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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

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September 28, 2010

Mr. Ken Brucks
Prodigy Properties Hunters Creek, LLC
226 Glen Haven
New Braunfels, TX 78132

Re: Edwards Aquifer, Comal County
NAME OF PROJECT: Prodigy Learning Center; Located at the SW corner of SH 46 and
Hunters Village Rd., 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
San Antonio File No. 1964.08; Investigation No. 849289; Regulated Entity No.
RN105980205

Dear Mr. Brucks:

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 HMT Engineering & Surveying on behalf of Prodigy Properties Hunters Creek, LLC on July 21, 2010. Final review of the WPAP was completed after additional material was received on September 17, 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 business park was approved by letter dated July 18, 2006 for the construction of streets, drainage structures, utilities and a sedimentation/filtration basin on 1.5 acres which would support 14 separate lots (SA File No. #1964.02). As a term of the approval, the development of the

individual lots would be addressed with separate WPAPs and separate best management practices for the treatment of storm water.

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 2.43 acres. The project will include the construction of a child day care facility, driveways, parking lots, filter strip and wet vault unit. The impervious cover will be 1.12 acres (46 percent). Project wastewater will be disposed of by conveyance to the existing Gruene Road Water Recycling Center owned by New Braunfels Utilities.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of storm water runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, one engineered filter strip and one Vortechs Vx11000, 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 storm water runoff. The required total suspended solids (TSS) treatment for this project is 1,005 pounds of TSS generated from the 1.12 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The individual treatment measures were designed based upon the drainage areas and TSS amounts described below. The Vortechs Vx11000 unit, designed and constructed by Contech® Stormwater Solutions, Inc., will have a drainage area of 1.31 acres with 0.98 acres of impervious cover and will account for an additional 9 pounds of uncaptured TSS.

The engineered filter strip will have a minimum width of 15 feet and will extend along the entire length of contributing area (driveway). The driveway and filter strip will be constructed to promote sheet flow onto and across the filter strip and maintain a slope of less than 20 percent.

	Total Area (ac)	Total IC (ac)	Required TSS Removal (lb/yr)	Designed TSS Removal (lb/yr)
Vortechs	1.31	0.98	880	889
Filter Strip	0.13	0.13	117	117
Uncaptured	0.99	0.01	9	0
Total	2.43	1.12	1,005	1,005

GEOLOGY

According to the geologic assessment included with the application, the site is within the Person Formation of the Edwards Group. One manmade feature was reported and scored as non-sensitive by the project geologist. The manmade feature is a closed depression that resulted from roadway construction. The San Antonio Regional Office site assessment conducted on September 27, 2010 revealed the site was accurately described in the geologic assessment.

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SPECIAL CONDITIONS

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- I. All permanent BMPs shall be operational prior to occupancy of the facility.
- II. All sediment and/or media removed from the permanent BMPs during maintenance activities shall be properly disposed of according to 30 TAC 330 or 30 TAC 335, as applicable.

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. No wells are located onsite. 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.

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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:

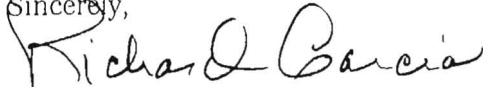
18. A Texas Licensed Professional Engineer must certify in writing that the permanent BMPs or measures were constructed as designed. The certification letter must be submitted to the San Antonio Regional Office within 30 days of site completion.
19. The applicant shall be responsible for maintaining 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 Charly Fritz of the Edwards Aquifer Protection Program of the San Antonio Regional Office at (210) 403-4065.

Sincerely,



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

MRV/CEF/eg

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

cc: Mr. Jeffrey Moeller, P.E. HMT Engineering & Surveying
Mr. Jim Klein, P.E., City of New Braunfels
Mr. Thomas Hornseth, P.E., Comal County
Mr. Karl Dreher, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212



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Ms. Charly Fritz
Edwards Aquifer Protection Division, Region 13 (San Antonio)
Texas Commission on Environmental Quality
14250 Judson Road
San Antonio, TX 78233-4480

RE: Prodigy Learning Center Water Pollution Abatement Plan Application

This letter is in response to the fax received 09/07/2010 TCEQ as it pertains to the Prodigy Learning Center Water Pollution Abatement Plan Application. The comments received are in italics and our responses are in bold.

- 1. Based upon information from Comal County Appraisal District, the property owner is listed as Hunters Creek Village LP ETAL. If Prodigy Properties Hunters Creek, LLC is not the current property owner, provide additional agent Authorization Form(s) from hunters Creek Village LP authorizing Prodigy Properties to act as the Customer for the property. If Comal CAD is not displaying up-to-date information, please provide dated records that indicate the sale of the property.*

Please see attached deed.

- 2. The plans and exhibits depict a driveway leading to Hunters Village Dr. and cuts across Lot 4 (Property ID 143280). Information from Comal County Engineer's Office and the GIS mapping service does not depict a driveway. Has the Hunters Creek Business Park Plat been modified for Lots 1 and 4 to allow the driveway or is there an access agreement between the two properties? Provide any dated records, as necessary, to clarify this item.*

Please see the attached plat, "Replat of Lot 1, Lot 3 and Lot 4, hunters Creek Business Park Establishing Lot 1A, Lot 1B, Lot 3R and Lot 4R, hunters Creek Business Park"

- 3. Briefly describe how Playground 2 will be constructed. Will any impervious liners or materials be used beneath the playground? If so, please account for this impervious cover in the Impervious Cover table (Item 4 of TCEQ-0584).*



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The Playground area will be constructed in the same manor as landscaping. No impervious liners will be used in the construction of the Playground

4. *Stairs are depicted on the site plan at the retaining wall. Will any sidewalks be provided from the parking lot or from the building to the stairs? If so, include the sidewalk layout on the exhibits and include the amount of sidewalk in the Impervious Cover table (Item 4 of TCEQ-0584).*

There will not be a sidewalk provided to the stairs.

5. *Briefly Describe the direction of the flow from the roof of the building. Will the stormwater flow to the parking lot/driveway and be captured by the Vortechs unit or towards the back of the lot and bypass treatment? Please update an exhibit to demonstrate the direction of the roof runoff.*

The Drainage Area map has been revised to reflect roof drains directing stormwater to the parking lot. With the exception of the section of street being treated by vegetative filter strip the only impervious cover runoff not directed to the Vortechs system is the sidewalk along the south side of the building. All other stormwater will be direct to the parking lot and through the Vortechs system.

6. *Please provide the following information to verify the TSS removal calculations. Update any calculations as necessary.*
 - a. *What is the total drainage area captured by the Vortechs unit? In Step 2, the total drainage basin is listed as 2.24 acres which is approximately 90% of the site. Based on the exhibits, only the parking lot area (and maybe the building, see Item #5) is captured by the Vortechs unit. Please revise the "Total Drainage Basin" amount in Step 2 to accurately reflect the acreage captured by the Vortechs unit.*

The total drainage area captured by the Vortechs unit is 1.31 acres. Please see the attached revised TSS removal calculations and revised Drainage Area Map.

- b. *How much impervious cover will be treated by the vegetative filter strips?*

0.13 acres of impervious cover is treated by vegetative filter strips.

- c. *How much impervious cover will **not** be captured by the Vortechs unit or filter strip? If necessary, include this amount in the "Impervious Cover Overtreatment" in step 21 to account for the uncaptured TSS.*

0.01 acres, please see the attached revised TSS removal calculations.

7. *On the Grading Plan exhibit, See sheet 4 of 7, the cross section of the Vegetative Filter Strip indicates the ribbon curve is higher than the roadway surface.*
- a. *Will this raised ribbon curb result in the storm water being channelized and flowing along the curb (towards the building), around the filter strip? Or will the small elevation difference of the curb still allow flow over the curb?*

Ribbon curb will be constructed to allow stormwater to flow over and through the vegetative filter strip.

- b. *According to the Edward Aquifer Technical Guidance Manual, RG-348, "the top edge of the filter strip along pavement will be designed to avoid the situation where runoff would travel along the top of the filter strip, rather than through it. "Based upon the cross section and the 0.1' height difference from the top of the ribbon curb to the top of filter strip, it appears storm water will flow over the filter strip instead of through the strip. Revise the design of the filter strip, as necessary, or provide additional details to clarify the situation.*

The vegetative filter strip will be constructed to allow stormwater to flow through it and not over it.

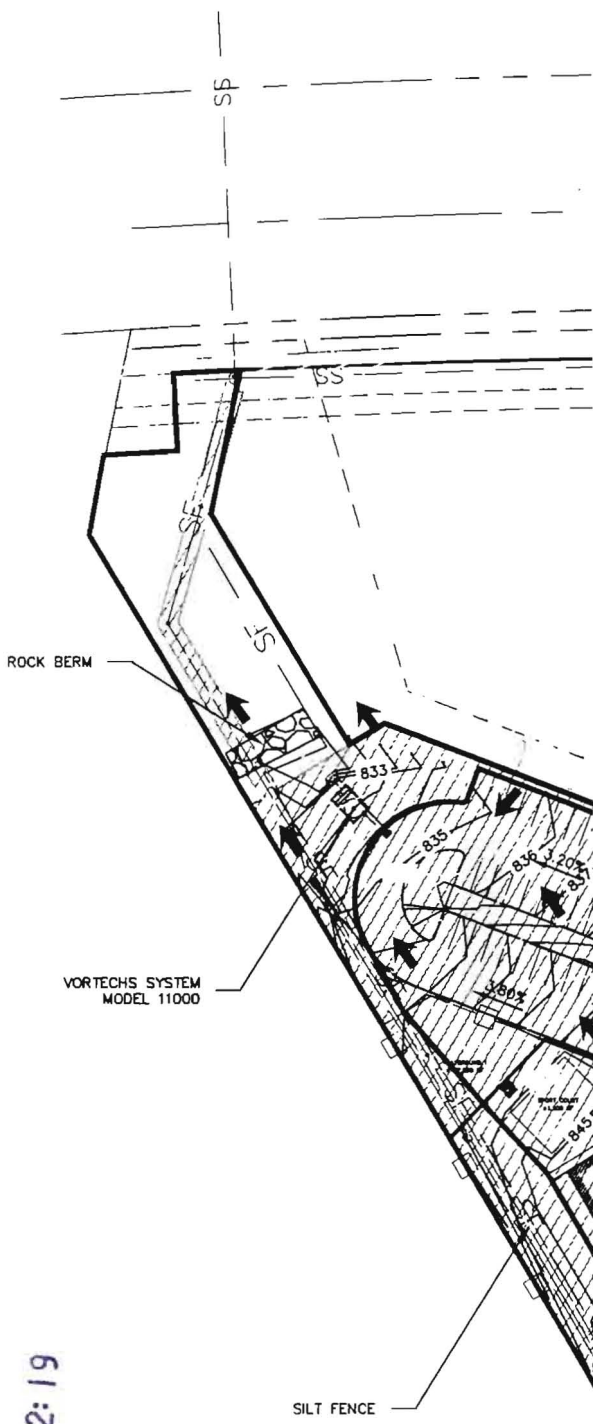
Please accept these comments and revisions to the WPAP for the referenced project. If you need additional information or have any questions, please do not hesitate to contact myself or James Ingalls.

Sincerely,



James Ingalls on behalf of Jeff Moeller, P.E.
Attachments

IN ANTONIO REGION
SEP 27 PM 2:19



LEGEND

- LEGAL BOUNDARY
- LIMITS OF DRAINAGE AREA
- ROCK BERM
- SF SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE
- VEGETATIVE FILTER STRIP
- DISTURBED AREA
- EXISTING CONTOURS
- PROPOSED CONTOURS
- DRAINAGE AREA ID
- DRAINAGE AREA ACREAGE

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FOR PERMIT USE ONLY, NOT
TO BE USED FOR CONSTRUCTION

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HOLLAND • MOELLER • THORNHILL

410 N. SEGUIN ST
NEW BRAUNFELS,
TEXAS, 78130

TBPE Firm F-10981
www.HMTNB.com

PH: (830)825-8555
FAX: (830)825-8556

DRAINAGE AREA MAP

PRODIGY LEARNING CENTER

KEN BRUCKS
226 GLEN HAVEN
NEW BRAUNFELS, TEXAS 78132

TOTAL LAND AREA	=	2.43 AC
TOTAL DISTURBED AREA	=	2.07 AC
TOTAL IMPERVIOUS AREA	=	1.12 AC
IMPERVIOUS	=	46%

DATE: 7/1/10

DRAWN BY: SAK

DESIGNED BY: JM

CHECKED BY: JOM

REVIEWED BY: JOM

PROJECT NUMBER: 09016

SHEET

1

OF 1

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Prodigy Learning Center

Date Prepared: 7/2/2010

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:

$L_{M \text{ TOTAL PROJECT}}$ = 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 *	2.43	acres
Predevelopment impervious area within the limits of the plan *	0.00	acres
Total post-development impervious area within the limits of the plan *	1.12	acres
Total post-development impervious cover fraction *	0.46	
P =	33	inches

$L_{M \text{ TOTAL PROJECT}}$ = 1005 lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 2

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

Drainage Basin/Outfall Area No. =	1	
Total drainage basin/outfall area =	1.31	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.98	acres
Post-development impervious fraction within drainage basin/outfall area =	0.75	
$L_{M \text{ THIS BASIN}}$ =	880	lbs.

3. Indicate the proposed BMP Code for this basin.

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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: $L_R = (\text{BMP efficiency}) \times P \times (A_i \times 34.6 + A_p \times 0.54)$

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 = 2.42 acres

A_i = 0.99 acres

A_p = 1.43 acres

L_R = 0 lbs

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

Desired $L_{M \text{ THIS BASIN}}$ = 889 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
Post Development Runoff Coefficient = 0.31
On-site Water Quality Volume = #DIV/0! cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

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Off-site area draining to BMP = 0.00 acres
 Off-site Impervious cover draining to BMP = 0.00 acres
 Impervious fraction of off-site area = 0
 Off-site Runoff Coefficient = 0.00
 Off-site Water Quality Volume = #DIV/0! cubic feet

Storage for Sediment = #DIV/0!

Total Capture Volume (required water quality volume(s) x 1.20) = #DIV/0! cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.

The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System

Designed as Required in RG-348

Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = NA cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate = 0.1 in/hr Enter determined permeability rate or assumed value of 0.1
 Irrigation area = NA square feet
 NA acres

8. Extended Detention Basin System

Designed as Required in RG-348

Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = NA cubic feet

9. Filter area for Sand Filters

Designed as Required in RG-348

Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin = NA cubic feet

Minimum filter basin area = NA square feet

Maximum sedimentation basin area = NA square feet For minimum water depth of 2 feet

Minimum sedimentation basin area = NA square feet For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins = NA cubic feet

Minimum filter basin area = NA square feet

Maximum sedimentation basin area = NA square feet For minimum water depth of 2 feet

Minimum sedimentation basin area = NA square feet For maximum water depth of 8 feet

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10. Bioretention System

Designed as Required in RG-348

Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin = **NA** cubic feet**11. Wet Basins**

Designed as Required in RG-348

Pages 3-66 to 3-71

Required capacity of Permanent Pool = **NA** cubic feet Permanent Pool Capacity is 1.20 times the WQV
Required capacity at WQV Elevation = **NA** cubic feet Total Capacity should be the Permanent Pool Capacity plus a second WQV.

12. Constructed Wetlands

Designed as Required in RG-348

Pages 3-71 to 3-73

Required Water Quality Volume for Constructed Wetlands = **NA** cubic feet**13. AquaLogic™ Cartridge System**

Designed as Required in RG-348

Pages 3-74 to 3-78

** 2005 Technical Guidance Manual (RG-348) does not exempt the required 20% increase with maintenance contract with AquaLogic™.

Required Sedimentation chamber capacity = **NA** cubic feet
Filter canisters (FCs) to treat WQV = **NA** cartridges
Filter basin area (RIA_F) = **NA** square feet

14. Stormwater Management StormFilter® by CONTECHRequired Water Quality Volume for Contech StormFilter System = **NA** cubic feet**THE SIZING REQUIREMENTS FOR THE FOLLOWING BMPs / LOAD REMOVALS ARE BASED UPON FLOW RATES - NOT CALCULATED WATER QUALITY VOLUMES****15. Grassy Swales**

Designed as Required in RG-348

Pages 3-51 to 3-54

Design parameters for the swale:

Drainage Area to be Treated by the Swale = A = 0.00 acres
Impervious Cover in Drainage Area = 0.00 acres
Rainfall intensity = i = 1.1 in/hr
Swale Slope = 0 ft/ft
Side Slope (z) = 0
Design Water Depth = y = 0.00 ft
Weighted Runoff Coefficient = C = #DIV/0!

A_{CS} = cross-sectional area of flow in Swale = #DIV/0! sf

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P_w = Wetted Perimeter = #DIV/0! feet
 R_H = hydraulic radius of flow cross-section = A_{CS}/P_w = #DIV/0! feet
 n = Manning's roughness coefficient = 0.2

15A. Using the Method Described in the RG-348

Manning's Equation: $Q = \frac{1.49 A_{CS} R_H^{2/3} S^{0.5}}{n}$

$b = \frac{0.134 \times Q}{y^{1.67} S^{0.5}} - zy$ = #DIV/0! feet

$Q = C_i A$ = #DIV/0! cfs

To calculate the flow velocity in the swale:

V (Velocity of Flow in the swale) = Q/A_{CS} = #DIV/0! ft/sec

To calculate the resulting swale length:

L = Minimum Swale Length = V (ft/sec) * 300 (sec) = #DIV/0! feet

If any of the resulting values do not meet the design requirement set forth in RG-348, the design parameters must be modified and the solver rerun.

15B. Alternative Method using Excel Solver

Design $Q = C_i A$ = #DIV/0! cfs
 Manning's Equation Q = 0.00 cfs
 Swale Width = 6.00 ft

Error 1 = #DIV/0!

Instructions are provided to the right (green comments).

Flow Velocity = #DIV/0! ft/s
 Minimum Length = #DIV/0! ft

Instructions are provided to the right (blue comments).

Design Width = 0 ft
 Design Discharge = 0.00 cfs
 Design Depth = 0.33 ft

Error 2 = #DIV/0!

To solve for bottom v
Excel can simultane
The required "Swale

First, highlight Cell F
Then click on "Tools"
The value in the "Set
The value in the "By"
Click on solve.

The resulting "Swale
If the resulting "Swal

If there is not the opt
Click on "Tools" and
Then proceed as inst

If you would like to in
Excel can simultane
The required "Design

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Flow Velocity = #DIV/0! cfs
 Minimum Length = #DIV/0! ft

If any of the resulting values do not meet the design requirement set forth in RG-348, the design parameters may be modified and the solver rerun.
 If any of the resulting values still do not meet the design requirement set forth in RG-348, widening the swale bottom value may not be possible.

16. Vegetated Filter Strips

Designed as Required in RG-348

Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.
 The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter strips with maximum slope of 20% or across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%.

If vegetative filter strips are proposed for an interim permanent BMP, they may be sized as described on Page 3-56 of RG-348.

17. Wet Vaults

Designed as Required in RG-348

Pages 3-30 to 3-32 & 3-79

Required Load Removal Based upon Equation 3.3 = NA lbs

First calculate the load removal at 1.1 in/hour

RG-348 Page 3-30 Equation 3.4: $Q = CiA$

C = runoff coefficient for the drainage area = 0.58 $C = \text{Runoff Coefficient} = 0.546 (IC)^2 + 0.328 (IC) + 0.03$
 i = design rainfall intensity = 1.1 in/hour
 A = drainage area in acres = 0 acres

Q = flow rate in cubic feet per second = 0.00 cubic feet/sec

RG-348 Page 3-31 Equation 3.5: $V_{OR} = Q/A$

Q = Runoff rate calculated above = 0.00 cubic feet/sec
 A = Water surface area in the wet vault = 0 square feet

V_{OR} = Overflow Rate = #DIV/0! feet/sec

Percent TSS Removal from Figure 3-1 (RG-348 Page 3-31) = 0 percent

Load removed by Wet Vault = #VALUE! lbs

If a bypass occurs at a rainfall intensity of less than 1.1 in/hours
 Calculate the efficiency reduction for the actual rainfall intensity rate

Actual Rainfall Intensity at which Wet Vault bypass Occurs = 0 in/hour

Fraction of rainfall treated from Figure 3-2 RG-348 Page 3-32 = 0 percent
 Efficiency Reduction for Actual Rainfall Intensity = 0.00 percent

First set the desired I
 Highlight Cell F232.

Click on "Tools" and
 The value in the "Set
 The value in the "By"
 Click on solve.

The resulting "Design
 If the resulting "Design
 First set the desired I
 Highlight Cell F232.
 Click on "Tools" and
 The value in the "Set
 The value in the "By"
 Click on solve.

The resulting "Design
 If the resulting "Design

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Resultant TSS Load removed by Wet Vault = #VALUE! lbs

18. Permeable Concrete

Designed as Required in RG-348

Pages 3-79 to 3-83

PERMEABLE CONCRETE MAY ONLY BE USED ON THE CONTRIBUTING ZONE

19. BMPs Installed in a Series

Designed as Required in RG-348

Pages 3-32

Michael E. Barrett, Ph.D., P.E. recommended that the coefficient for E_2 be changed from 0.5 to 0.65 on May 3, 2006

$$E_{TOT} = [1 - ((1 - E_1) \times (1 - 0.65E_2) \times (1 - 0.25E_3))] \times 100 = 0.00 \text{ percent} \quad \text{NET EFFICIENCY OF THE BMPs IN THE SERIES}$$

$$\text{EFFICIENCY OF FIRST BMP IN THE SERIES} = E_1 = 0.00 \text{ percent}$$

$$\text{EFFICIENCY OF THE SECOND BMP IN THE SERIES} = E_2 = 0.00 \text{ percent}$$

$$\text{EFFICIENCY OF THE THIRD BMP IN THE SERIES} = E_3 = 0.00 \text{ percent}$$

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

$$L_R = E_{TOT} \times P \times (A_i \times 34.6 \times A_p \times 0.54) = 0.00 \text{ lbs}$$

20. Stormceptor

BMP Sizing	Required TSS Removal in BMP Drainage Area=	NA	lbs
	Impervious Cover Overtreatment=	0.0000	ac
	TSS Removal for Uncaptured Area =	0.00	lbs
	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 \geq TSS Uncapt.)	#VALUE!	
	TSS Treatment by BMP (LM + TSS Uncapt.) =	#VALUE!	

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21. Vortech

BMP Sizing	Required TSS Removal in BMP Drainage Area=	879.65	lbs
	Impervious Cover Overtreatment=	0.0100	ac
	TSS Removal for Uncaptured Area =	8.98	lbs
	Effective Area =	0.89	EA
	Calculated Model Size(s) =	Vx9000	
	Actual Model Size (if choosing larger model size) =	Vx11000	Pick Model Size
	Surface Area =	78.54	ft ²
	Overflow Rate =	0.012492	V _{or}
	Rounded Overflow Rate =	0.012500	V _{or}
	BMP Efficiency % =	84.00	%
L _R Value =	944.87	lbs	
	TSS Load Credit =	65.22	lbs
Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.)		Yes	
TSS Treatment by BMP (LM + TSS Uncapt.) =		888.62	

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width of the trapezoidal swale (b) using the Excel solver:

usly solve the "Design Q" (C217) vs "Manning's Q" (C219) by varying the "Swale Width" (C220).

Width" occurs when the "Design Q" = "Manning's Q"

219 (Error 1 value). The equation showing in the fx screen for Cell F219 should be " $= \$C\$217 - \$C\219 "

' and "Solver". The "Solver Parameters" screen pops up.

Target cell" should be \$F\$219 "Error 1 ="

Changing Cells" should be \$C\$220 "Swale Width"

Width" must be less than 10 feet to meet the requirements of the TGM.

e Width" exceeds 10 feet then the design parameters must be revised and the solver run again.

ion for "Solver" under "Tools"

"Add Ins" and then check "Solver Add-in"

ructed above.

increase the bottom width of the trapezoidal swale (b):

usly solve the "Design Q" (C217) vs "Design Discharge" (C232) by varying the "Design Depth" (C233).

i Depth" for a 10-foot bottom width occurs when the "Design Q" (C217) = the "Design Discharge" (C232).

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bottom width in Cell C231.

The equation showing in the fx screen for Cell F232 should be " $= \$C\$217- \$C\232 "

"Solver". The "Solver Parameters" screen pops up.

Target cell" should be $\$F\232 "Error 2"

Changing Cells" should be $\$C\233 "Design Depth"

1 Depth" must be equal to or less than 0.33 feet to meet the requirements of the TGM.

3n Depth" exceeds 0.33 feet then the design parameters must be revised and the solver run again.

bottom width in Cell C231.

The equation showing in the fx screen for Cell F232 should be " $= \$C\$217- \$C\232 "

"Solver". The "Solver Parameters" screen pops up.

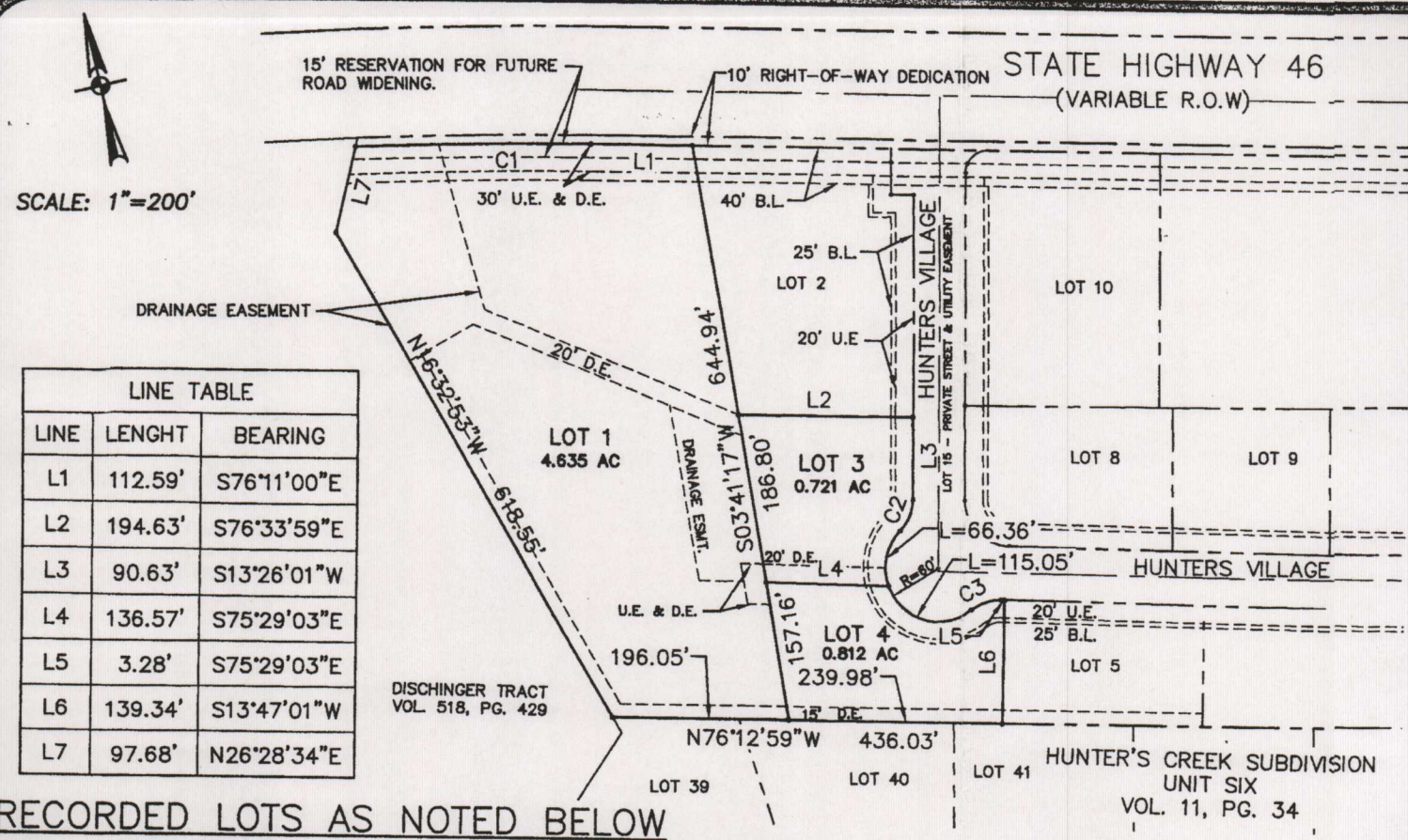
Target cell" should be $\$F\232 "Error 2"

Changing Cells" should be $\$C\233 "Design Depth"

1 Depth" must be equal to or less than 0.33 feet to meet the requirements of the TGM.

3n Depth" exceeds 0.33 feet then the design parameters must be revised and the solver run again.

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RECORDED LOTS AS NOTED BELOW
LOT 1, LOT 3, AND LOT 4, HUNTERS CREEK BUSINESS PARK RECORDED IN DOCUMENT NO. 200606039930 OF THE MAP AND PLAT RECORDS OF COMAL COUNTY, TEXAS

CURVE TABLE						
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD LENGTH	CHORD BEARING
C1	261.39'	5669.50'	2°38'30"	130.72'	261.37'	S77°29'52"E
C2	37.83'	50.00'	43°21'17"	19.87'	36.94'	S35°06'39"W
C3	35.48'	50.00'	40°39'06"	18.52'	34.74'	N84°10'10"E

OWNER'S ACKNOWLEDGEMENT:
STATE OF TEXAS
COUNTY OF COMAL

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OWNER'S ACKNOWLEDGEMENT:
STATE OF TEXAS
COUNTY OF COMAL

I (WE) THE UNDERSIGNED OWNER(S) OF THE LAND SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS REPLAT PLAT OF LOT 1, LOT 3, AND LOT 4, HUNTERS CREEK BUSINESS PARK, ESTABLISHING LOT 1A, LOT 1B, LOT 3R, AND LOT 4R, HUNTERS CREEK BUSINESS PARK SUBDIVISION TO THE CITY OF NEW BRAUNFELS, COUNTY OF COMAL, TEXAS, AND WHOSE NAME IS SUBSCRIBED HERETO, DO HEREBY SUBDIVIDE SUCH PROPERTY AND DEDICATE TO THE USE OF THE PUBLIC ALL STREETS, ALLEYS, PARKS, DRAINS, EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED.

I (WE) THE UNDERSIGNED OWNER(S) OF THE LAND SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS REPLAT PLAT OF LOT 1, LOT 3, AND LOT 4, HUNTERS CREEK BUSINESS PARK, ESTABLISHING LOT 1A, LOT 1B, LOT 3R, AND LOT 4R, HUNTERS CREEK BUSINESS PARK SUBDIVISION TO THE CITY OF NEW BRAUNFELS, COUNTY OF COMAL, TEXAS, AND WHOSE NAME IS SUBSCRIBED HERETO, DO HEREBY SUBDIVIDE SUCH PROPERTY AND DEDICATE TO THE USE OF THE PUBLIC ALL STREETS, ALLEYS, PARKS, DRAINS, EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED.

ERNESTO E. JERGIN
REPRESENTATIVE FOR HUNTERS CREEK VILLAGE LP
651 N. BUSINESS HWY. STE 240
NEW BRAUNFELS, TX 78130

EDWARD M. WUENSCH, D.D.S.
WUENSCH INVESTMENTS LLC
245 HUNTER'S VILLAGE DRIVE
NEW BRAUNFELS, TX 78132

STATE OF TEXAS
COUNTY OF COMAL

STATE OF TEXAS
COUNTY OF COMAL

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON
THIS 28 DAY OF June 2010
BY Ernesto E. Jergin

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON
THIS 28 DAY OF June 2010
BY Edward M. Wuensch, D.D.S.

Ammanda H. Hadd
NOTARY PUBLIC, STATE OF TEXAS
MY COMMISSION EXPIRES: 9-15-2013

Ammanda H. Hadd
NOTARY PUBLIC, STATE OF TEXAS
MY COMMISSION EXPIRES: 9-15-2013

OWNER'S ACKNOWLEDGEMENT:
STATE OF TEXAS
COUNTY OF COMAL

STATE OF TEXAS
COUNTY OF COMAL

I (WE) THE UNDERSIGNED OWNER(S) OF THE LAND SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS REPLAT PLAT OF LOT 1, LOT 3, AND LOT 4, HUNTERS CREEK BUSINESS PARK, ESTABLISHING LOT 1A, LOT 1B, LOT 3R, AND LOT 4R, HUNTERS CREEK BUSINESS PARK SUBDIVISION TO THE CITY OF NEW BRAUNFELS, COUNTY OF COMAL, TEXAS, AND WHOSE NAME IS SUBSCRIBED HERETO, DO HEREBY SUBDIVIDE SUCH PROPERTY AND DEDICATE TO THE USE OF THE PUBLIC ALL STREETS, ALLEYS, PARKS, DRAINS, EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED.

I (WE) THE UNDERSIGNED OWNER(S) OF THE LAND SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS REPLAT PLAT OF LOT 1, LOT 3, AND LOT 4, HUNTERS CREEK BUSINESS PARK, ESTABLISHING LOT 1A, LOT 1B, LOT 3R, AND LOT 4R, HUNTERS CREEK BUSINESS PARK SUBDIVISION TO THE CITY OF NEW BRAUNFELS, COUNTY OF COMAL, TEXAS, AND WHOSE NAME IS SUBSCRIBED HERETO, DO HEREBY SUBDIVIDE SUCH PROPERTY AND DEDICATE TO THE USE OF THE PUBLIC ALL STREETS, ALLEYS, PARKS, DRAINS, EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED.

TIMOTHY OWENS
REPRESENTATIVE FOR NEW BRAUNFELS PEDIATRIC BUILDING PARTNERS
1535 E. COMMON ST
NEW BRAUNFELS, TX 78130

Ammanda H. Hadd
NOTARY PUBLIC, STATE OF TEXAS
MY COMMISSION EXPIRES: 9-15-2013

HMT
ENGINEERING & SURVEYING
HOLLIG • MOELLER • THORNHILL
410 N. SEGUIN AVE.
NEW BRAUNFELS,
TEXAS, 78130
www.HMTNB.com
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FAX:(830)625-8556

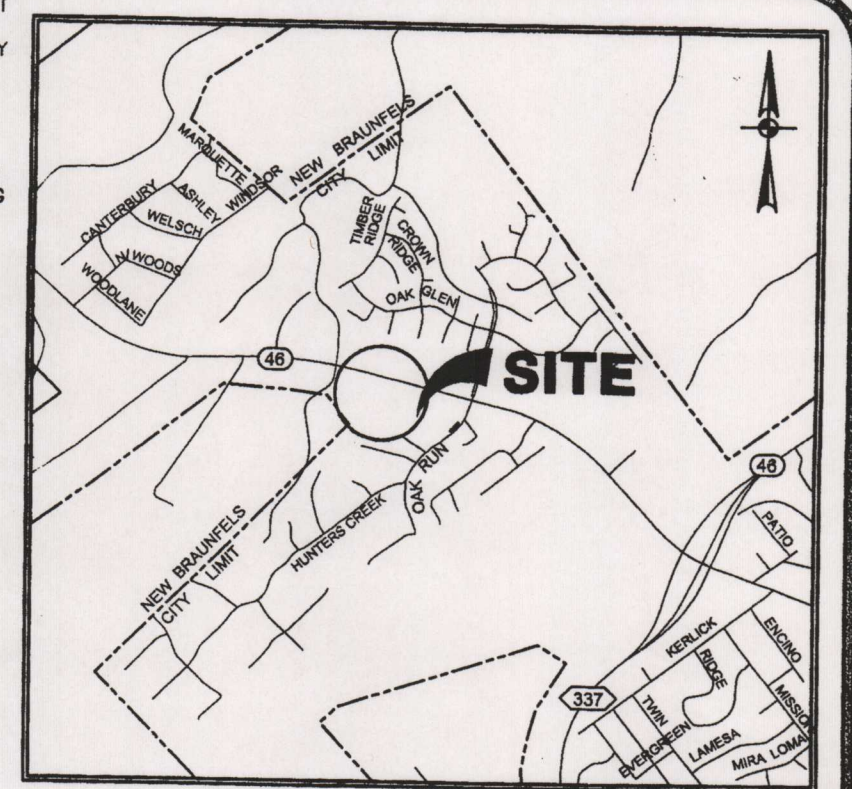
LEGEND:
P.O.B. = POINT OF BEGINNING
R.O.W. = RIGHT-OF-WAY
B.L. = BUILDING SETBACK LINE
U.E. = UTILITY EASEMENT
D.E. = DRAINAGE EASEMENT
○ = 1/2" IRON PINS SET
● = IRON PINS FOUND
(UNLESS OTHERWISE NOTED)

AMANDA M. GOLD
Notary Public, State of Texas
My Commission Expires
September 15, 2013

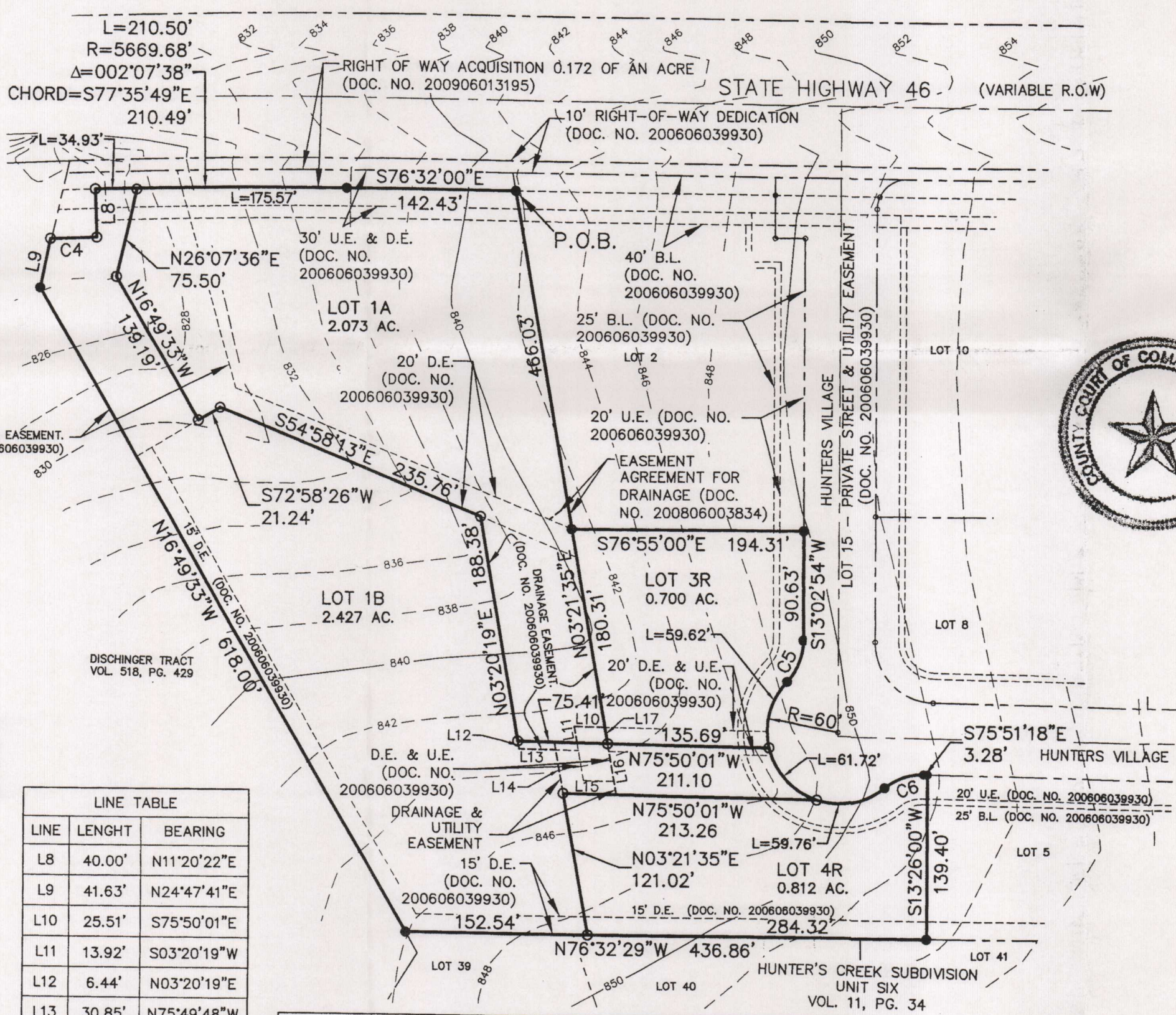
DATE: MARCH 2, 2010 JOB NO. BRK001
REVISED DATE: MARCH 15, 2010
REVISED DATE: MARCH 24, 2010
REVISED DATE: APRIL 14, 2010

REPLAT OF LOT 1, LOT 3, AND LOT 4, HUNTERS CREEK BUSINESS PARK
ESTABLISHING
LOT 1A, LOT 1B, LOT 3R, AND LOT 4R, HUNTERS CREEK BUSINESS PARK
BEING 6.012 ACRES OF LAND BEING OF LOT 1, LOT 3, AND LOT 4, HUNTERS CREEK BUSINESS PARK
RECORDED IN DOCUMENT NO. 200606039930 OF THE MAP AND PLAT RECORDS OF COMAL COUNTY, TEXAS

- ALL LOTS WITHIN THE SUBDIVISION WILL BE SERVED BY A PUBLIC WATER SUPPLY, SANITARY SEWER AND ELECTRICITY OWNED BY NEW BRAUNFELS UTILITIES. TELEPHONE SERVICE FOR SUBDIVISION WILL BE PROVIDED BY AT&T COMMUNICATIONS AND/OR TIME WARNER. THERE WILL BE NO GAS SERVICE PROVIDED.
- BEARING BASED ON THE TEXAS COORDINATE SYSTEM, TEXAS SOUTH CENTRAL ZONE (4204), NORTH AMERICAN DATUM 1983.
- PROPERTY CORNERS WILL BE SET WITH 1/2" IRON PIN WITH PLASTIC CAP LABELED "HMT PROP. COR." WHERE PRACTICAL. OTHERWISE, A MONUMENT THAT IS PERMANENT AND STABLE WILL BE USED, UNLESS OTHERWISE NOTED.
- CONTOUR LINES SHOWN HEREON WERE SCALED FROM AND INTERPOLATED FROM AN AERIAL TOPOGRAPHIC MAP PREPARED BY LANDATA GEO SERVICES (MARCH, 2001).
- NO PORTION OF ANY LOT ON THIS PLAT IS WITHIN AN INDICATED SPECIAL FLOOD HAZARD ZONE ACCORDING TO THE ADOPTED FLOOD MAPS OF THE CITY OF NEW BRAUNFELS, TEXAS COMMUNITY PANEL NUMBER 4809100435F, EFFECTIVE DATE SEPTEMBER 2, 2009 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
- THIS SUBDIVISION LIES WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.
- ALL LOTS MUST PROVIDE ON-SITE WATER POLLUTION ABATEMENT MEASURES TO MEET REQUIREMENTS OF TCEQ AND ANY OTHER REGULATORY AGENCY REQUIREMENT.
- THIS PROPERTY LIES IN THE NEW BRAUNFELS INDEPENDENT SCHOOL DISTRICT.
- THIS PROPERTY LIES IN THE CITY OF NEW BRAUNFELS.
- THE PROPOSED USE OF THE SUBDIVISION IS FOR COMMERCIAL USE, ZONED C-1 (LOCAL BUSINESS DISTRICT) AND ZONED C-1B (GENERAL BUSINESS DISTRICT).
- SIDEWALKS ARE NOT REQUIRED ON HUNTERS VILLAGE, A PRIVATE STREET.
- MAINTENANCE OF DRAINAGE EASEMENTS DESIGNATED WITHIN A LOT SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.
- A DRAINAGE STUDY WAS SIGNED AND SEALED ON 12/11/2006 ADDRESSING THE RUNOFF FOR THE HUNTERS CREEK BUSINESS PARK SUBDIVISION. THE STUDY WAS APPROVED BY THE CITY ENGINEER IN A LETTER DATED JANUARY 19, 2007 WHICH ALLOWED FOR A CONNECTION FEE IN LIEU OF DETENTION FOR DEVELOPMENT. THEREFORE, BASED ON THIS APPROVAL LETTER, DETENTION WILL NOT BE REQUIRED FOR THIS DEVELOPMENT AND A CONNECTION FEE WILL BE COLLECTED DURING THE BUILDING PERMIT STAGE FOR EACH LOT.
- DRAINAGE EASEMENTS SHALL REMAIN FREE OF ALL OBSTRUCTIONS.
- A LEVEL 1 TIA MUST BE SUBMITTED PRIOR TO ISSUANCE OF ANY DEVELOPMENT PERMIT.
- IN LIEU OF DETENTION, A DRAINAGE CONNECTION FEE IN ACCORDANCE WITH SECTION 143-22(b) OF THE CITY CODE OF ORDINANCES WILL BE REQUIRED PRIOR TO THE ISSUANCE OF ANY DEVELOPMENT PERMIT.
- TXDOT NOTES:
 - FOR RESIDENTIAL DEVELOPMENT DIRECTLY ADJACENT TO STATE RIGHT-OF-WAY, THE DEVELOPER SHALL BE RESPONSIBLE FOR ADEQUATE SETBACK AND/OR SOUND ABATEMENT MEASURES FOR FUTURE NOISE MITIGATION.
 - OWNER/DEVELOPER IS RESPONSIBLE FOR PREVENTING ANY ADVERSE IMPACT TO THE EXISTING DRAINAGE SYSTEM WITHIN THE HIGHWAY RIGHT-OF-WAY.
 - MAXIMUM ACCESS POINTS TO THE STATE HIGHWAY FROM THIS PROPERTY WILL BE REGULATED AS DIRECTED BY "REGULATION FOR ACCESS DRIVEWAYS TO STATE HIGHWAYS". LOT 1A OF THIS PROPERTY IS ELIGIBLE FOR A MAXIMUM COMBINED TOTAL OF ONE (1) RIGHT-IN/ RIGHT-OUT ACCESS POINT, BASED ON AN OVERALL PLATTED FRONTAGE OF APPROXIMATELY 353.12 FEET. LOT 1B OF THIS PROPERTY IS ELIGIBLE FOR A MAXIMUM COMBINED TOTAL OF ZERO (0) ACCESS POINT, BASED ON AN OVERALL PLATTED FRONTAGE OF APPROXIMATELY 73.92 FEET.
 - IF SIDEWALKS ARE REQUIRED BY AN APPROPRIATE CITY ORDINANCE, A SIDEWALK PERMIT MUST BE APPROVED BY TXDOT, PRIOR TO CONSTRUCTION WITHIN STATE RIGHT-OF-WAY. LOCATIONS OF SIDEWALKS WITHIN STATE RIGHT-OF-WAY SHALL BE AS DIRECTED BY TXDOT.
- ANY TRAFFIC CONTROL MEASURES (LEFT-TURN LAND, RIGHT TURN LANE, SIGNAL, ETC.) FOR ANY ACCESS FRONTING A STATE MAINTAINED ROADWAY SHALL BE THE RESPONSIBILITY OF THE DEVELOPER/OWNER.
- NEW BRAUNFELS UTILITIES NOTES:
 - MAINTENANCE OF DEDICATED UTILITY EASEMENTS IS THE RESPONSIBILITY OF THE PROPERTY OWNER. ANY USE OF AN EASEMENT, OR ANY PORTION OF IT, INCLUDING LANDSCAPING OR DRAINAGE FEATURES, IS SUBJECT TO AND SHALL NOT CONFLICT WITH THE TERMS AND CONDITIONS IN THE EASEMENT, MUST NOT ENDANGER OR INTERFERE WITH THE RIGHTS GRANTED BY THE EASEMENT TO NEW BRAUNFELS UTILITIES, ITS SUCCESSORS AND ASSIGNS, AND SHALL BE SUBJECT TO APPLICABLE PERMIT REQUIREMENTS OF THE CITY OF NEW BRAUNFELS OR ANY OTHER GOVERNING BODY. THE PROPERTY OWNER MUST OBTAIN, IN ADVANCE, WRITTEN AGREEMENT WITH THE UTILITIES TO UTILIZE THE EASEMENT, OR ANY PART OF IT.
 - UTILITIES WILL POSSESS A 5' WIDE SERVICE EASEMENT TO THE DWELLING ALONG THE SERVICE LINE TO THE SERVICE ENTRANCE. THIS EASEMENT WILL VARY DEPENDING UPON LOCATION OF DWELLING AND SERVICE.
 - UTILITIES SHALL HAVE ACCESS TO THE METER LOCATIONS FROM THE FRONT YARD AND METER LOCATIONS SHALL NOT BE LOCATED WITHIN A FENCED AREA.
 - EACH TRACT IS SUBJECT TO A FLOATING GUY WIRE EASEMENT AND ITS DIMENSIONS SHALL BE DETERMINED BY THE NEED OF THE UTILITIES.
 - DO NOT COMBINE ANY NEW UTILITY EASEMENTS (U.E.) WITH DRAINAGE EASEMENTS (D.E.) OR MAKE CHANGES IN GRADE WITHIN THE UTILITY EASEMENTS (U.E.) WITHOUT WRITTEN APPROVAL FROM NEW BRAUNFELS UTILITIES.



LOCATION MAP
SCALE: NTS



LINE TABLE		
LINE	LENGTH	BEARING
L8	40.00'	N11°20'22"E
L9	41.63'	N24°47'41"E
L10	25.51'	S75°50'01"E
L11	13.92'	S03°20'19"W
L12	6.44'	N03°20'19"E
L13	30.85'	N75°49'48"W
L14	43.14'	S03°21'35"W
L15	44.56'	N75°50'01"W
L16	43.14'	S03°21'35"W
L17	13.92'	S03°21'35"W

CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	TANGENT	CHORD BEARING
C4	38.69'	5629.58'	0°23'38"	19.35'	S78°51'27"E
C5	37.83'	50.00'	43°21'17"	19.87'	S34°45'38"W
C6	35.48'	50.00'	40°39'06"	18.52'	N83°49'09"E



STATE OF TEXAS
COUNTY OF COMAL
I, Am Shuster DO HEREBY CERTIFY THAT THE
FOREGOING INSTRUMENT WAS FILED FOR RECORD IN THE MAP AND
PLAT RECORDS, DOC# 201006023736 OF
COMAL COUNTY ON THE 21st DAY OF July, 2010.
AT 2:43 P.M.
WITNESS MY HAND OFFICIAL SEAL, THIS THE 21st DAY
OF July, 2010.
Am Shuster
COUNTY CLERK, COMAL COUNTY, TEXAS
DEPUTY Sharon Rumen

APPROVED THIS 6th DAY OF April, 2010, BY THE
PLANNING COMMISSION OF THE CITY OF NEW BRAUNFELS, TEXAS.

APPROVED FOR ACCEPTANCE
DATE 7/16/10
DATE 7/16/10
DATE 7/12/10
DATE
PLANNING DIRECTOR
CITY ENGINEER
NEW BRAUNFELS UTILITIES (NBU)

KNOW ALL MEN BY THESE PRESENTS:

I, THE UNDERSIGNED, DREW A. MAWYER, A REGISTERED PROFESSIONAL
LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS
PLAT IS TRUE AND CORRECTLY MADE UNDER MY SUPERVISION AND IN
COMPLIANCE WITH CITY AND STATE SURVEY REGULATIONS AND LAWS
AND MADE ON THE GROUND AND THAT THE CORNER MONUMENTS
WERE PROPERLY PLACED UNDER MY SUPERVISION.
Drew A. Mawyer
DREW A. MAWYER
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 5348
410 N. SEGUIN NEW BRAUNFELS, TEXAS 78130

NEW Braunfels, TX
G.F. # 7882013

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T

Warranty Deed with Vendor's Lien



201006027317 08/18/2010 02:43:56 PM 1/5

Grantor: Hunters Creek Business Park, Inc., a Texas corporation; Hunters Creek Village, Ltd., f/k/a Hunters Creek Business Park, Ltd., a Texas limited company; Kenneth D. Brazle, spouse of Debra Brazle, owning, occupying, and claiming other property as homestead; David G. Pfeuffer, spouse of Tammy Pfeuffer, owning, occupying, and claiming other property as homestead; and Frank B. Suhr, spouse of Jacqueline Suhr, owning, occupying, and claiming other property as homestead

Grantor's Mailing Address:

Hunters Creek Business Park, Inc.
170 E. San Antonio Street
New Braunfels, Texas 78130
Comal County

Hunters Creek Village, Ltd., f/k/a Hunters Creek Business Park, Ltd.
170 E. San Antonio Street
New Braunfels, Texas 78130
Comal County

Kenneth D. Brazle
170 E. San Antonio Street
New Braunfels, Texas 78130
Comal County

David G. Pfeuffer
170 E. San Antonio Street
New Braunfels, Texas 78130
Comal County

Frank B. Suhr
473 S. Seguin, Suite
New Braunfels, Texas 78130
Comal County

Grantee: Prodigy Properties Hunters Creek, LLC, a Texas limited liability company.

Grantee's Mailing Address:

Prodigy Properties Hunters Creek, LLC
226 Glen Haven
New Braunfels, Texas 78132
Comal County

Consideration:

Cash and two notes of even date executed by Grantee and referred to as the first-lien note and the second-lien note. The first-lien note is payable to the order of Security Service Federal Credit Union in the principal amount of ONE MILLION TWO HUNDRED FIFTY THOUSAND AND NO/100 DOLLARS (\$1,250,000.00). The first-lien note is secured by the first and superior vendor's lien against, and superior title to, the Property retained in this deed in favor of Security Service Federal Credit Union and is also secured by a first-lien deed of trust of even date from Grantee to John T. Cody, trustee. The second-lien note is payable to the order of Security Service Federal Credit Union in the principal amount of EIGHT HUNDRED SEVENTY-FIVE THOUSAND AND NO/100 DOLLARS (\$875,000.00). The second-lien note is secured by a second and inferior vendor's lien against, and superior title to, the Property retained in this deed and is also secured by a second-lien deed of trust of even date from Grantee to John T. Cody, trustee. The vendor's lien is retained only to the extent of ONE HUNDRED TWENTY-FIVE THOUSAND AND NO/100 DOLLARS (\$125,000.00).

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Property (Including any improvements):

Lot 1B, Replat of Lot 1, Lot 3 and Lot 4, HUNTERS CREEK BUSINESS PARK, a subdivision in Comal County, Texas in plat recorded under Document No. 201006023736 in the Map and Plat Records of Comal County, Texas.

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Reservations from Conveyance:

None

COUNTY ENGINEER

Exceptions to Conveyance and Warranty:

Liens described as part of the Consideration and any other liens described in this deed as being either assumed or subject to which title is taken; validly existing easements, rights-of-way, and prescriptive rights, of record; all presently recorded and validly existing instruments, other than conveyances of the surface fee estate, that affect the Property; and taxes for 2010, which Grantee assumes and agrees to pay, and subsequent assessments for that and prior years due to change in land usage, ownership, or both, the payment of which Grantee assumes.

Grantor, for the Consideration and subject to the Reservations from Conveyance and the Exceptions to Conveyance and Warranty, grants, sells, and conveys to Grantee the Property, together with all and singular the rights and appurtenances thereto in any way belonging, to have and to hold it to Grantee and Grantee's heirs, successors, and assigns forever. Grantor binds Grantor and Grantor's heirs and successors to warrant and forever defend all and singular the Property to Grantee and Grantee's heirs, executors, administrators, successors, and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof, except as to the reservations from conveyance and the exceptions to conveyance and warranty.

The vendor's lien against and superior title to the Property are retained until each note described is fully paid according to its terms, at which time this deed will become absolute.

Security Service Federal Credit Union, at Grantee's request, has paid in cash to Grantor that portion of the purchase price of the Property that is evidenced by the first-lien note. The first and superior vendor's lien against and superior title to the Property are retained for the benefit of Security Service Federal Credit Union and are transferred to Security Service Federal Credit Union without recourse on Grantor to secure the first-lien note. The second and inferior vendor's lien against and superior title to the Property are retained for the benefit of Grantor to secure the second-lien note. Grantor agrees that this second and inferior vendor's lien against and superior title to the Property are and will remain subordinate and inferior to all liens securing the first-lien note, regardless of the frequency or manner of renewal, extension, or alteration of any part of the first-lien note or the liens securing it.

As part of the consideration for this deed, Grantor and Grantee agree that, as between Grantor and Grantee, the risk of liability or expense for environmental problems, even if arising from events before closing, is the sole responsibility of Grantee, regardless of whether the environmental problems were known or unknown at closing. Grantee indemnifies, holds harmless, and releases Grantor from liability for any latent defects and from any liability for environmental problems affecting the property, including liability under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Resource Conservation and Recovery Act (RCRA), the Texas Solid Waste Disposal Act, or the Texas Water Code. Grantee indemnifies, holds harmless, and releases Grantor from any liability for environmental problems affecting the property arising as the result of Grantor's own negligence or the negligence of Grantor's representatives. Grantee indemnifies, holds harmless, and releases Grantor from any liability for environmental problems affecting the property arising as the result of theories of products liability and strict liability, or under new laws or changes to existing laws enacted after the effective date that would otherwise impose on Grantor in this type of transaction new liabilities for environmental problems affecting the property.

When the context requires, singular nouns and pronouns include the plural.

Hunters Creek Business Park, Inc., a Texas corporation,

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OCT 01 2010

COUNTY ENGINEER


Ernesto E. Jorgins, President

Hunters Creek Village, Ltd., f/k/a Hunters Creek Business Park, Ltd., a Texas limited company,


Ernesto E. Jorgins, general partner of Hunters Creek Village, Ltd., f/k/a Hunters Creek Business Park, Ltd.


Kenneth D. Brazle


David G. Pfaffner


Frank B. Sahr

Prodigy Properties Hunters Creek, LLC, a Texas limited liability company, Grantee, accepts the attached deed and consents to its form and substance. Grantee acknowledges that the terms of the deed conform with Grantee's intent and that they will control in the event of any conflict with the contract Grantee signed regarding the Property described in the deed.

Prodigy Properties Hunters Creek, LLC,
a Texas limited liability company

By: Prodigy Hunters Creek Holdings, LLC,
a Texas limited liability company,
its Sole Member


By: Ken W. Brucks, Manager


By: Lisa A. Brucks, Manager

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OCT 01 2010

COUNTY ENGINEER

STATE OF TEXAS)

COUNTY OF COMAL)

This instrument was acknowledged before me on Aug. 17, 2010, by Ernesto E. Jergins, as the President of Hunters Creek Business Park, Inc., a Texas corporation, on behalf of said corporation.

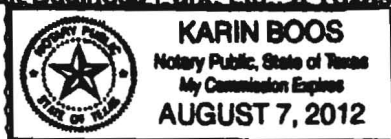


[Signature]
Notary Public, State of Texas

STATE OF TEXAS)

COUNTY OF COMAL)

This instrument was acknowledged before me on Aug. 17, 2010, by Ernesto E. Jergins, general partner, on behalf of Hunters Creek Village, Ltd., f/k/a Hunters Creek Business Park, Ltd., a Texas limited company.

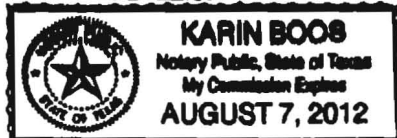


[Signature]
Notary Public, State of Texas

STATE OF TEXAS)

COUNTY OF COMAL)

This instrument was acknowledged before me on Aug. 17, 2010, by Kenneth D. Brazile.



[Signature]
Notary Public, State of Texas

STATE OF TEXAS)

COUNTY OF COMAL)

This instrument was acknowledged before me on Aug 17, 2010, by David G. Pfeuffer.

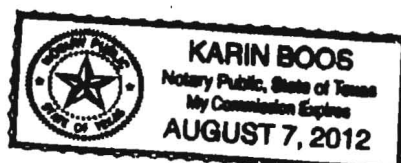


[Signature]
Notary Public, State of Texas

STATE OF TEXAS)

COUNTY OF COMAL)

This instrument was acknowledged before me on Aug. 17, 2010, by Frank B. Suhr.



[Signature]
Notary Public, State of Texas

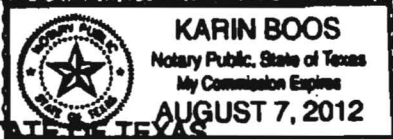
RECEIVED

OCT 01 2010

STATE OF TEXAS)

COUNTY OF COMAL)

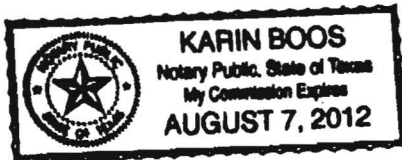
This instrument was acknowledged before me on Aug. 13, 2010, by Ken W. Brucks, general partner, on behalf of Prodigy Hunters Creek Holdings, LLC, a Texas limited liability company, its Sole Member.



STATE OF TEXAS)

COUNTY OF COMAL)

This instrument was acknowledged before me on Aug. 13, 2010, by Lisa A. Brucks, general partner, on behalf of Prodigy Hunters Creek Holdings, LLC, a Texas limited liability company, its Sole Member.



Karin Boos
Notary Public, State of Texas

Karin Boos
Notary Public, State of Texas

Filed and Recorded
Official Public Records
Joy Streater, County Clerk
Comal County, Texas
08/18/2010 02:43:56 PM
CASHM0
201006027317



Joy Streater

Bryan W. Shaw, Ph.D., *Chairman*
Buddy Garcia, *Commissioner*
Carlos Rubinstein, *Commissioner*
Mark R. Vickery, P.G., *Executive Director*



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JUL 28 2010
COUNTY ENGINEER

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Protecting Texas by Reducing and Preventing Pollution

July 23, 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: Prodigy Learning Center, located on the west side State Highway 46 on
Hunters Village Road, 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.: 1964.08

Dear Mr. Hornseth:

The referenced application administratively complete on July 21, 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 August 22, 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

A handwritten signature in blue ink that reads "Todd Jones".

Todd Jones
Water Section Work Leader
San Antonio Regional Office

TJ/eg

WATER POLLUTION ABATEMENT PLAN
FOR
PRODIGY LEARNING CENTER

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JUL 28 2010

COUNTY ENGINEER

NO 1964 08

PREPARED FOR
Texas Commission on Environmental Quality

Region 13 – San Antonio
14250 Judson Road
San Antonio, Texas 78233
210-490-3096 (office)
210-545-4329 (fax)

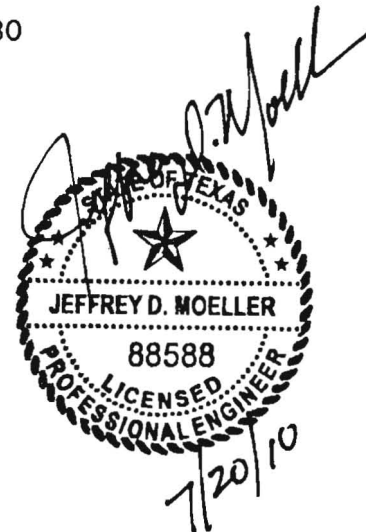
TCEQ-R13
JUL 21 2010
SAN ANTONIO

PREPARED BY

HMT
ENGINEERING & SURVEYING
HOLLMIG • MOELLER • THORNHILL
F-10961

Jeffrey D. Moeller, P.E.
410 N. Seguin St
New Braunfels, TX 78130

Prepared
July 21, 2010



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

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COUNTY ENGINEER

REGULATED ENTITY NAME: Prodigy Learning Center
COUNTY: Comal STREAM BASIN: Un-named Tributary of Blieders Creek

EDWARDS AQUIFER: ☒ RECHARGE ZONE
☐ TRANSITION ZONE

PLAN TYPE: ☒ WPAP ☐ AST ☐ EXCEPTION
☐ SCS ☐ UST ☐ MODIFICATION

CUSTOMER INFORMATION

1. Customer (Applicant):

Contact Person: Ken Brucks
Entity: Prodigy Properties Hunters Creek, LLC
Mailing Address: 226 Glen Haven
City, State: New Braunfels, Texas Zip: 78132
Telephone: (830) 226-5505 FAX: (830) 625-8556
Agent/Representative (If any):

Contact Person: Jeffrey D. Moeller, P.E.
Entity: HMT Engineering & Surveying
Mailing Address: 410 N. Sequin Street
City, State: New Braunfels, Texas Zip: 78130
Telephone: (830) 625-8555 FAX: (830) 625-8556

2. ☒ 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.

The project site is located on the west side of SH 46 on Hunters Village Rd.

4. ☒ **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. ☒ **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:

☒ Project site.

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COUNCIL ENGINEER

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

6. ☒ 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. ☒ **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
 - ☐ Existing residential site
 - ☐ Existing paved and/or unpaved roads
 - ☒ Undeveloped (Cleared)
 - ☐ Undeveloped (Undisturbed/Uncleared)
 - ☐ Other: _____

PROHIBITED ACTIVITIES

9. ☒ 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. ☐ N/A 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:
- ☒ 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)
- ☒ San Antonio Regional Office (for projects in Bexar, Comal, Kinney, Medina, and Uvalde Counties)
13. ☒ 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. ☒ 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:

Jeffrey D. Moeller, P.E.

Print Name of Customer/Agent



Signature of Customer/Agent

7/20/10

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.

ATTACHMENT A



SITE

NOT-TO-SCALE



HMT
ENGINEERING & SURVEYING

HOLLUM • MOELLER • MCHENRY
F-10961

410 N. SEGUIN STREET
NEW BRAUNFELS, TEXAS 78130-5085
PH: (830)825-8555 FAX: (830)825-8556 www.HMTNB.com

**LOCATION MAP
PRODIGY LEARNING CENTER**

DRAWN BY: SAK CHECKED BY: JDM

DATE: 6/2010

SHEET
1
OF
1

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

NEW BRAUNFELS EAST QUADRANGLE
TEXAS
7.5 MINUTE SERIES (TOPOGRAPHIC)



Produced by the United States Geological Survey in cooperation with the Defense Mapping Agency Control by USGS and NOS/NOAA and USCE
Compiled from aerial photographs taken 1956. Revisions in purple and woodland compiled from aerial photographs taken 1956 and other sources and has been field checked. Map edited 1984
Conflicts may exist between some updated features and previously mapped contours
North American Datum of 1927 (NAD 27). Projection and 10000-foot ticks: Texas Coordinate System, south central zone (Lambert Conformal Conic)
Blue 1000-meter Universal Transverse Mercator ticks, zone 14
North American Datum of 1983 (NAD 83) is shown by dashed corner ticks. The values of the shift between NAD 27 and NAD 83 for 7.5-minute intersections are obtainable from National Geodetic Survey NADCON software

UTM GRID AND 1984 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET
0° 28' 11" E
8 MILLS

SCALE 1:24,000
1 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 0 1 2 3 4 5 6 7 8 9 10 KILOMETER
CONTOUR INTERVAL 10 FEET
SUPPLEMENTARY CONTOUR INTERVAL 5 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



QUADRANGLE LOCATION

ROAD CLASSIFICATION
Primary highway, hard surface. Light-duty road, hard or improved surface.
Secondary highway, hard surface. Unimproved road.
Interstate Route U.S. Route State Route

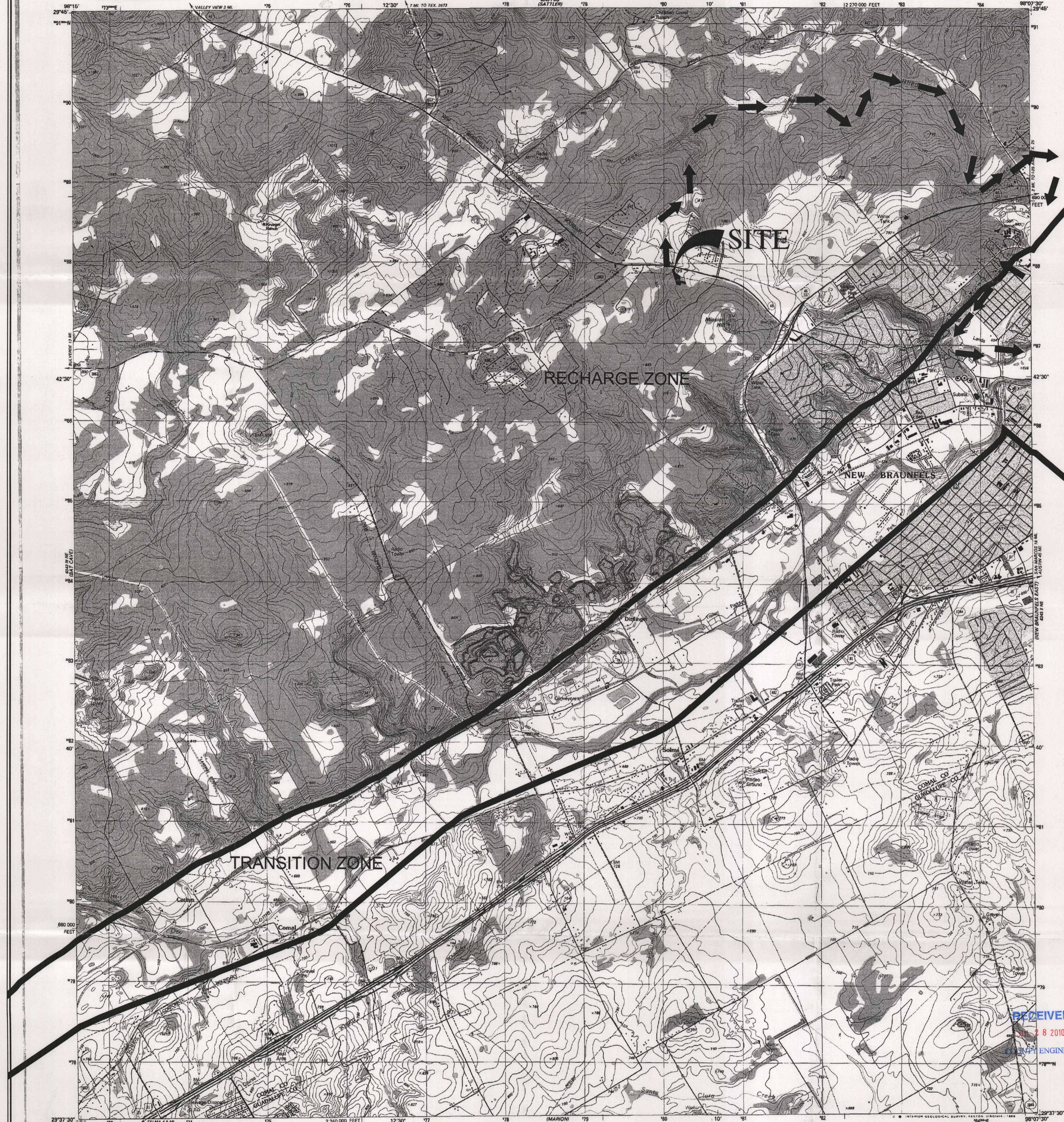
NEW BRAUNFELS EAST, TEX.
29098-F1-TF-024

1958
REVISED 1994
DMA 6343 II NE-SERIES V882

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JUL 28 2010
COUNTY ENGINEER

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

NEW BRAUNFELS WEST QUADRANGLE
TEXAS
7.5 MINUTE SERIES (TOPOGRAPHIC)

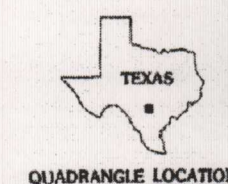


Produced by the United States Geological Survey
Revised in cooperation with the Texas Water Development Board
Control by USGS, NOS/NOAA, and USCE
Compiled by the Army Map Service by photogrammetric methods
from aerial photographs taken 1956. Field checked 1958
Revised from aerial photographs taken 1966. Field checked 1967
Map edited 1968
Projection and 10,000-foot grid ticks: Texas coordinate
system, south central zone (Lambert conformal conic)
1000-meter Universal Transverse Mercator grid, zone 14
1927 North American Datum
To place on the predicted North American Datum 1983
move the projection lines 20 meters south and
28 meters east as shown by dashed corner ticks
Fine red dashed lines indicate selected fence and field lines
generally visible on aerial photographs. This information is unchecked

UTM GRID AND 1983 MAGNETIC NORTH
DECLINATION AT CENTER OF MAP
DIAGRAM IS APPROXIMATE

SCALE 1:24 000
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10 000
FEET
0 1 2 3 4 5
MILES
0 1 2 3 4 5
KILOMETERS
CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



QUADRANGLE LOCATION

ROAD CLASSIFICATION
Primary highway, hard surface Light-duty road, hard or improved surface
Secondary highway, hard surface Unimproved road
Interstate Route U. S. Route State Route

NEW BRAUNFELS WEST, TEX.
29098-F2-TF-024

1988

DMA 6343 II NW-SERIES V822

2998-413

ATTACHMENT "C"
Project Description

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JUL 28 2010

The proposed project site is located on a 2.43 acre lot located within Hunters Creek Business Park. The proposed area to be disturbed is 2.07 acres with 1.12 acres (46%) of proposed impervious cover. The lot is located within the New Braunfels city limits in the south west corner of the cul-de-sac of Hunters Village. The site is served by New Braunfels Utilities for electric, water and wastewater. The site is currently cleared and there are no other improvements. A geologic assessment was prepared for this area with the WPAP submittal for Hunters Creek Business Park and that WPAP was approved on June 5, 2006 under TCEQ EAPP file number 1964.01. The same geologic assessment is included with this submittal. There were no sensitive features identified within the limits of this proposed project site.

The proposed use for the project is a 10,500 square foot Child Day Care Center. No other planned uses are proposed for the site.

The proposed construction will include minor grading for the parking areas and building pad, small utility service lines and building infrastructure.

According to the Flood Insurance Rate Map No. 4854930005E the site is outside of the flood plain. The entire site drains to an unnamed tributary of Blieders creek. Stormwater runoff will be treated with the Vortechs® vault system and vegetative filter strips. The Vortechs® will treat the drainage area with a majority of the proposed impervious cover and the vegetative filter strips will treat the remainder. The two permanent BMP's (Vortechs® and vegetative filter strips) will ensure the quality of water exiting without adversely affecting the downstream drainage patterns.

The lot lies within the boundary of Hunters Creek Business Park WPAP. The permanent stormwater abatement measures were proposed to treat the roadway (Hunters Village). The Geologic Assessment performed for the hunters Creek Business Park WPAP covered the entire commercial subdivision, including the proposed 2.34 acre lot. Therefore, an independent Geologic Assessment was not performed for this lot.

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

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JUL 28 2010

COUNTY ENGINEER

REGULATED ENTITY NAME: Hunters Creek Business Park

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 Assoc. (RUD)	C	1.6-3.0

*** 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" = 50'

Site Geologic Map Scale

1" = 50'

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. NA 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: 10/14/05
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.

Boyd Dreyer
Print Name of Geologist

512-312-0714
Telephone

512-295-2307
Fax

 
Signature of Geologist

3/15/06
Date

Representing: GeoConsul
(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.

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**Site Specific Geologic Column
Hunters Creek business Park-WPAP
New Braunfels, Texas**

Formation	Member	Lithology	Thickness (feet)
Person	Cyclic and marine (undivided)	Mudstone to packstone; miliolid grainstone; chert	80 - 100
Person	Leached & collapsed (undivided)	Crystalline limestone, mudstone to grainstone; chert; collapsed breccia	80 - 100
Person	Regional dense	Dense, argillaceous mudstone	20 - 24
Kainer	Grainstone	Grainstone; mudstone to wackestone; chert	50 - 60
Kainer	Kirschberg evaporite	Highly altered crystalline limestone; chalky mudstone; chert	50 - 60
Kainer	Dolomitic	Mudstone to grainstone; crystalline limestone; chert	110 - 130
Kainer	Basal Nodular	Shaly, nodular limestone; mudstone and grainstone	50 - 60
Glen Rose	Upper	Thinly bedded limestone and marl	350 - 500

**Geologic Narrative
Hunters Creek Business Park-WPAP
New Braunfels, Texas**

The site is underlain by the Person Formation (Kep). The cyclic and marine members (undivided) of the Person Formation are present on the site.

The Edwards Group is about 440 feet thick in Comal County and consists of limestone with chert in the form of nodules, lenses and discontinuous beds. The cyclic and marine members, undivided consist of variably burrowed mudstone, grainstone, and crystalline limestone with chert lenses common. The cyclic member was reportedly eroded prior to the deposition of the Georgetown Formation. The remaining marine member consists of medium to thick beds of mudstone and fossiliferous packstone. The cyclic and marine members (hydrogeologic subdivision II) has moldic and vuggy porosity and permeability associated with fossiliferous zones, and fracture porosity and permeability associated with faulting.

The leached and collapsed members (undivided), which underlie the cyclic and marine members) has vuggy and burrow porosity and permeability assisted with burrowed zones; breccia and cavern porosity and permeability associated with collapsed zones resulting from dissolution of evaporites; and fracture porosity and permeability associated with faulting. The regional dense member, below the leached and collapsed members, has little porosity or permeability except for some fracture porosity and permeability associated with faulting.

A mapped fault with a trend North approximately 40 degrees East lies on the eastern side of the site. The fault is down thrown to the East and is confined to members of the cyclic and marine members (undivided) of the Person Formation. An inferred fault with a trend North approximately 8 degrees East lies along the streambed located at the western edge of the tract. The fault is down thrown to the West with members of the cyclic and marine members (undivided) of the Person Formation exposed on the eastern side and members of the leached and collapsed members (undivided) of the Person Formation exposed on the west side. Evidence of these existence of these faults were not observed during the field investigation.

References

Small, Ted A. and Hanson John A., 1994, Geologic framework and hydrogeologic characteristics of the Edwards aquifer outcrop, Comal County, Texas, U.S. Geological Survey Water-Resources Investigations Report 94-4117, 10 p.

Soils Narrative
Hunters Creek Business Park-WPAP
New Braunfels, Texas

The soil mapped at the site are assigned to the Rumple-Comfort association (RUD). The Rumple Series consists of moderately deep, well drained, undulating clayey and cherty soils on uplands. The soils formed over indurated fractured limestone. Slopes are 1 to 8 percent. A typical soil profile is as follows:

- A1 - 0 to 10 inches; dark reddish brown (5YR 3/3) very cherty clay loam, dark reddish brown (5YR 3/2) moist; moderate fine subangular blocky structure; hard, friable; common fine roots; about 35 percent by volume, angular chert fragments mostly 0.5 to 1 inch across; noncalcareous; mildly alkaline; clear smooth boundary.
- B21t - 10 to 14 inches; dark reddish brown (2.5YR 3/4) very cherty clay, dark reddish brown (2.5YR 2/4) moist; moderate very fine subangular blocky structure; hard, friable; common fine roots; patchy clay films on peds; about 35 percent by volume, angular chert fragments mostly 0.5 inch to 2 inches across; noncalcareous; mildly alkaline; abrupt irregular boundary.
- B22t - 14 to 28 inches; dark reddish brown (2.5YR 3/4) extremely stony clay, dark reddish brown (2.5YR 2/4) moist; few fine roots; about 25 percent by volume, clayey soil material in vertical and horizontal fractures and solution cavities; 75 percent limestone cobbles and stones and chert pebbles and cobbles; noncalcareous; mildly alkaline; abrupt wavy boundary.
- R - 28 to 36 inches; coarsely fractured indurated limestone with dark reddish brown clay in crevices.

The soils found within 0 to 10 inch horizon are classified as a GC, CL, or a SC clay with Liquid Limits ranging from 30 to 40 and Plasticity Indices ranging from 13 to 22. The soils found within 10 to 28 inch horizon are classified as a GC, or a SC clay with Liquid Limits ranging from 41 to 86 and Plasticity Indices ranging from 20 to 60. The Rumple soils have a permeability value which ranges from 0.2 to 0.6 inches per hour.

References

United States Department of Agriculture, 1984, Soil survey of Comal and Hays Counties Texas, Soil Conservation Service., 136 p.

**Geologist Comments
Hunters Creek Business Park-WPAP
New Braunfels, Texas**

The site is underlain by the Person Formation (Kep). The cyclic and marine members (undivided) of the Person Formation are present on the site.

A mapped fault (Feature 16) with a trend North approximately 40 degrees East lies on the eastern side of the site. The fault is down thrown to the East and is confined to members of the cyclic and marine members (undivided) of the Person Formation. An inferred fault (Feature 15) with a trend North approximately 8 degrees East lies along the streambed located at the western edge of the tract. The fault is down thrown to the West with members of the cyclic and marine members (undivided) of the Person Formation exposed on the eastern side and members of the leached and collapsed members (undivided) of the Person Formation exposed on the west side. Evidence of the existence of these faults was not observed during the field investigation.

Feature 14 is a large closed depression, indicated by topographic contours, which lies along the streambed located on the northwest edge of the site. The large closed depression is created by the Highway 46 road embankment and is not a natural closed depression. The stream drainage passes under the roadway by a concrete culvert. However, within the large depression, stream scour was evident on the upstream side of the culvert adjacent to the roadway and the northwest corner of the site and was noted on the Geologic Assessment Table. The scour is attributed to stream erosion and not a natural collapsed feature. TXDOT has recently re-graded the area along the roadway and the scour may not be as evident as it was at the time of the investigation.

The other features observed at the site were closed depressions created by clearing of trees from the property with the exception of Feature S-2 which was an exposed area of fractured rock. A description of the features follows:

S-1 N 29E 43.171' W 98E 10.239'

Closed Depression 6' dia. 1' deep, Soil Rock fill, Hillside, Uprooted tree location

S-2 N 29E 43.191' W 98E 10.355'

Fractured Rock with fractures up to 18" wide with soil, organic fill, area 10' wide X 20' long orientated N 30 deg E Hillside

S-3 N 29E 43.078' W 98E 10.225'

Closed Depression 6' dia. 1' deep, Soil Rock fill, Hillside, Uprooted tree location

S-4 N 29E 43.070' W 98E 10.207'

Closed Depression 4' dia. 1' deep, Soil Rock fill, Hillside, Uprooted tree location

S-5 N 29E 43.066' W 98E 10.183'

Closed Depression 6' dia. 1' deep, Soil Rock fill, Hillside, Uprooted tree location

Geologist Comments
Hunters Creek Business Park-WPAP
Page 2 of 2

S-6 N 29E 43.055' W 98E 10.143'
Closed Depression 4' dia. 1' deep, Soil fill, Hillside, Uprooted tree location

S-7 N 29E 43.058' W 98E 10.131'
Closed Depression 4' dia. 1' deep, Soil Rock fill, Hillside, Uprooted tree location

S-8 N 29E 43.098' W 98E 10.212'
Closed Depression 6' dia. 1' deep, Soil fill, Hillside, Uprooted tree location

S-9 N 29E 43.106' W 98E 10.209'
Closed Depression 6' dia. 1' deep, Soil fill, Hillside, Uprooted tree location

S-10 N 29E 43.085' W 98E 10.139'
Closed Depression 4' dia. 1' deep, Soil Rock fill, Hillside, Uprooted tree location

S-11 N 29E 43.078' W 98E 10.100'
Closed Depression 6' dia. 1' deep, Soil fill, Hillside, Uprooted tree location

S-12 N 29E 43.083' W 98E 10.104'
Closed Depression 3' dia. 1' deep, Soil fill, Hillside, Uprooted tree location

S-13 N 29E 43.095' W 98E 10.121'
Closed Depression 4' dia. 1' deep, Soil fill, Hillside, Uprooted tree location

S-14 Closed depression created along Highway 46 by construction of the highway

S-15 Mapped inferred fault along drainage path of creek located on western edge of the site. Fault not observed in field. Fault trend N 08E E.

S-16 Mapped fault located on eastern side of the site. Fault no observed in field. Fault trend N 40E E.

Project Site GPS Reference Points:

Southeast Corner of Site N 29E 43.044' W 98E 10.133'

Northwest Corner of Site N 29E 43.202' W 98E 10.361'

Highway 46 Benchmark N 29E 43.193' W 98E 10.315'

GEOLOGIC ASSESSMENT TABLE						PROJECT NAME: Hunters Creek business Park-WPAP														
LOCATION			FEATURE CHARACTERISTICS											EVALUATION				PHYSICAL SETTING		
5	18 *	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)	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	
S-1	29°43.171'	98°10.239'	CD	5	Kep	6	6	1	None				COF	5	10	10		<1.6		Hillside
S-2	29°43.191'	98°10.355'	SF	20	Kep	20	10	0.5	N30°E	10			OF	8	38	38		<1.6		Hillside
S-3	29°43.078'	98°10.225'	CD	5	Kep	6	6	1	None				COF	5	10	10		<1.6		Hillside
S-4	29°43.070'	98°10.220'	CD	5	Kep	4	4	1	None				COF	5	10	10		<1.6		Hillside
S-5	29°43.066'	98°10.183'	CD	5	Kep	6	6	1	None				COF	5	10	10		<1.6		Hillside
S-6	29°43.075'	98°10.143'	CD	5	Kep	4	4	1	None				OF	5	10	10		<1.6		Hillside
S-7	29°43.058'	98°10.131'	CD	5	Kep	4	4	1	None				COF	5	10	10		<1.6		Hillside
S-8	29°43.098'	98°10.212'	CD	5	Kep	6	6	1	None				OF	5	10	10		<1.6		Hillside
S-9	29°43.106'	98°10.209'	CD	5	Kep	6	6	1	None				OF	5	10	10		<1.6		Hillside
S-10	29°43.085'	98°10.139'	CD	5	Kep	4	4	1	None				COF	5	10	10		<1.6		Hillside
S-11	29°43.078'	98°10.100'	CD	5	Kep	6	6	1	None				OF	5	10	10		<1.6		Hillside
S-12	29°43.083'	98°10.104'	CD	5	Kep	3	3	1	None				OF	5	10	10		<1.6		Hillside
S-13	29°43.095'	98°10.121'	CD	5	Kep	4	4	1	None				OF	5	10	10		<1.6		Hillside
S-14			CD	5	Kep	40	40	2	None				COF	10	15	15			>1.6	Streambed
S-15**			F	20	Kep				N8°E											Streambed
S-16**			F	20	Kep				N40°E											Hilltop

* DATUM NAD83

** Not observed in field investigation

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.

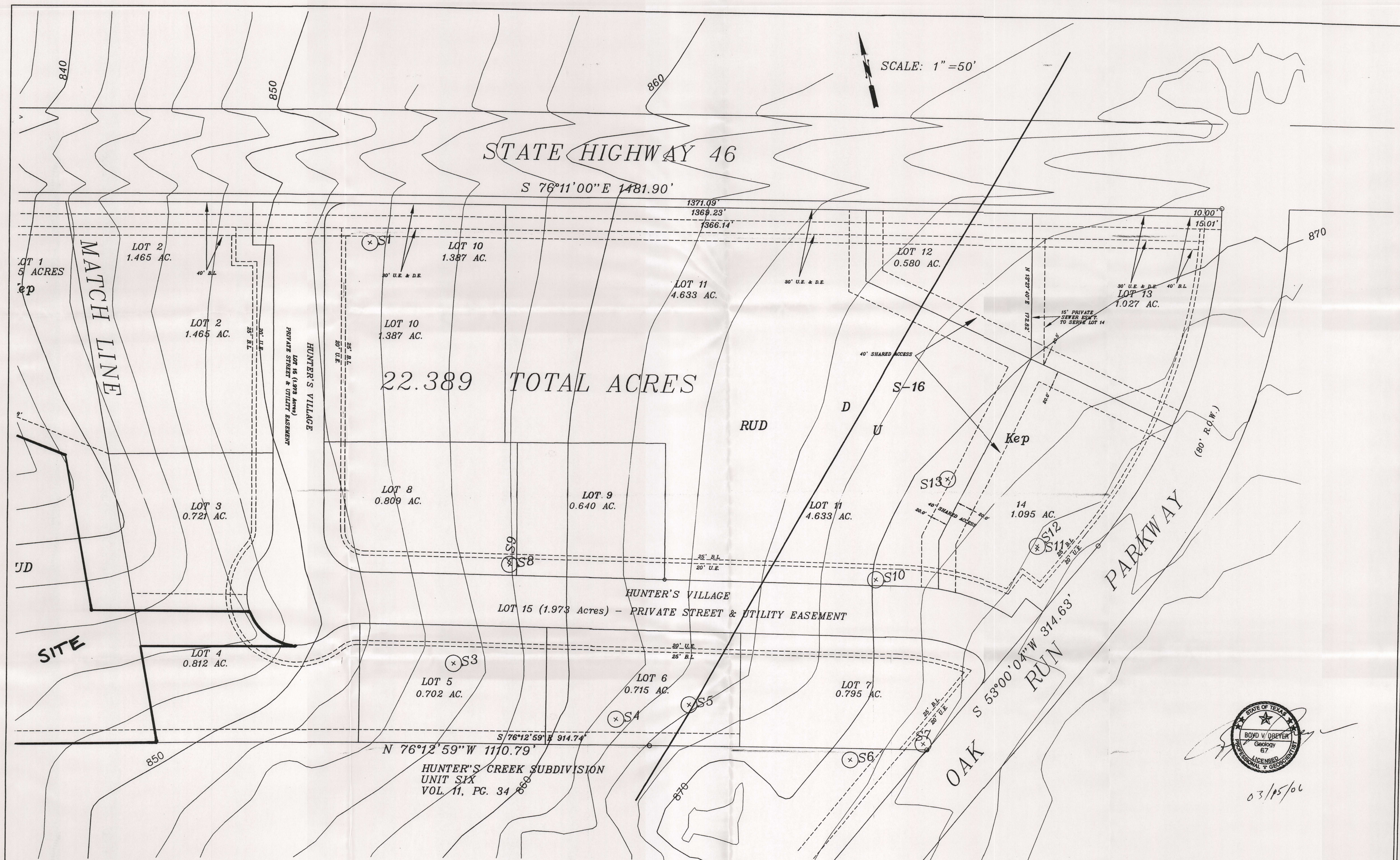
[Signature]
BOYD V. DREYER
Geology
67
PROFESSIONAL LICENSED GEOLOGIST

Date

03/15/06

Sheet

of



STATE HIGHWAY 46

S 76°11'00"E 1481.90'

SCALE: 1"=50'

22.389 TOTAL ACRES

HUNTER'S VILLAGE
LOT 15 (1.973 Acres) - PRIVATE STREET & UTILITY EASEMENT

N 76°12'59"W 1110.79'
HUNTER'S CREEK SUBDIVISION
UNIT SIX
VOL. 11, PG. 34

OAK S 53°00'04"W 314.63'
RUN

PARKWAY

Soils Legend

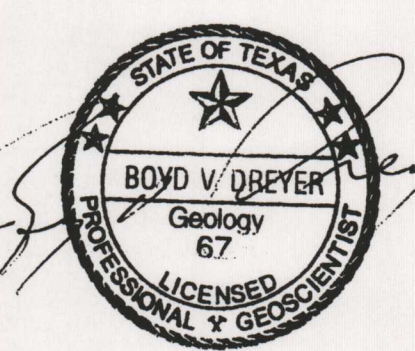
RUD - Rumble-Comfort
Association

Geologic Legend

Kep - Person Formation

- U/D Inferred Fault
- U/D Fault
- S-1 - Feature

GeoConsult	
Geological and Environmental Consultants	
Project: HUNTERS CREEK BUSINESS PARK-WPAP NEW BRAUNFELS, TEXAS	
Title: GEOLOGIC/SOILS MAP	
Plate No. II	Project No. 05017
Drawn By: BD Date: 3/15/06	Approved By: BD Date: 3/15/06



03/15/06

S. CRAIG HOLLMIG, INC.
CONSULTING ENGINEERS - SURVEYORS
410 N. SEGUN STREET
NEW BRAUNFELS, TEXAS 78130-5085
PH: (830) 625-8555 • FAX: (830) 625-8556 • EMAIL: hollmig@nbttx.com

**SITE PLAN
(SHT. 2 OF 2)**

**HUNTER'S CREEK
BUSINESS PARK**

NEW BRAUNFELS, TEXAS

DWG. NO. _____

PROJECT _____

SHEET # _____

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: Prodigy Learning Center

REGULATED ENTITY INFORMATION

RECEIVED
JUL 28 2010
COUNTY ENGINEER

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): 2.43 acres

3. Projected population: 0

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 (Residential)	12,886	÷ 43,560 =	0.30 acres
Parking (Driveways)	33,307	÷ 43,560 =	0.76 acres
Other paved surfaces (Sidewalk/Sport Court)	2,740	÷ 43,560 =	0.06 acres
Total Impervious Cover	48,933	÷ 43,560 =	1.12 acres
Total Impervious Cover ÷ Total Acreage x 100 =			46%

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.

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.
 $L \times W = \text{___ Ft}^2 \div 43,560 \text{ Ft}^2/\text{Acre} = \text{___ acres.}$
10. Length of pavement area: _____ feet.
Width of pavement area: _____ feet.
 $L \times W = \text{___ Ft}^2 \div 43,560 \text{ Ft}^2/\text{Acre} = \text{___ acres.}$
Pavement area _____ acres \div R.O.W. area _____ acres $\times 100 = \text{___ \%}$ 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 | ___ 5,500 | gallons/day |
| ___ % Industrial | ___ | gallons/day |
| ___ % Commingled | ___ | gallons/day |
| TOTAL ___ 5,500 ___ gallons/day | | |
15. Wastewater will be disposed of by:
- ___ **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 Gruene Rd WWTP (name) Treatment Plant. The treatment facility is:

- ☒ existing.
☐ proposed.

16. ☒ 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" = 50'.

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.
☒ 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):

FEMA Panel Number 4854930005E Dated 01/05/2006

19. ☒ 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 0 (#) 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.
☒ 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.
☒ No **sensitive and possibly sensitive** geologic or manmade features were identified in the Geologic Assessment.
☐ **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.
☐ **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. X Surface waters (including wetlands).
27. X Locations where stormwater discharges to surface water or sensitive features.
 There will be no discharges to surface water or sensitive features.

ADMINISTRATIVE INFORMATION

28. X One (1) original and three (3) 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:

Jeffrey D. Moeller, P.E.
Print Name of Customer/Agent


Signature of Customer/Agent

7/20/10
Date

ATTACHMENT "A"

Factors Affecting Water Quality

The development will consist of an asphalt parking lot and a structure of approximately 10,500 square feet. This will result in minimal to no pollution from the site. Some pollution may originate from the asphalt streets, automobile wastes, and cleaning chemicals, which may have an effect on surface water by sediments leaving the site after a rainfall event.

ATTACHMENT "B"

Volume and Character of Stormwater

The development of this site will result in a minimal increase in stormwater run-off. The hydrology calculations for existing and proposed conditions are broken out in the tables below. On site detention will not be required due to the proximity of the site to Blieders Creek in accordance with regulations set forth by the City of New Braunfels.

Table 1 - Prodigy Learning Center Existing Conditions Hydrology Calculations							
Area ID	Area	"C" Value	T_c	I₁₀	I₁₀₀	Q₁₀	Q₁₀₀
A1	0.19	0.38	22	5.15	8.06	0.37	0.73
A2	2.24	0.38	22	5.15	8.06	4.39	8.57

Table 2 - Prodigy Learning Center Proposed Conditions Hydrology Calculations							
Area ID	Area	"C" Value	T_c	I₁₀	I₁₀₀	Q₁₀	Q₁₀₀
A1	0.19	0.66	21	5.37	8.39	0.68	1.32
A2	2.24	0.58	21	5.37	8.39	6.97	13.62

There are 5.2 acres upstream and south of the development that drains west through an existing channel and south towards SH 46 through an existing channel that will be routed under ground as part of this project. The area is currently a developed single family subdivision. The upstream development discharges 27.4 cfs through the channel during a 100 year storm event. However, this runoff does not co-mingle with the on-site untreated stormwater. The upgradient stormwater will be contained within the existing channel running along the south and west boundaries of the proposed project site. Natural vegetation in the area of the upgradient stormwater will act as a vegetative filter strip to treat the upgradient storm flows. Reference the Drainage Area Map of the Hunters Creek Business Park WPAP(Approved by TCEQ June 5, 2006, EAPP #1964.01) for drainage patterns for the area.

The existing drainage patterns remain unchanged after the proposed construction. the sit will continue to drain northwest to SH 46.

ATTACHMENT "C"

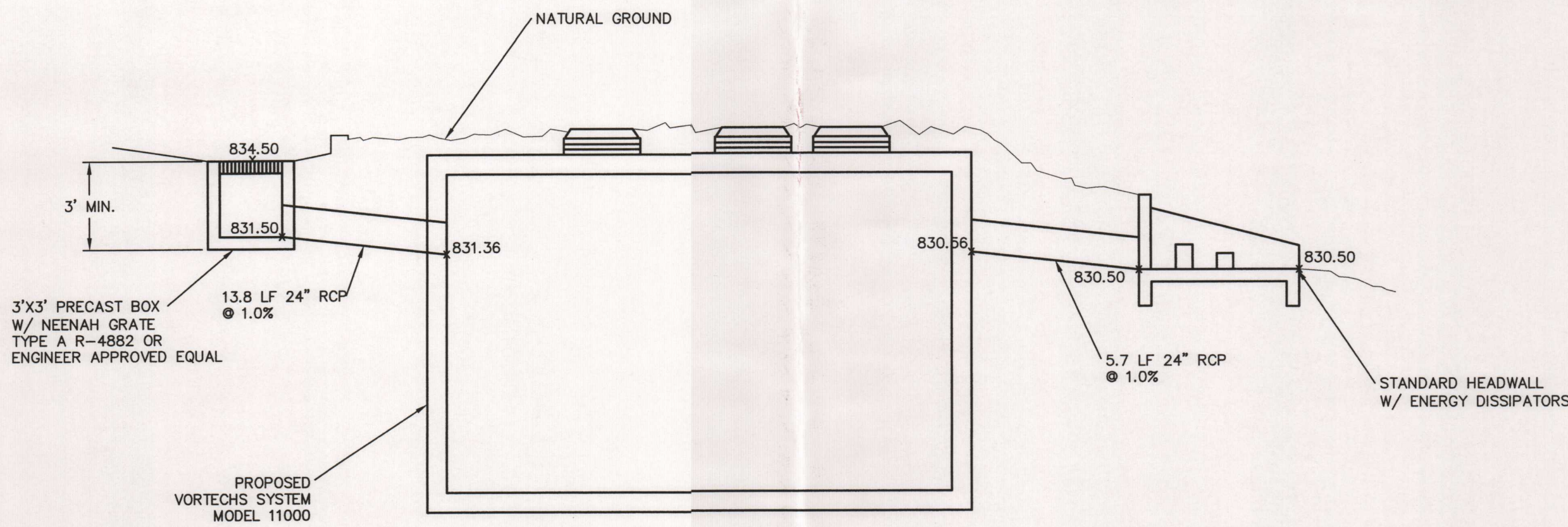
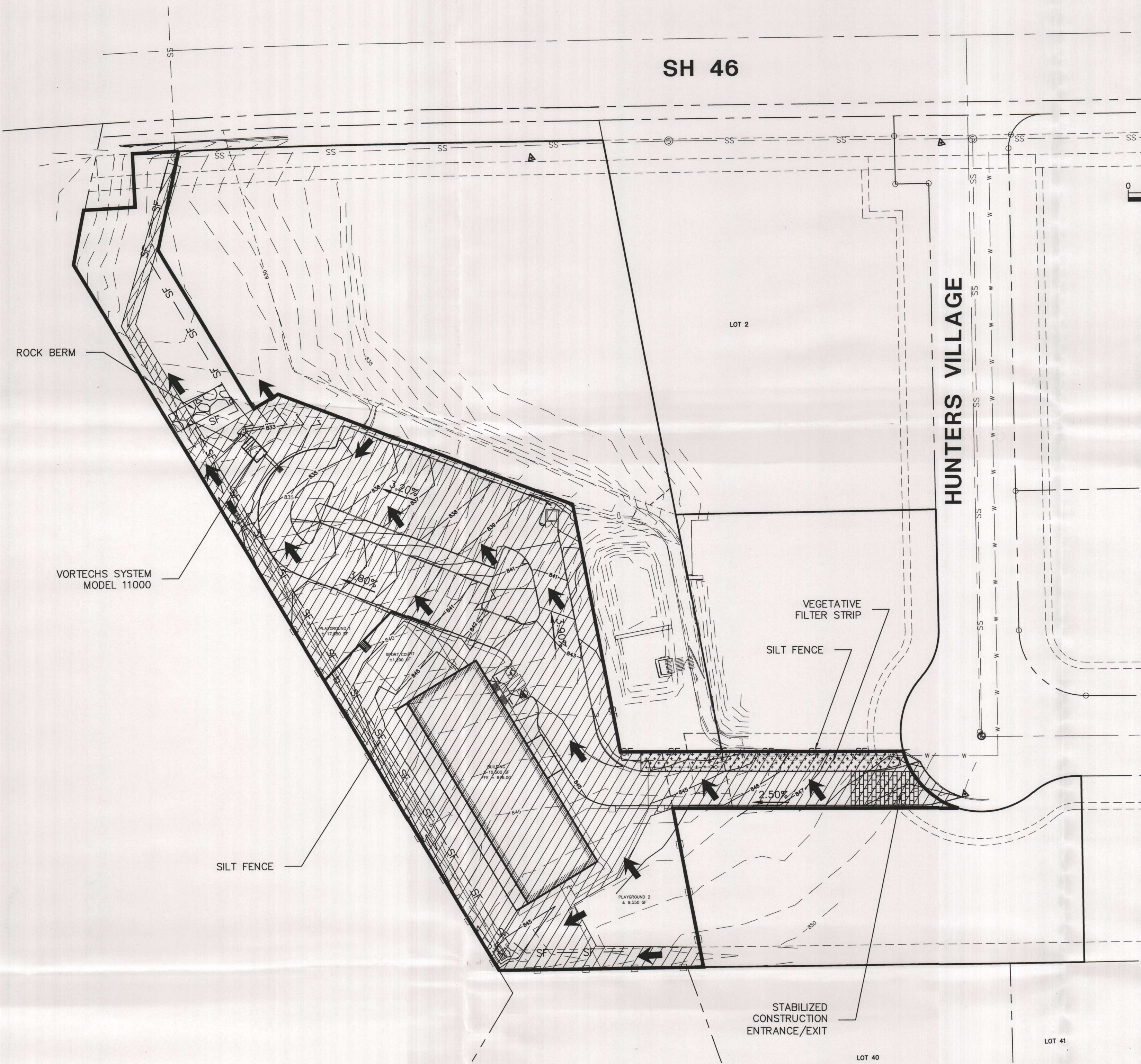
Suitability Letter from Authorized Agent

There is no proposed OSSF.

ATTACHMENT "D"

Exception to the Required Geologic Assessment

No exception will be requested.



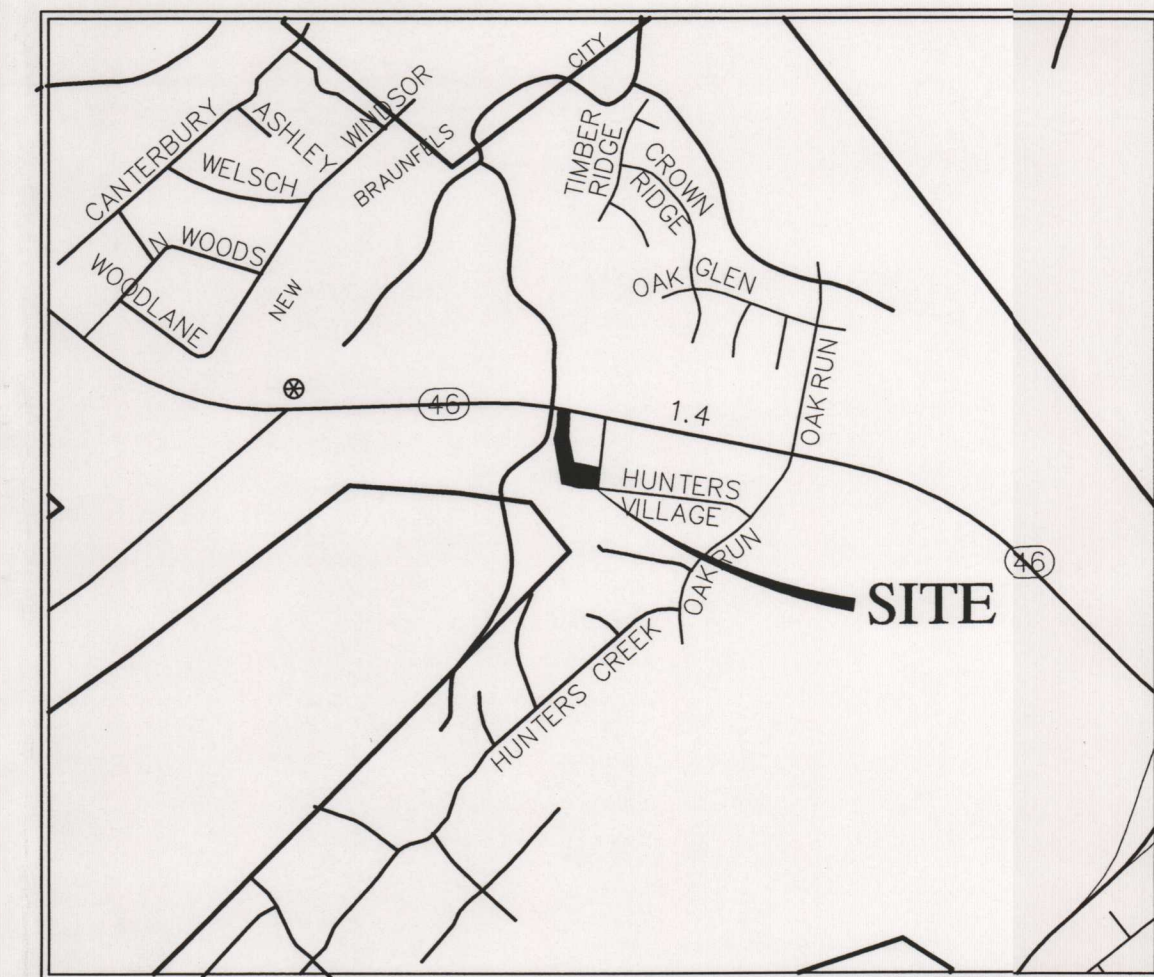
LEGEND

	LEGAL BOUNDARY
	LIMITS OF DRAINAGE AREA
	ROCK BERM
	SILT FENCE
	STABILIZED CONSTRUCTION ENTRANCE
	VEGETATIVE FILTER STRIP
	DISTURBED AREA
	EXISTING CONTOURS
	PROPOSED CONTOURS

TOTAL LAND AREA	=	2.43 AC
TOTAL DISTURBED AREA	=	2.07 AC
TOTAL IMPERVIOUS AREA	=	1.12 AC
% IMPERVIOUS	=	46%

SOIL STABILIZATION NOTE

ALL DISTURBED SOILS SHOULD BE SEED OR OTHERWISE STABILIZED WITH 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS.



LOCATION MAP

RECEIVED
JUL 28 2010
COUNTY ENGINEER

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

- 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.
- 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.
- 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.
- 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.
- 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.
- 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).
- 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.
- 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).
- 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.
- 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.
- 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.
- The holder of any approved Edwards 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:
 - 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;
 - 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;
 - 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) 338-2929
Fax (512) 338-3795

San Antonio Regional Office
14250 Judson Road
San Antonio, Texas 78233-4480
Phone (210) 490-3066
Fax (210) 545-4329

WPAP SITE PLAN SITE DEVELOPMENT PLANS

PRODIGY LEARNING CENTER

KEN BRUCKS

226 GLEN HAVEN
NEW BRAUNFELS, TX 78132

DATE: 7/12/2010

DRAWN BY: SAK

DESIGNED BY: JJI

CHECKED BY: JDM

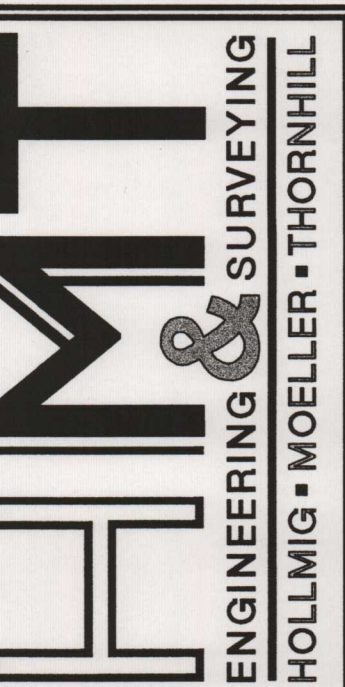
REVIEWED BY: JDM

PROJECT NUMBER: BRK001

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OF 8



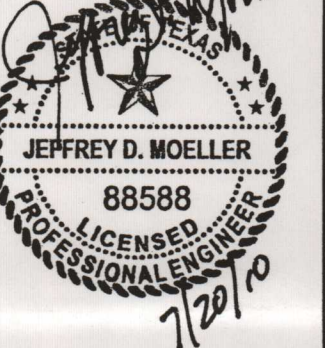
410 N. SEGUIN ST.
NEW BRAUNFELS
TEXAS, 78130

TBPE Firm F-10961

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Ph: 830-625-8555

Fax: 830-625-8556



SILT FENCE

Materials:

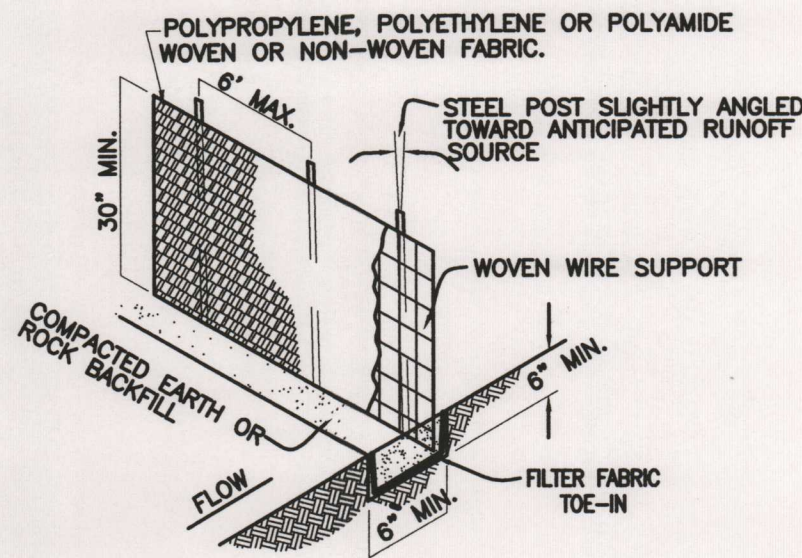
- (1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.
- (2) Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Ybar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft2, and Brindell hardness exceeding 140.
- (3) Woven wire backing to support the fabric should be galvanized 2" x 4" welded wire, 12 gauge minimum.

Installation:

- (1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of 1- foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.
- (2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is ¼ acre/100 feet of fence.
- (3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.
- (4) 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.
- (5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet.
- (6) Silt fence should be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.

Inspection and Maintenance Guidelines:

- (1) Inspect all fencing weekly, and after any rainfall.
- (2) Remove sediment when buildup reaches 6 inches.
- (3) Replace any torn fabric or install a second line of fencing parallel to the torn section.
- (4) Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
- (5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.



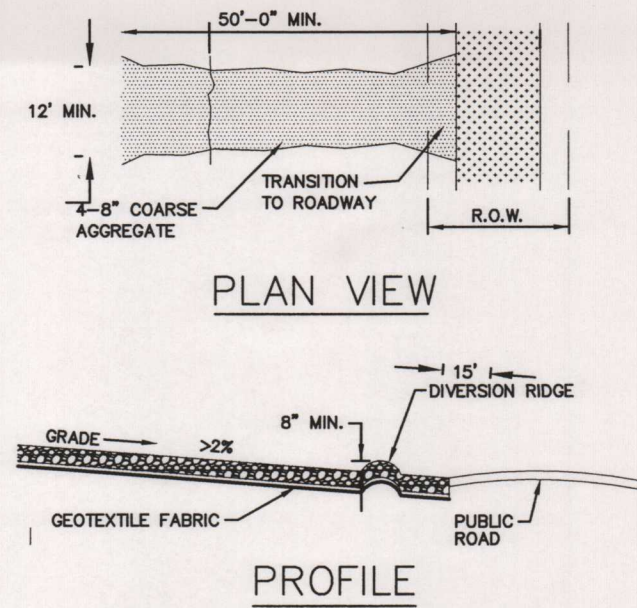
STABILIZED CONSTRUCTION ENTRANCE / EXIT

Materials:

- (1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan.
- (2) The aggregate should be placed with a minimum thickness of 8 inches.
- (3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd2, a mullen burst rating of 140 lb/in2, and an equivalent opening size greater than a number 50 sieve.
- (4) If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rack should be included in the plans. Divert wastewater to a sediment trap or basin.

Installation:

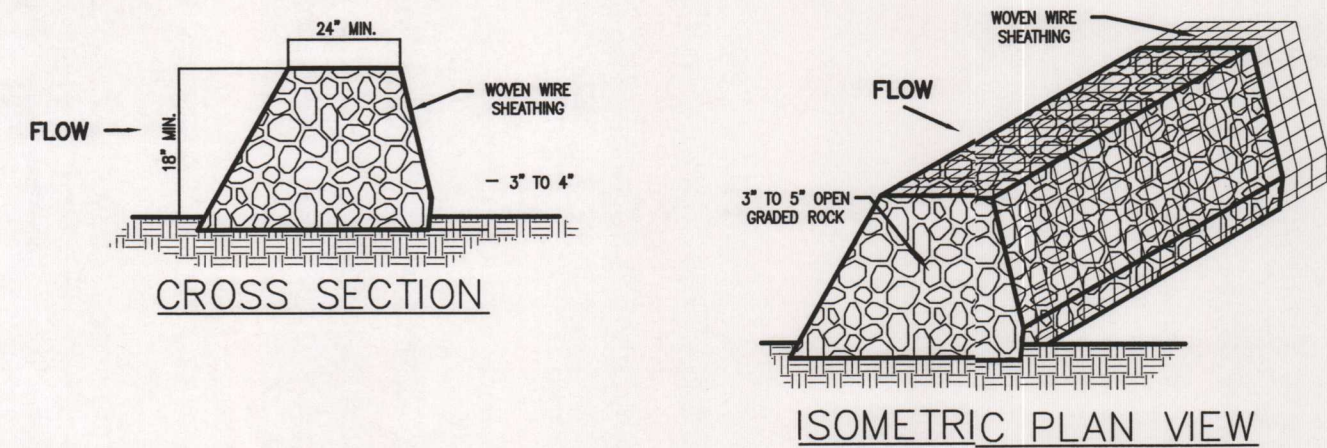
- (1) Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for positive drainage.
 - (2) The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater.
 - (3) The construction entrance should be at least 50 feet long.
 - (4) If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 (H:V) side slopes, across the foundation approximately 15 feet from the entrance to divert runoff away from the public road.
 - (5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.
 - (6) Place stone to dimensions and grade shown on plans. Leave surface smooth and slope for drainage.
 - (7) Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.
 - (8) Install pipe under pad as needed to maintain proper public road drainage.
- Inspection and Maintenance Guidelines:
- (1) The entrance should be maintained in a condition, which will prevent tracking or lowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment.
 - (2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.
 - (3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.
 - (4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
 - (5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.



ROCK BERM

Materials:

- (1) The berm structure should be secured with a woven wire sheathing having maximum opening of 11 inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoot rings.
 - (2) Clean, open graded 3 - 5 inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5 - 8 inch diameters rocks may be used.
- Installation:
- (1) Lay out the woven wire sheathing perpendicular to the flow line. the sheathing should be 20 gauge woven wire mesh with 1 inch openings.
 - (2) Berm should have a top width of 2 feet with side slopes being 2:1 (h:v) or flatter.
 - (3) Place the rock along the sheathing as shown in the diagram, to a height of not less than 18 inches.
 - (4) Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlaps at least 2 inches, and the berm retains its shape when walked upon.
 - (5) Berm should be built along the contour at zero percent grade or as near as possible.
 - (6) The ends of the berm should be tied into existing upslope grade and the berm should be buried in a trench approximately 3 to 4 inches deep to prevent failure of the control.
- Inspection and Maintenance Guidelines:
- (1) Inspection should be made weekly and after each rainfall. repair or replacement should be made promptly as needed by contractor. (2) Remove sediment and other debris when buildup reaches 6" and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.
 - (3) Repair any loose wire sheathing.
 - (4) The berm should be reshaped as needed during inspection.
 - (5) The berm should be replaced when structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc.
 - (6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.



HYDRAULIC MULCH

Materials:

Hydraulic Mulches: Wood fiber mulch can be applied alone or as a component of hydraulic matrices. Wood fiber applied alone is typically applied at the rate of 2,000 to 4,000 lb/acre. Wood fiber mulch is manufactured from wood or wood waste from lumber mills or from urban sources.

Hydraulic Matrices: Hydraulic matrices include a mixture of wood fiber and acrylic polymer or other tackifier as binder. Apply as a liquid slurry using a hydraulic application machine (i.e., hydro seeder) at the following minimum rates, or as specified by the manufacturer to achieve complete coverage of the target area: 2,000 to 4,000 lb/acre wood fiber mulch, and 5 to 10% (by weight) of tackifier (acrylic copolymer, guar, psyllium, etc.)

Bonded Fiber Matrix: Bonded fiber matrix (BFM) is a hydraulically applied system of fibers and adhesives that upon drying forms an erosion resistant blanket that promotes vegetation, and prevents soil erosion. BFMs are typically applied at rates from 3,000 lb/acre to 4,000 lb/acre based on the manufacturer's recommendation. A biodegradable BFM is composed of materials that are 100% biodegradable. The binder in the BFM should also be biodegradable and should not dissolve or disperse upon re-wetting. Typically, biodegradable BFMs should not be applied immediately before, during or immediately after rainfall if the soil is saturated. Depending on the product, BFMs typically require 12 to 24 hours to dry and become effective.

Installation:

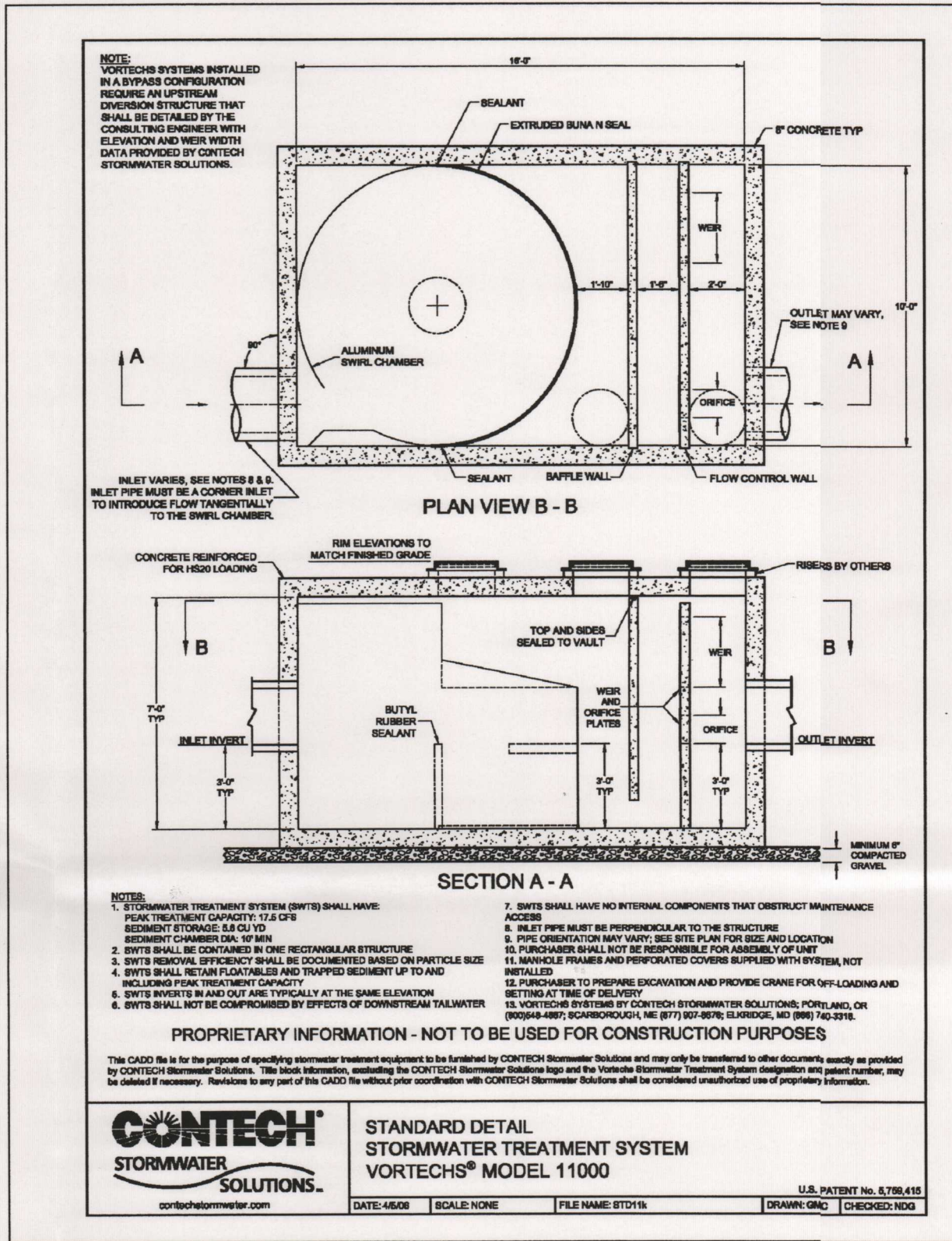
- (1) Prior to application, roughen embankment and fill areas by rolling with a crimping or punching type roller or by track walking. Track walking shall only be used where other methods are impractical.
- (2) To be effective, hydraulic matrices require 24 hours to dry before rainfall occurs.
- (3) Avoid mulch over spray onto roads, sidewalks, drainage channels, existing vegetation, etc.

Inspection and Maintenance Guidelines:

- (1) Mulched areas should be inspected weekly and after each rain event to locate and repair any damage.
- (2) Areas damaged by storms or normal construction activities should be regraded and hydraulic mulch reapplied as soon as practical.

SOIL STABILIZATION NOTE

ALL DISTURBED SOILS SHOULD BE SEEDED OR OTHERWISE STABILIZED WITH 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS.



WPAP DETAILS SITE DEVELOPMENT PLANS

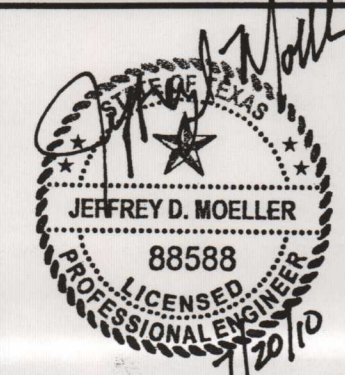
PRODIGY LEARNING CENTER

DATE:	7/12/2010
DRAWN BY:	SAK
DESIGNED BY:	JJI
CHECKED BY:	JDM
REVIEWED BY:	JDM
PROJECT NUMBER:	BR0001

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OF 8

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NEW BRAUNFELS, TX 78132

RECEIVED

JUL 28 2010

COUNTY ENGINEER

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: Prodigy Learning Center

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:
 - ☐ Aboveground storage tanks with a cumulative storage capacity of less than 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. ☒ **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. ☐ N/A 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. ☒ **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. ☒ **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. ☒ 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: Un-named Tributary of Blieders 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.

 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.

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

 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.

 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

- X 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. N/A 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:

Jeffrey D. Moeller, P.E.
Print Name of Customer/Agent


Signature of Customer/Agent

7/20/10
Date

ATTACHMENT "A"
Spill Response Actions

Spill Prevention and Control

The objective of this section is to describe measures to prevent or reduce the discharge of pollutants to drainage systems or watercourses from leaks and spills by reducing the chance for spills, stopping the source of spills, containing and cleaning up spills, properly disposing of spill materials, and training employees.

The following steps will help reduce the stormwater impacts of leaks and spills:

Education

- (1) Be aware that different materials pollute in different amounts. Make sure that each employee knows what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills. Employees should also be aware of when spill must be reported to the TCEQ. Information available in 30 TAC 327.4 and 40 CFR 302.4.
- (2) Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
- (3) Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
- (4) Establish a continuing education program to indoctrinate new employees.
- (5) Have contractor's superintendent or representative oversee and enforce proper spill prevention and control measures.

General Measures

- (1) To the extent that the work can be accomplished safely, spills of oil, petroleum products, and substances listed under 40 CFR parts 110, 117, and 302, and sanitary and septic wastes should be contained and cleaned up immediately.
- (2) Store hazardous materials and wastes in covered containers and protect from vandalism.
- (3) Place a stockpile of spill cleanup materials where it will be readily accessible.
- (4) Train employees in spill prevention and cleanup.
- (5) Designate responsible individuals to oversee and enforce control measures.

(6) Spills should be covered and protected from stormwater runoff during rainfall to the extent that it doesn't compromise clean up activities.

(7) Do not bury or wash spills with water.

(8) Store and dispose of used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose in conformance with the provisions in applicable BMP's.

(9) Do not allow water used for cleaning and decontamination to enter storm drains or watercourses. Collect and dispose of contaminated water in accordance with applicable regulations.

(10) Contain water overflow or minor water spillage and do not allow it to discharge into drainage facilities or watercourses.

(11) Place Material Safety Data Sheets (MSDS), as well as proper storage, cleanup, and spill reporting instructions for hazardous materials stored or used on the project site in an open, conspicuous, and accessible location.

(12) Keep waste storage areas clean, well organized, and equipped with ample cleanup supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers, and liners should be repaired or replaced as needed to maintain proper function.

Cleanup

(1) Clean up leaks and spills immediately.

(2) Use a rag for small spills on paved surfaces, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be disposed of as hazardous waste.

(3) Never hose down or bury dry material spills. Clean up as much of the material as possible and dispose of properly. See the waste management BMP's in this section for specific information.

Minor Spills

(1) Minor spills typically involve small quantities of oil, gasoline, paint, etc. which can be controlled by the first responder at the discovery of the spill.

(2) Use absorbent materials on small spills rather than hosing down or burying the spill.

(3) Absorbent materials should be promptly removed and disposed of properly.

- (4) Follow the practice below for a minor spill:
- (5) Contain the spread of the spill.
- (6) Recover spilled materials.
- (7) Clean the contaminated area and properly dispose of contaminated materials.

Semi-Significant Spills

Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.

Spills should be cleaned up immediately:

- (1) Contain spread of the spill.
- (2) Notify the project foreman immediately.
- (3) If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.
- (4) If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
- (5) If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

Significant/Hazardous Spills

For significant or hazardous spills that are in reportable quantities:

- (1) Notify the TCEQ by telephone as soon as possible and within 24 hours at 512-339-2929 (Austin) or 210-490-3096 (San Antonio) between 8 AM and 5 PM. After hours, contact the Environmental Release Hotline at 1-800-832-8224. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
- (2) For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110, 119, and 302, the contractor should notify the National Response Center at (800) 424-8802.
- (3) Notification should first be made by telephone and followed up with a written report.

(4) The services of a spills contractor or a Haz-Mat team should be obtained immediately. Construction personnel should not attempt to clean up until the appropriate and qualified staffs have arrived at the job site.

(5) Other agencies which may need to be consulted include, but are not limited to, the City Police Department, County Sheriff Office, Fire Departments, etc.

More information on spill rules and appropriate responses is available on the TCEQ website at: http://www.tnrc.state.tx.us/enforcement/emergency_response.html

Vehicle and Equipment Maintenance

(1) If maintenance must occur onsite, use a designated area and a secondary containment, located away from drainage courses, to prevent the runoff of stormwater and the runoff of spills.

(2) Regularly inspect onsite vehicles and equipment for leaks and repair immediately

(3) Check incoming vehicles and equipment (including delivery trucks, and employee and subcontractor vehicles) for leaking oil and fluids. Do not allow leaking vehicles or equipment onsite.

(4) Always use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.

(5) Place drip pans or absorbent materials under paving equipment when not in use.

(6) Use absorbent materials on small spills rather than hosing down or burying the spill. Remove the absorbent materials promptly and dispose of properly.

(7) Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.

(8) Oil filters disposed of in trashcans or dumpsters can leak oil and pollute stormwater. Place the oil filter in a funnel over a waste oil-recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask the oil supplier or recycler about recycling oil filters.

(9) Store cracked batteries in a non-leaking secondary container. Do this with all cracked batteries even if you think all the acid has drained out. If you drop a battery, treat it as if it is cracked. Put it into the containment area until you are sure it is not leaking.

Vehicle and Equipment Fueling

(1) If fueling must occur on site, use designated areas, located away from drainage courses, to prevent the runoff of stormwater and the runoff of spills.

(2) Discourage "topping off" of fuel tanks.

(3) Always use secondary containment, such as a drain pan, when fueling to catch spills/ leaks.

ATTACHMENT “B”

Potential Sources of Contamination

The only potential sources of contamination are construction equipment leaks, re-fueling spills, as well as potential from port-o-lets, and the total suspended solids (TSS) due to the construction activities on-site. There are no other anticipated potential sources of contamination.

ATTACHMENT “C”

Sequence of Major Activities

Stages of Construction:

1. Minor site grading: This includes the removal of organic material and other debris within the proposed parking and building site. Approximate total disturbed area = 2.07 acres
2. Grading: Cutting and filling of the proposed site to prepare the site for parking and foundation construction. Approximate total disturbed area = 2.07 acres.
3. Vortechs ® Installation: Vortechs ® structure will be installed at the northwest corner of the site, see Permanent Stormwater Section
4. Utility Installation: All primary utility mains have already been installed and are available at the site. Small sewer, water and electrical services will be installed at this time.
5. Finished Grading: Final landscaping, asphalt parking and building infrastructure are installed. Approximate total disturbed area = 2.07 acres
6. Vegetative Filter Strip Installation – Upon completion of the pavement areas and final grading, the vegetative filter strips are installed, see Permanent Stormwater Section.

ATTACHMENT “D”

Temporary BMP's and Measures

The following sequence will be followed for installing temporary BMP's:

1. Silt fence will be constructed on the downgradient side of proposed site.
2. A stabilized construction exit will be installed prior to any site work.
3. A rock berm will be installed in the northwest corner of the site, downstream of a both proposed storm sewer outfalls.

A. The existing roadway along the east property line intercepts upgradient stormwater directs it to an existing sand filtration pond. A stabilized construction exit will be constructed at the entrance of the site on Hunters Village, this will reduce the amount of contaminants leaving the site.

B. Silt fence will be placed on the downgradient side of each proposed improvement to contain pollutants generated from onsite runoff. Soil disturbance will be limited to a minimal distance outside the proposed pavement and building pad. Disturbed areas will be seeded to replace destroyed vegetation. The existing vegetation located downgradient of each proposed improvement will work in conjunction with the silt fence, rock berms, and stabilized construction entrance to prevent pollution of water originating onsite and/or flowing offsite.

improvement will work in conjunction with the silt fence, rock berms, and stabilized construction entrance to prevent pollution of water originating onsite and/or flowing offsite.

C. The proposed silt fences, rock berm, and stabilized construction entrances constructed upgradient of the existing streams will prevent pollutants from entering them as well as the aquifer. According to the Geologic Assessment, there are no sensitive features with the project boundary.

D. There were no sensitive features identified in the Geologic Assessment.

ATTACHMENT "E"

Request to Temporarily Seal a Feature

There will be no request to temporarily seal a feature.

ATTACHMENT "F"

Structural Practices

Rock berms and silt fence will be used to protect disturbed soils and to prevent contamination from leaving the project site.

ATTACHMENT "G"

Drainage Area Map

See Drainage Area Map at the end of this section.

ATTACHMENT "H"

Temporary Sediment Pond Plans and Calculations

There will not be more than 10 acres of disturbed soil in one common drainage area that will occur at one time. Silt fence will be used for small drainage areas. No sediment ponds will be constructed due to the minimal amount of soil disturbance.

ATTACHMENT "I"

Inspection and Maintenance for BMP's

Inspection and Maintenance Plan

The contractor is required to inspect the control and fences at weekly intervals and after any rainfall events to insure that they are functioning properly. The person(s) responsible for maintenance controls and fences shall immediately make any necessary repairs to damaged areas.

Temporary Construction Entrance/Exit: The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. 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 rights-of-way should be removed immediately by contractor. When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way. When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin. All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

Silt Fence: Remove sediment when buildup reaches 6 inches. Replace any torn fabric or install a second line of fencing parallel to the torn section. Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points. When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.

Rock Berms: For installation in streambeds, additional daily inspections shall be made. Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional siltation. Repair any loose wire sheathing. The berm shall be reshaped as needed during inspection. The berm shall be replaced when the structure ceases to function as intended due to silt accumulation among the rocks, washout, construction traffic damage, etc. The rock berm shall be left in place until all upstream areas are stabilized and accumulated silt removed.

TCEQ staff will be allowed full access to the property during construction of the project for inspecting controls and fences and to verify that the accepted plan is being utilized in the field. TCEQ staff has the right to speak with the contractor to verify plan changes and modifications.

Documentation: All scheduled inspection and maintenance measures made to the temporary BMPs must be documented clearly on the WPAP Site Plan showing inspection/maintenance measures performed, date, and person responsible for inspection and maintenance. Any changes made to the location or type of controls shown on the accepted plans, due to onsite conditions, shall be documented on the site plan that is part of this Water Pollution Abatement Plan. No other changes shall be made unless approved by TCEQ and the Design Engineer. Documentation shall clearly show changes made, date, and person responsible and reason change was made.

Owner's Information:

Owner: Prodigy Properties Hunters Creek, LLC
Contact: Ken Brucks
Phone: (830) 226-5505
Address: 226 Glen Haven
New Braunfels, Texas 78132

Design Engineer:

Company: HMT Engineering & Surveying
Contact: Jeffrey D. Moeller, P.E.
Phone: (830) 625-8555
Address: 410 N. Seguin Street
New Braunfels, Texas 78130

Person or Firm Responsible for Erosion/Sedimentation Control Maintenance:

Company: _____
Contact: _____
Phone: _____
Address: _____

Signature of Responsible Party: _____

This portion of the form shall be filled out and signed by the responsible party prior to construction.

ATTACHMENT “J”

Schedule of Interim and Permanent Soil Stabilization Practices

Areas which are disturbed by construction staging and storage areas will be hydro mulched with the appropriate seed mixture. Areas between the edge of pavement and property line will also be hydro mulched. There will be no fill slopes exceeding a 3:1 slope and all fill slopes will be hydro mulched. Installation and acceptable mixtures of hydro mulch are as follows:

Materials:

Hydraulic Mulches: Wood fiber mulch can be applied alone or as a component of hydraulic matrices. Wood fiber applied alone is typically applied at the rate of 2,000 to 4,000 lb/acre. Wood fiber mulch is manufactured from wood or wood waste from lumber mills or from urban sources.

Hydraulic Matrices: Hydraulic matrices include a mixture of wood fiber and acrylic polymer or other tackifier as binder. Apply as a liquid slurry using a hydraulic application machine (i.e., hydro seeder) at the following minimum rates, or as specified by the manufacturer to achieve complete coverage of the target area: 2,000 to 4,000 lb/acre wood fiber mulch, and 5 to 10% (by weight) of tackifier (acrylic copolymer, guar, psyllium, etc.)

Bonded Fiber Matrix: Bonded fiber matrix (BFM) is a hydraulically applied system of fibers and adhesives that upon drying forms an erosion resistant blanket that promotes vegetation, and prevents soil erosion. BFMs are typically applied at rates from 3,000 lb/acre to 4,000 lb/acre based on the manufacturer's recommendation. A biodegradable BFM is composed of materials that are 100% biodegradable. The binder in the BFM should also be biodegradable and should not dissolve or disperse upon re-wetting. Typically, biodegradable BFMs should not be applied immediately before, during or immediately after rainfall if the soil is saturated. Depending on the product, BFMs typically require 12 to 24 hours to dry and become effective.

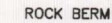
Seed Mixtures:

Dates	Climate	Species	(lb/ac.)
Sept. 1 to Nov. 30	Temporary Cool Season	Tall Fescue	4.0
		Oats	21.0
		Wheats	30.0
		Total	55.0
Sept. 1 to Nov. 30	Cool Season Legume	Hairy Vetch	8.0
May 1 to Aug. 31	Temporary Warm Season	Foxtail Millet	30.0

Fertilizer: Fertilizer should be applied at the rate of 40 pounds of nitrogen and 40 pounds of phosphorus per acre, which is equivalent to about 1.0 pounds of nitrogen and phosphorus per 1000 square feet.

Installation:

- (1) Prior to application, roughen embankment and fill areas by rolling with a crimping or punching type roller or by track walking. Track walking shall only be used where other methods are impractical.
- (2) To be effective, hydraulic matrices require 24 hours to dry before rainfall occurs.
- (3) Avoid mulch over spray onto roads, sidewalks, drainage channels, existing vegetation, etc.



HUNTERS VILLAGE

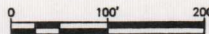
VEGETATIVE
FILTER STRIP

SILT FENCE

STABILIZED
CONSTRUCTION
ENTRANCE/EXIT

LOT 40

LOT 4



LEGAL BOUNDARY
LIMITS OF DRAINAGE AREA

ROCK BERM

SF — SILT FENCE

STABILIZED CONSTRUCTION ENTRANCE

VEGETATIVE FILTER STRIP

DISTURBED AREA

EXISTING CONTOURS

PROPOSED CONTOURS

DRAINAGE AREA ID
DRAINAGE AREA ACREAGE

JUL 28 2010

COUNTY ENGINEER

FOR PERMIT USE ONLY, NOT
TO BE USED FOR CONSTRUCTION

TOTAL LAND AREA	=	2.43 AC
TOTAL DISTURBED AREA	=	2.07 AC
TOTAL IMPERVIOUS AREA	=	1.12 AC
% IMPERVIOUS	=	46%

PRODIGY LEARNING CENTER

KEN BRUCKS
226 GLEN HAVEN
NEW BRAUNFELS, TEXAS 78132

DATE: 7/1/10

—

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DM

MD

PROJECT NUMBER: 0901A

SHEET

—

OF 1

DRAINAGE AREA MAP

HMTB **ENGINEERING & SURVEYING**
ROLLING • MOELLER • THORNHILL

410 N. SEGUIN ST.
NEW BRAUNFELS,
TEXAS, 78130

TBPE Firm F-10961
www.HMTNB.com

PH: (830) 625-8555
FAX: (830) 625-8555

RECEIVED
JUL 28 2010
COUNTY ENGINEER

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

REGULATED ENTITY NAME: Prodigy Learning Center

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

1. ☒ Permanent BMPs and measures must be implemented to control the discharge of pollution from regulated activities after the completion of construction.
2. ☒ 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.
☒ 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. ☒ 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. ☒ 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.
☒ This site will not be used for low density single-family residential development.
5. ☒ 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.

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

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

- ☐ 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.**

- ☒ 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. ☒ **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. ☒ 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.

☐ **N/A 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. ☒ **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.
— **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:

Jeffrey D. Moeller, P.E.
Print Name of Customer/Agent


Signature of Customer/Agent

7/20/10
Date

ATTACHMENT "A"

20% of Less Impervious Cover Waiver

The proposed development is a child learning center and the 20% Impervious Cover Waiver does not apply. Permanent BMP's will be designed in accordance with TCEQ requirements for the removal of TSS generated by the proposed development.

ATTACHMENT "B"

BMP's for Upgradient Stormwater

There are 5.2 acres upstream and south of the development that drains west through an existing channel and south towards SH 46 through an existing channel that will be routed under ground as part of this project. The area is currently a developed single family subdivision. The upstream development discharges 27.4 cfs through the channel during a 100 year storm event. However, this runoff does not co-mingle with the on-site untreated stormwater. The upgradient stormwater will be contained within the existing channel running along the south and west boundaries of the proposed project site. Natural vegetation in the area of the upgradient stormwater will act as a vegetative filter strip to treat the upgradient storm flows. Reference the Drainage Area Map of the Hunters Creek Business Park WPAP(Approved by TCEQ June 5, 2006, EAPP #1964.01) for drainage patterns for the area.

ATTACHMENT "C"

BMP's for On-Site Stormwater

The permanent BMP's used to treat on-site stormwater runoff will be a combination of the Vortechs® system and vegetative filter strips. Please refer to the Drainage Area Map in the Temporary Stormwater Section for areas of treatment and BMP structures used.

ATTACHMENT "D"

BMP's for Surface Streams

The vegetative filter strips and Vortechs® system will be installed to prevent pollutants from entering surface streams and ultimately the aquifer. There were no sensitive features identified by the Geologic Assessment.

The natural vegetation located downgradient of proposed improvements will provide additional filtration to help prevent pollution from entering streams, sensitive features and the aquifer.

ATTACHMENT "G"

Inspection, Maintenance, Repair and Retrofit Plan

Vegetative Filter Strips Maintenance and Monitoring Procedures

- *Pest Management* - An Integrated Pest Management (IPM) Plan should be developed for vegetated areas. This plan should specify how problem insects and weeds will be controlled with minimal or no use of insecticides and herbicides.
- *Seasonal Mowing and Lawn Care* - If the filter strip is made up of turf grass, it should be mowed as needed to limit vegetation height to 18 inches, using a mulching mower (or removal of clippings). If native grasses are used, the filter may require less frequent mowing, but a minimum of twice annually. Grass clippings and brush debris should not be deposited on vegetated filter strip areas. Regular mowing should also include weed control practices, however herbicide use should be kept to a minimum (Urbonas et al., 1992). Healthy grass can be maintained without using fertilizers because runoff usually contains sufficient nutrients. Irrigation of the site can help assure a dense and healthy vegetative cover.
- *Inspection* - Inspect filter strips at least twice annually for erosion or damage to vegetation; however, additional inspection after periods of heavy runoff is most desirable. The strip should be checked for uniformity of grass cover, debris and litter, and areas of sediment accumulation. More frequent inspections of the grass cover during the first few years after establishment will help to determine if any problems are developing, and to plan for long-term restorative maintenance needs. Bare spots and areas of erosion identified during semi-annual inspections must be replanted and restored to meet specifications. Construction of a level spreader device may be necessary to reestablish shallow overland flow.
- *Debris and Litter Removal* - Trash tends to accumulate in vegetated areas, particularly along highways. Any filter strip structures (i.e. level spreaders) should be kept free of obstructions to reduce floatables being flushed downstream, and for aesthetic reasons. The need for this practice is determined through periodic inspection, but should be performed no less than 4 times per year.
- *Sediment Removal* - Sediment removal is not normally required in filter strips, since the vegetation normally grows through it and binds it to the soil. However, sediment may accumulate along the upstream boundary of the strip preventing uniform overland flow. Excess sediment should be removed by hand or with flat-bottomed shovels.
- *Grass Reseeding and Mulching* - A healthy dense grass should be maintained on the filter strip. If areas are eroded, they should be filled, compacted, and reseeded so that the final grade is level. Grass damaged during the sediment removal process should be promptly replaced using the same seed mix used during filter strip establishment. If possible, flow should be diverted from the damaged areas until the grass is firmly established. Bare spots and areas of erosion identified

during semi-annual inspections must be replanted and restored to meet specifications. Corrective maintenance, such as weeding or replanting should be done more frequently in the first two to three years after installation to ensure stabilization. Dense vegetation may require irrigation immediately after planting, and during particularly dry periods, particularly as the vegetation is initially established.

ATTACHMENT "I"

Measures for Minimizing Surface Stream Contamination

All surface streams will be protected from erosion by not allowing runoff to exceed existing velocities. A portion of the runoff from the proposed development will sheet flow into the vegetative filter strips. The vegetative filter strips will be designed in order to maintain existing runoff velocities prior to leaving the site. The stormwater runoff for the remainder of the property will be concentrated into the Vortechs® system where the pollutants will be removed.

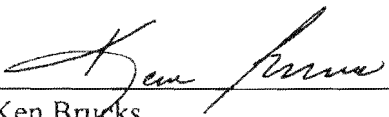
Attachment "G"

Maintenance Plan for Vortechs Model 11000

Vortechs Location: Northwest side of parking lot.

Owner: Prodigy ~~Learning Center~~ Properties Hunters Creek, LLC
226 Glen Haven
New Braunfels, Texas 78132
Phone: 830-226-5505

I agree that the attached Vortechs Maintenance and Monitoring Procedures will be implemented to ensure that the proposed system functions as designed.



Ken Brucks
Prodigy Learning Center

Date 7-8-10

I have reviewed the attached maintenance and monitoring procedures and to the best of my knowledge certify that if they are followed as outlined the Vortechs units will function as designed.



Jeffrey D. Moeller, P.E.

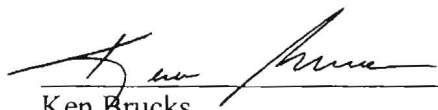
Attachment "G"

Maintenance Plan for Vegetative Filter Strips

Location: North side of the entrance.

Owner: Prodigy Learning Center Properties Hunters Creek, LLC
226 Glen Haven
New Braunfels, Texas 78132
Phone: 830-226-5505

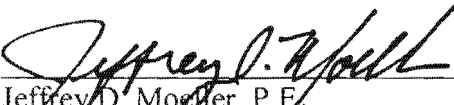
I agree that the attached Vegetative Filter Maintenance and Monitoring Procedures will be implemented to ensure that the proposed BMP functions as designed.



Ken Brucks
Prodigy Learning Center

Date 7-8-10

I have reviewed the attached maintenance and monitoring procedures and to the best of my knowledge certify that if they are followed as outlined the vegetative filter strips will function as designed.



Jeffrey D. Moeller, P.E.

Vortechs® Maintenance

The Vortechs system should be inspected at regular intervals and maintained when necessary to ensure optimum performance. The rate at which the system collects pollutants will depend more heavily on site activities than the size of the unit, e.g., unstable soils or heavy winter sanding will cause the swirl chamber to fill more quickly but regular sweeping will slow accumulation.

Inspection

Inspection is the key to effective maintenance and is easily performed. Pollutant deposition and transport may vary from year to year and regular inspections will help ensure that the system is cleaned out at the appropriate time. Inspections should be performed twice per year (i.e. spring and fall) however more frequent inspections may be necessary in equipment washdown areas and in climates where winter sanding operations may lead to rapid accumulations. It is useful and often required as part of a permit to keep a record of each inspection. A simple inspection and maintenance log form for doing so 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.

Cleaning

Cleaning of the Vortechs system should be done during dry weather conditions when no flow is entering the system. Clean-out of the Vortechs system with a vacuum truck is generally the most effective and convenient method of excavating pollutants from the system. If such a truck is not available, a "clamshell" grab may be used, but it is difficult to remove all accumulated pollutants using a "clamshell".

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.

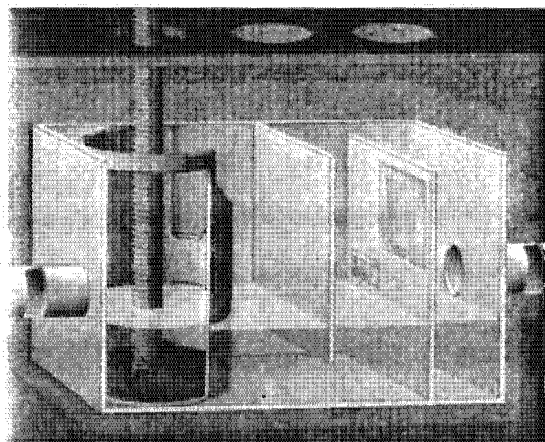
These maintenance recommendations apply to all Vortechs systems with the following exceptions:

1. 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.
2. 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.



Vortechs Inspection & Maintenance Log

Vortech Model: _____ Location: _____

[illegible]

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.

SECTION 02721

STORMWATER TREATMENT SYSTEM

PART 1.00 GENERAL

1.1 DESCRIPTION

A. Work included:

The Contractor, and/or a manufacturer selected by the Contractor and approved by the Engineer, shall furnish all labor, materials, equipment and incidentals required and install all precast concrete stormwater treatment systems and appurtenances in accordance with the Drawings and these specifications.

1.2 QUALITY CONTROL INSPECTION

- A. The quality of materials, the process of manufacture, and the finished sections shall be subject to inspection by the Engineer. Such inspection may be made at the place of manufacture, or on the work site after delivery, or at both places, and the sections shall be subject to rejection at any time if material conditions fail to meet any of the specification requirements, even though sample sections may have been accepted as satisfactory at the place of manufacture. Sections rejected after delivery to the site shall be marked for identification and shall be removed from the site at once. All sections which have been damaged beyond repair during delivery will be rejected and, if already installed, shall be repaired to the Engineer's acceptance level, if permitted, or removed and replaced, entirely at the Contractor's expense.
- B. All sections shall be inspected for general appearance, dimensions, soundness, etc. The surface shall be dense, close textured and free of blisters, cracks, roughness and exposure of reinforcement.
- C. Imperfections may be repaired, subject to the acceptance of the Engineer, after demonstration by the manufacturer that strong and permanent repairs result. Repairs shall be carefully inspected before final acceptance. Cement mortar used for repairs shall have a minimum compressive strength of 4,000 psi (28 MPa) at the end of 7 days and 5,000 psi (34 MPa) at the end of 28 days when tested in 3 inch (76 mm) diameter by 6 inch (152 mm) long cylinders stored in the standard manner. Epoxy mortar may be utilized for repairs.

1.3 SUBMITTALS

A. Shop Drawings

The Contractor shall be provided with dimensional drawings and, when specified, utilize these drawings as the basis for preparation of shop drawings showing details for construction, reinforcing, joints and any cast-in-place appurtenances. Shop drawings shall be annotated to indicate all materials to be used and all applicable standards for materials, required tests of materials and design assumptions for structural analysis. Shop drawings shall be prepared at a scale of not less than 3/16-inches per foot (1:75). Six (6) hard copies of said shop drawings shall be submitted to the Engineer for review and approval.

PART 2.00 PRODUCTS

2.1 MATERIALS AND DESIGN

- A. Concrete for precast stormwater treatment systems shall conform to ASTM C 857 and C 858 and meet the following additional requirements:
 - 1. The wall thickness shall not be less than 6 inches (152 mm) or as shown on the dimensional drawings. In all cases the wall thickness shall be no less than the minimum thickness necessary to sustain HS20-44 (MS18) loading requirements as determined by a Licensed Professional Engineer.
 - 2. Sections shall have tongue and groove or ship-lap joints with a butyl mastic sealant conforming to ASTM C 990.
 - 3. Cement shall be Type II Portland cement conforming to ASTM C 150.
 - 4. All sections shall be cured by an approved method. Sections shall not be shipped until the concrete has attained a compressive strength of 4,000 psi (28 MPa) or until 5 days after fabrication and/or repair, whichever is the longer.
 - 5. Pipe openings shall be sized to accept pipes of the specified size(s) and material(s), and shall be sealed by the Contractor with a hydraulic cement conforming to ASTM C 595M
- B. Internal aluminum plate components shall be aluminum alloy 5052-H32 in accordance with ASTM B 209.
- C. Sealant to be utilized at the base of the swirl chamber shall be 60 durometer extruded nitrile butadiene rubber (Buna N) and shall be provided to the concrete precaster for installation.
- D. Brick or masonry used to build the manhole frame to grade shall conform to ASTM C 32 or ASTM C 139 and shall be installed in conformance with all local requirements.
- E. Casting for manhole frames and covers shall be in accordance with ASTM A48, CL.30B and AASHTO M105. The manhole frame and cover shall be equivalent to Campbell Foundry Pattern #1009A or #1012D custom cast with the CONTECH Stormwater Solutions logo and the words "Vortechs® Stormwater Treatment System".
- F. A bitumen sealant in conformance with ASTM C 990 shall be utilized in the sealing of the joint between the swirl chamber and the vault at the long wall tangent points. The butyl material shall be 3/4-inch thick by 3/4-inch wide.

2.2 PERFORMANCE

Each stormwater treatment system shall adhere to the following performance specifications at the design treatment capacities, as listed below:

Table 2.2

Vortechs® Model	Design Treatment Capacity (cfs)/(l/s)	Sediment Storage (yd³)/(m³)
1000	0 - 1.6 (0 - 45)	0.7 (0.54)
2000	1.6 - 2.8 (45-80)	1.2 (0.91)
3000	2.8 - 4.5 (80-125)	1.8 (1.38)
4000	4.5 - 6.0 (125-175)	2.4 (1.84)
5000	6.0 - 8.5 (175-240)	3.2 (2.45)
7000	8.5 - 11.0 (240-315)	4.0 (3.06)
9000	11.0 - 14.0 (315-400)	4.8 (3.67)
11000	14.0 - 17.5 (400-495)	5.6 (4.28)
16000	17.5 - 25.0 (495-710)	7.1 (5.43)

Each stormwater treatment system shall include a circular aluminum "swirl chamber" (or "grit chamber") with a tangential inlet to induce a swirling flow pattern that will accumulate and store settleable solids in a manner and a location that will prevent re-suspension of previously captured particulates.

Each stormwater treatment system shall be of a hydraulic design that includes flow controls designed and certified by a professional engineer using accepted principles of fluid mechanics that raise the water surface inside the tank to a pre-determined level in order to prevent the re-entrainment of trapped floating contaminants.

Each stormwater treatment system shall be capable of removing **80% of the net annual Total Suspended Solids (TSS)** load based on a 50-micron particle size. Annual TSS removal efficiency models shall be based on documented removal efficiency performance from full scale laboratory tests. Annual TSS removal efficiency models shall only be considered valid if they are corroborated by independent third party field testing. Said field testing shall include influent and effluent composite samples from a minimum of ten storms at one location. Individual stormwater treatment systems shall have the Design Treatment Capacity listed in Table 2.2, and shall not re-suspend trapped sediments or re-entrain floating contaminants at flow rates up to and including the specified Design Treatment Capacity.

Individual stormwater treatment systems shall have usable sediment storage capacity of not less than the corresponding volume listed in Table 2.2. The systems shall be designed such that the pump-out volume is less than ½ of the total system volume. The systems shall be designed to not allow surcharge of the upstream piping network during dry weather conditions.

A water-lock feature shall be incorporated into the design of the stormwater treatment system to prevent the introduction of trapped oil and floatable contaminants to the downstream piping during routine maintenance and to ensure that no oil escapes the system during the ensuing rain event. Direct access shall be provided to the sediment and floatable contaminant storage chambers to facilitate maintenance. There shall be no appurtenances or restrictions within these chambers.

Stormwater treatment systems shall be completely housed within one rectangular structure.

2.3 MANUFACTURER

Each stormwater treatment system shall be of a type that has been installed and used successfully for a minimum of 5 years. The manufacturer of said system shall have been regularly engaged in the engineering design and production of systems for the physical treatment of stormwater runoff during the aforementioned period.

Each stormwater treatment system shall be a Vortechs[®] System as manufactured by CONTECH Stormwater Solutions Inc., 200 Enterprise Drive, Scarborough, Maine 04074, phone: 207-885-9830, fax: 207-885-9825; and as protected under U.S. Patent #5,759,415.

PART 3.00 EXECUTION

3.1 INSTALLATION

- A. Each Stormwater Treatment System shall be constructed according to the sizes shown on the Drawings and as specified herein. Install at elevations and locations shown on the Drawings or as otherwise directed by the Engineer.
- B. Place the precast base unit on a granular subbase of minimum thickness of six inches (152 mm) after compaction or of greater thickness and compaction if specified elsewhere. The granular subbase shall be checked for level prior to setting and the precast base section of the trap shall be checked for level at all four corners after it is set. If the slope from any corner to any other corner exceeds 0.5% the base section shall be removed and the granular subbase material re-leveled.
- C. Prior to setting subsequent sections place bitumen sealant in conformance with ASTM C 990 along the construction joint in the section that is already in place.
- D. After setting the base and wall or riser sections, prepare to install the swirl chamber. Place the 3/4-inch (19 mm) thick by 3/4-inch (19 mm) wide butyl mastic seal vertically on the outside of the swirl chamber starting one inch above the bottom of the swirl chamber and continuing to a height equal to the elevation of the bottom of the upper aperture of the swirl chamber. The butyl mastic seal should abut the downstream side of the pre-drilled mounting holes that attach the swirl chamber to the long walls of the concrete vault. Next, install the extruded Buna N seal on the bottom edge of the 180 degree downstream section of the swirl chamber by first applying a bead of Sikaflex-1a polyurethane elastomeric sealant into the extruded slot then slide the seal onto the swirl chamber. The extruded seal should extend 3-inches (76 mm) upstream of the mounting holes, toward the inlet end of the vault. Set the swirl chamber into position and keep the seal approximately 1/2-inch (13 mm) above the floor of the concrete vault. Apply a continuous bead of Sikaflex-1a sealant under the cupped bottom of the seal. Set the circular swirl chamber on the floor of the vault and anchor it by bolting the swirl chamber to the side walls of the concrete vault at the three (3) tangent points and at the inlet tab using HILTI brand stainless steel drop-in wedge anchors or equivalent 3/8-inch (10 mm) diameter by 2-3/4 inch (70 mm) minimum length at heights of approximately three inches (3") (76 mm) off the floor and at fifteen inch (15") (381 mm) intervals to approximately the same height of the butyl mastic sealant (at locations of pre-drilled holes in aluminum components). Apply a continuous bead of Sikaflex-1a sealant to the intersection of the inside bottom edge of the extruded seal and the vault floor.
- E. If the oil baffle wall (Baffle A) and flow control wall (Baffle B) are not integrally cast-in to riser/wall sections then the Baffle wall panels shall be placed in the formed keyways or between

bolted-in-place angle flanges as provided by the manufacturer. Apply non-shrink grout or Sikaflex-1a sealant to each end of Baffle A and Baffle B at the upstream intersection with the side walls of the concrete vault.

- F. Prior to setting the precast roof section, bitumen sealant equal to ASTM C 990 shall be placed along the top of the oil baffle wall (Baffle A), using more than one layer of mastic if necessary, to a thickness at least 1-inch (25 mm) greater than the nominal gap between the top of the baffle and the roof section. The nominal gap shall be determined either by field measurement or the shop drawings. Do not seal the top of Baffle B unless specified on the shop drawings to do so. After placement of the roof section has compressed the butyl mastic sealant in the gap over Baffle A, finish sealing the gap with an approved non-shrink grout on both sides of the gap using the butyl mastic as a backing material to which to apply the grout. If roof section is "clamshell" or "bathtub" halves, then finish sealing the ends of the Baffle walls by applying non-shrink grout or Sikaflex-1a sealant to each end of Baffle A at the upstream intersection with the side walls of the concrete vault and to each end of Baffle B at the downstream intersection with the side walls of the concrete vault.
- G. After setting the precast roof section of the stormwater treatment system, set precast concrete manhole riser sections, to the height required to bring the cast iron manhole covers to grade, so that the sections are vertical and in true alignment with a ¼-inch (6 mm) maximum tolerance allowed. Backfill in a careful manner, bringing the fill up in 6-inch (152 mm) lifts on all sides. If leaks appear, clean the inside joints and caulk with lead wool to the satisfaction of the Engineer. Precast sections shall be set in a manner that will result in a watertight joint. In all instances, installation of Stormwater Treatment Systems shall conform to ASTM specification C 891 "Standard Practice for Installation of Underground Precast Utility Structures".
- H. Holes made in the concrete sections for handling or other purposes shall be plugged with a nonshrink grout or by using grout in combination with concrete plugs.
- I. Where holes must be cut in the precast sections to accommodate pipes, do all cutting before setting the sections in place to prevent any subsequent jarring which may loosen the mortar joints. The Contractor shall make all pipe connections.

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Prodigy Learning Center

Date Prepared: 7/2/2010

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:

$L_{M \text{ TOTAL PROJECT}}$ = 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 *	2.43	acres
Predevelopment impervious area within the limits of the plan *	0.00	acres
Total post-development impervious area within the limits of the plan *	1.12	acres
Total post-development impervious cover fraction *	0.46	
P =	33	inches

$L_{M \text{ TOTAL PROJECT}}$ = 1005 lbs.

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

Number of drainage basins / outfalls areas leaving the plan area = 2

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

Drainage Basin/Outfall Area No. =	1	
Total drainage basin/outfall area =	2.24	acres
Predevelopment impervious area within drainage basin/outfall area =	0.00	acres
Post-development impervious area within drainage basin/outfall area =	0.99	acres
Post-development impervious fraction within drainage basin/outfall area =	0.44	
$L_{M \text{ THIS BASIN}}$ =	889	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: $L_R = (\text{BMP efficiency}) \times P \times (A_i \times 34.6 + A_p \times 0.54)$

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 = 2.42 acres

A_i = 0.99 acres

A_p = 1.43 acres

L_R = 0 lbs

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

Desired $L_{M \text{ THIS BASIN}}$ = 889 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
Post Development Runoff Coefficient = 0.31
On-site Water Quality Volume = #DIV/0! cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP = 0.00 acres
 Off-site Impervious cover draining to BMP = 0.00 acres
 Impervious fraction of off-site area = 0
 Off-site Runoff Coefficient = 0.00
 Off-site Water Quality Volume = #DIV/0! cubic feet

Storage for Sediment = #DIV/0!

Total Capture Volume (required water quality volume(s) x 1.20) = #DIV/0! cubic feet

The following sections are used to calculate the required water quality volume(s) for the selected BMP.

The values for BMP Types not selected in cell C45 will show NA.

7. Retention/Irrigation System

Designed as Required in RG-348

Pages 3-42 to 3-46

Required Water Quality Volume for retention basin = NA cubic feet

Irrigation Area Calculations:

Soil infiltration/permeability rate = 0.1 in/hr Enter determined permeability rate or assumed value of 0.1
 Irrigation area = NA square feet
 NA acres

8. Extended Detention Basin System

Designed as Required in RG-348

Pages 3-46 to 3-51

Required Water Quality Volume for extended detention basin = NA cubic feet

9. Filter area for Sand Filters

Designed as Required in RG-348

Pages 3-58 to 3-63

9A. Full Sedimentation and Filtration System

Water Quality Volume for sedimentation basin = NA cubic feet

Minimum filter basin area = NA square feet

Maximum sedimentation basin area = NA square feet For minimum water depth of 2 feet
 Minimum sedimentation basin area = NA square feet For maximum water depth of 8 feet

9B. Partial Sedimentation and Filtration System

Water Quality Volume for combined basins = NA cubic feet

Minimum filter basin area = NA square feet

Maximum sedimentation basin area = NA square feet For minimum water depth of 2 feet
 Minimum sedimentation basin area = NA square feet For maximum water depth of 8 feet

10. Bioretention System

Designed as Required in RG-348

Pages 3-63 to 3-65

Required Water Quality Volume for Bioretention Basin = **NA** cubic feet**11. Wet Basins**

Designed as Required in RG-348

Pages 3-66 to 3-71

Required capacity of Permanent Pool = **NA** cubic feet Permanent Pool Capacity is 1.20 times the WQV
Required capacity at WQV Elevation = **NA** cubic feet Total Capacity should be the Permanent Pool Capacity plus a second WQV.

12. Constructed Wetlands

Designed as Required in RG-348

Pages 3-71 to 3-73

Required Water Quality Volume for Constructed Wetlands = **NA** cubic feet**13. AquaLogic™ Cartridge System**

Designed as Required in RG-348

Pages 3-74 to 3-78

** 2005 Technical Guidance Manual (RG-348) does not exempt the required 20% increase with maintenance contract with AquaLogic™.

Required Sedimentation chamber capacity = **NA** cubic feet
Filter canisters (FCs) to treat WQV = **NA** cartridges
Filter basin area (RIA_F) = **NA** square feet

14. Stormwater Management StormFilter® by CONTECHRequired Water Quality Volume for Contech StormFilter System = **NA** cubic feet**THE SIZING REQUIREMENTS FOR THE FOLLOWING BMPs / LOAD REMOVALS ARE BASED UPON FLOW RATES - NOT CALCULATED WATER QUALITY VOLUMES****15. Grassy Swales**

Designed as Required in RG-348

Pages 3-51 to 3-54

Design parameters for the swale:

Drainage Area to be Treated by the Swale = A = 0.00 acres
Impervious Cover in Drainage Area = 0.00 acres
Rainfall intensity = i = 1.1 in/hr
Swale Slope = 0 ft/ft
Side Slope (z) = 0
Design Water Depth = y = 0.00 ft
Weighted Runoff Coefficient = C = #DIV/0!

A_{CS} = cross-sectional area of flow in Swale = #DIV/0! sf

$$\begin{aligned}
 P_w &= \text{Wetted Perimeter} = \#DIV/0! \quad \text{feet} \\
 R_H &= \text{hydraulic radius of flow cross-section} = A_{CS}/P_w = \#DIV/0! \quad \text{feet} \\
 n &= \text{Manning's roughness coefficient} = 0.2
 \end{aligned}$$

15A. Using the Method Described in the RG-348

$$\text{Manning's Equation: } Q = \frac{1.49 A_{CS} R_H^{2/3} S^{0.5}}{n}$$

$$b = \frac{0.134 \times Q}{y^{1.67} S^{0.5}} - zy = \#DIV/0! \quad \text{feet}$$

$$Q = C_i A = \#DIV/0! \quad \text{cfs}$$

To calculate the flow velocity in the swale:

$$V (\text{Velocity of Flow in the swale}) = Q/A_{CS} = \#DIV/0! \quad \text{ft/sec}$$

To calculate the resulting swale length:

$$L = \text{Minimum Swale Length} = V (\text{ft/sec}) \times 300 (\text{sec}) = \#DIV/0! \quad \text{feet}$$

If any of the resulting values do not meet the design requirement set forth in RG-348, the design parameters must be modified and the solver rerun.

15B. Alternative Method using Excel Solver

$$\begin{aligned}
 \text{Design } Q &= C_i A = \#DIV/0! \quad \text{cfs} \\
 \text{Manning's Equation } Q &= 0.00 \quad \text{cfs} \\
 \text{Swale Width} &= 6.00 \quad \text{ft}
 \end{aligned}$$

$$\text{Error 1} = \#DIV/0!$$

Instructions are provided to the right (green comments).

$$\begin{aligned}
 \text{Flow Velocity} &= \#DIV/0! \quad \text{ft/s} \\
 \text{Minimum Length} &= \#DIV/0! \quad \text{ft}
 \end{aligned}$$

Instructions are provided to the right (blue comments).

$$\begin{aligned}
 \text{Design Width} &= 0 \quad \text{ft} \\
 \text{Design Discharge} &= 0.00 \quad \text{cfs} \\
 \text{Design Depth} &= 0.33 \quad \text{ft}
 \end{aligned}$$

$$\text{Error 2} = \#DIV/0!$$

To solve for bottom v
Excel can simultane
The required "Swale

First, highlight Cell F
Then click on "Tools"
The value in the "Set
The value in the "By
Click on solve.

The resulting "Swale
If the resulting "Swal

If there is not the opt
Click on "Tools" and
Then proceed as inst

If you would like to in
Excel can simultane
The required "Design

Flow Velocity = #DIV/0! cfs
 Minimum Length = #DIV/0! ft

If any of the resulting values do not meet the design requirement set forth in RG-348, the design parameters may be modified and the solver rerun.
 If any of the resulting values still do not meet the design requirement set forth in RG-348, widening the swale bottom value may not be possible.

16. Vegetated Filter Strips

Designed as Required in RG-348

Pages 3-55 to 3-57

There are no calculations required for determining the load or size of vegetative filter strips.
 The 80% removal is provided when the contributing drainage area does not exceed 72 feet (direction of flow) and the sheet flow leaving the impervious cover is directed across 15 feet of engineered filter strips with maximum slope of 20% or across 50 feet of natural vegetation with a maximum slope of 10%. There can be a break in grade as long as no slope exceeds 20%.

If vegetative filter strips are proposed for an interim permanent BMP, they may be sized as described on Page 3-56 of RG-348.

First set the desired
 Highlight Cell F232.

Click on "Tools" and
 The value in the "By"
 Click on solve.

The resulting "Design"
 If the resulting "Design"
 First set the desired
 Highlight Cell F232.
 Click on "Tools" and
 The value in the "Set"
 The value in the "By"
 Click on solve.

17. Wet Vaults

Designed as Required in RG-348

Pages 3-30 to 3-32 & 3-79

Required Load Removal Based upon Equation 3.3 = NA lbs

First calculate the load removal at 1.1 in/hour

RG-348 Page 3-30 Equation 3.4: $Q = CiA$

C = runoff coefficient for the drainage area = 0.28 C = Runoff Coefficient = $0.546 (IC)^2 + 0.328 (IC) + 0.03$
 i = design rainfall intensity = 1.1 in/hour
 A = drainage area in acres = 0 acres

Q = flow rate in cubic feet per second = 0.00 cubic feet/sec

RG-348 Page 3-31 Equation 3.5: $V_{OR} = Q/A$

Q = Runoff rate calculated above = 0.00 cubic feet/sec
 A = Water surface area in the wet vault = 0 square feet

V_{OR} = Overflow Rate = #DIV/0! feet/sec

Percent TSS Removal from Figure 3-1 (RG-348 Page 3-31) = 0 percent

Load removed by Wet Vault = #VALUE! lbs

If a bypass occurs at a rainfall intensity of less than 1.1 in/hours
 Calculate the efficiency reduction for the actual rainfall intensity rate

Actual Rainfall Intensity at which Wet Vault bypass Occurs = 0 in/hour

Fraction of rainfall treated from Figure 3-2 RG-348 Page 3-32 = 0 percent
 Efficiency Reduction for Actual Rainfall Intensity = 0.00 percent

The resulting "Design"
 If the resulting "Design"

Resultant TSS Load removed by Wet Vault = #VALUE! lbs

18. Permeable Concrete

Designed as Required in RG-348

Pages 3-79 to 3-83

PERMEABLE CONCRETE MAY ONLY BE USED ON THE CONTRIBUTING ZONE

19. BMPs Installed in a Series

Designed as Required in RG-348

Pages 3-32

Michael E. Barrett, Ph.D., P.E. recommended that the coefficient for E_2 be changed from 0.5 to 0.65 on May 3, 2006

$$E_{TOT} = [1 - ((1 - E_1) \times (1 - 0.65E_2) \times (1 - 0.25E_3))] \times 100 = 0.00 \text{ percent} \quad \text{NET EFFICIENCY OF THE BMPs IN THE SERIES}$$

$$\text{EFFICIENCY OF FIRST BMP IN THE SERIES} = E_1 = 0.00 \text{ percent}$$

$$\text{EFFICIENCY OF THE SECOND BMP IN THE SERIES} = E_2 = 0.00 \text{ percent}$$

$$\text{EFFICIENCY OF THE THIRD BMP IN THE SERIES} = E_3 = 0.00 \text{ percent}$$

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

$$L_R = E_{TOT} \times P \times (A_i \times 34.6 \times A_p \times 0.54) = 0.00 \text{ lbs}$$

20. Stormceptor

BMP Sizing	Required TSS Removal in BMP Drainage Area=	NA	lbs
	Impervious Cover Overtreatment=	0.0000	ac
	TSS Removal for Uncaptured Area =	0.00	lbs
	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 \geq TSS Uncapt.)	#VALUE!	
	TSS Treatment by BMP (LM + TSS Uncapt.) =	#VALUE!	

21. Vortech

BMP Sizing	Required TSS Removal in BMP Drainage Area=	888.62	lbs
	Impervious Cover Overtreatment=	0.0000	ac
	TSS Removal for Uncaptured Area =	0.00	lbs
	Effective Area =	0.93	EA
	Calculated Model Size(s) =	Vx11000	
	Actual Model Size (if choosing larger model size) =	Vx11000	Pick Model Size
	Surface Area =	78.54	ft ²
	Overflow Rate =	0.013004	V _{or}
	Rounded Overflow Rate =	0.013300	V _{or}
	BMP Efficiency % =	83.00	%
L _R Value =	956.71	lbs	
	TSS Load Credit =	68.08	lbs
Is Sufficient Treatment Available? (TSS Credit ≥ TSS Uncapt.)		Yes	
TSS Treatment by BMP (LM + TSS Uncapt.) =		888.62	

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

RECEIVED
JUL 28 2010
COUNTY ENGINEER

I **Ken Brucks**,
Print Name
Owner,
Title - Owner/President/Other
of **Prodigy Properties Hunters Creek, L.L.C.**,
Corporation/Partnership/Entity Name
have authorized **Jeffrey D. Moeller, P.E.**
Print Name of Agent/Engineer
of **Hollmig Moeller Thornhill, Inc.**
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.

Ken Brucks
Applicant's Signature

7-8-10
Date

THE STATE OF Texas §

County of Comal §

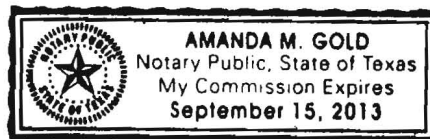
BEFORE ME, the undersigned authority, on this day personally appeared Ken Brucks known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that (s)he executed same for the purpose and consideration therein expressed.

GIVEN under my hand and seal of office on this 8 day of July, 2010.

Amanda M. Gold
NOTARY PUBLIC

Amanda M. Gold
Typed or Printed Name of Notary

MY COMMISSION EXPIRES: September 15, 2013





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)			
<input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application)			
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)		<input type="checkbox"/> Other	
2. Attachments Describe Any Attachments: (ex. Title V Application, Waste Transporter Application, etc.)			
<input type="checkbox"/> Yes <input type="checkbox"/> No			
3. Customer Reference Number (if issued)		4. Regulated Entity Reference Number (if issued)	
CN		RN	

SECTION II: Customer Information

5. Effective Date for Customer Information Updates (mm/dd/yyyy)							
6. Customer Role (Proposed or Actual) – as it relates to the <u>Regulated Entity</u> listed on this form. Please check only <u>one</u> of the following:							
<input checked="" type="checkbox"/> Owner		<input type="checkbox"/> Operator		<input type="checkbox"/> Owner & Operator			
<input type="checkbox"/> Occupational Licensee		<input type="checkbox"/> Responsible Party		<input type="checkbox"/> Voluntary Cleanup Applicant		<input type="checkbox"/> Other: _____	
7. General Customer Information							
<input checked="" type="checkbox"/> New Customer		<input type="checkbox"/> Update to Customer Information		<input type="checkbox"/> Change in Regulated Entity Ownership			
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State)				<input type="checkbox"/> No Change**			
**If "No Change" and Section I is complete, skip to Section III – Regulated Entity Information.							
8. Type of Customer:		<input checked="" type="checkbox"/> Corporation		<input type="checkbox"/> Individual		<input type="checkbox"/> Sole Proprietorship- D.B.A	
<input type="checkbox"/> City Government		<input type="checkbox"/> County Government		<input type="checkbox"/> Federal Government		<input type="checkbox"/> State Government	
<input type="checkbox"/> Other Government		<input type="checkbox"/> General Partnership		<input type="checkbox"/> Limited Partnership		<input type="checkbox"/> Other: _____	
9. Customer Legal Name (If an individual, print last name first: ex: Doe, John)				<i>If new Customer, enter previous Customer below</i>			
Prodigy Properties Hunters Creek, L.L.C.				End Date:			
10. Mailing Address:		226 Glen Haven					
City		New Braunfels		State		TX	
ZIP		78132		ZIP + 4		5208	
11. Country Mailing Information (if outside USA)				12. E-Mail Address (if applicable)			
13. Telephone Number		14. Extension or Code		15. Fax Number (if applicable)			
(830) 226-5505				(830) 625-8556			
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)	
272850398		N/A		N/A		801273537	
20. Number of Employees						21. Independently Owned and Operated?	
<input checked="" type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input type="checkbox"/> 501 and higher						<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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)	
<input checked="" type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information <input type="checkbox"/> 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)	
Prodigy Learning Center.	

24. Street Address of the Regulated Entity: (No P.O. Boxes)	2021 W State Highway 46							
	City	New Braunfels	State	TX	ZIP	78132	ZIP + 4	3827
25. Mailing Address:	226 Glen Haven							
	City	New Braunfels	State	TX	ZIP	78132	ZIP + 4	5208
26. E-Mail Address:								
27. Telephone Number		28. Extension or Code		29. Fax Number (if applicable)				
(830) 226-5505				(830) 625-8556				
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)		
8351		N/A		624410		N/A		
34. What is the Primary Business of this entity? (Please do not repeat the SIC or NAICS description.)								
Child Day Care Center								

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

35. Description to Physical Location:	Site is located in the southwest corner of the cul-de-sac of Hunters Village.		
36. Nearest City	County	State	Nearest ZIP Code
New Braunfels	Comal	TX	78132
37. Latitude (N) In Decimal:	29.7196	38. Longitude (W) In Decimal:	98.1713
Degrees	Minutes	Seconds	Degrees
29	43	10.4303	98
			10
			16.5317

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.

<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input checked="" type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Industrial Hazardous Waste	<input type="checkbox"/> Municipal Solid Waste
<input type="checkbox"/> New Source Review – Air	<input type="checkbox"/> OSSF	<input type="checkbox"/> Petroleum Storage Tank	<input type="checkbox"/> PWS	<input type="checkbox"/> Sludge
<input type="checkbox"/> Stormwater	<input type="checkbox"/> Title V – Air	<input type="checkbox"/> Tires	<input type="checkbox"/> Used Oil	<input type="checkbox"/> Utilities
<input type="checkbox"/> Voluntary Cleanup	<input type="checkbox"/> Waste Water	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input type="checkbox"/> Other:

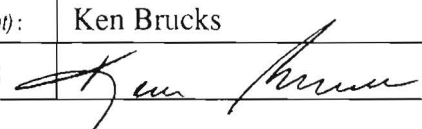
SECTION IV: Preparer Information

40. Name:	Jeff Moeller, P.E.	41. Title:	Authorized Agent
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(830) 625-8555	17	(830) 625-8556	jeffm@hmtnb.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:	Prodigy Properties Hunters Creek, L.L.C.	Job Title:	Owner
Name (In Print):	Ken Brucks	Phone:	(830) 226-5505
Signature:		Date:	7-8-10

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

NAME OF PROPOSED REGULATED ENTITY: Prodigy Learning Center
REGULATED ENTITY LOCATION: 2021 W State Highway 46
NAME OF CUSTOMER: Prodigy Learning Center Properties Hunters Creek, LLC
CONTACT PERSON: Ken Brucks PHONE: (830) 226-5505
(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**

☒ **San Antonio Regional Office**

☐ **Mailed to TCEQ:**

TCEQ – Cashier
Revenues Section
Mail Code 214
P.O. Box 13088
Austin, TX 78711-3088

☐ **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	2.43 Acres	\$ 4,000
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	\$


Signature

7-8-10
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	\$1,500
	5 < 10	\$3,000
	10 < 40	\$4,000
	40 < 100	\$6,500
	100 < 500	\$8,000
	≥ 500	\$10,000
Non-residential (Commercial, industrial, institutional, multi-family residential, schools, and other sites where regulated activities will occur)	< 1	\$3,000
	1 < 5	\$4,000
	5 < 10	\$5,000
	10 < 40	\$6,500
	40 < 100	\$8,000
	≥ 100	\$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

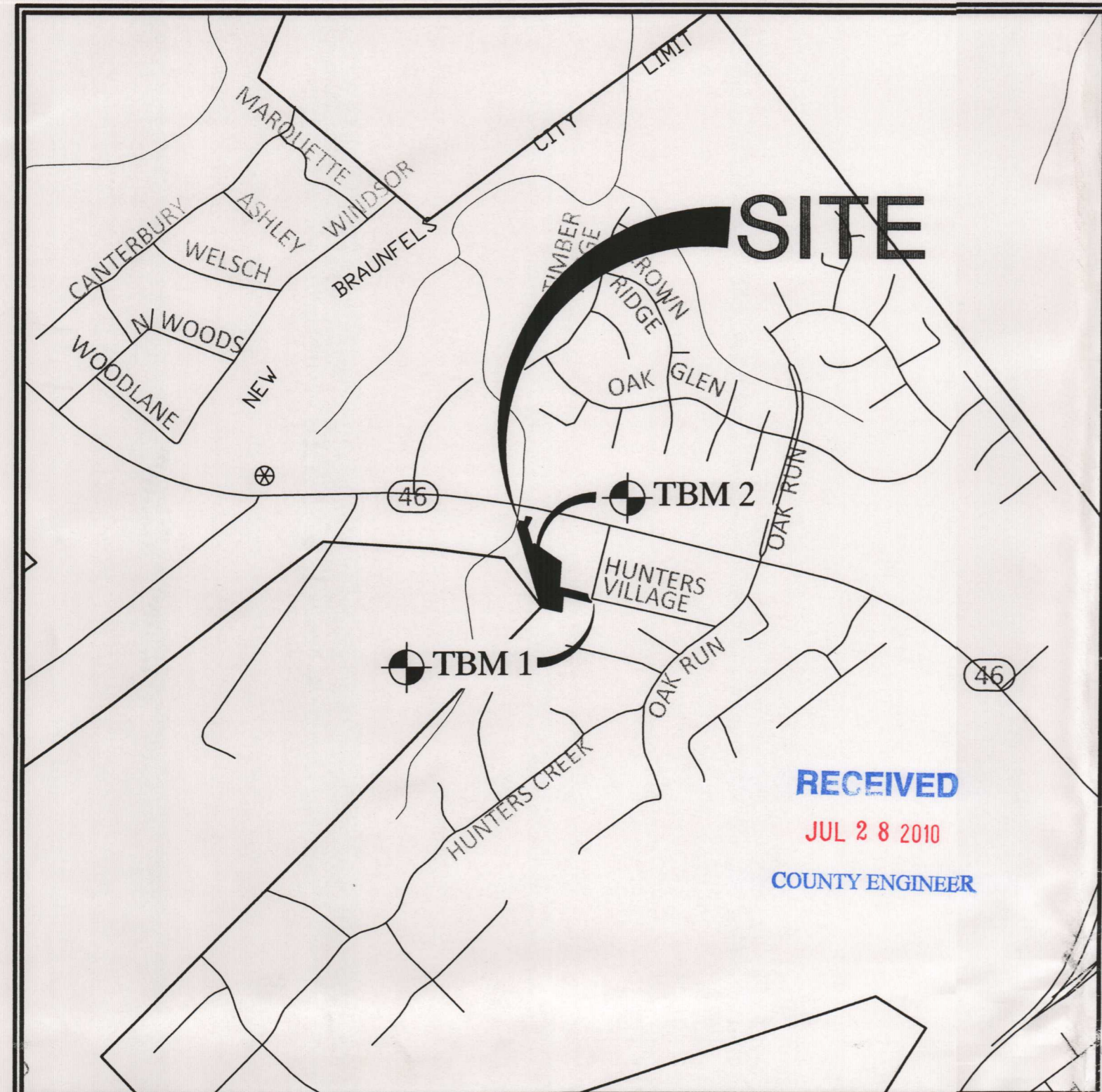
PROJECT	COST PER TANK OR PIPING SYSTEM	MINIMUM FEE MAXIMUM FEE
Underground and Aboveground Storage Tank Facility	\$650	\$650 - \$6,500

Exception Requests

PROJECT	FEE
Exception Request	\$500

Extension of Time Requests

PROJECT	FEE
Extension of Time Request	\$150



PROJECT LOCATION MAP

SCALE: 1" = 1000'

PROJECT BENCHMARK

TBM 1: MAG NAIL IN PAVEMENT AT SOUTHWEST CORNER OF CUL-DE-SAC APPROXIMATELY 3 FEET OFF THE CURB.

N: 13809954.5200
E: 2231866.6790
Z: 849.01

TBM 2: 60D NAIL LOCATED IN THE CENTER OF THE LOT 110 FEET FROM THE WEST PROPERTY LINE AND 200 FEET FROM THE SOUTH PROPERTY LINE.

N: 13810107.6979
E: 2231564.9294
Z: 842.11

NOTE TO CONTRACTOR:

BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH OF THE INDIVIDUAL UTILITIES FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.

Prodigy Learning Center
Site Development Plans

Ken Brucks
226 Glen Haven
New Braunfels, Texas 78132

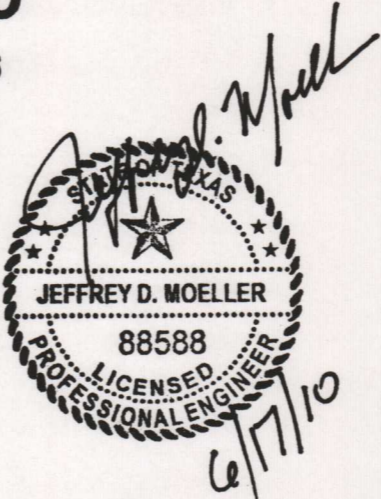
June 2010

Sheet List Table	
Sheet Number	Sheet Title
1	General Notes
2	WPAP Site Plan
3	Site Plan
4	Grading Plan
5	Utility Plan
6	Site Details
7	Utility Details

Prepared By:

HMT
ENGINEERING & SURVEYING
HOLLMIG • MOELLER • THORNHILL

410 N. Seguin St.
New Braunfels, TX 78130
PH: 830-825-8555 FAX: 830-825-8556
www.hmtnb.com
TBPE Firm F-10961



GENERAL NOTES:

ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL COMPLY WITH:

- A. CURRENT CITY OF NEW BRAUNFELS CONSTRUCTION SPECIFICATIONS AND STANDARDS AS OF THE DATE OF THIS CONTRACT
- B. TEXAS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES - 1993".

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 1993 TEXAS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES." ALONG WITH CURRENT CITY OF SAN ANTONIO AND COMAL COUNTY SPECIFICATIONS. ANY DISCREPANCIES BETWEEN SPECIFICATIONS SHALL BE RESOLVED BY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

CONTRACTOR SHALL PROCURE ALL PERMITS AND LICENSES, PAY ALL CHARGES, FEES, AND TAXES AND GIVE ALL NOTICES NECESSARY AND INCIDENTAL TO THE DUE AND LAWFUL PROSECUTION OF THE WORK.

ANY EXISTING OFF-SITE IMPROVEMENTS THAT ARE DAMAGED OR UNDERCUT BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE OWNER OF THE EXISTING IMPROVEMENT AT THE CONTRACTOR'S EXPENSE. (NO SEPARATE PAY ITEM)

WORK COMPLETED BY THE CONTRACTOR WHICH HAS NOT RECEIVED A WORK ORDER OR CONSENT OF THE OWNER OR ENGINEER WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.

CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100yr FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAN DEVELOPMENT PERMIT.

BARRICADES AND WARNING SIGNS SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND SHALL BE LOCATED TO PROVIDE MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS CONSTRUCTION PERSONNEL AND EQUIPMENT WHILE PROVIDING CONTINUOUS TRAFFIC FLOW AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL DEVICES DURING CONSTRUCTION.

CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS. THE TERM "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY BOTH HORIZONTAL AND VERTICAL ALIGNMENT.

WHEN MATCHING EXISTING PAVEMENTS, CURBS, DRIVES, AND WALKS, THEY SHALL BE SAW CUT FULL DEPTH AND REMOVED TO ALLOW FOR PROPOSED CONSTRUCTION. IF ANY EXISTING JOINT IS ENCOUNTERED, PRECAUTION SHALL BE TAKEN DURING REMOVAL OF CONCRETE SO AS NOT TO DAMAGE EXISTING DOWELS. ALL EXISTING DOWELS SHALL BE EXPOSED AND CLEANED.

ITEM OF WORK DESIGNATED "BY OTHERS" SHALL NOT BE CONSIDERED PART OF THIS CONTRACT.

ALL "COMPACTED SUBGRADE" SHALL CONSIST OF NATIVE MATERIAL SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES AND COMPACTED TO 95% DENSITY ACCORDING TO DENSITY TEST METHOD TEX-115E OR ACCORDING TO ASTM D-698 AND TESTED BY ASTM D-2922.

ALL "FLEXIBLE BASE" SHALL BE TYPE "A", GRADE 4, ACCORDING TO TxDOT ITEM 247, COMPACTED TO 95% MODIFIED DENSITY AT A MOISTURE CONTENT BETWEEN -2 AND +3 OF OPTIMUM PERCENT MOISTURE ACCORDING TO ASTM D-1557 (MODIFIED PROCTOR) AND TESTED BY ASTM D-2922.

ASPHALT PAVEMENT SHALL BE THE TYPE SPECIFIED ON THE PLANS AND ACCORDING TO TxDOT ITEM 340 "HOT MIX ASPHALT CONCRETE PAVEMENT".

PRIME COAT USING MC-30 AT A RATE OF 0.2 GALLONS PER SQUARE YARD SHALL BE PLACED OVER PREPARED BASE AT LEAST ONE DAY PRIOR TO LAYING ASPHALTIC CONCRETE PAVEMENT. ANY NECESSARY TACK COAT SHALL BE MC-30 AT 0.05 GALLONS PER SQUARE YARD. IT IS REQUIRED THAT BOTH THE PRIME COAT AND THE TACK COAT BE APPLIED AT THE TEMPERATURE SPECIFIED UNDER TxDOT ITEM 300.3.

CONCRETE SHALL BE CLASS "A" ACCORDING TO TxDOT ITEM 421 UNLESS OTHERWISE ON PLANS.

REINFORCING STEEL SHALL BE FROM NEW BILLET AND SHALL CONFORM TO TxDOT ITEM 440. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS EXCEPT WHEN REFERRING TO CLEARANCE.

ALL SAVED JOINTS SHALL BE SAWED WITHIN 24 HOURS OF POURING.

ABSOLUTELY NO WELDING OF REINFORCING BARS OR TORCHING TO BEND REINFORCING BARS SHALL BE ALLOWED WITHOUT THE SPECIFIC APPROVAL OF THE ENGINEER.

ORDINARY COMPACTION CONTROL IS REQUIRED ON THIS PROJECT.

ALL ROLLING FOR COMPACTION OF ASPHALTIC CONCRETE PAVEMENT SHALL BE COMPLETED BEFORE THE MIXTURE TEMPERATURE DROPS BELOW 175 DEG. (F).

ALL FILL MATERIAL SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.

CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO THE NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNERS AND THE ENGINEER AND HIS EMPLOYEES, PARTNERS, OFFICES, DIRECTORS, OR CONSULTANTS, HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER, ENGINEER'S DIRECTORS, OFFICERS, EMPLOYEES, OR CONSULTANTS.

ALL CMP (CORRUGATED METAL PIPE) USED ON THIS PROJECT SHALL HAVE A MANNING'S "n" VALUE OF 0.0213 UNLESS OTHERWISE SHOWN ON PLANS.

CONTRACTOR WILL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTING PER CURRENT CITY OF NEW BRAUNFELS REQUIREMENTS. ALL TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. ENGINEER AND OWNER RESERVE THE RIGHT TO HAVE THE CONTRACTOR REMOVE AND REPLACE ANY MATERIAL THAT WAS NOT TESTED OR FAILED TESTING. ALL COST ASSOCIATED WITH THE REMOVAL, REPLACEMENT AND TESTING SHALL BE PAID BY THE CONTRACTOR.

ALL PVC SLEEVES SHALL BE INSTALLED 3" BELOW FINISHED GRADE AND ENDS SHALL BE MARKED SO THAT LOCATIONS OF SLEEVES CAN BE EASILY IDENTIFIED.

PRE--CONSTRUCTION CONFERENCE IS REQUIRED. ENGINEER WILL ARRANGE SUCH CONFERENCE IN COORDINATION WITH CITY OF NEW BRAUNFELS STREET INSPECTOR. NO CONSTRUCTION MAY BEGIN PRIOR TO THE PRE-CONSTRUCTION CONFERENCE.

EROSION / SEDIMENTATION CONTROL:

AT A MINIMUM, THESE CONTROLS SHALL CONSIST OF ROCK BERMS AND/OR SILT FENCES CONSTRUCTED PARALLEL TO AND DOWN GRADIENT FROM THE TRENCHES. THE ROCK BERM OR SILT FENCES SHALL BE INSTALLED IN A MANNER SUCH THAT ANY RAINFALL RUNOFF SHALL BE FILTERED. HAY BALES SHALL NOT BE USED FOR TEMPORARY EROSION AND SEDIMENTATION CONTROLS.

ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED PRIOR TO CONSTRUCTION AND SHALL BE MAINTAINED DURING CONSTRUCTION BY THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE THE CONTROLS WHEN VEGETATION IS ESTABLISHED AND THE CONSTRUCTION AREA IS STABILIZED [31 TAC 313.5 (c)(12)]. ADDITIONAL PROTECTION MAY BE REQUIRED IF EXCESSIVE SOLIDS ARE BEING DISCHARGED FROM THE SITE.

ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY THE OWNER/ENGINEER.

PLACEMENT OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE CONSTRUCTION PLANS. ACTUAL LOCATIONS MAY VARY SLIGHTLY FROM THE PLANS, BUT WILL BE VERIFIED BY THE ENGINEER/INSPECTOR IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY SIGNIFICANT RAINFALL TO INSURE DISTURBANCE OF THE STRUCTURES HAS NOT OCCURRED. SEDIMENT DEPOSITED AFTER A RAINFALL SHALL BE REMOVED FROM THE SITE OR PLACED IN AN ENGINEER APPROVED DESIGNATED DISPOSAL AREA.

UTILITIES

LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION, INCLUDING THOSE NOT SHOWN ON THE DRAWINGS.

ANY EXISTING UTILITIES, ON OR OFF THE SITE, THAT ARE DAMAGED OR UNDERCUT BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE RESPECTIVE UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE.

CONTRACTOR SHALL NOTIFY APPROPRIATE UTILITY COMPANIES AND GOVERNMENTAL AGENCIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION AT:

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION

NEW BRAUNFELS UTILITIES (WATER AND SEWER)	(830) 608-8971
NEW BRAUNFELS UTILITIES (ELECTRIC)	(830) 608-8951
TIME WARNER CABLE	(830) 625-3408
RELIANT ENERGY ENTEX	(830) 643-6434
AT&T	(830) 303-1333
TEXAS ONE CALL SYSTEM	1-800-245-4545

DUE TO FEDERAL REGULATIONS TITLE 49, PART 192(8), GAS COMPANIES MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT THE WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

CONTRACTOR SHALL REFERENCE NEW BRAUNFELS UTILITIES PLANS FOR FINAL ELECTRICAL LINE DESIGNS AND LAYOUT.

SEWER NOTES

- THE CONTRACTOR SHALL MAINTAIN SERVICE TO EXISTING SANITARY SEWERS AT ALL TIMES DURING CONSTRUCTION.
- DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181 CENTER POINT ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND GAS VALVES THAT ARE IN THE PROJECT AREAS.
- ALL 8" GRAVITY SEWER PIPE (MAINS & LATERALS) AND FITTINGS IN THIS PROJECT ARE PVC SDR-26, ASTM D-3034, D-3212, F-477. ALL PRESSURE RATED SEWER PIPE IS PVC AWWA C-900 PIPE. COLORED GREEN.
- ALL RESIDENTIAL SEWER SERVICE LATERALS SHALL BE EXTENDED TO THE PROPERTY LINE AND CAPPED AND SEALED.
- INITIAL BACKFILL OF SEWER LINES SHALL BE 3/4" TO DUST OR PEA GRAVEL AS PER NBU SPECIFICATIONS.
- SECONDARY BACKFILL OF SEWER LINES SHALL GENERALLY CONSIST OF MATERIALS REMOVED FROM THE TRENCH AND SHALL BE FREE FROM BRUSH, DEBRIS, AND TRASH, NO ROCKS OR STONES HAVING ANY DIMENSION LARGER THAN 6 INCHES AT THE LARGEST DIMENSION.
- ALL SEWER PIPES SHALL HAVE COMPRESSION OR MECHANICAL JOINTS AS PER 31 TAC 313.5 (C) (2) (II).
- FOR SEWER LINES LESS THAN 24" IN DIAMETER, SELECT INITIAL BACKFILL MATERIAL SHALL BE PLACED IN TWO LIFTS.
- THE FIRST LIFT SHALL BE SPREAD UNIFORMLY AND SIMULTANEOUSLY ON EACH SIDE AND UNDER THE SHOULDERS OF THE PIPE TO THE MID POINT OF SPRING LINE OF THE PIPE.
- THE SECOND LIFT SHALL BE PLACED TO A DEPTH AS SHOWN ON THE PIPE BACKFILL DETAIL. FOR PIPES LARGER THAN 24", 12" MAXIMUM LIFTS SHALL BE USED.
- ALL MANHOLES MUST BE WATER TIGHT. EITHER MONOLITHIC, CAST-IN-PLACE CONCRETE STRUCTURES OR PREFABRICATED MANHOLES SPECIFICALLY APPROVED BY NBU. THE MANHOLES SHALL HAVE WATER TIGHT RINGS AND COVERS, WHEREVER THEY ARE WITHIN THE 100 YEAR FLOODPLAIN, THE MANHOLE COVERS SHALL BE BOLTED. EVERY FOURTH MANHOLE IN SEQUENCE SHALL HAVE AN ALTERNATIVE MEANS OF VENTING [31 TAC 313.5(C)(1) AND 31 TAC 317.2(C)(5)(F)]\.
- ALL MANHOLES SHALL BE CONSTRUCTED SO THAT THE TOP OF THE RING IS ABOVE THE SURROUNDING GROUND, EXCEPT WHEN LOCATED IN PAVED AREAS. IN PAVED AREAS, THE MANHOLE RING SHALL BE FLUSH WITH PAVEMENT.
- ALL NEW MANHOLES ARE TO HAVE COVERS WITH 32" OPENINGS.
- SEWER PIPE CONNECTIONS TO PRE-CAST MANHOLES WILL BE COMPRESSION JOINTS OF MECHANICAL "BOOT TYPE" JOINT AS APPROVED BY NBU.
- SEWER LINES SHALL BE TESTED FROM MANHOLE TO MANHOLE.
- IN AREAS WHERE A NEW SANITARY SEWER MANHOLE IS TO BE CONSTRUCTED OVER AN EXISTING SANITARY SEWER SYSTEM, IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO TEST THE EXISTING MANHOLES BEFORE CONSTRUCTION. AFTER PROPOSED MANHOLE HAS BEEN BUILT, THE CONTRACTOR SHALL RE-TEST THE EXISTING SYSTEM TO THE SATISFACTION OF THE CONSTRUCTION INSPECTOR. (NO SEPARATE PAY ITEM).
- WHERE THE MINIMUM 9 FEET SEPARATION DISTANCE BETWEEN SEWER LINES AND WATER LINES/MAINS CANNOT BE MAINTAINED, THE INSTALLATION OF SEWER LINES SHALL BE IN STRICT ACCORDANCE WITH TCEQ. THE WASTEWATER LINE SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON, OR PVC MEETING THE ASTM SPECIFICATION FOR BOTH PIPES AND JOINTS OF 150 PSI AND SHALL BE IN ACCORDANCE WITH 30 TAC 290.44(E)(5).
- AFTER CONSTRUCTION TESTING WILL BE DONE BY TV CAMERA BY THE CONTRACTOR AND OBSERVED BY THE INSPECTOR OR WATER SYSTEMS ENGINEERING PERSONNEL. AS THE CAMERA IS RUN THROUGH THE LINES (NSPI), ANY ABNORMALITIES FOUND IN THE LINE, SUCH AS BROKEN PIPE OR MISALIGNED JOINTS, MUST BE REPLACED BY THE CONTRACTOR AT HIS EXPENSE. CONTRACTOR TO PROVIDE TV TAPES TO CONSTRUCTION INSPECTION FOR REVIEW PRIOR TO FINAL INSPECTION OF THE PROJECT.
- WATER JETTING THE BACKFILL WITHIN A STREET WILL NOT BE PERMITTED. SANITARY SEWER TRENCHES SUBJECT TO TRAFFIC SHALL CONFORM TO NBU CONNECTION & CONSTRUCTION POLICY MANUAL.
- NO TESTING WILL BE PERFORMED PRIOR TO 30 DAYS FROM COMPLETE INSTALLATION OF THE SANITARY SEWER LINES. THE FOLLOWING SEQUENCE WILL BE STRICTLY ADHERED TO.
 - PULL MANDREL.
 - PERFORM AIR TEST.
- WHERE REQUIRED, CONCRETE ENCASEMENT SHALL BE PLACED AS SHOWN ON THE STANDARD DETAIL SHEET.
- A MINIMUM OF 3 FEET OF COVER IS TO BE MAINTAINED OVER THE SANITARY SEWER MAIN AND LATERALS AT SUBGRADE, OTHERWISE CONCRETE ENCASEMENT WILL BE REQUIRED.
- SANITARY SEWER MAIN CONNECTIONS MADE DIRECTLY TO EXISTING MANHOLES WILL REQUIRE SUCCESSFUL TESTING OF THE MANHOLE IN ACCORDANCE WITH NBU CONNECTION & CONSTRUCTION POLICY MANUAL.
- TCEQ AND EPA REQUIRE EROSION AND SEDIMENTATION CONTROL FOR CONSTRUCTION OF SEWER COLLECTION SYSTEMS. CONTRACTOR SHALL PROVIDE EROSION AND SEDIMENTATION CONTROL PER THE PROJECT PLANS. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY NBU WATER SYSTEMS.
- ALL MANHOLES NOT WITHIN PAVED STREETS SHALL HAVE LOCKING CONCRETE COLLAR TO SECURE RING AND COVER TO MANHOLE CONE PER NBU DETAIL DRAWING #329. (NO SEPARATE PAY ITEM)
- ALL MANHOLES OVER THE EDWARD'S AQUIFER RECHARGE ZONE SHALL HAVE LOCKING CONCRETE COLLAR TO SECURE RING AND COVER TO MANHOLE CONE PER NBU DETAIL DRAWING #329. (NO SEPARATE PAY ITEM)
- ALL SEWER SERVICES SHALL HAVE CLEANOUTS INSTALLED AT PROPERTY LINE PER NBU DRAWING #302 AND #303. (NO SEPARATE PAY ITEM)
- EACH LOT OWNER SHALL BE RESPONSIBLE FOR VERIFYING THE DEPTH OF THE SEWER SERVICE STUB OUT, AND DETERMINE THE MINIMUM SERVICEABLE FINISHED FLOOR ELEVATION.
- VERTICAL SEWER SERVICE STACKS SHALL BE REQUIRED WHERE THE TOP OF THE SEWER MAIN IS AT A DEPTH OF 8 FEET OF GREATER, UNLESS SHOWN OTHERWISE ON PLANS.

DRAINAGE NOTE

FINISHED FLOOR ELEVATIONS

THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, UNLESS OTHERWISE NOTED ON THE SUBDIVISION PLAT FOR MORNINGSTAR UNIT 1. THE GROUND SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORM WATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORM WATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOIST A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE.

GROUNDWATER

IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, CONTRACTOR, SUBCONTRACTORS, BUILDERS, GEOTECHNICAL ENGINEER, AND PROJECT ENGINEER TO IMMEDIATELY NOTIFY THE OFFICE OF THE CITY ENGINEER IF THE PRESENCE OF GROUNDWATER WITHIN THE PROJECT SITE IS EVIDENT. THE CITY ENGINEER SHALL RESPOND TO THE NOTICE WITHIN TWO (2) BUSINESS DAYS. ALL GROUNDWATER MITIGATION MEASURE IS GRANTED BY THE CITY ENGINEER.

ROADWAY

ALL ROADWAY COMPACTION TESTS SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FLEXIBLE BASE OF FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED SIX INCHES (6") COMPACTED. EACH LAYER OF MATERIAL INCLUSIVE OF SUBGRADE, SHALL BE COMPACTED AS SPECIFIED AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TEST SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND BE APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER WILL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FLEXIBLE BASE AND FILL MATERIAL, AND SUBGRADE, HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TEST WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPERS GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. EACH LAYER OF MATERIAL SHALL BE COMPACTED AS SPECIFIED AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TEST SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

THE CONTRACTOR SHALL NOTIFY THE STREET INSPECTOR AT (830) 660-0211, PRIOR TO THE START OF CONSTRUCTION. A 48-HOUR ADVANCE NOTIFICATION IS REQUIRED.

WATER NOTES:

- ALL WATER MAINS SHALL BE AWWA C-900, DR-6-18.
- WATER SERVICES SHALL BE SINGLE 1 INCH COPPER TUBING, UNLESS OTHERWISE INDICATED ON THE PLANS.
- WATER LINE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE NBU WATERLINE SPECIFICATIONS.
- WATER MAINS SHALL HAVE A MINIMUM OF 48 INCHES OF COVER WITHIN THE LIMITS OF THE PROPOSED SUBDIVISION. ALL OFF-SITE WATER MAINS SHALL HAVE A MINIMUM OF 72 INCHES OF COVER.
- CONTRACTOR WILL KEEP THE AREA ON TOP OF AND AROUND THE WATER METER BOX FREE OF ALL OBJECTS AND DEBRIS.
- INITIAL BACKFILL OF WATER LINES SHALL BE 3/4 INCH TO DUST OR PEA GRAVEL AS PER NBU SPECIFICATIONS.
- SECONDARY BACKFILL OF WATER LINES SHALL GENERALLY CONSIST OF MATERIAL REMOVED FROM THE TRENCH AND SHALL BE FREE FROM BRUSH, DEBRIS, AND TRASH OR STONES HAVING A DIMENSION LARGER THAN 6 INCHES AT THE LARGEST DIMENSION.
- ALL IN-LINE VALVES, BENDS AND PLUGS SHALL BE RESTRAINED. RESTRAINT TO BE PROVIDED ON EACH SIDE OF VALVE, FITTING OR ANY REQUIRED JOINT.
- RESTRAINT LENGTHS SHOWN ON PLANS ARE FOR HORIZONTAL FITTINGS ONLY. CONTRACTOR SHALL DETERMINE ADDITIONAL RESTRAINT LENGTHS REQUIRED FOR VERTICAL FITTINGS BASED ON RESTRAINT LENGTH TABLE LOCATED ON SHEET C3.0.
- THE WATER MAINS SHALL BE RESTRAINED AT THE LOCATIONS SHOWN ON THE PLANS AND AT ANY FIELD ADDITIONS/MODIFICATIONS INVOLVING THE ADDITION OF VALVES, DEAD ENDS, OR ADDITIONAL/RELOCATED BENDS. THE CONTRACTOR SHALL DETERMINE THE APPROPRIATE RESTRAINT LENGTHS FOR THE WATER MAIN BASED ON THE SITUATION ENCOUNTERED DURING INSTALLATION FOR THOSE INSTANCES WHICH DIFFER FROM THE PLANS. JOINT RESTRAINT LENGTHS STATED ON THE PLANS SHALL BE UNDERSTOOD TO INDICATE THAT ALL JOINTS WITHIN THE STATED DISTANCE FROM THE FITTING, APPURTENANCE, OR POINT OF DEFLECTION SHALL BE RESTRAINED IN ACCORDANCE WITH NBU SPECIFICATIONS. THRUST BLOCKING SHALL ONLY BE USED AT TIE-INS TO EXISTING MAINS AND AT THE DIRECTION OF THE NBU INSPECTOR.
- PIPE IN CASING SHALL BE FULLY RESTRAINED. LENGTH SHALL NOT BE COUNTED AS PART OF THE RESTRAINED LENGTH SHOWN ON THE PLANS BUT SHALL BE CONSIDERED INDEPENDENT OF THE STATED LENGTHS. CASING SPACERS SHALL BE SUITABLE FOR THE DIAMETER AND TYPE OF PIPE BEING INSTALLED AND SHALL BE BY PIPELINE SEAL AND INSULATOR, INC., OR ADVANCE PRODUCTS AND SYSTEMS, INC., OR ENGINEERED APPROVED EQUAL.
- CONTRACTOR TO COORDINATE WITH NEW BRAUNFELS UTILITIES (N.B.U.) FOR WATER, SEWER, AND ELECTRICAL SERVICE TO THE SITE.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER POLLUTION ABATEMENT PLAN
GENERAL CONSTRUCTION NOTES

- 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.
- 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.
- 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.
- NO TEMPORARY ABOVEGROUND HYDROCARBON AND HAZARDOUS SUBSTANCE STORAGE TANK SYSTEM IS INSTALLED WITHIN 150 FEET OF DOMESTIC, INDUSTRIAL, IRRIGATION, OR PUBLIC WATER SUPPLY WELL, OR OTHER SENSITIVE FEATURE.
- 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 SITUATION. THE CONTROLS MUST REMAIN IN PLACE UNTIL DISTURBED AREAS ARE REVEGETATED AND THE AREAS HAVE BECOME PERMANENTLY STABILIZED.
- IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE 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%. A PERMANENT STAKE MUST BE PROVIDED THAT CAN INDICATE WHEN THE SEDIMENT OCCUPIES 50% OF THE BASIN VOLUME.
- 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).

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
WATER POLLUTION ABATEMENT PLAN
GENERAL CONSTRUCTION NOTES CONT'D

- 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.
- 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.
- 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 OFFICES IN WRITING AND OBTAIN APPROVAL FROM THE EXECUTIVE DIRECTOR PRIOR TO INITIATING ANY OF THE FOLLOWING:
 - 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;
 - 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;
 - ANY DEVELOPMENT OF LAND PREVIOUSLY IDENTIFIED AS UNDEVELOPED IN THE ORIGINAL WATER POLLUTION ABATEMENT PLAN.

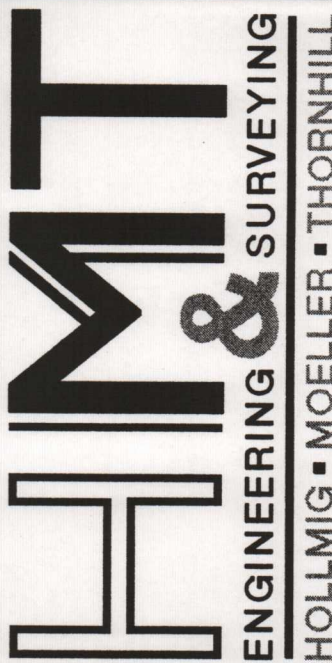
AUSTIN REGIONAL OFFICE 2800 S. IH 35, SUITE 100 AUSTIN, TEXAS 78704-5712 PHONE (512) 339-2929 FAX (512) 339-3795	SAN ANTONIO REGIONAL OFFICE 14250 JUDSON ROAD SAN ANTONIO, TEXAS 78233-4480 PHONE (210) 490-3096 FAX (210) 545-4329
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LEGEND

—OHE—	EXISTING OVERHEAD ELECTRIC
—UGE—	EXISTING UNDERGROUND ELECTRIC
□	EXISTING ELECTRICAL BOX
□	EXISTING ELECTRICAL METER
⊗	EXISTING ELECTRIC MANHOLE
⊗	EXISTING LIGHT POLE
⊗	EXISTING POWER POLE
—)	EXISTING GUY WIRE
◀	EXISTING LIGHT
○	EXISTING GAS VALVE
⊠	EXISTING GAS METER
—GAS—	EXISTING NATURAL GAS LINE
— — — — — 8" SS —	EXISTING 8" SANITARY SEWER
— — — — — 15" SS —	EXISTING 15" SANITARY SEWER
— — — — — 6" SS —	EXISTING 6" SANITARY SEWER
— — — — — 12" SS —	EXISTING 12" SANITARY SEWER
— — — — — 10" SS —	EXISTING 10" SANITARY SEWER
⊗	EXISTING SANITARY SEWER MANHOLE
⊗	EXISTING CLEANOUT
⊗	EXISTING STORM DRAIN MANHOLE
⊗	EXISTING CURB INLET
⊗	EXISTING INLET / CATCH BASIN
⊗	EXISTING SATELLITE
⊗	EXISTING COMMUNICATIONS MANHOLE
△	EXISTING TELEPHONE PEDESTAL
— — — — — 6" WTR —	EXISTING 6" WATER LINE
— — — — — 8" WTR —	EXISTING 8" WATER LINE
— — — — — 12" WTR —	EXISTING 12" WATER LINE
— — — — — 10" WTR —	EXISTING 10" WATER LINE
⊗	EXISTING WATER VALVE
⊗	EXISTING SPRINKLER HEAD
⊗	EXISTING FIRE HYDRANT
◊	EXISTING WATER METER
⊢	PROPOSED 11 1/4" BEND
⊢	PROPOSED 22 1/2" BEND
⊢	PROPOSED 45° BEND
⊢	PROPOSED 90° BEND
⊢	PROPOSED AIR RELEASE VALVE
⊢	PROPOSED CAP AND/OR PLUG
⊢	PROPOSED COUPLING
⊢	PROPOSED REDUCER
⊢	UTILITY CROSSING (VERIFY)
⊢	PROPOSED CROSS
⊢	PROPOSED TEE
⊢	PROPOSED FIRE HYDRANT
⊢	PROPOSED WATER VALVE
⊢	PROPOSED WATER METER
⊢	PROPOSED WATER LINE SERVICE (SIZE NOTED)
⊢	PROPOSED 6" WATER LINE
⊢	PROPOSED 8" WATER LINE
⊢	PROPOSED 12" WATER LINE
●	PROPOSED SANITARY SEWER MANHOLE
●	PROPOSED SANITARY SEWER SIZE VARIES

GENERAL NOTES
SITE DEVELOPMENT PLANS

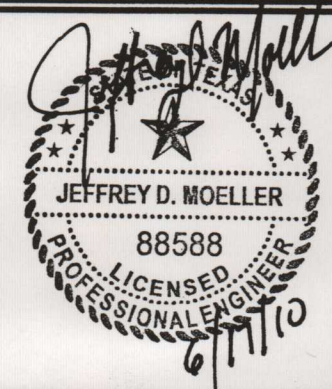
PRODIGY LEARNING CENTER



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KEN BRUCKS

226 GLEN HAVEN
NEW BRAUNFELS, TX 778132

DATE: JUNE 17, 2010

DRAWN BY: JDS

DESIGNED BY: JJI

CHECKED BY: JDM

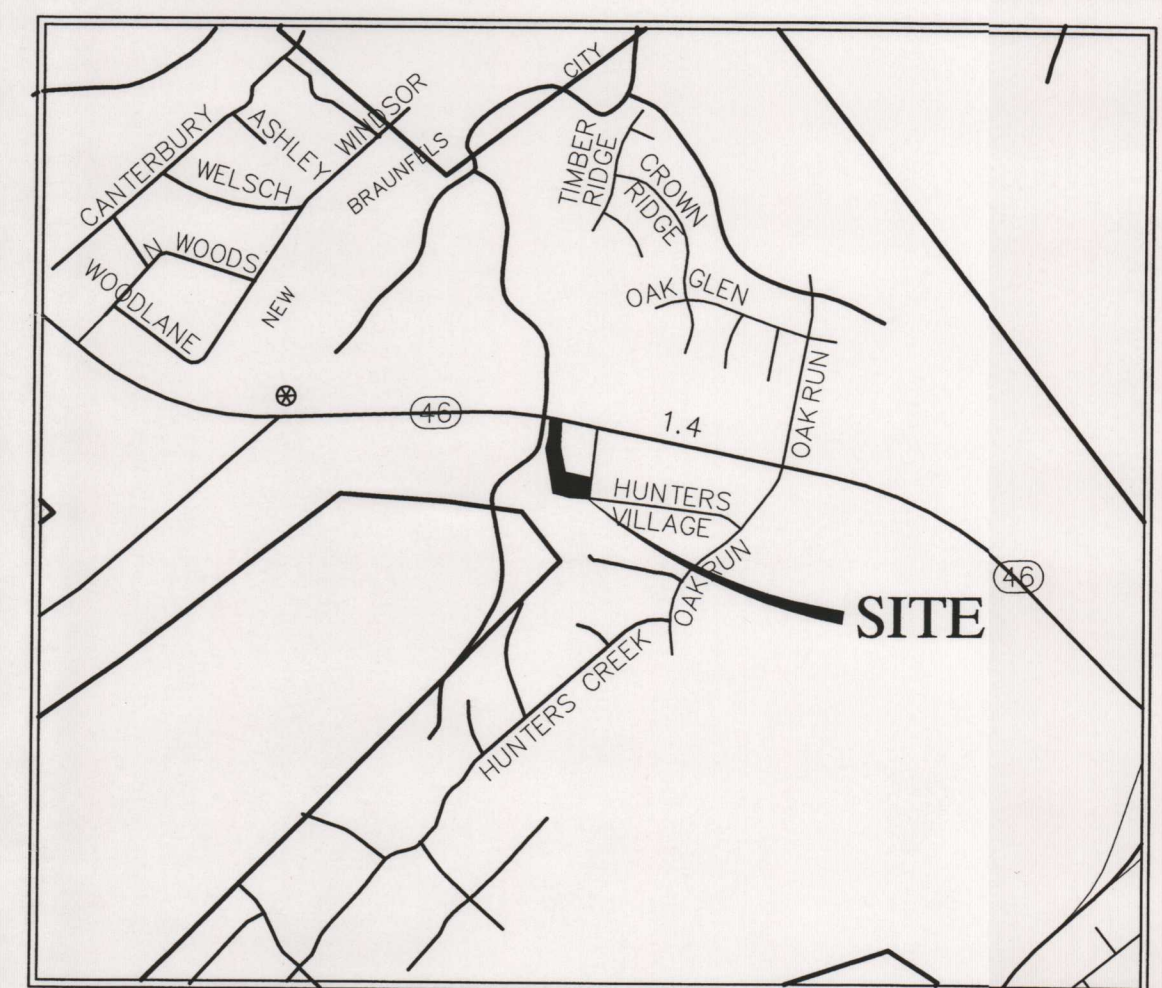
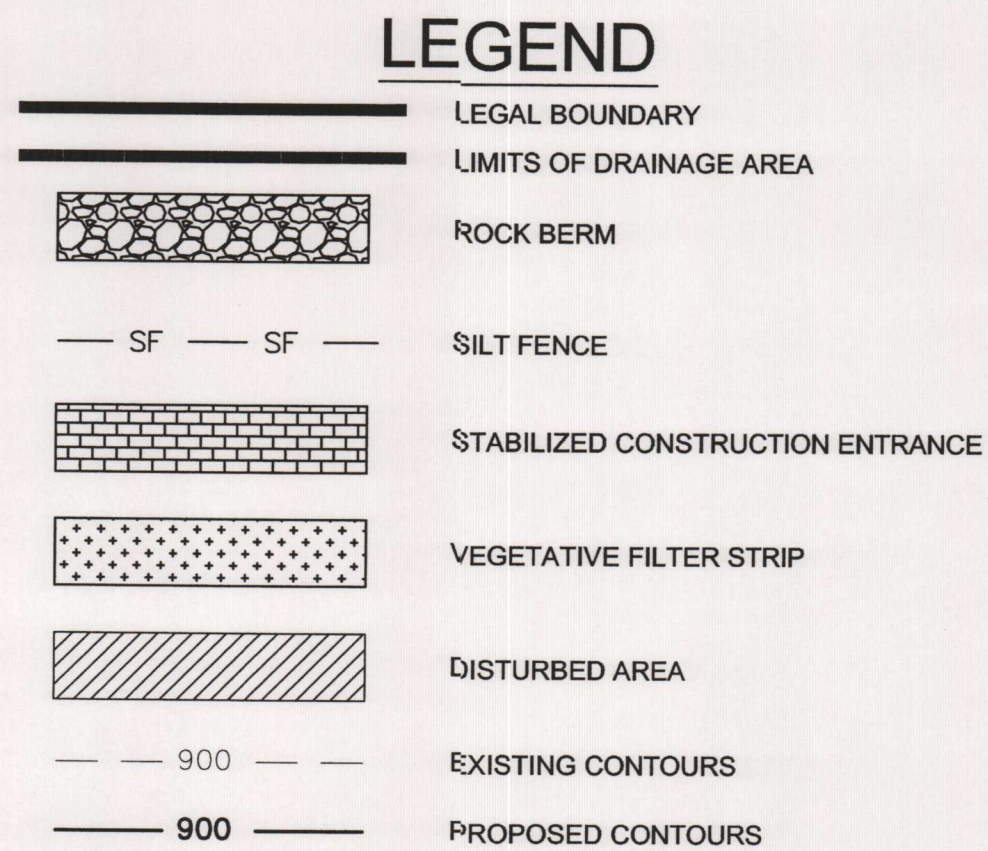
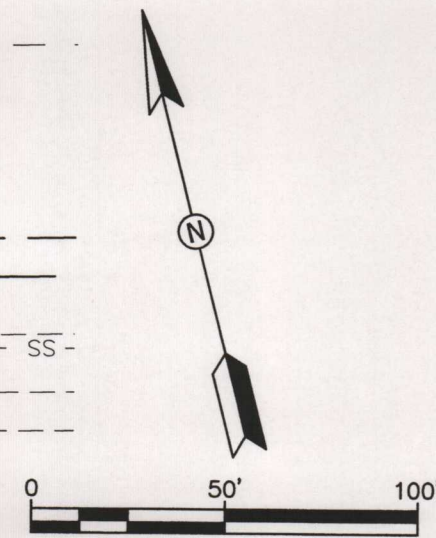
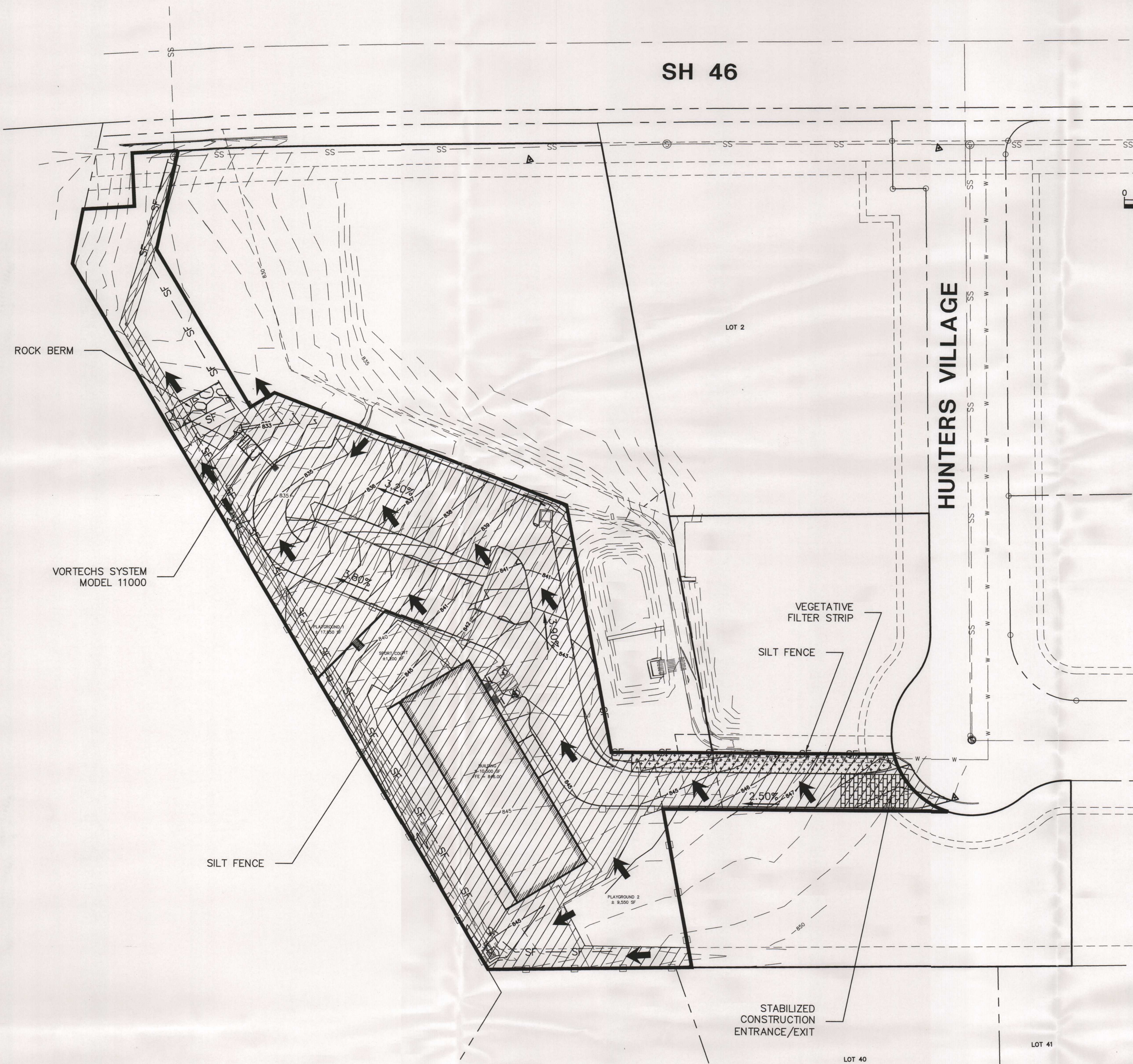
REVIEWED BY: JDM

PROJECT NUMBER: BR001

SHEET

1

OF 7



TOTAL LAND AREA	=	2.43 AC
TOTAL DISTURBED AREA	=	2.07 AC
TOTAL IMPERVIOUS AREA	=	1.12 AC
% IMPERVIOUS	=	46%

SOIL STABILIZATION NOTE

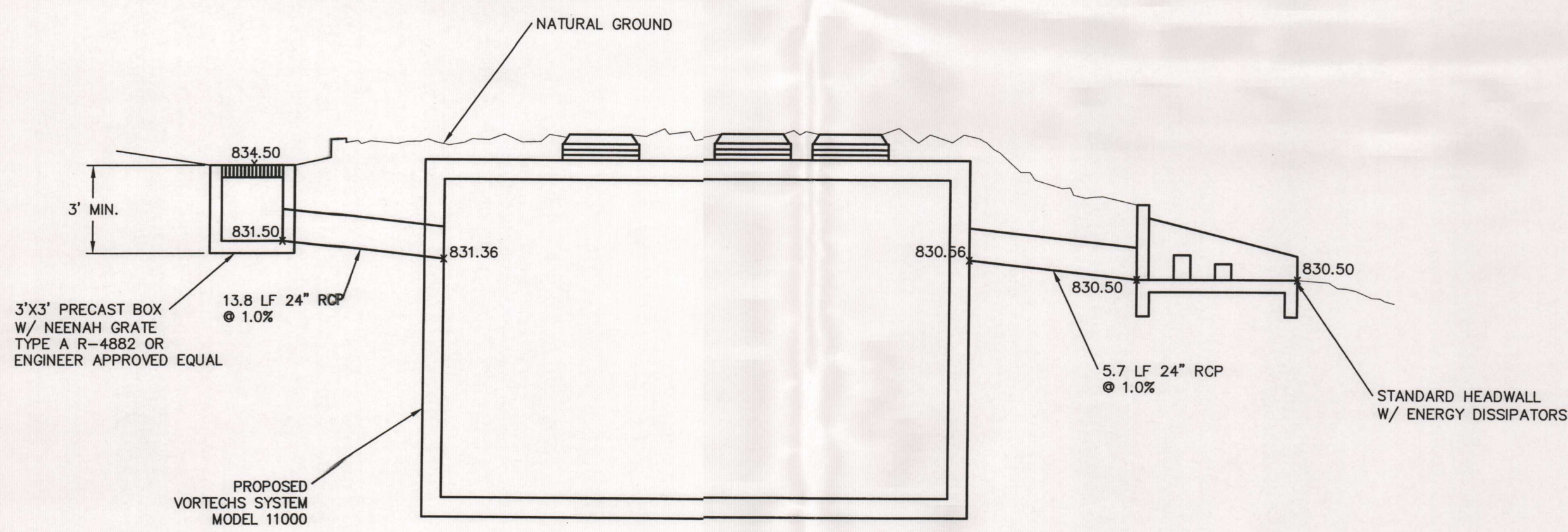
ALL DISTURBED SOILS SHOULD BE SEEDED OR OTHERWISE STABILIZED WITH 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS.

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

- 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.
- 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.
- 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.
- 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.
- 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.
- 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).
- 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.
- 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).
- 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.
- 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 and conditions, stabilization measures shall be initiated as soon as practicable.
- 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.
- The holder of any approved Edwards 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:
 - 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;
 - 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;
 - any development of land previously identified as undeveloped in the original water pollution abatement plan.

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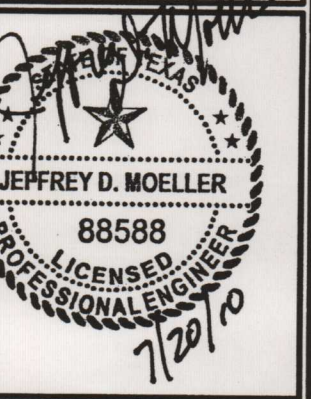


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WPAP SITE PLAN
SITE DEVELOPMENT PLANS

PRODIGY LEARNING CENTER

KEN BRUCKS
226 GLEN HAVEN
NEW BRAUNFELS, TX 78132

DATE: 7/2/2010

DRAWN BY: SAK

DESIGNED BY: JII

CHECKED BY: JDM

REVIEWED BY: JDM

PROJECT NUMBER: BR001

SHEET
2
OF 8

SILT FENCE

Materials:

- (1) Silt fence material should be polypropylene, polyethylene or polyamide woven or nonwoven fabric. The fabric width should be 36 inches, with a minimum unit weight of 4.5 oz/yd, mullen burst strength exceeding 190 lb/in2, ultraviolet stability exceeding 70%, and minimum apparent opening size of U.S. Sieve No. 30.
- (2) Fence posts should be made of hot rolled steel, at least 4 feet long with Tee or Ybar cross section, surface painted or galvanized, minimum nominal weight 1.25 lb/ft2, and Brindell hardness exceeding 140.

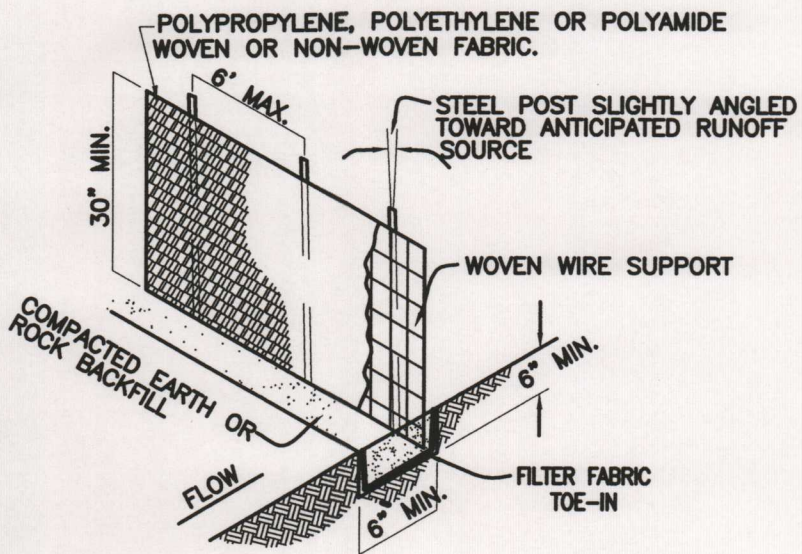
- (3) Woven wire backing to support the fabric should be galvanized 2" x 4" welded wire, 12 gauge minimum.

Installation:

- (1) Steel posts, which support the silt fence, should be installed on a slight angle toward the anticipated runoff source. Post must be embedded a minimum of 1- foot deep and spaced not more than 8 feet on center. Where water concentrates, the maximum spacing should be 6 feet.
- (2) Lay out fencing down-slope of disturbed area, following the contour as closely as possible. The fence should be sited so that the maximum drainage area is ¼ acre/100 feet of fence.
- (3) The toe of the silt fence should be trenched in with a spade or mechanical trencher, so that the down-slope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g., pavement or rock outcrop), weight fabric flap with 3 inches of pea gravel on uphill side to prevent flow from seeping under fence.
- (4) 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.
- (5) Silt fence should be securely fastened to each steel support post or to woven wire, which is in turn attached to the steel fence post. There should be a 3-foot overlap, securely fastened where ends of fabric meet.
- (6) Silt fence should be removed when the site is completely stabilized so as not to block or impede storm flow or drainage.

Inspection and Maintenance Guidelines:

- (1) Inspect all fencing weekly, and after any rainfall.
- (2) Remove sediment when buildup reaches 6 inches.
- (3) Replace any torn fabric or install a second line of fencing parallel to the torn section.
- (4) Replace or repair any sections crushed or collapsed in the course of construction activity. If a section of fence is obstructing vehicular access, consider relocating it to a spot where it will provide equal protection, but will not obstruct vehicles. A triangular filter dike may be preferable to a silt fence at common vehicle access points.
- (5) When construction is complete, the sediment should be disposed of in a manner that will not cause additional siltation and the prior location of the silt fence should be revegetated. The fence itself should be disposed of in an approved landfill.



STABILIZED CONSTRUCTION ENTRANCE / EXIT

Materials:

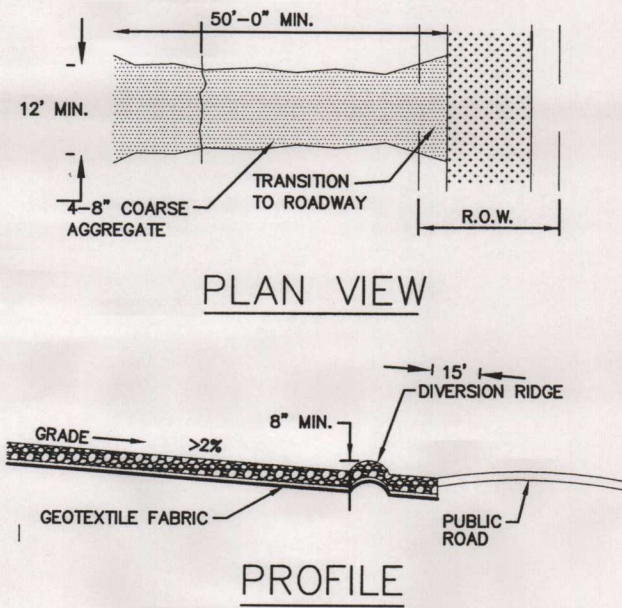
- (1) The aggregate should consist of 4 to 8 inch washed stone over a stable foundation as specified in the plan.
- (2) The aggregate should be placed with a minimum thickness of 8 inches.
- (3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd2, a mullen burst rating of 140 lb/in2, and an equivalent opening size greater than a number 50 sieve.
- (4) If a washing facility is required, a level area with a minimum of 4 inch diameter washed stone or commercial rack should be included in the plans. Divert wastewater to a sediment trap or basin.

Installation:

- (1) Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation area. Grade crown foundation for positive drainage.
- (2) The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater.
- (3) The construction entrance should be at least 50 feet long.
- (4) If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 (H:V) side slopes, across the foundation approximately 15 feet from the entrance to divert runoff away from the public road.
- (5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.
- (6) Place stone to dimensions and grade shown on plans. Leave surface smooth and slope for drainage.
- (7) Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.
- (8) Install pipe under pad as needed to maintain proper public road drainage.

Inspection and Maintenance Guidelines:

- (1) The entrance should be maintained in a condition, which will prevent tracking or lowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanup of any measures used to trap sediment.
- (2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.
- (3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way.
- (4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sediment trap or sediment basin.
- (5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.



ROCK BERM

Materials:

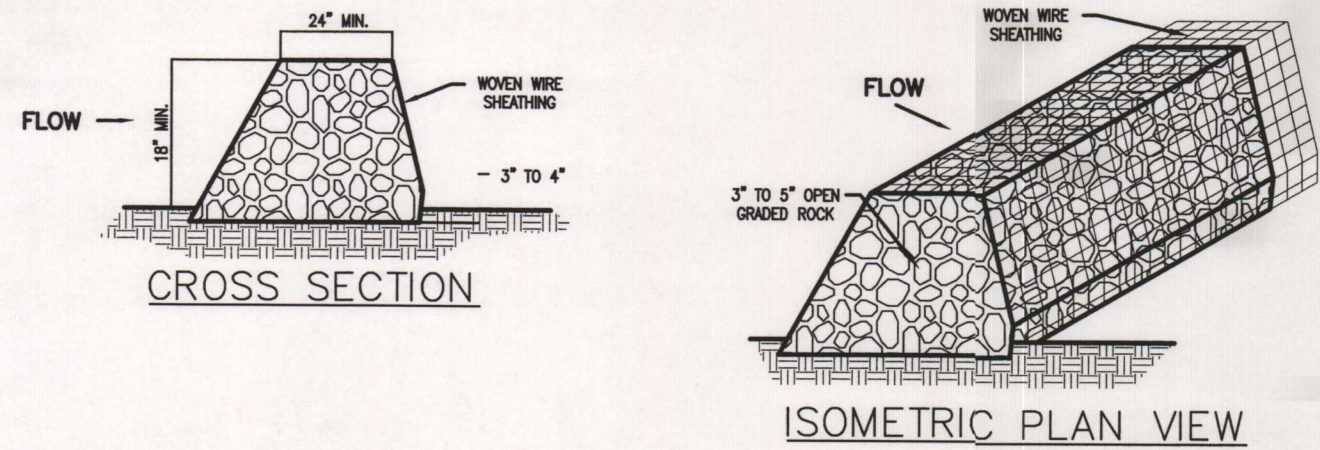
- (1) The berm structure should be secured with a woven wire sheathing having maximum opening of 11 inch and a minimum wire diameter of 20 gauge galvanized and should be secured with shoot rings.
- (2) Clean, open graded 3 - 5 inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5 - 8 inch diameters rocks may be used.

Installation:

- (1) Lay out the woven wire sheathing perpendicular to the flow line. the sheathing should be 20 gauge woven wire mesh with 1 inch openings.
- (2) Berm should have a top width of 2 feet with side slopes being 2:1 (h:v) or flatter.
- (3) Place the rock along the sheathing as shown in the diagram, to a height of not less than 18 inches.
- (4) Wrap the wire sheathing around the rock and secure with tie wire so that the ends of the sheathing overlaps at least 2 inches, and the berm retains its shape when walked upon.
- (5) Berm should be built along the contour at zero percent grade or as near as possible.
- (6) The ends of the berm should be tied into existing upslope grade and the berm should be buried in a trench approximately 3 to 4 inches deep to prevent failure of the control.

Inspection and Maintenance Guidelines:

- (1) Inspection should be made weekly and after each rainfall. repair or replacement should be made promptly as needed by contractor.
- (2) Remove sediment and other debris when buildup reaches 6" and dispose of the accumulated silt in an approved manner that will not cause any additional siltation.
- (3) Repair any loose wire sheathing.
- (4) The berm should be reshaped as needed during inspection.
- (5) The berm should be replaced when structure ceases to function as intended due to silt accumulation among the racks, washout, construction traffic damage, etc.
- (6) The rock berm should be left in place until all upstream areas are stabilized and accumulated silt removed.



HYDRAULIC MULCH

Materials:

Hydraulic Mulches: Wood fiber mulch can be applied alone or as a component of hydraulic matrices. Wood fiber applied alone is typically applied at the rate of 2,000 to 4,000 lb/acre. Wood fiber mulch is manufactured from wood or wood waste from lumber mills or from urban sources.

Hydraulic Matrices: Hydraulic matrices include a mixture of wood fiber and acrylic polymer or other tackifier as binder. Apply as a liquid slurry using a hydraulic application machine (i.e., hydro seeder) at the following minimum rates, or as specified by the manufacturer to achieve complete coverage of the target area: 2,000 to 4,000 lb/acre wood fiber mulch, and 5 to 10% (by weight) of tackifier (acrylic copolymer, guar, psyllium, etc.)

Bonded Fiber Matrix: Bonded fiber matrix (BFM) is a hydraulically applied system of fibers and adhesives that upon drying forms an erosion resistant blanket that promotes vegetation, and prevents soil erosion. BFM's are typically applied at rates from 3,000 lb/acre to 4,000 lb/acre based on the manufacturer's recommendation. A biodegradable BFM is composed of materials that are 100% biodegradable. The binder in the BFM should also be biodegradable and should not dissolve or disperse upon re-wetting. Typically, biodegradable BFM's should not be applied immediately before, during or immediately after rainfall if the soil is saturated. Depending on the product, BFM's typically require 12 to 24 hours to dry and become effective.

Installation:

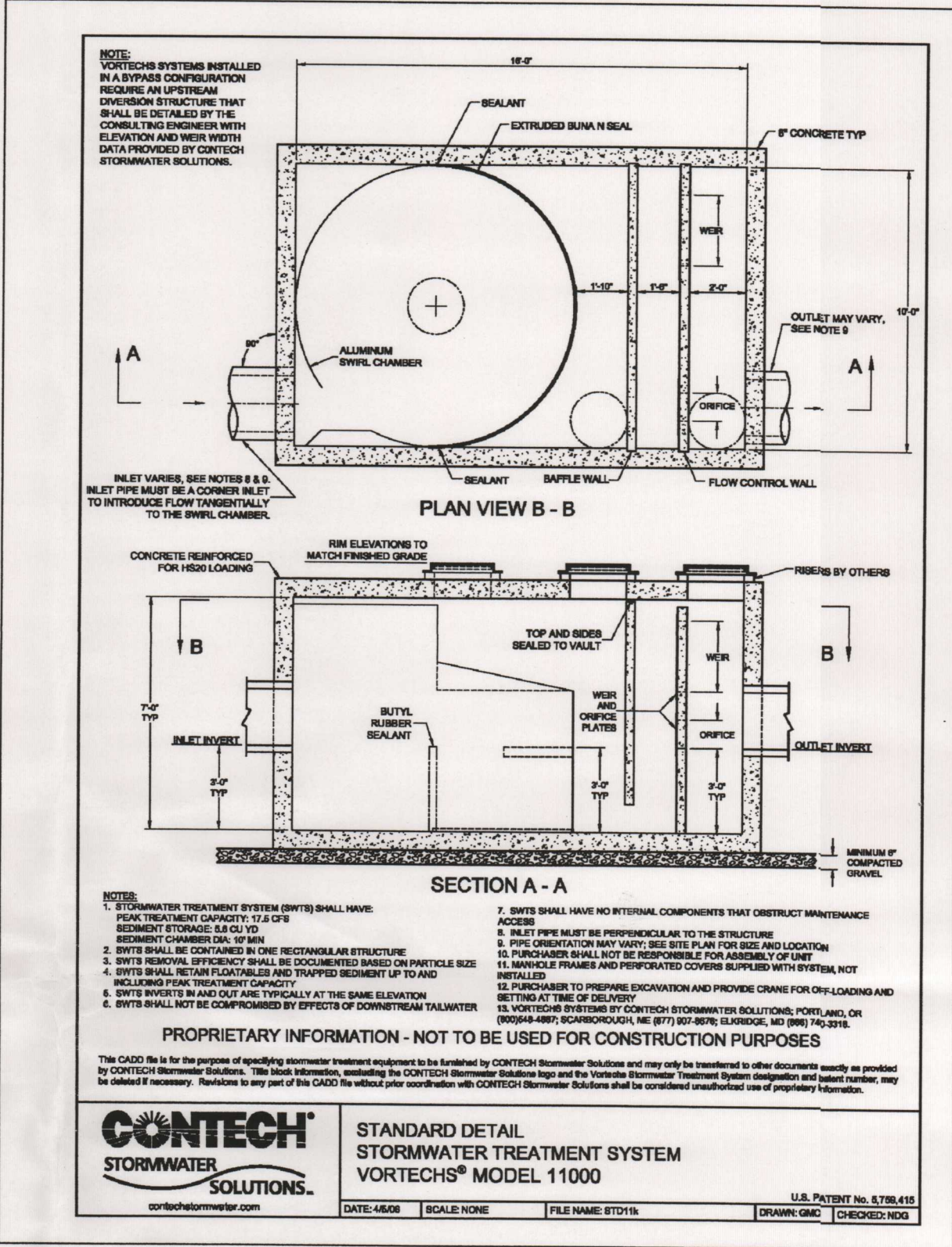
- (1) Prior to application, roughen embankment and fill areas by rolling with a crimping or punching type roller or by track walking. Track walking shall only be used where other methods are impractical.
- (2) To be effective, hydraulic matrices require 24 hours to dry before rainfall occurs.
- (3) Avoid mulch over spray onto roads, sidewalks, drainage channels, existing vegetation, etc.

Inspection and Maintenance Guidelines:

- (1) Mulched areas should be inspected weekly and after each rain event to locate and repair any damage.
- (2) Areas damaged by storms or normal construction activities should be regraded and hydraulic mulch reapplied as soon as practical.

SOIL STABILIZATION NOTE

ALL DISTURBED SOILS SHOULD BE SEEDDED OR OTHERWISE STABILIZED WITH 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE THAN 21 DAYS.



WPAP DETAILS SITE DEVELOPMENT PLANS

PRODIGY LEARNING CENTER

KEN BRUCKS
226 GLEN HAVEN
NEW BRAUNFELS, TX 78132

DATE:	7/2/2010
DRAWN BY:	SAK
DESIGNED BY:	JJI
CHECKED BY:	JDM
REVIEWED BY:	JDM
PROJECT NUMBER:	BRK001

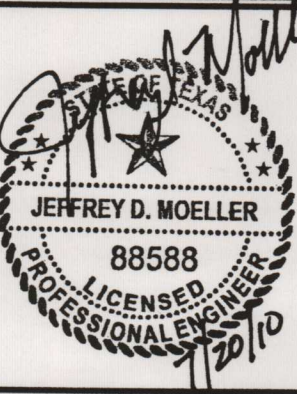
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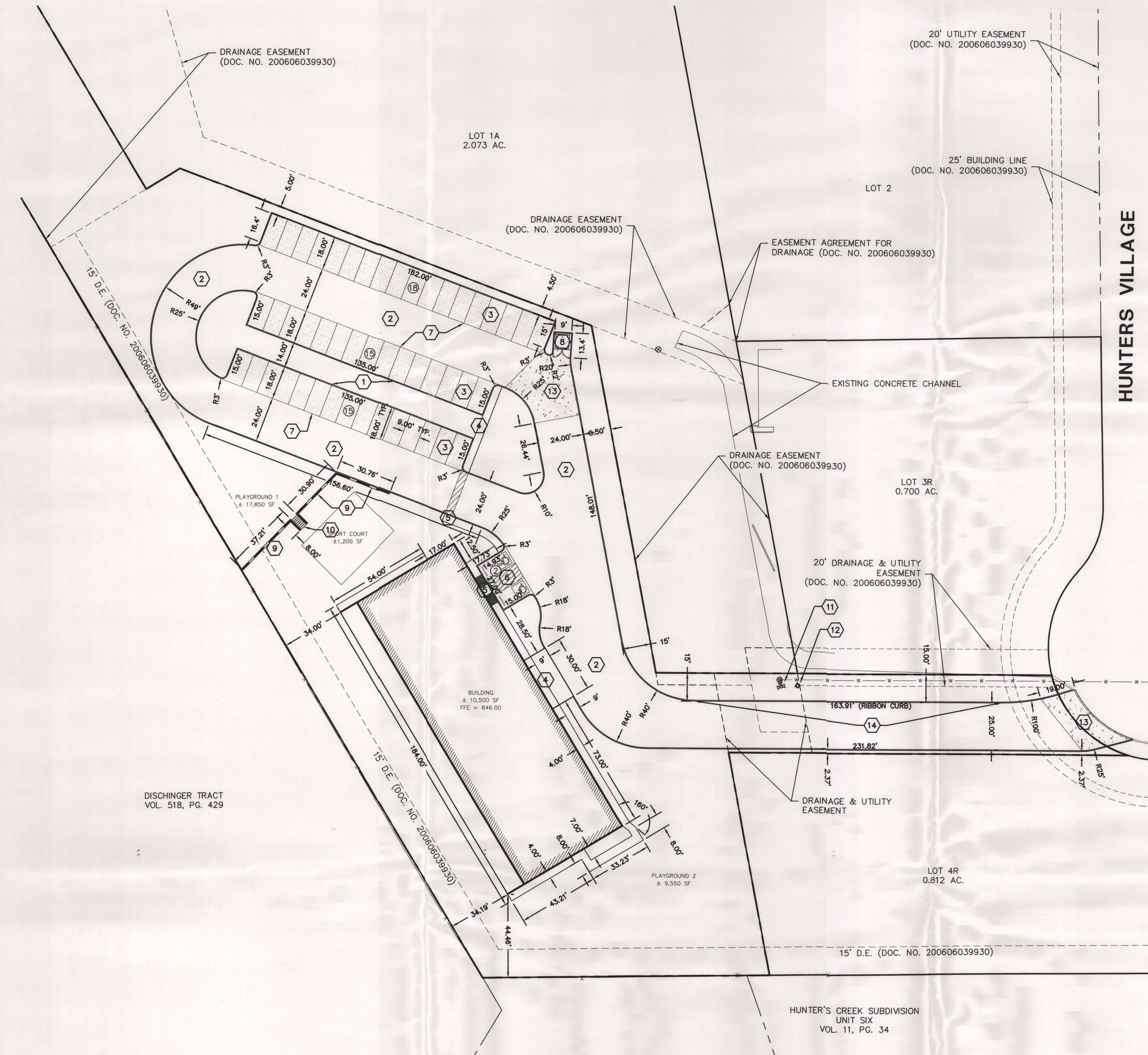
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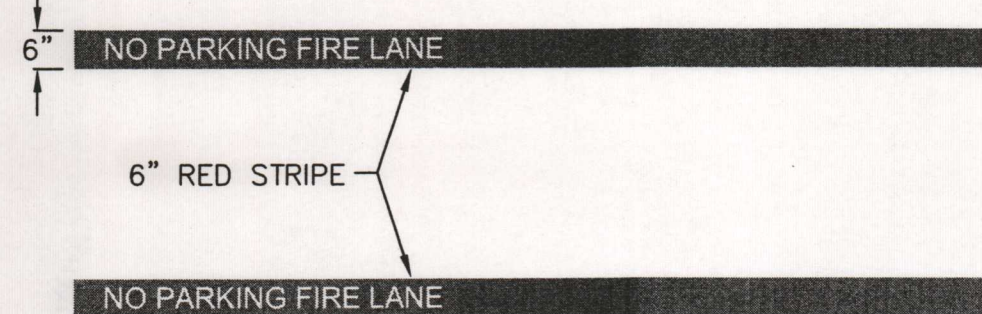
TBPE Firm F-10961
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Fax: 830-625-8556





FIRE LANE NOTES:
STRIPING - THE TOP FACE OF ROAD CURBS SHALL BE PAINTED UTILIZING RED TRAFFIC PAINT.
A. IF NO CURBS ARE PRESENT, A SIX INCH (6") WIDE STRIPE PAINTED OF TRAFFIC RED PAINT SHALL BE PAINTED ON THE DRIVING SURFACE TO SHOW THE BOUNDARIES OF THE LANE.
B. THE WORDS "NO PARKING FIRE LANE" SHALL BE SPACED AT A MAXIMUM OF 75 FEET APART, ALONG THE LENGTH OF THE FIRE LANES. SEE ILLUSTRATION BELOW.



NOTE:
REFER TO ARCHITECTURAL PLANS FOR
COORDINATION OF BUILDING, APERTURNANCES,
DIMENSIONS, AND UTILITY ENTRANCE LOCATIONS.

NOTE:
REFER TO ARCHITECTURAL PLANS FOR
COORDINATION OF BUILDING, APERTURNANCES,
DIMENSIONS, AND UTILITY ENTRANCE LOCATIONS.

PARKING SUMMARY

STANDARD	48
ACCESSIBLE	2
TOTAL	50

LEGEND	
①	SEE CONSTRUCTION LEGEND
②	PROPOSED PARKING SPACES
	PROPOSED LIGHT DUTY ASPHALT
	PROPOSED HEAVY DUTY ASPHALT
	PROPOSED CONCRETE

SITE PLAN KEYNOTES

ITEM	NOTE
①	CONSTRUCT 6" CURB PER DETAIL (SEE SHEET 6)
②	CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT PER DETAIL (SEE SHEET 6)
③	CONSTRUCT LIGHT DUTY ASPHALT PAVEMENT PER DETAIL (SEE SHEET 6)
④	CONSTRUCT CONCRETE SIDEWALK PER DETAIL (SHEET 6)
⑤	CONSTRUCT RAMP PER DETAIL (SEE SHEET 6)
⑥	INSTALL ACCESSIBLE SPACES PER DETAIL (SEE SHEET 6)
⑦	INSTALL FIRE LANE STRIPING PER NOTES ON THIS SHEET
⑧	DUMPSTER PAD (HEAVY DUTY CONCRETE PAVEMENT)
⑨	CONSTRUCT RETAINING WALL PER DETAIL (SEE SHEET 4)
⑩	CONSTRUCT STAIRS PER DETAIL (SEE SHEET 6)
⑪	EXISTING FIRE HYDRANT TO REMAIN
⑫	EXISTING WATER METER TO REMAIN
⑬	CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT PER DETAIL (SEE SHEET 6)
⑭	CONSTRUCT 6" RIBBON CURB PER DETAIL (SEE SHEET 6)

NOTES FOR DIMENSIONAL CONTROL PLAN

- ALL DIMENSIONS ARE MEASURED TO FACE OF CURB UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES BEFORE COMMENCING CONSTRUCTION. ANY DAMAGE TO SAID UTILITIES SHALL BE THE CONTRACTORS RESPONSIBILITY. THESE PLANS MAY NOT SHOW ALL EXISTING UTILITIES.
- CLIENT IS RESPONSIBLE FOR ANY ADA REVIEW FOR THIS PROJECT.
- UTILITY ADJUSTMENTS AND RELOCATIONS OTHER THAN THOSE SHOWN HEREON MAY BE ENCOUNTERED AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR TO COMPLY WITH ALL CITY, STATE AND FEDERAL REGULATIONS.
- CONTRACTOR TO MAINTAIN MIN. 1% SLOPE ON ALL CONCRETE PAVING.
- SEE ARCHITECTURAL SITE PLAN FOR ADDITIONAL SITE INFORMATION.
- CUTS AND FILLS MAY NOT BALANCE.
- CONTRACTOR TO PROVIDE A SWPPP FOR THIS SITE.
- CONTRACTOR TO USE APPROPRIATE CURB BASED ON GRADING PLAN.
- ALL DIMENSIONS ARE TO THE FACE OF CURB/EDGE OF PAVEMENT, TO CENTER OF PAVEMENT STRIPING, AND/OR PERPENDICULAR TO THE PROPERTY LINE UNLESS NOTED OTHERWISE ON THE PLANS.
- CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY QUESTIONS OR CONFLICTS ARISE CONCERNING THE INTENT OF THE DIMENSIONS SHOWN NECESSARY TO CONSTRUCT THE PROJECT.
- ALL CONSTRUCTION SHALL MEET THE CURRENT CITY OF NEW BRAUNFELS STANDARDS FOR PUBLIC WORKS CONSTRUCTION AND/OR THE CURRENT NEW BRAUNFELS UTILITIES CONNECTION/CONSTRUCTION POLICIES.
- ALL STRIPING, TRAFFIC CONTROL AND SIGNAGE SHALL MEET THE REQUIREMENTS OF THE CURRENT TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL ALONG ALL PUBLIC STREETS AND SHALL COORDINATE WITH, AND OBTAIN APPROVAL FROM, THE CITY OF NEW BRAUNFELS PRIOR TO CONSTRUCTING IMPROVEMENTS WITHIN THE CITY'S RIGHT-OF-WAY.
- CONTRACTOR SHALL COORDINATE ALL UTILITY WORK WITH THE RESPECTIVE UTILITY COMPANIES AND SHALL NOTIFY THE RESPECTIVE AGENCIES 48-HOURS IN ADVANCE.
 - a. NEW BRAUNFELS UTILITIES 830-629-8400
 - b. TIME WARNER CABLE 830-625-3408
 - c. ENTEN GAS 830-643-6434
 - d. AT&T TELEPHONE 830-303-1333
 - e. TEXAS ONE CALL 800-545-4545
- CONTRACTOR TO REFERENCE LANDSCAPE PLANS FOR PROPOSED LANDSCAPE IMPROVEMENTS.
- ALL PAVEMENT, UNLESS SPECIFIED AS HEAVY DUTY IS LIGHT DUTY CONCRETE PAVEMENT.

SITE PLAN SITE DEVELOPMENT PLANS

PRODIGY LEARNING CENTER

KEN BRUCKS

226 GLEN HAVEN
NEW BRAUNFELS, TX 78132

DATE: 6/17/2010

DRAWN BY: SAK

DESIGNED BY: JJI

CHECKED BY: JDM

REVIEWED BY: JDM

PROJECT NUMBER: BRK001

SHEET

3

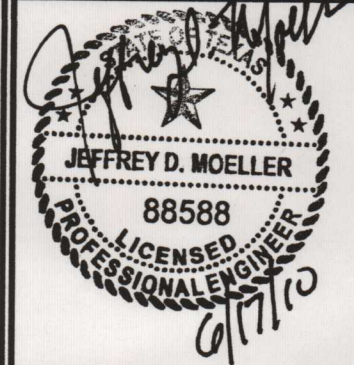
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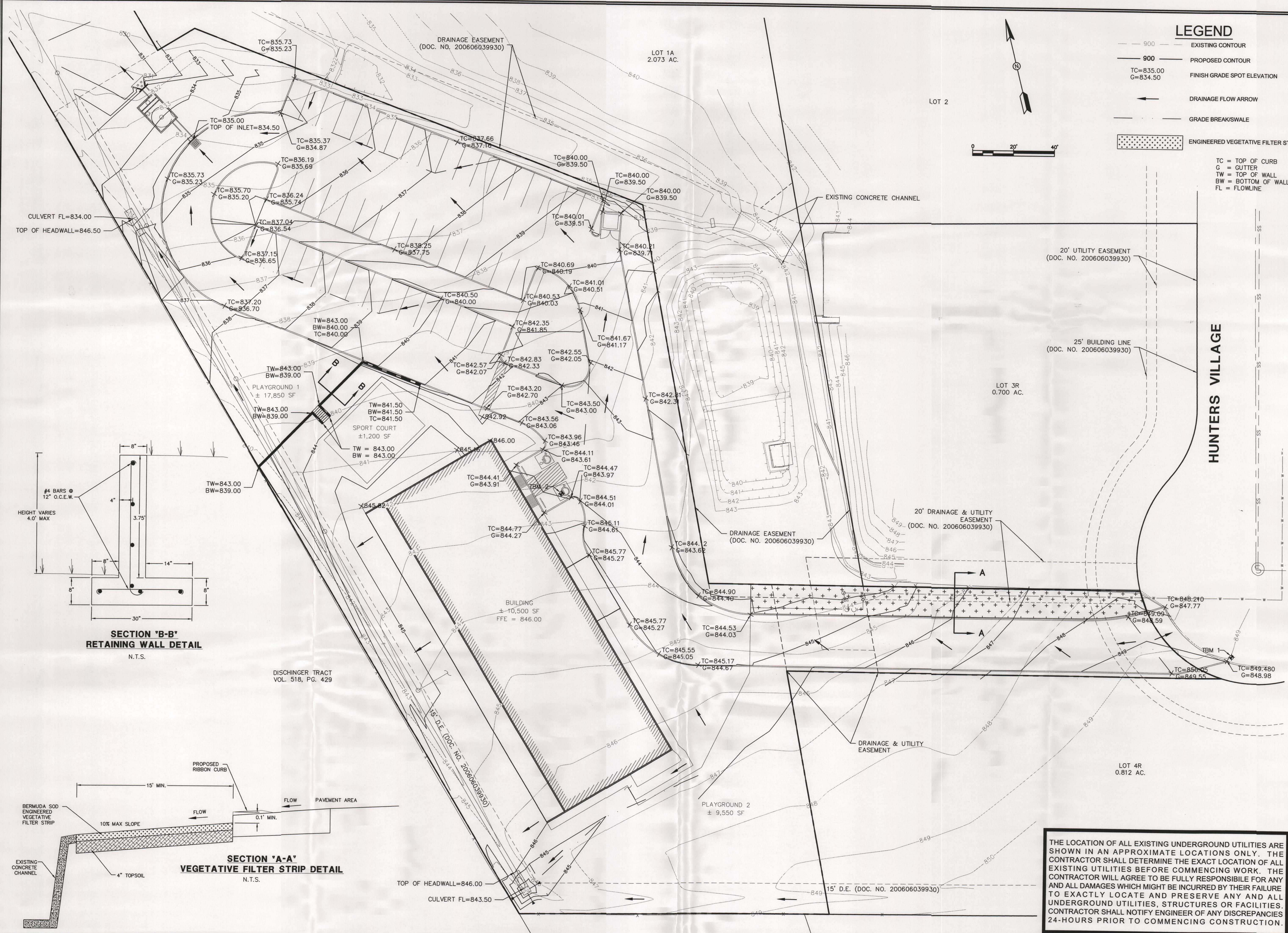
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Drawing Name: N:\Projects\BRK001\01 Prodigy Learning Center\Construction Drawings\BRK001 4 Grading Plan.dwg User: Schmida0 Jun 17, 2010 - 3:54pm



LEGEND

- 900 — EXISTING CONTOUR
- 900 — PROPOSED CONTOUR
- TC=835.00
G=834.50 — FINISH GRADE SPOT ELEVATION
- DRAINAGE FLOW ARROW
- GRADE BREAK/SWALE
- ENGINEERED VEGETATIVE FILTER STRIP

TC = TOP OF CURB
G = GUTTER
TW = TOP OF WALL
BW = BOTTOM OF WALL
FL = FLOWLINE

SECTION 'B-B'
RETAINING WALL DETAIL
N.T.S.

SECTION 'A-A'
VEGETATIVE FILTER STRIP DETAIL
N.T.S.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

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JEFFREY D. MOELLER
88588
LICENSED PROFESSIONAL ENGINEER
6/17/10

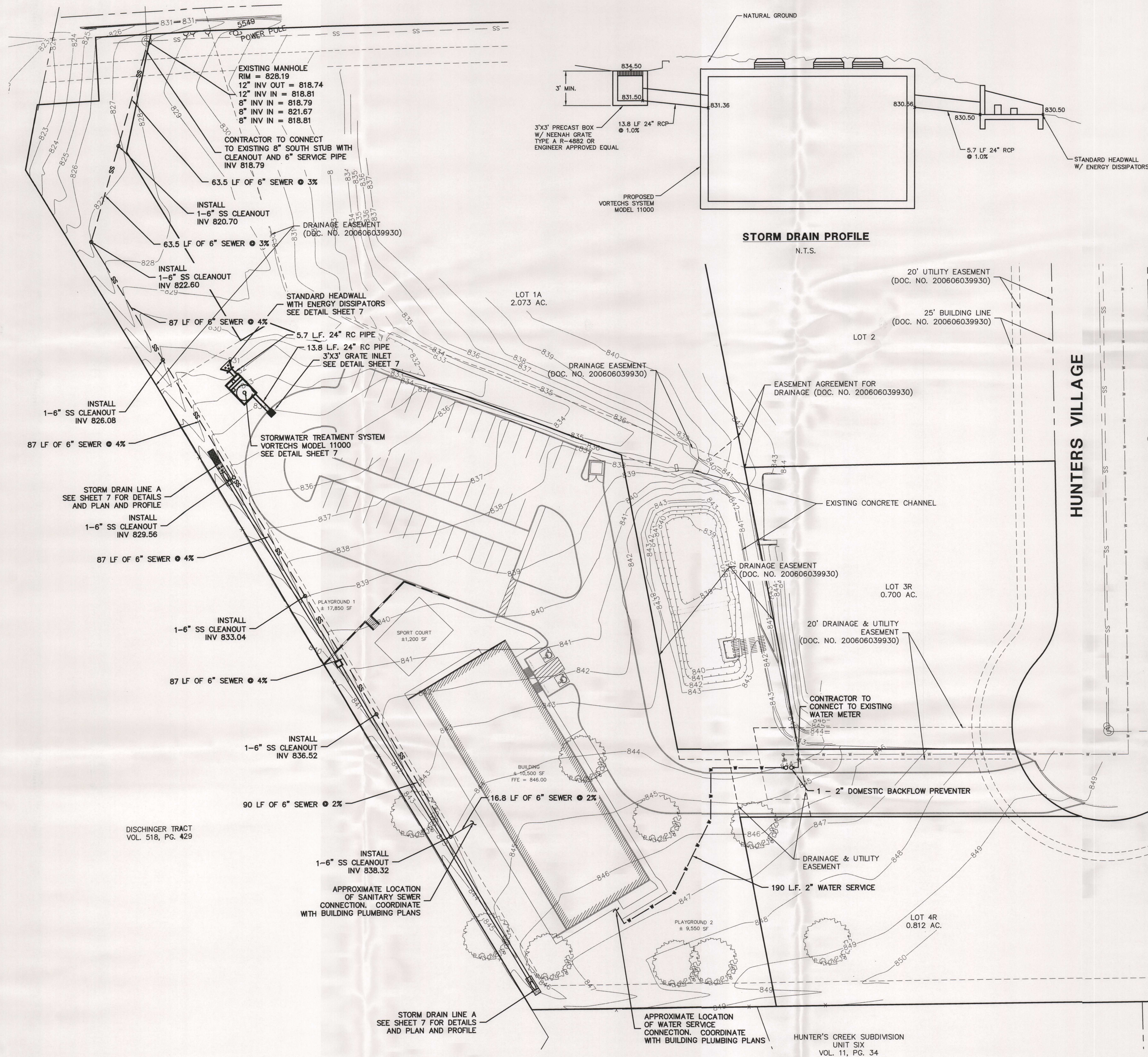
GRADING PLAN
SITE DEVELOPMENT PLANS

PRODIGY LEARNING CENTER

KEN BRUCKS
226 GLEN HAVEN
NEW BRAUNFELS, TX 78132

DATE: 6/17/2010
DRAWN BY: JJI
DESIGNED BY: JJI
CHECKED BY: JDM
REVIEWED BY: JDM
PROJECT NUMBER: BRK001

SHEET
4
OF 7

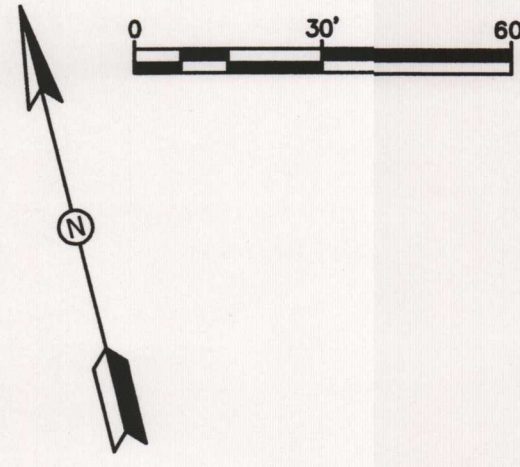


UTILITY NOTES:

- CONTRACTOR SHALL PROCURE ALL PERMITS AND LICENSES, PAY ALL CHARGES, FEES, AND TAXES AND GIVE ALL NOTICES NECESSARY AND INCIDENTAL TO THE DUE AND LAWFUL PROSECUTION OF THE WORK.
- ALL CONSTRUCTION SHALL MEET THE CURRENT CITY OF NEW BRAUNFELS STANDARDS FOR PUBLIC WORKS CONSTRUCTION AND/OR THE CURRENT NEW BRAUNFELS UTILITIES CONNECTION/CONSTRUCTION POLICIES.
- CONTRACTOR SHALL COORDINATE ALL UTILITY WORK WITH THE RESPECTIVE UTILITY COMPANIES AND SHALL NOTIFY THE RESPECTIVE AGENCIES 48-HOURS IN ADVANCE.

a. NEW BRAUNFELS UTILITIES	830-629-8400
b. TIME WARNER CABLE	830-625-3408
c. CENTER POINT	830-643-6434
d. AT&T TELEPHONE	830-303-1333
e. TEXAS ONE CALL	800-545-4545
- CONTRACTOR IS REQUIRED TO PREPARE A CONSTRUCTION PHASING PLAN DETAILING LIMITS OF CONSTRUCTION FOR EACH PHASE. PHASING PLAN MUST BE SUBMITTED TO THE CITY ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. CONTRACTOR WILL NOT BE ALLOWED TO WORK OUT OF PHASE, UNLESS WRITTEN APPROVAL HAS BEEN OBTAINED FROM THE CITY ENGINEER FOR THE PHASE CHANGE. THIS PLAN MUST INCLUDE TRAFFIC CONTROLS FOR EACH CONSTRUCTION PHASE.
- CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS. THE TERM "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY BOTH HORIZONTAL AND VERTICAL ALIGNMENT.
- CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNERS AND THE ENGINEER AND HIS EMPLOYEES, PARTNERS, OFFICERS, DIRECTORS, OR CONSULTANTS, HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER, ENGINEER'S DIRECTORS, OFFICERS, EMPLOYEES, OR CONSULTANTS.
- ANY EXISTING OFF-SITE IMPROVEMENTS THAT ARE DAMAGED OR UNDERCUT BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE OWNER OF THE EXISTING IMPROVEMENTS AT THE CONTRACTOR'S EXPENSE. (NO SEPARATE PAY).
- WORK COMPLETED BY THE CONTRACTOR WHICH HAS NOT RECEIVED A WORK ORDER OR THE CONSENT OF THE OWNER OR ENGINEER WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.
- ITEMS OF WORK NOTED AS "BY OTHERS" SHALL NOT BE CONSIDERED PART OF THIS CONTRACT.
- OSHA REGULATIONS PROHIBIT OPERATIONS THAT WILL BRING PERSONS OR EQUIPMENT WITHIN 10 FEET OF AN ENERGIZED LINE. WHERE WORKMEN AND/OR EQUIPMENT HAVE TO WORK CLOSE TO AN ENERGIZED ELECTRICAL LINE, THE CONTRACTOR SHALL NOTIFY THE ELECTRICAL POWER COMPANY INVOLVED AND MAKE WHATEVER ADJUSTMENTS NECESSARY TO ENSURE THE SAFETY OF THOSE WORKMEN.
- CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL ALONG ALL PUBLIC STREETS AND SHALL COORDINATE WITH, AND OBTAIN APPROVAL FROM, THE CITY OF NEW BRAUNFELS PRIOR TO CONSTRUCTING IMPROVEMENTS WITHIN THE CITY'S RIGHT-OF-WAY.
- BARRICADES AND WARNING SIGNS SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND SHALL BE LOCATED TO PROVIDE MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS CONSTRUCTION PERSONNEL AND EQUIPMENT WHILE PROVIDING CONTINUOUS TRAFFIC FLOW AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL DEVICES DURING CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.
- WHEN MATCHING EXISTING PAVEMENTS, CURBS, DRIVES AND WALKS, THEY SHALL BE SAW CUT FULL DEPTH AND REMOVED TO ALLOW FOR PROPOSED CONSTRUCTION. IF ANY EXISTING JOINT IS ENCOUNTERED, PRECAUTION SHALL BE TAKEN DURING REMOVAL OF CONCRETE SO AS NOT TO DAMAGE EXISTING DOWELS. ALL EXISTING DOWELS SHALL BE EXPOSED AND CLEANED.
- ALL "COMPACTED SUBGRADE" SHALL CONSIST OF NATIVE MATERIAL SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES AND COMPACTED TO 95% DENSITY ACCORDING TO DENSITY TEST METHOD TEX-115E OR ACCORDING TO ASTM D-698 AND TESTED BY ASTM D-2922.
- ALL "FLEXIBLE BASE" SHALL BE TYPE "A", GRADE 2, ACCORDING TO TxDOT ITEM 247, COMPACTED TO 95% MODIFIED DENSITY AT A MOISTURE CONTENT BETWEEN -2 AND +3 OF OPTIMUM PERCENT MOISTURE ACCORDING TO ASTM D-1557 (MODIFIED PROCTOR) AND TESTED BY ASTM D-2992.
- ASPHALTIC CONCRETE PAVEMENT SHALL BE TYPE "D" HOT MIX ASPHALT AS DEFINED IN TxDOT'S STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES, 1993.
- PRIME COAT PATCH AREAS USING MC-30 AT A RATE OF 0.2 GALLONS PER SQUARE YARD SHALL BE PLACED OVER PREPARED BASE AT LEAST ONE DAY PRIOR TO PLACING ASPHALT STABILIZED BASE. ANY NECESSARY TACK COAT SHALL BE MC-30 AT 0.05 GALLON PER SQUARE YARD. IT IS REQUIRED THAT BOTH THE PRIME COAT AND TACK COAT BE APPLIED AT THE TEMPERATURE SPECIFIED UNDER TxDOT ITEM 300.3.
- CONCRETE SHALL BE CLASS "A" ACCORDING TO TxDOT ITEM 421, UNLESS NOTED OTHERWISE ON PLANS.
- REINFORCING STEEL SHALL BE FROM NEW BILLET AND SHALL CONFORM TO TxDOT ITEM 440. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS EXCEPT WHEN REFERRING TO CLEARANCE.
- ALL SAWED JOINTS SHALL BE SAWED WITHIN 24 HOURS OF POURING.
- ABSOLUTELY NO WELDING OF REINFORCING BARS OR TORCHING TO BEND REINFORCING BARS SHALL BE ALLOWED WITHOUT THE SPECIFIC APPROVAL OF THE ENGINEER.
- ORDINARY COMPACTION CONTROL IS REQUIRED ON THIS PROJECT.
- ALL ROLLING FOR COMPACTION OF ASPHALTIC CONCRETE PAVEMENT SHALL BE COMPLETED BEFORE THE MIXTURE TEMPERATURE DROPS BELOW 175 DEG (F).
- A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO THE CITY ENGINEER.
- ALL CMP (CORRUGATED METAL PIPE) USED ON THIS PROJECT SHALL BE CONTECH, ULTRA FLO, GALVANIZED METAL PIPE, OR ENGINEER APPROVED EQUAL, HAVING A MANNING'S "N" VALUE OF 0.013 OR LOWER.
- DOMESTIC SERVICE BACKFLOW PREVENTER TO BE SPECIFIED AS: WATTS SERIES 909M1QT (REDUCED PRESSURE ZONE ASSEMBLY) OR ENGINEERED APPROVED EQUAL.
- REFERENCE ARCHITECTURAL/MEP PLANS FOR UTILITY STUB OUT LOCATIONS. LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.



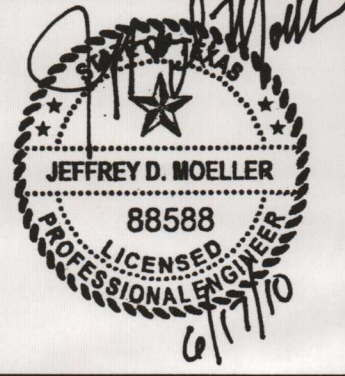
STORM DRAIN PROFILE

N.T.S.



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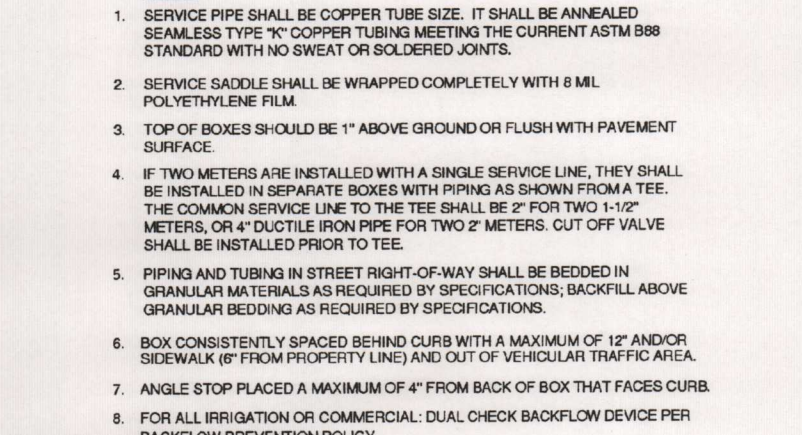


UTILITY PLAN
SITE DEVELOPMENT PLANS

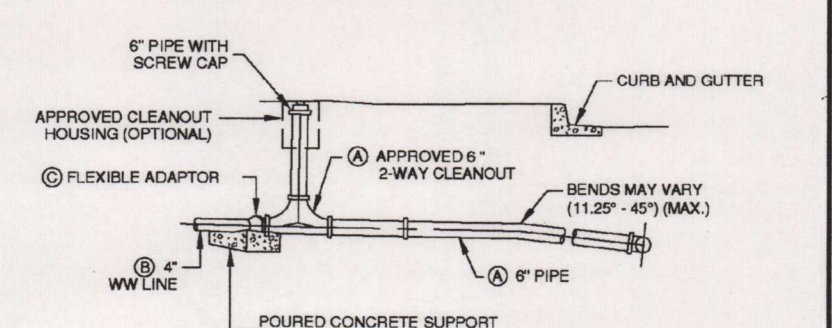
PRODIGY LEARNING CENTER


KEN BRUCKS
226 GLEN HAVEN
NEW BRAUNFELS, TX 78132

DATE:	6/17/2010
DRAWN BY:	JJI
DESIGNED BY:	JJI
CHECKED BY:	JDM
REVIEWED BY:	JDM
PROJECT NUMBER:	BRK001



 NBU NEW BRUNSWICK UTILITIES WATER SYSTEMS ENGINEERING	DRAWING NO. H Shadrock	STANDARD INSTALLATION DETAIL FOR 1-1/2" & 2" METER INSTALLATION SHOWING OPTIONAL BYPASS			
	APPROVED BY:	UPDATED 4-22-03	SCALE N.T.S.	SHEET 2 OF 2	DRAWING TO 203




 NBU NEW BRUNSWICK UTILITIES WATER SYSTEMS ENGINEERING	DRAWING: H Shadrock	NO. AND DATE OF REVISIONS		SINGLE WASTEWATER SERVICE CONNECTION DETAIL	
	APPROVED BY:	PROJECT: 438-03	SCALE: N.T.S.	SHEET: 1 OF 2	DRAWING NO.: 302

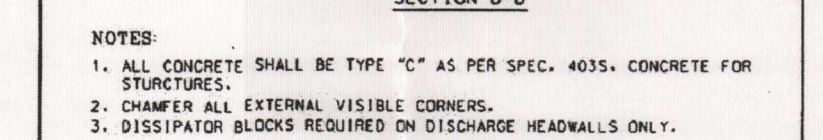
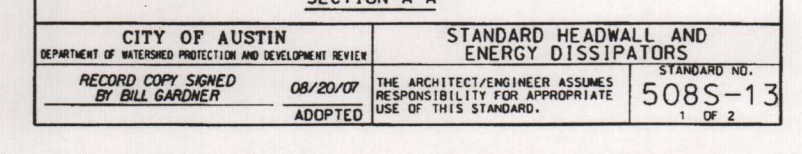
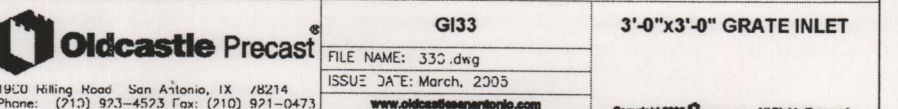
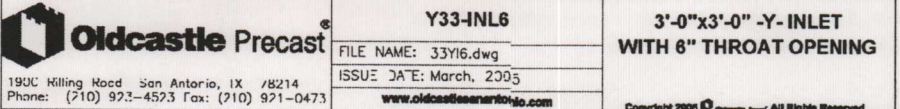
[illegible]

3. CUSTOMER IS RESPONSIBLE FOR PIPING SYSTEM UNTIL WASTEWATER IS CONNECTED. ANY MISSING OR DAMAGED PARTS SHALL BE REINSTALLED BY CUSTOMER WHO SHALL BE RESPONSIBLE FOR A PERMANENT RECORD OF THE LOCATION OF ALL CONNECTIONS. NEW SYSTEMS ARE FREE FROM DEFECTS IN WORKMANSHIP OR MATERIALS. CUSTOMER HAS THE OBLIGATION TO INSURE THAT ALL PIPEWORK AND ALL OTHER CLEAR OF SIDEWALKS AND OTHER OBSTRUCTIONS.

4. NEW BRAUNFELS UTILITIES (NBUT) ACTIVITY IS LIMITED TO INSPECTION OF CONNECTIONS TO NEW WASTEWATER SYSTEM, FOR MAINTENANCE PURPOSES, NBUT'S RESPONSIBILITY ENDS AT THE CURB. CUSTOMER'S RESPONSIBILITY BEGINS AT THE CURB.

5. PIPING IN STREET RIGHT-OF-WAY AND IN EASEMENT AREA, SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY NEW STANDARD SPECIFICATION. MATERIALS SHALL BE AS SPECIFIED IN STANDARD SPECIFICATION. MATERIALS SHALL BE BEDDED TO A MINIMUM COVER BELOW FINAL STREET GRADE OF 4"; ANY EXCEPTION MUST BE CUSOMER'S APPROVED BY THE ENGINEER.

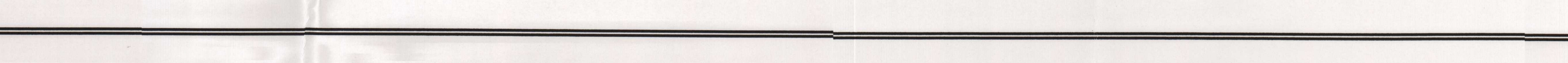
 NBU NEW BRUNSWICK UTILITIES WATER & SEWER DEPT.	DRAWN BY: M. Stedrook APPROVED BY:	SITE/LEVEL: 2000-02	<u>SINGLE WASTEWATER SERVICE</u> <u>CONNECTION DETAIL</u>		
	SHEET NO.: 4-26-03	ALIAS: N.T.S.	SHEET: 2 OF 2	DRAWING NO.:	3002



CITY OF AUSTIN DEPARTMENT OF WATER PROTECTION AND DEVELOPMENT REVIEW		STANDARD HEADWALL AND ENERGY DISSIPATORS	
RECORD COPY SIGNED BY BILL GARDNER		STANDARD NO. 5085-13	
08/20/07 ADOPTED		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	
		2 OF 2	

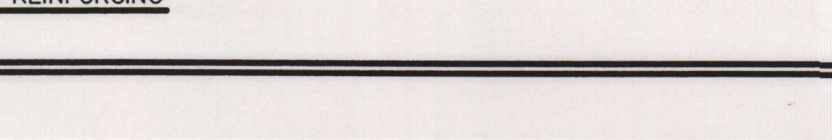
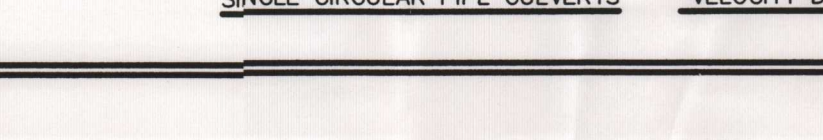


SCALE
HORIZONTAL: 1" = 30'
VERTICAL: 1" = 5'

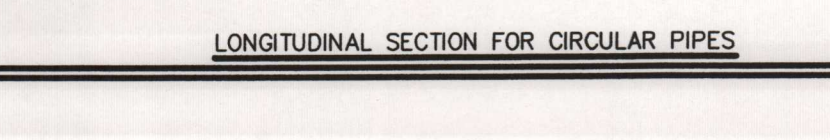
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24°	30°	60°	60°	95°	1210°	163°	12°	8°	16°
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SUM ALL G'S AND PIPE DIAMETERS FOR USE IN THE ABOVE EQUATION



This CADD file is for the purpose of specifying stormwater treatment equipment to be installed by CORTECH Stormwater Solutions and may only be transmitted to other authorized entities as permitted by CORTECH Stormwater Solutions. This block information, including the CORTECH Stormwater Solutions logo and the Vintec Stormwater Treatment System designation and patent number, may be deleted if necessary. Repetition in any part of this CADD file without prior coordination with CORTECH Stormwater Solutions shall be considered unauthorized use of proprietary information.

[illegible]

UTILITY DETAILS SITE DEVELOPMENT PLANS

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2014/11/2

Professional Engineer Seal for Jeffrey D. Moeller, State of Texas, License No. 88588, dated 6/17/10.

Drawing Name: N:\Projects\BRK001.101 Prodigy Learning Center\Civil\Construction Drawings\BRK001 7 Utility Details.dwg User: Schmidt\J Jun 18, 2010 - 7:57am