

**SPRING HILL PLANNING COMMISSION
REGULAR MEETING
AGENDA
THURSDAY, MARCH 3, 2016
7:00 P.M.
SPRING HILL CIVIC CENTER
401 N. MADISON – ROOM 15**

CALL TO ORDER

ROLL CALL

APPROVAL OF AGENDA

FORMAL COMMISSION ACTION

1. **Approval of Minutes: February 4, 2016**
2. **Site Plan (SP-01-16) – Mid Am Building Supply Site Improvements**
Address/Vicinity: 20301 W. 207th St.
Applicant: Mid Am Building Supply
3. **Preliminary Plat Extension Request (PP-01-16) – Ridgefield Subdivision**
Address/Vicinity: 16915 & 17505 W. 199th St. (west of Renner Rd.)
Applicant: Renner 199 Investors, LLC
4. **Public Hearing – Proposed Amendments to the Zoning, Subdivision, and Sign Regulations**
5. **Establish an alternate date for the April 2016 Planning Commission meeting**

DISCUSSION

REPORTS

6. Conditional Use Permit Annual Review (CU-01-14) – Ad Trend Off-Premises Billboard Sign

ANNOUNCEMENTS FROM PLANNING COMMISSIONERS AND STAFF

ADJOURN

PUBLIC HEARING PROCEDURE

1. Chairperson opens the public hearing.
2. Commission members describe what, if any, ex-party contacts they might have had regarding this case; indicating the nature of the communication and *whom* it was with.
3. Commission members describe what, if any, conflicts of interest they may have and dismiss themselves from the hearing.
4. Staff presents a report and comments regarding the case.
5. Applicant or agent of the applicant makes brief presentation of the case or request.
6. Commission members ask for any needed clarification of the applicant or agent.
7. Public comments are solicited from the audience. Each member of the audience must fill out a Citizen Participation/Comment Form.
8. Commission members ask for any further clarifications from applicant or staff.
9. Public Hearing is closed.
10. Members deliberate the request.
11. 14-day Protest Period begins after the Planning Commission Public Hearing is closed. *

* **Protest Petitions:** Any protest petition must be filed in the Office of the Spring Hill City Clerk within 14 days from the conclusion of the public hearing held by the Planning Commission. Sample copies of protest petitions may be obtained from the City Clerk Office at 401 N. Madison, Spring Hill, KS 66083 (913-592-3664).

**City of Spring Hill, Kansas
Minutes of Planning Commission Regular Session
February 4, 2016**

A Regular Session of the Planning Commission was held in the Spring Hill Civic Center, 401 N. Madison, Room 15, Spring Hill, Kansas on February 4, 2016. The meeting convened at 7:01 p.m. with Chairman Stephen Sly presiding, and Christie Campbell, Planning Secretary recording.

Commissioners in attendance: Stephen Sly
Troy Mitchell
Janell Pollom
Paul Ray
Cindy Squire
Tyler Vaughan – left at 7:45 p.m.

Commissioners absent: Tobi Bitner
Josh Nowlin
Michael Weber

Staff in attendance: Jim Hendershot, Community Development Director
Christie Campbell, Planning Secretary

Public in attendance: Mr. Don Dusselier, Representative for Brookwood Farms
Mr. Leonard Marks, Representative for Brookwood Farms
Mr. Matt Schlicht, Engineering Solutions
Mr. Don Margritier, Ridge Development
Ms. Barb Bernritter, General Public

ROLL CALL

The secretary called the roll of the Planning Commissioners. With a quorum present, the meeting commenced.

APPROVAL OF THE AGENDA

Motion by Ms. Squire, seconded by Mr. Mitchell, to approve the agenda as presented.

Roll Call Vote: Ray-Aye, Mitchell-Aye, Sly-Aye, Pollom-Aye, Vaughan-Aye, Squire-Aye

Motion carried 6-0-0

FORMAL ACTION

1. Approval of Minutes: January 7, 2016

Motion by Ms. Squire, seconded by Mr. Mitchell, to approve the minutes with the correction to the area photo outline on page 3.

Roll Call Vote: Ray-Aye, Mitchell-Aye, Sly-Aye, Pollom-Aye, Vaughan-Aye, Squire-Aye

Motion carried 6-0-0

2. Final Plat (FP-01-16) – Brookwood Farms 2nd Plat

Beginning of Staff Report



BACKGROUND:

An application has been received for the development of the next phase of Brookwood Farms located on 199th St. approximately one-half mile east of Woodland Road. Brookwood Farms 2nd Plat consists of 24 residential tracts with extensions to 200th St., 200th Terrace and Skyview Lane.

The preliminary plat was approved by the Planning Commission in 2005 and staff finds this plat submittal to be in conformance with the preliminary plat. A copy of the preliminary plat is included with this staff report.

STAFF COMMENT:

Brookwood Farms 2nd Plat consists of 24 residential lots. Staff finds the final plat to be in compliance with the previously approved preliminary plat and offers the following review of Section 17.372.D of the Spring Hill Subdivision Regulations:

1. Separate drawings of profiles and cross section of streets, alley's and public use areas have been forwarded to the City Engineer for review,
2. Staff has verified the person or persons name on the plat are the owner(s) of the area subject to the final plat,
3. Staff has verified all due or unpaid taxes have been paid in full,
4. Drainage areas are subject to maintenance of adjoining homeowners or the homeowners association,
5. Public facilities are adequate and available to the site,
6. Adequate control of storm water through appropriate BMP's have been detailed on drawings submitted to the City Engineer for approval,
7. Construction refuse will be disposed of in an appropriate manner,

8. The required Improvement Agreement is being prepared by staff and will be forwarded to the applicant, City Engineer and City Attorney for review and approval. This Agreement will be signed by the applicant prior to consideration of the final plat by the Governing Body. All required bonds and insurance documents will be submitted to the City prior to issuance of a Notice to Proceed from the City Engineer.
9. Staff finds the proposed final plat in substantial compliance with the preliminary plat for the subdivision approved by the Planning Commission in 2005 and with the Comprehensive Plan for the City of Spring Hill.

PLANNING COMMISSION REVIEW AND ACTION: Upon review of the final plat application the Planning Commission may by a majority vote of those members present:

- Recommend approval of the application to the Governing Body, or
- Recommend denial of the application to the Governing Body and notify the applicant of such action, or
- Table action on the application to a specific date and notify the applicant of such action

STAFF RECOMMENDATION:

Staff recommends approval of final plat application FP-01-16, Brookwood Farms 2nd Plat.

Attachments: Final Plat
Preliminary Plat

End of Staff Report

Mr. Hendershot, Community Development Director, presented the staff report to the Planning Commission. Staff finds that the final plat is in compliance with the previously approved preliminary plat.

Commissioner Mitchell asked if the name Biltmore Farms is the same as Brookwood Farms. Mr. Hendershot clarified that the name of the subdivision changed to Brookwood Farms due to legal issues. Mr. Marks, the Brookwood Farms Developer, added that they were required to change the name due to the fact that Biltmore Farms is a registered trademark name by the Vanderbilt Family.

Commissioner Vaughan asked about current occupancy of the homes in Brookwood Farms. Mr. Marks indicated that they have two vacant lots as this time.

Motion by Mr. Vaughan, seconded by Mr. Mitchell, to approve the final plat application FP-01-16, Brookwood Farms 2nd Plat.

Roll Call Vote: Ray-Aye, Mitchell-Aye, Sly-Aye, Pollom-Aye, Vaughan-Aye, Squire-Aye

Motion Carried 6-0-0

The final plat application (FP-01-16) will be forwarded to the City Council for review on February 25, 2016.

3. **Final Plat (FP-02-16) – Prairie Ridge Phase 2**

Beginning of Staff Report



BACKGROUND:

In August 2014, the Planning Commission voted to recommend approval of the final plat for Prairie Ridge at Spring Hill No. 2. This plat contained 56 residential lots and one common area parcel. At the request of the applicant, the plat was not presented to the City Council for approval due to market conditions at the time. The applicant has now reduced the size of the final plat to 28 residential lots and one common area parcel. As a result, staff has discontinued and closed the file for the original application and is now presenting the revised Prairie Ridge at Spring Hill No 2 final plat.

In 2009 the Planning Commission approved a reduction in scope from Phase 1 due to economic conditions. Phase's 1A-D are complete with respect to infrastructure construction and homes are being built throughout these phases. The pool and clubhouse adjacent to the subdivision entrance are complete and open for use, and a large portion of the pedestrian trail with various amenities are complete. In addition, the required turn lanes from 199th Street are complete as required by the platting and improvement agreements.

STAFF COMMENT:

Phase 2 consists of 28 residential lots and one common area tract. Staff finds the final plat to be in compliance with the previously approved preliminary plat and offers the following review of Section 17.372.D of the Spring Hill Subdivision Regulations:

1. Separate drawings of profiles and cross section of streets, alley's and public use areas have been forwarded to the City Engineer for review,
2. Staff has verified the person or persons name on the plat are the owner(s) of the area subject to the final plat,
3. Staff has verified all due or unpaid taxes have been paid in full,
4. Drainage areas are subject to maintenance of adjoining homeowners or the homeowners association,
5. Public facilities are adequate and available to the site,

6. Adequate control of storm water through appropriate BMP's have been detailed on drawings submitted to the City Engineer for approval,
7. Construction refuse will be disposed of in an appropriate manner,
8. The required Improvement Agreement is being prepared by staff and will be forwarded to the applicant, City Engineer and City Attorney for review and approval. This Agreement will be signed by the applicant prior to consideration of the final plat by the Governing Body. All required bonds and insurance documents will be submitted to the City prior to issuance of a Notice to Proceed from the City Engineer.
9. Staff finds the proposed final plat in substantial compliance with the preliminary plat for the subdivision approved by the Planning Commission in 2006 and with the Comprehensive Plan for the City of Spring Hill.

PLANNING COMMISSION REVIEW AND ACTION: Upon review of the final plat application the Planning Commission may by a majority vote of those members present:

- Recommend approval of the application to the Governing Body, or
- Recommend denial of the application to the Governing Body and notify the applicant of such action, or
- Table action on the application to a specific date and notify the applicant of such action

STAFF RECOMMENDATION:

Staff recommends approval of final plat application FP-02-16, Prairie Ridge at Spring Hill No. 2.

Attachments: Final Plat

End of Staff Report

Mr. Hendershot, Community Development Director, presented the staff report to the Planning Commission.

Commissioner Squire indicated that it was her recollection that there were supposed to be walking trails in this subdivision with a path that connected to the high school. She asked if this would be in this phase or a future phase. Mr. Hendershot stated that the walking trails were included in the initial application, but the school district was not in favor of connecting to their property at the time. Mr. Margritier, Prairie Ridge Developer, added that the walking trail is still in the plan for the next phase. The trail will be constructed in the subdivision and stop at the property line.

Motion by Ms. Squire, seconded by Mr. Mitchell, to approve the final plat application FP-02-16, Prairie Ridge Phase 2.

Roll Call Vote: Ray-Aye, Mitchell-Aye, Sly-Aye, Vaughan-Aye, Squire-Aye

Abstain: Pollom

Motion carried 5-0-1

DISCUSSION

4. Review proposed zoning regulation amendments and establish public hearing date

Mr. Hendershot outlined the proposed changes to the zoning, subdivision, and sign regulations. The vast majority of the changes are editorial in nature, along with the deletion of all references to the growth area in Miami County, as they now manage those areas. The City of Spring Hill only has jurisdiction of property within the city limits.

The proposed changes to the zoning regulations relate to fences, clarification of definitions, as well as to increase the height of buildings and other structures that are located in industrial districts.

The proposed changes to the subdivision regulations related to submittal requirements for various development applications.

The proposed changes to the sign regulations relate specifically to placement of temporary signs for city-wide events.

A public hearing date was established for March 3, 2016, at which time the proposed amendments will be presented in more detail.

Motion by Ms. Pollom, seconded by Mr. Mitchell, to set the public hearing for the proposed zoning regulation amendments on March 3, 2016.

Roll Call Vote: Ray-Aye, Mitchell-Aye, Sly-Aye, Pollom-Aye, Squire-Aye

Motion carried 5-0-0

REPORTS

ANNOUNCEMENTS FROM PLANNING COMMISSIONERS AND STAFF

- Commissioner Pollom requested that representatives with the railroad inspect the ditch area along the intersection of 199th St. and Woodland Rd.
- Commissioner Squire asked about the status of the condition of the railroad crossings along Nichols St., Hale St., and 207th St.
- Mr. Hendershot reported on the annual review of Red Crow Brewing Company's conditional use permit. Staff has confirmed it is in compliance with the conditions set forth in Ordinance No. 2015-01.

ADJOURN

Motion by Ms. Pollom, seconded by Mr. Mitchell, to adjourn.

Roll Call Vote: Ray-Aye, Mitchell-Aye, Sly-Aye, Pollom-Aye, Squire-Aye

Motion carried 5-0-0

The meeting adjourned at 8:10 p.m.

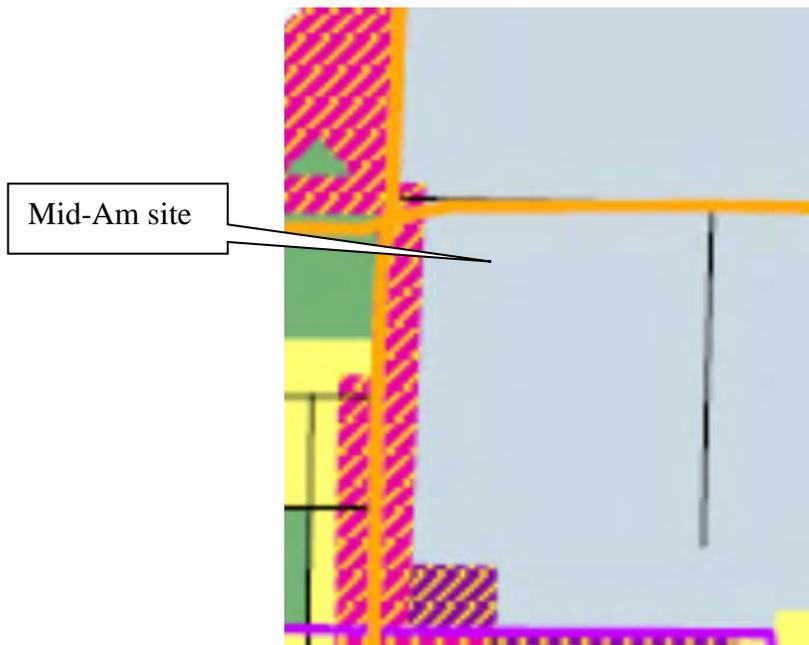
Aerial Photo



Zoning Map



Future Land Use Map



BACKGROUND: The applicant, Mid-Am Building Supply, has submitted a request for approval of a site development plan at 20301 W. 207th St. The project consists of a stormwater detention basin with connecting piping, private access road, gravel outside storage area, fencing, lighting and landscaping.

As business for Mid-Am Building Supply expands so does the need for additional storage area for merchandise. This increased area creates the need for stormwater management not only for the storage area, but also for possible future building expansions. This development plan provides remedies for immediate business needs as well as possible future expansions.

STAFF REVIEW:

Staff has reviewed the site plan under the requirements of Section 17.340 of the Spring Hill Zoning Ordinance as follows:

- All lot lines and right-of-ways are identified
- All proposed structures with applicable data are identified
- All parking and traffic areas have been identified and the type of surface and base course identified
- Utilities are available, identified, and in compliance with regulations
- Exterior lighting on the proposed structure is compliant with regulations as per the lighting diagram and will not negatively affect surrounding properties or traffic. Manufacturer information on the fixtures is included with this staff report.
- Consultants, utility providers, and city staff have reviewed the site plan and provided comments. These comments and recommendations have been implemented into the site plan as applicable. In particular, the Traffic Impact Study was reviewed by BHC Rhodes, traffic consultant for the City of Spring Hill, and the stormwater study was reviewed by Olsson & Associates who has

performed several reviews for the City over the past years. Copies of the traffic and stormwater studies are included with this staff report.

- New storage areas will be enclosed with chain-link fence to match the existing fence. A gate will be installed on the east end of the private access road for security.

STANDARDS OF REVIEW

In addition to the above noted items the site plan has been reviewed for compliance with the following standards:

1. *The extent to which the proposal conforms to the provisions of the Code.*
The proposed use is in compliance with the Spring Hill Zoning Code.
2. *The extent to which the proposal conforms to the provisions of the Spring Hill Subdivision Regulations.*
The site is in compliance with the Spring Hill Subdivision Regulations.
3. *The extent to which the development would be compatible with the surrounding area.*
The project is compatible with the surrounding area which is industrial in use.
4. *The extent to which the proposal conforms to the recommendations of the Spring Hill Comprehensive Plan including but not limited to the Vision Plan, the Community Development Recommendations, and the Planning and Principles and Design Guidelines.*
The proposal is in conformance with the recommendations of the Comprehensive Plan including the Future Land Use map that identifies this area as industrial.
5. *The extent to which the proposal conforms to customary engineering standards used in the City.*
The overall project has been designed by recognized and licensed architects and engineers.
6. *The extent to which the location of streets, paths, walkways, and driveways are located so as to enhance safety and minimize any adverse traffic impact on the surrounding area. (Refer to photo below)*
As shown on the project plans and photo below the project includes a private road intersecting with Webster Street. As noted in the traffic study, this road is planned to be the primary entry/exit point for trucks utilizing the facility. Current truck counts are approximately 27 per day with an anticipated additional 8-10 trucks at full buildout of the facility. Peak hours for traffic in the vicinity of Mid-Am occurs between 7:00-8:00am and 5:00-6:00pm, however, truck traffic to the facility is predominately between these peak traffic hours. Utilizing the Webster St. private road will serve to decrease truck traffic on 207th. Conversations with JOCO Fire District #2 personnel revealed an occasional stacking of trucks on 207th that would block the drive entrance to the fire department. Decreasing truck traffic on 207th will help to reduce the opportunities for this stacking issue. In addition, as noted in the traffic report, the current lane configuration of Webster Street provides for a center turn lane that will serve to reduce any traffic stacking due to trucks entering Mid-Am from Webster Street. The vast majority of trucks to Mid-Am arrive from the north therefore a northbound right hand turn lane on Webster is not warranted.



ADDITIONAL REVIEW CRITERIA:

Site Drainage and Stormwater Review: A stormwater study was provided with the application and was reviewed by Olsson and Associates. Comments from this review were forwarded to the design team and changes were implemented into the design as applicable. Excerpts from the stormwater study including the summary and recommendations are included with this staff report. The full study is on file at City Hall.

Landscaping and Buffering: Buffering is not required with this development as the adjoining properties are either vacant or industrial in zoning and/or use. The required landscaping around the detention basin along with street trees on 207th Street are detailed in the enclosed plans. This project does require the removal of several existing trees on the site, however, trees along Webster Street will remain and are accounted for in the landscaping requirements.

Planning Commission Review and Action: Upon review of the site plan application the Planning Commission may by a majority vote of those members present:

- Recommend approval of the application to the Governing Body, or
- Recommend denial of the application to the Governing Body and notify the applicant of such action, or
- Table action on the application to a specific date and notify the applicant of such action

RECOMMENDATION:

It is the recommendation of staff that the Planning Commission recommend approval of site plan SP-01-16 for the Mid-Am Building Supply Site Development Plan.

Suggested Motion: Motion to recommend approval of site plan application SP-01-16 for Mid-Am Building Supply as presented by staff.

Attachments: Site Development Plan
 Traffic Impact Study
 BHC Rhodes email on traffic study review
 Stormwater Study (Pages 1-9)
 Lighting diagrams and product information
 GBA letter in response to Olsson & Assoc. comments
 GBA letter in response to Ponzer Youngquist comments



January 15, 2016

Mr. Mark Hays
Mid-Am Building Supply, Inc.
20301 W. 207th Street
Spring Hill, KS 66083

SUBJECT: Traffic Engineering Evaluations
Proposed Mid-Am Facility Expansion

creating remarkable solutions
for a higher quality of life

Dear Mr. Hays:

As you requested, George Butler Associates, Inc. (GBA) has completed the required traffic engineering evaluations of the current traffic operations associated with the Mid-Am Building Supply facility located in Spring Hill, Kansas. For the purposes of this traffic engineering study, the existing operational conditions at the facility driveways and nearby City intersections were observed in order to serve as the basis for projecting the future traffic conditions that will be expected with the planned expansion of the existing facility.

The required work tasks completed by GBA personnel during this traffic study were based upon preliminary discussions with the City of Spring Hill staff. Per the City staff, detailed intersection Level of Service analyses have not been performed for the purposes of this limited traffic study. The following sections of this letter report discuss the traffic study procedures, trip generation analyses, and conclusions regarding the proposed expansion project.

9801 Renner Boulevard
Lenexa, Kansas
66219-9745

913.492.0400
913.577.8200 fax

GBA Companies
Lenexa, KS
Kansas City, MO
O'Fallon, MO
Chesterfield, MO
Omaha, NE
Rock Island, IL
Broomfield, CO

www.gbateam.com

PROJECT BACKGROUND

The existing Mid-Am Building Supply facility currently provides approximately 103,000-square feet of building area, with dock / service areas located on the western end of the building, and is surrounded by aggregate surface lots primarily utilized for the purposes of storing building supplies that are shipped into and distributed from this business. Based upon the information provided to GBA, the existing facility employs approximately 80 employees, who generally work varying weekday shifts between 6:00 a.m. and 2:30 a.m. from Monday through Friday. There is no weekend activity at the existing facility. According to Mid-Am officials, an average of 27 tractor-trailer trucks currently enter and exit the existing facility on a daily basis.

The proposed expansion project would increase the building area by approximately 40,000-square feet, through the construction of an addition onto the southern side of the current building. In addition to the future building expansion, this proposed project would include expanded supply storage areas and the construction of a detention pond located in the southeastern corner of the property. The construction of a new access roadway from the southwestern corner of the Mid-Am property westward to an intersection with Webster Street is also planned with this facility expansion project.

Per direction from the City staff, this traffic study has not considered the future traffic impacts of any commercial out-parcels that may eventually develop on the vacant property located to the west of the Mid-Am Building Supply facility, which may require additional future access along the eastern side of Webster Street.

EXISTING CONDITIONS

GBA personnel performed manual turning movement counts at the primary study intersection of 207th Street with Webster Street, and at the three driveways serving the existing Mid-Am facility along the 207th Street corridor. It should be noted that the two driveways located along the northern side of the 207th Street corridor that provide access to the City's fire department facility were also counted during these in-field observations. The turning movement counts were completed at the study intersection and driveways during both the morning (6:30 - 8:15 a.m.) and evening (4:30 - 6:15 p.m.) peak traffic periods on a typical weekday of the facility's operations. The evening peak period counts were completed on Thursday, December 10, 2015, while the morning peak period counts were completed on Friday, December 11, 2015.

Based upon the completed turning movement counts, the morning peak hour in the vicinity of the existing Mid-Am facility was determined to occur between 7:00 and 8:00 a.m. Likewise, the evening peak hour within the study area was found to be between 5:00 and 6:00 p.m. The resulting peak hour volumes at the study intersection and adjacent driveways during the critical morning and evening peak hours are depicted on the attached **Figures 1 and 2**, respectively. It should be noted that on these figures, the first number shown for each individual turning movement represents the total hourly traffic volume, while the value in parenthesis indicates the number of trucks (i.e., vehicles with six or more wheels) during the respective peak hour for each of the individual movements.

Using on-road, tube-type machine counters, GBA also obtained daily, 24-hour traffic volume and vehicle classification counts at the three driveways serving the existing Mid-Am facility along 207th Street. These volume / classification counts were performed from Thursday, December 10, 2015 through Thursday, December 17, 2015. Therefore, the on-road machine counters were in place for four typical weekdays of facility operation (i.e., Monday through Friday). However, it should be noted that the existing configurations of these driveways generally affected the reliability of the data that was actually obtained, particularly regarding the attempted classification of the various vehicle types. Due to the short driveway throat distances, slow vehicle travel speeds turning into and from the driveways, and the inconsistent vehicle travel paths used by drivers, the accurate classification of vehicles did not occur.

As a result, the daily traffic volumes that were obtained at these driveways are very likely inflated to an unknown degree, since the machine counters may have instead counted a single tractor-trailer vehicle as two or three passenger car equivalent (PCE) vehicles. Therefore, the recorded daily traffic volumes appear to be artificially high, especially for the westernmost facility driveway that is shared by both passenger cars using the employee parking area and tractor-trailer vehicles accessing the facility's dock and on-site storage areas. In any case, the daily inbound, outbound, and total combined driveway vehicles per day (vpd) that were obtained for the entire existing Mid-Am facility are provided in the table below.

Day / Date	Inbound Volume (vpd)	Outbound Volume (vpd)	Total Daily Volume (vpd)	In / Out Split Percentages
Friday, Dec. 12 th	362 vpd	286 vpd	648 vpd	56% / 44%
Monday, Dec. 15 th	357 vpd	220 vpd	577 vpd	62% / 38%
Tuesday, Dec. 16 th	394 vpd	320 vpd	714 vpd	55% / 45%
Wednesday, Dec. 17 th	397 vpd	273 vpd	670 vpd	59% / 41%
Four-Day Averages	378 vpd	275 vpd	653 vpd	58% / 42%

TRIP GENERATION ANALYSES

Utilizing the current intersection and driveway traffic count data obtained during these traffic engineering evaluations, GBA personnel compared the existing Mid-Am facility's traffic volumes to the nationally-recognized trip generation data published by the Institute of Transportation Engineers (ITE). The intended purpose for performing these traffic volume comparisons was to determine the appropriately representative ITE land use (e.g., warehouse, distribution center, light industrial, manufacturing, etc.) to use while projecting the anticipated future traffic volumes (i.e., both total traffic and truck-only traffic) for the proposed Mid-Am facility expansion project.

Given the results of the daily traffic volume data collection process, the primary basis used by GBA during these comparisons was the traffic generation for the existing Mid-AM facility from the completed morning and evening peak hour turning movement counts. As shown in the table below, the average trip generation rates for the existing Mid-Am facility were determined to correlate very closely with those reported for a typical Warehouse land use (ITE code 150). Based upon the ITE warehouse data, the daily traffic counts obtained for the existing facility could be over-estimated by up to 80%.

Existing Mid-Am	Average Rates	In / Out Split %
Typical Weekday	6.34 trips / 1,000 s.f.	58% / 42%
A.M. Peak Hour	0.31 trips / 1,000 s.f.	78% / 22%
P.M. Peak Hour	0.34 trips / 1,000 s.f.	17% / 83%

ITE Land Use 150	Average Rates	In / Out Split %
Typical Weekday	3.56 trips / 1,000 s.f.	50% / 50%
A.M. Peak Hour	0.30 trips / 1,000 s.f.	79% / 21%
P.M. Peak Hour	0.32 trips / 1,000 s.f.	25% / 75%

The attached **Table 1** depicts the trip generation comparison between the actual peak hour traffic counts for the existing Mid-Am facility and the predictions that would result from using the published ITE warehouse data. As shown in the table, the actual trip generation during the morning and evening peak hours is just slightly higher than would have been estimated by ITE.

In order to represent the anticipated trip generation conditions following the expansion of the Mid-Am facility, both the actual and the ITE trip generation rates were calculated for a future building area of 143,000-square feet. These future trip generation estimates are also depicted on **Table 1**. As would be expected, due to the linear projection of the actual and ITE average rates, the future trip generation estimates would also be approximately 40 percent higher than the current levels when pro-rated based on the same existing-to-future building square footage ratio.

ACCESS CONNECTIONS

With the proposed construction of a private roadway connection along the southern edge of the Mid-Am property to an intersection with Webster Street, the truck routing for both the shipping and receiving operations for the facility will likely be modified in the future. We understand that the currently proposed access plan for the facility will continue to allow inbound and outbound truck traffic via 207th Street, as well as via this new private roadway connection onto Webster Street.

Based on the completed traffic counts, GBA determined that between 10 and 15 percent of the vehicle traffic associated with the existing Mid-Am facility consisted of light- and heavy-duty trucks. This truck percentage is also consistent with the typical truck generation data published by ITE for similar warehouse land uses. As

stated previously, Mid-Am officials currently report an average of 27 trucks in and out of the existing facility during each weekday. If the future truck traffic also follows similar increased trip generation trends as the overall traffic volumes, then another 8 to 10 trucks per day may be expected after the facility's expansion.

The construction of the new private roadway connection to Webster Street will serve as the primary means of dispersing the facility's truck traffic between the two available truck access routes to the Mid-Am facility. Although the total truck traffic volume may increase slightly in the future, it is expected that the facility's truck traffic volume utilizing 207th Street may actually decrease. Instead, it is anticipated that most of the trucks destined to / from the Mid-Am facility would primarily utilize this new proposed roadway connection. This factor alone should decrease any existing operational issues caused by the occasional stacking of Mid-Am truck traffic along 207th Street. However, it should be noted that GBA personnel did not observe any issues of this sort on 207th Street during our field work.

With Webster Street functioning as the primary north-south arterial roadway through the City of Spring Hill, that roadway can more appropriately handle these additional truck maneuvers. The current three-lane configuration of Webster Street already provides a two-way left-turn lane (TWLTL) that will be used for the inbound truck maneuvers from the north. Therefore, there are no pavement marking modifications required on Webster Street in conjunction with the proposed access road connection. In addition, the proposed connection will be constructed approximately 280 feet, measured center to center, to the south of the existing driveway serving the Sonic Drive-In, which should allow enough functional storage for left-turning vehicles into each driveway without detrimental interactions occurring within the TWLTL between them.

Finally, it appears that most of the truck traffic associated with the Mid-Am facility currently utilizes US-69 to and from the north via the 199th Street signalized intersection. Very little truck traffic would be anticipated to access the proposed roadway connection from the south, perhaps via the 223rd Street interchange with US-69 and then traveling along the length of Webster Street through the City to access the Mid-Am facility. Therefore, the construction of a northbound right-turn lane at the location of the proposed roadway connection would seem unnecessary, since any lane would only serve a very limited number of truck maneuvers per day.

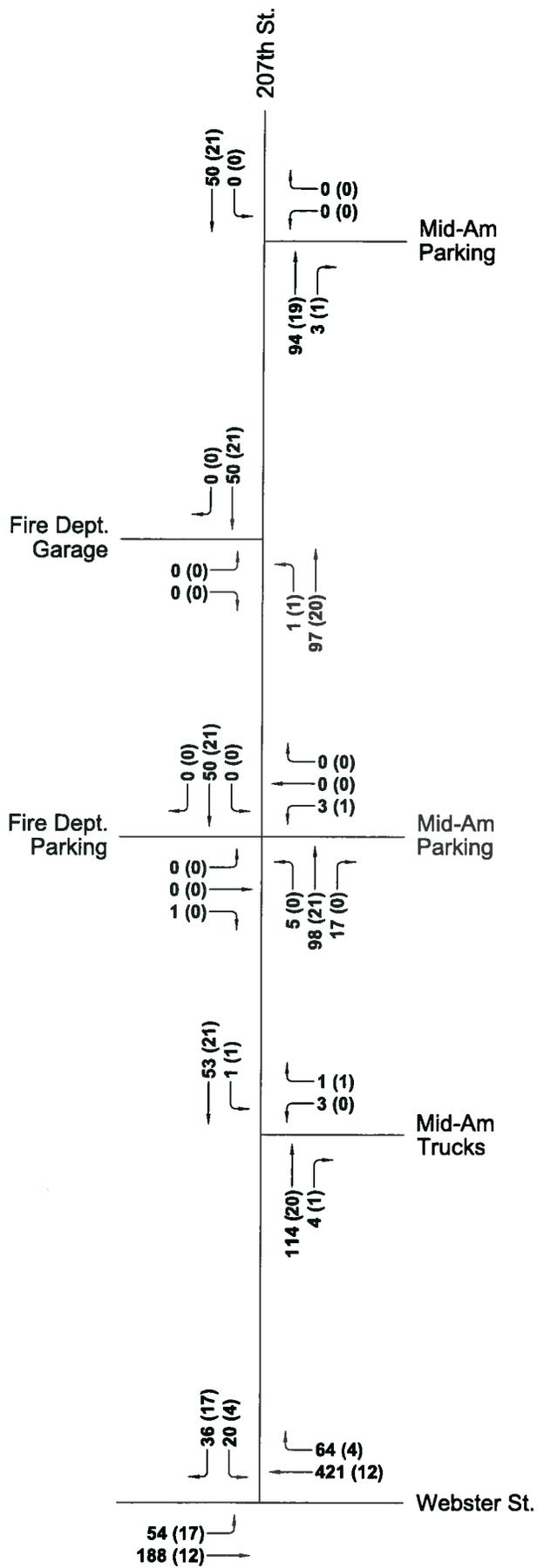
We appreciate the opportunity to be of service to Mid-Am Building Supply on this project, and trust that this letter report has adequately described both the existing traffic conditions and the anticipated future traffic operations associated with the proposed facility expansion. Please feel free to contact us if you should have any questions or need additional information.

Sincerely,

GEORGE BUTLER ASSOCIATES, INC.



David J. Mennenga, P.E., PTOE
Firm Associate / Project Manager



LEGEND

- Vehicle Movement
- 500 (25)
- Truck Peak Hour Traffic Volume (vph)
- Total Peak Hour Traffic Volume (vph)

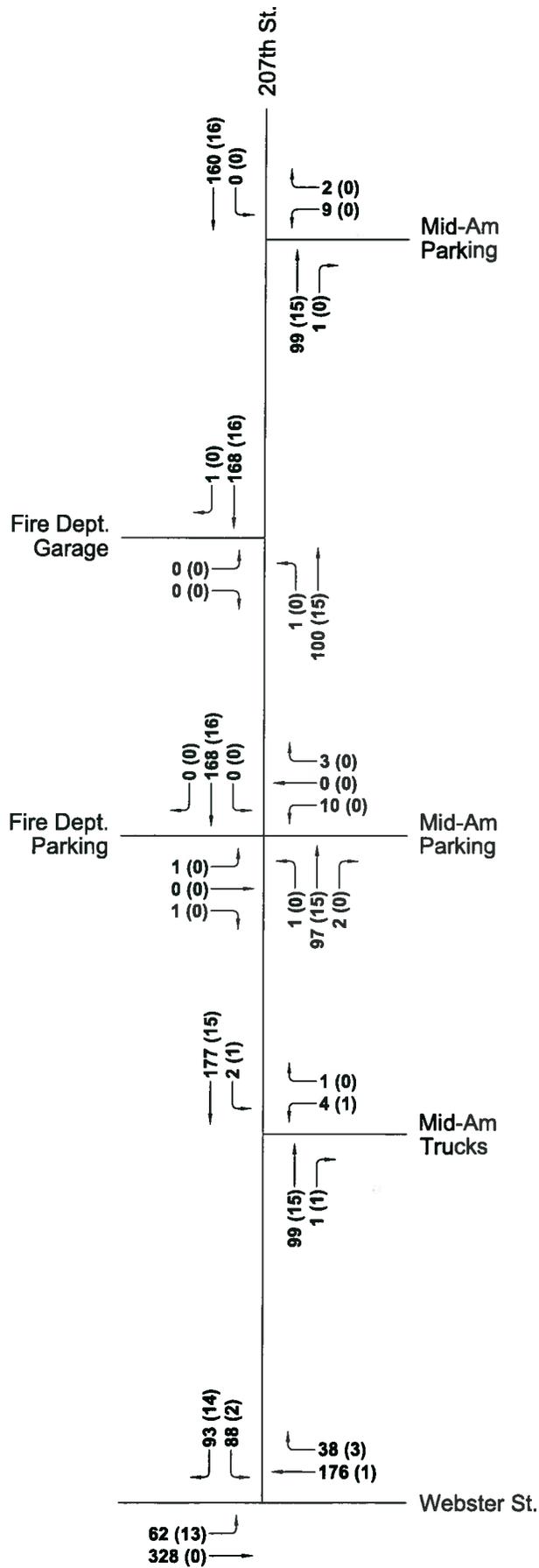
GBA
architects
engineers

PROJECT NUMBER
13257.00

DATE
1/15/16

EXISTING TRAFFIC VOLUMES
A.M. PEAK HOUR
MID-AM BUILDING SUPPLY (SPRING HILL, KS)

FIGURE 1



LEGEND

- Vehicle Movement
- 500 (25)
- Truck Peak Hour Traffic Volume (vph)
- Total Peak Hour Traffic Volume (vph)

PROJECT NUMBER	13257.00
DATE	1/15/16

GBA
architects
engineers

**EXISTING TRAFFIC VOLUMES
P.M. PEAK HOUR
MID-AM BUILDING SUPPLY (SPRING HILL, KS)**

FIGURE 2

Table 1

Trip Generation Comparison Summary
Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Ed.)

Mid-Am Building Supply, Inc.
Spring Hill, Kansas

LAND USE CODE	LAND USE	FLOOR AREA Sq. Ft.	MISC. Quantity	ADT (VPD)	A.M. PEAK HOUR (VPH)		P.M. PEAK HOUR (VPH)	
					IN	OUT	IN	OUT

CURRENT TRIP GENERATION

150	Actual (Based on Traffic Counts)	103,000	80 Employees	653	25	7	6	29
150	Warehouse (using Average Rates)	103,000		367	24	6	8	24

FUTURE TRIP GENERATION ESTIMATE

150	Actual (Scaled Based on Sq. Ft.)	143,000		907	35	10	8	40
150	Warehouse (using Average Rates)	143,000		510	34	9	11	33

Christie Campbell

From: David Smalling <david.smalling@ibhc.com>
Sent: Friday, February 5, 2016 3:35 PM
To: James Hendershot
Cc: David Nolte; Mark Sherfy
Subject: Mid Am Building Supply Traffic Study Review

Hi Jim,

The traffic study has been reviewed and we concur with the finding and analysis of the Proposed Mid-Am Facility Expansion Traffic Study. Here are some notes from our review.

- Currently, there are 27 trucks daily entering and exiting the facility from 207th Street. The expansion will add 39% more to the building, which equates to 10 additional trucks. Even if all trucks (37) entered and exited from the proposed entrance along Webster Street, it may be difficult to justify roadway improvements. In addition, there is a two-way left-turn lane in which southbound left-turn trucks can merge and decelerate so as not to impact southbound through vehicles.
- It is not anticipated that these trucks will use a route through the town. The majority will enter and exit from 199th Street. For this reason, a northbound right turn from Webster Street to the Proposed Entrance is not necessary.
- As shown in Figures 1 and 2 the AM and PM peak hour traffic volumes are not significant.

Dave

David K. Smalling, P.E., PTOE, ENV SP
Cell 816.898.5725
BHC RHODES | Civil Engineering • Surveying • Utilities

From: James Hendershot [<mailto:jim.hendershot@springhillks.gov>]
Sent: Friday, January 29, 2016 2:11 PM
To: David Nolte <david.nolte@ibhc.com>
Subject: Traffic study review

Hello David,

As per our conversations a few months ago I have received a site plan application for an industrial project at the southeast corner of Webster and 207th Street. Of particular interest with this application is the planned private road on the south side of the property that would intersect with Webster St. I am concerned with the additional wear on Webster St. but the traffic study shows the number of trucks is not too significant.

I have attached a copy of the plans and the traffic study and ask for your review and comment.

Thank you!

Jim Hendershot

**SPRING
& HILL**
KANSAS

Community Development Director
City of Spring Hill, KS
913-592-3657

Final Stormwater Management Study

FOR

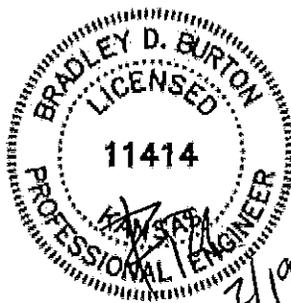
Mid Am Building Supply

February 19, 2016

Prepared for:
Mid Am Building Supply
20301 W 207th St
Spring Hill, KS 66083

Prepared by:
George Butler Associates, Inc.

GBA
architects
engineers



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Introduction:

Mid Am Building Supply plans to expand their storage area and has begun master planning for future expansion within their 15.07 acre property located in Spring Hill, Kansas. The property is located at the southeast corner of North Webster Street and West 207th Street. This report outlines the existing, proposed and fully developed scenarios regarding stormwater conditions of the site improvements, and their associated infrastructure. This report is to serve as a master plan for a stormwater detention basin, serving both Mid Am Building Supply and possible commercial development.

Methodology:

The Study methodology is based on allowable methods and procedures outlined in "Spring Hill Kansas Design Criteria", specifically Design Criteria for Storm Drainage Facilities referencing APWA, as well as the Municipal code referencing the October 2012 version of the MARC Manual of Best Management Practices for Stormwater Quality. A summary of each component of the report is provided below.

- Storm depths are based on TR-55 (24 hour duration).
- HEC-HMS 3.5 was used for hydrologic and detention modeling.
- Water quality level of service (LOS) requirement was calculated using the October 2012 edition of the Manual of Best Management Practices for Stormwater Quality, per the City of Spring Hill, KS Municipal Code.

Existing Conditions:

The 15.07 AC (656,449.20 SF) Mid Am Building Supply property is located at the southeast corner of North Webster Street and West 207th Street in Spring Hill, KS. The property is bounded by 207th Street to the north, industrial development to the east and south and North Webster Street to the west. The site has been partially developed with one building and paved and gravel areas covering approximately half the site. Grassed and small wooded areas cover the other half. A See Appendix A for location map.

The site lies inside of "Zone X", defined as areas determined to be outside of 0.2% annual chance floodplain per FEMA map number 20091C0138G revised August 3, 2009. See Appendix A for details. According to the USDA/NRCS Soil Report, the site consists of both Type C and Type D soils. Undisturbed soils have been considered Type C for runoff and LOS calculations. See Appendix A for details.

The pre-developed site consisted of prairie and grassed area with small wooded areas. The soils on site are mixed between C and D, and have been assumed C for level of service and runoff calculations. Given these parameters, the pre-developed site had a curve number (CN) of 79. The site currently consists of one building, approximately 103,002 SF, with the associated paved parking and drive areas, as well as gravel areas for material storage. No stormwater detention systems or water quality BMPs currently exist onsite. The western portion of the site is undisturbed and consists of grassed and small wooded areas. The existing site CN in its partially developed condition is 89. The site drains to the northwest corner of the property, via overland flow and small concentrated flows, where a 4'x3' RCB conveys water west under North Webster Road. See Appendix A for the existing site layout.

Two wetlands exist onsite, west of the existing facility, one 0.10 acres and one 0.41 acres. GBA has performed a Preliminary Jurisdictional Waters Identification and found, based on current site flow patterns, the wetlands onsite do not appear to exhibit a significant hydrologic connection to jurisdictional waters. Therefore, it is GBA's professional opinion that the on-site wetlands should be considered isolated and not regulated under Section 404 of the CWA. This identification does not constitute an approved or preliminary Jurisdictional Determination of WOUS, which will be approved by the Corps.

The pre-developed site (CN=79) stormwater peak discharge will be considered the maximum allowable discharge for the developed site. A pre-developed time of concentration of 8.48 minutes was calculated for the site.

Pre-developed site data was evaluated using HEC-HMS 3.5. Pre-developed site runoff conditions can be found in Table 1 below.

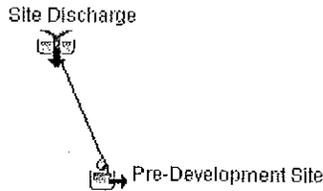


Figure 1 – Pre-Developed Site HEC-HMS Model

Storm	Peak Discharge (CFS)	Runoff Volume (AC-FT)
2	32.78	2.06
10	62.19	3.94
100	104.58	6.78

Table 1 – Existing Site Runoff Conditions

Proposed Conditions:

A detention basin is proposed to be built on the Mid Am property to provide stormwater management for the fully developed property. Though the property is not being fully developed at this time, it is the owner's intent to build the detention basin large enough to accommodate full development of the Mid Am property, including development of the commercially zoned area on the western portion of the property, to eliminate the need for any additional detention basin construction in the future. The proposed site improvements at this time are an additional gravel storage area, with a new commercial entrance on North Webster Street, and the proposed detention basin.

Mid Am Building Supply has provided GBA with potential building, parking, and storage expansions. None of the potential expansions are currently being designed or constructed with these plans besides the proposed gravel storage area. The entire buildable area on the Mid Am property, including these expansions, totals approximately 225,952 SF, or 5.19 acres, which would increase impervious area by 4.58 acres if fully developed. The total proposed impervious surface, 4.58 acres, added to the total existing impervious surface, 4.71 acres, gives a total of 9.29 acres of impervious surface as developable area. See Appendix B for details.

All improvements have been considered added impervious surface, including the proposed gravel area, to account for the possibility for future paving of the on-site storage areas.

The detention basin has been designed per the 2011 version of APWA 5600, using the comprehensive control strategy. The detention basin sized for the fully developed Mid Am property, including commercial development, totals 5.02 AC-FT. This volume includes 2.99 AC-FT of storage for the 100 year storm, 1.49 AC-FT for the water quality volume (WQv) and 0.54 AC-FT for the 100 year storm bypass through the emergency spillway, in the event that the outflow structure is clogged. A 5'x5' concrete outflow structure in conjunction with a low flow orifice has been designed to control outflow from the detention basin for the WQv, 2 year storm, 10 year storm and 100 year storm. The emergency spillway will be 100 feet in length on the

northern side of the detention basin. The basin outflow will be conveyed to the northwest corner of the property via a 30" and 36" HDPE pipes, where it will be released upstream of the existing 4'x3' RCB. See Appendix B for basin details.

The WQv for the fully developed Mid Am property, including the commercial area, is 1.49 AC-FT, and was used for basin storage calculations. The WQv for the Mid Am development only (no commercial development) is 1.09 AC-FT. The 1.09 AC-FT was used only in determining the peak water elevation in the basin prior to development of the commercial area (Table 3), as that area is considered direct runoff. See Table 3 and the Water Quality Section for details.

For development of the Mid Am portion of the property, prior to commercial development, stormwater from 11.05 acres of the site will be captured by the detention basin and stormwater from 4.02 acres will be considered direct runoff. The detention basin is to have storage capacity for drainage from the 4.02 acres of commercial area, as previously stated. Stormwater from the Mid Am portion of the property will be conveyed to the detention basin via overland flow and one storm line, noted as Line 200 on the plans. Line 200 is to pick up water via a grate inlet near the southern property line, as well as tie-ins from existing building roof drains, and convey stormwater to the detention basin.

The curve number for the eastern portion of the proposed Mid Am development has been calculated to be 94. The curve number for the direct runoff has been calculated to be 83. Using a time of concentration of 17.46 minutes (lag time=10.48 min) for the direct runoff area and a time of concentration of 5 minutes (lag time=3 minutes) the proposed site runoff conditions were calculated and are summarized in Table 2 below. Detention basin elevations are summarized in Table 2 below. Table 2 shows the basin summary for the proposed detention basin until the future commercial area, currently direct runoff, is developed. See Appendix B for the HEC-HMS summary tables for details.

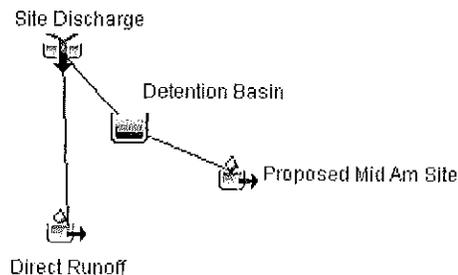


Figure 2 – Proposed Mid Am Site HMS Model (No Commercial Development)

Storm	Allowable Discharge (CFS/AC)	Allowable Peak Discharge (CFS)	Fully Dev. Peak Discharge (CFS)	Pre-Development Runoff Volume (AC-FT)	Fully Dev. Runoff Volume (AC-FT)
2	0.5	7.54	7.17	2.06	3.21
10	2	30.14	16.27	3.94	5.48
100	3	45.21	42.23	6.78	8.29

Table 2 – Proposed Mid Am Property Runoff (No Commercial Development)

Point of Interest	Elevation (FT)
Top of Basin	1,062.22
100 Year Storm Bypass Water Peak	1,061.12
100' Emergency Spillway	1,060.58
100 Year Storm Peak	1,057.91
3' Weir	1,056.37
Bottom of Basin and FL 3" Orifice	1,051.00

Table 3 – Detention Basin Elevation Summary, no commercial development

The western 4.02 acres of the Mid Am property is zoned for commercial use and it is the intent of the owner to develop that portion of the property in the near future. However, no plans are currently underway for that portion of the Mid Am property. It is the intent with full development, including commercial development, that stormwater from the 4.02 acres be routed to the detention basin. Per APWA, the curve number for land used for business in a neighborhood area is 94. In the fully developed condition analysis a curve number of 94 was been applied to the commercial portion of the site and the drainage has been directed to the detention basin. Stormwater from the commercial development will be collected via a storm sewer system (not designed with these plans). The depth of the detention basin allows for a proposed storm sewer on the commercial portion of the property. A time of concentration of 5 minutes (lag time=3 minutes) for the commercial area was used for analysis of the fully developed condition. The fully developed condition was modeled using the fully expanded Mid Am site described previously. The detention basin storage and outflow structure previously described is to remain unchanged with the developed commercial area, as it was designed for this scenario.

Fully developed scenario basin model results are summarized in Table 4. Detention basin elevations are summarized in Table 5. See Appendix B for HEC-HMS summary tables.

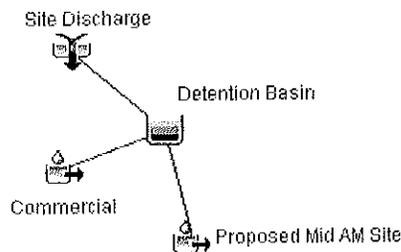


Figure 3 – Fully Developed Property HMS Model

Storm	Allowable Discharge (CFS/AC)	Allowable Peak Discharge (CFS)	Fully Dev. Peak Discharge (CFS)	Pre-Development Runoff Volume (AC-FT)	Fully Dev. Runoff Volume (AC-FT)
2	0.5	7.54	4.23	2.06	3.67
10	2	30.14	15.27	3.94	5.75
100	3	45.21	43.20	6.78	8.52

Table 4 – Fully Developed Property Runoff (With Commercial Development)

Point of Interest	Elevation (FT)
Top of Basin	1,062.22
100 Year Storm Bypass Water Peak	1,061.22
WQv Storage and 100' Emergency Spillway	1,060.58
100 Year Storm Peak	1,058.82
3' Weir	1,056.37
Bottom of Basin and FL 3" Orifice	1,051.00

Table 5 – Detention Basin Elevation Summary, with commercial dev. (5.02 AC-FT Storage)

As shown in Tables 2 and 4, the proposed development peak discharges, with and without commercial development, are less than that of the allowable discharges, protecting streams and developments downstream from flooding and erosion caused by excess flows.

Future Development:

The stormwater detention basin has been designed with the proposed outflow less than that of the allowable discharge to allow for future development of the commercial area to drain to the detention basin without the need for additional storage volume. The commercial area may be developed to a curve number of 94 (C=0.81) and drain to the detention basin detailed in this report with no need to enlarge the basin. No stormwater detention credit or water quality credit will be given for the drainage area bypassing the basin since the water will not pass through the extended dry detention basin. Any water quality BMPs required beyond the extended dry detention provided will be the responsibility of the developer of the commercial area. If the future developer wishes to have stormwater from a portion of the commercial site bypass the detention basin, it will be the responsibility of the developer to provide calculations showing the proposed peak flow remains less than the pre-development flow.

Water Quality:

No water quality BMPs currently exist on-site. As the site is already developed, the water quality calculations have been performed using the "Developed Site" worksheets of the MARC BMP Manual. Water quality calculations have been performed for the Mid Am portion of development only. The commercial development will drain to the proposed detention basin for

stormwater discharge control, which has been sized to accommodate the entire Mid Am property WQv, including the potential commercial development. As the commercial development will drain to the detention basin, the commercial development will be credited for extended dry detention BMP with a value rating of 4. Any value rating required to meet level of service for the commercial development, above that of the extended dry detention basin, will be the responsibility of the commercial developer.

The disturbed area, 7.35 AC, and a proposed impervious area of 5.19 AC have been used for BMP calculations. For a previously developed site, the MARC BMP calculations use the change in impervious surface to calculate a level of service and in turn a value rating for site BMPs. Using the disturbed area, 7.35 AC, and the net increase in impervious area, 5.07 acres, a required value rating of 47.67 was calculated for the Mid Am portion of the site. The Mid Am development draining to the extended dry detention basin (11.05 AC) gives a value rating of 44.20, exceeding the required value rating of 44.10. The proposed detention basin has been sized to accommodate the WQv from the Mid Am development, 1.09 AC-FT, as well as the WQv of the fully developed commercial property, 0.40 AC-FT, which will discharge from the detention basin over 40 hours per the MARC BMP Manual. See Appendix C for WQv calculations.

Per APWA Section 5600, the detention basin has been sized to accommodate the WQv for the development with or without full commercial development. As stated previously, the detention basin is to be constructed to accommodate a total water quality volume of 1.49 AC-FT, with 1.09 AC-FT WQv from the Mid Am development. When a commercial development is constructed, the detention basin will accommodate the 1.49 AC-FT combined WQv for the fully developed Mid Am facility and commercial development. As the commercial development will drain to the detention basin to control stormwater discharge, the commercial development will be credited for extended dry detention BMP with a value rating of 4. Any value rating required to meet level of service above that of the extended dry detention basin will be the responsibility of the commercial development owner.

Summary and Recommendations:

Design of the Mid Am Building Supply detention basin will conform to City of Spring Hill standards. The proposed detention basin will serve as a stormwater management system for the Mid Am Building Supply facility and potentially a commercial area. The detention basin has been sized to ensure peak stormwater discharges match existing conditions, for both the Mid Am development and any future commercial development. The extended dry detention basin has been sized to accommodate the water quality volume and meet the required value rating of the site.

Construction of the proposed development according to the recommendations of this report will meet or exceed the stormwater quality and quantity requirements of the City of Spring Hill, Kansas. The designed stormwater management will reduce the risk of flooding for residents and businesses downstream of the project, and providing water quality treatment will help improve the quality of stormwater runoff leaving the site.

Christie Campbell

From: Michael Knight <mknight@straubconstruction.com>
Sent: Friday, February 12, 2016 9:06 AM
To: James Hendershot
Cc: Mark Hays
Subject: RE: Mid Am Photometric Plan - Fixture Cut Sheet
Attachments: Mid Am Lighting Cut Sheets 2-12-16.pdf; MID AM r1.pdf

Jim.

Attached is the cut sheet packet for the light fixtures we propose for this industrial use. We can't put a bunch of light poles out there with shoe box fixtures on them because the tractor/trailers couldn't maneuver around the lot in a practical manner. I don't think you guys allow 40ft poles either so that isn't a route to take either. Thus the need for what we are proposing to keep the poles out of the way of traffic/circulation and yet give them enough light for safety. Please let me know of any questions.

Thank you.

Michael Knight

Vice President of Preconstruction
Straub Construction Co., Inc.
phone: 913.451.8828
mknight@straubconstruction.com

From: James Hendershot [mailto:jim.hendershot@springhillks.gov]
Sent: Thursday, February 11, 2016 2:19 PM
To: Michael Knight <mknight@straubconstruction.com>
Subject: RE: Mid Am Photometric Plan

Michael,
This photometric plan is OK. I will need a shop drawing of the light and pole showing style, height, shielding, etc.

Jim Hendershot

**SPRING
& HILL**
KANSAS

Community Development Director
City of Spring Hill, KS
913-592-3657

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From: Michael Knight [mailto:mknight@straubconstruction.com]
Sent: Thursday, February 11, 2016 8:09 AM

To: James Hendershot <jim.hendershot@springhillks.gov>

Subject: Mid Am Photometric Plan

Jim.
Attached is a photometric plan for our lighting modifications. Will this format and content pass muster?

Thank you.

Michael Knight
Vice President of Preconstruction



HQ | 7775 Meadow View Drive | Shawnee, KS 66227
Crossroads | 2100 Central Suite 11B | Kansas City, MO 64108
phone: 913.451.8828 |   
mknight@straubconstruction.com | www.straubconstruction.com

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FEATURES & SPECIFICATIONS

INTENDED USE — Square straight steel pole for up to 39-foot mounting height.

CONSTRUCTION — Weldable-grade, hot-rolled, commercial-quality carbon steel tubing with a minimum yield of 55,000 psi (11-gauge), or 50,000 psi (7-gauge). Uniform wall thickness of .1196" or .1793". Shaft is one-piece with a full-length longitudinal high-frequency electric resistance weld. Uniformly square in cross-section with flat sides, small corner radii and excellent torsional qualities. Available shaft widths are 4, 5 and 6 inches.

Anchor base is fabricated from hot-rolled carbon steel plate conforming to ASTM A36, that meets or exceeds a minimum-yield strength of 36,000 psi. Base plate and shaft are circumferentially welded top and bottom. Base cover is finished to match pole.

A handhole having nominal dimensions of 3" x 5" for all shafts. Included is a cover with attachment screws.

Top cap provided with all drill-mount and open top "PT" poles.

Fasteners are high-strength galvanized, zinc-plated or stainless steel.

Finish: Must specify finish.

Grounding: Provision located immediately inside handhole rim. Grounding hardware is not included (provided by others).

Anchor bolts: Top portion of anchor bolt is galvanized per ASTM A-153. Made of steel rod having a minimum yield strength of 55,000 psi.

Note: Specifications subject to change without notice.

Actual performance may differ as a result of end-user environment and application.

Catalog Number
Notes
Type



Anchor Base Poles

SSS

SQUARE STRAIGHT STEEL

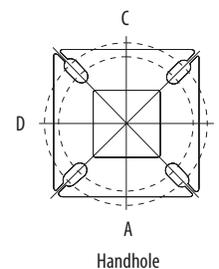
Example: SSS 20 5C DM19 DDB

ORDERING INFORMATION		Lead times will vary depending on options selected. Consult with your sales representative.			Example: SSS 20 5C DM19 DDB		
Series	Nominal fixture mounting height	Nominal shaft base size/wall thickness	Mounting ¹		Options	Finish ¹⁰	
SSS	10 – 39 feet (See back page.) 25'	(See back page.)	Tenon mounting PT Open top (includes top cap) T20 2-3/8" O.D. (2" NPS) T25 2-7/8" O.D. (2-1/2" NPS) T30 3-1/2" O.D. (3" NPS) T35 4" O.D. (3-1/2" NPS) Drill mounting² DM19 1 at 90° DM28 2 at 180° DM28 PL 2 at 180° with one side plugged DM29 2 at 90° DM39 3 at 90° DM49 4 at 90° CSX/DSX/AERIS™/OMERO™ Drill mounting² DM19AS 1 at 90° DM28AS 2 at 180° DM29AS 2 at 90° DM39AS 3 at 90° DM49AS 4 at 90°		AERIS™ Suspend drill mounting^{2,3} DM19AST_ 1 at 90° DM28AST_ 2 at 180° DM29AST_ 2 at 90° DM39AST_ 3 at 90° DM49AST_ 4 at 90° OMERO™ Suspend drill mounting^{2,3} DM19MRT_ 1 at 90° DM28MRT_ 2 at 180° DM29MRT_ 2 at 90° DM39MRT_ 3 at 90° DM49MRT_ 4 at 90°	Shipped installed L/AB Less anchor bolts VD Vibration damper TP Tamper proof H1-18Sxx Horizontal arm bracket (1 fixture) ^{4,5} FDLxx Festoon outlet less electrical ⁴ CPL12xx 1/2" coupling ⁴ CPL34xx 3/4" coupling ⁴ CPL1xx 1" coupling ⁴ NPL12xx 1/2" threaded nipple ⁴ NPL34xx 3/4" threaded nipple ⁴ NPL1xx 1" threaded nipple ⁴ EHHxx Extra handhole ^{4,6} MAEX Match existing ⁷ USPOM United States point of manufacture ⁸ IC Interior coating ⁹	Standard colors DDB Dark bronze DWH White DBL Black DMB Medium bronze DNA Natural aluminum Classic colors DSS Sandstone DGC Charcoal gray DTG Tennis green DBR Bright red DSB Steel blue Architectural colors (powder finish)¹⁰

NOTES:

- PT open top poles include top cap. When ordering tenon mounting and drill mounting for the same pole, follow this example: DM28/T20. The combination includes a required extra handhole.
- The drilling template to be used for a particular luminaire depends on the luminaire that is used. Refer to the Technical Data Section of the Outdoor Binder for Drilling Templates.
- Insert "1" or "2" to designate fixture size; e.g. DM19AST2.
- Specify location and orientation when ordering option.
For 1st "x": Specify the height in feet above base of pole.
Example: 5ft = 5 and 20ft = 20
For 2nd "x": Specify orientation from handhole (A,B,C,D)
Refer to the Handhole Orientation diagram above.
- Horizontal arm is 18" x 2-3/8" O.D. tenon standard.
- Combination of tenon-top and drill mount includes extra handhole.
- Must add original order number
- Use when mill certifications are required.
- Provides enhanced corrosion resistance.
- Additional colors available; see www.lithonia.com/archcolors or Architectural Colors brochure (Form No. 794.3). Powder finish standard.

HANDHOLE ORIENTATION



IMPORTANT INSTALLATION NOTES:

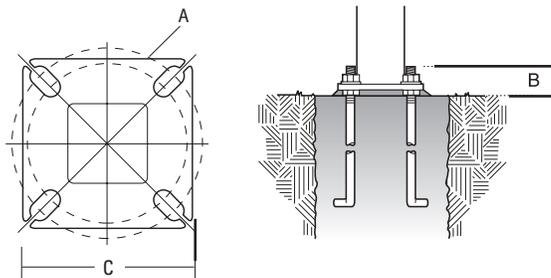
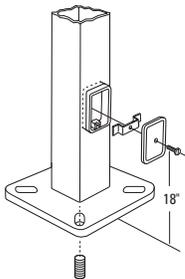
- Do not erect poles without having fixtures installed.
- Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use Lithonia Lighting factory templates.
- If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage.
- Lithonia Lighting is not responsible for the foundation design.

SSS Square Straight Steel Poles

TECHNICAL INFORMATION

Catalog Number	Nominal mount ht. (ft)	Pole Shaft Size (in x ft)	Wall Thickness (in)	Gauge	EPA (ft ²) with 1.3 gust						Bolt Circle (in)	Bolt Size (in x in x in)	Approximate ship (lbs)
					80 mph	Max. weight	90 mph	Max. weight	100 mph	Max. weight			
SSS 10 4C	10	4.0 x 10.0	0.1196	11	30.6	765	23.8	595	18.9	473	8--9	3/4 x 18 x 3	75
SSS 12 4C	12	4.0 x 12.0	0.1196	11	24.4	610	18.8	470	14.8	370	8--9	3/4 x 18 x 3	90
SSS 14 4C	14	4.0 x 14.0	0.1196	11	19.9	498	15.1	378	11.7	293	8--9	3/4 x 18 x 3	100
SSS 16 4C	16	4.0 x 16.0	0.1196	11	15.9	398	11.8	295	8.9	223	8--9	3/4 x 18 x 3	115
SSS 18 4C	18	4.0 x 18.0	0.1196	11	12.6	315	9.2	230	6.7	168	8--9	3/4 x 18 x 3	125
SSS 20 4C	20	4.0 x 20.0	0.1196	11	9.6	240	6.7	167	4.5	150	8--9	3/4 x 18 x 3	140
SSS 20 4G	20	4.0 x 20.0	0.1793	7	14	350	11	275	8	200	8--9	3/4 x 30 x 3	198
SSS 20 5C	20	5.0 x 20.0	0.1196	11	17.7	443	12.7	343	9.4	235	10--12	1 x 36 x 4	185
SSS 20 5G	20	5.0 x 20.0	0.1793	7	28.1	703	21.4	535	16.2	405	10--12	1 x 36 x 4	265
SSS 25 4C	25	4.0 x 25.0	0.1196	11	4.8	150	2.6	100	1	50	8--9	3/4 x 18 x 3	170
SSS 25 4G	25	4.0 x 25.0	0.1793	7	10.8	270	7.7	188	5.4	135	8--9	3/4 x 30 x 3	245
SSS 25 5C	25	5.0 x 25.0	0.1196	11	9.8	245	6.3	157	3.7	150	10--12	1 x 36 x 4	225
SSS 25 5G	25	5.0 x 25.0	0.1793	7	18.5	463	13.3	333	9.5	238	10--12	1 x 36 x 4	360
SSS 30 4G	30	4.0 x 30.0	0.1793	7	6.7	168	4.4	110	2.6	65	8--9	3/4 x 30 x 3	295
SSS 30 5C	30	5.0 x 30.0	0.1196	11	4.7	150	2	50	--	--	10--12	1 x 36 x 4	265
SSS 30 5G	30	5.0 x 30.0	0.1793	7	10.7	267	6.7	167	3.9	100	10--12	1 x 36 x 4	380
SSS 30 6G	30	6.0 x 30.0	0.1793	7	19	475	13.2	330	9	225	11--13	1 x 36 x 4	520
SSS 35 5G	35	5.0 x 35.0	0.1793	7	5.9	150	2.5	100	--	--	10--12	1 x 36 x 4	440
SSS 35 6G	35	6.0 x 35.0	0.1793	7	12.4	310	7.6	190	4.2	105	11--13	1 x 36 x 4	540
SSS 39 6G	39	6.0 x 39.0	0.1793	7	7.2	180	3	75	--	--	11--13	1 x 36 x 4	605

BASE DETAIL



POLE DATA

Shaft base size	Bolt circle A	Bolt projection B	Base square C	Template description	Anchor bolt description	Anchor bolt and template number
4"C	8-1/2"	2-3/4"-4"	8"	ABTEMPLATE PJ50004	AB18-0	ABSSS-4C
4"G	8-1/2"	2-3/4"-4"	8"	ABTEMPLATE PJ50004	AB30-0	ABSSS-4G
5"	10"-12"	3-3/8"-4"	11"	ABTEMPLATE PJ50010	AB36-0	ABSSS-5
6"	11"-13"	3-3/8"-4"	12-1/2"	ABTEMPLATE PJ50011	AB36-0	N/A

IMPORTANT:

• These specifications are intended for general purposes only. Lithonia reserves the right to change material or design, without prior notice, in a continuing effort to upgrade its products.

Catalog Number	
Notes	Type

FEATURES & SPECIFICATIONS

INTENDED USE

For steel or concrete poles.

CONSTRUCTION

Steel: Body is galvanized steel tube (per ASTM A-123) constructed from A500 Grade B steel. Welding follows industry standards best practices. Arms are galvanized after fabrication.

Must specify finish. Optional polyester powder and red primer paint finishes available.

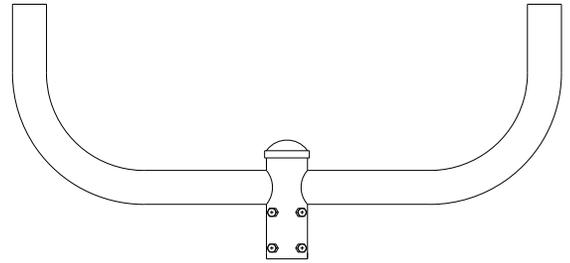
INSTALLATION

Mounting hardware included.

Round Bullhorn

BS

STEEL (BS) ROUND BULLHORN



(See next page for dimensions and drawings.)

ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

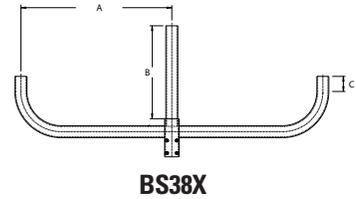
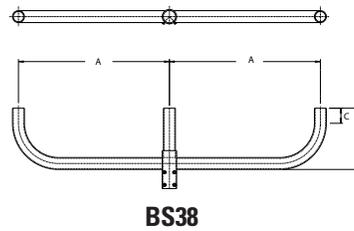
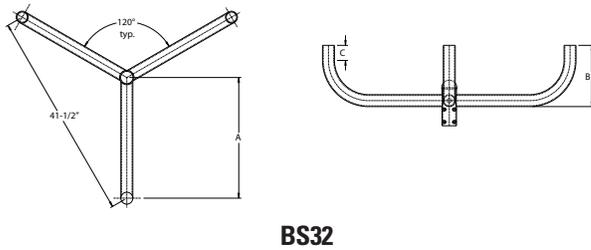
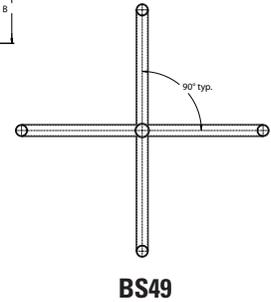
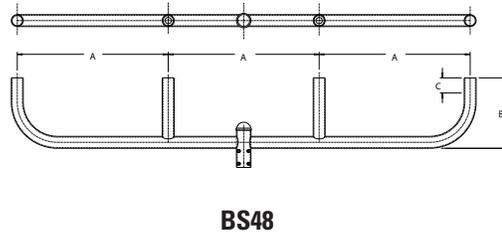
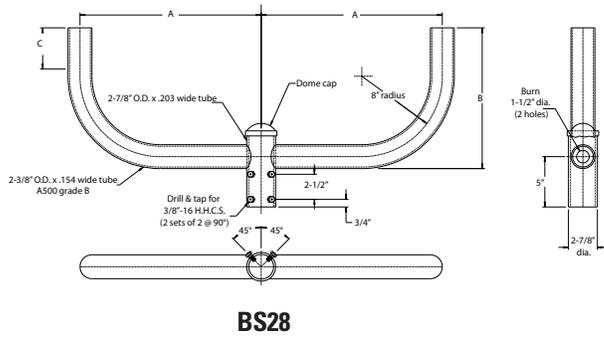
Example: BS28 GALV

Series	Tenon slipfitter size ²	Finish ³
BS28 2 in line	(blank) T20 2-1/2" I.D.	<u>Standard colors</u>
BS29 2 at 90°	T25 3-1/16" I.D.	DDB Dark bronze
BS32 3 at 120°	T35 4-1/4" I.D.	DWH White
BS38 3 in line		DBL Black
BS38X 3 in line ¹		DNA Natural aluminum
BS39 3 at 90°		GALV Galvanized steel
BS48 4 in line		<u>Primer finish</u>
BS49 4 at 90°		DPRM Red primer
		<u>Architectural colors</u> (powder finish) ²

NOTES:

- Center tenon has extended height.
- Additional sizes available; consult factory.
- Finish must be specified. Additional colors available; see www.lithonia.com/archcolors or the Architectural Colors brochure (Form No. 794.3).

BS Bullhorn, Steel, Fiberglass or Concrete Poles



BS (Bullhorn - Steel)

Lithonia Lighting Catalog Number	Nominal arm length (ft.)	Dimensions (in.)			Bracket EPA (ft ²)	Bracket weight (lbs)	Max. fixture EPA ft. ² @ 100 mph w/ 1.3 gusts	Max. fixture weight (lbs.) per arm	ANSI C136.3 (1995) class rating @ 80 mph
		A	B	C					
BS28	1-1/2	18	14	3	1.0	20	7.3	150	-
BS28 T25	1-1/2	18	14	3	1.0	22	7.3	150	-
BS28 T35	1-1/2	18	14	3	1.0	25	7.3	150	-
BS29	2	24	14	3	1.0	20	7.3	150	-
BS29 T25	2	24	14	3	1.0	22	7.3	150	-
BS29 T35	2	24	14	3	1.0	25	7.3	150	-
BS32	2	24	14	3	1.3	33	4.7	150	-
BS32 T25	2	24	14	3	1.3	35	4.7	150	-
BS32 T35	2	24	14	3	1.3	39	4.7	150	-
BS38	2-1/2	30	14	3	1.6	31	4.7	150	-
BS38 T25	2-1/2	30	14	3	1.6	33	4.7	150	-
BS38 T35	2-1/2	30	14	3	1.6	37	4.7	150	-
BS38X	2-1/2	30	18	3	1.7	34	4.7	150	-
BS38X T25	2-1/2	30	18	3	1.7	36	4.7	150	-
BS38X T35	2-1/2	30	18	3	1.7	40	4.7	150	-
BS39	2	24	14	3	1.3	33	4.7	150	-
BS39 T25	2	24	14	3	1.3	35	4.7	150	-
BS39 T35	2	24	14	3	1.3	39	4.7	150	-
BS48	4	30	14	3	2.3	44	3.4	125	-
BS48 T25	4	30	14	3	2.3	46	3.4	125	-
BS48 T35	4	30	14	3	2.3	55	3.4	125	-
BS49	2	24	14	3	1.6	43	3.5	150	-
BS49 T25	2	24	14	3	1.6	45	3.5	150	-
BS49 T35	2	24	14	3	1.6	47	3.5	150	-

IMPORTANT:

- These specifications are intended for general purposes only. Lithonia Lighting reserves the right to change material or design, without prior notice, in a continuing effort to upgrade its products.

CAUTION:

- The arms described herein are designed for applications in areas of normal winds. Consult the factory prior to the design of systems to be mounted on structures such as bridges or buildings, or areas known to have abnormal winds such as airports or coastal areas. Failure to consider these factors in the system design could result in the failure of the pole or mast arm, and consequently personal injury or property damage.

FEATURES & SPECIFICATIONS

INTENDED USE — Use for industrial yards, parking lots, construction sites, and signage.

CONSTRUCTION — NEMA heavy-duty construction. Contoured die-cast aluminum housing and front bezel. Bezel is hinged and latched for fast, easy "no-tool" internal access to optical and electrical compartments.

Finish: Standard finish is dark bronze (DDB) corrosion resistant polyester powder finish with other architectural colors available.

OPTICS — Precision die-formed specular anodized aluminum reflector provides high efficiencies with vertical or horizontal lamp orientation. Premium one-piece silicone gasket seals optical chamber to inhibit entrance of outside contaminants. Lamp support standard with horizontally lamped 1000W units.

Lens: heavy-duty, thermal shock-resistant clear tempered glass with no metal-to-glass contact.

ELECTRICAL — Ballast: high power factor constant-wattage autotransformer. Super CWA pulse start ballast required for 200M, 320M, 350M, 750M, 775M & 875M (SCWA option). Super CWA Pulse Start ballasts, 88% efficient and EISA legislation compliant, are required for 200-400W (must order SCWA option) for US shipments only. CSA, NOM or INTL required for probe start shipments outside of the US. Ballast is 100% factory-tested. Electrical components are mounted to rear housing for maximum heat dissipation, accessible through front bezel.

Socket: Porcelain, vertically or horizontally-oriented, mogul-base socket with copper alloy, nickel-plated screw shell and center contact. UL listed 1500W, 600V.

INSTALLATION — Front bezel "no-tool" latches are easily operable while wearing heavy work gloves. Corrosion-resistant, heavy-duty painted steel mounting yoke included.

LISTINGS — UL Listed (standard). CSA certified (See Options). NOM certified (See Options). UL listed for 25°C ambient and wet locations. IP65 rated.

WARRANTY — 1-year limited warranty. Complete warranty terms located at

www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Specifications subject to change without notice.

Catalog Number
Notes
Type



CONTOUR
SERIES

Floodlighting

TFA

METAL HALIDE: 200W - 1000W
HIGH PRESSURE SODIUM: 250W - 1000W

Specifications

Overall height: 24-3/8 (61.9)

Overall width: 24 (61.0)

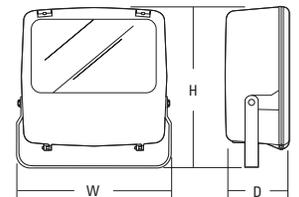
Depth: 10 (25.4)

*Weight: 65lbs(29.5 kg)

EPA: 2.6ft²

*Weight as configured in example below.

All dimensions are inches (centimeters) unless otherwise specified.



ORDERING INFORMATION For shortest lead times, configure product using **standard options (shown in bold)**.

Example: TFA 1000M TA TB LPI

TFA	Wattage		Distribution		Voltage	Ballast	Mounting	
TFA	Metal halide 200M ¹ 250M ² 320M ¹ 350M ^{1,3} 400M² 750M ^{1,4} 775M ^{1,5}	875M ^{1,5} 1000M⁶ High pressure sodium ⁷ 250S 400S 750S 1000S⁶	Horizontal TA (7 X 7) RN (6 X 3)	Vertical RE (4 X 4) ⁸ RC (5 X 5) ^{8,9} RM (6 X 5) RB (6 X 6) TA2 (7 X 6)	120 208 ¹⁰ 240 ¹⁰ 277 347 480¹⁰ TB¹¹ 23050HZ ¹²	(blank) Magnetic ballast CWI Constant wattage isolated SCWA Super SCWA pulse start ballast Note: For shipments to U.S. territories, SCWA must be specified to comply with EISA.	Shipped installed (blank) Yoke IS Integral slipfitter (2-3/8" to 2-7/8" OD tenon)	Shipped separately ^{13,14} FTS Tenon slipfitter (2-3/8" to 2-7/8" OD tenon) ¹⁵ FRWB Radius wall bracket ¹⁶ FSAB Steel angle bracket ¹⁵ FSPB Steel square pole bracket ¹⁶ FWPB Wood pole bracket ¹⁵

Options				Finish ²¹		Lamp (required)	
Shipped installed in fixture		PER NEMA twist-lock photo-electric receptacle ¹⁹	Shipped separately¹³		(blank) Dark bronze	DNAXD Natural aluminum	LPI Lamp included
SF Single fuse (120, 277, 347V) ¹⁷	TP Tamper proof latches	FV Full visor ^{14,20}	UV Upper visor ^{14,20}	DWH White	DWHXD White	L/LP Less lamp	
DF Double fuse (208, 240, 480V) ¹⁷	CSA CSA certified	VG Vandal guard ^{14,20}	WG Wire guard ²⁰	DBL Black	DBBTD Textured dark bronze		
CF Charcoal filter	NOM NOM certified ¹²	PE1 NEMA twist-lock photocontrol (120, 208, 240V)	PE3 NEMA twist-lock photocontrol (347V)	DMB Medium bronze	DBLBXD Textured black		
C62 2' 16-3 SEO cord prewired	INTL Available for MH probe start shipping outside the U.S.	PE4 NEMA twist-lock photocontrol (480V)	PE7 NEMA twist-lock photocontrol (277V)	DNA Natural aluminum	DNATXD Textured natural aluminum		
C42 2' 14-3 SEO cord prewired	REGCI California Title 20 effective 1/1/02010	SC Shorting cap for PER option		CRT Non-stick protective coating ²²	DWHGXD Textured white		
C22 2' 12-3 SEO cord prewired				Super Durable Finishes			
EC Emergency circuit ¹⁸				DDBXD Dark bronze			
QRS Quartz restrike system ¹⁸				DBLXD Black			
QRSTD Quartz time delay ^{12,18}							

Notes

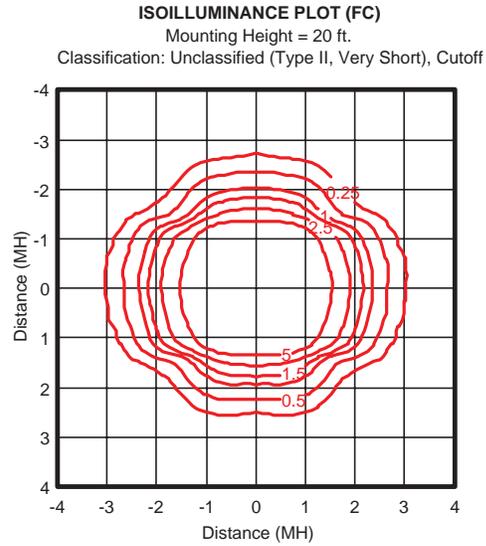
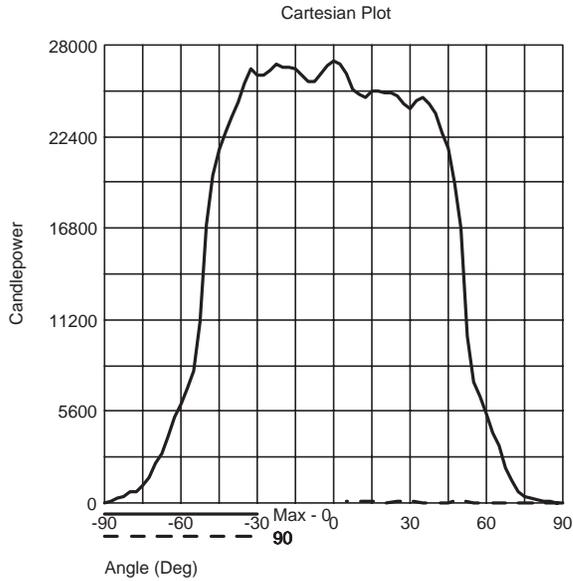
- Must be ordered with SCWA.
- These wattages require the REGCI option to be chosen for shipments into California for Title 20 compliance. 250M REGCI is not available in 347 or 480V.
- These wattages do not comply with California Title 20 regulations.
- N/A with vertical distributions.
- Must specify voltage (120, 208, 240, 277, 347 or 480). Not available with TB. 208, 240, and 480V not available in Canada.
- 1000W vertical and 1000M SCWA horizontal distributions require a reduced jacketed lamps.

- N/A with SCWA. 750S — must specify voltage (120, 208, 240, 277, 347 or 480).
- N/A with 1000S or 750S.
- N/A with 750M, 775M, 875M or 1000M.
- Must specify CWI for use in Canada.
- Optional multi-tap ballast (120, 208, 240, 277V). In Canada 120, 277, 347V; ships as 120/347.
- Consult factory for available wattages.
- May be ordered as an accessory.
- Must specify finish when ordered as an accessory.

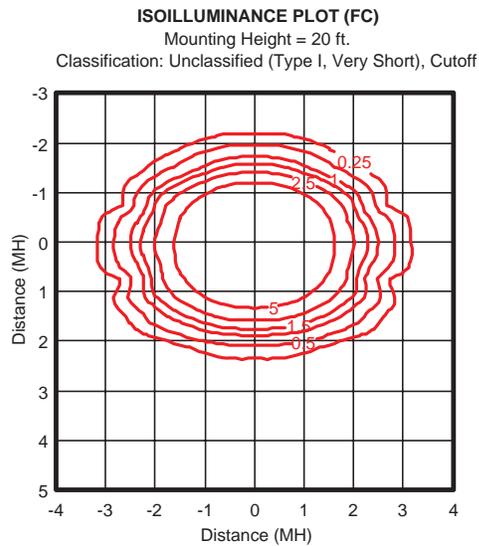
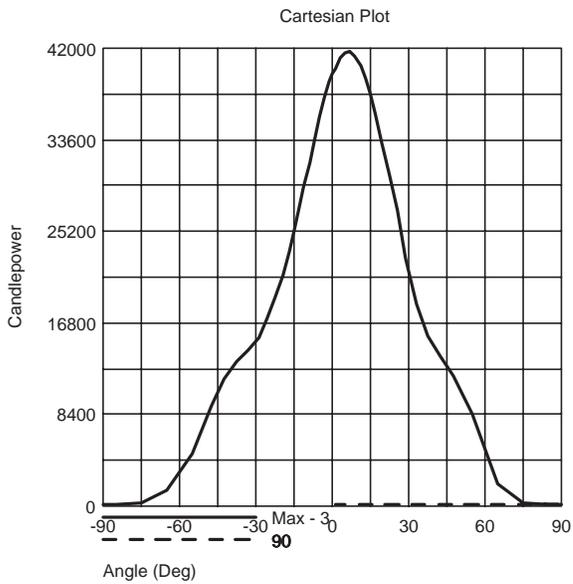
- Yoke-mount only.
- Requires IS or FTS.
- Must specify voltage. N/A with TB.
- Max allowable wattage lamp included.
- Photocell not included.
- Prefix with TFA when ordered as an accessory. Field modification required unless ordered with fixture.
- See www.lithonia.com/archcolors for additional color options.
- Black finish only.

TFA Floodlight

TFA 1000M TA, 1000W metal halide lamp, 107800 rated lumens, test no. 97121701



TFA 1000M TA2, 1000W metal halide lamp, 110000 rated lumens, test no. LTL11697



ELECTRICAL CHARACTERISTICS

Wattage/ballast	Primary voltage	Line current (amps) start/operating	Primary dropout voltage	Input watts	Power factor (%)	Regulation Line V = Lamp lumens
	120	5.90/9.20	70			
	208	3.40/5.30	120			
1000 CWA	240	2.90/4.60	140	1070	90+	±10% = ±10%
Peak-lead	277	2.50/4.00	160			
	480	1.50/2.30	280			

Mounting Height Correction Factor

(Multiply the fc level by the correction factor)

25 ft. = 1.44

35 ft. = .73

40 ft. = .56

$$\left(\frac{\text{Existing Mounting Height}}{\text{New Mounting Height}} \right)^2 = \text{Correction Factor}$$

Tested to current IES and NEMA standards under stabilized laboratory conditions. Various operating factors can cause differences between laboratory data and actual field measurements. Dimensions and specifications on this sheet are based on the most current available data and are subject to change without notice.

Notes

- 1 Photometric data for other distributions can be accessed from the Lithonia Lighting website. (www.Lithonia.com)
- 2 For electrical characteristics, consult outdoor technical data specifications on www.lithonia.com.



TFA-M-S



February 19, 2016

Jim Hendershot
Community Development Director
City of Spring Hill, KS

RE: Review Comments from Olsson Associates dated February 8, 2016
Mid Am Building Supply

creating remarkable solutions
for a higher quality of life

We have received the comments dated 2/8/16 for the above referenced project. Our responses follow the each comment, and each response has been addressed on the page specified in the comment, unless otherwise noted.

13303 Airport Way
Suite 105
Brookfield, CO
80021

303-469-2000
866-409-0353 fax

GBA Companies
Lenexa, KS
Kansas City, MO
O'Fallon, MO
Chesterfield, MO
Omaha, NE
Rock Island, IL
Brookfield, CO

www.gbaa.com

1. Peak Discharge – The proposed peak discharges from the site are above current APWA 5600 peak discharge limits. Spring Hill design guidance specifies that the most recent APWA 5600 manual should be used for design. Per APWA 5600 dated February 15, 2011 peak discharges from sites should be based on the default comprehensive protection strategy. This strategy provides release rates per acre for the 2, 10 and 100 year storms. While the peak discharges for the proposed basin are below the calculated existing conditions peak discharge, they are above the limits for the comprehensive control strategy. The site should be designed to meet the peak discharges for the comprehensive control strategy. **GBA Response:** The detention basin has been adjusted to meet the comprehensive protection strategy set by APWA 5600 dated 2011.
2. Downstream Capacity – The capacity of the downstream culvert on Webster Street should be studied to assure the culvert does not create a backwater condition that limits the capacity of stormwater line 100. **GBA Response:** The existing culvert has a capacity of approximately 124 CFS. As the proposed detention basin will greatly reduce the flows through this area, the existing RCB will continue to have flow capacity in the proposed condition, therefore not creating a backwater condition.
3. Stormwater Lines – The calculated hydraulic grade line of 1059.19 at structure 103 is above the calculated 100-year elevation of the detention basin. The capacity of the pipes and the interaction with the detention basin should be reviewed to assure that the downstream pipes are not limiting outflow from the detention basin. **GBA Response:** The detention basin outflow structure and pipes have been adjusted to change peak outflows and the hydraulic grade.
4. Best Management Practices – The City of Spring Hill ordinance on incorporating BMPs specifies that the BMP manual dated September 2003 shall be used for design of storm water quality BMPs. It appears from the stormwater report that the manual dated

August 2009 was used for the design and calculation of the BMP package. The BMP package should be revised using the manual dated September 2003.

GBA Response: Per discussion with the Jim Hendershot at the City of Spring Hill on 2/9/16, the 2012 (most recent) version of the MARC BMP manual is to be used for calculations.

5. Water Quality – In the calculations of the mitigation package the future development area was not included in the calculation on the level of service. Because the site is a redevelopment site the entire area should be included in the calculation of the level of service and the mitigation package. The worksheets and value ratings from the September 2003 manual should be used for level of service and mitigation package calculations.

GBA Response: Per discussion with the Jim Hendershot at the City of Spring Hill on 2/9/16, the 2012 (most recent) version of the MARC BMP manual is to be used for calculations. The entire disturbed area has been used for calculations.

We believe we have addressed all comments on this project. If you have any additional questions or concerns, please feel free to contact us.

Sincerely,

GEORGE BUTLER ASSOCIATES, INC.



Brad Burton, PE



February 19, 2016

Jim Hendershot
Community Development Director
City of Spring Hill, KS

RE: Review Comments from Ponzer Youngquist Inc dated February 4, 2016
Mid Am Building Supply

creating remarkable solutions
for a higher quality of life

We have received the comments dated 2/4/16 for the above referenced project. Our responses follow the each comment, and each response has been addressed on the page specified in the comment, unless otherwise noted.

1. Sheet C1 – Need to add a signature block and date for “Acting Director of Public Works”
GBA Response: Signature Block added.
2. Sheet C2 – At the southeast corner of Webster and 207th, there are two additional existing storm sewer lines that are not shown. One is a 30” RCP under 207th flowing from the north side of 207th to the south side. There is also a 36” RCP flowing from the existing westerly most junction box (shown on the drawing in the middle of 207th Street) southwesterly to the existing ditch on the south side of 207th Street. Because there are already 2 pipes discharging to this existing ditch, may want to consider adding another junction box to combine the existing 36” RCP with the proposed new 42” RCP before discharging to the ditch.
GBA Response: The two pipes near the SE corner of 207th and Webster have been located and shown on the plans. The existing pipes and the alignment of the proposed pipe do not allow for a junction box to be easily placed connecting all pipes. To ensure erosion control and drainage in the area, the area between the existing pipes and RCB is to be regraded and lined with rip rap.
3. I have no comments on the stormwater management report.

We believe we have addressed all comments on this project. If you have any additional questions or concerns, please feel free to contact us.

Sincerely,

GEORGE BUTLER ASSOCIATES, INC.

Brad Burton, PE

12303 Airport Way

Suite 105

Broomfield, CO

80021

303.469.2880

866.469.0353 (toll)

GBA Companies

Lenexa, KS

Kansas City, MO

O'Fallon, MO

Claslerfield, MO

Omaha, NE

Rock Island, IL

Broomfield, CO

www.gbatear.com

SITE DEVELOPMENT PLAN MID AM BUILDING SUPPLY SECTION 14, TOWNSHIP 15 SOUTH, RANGE 23 EAST CITY OF SPRING HILL, JOHNSON COUNTY, KANSAS

GBA
architects
engineers
9801 Renner Boulevard
Lenexa, Kansas 66219
913.492.0400
www.gbateam.com

Legal Description

Tract 1: All that part in the Northeast Quarter (NE $\frac{1}{4}$) of Section Fourteen (14), Township Fifteen (15), Range Twenty-Three (23), in Johnson County, Kansas more particularly described as:
Commencing at the Northwest Corner of the Northeast Quarter of Section 14, Township 15, Range 23; thence North 90 degrees 0 minutes 0 seconds East, along the North line of the Northeast Quarter of Section 14, Township 15, Range 23, 1,030.00 feet; thence South 0 degrees 0 minutes 57 seconds West, 642.00 feet; thence North 90 degrees 0 minutes 0 seconds West, 1,030.00 feet; thence North 0 degrees, 0 minutes 57 seconds East, 642.00 feet to the point of beginning, except part in street and highway rights-of-way; and
All of the South 620 feet of the North 660 feet of the West 1030 feet of the Northeast $\frac{1}{4}$ of Section 14, Township, Range 23, now in the city of Spring Hill, Johnson County, Kansas.
Tract 2:
All that part of Outside Lots 66 and 67 of the Original Town of Spring Hill, lying Easterly of Webster Street as now established, and part of the Outside Lot 68 of the Original Town of Spring Hill described as follows: Beginning at the Northeast corner of said Lot 68; thence South 0 degrees 00 minutes 00 seconds West a distance of 62.51 feet, to a point on the East right of way line of said Webster Street; thence Northerly along the East right of way line of said Webster Street, along a curve to the right, having an initial bearing of North 0 degrees 09 minutes 56 seconds East, a radius of 2804.90 feet, a distance of 97.49 feet, to a point on the North line of said Lot 68; thence North 88 degrees 35 minutes 48 seconds East, along the North line of said Lot 68 a distance of 60.67 feet, to the point of beginning, in the City of Spring Hill, Johnson County, Kansas.
Outside Lots 66, 67 and the North 83.15 feet of Outside Lot 68 all of the Original Town of Spring Hill, Johnson County, Kansas, except part in street and highway rights-of-way.

Index of Sheets

Sheet No.	Description
C1	Cover Sheet
C2	General Layout & Notes
C3	Grading Plan
C4	Dimension Plan
C5	Utility Plan
C6	Drainage Map & Calculations
C7-C8	Construction Details
C9	Erosion Control Plan
C10	Erosion Control Notes
C11	Erosion Control Details
L1	Landscape Plan
L2	Landscape Details

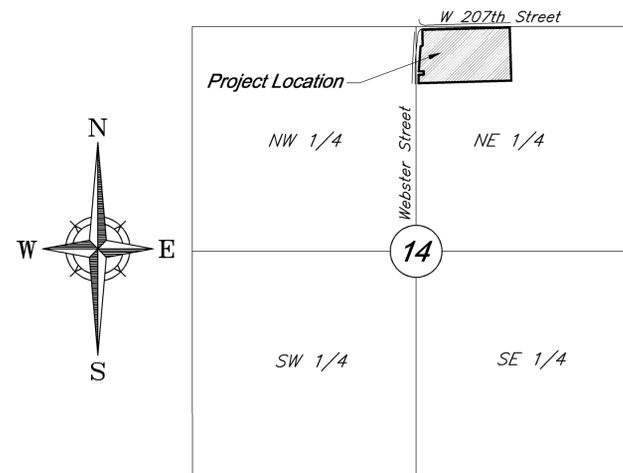
Property Owner/Developer:

Mid Am Building Supply
20301 W 207th St.
Spring Hill, KS 66083
Phone: 913-592-4313

Local Contact:
Mark Hays
Phone: 319-931-6078
mark.hays@midambuilding.com

Prepared By:

George Butler Associates, Inc.
One Renner Ridge
9801 Renner Boulevard
Lenexa, KS 66219
Phone: 913-492-0400
Fax: 913-577-8312
Contact: Mr. Brad Burton



VICINITY MAP
Section 14-T15S-R23E
Scale: 1"=1000'

UTILITY COMPANIES

Water: Spring Hill Water District	913-592-3626
Sewer: City of Spring Hill	913-592-3317
Electric: Westar	800-401-5666
Telephone/Cable: Century Link Suddenlink	888-723-8010 877-794-2724
Gas: Atmos Energy	888-286-6700

Project Datum

Horizontal: Modified Kansas North State Plane
Vertical: North American Vertical Datum 1988
Project Combined Adjusted Factor: 0.9999485

PROJECT BENCHMARKS

BM #10 - Chiseled "+" on E. Bonnet Bolt of Fire Hydrant on North Side of Webster near Southeast Corner of Sonic Parking Lot.
N - 168210.61
E - 2217555.11
EL: 1067.39

BM #11 - Chiseled "+" on Bonnet Bolt of Fire Hydrant on South side of 207th Street, East of Eastern Property Line of Mid-Am.
N - 168742.77
E - 2218812.19
EL: 1077.29

HORIZONTAL CONTROL

CP #100 - $\frac{1}{2}$ " Iron Bar with GBA cap on West side of Webster Near South end of Sonic Parking Lot.
N - 168220.22
E - 2217566.97

CP #101 - $\frac{1}{2}$ " Iron Bar with GBA cap at the Northeast corner of Webster and 207th Street.
N - 168762.12
E - 2217722.51

CP #102 - $\frac{1}{2}$ " Iron Bar with GBA cap on the N. side of 207th Street near projected East property line of Mid-Am.
N - 168790.70
E - 2218717.64

PREPARED & SUBMITTED BY:
GEORGE BUTLER ASSOCIATES, INC.
9801 RENNER BOULEVARD
LENEXA, KANSAS 66219-9745

PROJECT ENGINEER: _____

DATE: _____

APPROVED: _____

CITY ENGINEER: _____

DATE: _____

ACTING DIRECTOR OF PUBLIC WORKS: _____

DATE: _____

PROPOSED FACILITY FOR:

Mid Am Building Supply

20301 W 207th St.
Spring Hill, KS 66083



REVISION

PROJECT NUMBER
13257.00
DATE
2/19/2016

DESIGNED
HTR/DRV/JRH
DRAWN
HTR/DRV/JRH
REVIEWED
HTR/BDB
SHEET TITLE

Cover Sheet

SHEET NUMBER

C1



REVISION

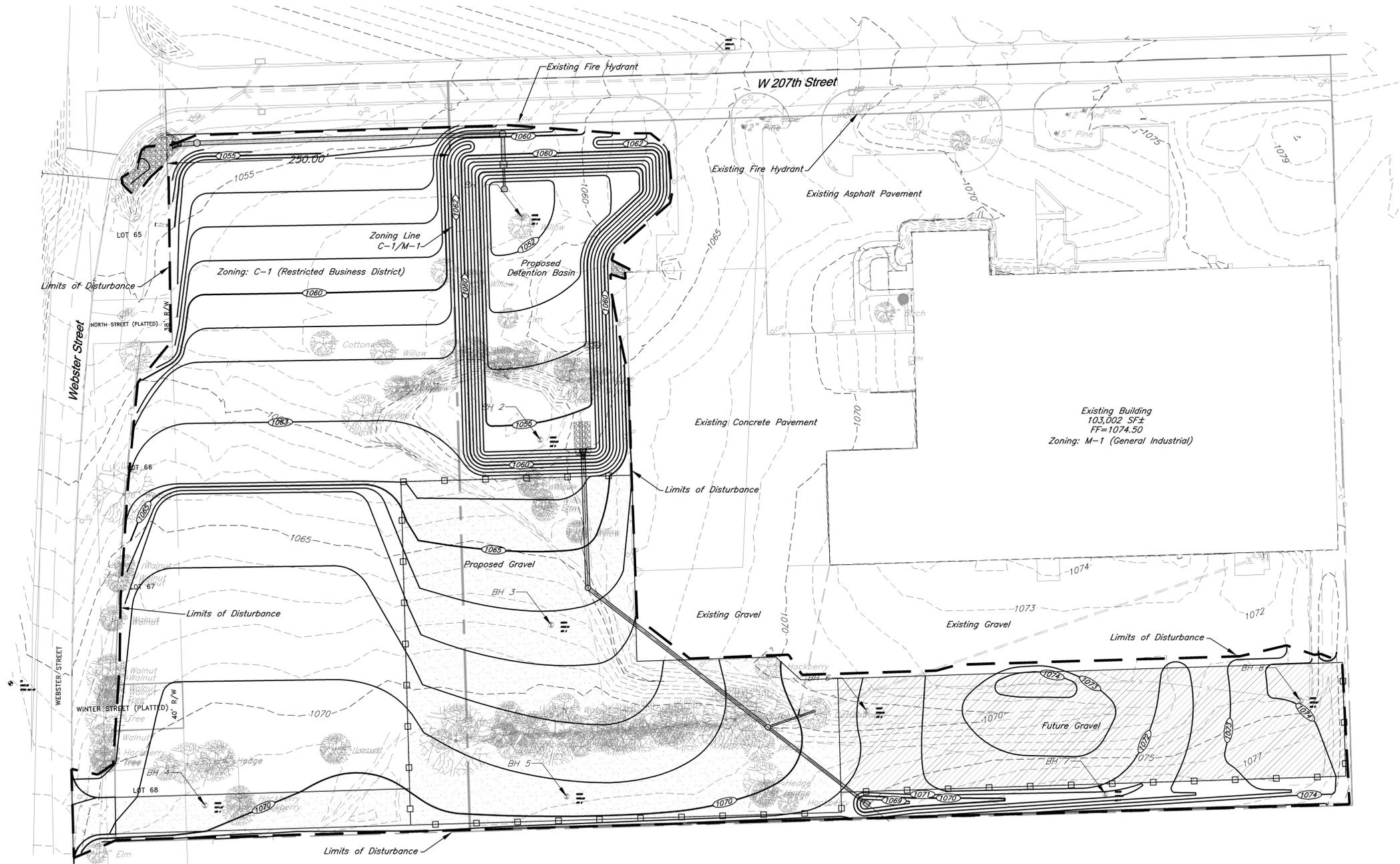
PROJECT NUMBER
13257.00
DATE
2/19/2016

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HTR/DRV/JRH
REVIEWED
HTR/BDB
SHEET TITLE

General Layout & Notes

SHEET NUMBER

C2



General Notes:

- All Construction shall conform to the City of Spring Hill, Kansas's Technical Specifications in effect at the time of the City's approval date shown on the approved plans and incorporated herein by reference.
- Property Corners and/or Section corners disturbed or damaged by construction activities shall be reset by a Registered Land Surveyor licensed in the state of Kansas, at the Contractor's expense.
- Construction Staking shall be the responsibility of the General Contractor.
- The Contractor shall be responsible for the restoration of the Right-of-Way and for damaged improvements such as curbs, driveways, sidewalks, street light and traffic signal junction boxes, traffic signal equipment, irrigation systems, etc. Damaged improvements shall be repaired in conformance with the latest City standards and to the City's satisfaction.
- All work shall be confined within easements and/or construction limits as shown on the plans.
- The Contractor shall, prior to the commencement of work, investigate surface and subsurface conditions to be encountered across the site and notify the Engineer if any discrepancies or changed conditions are noted.
- This project will include numerous activities occurring on site including storm sewer, sanitary sewer, grading, utility, building construction etc. Contractor shall coordinate his work with other contractors on site.
- All trash and debris identified on site shall be properly handled and disposed of in accordance with state of Kansas regulations.
- All measurements on these plans are horizontal distances, not slope distances.
- All concrete shall be KCMMS - 4,000 PSI unless otherwise noted.
- It shall be the Contractor's responsibility to have one copy of these approved plans and the most current city standards and specifications on the job site at all times.
- The locations of existing underground utilities are taken from utility company records. They are approximate and have not been field verified. The Contractor is to determine the exact location of all existing utilities before commencing work and agrees to be fully responsible for any and all damages which might result from his failure to do so.
- The Contractor is to coordinate the relocation of any utilities that may be encountered prior to the start of construction.
- All traffic signage, barricades, drum, pavement markings, and other traffic control devices shall be in accordance with the latest edition of the *Manual of Uniform Traffic Control Devices (M.U.T.C.D.)*.
- All proposed utilities are to be located underground.

Permitting:

- Excavation for Utility work within the Right-of-Way requires a Right-of-Way work permit from the Public Works Department, in addition to all other permits.
- Contractor is responsible for obtaining all required permits, paying all fees, and for otherwise complying with all applicable regulations governing the work.

Erosion Control:

- The Contractor is responsible for providing erosion and sediment control BMP's to prevent sediment from reaching paved areas, storm sewer systems, drainage courses, and adjacent properties. In the event the prevention measures are not effective, the contractor shall remove any debris, silt, or mud and restore the Right-of-Way, or adjacent properties to original or better condition.
- Contractor shall ensure that all construction shall conform to the requirements of the Stormwater Pollution Prevention Plan (SWPPP), a copy of which shall be maintained and updated on site by the Contractor.
- The Contractor shall sod all disturbed areas within the Public Street Right-of-Way unless otherwise noted in the plans.
- No trees shall be damaged or removed without prior authorization from owner unless otherwise shown on this plan.
- Contractor to remove all remaining rock checks, silt fences and other erosion control upon final stabilization of the site.

Earthwork:

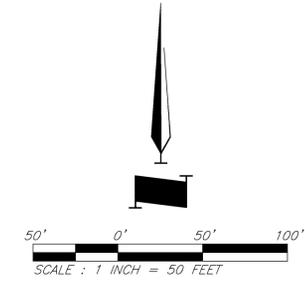
- The Contractor shall be responsible for removing and disposing of grass and vegetation that is found on site. Contractor shall strip site of organic material to a depth acceptable to the Geotechnical Engineer and prior to the placement of fill. Disposal of all debris shall be performed by the contractor in strict accordance with all applicable codes and ordinances. All clearing and grubbing, stripping, and grading operations shall be performed in accordance with the recommendations as found in the Geotechnical Report, and erosion control and grading plans for this site.
- Slopes shall be constructed to a maximum slope of 3:1 (Horiz:Vert).
- Refer to the Geotechnical Report Mid-American Building Supply New Addition Dated January 7, 2016 prepared by Alpha-Omega Geotech for grading and pavement recommendations and boring logs. All earthwork shall conform to the recommendations of the Report.
- Unless otherwise noted, all spot elevations and contours are shown to "Finish" grade surface. Contractor shall adjust for any overcut required in paving, parking, landscape, or building pad areas as defined in the Geotechnical Report, these plans, or the project specifications.
- All temporary slopes and excavations should conform to Occupational Safety and Health Administration (OSHA) standards for the Construction Industry (29 CFR part 1026, subpart P).

Utility:

- All Manholes, Catch Basins, Utility Valves, Meter Pits, and other utility equipment shall be adjusted or rebuilt to grade as required.
- Prior to beginning work, the Contractor shall notify all utility companies who have facilities in the vicinity of the project area of the work to be performed.
- All Utility extensions and construction shall conform to the Standards and Specifications of the applicable Utility Companies.
- No open cutting of public streets will be allowed.

Storm Sewer:

- All RCP shall be Class III.
- Pipe Lengths are called out from center of structure to center of structure.
- Drainage across the project site during construction shall be the Contractor's responsibility. Surface drainage shall be controlled to reduce or prevent the flow of surface water onto adjacent grounds. Contractor shall control downstream erosion and silt during construction. Flexibility is given to the Contractor to make minor grading revisions along roads or between building pads to improve drainage during construction, with prior approval of the engineer.
- Prior to ordering precast storm sewer structures, Contractor shall provide shop drawings to the Engineer for review and approval.



Zoning

Existing Zoning is C-1 Restricted Business and M-1 General Industrial.

Floodplain Information

This project is located in Zone X noted as areas determined to be outside the 0.2% annual chance floodplain per FEMA Flood Insurance Rate Map 20091C0138G, revised August 3, 2009.



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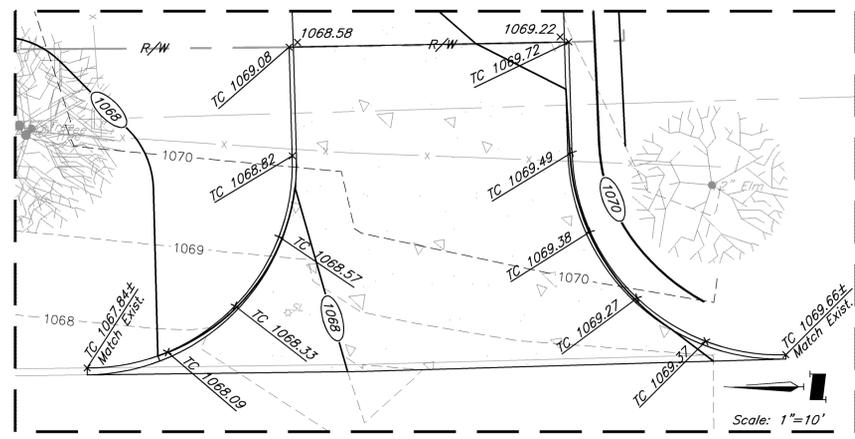
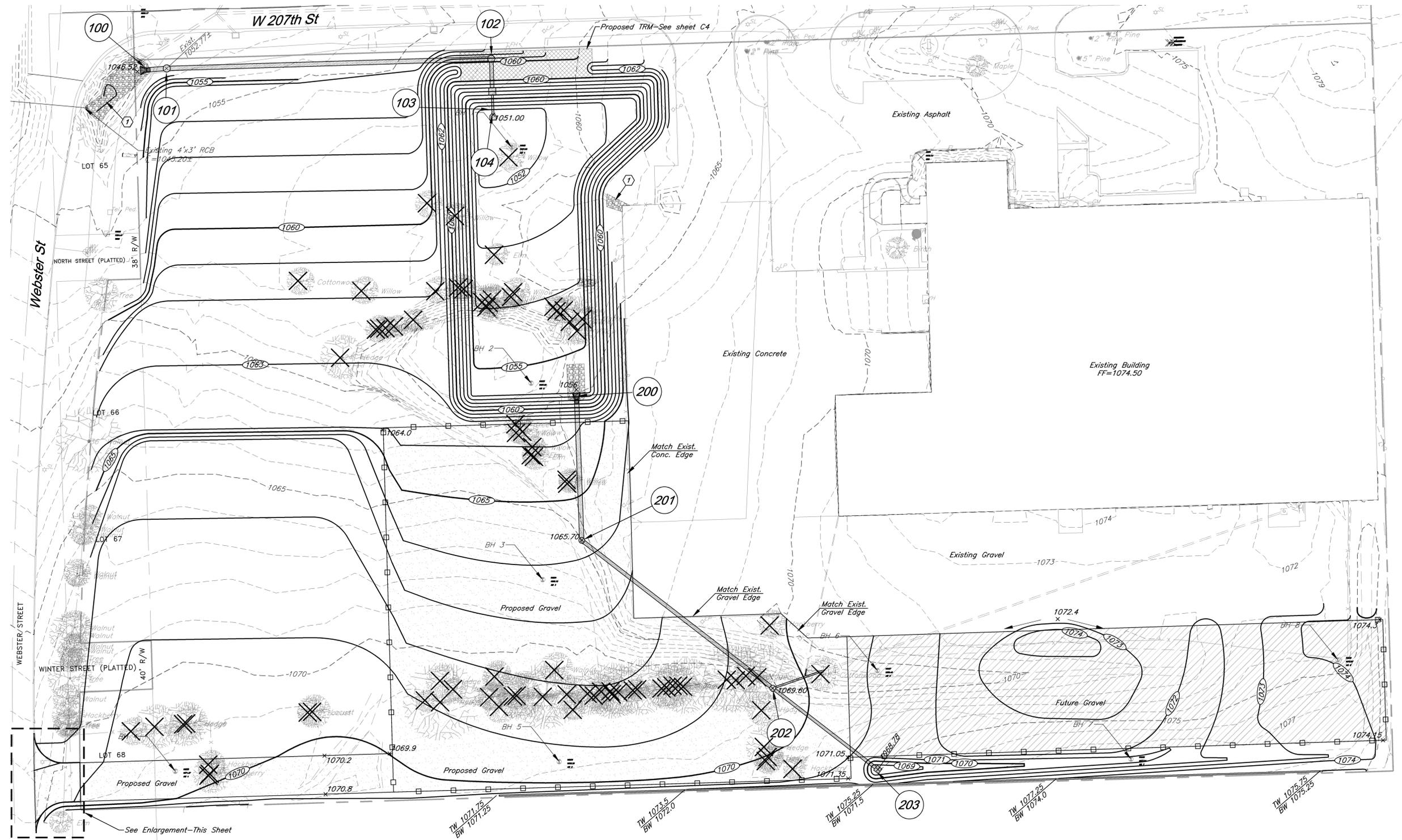
PROJECT NUMBER
13257.00
DATE
2/19/2016

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Grading Plan

SHEET NUMBER

C3



General Construction Notes:

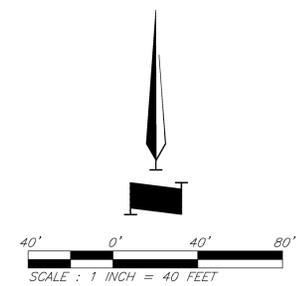
- ① Grade existing swale to drain. Line with rip-rap as noted on sheet C5.

Grading and Earthwork Notes:

- All Earthwork shall conform to recommendations outlined by Alpha-Omega Geotech in their report Mid-American Building Supply New Addition, dated January 7, 2016.
- Topsail shall be stripped to a minimum depth of 6" (or as otherwise directed by the geo-technical engineer).
- Structural Design of retaining wall to be provided by others.
- TW and BW elevations noted on plans are to the top of the wall and to the surface grade at the base of wall. Any additional depth of wall required for structural purposes is the responsibility of the structural Engineer designing the wall.
- It is anticipated that the site grading will produce approximately 10,000 yards of stockpile dirt. The owner and/or contractor will determine the best location for the stockpile and ensure that appropriate erosion control measures will be employed to prevent soil from leaving the site.

Grading Legend

- Proposed Contours
- Existing Contour
- Boring Hole
- Spot Grades
- Top of Curb Spot Grades
- Existing Spot Grades
- Top of Retaining Wall
- Bottom of Retaining Wall
- Remove Existing Tree
- Drainage Flow Arrow





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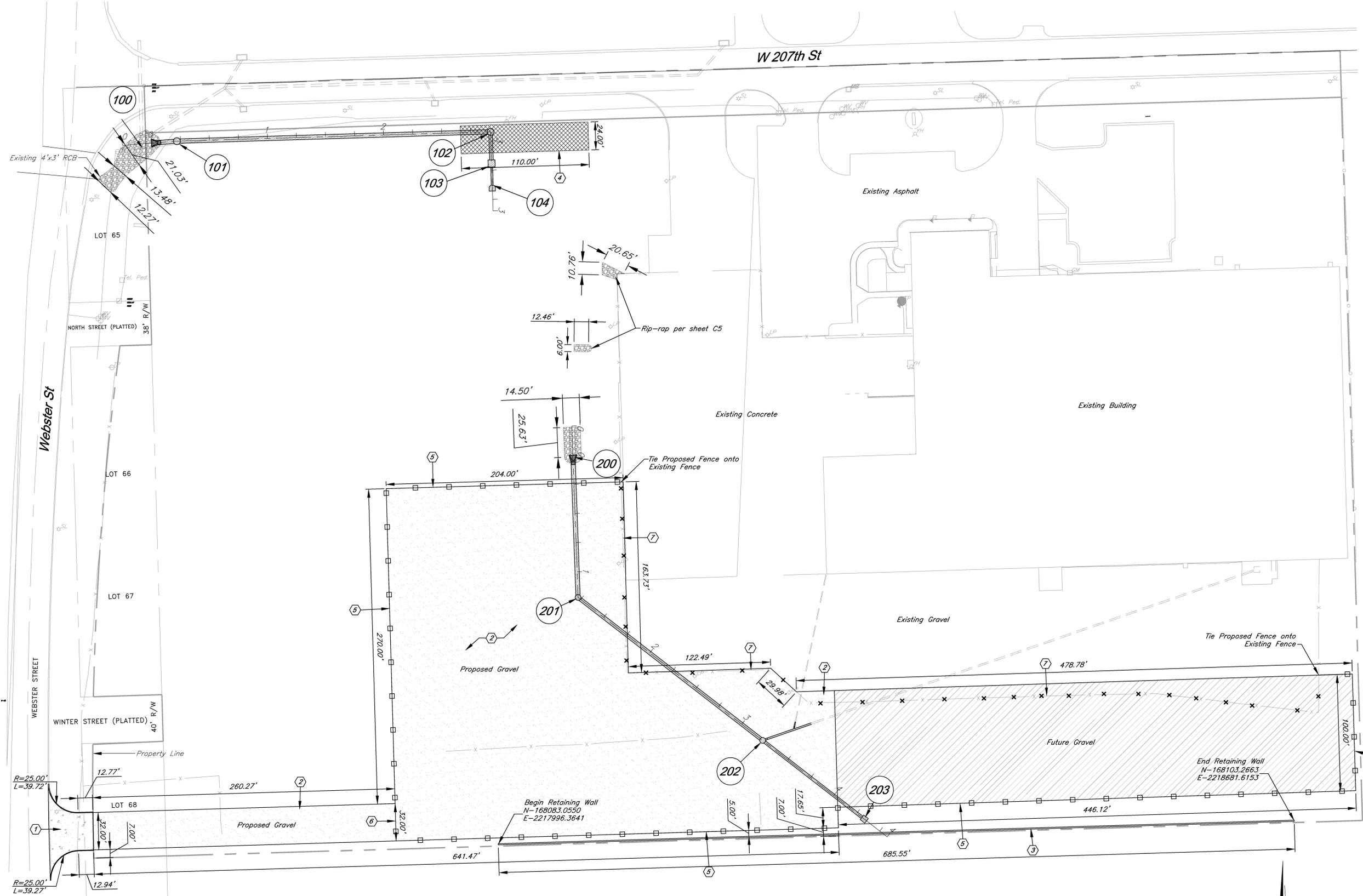
PROJECT NUMBER
13257.00
DATE
2/19/2016

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HTR/DRV/JRH
REVIEWED
HTR/BDB
SHEET TITLE

Dimension Plan

SHEET NUMBER

C4



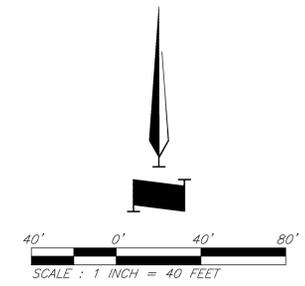
Notes:
1. See Sheets C7 and C8 for details.
2. Structural design of retaining wall to be provided by others.

Construction Notes:

- ① Construct Industrial Entrance Drive
104.70 LF Curb and Gutter
172 SY Concrete pavement
- ② Construct 10,265 SY (total) Compacted Gravel Surface
- ③ Construct 685.55 LF Retaining Wall
- ④ Install 293 SY North American Green SC 250 TRM
in Emergency Spillway
- ⑤ Install total 1,478± LF chain link fence with
barbed wire to match existing fence. Contractor to
coordinate fence material with owner.
- ⑥ Install 2 Leaf Swing Gate using overhead frame
and wheels on gate leaves. Gate posts and base
to be sized by fence contractor. Contractor to
coordinate gate material with owner.
- ⑦ Remove total 803 LF Existing Fence

LEGEND

- Heavy Duty Concrete
- Gravel Surface 1A
- Future Gravel Surface 1A
- Proposed Fence



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SHEET TITLE

Utility Plan

SHEET NUMBER

C5

General Utility Notes:

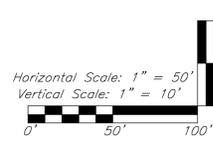
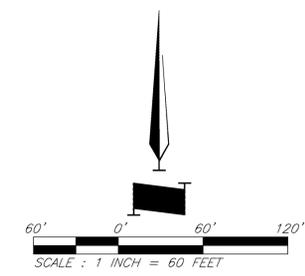
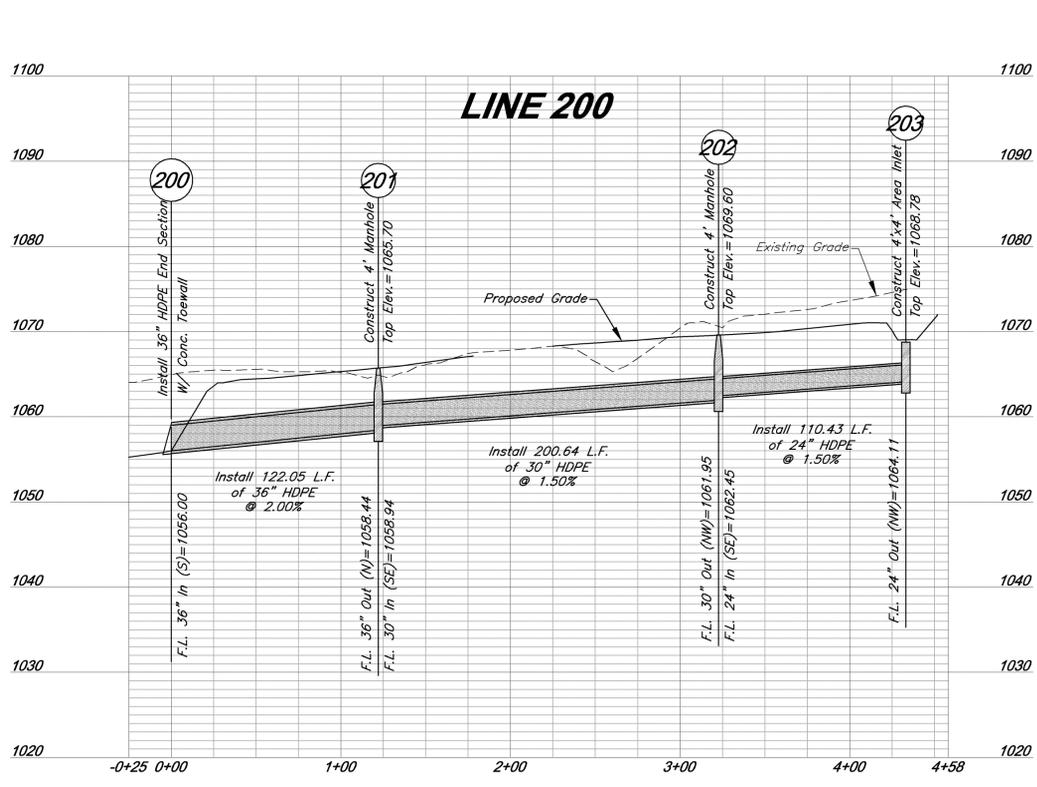
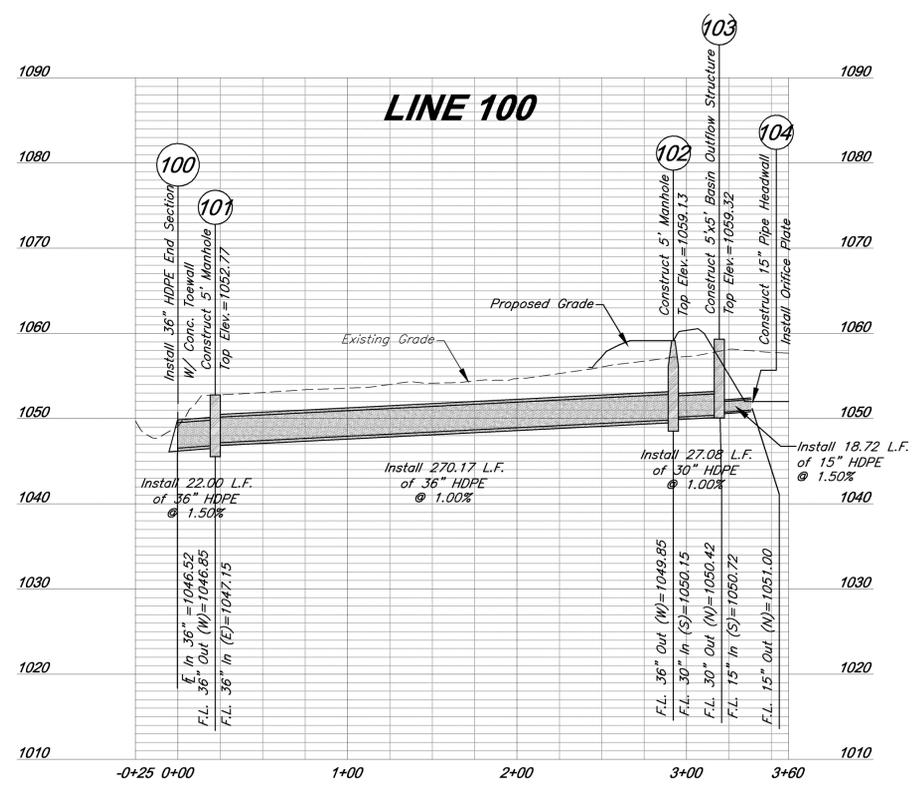
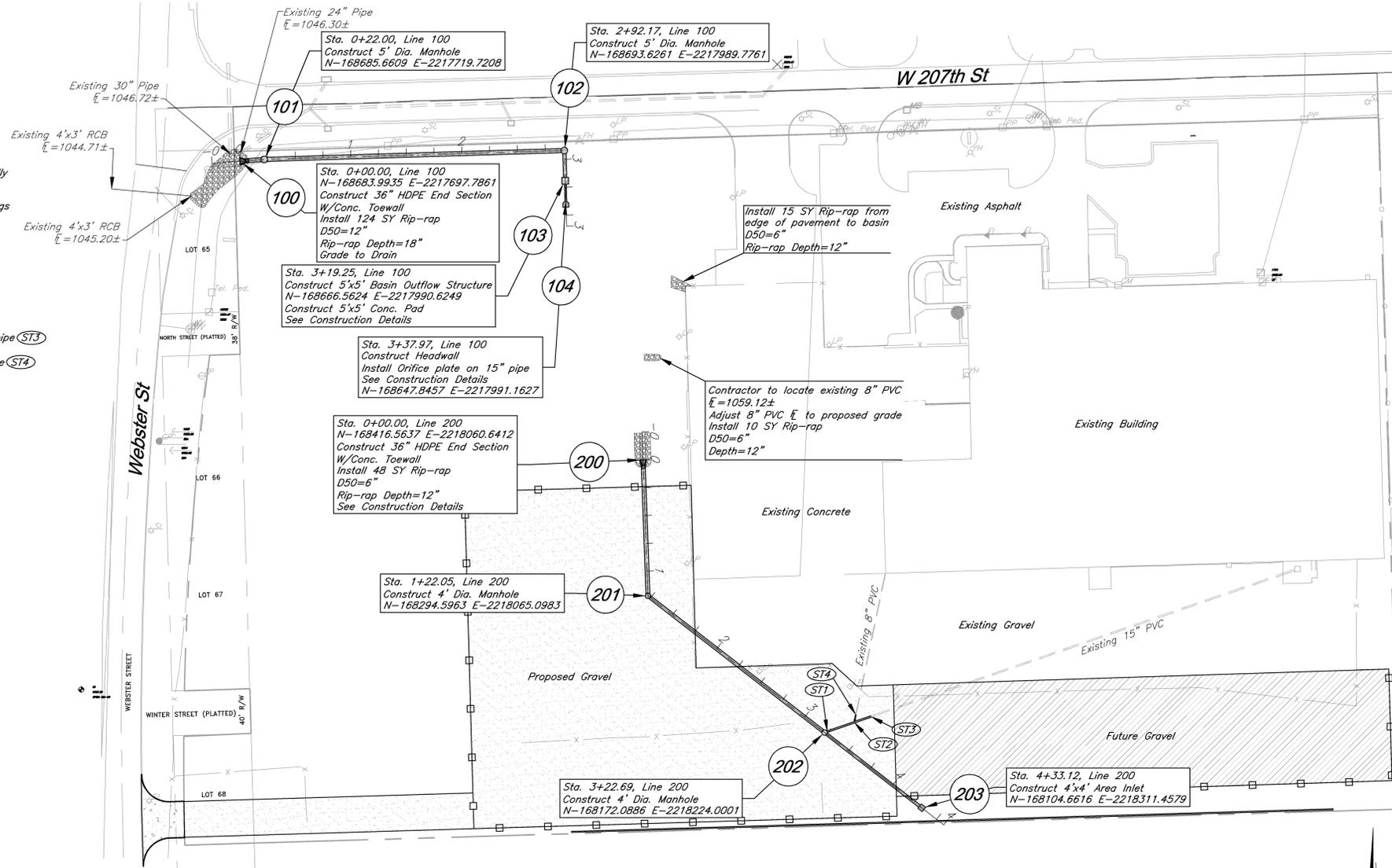
1. Contractor shall be responsible for locating all existing utilities.
2. All existing utility vaults, lids, valves, etc. shall be adjusted to final grade.
3. All utilities located within public Right of Way shall adhere to all applicable City of Spring Hill Standards.
4. Any pavement, curb, pavers, landscape, etc. disturbed by utility services or other construction incidental to the improvements shown on these plans shall be repaired to like or better condition.

Storm Sewer General Notes:

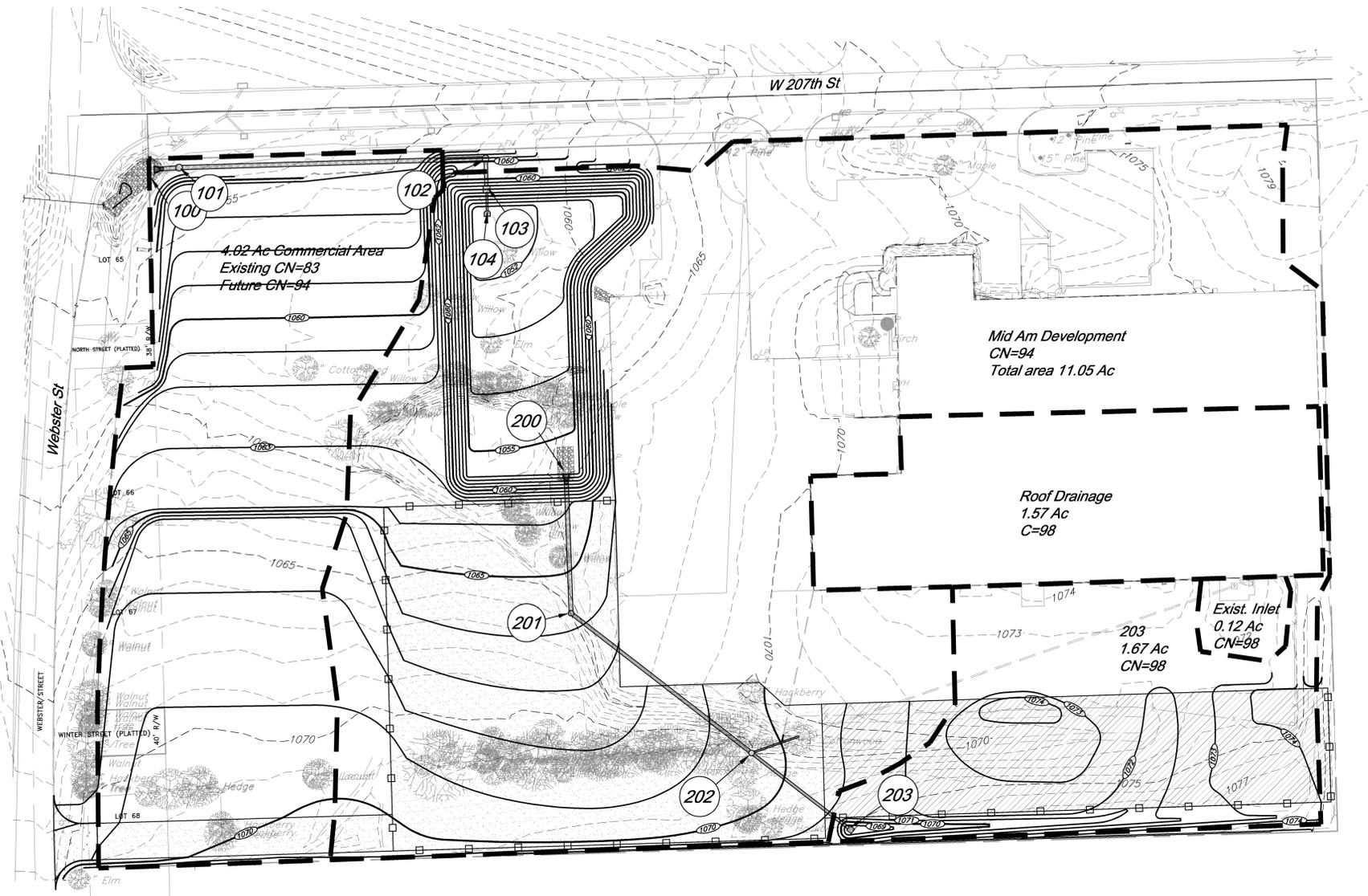
1. All RCP shall be class III.
2. Storm sewer lengths are calculated from center of structure to center of structure.
3. All pipe connections to inlets shall occur at center of structure wall unless specifically noted otherwise.
4. All work shall conform to City of Spring Hill standards.
5. Precast structures shall be constructed with KCMMB 4,000 psi concrete. Shop drawings shall be submitted to the Engineer for review prior to casting.
6. All in grade inlets shall match adjacent slope.

Storm Sewer Construction Notes

- (ST1) Connect 15" PVC to Manhole 202, $\bar{E}=1065.22$
Install 28.26 LF SDR 26 15" PVC @ 2%± Northeast to (ST2)
- (ST2) Install Why connection, $\bar{E}=1065.78\pm$
N-168181.2855 E-2218250.7249
Install 15.81 LF SDR 26 15" PVC Northeast @ 2%±, connect to existing 15" PVC pipe (ST3)
Connect 8" PVC via elbow and wye connection
Install cleanout and 6.80 LF SDR 26 8" PVC North, connect to Existing 8" PVC pipe (ST4)
- (ST3) Existing 15" PVC, $\bar{E}=1066.10\pm$
N-168186.4292 E-2218265.6715
- (ST4) Existing 8" PVC, $\bar{E}=1068.03\pm$
N-168187.9400 E-2218252.1201



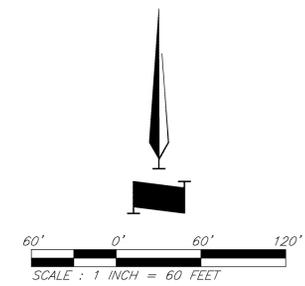
G:\13257\Civil_3D\Production Drawings\Construction Site Plans\13257C2000.dwg Layout: C6 Drainage Map & Calculations --- Thursday February 18, 2016, 10:27am --- Copyright 2016, George Butler Associates, Inc.



Notes:
1. Developed commercial area is not necessarily shown by proposed contours.

Legend

- Proposed Drainage Area
- 0.28 Acres Drainage Area
- Proposed Storm Sewer



Structures	100 Year Storm								Pipe Design								Design Checks								Comments				
	From	To	Direct Area (acre)	Total Area (acre)	C	K	Tc (min)	Flow Time (min)	Intensity (in/hr)	Design Q (cfs)	Description	Pipe length (lin ft)	Pipe Slope Slope, %	Pipe Dia. (in)	Q full (cfs)	Pipe Area, sf	V full fps	Design V fps	Hw/D	outlet head, H	HW, Inlet Control, (ft)	HW, Outlet Control, (ft)	Inlet Top Elevation	upstream flowline		downstream flowline	Downstream water elevation	Hydraulic Grade Elev. (Calculated)	Hydraulic Grade (allowable)
Line 100	104	103	15.07	15.07	0.90	1.25	5.00	0.02	10.32	43.2	Basin Outflow Structure	18.72	1.50	15	7.93	1.23	6.46	13.10	40.2	41.58	1101.21	1097.23	N/A	1051.00	1050.72	1055.65	1055.65	1061.22	Design flow from basin outflow structure
	103	102	15.07	15.07	0.90	1.25	5.00	0.03	10.32	43.2	Basin Outflow Structure	27.08	1.00	30	41.13	4.91	8.38	13.10	1.9	2.11	1055.18	1055.65	1059.32	1050.42	1050.15	1053.55	1053.55	1058.50	
	102	101	0.00	15.07	0.90	1.25	5.00	0.39	10.31	43.2	Manhole	270.17	1.00	36	66.88	7.07	9.46	11.44	1.2	3.20	1053.35	1053.55	1059.00	1049.85	1047.15	1050.35	1050.35	1052.00	
	101	100	0.00	15.07	0.90	1.25	5.00	0.03	10.32	43.2	Manhole	22.00	1.50	36	81.91	7.07	11.59	11.44	1.2	0.90	1050.35	1047.42	1052.50	1046.85	1046.52	1046.52	1046.52	1046.52	
	100		15.07	15.07	0.90	1.25	5.43	0.03	10.15	43.2	HDPE																		
Line 200	203	202	1.79	1.79	0.90	1.25	7.87	0.19	9.25	18.6	Area Inlet	110.43	1.50	24	27.78	3.14	8.84	9.92	1.4	2.31	1066.85	1067.93	1068.78	1064.11	1062.45	1065.62	1065.62	1068.28	
	202	201	1.57	3.36	0.90	1.25	8.06	0.34	9.19	34.7	Manhole	200.64	1.50	30	50.37	4.91	10.26	9.92	1.5	4.11	1065.62	1065.52	1068.78	1061.95	1058.94	1061.41	1061.41	1065.90	Existing Roof Drain Tie-in
	201	200	0.00	3.36	0.90	1.25	8.06	0.34	9.19	34.7	Manhole	122.05	2.00	36	94.58	7.07	13.38	9.92	1.0	1.18	1061.41	1057.18	1066.40	1058.44	1056.00	1056.00	1056.00	1056.00	
	200		3.36	3.36	0.90	1.25	8.39	0.21	9.08	34.7	HDPE																		



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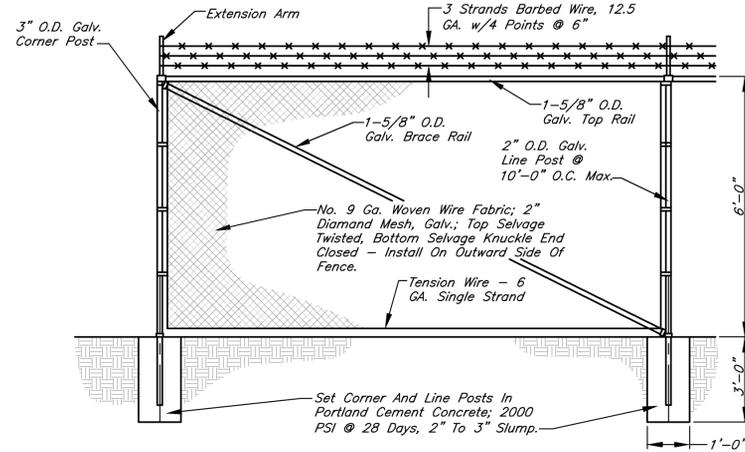
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SHEET TITLE

Drainage Map & Calculations

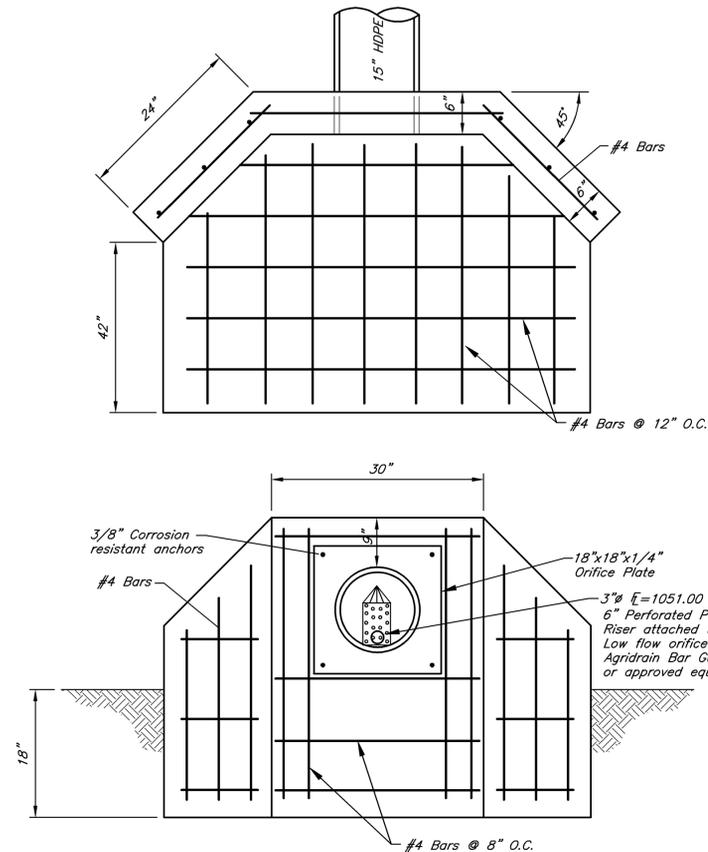
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C6

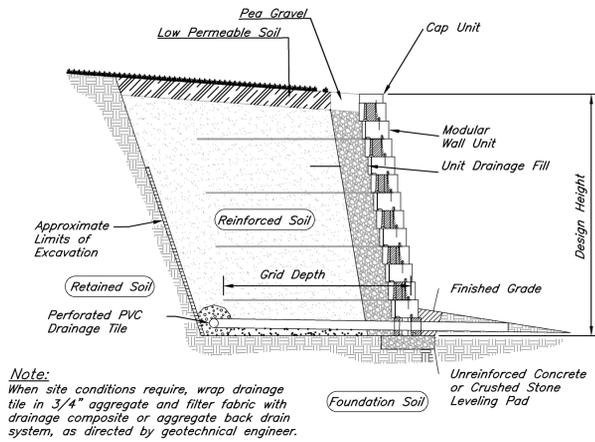


Notes:
 1. Match existing fence on site per owner's direction.
 2. Gate Posts Shall Be Galv. Steel Tubing - Size To Vary Per Size And Type Of Gate.

6' GALVANIZED CHAIN LINK FENCE
 Not to Scale



HEADWALL DETAIL - STRUCTURE 104
 Not to Scale



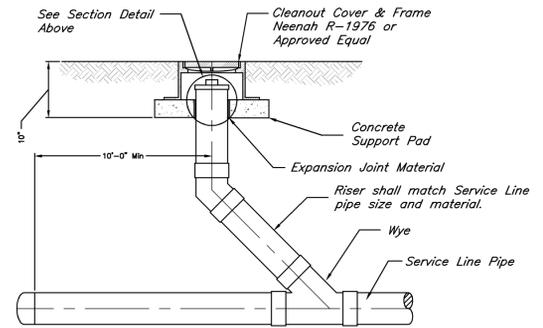
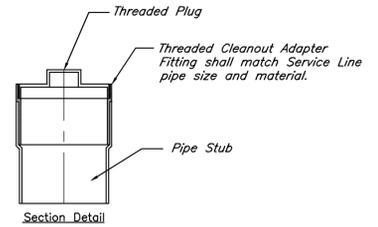
Note:
 When site conditions require, wrap drainage tile in 3/4" aggregate and filter fabric with drainage composite or aggregate back drain system, as directed by geotechnical engineer.

Typical Reinforced Wall Section
 Wall Unit - 1" Setback

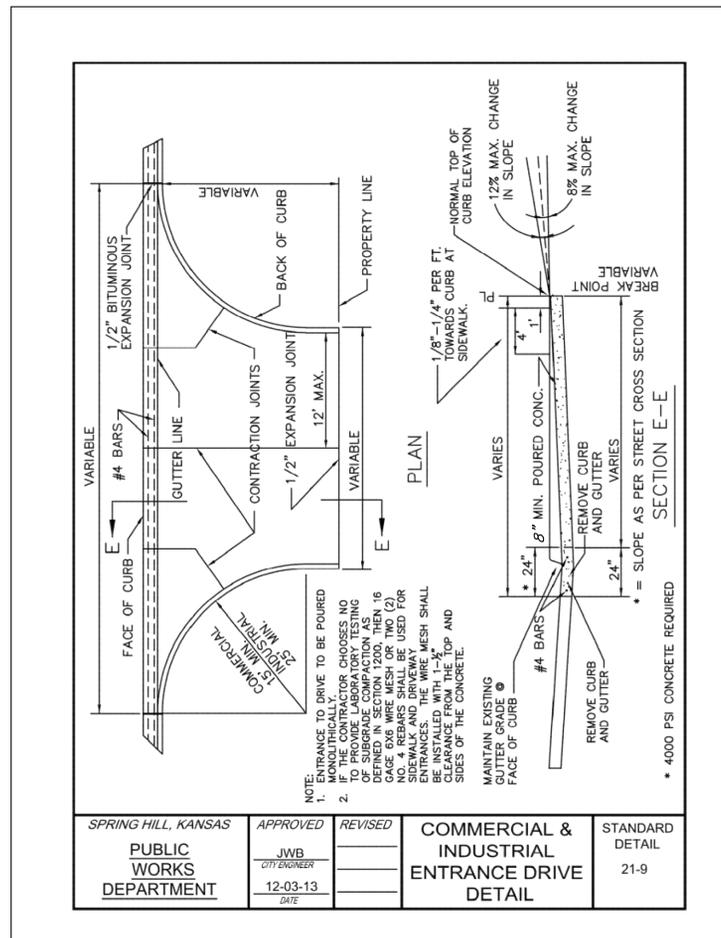
MODULAR CONCRETE RETAINING WALL SYSTEM
 NOT TO SCALE

General Notes:

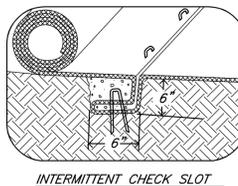
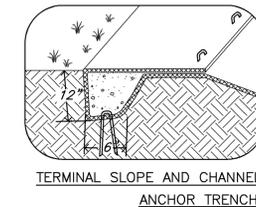
- The details shown above are Standard details and are for informational purposes only.
- The retaining wall shall be Modular stacked concrete block retaining wall, Style & Color to be determined by owner. The Contractor shall be responsible for retaining the services of a registered professional engineer, licensed in the State of Kansas, to design the stacked concrete block retaining walls and footings. The Contractor shall provide drawings sealed by the engineer to the owner for review prior to any construction of the retaining walls.
- If additional exploratory investigation is necessary for the design of the retaining walls, retaining the services of a geotechnical engineer shall be the responsibility of the manufacturer or Contractor and shall be coordinated with the owner.
- The Contractor shall note if any storm drainage pipes or utility crossings that are located beneath the wall. The footings of the retaining wall shall span over crossings with enough clearance to avoid crushing the pipe or sleeve if the wall settles.
- The designer of the retaining walls shall be responsible for specifying criteria for backfill material and compaction, drainage, filter fabric, soil reinforcing fabric and all other materials and methods related to the construction of the retaining wall system.



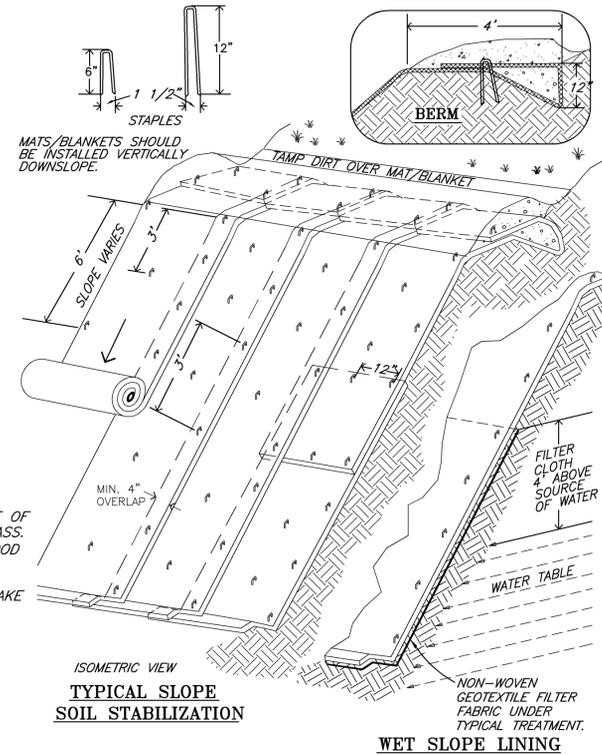
CLEANOUT DETAIL
 No Scale



SPRING HILL, KANSAS	APPROVED	REVISED	COMMERCIAL & INDUSTRIAL ENTRANCE DRIVE DETAIL	STANDARD DETAIL 21-9
PUBLIC WORKS DEPARTMENT	JWB CITY ENGINEER	12-03-13 DATE		



- NOTES**
- SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
 - LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.



EROSION CONTROL BLANKETS AND TURF REINFORCEMENT MATTRESS SLOPE INSTALLATION
 Not to Scale

PROPOSED FACILITY FOR:



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SHEET TITLE	

EROSION CONTROL GENERAL NOTES

- The Contractor is responsible for the control of erosion control during construction and until the Owner accepts the work as complete. The erosion control measures are shown on this plan as a typical minimum installation. The Contractor shall be responsible for adjusting or adding to these measures as necessary during the phasing of the construction to assure adequate control.
- Clearing and grubbing within 50' of a defined drainage course should be avoided when possible. Where changes to a defined drainage course occur, work should be delayed until all materials and equipment necessary to protect and complete the drainage change are on site. Changes shall be completed as quickly as possible once the work has been initiated. The area impacted by the construction activities shall be revegetated or protected from erosion as soon as possible, areas within 50' of a defined drainage ways should be recontoured as needed or otherwise protected within five (5) working days after grading has ceased.
- Where soil disturbing activities cease in an area for more than 14 days, the disturbed areas shall be protected from erosion by stabilizing the area with mulch or other similarly effective erosion control measures. If the slope of the area is greater than 3:1 or if the slope is greater than 3% and greater than 150 feet in length, then the disturbed areas shall be protected from erosion by stabilizing the area with mulch or other similarly effective erosion control measures if activities cease for more than seven (7) days.
- Existing vegetation shall be preserved to the extent and where practical. In no case shall disturbed areas remain without vegetative ground cover for a period in excess of 60 days.
- Additional site management practices which shall be adhered to during the construction process shall include:
 - Solid and hazardous waste management including providing trash containers and regular site clean up for proper disposal of solid waste such as building material, product/material shipping waste, food containers and cups, and providing containers for the proper disposal of waste paints solvents, and cleaning compounds.
 - Provisions of portable toilets for proper disposal of sanitary sewage.
 - Storage of construction materials away from drainage courses and low areas.
 - Installation of containment berms and use of drip pans at petroleum product and liquid storage tanks and containers.
- All disturbed areas shall be seeded, fertilized and mulched, or sodded, in accordance with the Standards and Specifications adopted by the City of Spring Hill, Kansas and good engineering practices. This shall be completed within fourteen (14) days after completing the work, in any area. If this is outside of the seeding period, silt barriers or other similarly effective measures shall be provided until such time that the areas can be seeded.
- All erosion control measures, temporary or permanent, require maintenance to preserve their effectiveness. All erosion control devices shall be inspected immediately after each heavy rainstorm and at least daily during prolonged rainfall. Any required repairs should be made immediately. All costs associated with the repair work including related incidentals will be the contractor's responsibility and shall be included in the Contractor's bid for the proposed work. Only after the project is complete and accepted can the erosion control be removed.
- Seeding shall be done before the proposed seedbed becomes eroded, crusted over, or dried out and shall not be done when the ground is frozen, or covered with snow. The seed shall comply with requirements of Kansas Seed Law and the Federal Seed Act. Also, it shall contain no seed of any plant on the Federal Noxious Weed List. Other weed seed shall not exceed one percent by weight of mix.
- Seed and Fertilizer Rate:
 - Mix 1 -
 - Tall Fescue / Blue Grass ---195 lbs. per Acre
 - Lime -----2000 lbs. per Acre (50 lbs. per 1000 sq. ft.)
 - Fertilizer -----800 to 1200 lbs. per Acre (25 lbs. per 1000 sq. ft.)
- During the dates Dec. 15 through May 30 ALL lime, fertilizer, seed, and mulch shall be applied to finished slopes of disturbed areas. During the months of June, July, October, and November 1st through December 15th, lime, fertilizer, seed, and mulch shall be applied at the following rates:
 - Lime - 100% of the specified quantity
 - Fertilizer - 75% of the specified quantity
 - Seed - 50% of the specified quantity
 - Mulch - 100% of the specified quantity
- Mulch shall be Vegetative type, cereal straw form stalks of oats, rye, or barley, or approved equal. The straw shall be free of prohibited weed seed and relatively free of all other noxious and undesirable seed. Apply straw mulch at a rate of 1.5 tons per acre as a seed cover or 2.5 tons per acre as a stand alone cover. Mulch shall be embedded by a mulch anchoring tool or disk type roller having flat serrated disks spaced not more than 10 inches apart and cleaning scrapers shall be provided.

EROSION AND SEDIMENT CONTROLS

The layout of erosion control best management practices (BMPs) shown on the engineering plans is intended to control erosion and minimize, if not eliminate, the transport of sediment from the disturbed areas. The Contractor shall be responsible for the evaluation of existing surface drainage patterns and for making adjustments to the BMP locations to best control erosion and minimize, if not eliminate, the transport of sediment from the disturbed areas. The following are measures to achieve the control of erosion and sediment.

- Stabilization Practices - Stabilization practices are very effective at preventing erosion by shielding the soil surface from the impact of rain, slowing the velocity of runoff, holding soils in place, and increasing infiltration of runoff and allowing the soil to absorb more rainfall.
 - Temporary Seeding Stabilization - During acceptable growing periods (see Table 1 below); temporary seeding of annual vegetation with a straw mulch cover shall be used as a temporary cover until permanent vegetation is established. If there is a possibility that a vegetative cover will be required to control erosion for more than 1 year, then consider the addition of a perennial/permanent grass species as part of a seeding mixture.

Table 1. Temporary Seeding Dates and Minimum Application Rates

Seeding Dates	Temporary Seed Species	Minimum Application Rates (pure live seed lbs. per acre)	Straw Mulch (tons per acre)
Jan. 1 - Jan. 31	None	Not Applicable	2.5
Feb. 1 - May 31	Annual Ryegrass	120	1.5
June 1 - Aug. 4	None	Not Applicable	2.5
Aug. 15 - Nov. 15	Cereal/Winter Rye	120	1.5
Nov. 16 - Dec. 31	None	Not Applicable	2.5

Seedbed Preparation - For broadcast seeding or drilling, loosen soil to depth of 3 inches. For no till drilling, loosen soil if it is compacted. Loosen compacted, hard or crusted soil surfaces with a disk, ripper, chisel, harrow or other tillage equipment. Avoid preparing the seedbed under excessively wet conditions. For establishment and long-term growth, apply a complete fertilizer at rates recommended by soil tests or as specified in plans and specifications. If soil pH is less than 6.0, apply lime according to soil tests. Incorporate necessary lime and fertilizer to a depth of 3 to 6 inches of soil.

Installation - For the best results use certified seed. Apply seed uniformly using a cyclone seeder, drop-type spreader, drill, cultipacker seeder or hydroseeder. When using a drill seeder, plant rye or other grains about 1 inch deep and plant grasses no more than 1/2 inch. A vegetative straw mulch cover shall be applied over the seed mixture to help germinate and establish plant cover, control weeds, and protect seed mixture against temperature extremes. Follow straw mulch preparation and application procedures described herein.

- Temporary Mulch Stabilization - During non-growing periods, a straw mulch cover shall be applied in unseeded areas to protect against erosion until temporary or permanent vegetation is established.

Site Preparation - Divert runoff water from areas above the site that will be mulched. Remove stumps, roots and other debris from the construction area. Grade area as needed to permit the use of equipment for seeding, mulching and maintenance. Shape area so that it is relatively smooth.

Application - Spread straw mulch uniformly over the area with a power blower, hydroseeder, or by hand. No more than 25% of the ground surface should be visible after spreading. Apply straw mulch at a rate of 1.5 tons per acre as a seed cover or 2.5 tons per acre as a stand alone cover. The straw should be dry, unchopped, unweathered; free of weed seeds and rot. In areas of steep slopes or high winds, or in critical areas such as swales, mulching may need to be secured to the ground with a binder, netting, or tacking.

- Permanent Seeding Stabilization - All disturbed areas except for the areas designated for sodding shall be permanently seeded with a cool season grass mixture as specified by the Owner.

Seedbed Preparation - For broadcast seeding or drilling, loosen soil to depth of 3 inches. For no till drilling, loosen soil if it is compacted. Loosen compacted, hard or crusted soil surfaces with a disk, ripper, chisel, harrow or other tillage equipment. Avoid preparing the seedbed under excessively wet conditions. For establishment and long-term growth, apply a complete fertilizer at rates recommended by soil tests or as specified in plans and specifications. If soil pH is less than 6.0, apply lime according to soil tests. Incorporate necessary lime and fertilizer to a depth of 3 to 6 inches of soil.

Installation - For the best results use certified seed. Apply seed uniformly using a cyclone seeder, drop-type spreader, drill, cultipacker seeder or hydroseeder. When using a drill seeder, plant rye or other grains about 1 inch deep and plant grasses no more than 1/2 inch. A vegetative straw mulch cover shall be applied over the seed mixture to help germinate and establish plant cover, control weeds, and protect seed mixture against temperature extremes.

- Permanent Sodding Stabilization - Areas designated sodding shall be sodded with a cool season grass mixture.

Site Preparation - Apply amendments according to soil test recommendations or as specified in plans and specifications. Incorporate amendments to a depth of 4 to 6 inches with a disk or chisel plow. Rake or harrow to achieve a smooth, final grade on which to lay the sod. The surface should be loose, and free of plants, trash, and other debris.

Laying Sod - Sod should not be laid on soil surfaces that are frozen. During high temperatures, moisten the soil immediately prior to laying sod. This cools the soil and reduces root burning and dieback. The first row of sod should be in a straight line with subsequent rows placed parallel to and butting tightly against each other. Stagger joints to create a brick-like pattern and promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight to prevent spaces which would cause drying of the roots. On slopes 3:1 or steeper, or wherever erosion may be a problem, lay sod with staggered joints and secure by stapling or pegging. Immediately after laying the sod, roll or tamp it to provide firm contact between roots and soil, then irrigate sod deeply so that the underside of the sod pad and the soil 4 inches below the sod is thoroughly wet.

2. Structural Practices

- Silt Fence - A temporary sediment barrier consisting of a geotextile fabric shall be installed as shown on the attached engineering plans and details. Silt fencing shall be installed to maintain sediment onsite.

Minimum Requirements:

Location - Fence should be built on a nearly level grade and at least 10 feet from the toe of the slope to provide a broad shallow sediment pool. Install on the contour, where fence can intercept runoff as a sheet flow; not located crossing channels, waterways or other concentrated flow paths; not attached to existing trees.

Spacing of Support Posts - 10 feet maximum for fence supported by wire; 6 feet maximum for high strength fabric without supportive wire backing. Support posts should be driven into the ground a minimum of 10 inches deep.

Trench - Bottom 1 foot of fence must be buried minimum of 4 inches deep.

- Stockpiles - The toe of stockpiles shall be placed a minimum of 10 feet from erosion control measures. If stockpiles are to remain for more than 14 days, they shall be temporarily stabilized with vegetative mulch and temporary seeding.

- Straw Wattles - Straw Wattles shall be installed per the engineering details. If voids develop beneath the product, the Engineer may require the Contractor to fill in and compact the area of voids and restake the product back in place. No additional payment will be made for this work.

- Maintenance - The contractor shall repair all erosion control measures or re-seed areas that are disturbed or damaged as a result of weather or other situations, within 2 days after the occurrence. This will include all areas bare of vegetation.

G:\13257\Civil\3D\Production Drawings\Construction Site Plans\13257C4600.dwg Layout: C10 Erosion Control Notes Thursday February 18, 2016, 10:28am Copyright 2016, George Butler Associates, Inc.



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Lenexa, Kansas 66219
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Mid Am Building Supply

20301 W 207th St.
Spring Hill, KS 66083

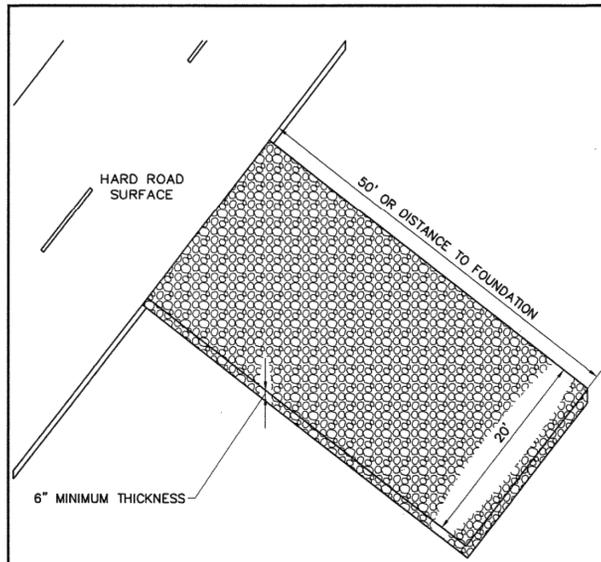
PROPOSED FACILITY FOR:



REVISION
PROJECT NUMBER 13257.00
DATE 2/19/2016
DESIGNED HTR/DRV/JRH
DRAWN HTR/DRV/JRH
REVIEWED HTR/BDB
SHEET TITLE

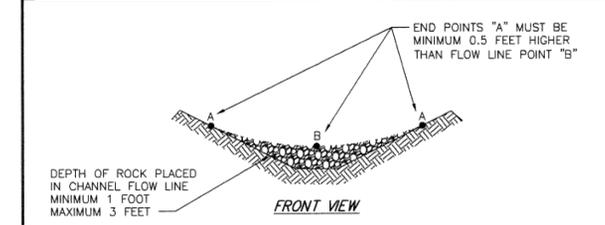
Erosion Control Notes

SHEET NUMBER
C10

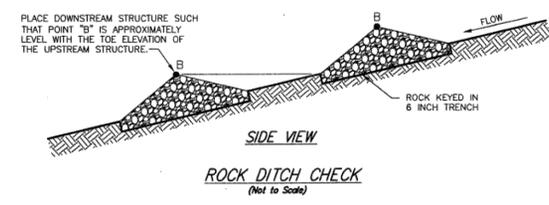


- NOTES:
1. INSTALL AS SOON AS POSSIBLE AFTER START OF GRADING.
 2. USE 2 TO 3 INCH AGGREGATE STONE.
 3. DRIVE MUST BE AT LEAST 20 FEET WIDE AND 50 FEET LONG OR THE DISTANCE TO THE FOUNDATION, WHICHEVER IS LESS.
 4. REPLACE AS NEEDED TO MAINTAIN 6 INCH DEPTH.

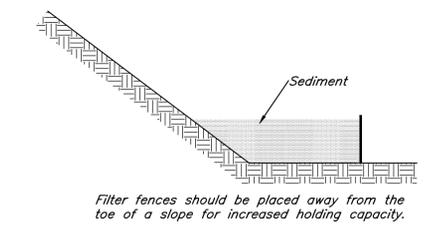
SPRING HILL, KANSAS	APPROVED	REVISED	GRAVEL CONSTRUCTION ENTRANCE	STANDARD DETAIL 73-4
PUBLIC WORKS DEPARTMENT	JWB CITY ENGINEER 5-8-08 DATE			



- 2 ACRES OR LESS DRAINAGE AREA
3 - 6 INCH AGGREGATE
- 2 - 10 ACRES DRAINAGE AREA
3 - 6 INCH AGGREGATE UPSTREAM
4 - 12 INCH RIP-RAP DOWNSTREAM

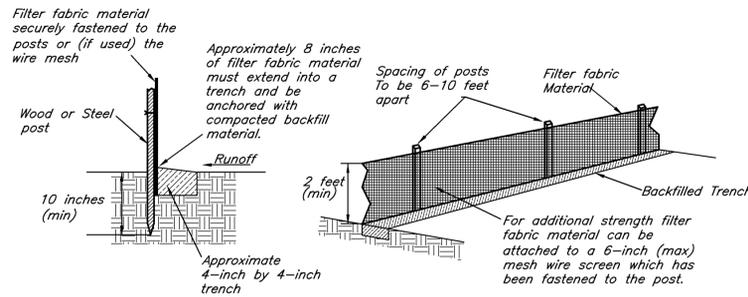


SPRING HILL, KANSAS	APPROVED	REVISED	EROSION CONTROL ROCK DITCH CHECK DETAIL	STANDARD DETAIL 73-2
PUBLIC WORKS DEPARTMENT	JWB CITY ENGINEER 5-8-08 DATE			



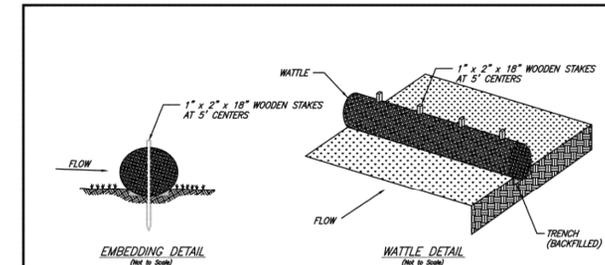
ATTACHING TWO SILT FENCES

1. Place the end post of the second fence inside the end post of the first fence
2. Rotate both posts at least 180 degrees in a clockwise direction to create a tight seal with the fabric material
3. Drive both posts about 10 inches into the ground and bury flap



SEDIMENT FENCE INSTALLATION

Not to Scale



- CONSTRUCTION SPECIFICATIONS
1. Wooden stakes which support the wattle shall be installed on a slight angle toward the anticipated runoff source.
 2. Wattle shall be trenched in with a spade or mechanical trencher so that the downstream face of the trench is flat and perpendicular to the line of flow.
 3. The trench should be a minimum of 3"-4" deep and 12" wide to allow for the wattle to be laid in the ground and backfilled.
 4. Wattle should be secured in place using 1 1/2"x1 1/2" wooden stakes at 5' spacing.
 5. Inspection shall be frequent and repair or replacement shall be made promptly as needed.
 6. Wattle shall be removed when it has served its usefulness so as not to block or impede storm flow or drainage.
 7. Sediment trapped by this practice shall be uniformly distributed on the source area prior to topsoiling.

- EROSION CONTROL NOTES
1. The contractor shall provide all materials, tools, equipment and labor as necessary to install and maintain adequate erosion control to prevent soil from leaving the project site. It shall be the contractor's responsibility to insure that the methods utilized comply with the requirements of the governmental agencies having jurisdiction over the work.
 2. The contractor shall control the grading operation so that the site is well drained at all times and shall schedule the work to minimize the erosion of material by the use of staked wattles and other acceptable methods to protect the abutting properties, streets, and all utilities.
 3. Erosion control devices shall remain in place for the duration of the project.
 4. The contractor shall seed/mulch and or sod all areas disturbed during the construction activities.

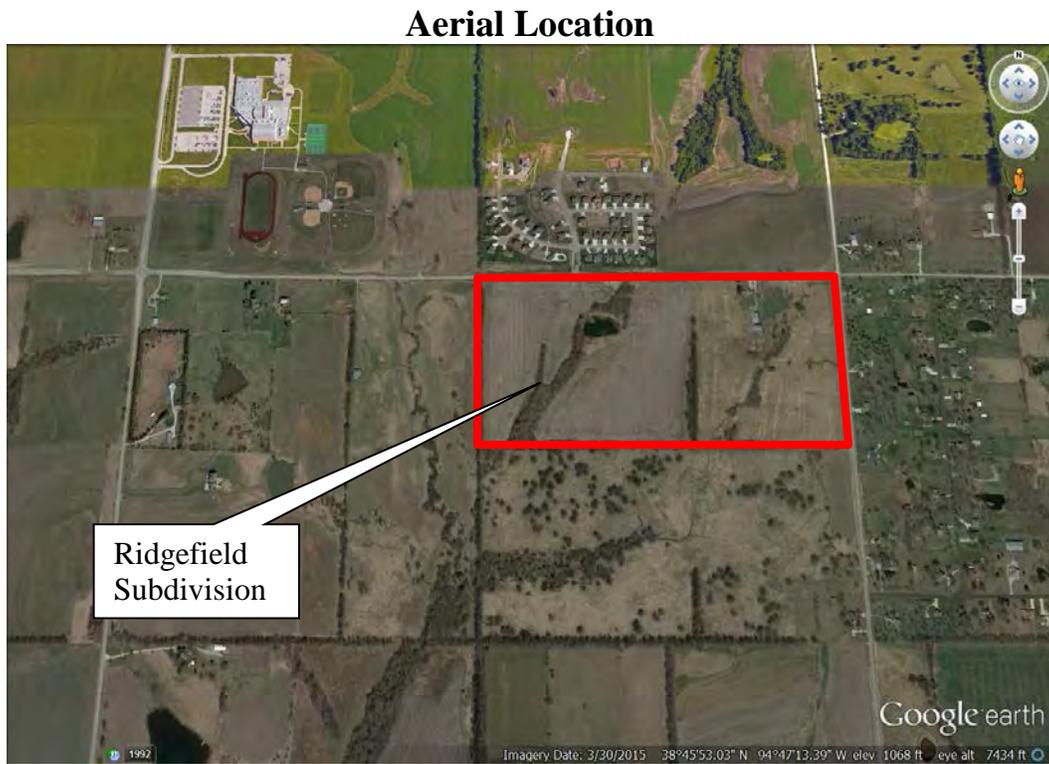
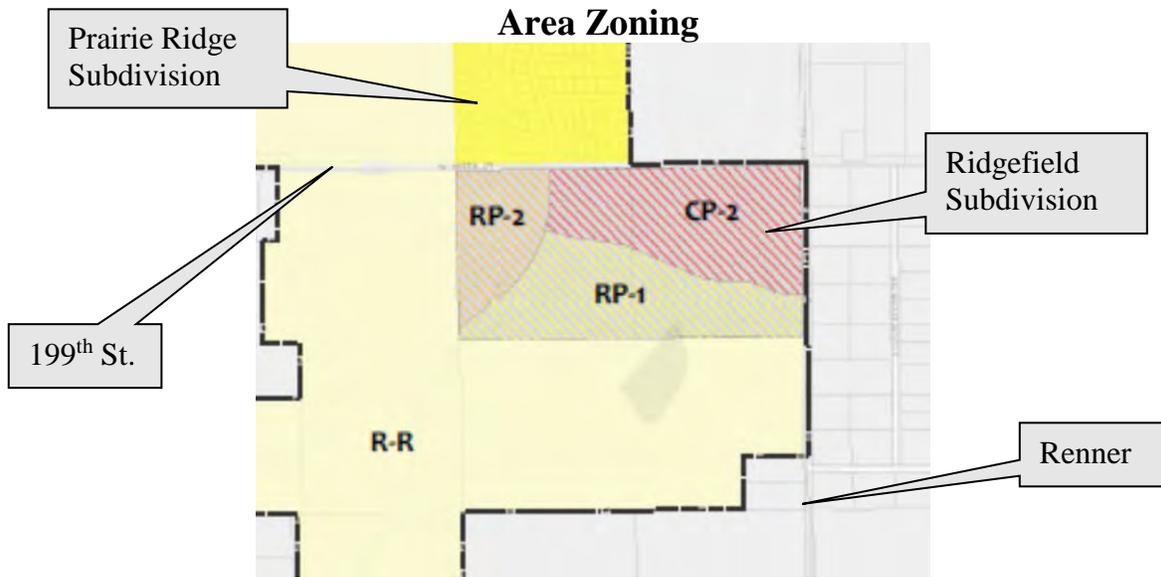
SPRING HILL, KANSAS	APPROVED	REVISED	EROSION CONTROL WATTLE DETAIL	STANDARD DETAIL 73-1
PUBLIC WORKS DEPARTMENT	JWB CITY ENGINEER 5-14-09 DATE			



REVISION	
PROJECT NUMBER	13257.00
DATE	2/19/2016

DESIGNED	HTR/DRV/JRH
DRAWN	HTR/DRV/JRH
REVIEWED	HTR/BDB
SHEET TITLE	

Erosion Control Details
SHEET NUMBER
C11



BACKGROUND: This application serves to renew the approval of PP-01-04. The original application was approved by the Planning Commission on February 1, 2007, renewed in March, 2014 and all allowable time extensions to submit a final plat application have expired.

ADDITIONAL STAFF COMMENTS:

Original application reviews and approvals were granted under the guidance of Dave Peterson, the former Planning Director. This preliminary plat approval was extended in 2010 and 2012. The current application contains no modifications to the original submittal. A copy of the 2007 preliminary plat is included with this staff report.

Planning Commission Review and Action: Upon review of the preliminary plat application the Planning Commission shall determine if the plat conforms to the provisions of the Subdivision Regulations and Comprehensive Plan. The Planning Commission shall take action to:

- Approve the application, or
- Approve the application with modifications, or
- Table action on the application to a specific date and notify the applicant of such action
- Reject the application

RECOMMENDATION:

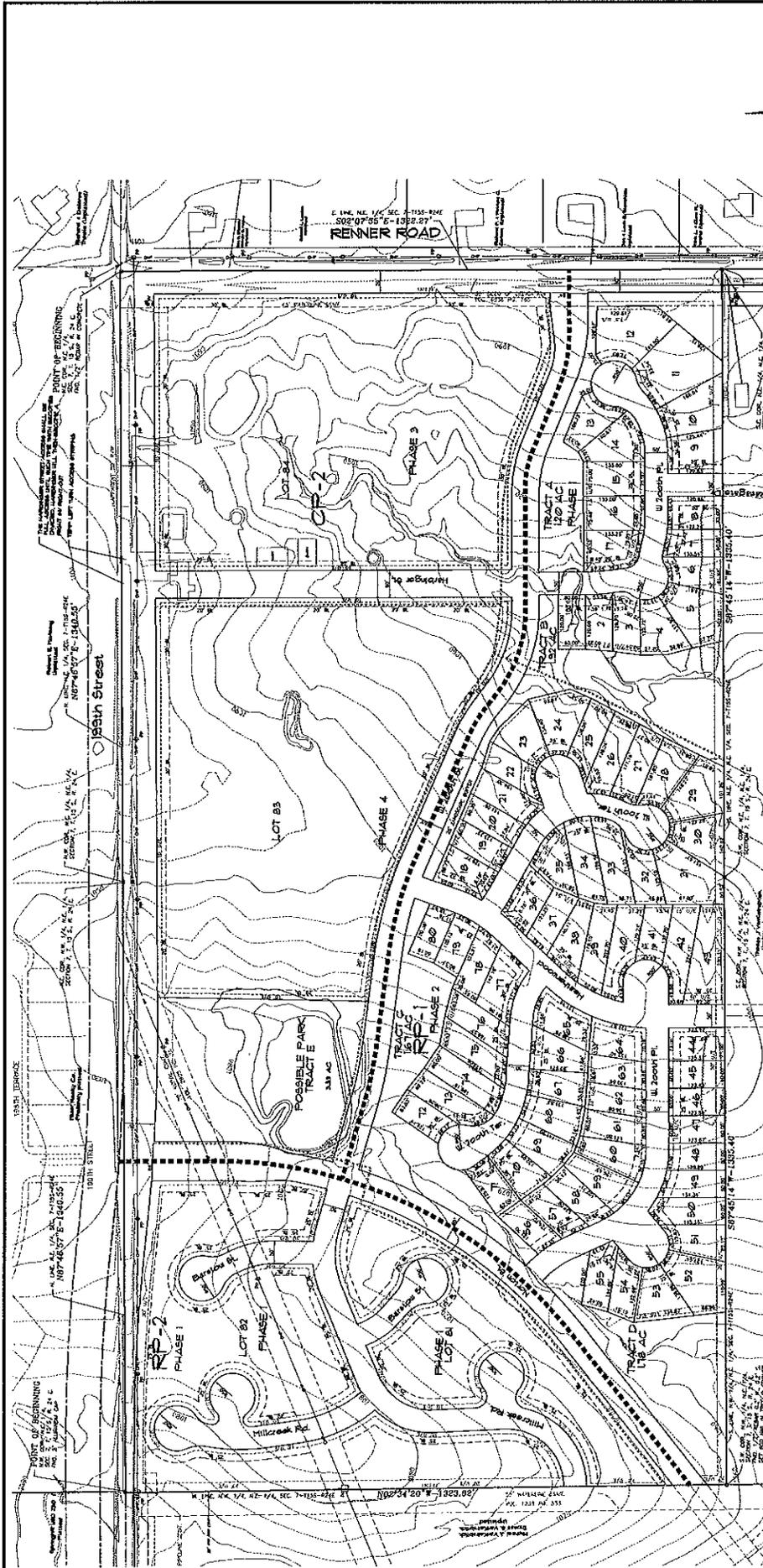
Staff recommends approval of the Ridgefield Subdivision Preliminary Plat, PP-01-16 subject to the following conditions that are identical to the conditions placed on the original preliminary plat application PP-01-07:

- 1) The final plat shall clearly designate future access to 199th Street to be limited to one full access intersection at Norton Street and a right-in/right-out access to the CP-2 area when the road is built to four-lanes with a median.
- 2) The City only accepts the park land, trail, and water feature if they meet the City standards when the final plat is submitted. Financial guarantees shall be provided with the final plat to ensure construction of the amenities to be dedicated to the City.
- 3) The City-at-large is granted access to the neighborhood trail system through a public access easement on the final plat.
- 4) A home owners association maintain the parks, open space and trail system that the City does not accept.
- 5) The applicant pays a park fee when a building permit is issued if the City does not accept the park land; and access to the trail system is granted to the City-at-large.
- 6) A master landscape plan for areas of common open space tracts, and a landscape buffer for residential areas abutting 199th St. or Renner Road shall be submitted with the final plat(s). This includes the parking lot frontage being screened with meandering and undulating berms of no less than 4-feet in height topped by dense evergreens to form a solid screen at maturity with a total height of 10 to 12 feet from grade. In addition, staff recommends that the developer provide some ornamental trees and shrubs under the overhead

power line along the trails in accordance with the planting types recommended by KCP&L.

- 7) The final plat(s) for residential areas abutting 199th Street or Renner Road shall identify a perimeter common open space landscape buffer tract on the rear of any lots along those roadways (minimum 25-foot width) exclusive of utility easements along the roadway.
- 8) A street tree plan for all local and collector streets will need to be submitted with the final plat(s) addressing the following, unless more restrictive city requirements are in effect at the time of installation:
 - Street tree species approved by the City.
 - An average spacing of forty (40) linear feet between trees, with a minimum planting size of two and one-half (2 ½) inch caliper to three (3) inch caliper as measured six (6) inches above ground.
 - The location of such trees must be coordinated so the trees at maturity are an adequate distance away from storm sewer inlets, street lights, fire hydrants, and sight-distance triangles at the street intersection.
 - All trees must be guaranteed for a period of no less than two years.
- 9) The developer builds the street improvements at the time identified in the City Traffic Engineer's letter.
- 10) The developers contribution to the cost of the traffic signal at 199th Street and Norton Street will be determined at the time the signal is warranted, based on the percentage of traffic contributed by this development.

Suggested Motion: Motion to recommend approval of Preliminary Plat application PP-01-16 for Ridgefield Subdivision including conditions 1-10 as presented in the staff report.

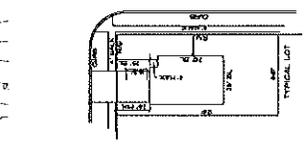


**Preliminary Plat
Ridgefield**
Spring Hill, Kansas

Scale: 1" = 100'

PHI
PHILIP H. HARRIS, INC.
PHILIP H. HARRIS, INC.
PHILIP H. HARRIS, INC.
PHILIP H. HARRIS, INC.

Oppermann LandDesign, LLC
Land Building & Landscape Architecture
1123 Shawnee Blvd. • Spring Hill, Kansas • 66119

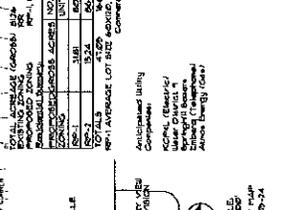


TRACTS	ACRES
A	1.00
B	1.00
C	1.00
D	1.00
E	1.00
TOTAL	5.00

1 ACTIVE OPEN SPACE
** POSSIBLE 3.33 AC PARKS - 4.65%

PHASE	NO. OF UNITS	DENSITY	SQ. FT. OF SITE	PROVIDED PARKING	REQUIRED PARKING	OPEN SPACE	PROVIDED OPEN SPACE	REQUIRED OPEN SPACE	NET OPEN SPACE
1	100	2.00	50,000	100	100	1.00	1.00	1.00	0.00
2	50	1.00	50,000	50	50	1.00	1.00	1.00	0.00
3	50	1.00	50,000	50	50	1.00	1.00	1.00	0.00
4	50	1.00	50,000	50	50	1.00	1.00	1.00	0.00
TOTAL	250	1.00	200,000	250	250	4.00	4.00	4.00	0.00

PHASE	NO. OF UNITS	DENSITY	SQ. FT. OF SITE	PROVIDED PARKING	REQUIRED PARKING	OPEN SPACE	PROVIDED OPEN SPACE	REQUIRED OPEN SPACE	NET OPEN SPACE
1	100	2.00	50,000	100	100	1.00	1.00	1.00	0.00
2	50	1.00	50,000	50	50	1.00	1.00	1.00	0.00
3	50	1.00	50,000	50	50	1.00	1.00	1.00	0.00
4	50	1.00	50,000	50	50	1.00	1.00	1.00	0.00
TOTAL	250	1.00	200,000	250	250	4.00	4.00	4.00	0.00



195th Street
Ridgefield Road

Scale: 1" = 100'