TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 15, 2014

Mr. Edwards Badouh, Jr.
New Braunfels Investment Joint Venture
P.O. Box 311240
New Braunfels, Texas 78131-1240

Re: Edwards Aquifer, Comal County

NAME OF PROJECT: Oak Run Commercial Reserve, Unit 11; Located on the northwest corner of State Highway 46 and Oak Run Parkway; New Braunfels, Texas

TYPE OF PLAN: Request for the Approval of a Water Pollution Abatement Plan; 30 Texas Administrative Code (TAC) Chapter 213

Investigation No. 1158180; Regulated Entity No. RN107166928; Additional ID No. 13-14032501

Dear Mr. Badouh, Jr.:

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 Pawelek and Moy, Inc. on behalf of New Braunfels Investment Joint Venture on March 25, 2014. Final review of the WPAP was completed after additional material was received on May 2 and May 9, 2014. As presented to the TCEQ, the Temporary and Permanent Best Management Practices (BMPs) were selected 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.*

PROJECT DESCRIPTION

The proposed commercial project will have an area of approximately 6.33 acres. It will include drainage channel improvements and the construction of a stormwater detention pond, a storm drain, an access drive, and two driveway aprons. Approximately 0.261 acres (4.1 percent) of impervious cover will be constructed, and 0.039 acres of existing impervious cover, which was

authorized under the TxDOT SH 46 at RM 2711 WPAP Modification (RN105325617) approved on July 21, 2008, will be removed. As a result, 0.222 acres (3.5 percent) of impervious cover require treatment. No wastewater is generated by this project.

PERMANENT POLLUTION ABATEMENT MEASURES

To prevent the pollution of stormwater runoff originating on-site or upgradient of the site and potentially flowing across and off the site after construction, one 15' engineered vegetative filter strip (VFS), designed using the TCEQ technical guidance document, Complying with the Edwards Aquifer Rules: Technical Guidance on Best Management Practices (2005), will be constructed, and one existing computer-controlled cartridge filtration basin will be used, to treat stormwater runoff. The required total suspended solids (TSS) treatment for this project is 199 pounds of TSS generated from the 0.222 acres of impervious cover. The approved measures meet the required 80 percent removal of the increased load in TSS caused by the project.

The 15' engineered VFS has been designed to remove 139 lbs/yr of the increase in TSS caused by the construction of 0.155 acres of impervious cover. It shall have a uniform slope of less than 20 percent and vegetated cover of at least 80 percent, which will extend along the entire length of the contributing area and will be free of gullies or rills that can concentrate overland flow. The contributing area shall be relatively flat to evenly distribute runoff, and the impervious cover in the direction of flow shall not exceed 72 feet.

The 0.068 acres of impervious cover to be installed as two driveway aprons shall drain via State Highway 46 to the existing "Basin 6" approved under the TxDOT SH 46 at RM 2711 WPAP (RN105325617), which has been oversized to treat 1,306.17 lbs/yr more than the requirement. This project shall use 61 lbs/yr, so the overtreatment credits for "Basin 6" will now be 1245.17 lbs/yr.

GEOLOGY

According to the geologic assessment included with the application, the site is located on the cyclic and marine members of the Person Formation. One geologic feature and one manmade feature were identified and rated as non-sensitive. The San Antonio Regional Office site assessment conducted on April 3, 2014 revealed the site was generally as described in the application.

SPECIAL CONDITION

I. The VFS shall be operational prior to use of the driveway.

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 exist on site. All water wells, including injection, dewatering, and monitoring wells must be in compliance with the requirements of the Texas Department of Licensing and Regulation under Title 16 TAC Chapter 76 (relating to Water Well Drillers and Pump Installers) and all other locally applicable rules, as appropriate.
14. If sediment escapes the construction site, the sediment must be removed at a frequency sufficient to minimize offsite impacts to water quality (e.g., fugitive sediment in street being washed into surface streams or sensitive features by the next rain). Sediment must be removed from sediment traps or sedimentation ponds not later than when design capacity has been reduced by 50 percent. Litter, construction debris, and construction chemicals shall be prevented from becoming stormwater discharge pollutants.
15. Intentional discharges of sediment laden 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.

<u>After Completion of Construction:</u>

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.

This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality. If you have any questions or require additional information, please contact Neal Denton of the Edwards Aquifer Protection Program of the San Antonio Regional Office at 210-403-4026.

Sincerely,

Lynn Bumguardner, Water Section Manager
San Antonio Region Office
Texas Commission on Environmental Quality

LMB/ND/eg

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

cc: Mr. Daryl D. Pawelek, P.E., Pawelek and Moy, Inc.
Mr. James C. Klein, P.E., City of New Braunfels
Mr. Tom Hornseth, P.E., Comal County
Mr. Roland Ruiz, Edwards Aquifer Authority
TCEQ Central Records, Building F, MC 212

PAWELEK & MOY, INC.

CIVIL ENGINEERING & CONSULTING SERVICES
- RESIDENTIAL DEVELOPMENT
- SITE DEVELOPMENT
- PUBLIC WORKS
- UTILITIES

May 9, 2014

Mr. Neal Denton
TCEQ San Antonio Regional Office – Region 13
14250 Judson Rd.
San Antonio, Texas 78233-4480

Re: Response to TCEQ Comments dated May 7, 2014
Edwards Aquifer, Comal County
NAME OF PROJECT: Oak Run Commercial Reserve, Unit 11; Located on the northwest corner of State Highway 46 and Oak Run Parkway; New Braunfels, Texas.
TYPE OF PLAN: Request for Approval of a Water Pollution Abatement Plan; 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer;
Investigation No. 1158180; Regulated Entity No. RN107166928; Additional ID No. 13-14032501

Dear Mr. Denton,

Pawelek & Moy, Inc. (P&M) has addressed the comments by the TCEQ dated May 7, 2014 for the above mentioned project. P&M has taken the following actions with regards to the comments:

Comment	Response
1	Regarding the shared access thru Lot 1 Oak Run Commercial Reserve – Unit 11 owned by Broadway National Bank, an agent authorization from Broadway Bank authorizing New Braunfels Investment Joint Venture is attached.
2	An email from TxDOT dated May 7, 2014 authorizing the applicant to direct the TSS load from the proposed driveways to Basin 6 is attached.

Please call if you have questions regarding these responses. Thank you for your assistance.

Sincerely,

Daryl D. Pawelek, P.E.

Attachments:
- Agent Authorization Form
- 5/7/2014 Email from TxDOT

cc: Mr. Rob Eversberg – NB Inv Jt Venture

F:\1311.01 - OAK RUN U-11\DWG\WPAP\TCEQ COMMENTS\TCEQRESPONSELETTER-05-09-14.DOC

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

I Mr. Barry Ivy,
Print Name

VP Facilities & Security,
Title - Owner/President/Other

of Broadway National Bank,
Corporation/Partnership/Entity Name

have authorized Edward Badouh, Jr.
Print Name of Agent/Engineer

of OakRun Realty, Inc., Managing Venture Partner for: New Braunfels Investment Joint Venture
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 those submitting an application 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.

5. No person shall commence any regulated activity on the Edwards Aquifer Recharge Zone, Contributing Zone or Transition Zone until the appropriate application for the activity has been filed with and approved by the Executive Director.

SIGNATURE PAGE:

Applicant's Signature

5/8/14
Date

THE STATE OF Texas §

County of Comal §

BEFORE ME, the undersigned authority, on this day personally appeared Barry Ivy 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 8th day of May, 2014.

NOTARY PUBLIC

Typed or Printed Name of Notary

MY COMMISSION EXPIRES: _____

NOTARY PUBLIC STATE OF TEXAS

REBECCA L HILL
NOTARY PUBLIC STATE OF TEXAS
MY COMMISSION EXPIRES
MARCH 28, 2016

Daryl Pawelek

From: Brien Hocher [Brien.Hocher@txdot.gov]
Sent: Wednesday, May 07, 2014 1:47 PM
To: Daryl Pawelek
Subject: RE: TCEQ Additional information needed - Oak Run U11 Infrastructure

Daryl - the driveway pavement located within state ROW, may drain toward the SH 46 pavement and contribute 61 lbs TSS to Basin 6.

Thanks

-----Original Message-----
From: Daryl Pawelek [mailto:daryl.pawelek@sbcglobal.net]
Sent: Wednesday, May 07, 2014 11:33 AM
To: Brien Hocher
Subject: TCEQ Additional information needed - Oak Run U11 Infrastructure

Brien,

As we discussed here are the comments that I received from the TCEQ this morning. I have also attached the information/calculations documenting the overtreatment provided in Basin 6 of 1306 lbs which is greater than the 61 lbs being created by the two proposed driveways. Please send me an email with information we discussed, stating that TxDOT authorizes New Braunfels Investment Joint Venture to direct the TSS Load(61 lbs) created by the two proposed driveways to Basin 6.

Thank you.

Daryl D. Pawelek, P.E.

Pawelek & Moy, Inc.
130 W. Jahn Street
New Braunfels, Texas 78130
phone: 830-629-2563
fax: 830-629-2564

Top of Form

Bottom of Form

Don't mess with Texas® means don't litter.

[Don't Mess With Texas]<http://dontmesswithtexas.org/>

PAWELEK & MOY, INC.

CIVIL ENGINEERING & CONSULTING SERVICES
- RESIDENTIAL DEVELOPMENT
- SITE DEVELOPMENT
- PUBLIC WORKS
- UTILITIES

May 2, 2014

Mr. Neal Denton
TCEQ San Antonio Regional Office – Region 13
14250 Judson Rd.
San Antonio, Texas 78233-4480

Re: Response to TCEQ Comments dated April 24, 2014
Edwards Aquifer, Comal County
NAME OF PROJECT: Oak Run Commercial Reserve, Unit 11; Located on the northwest corner of State Highway 46 and Oak Run Parkway; New Braunfels, Texas.
TYPE OF PLAN: Request for Approval of a Water Pollution Abatement Plan; 30 Texas Administrative Code (TAC) Chapter 213 Edwards Aquifer;
Investigation No. 1158180; Regulated Entity No. RN107166928; Additional ID No. 13-14032501

Dear Mr. Denton,

Pawelek & Moy, Inc. (P&M) has addressed the comments by the TCEQ dated April 24, 2014 for the above mentioned project. P&M has taken the following actions with regards to the comments:

Comment	Response
1	Regarding the shared access thru Lot 1 Oak Run Commercial Reserve – Unit 11 owned by Broadway National Bank, a copied of the recorded plat with the shared access is attached.
2	Item E. Documentation and Recordkeeping has been added to Attachment I of the Temporary Stormwater Section and is attached.
3	Additional silt fence added for the disturbed area to the west.
4	Regarding inlet protection during construction of the two proposed driveways, a curb inlet protection detail and notes have been added to S1 and additional inspection form for Inlet Protection is attached.
5	The proposed access drive will not be constructed with curb; therefore, the drive will sheet flow onto the proposed vegetative filter strip.
6	Since a portion of existing concrete riprap (1,710 sf or 0.039 ac) impervious cover is in TxDOT's channel on the north side SH 46 at the Proposed Driveway #1 location is being removed, the table has been modified on S1 to demonstrate that the proposed impervious cover of the proposed concrete elements (ie, headwall, pilot channel, detention pond outfall, and riprap) have an impervious cover of 1,650 sf or 0.038 ac which is less than the existing being removed and

exhibits showing existing and proposed impervious cover are attached.

7 A narrative description describing the TSS load generated by the two proposed driveways that will drain towards TxDOT Basin 6 and calculations are attached.

8 An email from TxDOT authorizing the driveway to drain to SH 46 and ultimately to Basin 6 is attached.

Please call if you have questions regarding these responses. Thank you for your assistance.

Sincerely,

Daryl D. Pawelek, P.E.

Attachments:

- Recorded Plat
- Attachment I Revision
- Added Inlet Protection Inspection Form
- Narrative and Revised Calculations(incl. Existing and Proposed Impervious Cover Exhibits)
- TxDOT BMP Summary Table(File #13-07081310A)
- Email from TxDOT
- Revised Sheet S1 of 2
- Revised Sheet D1

cc: Mr. Rob Eversberg – NB Inv Jt Venture

F:\1311.01 - OAK RUN U-11\DWG\WPAP\TCEQ COMMENTS\TCEQRESPONSELETTER-04-02-14.DOC

NOTES:

1. Plat prepared June 28, 2007, revised July 20, 2007, revised August 17, 2007, revised November 6, 2007, revised November 16, 2007, revised April 30, 2008 (Notes 16 & 17).
2. Reference Bearing – GPS Observations. (S 14°57'24"W)
3. As scaled off of the FIRM Flood Insurance Rate Map, Community–Panel #48549300005E, dated January 5, 2006, no portion of the lot on this plat is within the indicated special flood hazard zone according to the adopted flood maps of the City of New Braunfels. This property lies in Zone X.
4. Contour lines shown hereon were scaled from and interpolated off of an aerial topographic map (March, 2001) prepared by Landata Geo Services for the City of New Braunfels.
5. 1/2" iron pins found at all corners and angle points, unless otherwise noted.
6. This property lies in the following service areas:
   Electric – New Braunfels Utilities
   Telephone – AT&T
   Water – New Braunfels Utilities
   Sewer – New Braunfels Utilities
7. This property lies over the Recharge Zone of the Edwards Aquifer.
8. P.O.B. = Point of Beginning
   B.L. = Building Setback Line
   U.E. = Utility Easement
9. This property lies in the City Limits of the City of New Braunfels.
10. This property lies in the New Braunfels Independant School District.
11. For development directly adjacent to State right–of–way, the Developer/Owner shall be responsible for adequate setback and/or sound abatement measure for future noise mitigation.
12. Maximum access points to the State highway from this property will be regulated as directed by "Regulation for Access Driveways to State Highways". The Developer/Owner has agreed to provide the the purchaser of Lot 1, Oak Run Commercial Reserve Unit Eleven with access to State Highway 46 by virtue of a future highway access point as shown hereon, said access point being previously approved by TXDOT.
13. The Developer/owner is responsible for preventing any adverse impact to the existing drainage system within the highway right–of–way.
14. 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.
15. 6' sidewalks will be constructed on State Highway 46 and Oak Run Pkwy. by the owner/developer at time of building construction.
16. Maintenance of drainage easements designated within a lot shall be the responsibility of the property owner.
17. Drainage easements shall remain free from all obstructions.

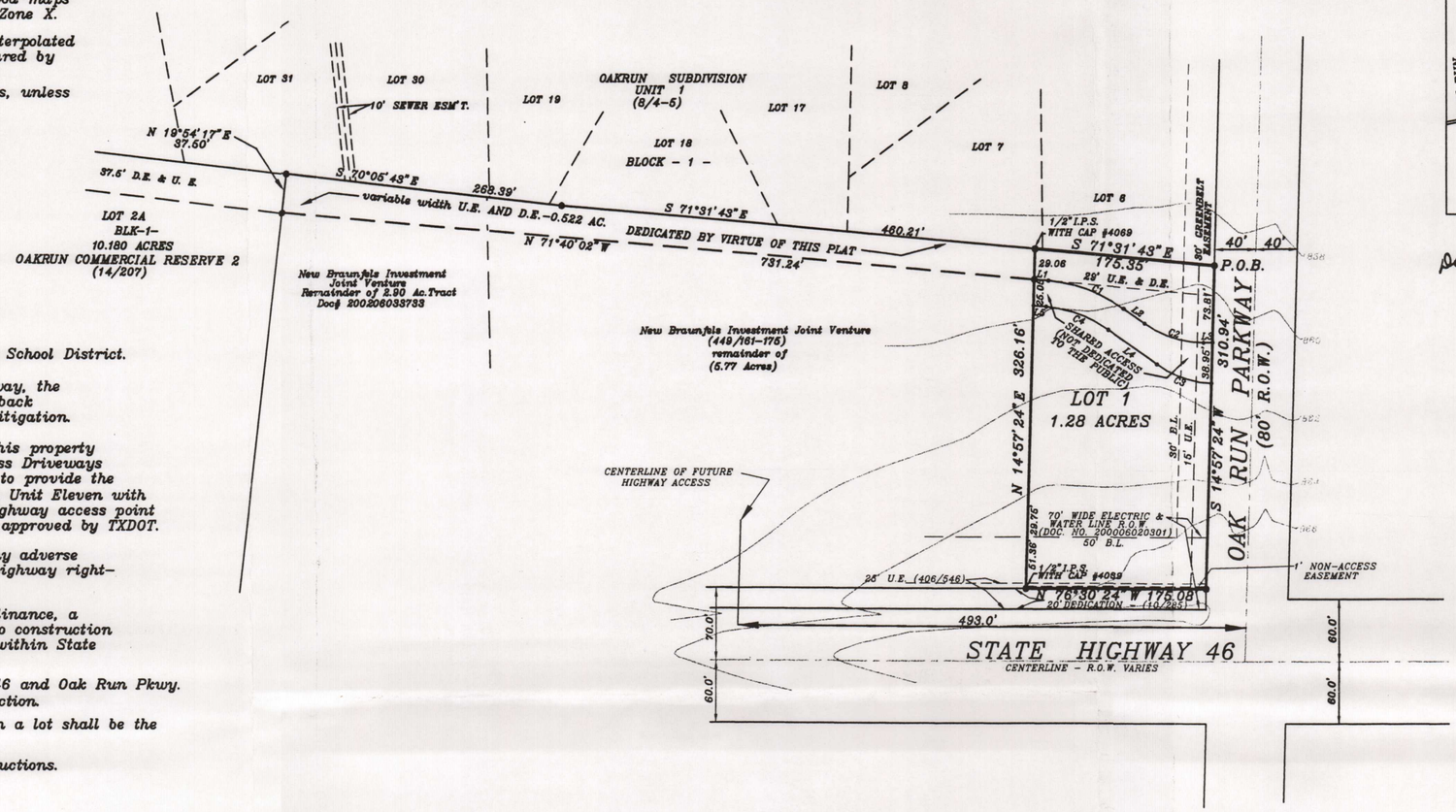
CURVE DATA

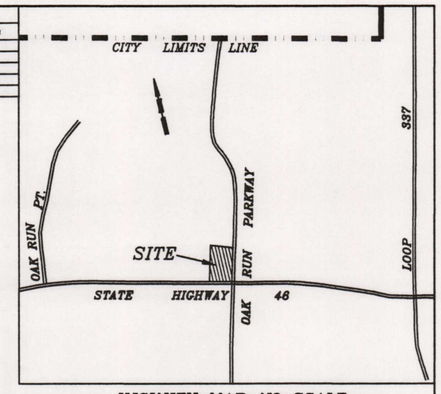
Curve	Radius	Tangent	Length	Delta	Degree	Chord	Chord Bear.
C1	150.00'	40.23'	78.80'	30°01'25"	38°11'50"	77.71'	S 56°30'47" E
C2	100.00'	31.79'	61.56'	35°16'08"	57°17'46"	60.59'	S 59°08'09" E
C3	100.00'	29.44'	57.37'	32°48'40"	57°17'46"	56.48'	N 67°54'25" W
C4	125.00'	33.52'	66.50'	30°01'25"	45°50'12"	64.76'	N 56°30'47" W

LINE TABLE

Course	Bearing	Distance
L1	S 71°31'30" E	13.79'
L2	S 41°30'06" E	24.95'
L3	S 76°46'13" E	8.77'
L4	N 41°30'06" W	66.89'
L5	N 71°31'30" W	12.35'

SCALE: 1" =100'





VICINITY MAP–NO SCALE

Doc#200806025648

S. CRAIG HOLLMIG, INC.
ENGINEERS & SURVEYORS
410 N. SEGUIN ST.
NEW BRAUNFELS, TEXAS
830–625–9555

OAK RUN COMMERCIAL RESERVE
UNIT ELEVEN

BEING 1.28 ACRES OF LAND OUT OF THE S.A. & M.G. RAILROAD CO. SURVEY NO. 276, ABSTRACT NO. 586 IN COMAL COUNTY, TEXAS AND BEING OUT OF THE NEW BRAUNFELS INVESTMENTS JOINT VENTURE 5.77 ACRE TRACT RECORDED IN VOLUME 449, PAGES 161–175 OF THE OFFICIAL PUBLIC RECORDS OF COMAL COUNTY, TEXAS.

STATE OF TEXAS
COUNTY OF COMAL

I (We), the undersigned owners of the land shown on this plat, and designated herein as Oak Run Commercial Reserve Unit Eleven a 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.

NEW BRAUNFELS INVESTMENT JOINT VENTURE

Edward Badouh

By: Edward Badouh, Jr., President of Oak Run Realty, Inc.
Managing Partner
P.O. Box 311240
New Braunfels, Texas 78131

STATE OF TEXAS
COUNTY OF COMAL

This instrument was acknowledged before me on this 6th day of May, 2008, by Edward Badouh, Jr.

Florence H. Sultemeier
Notary Public, State of Texas
My Commission Expires: 10/10/2009

Florence H. Sultemeier
Notary Public
State of Texas
My Comm. Exp. 10/10/2009

Approved this the 14th day of August, 2007, by the Planning Commission of the City of New Braunfels, Texas.

Chairman

APPROVED FOR ACCEPTANCE

5/16/08 Date — Planning Director

5/22/08 Date — City Engineer

5/13/08 Date — New Braunfels Utilities

Know All Men By These Presents

I, the undersigned, Richard A. Goodwin, 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.

STATE OF TEXAS REGISTERED RICHARD A. GOODWIN 4069 PROFESSIONAL LAND SURVEYOR

R A Goodwin

Richard A. Goodwin
Registered Professional Land Surveyor #4069
410 N. Seguin
New Braunfels, Texas 78130

STATE OF TEXAS
COUNTY OF COMAL

I, Joy Streater, do hereby certify that the foregoing instrument was filed for record in the Map and Plat Records, Doc# 200806025648 of Comal County, on the 1 day of July 2008, at 9:33 A m.

Witness my hand and official seal, this the 1 day of July 2008.

County Clerk, Comal County, Texas

Joy Streater By Kathy Brown Deputy

COUNTY COURT OF COMAL COUNTY, TEXAS

07459SUBD

D. Concrete Washout Area Inspection and Maintenance Guidelines:

1) Inspection shall be made weekly and after each rainfall by the contractor.
2) When concrete accumulates 6 inches in depth, the concrete shall be broken up, removed and disposed of properly.
3) All controls around the perimeter of the washout area shall be checked, maintained and repaired as needed.
4) Upon completion of construction, the concrete washout area shall be cleaned and all concrete shall be removed and disposed of properly. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facility shall be backfilled and repaired.

E. Documentation and Recordkeeping:

All scheduled inspection and maintenance measures made to the temporary BMPs must be documented clearly on the Inspection Forms included for the respective BMP, showing inspection/maintenance measure performed, date and person responsible for inspection and maintenance. Any changes made to the location of 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(WPAP). No other changes shall be made unless approved by TCEQ and the Design Engineer. Documentation shall clearly show changes made, date, person responsible for the change, and the reason for the change. All documentation and recordkeeping shall be retained onsite with the WPAP.

***Person or Firm Responsible for Erosion/Sedimentation Control Maintenance:**

Company: _____

Contact: _____

Phone: _____

Address: _____

Signature of Responsible Party: _____

(*This information shall be filled out and signed by the responsible party prior to construction)

INLET PROTECTION
INSPECTION FORM

Inspection Date: _____

Signature: _____

General Notes:

1) Accumulated sediment shall be removed when it reaches a depth of 3 inches.
2) Check placement of the bags of sand around perimeter of inlet.
3) Inspect bags and replace if torn or missing.

	Yes	No	Comment
Are the bags still arranged correctly around the perimeter of the inlet?			
Is the fabric torn or missing?			
Is there debris in the inlet?			
Is the sediment 3 inches deep?			

Maintenance Required for Inlet Protection:

_____

_____

_____

_____

To Be Performed by:_____ On or Before:_____

SH 46 Driveways - TSS Removal Calculations Narrative

As required by TxDOT, the two driveways that are proposed for the Oak Run Unit 11 Infrastructure project should slope towards SH 46. Therefore, a review of the TSS loading for the previous TxDOT SH 46 Improvement project's WPAP was performed with regards to Basin 6. The TSS load generated by the two proposed driveway improvements is 61 lbs. As shown on the attached TxDOT Summary table, Basin 6 has an excess capacity to treat an additional 1,306.17 lbs. Therefore, the added 61 lbs is less than the 1,306.17 lb excess and will treat the TSS load the will be created by the impervious cover load generated by the two proposed driveways.

OAK RUN COMMERCIAL RESERVE, UNIT 11 INFRASTRUCTURE - PERMANENT BEST MANAGEMENT PRACTICE SUMMARY
6.33 ACRE SITE

Summary - Uncaptured(No Impervious Cover) A2-A5

Watershed Area	Permanent BMP	Drainage Area (Acres)	Imp. Cover (Acres)	Calc. Min. Capture Volume (cf)	Calc. Min. Capture Volume (gal)	Capture Volume Provided (cf)	Capture Volume Provided (gal)	Calc. Min. Irrigation Area (sf)	Irrigation Area Provided (sf)	Target TSS Removal (lb/yr)	TSS Removal Provided (lb/yr)
A3-A5[1]	< Existing Impervious Cover Removed	4.700	0.038 < 0.039	-----	-----	-----	-----	-----	-----	0	0
SubTotal - Uncaptured(Proposed Impervious Cover<Existing Impervious Cover Removed)	< Existing Impervious Cover Removed	4.700	0.038 < 0.039	-----	-----	-----	-----	-----	-----	0	0

Summary - Engineered Vegetative Filter Strips

Watershed Area	Permanent BMP	Drainage Area (Acres)	Imp. Cover (Acres)							Target TSS Removal (lb/yr)	TSS Removal Provided (lb/yr)
A2	Vegetative Filter Strips	1.630	0.155							139	139
SubTotal - VFS	-----	1.630	0.155							139	139
Total	-----	**6.330**	**0.193**	-----	-----	-----	-----	-----	-----	**139**	**139**

Off-Site Summary - Impervious Cover for Driveway Improvements - C1-C2 to TxDOT Basin 6

Watershed Area	Permanent BMP	Drainage Area (Acres)	Imp. Cover (Acres)	Target TSS Removal For Added Drwys (lbs)	TxDOT - Basin 6 Load Overtreated (lbs)
C1-C2[2]	TxDOT Basin 6	0.068	0.068	61	1306.17
Total - TxDOT Basin 6	-----	0.068	0.068	61	1306.17

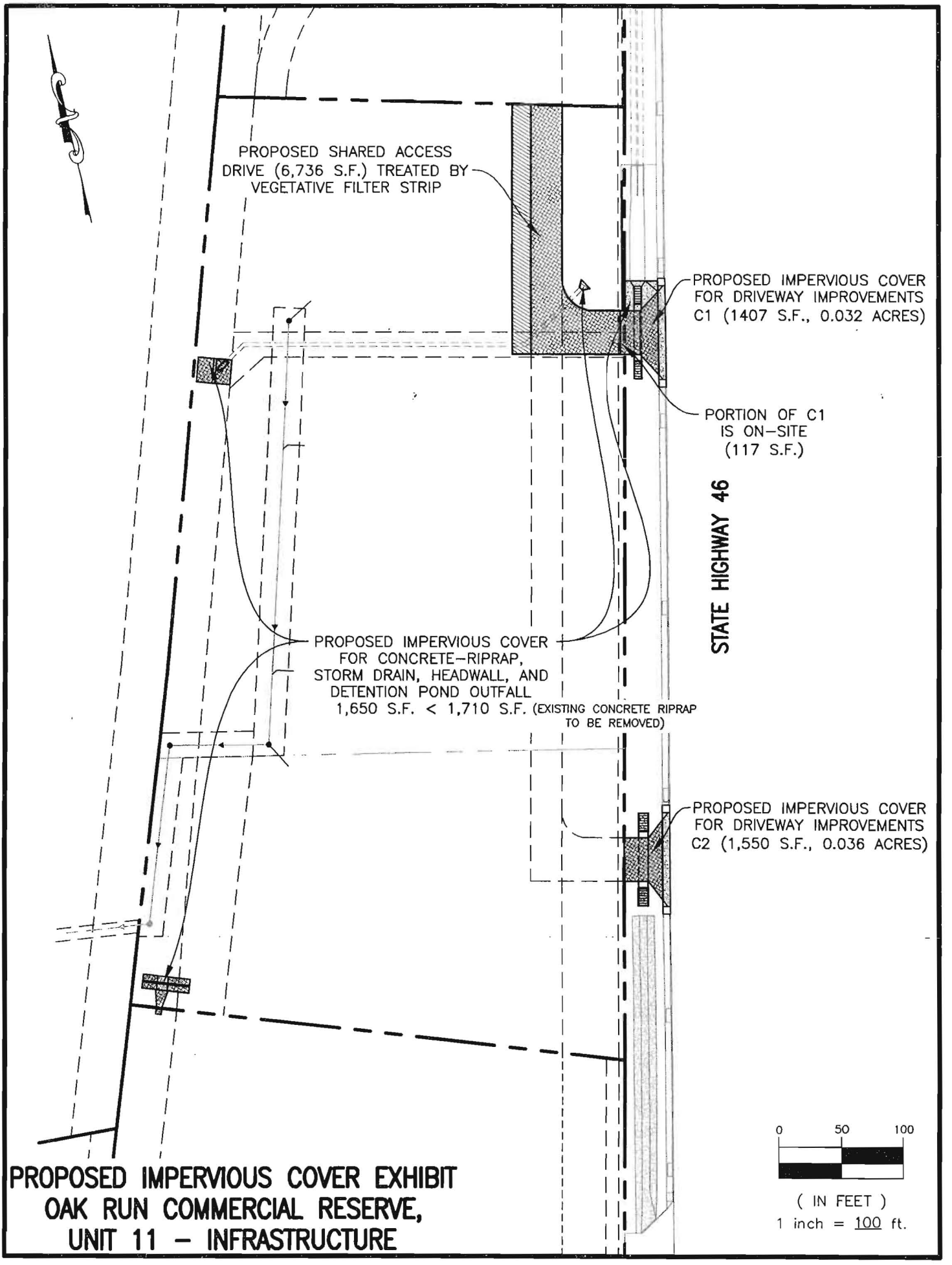
Notes:

1. Uncaptured area, no treatment necessary, since the proposed impervious cover for concrete - riprap, storm drain headwall, and detention pond outfall is less than the existing impervious cover from the concrete riprap to be removed
2. Proposed impervious cover increase for the proposed Driveway 1 and 2 improvements that will drain to TxDOT Basin 6, which yields a TSS Load < TxDOT-Basin 6 Load Over-Treated

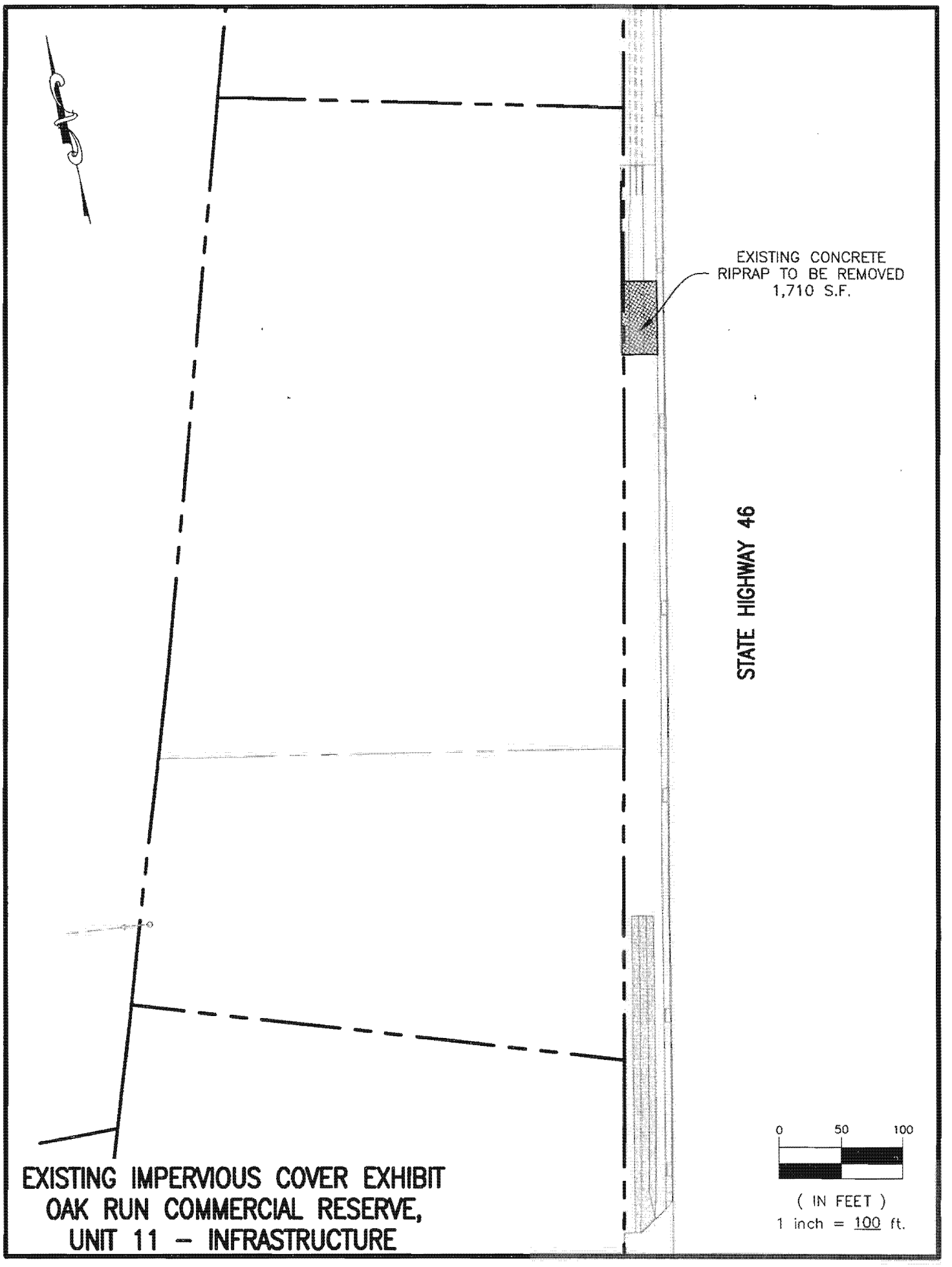
TSS Load - Impervious Cover for Driveway Improvements - C1-C2

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

Drainage Basin/Outfall Area No. =	**C1&C2**	Added Driveway 1 and 2	
Total drainage basin/outfall area =	**0.068**	acres	
Predevelopment impervious area within drainage basin/outfall area =	**0.000**	acres	
Post-development impervious area within drainage basin/outfall area =	**0.068**	acres	
Post-development impervious fraction within drainage basin/outfall area =	**1.00**		
$L_{M\ THIS\ BASIN}$ =	**61**	lbs.	**< 1306.17 lbs (from TxDOT BMP Sizing Summary Col. 17 - Load Overtreated for Basin 6)**



PROPOSED IMPERVIOUS COVER EXHIBIT
OAK RUN COMMERCIAL RESERVE, UNIT 11 – INFRASTRUCTURE



EXISTING IMPERVIOUS COVER EXHIBIT
OAK RUN COMMERCIAL RESERVE, UNIT 11 – INFRASTRUCTURE

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Oak Run Comm Res U11 - Infra
Date Prepared: 3/12/2014

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

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

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

where:

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

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

County =	Comal	
Total project area included in plan * =	6.330	acres
Predevelopment impervious area within the limits of the plan * =	0.000	acres
Total post-development impervious area within the limits of the plan* =	0.155	acres
Total post-development impervious cover fraction * =	0.024	
P =	33.000	inches
$L_{M\ TOTAL\ PROJECT}$ =	139	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

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Oak Run Comm Res U11 - Infra
Date Prepared: 3/12/2014

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

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

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

where:

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

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

County =	Comal	
Total project area included in plan * =	6.330	acres
Predevelopment impervious area within the limits of the plan * =	0.000	acres
Total post-development impervious area within the limits of the plan* =	0.155	acres
Total post-development impervious cover fraction * =	0.024	
P =	33.000	inches
$L_{M\ TOTAL\ PROJECT}$ =	139	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	A2
Total drainage basin/outfall area =	1.630	acres
Predevelopment impervious area within drainage basin/outfall area =	0.000	acres
Post-development impervious area within drainage basin/outfall area =	0.155	acres
Post-development impervious fraction within drainage basin/outfall area =	0.095	
$L_{M\ THIS\ BASIN}$ =	139	lbs.

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.

TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) COMAL COUNTY SH 46 IMPROVEMENTS, KERLICK LANE TO DAVID JONAS DRIVE CSJ: 0215-02-029 and CSJ: 0215-02-049

Water Pollution Abatement Plan

BMP SIZING SUMMARY
SH 46 BMP SIZES AND CRITERIA

1	2	3		4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
BASIN ID	WATERSHED (Acres)	IMPERVIOUS AREA (Acres)		PERVIOUS AREA (Acres)	IMPERVIOUS FRACTION (Acres)	Lm (lbs)	Lr (lbs)	FRACTION OF ANNUAL RUNOFF	CAPTURE VOLUME WITHOUT OVER-TREATMENT (cu.ft.)	CAPTURE VOLUME WITH OVER-TREATMENT (cu.ft.)	FRACTION OF ANNUAL RUNOFF	Q25 (cfs)	WEIR LENGTH (ft)	DEPTH OF FLOW OVER WEIR (ft)	BASIN DIMENSIONS (ft)	TREATED LOAD (lbs)	LOAD OVER-TREATED (lbs)	TOTAL (lbs)
		PRE-DEV	POST-DEV.	POST-DEV.	POST-DEV.													
Basin 1 (INT)	4.11	2.60	3.27	0.84	0.80	601.39	2,492.86	0.17	1,040	8,575	0.70	38.5	4.0	2.5	70x35x3.5	601.39	1,891.47	2,492.86
Basin 2 (INT)	5.62	0.64	4.88	0.74	0.87	3,805.82	4,403.91	0.72	14,443	21,600	0.83	40.7	7.0	1.7	90x40x6	3,805.82	598.09	4,403.91
Basin 3	2.40	0.84	1.79	0.61	0.75	852.72	1,561.57	0.44	1,996	6,300	0.80	16.8	6.0	1.0	90x35x2	852.72	708.85	1,561.57
Basin 4	3.75	0.91	2.32	1.43	0.62	1,265.62	1,829.33	0.50	2,993	6,000	0.72	20.9	6.0	1.2	100x30x2	1,265.62	563.71	1,829.33
Basin 5	4.89	2.41	4.89	0.00	1.00	2,226.05	4,031.22	0.42	5,529	16,330	0.76	34.1	5.0	2.0	54x100x2.5	2,226.05	1,805.17	4,031.22
Basin 6	7.02	3.47	7.02	0.00	1.00	3,186.48	4,492.65	0.42	7,938	14,290	0.59	45.1	5.0	2.3	41x110x2.5	3,186.48	1,306.17	4,492.65
Basin 7	3.18	1.47	3.18	0.00	1.00	1,534.90	2,587.03	0.44	3,890	10,500	0.75	23.9	5.0	3.0	60x35x5	1,534.90	1,052.13	2,587.03
VFS 1	8.17	4.03	8.17	0.00	1.00	3,716.06	7,929.23	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3,716.06	4,213.17	7,929.23
VFS 2	5.08	3.04	5.08	0.00	1.00	1,831.10	4,930.29	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,831.10	3,099.19	4,930.29
Uncaptured (INT)	92.07	18.20	32.00	60.07	0.35	12,386.88	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uncaptured (Tasos Property)	0	0.00	0.00	0.00	0.00	689.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Totals	**136.29**	**37.61**	**72.60**	**63.69**	**0.53**	32,096.62	**34,258.09**	-	37,829	**83,595**	-	-	-	-	-	**19,020.14**	**15,237.95**	**34,258.09**

Lm presents the required TSS removal. To compensate for the increased load from the uncaptured areas, added load must be removed from watersheds with basins. By providing a larger basin volume than required, added load is made available for removal by the treatment system.

Column 16 represents the minimum load that must be removed to provide treatment for watersheds. Total load: 19,020.14 lbs.

Column 17 represents the added load removed by each basin as a result of providing a larger storage volume than required. Added load removed: 15,237.95 lbs.

Column 18 represents the total load treated. Total load removed: 34,258.09 lbs.

Column 6 represents the total load that would have to be removed if all areas of the project had basins.

The difference between the Column 18 total and the Column 6 total (34,258.09 - 32,096.62 = 2,161.47 lbs) represents extra capacity provided for impervious cover that may have to be added during construction.

Note: The 689.6 lbs total suspended solids from the Tasos Property is "uncaptured" (i.e, not captured) by the basins and filter strips.

Note: The portions of this table that have been revised as compared to the table in the April 2008 WPAP Modification are shown in red text.

Email from TxDOT

Daryl Pawelek

From: Brien Hocher [Brien.Hocher@txdot.gov]
Sent: Wednesday, February 12, 2014 6:10 PM
To: John Moy
Cc: daryl.pawelek@sbcglobal.net
Subject: RE: Oak Run - Proposed Driveways onto SH 46.

I have no objections to the driveways draining from ROW to SH 46 but need more on-site grading data and spots to ensure the rest on 0n-site drains away.

Also need drainage study for driveway culverts and overflow weir.

-----Original Message-----
From: John Moy [mailto:johnmoy711@sbcglobal.net]
Sent: Wednesday, February 12, 2014 11:45 AM
To: Brien Hocher
Cc: daryl.pawelek@sbcglobal.net; 'John Moy'
Subject: FW: Oak Run - Proposed Driveways onto SH 46.

Brien,
Sorry if you have received this earlier, but it shows it came back as un-deliverable on Daryl's machine.

John J. Moy Jr., P.E.
Pawelek & Moy, Inc.
130 W. Jahn Street
New Braunfels, Texas 78130
phone: 830-629-2563
fax: 830-629-2564
email: johnmoy711@sbcglobal.net
website: pm-engineers.com

-----Original Message-----
From: Daryl Pawelek [mailto:daryl.pawelek@sbcglobal.net]
Sent: Wednesday, February 12, 2014 11:20 AM
To: 'Brien Hocher'
Cc: 'Daryl Pawelek'; 'John Moy'
Subject: FW: Oak Run - Proposed Driveways onto SH 46.

Brien,
Here is the information sent previously for Oak Run.

Thank you.

Daryl D. Pawelek, P.E.

Pawelek & Moy, Inc.
130 W. Jahn Street
New Braunfels, Texas 78130
phone: 830-629-2563
fax: 830-629-2564

Top of Form

Bottom of Form

-----Original Message-----
From: Daryl Pawelek [mailto:daryl.pawelek@sbcglobal.net]
Sent: Friday, January 31, 2014 5:11 PM
To: 'Brien Hocher'
Cc: 'John Moy'
Subject: Oak Run - Proposed Driveways onto SH 46.

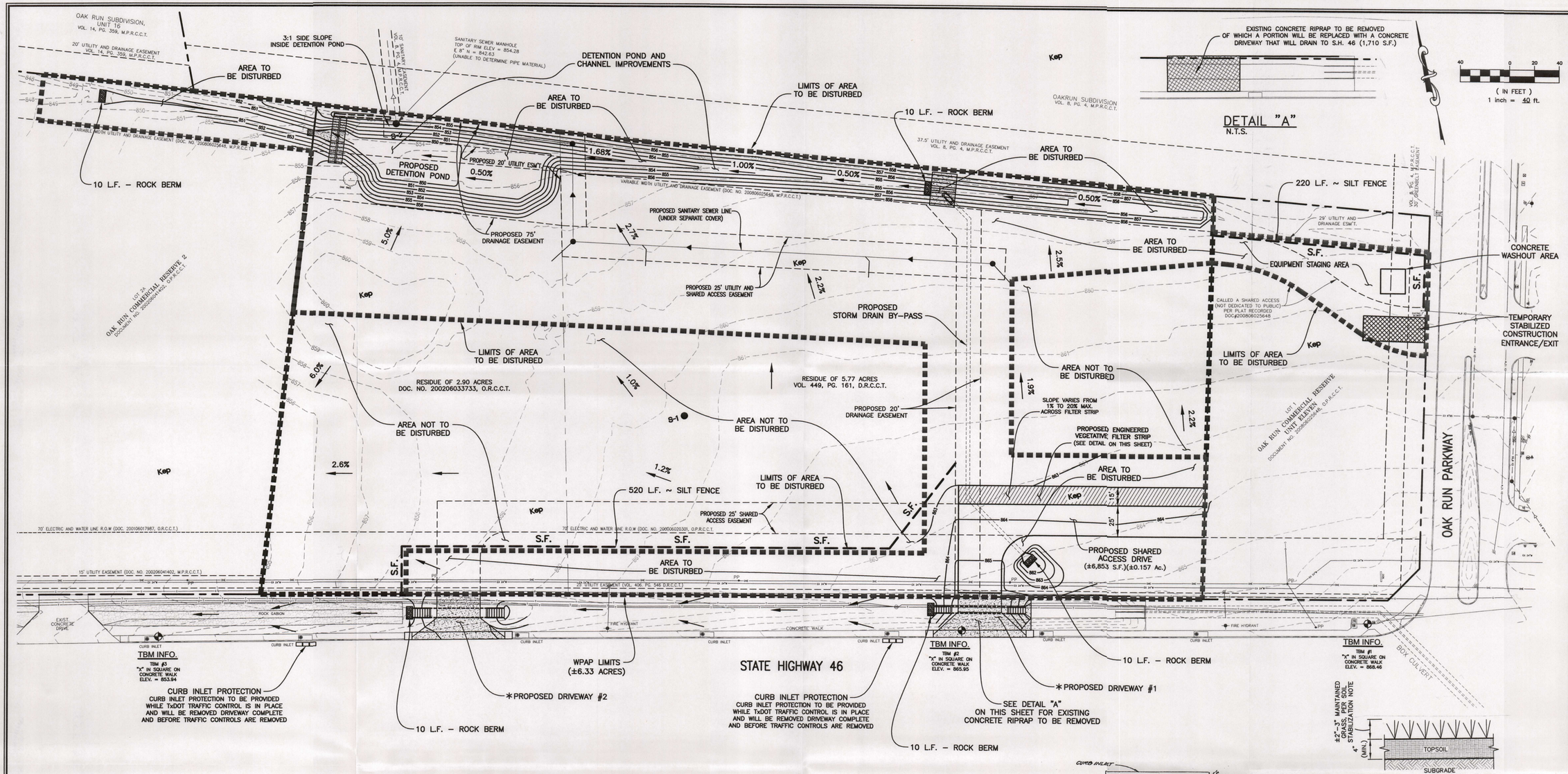
Brien,
Attached is the previous documentation regarding the existing WPAP and future driveways onto SH 46. Regarding the Oak Run property west of Oak Run Parkway and our previous discussions, we have the two proposed driveways draining from the r.o.w. line towards SH 46, with proposed box culverts below each driveway. We are trying to move forward with the overall construction drawings and TCEQ permitting and would like confirmation that this is how we discussed proceeding without a bmp in state row, noting that basin 6 had an allowance which was shown on the driveway documentation attached. Therefore, Txdot would allow the driveways to slope towards SH 46.
Please let me know. Thanks Brien.

Thanks,
John

Thank you.

Daryl D. Pawelek, P.E.

Pawelek & Moy, Inc.
130 W. Jahn Street
New Braunfels, Texas 78130



OAK RUN COMMERCIAL RESERVE, UNIT 11 INFRASTRUCTURE - PERMANENT BEST MANAGEMENT PRACTICE SUMMARY
6.33 ACRE SITE

Watershed Area	Permanent BMP	Drainage Area (Acres)	Imp. Cover (Acres)	Calc. Min. Capture Volume (cf)	Calc. Min. Capture Volume (gal)	Capture Volume Provided (c)	Capture Volume Provided (gal)	Calc. Min. Irrigation Area (sf)	Irrigation Area Provided (sf)	Target TSS Removal (lb/yr)	TSS Removal Provided (lb/yr)
Summary - Uncaptured(No Impervious Cover) A2-A5											
A3-A5[1]	< Existing Impervious Cover Removed	4.700	0.038 < 0.039	----	----	----	----	----	----	0	0
SubTotal - Uncaptured(Proposed Impervious Cover<Existing Impervious Cover Removed)	< Existing Impervious Cover Removed	4.700	0.038 < 0.039	----	----	----	----	----	----	0	0
Summary - Engineered Vegetative Filter Strips											
A2	Vegetative Filter Strips	1.630	0.155							139	139
SubTotal - VFS	----	1.630	0.155							139	139
Total	----	**6.330**	**0.193**	----	----	----	----	----	----	**139**	**139**

Off-Site Summary - Impervious Cover for Driveway Improvements - C1-C2 to TxDOT Basin 6

Watershed Area	Permanent BMP	Drainage Area (Acres)	Imp. Cover (Acres)	Target TSS Removal For Added Drwys (lbs)	TxDOT - Basin 6 Load Overtreated (lbs)
C1-C2[2]	TxDOT Basin 6	0.068	0.068	61	1306.17
Total - TxDOT Basin 6	----	0.068	0.068	61	1306.17

Notes:
1. Uncaptured area, no treatment necessary, since the proposed impervious cover for concrete - riprap, storm drain headwall, and detention pond outfall is less than the existing impervious cover from the concrete riprap to be removed
2. Proposed impervious cover increase for the proposed Driveway 1 and 2 improvements that will drain to TxDOT Basin 6, which yields a TSS Load < TxDOT-Basin 6 Load Over-Treated

* PROPOSED DRIVEWAYS IN TxDOT ROW

PER COORDINATION WITH TxDOT THESE DRIVEWAYS ARE DESIGNED TO SLOPE/DRAIN TO STATE HIGHWAY 46 AND WILL ULTIMATELY DRAIN TO TxDOT'S BASIN #6 TO THE WEST OF THIS PROJECT SITE, WHICH WAS PART OF TxDOT STATE 46 HIGHWAY PROJECT APPROVED BY TCEQ ON JULY 21, 2008 (EAPP 13–07081310A). THEREFORE, THE IMPERVIOUS COVER FROM THESE DRIVEWAYS IS NOT INCLUDED IN THE IMPERVIOUS COVER FOR THE PROJECT.

SOIL STABILIZATION NOTE

IN ALL AREAS TO BE DISTURBED OUTSIDE OF THE LIMITS OF PAVING, ROCK RIPRAP, ETC., AND FOR THE ENGINEERED VEGETATIVE FILTER STRIP, VEGETATIVE STABILIZATION IN ACCORDANCE WITH RG–348 COMPLYING WITH THE EDWARDS AQUIFER RULES, ITEM 1.3.8–TEMPORARY VEGETATION, ITEM 1.3.9–BLANKETS AND MATTING, ITEM 1.3.10–HYDRAULIC MULCH AND/OR ITEM 1.3.11 SOD SHALL BE IMPLEMENTED. THE AREAS TO BE VEGETATED SHALL BE WATERED SUFFICIENTLY TO ESTABLISH 70% STABILIZATION.

VELOCITY CONTROL NOTE

AT THE POINT WHERE THE PROPOSED CONCRETE PILOT CHANNEL SHOWN IN THE "AREAS TO BE DISTURBED" DISCHARGE INTO THE EXISTING DOWNSTREAM CHANNEL, A VELOCITY CONTROL PROCEDURE UTILIZING HEAVY ROCK RIPRAP (TYPE 'R' PER TXDOT ITEM 432) SHALL BE USED TO DISSIPATE THE FLOWS (SEE DETAIL ON SHEET S2). THIS APPLICATION SHALL REMAIN IN PLACE AND NOT BE REMOVED UPON COMPLETION OF THE CONSTRUCTION ACTIVITIES.

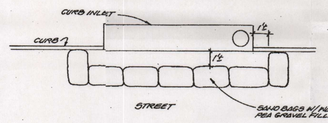
FLOODPLAIN NOTE

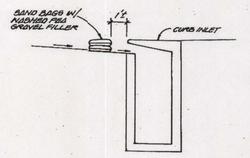
ACCORDING TO FEMA FIRM MAP PANEL No. 48091C0435F, EFFECTIVE DATE 9/2/2009, THE PROPOSED DEVELOPMENT LIES OUTSIDE THE 100 YR FLOODPLAIN.

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	0	÷ 43,560 =	0.000
SHARED ACCESS DRIVE	6,853	÷ 43,560 =	0.157
TOTAL IMPERVIOUS COVER	6,853	÷ 43,560 =	0.157
TOTAL IMPERVIOUS COVER ÷ TOTAL ACREAGE x 100 =			2.48 %

TOTAL SITE ACREAGE = 6.33 Ac





Inspection and Maintenance Guidelines:

(1) Inspection should be made weekly and after each rainfall. Repair or replacement should be made promptly as needed by the contractor.

(2) Remove sediment when buildup reaches a depth of 3 inches. Removed sediment should be deposited in a suitable area and in such a manner that it will not erode.

(3) Check placement of device to prevent gaps between device and curb.

(4) Inspect filter fabric and patch or replace if torn or missing.

(5) Structures should be removed and the area stabilized only after the remaining drainage area has been properly stabilized.

INLET PROTECTION DETAIL
N.T.S.

ENGINEERED VEGETATIVE FILTER STRIP DETAIL
N.T.S.

LEGEND

- S.F. — SILT FENCE
- ROCK BERM
- TEMPORARY CONSTRUCTION ENTRANCE/EXIT
- CONCRETE WASHOUT
- INLET PROTECTION
- 100 — EXISTING CONTOURS
- 100 — PROPOSED CONTOURS
- WPAP LIMITS
- PROPERTY LINE
- S–# — POTENTIAL RECHARGE FEATURE (PRF) AS PER GEOLOGIC ASSESSMENT, NO SENSITIVE FEATURES WERE IDENTIFIED
- Kep — EDWARDS PERSON LIMESTONE

PAWELEK & MOY, INC.
CIVIL ENGINEERING & CONSULTING SERVICES
130 W. JAHN STREET
NEW BRAUNFELS, TX 78130
TEL: (830) 629-2563
FIRM No. F-9862

STATE OF TEXAS — DARYL D. PAWELEK — 84770 — LICENSED PROFESSIONAL ENGINEER

OWNER:
NEW BRAUNFELS INVESTMENT JOINT VENTURE
P.O. BOX 311240
NEW BRAUNFELS, TX 78131–1240

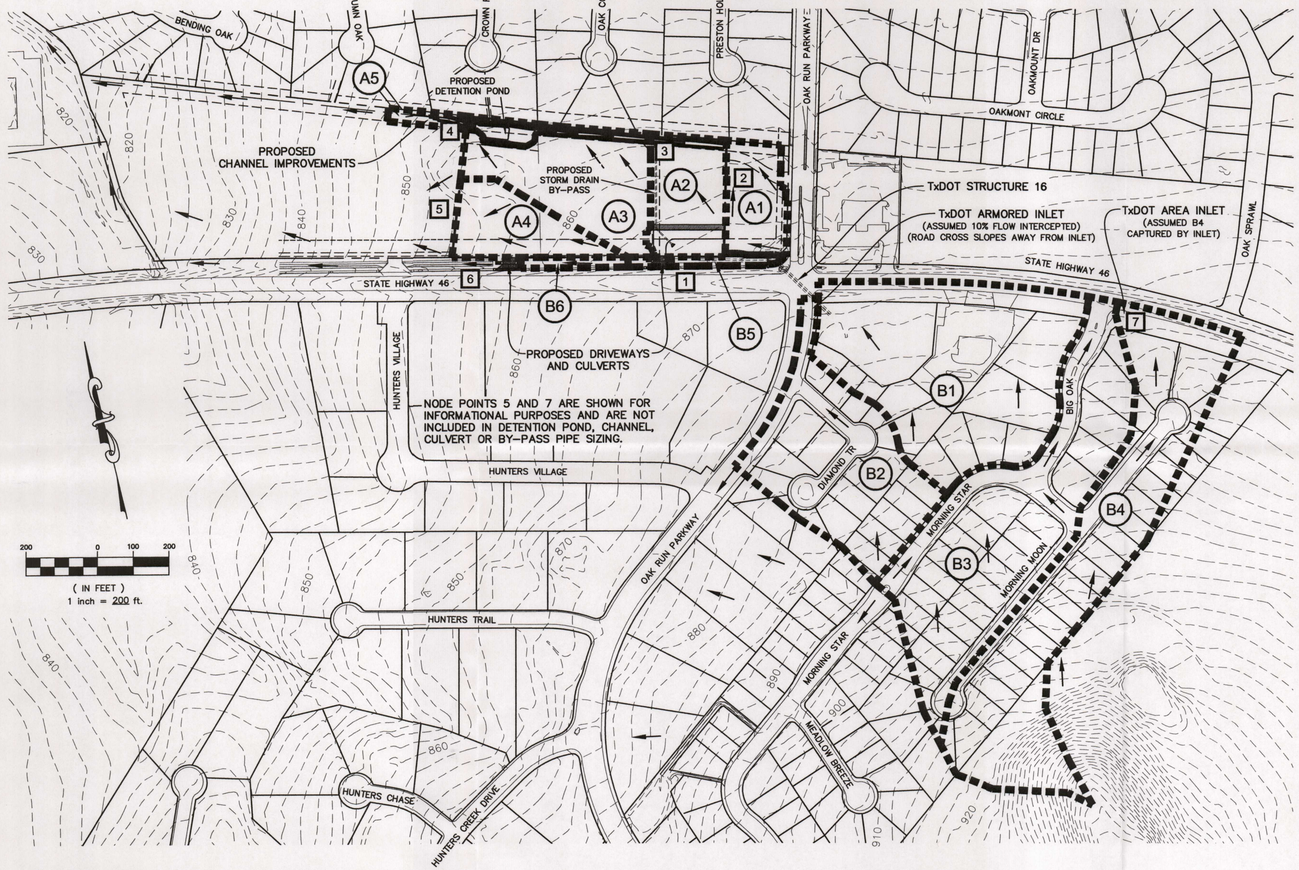
SITE PLAN FOR OAK RUN COMMERCIAL RESERVE, UNIT 11 - INFRASTRUCTURE
NEW BRAUNFELS, TEXAS

REVISIONS		
DATE	DESCRIPTION	
05/02/14	REVISED PER 4/24/14 TCEQ COMMENTS	

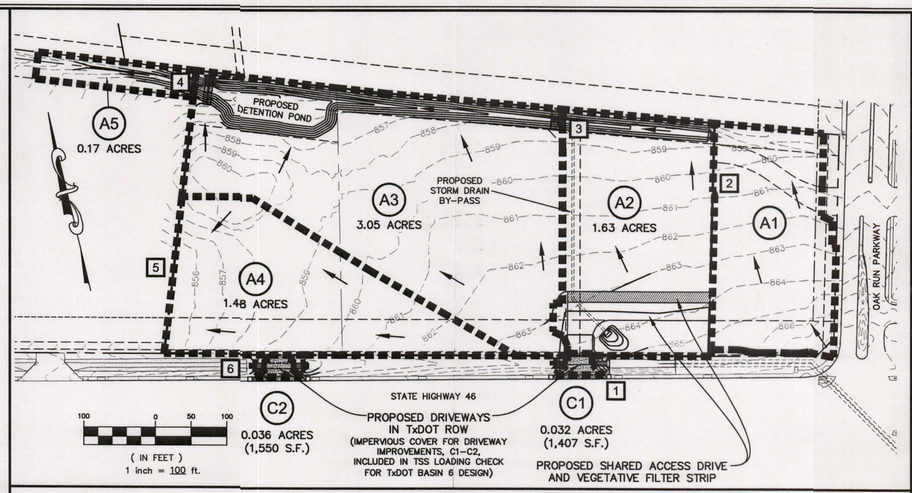
DRAWN BY: D.G. III
CHECKED BY: D.D.P.
DATE: MARCH 2014
JOB NO.: 1311.01

S1 OF 2

F:\1311.01 – OAK RUN U–11\dwg\WPAP\S1–WPAP.dwg 2014/05/02 9:25am Administrator



DRAINAGE AREA MAP ~ OVERALL



DRAINAGE AREA MAP ~ ON-SITE

LEGEND

- DRAINAGE AREA BOUNDARY
- ROCK BERM
- (A1) DRAINAGE AREA
- [1] DRAINAGE NODE POINT
- FLOW DIRECTION
- EXISTING CONTOURS (TOPOGRAPHY)
- EXISTING CONTOURS (CITY AERIAL)
- PROPOSED CONTOURS

DRAINAGE AREA DESIGNATION	DRAINAGE AREAS (acres)
A1	1.18
A2	1.63
$A3_{PRE}$	3.05
$A3_{POST}$	3.45
$A4_{PRE}$	1.48
$A4_{POST}$	1.08
B1	7.19
B2	4.43
B3	7.06
B4	7.46
B5	0.27
B6	0.20

(10% assumed to flow to TxDOT Str.16, road cross slopes away from armored inlet on east side of Oak Run Pkwy)

(not included because flow is intercepted by TxDOT inlet east of Big Oak/SH 46 intersection

SCS, Type III - 24 hr Rainfall Depths	
2 yr	3.52 in.
10 yr	6.40 in.
25 yr	8.07 in.
100 yr	11.17 in.

SCS METHOD, PONDPACK MODEL

DRAINAGE NODE POINT	CONTRIBUTING DA's	DRAINAGE AREA (acres)	CN	Tc (min)	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
*1 $_{PRE\ \&\ POST}$	B1+10%B2+B3+B5	14.96	86	22	23.90	52.70	69.37	100.02
[1] NP 1 Overflow at Driveway #1 Culvert to Oak Run Bypass Pipe	--	-	-	-	0.00	14.22	26.59	50.45
[2] NP 1 Culvert at Driveway #1 flow to TxDOT Channel	--	-	-	-	23.78	38.39	42.70	49.49
4_{PRE}	A1+A2+A3+B1+10%B2+B3+B5	20.82	85	25	8.59	33.13	52.14	88.29
4_{POST}	A1+A2+A3+B1+10%B2+B3+B5	21.22	86	26	8.59	32.61	50.68	88.26
6 -Driveway #2 Culvert	B1+10%B2+B3+B5+B6	15.16	86	24	24.01	38.95	43.46	50.59

1 Flow Bypass via overflow weir to Oak Run Bypass Storm Drain

2 Driveway #1 Culvert flow to TxDOT SH 46 Ditch (< 50.32 cfs TxDOT Ditch Capacity)

PAWELEK & MOY, INC.
CIVIL ENGINEERING & CONSULTING SERVICES
130 W. JAHN STREET
NEW BRAUNFELS, TX 78130
TEL: (830) 629-2563
FIRM No. F-9862

STATE OF TEXAS — DARYL D. PAWELEK — 84770 — LICENSED PROFESSIONAL ENGINEER

OWNER:
NEW BRAUNFELS INVESTMENT JOINT VENTURE
P.O. BOX 311240
NEW BRAUNFELS, TX 78131-1240

MASTER DRAINAGE AREA MAP FOR OAK RUN COMMERCIAL RESERVE, UNIT 11 - INFRASTRUCTURE

NEW BRAUNFELS, TEXAS

REVISIONS

DATE	DESCRIPTION
05/02/14	REVISED PER 4/24/14 TCEQ COMMENTS

DRAWN BY: D.G. III
CHECKED BY: D.D.P.
DATE: MARCH 2014
JOB NO.: 1311.01
D1

F:\1311.01 - OAK RUN U-11\dwg\WPAP\D-1.dwg 2014/05/02 9:28am Administrator