



**AGENDA**  
CHARTER TOWNSHIP OF MERIDIAN  
ZONING BOARD OF APPEALS MEETING  
June 23, 2021 6:30 pm

**Zoom meeting ID: 867 6651 8469**  
**Zoom password: 5151**

1. CALL MEETING TO ORDER
2. APPROVAL OF THE AGENDA
3. CORRECTIONS, APPROVAL AND RATIFICATION OF MINUTES
  - A. April 28, 2021 Meeting Minutes
  - B. May 12, 2021 Meeting Minutes
4. COMMUNICATIONS
5. UNFINISHED BUSINESS
6. NEW BUSINESS

**A. ZBA CASE NO. 21-06-23-1 (EROP, LLC), 2390 E. Federal Drive, Decatur, IL, 62526**

DESCRIPTION:	2703 Grand River
TAX PARCEL:	20-203-012
ZONING DISTRICT:	C-2 (Commercial)

The variances requested is to construct a drive through car wash facility at 2703 Grand River Avenue.

7. OTHER BUSINESS
8. PUBLIC REMARKS
9. BOARD MEMBER COMMENTS
10. ADJOURNMENT

Variance requests may be subject to change or alteration upon review of request during preparation of the staff memorandum. Therefore, Sections of the Code of Ordinances are subject to change. Changes will be noted during public hearing meeting.

Individuals with disabilities requiring auxiliary aids or services should contact the Meridian Township Board by contacting:  
Assistant Planner Justin Quagliata, 5151 Marsh Road, Okemos, MI 48864 or 517.853.4580 - Ten Day Notice is Required.  
Meeting Location: 5151 Marsh Road, Okemos, MI 48864 Township Hall

**CHARTER TOWNSHIP OF MERIDIAN  
ZONING BOARD OF APPEALS REGULAR MEETING MINUTES \*DRAFT\*  
5151 MARSH ROAD, OKEMOS, MI 48864-1198  
(517) 853-4000  
WEDNESDAY, APRIL 28, 2021  
TOWN HALL ROOM**

PRESENT: Chair Mansour, Members Field-Foster, Kulhanek, Newman, Opsommer

ABSENT: None

STAFF: Community Planning and Development Director Kieselbach; Assistant Planner Chapman

**1. CALL MEETING TO ORDER**

Chair Mansour called the meeting to order at 6:32 p.m.

**2. APPROVAL OF AGENDA**

MEMBER FIELD-FOSTER MOVED TO APPROVE THE AGENDA AS SUBMITTED.

SECONDED BY MEMBER OPSOMMER

ROLE CALL TO VOTE:

YEAS: Members Field-Foster, Opsommer, Newman, Kulhanek, Chair Mansour

NAYS: None

Motion carried: 5-0

**3. CORRECTIONS, APPROVAL & RATIFICATION OF MINUTES**

A. April 14, 2021 Meeting Minutes

MEMBER OPSOMMER MOVED TO APPROVE THE MINUTES FROM WEDNESDAY, APRIL 14, 2021 AS SUBMITTED.

SECONDED BY CHAIR MANSOUR.

ROLE CALL TO VOTE:

YEAS: Member Opsommer, Chair Mansour, Members Field-Foster, Newman, Kulhanek

NAYS: None

Motion carried: 5-0

**4. COMMUNICATIONS – NONE**

**5. UNFINISHED BUSINESS - NONE**

**6. NEW BUSINESS**

**A. ZBA CASE NO. 21-04-28-1 (Allied Signs, Inc.), 33650 Giftos, Clinton Township, MI, 48035**

DESCRIPTION: 2090 Grand River Avenue  
TAX PARCEL: 21-226-003  
ZONING DISTRICT: C-2 (Commercial)

The applicant is requesting a variance from the following section of the Code of Ordinances:

- Section 86-687(3)(c), Wall signs. In the case of multitenant structures, one wall sign shall be permitted for each tenant having an individual means of public access up to a size equivalent to one square foot for each one lineal foot of building frontage occupied.

Allied Signs, Inc., is requesting a variance to install a second wall sign.

Assistant Planner Chapman outlined the case for discussion.

Chair Mansour asked the applicant or the applicant's representative if they would like to address the Zoning Board of Appeals (ZBA).

James Nutly, Athletico Physical Therapy, 4815 W 138 Court, Crestwood, IL, director and project manager, stated they are asking for a sign on the east side of the building they are leasing on Grand River Avenue. The current signage on the pedestal sign and on the building is blocked by trees. It is difficult to see the building when a client is traveling west on Grand River Avenue. The driveway is on the east end of the property and the request would assist from a safety standpoint.

Member Field-Foster voiced concern there was no access from the west side of the building. She stated there was not safety, practical difficulties or a unique circumstance for the request.

Chair Mansour stated she did not see that there was a visual blockage of the site. There have been three other similar wall sign requests and the issue is being considered by the Planning Commission. She stated she could not find a practical difficulty.

Member Newman stated he did understand the request from a business stand-point but the request could not meet the review criteria.

Member Opsommer stated there was a request for a second wall sign on the west side of the building in 2014 and asked if this request was different.

Assistant Planner Chapman replied there was a similar request from Payless Shoes.

Member Opsommer asked if there was a pedestal sign for the three tenants or could there be a monument sign.

Assistant Planner Chapman replied there is an existing pedestal sign at the corner of Grand River Avenue and Okemos Road for the tenants.

Member Opsommer asked if the pedestal sign could be moved.

Director Kieselbach replied he pedestal sign could be moved. The leading edge of the sign must be setback ten feet from the street right-of-way line. The pedestal sign could be a maximum of 25 square feet in size and a maximum height of 16 feet.

Member Opsommer stated there are other business with the same site conditions. The Township is working on traffic calming methods to slow the traffic.

Chair Mansour stated replacing the pedestal sign might be a minimal action but is not the request before the ZBA.

Jim Fields, Allied Signs, 33650 Giftos, Clinton Township, representing the tenant, stated the signs are block by the trees and the speed of the roadway cause the visibility issues.

Chair Mansour asked if the applicant had explored moving the pedestal sign with the property owner.

Mr. Nutly stated he did not believe the landlord would be interested in spending more money since he has the building relatively full.

Chair Mansour asked if the applicant could have a window sign.

Director Kieselbach replied the tenant can have a window sign. A window sign cannot cover more than 40% of the surface area of the window.

Chair Mansour asked if the applicant could have a sign on the eastern facade and in the window on the south facade and not require a variance.

Director Kieselbach replied the applicant currently has an existing wall sign on the south facade facing Grand River Avenue. If the applicant wanted to install a window sign that would be allowed. The applicant does not have an entrance on the eastern side and a variance would be required for a sign.

Chair Mansour read review criteria one from Section 86-221 of the Code of Ordinances which states unique circumstances exist that are peculiar to the land or structure that are not applicable to other land or structures in the same zoning district. Chair Mansour stated there were no unique circumstances for the request. It is a multi-tenant building without a secondary means of access.

Chair Mansour read review criteria two which states these special circumstances are not self-created. Chair Mansour stated the circumstances were not self-created and they are not unique.

Chair Mansour stated if one of the review criteria could not be met than going through the other review criteria was not necessary and the variance should not be approved.

**MEMBER FIELD-FOSTER MOVED TO DENY A VARIANCE ZBA CASE NO. 21-04-28-1 (Allied Signs, Inc.), 33650 Giftos, Clinton Township, MI, 48035**

SECONDED BY MEMBER OPSOMMER

Member Kulhanek stated he agreed that the applicant cannot meet the criteria.

ROLE CALL TO VOTE:

YEAS: Members Field-Foster, Opsommer, Newman, Kulhanek, Chair Mansour

NAYS: None



Motion carried: 5-0

**7. OTHER BUSINESS- NONE**

**8. PUBLIC REMARKS**

Chair Mansour opened public remarks and seeing none, closed the floor for public remarks.

**9. MEMBER COMMENTS**

Chair Mansour offered congratulations to Member Hendrickson and his family on the new arrival to their family.

Chair Mansour asked to have these recurring issue with signage be considered by the Planning Commission and Township Board.

Chair Mansour offered congratulations on Director Kieselbach's retirement which will occur at the end of May.

**10. ADJOURNMENT**

Meeting adjourned at 7:15 pm.

Respectfully Submitted.

Robin Faust, Administrative Assistant II

**CHARTER TOWNSHIP OF MERIDIAN  
ZONING BOARD OF APPEALS REGULAR MEETING MINUTES \*DRAFT\*  
5151 MARSH ROAD, OKEMOS, MI 48864-1198  
(517) 853-4000  
WEDNESDAY, MAY 12, 2021  
TOWN HALL ROOM**

**PRESENT:** Chair Mansour, Members Field-Foster, Newman, Opsommer (arrived at 6:36 pm), Shorkey

**ABSENT:** None

**STAFF:** Community Planning and Development Director Kieselbach; Assistant Planner Chapman

**1. CALL MEETING TO ORDER**

Chair Mansour called the meeting to order at 6:33 p.m.

**2. APPROVAL OF AGENDA**

MEMBER SHORKEY MOVED TO APPROVE THE AGENDA AS SUBMITTED.

SECONDED BY MEMBER FIELD-FOSTER

ROLE CALL TO VOTE:

YEAS: Members Field-Foster, Newman, Shorkey, Chair Mansour

NAYS: None

Motion carried: 4-0

**3. CORRECTIONS, APPROVAL & RATIFICATION OF MINUTES - NONE**

**4. COMMUNICATIONS - NONE**

**5. UNFINISHED BUSINESS - NONE**

**6. NEW BUSINESS**

**A. ZBA CASE NO. 21-05-12-1 (Sherman), 1167 Woodside Drive, Haslett, MI, 48840 - POSTPONED**

**A. ZBA CASE NO. 21-05-12-2 (Usman), 4850 Arapaho Trail, Okemos, MI, 48864**

DESCRIPTION:	4850 Arapaho Trail
TAX PARCEL:	20-281-014
ZONING DISTRICT:	RAA (Single Family, Low Density)

The variance request is to make improvements within the floodplain at 4850 Arapaho Trail.

Assistant Planner Chapman outlined the case for discussion.

Chair Mansour asked the applicant or the applicant's representative if they would like to address the Zoning Board of Appeals (ZBA).

Sam Usman, 4850 Arapaho Trail, applicant, stated he did work in the floodway without a permit. He stated he had spoken with DC Engineering and Michigan Department of Environment, Great Lakes and Energy (EGLE), and township staff regarding the proposed plan to remove the berm and other work in the floodway.

Peter Cook, 4830 Arapaho Trail, neighbor to the south, stated that although he cannot see the work that was completed, he can see it when he kayaks. He stated that removing the berm, stone wrap, and the other work will not have an effect on the flood levels, and the work the owners have completed looks nice.

Kurt Krahulik PE, DC Engineering, 1210 N Cedar Street, Lansing, stated his firm performed the engineering work and is available for questions on the plans or the hydraulics of the river.

Member Newman asked which variance is being considered.

Director Kieselbach stated the Zoning Ordinance does not allow work in the floodplain except under certain conditions and the review criteria has been met. The review criteria is from the Conservancy District (floodplain regulations). If the Zoning Board of Appeals (ZBA) should choose to grant the variance, the variance would allow the applicant to retain the concrete pad, fire pit, stone wall along the river and a small amount of the bank stabilization material which is in the floodway. The applicant has agreed to remove the other items specified on the map by EGLE.

Member Newman asked why the structures are being allowed to remain.

Director Kieselbach stated the applicant would not be allowed to have the structures in the floodway without the variance. These structures have a low impact to potential flooding. The Township Engineers, who are also certified Floodplain Managers, do not have an issue with these structures if this variance was granted.

Member Opsommer asked when the Township passed the Zoning Ordinance prohibiting structures in the floodway since it appears this residential area was developed in the 1960s and a majority of the structures are now in the floodway.

Director Kieselbach stated the Township has had floodplain regulations dating back to the 1960s. The Township had a severe flood in the 1970s and the Zoning Ordinance was rewritten to consider the situation and not allow any habitable space in the floodway or floodplain. This subdivision was approved just days before the update to the Zoning Ordinance and the waiver to allow the exceptions was added in 1975.

Member Opsommer asked if the compensating cut has occurred and will that bring this request into compliance.

Director Kieselbach replied the fills have occurred and the compensating cut will need to be completed to bring the area into compliance. The compensating cut could be made as a condition

of the approval. The applicant will still need to certify with EGLE on the compensating cut and the work that has been performed has been approved by EGLE.

Chair Mansour stated she is going to allow a resident to speak who was unable to join the meeting during public comment.

Marsha Leister, 2525 Small Acres Lane, stated she owns 2525 and 2517 Small Acres along with two additional lots for a total of seven acres. She stated the Red Cedar River flows through her properties and the previous owners, the Barron's, dredged the marshland and constructed the stone wall to maintain the natural flow of the Red Cedar River. Over the years, the river has been returning to its natural state and on occasion floods her property creating a peninsula. She voiced concern with the amount of work that was allowed to be performed on the applicant's property because it has now caused additional flooding on her property. She stated she is opposed to adding cement in this area.

Member Field-Foster asked the applicant who performed the work.

Mr. Usman replied he hired a landscaper and stated he did not know about the regulations concerning the floodway. He wanted to enjoy his backyard and shelter their young child from the river.

Member Field-Foster asked why was the concrete pathway constructed by the pool.

Mr. Usman stated the pool is not attached to the house and felt the concrete pathway made the area around the pool safer.

Engineer Kurt Krahulik stated that a portion of the pool deck is adjacent to a 20-foot drop into the river and wanted to extend the two-foot deck to avoid walking off it. The pool deck itself is out of the floodway but the fill for the concrete pathway is not.

Member Newman stated EGLE has determined that this will not affect the floodway and he would not want to assume otherwise.

Chair Mansour stated EGLE oftentimes does not have as robust requirements as the Township but EGLE's approvals are necessary.

Trustee Opsommer asked if the compensation cut was approved in this area of the parcel.

Engineer Krahulik stated no and there are steep banks but the cut will not affect the floodplain. The floodway cut will have an impact on the water storage areas and the cut will be insignificant. Also, only a small amount of stone rip-rap will remain when the berm is removed and then a turf reinforcement mat will be installed.

Member Field-Foster asked if all the houses in the neighborhood are in the floodway or floodplain because this would mean the homes would all need variances if they wanted to do work in their yards.

Director Kieselbach stated this request is for work in the floodway. The floodplain includes the floodway and floodway fringe. The northern portion of the subdivision along the river close to Herron Creek is all floodway and some of the residences are in the floodplain or floodway fringe.

which is restrictive. If any of the homes wanted to add structures such as decks or patios, then it would require a variance.

Chair Mansour read review criteria one from Section 86-221 of the Code of Ordinances which states unique circumstances exist that are peculiar to the land or structure that are not applicable to other land or structures in the same zoning district. Chair Mansour stated the structures are already in place and find this to be a unique circumstance because they are already installed.

Chair Mansour read review criteria two which states these special circumstances are not self-created. Chair Mansour stated she could not state that these circumstances were not self-created because the applicant installed the structures. Due to the historical changes to the Zoning Ordinance in 1975 just after this subdivision was built and not wanting to change the Zoning Ordinances to allow for non-habitable structures to be built in the floodplain, this results in a case-by-case review for approval.

Member Field-Foster read review criteria three which states strict interpretation and enforcement of the literal terms and provisions of this chapter would result in practical difficulties. Member Field-Foster stated the homeowner cannot do anything on the property that would not require a variance and that would be a practical difficulty.

Member Field-Foster read review criteria four which states that the alleged practical difficulties which will result from a failure to grant the variance would unreasonably prevent the owner from using the property for a permitted purpose. She stated she does not see that if the owner is prevented from building a fire pit it would prevent the owner from using the residence for its permitted purpose and not every residence in Meridian Township has a fire pit. Member Field-Foster asked if there were other safety features or precautions that could have been taken around the pool area to avoid individuals from falling down the embankment. She stated she is unsure she can agree that this criteria has been met.

Chair Mansour stated with the structures already in place, this creates a unique circumstance. If the variance is denied, the following items would have to be removed: fire pit, concrete pathway, berm, and stone rip-rap at the edge of the pool deck, the extension of the pool deck, and concrete for the patio deck. The removal of these items could be considered unreasonable because these structures already exist. She asked what the result would be if these items are removed because, with the removal of the berm, there is the requirement to install additional stabilization material.

Member Shorkey stated the pool and patio were already installed. He stated he understands about maintaining and improving the existing facilities but found the explanation about the fence questionable. The fire pit area is a self-created issue. He questioned that the owner did not know his residence was in a floodplain and while he may not have known regulations, the floodplain is not unique to this neighborhood and surrounding area. He stated he could support the concrete patio and decking around the pool for safety purposes but is not sure about accepting the fire pit and concrete pathway to the fire pit. He stated if everything in this neighborhood requires a variance, what then is the unique circumstance for this request?

Trustee Opsommer stated he also has concerns with the fire pit. He stated he believes a majority of the fill was for the pool area and riverbank stabilization. He stated the flooding in this area is very severe at times and fencing with spindles to protect children might dam up the water flow. He stated the predominant issue is to protect the public interest in this area. He stated he could

agree with review criteria one, two and three, but is unsure he could agree with review criteria four.

Member Field-Foster asked if the ZBA could address the structures separately because she could not agree to the fire pit because of review criteria four and five.

Director Kieselbach stated the ZBA can split the question.

Chair Mansour stated the ZBA and applicant has agreed that the berm and water feature are to be removed and the compensating cut will go back to net zero and the ZBA members will now evaluate the review criteria as it pertains to the patio and pool deck.

Chair Mansour read review criteria one from Section 86-221 of the Code of Ordinances which states unique circumstances exist that are peculiar to the land or structure that are not applicable to other land or structures in the same zoning district. Chair Mansour stated based on the zoning in this area, this review criteria has been met.

Chair Mansour read review criteria two which states these special circumstances are not self-created. Chair Mansour stated any change in this area will require a variance and this is not a self-created circumstance for the patio and pool deck.

Chair Mansour read review criteria three which states strict interpretation and enforcement of the literal terms and provisions of this chapter would result in practical difficulties. Chair Mansour stated if looking at just the patio and pool deck, any improvement would require a variance and the safety aspect would meet the requirement of practical difficulties.

Chair Mansour read review criteria four which states that the alleged practical difficulties which will result from a failure to grant the variance would unreasonably prevent the owner from using the property for a permitted purpose.

Member Newman stated he could support a 42" rim around the pool to use it safely and supports the need for concrete repairs.

Chair Mansour stated by not allowing the owners to improve their property or to replace a broken patio or install a walkway for safety purposes would unreasonably prevent an owner from using their property.

Chair Mansour read review criteria five which states granting the variance is the minimum action that will make possible the use of the land or structure in a manner which is not contrary to the public interest and which would carry out the spirit of this zoning ordinance, secure public safety, and provide substantial justice. Chair Mansour stated the variance for expanding the patio rim around the pool and concrete replacement were minimum actions.

Chair Mansour read review criteria six which states granting the variance will not adversely affect adjacent land or the essential character in the vicinity of the property. Chair Mansour stated for the two structures this review criteria has been met.

Chair Mansour read review criteria seven which states the conditions pertaining to the land or structure are not as general or recurrent in nature as to make the formulation of a general

regulation for such conditions practicable. Chair Mansour stated for the two structures this review criteria has been met.

Chair Mansour read review criteria eight which states granting the variance will be generally consistent with public interest and the purposes and intent of this Chapter. Chair Mansour stated for the two structures this review criteria has been met.

**MEMBER FIELD-FOSTER MOVED TO GRANT THE VARIANCE FOR THE POOL DECK AND FOR THE PATIO DECK IN ZBA CASE NO. 21-05-12-2 (Usman), 4850 ARAPAHO TRAIL, OKEMOS, Okemos, MI, 48864**

**SECONDED BY CHAIR MANSOUR**

Chair Mansour added as a friendly amendment, the compensating cut will be net-zero and this has full EGLE permitting and approval.

Engineer Krahulik stated the removal of the berm and stone rip-rap which will be replaced with the non-biodegradable ground cover will be part of the soil erosion plan even if it is not required by EGLE.

Member Field-Foster accepted the friendly amendments.

**ROLE CALL TO VOTE:**

YEAS: Members Field-Foster, Newman, Shorkey, Opsommer, Chair Mansour

NAYS: None

Motion carried: 5-0

Chair Mansour read review criteria one from Section 86-221 of the Code of Ordinances which states unique circumstances exist that are peculiar to the land or structure that are not applicable to other land or structures in the same zoning district. Chair Mansour stated based on the zoning in this area, this review criteria has been met.

Chair Mansour read review criteria two which states these special circumstances are not self-created. Member Field-Foster stated it is not self-created because it is a floodway.

Chair Mansour read review criteria three which states strict interpretation and enforcement of the literal terms and provisions of this chapter would result in practical difficulties. Member Field-Foster stated any type of improvement would require a variance and this would result in a practical difficulty.

Chair Mansour read review criteria four which states that the alleged practical difficulties which will result from a failure to grant the variance would unreasonably prevent the owner from using the property for a permitted purpose.

Member Field-Foster stated to deny the request for a fire pit would not unreasonably prevent the owner from using the property for its permitted purpose.

Member Opsommer agreed the fire pit does not fit the review criteria although the fire pit does not impact the required compensating cut.

Chair Mansour read review criteria five which states granting the variance is the minimum action that will make possible the use of the land or structure in a manner which is not contrary to the public interest and which would carry out the spirit of this zoning ordinance, secure public safety, and provide substantial justice. Chair Mansour stated she cannot meet this criteria.

Member Field-Foster stated there are alternative ways to have a fire pit.

Chair Mansour read review criteria six which states granting the variance will not adversely affect adjacent land or the essential character in the vicinity of the property. Chair Mansour stated she could meet this criteria but not review criteria four or five

Chair Mansour read review criteria seven which states the conditions pertaining to the land or structure are not as general or recurrent in nature as to make the formulation of a general regulation for such conditions practicable. Chair Mansour stated she could meet this criteria but not review criteria four or five.

Chair Mansour read the eight review criteria which states granting the variance will be generally consistent with public interest and the purposes and intent of this Chapter.

Chair Mansour reviewed the special three criteria from the Conservancy District (floodplain regulations) as it pertains to the pool deck, patio deck, and fire pit:

1. No variance shall be granted for the development of new structures, the substantial improvement or relocation of old structures, or development of any kind within the floodway area when such development, construction, improvement, or relocation would cause any increase in flood levels associated with the base flood elevation.

Chair Mansour stated the Township Engineer has stated patio deck and pool deck structures will not cause any issues and he also stated the fire pit will not cause any issues.

2. a. A sufficient cause for granting the variance must be shown.

Chair Mansour stated there has been sufficient evidence and cause to grant the variance for the pool deck and patio deck. She stated she is not finding sufficient cause for the fire pit.

Mr. Usman asked if the experts state the fire pit does not affect the net-zero gain and the ZBA board members have stated he can install a different type of fire pit which would result in the same function, why then is he being asked to remove something that is already installed; why can't he keep the fire pit because the concrete does not affect anything.

Chair Mansour stated the criteria is very strict and it is a challenge to meet it. It is intended to be a challenge otherwise all the variances would be granted. Although the fire pit does exist, a fire pit does not prevent the homeowner from using the property. The ZBA members were able to meet halfway on the pool deck and patio deck structures because they are existing uses, maintenance repairs were needed and for safety reasons but not for the fire pit because it is a new structure.



Member Newman stated unfortunately the fire pit is installed but depending on the decision, the fire pit may need to be removed. To state that although a rule was broken resulting in the installation of the fire pit does not mean it would automatically be approved. If the fire pit is approved, it could create additional issues where other neighbors will want similar variance requests approved.

Chair Mansour stated her major issues are with the amount of work that was performed without any prior approvals and then a request arrives to ignore the rules and approve the work just because it has already been installed. This creates a precedent and is why each case is considered individually and a case is approved because it meets the criteria. The problem is the work was completed without permits.

Mr. Usman stated he accepts full responsibility for not obtaining the permits but if he had taken the proper steps, would the fire pit in its current location be approved by the ZBA.

Chair Mansour stated if the applicant had applied for the permit, the Building Department would have referred it to the ZBA because of the location in the floodway. The ZBA would not have approved the fire pit in its current location.

Mr. Usman stated the fire pit's construction resulted in a net-zero gain. He stated he should have the right to enjoy his property and he would like a fire pit to enjoy his property.

Member Field-Foster stated the minimum action could have been a free-standing fire pit because it would not have been a permanent structure. The applicant has constructed a permanent structure that is in the floodway and while there is a net-zero gain, the review criteria states that denying the variance request would unreasonably prevent the applicant from using their residence. A fire pit does not unreasonably prevent the use of the residence or enjoyment of the backyard.

Mr. Usman stated it is unreasonable to require him to move a fire pit and chairs back and forth to enjoy his property. He understands he did not do the work the right way but feels the logic is flawed to require him to remove it now that it is installed.

Chair Mansour stated the variance stays with the house. There is stringent review criteria to be met as well as additional review criteria. A resident is not required to have a fire pit to live in Meridian Township. It is not the sole permitted purpose for owning a residence. The habitable structure is the permitted purpose. The ZBA Board can meet the review criteria for the existing patio and pool decks, the need for repairs, and expanding the pool deck for safety purposes. The ZBA is stating this was not an existing fire pit and the fire pit is not necessary to use the property for its permitted purpose. The ZBA does not like to require an item or structure to be removed when it has already been installed but the request must meet the review criteria.

- b. A determination that failure to grant the variance would result in a practical difficulty to the applicant.

Chair Mansour stated Mr. Usman has stated it would be a practical difficulty to remove a fire pit that has already been installed. She stated she could agree with his reason but his reason does not apply to this criteria.

- c. A determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense or will not create nuisances, cause fraud on or victimization of the public or conflict with this chapter.

Chair Mansour stated the listed review criteria do not apply directly to the fire pit but the pool deck and patio deck do meet the review criteria.

- d. A determination that the variance is the minimum necessary to afford relief.

Chair Mansour stated this review criteria could be met for the pool and patio decks but is not sure it could be met for the fire pit.

Member Field-Foster stated the reasons under the first eight review criteria are the same for this review criteria as it pertains to the fire pit,

Chair Mansour referred back to review criteria four and five as it pertains to the fire pit area.

MEMBER SHORKEY MOVED THAT THE VARIANCE REQUEST FOR THE FIRE PIT IN ZBA CASE NO. 21-05-12-2 (Usman), 4850 ARAPAHO TRAIL, OKEMOS, MI, 48864 BE DENIED DUE TO BEING UNABLE TO MEET THE REVIEW CRITERIA REQUIREMENTS OF #4 AND #5

SECONDED BY MEMBER FIELD-FOSTER

ROLE CALL TO VOTE:

YEAS: Members Field-Foster, Newman, Shorkey, Opsommer, Chair Mansour

NAYS: None

Motion carried: 5-0

**7. OTHER BUSINESS**

None

**8. PUBLIC REMARKS**

Chair Mansour opened the floor to public comment at 8:50 pm

Marsha Leister asked if the compensating cut is in the 100-year floodplain or floodway.

Director Kieselbach replied it is all in the 100-year floodplain consists of floodway and floodway fringe and the compensating cut will be in the floodway portion of the floodplain.

Marsha Leister asked who owns the gully/inlet between Mr. Usman and the golf course properties.

Mr. Cook stated that the parcel was taken over by the Township for failure to pay taxes.

Marsha Leister stated if the wood was removed, it would assist with the erosion problems Mr. Usman is having on his property and it would keep flooding down on her property. She stated she has an approved fire ring and although she would love to have cement and rocks around her fire pit, she knows it would not be approved because that is part of living on the river.

Chair Mansour suggested Ms. Leister write to the Township and Planning Commission about tree removal on the neighboring parcel.

Brian Beauchaine, 5077 Meridian Road, stated he was sworn in on the ZBA in 1998 by former Clerk Virginia White. He stated he was humbled to serve with Director Kieselbach who has led the Community Planning and Development Department in a way that this Township will appreciate for a long time. This is Director Kieselbach's last ZBA Meeting and this is still the best meeting with the best board. He thanked Director Kieselbach for protecting the Township for 41 years and transitioning into retirement is something that Director Kieselbach deserves.

Chair Mansour thanked Mr. Beauchaine for his many years of service on the ZBA Board and stated his presence is missed.

Chair Mansour closed the floor for public comment at 8:55 pm.

## 9. MEMBER COMMENTS

Chair Mansour also thanked Director Kieselbach for his service of 496 months which is an extraordinary number. She expressed her appreciation for having Director Kieselbach for so long, learned so much from his insight, and the extraordinary service to the Township. Congratulations to Director Kieselbach on his retirement.

Director Kieselbach thanked the Zoning Board of Appeals. It has been a pleasure to work with this Board over the years. As a young planner, his first Zoning Board of Appeals case was in 1987. As a planner, he had to know the Zoning Ordinance and be able to communicate that Ordinance. It was a great learning experience and had a lot of good mentors on the Board and from staff members. He has worked with good Planning Directors and it was a great experience working for the Township.

Trustee Opsommer stated he is unaware of the Township owning land in this area and asked if the Township does own land adjacent to the property being discussed tonight.

Director Kieselbach stated staff will look into it. If the property was tax reverted, it would go to Ingham County first and then the County would ask the Township if it would want to accept it.

Trustee Opsommer stated he does not remember voting on it at the Township Board level. When asked about the parcel, Mr. Cook stated he thought it was the Township who took it over but maybe it was the County. There were signs posted on the property about taxes being unpaid. The parcel is north of the golf course and east of his property on Herron Creek. Trustee Opsommer stated there are other efforts in the area to remove logs and asked Director Kieselbach to speak with Deputy Township Manager Perry about this issue. The Drain Commissioner's Office is performing clearing work in that area.

## 10. ADJOURNMENT

Meeting adjourned at 9:03 pm.

Respectfully Submitted.

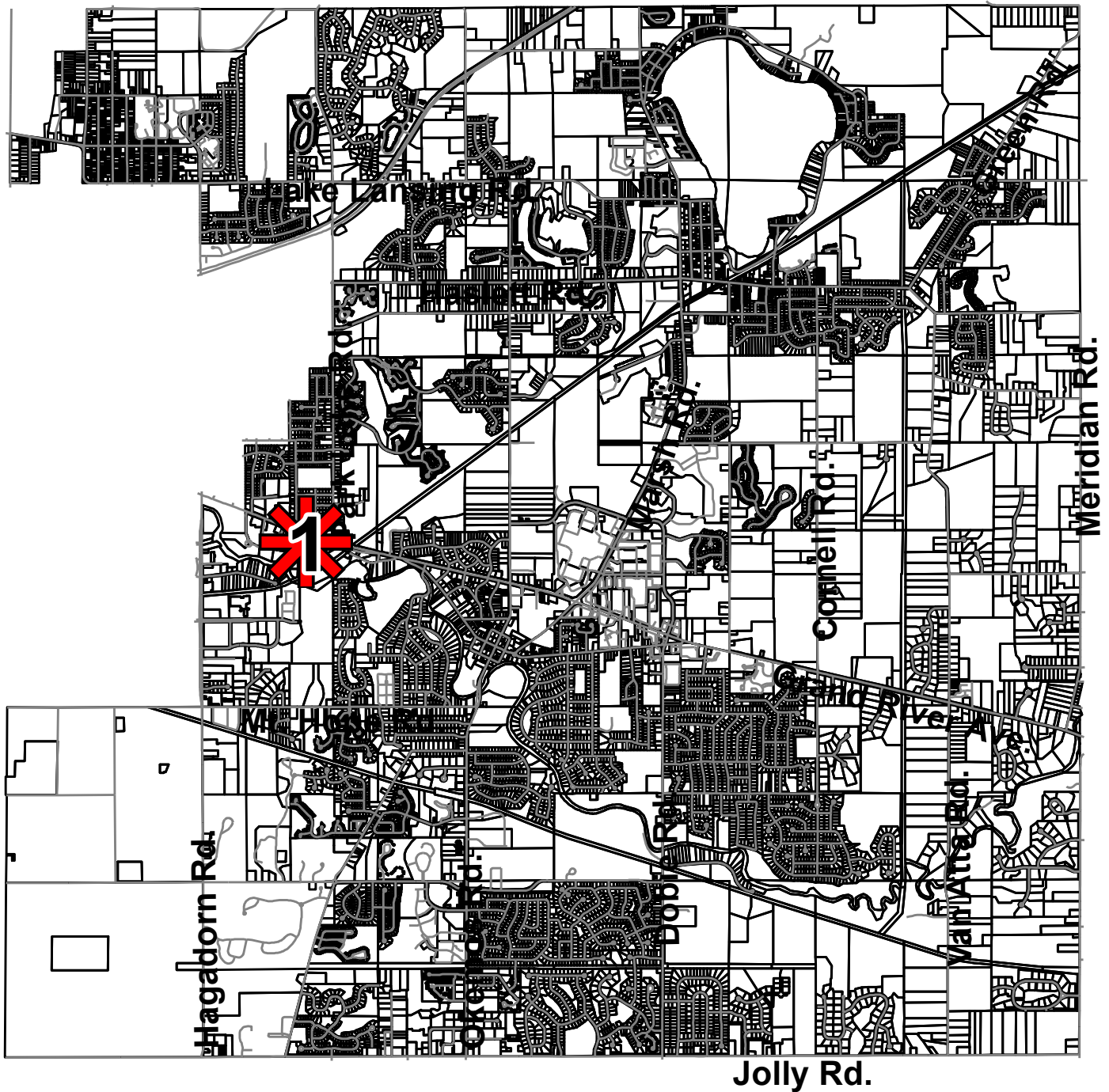
Robin Faust, Administrative Assistant II

## VARIANCE APPLICATION SUPPLEMENT

### **A variance will be granted, if the following Review Criteria are met:**

1. Unique circumstances exist that are peculiar to the land or structure that are not applicable to other land or structures in the same zoning district.
2. These special circumstances are not self-created.
3. Strict interpretation and enforcement of the literal terms and provisions of this chapter would result in practical difficulties.
4. That the alleged practical difficulties which will result from a failure to grant the variance would unreasonably prevent the owner from using the property for a permitted purpose.
5. Granting the variance is the minimum action that will make possible the use of the land or structure in a manner which is not contrary to the public interest and which would carry out the spirit of this zoning ordinance, secure public safety, and provide substantial justice.
6. Granting the variance will not adversely affect adjacent land or the essential character in the vicinity of the property.
7. The conditions pertaining to the land or structure are not so general or recurrent in nature as to make the formulation of a general regulation for such conditions practicable.
8. Granting the variance will be generally consistent with public interest and the purposes and intent of this Chapter.

# Meridian Township



## Location Map

1. ZBA #21-06-23-1 (EROP, LLC)





**To:** Zoning Board of Appeals  
**From:** Keith Chapman, Assistant Planner  
**Date:** June 18, 2021  
**Re:** ZBA Case No. 21-06-23-1 (EROP, LLC)

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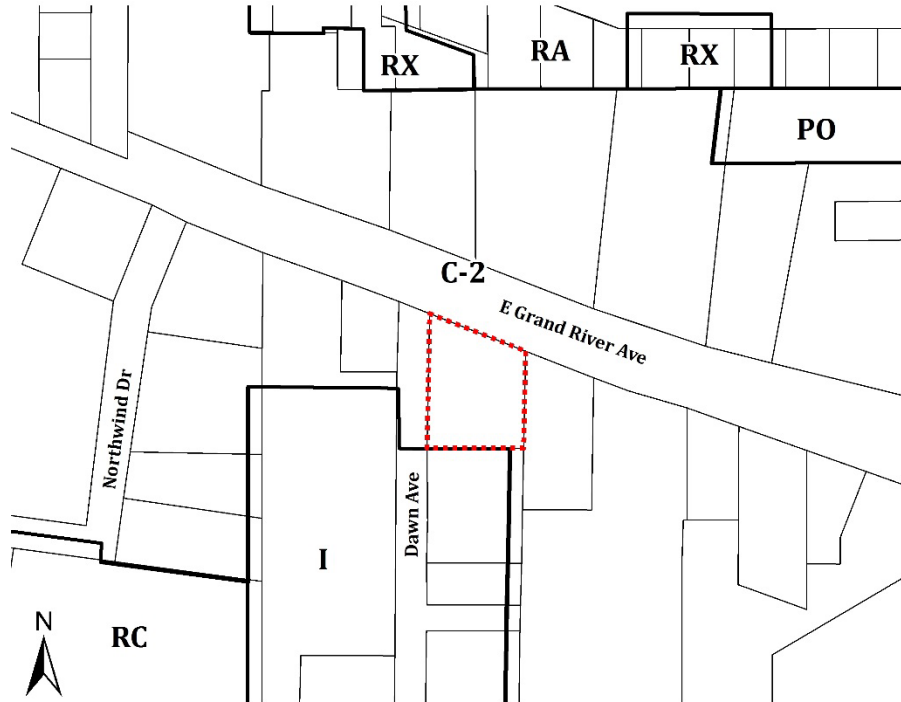
**ZBA CASE NO.:** 21-06-23-1 (EROP, LLC), 2390 E. Federal Drive, Decatur, IL 62526  
**LOCATION:** 2703 Grand River Avenue  
**PARCEL ID:** 20-203-012  
**ZONING DISTRICT:** C-2 (Commercial)

The applicant is requesting variances from the following sections of the Code of Ordinances:

- Section 86-402(1)(a), Front yards. Minimum yard dimensions shall be in accordance with the setback requirements of the Master Plan for Major Streets and Highways, Meridian Charter Township, Ingham County, Michigan, for the type of street upon which the lot principally fronts. For corner lots, each side abutting the street shall be considered frontage and shall comply with the setback requirements of the Master Plan for Major Streets and Highways. The front yard setback of Grand River Avenue is 100 feet from the centerline of the right-of-way.
- Section 86-756(11), Adjoining a public street. Where a parking area, or its associated internal access or service drives, adjoins a public street, except parking areas on individual residential driveways, a landscaped buffer at least 20 feet wide shall be provided between the parking area and the adjacent right-of-way, as measured from the back of the parking lot curb to the right-of-way line. A vertical screen, consisting of a masonry wall, plant material, a landscaped earth berm, or a combination thereof, as appropriate for the site, no less than three feet in height, shall be provided to screen the parking area from view along the entire length of this buffer strip. Plantings in this buffer area shall be maintained in a healthy condition.
- Section 86-758(2). Building perimeter landscaping. Parking areas and driveways shall be separated from the exterior wall of a building, exclusive of pedestrian entrance ways or loading areas, by a landscaped planting area of at least four feet in width. A minimum of 50% of this landscaped area, at time of planting, shall be planted with grass, ground cover, shrubs, or other living vegetation.

EROP, LLC, the applicant, is requesting variances to construct a drive through car wash facility at 2703 Grand River Avenue. A Special Use Permit (SUP #21031) was granted at the May 10, 2021 Planning Commission meeting to allow for the construction of a 3,300 square foot drive through car wash facility. The existing 2,873 square foot building that previously contained Paul Revere's Tavern will be demolished. The 0.88 acre subject property is zoned C-2 (Commercial) and is located at the southeast corner of Grand River Avenue and Dawn Avenue.

LOCATION MAP



The submitted site plan shows the existing building has an 80.8 foot front yard setback from the centerline of Grand river Avenue right-of-way. Section 86-402(1)(a) of the Zoning Ordinance requires 100 feet from the centerline of Grand River Avenue right-of-way for principal arterial streets. The proposed building will be located approximately 27.5 feet from the from street right-of-way line of Grand River Avenue.

The parking lot landscape buffer along Grand River Avenue is shown at 3.8 feet. A 20 foot parking lot landscape buffer is required by Section 86-756(11) of the Zoning Ordinance. This is measured from the back of the curb of the parking lot to the street right-of-way line. The landscape buffer is required to contain a vertical screen, consisting of a masonry wall, plant material, a landscaped earth berm, or a combination thereof, no less than three feet in height, to screen the parking area from view along the entire length of this buffer strip.

Section 86-758(2) of the Zoning Ordinance requires a four foot landscape buffer to be located between the west side of the building and the parking lot. Inside of this landscape buffer a minimum of 50% of this landscaped area must be planted with grass, ground cover, shrubs, or other living vegetation. The submitted plan shows a 0 foot landscape buffer between the building and the parking lot.



The following table summarizes the variance requests:

<b>Ordinance Section</b>	<b>C-2 (Commercial) Requirements</b>	<b>Proposed</b>	<b>Variance Requested</b>
<b>Front Yard Setback Section 86-402(1)(a)</b>	100 feet from C/L of Grand River Ave.	80.8 feet	19.2 feet
<b>Parking Lot Landscape Buffer Section 86-756(11)</b>	20 feet	3.8 feet	16.2 feet
<b>Building Perimeter Landscape Buffer Section 86-758(2)</b>	4 feet	0 feet	4 feet

**Attachments**

1. Variance application, dated March 1, 2021 and received by the Township on May 17, 2021.
2. Site Plan prepared by Stonefield Engineering & Design, dated May 17, 2021 and received by the Township on May 17, 2021.

G:\COMMUN PLNG & DEV\PLNG\ZBA\2021 ZBA\ZBA 21-06-23\ZBA 21-06-23-1 (EROP, LLC)\ZBA 21-06-23-1 staff report





## VARIANCE APPLICATION SUPPLEMENT

### **A variance will be granted, if the following Review Criteria are met:**

1. Unique circumstances exist that are peculiar to the land or structure that are not applicable to other land or structures in the same zoning district.
2. These special circumstances are not self-created.
3. Strict interpretation and enforcement of the literal terms and provisions of this chapter would result in practical difficulties.
4. That the alleged practical difficulties which will result from a failure to grant the variance would unreasonably prevent the owner from using the property for a permitted purpose.
5. Granting the variance is the minimum action that will make possible the use of the land or structure in a manner which is not contrary to the public interest and which would carry out the spirit of this zoning ordinance, secure public safety, and provide substantial justice.
6. Granting the variance will not adversely affect adjacent land or the essential character in the vicinity of the property.
7. The conditions pertaining to the land or structure are not so general or recurrent in nature as to make the formulation of a general regulation for such conditions practicable.
8. Granting the variance will be generally consistent with public interest and the purposes and intent of this Chapter.

### **Effect of Variance Approval:**

1. Granting a variance shall authorize only the purpose for which it was granted.
2. The effective date of a variance shall be the date of the Zoning Board of Appeals approves such variance.
3. A building permit must be applied for within 24 months of the date of the approval of the variance, and a Certificate of occupancy must be issued within 18 months of the date the building permit was issued, otherwise the variance shall be null and void.

### **Reapplication:**

1. No application for a variance, which has been denied wholly or in part by the Zoning Board of Appeals, shall be resubmitted until the expiration of one (1) year or more from the date of such denial, except on grounds of newly discovered evidence or proof of changed conditions found by the Zoning Board of Appeals to be sufficient to justify consideration.

# STONEFIELD

May 17, 2021

Charter Township of Meridian  
Planning Division  
5151 Marsh Road  
Okemos, MI 48864

**RE: Zoning Board of Appeals Approval  
Proposed Car Wash  
PARCEL ID: 33-02-02-20-203-012  
2703 E Grand River Avenue  
Meridian Twp, MI**

To Whom It May Concern:

Stonefield Engineering & Design, LLC is pleased to submit documents for Zoning Board of Appeals Approval for the above referenced property. Please find the following items enclosed for review:

ITEM DESCRIPTION	DATED	COPIES	PREPARED BY
Site Development Plans	05-17-2021	1	Stonefield Engineering & Design
Variance Application	03-01-2021	1	EROP, LLC
A check for \$450.00 Zoning Board of Appeals Fee	05-18-2021	1	Stonefield Engineering & Design

The following variances are being requested with written confirmation that all Review Criteria are met:

- Minimum Front Yard Setback (Grand River – Arterial): Required – 100 ft, Existing – 52.3 ft, Proposed – 80.8 ft
  1. *Unique circumstances exist that are peculiar to the land or structure that are not applicable to other land or structures in the same zoning district.*  
**The existing parcel shape and size create difficulty for a development to have adequate site circulation.**
  2. *These special circumstances are not self-created.*  
**The parcel is existing in its shape and size.**
  3. *Strict interpretation and enforcement of the literal terms and provisions of this chapter would result in practical difficulties.*  
**The existing parcel shape and size create difficulty for a development to have adequate site circulation.**
  4. *That the alleged practical difficulties which will result from a failure to grant the variance would unreasonably prevent the owner from using the property for a permitted purpose.*  
**The use is approved by the Township and without approval of the variance the site would not allowed to be adequately circulated for the use.**
  5. *Granting the variance is the minimum action that will make possible the use of the land or structure in a manner which is not contrary to the public interest and which would carry out the spirit of this zoning ordinance, secure public safety, and provide substantial justice.*  
**The existing site layout encroaches on this setback more severely than the proposed condition, the granting of this variance will not go against public interest and which would carry out the spirit of the zoning ordinance, secure public safety, and provide substantial justice.**
  6. *Granting the variance will not adversely affect adjacent land or the essential character in the vicinity of the property.*  
**The existing site layout encroaches on this setback more severely than the proposed condition, improving this will not adversely affect adjacent land or the characted in the vicinity of the property.**
  7. *The conditions pertaining to the land or structure are not so general or recurrent in nature as to make the formulation of a general regulation for such conditions practicable.*  
**The condition is unique to this parcel and is not so general or recurrent in nature as to maket he formulation of a general regulation for sunch conditions.**



8. *Granting the variance will be generally consistent with public interest and the purposes and intent of this Chapter.*  
**The existing site layout encroaches on this setback more severely than the proposed condition, improving this will be generally consistent with public interest and the purpose of the intent of the ordinance.**
- Minimum ROW Buffer (Grand River): Required – 20 ft, Existing – 0.0 ft, Proposed – 3.8 ft
    1. *Unique circumstances exist that are peculiar to the land or structure that are not applicable to other land or structures in the same zoning district.*  
**The existing parcel shape and size create difficulty for a development to have adequate site circulation.**
    2. *These special circumstances are not self-created.*  
**The parcel is existing in its shape and size.**
    3. *Strict interpretation and enforcement of the literal terms and provisions of this chapter would result in practical difficulties.*  
**The existing parcel shape and size create difficulty for a development to have adequate site circulation.**
    4. *That the alleged practical difficulties which will result from a failure to grant the variance would unreasonably prevent the owner from using the property for a permitted purpose.*  
**The use is approved by the Township and without approval of the variance the site would not allowed to be adequately circulated for the use.**
    5. *Granting the variance is the minimum action that will make possible the use of the land or structure in a manner which is not contrary to the public interest and which would carry out the spirit of this zoning ordinance, secure public safety, and provide substantial justice.*  
**The existing site layout encroaches on this setback more severely than the proposed condition, the granting of this variance will not go against public interest and which would carry out the spirit of the zoning ordinance, secure public safety, and provide substantial justice.**
    6. *Granting the variance will not adversely affect adjacent land or the essential character in the vicinity of the property.*  
**The existing site layout encroaches on this setback more severely than the proposed condition, improving this will not adversely affect adjacent land or the characted in the vicinity of the property.**
    7. *The conditions pertaining to the land or structure are not so general or recurrent in nature as to make the formulation of a general regulation for such conditions practicable.*  
**The condition is unique to this parcel and is not so general or recurrent in nature as to maket he formulation of a general regulation for sunch conditions.**
    8. *Granting the variance will be generally consistent with public interest and the purposes and intent of this Chapter.*  
**The existing site layout encroaches on this setback more severely than the proposed condition, improving this will be generally consistent with public interest and the purpose of the intent of the ordinance.**
  - Building Perimeter Landscaping: Required – 4 ft planting area between parking and building wall, Proposed – 0 ft
    1. *Unique circumstances exist that are peculiar to the land or structure that are not applicable to other land or structures in the same zoning district.*  
**Building foundation for the use is not condusive to plantings near the footings**
    2. *These special circumstances are not self-created.*  
**The use requires plantings to be away from the foundation – plantings to be added throughout site**
    3. *Strict interpretation and enforcement of the literal terms and provisions of this chapter would result in practical difficulties.*  
**The code enforcement would impact foundation and building design which is practical difficulty for the use.**
    4. *That the alleged practical difficulties which will result from a failure to grant the variance would unreasonably prevent the owner from using the property for a permitted purpose.*  
**The use is approved by the Township and without approval of the variance the building development is impacted.**
    5. *Granting the variance is the minimum action that will make possible the use of the land or structure in a manner which is not contrary to the public interest and which would carry out the spirit of this zoning ordinance, secure public safety, and provide substantial justice.*  
**The building foundation and safety with the vaccums would be impacted without the variance being granted, additional plantings will be added throughout the site.-**



6. *Granting the variance will not adversely affect adjacent land or the essential character in the vicinity of the property.*  
**Additional plantings are being proposed throughout the site, the adjacent land or essential character will not be impacted.**
7. *The conditions pertaining to the land or structure are not so general or recurrent in nature as to make the formulation of a general regulation for such conditions practicable.*  
**The condition is unique to this use and layout and is not so general or recurrent in nature as to make the formulation of a general regulation for such conditions.**
8. *Granting the variance will be generally consistent with public interest and the purposes and intent of this Chapter.*  
**Granting of the variance will be generally consistent with public interest and purposes and intent of this chapter as additional plantings are being proposed to meet the intent of the ordinance.**

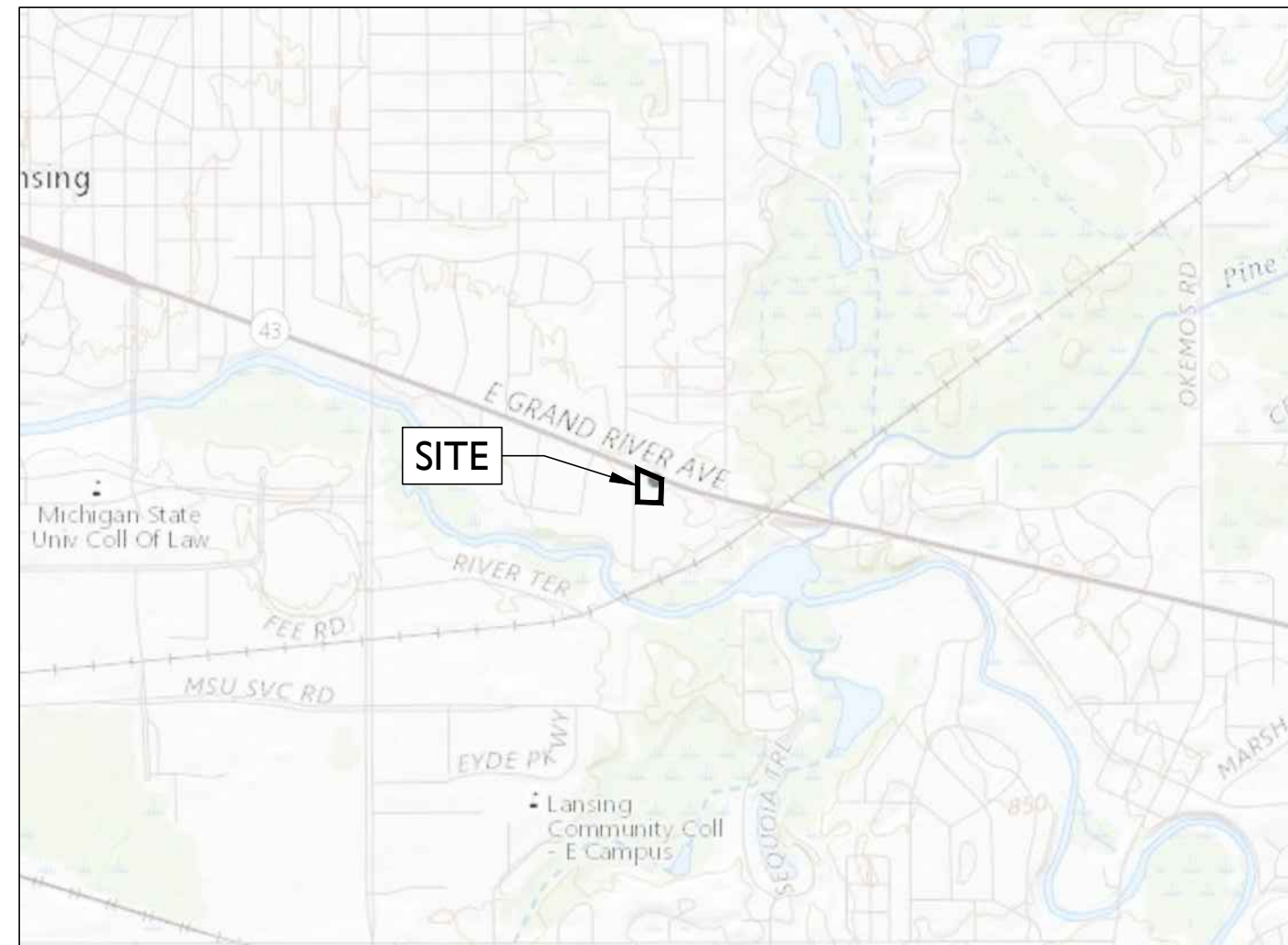
Should you have any questions, please do not hesitate to contact our office.

Best regards,

J. Reid Cooksey  
[jcooksey@stonefieldeng.com](mailto:jcooksey@stonefieldeng.com)  
Stonefield Engineering and Design, LLC

Erin McMachen  
[emcmachen@stonefieldeng.com](mailto:emcmachen@stonefieldeng.com)  
Stonefield Engineering and Design, LLC





SOURCE: USGS ONLINE MAPS

**LOCATION MAP**

SCALE: 1" = 2,000'±

**SITE DEVELOPMENT PLANS**

FOR



**HYPERSHINE**

**PROPOSED CAR WASH**

PARCEL ID: 33-02-02-20-203-012  
 2703 E GRAND RIVER AVENUE  
 MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN

**APPLICANT**

EROP, LLC  
 2390 E FEDERAL DRIVE  
 DECATUR, IL 62526  
 (215)-521-2348  
 JEFF@RAINSTORMCARWASH.COM

**OWNER**

O'REILLY AUTO ENTERPRISES LLC  
 2703 E GRAND RIVER AVENUE  
 MERIDIAN TOWNSHIP, MI 48823

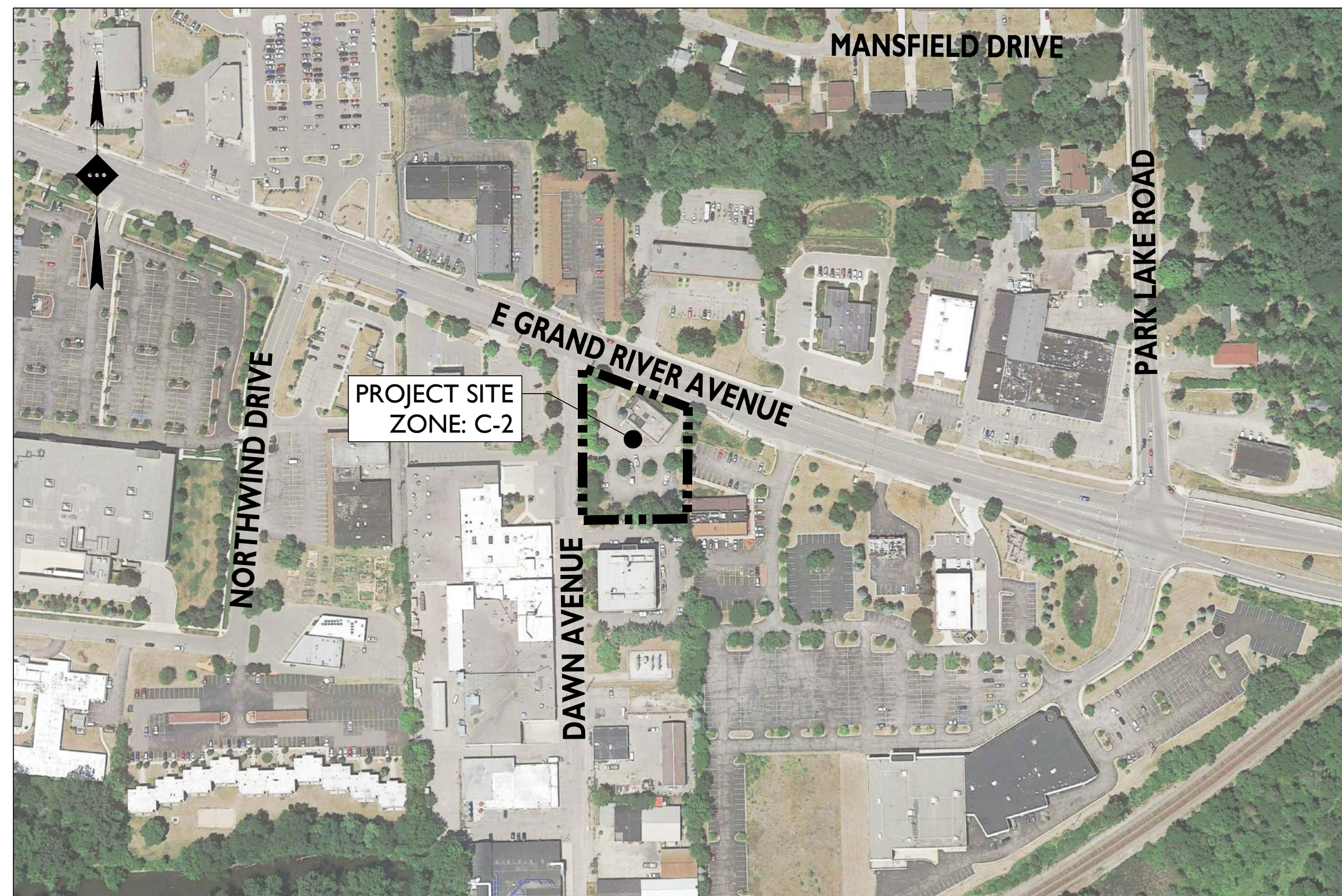
ISSUE	DATE	BY	DESCRIPTION
3	05/17/2021	ECM/JRC	ZONING BOARD OF APPEALS SUBMISSION
2	03/26/2021	ECM/JRC	SITE PLAN SUBMISSION
1	03/01/2021	ECM	FOR CLIENT REVIEW

NOT APPROVED FOR CONSTRUCTION

**STONEFIELD**  
 engineering & design

Detroit, MI · New York, NY · Boston, MA  
 Princeton, NJ · Tampa, FL · Rutherford, NJ  
 www.stonefieldeng.com

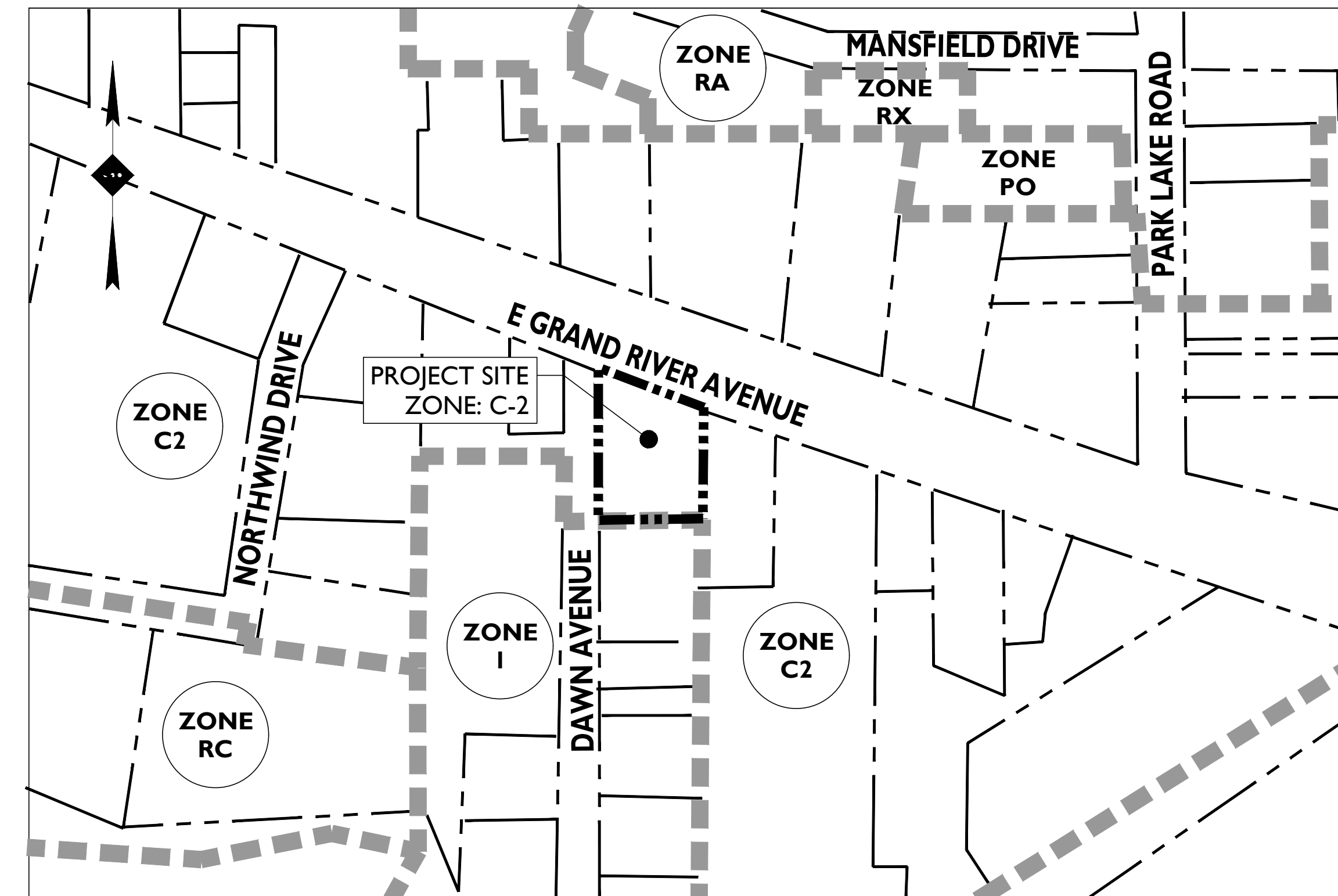
607 Shelby Suite 200, Detroit, MI 48226  
 Phone 248.247.1115



SOURCE: GOOGLE EARTH PRO

**AERIAL MAP**

SCALE: 1" = 200'±



SOURCE: MERIDIAN TOWNSHIP ZONING MAP 2018

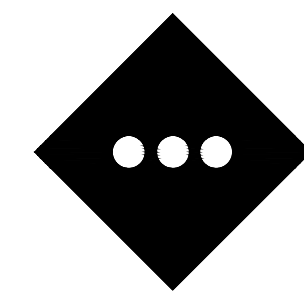
**ZONING MAP**

SCALE: 1" = 200'±

PLANS PREPARED BY:



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607 Shelby Suite 200, Detroit, MI 48226

Phone 248.247.1115

**PROPERTY DESCRIPTION:**

LOCATED IN THE TOWNSHIP OF MERIDIAN, COUNTY OF INGHAM, STATE OF MICHIGAN AND DESCRIBED AS:

ALL OF LOTS 4, 5 AND 6, AND ALL OF LOT 7 EXCEPT THE SOUTH 60 FEET THEREOF, CEDAR RIVER HOMES, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN, ACCORDING TO THE PLAT THEREOF AS RECORDED IN LIBER 11, PAGE 30 (LIBER 31, PAGES 47 AND 48 PER WARRANTY DEED), INGHAM COUNTY RECORDS, ALSO BEING DESCRIBED AS: BEGINNING AT THE NORTHWEST CORNER OF SAID LOT 4, ALSO BEING THE INTERSECTION OF THE SOUTH RIGHT-OF-WAY LINE OF EAST GRAND RIVER AVENUE (M-43)(110' WIDE) AND THE EAST RIGHT-OF-WAY LINE OF DAWN AVENUE (50' WIDE); THENCE S. 70°00'00"E. 196.75 FEET (RECORDED AS 196.5 FEET) ALONG THE SOUTHERLY RIGHT-OF-WAY LINE OF SAID E. GRAND RIVER AVE. TO THE NORTHEAST CORNER OF SAID LOT 4; THENCE S.01°26'33"E 172.42 FEET (RECORDED AS S.01°05'W. 172 FEET); THENCE S.88°42'36"W. 183.13 FEET (RECORDED AS 183.5 FEET) TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF SAID DAWN AVE.; THENCE N.01°26'33"W. 243.86 FEET (RECORDED AS N.01°05'E. 253.3 FEET) ALONG THE EAST RIGHT-OF-WAY LINE OF SAID DAWN AVE. TO THE POINT OF BEGINNING.

**PLAN REFERENCE MATERIALS:**

- THIS PLAN SET REFERENCES THE FOLLOWING DOCUMENTS INCLUDING, BUT NOT LIMITED TO:
  - ALTA / NSPS LAND TITLE SURVEY PREPARED BY KEM-TEC DATED 02/21/2021
  - ARCHITECTURAL PLANS PREPARED BY REB ARCHITECTS DATED 07/17/2020
  - AERIAL MAP OBTAINED FROM GOOGLE EARTH PRO 02/21/2021
  - LOCATION MAP OBTAINED FROM USGS MAPS ONLINE 02/24/2021
- ALL REFERENCE MATERIAL LISTED ABOVE SHALL BE CONSIDERED A PART OF THIS PLAN SET AND ALL INFORMATION CONTAINED WITHIN THESE MATERIALS SHALL BE UTILIZED IN CONJUNCTION WITH THIS PLAN SET. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN A COPY OF EACH REFERENCE AND REVIEW IT THOROUGHLY PRIOR TO THE START OF CONSTRUCTION.

**SHEET INDEX**

DRAWING TITLE	SHEET #
COVER SHEET	C-1
SITE PLAN	C-2
GRADING PLAN	C-3
STORMWATER MANAGEMENT PLAN	C-4
UTILITY PLAN	C-5
LIGHTING PLAN	C-6
LANDSCAPING PLAN	C-7
CONSTRUCTION DETAILS	C-8 TO C-9

**ADDITIONAL SHEETS**

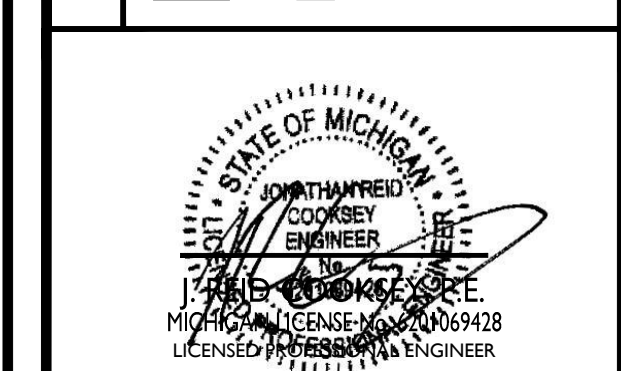
DRAWING TITLE	SHEET #
ALTA / NSPS LAND TITLE SURVEY	1 OF 1

SITE DEVELOPMENT PLANS

**HYPERSHINE**

PROPOSED CAR WASH

PARCEL ID: 33-02-02-20-203-012  
 2703 E GRAND RIVER AVENUE  
 MERIDIAN TOWNSHIP  
 INGHAM COUNTY, MICHIGAN



**STONEFIELD**  
 engineering & design

SCALE: AS SHOWN PROJECT ID: DET-200226

TITLE:

COVER SHEET

DRAWING:

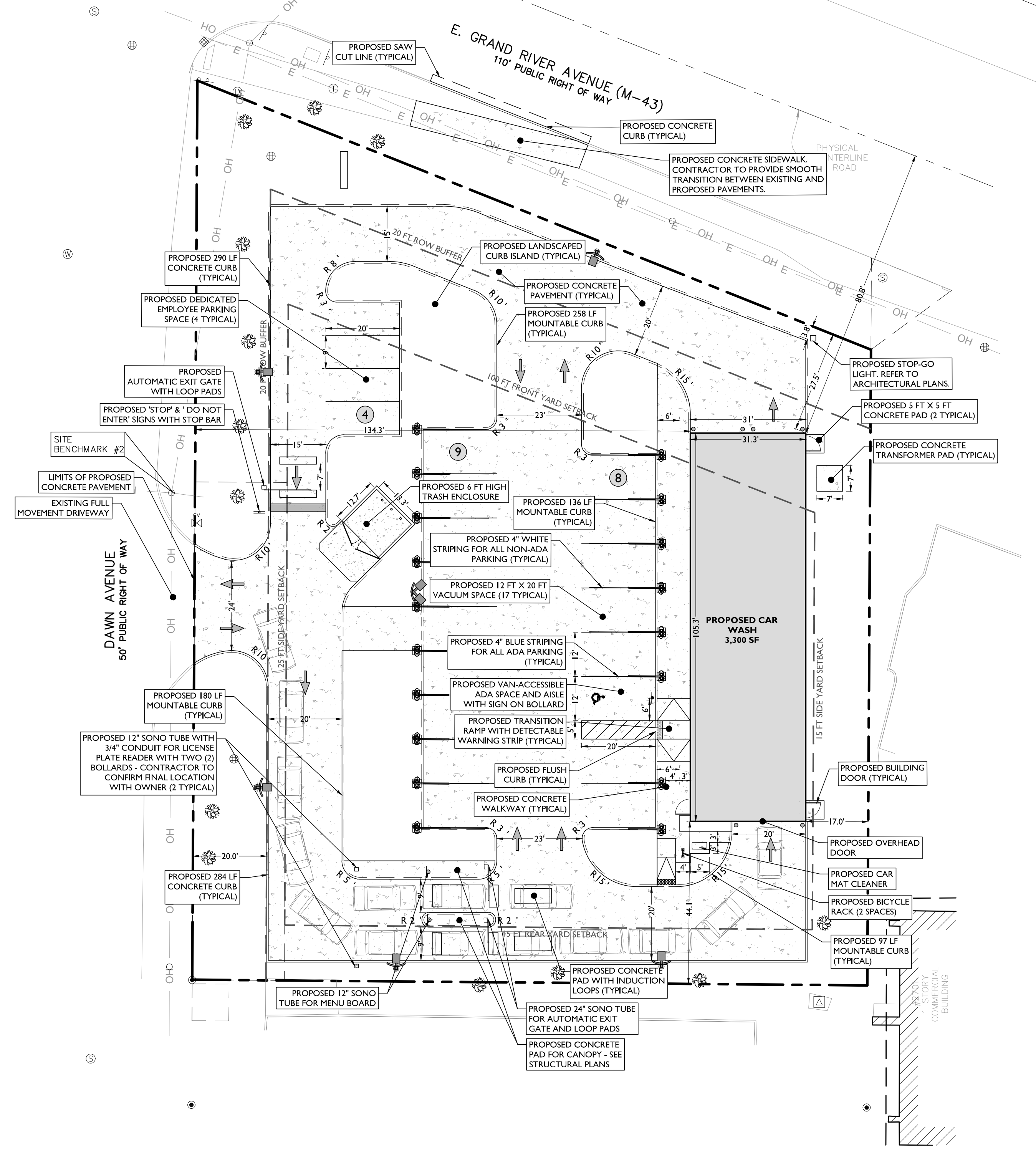
C-1

NORTHWEST CORNER OF SAID LOT 4, ALSO BEING THE INTERSECTION OF THE SOUTH RIGHT-OF-WAY LINE OF EAST GRAND RIVER AVENUE (M-43)(110' WIDE) AND THE EAST RIGHT-OF-WAY LINE OF DAWN AVENUE (50' WIDE); THENCE S. 70°00'00"E. 196.75 FEET (RECORDED AS 196.5 FEET) ALONG THE SOUTHERLY RIGHT-OF-WAY LINE OF SAID E. GRAND RIVER AVE. TO THE NORTHEAST CORNER OF SAID LOT 4; THENCE S.01°26'33"E 172.42 FEET (RECORDED AS S.01°05'W. 172 FEET); THENCE S.88°42'36"W. 183.13 FEET (RECORDED AS 183.5 FEET) TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF SAID DAWN AVE.; THENCE N.01°26'33"W. 243.86 FEET (RECORDED AS N.01°05'E. 253.3 FEET) ALONG THE EAST RIGHT-OF-WAY LINE OF SAID DAWN AVE. TO THE POINT OF BEGINNING.



V:\07120202\DET-2002-012\2022-AMK\DET-012-CAR WASH\2022-01-25-11-51-AM\DET-012-CAR WASH - EAST GRAND RIVER - EAST LANDING - PHOENIX\DET-012-CAR WASH - SITE PLAN.DWG

SITE BENCHMARK #3



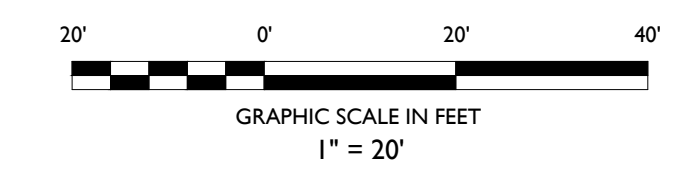
LAND USE AND ZONING			
PARCEL ID: 33-02-02-20-203-012			
COMMERCIAL DISTRICT (C-2)			
<b>PROPOSED USE</b>	AUTOMATIC CAR WASH	SPECIAL LAND USE	
<b>ZONING REQUIREMENT</b>	<b>REQUIRED</b>	<b>EXISTING</b>	<b>PROPOSED</b>
MINIMUM LOT AREA	4,000 SF	38,116 SF (0.88 AC)	38,116 SF (0.88 AC)
MINIMUM LOT WIDTH	100 FT	196.5 FT	196.5 FT
MINIMUM LOT FRONTAGE (ARTERIAL)	250 FT	196.5 FT	196.5 FT
MINIMUM LOT FRONTAGE (LOCAL)	50 FT	253.3 FT	253.3 FT
MAXIMUM IMPERVIOUS COVERAGE	70% (26,725 SF)	67% (25,375 SF)	65% (24,680 SF)
MINIMUM FRONT YARD SETBACK (GRAND RIVER - ARTERIAL)	100 FT (*)	52.3 FT (EN)	80.8 FT (V)
MINIMUM FRONT YARD SETBACK (DAWN AVE - LOCAL)	25 FT (*)	82.5 FT	134.3 FT
MINIMUM SIDE YARD SETBACK	15 FT	24.8 FT	17.0 FT
MINIMUM REAR YARD SETBACK	15 FT	122.8 FT	44.1 FT
MINIMUM RESIDENTIAL SETBACK	500 FT	560.0 FT	589.3 FT
MINIMUM ROW BUFFER (GRAND RIVER)	20 FT	0.0 FT (EN)	3.8 FT (V)
MINIMUM ROW BUFFER (DAWN AVE)	20 FT	45.5 FT (EN)	20.0 FT

(V) VARIANCE  
 (EN) EXISTING NON-COMFORMITY  
 (\*) VACUUMS NOT PERMITTED WITHIN FRONT YARD

OFF-STREET PARKING REQUIREMENTS		
CODE SECTION	REQUIRED	PROPOSED
§ 86-755	REQUIRED DRIVE-IN AUTOMATIC CAR WASH PARKING: 15 STANDING SPACES PER BAY 1 SPACE PER 2 EMPLOYEES (4 EMP)(1 SPACE / 2 EMP) = 2 SPACE	15 STANDING SPACES  4 PARKING SPACES
§ 86-756	DIMENSIONAL REQUIREMENTS: 90": 9 FT X 20 FT W/ 24 FT AISLE 90": 10 FT X 18 FT W/ 25 FT AISLE 90": 10 FT X 20 FT W/ 23 FT AISLE 60": 9 FT X 20 FT W/ 15 FT AISLE	90": 12 FT X 20 FT W/ 23 FT AISLE  60": 9 FT X 20 FT W/ 15 FT AISLE
§ 86-760	REQUIRED BICYCLE PARKING: 2 SPACES	2 SPACES

SYMBOL	DESCRIPTION
---	PROPERTY LINE
- - - - -	SETBACK LINE
- . - . - .	SAWCUT LINE
=====	PROPOSED CURB
=====	PROPOSED MOUNTABLE CURB
=====	PROPOSED FLUSH CURB
○ ○ ○	PROPOSED SIGNS / BOLLARDS
■	PROPOSED BUILDING
□	PROPOSED CONCRETE
□	PROPOSED AREA LIGHT
⌋	PROPOSED BUILDING DOORS

- GENERAL NOTES**
- THE CONTRACTOR SHALL VERIFY AND FAMILIARIZE THEMSELVES WITH THE EXISTING SITE CONDITIONS AND THE PROPOSED SCOPE OF WORK (INCLUDING DIMENSIONS, LAYOUT, ETC.) PRIOR TO INITIATING THE IMPROVEMENTS IDENTIFIED WITHIN THESE DOCUMENTS. SHOULD ANY DISCREPANCY BE FOUND BETWEEN THE EXISTING SITE CONDITIONS AND THE PROPOSED WORK, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC PRIOR TO THE START OF CONSTRUCTION.
  - THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND ENSURE THAT ALL REQUIRED APPROVALS HAVE BEEN OBTAINED PRIOR TO THE START OF CONSTRUCTION. COPIES OF ALL REQUIRED PERMITS AND APPROVALS SHALL BE KEPT ON SITE AT ALL TIMES DURING CONSTRUCTION.
  - ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED BY LAW, INDEMNIFY AND HOLD HARMLESS STONEFIELD ENGINEERING & DESIGN, LLC, AND ITS SUB-CONSULTANTS FROM AND AGAINST ANY DAMAGES AND LIABILITIES INCLUDING ATTORNEY'S FEES ARISING OUT OF CLAIMS BY EMPLOYEES OF THE CONTRACTOR IN ADDITION TO CLAIMS CONNECTED TO THE PROJECT AS A RESULT OF NOT CARRYING THE PROPER INSURANCE FOR WORKERS COMPENSATION, LIABILITY INSURANCE, AND LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE.
  - THE CONTRACTOR SHALL NOT DEVIATE FROM THE PROPOSED IMPROVEMENTS IDENTIFIED WITHIN THIS PLAN SET UNLESS APPROVAL IS PROVIDED IN WRITING BY STONEFIELD ENGINEERING & DESIGN, LLC.
  - THE CONTRACTOR IS RESPONSIBLE TO DETERMINE THE MEANS AND METHODS OF CONSTRUCTION.
  - THE CONTRACTOR SHALL NOT PERFORM ANY WORK OR CAUSE DISTURBANCE ON A PRIVATE PROPERTY NOT CONTROLLED BY THE PERSON OR ENTITY WHO HAS AUTHORIZED THE WORK WITHOUT PRIOR WRITTEN CONSENT FROM THE OWNER OF THE PRIVATE PROPERTY.
  - THE CONTRACTOR IS RESPONSIBLE TO RESTORE ANY DAMAGED OR UNDERMINED STRUCTURE OR SITE FEATURE THAT IS IDENTIFIED TO REMAIN ON THE PLAN SET. ALL REPAIRS SHALL USE NEW MATERIALS TO RESTORE THE FEATURE TO ITS EXISTING CONDITION AT THE CONTRACTOR'S EXPENSE.
  - CONTRACTOR IS RESPONSIBLE TO PROVIDE THE APPROPRIATE SHOP DRAWINGS, PRODUCT DATA, AND OTHER REQUIRED SUBMITTALS FOR REVIEW. STONEFIELD ENGINEERING & DESIGN, LLC, WILL REVIEW THE SUBMITTALS IN ACCORDANCE WITH THE DESIGN INTENT AS REFLECTED WITHIN THE PLAN SET.
  - THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL IN ACCORDANCE WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
  - THE CONTRACTOR IS REQUIRED TO PERFORM ALL WORK IN THE PUBLIC RIGHT-OF-WAY IN ACCORDANCE WITH THE APPROPRIATE GOVERNING AUTHORITY AND SHALL BE RESPONSIBLE FOR THE PROCUREMENT OF STREET OPENING PERMITS.
  - THE CONTRACTOR IS REQUIRED TO RETAIN AN OSHA CERTIFIED SAFETY INSPECTOR TO BE PRESENT ON SITE AT ALL TIMES DURING CONSTRUCTION & DEMOLITION ACTIVITIES.
  - SHOULD AN EMPLOYEE OF STONEFIELD ENGINEERING & DESIGN, LLC, BE PRESENT ON SITE AT ANY TIME DURING CONSTRUCTION, IT DOES NOT RELIEVE THE CONTRACTOR OF ANY OF THE RESPONSIBILITIES AND REQUIREMENTS LISTED IN THE NOTES WITHIN THIS PLAN SET.



NO.	DATE	ISSUE	BY	DESCRIPTION
3	05/17/2021	ECM / JRC		ZONING BOARD OF APPEALS SUBMISSION
2	03/26/2021	ECM / JRC		SITE PLAN SUBMISSION
1	03/01/2021	ECM		FOR CLIENT REVIEW

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**HYPERSHINE**  
 PROPOSED CAR WASH

PARCEL ID: 33-02-02-203-012  
 2703 E GRAND RIVER AVENUE  
 MERIDIAN TOWNSHIP  
 INGHAM COUNTY, MICHIGAN



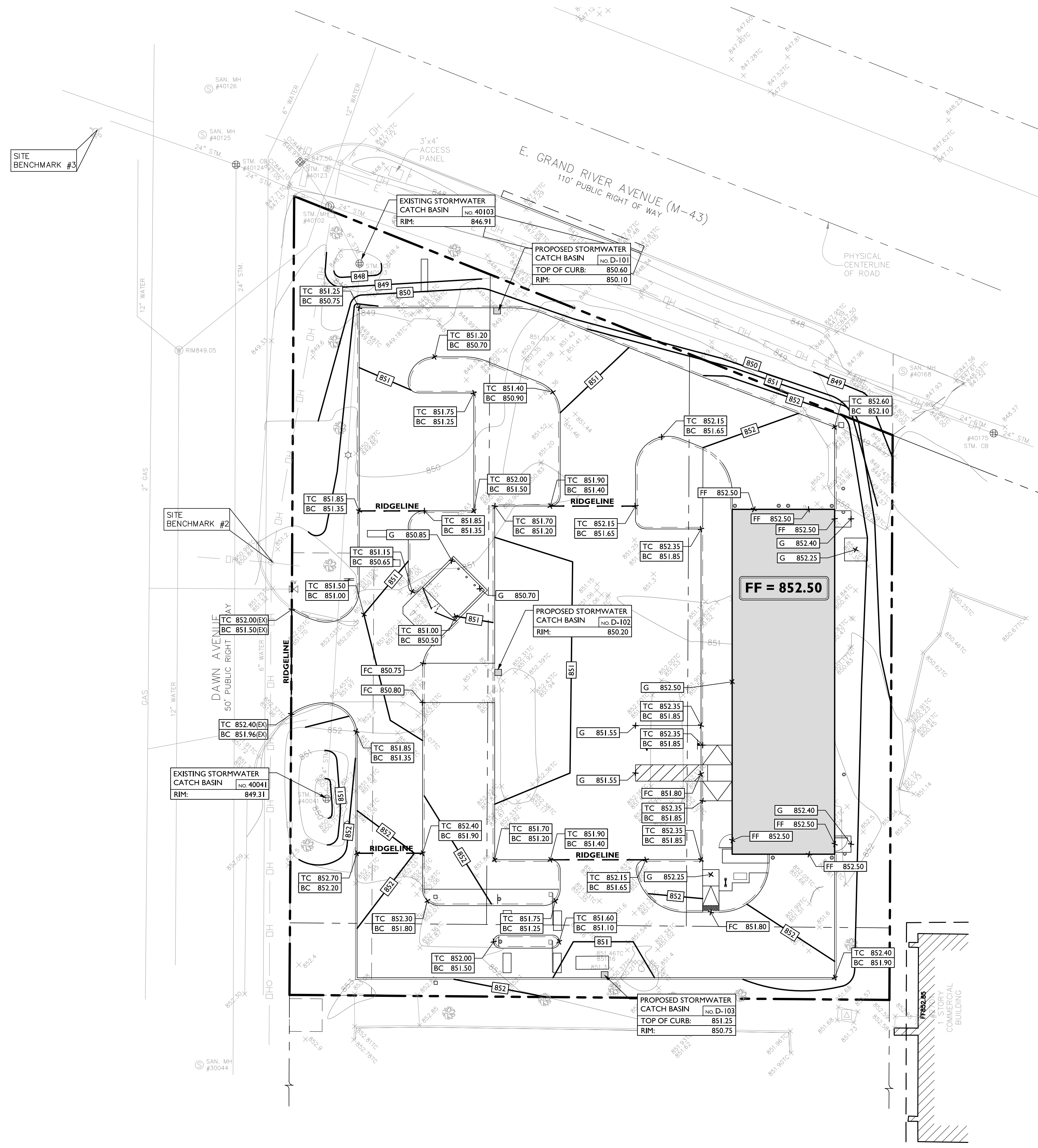
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SCALE: 1" = 20' PROJECT ID: DET-200226

TITLE: **SITE PLAN**

DRAWING: **C-2**

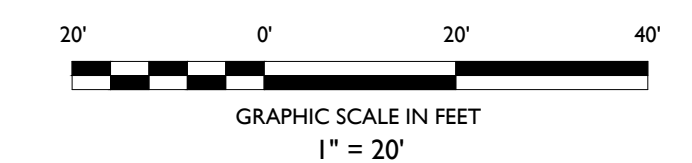




SYMBOL	DESCRIPTION
---	PROPERTY LINE
—100—	PROPOSED GRADING CONTOUR
—RIDLINELINE—	PROPOSED GRADING RIDGELINE
←	PROPOSED DIRECTION OF DRAINAGE FLOW
X G 100.00	PROPOSED GRADE SPOT SHOT
X TC 100.50 BC 100.00	PROPOSED TOP OF CURB / BOTTOM OF CURB SPOT SHOT
X FC 100.00	PROPOSED FLUSH CURB SPOT SHOT

- GRADING NOTES**
- ALL SOIL AND MATERIAL REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REQUIREMENTS. ANY GROUNDWATER DE-WATERING PRACTICES SHALL BE PERFORMED UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL. THE CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY PERMITS FOR THE DISCHARGE OF DE-WATERED GROUNDWATER. ALL SOIL IMPORTED TO THE SITE SHALL BE CERTIFIED CLEAN FILL. CONTRACTOR SHALL MAINTAIN RECORDS OF ALL FILL MATERIALS BROUGHT TO THE SITE.
  - THE CONTRACTOR IS REQUIRED TO PROVIDE TEMPORARY AND/OR PERMANENT SHORING WHERE REQUIRED DURING EXCAVATION ACTIVITIES INCLUDING BUT NOT LIMITED TO UTILITY TRENCHES TO ENSURE THE STRUCTURAL INTEGRITY OF NEARBY STRUCTURES AND STABILITY OF THE SURROUNDING SOILS.
  - PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 4 INCHES TO 7 INCHES ABOVE EXISTING GRADES UNLESS OTHERWISE NOTED. THE CONTRACTOR WILL SUPPLY ALL STAKEOUT CURB GRADE SHEETS TO STONEFIELD ENGINEERING & DESIGN, LLC. FOR REVIEW AND APPROVAL PRIOR TO POURING CURBS.
  - THE CONTRACTOR IS RESPONSIBLE TO SET ALL PROPOSED UTILITY COVERS AND RESET ALL EXISTING UTILITY COVERS WITHIN THE PROJECT LIMITS TO PROPOSED GRADE IN ACCORDANCE WITH ANY APPLICABLE MUNICIPAL, COUNTY, STATE AND/OR UTILITY AUTHORITY REGULATIONS.
  - MINIMUM SLOPE REQUIREMENTS TO PREVENT PONDING SHALL BE AS FOLLOWS:
    - CURB GUTTER: 0.50%
    - CONCRETE SURFACES: 1.00%
    - ASPHALT SURFACES: 1.00%
  - A MINIMUM SLOPE OF 1.00% SHALL BE PROVIDED AWAY FROM ALL BUILDINGS. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE FROM THE BUILDING IS ACHIEVED AND SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC IF THIS CONDITION CANNOT BE MET.
  - FOR PROJECTS WHERE BASEMENTS ARE PROPOSED, THE DEVELOPER IS RESPONSIBLE TO DETERMINE THE DEPTH TO GROUNDWATER AT THE LOCATION OF THE PROPOSED STRUCTURE. IF GROUNDWATER IS ENCOUNTERED WITHIN THE BASEMENT AREA, SPECIAL CONSTRUCTION METHODS SHALL BE UTILIZED AND REVIEWED/APPROVED BY THE CONSTRUCTION CODE OFFICIAL. IF SUMP PUMPS ARE UTILIZED, ALL DISCHARGES SHALL BE CONNECTED DIRECTLY TO THE PUBLIC STORM SEWER SYSTEM WITH APPROVAL FROM THE GOVERNING STORM SEWER SYSTEM AUTHORITY.

- ADA NOTES**
- THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION WITHIN THE ADA PARKING SPACES AND ACCESS AISLES.
  - THE CONTRACTOR SHALL PROVIDE COMPLIANT SIGNAGE AT ALL ADA PARKING AREAS IN ACCORDANCE WITH STATE GUIDELINES.
  - THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 5.00% RUNNING SLOPE AND A MAXIMUM OF 2.00% CROSS SLOPE ALONG WALKWAYS WITHIN THE ACCESSIBLE PATH OF TRAVEL (SEE THE SITE PLAN FOR THE LOCATION OF THE ACCESSIBLE PATH). THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE ACCESSIBLE PATH OF TRAVEL IS 36 INCHES WIDE OR GREATER UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
  - THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION AT ALL LANDINGS. LANDINGS INCLUDE, BUT ARE NOT LIMITED TO, THE TOP AND BOTTOM OF AN ACCESSIBLE RAMP. AT ACCESSIBLE BUILDING ENTRANCES, AT AN AREA IN FRONT OF A WALK-UP ATM, AND AT TURNING SPACES ALONG THE ACCESSIBLE PATH OF TRAVEL, THE LANDING AREA SHALL HAVE A MINIMUM CLEAR AREA OF 60 INCHES BY 60 INCHES UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
  - THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 8.33% RUNNING SLOPE AND A MAXIMUM 2.00% CROSS SLOPE ON ANY CURB RAMPS ALONG THE ACCESSIBLE PATH OF TRAVEL. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 10.00%. IF A LANDING AREA IS PROVIDED AT THE TOP OF THE RAMP, FOR ALTERATIONS, A CURB RAMP FLARE SHALL NOT HAVE A SLOPE GREATER THAN 8.33% IF A LANDING AREA IS NOT PROVIDED AT THE TOP OF THE RAMP. CURBS RAMPS SHALL NOT RISE MORE THAN 6 INCHES IN ELEVATION WITHOUT A HANDRAIL. THE CLEAR WIDTH OF A CURB RAMP SHALL BE NO LESS THAN 36 INCHES WIDE.
  - ACCESSIBLE RAMPS WITH A RISE GREATER THAN 1/4 INCHES SHALL CONTAIN COMPLIANT HANDRAILS ON BOTH SIDES OF THE RAMP AND SHALL NOT RISE MORE THAN 30" IN ELEVATION WITHOUT A LANDING AREA IN BETWEEN RAMP RUNS. LANDING AREAS SHALL ALSO BE PROVIDED AT THE TOP AND BOTTOM OF THE RAMP.
  - A SLIP RESISTANT SURFACE SHALL BE CONSTRUCTED ALONG THE ACCESSIBLE PATH AND WITHIN ADA PARKING AREAS.
  - THE CONTRACTOR SHALL ENSURE A MAXIMUM OF 1/4 INCHES VERTICAL CHANGE IN LEVEL ALONG THE ACCESSIBLE PATH. WHERE A CHANGE IN LEVEL BETWEEN 1/4 INCHES AND 1/2 INCHES EXISTS, CONTRACTOR SHALL ENSURE THAT THE TOP 1/4 INCH CHANGE IN LEVEL IS BEVELED WITH A SLOPE NOT STEEPER THAN 1 UNIT VERTICAL AND 2 UNITS HORIZONTAL (2:1 SLOPE).
  - THE CONTRACTOR SHALL ENSURE THAT ANY OPENINGS (GAPS OR HORIZONTAL SEPARATION) ALONG THE ACCESSIBLE PATH SHALL NOT ALLOW PASSAGE OF A SPHERE GREATER THAN 1/4 INCH.



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1	03/01/2021	ECM	FOR CLIENT REVIEW

**NOT APPROVED FOR CONSTRUCTION**

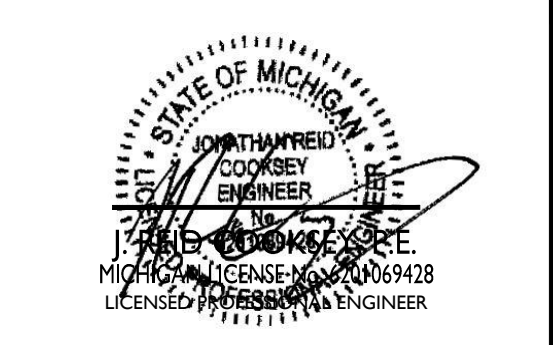
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**HYPERSHINE**  
PROPOSED CAR WASH

PARCEL ID: 33-02-02-203-012  
2703 E GRAND RIVER AVENUE  
MERIDIAN TOWNSHIP  
INGHAM COUNTY, MICHIGAN



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SCALE: 1" = 20' PROJECT ID: DET-200226

TITLE:  
**GRADING PLAN**

DRAWING:  
**C-3**

V:\012022\DET-200226\MANITOWISH CARWASH\2703 E GRAND RIVER, EAST LANDING, HYPERSHINE\GRADING.DWG



SITE RUN-OFF SUMMARY		
	PRE	POST
PERVIOUS AREA	33.43% (12,742 SF)	35.25% (13,436 SF)
IMPERVIOUS AREA	66.57% (25,375 SF)	64.75% (24,680 SF)
OVERALL SITE AREA (A)	0.88 AC (38,116 SF)	0.88 AC (38,116 SF)
WEIGHTED C VALUE *	0.63	0.62
10-YR PEAK FLOW **	1.96	1.92
50-YR PEAK FLOW **	2.50	2.46
100-YR PEAK FLOW **	2.72	2.67

- \* C-VALUES OBTAINED FROM MDOT TABLE 3-1  
 \*\* STORMWATER INTENSITIES OBTAINED FROM MDOT APPENDIX 3-B, ZONE 9, WITH MINIMUM TIME OF CONCENTRATION = 15 MINUTES  
 \*\*\* PROPOSED REDUCTION IN FLOW RATE TO MDOT SYSTEM. NO DETENTION REQUIRED.

SYMBOL	DESCRIPTION
	PROPERTY LINE
	PROPOSED GRADING CONTOUR
	PROPOSED GRADING RIDGELINE
	PROPOSED STORMWATER STRUCTURES
	PROPOSED STORMWATER PIPING

**DRAINAGE AND UTILITY NOTES**

- THE CONTRACTOR TO PERFORM A TEST PIT PRIOR TO CONSTRUCTION (RECOMMEND 30 DAYS PRIOR) AT LOCATIONS OF EXISTING UTILITY CROSSINGS FOR STORMWATER IMPROVEMENTS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC IN WRITING.
- CONTRACTOR SHALL START CONSTRUCTION OF STORM LINES AT THE LOWEST INVERT AND WORK UP-GRADE.
- THE CONTRACTOR IS REQUIRED TO CALL THE APPROPRIATE AUTHORITY FOR NOTICE OF CONSTRUCTION/EXCAVATION AND UTILITY MARK OUT PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH STATE LAW. CONTRACTOR IS REQUIRED TO CONFIRM THE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES IN THE FIELD. SHOULD A DISCREPANCY EXIST BETWEEN THE FIELD LOCATION OF A UTILITY AND THE LOCATION SHOWN ON THE PLAN SET OR SURVEY, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC IMMEDIATELY IN WRITING.
- THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD OF THE AS-BUILT LOCATIONS OF ALL PROPOSED UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR SHALL NOTE ANY DISCREPANCIES BETWEEN THE AS-BUILT LOCATIONS AND THE LOCATIONS DEPICTED WITHIN THE PLAN SET. THIS RECORD SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.

**EXCAVATION, SOIL PREPARATION, AND DEWATERING NOTES**

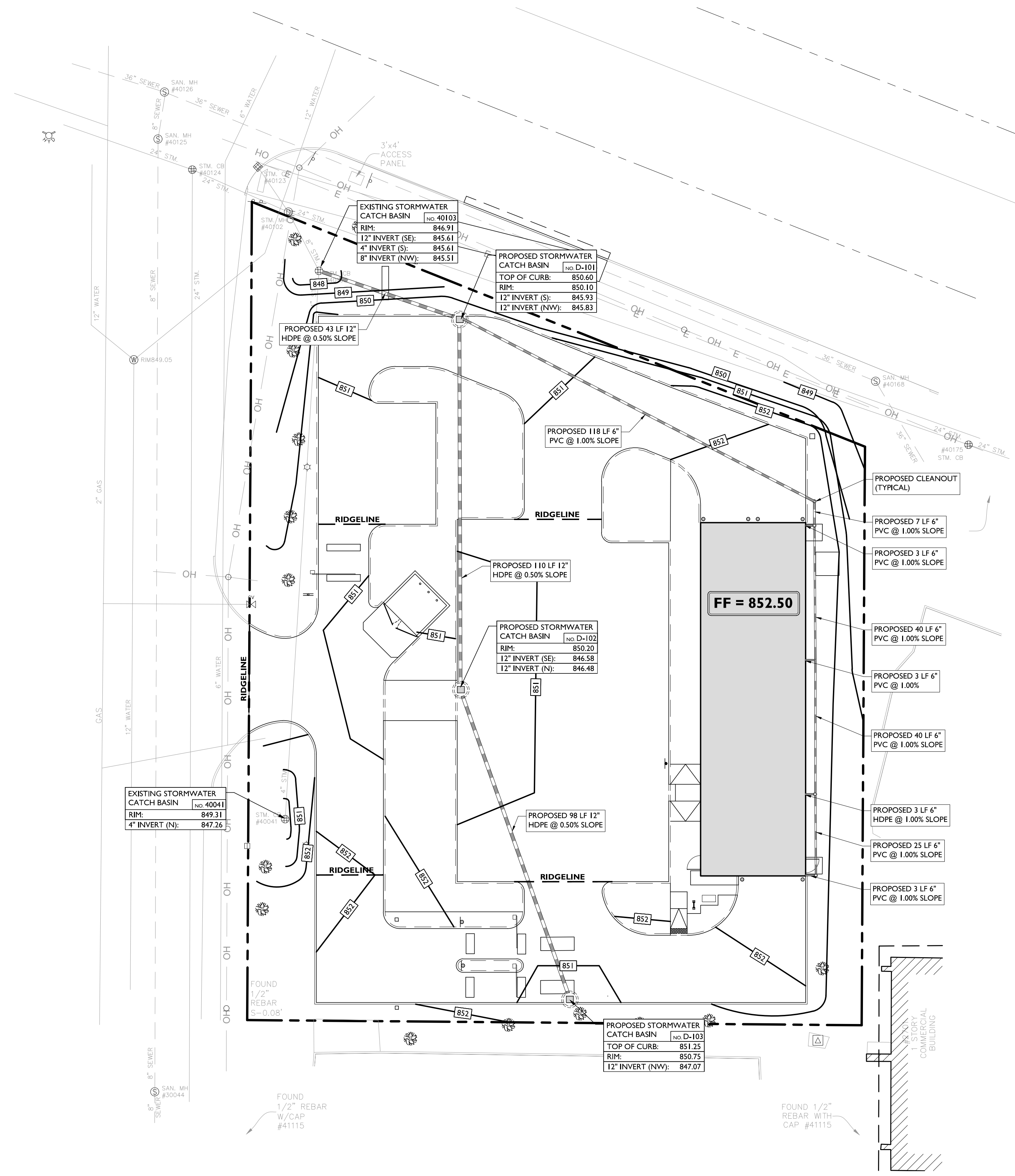
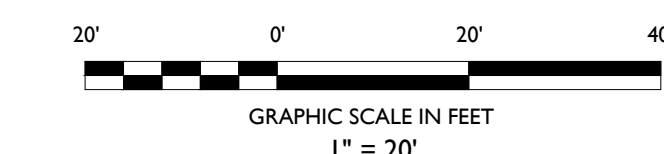
- THE CONTRACTOR IS REQUIRED TO REVIEW THE REFERENCED GEOTECHNICAL DOCUMENTS PRIOR TO CONSTRUCTION. THESE DOCUMENTS SHALL BE CONSIDERED A PART OF THE PLAN SET.
- THE CONTRACTOR IS REQUIRED TO PREPARE SUBGRADE SOILS BENEATH ALL PROPOSED IMPROVEMENTS AND BACKFILL. ALL EXCAVATIONS IN ACCORDANCE WITH RECOMMENDATIONS BY THE GEOTECHNICAL ENGINEER OF RECORD.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SHORING FOR ALL EXCAVATIONS AS REQUIRED. CONTRACTOR SHALL HAVE THE SHORING DESIGN PREPARED BY A QUALIFIED PROFESSIONAL SHORING DESIGNER. THESE DESIGNS SHALL BE SUBMITTED TO STONEFIELD ENGINEERING & DESIGN, LLC AND THE OWNER PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL OPEN EXCAVATIONS ARE PERFORMED AND PROTECTED IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY DEWATERING DESIGN AND OPERATIONS, AS REQUIRED, TO CONSTRUCT THE PROPOSED IMPROVEMENTS. THE CONTRACTOR SHALL OBTAIN ANY REQUIRED PERMITS FOR DEWATERING OPERATIONS AND GROUNDWATER DISPOSAL.

**STORMWATER INFILTRATION BMP CONSTRUCTION NOTES**

- PRIOR TO THE START OF CONSTRUCTION, ANY AREA DESIGNATED TO BE USED FOR AN INFILTRATION BMP (E.G. BASIN, BIORETENTION AREA, ETC.) SHALL BE FENCED OFF AND SHALL NOT BE UTILIZED AS STORAGE FOR CONSTRUCTION MATERIALS OR AS A STOCKPILE AREA FOR CONSTRUCTION MATERIALS. NO ACTIVITY SHALL BE PERMITTED WITHIN THE INFILTRATION BASIN AREA UNLESS RELATED TO THE CONSTRUCTION OF THE INFILTRATION BASIN. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY ALL SUBCONTRACTORS OF BASIN AREA RESTRICTIONS.
- THE CONTRACTOR SHALL MAKE EVERY EFFORT, WHERE PRACTICAL, TO AVOID SUBGRADE SOIL COMPACTION IN THE AREAS DESIGNATED TO BE USED FOR AN INFILTRATION BMP.
- ALL EXCAVATION WITHIN THE LIMITS OF ANY INFILTRATION BMP SHALL BE PERFORMED WITH THE LIGHTEST PRACTICAL EXCAVATION EQUIPMENT. ALL EXCAVATION EQUIPMENT SHALL BE PLACED OUTSIDE THE LIMITS OF THE BASIN WHERE FEASIBLE. THE USE OF LIGHT-WEIGHT, RUBBER-TIRED EQUIPMENT (LESS THAN 10 PSI APPLIED TO THE GROUND SURFACE) IS RECOMMENDED WITHIN THE BASIN LIMITS.
- THE SEQUENCE OF SITE CONSTRUCTION SHALL BE COORDINATED WITH BASIN CONSTRUCTION TO ADHERE TO SEQUENCING LIMITATIONS.
- DURING THE FINAL GRADING OF AN INFILTRATION BASIN, THE BOTTOM OF THE BASIN SHALL BE DEEPLY TILLED WITH A ROTARY TILLER OR DISC HARROW AND THEN SMOOTHED OUT WITH A LEVELING DRAW OR EQUIVALENT GRADING EQUIPMENT. ALL GRADING EQUIPMENT SHALL BE LOCATED OUTSIDE OF THE BASIN BOTTOM WHERE FEASIBLE.
- FOLLOWING CONSTRUCTION OF AN INFILTRATION BASIN, SOIL INFILTRATION TESTING BY A LICENSED GEOTECHNICAL ENGINEER IS REQUIRED TO CERTIFY COMPLIANCE WITH THE DESIGN INFILTRATION RATES IN ACCORDANCE WITH APPENDIX E OF THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION'S BEST MANAGEMENT PRACTICES MANUAL, LATEST EDITION. IF THE FIELD INFILTRATION RATES ARE LOWER THAN THE RATE USED DURING DESIGN, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC IN WRITING IMMEDIATELY TO DETERMINE THE APPROPRIATE COURSE OF ACTION.
- THE CONTRACTOR SHALL NOTIFY THE MUNICIPALITY TO DETERMINE IF WITNESS TESTING IS REQUIRED DURING INFILTRATION BASIN EXCAVATION AND/OR SOIL INFILTRATION TESTING.

**STORMWATER UNDERGROUND BMP CONSTRUCTION NOTES**

- THE CONTRACTOR SHALL INSTALL AND BACKFILL THE UNDERGROUND BMP IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
- UNDERGROUND BASINS SHALL UTILIZE A STONE BACKFILL WITH A MINIMUM VOID RATIO OF 40%.
- NO CONSTRUCTION LOADING OVER UNDERGROUND BASINS IS PERMITTED UNTIL BACKFILL IS COMPLETE PER THE MANUFACTURER'S SPECIFICATIONS. NO VEHICLES SHALL BE STAGED OR OPERATE FROM A FIXED POSITION OVER THE BASIN.



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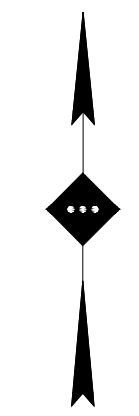
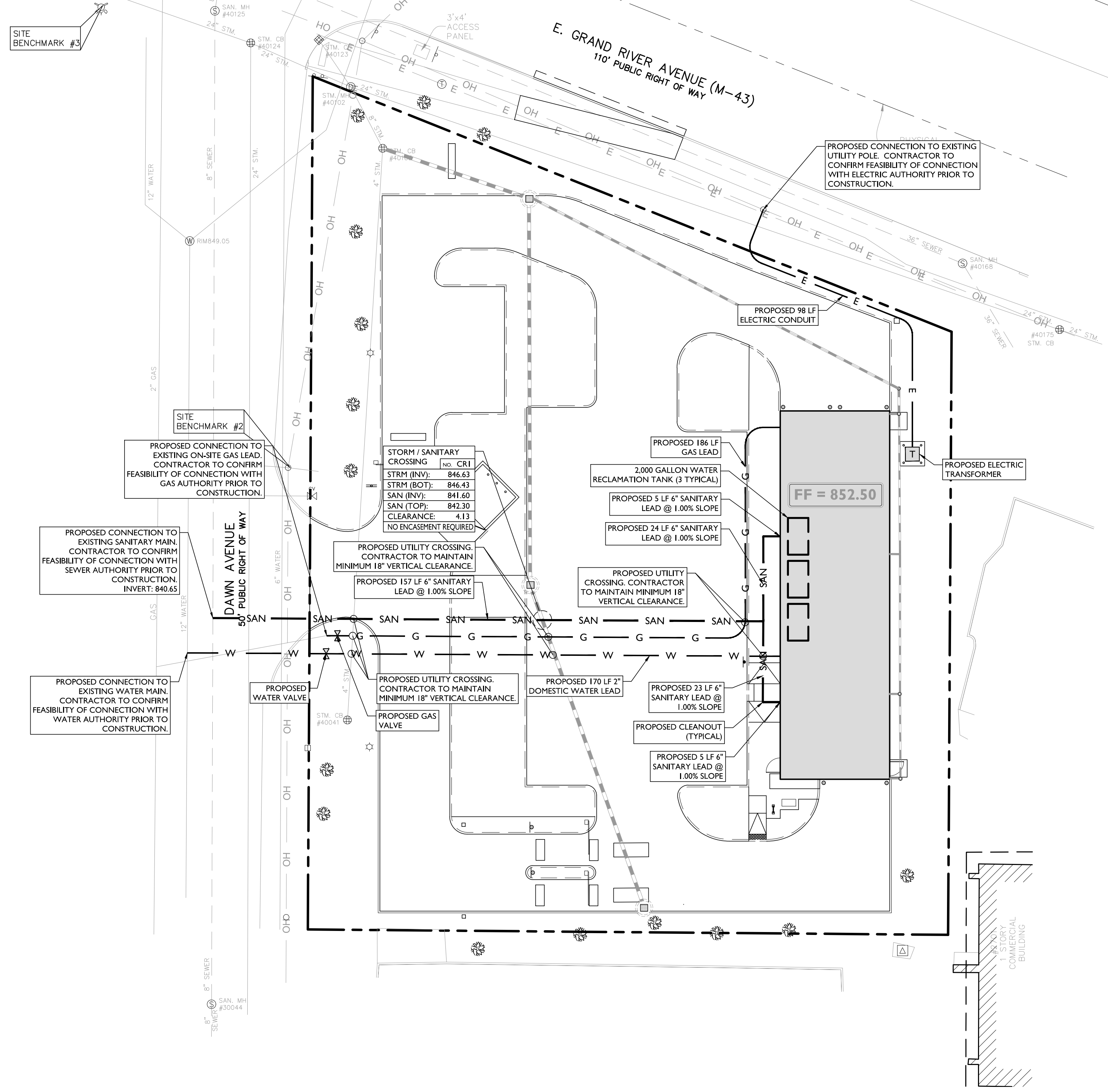
SCALE: 1" = 20' PROJECT ID: DET-200226

TITLE:  
**STORMWATER MANAGEMENT PLAN**

DRAWING:  
**C-4**

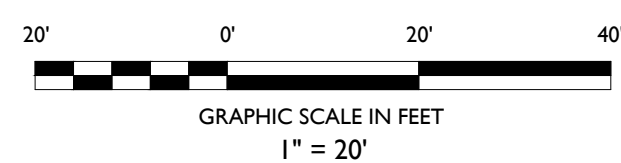
V:\071302\DET-200226\ANALYSIS\CONSTRUCTION\15-141 GRAND RIVER EAST LANDING - HYDROLOGICAL\15-141-STR-10.DWG





SYMBOL	DESCRIPTION
---	PROPERTY LINE
— SAN —	PROPOSED SANITARY LATERAL
— W —	PROPOSED DOMESTIC WATER SERVICE
— E —	PROPOSED ELECTRIC CONDUITS
— G —	PROPOSED GAS LINE
⊗	PROPOSED VALVE
○	PROPOSED SANITARY CLEANOUT
⊠	PROPOSED TRANSFORMER ON CONCRETE PAD WITH BOLLARDS

- DRAINAGE AND UTILITY NOTES**
- THE CONTRACTOR IS REQUIRED TO CALL THE APPROPRIATE AUTHORITY FOR NOTICE OF CONSTRUCTION/EXCAVATION AND UTILITY MARK OUT PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH STATE LAW. CONTRACTOR IS REQUIRED TO CONFIRM THE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES IN THE FIELD. SHOULD A DISCREPANCY EXIST BETWEEN THE FIELD LOCATION OF A UTILITY AND THE LOCATION SHOWN ON THE PLAN SET OR SURVEY, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC IMMEDIATELY IN WRITING.
  - THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN IN OPERATION ALL UTILITIES NOT DESIGNATED TO BE REMOVED.
  - THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO ANY EXISTING UTILITY IDENTIFIED TO REMAIN WITHIN THE LIMITS OF THE PROPOSED WORK DURING CONSTRUCTION.
  - A MINIMUM HORIZONTAL SEPARATION OF 10 FEET IS REQUIRED BETWEEN ANY SANITARY SEWER SERVICE AND ANY WATER LINES. IF THIS SEPARATION CANNOT BE PROVIDED, A CONCRETE ENCASUREMENT SHALL BE UTILIZED FOR THE SANITARY SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN, LLC.
  - ALL WATER LINES SHALL BE VERTICALLY SEPARATED ABOVE SANITARY SEWER LINES BY A MINIMUM DISTANCE OF 18 INCHES. IF THIS SEPARATION CANNOT BE PROVIDED, A CONCRETE ENCASUREMENT SHALL BE UTILIZED FOR THE SANITARY SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN, LLC.
  - THE CONTRACTOR TO PERFORM A TEST PIT PRIOR TO CONSTRUCTION (RECOMMEND 30 DAYS PRIOR) AT LOCATIONS OF EXISTING UTILITY CROSSINGS FOR WATER AND SANITARY SEWER CONNECTION IMPROVEMENTS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC IN WRITING.
  - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING GAS, ELECTRIC AND TELECOMMUNICATION CONNECTIONS WITH THE APPROPRIATE GOVERNING AUTHORITY.
  - CONTRACTOR SHALL START CONSTRUCTION OF ANY GRAVITY SEWER AT THE LOWEST INVERT AND WORK UP-GRADEMENT.
  - THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD SET OF PLANS REFLECTING THE LOCATION OF EXISTING UTILITIES THAT HAVE BEEN CAPPED, ABANDONED, OR RELOCATED BASED ON THE DEMOLITION/REMOVAL ACTIVITIES REQUIRED IN THIS PLAN SET. THIS DOCUMENT SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.
  - THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD OF THE AS-BUILT LOCATIONS OF ALL PROPOSED UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR SHALL NOTE ANY DISCREPANCIES BETWEEN THE AS-BUILT LOCATIONS AND THE LOCATIONS DISPICED WITHIN THE PLAN SET. THIS RECORD SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.



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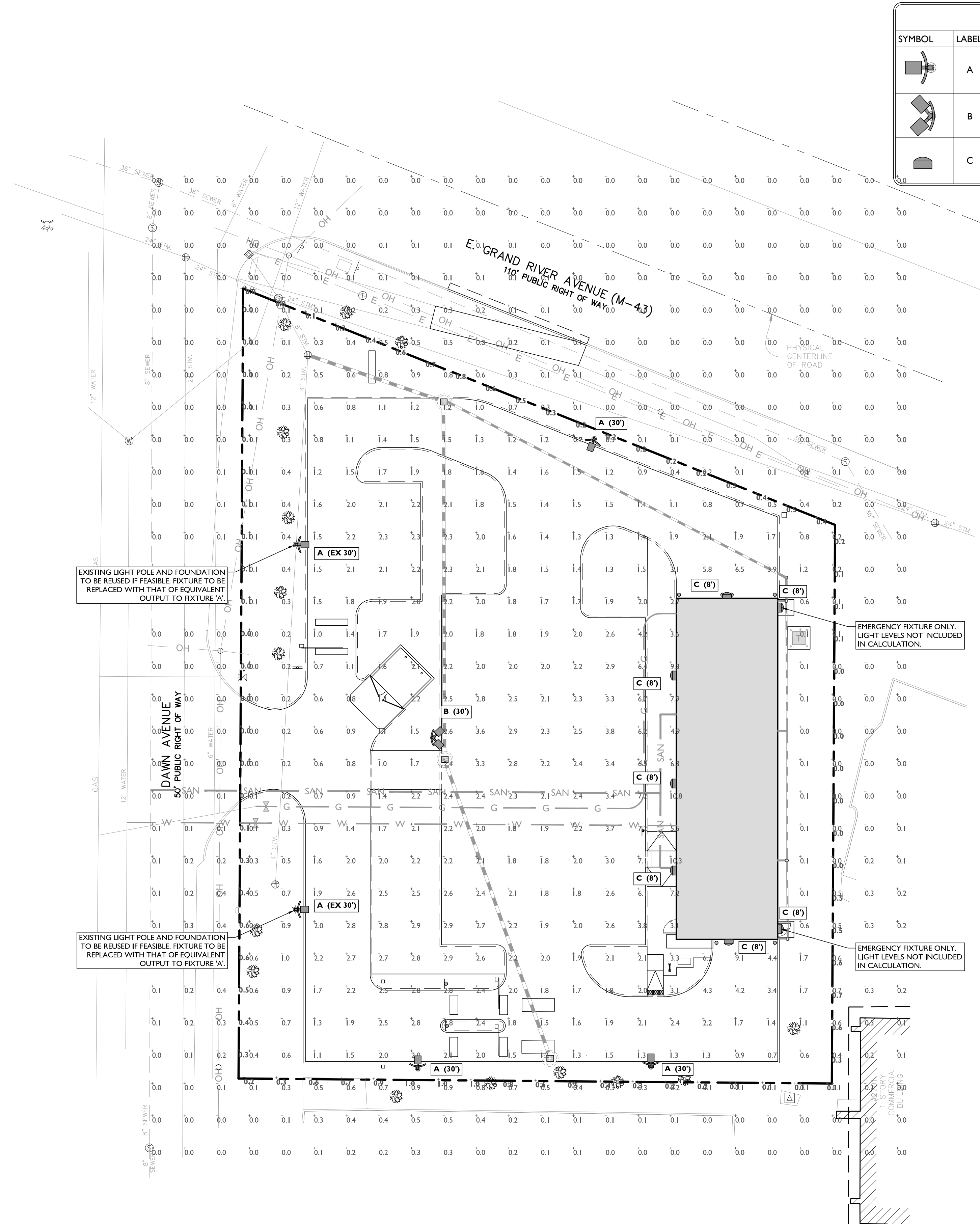
TITLE:  
**UTILITY PLAN**

DRAWING:  
**C-5**

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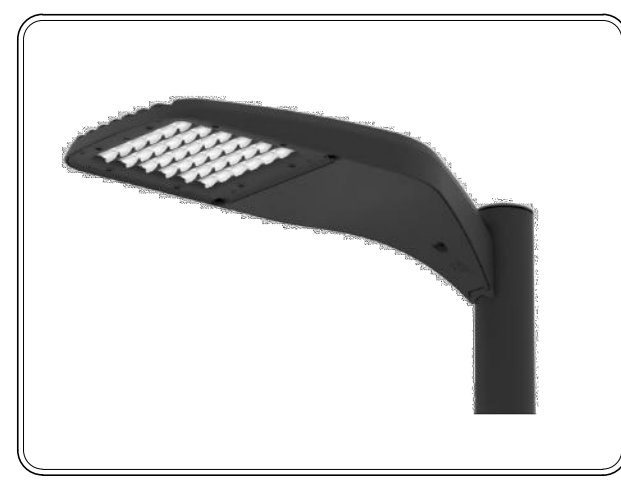
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PROPOSED LUMINAIRE SCHEDULE							
SYMBOL	LABEL	QUANTITY	LIGHTING SPECIFICATION	DISTRIBUTION	LLF	MANUFACTURER	IES FILE
	A	5	MIRADA MEDIUM OUTDOOR LED AREA LIGHT WITH INTEGRAL LOUVER FULL CUTOFF SHIELD	FT	0.9	LSI LIGHTING	MRM-LED-12L-SIL-FT-40-70CRI-ILIES
	B	1	MIRADA MEDIUM OUTDOOR LED AREA LIGHT WITH INTEGRAL LOUVER FULL CUTOFF SHIELD - 2 @ 90°	FT	0.9	LSI LIGHTING	MRM-LED-12L-SIL-FT-40-70CRI-ILIES
	C	7	MIRADA OUTDOOR LED WALL LIGHT	II	0.9	LSI LIGHTING	XWM-FT-LED-06L-40-IES

LIGHTING REQUIREMENTS		
CODE SECTION	REQUIRED	PROPOSED
§ 38-379.a	LUMINAIRES SHALL BE FULLY SHIELDED	PROVIDED
§ 38-379.c	MAXIMUM LIGHT TRESSPASS: 1 FC	0.8 FC
§ 38-379.g	MAXIMUM HEIGHT: 30 FT	30 FT
§ 38-380.c	MAXIMUM LUMENS PER ACRE: 150,000 LUMENS	126,000 LUMENS
§ 38-380.c	MAXIMUM ON SITE: 10 FC	9.1 FC
§ 38-380.c	MAXIMUM WITHIN DRIVEWAYS: 3 FC	0.7 FC

LIGHTING STATISTICS			
DESCRIPTION	AVERAGE	MINIMUM	MAXIMUM
OVERALL SITE	1.37 FC	0.0 FC	8.9 FC
DRIVEWAYS	0.13 FC	0.0 FC	0.4 FC
PROPERTY LINE	0.18 FC	0.0 FC	0.8 FC



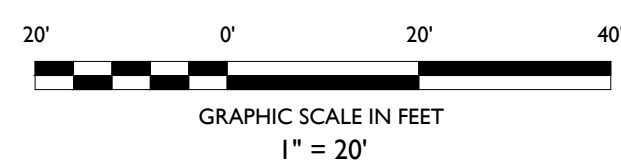
PROPOSED FIXTURE 'A' & 'B'



PROPOSED FIXTURE 'C'

SYMBOL	DESCRIPTION
---	PROPERTY LINE
A (XX')	PROPOSED LIGHTING FIXTURE (MOUNTING HEIGHT)
XXX	PROPOSED LIGHTING INTENSITY (FOOTCANDLES)
	PROPOSED AREA LIGHT
	PROPOSED BUILDING MOUNTED LIGHT

- GENERAL LIGHTING NOTES**
- THE LIGHTING LEVELS DEPICTED WITHIN THE PLAN SET ARE CALCULATED UTILIZING DATA OBTAINED FROM THE LISTED MANUFACTURER. ACTUAL ILLUMINATION LEVELS AND PERFORMANCE OF ANY PROPOSED LIGHTING FIXTURE MAY VARY DUE TO UNCONTROLLABLE VARIABLES SUCH AS WEATHER, VOLTAGE SUPPLY, LAMP TOLERANCE, EQUIPMENT SERVICE LIFE AND OTHER VARIABLE FIELD CONDITIONS.
  - WHERE APPLICABLE, THE EXISTING LIGHT LEVELS DEPICTED WITHIN THE PLAN SET SHALL BE CONSIDERED APPROXIMATE. THE EXISTING LIGHT LEVELS ARE BASED ON FIELD OBSERVATIONS AND THE MANUFACTURER'S DATA OF THE ASSUMED OR MOST SIMILAR LIGHTING FIXTURE MODEL.
  - UNLESS NOTED ELSEWHERE WITHIN THIS PLAN SET, THE LIGHT LOSS FACTORS USED IN THE LIGHTING ANALYSIS ARE AS FOLLOWS:
    - LIGHT EMITTING DIODES (LED): 0.90
    - HIGH PRESSURE SODIUM: 0.72
    - METAL HALIDE: 0.72
  - THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC, IN WRITING, PRIOR TO THE START OF CONSTRUCTION, OF ANY PROPOSED LIGHTING LOCATIONS THAT CONFLICT WITH EXISTING/PROPOSED DRAINAGE, UTILITY, OR OTHER IMPROVEMENTS. THE CONTRACTOR IS RESPONSIBLE TO PREPARE A WIRING PLAN AND PROVIDE ELECTRIC SERVICE TO ALL PROPOSED LIGHTING FIXTURES. THE CONTRACTOR IS REQUIRED TO PREPARE AN AS-BUILT PLAN OF WIRING AND PROVIDE COPIES TO THE OWNER AND STONEFIELD ENGINEERING & DESIGN, LLC.



ISSUE	DATE	BY	DESCRIPTION
3	05/17/2021	ECM/JRC	ZONING BOARD OF APPEALS SUBMISSION
2	03/26/2021	ECM/JRC	SITE PLAN SUBMISSION
1	03/01/2021	ECM	FOR CLIENT REVIEW

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Phone 248.247.1115

SITE DEVELOPMENT PLANS

**HYPERSHINE**

PROPOSED CAR WASH

PARCEL ID: 33-02-02-20-203-012  
2703 E GRAND RIVER AVENUE  
MERIDIAN TOWNSHIP  
INGHAM COUNTY, MICHIGAN



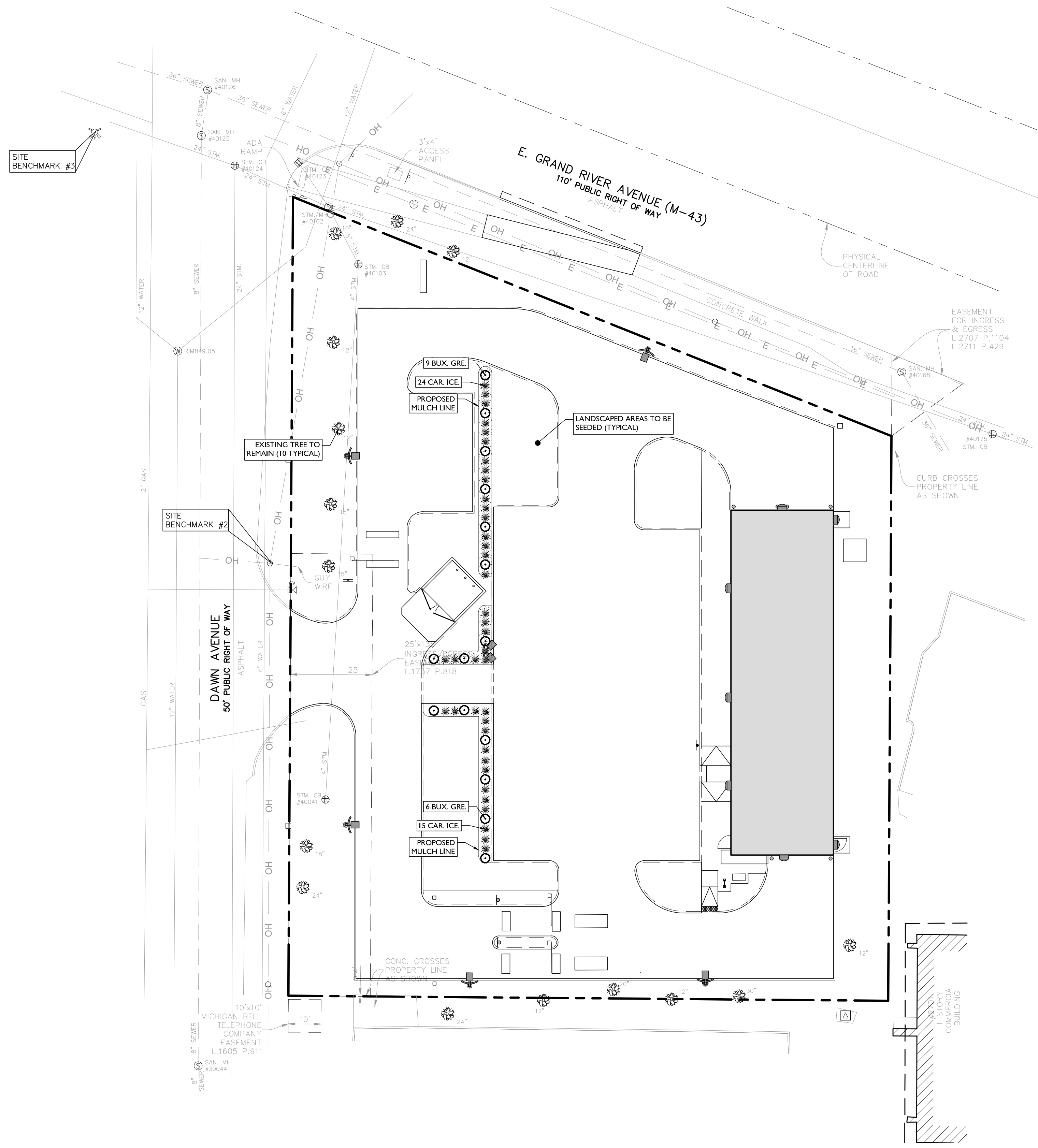
**STONEFIELD**  
engineering & design

SCALE: 1" = 20' PROJECT ID: DET-200226

TITLE:  
**LIGHTING PLAN**

DRAWING:  
**C-6**





PLANT SCHEDULE					
PLANT KEY	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
<b>EVERGREEN SHRUBS</b>					
BUX. GRE.	15	BUXUS X 'GREEN VELVET'	GREEN VELVET BOXWOOD	18"-24"	B&B
<b>GRASSES</b>					
CAR. ICE.	39	CAREX MORROWII 'ICE DANCE'	VARIEGATED SEDGE	1 GAL	CONT. 18" O.C.

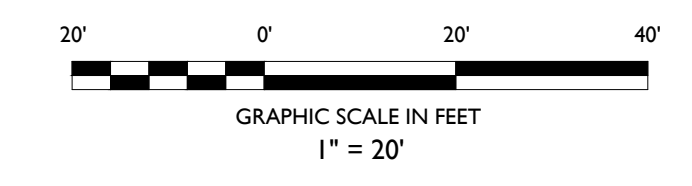
NOTE: IF ANY DISCREPANCIES OCCUR BETWEEN AMOUNTS SHOWN ON THE LANDSCAPE PLAN AND WITHIN THE PLANT LIST, THE PLAN SHALL DICTATE.

LANDSCAPING AND BUFFER REQUIREMENTS		
CODE SECTION	REQUIRED	PROPOSED
§ 86-758.1	<b>INTERIOR LANDSCAPING:</b> 200 SF PER 10 PARKING SPACES (18 SPACES) X (200 SF / 10 SPACES) = 360 SF TWO (2) CANOPY TREES PER 10 PARKING SPACES (18 SPACES) X (2 TREES / 10 SPACES) = 4 TREES 50% OF EACH LANDSCAPED AREA SHALL BE COVERED IN LIVING VEGETATION	3,591 SF  10 EXISTING TREES PROVIDED
§ 86-758.2	<b>BUILDING PERIMETER LANDSCAPING:</b> 4 FT PLANTING AREA BETWEEN PARKING AND BUILDING WALL (50% PLANTED)	VARIANCE REQUESTED*

\* ADDITIONAL PLANTINGS ADDED TO THE SITE LANDSCAPE AREA FOR LOSS OF FOUNDATION PLANTINGS DUE TO FOUNDATION CONCERNS WITH PLANTINGS AS REQUIRED

**LANDSCAPING NOTES**

1. THE CONTRACTOR SHALL RESTORE ALL DISTURBED GRASS AND LANDSCAPED AREAS TO MATCH EXISTING CONDITIONS UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
2. THE CONTRACTOR SHALL RESTORE ALL DISTURBED LAWN AREAS WITH A MINIMUM 4 INCH LAYER OF TOPSOIL AND SEED.
3. THE CONTRACTOR SHALL RESTORE MULCH AREAS WITH A MINIMUM 3 INCH LAYER OF MULCH.
4. THE MAXIMUM SLOPE ALLOWABLE IN LANDSCAPE RESTORATION AREAS SHALL BE 3 FEET HORIZONTAL TO 1 FOOT VERTICAL (3:1 SLOPE) UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
5. THE CONTRACTOR IS REQUIRED TO LOCATE ALL SPRINKLER HEADS IN AREA OF LANDSCAPING DISTURBANCE PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL RELOCATE SPRINKLER HEADS AND LINES IN ACCORDANCE WITH OWNER'S DIRECTION WITHIN AREAS OF DISTURBANCE.
6. THE CONTRACTOR SHALL ENSURE THAT ALL DISTURBED LANDSCAPED AREAS ARE GRADED TO MEET FLUSH AT THE ELEVATION OF WALKWAYS AND TOP OF CURB ELEVATIONS EXCEPT UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET. NO ABRUPT CHANGES IN GRADE ARE PERMITTED IN DISTURBED LANDSCAPING AREAS.



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**HYPERSHINE**  
PROPOSED CAR WASH

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2703 E GRAND RIVER AVENUE  
MERIDIAN TOWNSHIP  
INGHAM COUNTY, MICHIGAN



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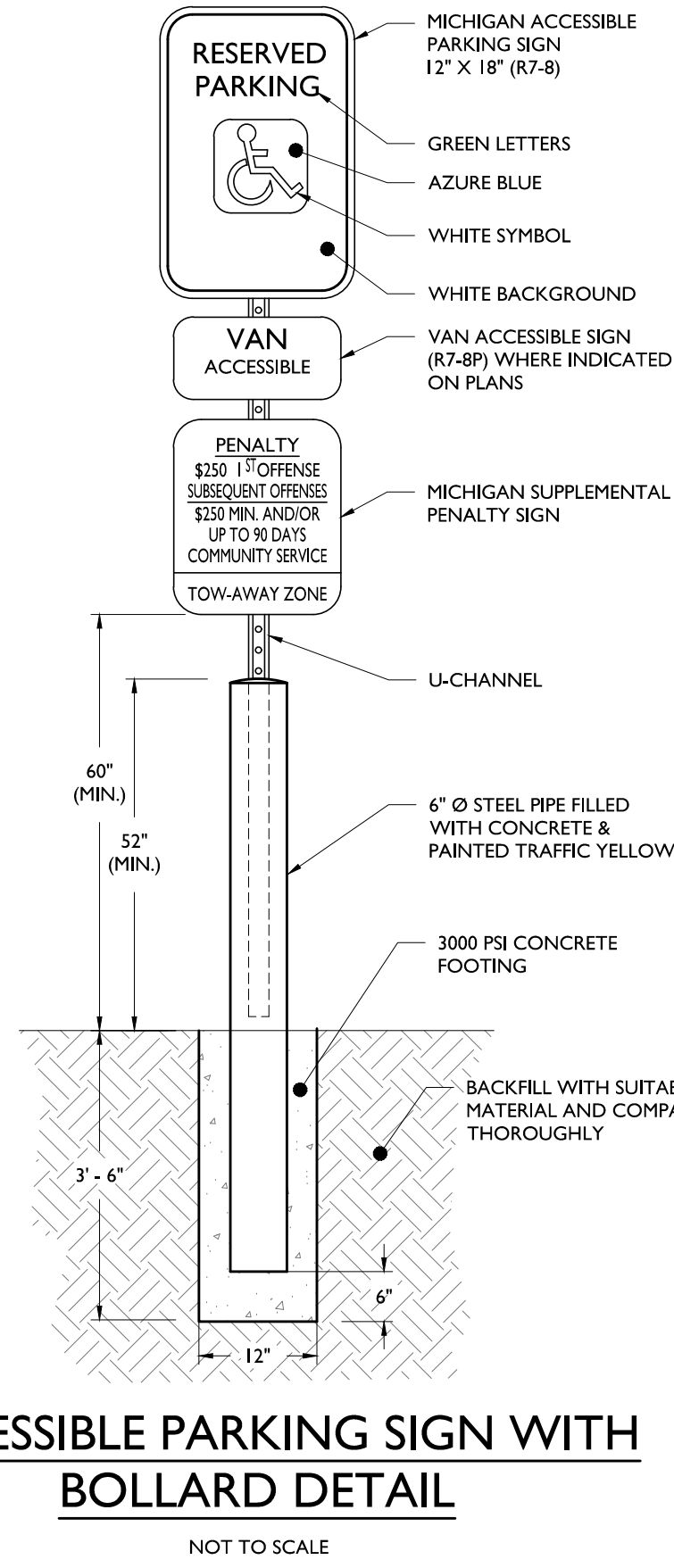
SCALE: 1" = 20' PROJECT ID: DET-200226

TITLE:  
**LANDSCAPING PLAN**

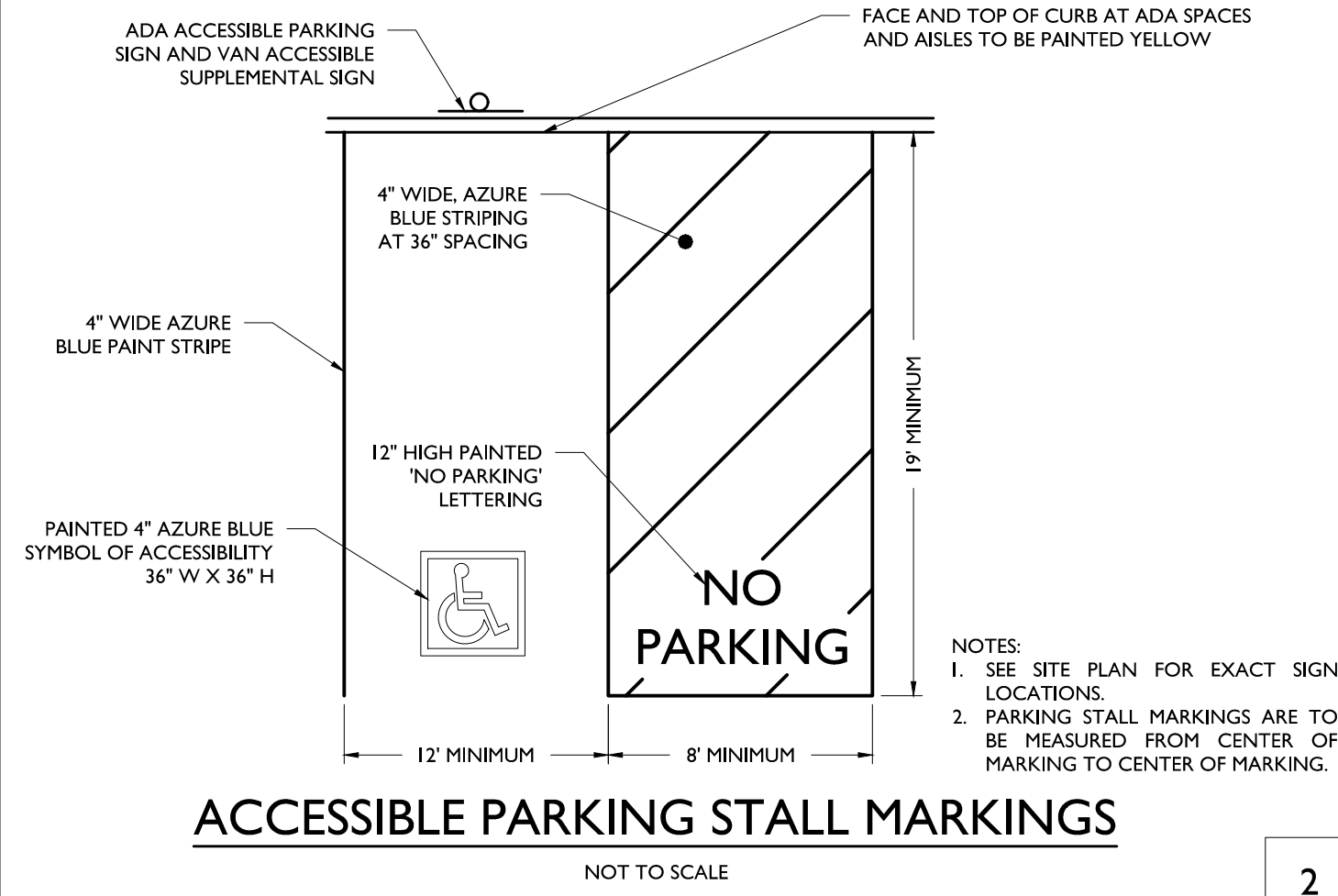
DRAWING:  
**C-7**

V:\01200226\2022\LANDSCAPING\01200226-012 E GRAND RIVER WEST LANDING - HYPERSHINE\01200226-012.LANDSCAPING

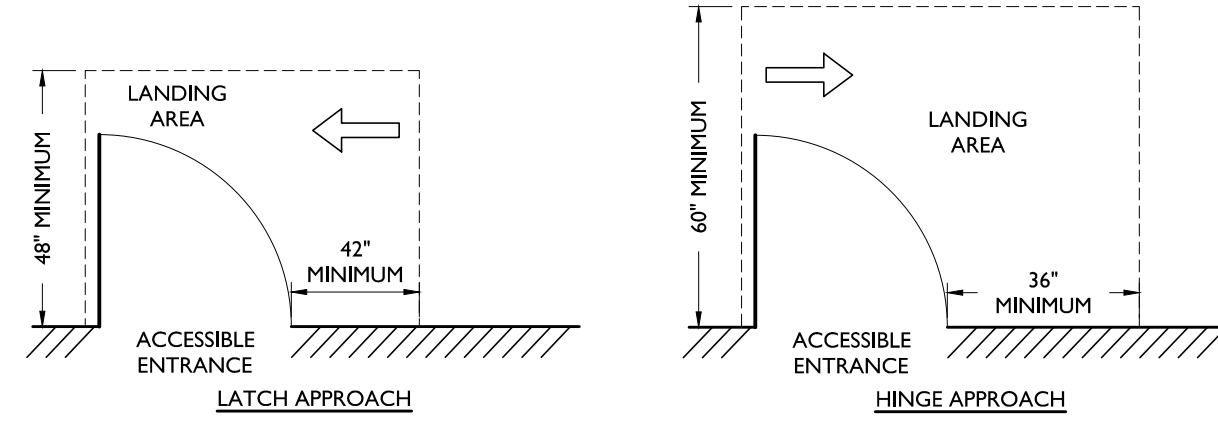




**ACCESSIBLE PARKING SIGN WITH BOLLARD DETAIL**  
NOT TO SCALE

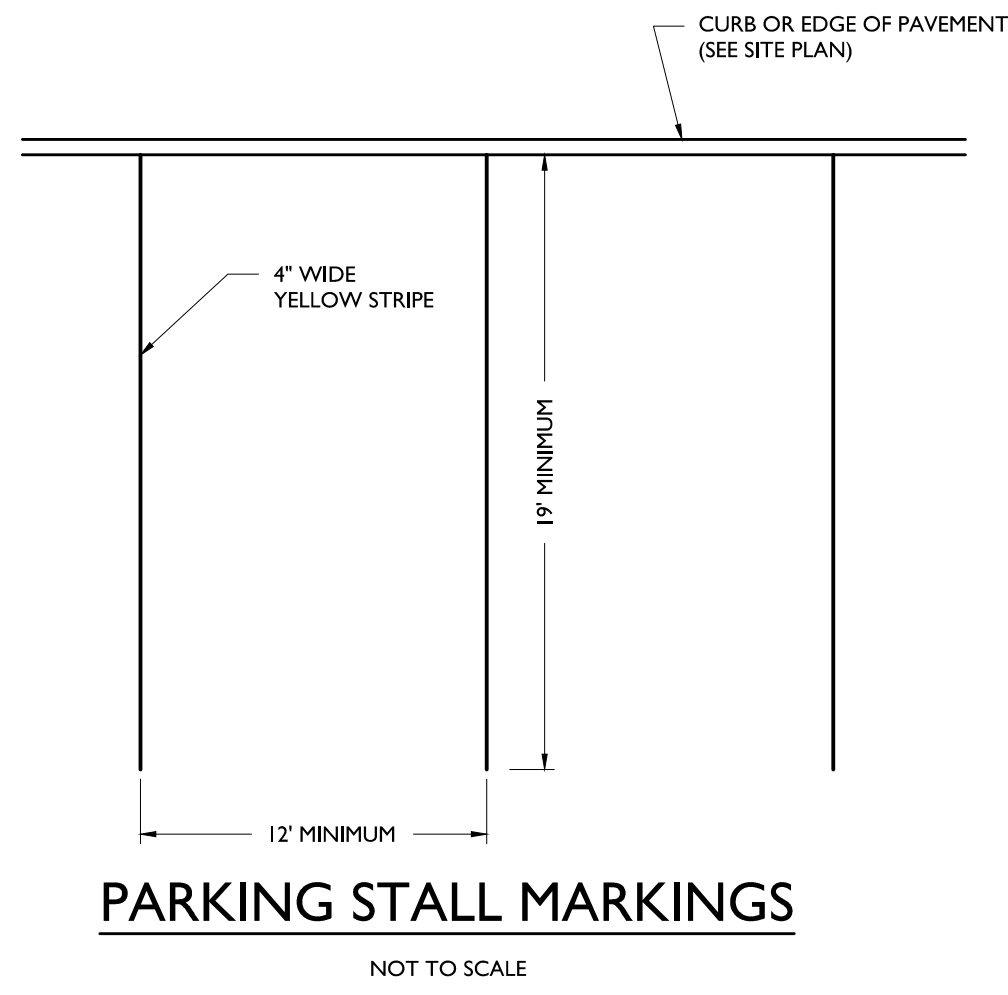


**ACCESSIBLE PARKING STALL MARKINGS**  
NOT TO SCALE

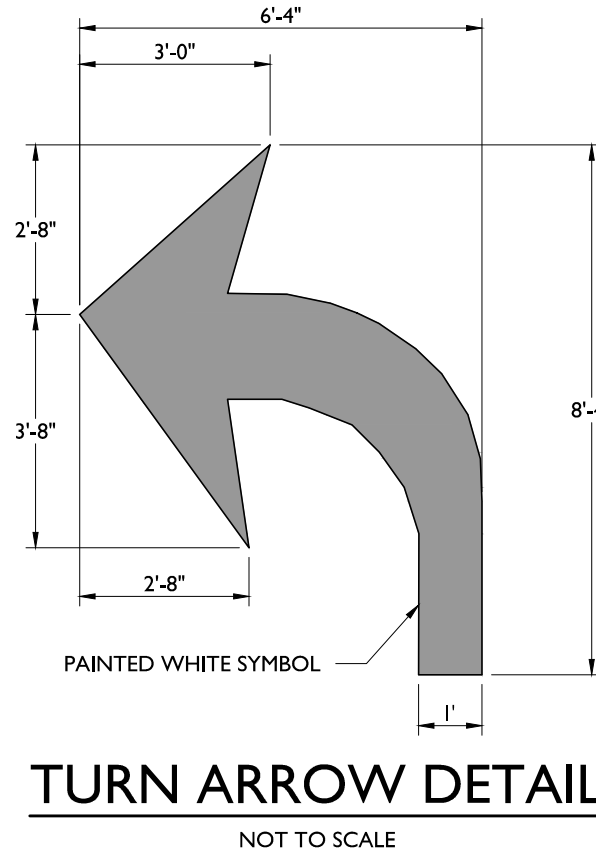


**ACCESSIBLE ENTRANCE LANDING DETAIL**  
NOT TO SCALE

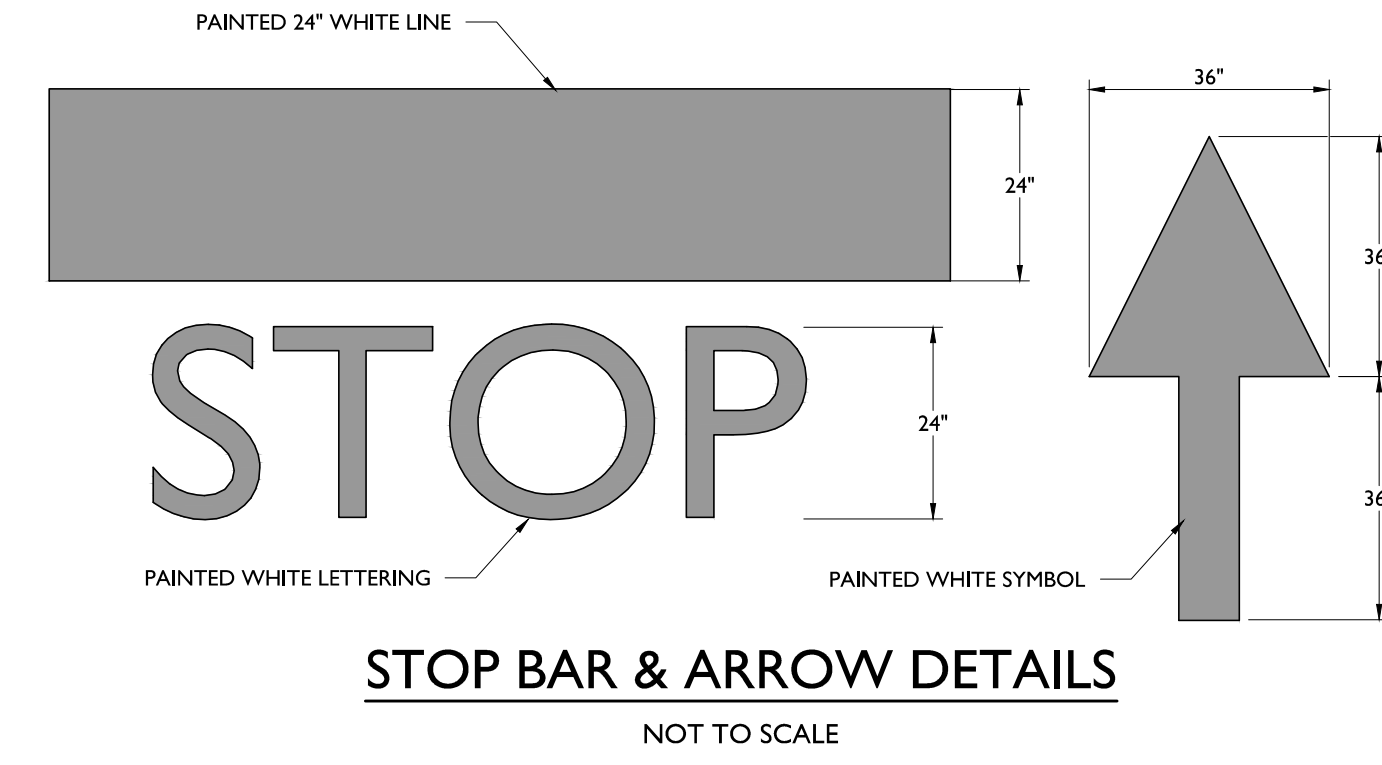
NOTES:  
1. MAXIMUM SLOPE ON LANDING SHALL BE 1:50 IN ALL DIRECTIONS.  
2. DIMENSIONS SHOWN HERE ARE THE MINIMUM DIMENSIONS REQUIRED FOR AN ADA COMPLIANT LANDING AT THE ACCESSIBLE ENTRANCE. REFER TO SITE PLAN FOR SITE SPECIFIC DIMENSIONS THAT MAY SPECIFY A LARGER LANDING AREA.  
3. CONTRACTOR SHALL CONTACT THE ENGINEER BEFORE CONSTRUCTION IF THE ACCESSIBLE ENTRANCE ON SITE DOES NOT MATCH THE SCENARIO SHOWN ABOVE.



**PARKING STALL MARKINGS**  
NOT TO SCALE



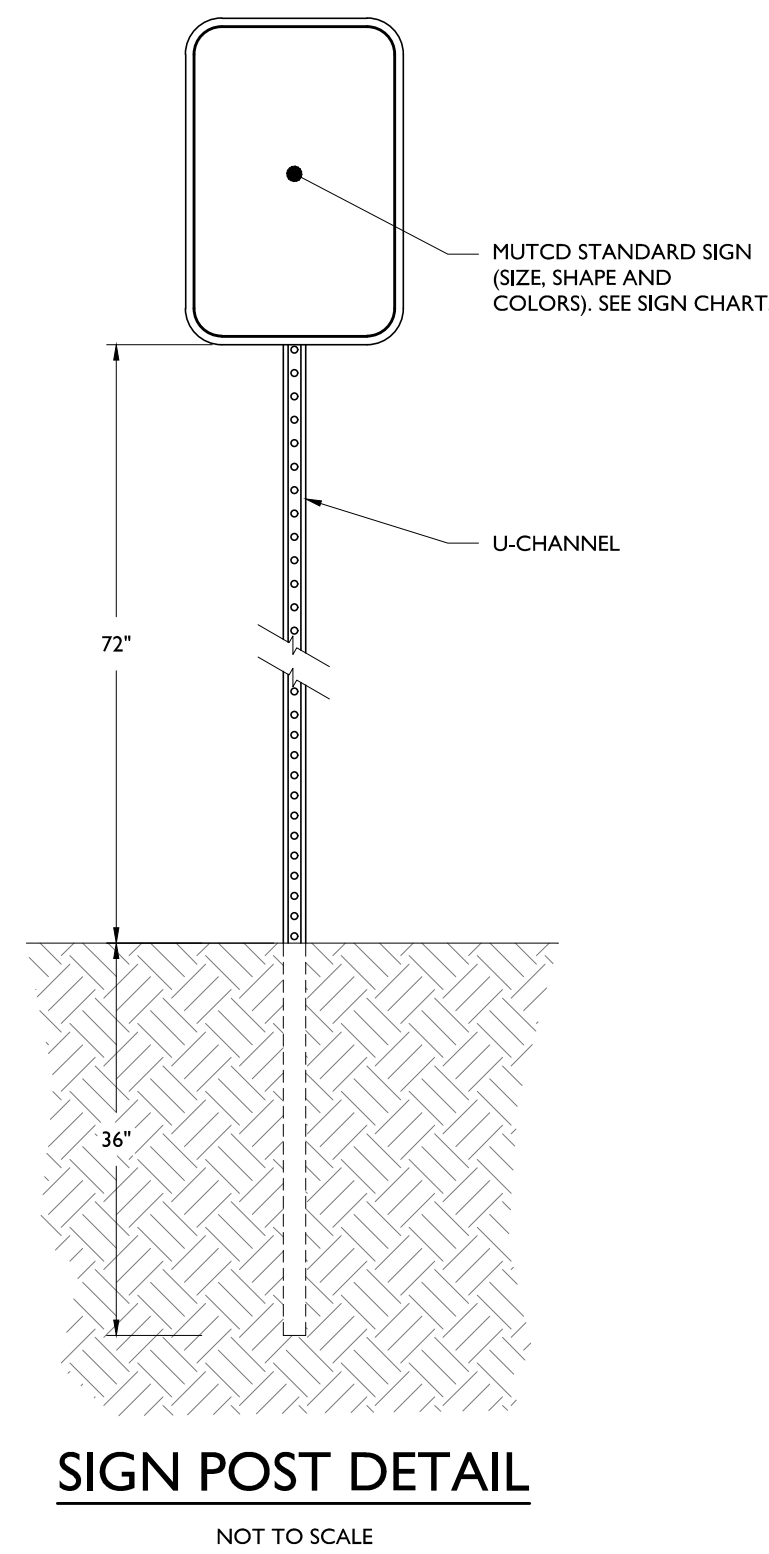
**TURN ARROW DETAIL**  
NOT TO SCALE



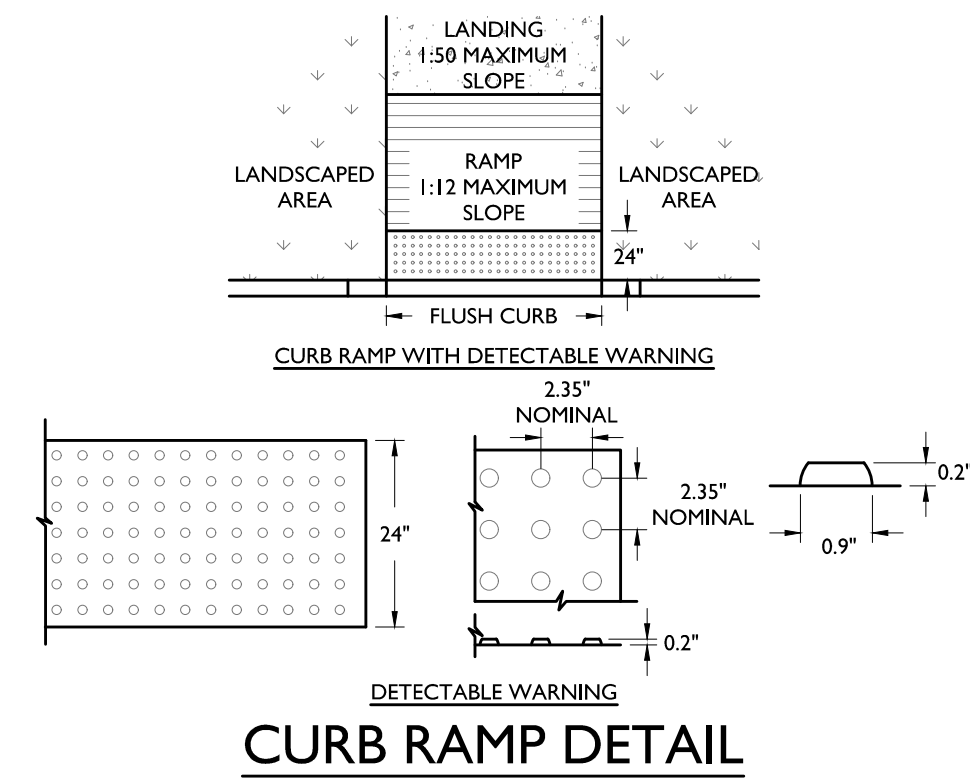
**STOP BAR & ARROW DETAILS**  
NOT TO SCALE

**PAVEMENT STRIPING & MARKINGS NOTES:**

1. ALL SIGNING AND STRIPING IN EXISTING CONDITION IN CONFLICT WITH THE PROPOSED DESIGN PLAN SHALL BE REMOVED.
2. ALL PROPOSED SIGNING AND STRIPING SHALL CONFORM TO THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
3. PAVEMENT STRIPING AND MARKINGS SHALL BE INSTALLED IN CONFORMANCE WITH ALL APPLICABLE LOCAL, COUNTY AND STATE REQUIREMENTS.
4. UNLESS OTHERWISE SPECIFIED, ALL STRIPING AND MARKINGS IN THE PUBLIC RIGHT-OF-WAY SHALL BE OF THERMOPLASTIC PAINT OR PREFORMED THERMOPLASTIC MARKINGS.
5. UNLESS OTHERWISE SPECIFIED, ON SITE PARKING STALL STRIPING, FIRE LANE STRIPING AND DIRECTIONAL ARROWS SHALL BE EPOXY PAINT. ON SITE STOP BARS, "DO NOT ENTER" BARS, AND ASSOCIATED LETTERING SHALL BE THERMOPLASTIC PAINT OR PREFORMED THERMOPLASTIC MARKINGS.

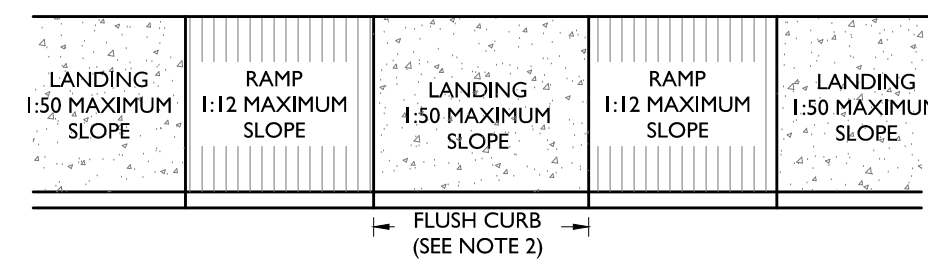


**SIGN POST DETAIL**  
NOT TO SCALE



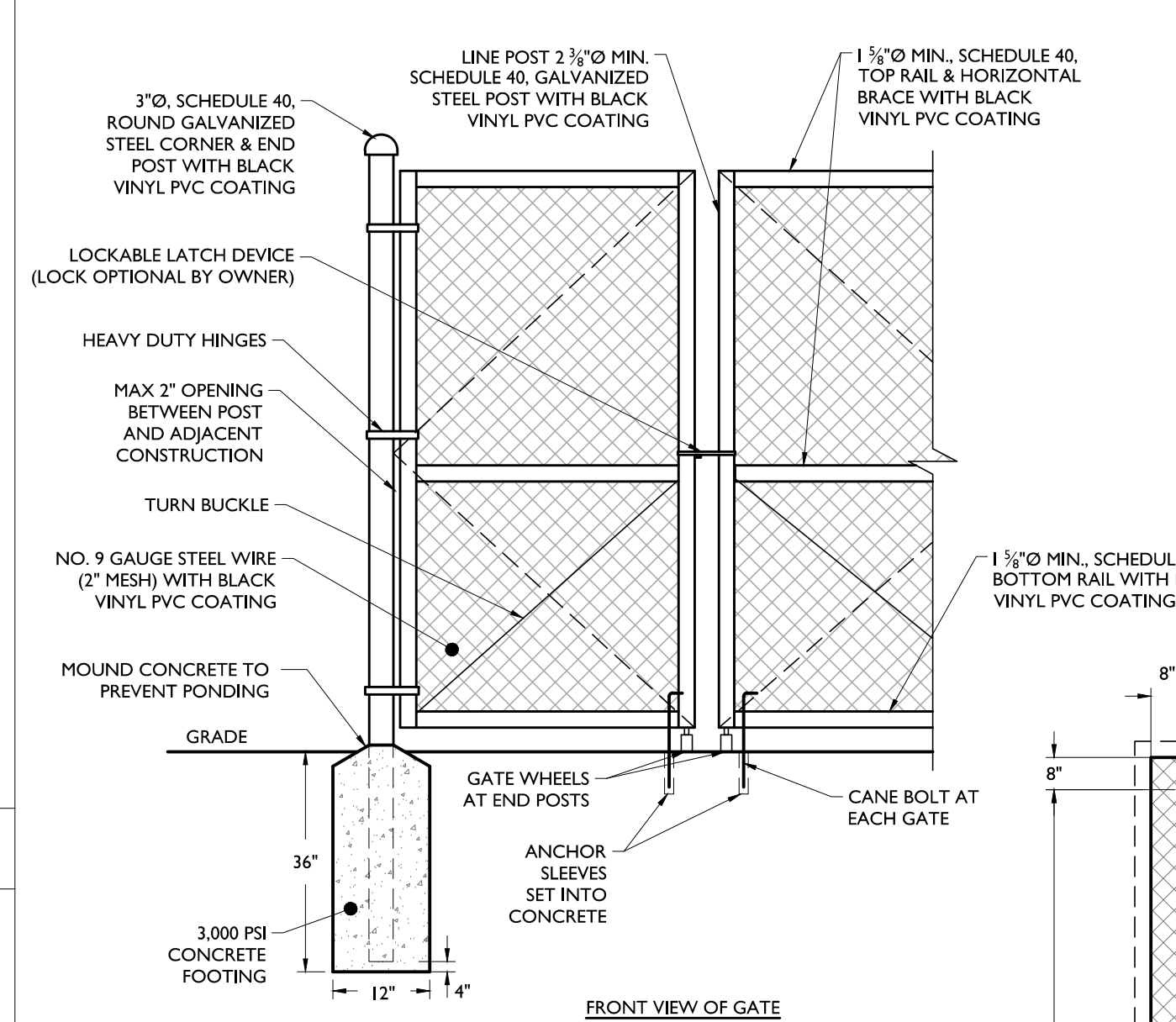
**CURB RAMP DETAIL**  
NOT TO SCALE

NOTES:  
1. CROSS SLOPE ON RAMP SHALL NOT EXCEED 2%.  
2. A FLUSH CURB SHALL HAVE A MINIMUM WIDTH OF 36". SEE PLAN FOR EXACT WIDTH.  
3. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.  
4. VISUAL CONTRAST: THERE SHALL BE A MINIMUM OF 70% CONTRAST IN LIGHT REFLECTANCE BETWEEN THE DETECTABLE WARNING AND AN ADJOINING SURFACE.  
5. DETECTABLE WARNING STRIP REQUIRED WHERE RAMP DIRECTS PEDESTRIAN TRAFFIC TOWARDS VEHICLE TRAVEL WAY. WARNING STRIP SHALL BE CAST-IN-PLACE.  
6. RAMP SHALL HAVE A MAXIMUM RISE OF 6" WITHOUT A HANDRAIL.

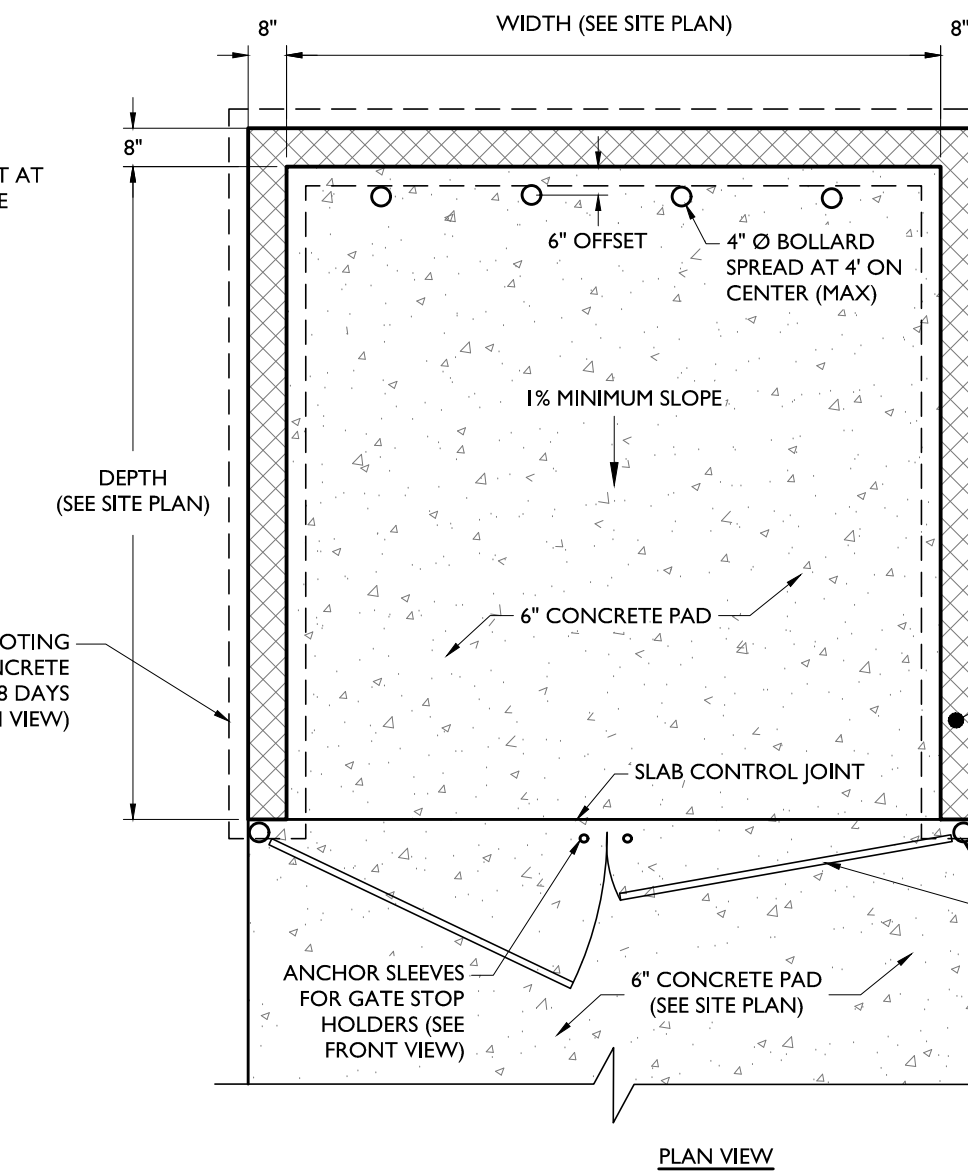


**TRANSITION RAMP DETAIL**  
NOT TO SCALE

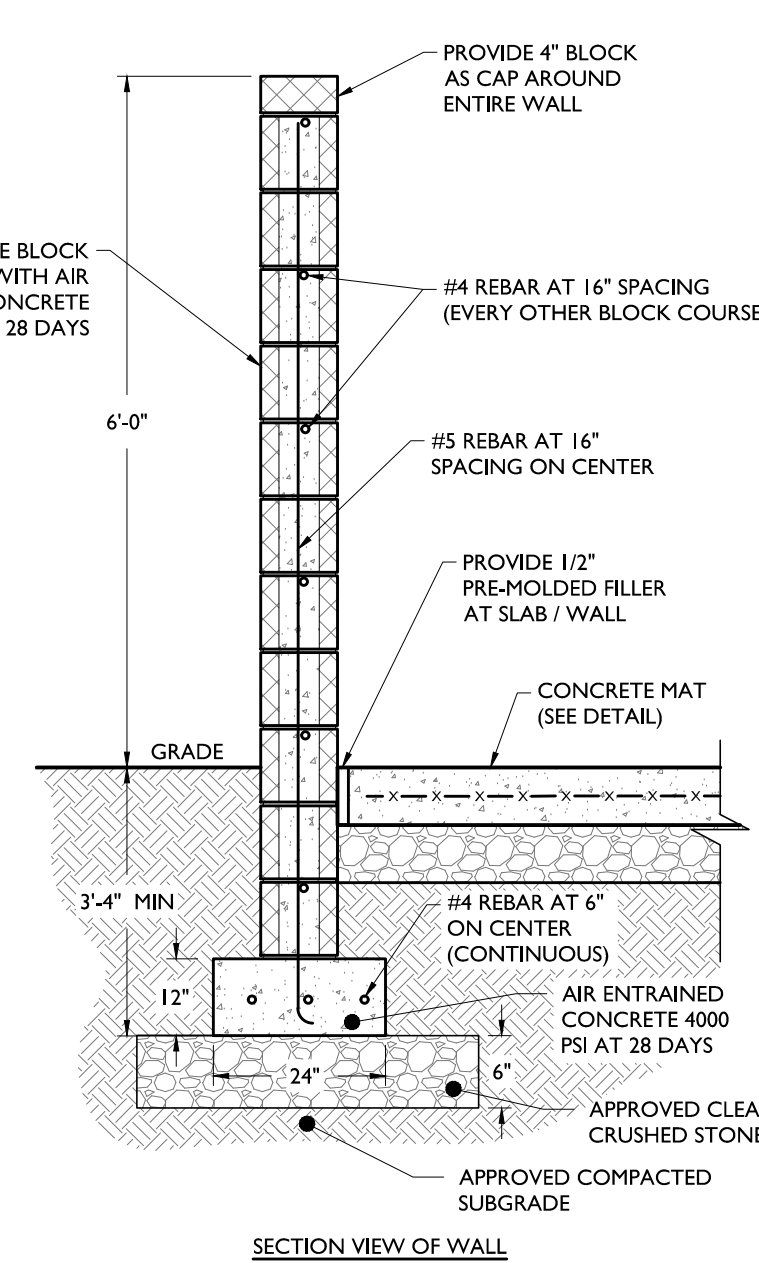
NOTES:  
1. CROSS SLOPE ON RAMP SHALL NOT EXCEED 2%.  
2. A FLUSH CURB SHALL HAVE A MINIMUM WIDTH OF 36". SEE PLAN FOR EXACT WIDTH.  
3. RAMP SHALL HAVE A MAXIMUM RISE OF 6" WITHOUT A HANDRAIL.



**FRONT VIEW OF GATE**



**PLAN VIEW**



**SECTION VIEW OF WALL**

**TRASH / RECYCLE ENCLOSURE DETAIL**  
NOT TO SCALE

NOTE:  
BLOCK COLOR TO MATCH BUILDING OR AS SPECIFIED BY OWNER

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**SITE DEVELOPMENT PLANS**

**HYPERSHINE**

**PROPOSED CAR WASH**

PARCEL ID: 33-02-02-20-203-012  
2703 E GRAND RIVER AVENUE  
MERIDIAN TOWNSHIP  
INGHAM COUNTY, MICHIGAN

STATE OF MICHIGAN  
MICHIGAN BOARD OF PROFESSIONAL ENGINEERS  
MICHAEL J. HYPERSHINE  
LICENSE NO. 0069428  
LICENSED PROFESSIONAL ENGINEER

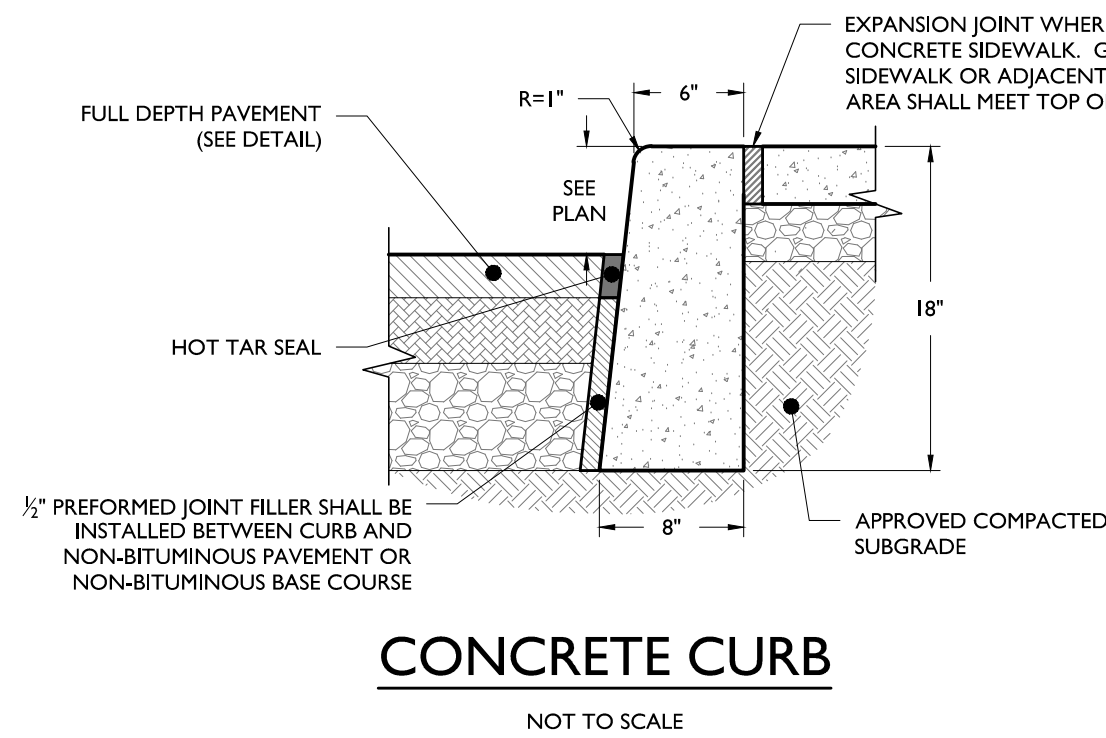
SCALE: AS SHOWN PROJECT ID: DET-200226

TITLE:  
**CONSTRUCTION DETAILS**

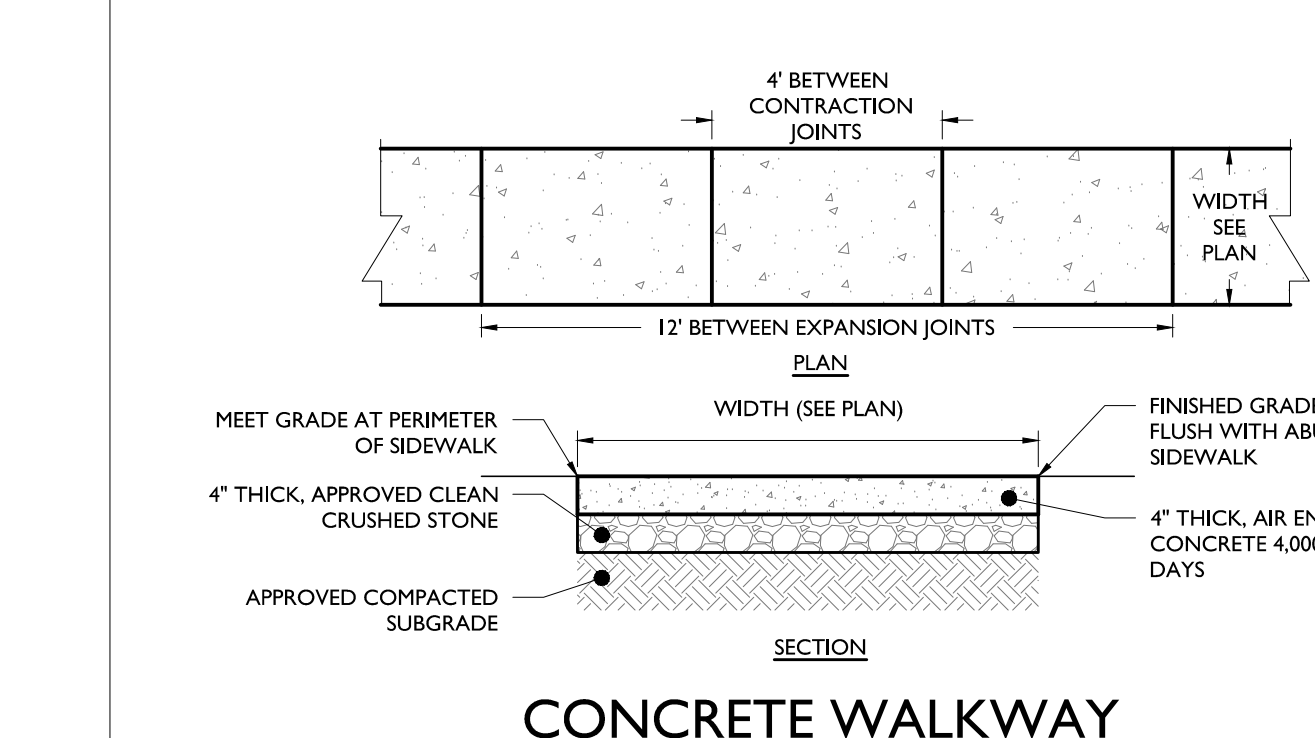
DRAWING:  
**C-8**

V:\01230501\2022\MANITOWBI CARWASH\2021 EAST GRAND RIVER EAST LANDING - HICAD\DWG\2022\08-09\01.DWG

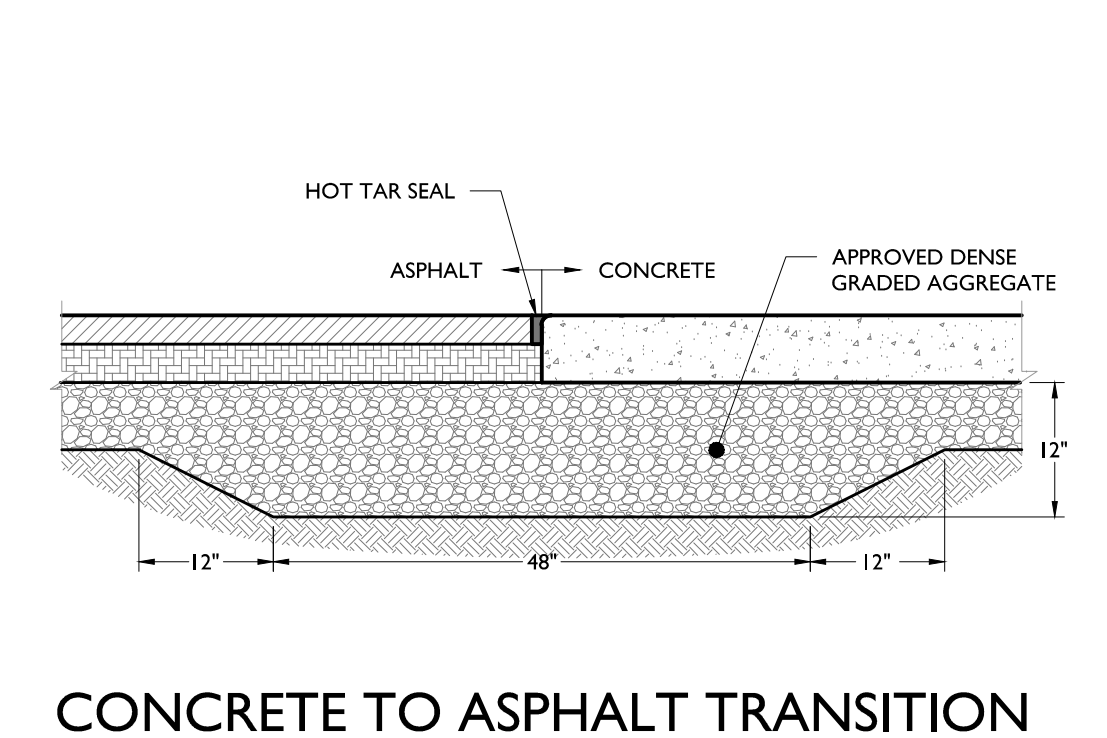




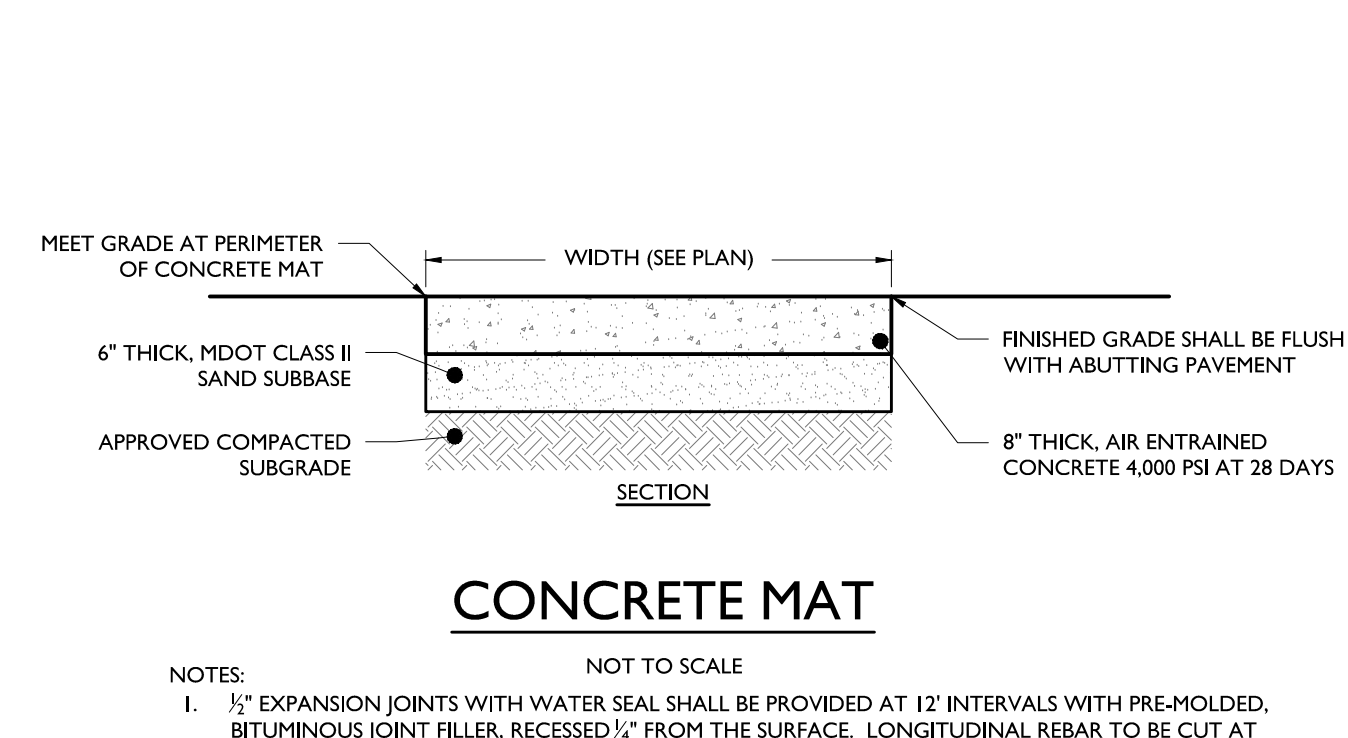
- NOTES:
1. CONCRETE SHALL BE 3500 PSI AT 28 DAYS, AIR-ENTRAINED.
  2. TRANSVERSE EXPANSION JOINTS SHALL BE PROVIDED AT 20 FOOT INTERVALS WITH PRE-MOLDED, BITUMINOUS JOINT FILLER, RECESSED 1/2" FROM SURFACE.
  3. HALF DEPTH CONTRACTION JOINTS SHALL BE PROVIDED AT 10 FOOT INTERVALS.
  4. 18" CURB DEPTH SHALL BE MAINTAINED AT DEPRESSED OR FLUSH CURBED AREAS.



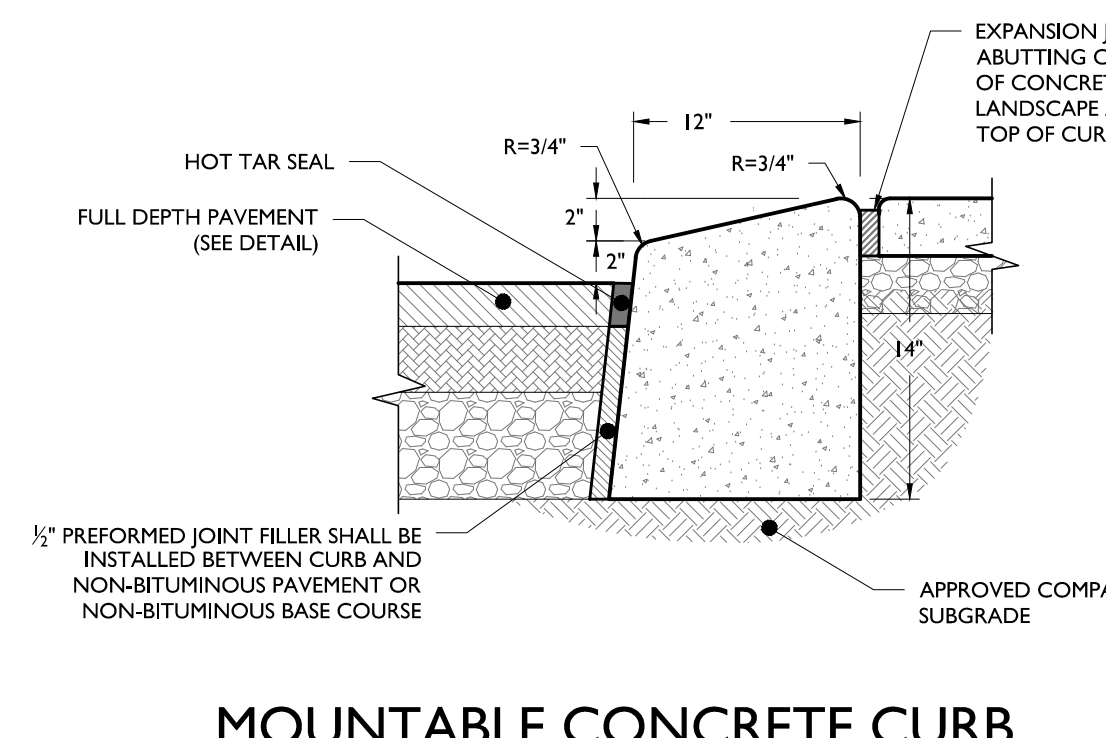
- NOTES:
1. MAXIMUM CROSS SLOPE SHALL BE 1/4" PER FOOT.
  2. 1/2" EXPANSION JOINTS SHALL BE PROVIDED AT 12' INTERVALS WITH PRE-MOLDED, BITUMINOUS JOINT FILLER, RECESSED 1/2" FROM SURFACE.
  3. 1" DEEP BY 1/2" WIDE, TOOLED CONTRACTION JOINTS SHALL BE PROVIDED AT 4' INTERVALS.
  4. EXPANSION JOINT SHALL BE PROVIDED WHERE ADJACENT TO A BUILDING.



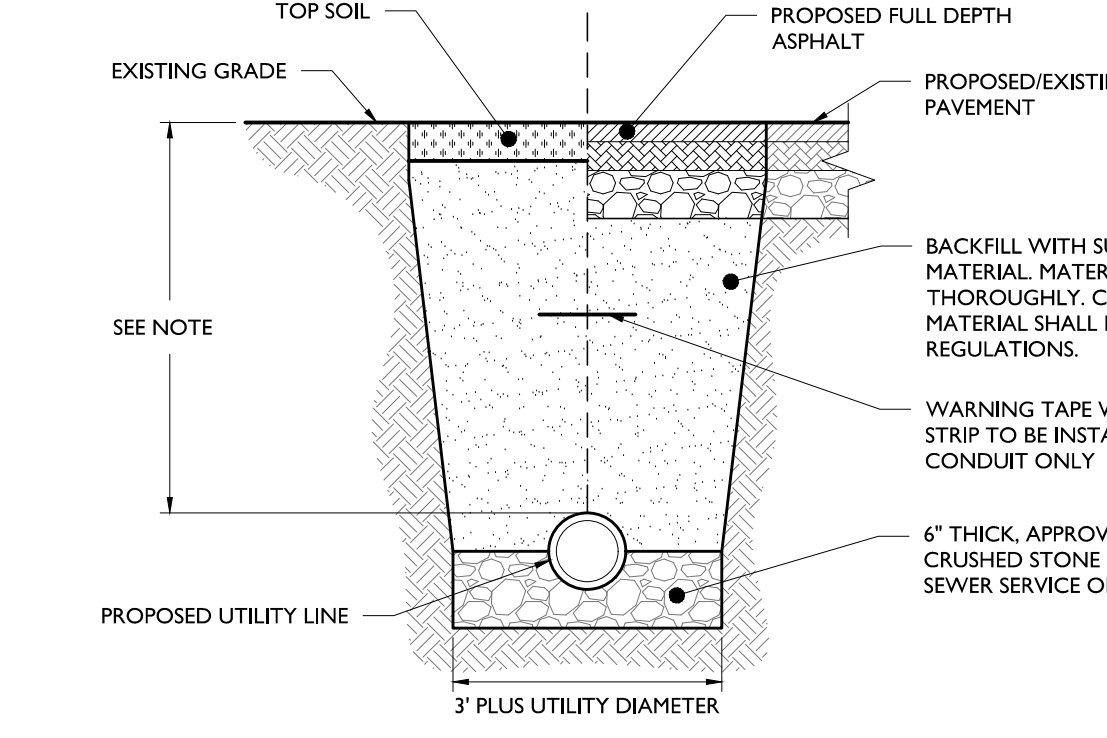
- NOTES:
1. FOR THE CONTAINER-GROWN SHRUBS, USE FINGERS OR SMALL HAND TOOL TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
  2. THOROUGHLY SOAK THE SHRUB ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
  - MODIFY HEAVY CLAY OR SILT SOILS (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) OR GYPSUM
  - MODIFY EXTREMELY SANDY SOILS (MORE THAN 85% SAND) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL



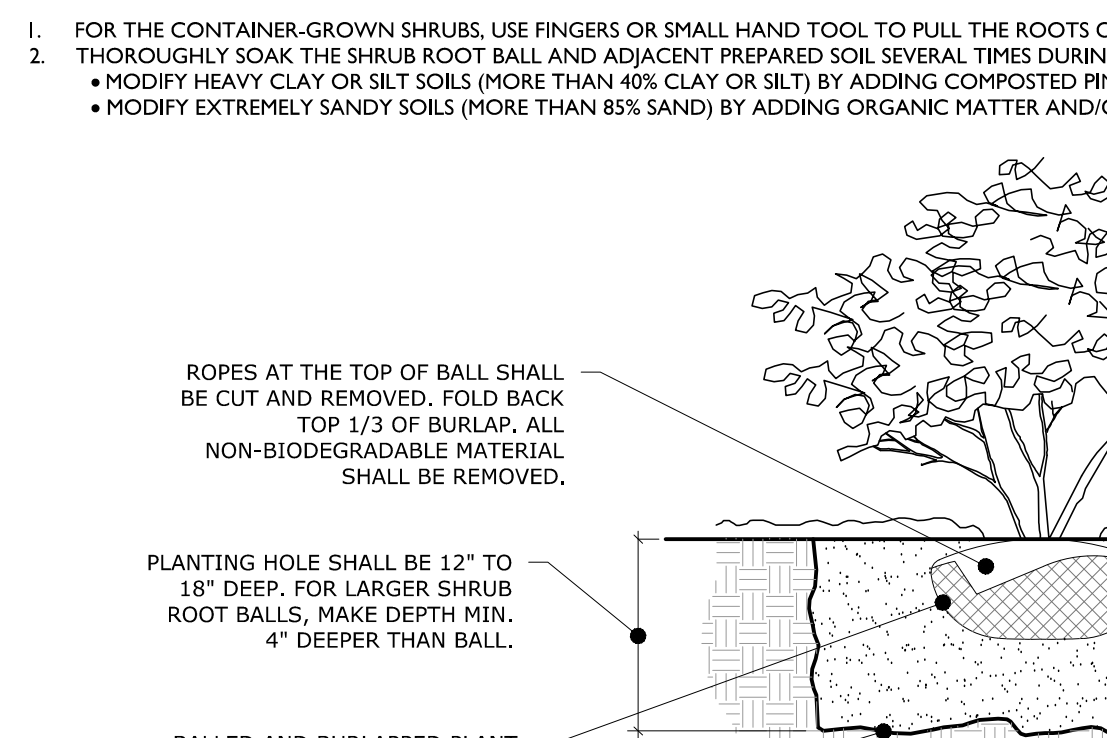
- NOTES:
1. 1/2" EXPANSION JOINTS WITH WATER SEAL SHALL BE PROVIDED AT 12' INTERVALS WITH PRE-MOLDED, BITUMINOUS JOINT FILLER, RECESSED 1/2" FROM THE SURFACE. LONGITUDINAL REBAR TO BE CUT AT EXPANSION JOINTS.
  2. 1" DEEP BY 1/2" WIDE, TOOLED CONTRACTION JOINTS SHALL BE PROVIDED AT MID-POINT BETWEEN EXPANSION JOINTS OR 6' INTERVALS MAX.
  3. CONCRETE SHALL RECEIVE BROOM FINISH.
  4. ALL EXPOSED CORNERS TO HAVE 12" CHAMFER.



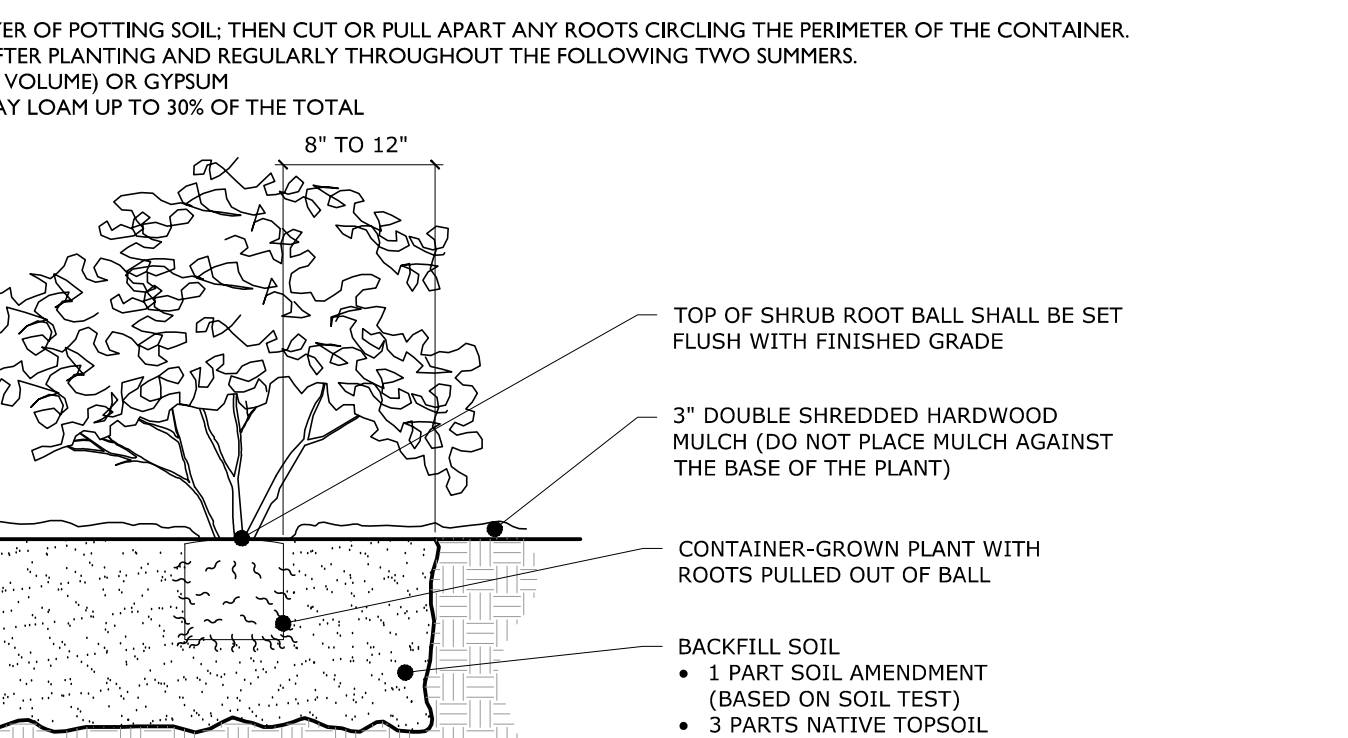
- NOTES:
1. CONCRETE SHALL BE 3500 PSI AT 28 DAYS, AIR-ENTRAINED.
  2. TRANSVERSE EXPANSION JOINTS SHALL BE PROVIDED AT 20 FOOT INTERVALS WITH PRE-MOLDED, BITUMINOUS JOINT FILLER, RECESSED 1/2" FROM SURFACE.
  3. HALF DEPTH CONTRACTION JOINTS SHALL BE PROVIDED AT 10 FOOT INTERVALS.
  4. 18" CURB DEPTH SHALL BE MAINTAINED AT DEPRESSED OR FLUSH CURBED AREAS.



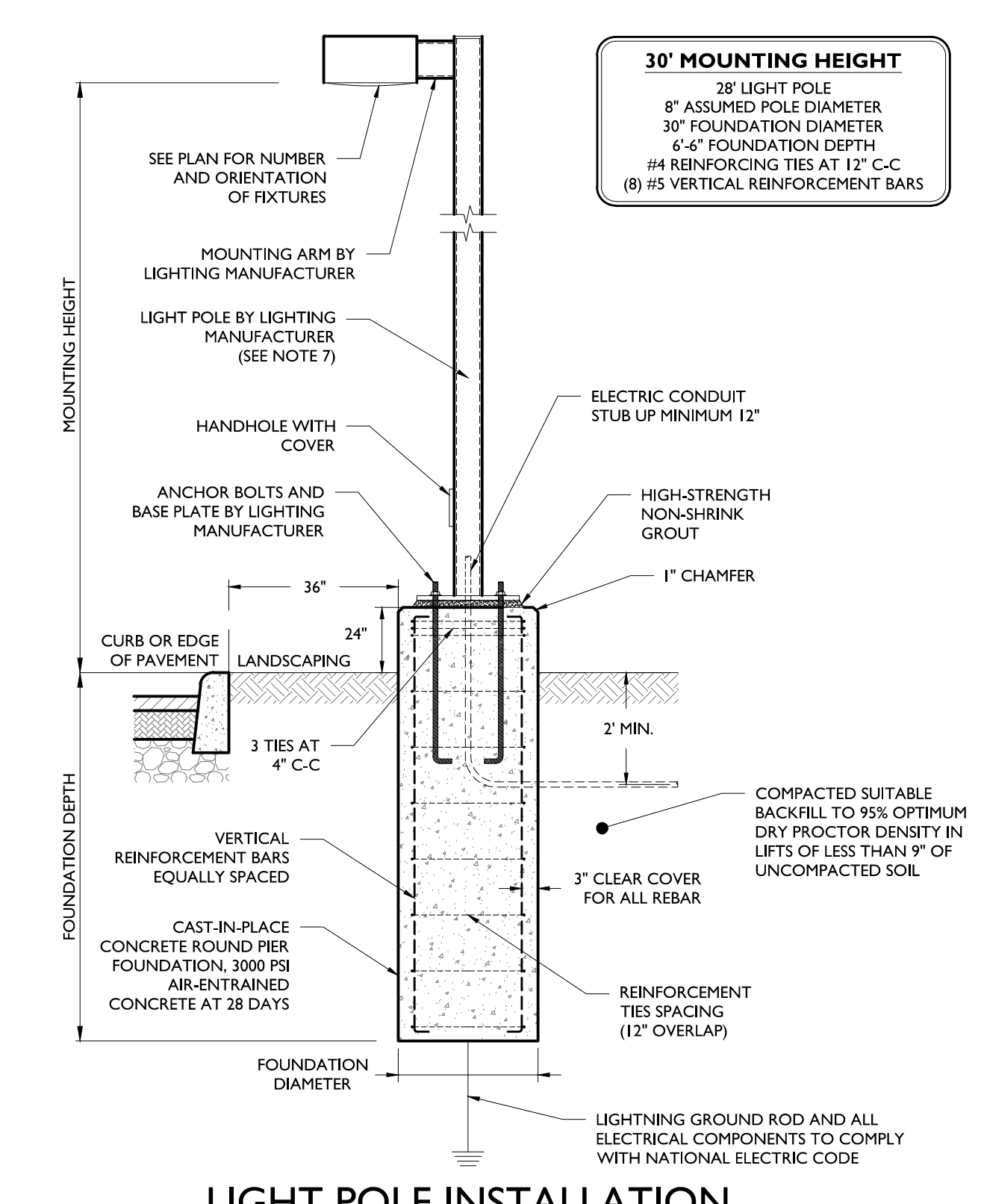
- NOTE:
- MINIMUM PIPE COVER SHALL BE AS FOLLOWS:
- ELECTRIC SERVICE - PER APPLICABLE UTILITY AUTHORITY
  - GAS SERVICE - PER APPLICABLE UTILITY AUTHORITY
  - SEWER SERVICE - 36" MINIMUM
  - WATER SERVICE - 48" MINIMUM



- REFERENCES ARCHITECTURAL GRAPHIC STANDARDS COPYRIGHT 2000



- NOTE:
- HMA MIX AND DENSE GRADED AGGREGATE SHALL CONFORM TO STATE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.



- NOTES:
1. MINIMUM SOIL BEARING PRESSURE OF 1500 PSF, SOIL FRICTION ANGLE OF 30 DEGREES, AND SOIL DRY UNIT WEIGHT OF 120 PCF SHALL BE CONFIRMED IN THE FIELD BY A QUALIFIED PROFESSIONAL.
  2. CAST-IN-PLACE CONCRETE SHALL BE CONSOLIDATED USING VIBRATOR.
  3. ALL REBAR TO BE NEW GRADE 60 STEEL.
  4. PRE-CAST PIERS ACCEPTABLE UPON WRITTEN APPROVAL OF SHOP DRAWING BY ENGINEER.
  5. CONCRETE TO BE INSTALLED A MINIMUM OF 7 DAYS PRIOR TO INSTALLING LIGHT POLE. POURED CONCRETE MIX REQUIRED TO OBTAIN 80% OF DESIGN STRENGTH PRIOR TO INSTALLING LIGHT POLE.
  6. CONCRETE SHALL HAVE A MAXIMUM SLUMP OF 4" (WITHIN 1" TOLERANCES).
  7. POLE SHALL BE RATED FOR 10 MPH HIGHER THAN MAXIMUM WIND SPEED 33FT ABOVE GROUND FOR THE AREA BASED ON ANS/AISC 7-93.
  8. POLE TO BE TERMINATED AT A FORM.
  9. WORK SHALL CONFORM TO ACI BEST PRACTICES FOR APPROPRIATE TEMPERATURE AND WEATHER CONDITIONS.
  10. CONTRACTOR TO TEMPORARILY SUPPORT ADJACENT SOIL AND STRUCTURES DURING EXCAVATION IF REQUIRED.

**Mirada Medium Outdoor LED Area Light**

ORDERING GUIDE

Back to Quick Links

TYPICAL ORDER EXAMPLE: **MRM LED 36L SIL FTA UNV DIM 50 70CRI ALSCS04 BRZ IL**

Luminaire Profile	Light Source	Lumen Package	Light Output	Distribution	Orientation	Voltage	Driver
MRM - Medium	LED	FL - 3,000 lms RL - 4,000 lms VL - 10,000 lms SL - 14,000 lms 3SL - 20,000 lms 4SL - 26,000 lms	2 - Type 2 3 - Type 3 SW - Type 5 Wide	0-Beam - standard R - Optics rotated left 90° L - Optics rotated right 90°	UNV - Universal Voltage (120-277V) HW - High Voltage (247-480V)	DM - 0-10V Dimmer (0-10%)	

Accessory Ordering Information

Control Accessory	Description	Order Number
PC100	PC100 Protocol for use with CRFP option (120/240V)	122514
PC100-277	PC100-277 Protocol for use with CRFP option (208V, 240V, 277V)	122515
TR100	TR100 Protocol (247V) for use with CRFP	122516
TR100-277	TR100-277 Protocol (247V) for use with CRFP	122517
TR100-277-277	TR100-277-277 Protocol (247V) for use with CRFP	122518
TR100-277-277-277	TR100-277-277-277 Protocol (247V) for use with CRFP	122519
TR100-277-277-277-277	TR100-277-277-277-277 Protocol (247V) for use with CRFP	122520
TR100-277-277-277-277-277	TR100-277-277-277-277-277 Protocol (247V) for use with CRFP	122521
TR100-277-277-277-277-277-277	TR100-277-277-277-277-277-277 Protocol (247V) for use with CRFP	122522
TR100-277-277-277-277-277-277-277	TR100-277-277-277-277-277-277-277 Protocol (247V) for use with CRFP	122523
TR100-277-277-277-277-277-277-277-277	TR100-277-277-277-277-277-277-277-277 Protocol (247V) for use with CRFP	122524
TR100-277-277-277-277-277-277-277-277-277	TR100-277-277-277-277-277-277-277-277-277 Protocol (247V) for use with CRFP	122525

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SPECIFICATIONS FOR FIXTURE 'A' & 'B'

NOT TO SCALE

**Mirada Wall Sconce (XWM)**

ORDERING GUIDE

Back to Quick Links

TYPICAL ORDER EXAMPLE: **XWM 2 LED 03L 30 UE BRZ ALS**

Luminaire Profile	Distribution	LED Technology	Lumen Package	Color Temperature	Voltage
XWM - Mirada Wall Sconce	2 - Type 2 3 - Type 3 FF - Type 4 Forward Throw	LED	SL - 3,000 lms RL - 4,000 lms VL - 10,000 lms SL - 14,000 lms 3SL - 20,000 lms 4SL - 26,000 lms	30-3000K 40-4000K 50-5000K	UE - Universal Voltage (120-277V) HW - High Voltage (247-480V)

Accessory Ordering Information

Description	Order Number	Description	Order Number
XWM SW BLK - Surface Wiring Box (Available in black only)	356915BLK	DFK - Double Fusing	DFK20P
FK120 - Single Fusing	FK120P	DFK - Double Fusing (240V)	DFK240P
FK277 - Single Fusing	FK277P	DFK - Double Fusing (480V)	DFK480P
FK347 - Single Fusing	FK347P	LV Linear Bird Spike Kit (2" Recommended per Luminaire)	736795

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SPECIFICATIONS FOR FIXTURE 'C'

NOT TO SCALE

ISSUE	DATE	BY	DESCRIPTION
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MERIDIAN TOWNSHIP  
INGHAM COUNTY, MICHIGAN

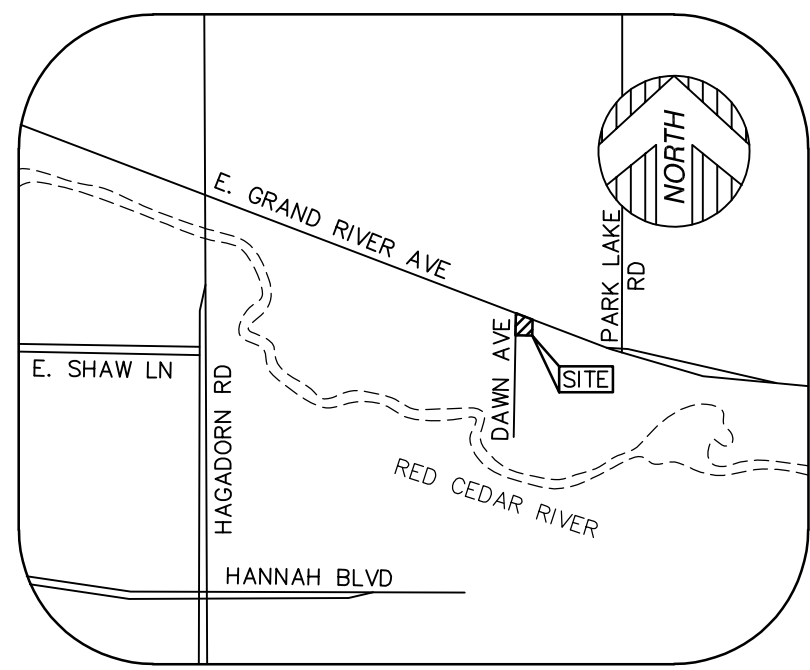
**CONSTRUCTION DETAILS**

DRAWING: **C-9**

SCALE: AS SHOWN PROJECT ID: DET-200226

TITLE:





VICINITY MAP  
(NOT TO SCALE)

**PARKING**

NO MARKED PARKING ON SITE.

**PARCEL AREA**

38,116± SQUARE FEET = 0.875± ACRES

**BASIS OF BEARING**

SOUTH 70°00'00" EAST, BEING THE SOUTH LINE OF E. GRAND RIVER AVE. AS PLATTED.

**FLOOD NOTE**

SUBJECT PARCEL LIES WITHIN:

OTHER AREA (ZONE X): AREAS DETERMINED TO BE OUTSIDE OF THE 0.2% ANNUAL CHANCE FLOODPLAIN.

AS SHOWN ON FLOOD INSURANCE RATE MAP: MAP NUMBER 26065001520, DATED 8/16/2011, PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

**BENCHMARKS**

**SITE BENCHMARK #1**  
BASE OF LIGHT POLE, EAST SIDE OF PARKING LOT.  
ELEVATION = 854.38' (NAVD 88)

**SITE BENCHMARK #2**  
NAIL IN UTILITY POLE, NORTH SIDE OF ENTRANCE FROM DAWN AVE.  
ELEVATION = 853.80' (NAVD 88)

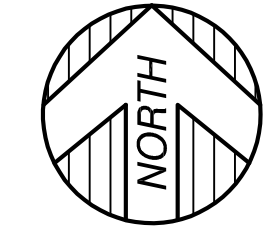
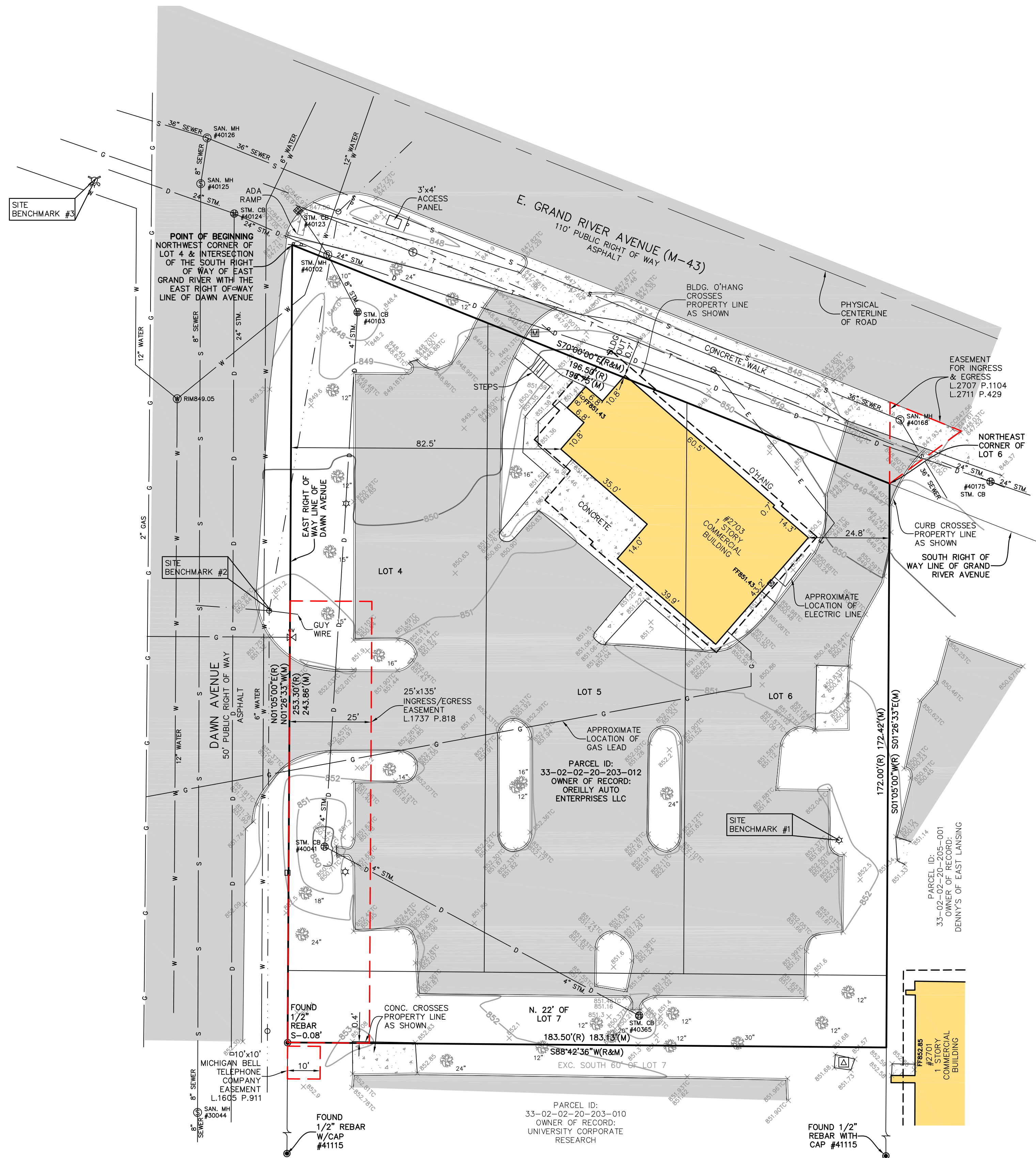
**SITE BENCHMARK #3**  
ARROW ON FIRE HYDRANT, SOUTHWEST CORNER OF E GRAND RIVER & DAWN AVE.  
ELEVATION = 850.58' (NAVD 88)

**SURVEYOR'S NOTE**

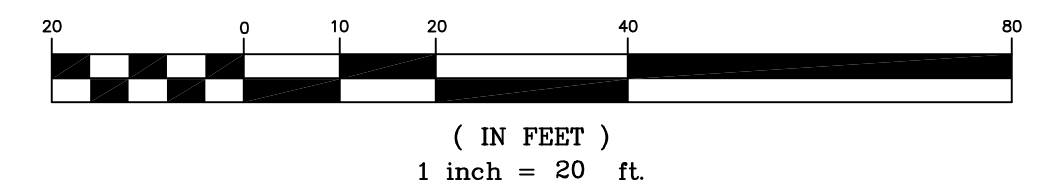
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES OTHER THAN THE STRUCTURE INVENTORY SHOWN HEREON.

**LEGEND**

●	FOUND MONUMENT (AS NOTED)
(R&M)	RECORD AND MEASURED DIMENSION
(R)	RECORD DIMENSION
(M)	MEASURED DIMENSION
○	GROUND ELEVATION
⊗	ELECTRIC METER
⊠	ELECTRIC PANEL
⊡	TRANSFORMER
○	UTILITY POLE
⊕	GAS VALVE
⊙	TELEPHONE MANHOLE
⊗	SANITARY MANHOLE
⊕	ROUND CATCH BASIN
⊗	SQUARE CATCH BASIN
⊕	STORM DRAIN MANHOLE
⊗	FIRE HYDRANT
⊕	WATER GATE MANHOLE
⊗	LIGHTPOST/LAMP POST
⊕	MAIL BOX
○	SINGLE POST SIGN
○	DOUBLE POST SIGN
○	DECIDUOUS TREE (AS NOTED)
---	PARCEL BOUNDARY LINE
---	PLATTED LOT LINE
---	ADJOINER PARCEL LINE
---	EASEMENT LINE
---	BUILDING
---	CONCRETE CURB
---	EDGE OF CONCRETE (CONC.)
---	EDGE OF ASPHALT (ASPH.)
---	OVERHEAD UTILITY LINE
---	U/G TELEPHONE LINE
---	GAS LINE
---	SANITARY LINE
---	STORM LINE
---	WATER LINE
---	MINOR CONTOUR LINE
---	MAJOR CONTOUR LINE
■	BUILDING AREA
■	ASPHALT
■	CONCRETE



GRAPHIC SCALE



**PROPERTY DESCRIPTION**

LOCATED IN THE TOWNSHIP OF MERIDIAN, COUNTY OF INGHAM, STATE OF MICHIGAN AND DESCRIBED AS:

ALL OF LOTS 4, 5 AND 6, AND ALL OF LOT 7 EXCEPT THE SOUTH 60 FEET THEREOF, CEDAR RIVER HOMES, MERIDIAN TOWNSHIP, INGHAM COUNTY, MICHIGAN, ACCORDING TO THE PLAT THEREOF AS RECORDED IN LIBER 11, PAGE 30 (LIBER 31, PAGES 47 AND 48 PER WARRANTY DEED), INGHAM COUNTY RECORDS, ALSO BEING DESCRIBED AS: BEGINNING AT THE NORTHWEST CORNER OF SAID LOT 4, ALSO BEING THE INTERSECTION OF THE SOUTH RIGHT-OF-WAY LINE OF EAST GRAND RIVER AVENUE (M-43)(110' WIDE) AND THE EAST RIGHT-OF-WAY LINE OF DAWN AVENUE (50' WIDE); THENCE S. 70°00'00"E. 196.75 FEET (RECORDED AS 196.5 FEET) ALONG THE SOUTHERLY RIGHT-OF-WAY LINE OF SAID E. GRAND RIVER AVE. TO THE NORTHEAST CORNER OF SAID LOT 6; THENCE S.01°26'33"E. 172.42 FEET (RECORDED AS S.01°05'W. 172 FEET); THENCE S.88°42'36"W. 183.13 FEET (RECORDED AS 183.5 FEET) TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF SAID DAWN AVE.; THENCE N.01°26'33"W. 243.86 FEET (RECORDED AS N.01°05'E. 253.3 FEET) ALONG THE EAST RIGHT-OF-WAY LINE OF SAID DAWN AVE. TO THE POINT OF BEGINNING.

**TITLE REPORT NOTE**

ONLY THOSE EXCEPTIONS CONTAINED WITHIN THE STEWART TITLE GUARANTY COMPANY COMMITMENT No. 21000030151, DATED JANUARY 28, 2021, AND LISTED BELOW WERE CONSIDERED FOR THIS SURVEY. NO OTHER RECORDS RESEARCH WAS PERFORMED BY THE CERTIFYING SURVEYOR.

12. TERMS, CONDITIONS, PROVISIONS AND EASEMENTS SET FORTH IN EASEMENT RECORDED IN LIBER 1605, PAGE 911. (AS SHOWN)

13. TERMS, CONDITIONS, PROVISIONS AND EASEMENTS SET FORTH IN GRANT OF EASEMENT RECORDED IN LIBER 1737, PAGE 818. (AS SHOWN)

14. TERMS, CONDITIONS, PROVISIONS AND EASEMENTS SET FORTH IN EASEMENT AGREEMENT RECORDED IN LIBER 2707, PAGE 1104 AND RE-RECORDED IN LIBER 2711, PAGE 429. (AS SHOWN)

**MANHOLE SCHEDULE**

#	TYPE	RIM	SIZE	DIRECTION	INVERT
30044	SANITARY MH	852.28	8	N	842.32
		852.28	8	S	842.42
40041	BEEHIVE CATCHBASIN	849.31	4	T/WATER	847.01
		849.31	4	N	847.26
40102	STORM MANHOLE	849.31	4	SE	847.46
		848.78	24	B/CHAMBER	845.36
40103	BEEHIVE CATCHBASIN	848.78	24	NW	842.88
		846.91	4	S	845.61
40123	CATCHBASIN	846.91	8	NW	845.51
		846.94	24	T/WATER	844.54
40124	CATCHBASIN	847.59	24	SE	842.94
		847.59	24	NW	842.79
40125	SANITARY MANHOLE	847.59	24	S	842.89
		847.52	8	S	838.02
40126	SANITARY MANHOLE	847.52	8	N	837.92
		847.27	36	SE	832.17
40168	SANITARY MANHOLE	847.27	36	W	832.27
		847.27	8	S	PER PLAN
40175	CATCHBASIN	847.71	36	NE	832.31
		847.71	36	SW	832.51
40365	BEEHIVE CATCHBASIN	848.51	24	NE	841.81
		848.51	24	SW	841.91
40365	BEEHIVE CATCHBASIN	849.82	4	T/WATER	847.42
		849.82	4	NW	848.10
40365	BEEHIVE CATCHBASIN	849.82	4	B/CHAMBER	845.57

**SURVEYOR'S CERTIFICATION**

TO EROP LLC, AN ILLINOIS LIMITED LIABILITY COMPANY D/B/A HYPERSHINE CAR WASH AND STEWART TITLE GUARANTY COMPANY:

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDED ITEMS 1, 2, 3, 4, 5, 7A, 8, 9, AND 11 OF TABLE A, THEREOF. THE FIELD WORK WAS COMPLETED ON 11/24/2020.

DATE OF PLAT OR MAP: 12/04/2020

**DRAFT**

ANTHONY T. SYCKO, JR., P.S.  
PROFESSIONAL SURVEYOR  
MICHIGAN LICENSE NO. 47976  
22556 GRATIOT AVE., EASTPOINTE, MI 48021  
TSycko@kemtec-survey.com

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**ALTA / NSPS LAND TITLE SURVEY**  
PREPARED FOR: STONEFIELD ENGINEERING AND DESIGN  
2703 E. GRAND RIVER AVE, MERIDIAN TWP., MICHIGAN,  
PART OF SECTION 20,  
TOWN 4 NORTH, RANGE 1 WEST

DATE	BY	REVISION	DESCRIPTION
11/30/2020	MRJ		
12/04/2020	ATS		
DECEMBER 4, 2020	MRJ	3	02/7/1/21
12/14/20	MRJ	1	12/14/20
20-0321B		1	REVISION