

**GENOA CHARTER TOWNSHIP
PLANNING COMMISSION
PUBLIC HEARING
JULY 22, 2013
6:30 P.M.
AGENDA**

CALL TO ORDER:

PLEDGE OF ALLEGIANCE:

INTRODUCTIONS:

APPROVAL OF AGENDA:

CALL TO THE PUBLIC:

OPEN PUBLIC HEARING #1... Review of site plan, special use, and environmental impact assessment for proposed 16,120 square-foot gymnasium and classroom addition for Brighton Nazarene Church, located at 7669 Brighton Road in Section 25, petitioned by Brighton Nazarene Church.

Planning Commission disposition of petition

- A. Recommendation of Special Use
- B. Recommendation of Environmental Impact Assessment.
- C. Recommendation of Site Plan.

Administrative Business:

- *Staff report*
- *Approval of June 10, 2013 Planning Commission meeting minutes*
- *Member Discussion*
- *Adjournment*

**GENOA TOWNSHIP
APPLICATION FOR SITE PLAN REVIEW**

TO THE GENOA TOWNSHIP PLANNING COMMISSION AND TOWNSHIP BOARD:

APPLICANT NAME & ADDRESS*: Brighton Nazarene Church

OWNER'S NAME & ADDRESS: Same as applicant

SITE ADDRESS: 7669 Brighton Road PARCEL #(s): 4711-25-400-058
Brighton, Mi 48116

APPLICANT PHONE: (810) 227-6600 OWNER PHONE: ()

LOCATION AND BRIEF DESCRIPTION OF SITE: North side of Brighton Road west of Worden Lake Woods. The site is currently occupied by Brighton Nazarene Church.

BRIEF STATEMENT OF PROPOSED USE: New gymnasium and Sunday School Classrooms. The existing Church use shall remain.

THE FOLLOWING BUILDINGS ARE PROPOSED: Expansion of the existing Church to include a new gymnasium and additional Sunday School classrooms.

I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BY: Gary Anson

ADDRESS: 7669 Brighton Rd., Brighton, Mi 48116

* If applicant is not the owner, a letter of Authorization from Property Owner is needed.

Contact Information - Review Letters and Correspondence shall be forwarded to the following:
1.) Brent LaVanway of Boz Engineering at (517) 548-1670
Name Business Affiliation Fax No.

FEE EXCEEDANCE AGREEMENT

As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.

SIGNATURE: Gary Anson DATE: 5/29/13
PRINT NAME: Gary Anson PHONE: _____
ADDRESS: 7669 Brighton Road Brighton, Mi 48116

**APPLICATION FOR SPECIAL LAND USE
GENOA TOWNSHIP**

APPLICANT NAME* & ADDRESS: Brighton Nazarene Church

OWNER NAME* & ADDRESS: Same as applicant

SITE ADDRESS: 7669 Brighton Road PARCEL #(s): 4711-25-400-058
Brighton, MI 48116

APPLICANT PHONE: (810) 227-6600 OWNER PHONE: ()

Location and brief description of site and surroundings:
Subject site is existing Church Facility. Worden Lake
Woods single family residential development is to the
east.

Proposed Use:
Facility expansion for new gymnasium and additional
Sunday School classrooms

Describe how your request meets the Zoning Ordinance General Review Standards (section 19.03):

a. Describe how the use will be compatible and in accordance with the goals, objectives, and policies of the Genoa Township Comprehensive Plan and subarea plans, and will promote the Statement of Purpose of the zoning district in which the use is proposed.

The project is for a gym and Sunday School Classroom
addition to the existing Brighton Nazarene Church.

b. Describe how the use will be designed, constructed, operated, and maintained to be compatible with, and not significantly alter, the existing or intended character of the general vicinity.

The facility expansion allows the Church to serve
the existing congregation and future growth of the
Church.

c. How will the use be served adequately by essential public facilities and services such as highways, streets, police and fire protection, drainage structures, water and sewage facilities, refuse disposal and schools?

The site is currently, and will be served by public
water and a septic system. The primary use of the facility
places little burden on roads, police and fire protection

d. Will the use involve any uses, activities, processes, or materials potentially detrimental to the natural environment, public health, safety, or welfare by reason of excessive production of traffic, noise, vibration, smoke, fumes, odors, glare, or other such nuisance? If so, how will the impacts be mitigated?

Minimal traffic impact. No hazardous substances.

e. Does the use have specific criteria as listed in the Zoning Ordinance (sections 3.03.02, 7.02.02, & 8.02.02)?
If so, describe how the criteria are met.

Yes, all criteria are met except existing parking
is within approximately 8 feet of the east property
line.

I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION ARE TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF. I AGREE TO DESIGN, CONSTRUCT AND OPERATE, AND MAINTAIN THESE PREMISES AND THE BUILDINGS, STRUCTURES, AND FACILITIES WHICH ARE GOVERNED BY THIS PERMIT IN ACCORDANCE WITH THE STATED REQUIREMENTS OF THE GENOA TOWNSHIP ZONING ORDINANCE, AND SUCH ADDITIONAL LIMITS AND SAFEGUARDS AS MAY BE MADE A PART OF THIS PERMIT.

THE UNDERSIGNED Gary Anscombe STATES THAT THEY ARE THE FREE OWNER* OF THE PROPERTY OF PROPERTIES DESCRIBED ABOVE AND MAKES APPLICATION FOR THIS SPECIAL LAND USE PERMIT.

x BY Gary Anscombe

ADDRESS: 7669 Brighton Road Brighton, MI 48116

*Submit a letter of Authorization from Property Owner if application is signed by Acting Agent.

Contact Information - Review Letters and Correspondence shall be forwarded to the following:

1.) Brent LaVanway of Boss Engineering at (517) 548-1670
Name Business Affiliation Fax No.

Note: This application must be accompanied by a site plan review application and the associated site plan review submittal requirements. (The Zoning Administrator may allow a less detailed sketch plan for a change in use.)

FEE EXCEEDANCE AGREEMENT

As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.

SIGNATURE: Gary Anscombe DATE: 5/29/13

PRINT NAME: GARY ANSCOMBE PHONE: _____

ADDRESS: 7669 Brighton Road Brighton, MI 48116



LSL Planning, Inc.

Community Planning Consultants

July 15, 2013

Planning Commission
Genoa Township
2911 Dorr Road
Brighton, Michigan 48116

Attention:	Kelly Van Marter, AICP Assistant Township Manager and Planning Director
Subject:	Brighton Nazarene – Special Land Use and Site Plan Review #2
Location:	7669 Brighton Road – northwest corner of Brighton and Aljoann Roads
Zoning:	SR Suburban Residential District

Dear Commissioners:

At the Township’s request, we have reviewed the revised site plan (dated 7/2/13), as well as the application for special land use (dated 5/29/13) proposing a 16,120 square foot addition to the existing Brighton Nazarene Church located at 7669 Brighton Road. The subject site, as well as adjacent properties are zoned SR Suburban Residential District. We have reviewed the proposal in accordance with the applicable provisions of the Genoa Township Zoning Ordinance and Master Plan.

A. Summary

1. In our opinion, the general special land use standards of Article 19 and the specific use conditions of Article 3 are met; however, any issues raised by the Township Engineer must be addressed.
2. The Planning Commission has approval authority over the building elevations. We request the applicant confirm that proposed materials and colors will match the existing building. The applicant should also provide an elevation view of the west side of the proposed addition.
3. The Township may wish to request additional details regarding the overflow parking arrangement with Brighton High School.
4. The Township may wish to require additional landscaping to break up large expanses of pavement.
5. Cut sheets of proposed light fixtures must be provided.
6. The Township may wish to request details of existing light fixtures to ensure compliance with current standards.

B. Proposal/Process

The applicant requests special land use and site plan review/approval for a 16,120 square foot addition to the existing Brighton Nazarene Church. The proposed addition is intended for a gymnasium and additional Sunday School classrooms.

Table 3.03 of the Township Zoning Ordinance lists churches as special land uses in the SR District. In accordance with Section 19.06, the proposed addition has been deemed a major amendment to an existing special land use. Therefore, a new application for special land use approval is required in addition to the need for site plan review/approval. Churches are also subject to the use conditions of Section 3.03.02(1).

Following a public hearing, the Planning Commission may forward its recommendation on both the special land use and site plan to the Township Board for their consideration.



Aerial view of site and surroundings (looking west)

C. Special Land Use Review

Section 19.03 of the Zoning Ordinance identifies the review criteria for Special Land Use applications as follows:

- 1. Master Plan.** The Master Plan and Future Land Use Map identify the site and adjacent properties to the east and west as Low Density Residential. This classification is generally intended for single-family development on lots with at least 1-acre in area.

While the description in the Plan does not reference institutional uses specifically, there is an overall goal to “accommodate a variety of land uses that are located in a logical pattern and complement community goals, the surrounding land uses, environment, capacity of roads and the sanitary sewer, and public water system capabilities.”

In our opinion, the proposed project is consistent with this goal statement as an expansion to an existing institutional use in an area containing a mix of residential and other non-residential uses.

- 2. Compatibility.** The site is located on the north side of Brighton Road in an area already developed with a mix of institutional and single-family residential land uses. Brighton High School, a larger and more impactful institutional use, is located across Brighton Road to the south and east. Given the established land use pattern in this area of the Township, the proposed building addition is generally expected to be compatible with surrounding land uses.
- 3. Public Facilities and Services.** The Impact Assessment notes that the site is currently served by public water and a septic system. The project engineer also indicates that they have met with the County Drain Commissioner to ensure appropriate stormwater management.

The site has access to a paved public roadway and the proposed addition is not expected to generate a substantial amount of additional traffic since its use will coincide with use of the existing facility. With that being said, the applicant must address any comments provided by the Township Engineer with respect to this criterion.

4. **Impacts.** The project area is located where a parking lot currently exists and is not expected to impact existing environmental features (Worden Lake is several hundred feet to the north).
5. **Mitigation.** If any additional concerns arise as part of this review process, the Township may require mitigation necessary to limit or alleviate any potential adverse impacts as a result of the proposed project.

D. Use Conditions

Section 3.03.02(1) provides the following use conditions related to churches:

1. **Minimum lot area shall be three (3) acres plus an additional fifteen thousand (15,000) square feet for each one hundred (100) persons of seating capacity.**

The calculations on Sheet 3 identify an existing capacity of 520 seats in the worship area. This calculation requires a minimum lot area of roughly 5 acres, while the site contains 15.8 acres (net).

This condition is met.

2. **Buildings of greater than the maximum height allowed in Section 3.04, Dimensional Standards, may be allowed provided front, side and rear yards are increased above the minimum required yards by one foot for each foot of building height that exceeds the maximum height allowed. The maximum height of a steeple shall be sixty (60) feet.**

The elevation drawings submitted provide a building height of approximately 23 feet for the proposed addition; Section 3.04 establishes a maximum building height of 35 feet.

This condition is met.

3. **Wherever an off-street parking area is adjacent to a residential district, there shall be a minimum parking lot setback of fifty (50) feet with a continuous obscuring wall, fence and/or landscaped area at least four (4) feet in height shall be provided. The Township Board may reduce this buffer based on the provision of landscaping, the presence of existing trees or in consideration of topographic conditions.**

The site is adjacent to residential zoning (SR District) on each side. Much of the existing parking lot encroaches into the 50-foot setback along the east side; however, there is also an existing buffer area containing landscape screening in the form of several tightly spaced evergreen trees.

Furthermore, the northerly parking area, which includes a new paved parking lot, meets or exceeds the required setback from both side lot lines, as well as the rear lot line.

This condition is met.

4. **Private schools and child day care centers may be allowed as an accessory use to churches, temples and similar places of worship where the site has access to a paved public roadway.**

The proposed building addition contains classrooms, although as noted in the Impact Assessment they are intended for Sunday School and not a separate private school. Regardless, the site has access to a paved public roadway.

This condition is met.

E. Site Plan Review

- 1. Dimensional Requirements.** As described in the table below, the project complies with the dimensional standards of the SR District:

District	Lot Size		Minimum Setbacks (feet)			Max. Height	Lot Coverage
	Lot Area (acres)	Width (feet)	Front Yard	Side Yard	Rear Yard		
SR	1	100	40	20	50	35'	20% building 35% impervious
Proposal	15.8	331	207 (existing)	26.8 (proposed)	214 (existing for Parsonage)	23'	9.2% building 26.4% impervious

- 2. Building Materials and Design.** Proposed elevations, including colors and materials, are subject to review and approval by the Planning Commission. The submittal includes elevation views of two of the three building sides and generally utilizes a brick veneer and metal siding as primary materials. The east elevation includes brick columns matching those at the main church entrance. The addition also includes a pitched metal roof.

As noted in our initial review letter, our primary concern related to this criterion is ensuring that the proposed addition matches the existing building in terms of materials and colors to the greatest extent possible. As such, in addition to providing an elevation view of the west side, we request the applicant confirm that proposed colors and materials will match existing.

- 3. Parking and Vehicular Circulation.** In accordance with Section 14.04, churches and similar places of worship require 1 parking space for each 3 seats in the main unit of worship. Based upon the calculations provided by the project engineer, 174 spaces are required, while 237 are provided.

The parking spaces, drive aisles and number of barrier free spaces all meet or exceed the standards of Article 14.

Although the parking requirements are met, Sheet 3 includes a note stating that arrangements are made for use of the Brighton High School parking lot when overflow parking is necessary. The Township may wish to request additional information regarding this arrangement in terms of whether a formal agreement has been made and whether a shuttle service is provided to get visitors across Brighton Road.

- 4. Vehicular Circulation.** The site plan indicates use of the existing driveway along Brighton Road. As described above, all drive aisles meet or exceed minimum dimensional requirements and the site currently provides a drop off/pick up area along the main entrance to the worship area. The additional building and parking areas are expected to blend in with the established vehicular circulation pattern.
- 5. Loading.** Given the overall size of the buildings in combination, Section 14.08.08 requires upwards of 3 loading spaces, which are to be located in a rear or side yard not directly visible to a public street. The revised site plan includes a new loading area behind the proposed building addition.
- 6. Landscaping.** The site contains a significant amount of existing landscaping, including around the existing detention pond, along the east side lot line to buffer the existing single-family residences and within the undeveloped portion north of the buildings.

The proposed plan includes 3 new canopy trees in a parking lot island towards the south end of the site. While much of the parking lot exists today, the Township may wish to require additional parking lot landscaping in accordance with Section 12.02.04 to break up the large expanses of pavement, particularly for the new paved parking area.

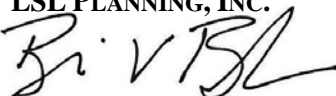
7. **Waste Receptacle and Enclosure.** The project includes a new waste receptacle and enclosure on the east side of the “skate park” building. Details, provided on Sheet 7, identify a base pad and screen enclosure consistent with the requirements of Section 12.04.
8. **Pedestrian Circulation.** Section 12.05 requires sidewalks and pathways along certain road frontages. For county primary roads designated on the pathways plan, which includes Brighton Road, an 8-foot asphalt pathway is required. Based upon review of aerial photos for the site, it appears the required pathway is already in place.
9. **Exterior Lighting.** Sheet 6 of the submittal identifies two new light poles in the newly paved parking area. Pole height and light intensity readings comply with Section 12.03, although fixture cut sheets need to be provided.

The site plan also identifies several existing light fixtures, but does not include any details. The Township may wish to request details and an expanded photometric plan to ensure that existing lighting complies with current requirements.

10. **Signs.** The applicant has confirmed that no new signage is proposed as part of this project.
11. **Impact Assessment.** The submittal includes a revised Impact Assessment (dated 7/2/13). In summary, the Assessment notes that the project is not anticipated to adversely impact natural features, public services/utilities, surrounding land uses or traffic.

Should you have any questions concerning this matter, please do not hesitate to contact our office. I can be reached by phone at (248) 586-0505, or via e-mail at borden@lslplanning.com.

Sincerely,
LSL PLANNING, INC.


Brian V. Borden, AICP
Senior Planner



July 15, 2013

Ms. Kelly Van Marter
Genoa Township
2911 Dorr Road
Brighton, MI 48116

**Re: Brighton Nazarene Church Facility Expansion
Site Plan Review Resubmittal #1**

Dear Ms. Van Marter:

We have reviewed the resubmitted site plan documents and application for special land use from Boss Engineering dated July 2, 2013, which was provided by the Township dated July 3, 2013. Boss Engineering provided clarification to the water main design on July 12, 2013. Tetra Tech reviewed the documents and offers the following additional comments:

SITE PLAN

1. The existing water main on the site has been changed with the fire hydrant that currently services the north end of the site now shown connected to the existing water main in Aljoann Road. An additional fire hydrant near the bend adjacent to the west property line is recommended to provide fire protection coverage to the western side of the site.
2. Water main should be at least 20 feet from any building, per standards. Petitioner should reevaluate the location of the proposed underground stormwater detention structure and check for any manufacturer-recommended construction clearances. Per Ten States Standards, water main should be maintained a minimum of 10 feet horizontal from sewer systems.
3. The location of any new water service connections should be clearly shown on the drawing. If any existing water service connections are presently located on a portion of water main to be removed, a replacement plan must be included in the final construction drawings.
4. Plans show a 6" well on the site, just north of the skate park building, less than 15 feet from the proposed water main trench. Please clarify the type of well and any impact on the water main alignment, proposed service connections, or if abandoned.

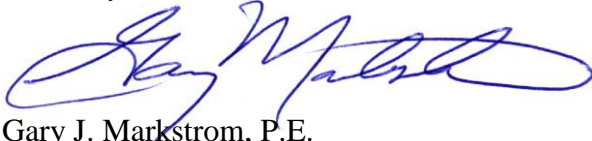
The petitioner has provided most of the required clarification; however, the existing and proposed water main still lacks some detail. Tetra Tech recommends the approval of the site plan if the clarifications

Ms. Kelly Van Marter
Brighton Nazarene Church Facility Expansion
July 15, 2013
Page 2

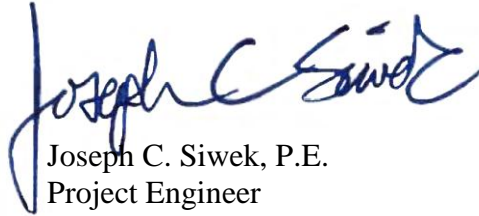
listed above are completed, and if it is confirmed that existing utilities as depicted are correct prior to issuing any land use permt.

Please call if you have any questions.

Sincerely,



Gary J. Markstrom, P.E.
Unit Vice President



Joseph C. Siwek, P.E.
Project Engineer

copy: Scott Tousignant, P.E., Boss Engineering



Brighton Area Fire Department

615 W. Grand River

Brighton, Michigan 48116

810-229-6640 Fax: 810-229-1619

July 15, 2013

Kelly VanMarter
Genoa Township
2911 Dorr Road
Brighton, MI 48116

RE: Brighton Nazarene Church Expansion
7669 Brighton Rd.
Revised Site Plan Review

Dear Kelly:

The Brighton Area Fire Department has reviewed the above mentioned revised site plan. The original plan was reviewed on June 24, 2013. The plans were received for review on July 9, 2013 and the drawings are dated July 2, 2013. The project is based on building a 16,120 S.F. expansion to the existing church building (size of existing building not provided). The plan review is based on the requirements of the International Fire Code (IFC) 2012 edition.

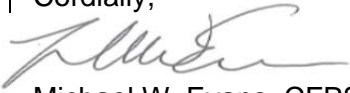
The applicant has attempted to address the fire department's concerns by submitting a letter from an Architect stating that the submittal meets the requirements of the Michigan Building Code. However, the plan does not meet the requirements of the Township's adopted fire prevention code for site and building accessibility.

The following items still need to be properly addressed.

1. The access to the building appears to be limited by an overhang that may not meet the minimum standard of 13.5'. Additional details shall be provided.
IFC 503.2.1
2. Access to and from the building shall provide emergency vehicles with an outside turning radius of 50' and a minimum vertical clearance of 13 ½ feet. ***A plan with a truck turning template applied would satisfy the turning radius requirement.***
IFC 503.2.4
3. Fire apparatus roads shall be provided to extend to within 150' of all portions of the facility's outer walls. The entire west perimeter wall does not meet this standard. The fire code allows an exception where the entire building is protected with an automatic sprinkler system. The building shall be provided with an automatic sprinkler system in accordance with NFPA 13, *Standard for the Installation of Automatic Sprinkler Systems* in order to have relief from the access requirement.
IFC 503.1.1, 903
4. The access road into the site shall be a minimum of 26' wide. Access roads to site shall be provided and maintained during construction. Access roads shall be constructed to be capable of supporting the imposed load of fire apparatus weighing at least 75,000 pounds.
IFC D103.1

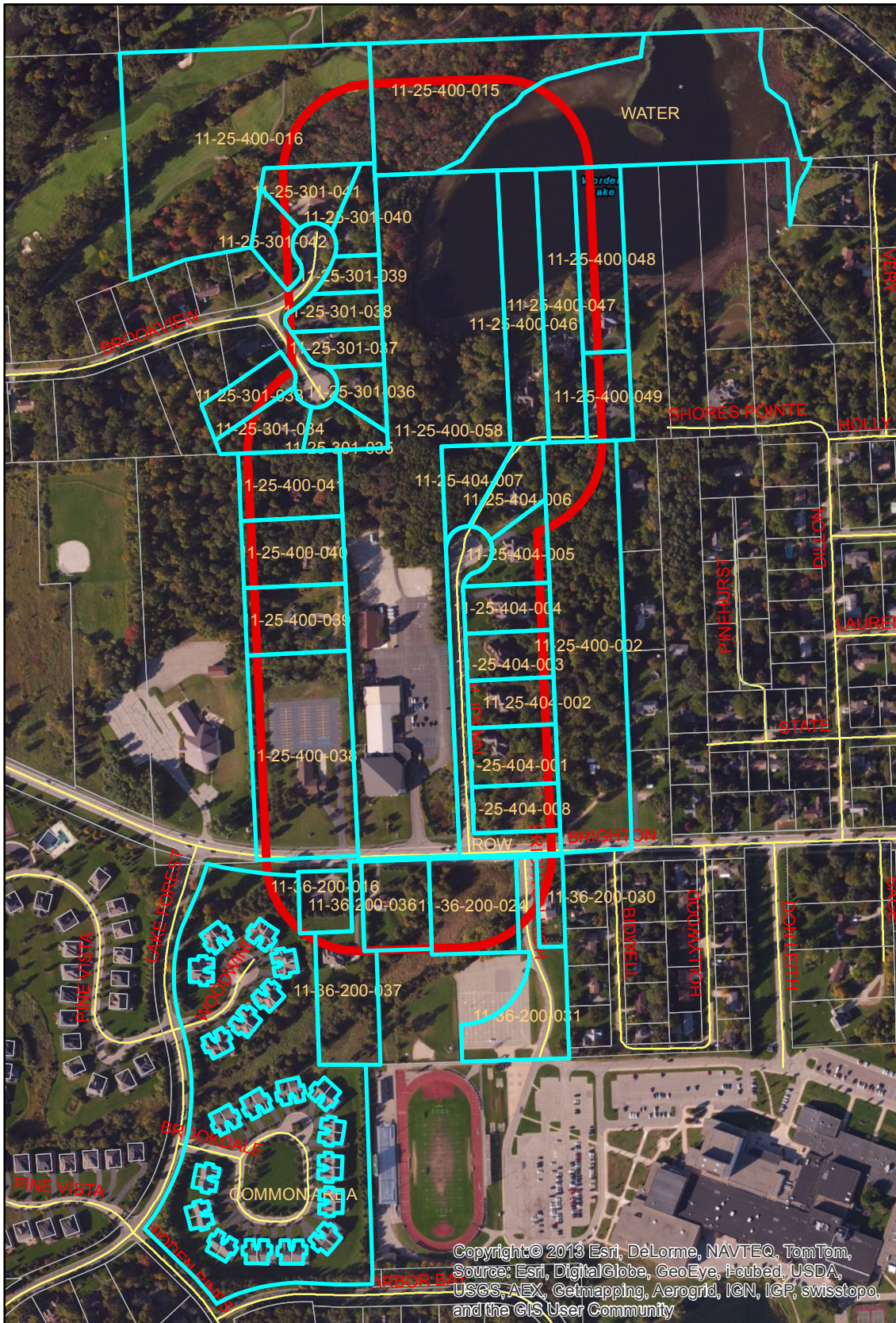
Additional comments will be given during the building plan review process (specific to the building plans and occupancy). If you have any questions about the comments on this plan review please contact me at 810-229-6640.

| Cordially,

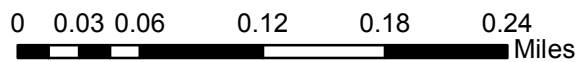
A handwritten signature in black ink, appearing to read "Michael W. Evans".

Michael W. Evans, CFPS
Deputy Chief

300 ft Buffer for Noticing



June 19, 2013



Variance Case #13-06
 Applicant: Brighton Nazarene Church, Gary Anscombe
 Parcel: 11-25-400-058
 Meeting Date: July 22, 2013



2911 Dorr Road
Brighton, MI 48116
810.227.5225
810.227.3420 fax
genoa.org

June 28, 2013

To Whom It May Concern:

There will be a hearing for a Special Land Use Permit in your general vicinity on Monday, July 22 at 6:30 p.m. at Genoa Township Hall, located at 2911 Dorr Road, Brighton, Michigan.

The property in question is located at Brighton Nazarene Church, 7669 Brighton Road. The Special Land Use has been requested for a 16,120 square foot gymnasium and classroom addition. The request is petitioned by Brighton Nazarene Church.

Materials relating to this request are available for public inspection at the Genoa Township Hall during regular business hours. If you have any questions or objections in this regard, please be present at the public hearing noted above. Written comments may be addressed to the Planning Commission.

Sincerely,

Kelly VanMarter
Assistant Township Manager / Community Development Director
KKV/kp

SUPERVISOR
Gary T. McCririe

CLERK
Paulette A. Skolarus

TREASURER
Robin L. Hunt

MANAGER
Michael C. Archinal

TRUSTEES
H. James Mortensen
Jean W. Ledford
Todd W. Smith
Linda Rowell

GENOA TOWNSHIP
MAY 31 2013

**IMPACT ASSESSMENT
FOR
SITE PLAN PETITION
"BRIGHTON NAZARENE CHURCH FACILITY EXPANSION"
GENOA TOWNSHIP, LIVINGSTON COUNTY
MICHIGAN**

Prepared for:

**BRIGHTON NAZARENE CHURCH
7669 BRIGHTON ROAD
BRIGHTON, MICHIGAN 48116
(810) 227-6600**

Prepared by:

**BOSS ENGINEERING COMPANY
3121 E. GRAND RIVER
HOWELL, MI 48843
(517) 546-4836**

May 31, 2013

13-100EIA

INTRODUCTION

The purpose of this Impact Assessment (IA) report is to show the effect that this proposed development may have on various factors in the general vicinity of the project. The format used for presentation of this report conforms to the *Submittal Requirements For Impact Assessment* guidelines in accordance with Section 18.07 of the published Zoning Ordinance for Genoa Township, Livingston County, Michigan.

DISCUSSION ITEMS

A. Name(s) and address(es) of person(s) responsible for preparation of the impact assessment and a brief statement of their qualifications.

Prepared By :
Brent W. LaVanway, P.E.
BOSS ENGINEERING COMPANY
Civil Engineers, Land Surveyors, Landscape Architects and Planners
3121 E. Grand River
Howell, MI 48843
(517) 546-4836

Prepared For :
Brighton Nazarene Church
Owner of property
7669 Brighton Road
Brighton, MI 48116
(810) 227-6600

B. Map(s) and written description / analysis of the project site including all existing structures, manmade facilities, and natural features. The analysis shall also include information for areas within 10 feet of the property. An aerial photograph or drawing may be used to delineate these areas.

The site is located on the north side of Brighton Road immediately west of the Worden Lake Woods development and slightly west of the entrance to Brighton High School. The subject property is currently the Brighton Nazarene Church Facility. There is the existing church building, parking lot, detention basin and parsonage. The north end of the property is heavily wooded. There are established tree row buffers on the east and west property lines. The subject property and both adjacent properties are zoned Suburban Residential (SR). The Brighton Nazarene Church also owns the contiguous parcel to the north.

C. Impact on natural features: A written description of the environmental characteristics of the site prior to development and following development, i.e., topography, soils, wildlife, woodlands, mature trees (eight inch caliper or greater), wetlands, drainage, lakes, streams, creeks or ponds. Documentation by a qualified wetland specialist shall be required wherever the Township determines that there is a potential regulated wetland. Reduced copies of the Existing Conditions Map(s) or aerial photographs may accompany written material.

The total site area is 16.43 acres. The front (south) portion of the site is the existing Church facility, associated parking lot, detention basin and parsonage. The developed site slopes south toward Brighton Road and the remainder of the site slopes north toward Worden Lake. The undeveloped portion of the site is predominantly wooded with the north end of the parcel terminating at Worden Lake. The USDA Soil Conservation Service soil classification for the site is Boyer-Oshtemo Loamy Sand.

The proposed building addition is located in an existing parking lot which will be relocated as part of the project. No tree removal is anticipated during construction of this expansion.

D. Impact on storm water management: Description of measures to control soil erosion and sedimentation during grading and construction operations and until a permanent ground cover is established. Recommendations for such measures may be obtained from County Soil Conservation Service.

Surface runoff during periods of construction will be controlled by proper methods set forth by the Livingston County Drain Commissioner, including silt fence, pea stone filters, and seed and mulch. A meeting was held with the Livingston County Drain Commissioner to address stormwater management. Their primary recommendation is to maintain the existing drainage patterns as closely as possible.

At the time of construction, there may be some temporary dust, noise, vibration and smoke, but these conditions will be of relatively short duration and shall be controlled by applying appropriate procedures to minimize the effects, such as watering if necessary for dust control.

The Site Plan documents show the proposed locations of all site improvements along with detailed soil erosion control information. The plans will be reviewed by the Livingston County Drain Commissioner's office for compliance with their regulations prior to issuance of a Soil Erosion Control permit.

E. Impact on surrounding land use: Description of the types of proposed uses and other man made facilities, including any project phasing, and an indication of how the proposed use conforms or conflicts with existing and potential development patterns. A description shall be provided of any increases of light, noise or air pollution which could negatively impact adjacent properties.

As previously stated the site is the current home of the Brighton Nazarene Church. This facility expansion project will provide a larger gymnasium and additional Sunday School classrooms. The classrooms are only for Sunday School and are not for a 5 day per week school. The existing gymnasium will be converted to additional Sunday School classrooms. All other uses at the Church will remain as they are now. The parking that is displaced with the building addition will be added toward the north end of the site and an underground detention system will be constructed under the new parking lot to address stormwater management.

The increase in light, noise or air pollution would be negligible given the site is already developed.

F. Impact on public facilities and services: Description of number of expected residents, employees, visitors, or patrons, and the anticipated impact on public schools, police protection and fire protection. Letters from the appropriate agencies may be provided, as appropriate.

The primary use of the facility is for Sunday Church services however additional activities take place throughout the week. These activities vary from small group meetings to additional worship services. Typically these occur during off peak traffic hours thus do not significantly impact the traffic on Brighton Road. The site is serviced by public water and a septic system. The public water is provided by the City of Brighton. The septic system review is under the jurisdiction of the Livingston County Health Department. There is no expected impact on Brighton Area Schools and very minimal impact on the police and fire departments.

G. Impact on public utilities: Description of the method to be used to service the development with water and sanitary sewer facilities, the method to be used to control drainage on the site and from the site, including runoff control during periods of construction. For sites service with sanitary sewer, calculations for pre- and post development flows shall be provided in equivalents to a

single family home. Where septic systems are proposed, documentation or permits from the Livingston County Health Department shall be provided.

The development is currently served by both public water and septic system. With regards to storm water management, the project would be required to meet all local, county and state storm water and erosion control requirements. All of the required information is included in the Site Plan documents.

H. Storage or handling of any hazardous materials: Description of any hazardous substances expected to be used, stored or disposed of on the site. The information shall describe the type of materials, location within the site and method of containment. Documentation of compliance with federal and state requirements, and a Pollution Incident Prevention Plan (PIPP) shall be submitted, as appropriate.

There will be no hazardous materials used or disposed of on this site.

I. Impact on traffic and pedestrians: A description of the traffic volumes to be generated based on national reference documents, such as the most recent edition of the Institute of Transportation Engineers Trip Generation Manual, other published studies or actual counts of similar uses in Michigan.

The Church expansion project will generate a negligible number of trips during the AM and PM peak hours Monday through Friday. Most of the traffic will be generated on Sunday mornings for worship services. Some traffic will occur during the week for various activities that take place. Little of this traffic will occur during peak traffic hours.

J. A detailed traffic impact study shall be submitted for any site over ten (10) acres in size which would be expected to generate 100 directional vehicle trips (i.e. 100 inbound or 100 outbound trips) during the peak hour of traffic of the generator or on the adjacent streets.

The facility is primarily used on Sunday mornings therefore a detailed traffic impact study is not necessary.

K. Special Provisions: General description of any deed restrictions, protective covenants, master deed or association bylaws.

The Church requires a Special Use Permit to operate in a residentially zoned district.

L. A list of all sources shall be provided.

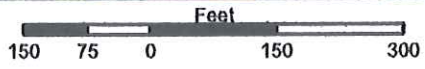
Genoa Township's *Submittal Requirements For Impact Assessment*

Genoa Township Zoning Ordinances

Soil Survey of Livingston County, Michigan, U.S.D.A. Soil Conservation Service

National Wetland Inventory Plan, United States Department of the Interior, Fish and Wildlife Service

APPENDIX

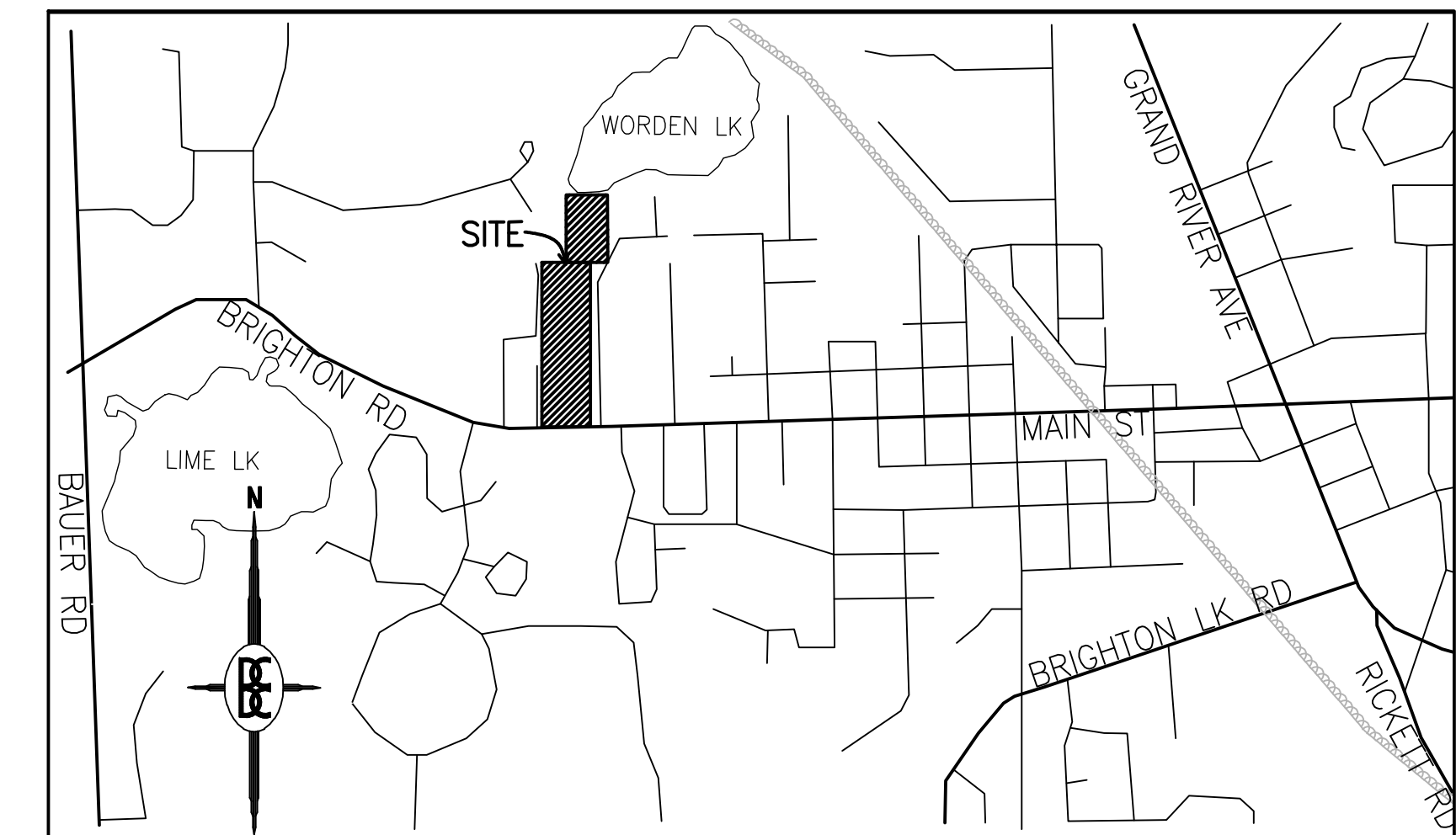


SITE PLAN FOR BRIGHTON NAZARENE CHURCH FACILITY EXPANSION

PART OF SE 1/4 SEC. 25, T.2N., R.5E. GENOA TOWNSHIP, LIVINGSTON COUNTY, MI

PROPERTY DESCRIPTION:

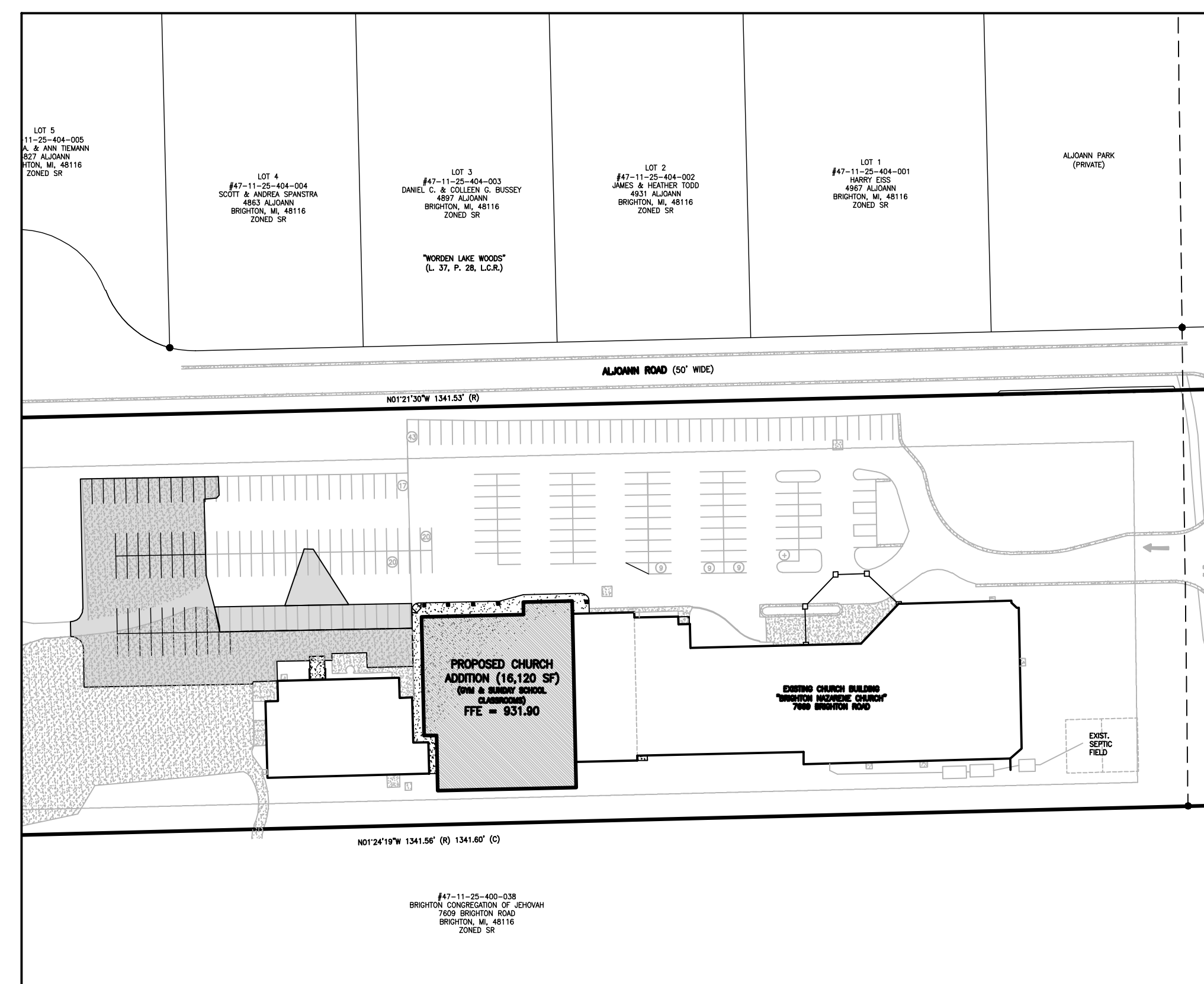
A part of the SE 1/4 of Section 25, T2N-R5E thence N 89°08'13" E 663.28 feet to Point of Beginning, thence continue E 331.64 feet, thence N 01°21'30" W 1341.53 feet, thence S 89°03'20" E 332.74 feet, thence S 01°24'19" E 1341.56 feet to Point of Beginning and also Section 25, T2N-R5E Beginning at the SE 1/4 corner, thence N 01° W 1340.63 feet thence N 89° E 823.63 feet to Point of Beginning, thence N 01° W 891.73 feet, thence N 88° E 400.81 feet, thence S 01° E 893.61 feet, thence S 89° W 400.83 feet to Point of Beginning, containing 16.43 acres, more or less split on 01/23/2012 with 4711-25-400-027 into 4711-25-400-058



LOCATION MAP
NO SCALE

CONSTRUCTION NOTES

- THE CONTRACTOR SHALL COMPLY WITH THE FOLLOWING NOTES AND ANY WORK INVOLVED SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- THE CONTRACTOR SHALL HOLD HARMLESS THE DESIGN PROFESSIONAL, MUNICIPALITY, COUNTY, STATE AND ALL OF ITS SUB CONSULTANTS, PUBLIC AND PRIVATE UTILITY COMPANIES, AND LANDOWNERS FOR DAMAGES TO INDIVIDUALS AND PROPERTY, REAL OR OTHERWISE, DUE TO THE OPERATIONS OF THE CONTRACTOR AND/OR THEIR SUBCONTRACTORS.
 - DO NOT SCALE THESE DRAWINGS AS IT IS A REPRODUCTION AND SUBJECT TO DISTORTION.
 - A GRADING PERMIT FOR SOIL EROSION-SEDIMENTATION CONTROL SHALL BE OBTAINED FROM THE GOVERNING AGENCY PRIOR TO THE START OF CONSTRUCTION.
 - IF DUST PROBLEM OCCURS DURING CONSTRUCTION, CONTROL WILL BE PROVIDED BY AN APPLICATION OF WATER, EITHER BY SPRINKLER OR TANK TRUCK.
 - ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH LOCAL MUNICIPAL STANDARDS AND SPECIFICATIONS.
 - THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED TOWNSHIP, COUNTY, AND STATE OF MICHIGAN PERMITS.
 - PAVED SURFACES, WALKWAYS, SIGNS, LIGHTING AND OTHER STRUCTURES SHALL BE MAINTAINED IN A SAFE, ATTRACTIVE CONDITION AS ORIGINALLY DESIGNED AND CONSTRUCTED.
 - ALL BARRIER-FREE FEATURES SHALL BE CONSTRUCTED TO MEET ALL LOCAL, STATE AND A.D.A. REQUIREMENTS.
 - ANY DISCREPANCY IN THIS PLAN AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE DESIGN ENGINEER PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS, EASEMENTS AND DIMENSIONS SHOWN HEREON BEFORE BEGINNING CONSTRUCTION.
 - THE CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES AND RIGHTS-OF-WAY, PUBLIC OR PRIVATE, PRIOR TO THE START OF CONSTRUCTION.
 - THE CONTRACTOR SHALL COORDINATE WITH ALL OWNERS TO DETERMINE THE LOCATION OF EXISTING LANDSCAPING, IRRIGATION LINES & PRIVATE UTILITY LINES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING LANDSCAPING, IRRIGATION LINES, AND PRIVATE UTILITY LINES.
 - THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE UPON COMPLETION OF THE PROJECT.
 - THE CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY, AND ADJOINING PROPERTY PROTECTED FROM DAMAGE.
 - THE CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT ALL TIMES.
 - THE CONTRACTOR SHALL CALL MISS DIG A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
 - ALL EXCAVATION UNDER OR WITHIN 3 FEET OF PUBLIC PAVEMENT, EXISTING OR PROPOSED SHALL BE BACKFILLED AND COMPACTED WITH SAND (MDO CLASS II).
 - ALL PAVEMENT REPLACEMENT AND OTHER WORKS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWNSHIP, INCLUDING THE LATEST MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
 - THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.
 - NO ADDITIONAL COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR ANY DELAY OR INCONVENIENCE DUE TO THE MATERIAL SHORTAGES OR RESPONSIBLE DELAYS DUE TO THE OPERATIONS OF SUCH OTHER PARTIES DOING WORK INDICATED OR SHOWN ON THE PLANS OR IN THE SPECIFICATION OR FOR ANY REASONABLE DELAYS IN CONSTRUCTION DUE TO THE ENCOUNTERING OR EXISTING UTILITIES THAT MAY OR MAY NOT BE SHOWN ON THE PLANS.
 - DURING THE CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL NOT PERFORM WORK BY PRIVATE AGREEMENT WITH PROPERTY OWNERS ADJACENT TO THE PROJECT.
 - IF WORK EXTENDS BEYOND NOVEMBER 15, NO COMPENSATION WILL BE DUE TO THE CONTRACTOR FOR ANY WINTER PROTECTION MEASURES THAT MAY BE REQUIRED BY THE ENGINEER.
 - NO TREES ARE TO BE REMOVED UNTIL MARKED IN THE FIELD BY THE ENGINEER.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE PROPERTY BEYOND THE CONSTRUCTION LIMITS INCLUDING BUT NOT LIMITED TO EXISTING FENCE, LAWN, TREES AND SHRUBBERY.
 - ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND THE NORMAL CONSTRUCTION LIMITS OF THE PROJECT SHALL BE SOODED OR SEEDS AS SPECIFIED OR DIRECTED BY THE ENGINEER.
 - ALL ROOTS, STUMPS AND OTHER OBJECTIONABLE MATERIALS SHALL BE REMOVED AND THE HOLE BACKFILLED WITH SUITABLE MATERIAL. WHERE GRADE CORRECTION IS REQUIRED, THE SUBGRADE SHALL BE CUT TO CONFORM TO THE CROSS-SECTION AS SHOWN IN THE PLANS.
 - TRAFFIC SHALL BE MAINTAINED DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL SIGNS AND TRAFFIC CONTROL DEVICES. FLAG PERSONS SHALL BE PROVIDED BY THE CONTRACTOR IF DETERMINED NECESSARY BY THE ENGINEER. ALL SIGNS SHALL CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AT NO COST TO THE TOWNSHIP. NO WORK SHALL BE DONE UNLESS THE APPROPRIATE TRAFFIC CONTROL DEVICES ARE IN PLACE.
 - ALL DEMOLISHED MATERIALS AND SOIL SPOILS SHALL BE REMOVED FROM THE SITE AT NO ADDITIONAL COST, AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
 - AFTER REMOVAL OF TOPSOIL, THE SUBGRADE SHALL BE COMPACTED TO 95% OF ITS UNIT WEIGHT.
 - ALL GRADING IN THE PLANS SHALL BE DONE AS PART OF THIS CONTRACT. ALL DELETERIOUS MATERIAL SHALL BE REMOVED FROM THE SUBGRADE PRIOR TO COMPACTING.
 - NO SEEDING SHALL BE DONE AFTER OCTOBER 15 WITHOUT APPROVAL OF THE ENGINEER.
 - ANY EXISTING APPURTENANCES SUCH AS MANHOLES, GATE VALVES, ETC. SHALL BE ADJUSTED TO THE PROPOSED GRADE AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
 - SOIL EROSION MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL VEGETATION HAS BEEN RE-ESTABLISHED.
 - ALL PERMANENT SIGNS AND PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE MICHIGAN MUTCD MANUAL AND SHALL BE INCIDENTAL TO THE CONTRACT.



OVERALL SITE MAP
NO SCALE

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	EXISTING CONDITIONS & DEMOLITION PLAN
3	SITE PLAN
4	GRADING, DRAINAGE & SOIL EROSION CONTROL PLAN
5	UTILITY PLAN
6	LANDSCAPE & LIGHTING PLAN
7	CONSTRUCTION NOTES & DETAILS
8	UNDERGROUND DETENTION DETAILS
9	CONSTRUCTION NOTES & DETAILS
10	FLOOR PLAN
11	ELEVATION VIEWS

BRIGHTON NAZARENE CHURCH FACILITY EXPANSION

PREPARED FOR:

BRIGHTON NAZARENE CHURCH
7669 BRIGHTON ROAD
BRIGHTON, MI 48116
CONTACT: PASTOR BEN WALLS
810.227.6600

PREPARED BY:



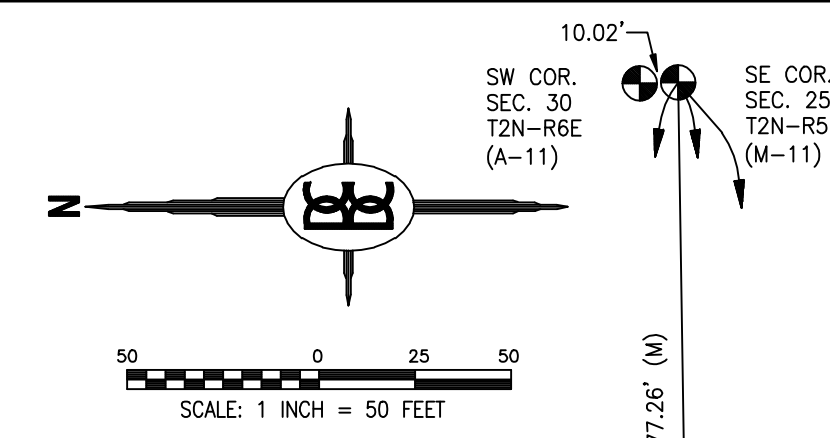
INDEMNIFICATION STATEMENT

THE CONTRACTOR SHALL HOLD HARMLESS THE DESIGN PROFESSIONAL, MUNICIPALITY, COUNTY, STATE AND ALL OF ITS SUB CONSULTANTS, PUBLIC AND PRIVATE UTILITY COMPANIES, AND LANDOWNERS FOR DAMAGES TO INDIVIDUALS AND PROPERTY, REAL OR OTHERWISE, DUE TO THE OPERATIONS OF THE CONTRACTOR AND/OR THEIR SUBCONTRACTORS.

1				
1	ST	TWP. REVIEW	7/2/13	ISSUE DATE: 5/31/13
NO	BY	CK	REVISION	DATE

ARCHITECT

SAHBA LA'AL, ARCHITECT
MACMULLAN ARCHITECTS
308 NORTH RIVER STREET
YPSILANTI, MICHIGAN 48198



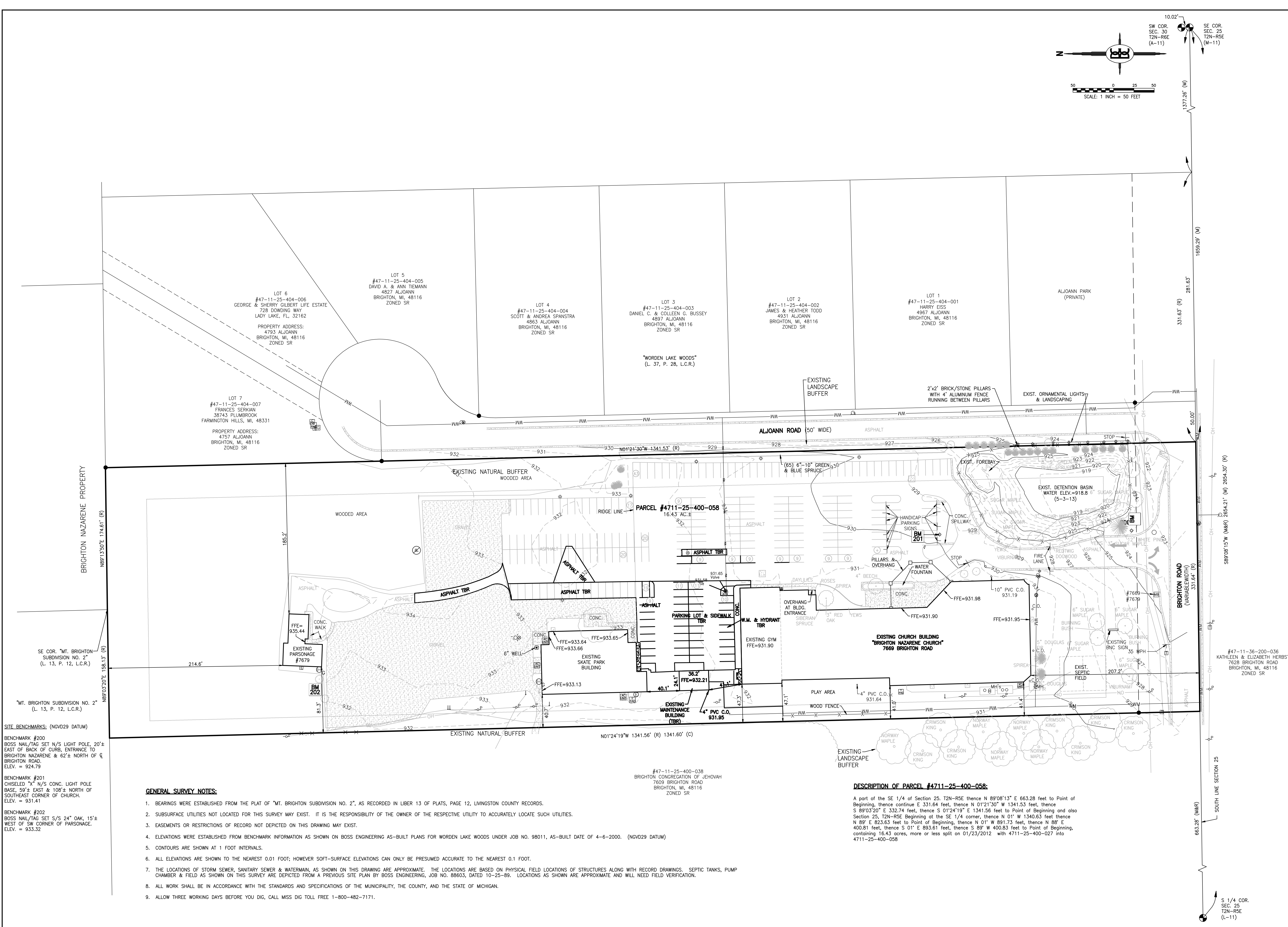
THE USER SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION SHOWN ON THESE DRAWINGS AND FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

BOSS ENGINEERING
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS

3121 E. GRAND RIVER AVE.
HOWELL, MI 48843
(800) 246-6725 FAX (517) 548-1670

B.N.C. FACILITY EXPANSION
BRIGHTON NAZARENE CHURCH
7669 BRIGHTON ROAD
BRIGHTON, MI 48116
810-227-6600

PROJECT:	B.N.C. FACILITY EXPANSION
PREPARED FOR:	BRIGHTON NAZARENE CHURCH
TITLE:	EXISTING CONDITIONS & DEMOLITION
DATE:	6/25/13
REVISION PER:	
NO BY:	
DESIGNED BY:	AEB
DRAWN BY:	AEB
CHECKED BY:	
SCALE:	1" = 50'
JOB NO.:	13-100
DATE:	5-31-13
SHEET NO.:	2



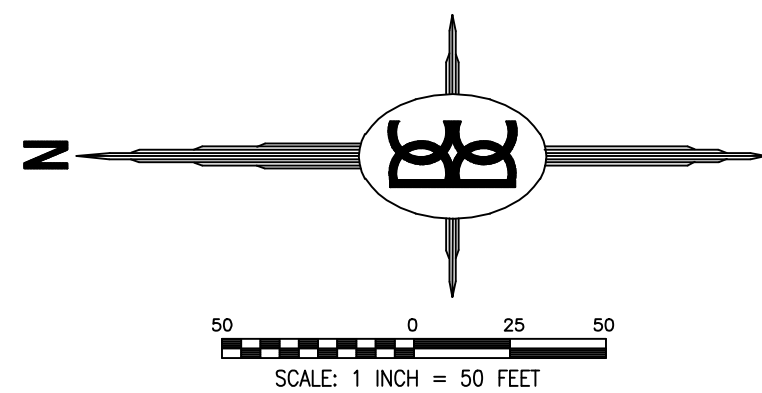
GENERAL SURVEY NOTES:

- BEARINGS WERE ESTABLISHED FROM THE PLAT OF "MT. BRIGHTON SUBDIVISION NO. 2", AS RECORDED IN LIBER 13 OF PLATS, PAGE 12, LIVINGSTON COUNTY RECORDS.
- SUBSURFACE UTILITIES NOT LOCATED FOR THIS SURVEY MAY EXIST. IT IS THE RESPONSIBILITY OF THE OWNER OF THE RESPECTIVE UTILITY TO ACCURATELY LOCATE SUCH UTILITIES.
- EASEMENTS OR RESTRICTIONS OF RECORD NOT DEPICTED ON THIS DRAWING MAY EXIST.
- ELEVATIONS WERE ESTABLISHED FROM BENCHMARK INFORMATION AS SHOWN ON BOSS ENGINEERING AS-BUILT PLANS FOR WORDEN LAKE WOODS UNDER JOB NO. 98011, AS-BUILT DATE OF 4-6-2000. (NGVD29 DATUM)
- CONTOURS ARE SHOWN AT 1 FOOT INTERVALS.
- ALL ELEVATIONS ARE SHOWN TO THE NEAREST 0.01 FOOT; HOWEVER SOFT-SURFACE ELEVATIONS CAN ONLY BE PRESUMED ACCURATE TO THE NEAREST 0.1 FOOT.
- THE LOCATIONS OF STORM SEWER, SANITARY SEWER & WATERMAIN, AS SHOWN ON THIS DRAWING ARE APPROXIMATE. THE LOCATIONS ARE BASED ON PHYSICAL FIELD LOCATIONS OF STRUCTURES ALONG WITH RECORD DRAWINGS, SEPTIC TANKS, PUMP CHAMBER & FIELD AS SHOWN ON THIS SURVEY ARE DEPICTED FROM A PREVIOUS SITE PLAN BY BOSS ENGINEERING, JOB NO. 88603, DATED 10-25-89. LOCATIONS AS SHOWN ARE APPROXIMATE AND WILL NEED FIELD VERIFICATION.
- ALL WORK SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE MUNICIPALITY, THE COUNTY, AND THE STATE OF MICHIGAN.
- ALLOW THREE WORKING DAYS BEFORE YOU DIG, CALL MISS DIG TOLL FREE 1-800-482-7171.

DESCRIPTION OF PARCEL #4711-25-400-058:

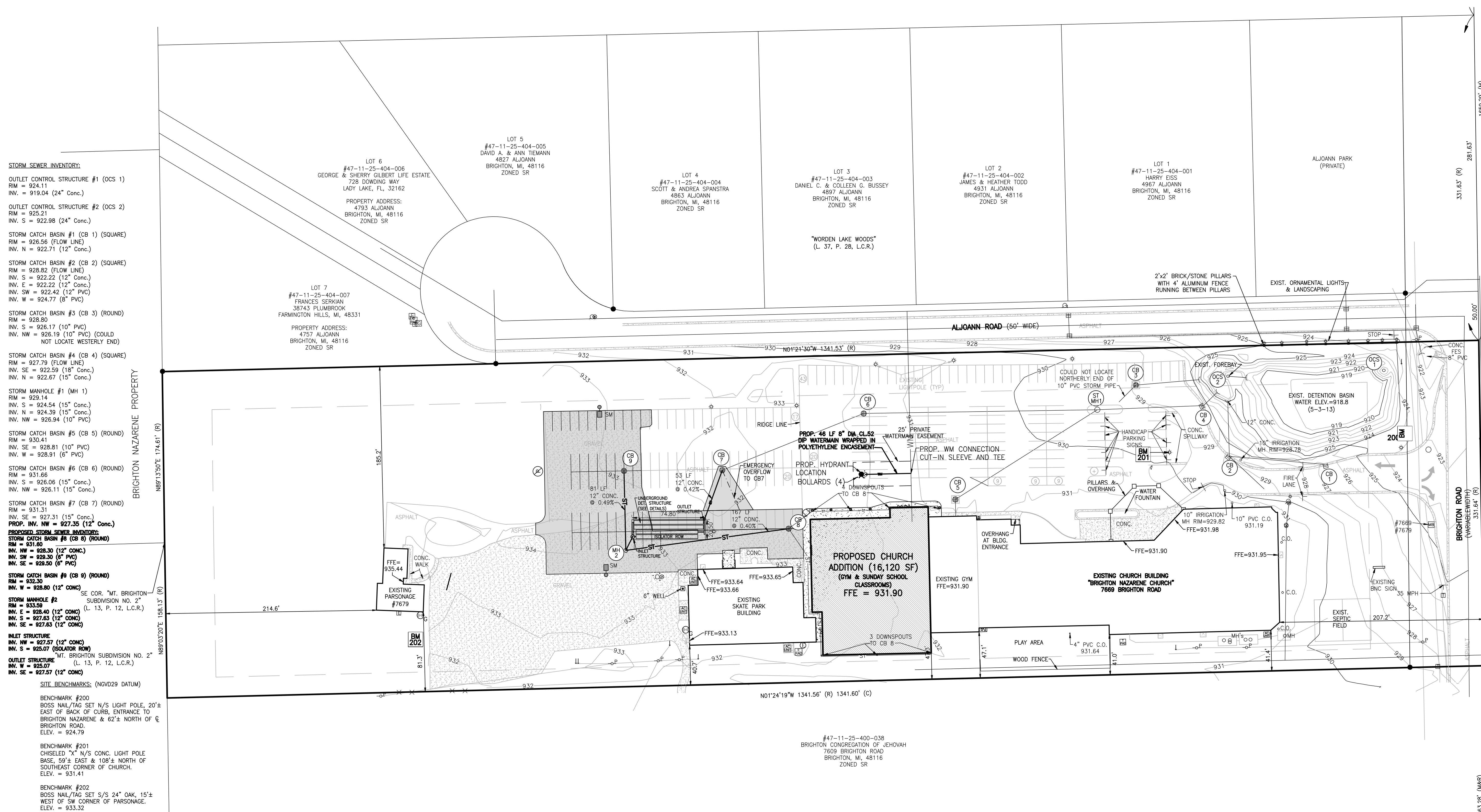
A part of the SE 1/4 of Section 25, T2N-R5E then N 89°08'13" E 663.28 feet to Point of Beginning, thence continue E 331.64 feet, thence N 01°21'30" W 1341.53 feet, thence S 89°03'20" E 332.74 feet, thence S 01°24'19" E 1341.56 feet to Point of Beginning and also Section 25, T2N-R5E Beginning at the SE 1/4 corner, thence N 01° W 1340.63 feet then N 89° E 823.63 feet to Point of Beginning, thence N 01° W 891.73 feet, thence N 88° E 400.81 feet, thence S 01° E 893.61 feet, thence S 89° W 400.83 feet to Point of Beginning, containing 16.43 acres, more or less split on 01/23/2012 with 4711-25-400-027 into 4711-25-400-058

SITE BENCHMARKS: (NGVD29 DATUM)
BENCHMARK #200
BOSS NAIL/TAG SET N/S LIGHT POLE 20'± EAST OF BACK OF CURB, ENTRANCE TO BRIGHTON NAZARENE & 62'± NORTH OF BRIGHTON ROAD.
ELEV. = 924.79
BENCHMARK #201
CHISELED "X" N/S CONC. LIGHT POLE BASE, 59'± EAST & 108'± NORTH OF SOUTHEAST CORNER OF CHURCH.
ELEV. = 931.41
BENCHMARK #202
BOSS NAIL/TAG SET S/S 24" OAK, 15'± WEST OF SW CORNER OF PARSONAGE.
ELEV. = 933.32



LEGEND		LEGEND	
PROPOSED (PR)	EXISTING (EX)	PROPOSED (PR)	EXISTING (EX)

NOTE:
PROPOSED WATERMAIN CONNECTION EAST OF
THE PROPOSED CHURCH ADDITION IS TO BE
A CUT-IN SLEEVE AND TEE CONNECTION.



STORM SEWER INVENTORY:

OUTLET CONTROL STRUCTURE #1 (OCS 1)
RIM = 924.11
INV. = 919.04 (24" Conc.)

OUTLET CONTROL STRUCTURE #2 (OCS 2)
RIM = 925.21
INV. S = 922.98 (24" Conc.)

STORM CATCH BASIN #1 (CB 1) (SQUARE)
RIM = 926.56 (FLOW LINE)
INV. N = 922.71 (12" Conc.)

STORM CATCH BASIN #2 (CB 2) (SQUARE)
RIM = 928.82 (FLOW LINE)
INV. S = 922.22 (12" Conc.)
INV. E = 922.22 (12" Conc.)
INV. SW = 922.42 (12" PVC)
INV. W = 924.77 (8" PVC)

STORM CATCH BASIN #3 (CB 3) (ROUND)
RIM = 928.80
INV. S = 926.17 (10" PVC)
INV. NW = 926.19 (10" PVC) (COULD NOT LOCATE WESTERLY END)

STORM CATCH BASIN #4 (CB 4) (SQUARE)
RIM = 927.79 (FLOW LINE)
INV. SE = 922.59 (18" Conc.)
INV. N = 922.67 (15" Conc.)

STORM MANHOLE #1 (MH 1)
RIM = 929.14
INV. S = 924.54 (15" Conc.)
INV. N = 924.39 (15" Conc.)
INV. NW = 926.94 (10" PVC)

STORM CATCH BASIN #5 (CB 5) (ROUND)
RIM = 930.41
INV. SE = 928.81 (10" PVC)
INV. W = 928.91 (6" PVC)

STORM CATCH BASIN #6 (CB 6) (ROUND)
RIM = 931.66
INV. S = 926.06 (15" Conc.)
INV. NW = 926.11 (15" Conc.)

STORM CATCH BASIN #7 (CB 7) (ROUND)
RIM = 931.31
INV. SE = 927.31 (15" Conc.)
PROP. INV. NW = 927.35 (12" Conc.)

PROPOSED STORM SEWER INVENTORY:

STORM CATCH BASIN #8 (CB 8) (ROUND)
RIM = 931.60
INV. NW = 928.30 (12" CONC.)
INV. SW = 928.30 (6" PVC)
INV. SE = 929.50 (6" PVC)

STORM CATCH BASIN #9 (CB 9) (ROUND)
RIM = 932.30
INV. W = 928.80 (12" CONC.)

STORM MANHOLE #2
RIM = 933.59
INV. E = 928.40 (12" CONC.)
INV. S = 927.83 (12" CONC.)
INV. SE = 927.83 (12" CONC.)

INLET STRUCTURE
INV. NW = 927.57 (12" CONC.)
INV. S = 925.07 (ISOLATOR ROW)

OUTLET STRUCTURE
INV. W = 925.07 (L. 13, P. 12, L.C.R.)
INV. SE = 927.57 (12" CONC.)

SITE BENCHMARKS: (NGVD29 DATUM)

BENCHMARK #200
BOSS NAIL/TAG SET N/S LIGHT POLE, 20'± EAST OF BACK OF CURB, ENTRANCE TO BRIGHTON NAZARENE & 62'± NORTH OF BRIGHTON ROAD.
ELEV. = 924.79

BENCHMARK #201
CHISELED "X" N/S CONC. LIGHT POLE BASE, 59'± EAST & 108'± NORTH OF SOUTHEAST CORNER OF CHURCH.
ELEV. = 931.41

BENCHMARK #202
BOSS NAIL/TAG SET S/S 24" OAK, 15'± WEST OF SW CORNER OF PARSONAGE.
ELEV. = 933.32

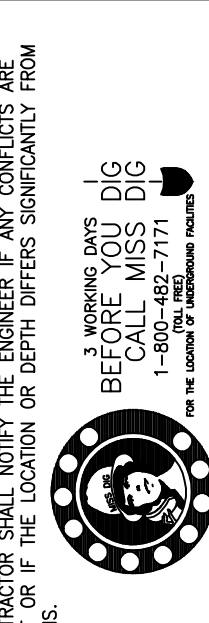
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ENGINEERS, SURVEYORS & PLANNERS
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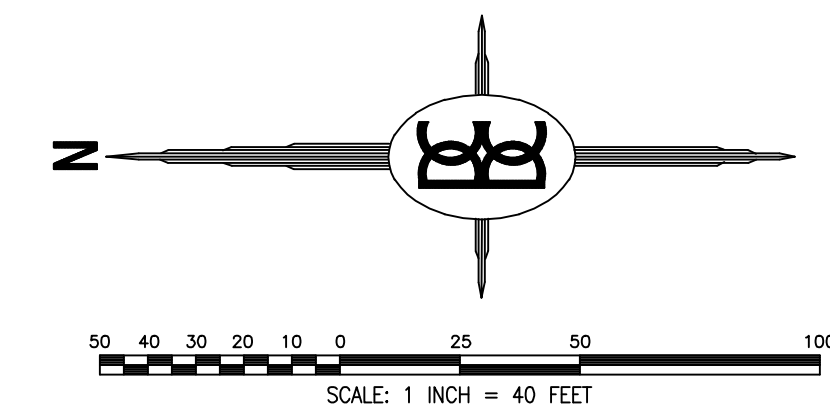
(E-MAIL: BOSS@BOSS-ENG.COM)
3121 E. GRAND RIVER AVE.
HOWELL, MI 48843
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B.N.C. FACILITY EXPANSION
BRIGHTON NAZARENE CHURCH
7669 BRIGHTON ROAD
BRIGHTON, MI 48116
810-227-6600

NO	BY	TWP.	REVIEW	PER	DATE
1	ST				7/2/13

DESIGNED BY: ST
DRAWN BY: AEB
CHECKED BY:
SCALE 1" = 50'
JOB NO. 13-100
DATE 5-31-13
SHEET NO. 5

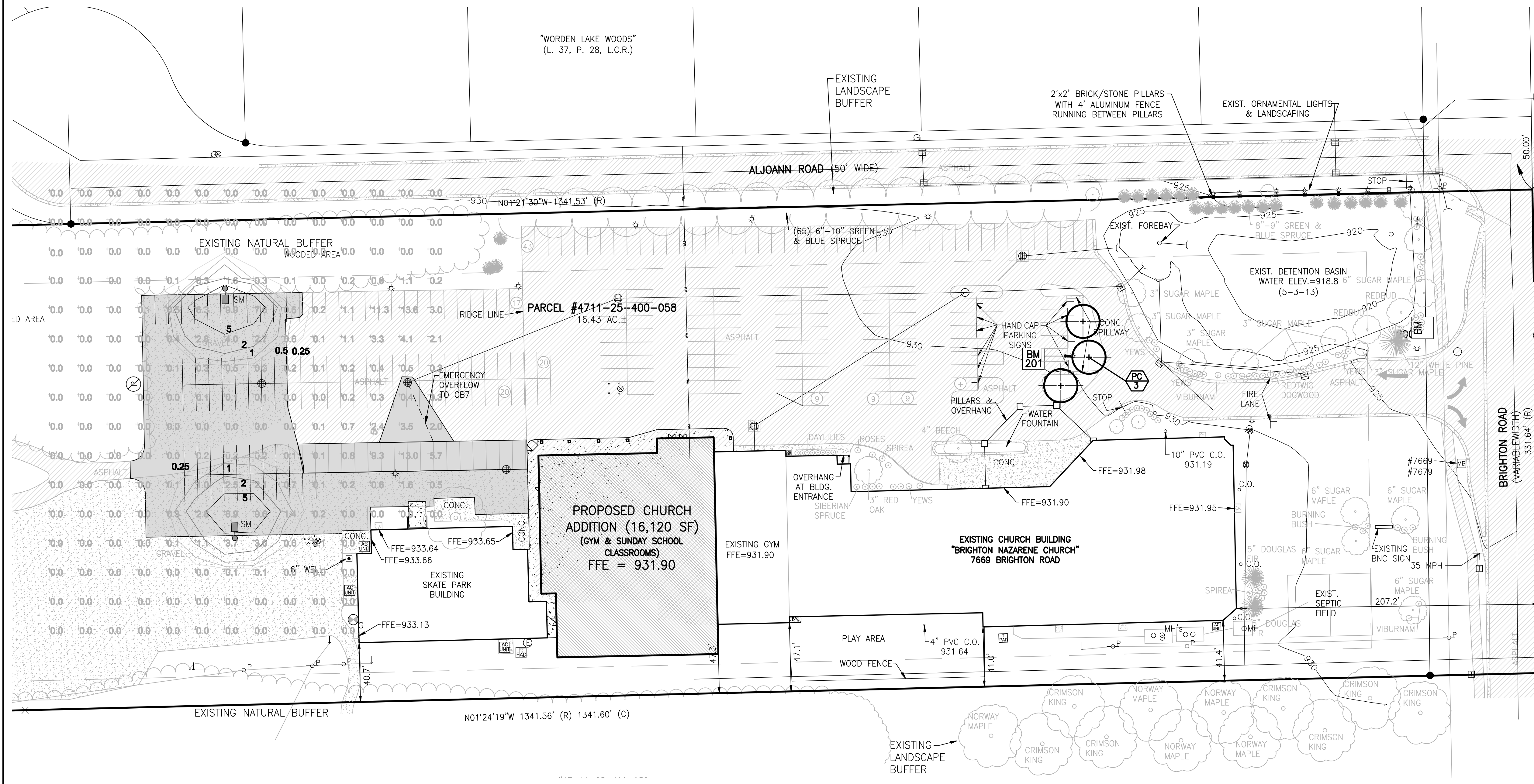




PROPOSED (PR)	EXISTING (EX)	LEGEND
900	900	CONTOUR
T/C	XXX.XX	STORM DRAINAGE FLOW
	+ 922.08	SPOT ELEVATION
FF	FF	FINISHED FLOOR ELEVATION
FG	FG	FINISHED GRADE ELEVATION
T/A	T/A	TOP OF ASPHALT
T/C	T/C	TOP OF CURB / CONCRETE
T/W	T/W	TOP OF WALK
F/L	F/L	FLOW LINE
T/P	T/P	TOP OF PIPE
B/P	B/P	BOTTOM OF PIPE
RIM	RIM	RIM ELEVATION
INV	INV	INVERT ELEVATION
MH	MH	MANHOLE STRUCTURE
IN	IN	INLET STRUCTURE
CB	CB	CATCHBASIN STRUCTURE
RY	RY	REARYARD STRUCTURE
ES	ES	END-SECTION
GV	GV	GATEVALVE STRUCTURE
HY	HY	HYDRANT
UP	UP	UTILITY POLE
SN	SN	SANITARY SEWER
SL	SL	SANITARY LEAD
FM	FM	FORCE MAIN
PS	PS	PRESSURE SEWER
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
FO	FO	FIBER OPTIC
OH	OH	OVERHEAD WIRE
C	C	CABLE
E	E	ELECTRIC
G	G	GAS
T	T	TELEPHONE
M	M	MANHOLE
I	I	INLET / CATCHBASIN
F	F	FLARED END-SECTION
G	G	GATE VALVE
H	H	HYDRANT
U	U	UTILITY POLE
S	S	FENCE
		CONCRETE
		ASPHALT
		DOUBLE FIXTURE LIGHT POLE
		SINGLE FIXTURE LIGHT FIXTURE
		WALL MOUNTED LIGHT FIXTURE
		GROUND LIGHT FIXTURE
		FOOT CANDLES ON SITE
		FOOT CANDLES OFF SITE
		FOOT CANDLES CONTOURS

SITE LIGHTING SUMMARY
LIGHTING LEVELS ARE SHOWN IN FOOTCANDLES AT 5' ABOVE GRADE

- GENERAL LIGHTING NOTES**
1. THE LIGHTING PATTERN REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS.
 2. ALL POLES ARE TO BE MOUNTED ON CONCRETE PEDESTALS 2' ABOVE GRADE IN PARKING LOTS AS SHOWN IN DETAIL.
 3. ALL POLES LOCATED OUTSIDE OF THE PARKING AREA SHALL BE LOCATED 3' FROM BACK OF CURB OR EDGE OF SIDEWALKS.
 4. SHOP DRAWINGS FOR THE ELECTRICAL WIRING OF THE POLES NEED TO BE SUBMITTED TO THE ENGINEER FOR COORDINATION OF UNDERGROUND CONDUIT AND APPROVAL OF LAYOUT.



LUMINAIRE SCHEDULE

SYMBOL	LABEL	QTY.	DESCRIPTION	CATALOG NUMBER	LAMP	FILE	LUMENS	LLF	POLE DESCRIPTION	POLE HEIGHT	BASE HEIGHT	TOTAL HEIGHT
SM	SM	2	MCGRAW-EDISON GALLERIA SQUARE	GSM-AIS-400-MP-277-SL-FG-BZ-F	400 WATT PULSE-START CLEAR ED-28 HORIZONTAL BURN	GSM-XX-400-MP-XX-SL-FG-ES	40,000	.75	SSS4418SF-BZ	18'	2'	20'

PLANT LIST

KEY	QUAN.	BOTANICAL NAME	COMMON NAME	SIZE	REMARK
TREES					
PC	3	<i>Pyrus calleryana</i> 'Bradford'	Bradford Callery Pear	2 1/2" cal.	B-B

ALL IES FILES PROVIDED BY MANUFACTURER FOR CALCULATION OF LIGHTING LEVEL.

BOSS ENGINEERING
ENGINEERS SURVEYORS & PLANNERS
LANDSCAPE ARCHITECTS

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HOWELL, MI 48843
(800) 246-6735 FAX (517) 548-1870

B.N.C. FACILITY EXPANSION
BRIGHTON NAZARENE CHURCH
7669 BRIGHTON ROAD
BRIGHTON, MI 48116
810-227-6600

LANDSCAPE & LIGHTING PLAN

DESIGNED BY: TD
DRAWN BY: TD
CHECKED BY:
SCALE: 1" = 40'
JOB NO. 13-100
DATE: 5-31-13
SHEET NO. 6

**LIVINGSTON COUNTY SOIL EROSION PERMIT TEMPLATE
TEMPORARY CONTROLS AND SEQUENCE**

- NOTIFY LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE 24 HOURS PRIOR TO START OF GRADE WORK.
- IN ACCORDANCE WITH PUBLIC ACT NO. 53, OF 1974 THE PERMIT HOLDER SHALL CALL MISS DIG FOR STAKING AND LOCATING OF UTILITIES, AT LEAST 72 HOURS IN ADVANCE OF THE START OF ANY WORK.

- PERMITTING STANDARDS**
- (IMPORTANT NOTICE) RETENTION/DETENTION PONDS SHALL BE EXCAVATED, TOPSOILED, SEEDED, MULCHED AND TACKED PRIOR TO THE START OF MASSIVE EARTH DISRUPTION. INGRESS/EGRESS MUST HAVE LARGE CRUSHED ROCK TO REDUCE THE TRACKING OF SOIL ONTO THE PUBLIC TRAFFIC AREAS. SEE DETAIL ITEMS BELOW.
 - 36" M.D.O.T SPECIFICATION TYPE SILT FABRIC FENCE AS SHOWN ON PLANS SHALL BE PLACED AND MAINTAINED ALONG PERIMETER ON ALL LOW LYING AREAS OF THE CONSTRUCTION SITE TO FILTER RUNOFF BEFORE LEAVING PROJECT SITE.
 - ALL TEMPORARY EROSION CONTROL DEVICES AS NOTED ON PLANS SHALL BE INSTALLED PRIOR TO THE START OF MASSIVE EARTH DISTRIBUTION.
 - PLAN DOES DENOTE A DETAILED EROSION CONTROL DEVICE TO RESTRICT TRACKING OF MATERIAL ONTO THE HIGHWAY. STONE DIAPERS SHALL BE INSTALLED AT ALL INGRESS/EGRESS AREAS OF THE SITE PRIOR TO THE START OF MASSIVE EARTH DISRUPTION. DIAPERS SHALL BE OF CRUSHED STONE AND SHALL HAVE A MINIMUM LENGTH OF 100' LINEAL FEET.

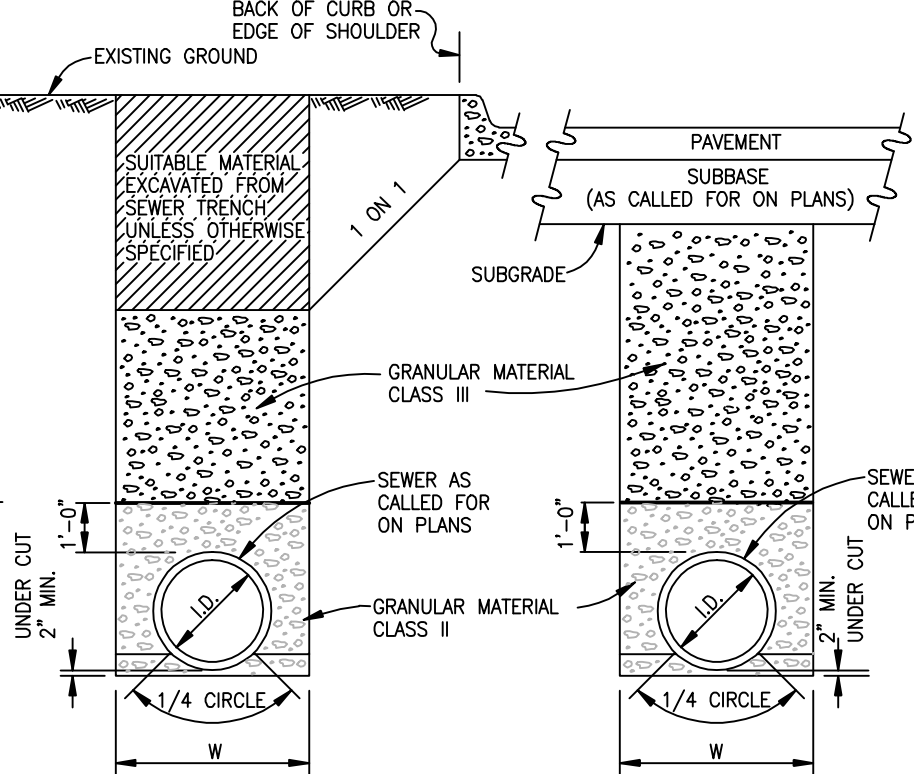
- RETENTION PONDS**
- RETENTION/DETENTION/SEDIMENTATION PONDS SHALL BE EXCAVATED, TOPSOILED, SEEDED, MULCHED AND TACKED PRIOR TO THE START OF MASSIVE EARTH DISRUPTION.
 - DETENTION POND OUTLETS SHALL BE OF THE STANDPIPE AND STONE FILTER SYSTEM, WITH TRASH SCREEN. OUTLET FLOW SHALL NOT EXCEED 0.20 CUBIC FEET OF WATER PER SECOND/PER ACRE. POND DIKES SHALL HAVE A MINIMUM OF ONE (1) FOOT OF FREEBOARD. AN EMERGENCY SPILLWAY SHALL BE CONSTRUCTED WITHIN THE FREEBOARD LEVEL.
 - THE EMERGENCY SPILLWAY FROM THE DETENTION POND SHALL BE SODDED AND PEGGED, OR RIP RAPPED, 15 FEET PAST THE TOE OF THE SLOPE OF THE BERM.
 - DIKES AND BERMS SHALL BE FREE OF ALL ORGANIC MATTER.
 - RETENTION/DETENTION PONDS SHALL BE FENCED WITH A 4' CHAIN LINK FENCE, INCLUDING A 12' ACCESS GATE FOR MAINTENANCE UNLESS MINIMUM 5 FT. HORIZONTAL TO 1 FT. VERTICAL SIDE SLOPES ARE PROVIDED. THE FENCE SHALL BE INSTALLED AT THE OUTER PORTION OF THE BERM, TO ALLOW FOR MAINTENANCE WORK TO BE DONE INSIDE THE FENCE.
 - ALL UNIMPROVED DISTURBED AREAS SHALL BE STRIPPED OF TOPSOIL WHICH WILL BE STORED ONSITE DURING THE EXCAVATING STAGE. TOPSOIL PILES SHALL BE SEEDED AND MULCHED, OR MATTED WITH STRAW IN THE NON-GROWING SEASON, IMMEDIATELY AFTER THE STRIPPING PROCESS IS COMPLETED, TO PREVENT WIND AND WATER EROSION.
 - SOIL EROSION CONTROLS SHALL BE MONITORED DAILY BY THE ON-SITE ENGINEER, OR CONTRACTOR, WHICHEVER CASE APPLIES.

- SLOPES AND DITCHES**
- ON SITE DITCHES SHALL BE OF THE FLAT BOTTOM TYPE MINIMUM WIDTH OF 2' WITH A MINIMUM OF 3 HORIZONTAL TO 1 VERTICAL SIDE SLOPES, 3:1.
 - DITCHES WITH STEEP SLOPES WILL NEED FLOW CHECKS TO PREVENT SCOURING OF THE DITCH BOTTOM. THESE SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER OR INSPECTOR.
 - SLOPES IN EXCESS OF 3 HORIZONTAL TO 1 VERTICAL SHALL NOT BE USED EXCEPT WITH A MECHANICAL DEVICE SUCH AS A RETAINING WALL, TERRACING, OR OTHER PRIOR APPROVED DEVICE.
- STORM DRAINS**
- ALL STORM WATER STRUCTURES, CATCH BASINS AND/OR MANHOLES, IF BLOCK, SHALL BE PLASTERED ON BOTH THE INSIDE AND OUTSIDE OF THE STRUCTURES. GROUTING AND POINTING WILL BE NECESSARY AT THE CASTING AND STRUCTURE JOINT TO PREVENT LEAKAGE AND THE RESULTING SOIL MOVEMENT, AROUND THE STRUCTURE.
 - STORM WATER INLETS SHALL HAVE AS A TEMPORARY CONTROL A STRAW BALE BARRIER AND STONE FILTER INSTALLED AROUND THE INLET DURING CONSTRUCTION. AS AN ALTERNATIVE TO THE STRAW BALE BARRIER, A BURLAP AND PEA STONE FILTER MAY BE USED. THREE LAYERS OF BURLAP FIBER AND A FILTER OF PEA STONE MINIMUM 1 FT. IN DEPTH CAN BE USED. DUE TO THE POROSITY OF THE BURLAP FILTER THE MINIMUM OF 1 FT. OF STONE IS VERY IMPORTANT. THE CONTROL SHALL BE INSTALLED AS SOON AS THE STRUCTURE IS BUILT AND INSPECTED DAILY.
 - BURLAP AND PEA STONE FILTERS WILL NEED TO BE CHANGED AFTER EACH RAINFALL.
 - COUNTY CODE REQUIRES A MINIMUM PIPE SIZE OF 12" IN DIAMETER. IF SMALLER PIPE IS NEEDED FOR OUTLET PURPOSES THE 12" CAN BE BAFFLED TO THE CORRECT SIZE. ALL PIPE SHALL MEET THE 12"
 - ALL STORM DRAIN OUTLETS 15" IN DIAMETER OR LARGER SHALL HAVE ANIMAL GUARDS INSTALLED TO PREVENT ENTRANCE TO THE SYSTEM.

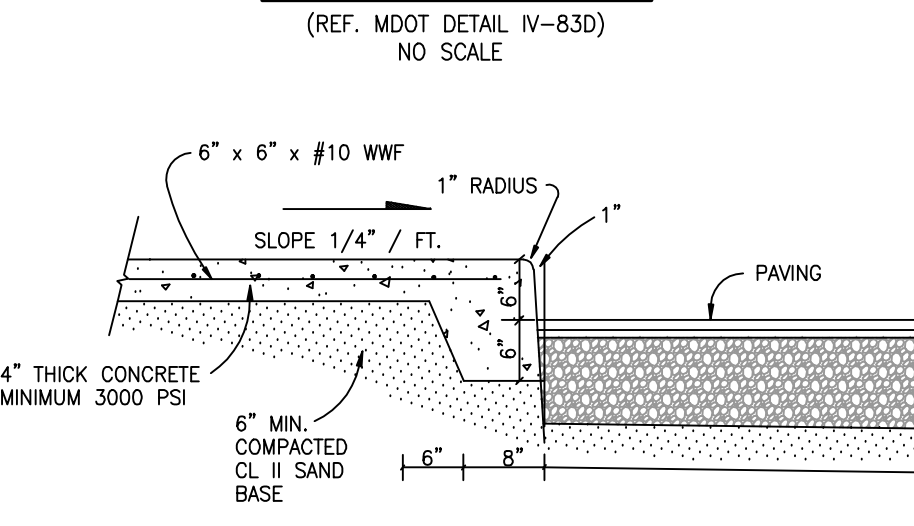
- ALL STORM DRAIN PIPE 30" IN DIAMETER OR LARGER SHALL BE POINTED, AT THE JOINTS ON THE INSIDE WITH MORTAR, AFTER BACKFILLING.
- ALL STORM DRAIN OUTLETS THAT DO NOT EMPTY INTO THE RETENTION/DETENTION POND SHALL HAVE A TEMPORARY 5'X10'X3' SLUMP INSTALLED AT THE TERMINATION OF THE STORM SEWER. UPON COMPLETION OF THE STABILIZATION WORK THE SLUMP AREA SHALL BE FILLED AND RIP RAPPED TO 15" OR LARGER COBBLE STONE. SILT TRAPS SHALL BE INSPECTED AFTER EACH STORM.
- STORM WATER OUTLETS DO DENOTE RIP RAP. ALL OUTLETS SHALL BE RIP RAPPED OVER KEVED FILTER FABRIC WITH A MINIMUM OF 15 SQ. YARDS OF 6" OR LARGER COBBLE STONE.
- RIP RAP AS NOTED ON THE PLAN SHALL BE OF A FUNNEL SHAPE CONSTRUCTION, WIDTH SHALL INCREASE AS DISTANCE FROM THE OUTLET POINT INCREASES AT A 3:1 RATIO.
- RIP RAP SHALL BE OF COBBLE STONE, 6" IN DIAMETER OR LARGER. GROUTING MAY BE NECESSARY, AND SHALL BE A MINIMUM OF 6" IN DEPTH WITH THE COBBLE SET IN THE CEMENT SLURRY.
- STORM WATER OUTLET IS IN NEED OF A SPLASH BLOCK WHICH IS NOT NOTED ON THE PLAN. INSTALL SPLASH BLOCK IF SLOPE OF THE PIPE IS 4% OR GREATER.
- IT WILL BE NECESSARY FOR THE DEVELOPER TO HAVE THE STORM DRAINAGE LINES CLEANED PRIOR TO FINAL INSPECTION BY THE LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE. IF REQUIRED, THIS WORK SHALL BE DONE BY A PROFESSIONAL SEWER CLEANING FIRM AND CERTIFIED IN WRITING BY THE PROJECT ENGINEER. ALL SUMPS AND TEMPORARY SILT TRAPS SHALL ALSO BE CLEANED AT THIS TIME.

- STABILIZATION**
- ALL UNIMPROVED DISTURBED AREAS SHALL BE RE-TOP SOILED, WITH A MINIMUM OF 3" OF MATERIAL, SEEDED, MULCHED AND TACKED WITHIN 15 DAYS OF THE COMPLETION OF THE MASSIVE EARTH DISRUPTION. IN THE NON-GROWING SEASON STRAW MATTING WILL SUFFICE. HYDROSEEDING WILL BE AN ACCEPTABLE ALTERNATE FOR MULCHING. EXTREME CARE SHOULD BE EXERCISED IN SPRING AND FALL PERIODS AS A FROST WILL BREAK THE BOND OF THE HYDROSEEDING, WHICH WILL AFFECT THE EFFECTIVENESS OF THIS PROCEDURE.
 - IN THE NON-GROWING SEASON, TEMPORARY STABILIZATION OF MASSIVELY EXPOSED AREAS FOR WINTER STABILIZATION SHALL BE DONE WITH STRAW MATTING.
 - PERMIT FEES DURING THE WINTER PERIOD OF NON-CONSTRUCTION, (DECEMBER 1 THROUGH MARCH 31), SHALL NOT BE IMPOSED IF THE PERMIT HOLDER TEMPORARILY STABILIZES THE EXPOSED AREAS WITH STRAW MATTING, AND OTHER APPROVED CONTROLS, AND OBTAINS A WINTER STABILIZATION CERTIFICATE FROM THIS OFFICE.
 - PERIODIC INSPECTIONS WILL BE MADE THROUGHOUT THE COURSE OF THE PROJECT. IT WILL BE THE RESPONSIBILITY OF THE MANAGERS OF THE PROJECT TO CONTACT THIS OFFICE FOR THE FINAL INSPECTION AT THE END OF THE PROJECT.
 - THIS COMMERCIAL PERMIT IS VALID FOR THE MASS EARLY MOVEMENT, THE INSTALLATION OF ROADS, DRAINS, AND UTILITIES AND IS NOT FOR ANY SINGLE FAMILY RESIDENCE. ALL RESIDENTIAL BUILDERS WILL NEED TO SECURE WAIVERS AND OR PERMITS AS NECESSARY FOR EACH LOT IN THIS DEVELOPMENT AT THE TIME APPLICATION FOR SINGLE FAMILY RESIDENCE IS MADE.
 - THE ISSUING BUILDING DEPARTMENT SHALL NOT ISSUE THE CERTIFICATE OF OCCUPANCY UNTIL THE FINAL INSPECTION LETTER FROM THE LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE HAS BEEN OBTAINED.
 - PER THE LIVINGSTON COUNTY DRAIN COMMISSIONER THE SEEDING, FERTILIZER AND MULCH MINIMUM QUANTITIES SHALL BE AS FOLLOWS:
TOP-SOIL 3" IN DEPTH 218 LBS. PER ACRE
GRASS SEED 150 LBS. PER ACRE
FERTILIZER 3" IN DEPTH 1.5 TO 2 TONS PER ACRE (ALL MULCHING MUST HAVE A TIE DOWN, SUCH AS TACKIFIER, NET BINDING, ETC.)
STRAW MULCH 3" IN DEPTH 1.5 TO 2 TONS PER ACRE (ALL MULCHING MUST HAVE A TIE DOWN, SUCH AS TACKIFIER, NET BINDING, ETC.)
 - HYDRO-SEEDING HYDRO-SEEDING IS NOT ACCEPTABLE FOR SLOPES EXCEEDING 1%, IN SUCH CASES STABILIZATION SHALL BE DONE WITH SEED AND STRAW MULCH WITH A TACKIFIER.

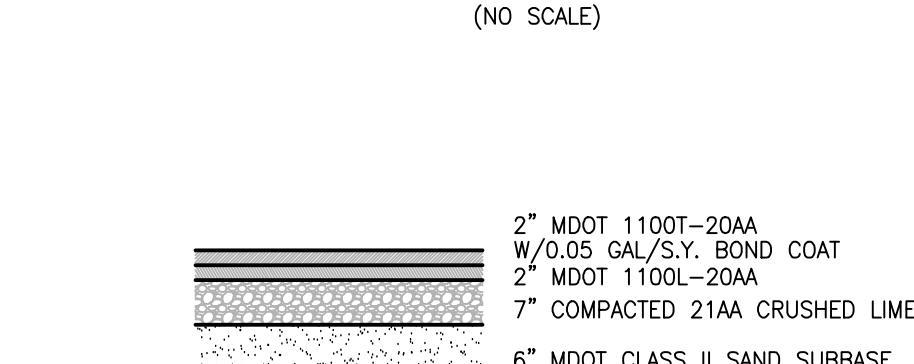
- MAINTENANCE SCHEDULE FOR SOIL EROSION CONTROLS**
- SILT FENCE SHALL BE INSPECTED WEEKLY AND AFTER EACH MAJOR STORM EVENT. MAINTENANCE SHALL INCLUDE REMOVAL OF ACCUMULATED SILT AND REPLACEMENT OF TORN SECTIONS. SILT FENCE SHALL BE REMOVED WHEN ALL CONTRIBUTING AREAS HAVE BEEN STABILIZED.
 - TRACKING PAD SHALL BE INSPECTED MONTHLY FOR ACCUMULATED DIRT. TRACKING PAD SHALL BE REPLACED WHEN THE STONES ARE CHOKED WITH DIRT. TRACKING PAD SHALL BE REMOVED IMMEDIATELY PRIOR TO THE FIRST COURSE OF ASPHALT BEING LAID.
 - DETENTION/PREVENTION POND SHALL BE INSPECTED QUARTERLY ON A PERMANENT BASIS. MAINTENANCE SHALL INCLUDE SEDIMENT REMOVAL, EMBANKMENT STABILIZATION AND MAINTAINING THE OUTLET STRUCTURE IN GOOD CONDITION. NO TREES SHALL BE ALLOWED TO GROW ON THE EMBANKMENT.
 - CATCH BASINS SHALL BE INSPECTED ANNUALLY FOR ACCUMULATION OF SEDIMENT. ALL SEDIMENT MUST BE REMOVED AND DISPOSED OF PROPERLY WHEN THE SUMP IS FULL.
 - COMMON AREAS SHALL BE STABILIZED NO LATER THAN 15 DAYS AFTER GRADE WORK, PURSUANT TO RULE 1709 (5).



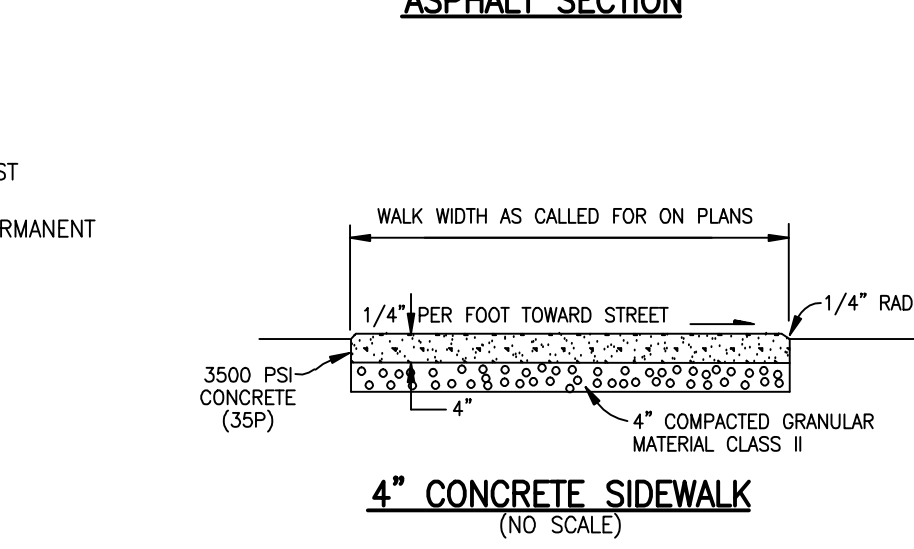
SEWER UNDER ROADBED OR WITHIN INFLUENCE OF ROADBED
(REF. M.DOT DETAIL W-830)
NO SCALE



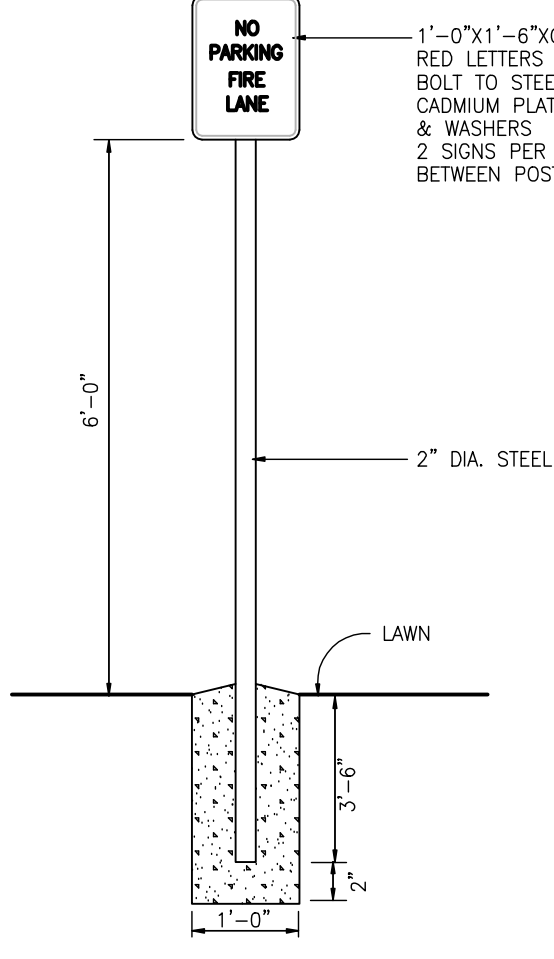
INTEGRAL CONCRETE WALK / CURB DETAIL
NO SCALE



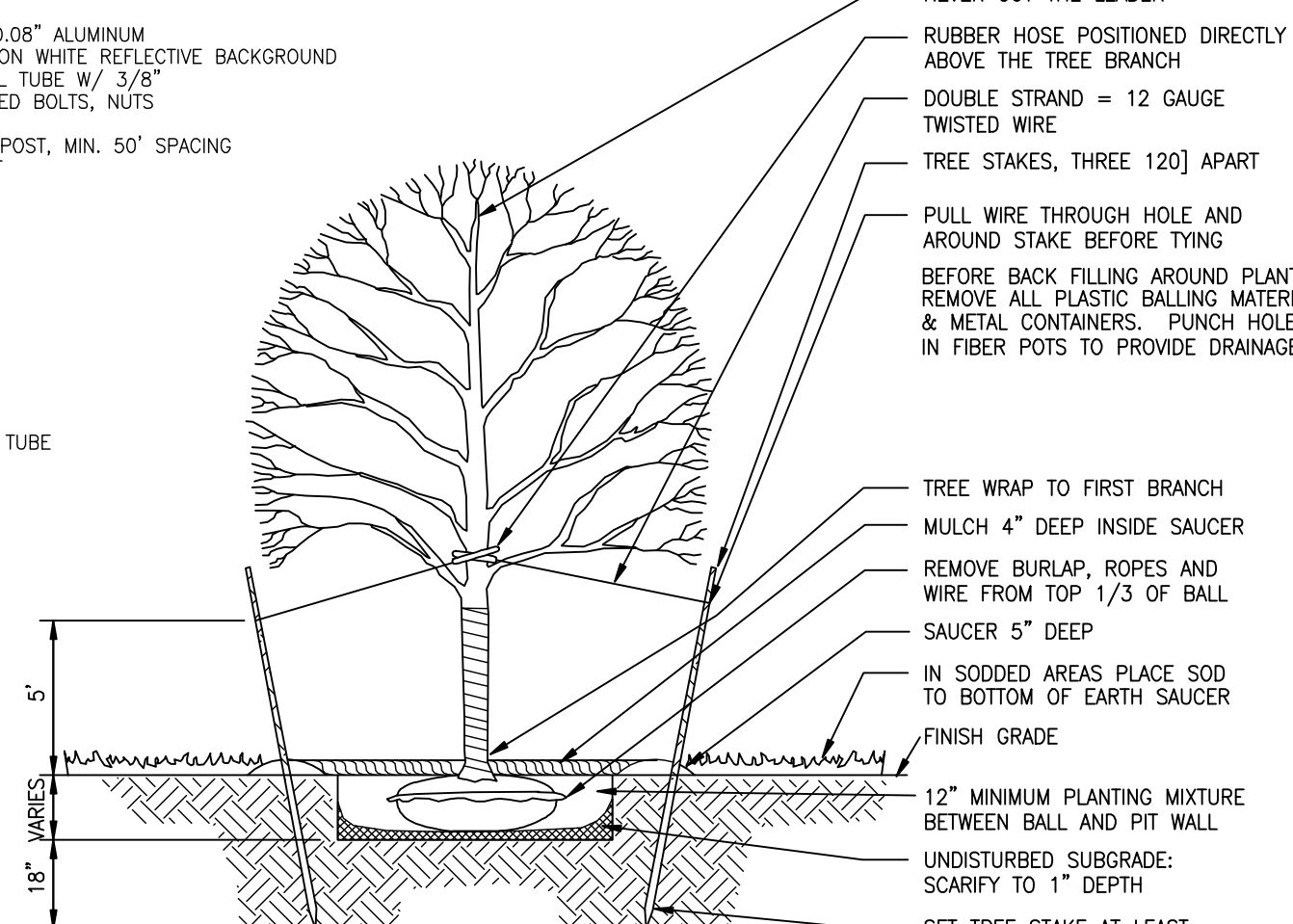
ASPHALT SECTION



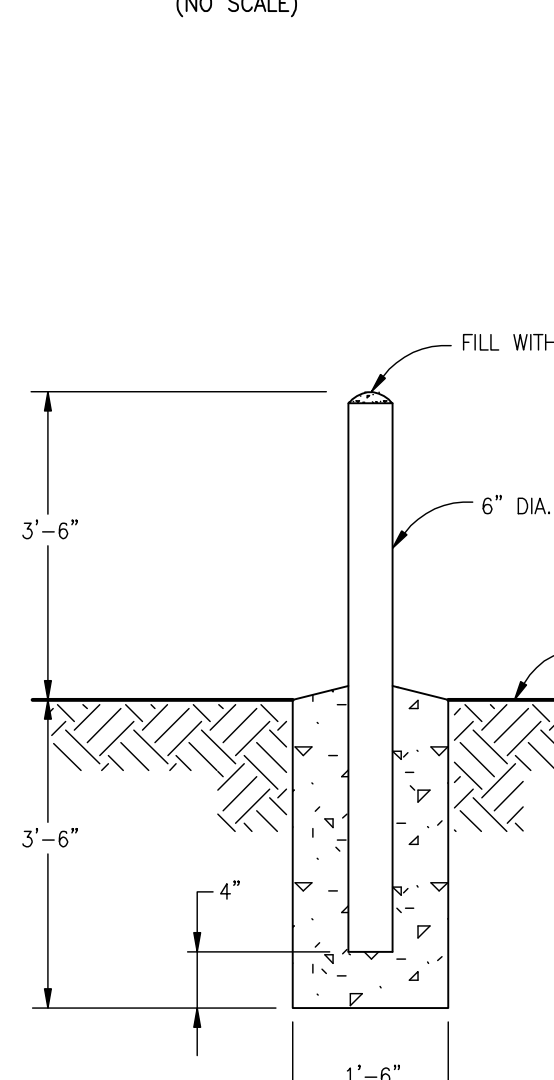
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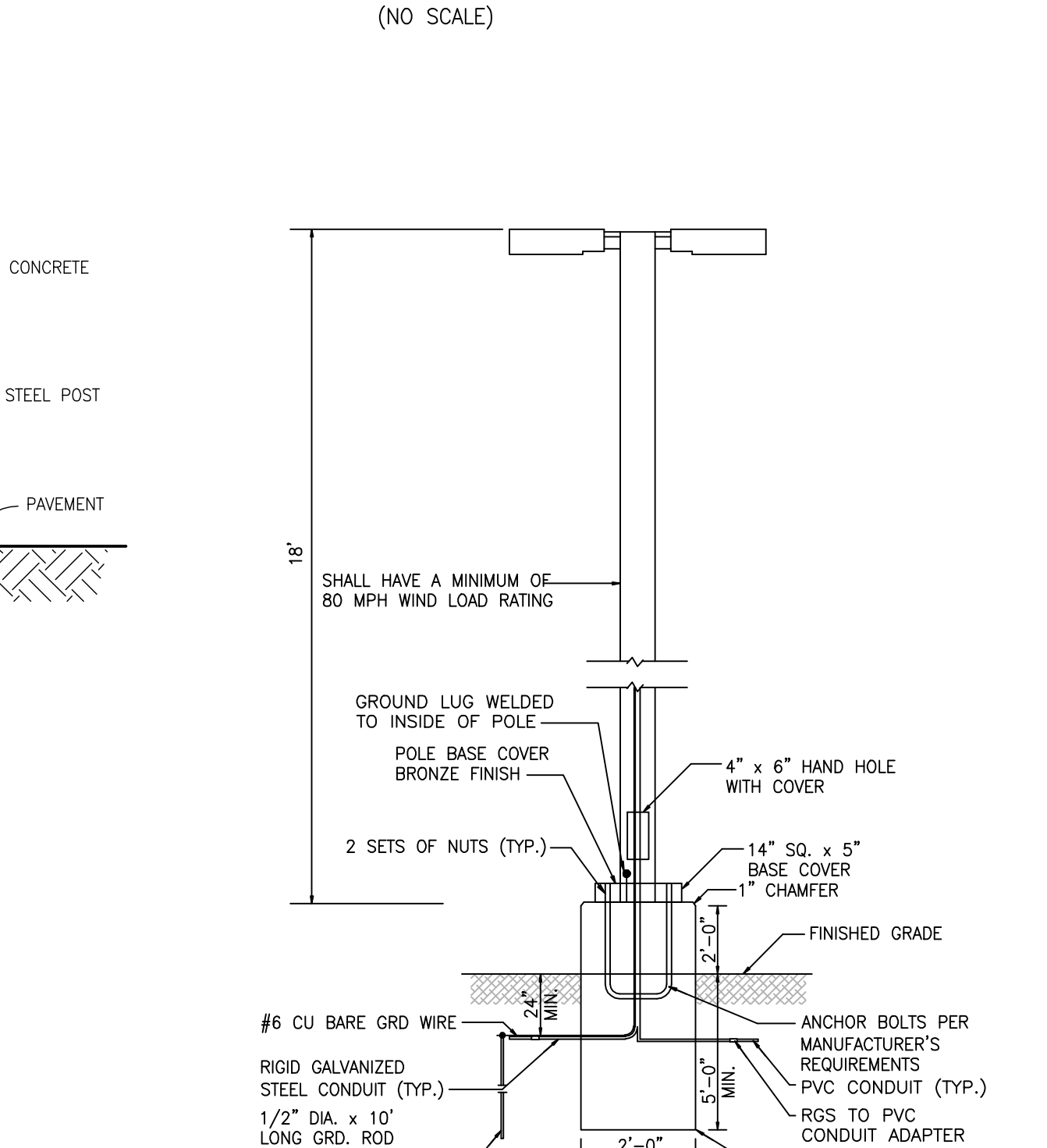
NO PARKING SIGN DETAIL
(NO SCALE)



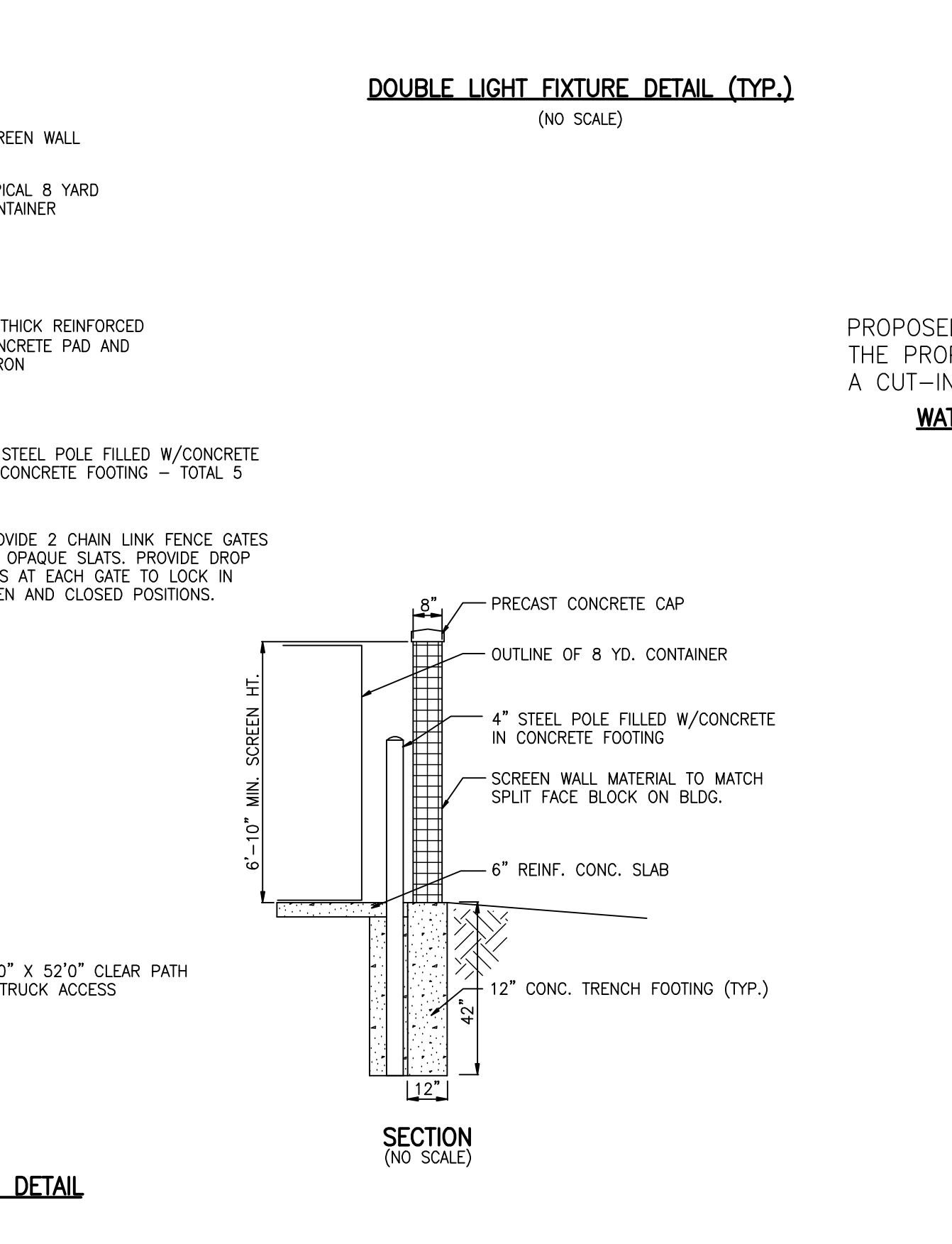
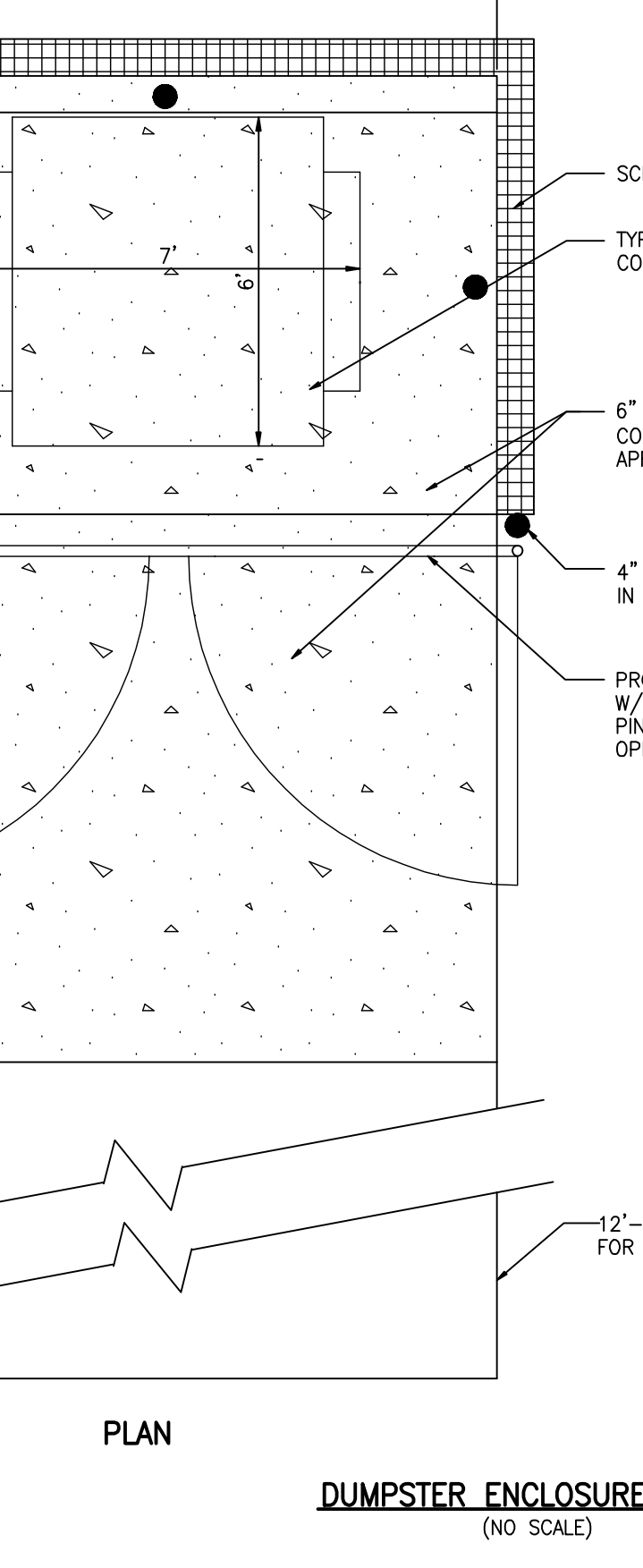
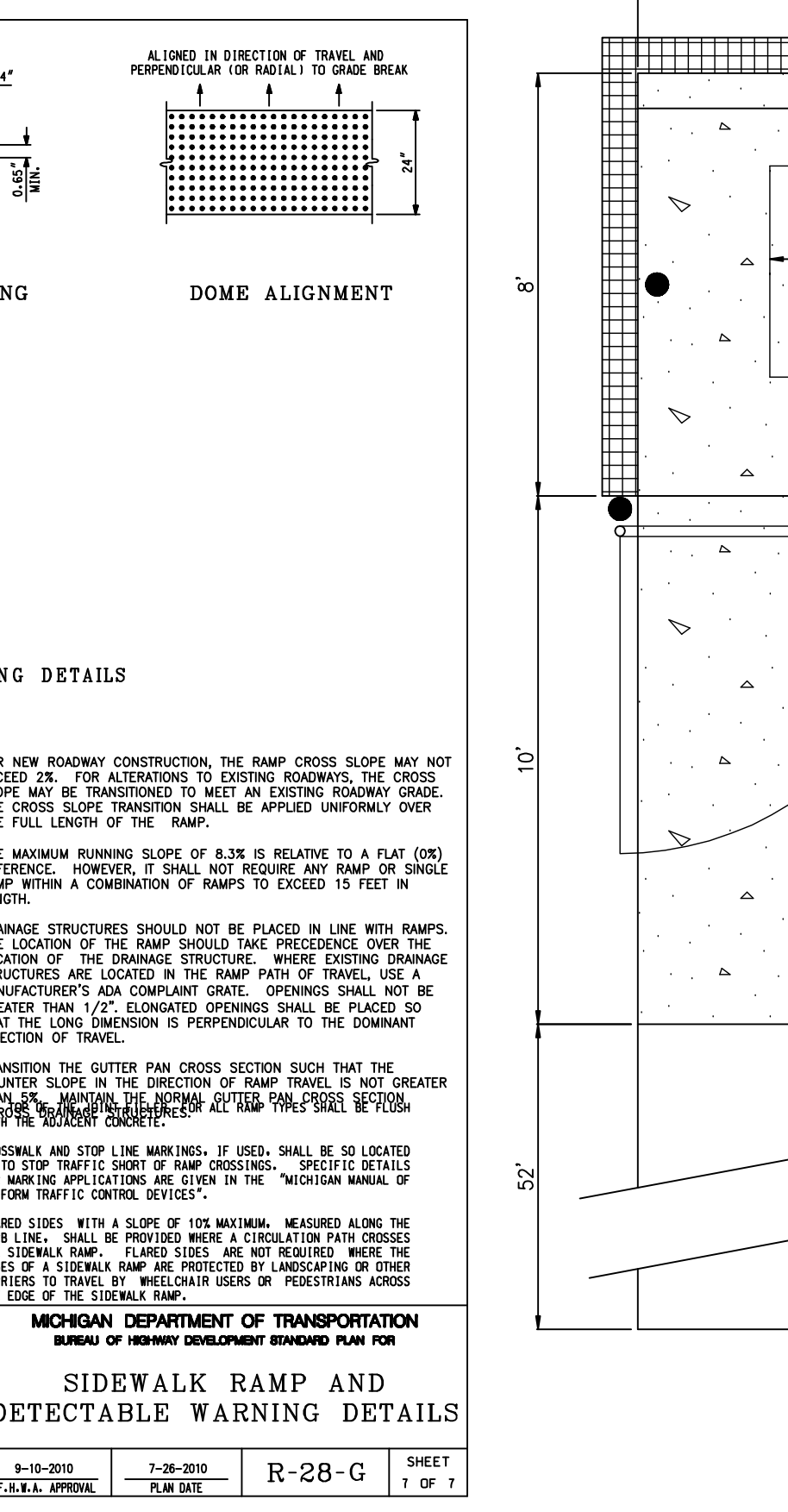
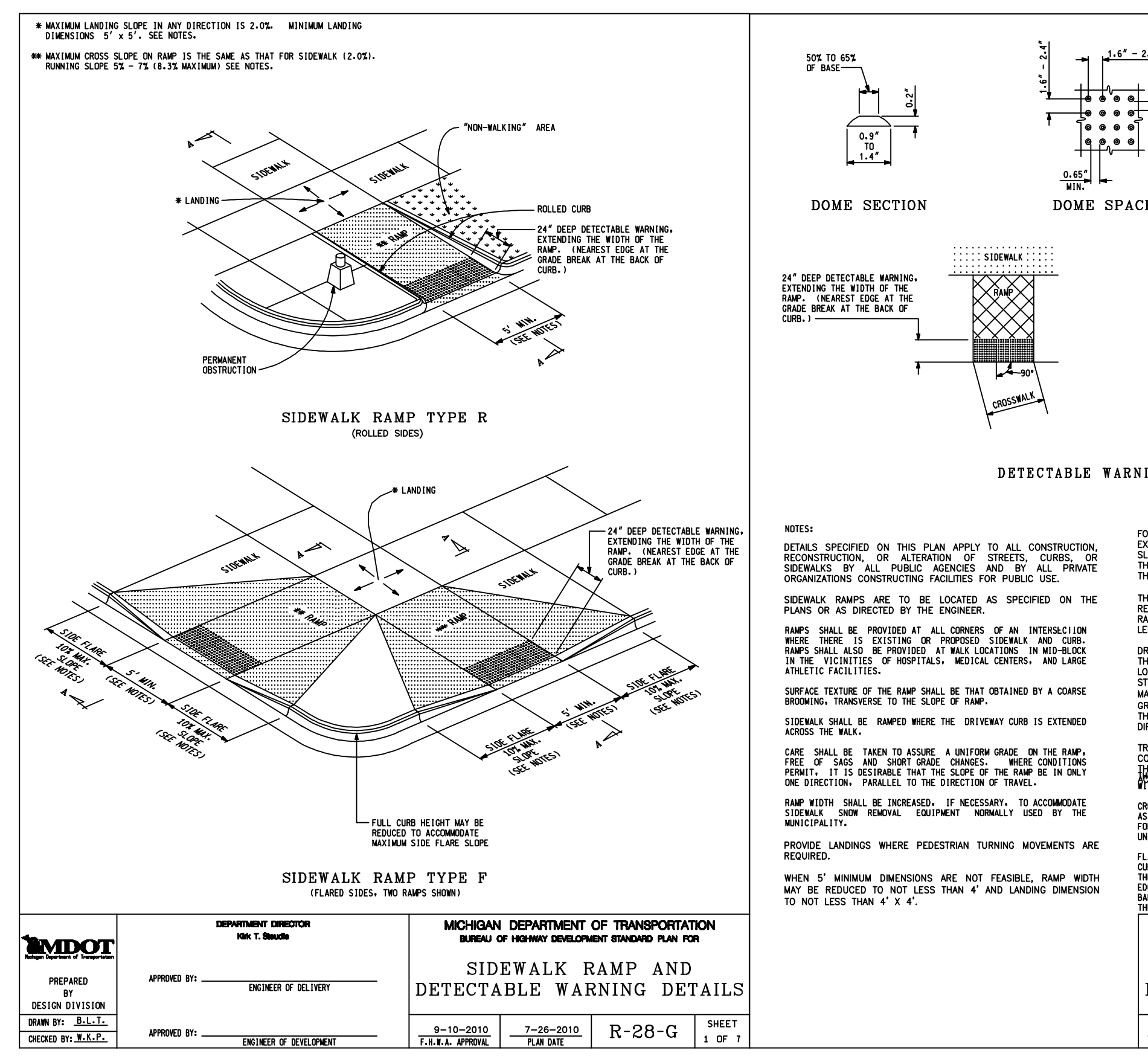
DECIDUOUS TREE PLANTING DETAIL
(NO SCALE)



BOLLARD DETAIL
(NO SCALE)



DOUBLE LIGHT FIXTURE DETAIL (TYP.)
(NO SCALE)



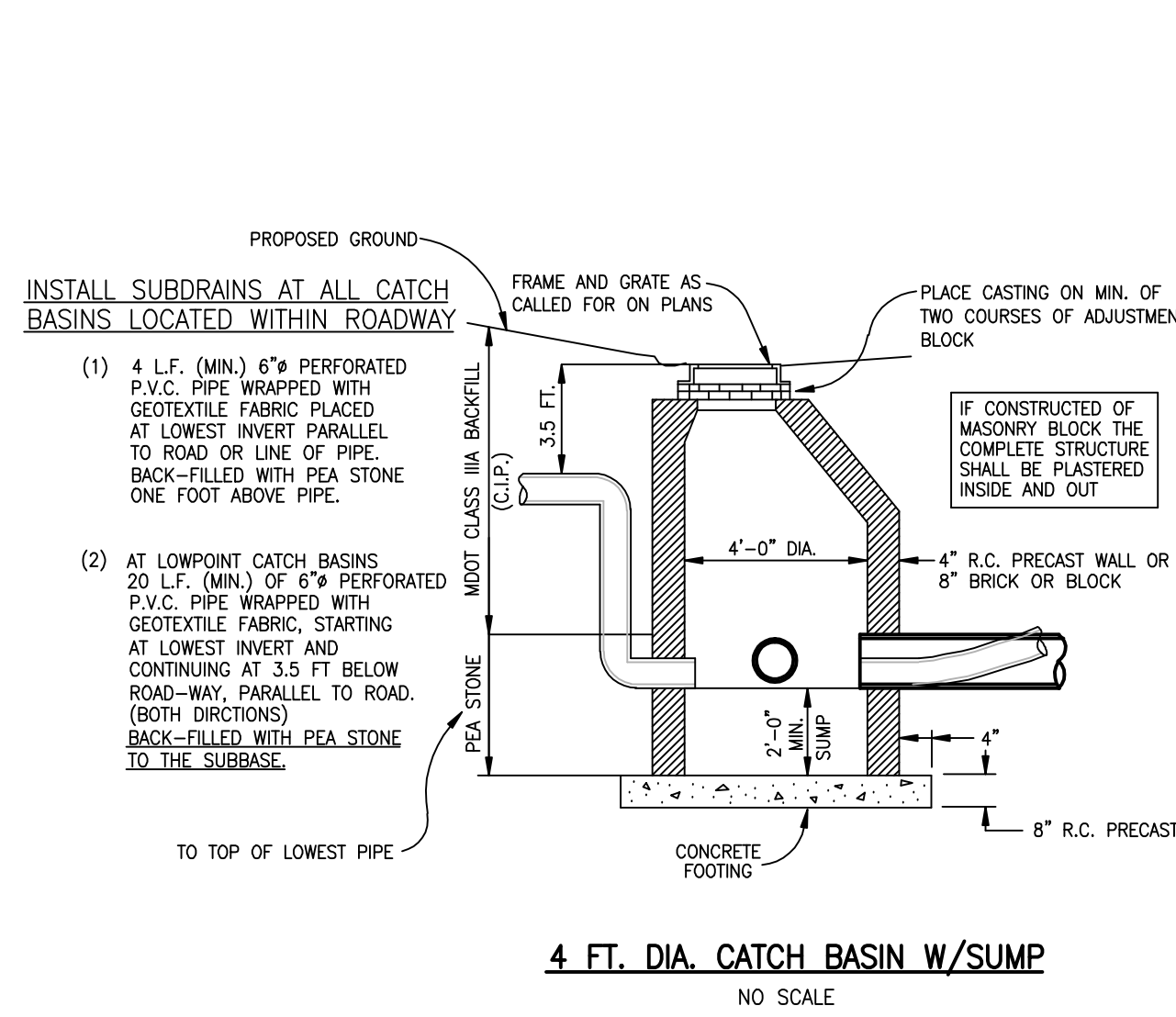
GENERAL LANDSCAPE NOTES:

- ALL PLANT MATERIAL SHALL CONFORM TO THE REQUIREMENTS AND SPECIFICATIONS OF THE GOVERNING MUNICIPALITY AND SHALL BE NURSERY GROWN. ALL SIZES AND MEASUREMENTS SHALL CONFORM TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS. ALL PLANT MATERIAL SHALL BE OF SELECTED SPECIMEN QUALITY AND HAVE A NORMAL BIRTH OF GROWTH. ALL PLANT MATERIAL IS SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT.
- ALL PLANT MATERIALS SHALL BE BALLED AND BURLAPPED STOCK OR CONTAINER STOCK, NO BARE ROOT STOCK IS PERMITTED. ALL PLANT BALLS SHALL BE FIRM, INTACT AND SECURELY WRAPPED AND BOUND.
- ALL PLANT BEDS SHALL BE EXCAVATED OF ALL BUILDING MATERIALS AND OTHER EXTRANEOUS OBJECTS AND POOR SOILS TO A MINIMUM DEPTH OF 12 INCHES AND BACKFILLED TO GRADE WITH PLANTING MIX (SEE BELOW).
- PLANTING MIXTURE SHALL CONSIST OF 4 PARTS TOPSOIL FROM ON SITE, 1 PART PEAT, AND 5 POUNDS OF SUPERPHOSPHATE PER CUBIC YARD OF MIX. INGREDIENTS SHALL BE THOROUGHLY BLENDED TO A UNIFORM CONSISTENCY.
- ALL PLANT BEDS AND INDIVIDUAL PLANTS SHALL BE MULCHED WITH A 4 INCH LAYER OF SHREDDED BARK MULCH.
- ALL PLANTS AND PLANT BEDS SHALL BE THOROUGHLY WATERED UPON COMPLETION OF PLANTING AND STAKING OPERATIONS.
- THE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR A PERIOD OF 1 YEAR FROM THE DATE THE WORK IS ACCEPTED, IN WRITING, BY THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPLACE, WITHOUT COST TO THE OWNER, WITHIN A SPECIFIED PERIOD TIME, ALL DEAD PLANTS, AND ALL PLANTS NOT IN A VIGOROUS, THRIVING CONDITION, AS DETERMINED BY THE LANDSCAPE ARCHITECT DURING AND AT THE END OF THE GUARANTEE PERIOD. REPLACEMENT STOCK SHALL CONFORM TO THE ORIGINAL REQUIREMENTS.
- EDGING, WHERE NOTED ON THE PLANS, SHALL BE BLACK ALUMINUM EDGING, 3/16" X 4". INSTALL PER MANUFACTURER'S INSTRUCTIONS. ALL EDGING SHALL BE INSTALLED IN STRAIGHT LINES OR SMOOTH CURVES WITHOUT IRREGULARITIES.
- SOD SHALL BE DENSE, WELL ROOTED TURF, FREE OF WEEDS. IT SHALL BE COMPRISED OF A BLEND OF AT LEAST TWO KENTUCKY BLUEGRASSES AND ONE FESCUE. IT SHALL HAVE A UNIFORM THICKNESS OF 3/4 INCH, AND CUT IN UNIFORM STRIPS NOT LESS THAN 10 INCHES BY 18 INCHES. SOD SHALL BE KEPT MOIST AND LAID WITHIN 36 HOURS AFTER CUTTING.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES, FREE OF LUMPS AND DEPRESSIONS. ALL SODDED AREAS THAT BROWN OUT OR HAVE NOT FIRMLY KNITTED TO THE SOIL BASE WITHIN A PERIOD OF ONE MONTH SHALL BE REPLACED BY THE CONTRACTOR, AT NO COST TO THE OWNER.
 - ALL AREAS OF THE SITE THAT BECOME DISTURBED DURING CONSTRUCTION AND ARE NOT TO BE PAVED, STONED, LANDSCAPED, OR SODDED SHALL BE SEEDED AND MULCHED.
 - SEED MIXTURE SHALL BE AS FOLLOWS:

KENTUCKY BLUEGRASS (CHOOSE 3 VARIETIES: ADELPHI, RUGBY, GLADE OR PARADE)	30%
RUBY RED OR DAWSON RED FINE FESCUE	30%
ATLANTA RED FESCUE	20%
PENNFINE PERENNIAL RYE	20%

 THE ABOVE SEED MIXTURE SHALL BE SOWN AT A RATE OF 250 POUNDS PER ACRE, PRIOR TO SEEDING, THE TOPSOIL LAYER SHALL BE FERTILIZED WITH A COMMERCIAL FERTILIZER WITH A 10-20-10 ANALYSIS:
 - 10% NITROGEN: A MINIMUM OF 25% FROM A UREA-FORMALDEHYDE SOURCE
 - 20% PHOSPHATE
 - 10% POTASH: SOURCE TO BE POTASSIUM SULFATE OR POTASSIUM NITRATE.
 THE FIRST FERTILIZER APPLICATION SHALL BE AT A RATE OF 10 POUNDS OF BULK FERTILIZER PER 1000 SQUARE FEET.
 - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES, FREE OF LUMPS AND DEPRESSIONS. ANY PART OF THE AREA THAT FAILS TO SHOW A UNIFORM GERMINATION SHALL BE RESEEDED AND SUCH RESEEDING SHALL CONTINUE UNTIL A DENSE LAWN IS ESTABLISHED. DAMAGE TO SEEDING AREAS RESULTING FROM EROSION SHALL BE REPAIRED BY THE CONTRACTOR.
- ALL AREAS OF THE SITE SCHEDULED FOR SEEDING OR SODDING SHALL FIRST RECEIVE A 4 INCH LAYER OF CLEAN, FRIABLE TOPSOIL. THIS SOIL SHALL BE DISCED AND SHALL BE GRADED IN CONFORMANCE WITH THE GRADING PLAN.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES AND TO INFORM THE LANDSCAPE ARCHITECT OF ANY CONFLICTS PRIOR TO COMMENCING LANDSCAPING.
- ALL PLANT MATERIALS SHALL BE FREE OF WEEDS, INSECTS AND DISEASE.

PROPOSED WATERMAIN CONNECTION EAST OF THE PROPOSED CHURCH ADDITION IS TO BE A CUT-IN SLEEVE AND TEE CONNECTION.
WATERMAIN CONNECTION NOTE



4 FT. DIA. CATCH BASIN W/SUMP
NO SCALE

BOSS ENGINEERING
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS
(L) 371 E. GRAND PIERCE AVE. (M) 371 E. GRAND PIERCE AVE. (F) 371 E. GRAND PIERCE AVE.
HOWELL, MI 48843
(800) 246-8735 FAX (517) 546-1970

B.N.C. FACILITY EXPANSION
BRIGHTON NAZARENE CHURCH
7669 BRIGHTON ROAD
BRIGHTON, MI 48116
810-227-6600

PROJECT: B.N.C. FACILITY EXPANSION
PREPARED FOR: BRIGHTON NAZARENE CHURCH
TITLE: CONSTRUCTION NOTES & DETAILS

NO.	DATE	REVISION	PER
1	6/26/13		DATE
1			NO BY
1			TMP. REVIEW
1			DATE

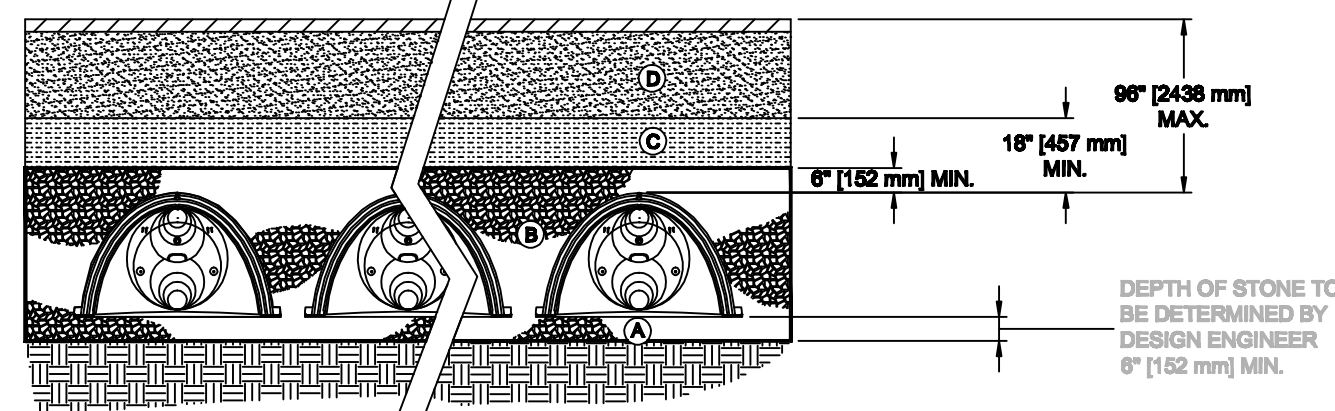
DESIGNED BY: [Signature]
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SCALE: AS SHOWN
JOB NO. 13-100
DATE 5-31-13
SHEET NO. 7

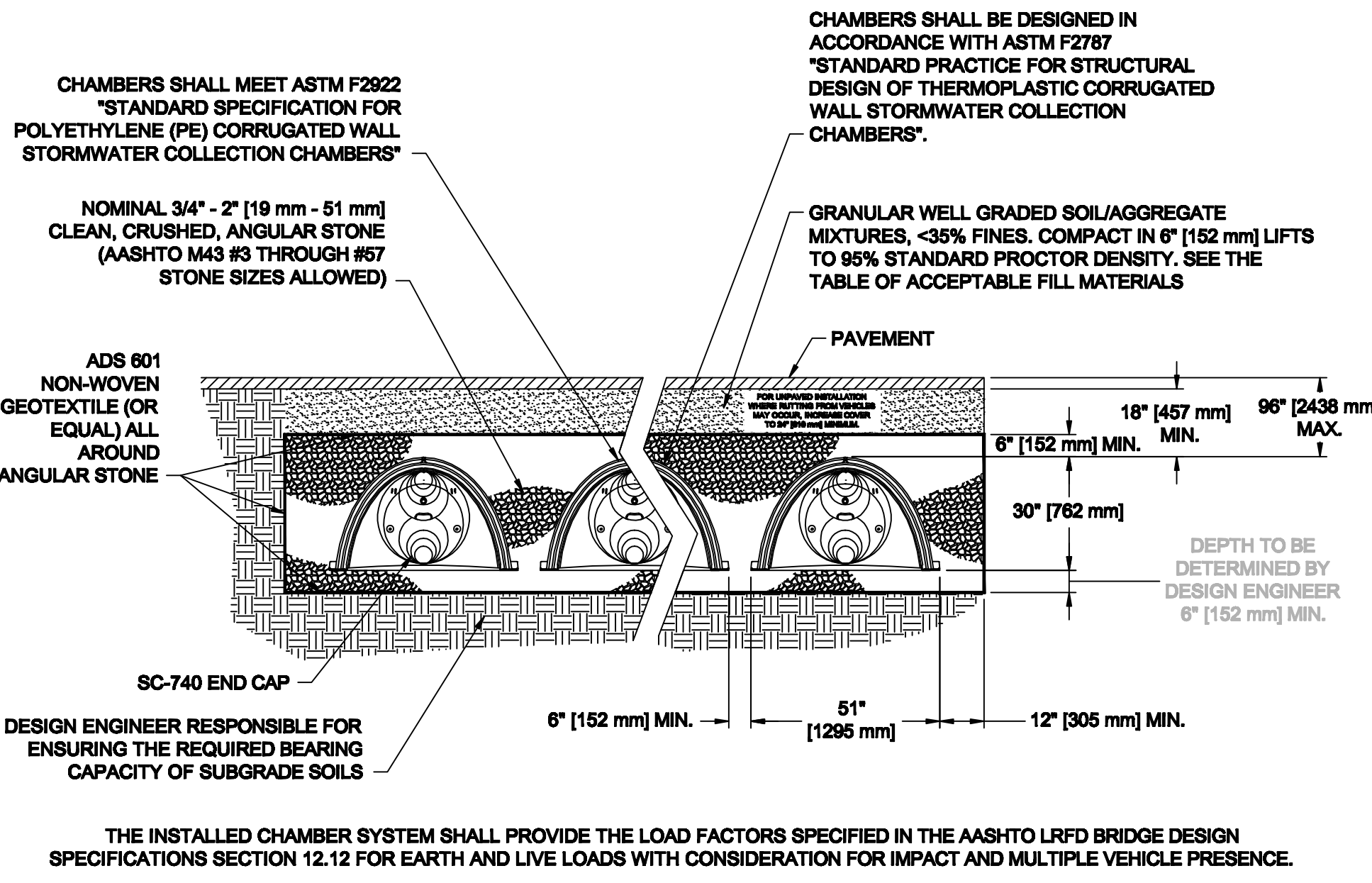
ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 AND SC-310 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO M43 DESIGNATION ⁽¹⁾	COMPACTION/DENSITY REQUIREMENT
D	FILL MATERIAL FOR LAYER D STARTS FROM THE TOP OF THE LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISH GRADE ABOVE. NOTE THAT PAVEMENT SUB-BASE MAY BE PART OF THIS LAYER.	NA	PREPARE PER ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRONGEST MATERIAL AND PREPARATION REQUIREMENTS.
C	FILL MATERIAL FOR LAYER C STARTS FROM THE TOP OF THE EMBEDMENT STONE (B LAYER) TO 1" (25.4 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUB-BASE MAY BE A PART OF THIS LAYER.	3, 357, 4, 467, 5, 86, 87, 8, 87, 88, 7, 78, 8, 86, 9, 10	BEGIN COMPACTION AFTER 12" (305 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (152 mm) LIFTS TO A MIN. 96% STANDARD PROCTOR DENSITY (P). ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (5443 kg). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (9072 kg).
B	EMBEDMENT STONE SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A LAYER) TO THE C LAYER ABOVE.	3, 357, 4, 467, 5, 86, 87	NO COMPACTION REQUIRED.
A	FOUNDATION STONE BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	3, 36, 4, 467, 5, 86, 87	PLATE COMPACT OR ROLL TO ACHIEVE A 96% STANDARD PROCTOR DENSITY (P).

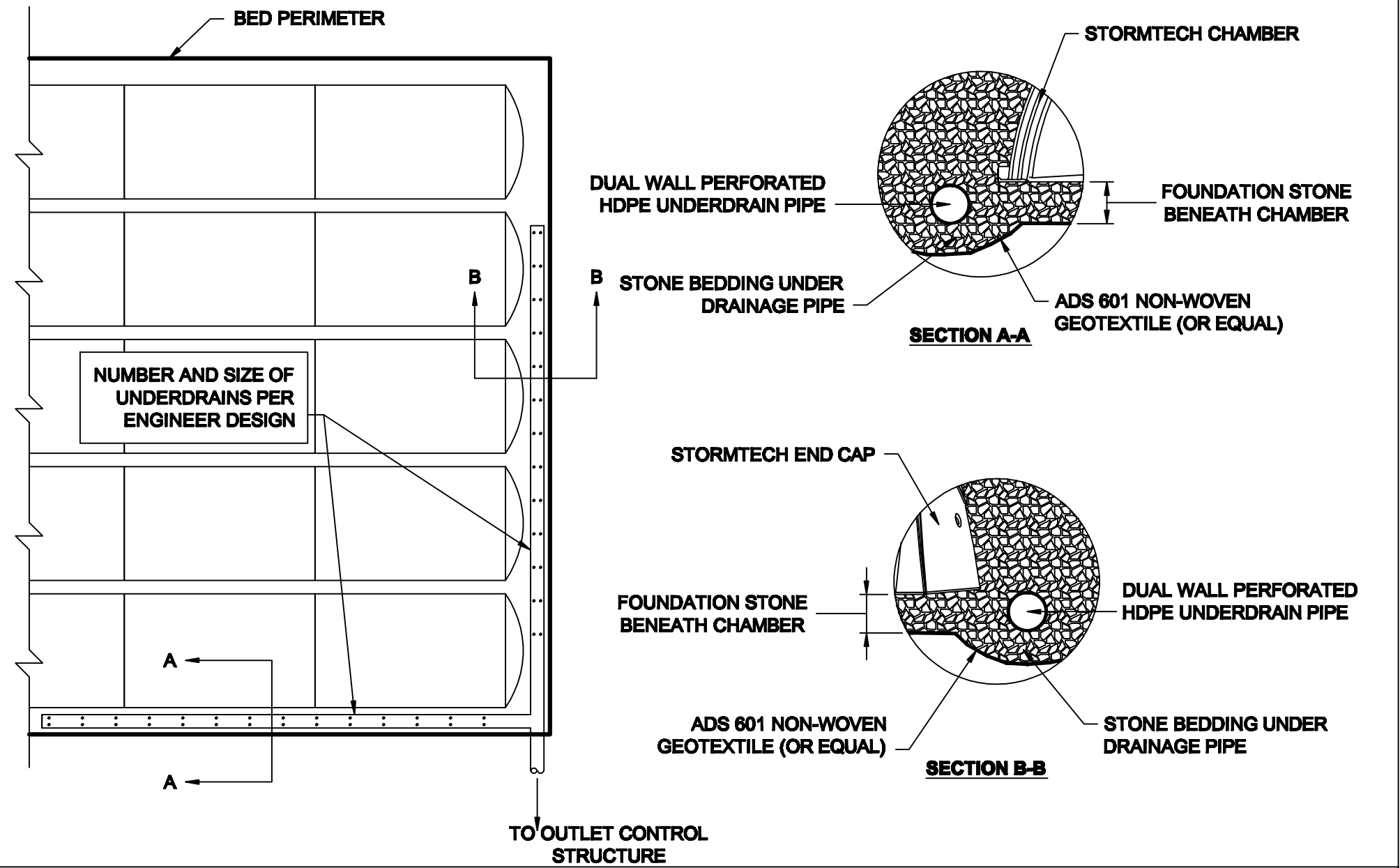
PLEASE NOTE:
 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 2. AS AN ALTERNATE TO PROCTOR TESTING AND FIELD DENSITY MEASUREMENTS ON OPEN GRADED STONE, STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (152 mm) LIFTS USING TWO FULL COVERAGES WITH AN APPROPRIATE COMPACTOR.



STORMTECH ACCEPTABLE FILL



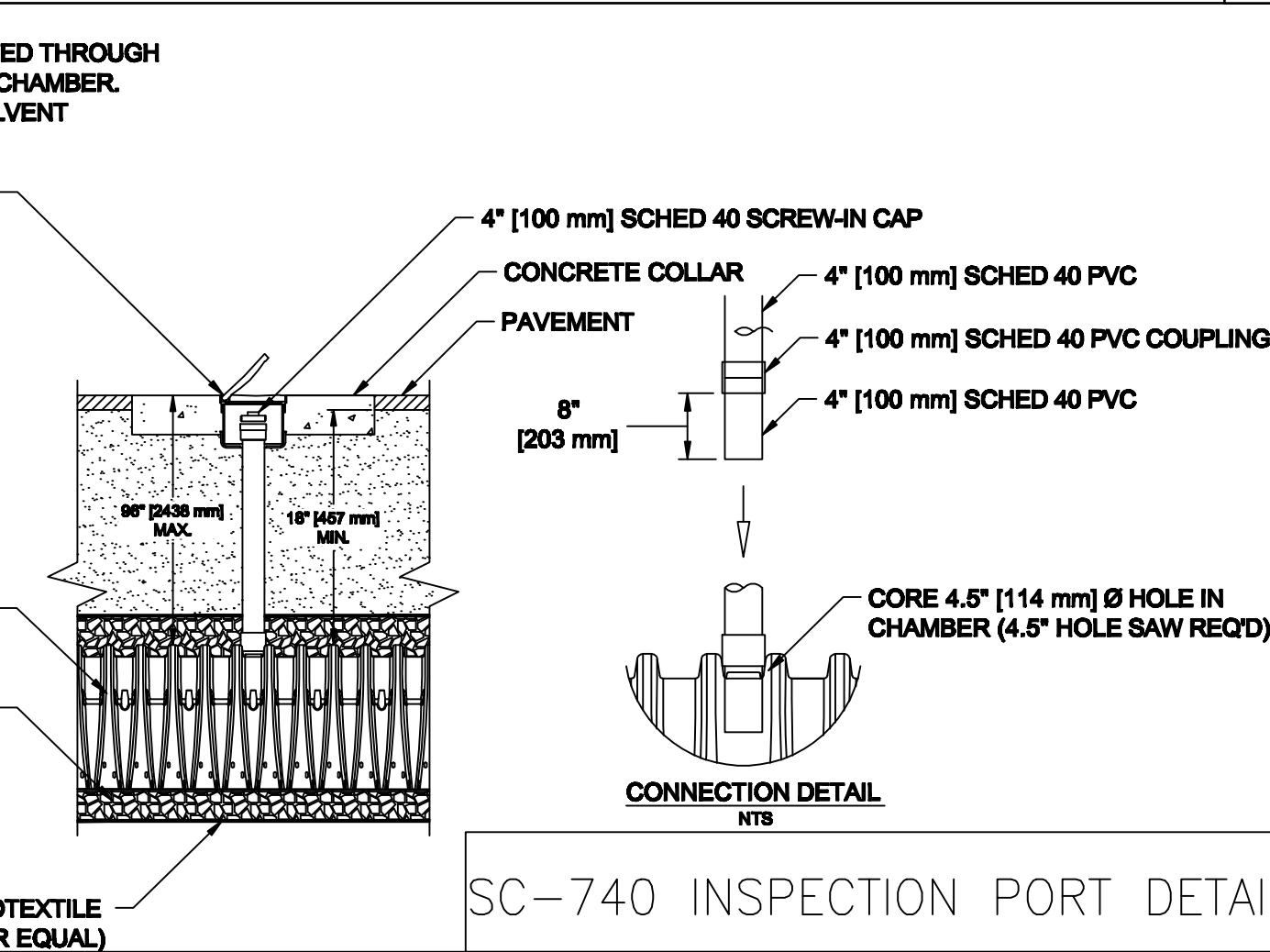
SC-740 TYPICAL CROSS-SECTION



SC-740 UNDERDRAIN

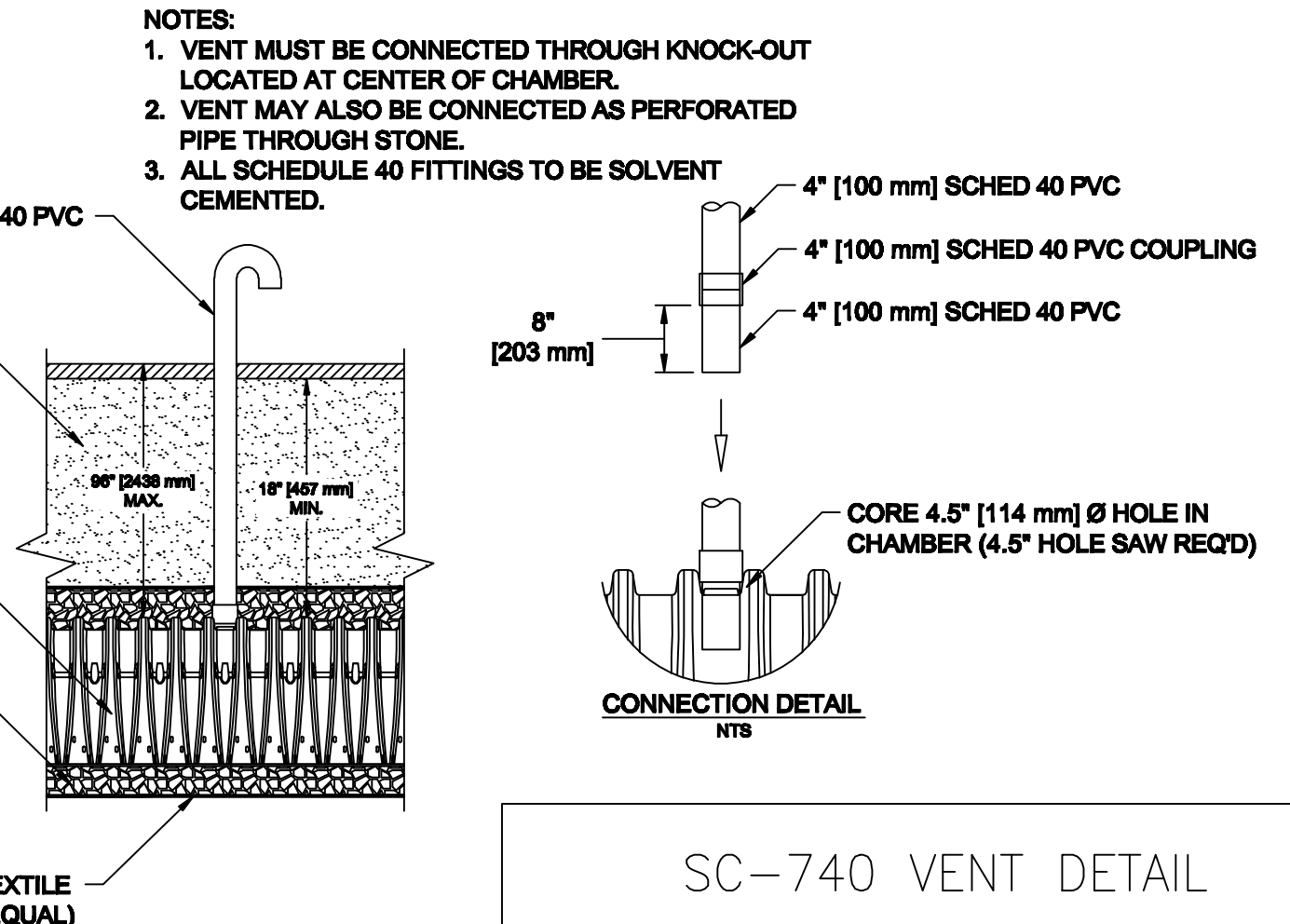
NOTES:
 1. INSPECTION PORT MUST BE CONNECTED THROUGH KNOCK-OUT LOCATED AT CENTER OF CHAMBER.
 2. ALL SCHEDULE 40 FITTINGS TO BE SOLVENT CEMENTED.

NYLOPLAST 12" [300 mm] INLINE DRAIN BODY W/ 12" [300 mm] SOLID HINGED COVER AND FRAME (SEE NYLOPLAST DWG# 7003-110-044 FOR PAVED APPLICATIONS / SEE DWG# 7003-110-045 FOR UNPAVED APPLICATIONS)

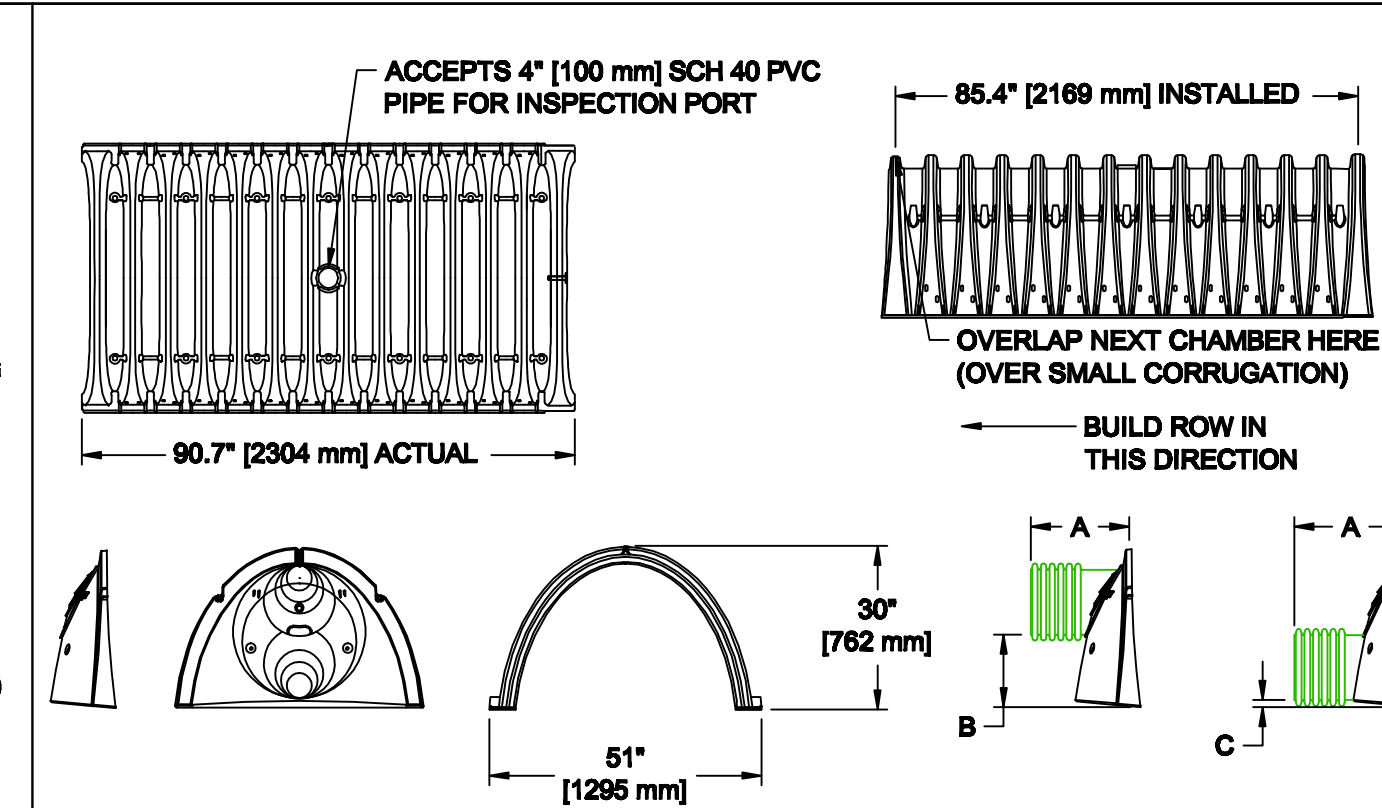
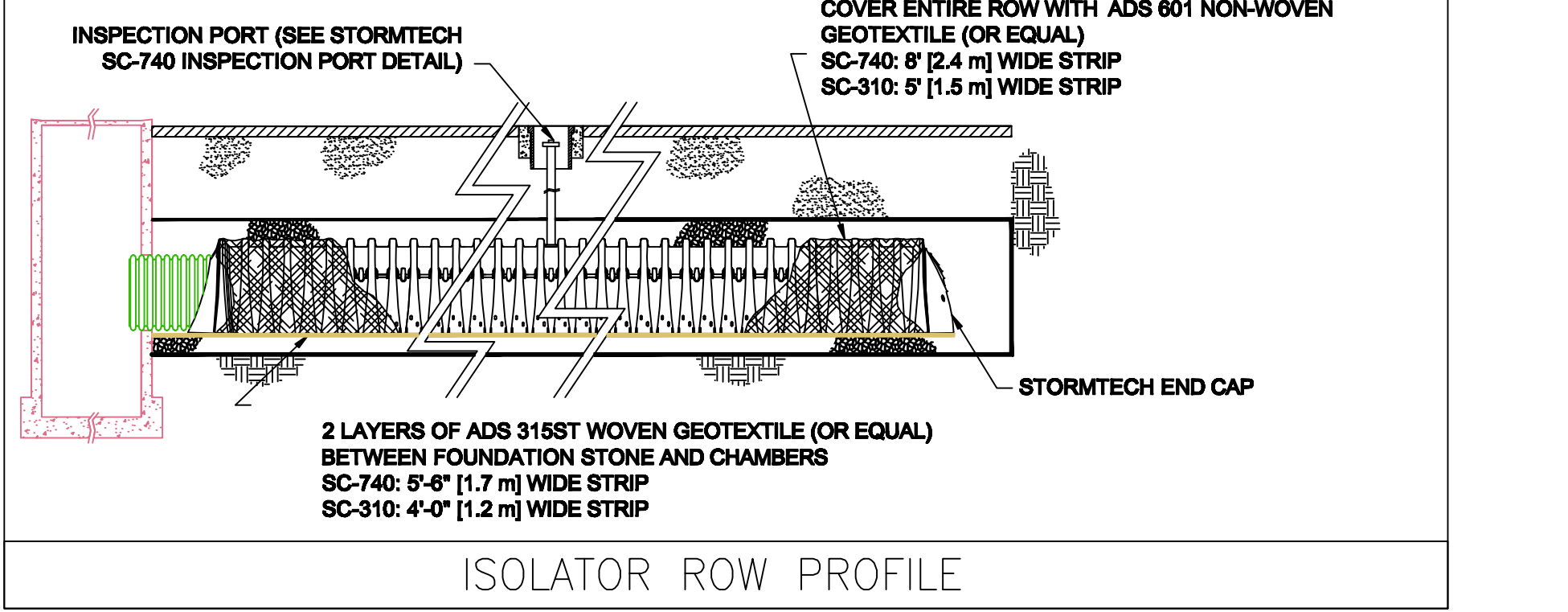


SC-740 INSPECTION PORT DETAIL

NOTES:
 1. VENT MUST BE CONNECTED THROUGH KNOCK-OUT LOCATED AT CENTER OF CHAMBER.
 2. VENT MAY ALSO BE CONNECTED AS PERFORATED PIPE THROUGH STONE.
 3. ALL SCHEDULE 40 FITTINGS TO BE SOLVENT CEMENTED.



SC-740 VENT DETAIL



PART#	STUB	A	B	C
SC740EPE06T	6" [150 mm]	10.90" [277 mm]	18.50" [470 mm]	N/A
SC740EPE06B	6" [150 mm]	10.90" [277 mm]	N/A	0.50" [13 mm]
SC740EPE08T	8" [200 mm]	12.20" [310 mm]	16.50" [419 mm]	N/A
SC740EPE08B	8" [200 mm]	12.20" [310 mm]	N/A	0.80" [15 mm]
SC740EPE10T	10" [250 mm]	13.40" [340 mm]	14.50" [368 mm]	N/A
SC740EPE10B	10" [250 mm]	13.40" [340 mm]	N/A	0.70" [18 mm]
SC740EPE12T	12" [300 mm]	14.70" [373 mm]	12.50" [318 mm]	N/A
SC740EPE12B	12" [300 mm]	14.70" [373 mm]	N/A	1.20" [30 mm]
SC740EPE15T	15" [375 mm]	18.40" [467 mm]	9.00" [229 mm]	N/A
SC740EPE15B	15" [375 mm]	18.40" [467 mm]	N/A	1.30" [33 mm]
SC740EPE18T	18" [450 mm]	19.70" [500 mm]	5.00" [127 mm]	N/A
SC740EPE18B	18" [450 mm]	19.70" [500 mm]	N/A	1.80" [41 mm]
SC740EPE24B	24" [600 mm]	18.50" [470 mm]	N/A	0.10" [3 mm]

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
 STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-992-2694.

*FOR THE SC740EPE24B THE 24" [600 mm] STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" [44 mm]. BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

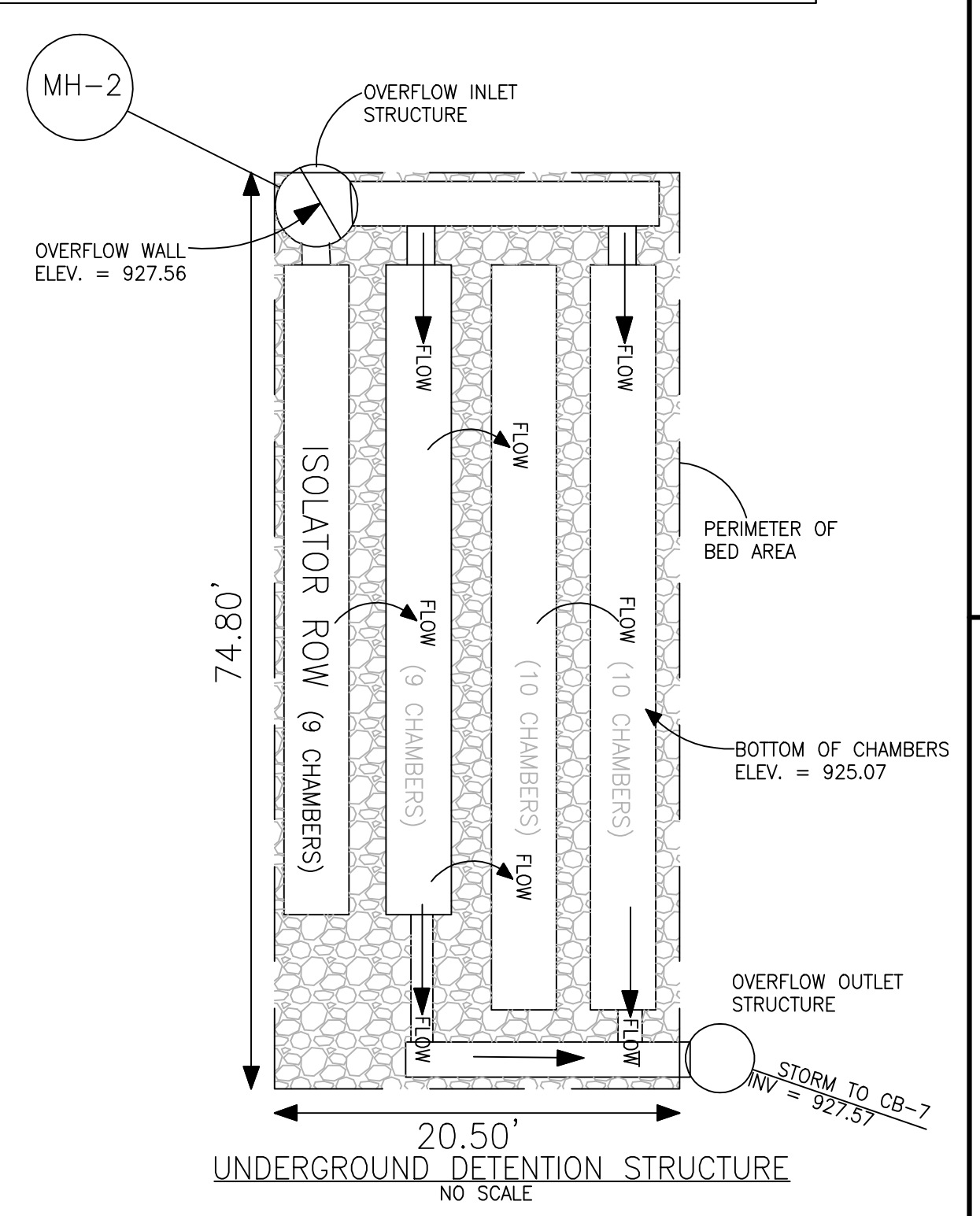
NOTE: ALL DIMENSIONS ARE NOMINAL

SC-740 TECHNICAL SPECIFICATIONS

STORMWATER CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-740, SC-310 OR APPROVED EQUAL.
- CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS TESTED USING ASTM STANDARDS.
- CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCE.
 - A STRUCTURAL EVALUATION BY A REGISTERED STRUCTURAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET. THE 50-YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2922 MUST BE USED AS A PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
- ONLY CHAMBERS THAT ARE APPROVED BY THE ENGINEER WILL BE ALLOWED. THE CONTRACTOR SHALL SUBMIT (3 SETS) OF THE FOLLOWING TO THE ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
- CHAMBERS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
- ALL DESIGN SPECIFICATIONS FOR CHAMBERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S LATEST DESIGN MANUAL.
- THE INSTALLATION OF CHAMBERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S LATEST INSTALLATION INSTRUCTIONS.

STORMWATER CHAMBER SPECIFICATIONS



StormTech
Geosurface Stormwater Management™

Project: 13-100
 By: BOSS ENGINEERING

Point of Contact: [Redacted]
 Date: 5/30/2013

Units: Imperial

System Requirements	
Required Storage Volume	2,644 CF
Select Stormtech Chamber System	SC-740
Stone Porosity (Industry Standard = 40%)	40%
Stone Foundation Depth	6 inches
Storage Volume Per Chamber	74.90 CF
Avg Cover over Chambers (18 in min. & 96 in max.)	18 inches
Number of Chambers Required	38 Each
Required Bed Size	1,466 SF
Tons of Stone Required	176 Tons
Volume of Excavation	244 CY
Area of Filter Fabric	460 SY
# of End Caps Required	8 Each
Length of ISOLATOR ROW	71.2 FT
ISOLATOR FABRIC	40 SY

Is the limiting dimension for the bed the width or length?
 Controlled by Width (Rows) **width** Controlled by Length

Width	Length
25 FT	100 FT

# of Chambers Long	10 EA	# of Chambers Long	- EA
# of Rows	4 EA	# of Rows	- EA
Actual Length	74.80 FT	Actual Length	- FT
Actual Width	20.50 FT	Actual Width	- FT

2 of the chambers rows will contain only 9 chambers

THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION, DEPTH AND DIMENSIONS OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN ANY CONFLICT AREA. THE CONTRACTOR SHALL VERIFY THE ENGINEER'S ANY CONFLICT AREA. THE CONTRACTOR SHALL VERIFY THE ENGINEER'S ANY CONFLICT AREA. THE CONTRACTOR SHALL VERIFY THE ENGINEER'S ANY CONFLICT AREA.



BOSS ENGINEERING
 ENGINEERS, SURVEYORS & PLANNERS
 LANDSCAPE ARCHITECTS
 (E-MAIL: BOSS@BOSS-ENG.COM)
 3121 E. GRAND RIVER AVE.
 HOWELL, MI 48843-5488-1670
 (800) 246-6735 FAX (517) 548-1670

B.N.C. FACILITY EXPANSION
 BRIGHTON NAZARENE CHURCH
 7669 BRIGHTON ROAD
 BRIGHTON, MI 48116
 810-227-6600

PROJECT: B.N.C. FACILITY EXPANSION
 PREPARED FOR: BRIGHTON NAZARENE CHURCH
 TITLE: UNDERGROUND DETENTION DETAILS

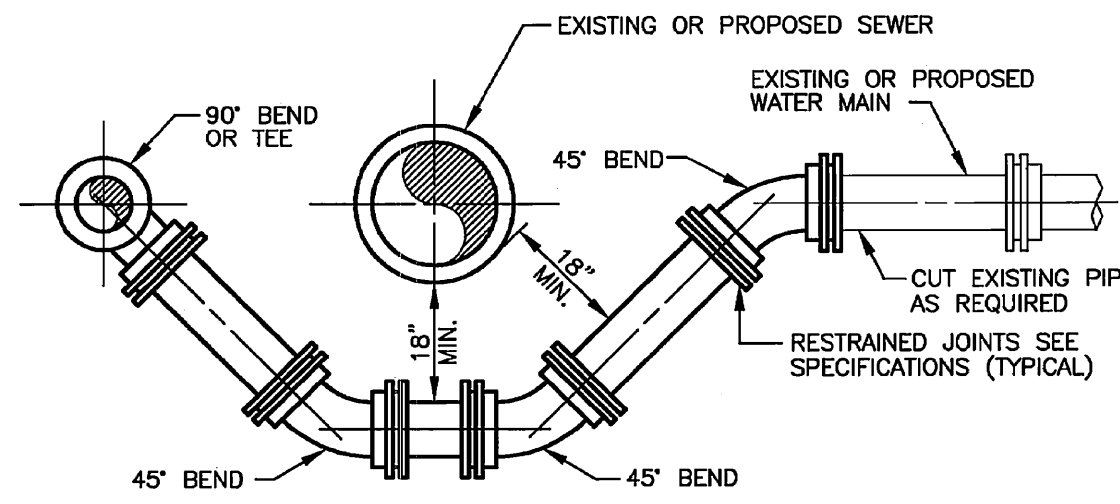
NO	BY	DATE	REVISION
1	ST	7/2/13	

DESIGNED BY: ST
 DRAWN BY: ST
 CHECKED BY:
 SCALE: NO SCALE
 JOB NO. 13-100
 DATE: 5-31-13
 SHEET NO. 8

PIPE RESTRAINT SCHEDULE
GROUND BURIED PRESSURE PIPE - POLYETHYLENE ENCASED DUCTILE IRON PIPE

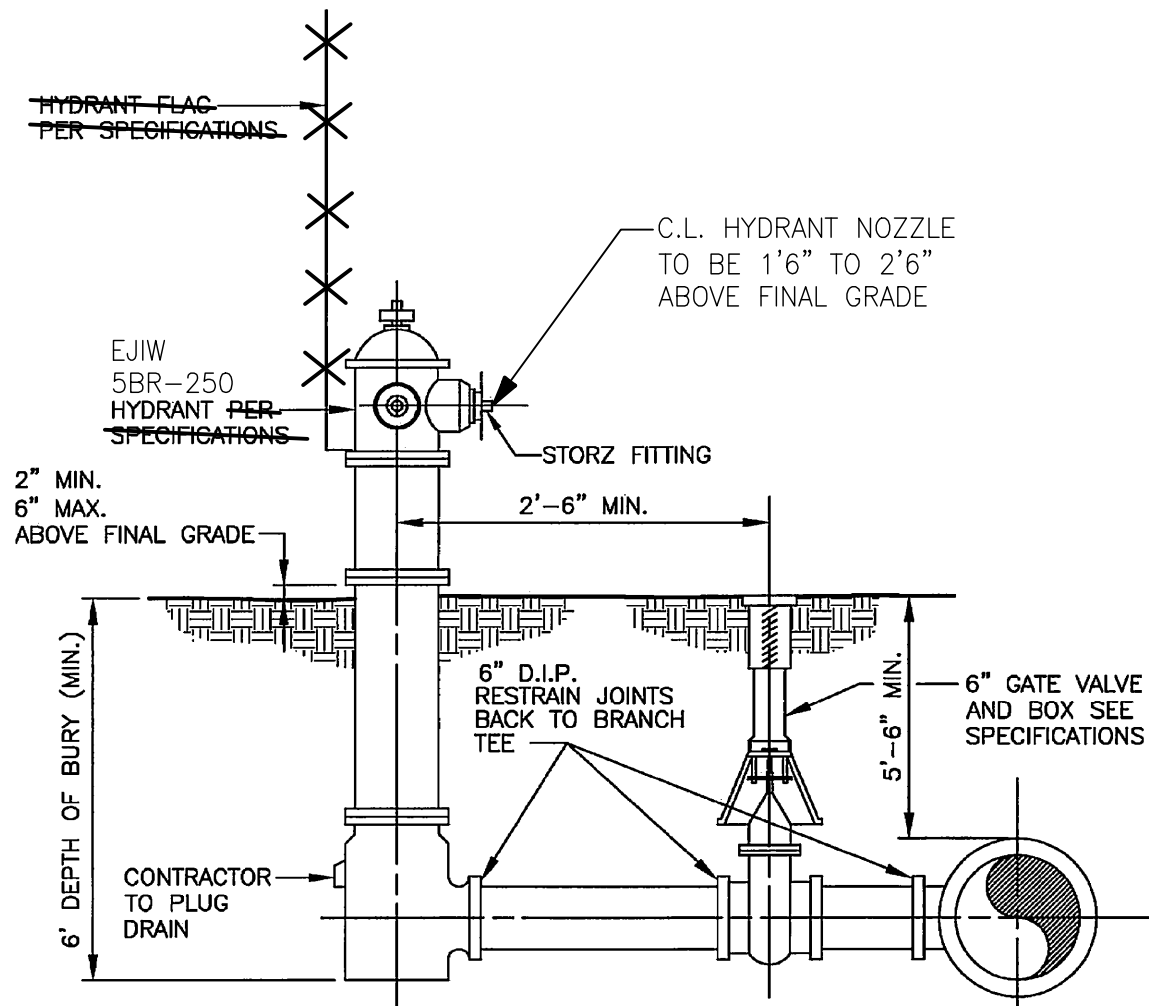
PIPE DIAMETER	TEES, 90° BENDS	45° BENDS	22-1/2° BENDS	11-1/4° BENDS	DEAD ENDS	REDUCERS (ONE SIZE REDUCTION)*	REDUCERS (TWO SIZE REDUCTION)*
4	13	5	3	1	40	---	---
6	19	8	4	2	58	31	---
8	24	10	5	2	75	30	70
12	34	14	7	3	107	57	116
16	43	18	9	4	139	59	137
20	52	22	10	5	169	59	134
24	61	25	12	6	199	60	132
30	73	30	15	7	242	85	168
36	84	35	17	8	281	84	188

- LENGTHS OF PIPE RESTRAINT ARE GIVEN IN FEET.
 - IF REQUIRED PIPE DIAMETER IS NOT LISTED IN THIS TABLE, THE NEXT LARGEST PIPE DIAMETER SHALL BE USED.
 - THIS TABLE IS BASED ON A TEST PRESSURE OF 180 PSI (OPERATING PRESSURE PLUS WATER HAMMER). FOR OTHER TEST PRESSURES, ALL VALUES TO BE INCREASED OR DECREASED PROPORTIONALLY.
 - THE VALUES PROVIDED OF RESTRAINT LENGTH ARE IN EACH DIRECTION FROM THE POINT OF DEFLECTION OR TERMINATION EXCEPT FOR TEES, AT WHICH ONLY THE BRANCH IN THE DIRECTION OF THE STEM.
 - IF TIE RODS ARE USED, USE FOUR RODS MINIMUM AND ADD 1/8-INCH TO BAR DIAMETER AS CORROSION ALLOWANCE.
- * SIZE REDUCTION IS BASED UPON THE PIPE DIAMETER SHOWN IN THIS TABLE.
BASED UPON: INTERNAL PRESSURE: 180
PIPE DEPTH: TYPE 5
BEDDING CLASS: SOIL TYPE: GOOD SAND
SAFETY FACTOR: 2

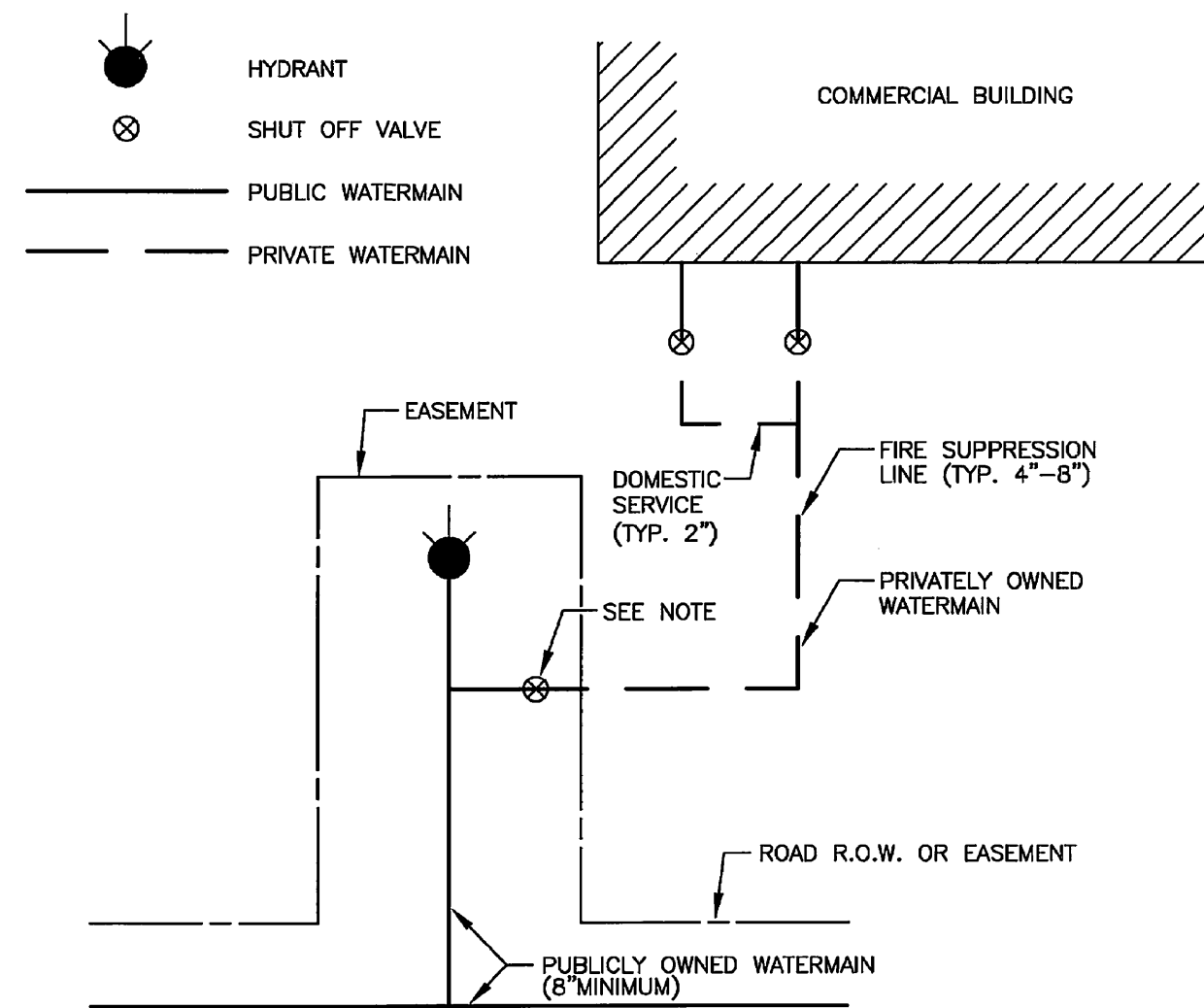


WATER MAIN RELOCATION

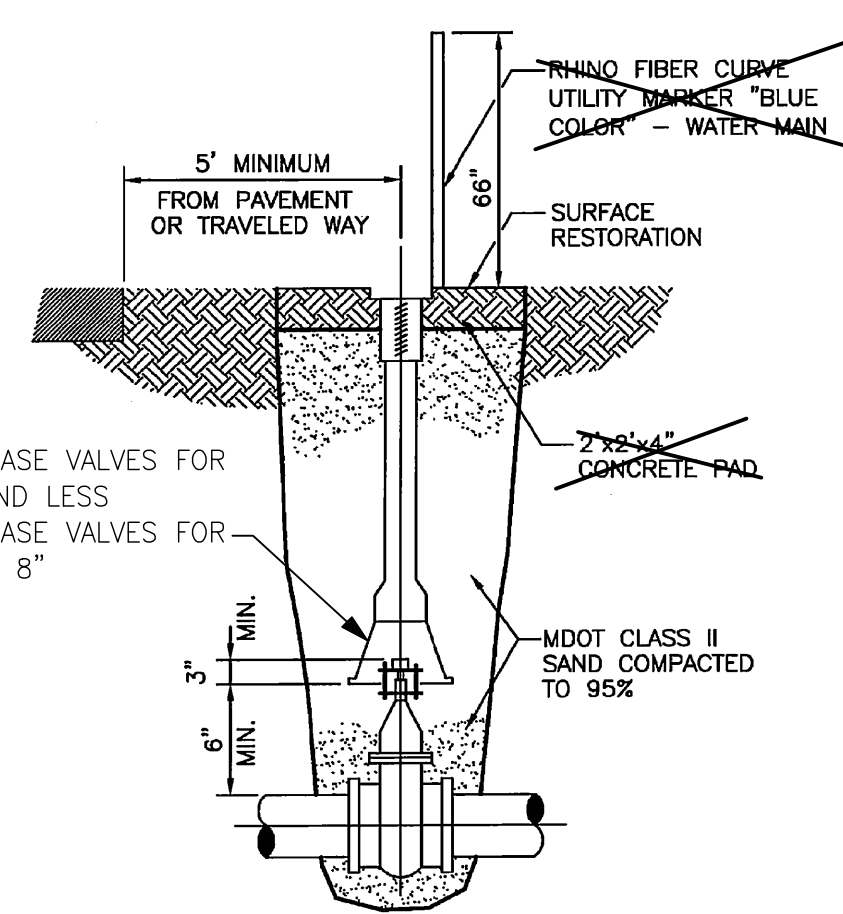
PROPOSED WATERMAIN CONNECTION EAST OF THE PROPOSED CHURCH ADDITION IS TO BE A CUT-IN SLEEVE AND TEE CONNECTION.
WATERMAIN CONNECTION NOTE



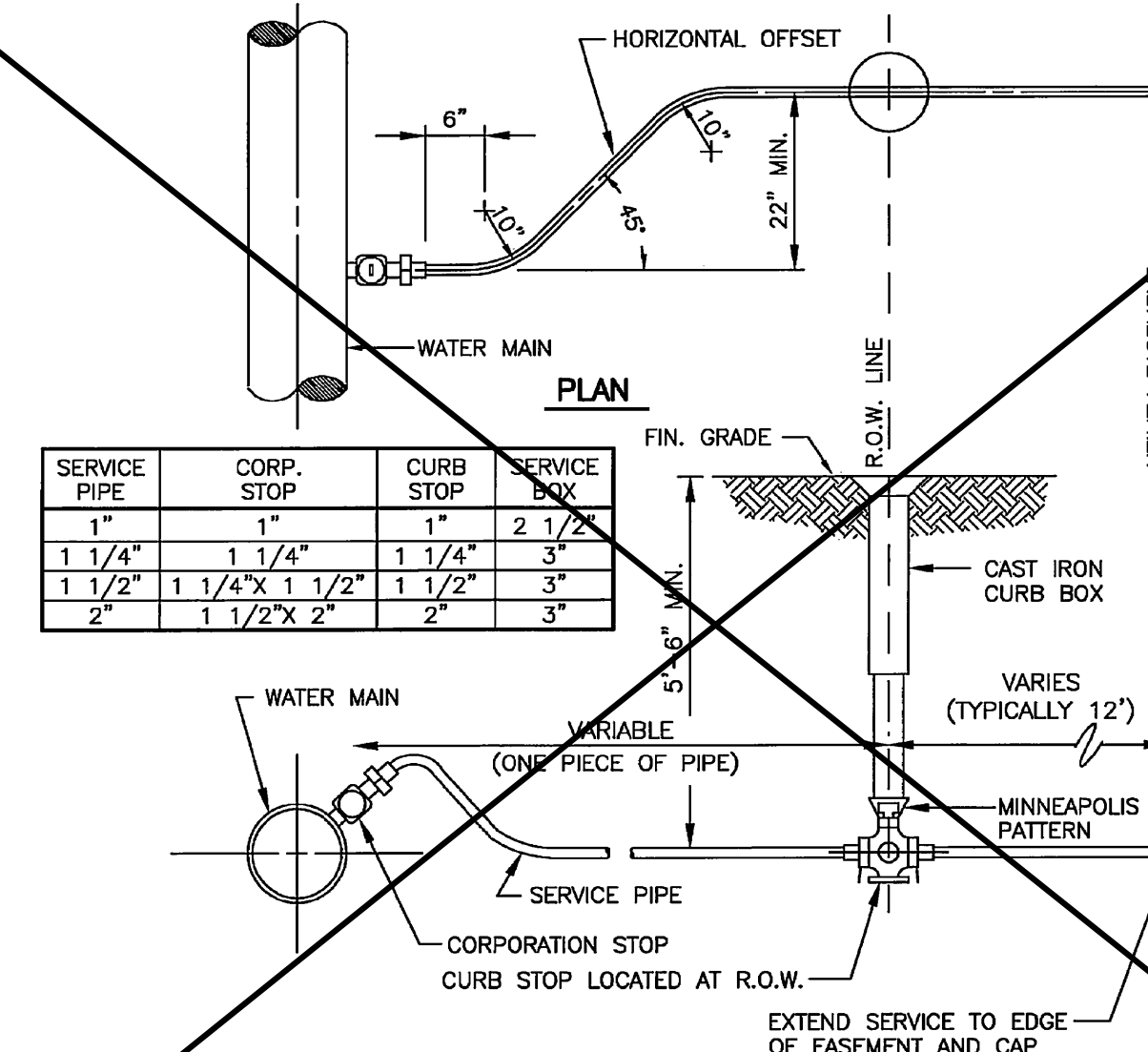
FIRE HYDRANT ASSEMBLY



COMMERCIAL BUILDING WATER SERVICE LAYOUT

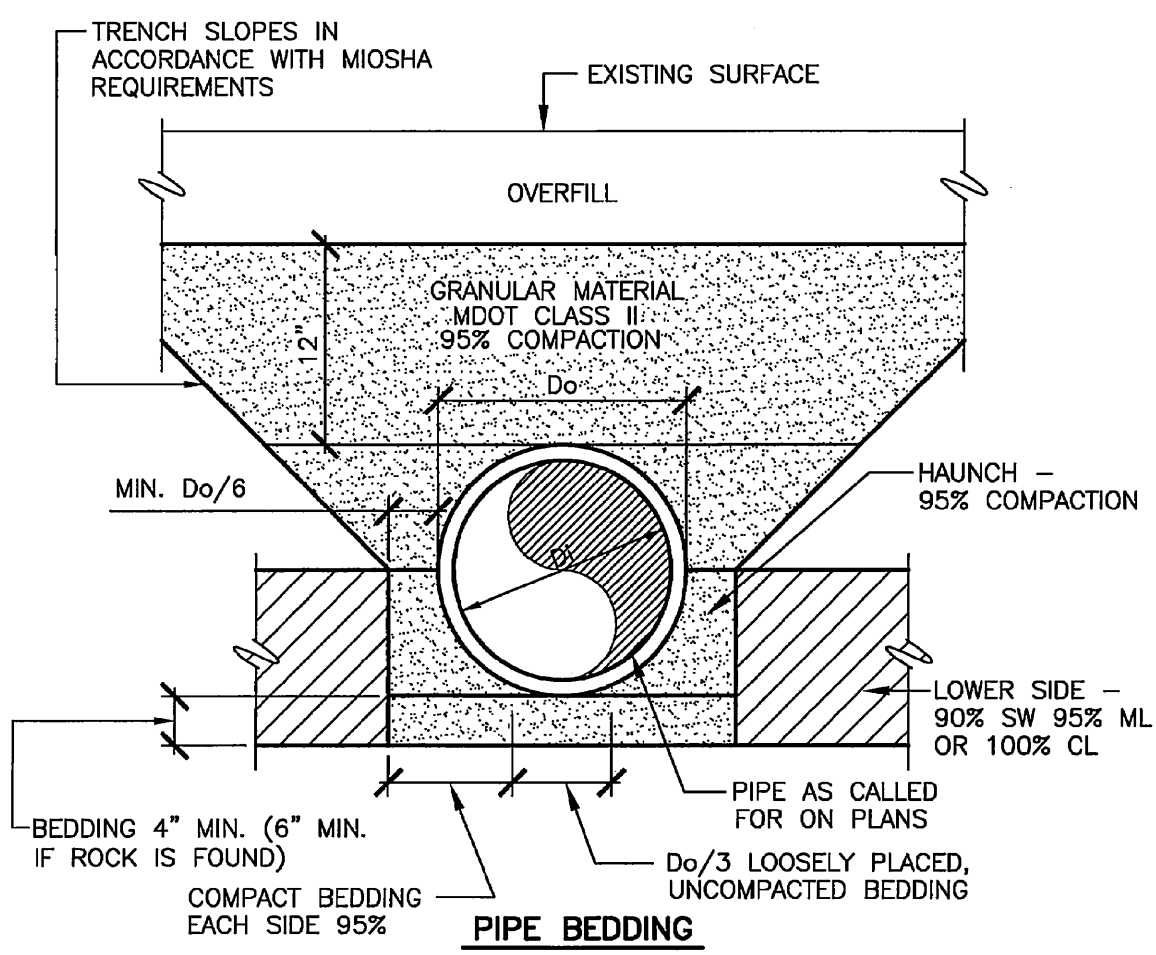


GATE VALVE AND BOX

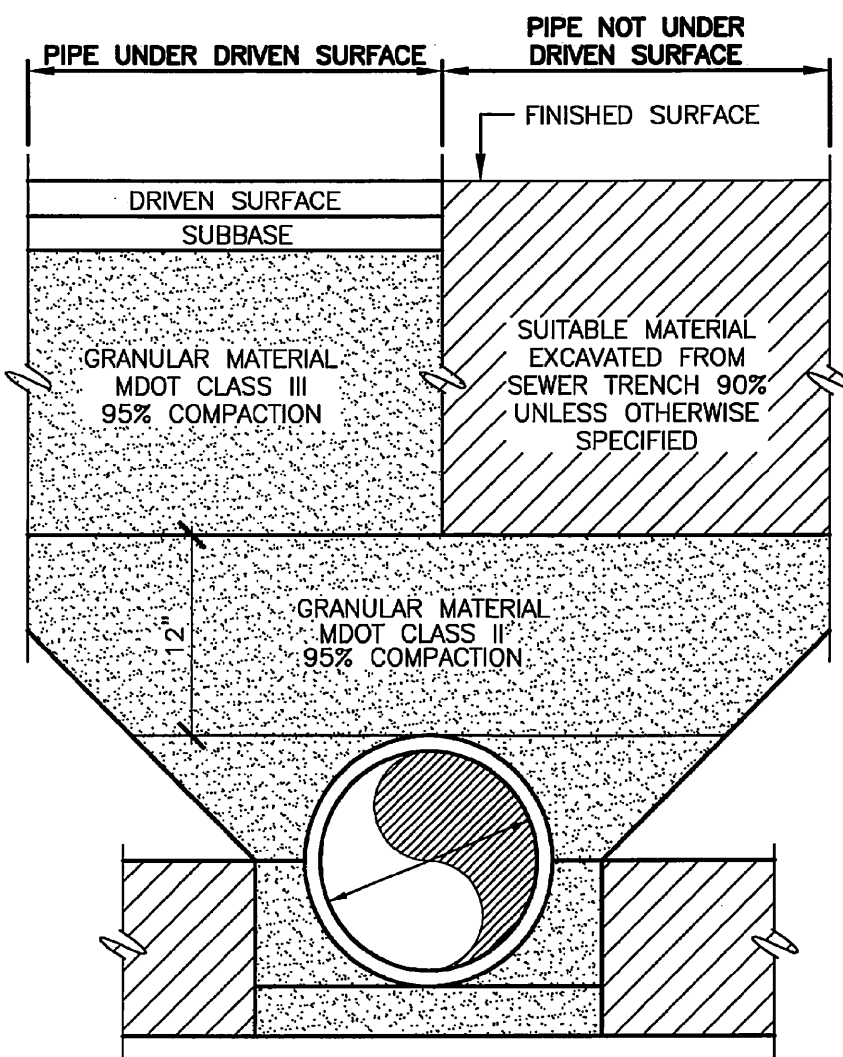


SECTION WATER SERVICE LATERAL

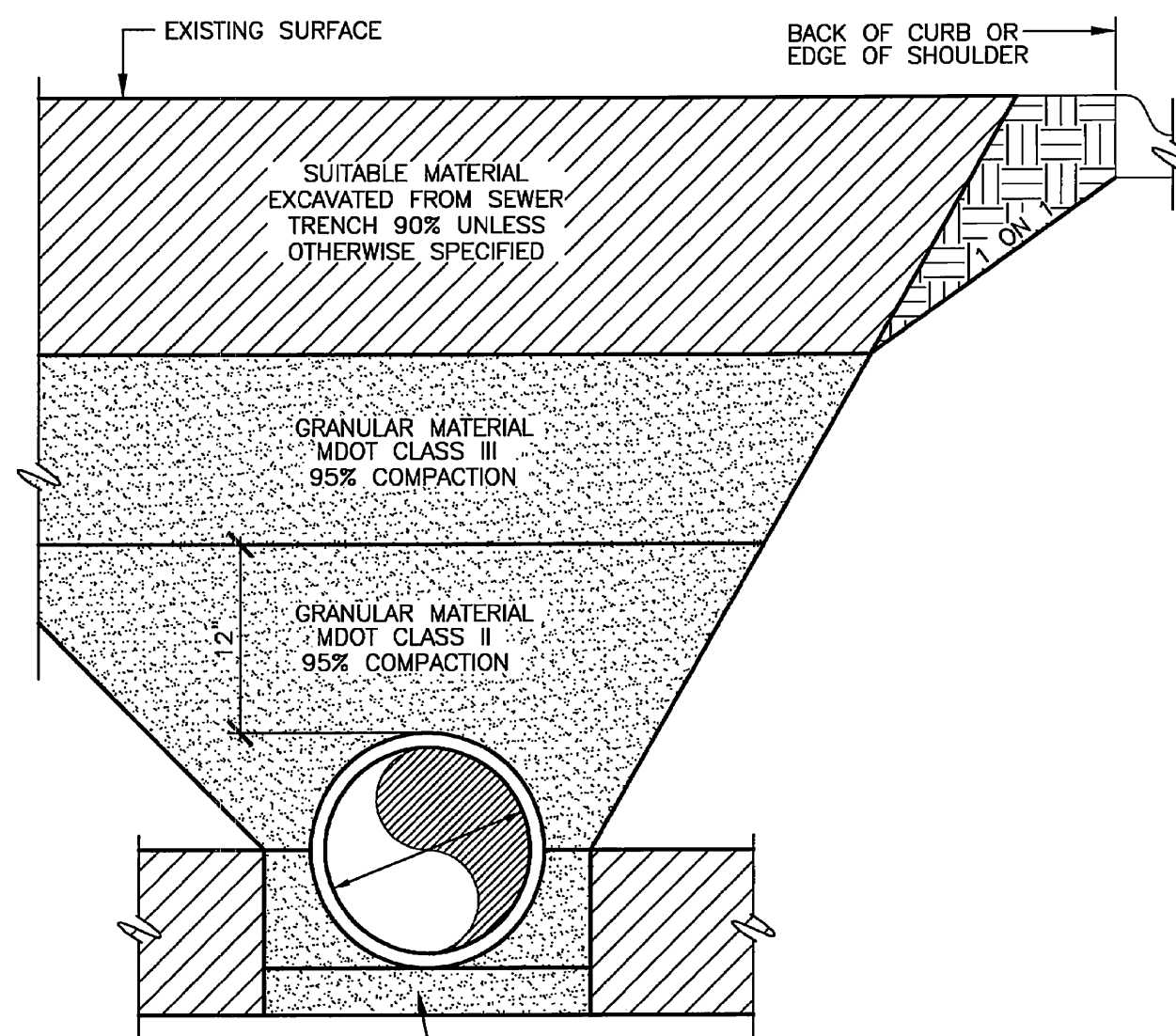
- NOTES:
- COMPACTION PRESENTED AS MINIMUM STANDARD PROCTOR VALUES.
 - MATERIALS AROUND THERMOPLASTIC PIPE WITH DIAMETER < 6 INCHES SHALL PASS 0.5 INCH SIEVE, MATERIALS AROUND OTHER PIPES SHALL PASS 1.5 INCH SIEVE.
 - MATERIALS AROUND HDPE PIPE TO BE MDOT 6A OR 21AA.
 - DRIVEN SURFACE IS DRIVEWAY, PARKING AREA, ROAD BED OR SHOULDER.



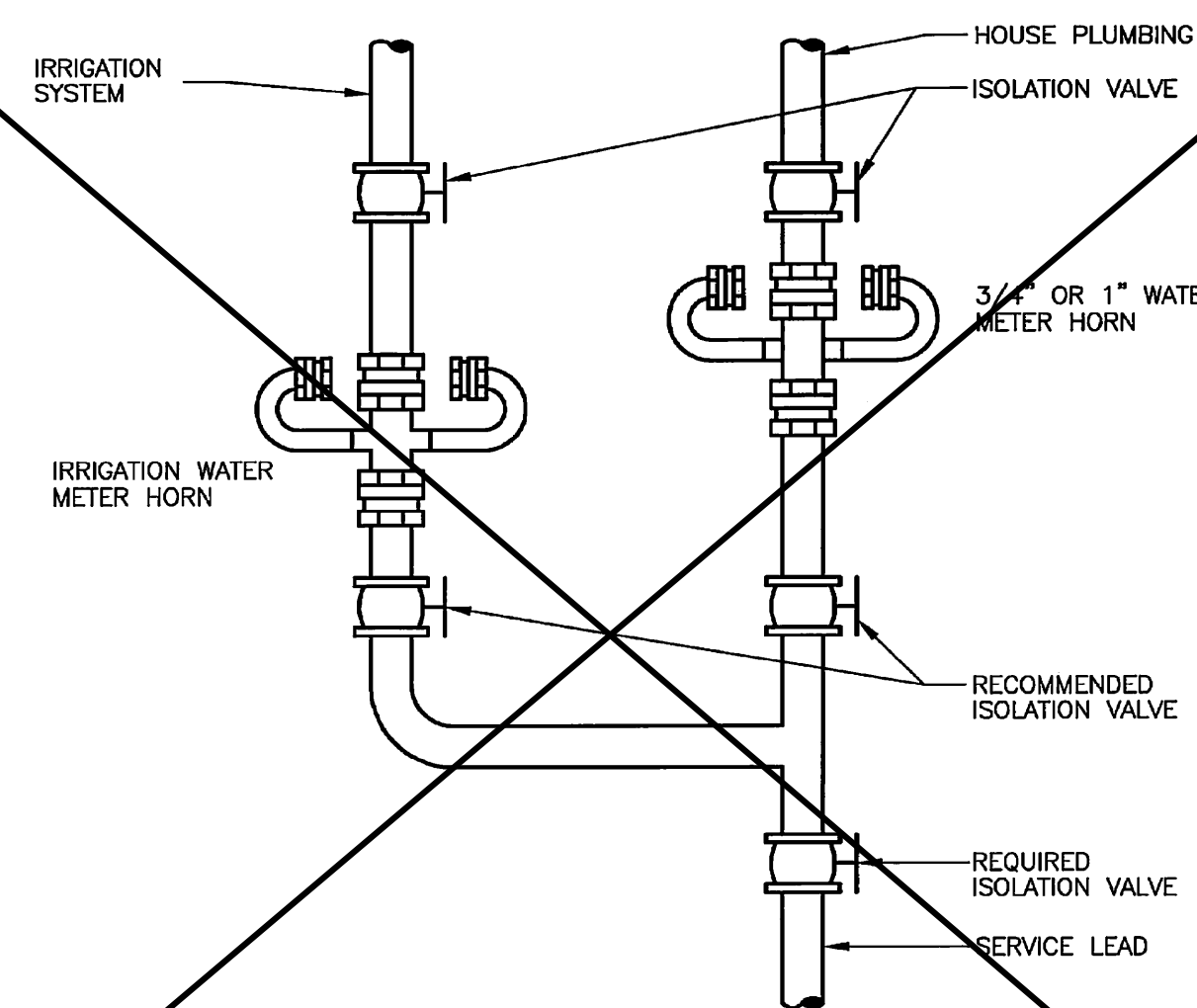
PIPE BEDDING



TRENCH EXCAVATION & PIPE BEDDING



PIPE WITHIN INFLUENCE OF DRIVEN SURFACE



NOTE: ALL METERS ARE TO BE INSTALLED HORIZONTALLY IN A DRY, CLEAN, SANITARY LOCATION THAT IS READILY ACCESSIBLE. THIS DRAWING IS NOT TO SCALE & IS ONLY A REPRESENTATION OF HOW THE METERS SHOULD BE INSTALLED. THE SECOND METER IS OPTIONAL FOR IRRIGATION USAGE. METERS SHOULD NOT BE INSTALLED IN LINE (ONE RIGHT AFTER THE OTHER).

TYPICAL METER HORN INSTALLATION

MARION HOWELL GENOA OCEOLA
Sewer and Water Authority

WATER MAIN STANDARD DETAILS

Scale: NONE
Issued Date: 10-22-2007

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ENGINEERS SURVEYORS & PLANNERS
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3121 E. GRAND RIVER AVE.
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B.N.C. FACILITY EXPANSION
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810-227-6600

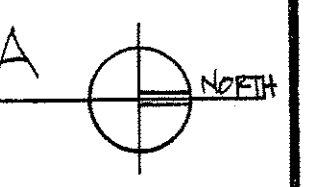
PROJECT: B.N.C. FACILITY EXPANSION
PREPARED FOR: BRIGHTON NAZARENE CHURCH
TITLE: CONSTRUCTION NOTES & DETAILS
DESIGNED BY:
DRAWN BY:
CHECKED BY:
SCALE: NO SCALE
JOB NO. 13-100
DATE: 6/27/13
SHEET NO. 9



± 92'-0"
EXISTING BLDG
INTERIOR RENOVATIONS

120'-4"
PROPOSED BLDG

PROPOSED
FIRST FLOOR PLAN - A
SCALE: 1/8" = 1'-0"



308
Ypsil

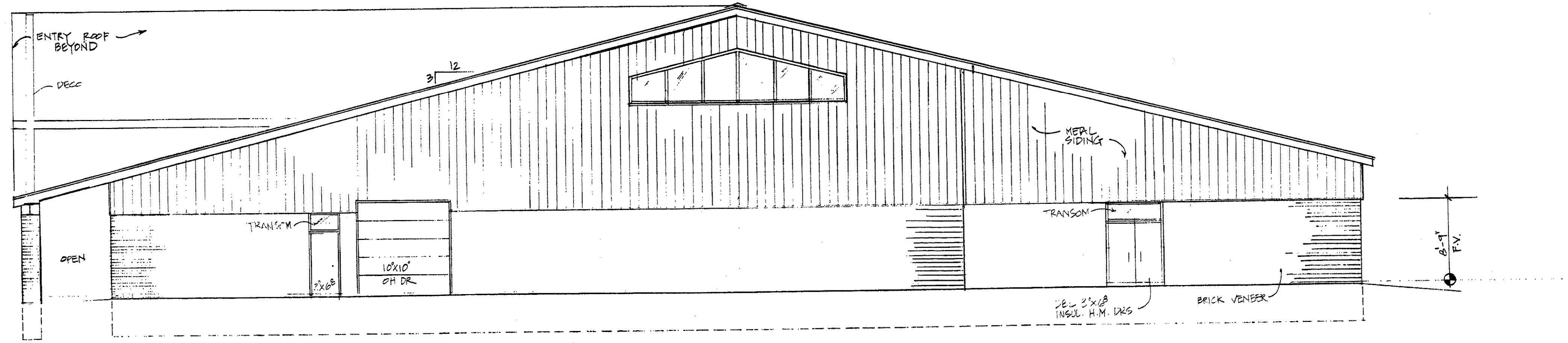
Sahba La'al, Architect

BRIGHTON, MI

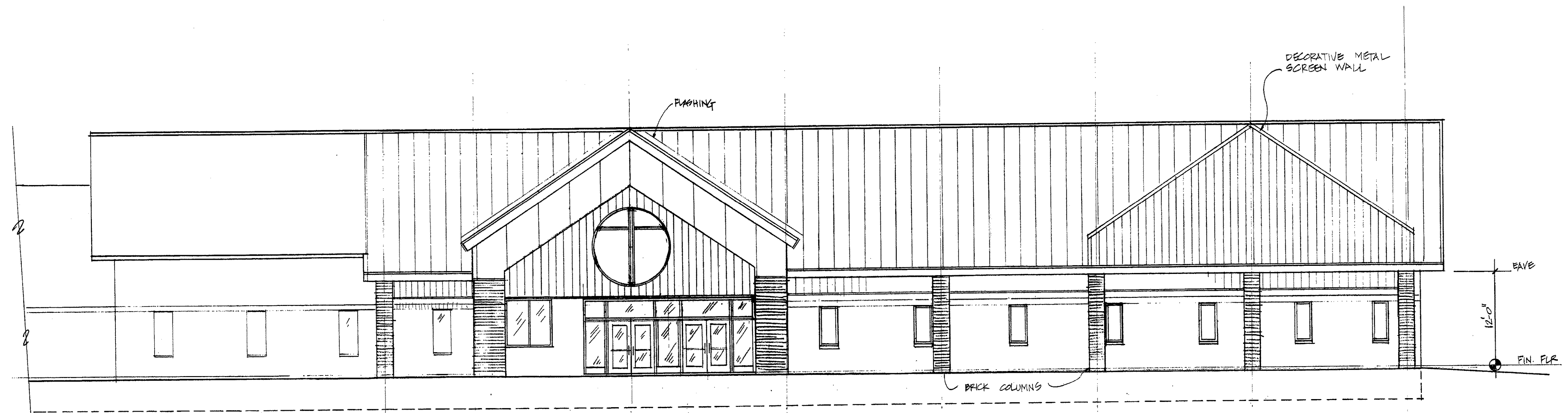
BRIGHTON CHURCH OF THE NAZARENE
PROPOSED FLOOR PLAN - A

REVISIONS:
4/25/13
5/10/13
5/13/13
5/14/13

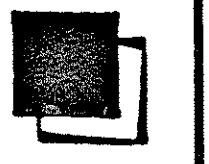
PROJECT:
21305



END (NORTH)
ELEVATION
1/8"=1'-0"



FRONT (EAST) ELEVATION
SCALE: 1/8"=1'-0"



**GENOA CHARTER TOWNSHIP
PLANNING COMMISSION
PUBLIC HEARING
JUNE 10, 2013
6:30 PM**

MINUTES

CALL TO ORDER: The meeting of the Genoa Charter Township Planning Commission was called to order at 6:32 pm. Present were Barbara Figurski, James Mortensen, Chairman Doug Brown, Diana Lowe and Dean Tenge. Also present were Assistant Township Manager, Kelly VanMarter, Brian Borden of LSL, and Gary Markstrom of TTMPs.

PLEDGE OF ALLEGIANCE: The Pledge of Allegiance was recited.

INTRODUCTIONS: Chairman Brown introduced all of the Commissioners, and noted that two were absent this evening. He also introduced staff and the planner and engineer. He gave a review of how the Master Plan update process works, including the Township gathering input from residents and business owners. The Master Plan is a guide used to make requested changes to the zoning ordinance. Per State law, the Master Plan must be reviewed every five years. While the Master Plan includes the entire Township, this revision has special interest in the development of the new I-96 interchange at Latson Road. He added that changes to the Master Plan do not change the existing zone and zoning changes do not necessarily follow the Master Plan. The proposed Master Plan includes two new zoning districts, Interchange Commercial and Interchange Campus, which will need to be defined and developed at a later date.

Tonight, the Planning Commission will review the proposed Master Plan and then make a recommendation to the Township Board. There is no public hearing associated with this step of the process; however, the Planning Commission will take comments from the public after the presentation.

APPROVAL OF THE AGENDA: The agenda was approved pursuant to a **Motion** by Barbara Figurski and supported by James Mortensen. **Motion carried unanimously.**

CALL TO THE PUBLIC: Chairman Brown opened the call to the public at 6:40 p.m. with no response.

AGENDA ITEM #1*... Review of the draft Master Plan and request for submittal of the draft plan to the Township Board for distribution and public review pursuant to the Michigan Planning Enabling Act.

(*Please note that this agenda item is not a public hearing and as such will not be open to public comment unless otherwise determined by the Chairman. An official public hearing on the Master Plan is required after the public review period.)

Ms. VanMarter referenced her memo in tonight's packet. She gave a review of the Master Plan update process. The plan was developed by a steering committee that consisted of members of Township staff as well as the planner. Then an open house was held in February and feedback was received from residents. There was also a survey sent to the residents. This feedback was considered when developing the plan that is being presented this evening. She feels this plan is ready to share with the public and again gather their feedback as well as feedback from adjacent communities and organizations. Then it will be back before the Planning Commission for an official public hearing.

Brian Borden reviewed the changes that were made to the plan. They updated the demographics, the future land use plan/map, goals and objectives as well as removed recommendations from the old plan that were already completed. They also updated the transportation section; including motorized and non-motorized transportation, and updated the maps.

He noted that tonight is only one step in the process. There will be other opportunities for members of the public to provide their input.

A map of the Latson Road Interchange area of the Township was put up on the screen for the audience to view.

Mr. Borden stated they are proposing Interchange Commercial around the immediate area of the exits and entrances to I-96, which will consist of higher-intensity commercial uses. As you move south and east, it will be Interchange Campus, which would be for larger / institutional uses, such as educational or medical facilities. The debate has been where these two zoning areas should begin and end. He noted that the Township will monitor the development closely and the plan can be amended. The amendment process would be similar to what is being done now; however, it would only focus on this area and the process would not be as lengthy.

Chairman Brown questioned why the interchange campus zoning ended at the proposed location and was not brought down to Crooked Lake and over to Fishbeck. Mr. Borden stated they were limited by the lack of infrastructure and also, they do not want businesses currently on Grand River to move to this location, simply because it is new. Mr. Markstrom stated that when the water and sewer were put in this area originally, I-96 was the southern boundary. His office is currently studying what needs to be done to meet the needs of the proposed Master Plan as well as how much these improvements will cost.

Phil Santer of SPARK, stated they are economic developers and not professional planners. They provided suggestions to the Township on what they felt opportunities the new interchange could offer with regard to development. Dean Tingle asked how the suggested development would benefit not only the residents in that area, but the

Township as a whole. Mr. Santer stated they are suggesting attracting large users to support the existing commerce as well as attract employment.

Mike Boss of Boss Engineering has heard comments from his clients that the input provided to the Township by the public was mostly to continue the more dense zoning further south; however, these comments were not incorporated into the plan that is shown this evening. There is no transitional zoning being proposed. He does not feel that waiting to see what will be developed and then amending the Master Plan is good planning. The infrastructure should be planned at this time and not based on what is developed there. Dean Tenge asked how the suggested development would benefit not only the residents in that area, but the Township as a whole. Mr. Boss stated there will be 16,000 vehicles that travel that road every day. All of this traffic will affect the people who live there, but they are not able to develop their property.

Chairman Brown noted that most of the residents who submitted letters suggested letting the market dictate what will be developed in this area. He feels that is what they are doing by leaving the area south of Sweet Road as five-acre parcels. He reiterated Mr. Markstrom's comments that the Township is not sure if the infrastructure is able to be developed to support this density a higher density in this area.

Mr. Boss feels the Master Plan should be put on hold and wait and see what the demand will be after the interchange is complete and then the plan can be made based on the interest.

Chairman Brown asked Ms. VanMarter if this could be done. She stated that yes, this area can be left as it is currently, but the Master Plan needs to be reviewed at this time. She has been working on ways to advise the public that this land is becoming available from an economic development perspective. She would be open to making an amendment to the Master Plan once the exchange is open.

James Mortensen asked Ms. VanMarter what is the advantage of waiting. She stated there would be more knowledge of what the traffic amount will be. Mr. Mortensen stated that he feels Mr. Boss has valid points, one being the transitional zoning; however, until the funding is available to develop the road, water, and sewer, nothing will be able to be developed. Once land is zoned to a higher density, it cannot be zoned back to a lower one. He is in favor of the campus zoning in the locations that are proposed. It can always be revised to a more intense use in the future. He would like to move the plan along.

Ms. VanMarter stated that while the interchange campus zoning is not a traditional transitional zoning, she it is intended to serve as such. They intend to write the ordinance to include landscaping, buffers, special architectural features, etc. The campus zoning will transition from the high intensity commercial at the ramps to the residential area to the south.

Chairman Brown asked if anyone in the public would like to speak.

Ed Bishop, who lives on Nixon Road, feels that Nixon Road being two lanes is going to increase traffic. He also wants to know if his wife is going to be able to run a business from her home.

Brenda Nicholas, who lives on Nixon Road, feels that if the zoning is changed, it would attract more businesses into the area.

Leo Nicholas, of Nixon Road, suggested that the new sewer pipe that is being put in for Oak Point should be run down Nixon instead of Chilson to help with any new development in this area. Also, 22 residents in this area sent letters to the Township. He would like the Commissioners to read them.

Paul Deluca, of Nixon Road, does not want any special assessments. He does not want to sell his property and move; he wants to live there. He did not want the interchange. He is concerned about crime.

Steve Vitous, of 2592 Nixon Road, asked about the speed limit at the school. Ms. VanMarter suggested he contact the Livingston County Road Commission.

Planning Commission Disposition

A. Authorize submittal of the Master Plan to the Township Board.
Motion by James Mortensen and supported by Barbara Figurski to authorize the submitted Master Plan to the Township as presented. **Motion carried unanimously.**

Administrative Business:

- *Staff Report. Kelly VanMarter stated the next Planning Commission Meeting will be on July 22nd. She has received a submittal from the Church of the Nazarene.*
- *Approval of May 13, 2013 Planning Commission meeting minutes. **Motion** by Barbara Figurski and supported by Diana Lowe to adopt the minutes with recommendations made this evening. **Motion carried unanimously.***
- *Member Discussion*
- *Adjournment. Motion by Diana Lowe and supported by Barbara Figurski to adjourn. **Motion carried unanimously.** Meeting adjourned at 8:30 p.m.*