within the city limits of New Braunfels in Comal County, Texas off of State Highway 46 on Hunters Village.

The site is currently undeveloped with slopes in the 3% range with fair to little grass coverage. The total impervious cover anticipated is 63% (0.51 acres) of the 0.809 acres. The proposed impervious cover will consist of the proposed buildings, parking lot, and driveway. Because the impervious cover for this site exceeds 20%, a permanent structure is proposed in this Water Pollution Abatement Plan (WPAP). This BMP will be Contech Vortech system designated to remove at least 80% of the increase in total suspended solids (TSS) load from the proposed development in accordance with the Texas Commission on Environmental Quality's (TCEQ) Technical Guidance manual (TGM). There will be an overtreatment of 0.02 acres to account for the driveway entrance.

All domestic wastewater generated by this project will be disposed of by conveyance to the existing New Braunfels Water Recycling Center operated by New Braunfels Utilities. All potable water will be supplied by New Braunfels Utilities.

RECEIVED
MAR 16 2010
COUNTY ENGINEER

Geologic Assessment
For Regulated Activities
on The Edwards Aquifer Recharge/transition Zones
and Relating to 30 TAC §213.5(b)(3), Effective June 1, 1999

REGULATED ENTITY NAME: Hunter's Creek Fuquay Tract

TYPE OF PROJECT: √ WPAP __ AST __ SCS __ UST

LOCATION OF PROJECT: √ Recharge Zone __ Transition Zone __ Contributing Zone within the Transition Zone

PROJECT INFORMATION

1. √ Geologic or manmade features are described and evaluated using the attached **GEOLOGIC ASSESSMENT TABLE**.

2. Soil cover on the project site is summarized in the table below and uses the SCS Hydrologic Soil Groups* (*Urban Hydrology for Small Watersheds, Technical Release No. 55, Appendix A*, Soil Conservation Service, 1986). If there is more than one soil type on the project site, show each soil type on the site Geologic Map or a separate soils map.

Soil Units, Infiltration Characteristics & Thickness		
Soil Name	Group*	Thickness (feet)
Rumple-Comfort association soil	D	1

* Soil Group Definitions (Abbreviated)

A. Soils having a high infiltration rate when thoroughly wetted.

B. Soils having a moderate infiltration rate when thoroughly wetted.

C. Soils having a slow infiltration rate when thoroughly wetted.

D. Soils having a very slow infiltration rate when thoroughly wetted.

3. √ A **STRATIGRAPHIC COLUMN** is attached at the end of this form that shows formations, members, and thicknesses. The outcropping unit should be at the top of the stratigraphic column.

4. √ A **NARRATIVE DESCRIPTION OF SITE SPECIFIC GEOLOGY** is attached at the end of this form. The description must include a discussion of the potential for fluid movement to the Edwards Aquifer, stratigraphy, structure, and karst characteristics of the site.

5. √ Appropriate **SITE GEOLOGIC MAP(S)** are attached:

The Site Geologic Map must be the same scale as the applicant's Site Plan. The minimum scale is 1" : 400'

Applicant's Site Plan Scale 1" = _____'
Site Geologic Map Scale 1" = ~~400~~ 20'
Site Soils Map Scale (if more than 1 soil type) 1" = _____'

6. Method of collecting positional data:
   - √ Global Positioning System (GPS) technology.
   - __ Other method(s).

7. √ The project site is shown and labeled on the Site Geologic Map.

8. √ Surface geologic units are shown and labeled on the Site Geologic Map.

9. __ Geologic or manmade features were discovered on the project site during the field investigation. They are shown and labeled on the Site Geologic Map and are described in the attached Geologic Assessment Table.
   √ Geologic or manmade features were not discovered on the project site during the field investigation.

10. √ The Recharge Zone boundary is shown and labeled, if appropriate.

11. All known wells (test holes, water, oil, unplugged, capped and/or abandoned, etc.):

   __ There are ___(#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply.)
      - __ The wells are not in use and have been properly abandoned.
      - __ The wells are not in use and will be properly abandoned.
      - __ The wells are in use and comply with 16 TAC Chapter 76.

   √ There are no wells or test holes of any kind known to exist on the project site.

ADMINISTRATIVE INFORMATION

12. √ One (1) original and three (3) copies of the completed assessment has been provided.

Date(s) Geologic Assessment was performed: November 17, 2009

Date(s)

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213.

Troy T. Crain
Print Name of Geologist

830-816-5434
Telephone

830-816-5436
Fax

Signature of Geologist

11/23/09
Date

Representing: Broadbent & Associates, Inc.
(Name of Company)

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

GEOLOGIC ASSESSMENT TABLE			PROJECT NAME: Hunter's Creek Fuquay Tract																	
LOCATION			FEATURE CHARACTERISTICS												EVALUATION			PHYSICAL SETTING		
1A	1B *	1C*	2A	2B	3	4			5	5A	6	7	8A	8B	9	10		11		12
FEATURE ID	LATITUDE	LONGITUDE	FEATURE TYPE	POINTS	FORMATION	DIMENSIONS (FEET)			TREND (DEGREES)	DIP (DEGREES)	DENSITY (NO/FT)	APERTURE (FEET)	INFILL	RELATIVE INFILTRATION RATE	TOTAL	SENSITIVITY		CATCHMENT AREA (ACRES)		TOPOGRAPHY
						X	Y	Z		10						<40	>40	<1.6	>1.6	
NO	GEOLOGIC		FEATURES		FOUND															

* DATUM:

2A TYPE	TYPE	2B POINTS
C	Cave	30
SC	Solution cavity	20
SF	Solution-enlarged fracture(s)	20
F	Fault	20
O	Other natural bedrock features	5
MB	Manmade feature in bedrock	30
SW	Swallow hole	30
SH	Sinkhole	20
CD	Non-karst closed depression	5
Z	Zone, clustered or aligned features	30

8A INFILLING	
N	None, exposed bedrock
C	Coarse - cobbles, breakdown, sand, gravel
O	Loose or soft mud or soil, organics, leaves, sticks, dark colors
F	Fines, compacted clay-rich sediment, soil profile, gray or red colors
V	Vegetation. Give details in narrative description
FS	Flowstone, cements, cave deposits
X	Other materials

12 TOPOGRAPHY

Cliff, Hilltop, Hillside, Drainage, Floodplain, Streambed

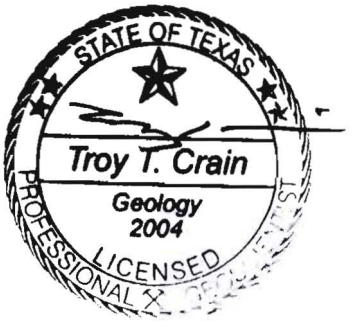
I have read, I understood, and I have followed the Texas Commission on Environmental Quality's Instructions to Geologists. The information presented here complies with that document and is a true representation of the conditions observed in the field

My signature certifies that I am qualified as a geologist as defined by 30 TAC Chapter 213

Date 3/5/10

Sheet 1 of 1

TCEQ-0585-Table (Rev. 10-01-04)



SITE SPECIFIC
STRATIGRAPHIC COLUMN

System	Group	Formation	Function	Member or Informal Unit	Function	Thickness Feet	Lithology	Hydrostratigraphy
Cretaceous	Edwards	Person (Edwards Aquifer)	AQ	Marine	AQ	90 - 150	Limestone and dolomite; honeycombed limestone interbedded with chalky porous limestone and massive, recrystallized limestone	Reefal limestone and carbonate deposits under normal open marine conditions. Zones with significant porosity and permeability are laterally extensive. Karstified unit.
				Leached and collapsed members	AQ	60 - 90	Limestone and dolomite. Recrystallized limestone occurs predominantly in the freshwater zone of the Edwards Aquifer. Dolomite occurs in the saline zone.	Tidal land supratidal deposits, conforming porous beds of collapsed breccias and burrowed biomicrites. Zones of honeycombed porosity are laterally extensive.
				Regional dense bed	CB	20 - 30	Dense argillaceous limestone.	Deep water limestone. Negligible permeability and porosity. Laterally extensive bed that is a barrier to vertical flow in the Edwards Aquifer.
	Edwards	Kainer (Edwards Aquifer)	AQ	Grainstone	AQ	50 - 60	Limestone, hard, millolid grainstone with associated beds of marly mudstones and wackestones.	Shallow water, lagoonal sediment deposited in a moderately high energy environment. A cavernous honeycombed layer commonly occurs near the middle of the subdivision. Interparticle porosity is locally significant.
				Dolomitic (Includes Kirschberg evaporite)	AQ	150 - 200	Limestone, calcified dolomite, and dolomite. Leached, evaporitic rocks with breecias toward top. Dolomite occurs principally in the saline zone of the aquifer.	Supratidal deposits towards top. Mostly tidal to subtidal deposits below. Very porous and permeable zones formed by boxwork porosity in breccias or by burrowed zones.
				Basal Nodular Bed	CB	40 - 70	Limestone, hard, dense clayey; nodular, mottled, stylolitic.	Subtidal deposits. Negligible porosity and permeability.
	Trinity	Glen Rose	CB	Upper part of Glen Rose	CB	300 - 400	Limestone, dolomite, shale and marl. Alternating beds of carbonates and marls. Evaporites and dolomites toward top; variable bedding.	Supratidal and shoreline deposits towards top. Tidal to subtidal deposits below. Unit has little vertical permeability but has moderate lateral permeability.
				Lower part of Glen Rose	AQ	200 - 250	Massive limestone with few thin beds of marl.	Marine deposits - caprinid reef zones and porous and permeable honeycomb porosity near the base.

AQ - Aquifer CB - Confining Bed

(Modified from U.S. Geological Survey Open-File Report 83-537, R. W. Maclay and T. A. Small, 1984)

Site Specific Geology and Soil Characteristics

Hunter's Creek Fuquay Tract
State Highway 46
New Braunfels, Texas

Area Geologic Setting

The site is located within the outcrop of the Cretaceous age Person Formation of the Edwards Group, which was deposited approximately 90 million years ago. The Edwards Group limestones comprise the Edwards Aquifer, the sole source of drinking water for San Antonio and other communities in central Texas.

The site is located in the Balcones fault zone, which separates the Edwards Plateau from the Gulf Coastal Plain physiographic province. The Balcones fault zone is a series of steep angle, normal faults that generally strike northeast-southwest. Active movement in the Balcones fault zone ceased during the Miocene Epoch. The intense, close spaced faulting along the Balcones fault zone combined with the various rock types of the upper Cretaceous section exposed in central Texas makes rapid changes in rock and soil type the norm rather than the exception.

The depositional environment and lithology of the Edwards Group limestones changes from Kinney County in southwest Texas to Hays County east of San Antonio. The site is located north of the Colorado River, which is a distinct depositional province marked by a relatively consistent lithology and stratigraphy of the Cretaceous age limestones, marls, shales, and clays.

The entire Edwards Formation is approximately 350 feet thick in the area. The rocks that comprise the Edwards formation include hard, dense calcium carbonate limestone and some magnesium carbonate limestone called dolomite. These limestones are made up of the shells of invertebrate animals that inhabited the shallow seas of the lower Cretaceous period. These shells range from large, reef forming clams to microscopic foraminifers that secrete shells of the mineral calcite or aragonite, which is composed of calcium carbonate. Aragonite shells are more soluble in water, especially the slightly acid, normal rainwater that contains a weak carbonic acid. The wide ranges of specific minerals making up the shells that compose the limestone are soluble in water in differing amounts. The preferential dissolution of fossil shells gives rise to many of the geologic features observed in rocks of the Edwards Group limestone.

The intense faulting and fracturing of the limestone rocks in the Balcones fault zone and the varying ability of minerals to be dissolved by groundwater lead to the formation of the geologic features that are mapped within the Edwards Aquifer Recharge Zone. The combination of faulting, fracturing, rock dissolution, mineral deposition, erosion, and geologic time produce the caves, closed depressions, fractured rock outcrops, fault zones, solution cavities, and vugular rock features which are mapped during a Geologic Assessment. The characteristics and physical settings of these geologic features are described to assign a relative infiltration rate and potential recharge ranking to assist in managing the resource of the Edwards Aquifer.

Site Geology

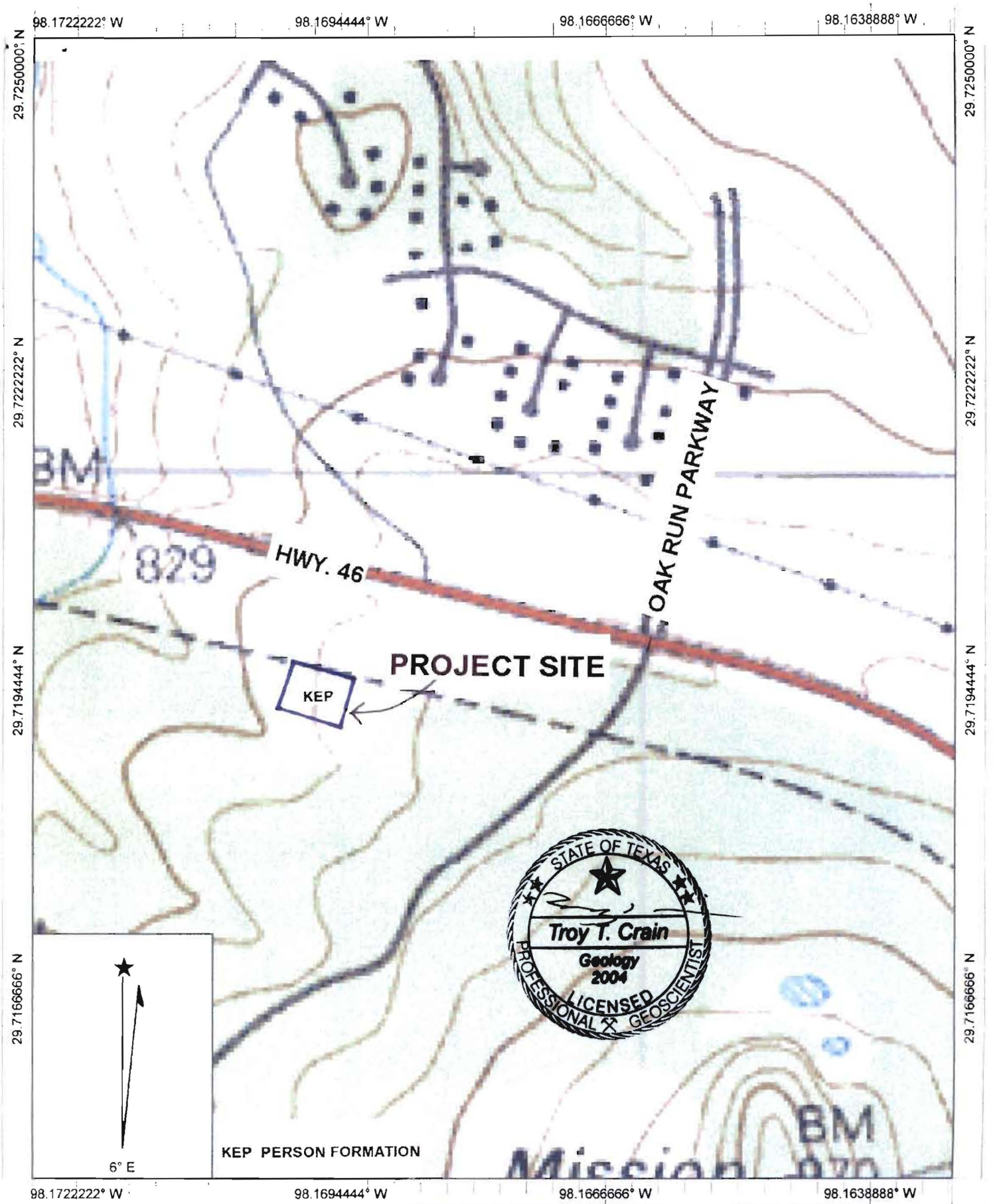
The site is located in the outcrop of the upper portion of the Edwards Limestone, according to the Geologic Atlas of Texas, San Antonio Sheet by Virgil E. Barnes, Bureau of Economic Geology, Austin, Texas 1974. The few outcrops on the site showed rocks consistent with the Person Formation and there was no evidence of faulting noted during the walkthrough of this site and stereo aerial photos of the site show no lineations intersecting the site. The small rock outcrops on the site generally showed hard, yellowish gray dense limestone consistent with the Person Formation.

There were no geologic features present on the site. There was no evidence of any openings connecting to the subsurface from the surface of the site.

Site Soil Characteristics

The site is covered with clay soil one foot thick throughout. The site has a very small amount of visible bedrock. According to the Soil Survey of Bexar County, Texas by F. B. Taylor, R. B. Hailey, and D. L. Richmond, US Department of Agriculture, June, 1991, the soil type at the site is the *Rumple-Comfort association, 1-8 percent slopes* soil. This soil is listed as Hydrologic Soil Group D, in Appendix B of Urban Hydrology for Small Watersheds, by the United States Department of Agriculture, Natural Resources Conservation Service, Conservation Engineering Division, Technical Release 55, June, 1986.

In general, there is a very low potential for fluid movement from the surface of the site to the Edwards Aquifer due to the extremely low percentage of rock outcrop area, the very low infiltration rate Group D clay soil, and the lack of geologic features.



Name: NEW BRAUNFELS WEST
Date: 11/16/2009
Scale: 1 inch equals 400 feet

Location: 029.7201893° N 098.1678698° W
Caption: Hunter's Creek Business Park - Fuquay Tract: 0.809 Acres
Geologic Map

Water Pollution Abatement Plan Application
for Regulated Activities
on the Edwards Aquifer Recharge Zone
and Relating to 30 TAC §213.5(b), Effective June 1, 1999

REGULATED ENTITY NAME: 230 Hunters Village - Shell Building

REGULATED ENTITY INFORMATION

1. The type of project is:
   - __ Residential: # of Lots: _____
   - __ Residential: # of Living Unit Equivalents: _____
   - _X_ Commercial
   - __ Industrial
   - __ Other: _____

2. Total site acreage (size of property): 0.809 a.c.

3. Projected population: No permanent population

4. The amount and type of impervious cover expected after construction are shown below:

Impervious Cover of Proposed Project	Sq. Ft.	Sq. Ft./Acre	Acres
Structures/Rooftops	5,770	÷ 43,560 =	0.132
Parking	13,980	÷ 43,560 =	0.321
Other paved surfaces	2,460	÷ 43,560 =	0.056
Total Impervious Cover	23,330	÷ 43,560 =	0.509
Total Impervious Cover ÷ Total Acreage x 100 =			62.9%

5. _X_ **ATTACHMENT A - Factors Affecting Water Quality.** A description of any factors that could affect surface water and groundwater quality is provided at the end of this form.

6. _X_ Only inert materials as defined by 30 TAC §330.2 will be used as fill material.

FOR ROAD PROJECTS ONLY
Complete questions 7-12 if this application is exclusively for a road project.

This application is not exclusively for a road project; therefore, questions 7-12 do not apply.

7. Type of project:
   - __ TXDOT road project.
   - __ County road or roads built to county specifications.
   - __ City thoroughfare or roads to be dedicated to a municipality.
   - __ Street or road providing access to private driveways.

8. Type of pavement or road surface to be used:
   - __ Concrete

__ Asphaltic concrete pavement
__ Other: _____

9. Length of Right of Way (R.O.W.): ____ feet.
Width of R.O.W.: ____ feet.
L x W = ____ Ft^2 ÷ 43,560 Ft^2/Acre = ____ acres.

10. Length of pavement area: ____ feet.
Width of pavement area: ____ feet.
L x W = ____ Ft^2 ÷ 43,560 Ft^2/Acre = ____ acres.
Pavement area ____ acres ÷ R.O.W. area ____ acres x 100 = ___% impervious cover.

11. __ A rest stop will be included in this project.
__ A rest stop will **not** be included in this project.

12. __ Maintenance and repair of existing roadways that do not require approval from the TCEQ Executive Director. Modifications to existing roadways such as widening roads/adding shoulders totaling more than one-half (1/2) the width of one (1) existing lane require prior approval from the TCEQ.

STORMWATER TO BE GENERATED BY THE PROPOSED PROJECT

13. **ATTACHMENT B - Volume and Character of Stormwater.** A description of the volume and character (quality) of the stormwater runoff which is expected to occur from the proposed project is provided at the end of this form. The estimates of stormwater runoff quality and quantity should be based on area and type of impervious cover. Include the runoff coefficient of the site for both pre-construction and post-construction conditions.

WASTEWATER TO BE GENERATED BY THE PROPOSED PROJECT

14. The character and volume of wastewater is shown below:

100% Domestic	865 gallons/day
___% Industrial	_____ gallons/day
___% Commingled	_____ gallons/day

TOTAL 865 gallons/day

15. Wastewater will be disposed of by:
NA **On-Site** Sewage Facility (OSSF/Septic Tank):
ATTACHMENT C - Suitability Letter from Authorized Agent. An on-site sewage facility will be used to treat and dispose of the wastewater. The appropriate licensing authority's (authorized agent) written approval is provided at the end of this form. It states that the land is suitable for the use of an on-site sewage facility or identifies areas that are not suitable.
__ Each lot in this project/development is at least one (1) acre (43,560 square feet) in size. The system will be designed by a licensed professional engineer or registered sanitarian and installed by a licensed installer in compliance with 30 TAC Chapter 285.

X Sewage Collection System (Sewer Lines):
X Private service laterals from the wastewater generating facilities will be connected to an existing SCS.
__ Private service laterals from the wastewater generating facilities will be connected to a proposed SCS.

__ The SCS was previously submitted on _____.
__ The SCS was submitted with this application.
__ The SCS will be submitted at a later date. The owner is aware that the SCS may not be installed prior to executive director approval.

The sewage collection system will convey the wastewater to the New Braunfels Utilities Gruene (name) Treatment Plant. The treatment facility is:
_X_ existing.
__ proposed.

16. _X_ All private service laterals will be inspected as required in 30 TAC §213.5.

SITE PLAN REQUIREMENTS

Items 17 through 27 must be included on the Site Plan.

17. The Site Plan must have a minimum scale of 1" = 400'.
Site Plan Scale: 1" = _20'.

18. 100-year floodplain boundaries
__ Some part(s) of the project site is located within the 100-year floodplain. The floodplain is shown and labeled.
_X_ No part of the project site is located within the 100-year floodplain.

The 100-year floodplain boundaries are based on the following specific (including date of material) sources(s):
FIRM, Flood Insurance Rate Map, Panel No. 48091C0435F Dated September 2, 2009. City of New Braunfels, Comal County.

19. _X_ The layout of the development is shown with existing and finished contours at appropriate, but not greater than ten-foot contour intervals. Show lots, recreation centers, buildings, roads, etc.
__ The layout of the development is shown with existing contours. Finished topographic contours will not differ from the existing topographic configuration and are not shown.

20. All known wells (oil, water, unplugged, capped and/or abandoned, test holes, etc.):
__ There are ____(#) wells present on the project site and the locations are shown and labeled. (Check all of the following that apply)
__ The wells are not in use and have been properly abandoned.
__ The wells are not in use and will be properly abandoned.
__ The wells are in use and comply with 30 TAC §238.
_X_ There are no wells or test holes of any kind known to exist on the project site.

21. Geologic or manmade features which are on the site:
__ All **sensitive and possibly sensitive** geologic or manmade features identified in the Geologic Assessment are shown and labeled.
_X_ No **sensitive and possibly sensitive** geologic or manmade features were identified in the Geologic Assessment.
N/A **ATTACHMENT D - Exception to the Required Geologic Assessment.** An exception to the Geologic Assessment requirement is requested and explained in ATTACHMENT D provided at the end of this form. Geologic or manmade features were found and are shown and labeled.
N/A **ATTACHMENT D - Exception to the Required Geologic Assessment.** An exception to the Geologic Assessment requirement is requested and explained in ATTACHMENT D provided at the end of this form. No geologic or manmade features were found.

22. X The drainage patterns and approximate slopes anticipated after major grading activities.

23. X Areas of soil disturbance and areas which will not be disturbed.

24. X Locations of major structural and nonstructural controls. These are the temporary and permanent best management practices.

25. X Locations where soil stabilization practices are expected to occur.

26. N/A Surface waters (including wetlands).

27. __ Locations where stormwater discharges to surface water or sensitive features.
X There will be no discharges to surface water or sensitive features.

ADMINISTRATIVE INFORMATION

28. X One (1) original and three (4) copies of the completed application have been provided.

29. X Any modification of this WPAP will require TCEQ executive director approval, prior to construction, and may require submission of a revised application, with appropriate fees.

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **WATER POLLUTION ABATEMENT PLAN APPLICATION FORM** is hereby submitted for TCEQ review and executive director approval. The form was prepared by:

Larry Layfield
Print Name of Customer/Agent

Larry L. Layfield PMS
Signature of Customer/Agent

2-22-10
Date

ATTACHMENT A

Factors Affecting Water Quality

Potential sources of pollution that may reasonably be expected ot affect the quality of storm water discharges from the site during construction include:

- Soil erosion due to the clearing of the site
- Oil, grease, fuel and hydraulic fluid contamination from construction equipment and vehicle drippings
- Hydrocarbons form asphalt paving operations
- Miscellaneous trash and litter from construction workers and materials wrappings
- Concrete truck washout
- potential overflow/spills from portable toilets

Potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges from the site after development include:

- Oil, grease, fuel and hydraulic fluid contamination from vehicle drippings
- Dirt and dust which may fall off vehicles
- Miscellaneous trash and litter

ATTACHMENT B

Stormwater to be Generated by the Proposed Project

The 0.809 acre commercial site will be divided into one major drainage area that generates approximately 6 cfs of storm water runoff for a 25-year storm event. A coefficient of 0.90 was used for the drainage draining into the catchment basin. This value is based on the land use and impervious cover. The character of the storm water runoff can be described as a combination of sheet flow from the landscaped areas, and shallow concentrated flow from the parking lot. The remaining site's runoff will leave the site as sheet flow over vegetated areas. This area is outside the disturbed area and will be vegetated with grass and landscaping to eliminate contaminates from leaving the site.

ATTACHMENT B

Drainage Basin A

Post development

Area = 0.639 acres

Antecedent Precipitation Coefficient "k"

$k_5 = 1.0$

$k_{10} = 1.0$

$k_{25} = 1.1$

Runoff Coefficient "c"

c = 0.90

Initial Time of Concentration

10 minutes commercial/business

Rainfall Intensity Constants (New Braunfels)

5 year b = 72.9 d = 11.14 e = 0.800

10 year b = 71.9 d = 8.69 e = 0.769

25 year b = 79.5 d = 8.01 e = 0.751

$I_5 = 6.35$ in/hr

$I_{10} = 7.57$ in/hr

$I_{25} = 9.07$ in/hr

Flows Q = k c I A

$Q_5 = 3.7$ cfs

$Q_{10} = 4.4$ cfs

$Q_{25} = 5.7$ cfs

Channel Report

Hydraflow Express by Intelisolve — Monday, Mar 1 2010

<Name>

Circular

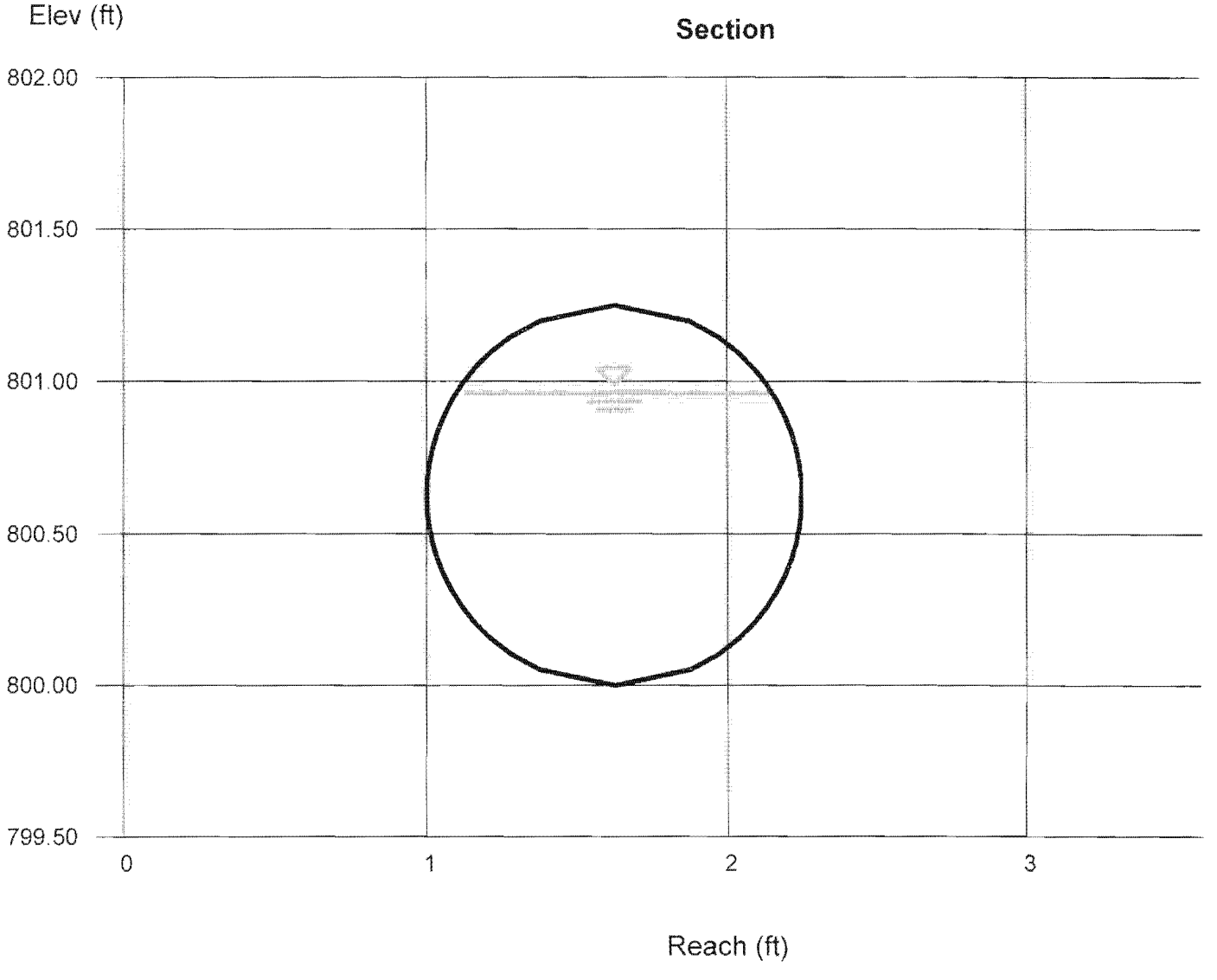
Diameter (ft)	= 1.25
Invert Elev (ft)	= 800.00
Slope (%)	= 1.00
N-Value	= 0.013

Calculations

Compute by:	Known Q
Known Q (cfs)	= 6.00

Highlighted

Depth (ft)	= 0.96
Q (cfs)	= 6.000
Area (sqft)	= 1.01
Velocity (ft/s)	= 5.92
Wetted Perim (ft)	= 2.68
Crit Depth, Yc (ft)	= 1.00
Top Width (ft)	= 1.05
EGL (ft)	= 1.51



Temporary Stormwater Section
for Regulated Activities
on the Edwards Aquifer Recharge Zone
and Relating to 30 TAC §213.5(b)(4)(A), (B), (D)(I) and (G); Effective June 1, 1999

REGULATED ENTITY NAME: 230 Hunters Village - Shell Building

POTENTIAL SOURCES OF CONTAMINATION

Examples: Fuel storage and use, chemical storage and use, use of asphaltic products, construction vehicles tracking onto public roads, and existing solid waste.

1. Fuels for construction equipment and hazardous substances which will be used during construction:

   _x_ Aboveground storage tanks with a cumulative storage capacity of less that 250 gallons will be stored on the site for less than one (1) year.

   ___ Aboveground storage tanks with a cumulative storage capacity between 250 gallons and 499 gallons will be stored on the site for less than one (1) year.

   ___ Aboveground storage tanks with a cumulative storage capacity of 500 gallons or more will be stored on the site. An **Aboveground Storage Tank Facility Plan** application must be submitted to the appropriate regional office of the TCEQ prior to moving the tanks onto the project.

   ___ Fuels and hazardous substances will not be stored on-site.

2. _x_ **ATTACHMENT A - Spill Response Actions**. A description of the measures to be taken to contain any spill of hydrocarbons or hazardous substances is provided at the end of this form.

3. _x_ Temporary aboveground storage tank systems of 250 gallons or more cumulative storage capacity must be located a minimum horizontal distance of 150 feet from any domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

4. _x_ **ATTACHMENT B - Potential Sources of Contamination.** Describe in an attachment at the end of this form any other activities or processes which may be a potential source of contamination.

   ___ There are no other potential sources of contamination.

SEQUENCE OF CONSTRUCTION

5. _x_ **ATTACHMENT C - Sequence of Major Activities.** A description of the sequence of major activities which will disturb soils for major portions of the site (grubbing, excavation, grading, utilities, and infrastructure installation) is provided at the end of this form. For each activity described, an estimate of the total area of the site to be disturbed by each activity is given.

6. _x_ Name the receiving water(s) at or near the site which will be disturbed or which will receive discharges from disturbed areas of the project: Blieder Creek

TEMPORARY BEST MANAGEMENT PRACTICES (TBMPs)

Erosion control examples: tree protection, interceptor swales, level spreaders, outlet stabilization, blankets or matting, mulch, and sod. Sediment control examples: stabilized construction exit, silt fence, filter dikes, rock berms, buffer strips, sediment traps, and sediment basins. Please refer to the Technical Guidance Manual for guidelines and specifications. **All structural BMPs must be shown**

on the site plan.

7. _x_ **ATTACHMENT D - Temporary Best Management Practices and Measures.** A description of the TBMPs and measures that will be used during and after construction are provided at the end of this form. For each activity listed in the sequence of construction, include appropriate control measures and the general timing (or sequence) during the construction process that the measures will be implemented.

   _x_ TBMPs and measures will prevent pollution of surface water, groundwater, and stormwater. The construction-phase BMPs for erosion and sediment controls have been designed to retain sediment on site to the extent practicable. The following information has been provided in the attachment at the end of this form

   a. A description of how BMPs and measures will prevent pollution of surface water, groundwater or stormwater that originates upgradient from the site and flows across the site.

   b. A description of how BMPs and measures will prevent pollution of surface water or groundwater that originates on-site or flows off site, including pollution caused by contaminated stormwater runoff from the site.

   c. A description of how BMPs and measures will prevent pollutants from entering surface streams, sensitive features, or the aquifer.

   d. A description of how, to the maximum extent practicable, BMPs and measures will maintain flow to naturally-occurring sensitive features identified in either the geologic assessment, TCEQ inspections, or during excavation, blasting, or construction.

8. The temporary sealing of a naturally-occurring sensitive feature which accepts recharge to the Edwards Aquifer as a temporary pollution abatement measure during active construction should be avoided.

   N/A **ATTACHMENT E - Request to Temporarily Seal a Feature.** A request to temporarily seal a feature is provided at the end of this form. The request includes justification as to why no reasonable and practicable alternative exists for each feature.

   _x_ There will be no temporary sealing of naturally-occurring sensitive features on the site.

9. _x_ **ATTACHMENT F - Structural Practices.** Describe the structural practices that will be used to divert flows away from exposed soils, to store flows, or to otherwise limit runoff discharge of pollutants from exposed areas of the site. Placement of structural practices in floodplains has been avoided.

10. _x_ **ATTACHMENT G - Drainage Area Map**. A drainage area map is provided at the end of this form to support the following requirements.

    N/A For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin will be provided.

    N/A For areas that will have more than 10 acres within a common drainage area disturbed at one time, a smaller sediment basin and/or sediment trap(s) will be used.

    N/A For areas that will have more than 10 acres within a common drainage area disturbed at one time, a sediment basin or other equivalent controls are not attainable, but other TBMPs and measures will be used in combination to protect down slope and side slope boundaries of the construction area.

_x_ There are no areas greater than 10 acres within a common drainage area that will be disturbed at one time. A smaller sediment basin and/or sediment trap(s) will be used in combination with other erosion and sediment controls within each disturbed drainage area.

11. N/A **ATTACHMENT H - Temporary Sediment Pond(s) Plans and Calculations.** Temporary sediment pond or basin construction plans and design calculations for a proposed temporary BMP or measure has been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information must be signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed temporary BMPs and measures are provided as at the end of this form.

12. _x_ **ATTACHMENT I - Inspection and Maintenance for BMPs.** A plan for the inspection of temporary BMPs and measures and for their timely maintenance, repairs, and, if necessary, retrofit is provided at the end of this form. A description of documentation procedures and recordkeeping practices is included in the plan.

13. _x_ All control measures must be properly selected, installed, and maintained in accordance with the manufacturer's specifications and good engineering practices. If periodic inspections by the applicant or the executive director, or other information indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations.

14. _x_ If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

15. _x_ Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake will be provided that can indicate when the sediment occupies 50% of the basin volume.

16. _x_ Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

SOIL STABILIZATION PRACTICES

Examples: establishment of temporary vegetation, establishment of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, protection of trees, or preservation of mature vegetation.

17. _x_ **ATTACHMENT J - Schedule of Interim and Permanent Soil Stabilization Practices.** A schedule of the interim and permanent soil stabilization practices for the site is attached at the end of this form.

18. _x_ Records must be kept at the site of the dates when major grading activities occur, the dates when construction activities temporarily or permanently cease on a portion of the site, and the dates when stabilization measures are initiated.

19. _x_ Stabilization practices must be initiated as soon as practicable where construction activities have temporarily or permanently ceased.

ADMINISTRATIVE INFORMATION

20. _x_ All structural controls will be inspected and maintained according to the submitted and approved operation and maintenance plan for the project.

21. _x_ If any geologic or manmade features, such as caves, faults, sinkholes, etc., are discovered, all regulated activities near the feature will be immediately suspended. The appropriate TCEQ Regional Office shall be immediately notified. Regulated activities must cease and not continue until the TCEQ has reviewed and approved the methods proposed to protect the aquifer from any adverse impacts.

22. _x_ Silt fences, diversion berms, and other temporary erosion and sediment controls will be constructed and maintained as appropriate to prevent pollutants from entering sensitive features discovered during construction.

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **TEMPORARY STORMWATER SECTION** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Larry Layfield
Print Name of Customer/Agent

Larry L. Layfield PMS
Signature of Customer/Agent

2-22-10
Date

ATTACHMENT A

Spill Response Actions

In the event of an accidental leak or spill:

- Contractor shall take immediate action to contain a spill. The contractor may use sand or other absorbent material stockpiled on site to absorb a spill. Absorbent material should be spread over the spill area to absorb the spilled product.
- In the event of an uncontained discharge the contractor shall utilize onsite equipment to construct berms down gradient of the spill with sand or other absorbent material to contain and absorb the spilled product.
- Sand or material used to contain the spill should be collected and stored in such a way so as not to continue to affect additional ground. Once the spill has been contained, collected material should be placed on poly or plastic sheeting until removed from the site. In the event of potential rainfall, the material should be covered with poly or plastic sheeting to prevent contaminating runoff.
- The contractor will be required to notify the owner, who will in turn contact TCEQ to notify them in the event of a spill. Additional notifications as required by the type and amount of spill will be conducted by the owner or owner's representative.

In the event of an accidental significant or hazardous spill:

- the contractor will be required to report significant or hazardous spills in reportable quantities to:
    - the National Response Center at (800) 424-8802
    - the Edwards Aquifer Authority at (210) 222-2204
    - the TCEQ Regional Office (210) 490-3096 (if during business hours: 8 am to 5 pm) or
    - the State Emergency Response Center (800) 832-8224 (if after hours)
- Contaminated soils will be sampled for waste characterization. When the analysis results are know the contaminated soils will be removed from the site and disposed of in a permitted landfill in accordance with applicable regulations.

Additional guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 1.4.16. Contractor shall review this section.

ATTACHMENT B

Potential Sources of Contamination

Potential Sources:

1. Asphalt products used by this project.
2. Oil, grease, fuel and hydraulic fluid contamination form construction equipment and vehicle dripping.
3. Accidental leaks or spills of oil, petroleum products and substances listed under 40 CFR parts 110, 117, and 302 used or stored temporarily on site.
4. Miscellaneous trash and litter from construction workers and materials wrappings.
5. Construction debris.
6. Spills/Overflow of waste from portable toilets.

Preventative Measure:

1. After placement of asphalt, emulsion or coatings, the contractor will be responsible for immediate cleanup should an unexpected rain occur. For the duration of the asphalt product curing time, the contractor will maintain standby personnel and equipment to contain any asphalt wash-off should an unexpected rain occur. The contractor will be instructed not to place asphalt products on the ground within 48 hours of a forecasted rain.
2. Vehicle maintenance when possible will be performed within the construction staging area. Construction vehicles and equipment shall be checked regularly for leaks and repaired immediately.
3. Contractor to incorporate into regular safety meetings, a discussion of spill prevention and appropriate disposal procedures. Contractor's superintendent or representative oversee shall enforce proper spill prevention and control measures. Hazardous materials and wastes shall be stored in covered containers and protected from vandalism. A stockpile of spill cleanup materials shall be stored on site where it will be readily accessible.
4. Trash containers will be placed throughout the site to encourage proper trash disposal.
5. Construction debris will be monitored daily by contractor. Debris will be collected weekly and placed in disposal bins. Situations requiring immediate attention will be addressed on a case by case basis.
6. Portable toilets will be placed away from high traffic vehicular areas and storm drain inlets on a level ground surface. Portable toilets will be inspected regularly for leaks and will be serviced and sanitized at time intervals that will maintain sanitary conditions.

ATTACHMENT C

Sequence of Major Activities

The sequence of major activities which disturb soil during construction on this site will consist of two stages. Stage one will include site preparation that will include clearing and grubbing of vegetation where applicable. This will disturb approximately 0.55 acres. The second stage is the construction stage that will include the buildings, paved parking, sidewalks, landscaping, sedimentation/filtration basin and site cleanup. This will disturb approximately 0.55 acres.

ATTACHMENT D

Temporary Best Management Practices and Measures

Interceptor Swales

- Shallow swales placed along the boundary of the property to catch upgradient water and redirect the flow away from disturbed areas. These swales will utilize vegetation to slow the water and to allow for any sediment particles to settle out before leaving the site, thus minimizing the amount of contaminants leaving the site. See location and details on the SWPPP sheet.

Silt Fence

- Placed on the down gradient slope of the disturbed areas to catch sediment before it leaves the site. Temporary measure, to be removed once the disturbance activities have ceased and stabilization completed. See details on the SWPPP sheet.

Rock Berm with Silt Fence

- Placed in areas where flows are concentrated and silt fence alone will not contain the flows. Consists of rocks held in place with wire mesh and silt fence placed along the face of the rock. Stops sediment from leaving the site from runoff flowing through the site. See details on the SWPPP sheet.

Inlet Protection

- Placed around inlets to catch and stop sediment from entering the storm drain system before filtration systems are in place. For material and details see SWPPP sheet.

Construction Exit

- Located at the entrance/exit of the site and used to reduce materials from being tracked onto existing roads from construction vehicles. Usually consists of oversized rock gravel that will allow for material to fall off vehicles therefore reducing the amount of material that leaves the site. See SWPPP sheet for location and specifications.

Truck Washout Pit

- Designed to trap and store waste from concrete and similar activities. This allows for safe storage and removal from the site by not allowing contaminants to enter the storm water. Contaminants can be kept in a location that will not allow storm water to mix and flow off the site. See SWPPP sheet for location and specifications.

ATTACHMENT E

Request to Temporarily Seal A Feature

No features will be sealed within the site.

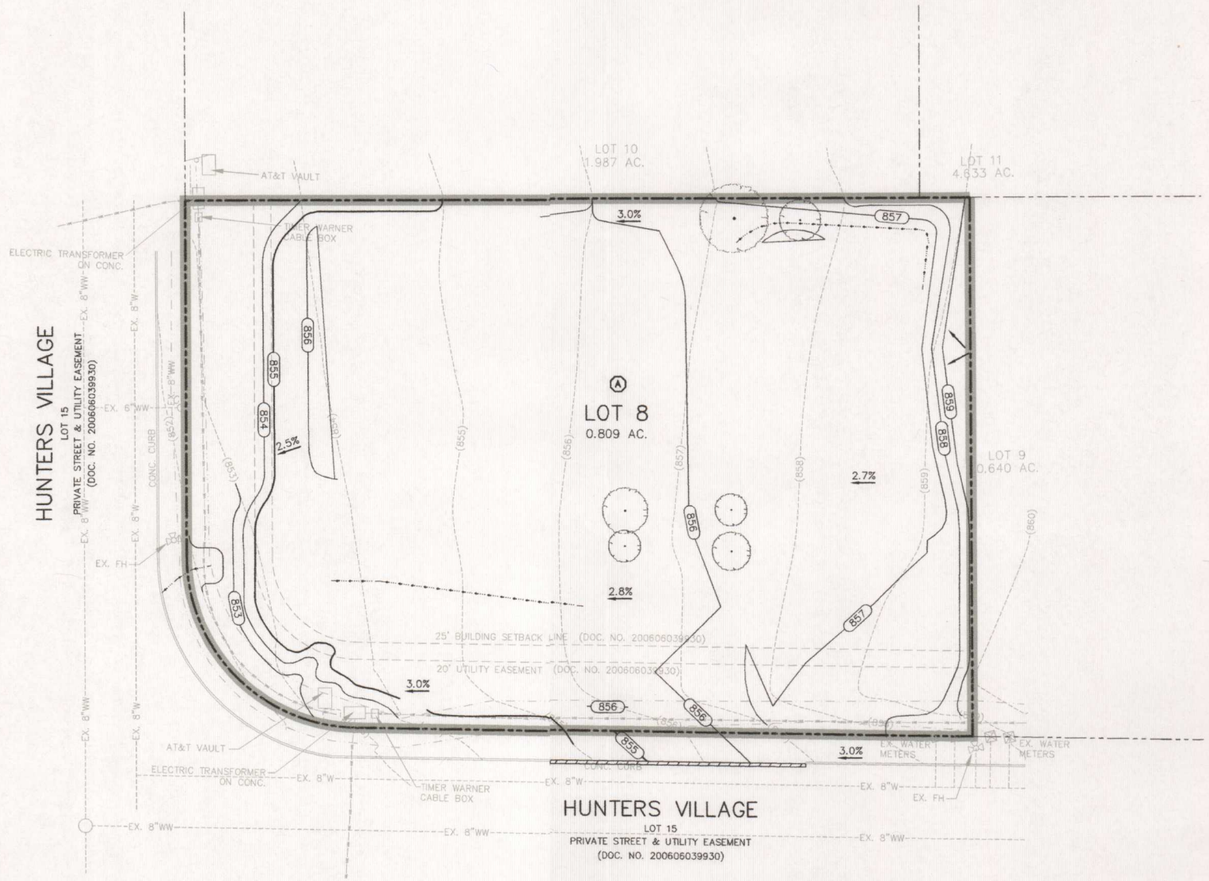
ATTACHMENT F

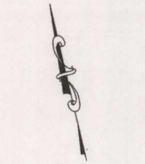
Structural Practices

There will be no structural practices within a floodplain for this project.

Within the site, there are no major drainage areas that would cause the need for structural practices to divert water or store water on the site. During the construction of the building, temporary walls may be constructed to divert water from entering the foundation of the building.

LOCATION MAP
NOT TO SCALE





LEGEND

EXISTING	PROPOSED	DESCRIPTION
		PROPERTY (R.O.W.) LINE/ SUBDIVISION BOUNDARY
(xxxx)		ADJACENT PROPERTY
		RECORD INFORMATION
		LIGHT POLE
		POWER POLE
		DOWN GUY
	T	TRANSFORMER (SIZE VARIES)
		FIRE HYDRANT
		WATER VALVE
		WATER METER
	WM	WATER METER VAULT
WMH		WATER MANHOLE
		TELEPHONE RISER
		CABLE TV RISER
		ELECTRIC BOX
		ELECTRIC METER
		GAS METER
		GAS VALVE
TCB	TCB	TRAFFIC CONTROL BOX
TSP	TSP	TRAFFIC SIGNAL POST
		UNDERGROUND GAS LINE MARKER
		TELEPHONE RISER
		GRATE INLET
	CIP	CURB INLET (SIZE VARIES)
	GT	GREASE TRAP (SIZE VARIES)
SS		STORMSEWER LINE
W	XX"W	WATER LINE
FIRE	XX"FL	FIRE LINE
WW	XX"WW	WASTEWATER LINE
WW LAT	X"WW	WASTEWATER LATERAL LINE
G	G	GAS LINE
UGE	UGE	UNDERGROUND ELECTRIC LINE
OE	OE	OVERHEAD ELECTRIC
UT	UT	UNDERGROUND TELEPHONE
UC	UC	UNDERGROUND CABLE AND INTERNET
TC	TC	TELECOMMUNICATIONS LINE
EMH	EMH	ELECTRIC MANHOLE (SIZE VARIES)
WWMH	WWMH	WASTEWATER MANHOLE (SIZE VARIES)
SSMH	SSMH	STORMSEWER MANHOLE (SIZE VARIES)
TMH	TMH	TELEPHONE MANHOLE (SIZE VARIES)
CO	CO	WASTEWATER CLEANOUT
		CURB & GUTTER
		EDGE OF PAVEMENT
		FENCE
	D	DUMPSTER
		CONCRETE SIDEWALKS
		WALL
DESC		TREE TO REMAIN
DESC		TREE TO BE REMOVED
		TREE PROTECTION
		SILT FENCE
		LIMITS OF CONSTRUCTION
		ROCK BERM
	IP	INLET PROTECTION
		STABILIZED CONSTRUCTION ENTRANCE
		CONCRETE WASHOUT PIT
		DIRECTION OF FLOW
678	678	CONTOUR
785.50	785.00	SPOT ELEVATION
		CONCRETE PAVEMENT
		ASPHALT PAVEMENT
		SWALE

DRAINAGE AREA (A) 0.809 ACRES

NOTE: MORE THAN 10 ACRES WITHIN A COMMON DRAINAGE AREA WILL NOT BE DISTURBED.
THE ENTIRE SITE IS LOCATED WITHIN ZONE X, DEFINED BY FEMA MAP # 4809C0435F TO BE LOCATED OUTSIDE THE 100 YEAR FLOODPLAIN.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

Klove ENGINEERING
Site Development Engineering Services
(210) 485-5683
www.klovengineering.com

STATE OF TEXAS
KEVIN WILLIAM LOVE
93563
LICENSED PROFESSIONAL ENGINEER
3/4/10

DATE

REVISIONS:

OWNER/DEVELOPER:
DR. LARRY LAYFIELD
230 HUNTERS VILLAGE
NEW BRAUNFELS, TX 78132

PROJECT:
230 HUNTERS VILLAGE
SHELL BUILDING
230 HUNTERS VILLAGE
SAN ANTONIO, TEXAS

DRAINAGE AREA MAP

DESIGNED BY:	KWL
DRAWN BY:	JMM
SCALE:	1"=20
DATE:	01/18/10
SHEET NO.	C1.0

Date: Mar 04, 2010, 4:02pm User ID: Ruben
File: Z:\Projects\Layfield - 230 Hunters Creek\CED\DRAINAGE AREA MAP.dwg

ATTACHMENT I

Inspections and Maintenance for BMPs

The designated and qualified person(s) shall inspect the Pollution Control Measures weekly and within 24 hours after a storm event. A report that summarizes the inspections scope, name and qualification of person(s) conducting the inspection, date of inspection, any actions taken as a result of inspection, and observations shall be recorded and maintained for a period of three years after the date of the inspection as part of the Storm Water TPDES data. A copy of the Inspection Report Form is provided in this Storm Water Pollution Prevention Plan.

The inspector shall observe the following as a minimum:

1. Significant disturbed areas for evidence of erosion
2. Storage areas for evidence of leakage from the exposed stored materials
3. Structural controls for evidence of failure or excess siltation
    a. Rock berms
    b. Silt fences
    c. Drainage swales
    d. Inlet protection
    e. Sediment over 6 inches
    f. Outlet structures (ponds or basins outfalls)
4. Construction entrance/exit for evidence of off-site sediment tracking
5. Construction staging areas for evidence of vehicle leakage or spills
6. Concrete truck washout pit for signs of failure
7. Basin erosion or sediment buildup

Any deficiencies noted during the inspection will be corrected and documented within seven (7) calendar days following the inspection or before the next anticipated storm event.

Contractor shall review Sections 1.3 and 1.4 of the TCEQ Technical Guidance Manual for any additional BMP maintenance and inspection requirements.

230 HUNTERS VILLAGE - SHELL BUILDING
TEMPORARY STORMWATER SECTION

Pollution Prevention Measure	Inspected	Corrective Action	
		Description	Date Completed
Revegetation			
Erosion/sediment controls			
Construction exits			
Construction staging areas			
Concrete washout pit			
Construction debris/litter			
Trash receptacles			
Infrastructure			
Roadway clearing			
Utility clearing			
Roadway grading			
Utility construction			
Drainage construction			
Roadway base			
Roadway surface			
Pad clearing			
Pad grading			
Foundation construction			
Building construction			
Site grading			
Site cleanup			
BMPs			
Other Measures			

By my signature below, I certify that all items are acceptable and the project site is in compliance with the SWPPP.

Inspector's Name

Inspector's Signature

Name of Owner/Operator (Firm)

Date

*Inspector to attach statement of qualifications to this report.

K Love ENGINEERING

230 HUNTERS VILLAGE - SHELL BUILDING
TEMPORARY STORMWATER SECTION

PROJECT DATES AND ACTIVITIES

Date and description when major site grading occurs

Construction Activity	Date

Date and description when construction activities temporarily or permanently cease

Construction Activity	Date

Date and description of stabilization measures used

Stabilization Activity	Date

K Love ENGINEERING

ATTACHMENT J

Schedule of Interim and Permanent Soil Stabilization

During construction, existing vegetation shall be protected as much as possible.

Soil stabilization shall commence when construction activities have ceased for that area.

Permanent Stabilization

- All slopes for the site shall not exceed a slope of 3:1 to allow for vegetation to be established without extra support or matting. Stabilization will occur when construction activities have been completed and will not resume.
- Areas within islands and curbs shall be re-vegetated in accordance to the landscaping plan. Re-vegetation will occur when described in the landscaping plan or when vegetation will not be harmed from future construction activities.

Permanent Stormwater Section
for Regulated Activities
on the Edwards Aquifer Recharge Zone
and Relating to 30 TAC §213.5(b)(4)(C), (D)(Ii), (E), and (5), Effective June 1, 1999

REGULATED ENTITY NAME: 230 Hunters Village - Shell Building

Permanent best management practices (BMPs) and measures that will be used during and after construction is completed.

1. _x_ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.

2. _x_ These practices and measures have been designed, and will be constructed, operated, and maintained to insure that 80% of the incremental increase in the annual mass loading of total suspended solids (TSS) from the site caused by the regulated activity is removed. These quantities have been calculated in accordance with technical guidance prepared or accepted by the executive director.

   _x_ The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

   ___ A technical guidance other than the TCEQ TGM was used to design permanent BMPs and measures for this site. The complete citation for the technical guidance that was used is provided below:

   _____

   _____

3. _x_ Owners must insure that permanent BMPs and measures are constructed and function as designed. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the appropriate regional office within 30 days of site completion.

4. N/A Where a site is used for low density single-family residential development and has 20 % or less impervious cover, other permanent BMPs are not required. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

   ___ This site will be used for low density single-family residential development and has 20% or less impervious cover.

   ___ This site will be used for low density single-family residential development but has more than 20% impervious cover.

   _x_ This site will not be used for low density single-family residential development.

5. N/A The executive director may waive the requirement for other permanent BMPs for multi-family residential developments, schools, or small business sites where 20% or less impervious cover is used at the site. This exemption from permanent BMPs must be recorded in the county deed records, with a notice that if the percent impervious cover increases above 20% or land use changes, the exemption for the whole site as described in the property boundaries required by 30 TAC §213.4(g) (relating to Application Processing and Approval), may no longer apply and the property owner must notify the appropriate regional office of these changes.

N/A **ATTACHMENT A - 20% or Less Impervious Cover Waiver.** This site will be used for multi-family residential developments, schools, or small business sites and has 20% or less impervious cover. A request to waive the requirements for other permanent BMPs and measures is found at the end of this form.

__ This site will be used for multi-family residential developments, schools, or small business sites but has more than 20% impervious cover.

_x_ This site will not be used for multi-family residential developments, schools, or small business sites.

6. **ATTACHMENT B - BMPs for Upgradient Stormwater.**

_x_ A description of the BMPs and measures that will be used to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site is identified as **ATTACHMENT B** at the end of this form.

__ If no surface water, groundwater or stormwater originates upgradient from the site and flows across the site, an explanation is provided as **ATTACHMENT B** at the end of this form.

__ If permanent BMPs or measures are not required to prevent pollution of surface water, groundwater, or stormwater that originates upgradient from the site and flows across the site, an explanation is provided as **ATTACHMENT B** at the end of this form.

7. **ATTACHMENT C - BMPs for On-site Stormwater.**

_x_ A description of the BMPs and measures that will be used to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff from the site is identified as **ATTACHMENT C** at the end of this form.

__ If permanent BMPs or measures are not required to prevent pollution of surface water or groundwater that originates on-site or flows off the site, including pollution caused by contaminated stormwater runoff, an explanation is provided as **ATTACHMENT C** at the end of this form.

8. _x_ **ATTACHMENT D - BMPs for Surface Streams.** A description of the BMPs and measures that prevent pollutants from entering surface streams, sensitive features, or the aquifer is provided at the end of this form. Each feature identified in the Geologic Assessment as "sensitive" has been addressed.

9. N/A The applicant understands that to the extent practicable, BMPs and measures must maintain flow to naturally occurring sensitive features identified in either the geologic assessment, executive director review, or during excavation, blasting, or construction.

__ The permanent sealing of or diversion of flow from a naturally-occurring "sensitive" or "possibly sensitive" feature that accepts recharge to the Edwards Aquifer as a permanent pollution abatement measure has not been proposed for any naturally-occurring "sensitive" or "possibly sensitive" features on this site.

__ **ATTACHMENT E - Request to Seal Features.** A request to seal a naturally-occurring "sensitive" or "possibly sensitive" feature, that includes a justification as to why no reasonable and practicable alternative exists, is found at the end of this form. A request and justification has been provided for each feature.

10. _x_ **ATTACHMENT F - Construction Plans.** Construction plans and design calculations for the proposed permanent BMPs and measures have been prepared by or under the direct supervision of a Texas Licensed Professional Engineer. All construction plans and design information have been signed, sealed, and dated by the Texas Licensed Professional Engineer. Construction plans for the proposed permanent BMPs and measures are provided at the end of this form. Design Calculations, TCEQ

Construction Notes, all man-made or naturally occurring geologic features, all proposed structural measures, and appropriate details must be shown on the construction plans.

11. _x_ **ATTACHMENT G - Inspection, Maintenance, Repair and Retrofit Plan.** A plan for the inspection, maintenance, repair, and, if necessary, retrofit of the permanent BMPs and measures is provided at the end of this form. The plan has been prepared and certified by the engineer designing the permanent BMPs and measures. The plan has been signed by the owner or responsible party. The plan includes procedures for documenting inspections, maintenance, repairs, and, if necessary, retrofits as well as a discussion of record keeping procedures.

12. _x_ The TCEQ Technical Guidance Manual (TGM) was used to design permanent BMPs and measures for this site.

__ Pilot-scale field testing (including water quality monitoring) may be required for BMPs that are not contained in technical guidance recognized by or prepared by the executive director.

N/A **ATTACHMENT H - Pilot-Scale Field Testing Plan.** A plan for pilot-scale field testing is provided at the end of this form.

13. _x_ **ATTACHMENT I -Measures for Minimizing Surface Stream Contamination.** A description of the measures that will be used to avoid or minimize surface stream contamination and changes in the way in which water enters a stream as a result of the construction and development is provided at the end of this form. The measures address increased stream flashing, the creation of stronger flows and in-stream velocities, and other in-stream effects caused by the regulated activity which increase erosion that results in water quality degradation.

Responsibility for maintenance of permanent BMPs and measures after construction is complete.

14. _x_ The applicant is responsible for maintaining the permanent BMPs after construction until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property (such as without limitation, an owner's association, a new property owner or lessee, a district, or municipality) or the ownership of the property is transferred to the entity. Such entity shall then be responsible for maintenance until another entity assumes such obligations in writing or ownership is transferred.

15. _x_ A copy of the transfer of responsibility must be filed with the executive director at the appropriate regional office within 30 days of the transfer if the site is for use as a multiple single-family residential development, a multi-family residential development, or a non-residential development such as commercial, industrial, institutional, schools, and other sites where regulated activities occur.

To the best of my knowledge, the responses to this form accurately reflect all information requested concerning the proposed regulated activities and methods to protect the Edwards Aquifer. This **PERMANENT STORMWATER SECTION** is hereby submitted for TCEQ review and executive director approval. The application was prepared by:

Larry Layfield
Print Name of Customer/Agent

Larry L Layfield ms
Signature of Customer/Agent

2-22-10
Date

ATTACHMENT A

20% or Less Impervious Cover Waiver

This site will not be used for multi-family residential developments and will have an impervious cover value greater than 20%.

ATTACHMENT B

BMPs for Upgradient Stormwater

Upgradient water will cross the site as shown with the Comal county aerial contours. This water will be redirected to flow around the site's disturbed areas with shallow swales. The runoff will flow off the site and over the curb and onto Hunters Village road. The water then flows off of Hunters Village road through the curb opening and down a concrete channel.

ATTACHMENT C

BMPs for On-Site Stormwater

The Hunters Village project will have a single drainage area consisting of 0.809 acres and have impervious cover as previously discussed. The buildings and parking areas will drain to a single outfall which will drain into the treatment BMP. There will be a single onsite treatment pond consisting of a Contech Vortech. The design of this basin is in accordance with the TCEQ Technical Guidance manual (TGM)and will comply with 30 TAC Chapter 213 requirements to remove at least 80% of the increase in TSS from development. Areas that do not drain onto the parking lot will be vegetated as landscape areas and allowed to drain off the site.

ATTACHMENT D

BMPs for Surface Streams

The Hunters Village project does not have surface streams or sensitive features within the boundaries of the site.

ATTACHMENT E

Request to Seal Features

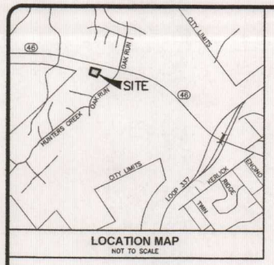
There are no naturally occurring sensitive features located within the boundaries of the site.

ATTACHMENT F

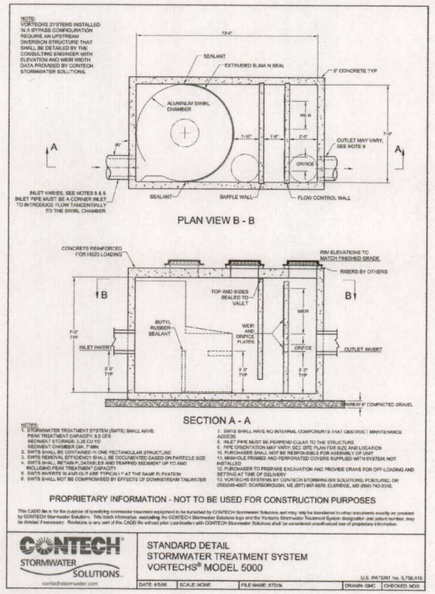
Site Plan sheet C1.0 size 11x17 is attached on the following pages, full size sheet is attached at the end of the plan.

SWPPP sheet C2.0 size 11x17 is attached on the following pages, full size sheet is attached at the end of the plan.

TCEQ TSS Removal Calculations are attached on the following page.



LOCATION MAP
NOT TO SCALE



NOTES
1. STORMWATER TREATMENT SYSTEM (SWTS) SHALL HAVE PEAK TREATMENT CAPACITY AS CFS
PRIMARY CHAMBER DIA. TURN
SECONDARY CHAMBER DIA. TURN
2. SWTS SHALL BE CONTAINED IN ONE RECTANGULAR STRUCTURE
3. SWTS REMOVAL EFFICIENCY SHALL BE DOCUMENTED BASED ON PARTICLE SIZE
4. SWTS SHALL RETAIN PLTATABLE AND TRAPPED SEDIMENT UP TO AND INCLUDING THE WATER QUALITY VOLUME
5. SWTS INVERTS IN AND OUT TYPICALLY AT THE SAME ELEVATION
6. SWTS SHALL NOT BE COMPROMISED BY EFFECTS OF DOWNSTREAM TAILWATER
7. SWTS SHALL HAVE NO INTERNAL COMPONENTS THAT OBSTRUCT MAINTENANCE ACCESS
8. INLET PIPE MUST BE PERPENDICULAR TO THE STRUCTURE
9. INLET CONFIGURATION MAY VARY. SEE SITE PLAN FOR SIZE AND LOCATION
10. PURCHASER SHALL NOT BE RESPONSIBLE FOR UNLOADING OF EQUIPMENT
11. MANHOLE FRAMES AND PERFORATED COVERS SUPPLIED WITH SYSTEM, NOT INSTALLED
12. PURCHASER TO PREPARE EXCAVATION AND PROVIDE CRANE FOR OFF-LOADING AND SETTING AT TIME OF DELIVERY
13. VORTECHS SYSTEMS BY CONTECH STORMWATER SOLUTIONS, PORTLAND, OR (800)240-4637, SCARBOROUGH, ME (877) 897-8616, CLARKSVILLE, MD (866) 740-3316.

PROPRIETARY INFORMATION - NOT TO BE USED FOR CONSTRUCTION PURPOSES

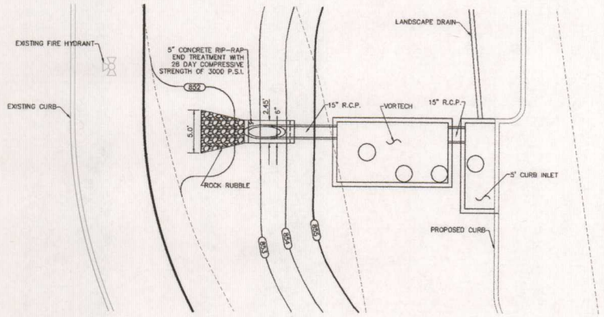
This CADD file is for the purpose of specifying stormwater treatment equipment to be furnished by CONTECH Stormwater Solutions and may only be transferred to other documents exactly as created by CONTECH Stormwater Solutions. This blank information, excluding the CONTECH Stormwater Solutions logo and the Vortechs Stormwater Treatment System designation and patent number, may be shared if necessary. Revisions to any part of the CADD file without prior coordination with CONTECH Stormwater Solutions shall be considered unauthorized use of proprietary information.

CONTECH STORMWATER SOLUTIONS
contechstormwater.com

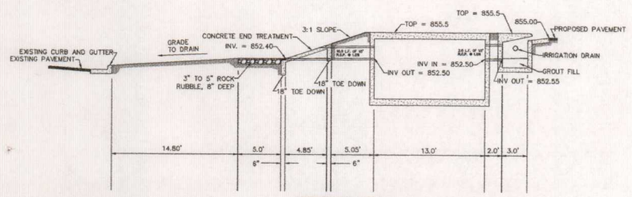
STANDARD DETAIL
STORMWATER TREATMENT SYSTEM
VORTECHS® MODEL 5000

DATE: 4/5/06	SCALE: NONE	FILE NAME: STD7A	DRAWN: GMC	CHECKED: MDG

U.S. PATENT No. 5,759,415

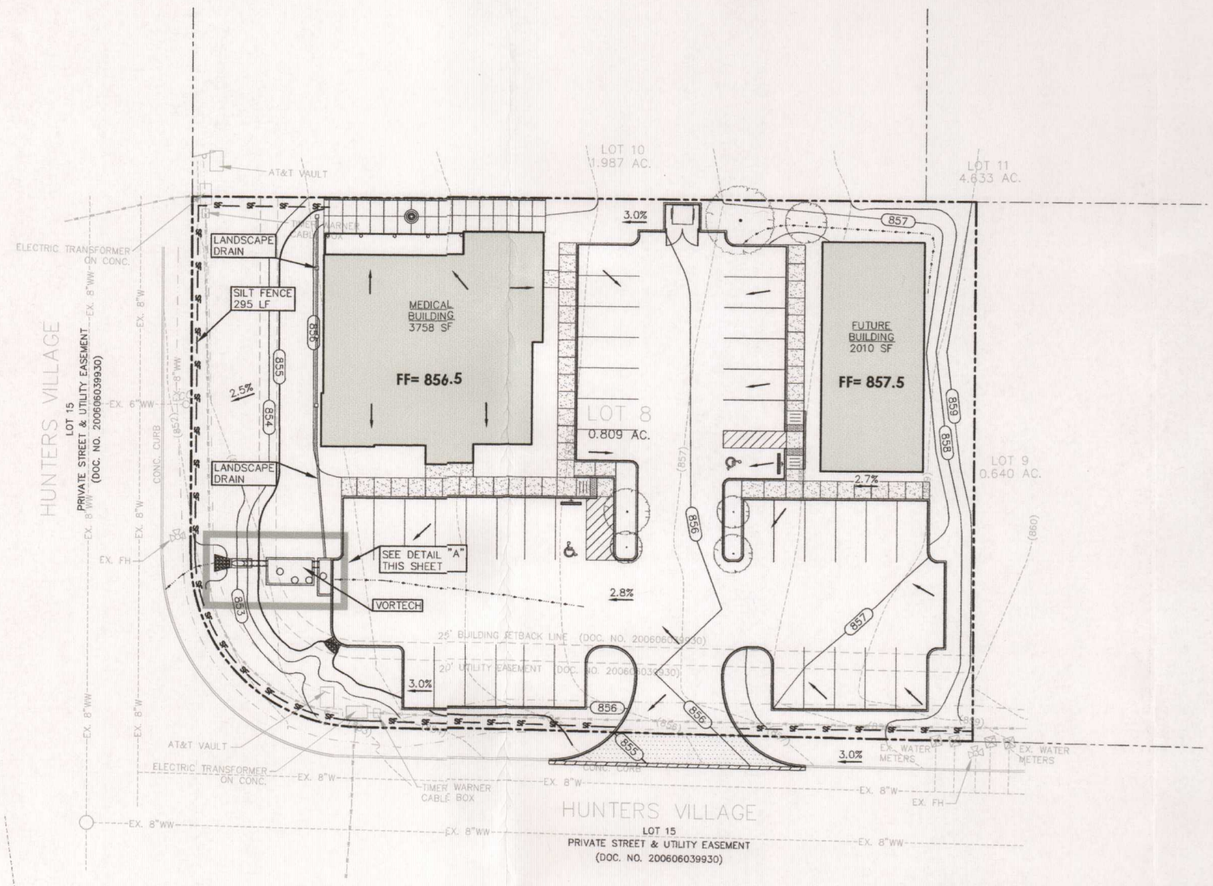


PLAN VIEW



SECTION VIEW

DETAIL "A"
NOT TO SCALE



SCALE: 1"=20'
20 10 0 20

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		PROPERTY (R.O.W.) LINE / SUBDIVISION BOUNDARY
		ADJACENT PROPERTY
(000)		RECORD INFORMATION
		LIGHT POLE
		POWER POLE
		DOWN GUY
	T	TRANSFORMER (SIZE VARIES)
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		WATER VALVE
		WATER METER
	WM	WATER METER VAULT
		WATER MANHOLE
		TELEPHONE RISER
		CABLE TV RISER
		ELECTRIC BOX
		ELECTRIC METER
		GAS METER
		GAS VALVE
	TCB	TRAFFIC CONTROL BOX
	TSP	TRAFFIC SIGNAL POST
		UNDERGROUND GAS LINE MARKER
		TELEPHONE RISER
		GRATE INLET
	CI	CURB INLET (SIZE VARIES)
		GREASE TRAP (SIZE VARIES)
		STORMSEWER LINE
	XX"W	WATER LINE
	XX"FL	FIRE LINE
	XX"WW	WASTEWATER LINE
	XX"WW	WASTEWATER LATERAL LINE
	G	GAS LINE
	UGE	UNDERGROUND ELECTRIC LINE
	OE	OVERHEAD ELECTRIC
	UT	UNDERGROUND TELEPHONE
	UC	UNDERGROUND CABLE AND INTERNET
	TC	TELECOMMUNICATIONS LINE
	EMH	ELECTRIC MANHOLE (SIZE VARIES)
	WWMH	WASTEWATER MANHOLE (SIZE VARIES)
	SSMH	STORMSEWER MANHOLE (SIZE VARIES)
	TMH	TELEPHONE MANHOLE (SIZE VARIES)
	CO	WASTEWATER CLEANOUT
		CURB & GUTTER
		EDGE OF PAVEMENT
		FENCE
	D	DUMPSTER
		CONCRETE SIDEWALKS
		WALL
DESC.		TREE TO REMAIN
DESC.		TREE TO BE REMOVED
		TREE PROTECTION
		SILT FENCE
		LIMITS OF CONSTRUCTION
		ROCK BERM
		INLET PROTECTION
		STABILIZED CONSTRUCTION ENTRANCE
		CONCRETE WASHOUT PIT
		DIRECTION OF FLOW
678	678	CONTOUR
785.50	785.00	SPOT ELEVATION
		CONCRETE PAVEMENT
		ASPHALT PAVEMENT
		SWALE

NOTE: MORE THAN 10 ACRES WITHIN A COMMON DRAINAGE AREA WILL NOT BE DISTURBED.
THE ENTIRE SITE IS LOCATED WITHIN ZONE X, DEFINED BY FEMA MAP # 48029C0435F TO BE LOCATED OUTSIDE THE 100 YEAR FLOODPLAIN.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

KLove ENGINEERING
Site Development Engineering Services
Firm No. 11042
www.kloveengineering.com (210) 485-5683

STATE OF TEXAS
KEVIN WILLIAM LOVE
93563
LICENSED PROFESSIONAL ENGINEER
3/4/10

DATE

REVISIONS:

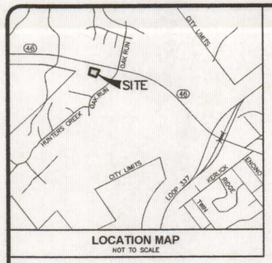
OWNER/DEVELOPER:
DR. LARRY LAYFIELD
230 HUNTERS VILLAGE
NEW BRAUNFELS, TX 78132

PROJECT:
230 HUNTERS VILLAGE
SHELL BUILDING
230 HUNTERS VILLAGE
SAN ANTONIO, TEXAS

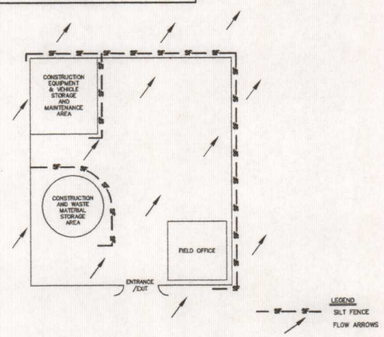
SITE PLAN

DESIGNED BY:	KWL
DRAWN BY:	JMM
SCALE:	1"=20
DATE:	01/18/10
SHEET NO.	C1.0

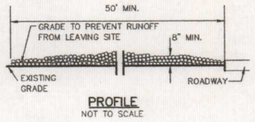
Date: Mar 04, 2010, 4:03pm User ID: Jimmy
File: Z:\Projects\Layfield - 230 Hunters Creek\TDEV\SITE PLAN.dwg



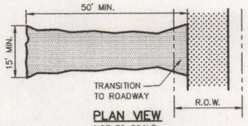
LOCATION MAP
NOT TO SCALE



CONSTRUCTION STAGING AREA DETAIL
NOT TO SCALE



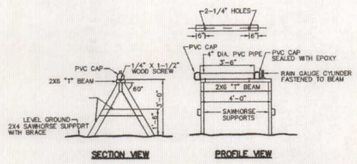
PROFILE
NOT TO SCALE



PLAN VIEW
NOT TO SCALE

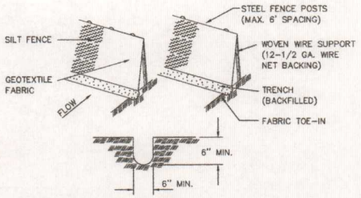
GENERAL NOTES:
1. STONE SIZE– 3 TO 5 INCH OPEN GRADED ROCK.
2. LENGTH– AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
3. THICKNESS– NOT LESS THAN 8 INCHES.
4. WIDTH– NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. WASHING– WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE– THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE– ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

STABLIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



NOTES:
1. THIS CANISTER SHALL BE USED TO STORE ALL STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND ALL OTHER RELATED DOCUMENTS SO THAT THEY ARE AVAILABLE ON SITE FOR THE INSPECTOR.
2. THIS CANISTER SHALL BE LOCATED ON SOLID LEVEL GROUND ADJACENT TO THE CONSTRUCTION ENTRANCE AS SHOWN ON THE SWPPP SHEET.

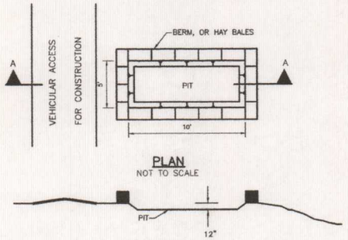
S.W.P.P.P. DOCUMENT CONTAINER
NOT TO SCALE



TRENCH CROSS-SECTION
NOT TO SCALE

GENERAL NOTES:
1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TREATED IN (e.g. pavement) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POSTS OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

SILT FENCE
NOT TO SCALE

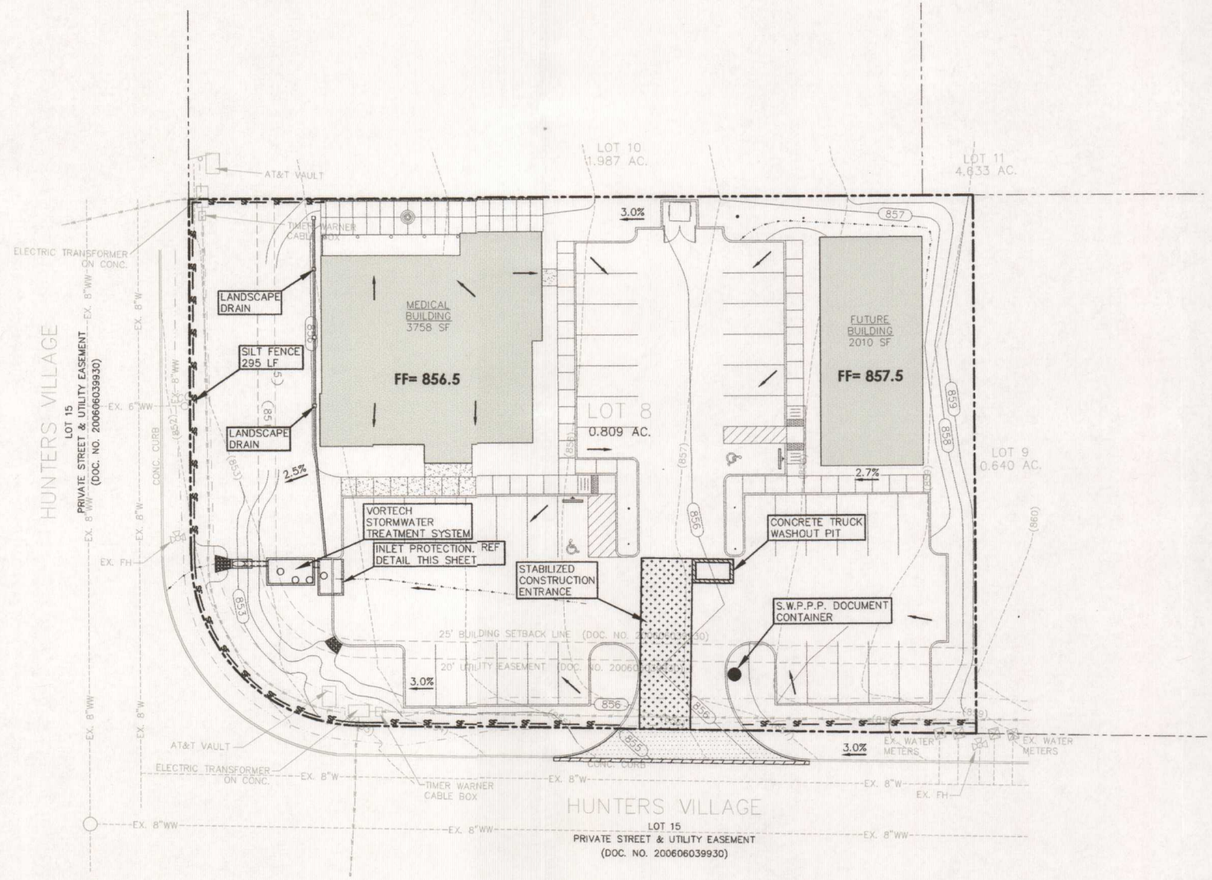


PLAN
NOT TO SCALE

SECTION A-A
NOT TO SCALE

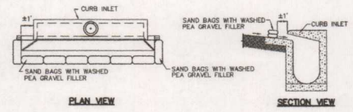
GENERAL NOTES:
1. DETAIL ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
2. IF HAY BALES ARE USED, THEY SHALL BE PLACED IN ACCORDANCE WITH DETAILS SHOWN ON EXHIBIT FOR HAY BALES.
3. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
4. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.

CONCRETE TRUCK WASHOUT PIT
NOT TO SCALE



LEGEND

EXISTING	PROPOSED	DESCRIPTION
		PROPERTY (R.O.W.) LINE/ SUBDIVISION BOUNDARY
		ADJACENT PROPERTY
(XXX)		RECORD INFORMATION
		LIGHT POLE
		POWER POLE
		DOWN GUY
	T	TRANSFORMER (SIZE VARIES)
		FIRE HYDRANT
		WATER VALVE
		WATER METER
	WM	WATER METER VAULT
		WATER MANHOLE
		TELEPHONE RISER
		CABLE TV RISER
		ELECTRIC BOX
		ELECTRIC METER
		GAS METER
		GAS VALVE
	TCB	TRAFFIC CONTROL BOX
	TSP	TRAFFIC SIGNAL POST
		UNDERGROUND GAS LINE MARKER
		TELEPHONE RISER
		GRATE INLET
		CURB INLET (SIZE VARIES)
	GT	GREASE TRAP (SIZE VARIES)
		STORMSEWER LINE
	XX"W	WATER LINE
	XX"FL	FIRE LINE
	XX"WW	WASTEWATER LINE
	XX"WL	WASTEWATER LATERAL LINE
	G	GAS LINE
	UGE	UNDERGROUND ELECTRIC LINE
	OE	OVERHEAD ELECTRIC
	UT	UNDERGROUND TELEPHONE
	UC	UNDERGROUND CABLE AND INTERNET
	TC	TELECOMMUNICATIONS LINE
	EMH	ELECTRIC MANHOLE (SIZE VARIES)
	WWMH	WASTEWATER MANHOLE (SIZE VARIES)
	SSMH	STORMSEWER MANHOLE (SIZE VARIES)
	TMH	TELEPHONE MANHOLE (SIZE VARIES)
	CO	WASTEWATER CLEANOUT
		CURB & GUTTER
		EDGE OF PAVEMENT
		FENCE
	D	DUMPSTER
		CONCRETE SIDEWALKS
		WALL
		TREE TO REMAIN
		TREE TO BE REMOVED
		TREE PROTECTION
		SILT FENCE
		LIMITS OF CONSTRUCTION
		ROCK BERM
	IP	INLET PROTECTION
		STABILIZED CONSTRUCTION ENTRANCE
		CONCRETE WASHOUT PIT
		DIRECTION OF FLOW
678	678	CONTOUR
785.50	785.00	SPOT ELEVATION
		CONCRETE PAVEMENT
		ASPHALT PAVEMENT
		SWALE



NOTES:
1. SAND BAGS SHOULD BE PLACED TIGHTLY AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN BAGS.
2. SAND BAGS SHOULD BE FILLED WITH WASHED PEA GRAVEL AND STACKED TO FORM A CONTINUOUS BARRIER APPROXIMATELY 1 FOOT IN HEIGHT, APPROXIMATELY 1 FOOT FROM THE INLET OPENING.
3. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT.
4. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES.
5. STRUCTURES CAN BE REMOVED WHEN THE REMAINING DRAINAGE AREA CONSTRUCTION HAS CEASED AND THE AREA HAS BEEN PROPERLY STABILIZED.

CURB INLET PROTECTION
NOT TO SCALE

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

Kove ENGINEERING
Site Development Engineering Services
Firm No. 11042 (210) 485-5683
www.kovengineering.com

STATE OF TEXAS
KEVIN WILLIAM LOVE
93563
LICENSED
PROFESSIONAL ENGINEER
3/4/10

DATE
REVISIONS:

OWNER/DEVELOPER:
DR. LARRY LAYFIELD
230 HUNTERS VILLAGE
NEW BRAUNFELS, TX 78132

PROJECT:
230 HUNTERS VILLAGE SHELL BUILDING
230 HUNTERS VILLAGE
SAN ANTONIO, TEXAS

STORMWATER POLLUTION PREVENTION PLAN

DESIGNED BY: KWL
DRAWN BY: JMM
SCALE: 1"=20
DATE: 01/18/10
SHEET NO: C1.0

Date: Mar 04, 2010, 4:01pm User ID: Jimmy
File: Z:\Projects\Layfield - 230 Hunters Creek\TCEQ\SWPPPI.dwg

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Additional information is provided for cells with a red triangle in the upper right corn
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields. Changes to these fields will

1. The Required Load Reduction for the total project: Calculations from RG-348

Page 3-29 Equation 3.3: $L_M = 27.2(A_N \times P)$

where:

$L_{M\ TOTAL\ PROJECT}$ = Required TSS removal resul
A_N = Net increase in impervious a
P = Average annual precipitation

Site Data: Determine Required Load Removal Based on the Entire Project

County =	**Bexar**	
Total project area included in plan * =	**0.81**	acres
Predevelopment impervious area within the limits of the plan * =	**0.00**	acres
Total post-development impervious area within the limits of the plan* =	**0.51**	acres
Total post-development impervious cover fraction * =	**0.63**	
P =	**30**	inches
$L_{M\ TOTAL\ PROJECT}$ =	**416**	lbs.

* **The values entered in these fields should be for the total project area.**

Number of drainage basins / outfalls areas leaving the plan area = **1**

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No. = 1

Total drainage basin/outfall area =	**0.66**	acres
Predevelopment impervious area within drainage basin/outfall area =	**0.00**	acres
Post-development impervious area within drainage basin/outfall area =	**0.51**	acres
Post-development impervious fraction within drainage basin/outfall area =	**0.77**	
$L_{M\ THIS\ BASIN}$ =	**416**	lbs.

3. Indicate the proposed BMP Code for this basin.

Proposed BMP = **Vortechs**
Removal efficiency = **0** percent

THEREFORE, THE NET LOAD REMOVAL WOULD BE:
(A_I AND A_P VALUES ARE FROM SECTION 3 ABOVE)

$L_R = E_{TOT}$ X P X (A_I X 34.6 X A_P X0.54) = 538.22 lbs

20. Stormceptor

Required TSS Removal in BMP Drainage Area=	**NA**	lbs
Impervious Cover Overtreatment=	0.0000	ac
TSS Removal for Uncaptured Area =	0.00	lbs

BMP Sizing

Effective Area =	NA	EA
Calculated Model Size(s) =	#N/A	
Actual Model Size (if multiple values provided in Calculated Model Size or if you are choosing a larger model size) =	0	Model Size
Surface Area =	#N/A	ft^2
Overflow Rate =	#VALUE!	V_{or}
Rounded Overflow Rate =	#VALUE!	V_{or}
BMP Efficiency % =	#VALUE!	%
L_R Value =	#VALUE!	lbs
TSS Load Credit =	#VALUE!	lbs
Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.)	#VALUE!	
TSS Treatment by BMP (LM + TSS Uncapt.) =	#VALUE!	

21. Vortech

Required TSS Removal in BMP Drainage Area=	**416.16**	lbs
Impervious Cover Overtreatment=	0.0200	ac
TSS Removal for Uncaptured Area =	16.32	lbs

BMP Sizing

Effective Area =	0.46	EA
Calculated Model Size(s) =	Vx5000	
Actual Model Size (if choosing larger model size) =	Vx5000	Pick Model S
Surface Area =	38.48	ft^2
Overflow Rate =	0.013250	V_{or}
Rounded Overflow Rate =	0.013300	V_{or}
BMP Efficiency % =	83.00	%
L_R Value =	441.40	lbs
TSS Load Credit =	25.24	lbs
Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.)	Yes	

ATTACHMENT G

Inspection, Maintenance, Repair and Retrofit Plan

The following document has been prepared to provide a description and schedule for the performance of maintenance on permanent pollution abetment measures. Maintenance measures to be performed will vary depending on permanent pollution abatement measures contained by the project. The project's water pollution abatement plan should be reviewed to determine what permanent pollution abatement measures are incorporated in the project.

It should also be noted that the timing and procedures presented herein are general guidelines, adjustment to the timing and procedures may vary depending on project's specific characteristics as well as weather related conditions.

Where a project is occupied by the owner, the owner may provide for maintenance with his own skilled forces or contract out for recommended maintenance of Permanent Best Management Practices. Where a project is occupied or leased by a tenant, the owner shall require tenants to contract for such maintenance services either through a lease agreement, property owners association covenants, or other binding document.

I understand that I am responsible for maintenance of all Permanent Pollution Abatement Measures included in this project until such time as the maintenance obligation is either assumed in writing by another entity having ownership or control of the property or ownership is transferred.

I, the owner, have read and understand the requirements of the attached Maintenance Plan and Schedule.

Tony L. Layhill MD

Signature

2-22-10

Date

INSPECTION SCHEDULE

After Rainfall	Biannually*	Quarterly	During Construction
	1 Vortech		

* At least one biannual inspection must occur during or immediately after a wet weather event.

MAINTENANCE SCHEDULE

Note: Additional Guidance can be obtained from TCEQ's Technical Guidance Manual (TGM) RG-348 (2005) Section 3.5 or from Contech maintenance compliance certification program. (800)548-4667

1. Vortech
    a. *Inspection:* Inspections should be performed twice per year (i.e. spring and fall) however more frequent inspections may be necessary depending on site activities and weather patterns. A simple inspection and maintenance log form is provided on the following page, and is also available on contechstormwater.com. The Vortechs system should be cleaned when inspection reveals that the sediment depth has accumulated to within 12 to 18 inches (300 to 450 mm) of the dry-weather water surface elevation. This determination can be made by taking two measurements with a stadia rod or similar measuring device; one measurement from the manhole opening to the top of the sediment pile and the other from the manhole opening to the water surface. Note: To avoid underestimating the volume of sediment in the chamber, the measuring device must be carefully lowered to the top of the sediment pile. Finer, silty particles at the top of the pile typically offer less resistance to the end of the rod than larger particles toward the bottom of the pile.
    b. *Sediment Removal:* Cleaning of the Vortechs system should be done during dry weather conditions when no flow is entering the system. Cleanout of the Vortechs system with a vacuum truck is generally the most effective and convenient method of excavating pollutants from the system. In installations where the risk of petroleum spills is small, liquid contaminants may not accumulate as quickly as sediment. However, an oil or gasoline spill should be cleaned out immediately. Motor oil and other hydrocarbons that accumulate on a more routine basis should be removed when an appreciable layer has been captured. To remove these

pollutants, it may be preferable to use adsorbent pads to solidify the oil since these pads are usually much easier to remove from the unit individually and less expensive to dispose of than the oil/water emulsion that may be created by vacuuming the oily layer. Floating trash can be netted out if you wish to separate it from the other pollutants. Cleaning of a Vortechs system is typically done by inserting a vacuum hose into the swirl chamber and evacuating this chamber of water and pollutants. As water is evacuated, the water level outside of the swirl chamber will drop to a level roughly equal to the crest of the lower aperture of the swirl chamber. The water outside the swirl chamber should remain near this level throughout pumping as the bottom and sides of the swirl chamber are sealed to the tank floor and walls. This "water lock" feature prevents water from migrating into the swirl chamber, exposing the bottom of the baffle wall and creating excess pump-out volume. Floating pollutants will decant into the swirl chamber as the water level is drawn down. This allows most floating material to be withdrawn from the same access point above the swirl chamber. floating material that does not decant into the swirl chamber during draw down should be skimmed from the baffle chamber. If maintenance is not performed as recommended, sediment may accumulate outside the swirl chamber. If this is the case, it may be necessary to pump out other chambers. It is advisable to check for sediment accumulation in all chambers during inspection and maintenance. These maintenance recommendations apply to all Vortechs systems with the following exceptions:

i. It is strongly recommended that when cleaning systems larger than the Model 16000 the baffle chamber be drawn down to depth of three feet prior to beginning clean-out of the swirl chamber. Drawing down this chamber prior to the swirl chamber reduces adverse structural forces pushing upstream on the swirl chamber once that chamber is empty.
ii. Entry into a Vortechs system is generally not required as cleaning can be done from the ground surface. However, if manned entry into a system is required the entire system should be evacuated of water prior to entry regardless of the system size. Manhole covers should be securely seated following cleaning activities to prevent leakage of runoff into the system from above and also to ensure proper safety precautions. If anyone physically enters the unit, Confined Space Entry procedures need to be followed. Disposal of all material removed from the Vortechs system should be done in accordance with local regulations. In many locations, disposal of evacuated sediments may be handled in the same manner as disposal of sediments removed from catch basins or deep sump manholes. Check your local regulations for specific requirements on disposal.

For assistance with maintaining your Vortechs system, contact us regarding the CONTECH Maintenance Compliance Certification Program.

ATTACHMENT H

Pilot-scale Field Testing

This site will not have a pilot-scale field testing. The Vortech unit is in compliance with the TCEQ Guidance Manual.

ATTACHMENT I

Measures for Minimizing Surface Stream Contamination

Any discharges from the site that achieves erosive velocities will include appropriately sized energy dissipation to reduce velocities to non-erosive levels.

Any discharge from the site will flow onto Hunters Village road and down the concrete channel that was designed to minimize velocities to non erosive measures.

Agent Authorization Form
For Required Signature
Edwards Aquifer Protection Program
Relating to 30 TAC Chapter 213
Effective June 1, 1999

I Dr. Larry Layfield,
Print Name

Owner,
Title - Owner/President/Other

of GELA Partners, Ltd.,
Corporation/Partnership/Entity Name

have authorized Kevin W. Love
Print Name of Agent/Engineer

of KLove Engineering
Print Name of Firm

to represent and act on the behalf of the above named Corporation, Partnership, or Entity for the purpose of preparing and submitting this plan application to the Texas Commission on Environmental Quality (TCEQ) for the review and approval consideration of regulated activities.

I also understand that:

1. The applicant is responsible for compliance with 30 Texas Administrative Code Chapter 213 and any condition of the TCEQ's approval letter. The TCEQ is authorized to assess administrative penalties of up to $10,000 per day per violation.

2. For applicants who are not the property owner, but who have the right to control and possess the property, additional authorization is required from the owner.

3. Application fees are due and payable at the time the application is submitted. The application fee must be sent to the TCEQ cashier or to the appropriate regional office. The application will not be considered until the correct fee is received by the commission.

4. A notarized copy of the Agent Authorization Form must be provided for the person preparing the application, and this form must accompany the completed application.

Larry L Layfield
Applicant's Signature

2-25-10
Date

THE STATE OF Texas §

County of Comal §

BEFORE ME, the undersigned authority, on this day personally appeared Larry L Layfield known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 25th day of Feb. 2010.

Tina Marie Triesch
NOTARY PUBLIC

TINA MARIE TRIESCH
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: 4-13-2011

TINA MARIE TRIESCH
Notary Public
State of Texas
My Commission Expires
April 13, 2011

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program
Application Fee Form

NAME OF PROPOSED REGULATED ENTITY: 230 Hunters Village - Shell Building
REGULATED ENTITY LOCATION: 230 Hunters Village, New Braunfels Texas
NAME OF CUSTOMER: GELA Partners, Ltd.
CONTACT PERSON: Larry Layfield PHONE: 830-227-5545
(Please Print)

Customer Reference Number (if issued): CN _____ (nine digits)

Regulated Entity Reference Number (if issued): RN _____ (nine digits)

Austin Regional Office (3373) ☐ Hays ☐ Travis ☐ Williamson

San Antonio Regional Office (3362) ☐ Bexar ☒ Comal ☐ Medina ☐ Kinney ☐ Uvalde

Application fees must be paid by check, certified check, or money order, payable to the **Texas Commission on Environmental Quality**. Your canceled check will serve as your receipt. **This form must be submitted with your fee payment.** This payment is being submitted to (Check One):

☐ **Austin Regional Office**

☐ **Mailed to TCEQ**:
TCEQ – Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☒ **San Antonio Regional Office**

☐ **Overnight Delivery to TCEQ**:
TCEQ - Cashier
12100 Park 35 Circle
Building A, 3rd Floor
Austin, TX 78753
512/239-0347

Site Location (Check All That Apply): ☒ Recharge Zone ☐ Contributing Zone ☐ Transition Zone

Type of Plan	Size	Fee Due
Water Pollution Abatement Plan, Contributing Zone Plan: One Single Family Residential Dwelling	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Multiple Single Family Residential and Parks	Acres	$
Water Pollution Abatement Plan, Contributing Zone Plan: Non-residential	0.809 Acres	$3,000
Sewage Collection System	L.F.	$
Lift Stations without sewer lines	Acres	$
Underground or Aboveground Storage Tank Facility	Tanks	$
Piping System(s)(only)	Each	$
Exception	Each	$
Extension of Time	Each	$

Larry L. Layfield III
Signature

2-22-10
Date

If you have questions on how to fill out this form or about the Edwards Aquifer protection program, please contact us at 210/490-3096 for projects located in the San Antonio Region or 512/339-2929 for projects located in the Austin Region.

Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.

Texas Commission on Environmental Quality
Edwards Aquifer Protection Program
Application Fee Schedule
30 TAC Chapter 213 (effective 05/01/2008)

Water Pollution Abatement Plans and Modifications
Contributing Zone Plans and Modifications

PROJECT	PROJECT AREA IN ACRES	FEE
One Single Family Residential Dwelling	< 5	$650
Multiple Single Family Residential and Parks	< 5 5 < 10 10 < 40 40 < 100 100 < 500 ≥ 500	$1,500 $3,000 $4,000 $6,500 $8,000 $10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1 1 < 5 5 < 10 10 < 40 40 < 100 ≥ 100	$3,000 $4,000 $5,000 $6,500 $8,000 $10,000

Organized Sewage Collection Systems and Modifications

PROJECT	COST PER LINEAR FOOT	MINIMUM FEE MAXIMUM FEE
Sewage Collection Systems	$0.50	$650 - $6,500

Underground and Aboveground Storage Tank System Facility Plans and Modifications

PROJECT	COST PER TANK OR PIPING SYSTEM	MINIMUM FEE MAXIMUM FEE
Underground and Aboveground Storage Tank Facility	$650	$650 - $6,500

Exception Requests

PROJECT	FEE
Exception Request	$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	$150

1034

GELA PARTNERS, LTD.
309 SOL DEL RIO
SEGUIN, TX 78155

Date 2-22-10

30-9/1140
39

Pay to the Order of Texas Commission on Environmental Quality | $ 3,000.00

Three-thousand and no/100 Dollars

Security features are included. Details on back.

Frost
www.frostbank.com

For WPAP report

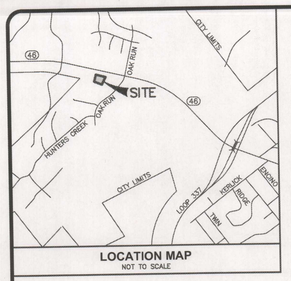
Larry L. Layfield

MP

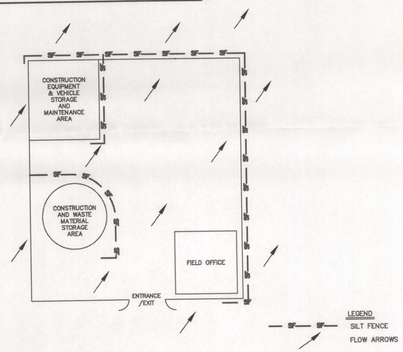
⑆114000093⑆ 1034 ⑈ 3900158 73⑈

©Clarke American

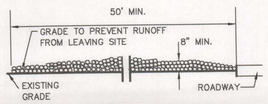
REGALC WDRG



LOCATION MAP
NOT TO SCALE



CONSTRUCTION STAGING AREA DETAIL
NOT TO SCALE

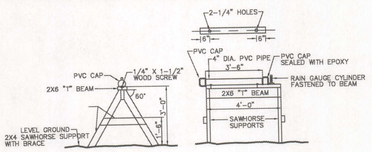


PROFILE
NOT TO SCALE

PLAN VIEW
NOT TO SCALE

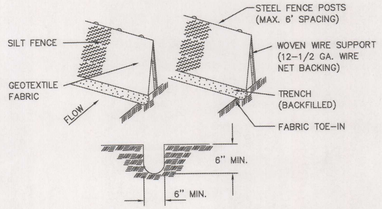
GENERAL NOTES:
1. STONE SIZE– 3 TO 5 INCH OPEN GRADED ROCK.
2. LENGTH– AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
3. THICKNESS– NOT LESS THAN 8 INCHES.
4. WIDTH– NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. WASHING– WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE– THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE– ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

STABLIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



NOTES:
1. THIS CANISTER SHALL BE USED TO STORE ALL STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND ALL OTHER RELATED DOCUMENTS SO THAT THEY ARE AVAILABLE ON SITE FOR THE INSPECTOR.
2. THIS CANISTER SHALL BE LOCATED ON SOLID LEVEL GROUND ADJACENT TO THE CONSTRUCTION ENTRANCE AS SHOWN ON THE SWPPP SHEET.

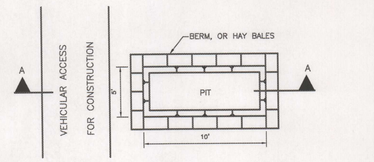
S.W.P.P.P. DOCUMENT CONTAINER
NOT TO SCALE



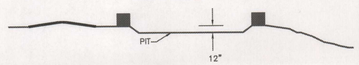
TRENCH CROSS–SECTION
NOT TO SCALE

GENERAL NOTES:
1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TREATED IN (e.g. pavement) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POSTS OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

SILT FENCE
NOT TO SCALE



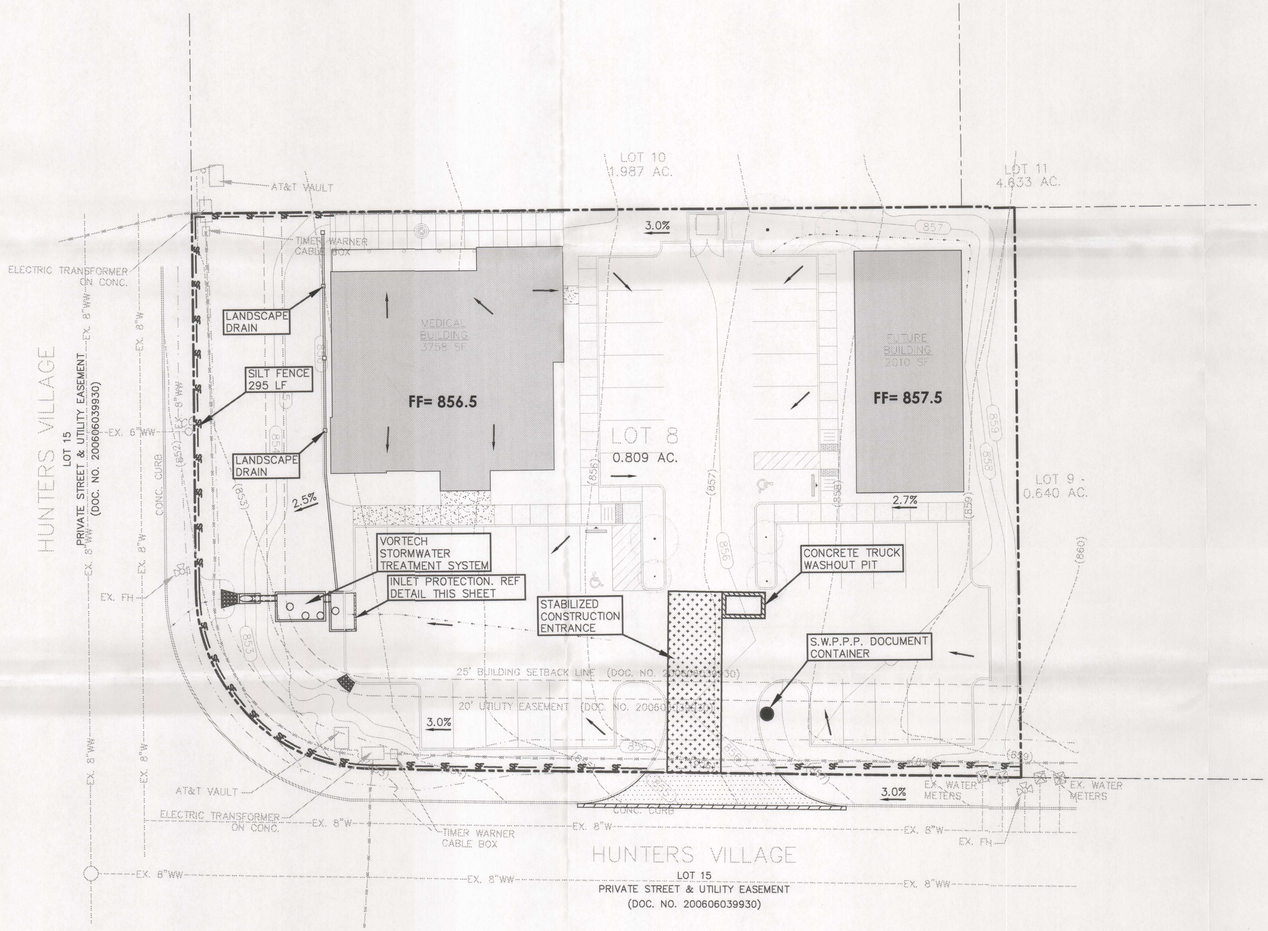
PLAN
NOT TO SCALE



SECTION A–A
NOT TO SCALE

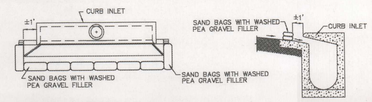
GENERAL NOTES:
1. DETAIL ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING ON EXPECTED FREQUENCY OF USE.
2. IF HAY BALES ARE USED, THEY SHALL BE PLACED IN ACCORDANCE WITH DETAILS SHOWN ON EXHIBIT FOR HAY BALES.
3. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.
4. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM STORM WATER RUNOFF.

CONCRETE TRUCK WASHOUT PIT
NOT TO SCALE



LEGEND

EXISTING	PROPOSED	DESCRIPTION
		PROPERTY (R.O.W.) LINE/ SUBDIVISION BOUNDARY
		ADJACENT PROPERTY
(000)		RECORD INFORMATION
		LIGHT POLE
		POWER POLE
		DOWN GUY
	T	TRANSFORMER (SIZE VARIES)
		FIRE HYDRANT
		WATER VALVE
		WATER METER
	WM	WATER METER VAULT
		WATER MANHOLE
		TELEPHONE RISER
		CABLE TV RISER
	E	ELECTRIC BOX
	E	ELECTRIC METER
		GAS METER
		GAS VALVE
	TCB	TRAFFIC CONTROL BOX
	TSP	TRAFFIC SIGNAL POST
		UNDERGROUND GAS LINE MARKER
		TELEPHONE RISER
		GRATE INLET
	GI	CURB INLET (SIZE VARIES)
		GREASE TRAP (SIZE VARIES)
		STORMSEWER LINE
	XX"W	WATER LINE
	XX"FL	FIRE LINE
	XX"WW	WASTEWATER LINE
	XX"WW	WASTEWATER LATERAL LINE
	G	GAS LINE
	UGE	UNDERGROUND ELECTRIC LINE
	OE	OVERHEAD ELECTRIC
	UT	UNDERGROUND TELEPHONE
	UC	UNDERGROUND CABLE AND INTERNET
	TC	TELECOMMUNICATIONS LINE
	EMH	ELECTRIC MANHOLE (SIZE VARIES)
	WWMH	WASTEWATER MANHOLE (SIZE VARIES)
	SSMH	STORMSEWER MANHOLE (SIZE VARIES)
	TMH	TELEPHONE MANHOLE (SIZE VARIES)
	CO	WASTEWATER CLEANOUT
		CURB & GUTTER
		EDGE OF PAVEMENT
		FENCE
	D	DUMPSTER
		CONCRETE SIDEWALKS
		WALL
DESC.		TREE TO REMAIN
DESC.		TREE TO BE REMOVED
		TREE PROTECTION SILT FENCE
		LIMITS OF CONSTRUCTION
		ROCK BERM
	IP	INLET PROTECTION
		STABILIZED CONSTRUCTION ENTRANCE
		CONCRETE WASHOUT PIT
678		DIRECTION OF FLOW
	678	CONTOUR
	785.00	SPOT ELEVATION
		CONCRETE PAVEMENT
		ASPHALT PAVEMENT
		SWALE



NOTES:
1. SAND BAGS SHOULD BE PLACED TIGHTLY AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING BETWEEN BAGS.
2. SAND BAGS SHOULD BE FILLED WITH WASHED PEA GRAVEL AND STACKED TO FORM A CONTINUOUS BARRIER APPROXIMATELY 1 FOOT IN HEIGHT, APPROXIMATELY 1 FOOT FROM THE INLET OPENING.
3. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL EVENT.
4. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES.
5. STRUCTURES CAN BE REMOVED WHEN THE REMAINING DRAINAGE AREA CONSTRUCTION HAS CEASED AND THE AREA HAS BEEN PROPERLY STABILIZED.

CURB INLET PROTECTION
NOT TO SCALE

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

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MAR 16 2010
COUNTY ENGINEER

"RECEIVED TCEQ"
SAN ANTONIO REGION
2011 MAR -8 AM 9:46
TCEQ REGION 13
MAR 10 2010
SAN ANTONIO

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STATE OF TEXAS
KEVIN WILLIAM LOVE
93563
LICENSED PROFESSIONAL ENGINEER
3/4/10

DATE
REVISIONS:

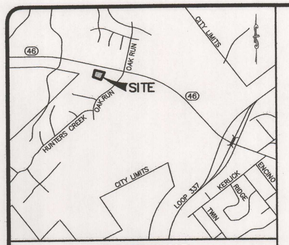
OWNER/DEVELOPER:
DR. LARRY LAYFIELD
230 HUNTERS VILLAGE
NEW BRAUNFELS, TX 78132

PROJECT:
230 HUNTERS VILLAGE
SHELL BUILDING
230 HUNTERS VILLAGE
SAN ANTONIO, TEXAS

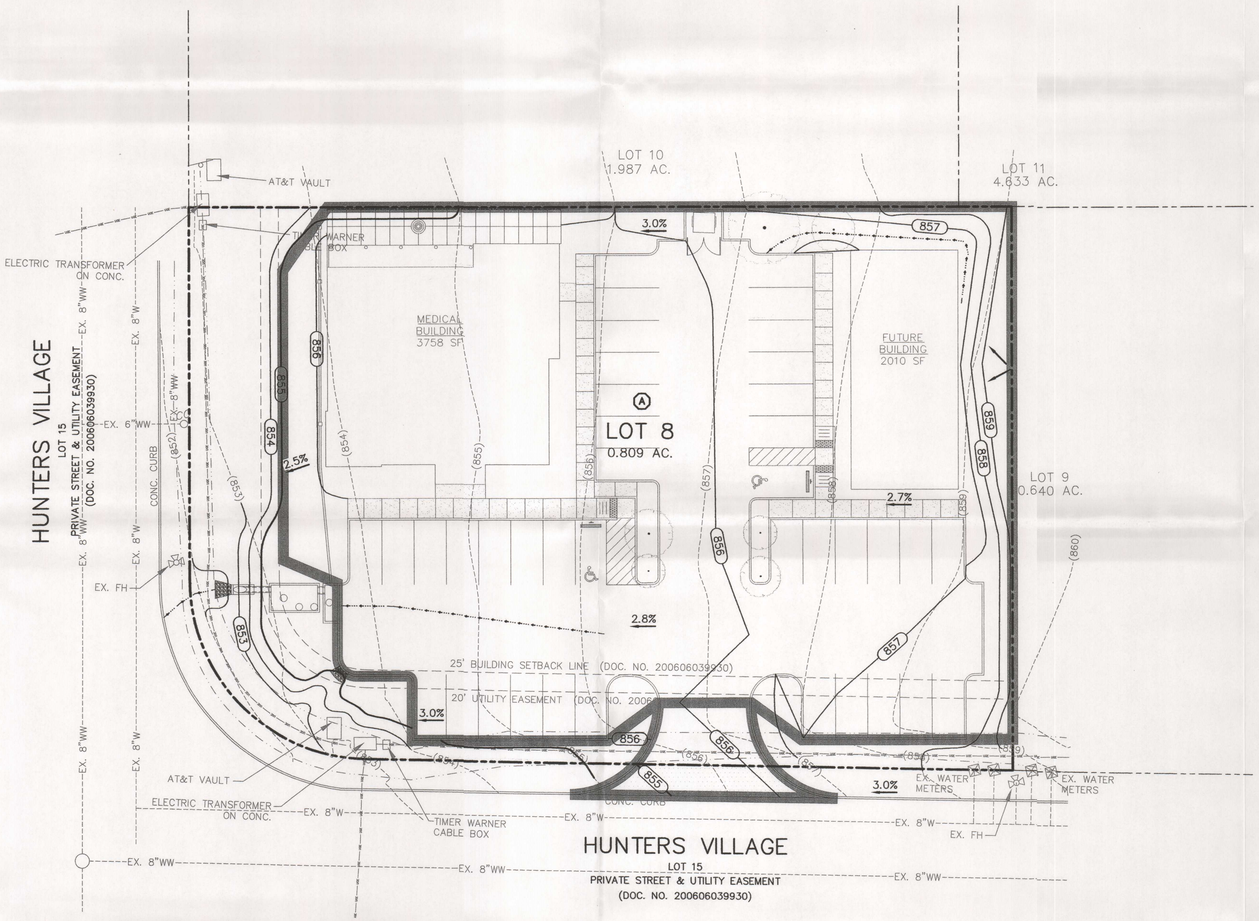
STORMWATER POLLUTION PREVENTION PLAN

DESIGNED BY: KWL
DRAWN BY: JMM
SCALE: 1"=20
DATE: 01/18/10
SHEET NO.
C1.0

Date: Mar 04, 2010, 4:01pm User ID: Jimmy
File: Z:\Projects\Layfield – 230 Hunters Creek\TCEQ\SWPPP1.dwg



LOCATION MAP
NOT TO SCALE



SCALE: 1"=20'
20 10 0 20

LEGEND

EXISTING	PROPOSED	DESCRIPTION
		PROPERTY (R.O.W.) LINE/ SUBDIVISION BOUNDARY
		ADJACENT PROPERTY
(000)		RECORD INFORMATION
☼		LIGHT POLE
⌀		POWER POLE
←		DOWN GUY
T		TRANSFORMER (SIZE VARIES)
		FIRE HYDRANT
		WATER VALVE
		WATER METER
	WM	WATER METER VAULT
WTRMH○		WATER MANHOLE
		TELEPHONE RISER
		CABLE TV RISER
		ELECTRIC BOX
		ELECTRIC METER
		GAS METER
		GAS VALVE
TCB□	TCB■	TRAFFIC CONTROL BOX
TSP○	TSP•	TRAFFIC SIGNAL POST
GMKR		UNDERGROUND GAS LINE MARKER
TRSR		TELEPHONE RISER
		GRATE INLET
	CI	CURB INLET (SIZE VARIES)
	GT	GREASE TRAP (SIZE VARIES)
SS		STORMSEWER LINE
W	XX"W	WATER LINE
FIRE	XX"FL	FIRE LINE
WW	XX"WW	WASTEWATER LINE
WW LAT	XX"WW	WASTEWATER LATERAL LINE
G	G	GAS LINE
UGE	UGE	UNDERGROUND ELECTRIC LINE
OE	OE	OVERHEAD ELECTRIC
UT	UT	UNDERGROUND TELEPHONE
UC	UC	UNDERGROUND CABLE AND INTERNET
TC	TC	TELECOMMUNICATIONS LINE
EMH○	EMH	ELECTRIC MANHOLE (SIZE VARIES)
WWMH ○	WWMH	WASTEWATER MANHOLE (SIZE VARIES)
SSMH ○	SSMH	STORMSEWER MANHOLE (SIZE VARIES)
TMH○	TMH	TELEPHONE MANHOLE (SIZE VARIES)
CO°	CO•	WASTEWATER CLEANOUT
		CURB & GUTTER
		EDGE OF PAVEMENT
		FENCE
	D	DUMPSTER
		CONCRETE SIDEWALKS
		WALL
○ DESC.		TREE TO REMAIN
○ DESC.		TREE TO BE REMOVED
		TREE PROTECTION
		SILT FENCE
		LIMITS OF CONSTRUCTION
		ROCK BERM
	IP	INLET PROTECTION
		STABILIZED CONSTRUCTION ENTRANCE
		CONCRETE WASHOUT PIT
		DIRECTION OF FLOW
678	678	CONTOUR
785.50	785.00	SPOT ELEVATION
		CONCRETE PAVEMENT
		ASPHALT PAVEMENT
		SWALE

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MAR 16 2010
COUNTY ENGINEER

DRAINAGE AREA (A) 0.66 ACRES
DRAINAGE AREA (B) 0.02 ACRES

TCEQ-EAPP
METEER
SAN ANTO

NOTE:
MORE THAN 10 ACRES WITHIN A COMMON DRAINAGE AREA WILL NOT BE DISTURBED. THE ENTIRE SITE IS LOCATED WITHIN ZONE X, DEFINED BY FEMA MAP # 48029C0435F TO BE LOCATED OUTSIDE THE 100 YEAR FLOODPLAIN.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

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(210) 485-5683

STATE OF TEXAS
KEVIN WILLIAM LOVE
93563
LICENSED
PROFESSIONAL ENGINEER
3/4/10

DATE

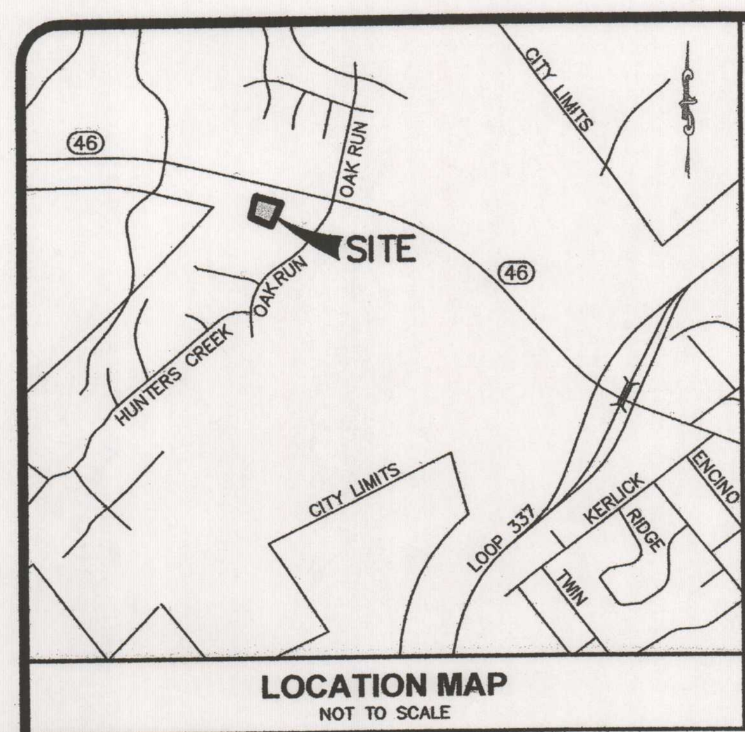
REVISIONS:

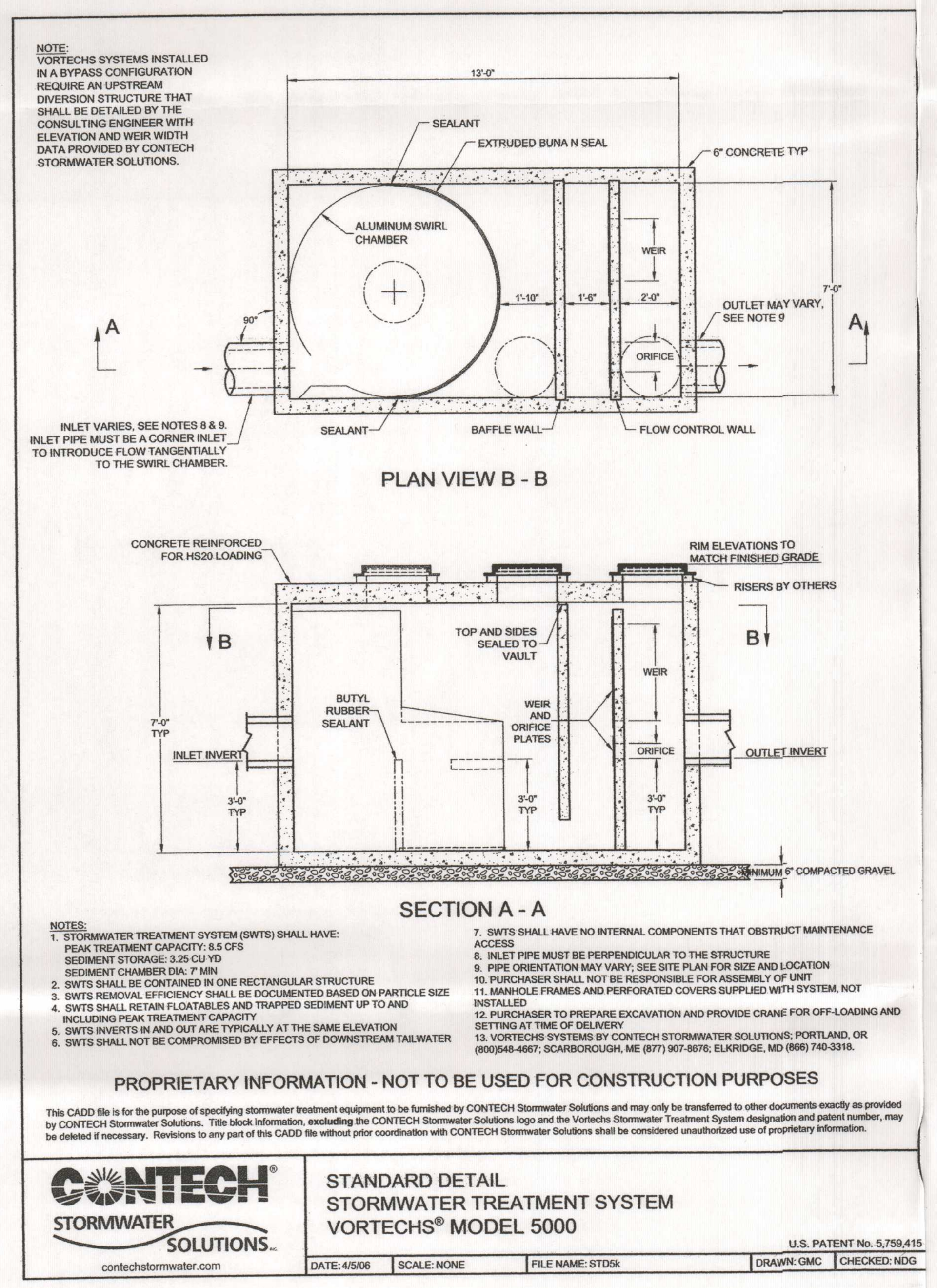
OWNER/DEVELOPER:
DR. LARRY LAYFIELD
230 HUNTERS VILLAGE
NEW BRAUNFELS, TX 78132

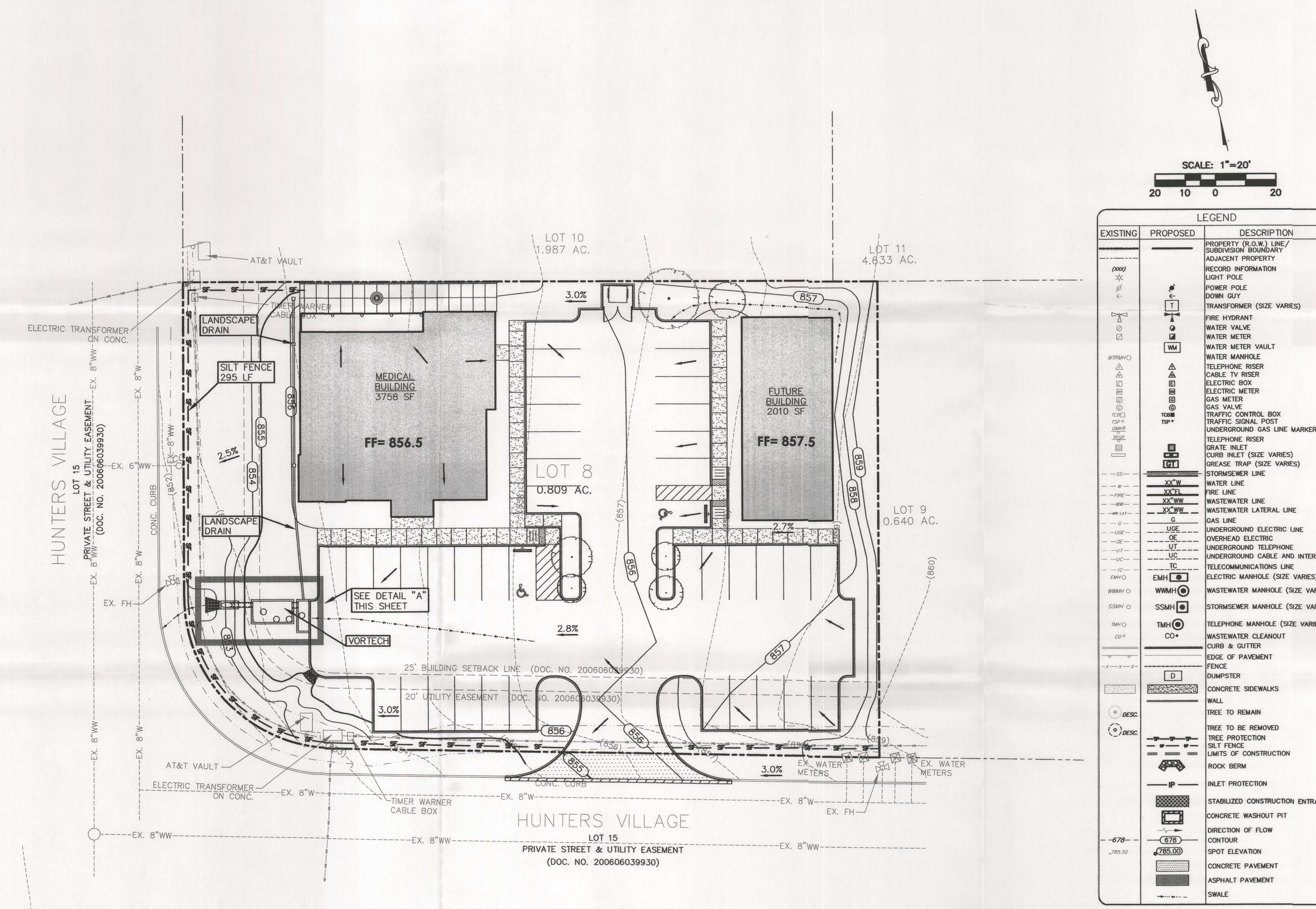
PROJECT:
230 HUNTERS VILLAGE
SHELL BUILDING
230 HUNTERS VILLAGE
SAN ANTONIO, TEXAS
DRAINAGE AREA MAP

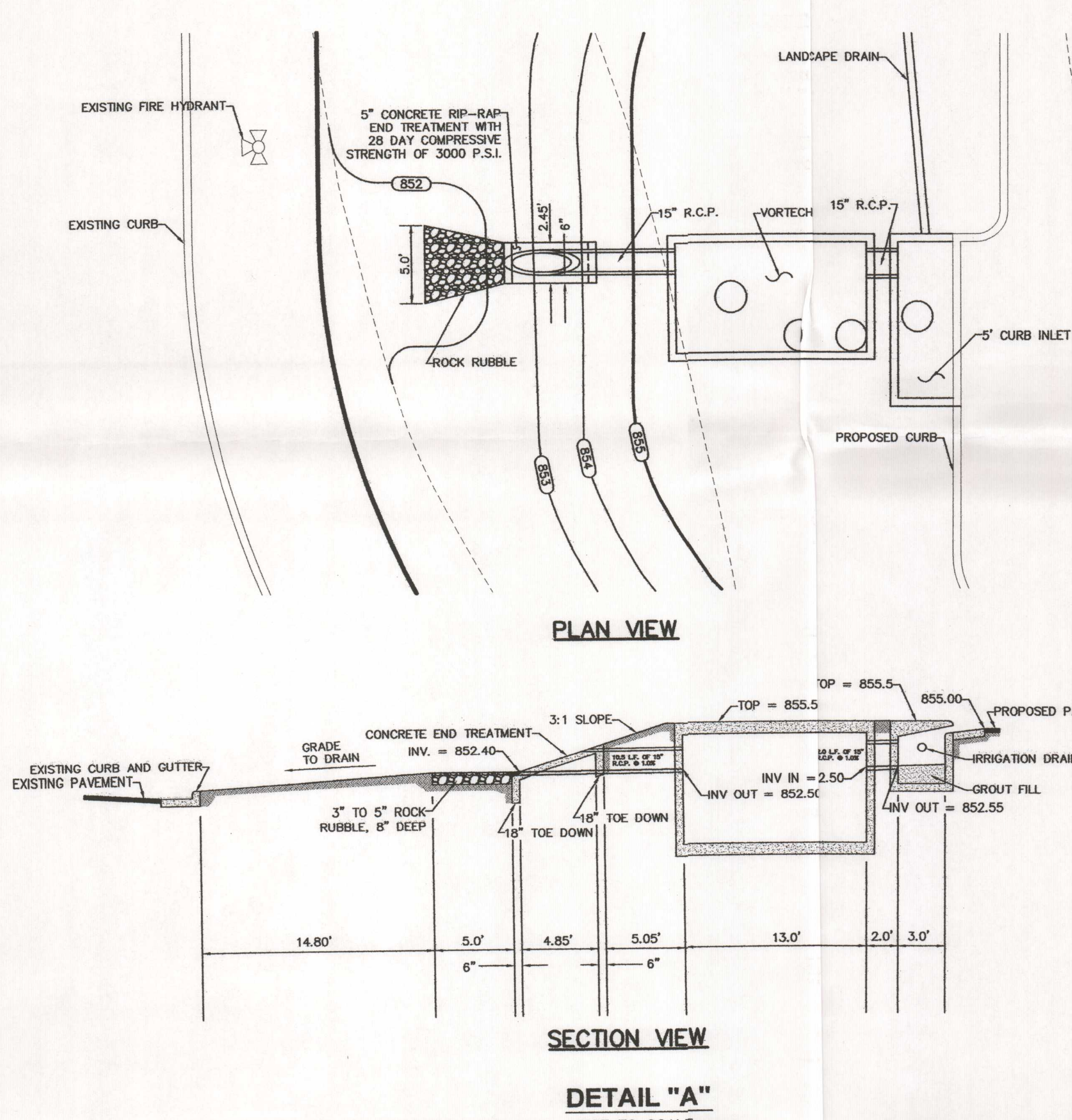
DESIGNED BY:	KWL
DRAWN BY:	JMM
SCALE:	1"=20
DATE:	01/18/10
SHEET NO.	C1.0

Date: Mar 05, 2010, 3:43pm User ID: Ruben
File: Z:\Projects\Layfield - 230 Hunters Creek\TCEQ\DRAINAGE AREA MAP.dwg









Texas Commission on Environmental Quality
Water Pollution Abatement Plan
General Construction Notes

1. Written construction notification must be given to the appropriate TCEQ regional office no later than 48 hours prior to commencement of the regulated activity. Information must include the date on which the regulated activity will commence, the name of the approved plan for the regulated activity, and the name of the prime contractor and the name and telephone number of the contact person.

2. All contractors conducting regulated activities associated with this project must be provided with complete copies of the approved Water Pollution Abatement Plan and the TCEQ letter indicating the specific conditions of its approval. During the course of these regulated activities, the contractors are required to keep on-site copies of the approved plan and approval letter.

3. If any sensitive feature is discovered during construction, all regulated activities near the sensitive feature must be suspended immediately. The appropriate TCEQ regional office must be immediately notified of any sensitive features encountered during construction. The regulated activities near the sensitive feature may not proceed until the TCEQ has reviewed and approved the methods proposed to protect the sensitive feature and the Edwards Aquifer from any potentially adverse impacts to water quality.

4. No temporary aboveground hydrocarbon and hazardous substance storage tank system is installed within 150 feet of a domestic, industrial, irrigation, or public water supply well, or other sensitive feature.

5. Prior to commencement of construction, all temporary erosion and sedimentation (E&S) control measures must be properly selected, installed, and maintained in accordance with the manufacturers specifications and good engineering practices. Controls specified in the temporary storm water section of the approved Edwards Aquifer Protection Plan are required during construction. If inspections indicate a control has been used inappropriately, or incorrectly, the applicant must replace or modify the control for site situations. The controls must remain in place until disturbed areas are revegetated and the areas have become permanently stabilized.

6. If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain).

7. Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50%. A permanent stake must be provided that can indicate when the sediment occupies 50% of the basin volume.

8. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges (e.g., screening outfalls, picked up daily).

notes cont.:

9. All spoils (excavated material) generated from the project site must be stored on-site with proper E&S controls. For storage or disposal of spoils at another site on the Edwards Aquifer Recharge Zone, the owner of the site must receive approval of a water pollution abatement plan for the placement of fill material or mass grading prior to the placement of spoils at the other site.

10. Stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently cease is precluded by weather conditions, stabilization measures shall be initiated as soon as practicable. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 21 days, temporary stabilization measures do not have to be initiated on that portion of site. In areas experiencing droughts where the initiation of stabilization measures by the 14th day after construction activity has temporarily or permanently ceased is precluded by seasonal arid conditions, stabilization measures shall be initiated as soon as practicable.

11. The following records shall be maintained and made available to the TCEQ upon request: the dates when major grading activities occur; the dates when construction activities temporarily or permanently cease on a portion of the site; and the dates when stabilization measures are initiated.

12. The holder of any approved Edward Aquifer protection plan must notify the appropriate regional office in writing and obtain approval from the executive director prior to initiating any of the following:

A. any physical or operational modification of any water pollution abatement structure(s), including but not limited to ponds, dams, berms, sewage treatment plants, and diversionary structures;

B. any change in the nature or character of the regulated activity from that which was originally approved or a change which would significantly impact the ability of the plan to prevent pollution of the Edwards Aquifer;

C. any development of land previously identified as undeveloped in the original water pollution abatement plan.

Austin Regional Office
2800 S. IH 35, Suite 100
Austin, Texas 78704-5712
Phone (512) 339 - 2929
Fax (512) 339 - 3795

San Antonio Regional Office
14250 Judson Road
San Antonio, Texas 78233 - 4480
Phone (210) 490 - 3096
Fax (210) 545 - 4329

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NOTE: MORE THAN 10 ACRES WITHIN A COMMON DRAINAGE AREA WILL NOT BE DISTURBED.
THE ENTIRE SITE IS LOCATED WITHIN ZONE X, DEFINED BY FEMA MAP # 4809C0435F TO BE LOCATED OUTSIDE THE 100 YEAR FLOODPLAIN.

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STATE OF TEXAS
KEVIN WILLIAM LOVE
93563
LICENSED
PROFESSIONAL ENGINEER
3/4/10

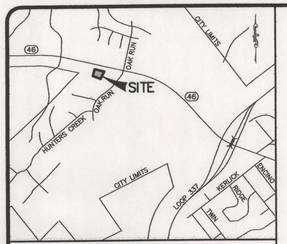
DATE
REVISIONS:

OWNER/DEVELOPER:
DR. LARRY LAYFIELD
230 HUNTERS VILLAGE
NEW BRAUNFELS, TX 78132

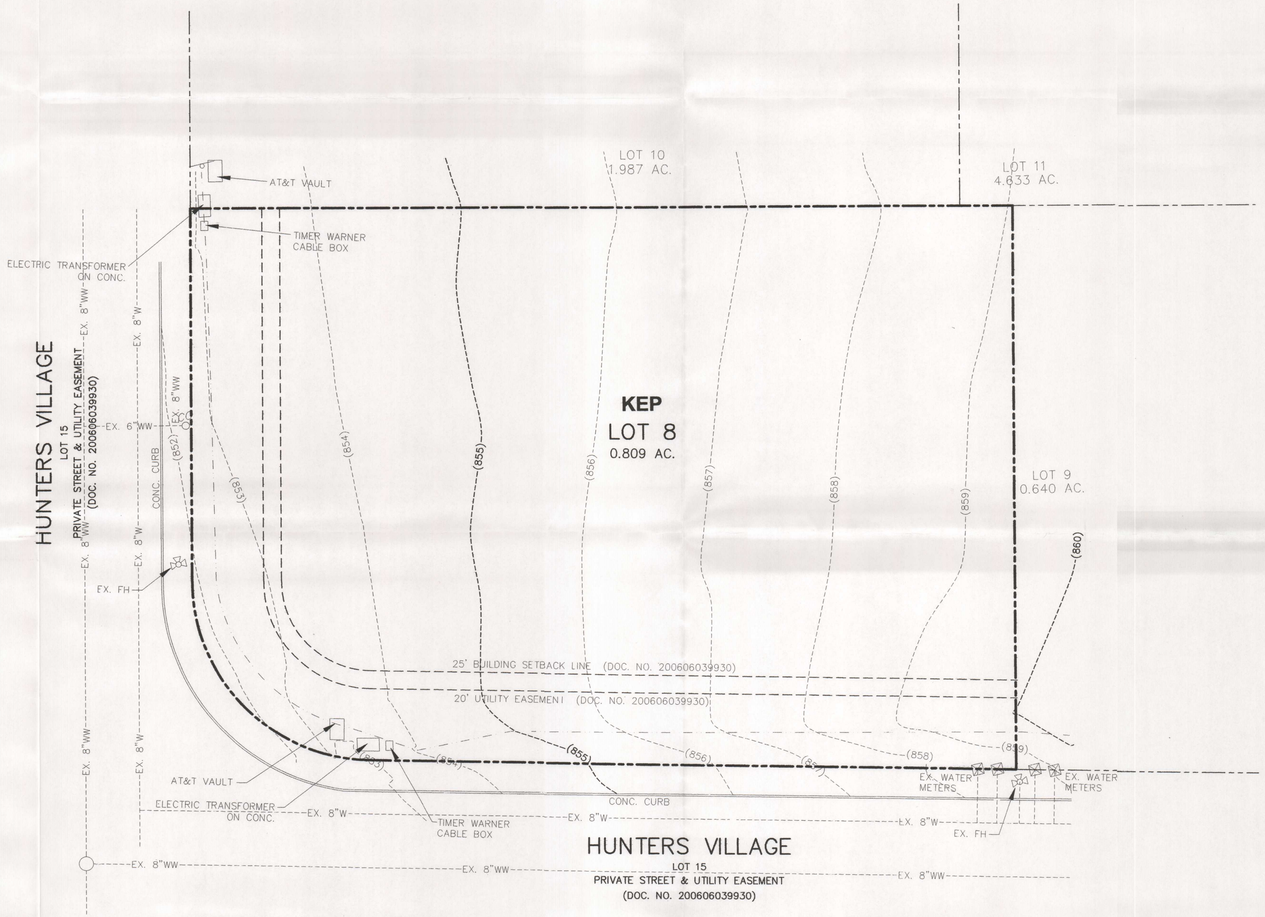
PROJECT:
230 HUNTERS VILLAGE
SHELL BUILDING
230 HUNTERS VILLAGE
SAN ANTONIO, TEXAS
SITE PLAN

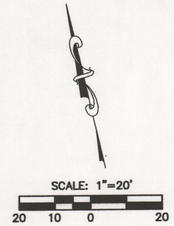
DESIGNED BY:	KWL
DRAWN BY:	JMM
SCALE:	1"=20
DATE:	01/18/10
SHEET NO.	C1.0

Date: Mar 05, 2010, 3:36pm User ID: Ruben
File: Z:\Projects\Layfield - 230 Hunters Creek\TCEQ\SITE PLAN.dwg



LOCATION MAP
NOT TO SCALE





LEGEND

EXISTING	PROPOSED	DESCRIPTION
		PROPERTY (R.O.W.) LINE/ SUBDIVISION BOUNDARY
		ADJACENT PROPERTY
(000)		RECORD INFORMATION
☼		LIGHT POLE
ø		POWER POLE
←		DOWN GUY
	T	TRANSFORMER (SIZE VARIES)
		FIRE HYDRANT
		WATER VALVE
		WATER METER
	WM	WATER METER VAULT
WMH		WATER MANHOLE
		TELEPHONE RISER
		CABLE TV RISER
		ELECTRIC BOX
		ELECTRIC METER
		GAS METER
		GAS VALVE
TCB		TRAFFIC CONTROL BOX
TSP		TRAFFIC SIGNAL POST
GMKR		UNDERGROUND GAS LINE MARKER
TRSR		TELEPHONE RISER
		GRATE INLET
		CURB INLET (SIZE VARIES)
	GT	GREASE TRAP (SIZE VARIES)
SS		STORMSEWER LINE
W	XX"W	WATER LINE
FIRE	XX"FL	FIRE LINE
WW	XX"WW	WASTEWATER LINE
WW LAT	XX"WW	WASTEWATER LATERAL LINE
G	G	GAS LINE
UGE	UGE	UNDERGROUND ELECTRIC LINE
OE	OE	OVERHEAD ELECTRIC
UT	UT	UNDERGROUND TELEPHONE
UC	UC	UNDERGROUND CABLE AND INTERNET
TC	TC	TELECOMMUNICATIONS LINE
EMH	EMH	ELECTRIC MANHOLE (SIZE VARIES)
WWMH	WWMH	WASTEWATER MANHOLE (SIZE VARIES)
SSMH	SSMH	STORMSEWER MANHOLE (SIZE VARIES)
TMH	TMH	TELEPHONE MANHOLE (SIZE VARIES)
CO	CO	WASTEWATER CLEANOUT
		CURB & GUTTER
		EDGE OF PAVEMENT
		FENCE
	D	DUMPSTER
		CONCRETE SIDEWALKS
		WALL
DESC.		TREE TO REMAIN
DESC.		TREE TO BE REMOVED
		TREE PROTECTION
		SILT FENCE
		LIMITS OF CONSTRUCTION
		ROCK BERM
	IP	INLET PROTECTION
		STABILIZED CONSTRUCTION ENTRANCE
		CONCRETE WASHOUT PIT
		DIRECTION OF FLOW
678	678	CONTOUR
785.59	785.00	SPOT ELEVATION
		CONCRETE PAVEMENT
		ASPHALT PAVEMENT
		SWALE

GEOLOGIC LEGEND

KEP	–	PERSON FORMATION
USGS QUAD	–	NEW BRAUNFELS WEST

RECEIVED
MAR 16 2010
COUNTY ENGINEER

TCEQ R13
MAR 10 2010
SAN ANTONIO

GENERAL NOTES

TOPOGRAPHIC SURVEY PROVIDED BY HMT ENGINEERING AND SURVEYING. KLOVE ENGINEERING LLC. SHALL NOT BE RESPONSIBLE FOR IT'S CONTENT AND/OR ACCURACY. FOR QUESTIONS REGARDING THE SURVEY, CONTACT HMT ENGINEERING AND SURVEYING AT (830) 625-8555.

THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT OCCUR BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

KLOVE ENGINEERING
Site Development Engineering Services
Firm No. 11042
www.klovengineering.com (210) 485-5683

STATE OF TEXAS
Troy T. Crain
Geology
2004
PROFESSIONAL GEOLOGIST

DATE

REVISIONS:

OWNER/DEVELOPER:
DR. LARRY LAYFIELD
230 HUNTERS VILLAGE
NEW BRAUNFELS, TX 78132

PROJECT:
230 HUNTERS VILLAGE
SHELL BUILDING
230 HUNTERS VILLAGE
SAN ANTONIO, TEXAS

GEOLOGIC SITE MAP

DESIGNED BY:	KWL
DRAWN BY:	JMM
SCALE:	1"=20
DATE:	01/18/10
SHEET NO.	G1.0

Date: Mar 05, 2010, 3:26pm User ID: Ruben
File: Z:\Projects\Layfield – 230 Hunters Creek\Drawings\G1.0 Geologic Site Map.dwg