

HASTINGS PLANNING COMMISSION

A meeting of the Hastings Planning Commission has been scheduled for Tuesday, April 20, 2021 at 4:00 PM in the City Building, 220 North Hastings Avenue.

AGENDA:

1. Call to Order
2. Roll Call
3. Pledge of Allegiance
4. Motion to adopt the current agenda for the Planning Commission Meeting
5. Public Notice - Official Notice of the Regular Meeting was published in the Hastings Tribune on Friday, April 16th, 2020. Pursuant to Nebraska Revised Statute Section 84-1412, the public is advised that a copy of today's agenda and all reproducible written material which will be discussed at today's meeting is located at the back of the Council Chambers. Also, a current copy of the Nebraska Open Meetings Act is posted on the south wall of the Council Chambers which is accessible to members of the public.
6. Approval of Minutes
 - a. March 16, 2021
7. Special Order of Business
8. Unfinished Business
9. Public Hearings.
 - a. **2021-018.** Public hearing to consider an ordinance to amend the City of Hastings Comprehensive Plan Future Land Use Map by changing land use from Employment/Industrial to Suburban Residential for adjusting a tract of land comprising a part of the Southwest Quarter (SW ¼) of Section Seventeen (17), Township Seven (7) North, Range Nine (9) West of the 6th P.M., in the City of Hastings, Adams County, Nebraska, including part of Lots One (1), Two (2), Three (3) and Four (4) of Reed's Subdivision of Reed's Addition and Lots (1) and Two (2) of Osborne Subdivision to the City of Hastings, Adams County, Nebraska

Motion to recommend approval for an ordinance to amend the City of Hastings Comprehensive Plan Future Land Use Map by changing land use from Employment/Industrial to Suburban Residential for a tract of land comprising a part of the Southwest Quarter (SW ¼) of Section Seventeen (17), Township Seven (7) North, Range Nine (9) West of the 6th P.M., in the City of Hastings, Adams County, Nebraska, including part of Lots One (1), Two (2), Three (3) and Four (4) of Reed's Subdivision of Reed's Addition and Lots (1) and Two (2) of Osborne Subdivision to the City of Hastings, Adams County, Nebraska
 - b. Public hearing to recommend a request for Randal Chick regarding Plan Modification No. 2021-3 to Redevelopment Area #1 for DAVALWAT Properties LLC for property located at 306 W. 2nd Street.

Motion to recommend approval of a resolution for Plan Modification #2021-3

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Redevelopment Plan #1 for DAVALWAT Properties LLC for property located at 306 W. 2nd Street.

- c. **2021-019.** Public hearing to recommend a request for a Conditional Use Permit (CUP) for First Presbyterian Church Peace Center commonly addressed as 715 W. 7th St, City of Hastings, Adams County, Nebraska.

Motion to recommend approval for a CUP resolution for First Presbyterian Church Peace Center commonly addressed as 715 W. 7th Street, City of Hastings, Adams County, Nebraska.

10. Subdivisions

- a. **2021-020.** Preliminary/Final Plat for Old Buddies Subdivision commonly addressed as 2115 W 2nd Ave, City of Hastings, Adams County, Nebraska.
- b. **2021-023.** Final Plat for Theatre District commonly addressed 3101 W 12th St, City of Hastings, Adams County, Nebraska.

11. Reports

Adjourn

CITY OF HASTINGS, NEBRASKA
MINUTES OF PLANNING COMMISSION
Tuesday, March 16, 2021

Pursuant to due call and notice thereof, a meeting of the Hastings Planning Commission was conducted in the City Building, 220 North Hastings Avenue, Hastings, Nebraska on March 16, 2021.

The meeting was called to order at 4:00 p.m. in Regular Session by Chair Gaines with the following members present: Ann Hinton, Marshall Gaines, LaDaun Schoenhals, Lou Kully, Greg Sinner, Michelle Lewis, Willis Hunt. Absent: Jacque Cranson, Gavin Raitt, Rakesh Srivastava.

The Chair led the Commission in recital of the Pledge of Allegiance to the United States of America.

Moved by Sinner, seconded by Hunt, to adopt the current agenda for the Planning Commission Meeting. Roll Call: Ayes: Lewis, Gaines, Kully, Schoenhals, Hinton, Hunt, Sinner. Nays: None. Absent: Cranson, Raitt, Srivastava. The motion carried.

Public Notice - Official Notice of the Regular Meeting was published in the Hastings Tribune on Friday, March 12th, 2021. Pursuant to Nebraska Revised Statute Section 84-1412, the public is advised that a copy of today's agenda and all reproducible written material which will be discussed at today's meeting is located at the back of the Council Chambers. Also, a current copy of the Nebraska Open Meetings Act is posted on the south wall of the Council Chambers which is accessible to members of the public.

Moved by Hinton, seconded by Schoenhals, to approve the minutes of February 16th, 2021 meeting. Roll Call: Ayes: Lewis, Gaines, Kully, Schoenhals, Hinton, Hunt, Sinner. Nays: None. Absent: Cranson, Raitt, Srivastava. The motion carried.

9. Public Hearings

a. 2021-015 Public hearing to recommend approval for an ordinance to amend Hastings City Code 28-104, adopting the 2018 International Energy Conservation Code

Mark Evans discussed the agenda item

The City of Hastings Development Services is requesting that the City Council adopt the 2018 International Energy Conservation Code (IECC). The model codes are developed and published by the International Code Council and are updated on a three-year cycle. Current State law requires cities that adopt a model energy code to adopt the 2018 International Energy Conservation Code. (Neb Rev Stat 81-1618). This update is to fulfill the State requirement. The State adopted the 2018 IECC during the 2019 legislative session, with an effective date of July 1, 2020. This adoption brings the City of Hastings in line with State Statute.

There are several updates to the Energy Conservation Code, as the State jumped from the 2009 IECC to the 2018 IECC.

With this adoption, there are five main local amendments the Development Services is recommending:

1. Delete the mandatory blower door test. The code, as written would require a blower door test to be performed on each new home. The local amendment makes it optional, not required.
2. Amend duct testing to provide the option of adding spray foam insulation to the ductwork located in the unconditioned attic space in lieu of sealing and then testing the ductwork. The

rationale is that the cost of testing the ductwork is comparable to the application of spray foam in the attic space, so why not spend the money on spray foam insulation, and be done with it.

3. Wall cavities may be used for duct or plenum as long as they are completely panned and sealed. This amendment especially addresses floor spaces and wall spaces that have been used as air returns in the past. The code, as written would require a complete return air duct in this space. The local amendment allows use of these spaces as long as they are properly sealed and pan material is used to enclose the space. This will result in cost and space savings.

4. Mandatory requirement for mechanical ventilation has been deleted. This amendment eliminates the mandate for mechanical whole house ventilation. This amendment makes it optional.

5. Basement walls need to be insulated to minimum R13 rather than the prescribed R15 or R19. This would eliminate 2x6 basement furring for walls.

These amendments are essentially the same as the City of Lincoln, and they are what a number of jurisdictions that are members of the Nebraska Code Officials Association have stated they plan to adopt.

Moved by LaDaun Schoenhals seconded by Lou Kully to recommend approval to the Mayor and City Council for an ordinance to amend Hastings City Code 28-104, adopting the 2018 International Energy Conservation Code. Roll Call: Ayes: Lewis, Gaines, Kully, Schoenhals, Hinton, Hunt, Sinner. Nays: None. Absent: Cranson, Raitt, Srivastava. The motion carried.

b. 2021-012. Public hearing to recommend a request for a Conditional Use Permit (CUP) for self-storage and storage areas to be located at property commonly addressed as 306 W 2nd Street in the City of Hastings, Adams County, Nebraska.

Lisa Parnell-Rowe discussed the agenda item

1. The proposed development will integrate compatibility with existing land uses and with permitted uses that may be established within any area to be affected by the proposed development.

Surrounding land uses are:

This lot is surrounded in almost all directions by C-2, Central Business district. There is also some Light Industrial adjacent to the southeast corner of this lot. Zoning for this lot is also C-2. C-2 in Table of Uses and Districts is listed as an "R", which indicates it is allowed subject to specific use standards. When you go to Article III where these standards are normally listed, there are none established in this section for self-storage and storage areas. Making this even more confusing there are use standards specifically spelled out in City Code Section 34-404 (9) specifically for storage units, but these are for conditional uses. The real problem in interpreting this all is that there is also a line that is completely contrary to allowing the use with restrictions spelled out in the C-2 District intent, Section 34-210 (1). Here in the actual intent of this district it states, "This district is intended to protect and enhance the central business district core for efficient performance of its primary function as a center for retail, commercial, financial, professional and service facilities; and to discourage uses not requiring a prime central location. This district is not intended for storage as a use and there shall not be storage as a primary use on the first floor of a store front throughout the central business district." So, in one section of our code it states this use is allowed for this C-2 district and then another section it discourages

and even instructs us to not allow this use. As Director I am allowed discretion in City Code Section 34-104 to interpret uses and how they are applied when there is more than one option or none at all (and in this case 2 opposing directives). In reviewing this use to those standards, I do not feel the intent of the C-2 district is up-to-date with our Comprehensive Plan and, in particular, the vision for downtown to be a mixed-use center that includes residential uses. In fact, I believe this section was written well before most of our mixed uses were incorporated into this C-2 Central Business District. The intent does not list that C-2 is for residential and only acknowledges retail, commercial, financial, professional and service facilities. Therefore, where residential uses are allowed and there would be needs for self-storage (as such) in the vicinity, I do not feel this use should be excluded. It is my judgement call that as there are standards for self-storage established with a conditional use permit (CUP) and as the CUP is the middle ground allowing Planning Commission and City Council to vet the facts and make a final decision, we are taking the path in between the 2 extremes that are contradictory and applying the use standards that do exist for storage units in City Code Section 34-404 (9) towards this use.

Future land use of this area is for mixed downtown so establishing this use in this area should be acceptable if we are looking to support the residential living spaces now incorporated in this area and anticipating support for more of it in our future.

2. The use does not have a permanent negative impact that is substantially greater than the impact anticipated from development permitted in the base zone district.

Pedestrian and vehicular traffic circulation and safety. The applicant provided this concept to Staff in mid-February 2021 and it was initially reviewed with engineering staff representing the streets during this time as part of Engineering Meeting. This was also emailed out for formal internal review on 1/27/21, 2/23/21 & 2/25/21. City Engineering staff has discussed and will approve the change in parking (as agreed upon). This would be to change some existing parallel parking in front of this building off of 2nd Street to diagonal parking; however, it was agreed that this would be done at the expense of the applicant. Effort has been taken on the part of the applicant to ensure parking will be available in the immediate area, but staff notes that there are not Off-street parking requirements in C-2 District. However, specific parking requirements for the self-storage use found in Section 34-404 9, e, iii. have been addressed in their narrative and are listed on the site plan.

Reasonable and economic extension of public utilities and facilities. As this is within City limits and already serviced by the City there is no extension of service required. Utilities has reviewed and approved this site plan.

Noise, fumes and/or environmental pollution. No noise, fumes and/or environmental pollution are anticipated. The following rules for the use of the self-storage units and area will be included in the lease documents and be posted inside the facility. These rules will include but are not limited to the following:

- a. It shall be unlawful for any owner, operator or lessee of any self-service storage facility or portion thereof to offer for sale, or to sell any item of personal property or to conduct any type of commercial activity of any kind whatsoever, other than leasing of the storage units, or to permit same to occur upon any area designated as a self-service storage facility.
 - b. Because of the danger from fire or explosion caused by the accumulation of vapors from gasoline, diesel fuel, paint, paint remover and other flammable materials, the repair, construction, or reconstruction of any boat, engine, motor vehicle, or furniture, and the storage of any propane or gasoline storage tank is prohibited.
 - c. All storage shall be kept within an enclosed building
- Applicant is also installing a temperature control system and a state-of-the-art video security

system throughout the storage facility as well as externally at the entrance points. Additionally, access to the facility will only be granted with a random generated code and lock box for both the access doors and the roll up doors. This will also alert the management team of any access granted after hours when there is no one onsite.

The maintenance of logical and efficient development patterns and land use mixtures. The addition of these storage uses to this area is logical due to its use compatibility to the now present and growing trend for a mixture of residential with commercial in our downtown C-2 Central Business District. This use of storage will fit nicely within this existing structure and make good use of space that has been vacant for many years now, while also adding to the appeal of the downtown area with its building updates and upgrades, which will inevitably have a positive impact on the area property values.

3. The conditions imposed are necessary to ensure the maintenance of property values and the safety, health, comfort, and repose of the residents.

The use of storage unit should not evoke safety concerns and property values should remain, if not increase due to the property improvements that will be made to this structure. Providing these units will provide a service that is currently not provided in this district at all and also provide greater selection within the City for temperature-controlled units. This is demonstrated in the market research that is provided as part of our applicant's narrative. Adjacent property notice letters were sent out to all properties within 300 feet of this location and there have been calls to inquire into the matter, but none have communicated opposition to this use. In fact, a few were quite supportive of this added use in the downtown area.

4. That the use, subject to conditions, maintains compliance with the Comprehensive Plan and the purpose and intent of the zoning regulations.

In this particular case, not allowing this use (which is advised in the intent of this district as found in our zoning regulations) would adversely go against the vision demonstrated in our Comprehensive Plan for the downtown C-2 District to move towards mixed use for both residential and commercial tenants. In fact, on page 2-11 of our existing Comprehensive Plan, Imagine Hastings it states "Downtown Hastings is a good example of a mixed-use center containing mix of cultural, financial, governmental, institutional, retail, entertainment, residential and recreational uses. The continued mix and growth of all types of land uses is appropriate for Downtown Hastings. Small industrial manufacturing that is not a detriment to the surrounding uses with regard to noise, odor/other noxious practices are also allowed within downtown".

Based on the character and nature of this structure and area of the C-2 District, Staff feels comfortable with the use of storage units as described in the applicant's narrative and site plan, with the conditions established in the Staff recommendation.

A self-service storage facility has additional criteria that it must meet as spelled out in Chapter 34-404 (9). The applicant has received a copy of these criteria and has either incorporated those things in their site plan or talked to those aspects in their narrative. The proposed Site Plan includes the dimensions of the interior storage spaces and exterior parking locations. The narrative they provided addresses how each aspect will function. All zoning requirements for the C-2 zoning district are shown and also met with the existing structure, except the height of this existing structure does exceed the requirement spelled out in City Code Section 34-404 9, e, iv. This section states that the building heights should be limited to one story and not exceed 14' at the eaves. However, it also states that an applicant can ask for Planning Commission and City Council to waive this for an existing building. Our applicant is asking for this deviation in height requirement to be waived and a condition has been added to the recommendation to memorialize that waiver as part of this CUP approval recommendation.

Moved by Schoenhals, seconded by Kully, to recommend approval to the Mayor and City Council of a CUP resolution for self-storage and storage areas to be located at property commonly addressed as 306 W 2nd Street in the City of Hastings, Adams County, Nebraska, subject to following conditions:

1. The existing sidewalk was noted in the 2019 Hastings Barriers to Mobility study as being in poor condition (uneven, cracked, and lifted panels). At a minimum, portions of sidewalk that are uneven, cracked, or uplifted must be re-laid at the property owner's expense (City Code 25-203). The driveway/sidewalk looks to be in particular poor condition. This should be re-laid as paving at 6-inches thickness since it's also a driveway. Owner will contact City Engineering to ensure parking stall and markings, curb, and sidewalk placement also conforms to the latest ADA standards for Accessible Design.
2. As stipulated in the Specific Standards for conditional uses found in 34-404 (9) (e) (iv). This is an existing building with a disclosed height of 18.5', which deviates from the requirement for 14'. In approving this CUP for this use the Planning Commission and the City Council are waiving this particular requirement as is allowable in this section (see attached picture with elevation submitted on 3/8/21 by the applicant).
3. Applicant will need to provide ADA units for storage: 2% of units, not less than 1.56 units = 2 ADA units. Office restrooms will also need to be ADA compliant. Includes door hardware, accessible route, accessible entrance, etc.
4. There shall be compliance with any other applicable City, County, State or Federal regulations that shall apply.
5. This resolution shall be filed with the registrar of deeds so as to provide notice to any person examining the real estate records of the existence of this CUP. The recording costs incurred to comply with this section shall be paid by the applicant for the CUP.

Roll Call: Ayes: Lewis, Gaines, Kully, Schoenhals, Hinton, Hunt, Sinner. Nays: None. Absent: Cranson, Raitt, Srivastava. The motion carried.

c. 2021-016. Public hearing for a change of zoning for undeveloped land that is currently being platted and is located directly to the south of 4635 N Baltimore Avenue in the extraterritorial jurisdiction of the City of Hastings, Adams County, Nebraska, from "A, Agricultural" to "R-1A, Single Family Large Lot Residential District", and to amend the Official Zoning District Map.

Lisa Parnell-Rowe discussed the agenda item.

Surrounding zoning is as follows:

North – R-1A, Single Family Large Lot Residential and A, Agricultural

South – A Agricultural

East – A Agricultural

West – A Agricultural

It is not uncommon to see residential single-family large lot zoning (R-1A) on the outskirts of cities due to the larger lot sizes—a minimum of 20,000 square feet. A draft Site Plan was provided by our applicant and demonstrates the ability to meet setback requirements. This newly created lot will also meet minimum lot requirements for the R-1A zoning District. The

Comprehensive Plan and Future Land Use map show this area slated for Suburban Residential. As the area is slated for future Suburban Residential, the R-1A, Single Family Large Lot Residential District is an ideal zone considering it allows for lower population densities with larger lots sizes—a minimum of 20,000 square feet. Only the future Suburban Residential zone can accommodate lots up to 20,000 square feet. There are several large lot single-family residential R-1A subdivisions directly to the north of this area. In fact, once platted, this piece of land will be sold from the Saathoff & Saathoff Trustee ownership to the owner of the Wolfe Subdivision to the north. This new lot will serve as a residence for his farming help.

Moved by Sinner, seconded by Kully, to recommend approval to the Mayor and City Council for an ordinance and the amendment to the Official Zoning District Map for undeveloped land that is currently being platted and generally located directly to the south of 4635 N Baltimore Ave from “A, Agricultural” to “R-1A, Single Family Large Lot Residential District”. Roll Call: Ayes: Lewis, Gaines, Kully, Schoenhals, Hinton, Hunt, Sinner. Nays: None. Absent: Cranson, Raitt, Srivastava. The motion carried.

10. Subdivisions

a.2021-013. Preliminary/Final plat for O’Keeffe Subdivision, platting of tax lot land south of address known as 4635 N. Baltimore Avenue

Lisa Parnell-Rowe discussed the agenda item.

The Development Department and Plat Track review teams (to include County officials) have reviewed this preliminary/final subdivision plat and the applicant has incorporated all recommendations found to be relevant with subdivision design standards and regulations in both 38-202 and 38-203. Platting land located in the south of address commonly addressed 4635 N. Baltimore Avenue. This is a replat incorporates a portion of tax lot parcel of record into a 1 lot subdivision in order to Mr. Timothy O’Keeffe to provide housing for his farmland help. Our applicant, Mr. Timothy O’Keeffe has also provided a draft site plan that shows where he will place a single-family home on this lot. This structure will meet all the related R-1A lot size and building setbacks. Applicant has agreed to and applied for rezone to the R-1A Zoning District.

All related utilities requirements were reviewed with the applicant. Due to the expense to tap into City services the applicant has decided to use a well out front and a septic to the rear of the property. The Civil Engineer is working with the Surveyor to acquire necessary invert elevations, size, and runoff calculations to confirm that the existing culvert to the north is adequate for the new development and impervious footprint.

Moved by Hunt, seconded by Lewis, to recommend approval to the Mayor and City Council of Preliminary/Final plat for O’Keeffe Subdivision. Roll Call: Ayes: Lewis, Gaines, Kully, Schoenhals, Hinton, Hunt, Sinner. Nays: None. Absent: Cranson, Raitt, Srivastava. The motion carried.

b.2021-014. Preliminary Plat for Theatre District Subdivision, commonly addressed 3101 W. 12th Street.

Lisa Parnell-Rowe discussed the agenda item.

This subdivision is a replat of a tract of land consisting of all of Block 9, Imperial Village Addition and Lot 1, Imperial Theatre Subdivision. Theatre District, LLC has purchased this land and will be utilizing this area for a mixed-use development to include both commercial and residential properties. This project will be done in phases and so this plat is being done to allow for eventually selling off lots for development in the future where there may be interest for purchasing outlying lots. The plan modification for tax increment financing (TIF) was approved

December 14, 2020 by City Council. The project plan is to repurpose and remodel the remaining K-Mart portion of the old mall for an indoor recreational facility, construct 2 multi-family structures geared at living for 55 and older, and the old mall theatre building will also be repurposed and remodeled back to its original use as a theatre. There are also plans for a few outlying lots to the north and east being proposed, where a variety of commercial uses are from retail to grocery in order to create a mixed neighborhood community atmosphere. Phase 1 is to include construction of the northern-most multi-family apartment building on Lot 3 of Block 1, Theatre District Subdivision, repurposing the former K-mart building into an indoor sports facility and redeveloping the former SunMart building into a multi-tenant building for neighborhood services. Phase 2 will be for the second the southern-most multi-family apartment building on Lot 2 of Block 1 and all subsequent phases will be dependent upon pad site interests.

The intent of the Preliminary Plat is three-fold and laid out in City Code Section 38-202 (1). Below is a brief discussion of each aspect and the how the Theatre District Subdivision Preliminary plat meets this intent.

Compliance to Comprehensive Development Plan: Future Land Use for this area is Mixed Use – Community. The City of Hastings Comprehensive Plan discusses the need move away from segregating separate uses and the reliance on the automobile to travel within the community. It prescribes to encourage mixed uses where appropriate and locating services in proximity of neighborhoods and people as well as the reuse of land in older areas of town. The concept that has been provided to us for this redevelopment demonstrates this element very well and the uses incorporated fit the mixed use-community concept perfectly.

Compliance to Design Standards: All Planning and Community Design Standards found in Article III (38-301 to 38-304) have been incorporated. A few of these standards are not required in Preliminary plat (38-202) but are found to be required in Final Plat (38-203) requirements. These are covered in the conditions for final plat approval and also listed in the final plat checklist for developer to add.

Buildable lots Capability: All of this development is outside of floodplain areas and are considered an area of minimal flood hazard. This development is within the airport zoning space and the developers have submitted their plans to the Federal Aviation Administration (FAA) for review in Form 7460-1. Due to the zoning overlay of Planned Development District the developers will be submitting a Planned Development Plan as well. This Development Plan will not be fully processed for approvals until the recommendations from the FAA are received and these recommendations are fully considered against the local code requirements found in Section 34-217. As the platting process does not affect placement of structures Staff has determined that these case actions can be accomplished without these recommendations. Section 34-217 (5) (a) provides guidance for this assessment. The Planned Development Overlay should allow for some flexibility that may be needed to rearrange or approve potential deviations that would be necessary to mitigate when it comes time to assess FAA recommendations to the existing requirements of airport zoning. To be clear, these deviations will NOT be to the airport zoning requirements, but to any of the allowable variations and departures allowable in a Planned District as spelled out separately for residential and commercial developments (note: some of these vary) in sections 34-215 (3) and (4). In other words, should there need to be adjustments to fit the buildings to lots established in this plat the planned district overlay will provide allowance for departures including but not limited to: 1) buildings may be constructed on platted tracts which are smaller than the minimum lot size requirements where other adjacent permanent open space is provided; 2) buildings may be grouped in clusters or around courts; 3) buildings may be located closer to lot lines than otherwise permitted provided such buildings are architecturally suitable for such a relationship to adjoining buildings and property.

Meeting Existing / Proposed Zoning Regulations: The base zoning district for this subdivision is C-3, Commercial Business District. This base district allows outright as permitted uses for the multi-family dwellings, a large array of service, commercial and retail uses and conditionally allows for many of the recreation, assembly and entertainment uses proposed.

Additionally, though the Base C-3 Commercial Business District will in general need to comply to these regulations in the way of height and bulk of buildings, the amount of light, air and open space, and the parking and loading requirements all the deviations listed in the previous “building lot capability” discussion (above) will also be available for this development to utilize so long as it can be demonstrated as suitable to surrounding area. Further, the uses permitted and the performance standards shall be the same as the base district as well; however, that the applicant, when applying for the Planned Development Plan may voluntarily limit the plan as to buildings, improvements and use thereof.

In summary, the Development Department and Plat Track review teams (to include County officials) have reviewed this preliminary plat. The applicant has provided all the necessary submittal documentation (i.e., Grading & Drainage Plan, Landscape Plan, Public Road Plan & Profile), as well as additional plans to demonstrate all the submittal requirements required in City Code Section 38-202 (2) more accurately. All recommendations to the extent necessary to approve the Preliminary Plat have been satisfactorily mitigated with the conditions established as part of the Staff Recommendation for final plat approval.

Moved by Kully, seconded by Lewis, to recommend approval to the Mayor and City Council the preliminary plat for Theatre District Subdivision. Roll Call: Ayes: Lewis, Marshall Gaines, Kully, Schoenhals, Hinton, Hunt, Sinner. Nays: None. Absent: Cranson, Raitt, Srivastava. The motion carried.

Moved by Hinton, seconded by Schoenhals, to adjourn

Chairman

Department: Development Services
Staff Contact: Lisa Parnell-Rowe
Planning Commission Meeting Date: 4/20/2021
File No: 2021-018
Prepared By: Emilia Kienbaum, Administrative Assistant

AGENDA ITEM SUMMARY SHEET

Description of Item:

Public hearing to consider an ordinance to amend the City of Hastings Comprehensive Plan Future Land Use Map by changing land use from Employment/Industrial to Suburban Residential for adjusting a tract of land comprising a part of the Southwest Quarter (SW ¼) of Section Seventeen (17), Township Seven (7) North, Range Nine (9) West of the 6th P.M., in the City of Hastings, Adams County, Nebraska, including part of Lots One (1), Two (2), Three (3) and Four (4) of Reed's Subdivision of Reed's Addition and Lots (1) and Two (2) of Osborne Subdivision to the City of Hastings, Adams County, Nebraska

Motion to recommend approval for an ordinance to amend the City of Hastings Comprehensive Plan Future Land Use Map by changing land use from Employment/Industrial to Suburban Residential for a tract of land comprising a part of the Southwest Quarter (SW ¼) of Section Seventeen (17), Township Seven (7) North, Range Nine (9) West of the 6th P.M., in the City of Hastings, Adams County, Nebraska, including part of Lots One (1), Two (2), Three (3) and Four (4) of Reed's Subdivision of Reed's Addition and Lots (1) and Two (2) of Osborne Subdivision to the City of Hastings, Adams County, Nebraska

Names of People/Business affected by this action:

Property owners and the City of Hastings.

Why Planning Commission action is required:

Amendments to the zoning map, the text of Chapter 34 Zoning, or any part of the Comprehensive Plan may be made after a public hearing by the Planning Commission. Upon the final hearing of such application, the Commission shall approve or deny the same and a report of such action, together with a recommendation for final approval or denial, shall be made by the Commission to the City Council (34-801).

Type of action requested:

Motion

Suggested motion:

Motion to recommend approval for an ordinance to amend the City of Hastings Comprehensive Plan Future Land Use Map by changing land use from Employment/Industrial to Suburban Residential for a tract of land comprising a part of the Southwest Quarter (SW ¼) of Section Seventeen (17), Township Seven (7) North, Range Nine (9) West of the 6th P.M., in the City of

Hastings, Adams County, Nebraska, including part of Lots One (1), Two (2), Three (3) and Four (4) of Reed's Subdivision of Reed's Addition and Lots (1) and Two (2) of Osborne Subdivision to the City of Hastings, Adams County, Nebraska

Deadlines associated with action:

City Council will review this recommended motion at the Regular City Council Meeting to be held on May 10, 2021.

Department head comments:

Staff first reviewed this matter when approached about a legal non-conforming residential structure located on the piece of land commonly addressed as 901 S. Elm Avenue that was built in 1936. Because this structure was built prior to the inception of zoning regulations in as far back as 1952 it can exist in the Heavy Industrial Zoning District in its current form. However, to change this structure by enlarging or altering it in a way that increases its non-conformity for both use and structure would violate City Code sections 34-603 & 34-604. Applicants have brought this to staff attention in a genuine attempt to vet any issues of this potential addition in order to comply with the zoning codes that regulate their property before adding onto their home. This particular owner owns several surrounding pieces of land in this area, besides the piece of land in Reeds Subdivision where this home lies.

In visiting this area, staff evaluated the overall uses not just of this particular property owner's use but also the stretch of land surrounding this area. More specifically the strip of land located directly to the east of US Highway (HWY) 6, just after it transitions from J Street to HWY 6 and curves north on the southeastern corner of the City limits line to the southwest corner of the City of Hastings Dog Park, then jogging southeast down this lot line to the edge of the city limits again, and then following the City limits line south. After analyzing this area further, staff realized the entire stretch is a hodgepodge of uses and structures, and most no longer seem to fit into a Heavy Industrial area. Its easy to see that this area has sat stagnant for some time while industrial uses migrated northeast off of South Street and also directly south of this area. Staff has traced this area as far back as 1976 where it was zoned Heavy Industrial, yet at that time was just outside the City limits. Where it once was likely appropriate to zone this area heavy industrial with a landfill located just to the north of this area (where the dog park now sits) and it being located on the outskirts of City limits; however, we now feel this strip no longer pertains to a heavy industrial zone. Times have changed. The dog park to the north remains industrial zoned due to the continual EPA-monitored issues staining this land from a less controlled and environmentally friendly landfill. Back when this was a landfill there were less Federal mandates to control landfills. This stretch will be more appropriately rezoned as a part of the City Parks and Recreation spaces or a City Public/Semi-public District (not yet in our current zoning districts) when these EPA issues are finally mitigated. It should be noted there was a conscious effort made when it became this use to change the Future Land Use Map for this area from its previous slated use of Urban Residential to Public/Semi-public in anticipation of zoning it to Parks and Recreation once these issues were fully mitigated. Directly to the south of the Dog Park and to the north of Reeds Subdivision there is farm land with an accessory structure. Further to the south of our applicant's property is a small-scale automobile sales business. Though this business is permitted in heavy industrial, it is also permitted in a commercial district, which could easily be justified as

an extension of the commercial strip that follows the highway corridor. Again, as we are not rezoning the entire strip, we are assessing the future needs for zoning of this area. A business existing in the current zoning will remain until uses are rezoned at an applicant's request, at which time the FLU for this area is considered.

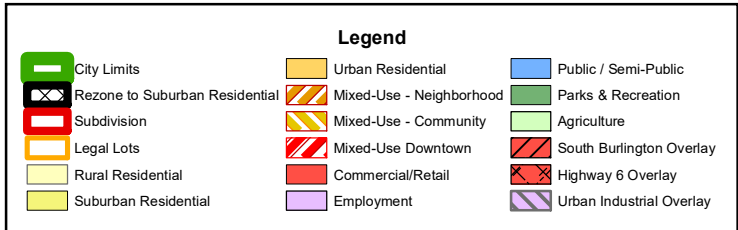
The real picture is revealed in our Comprehensive Plan vision for this surrounding area. In reviewing the FLU map, we see a strip of commercial which appears to follow the US HWY 6 corridor. This is a common place to see commercial expected to develop. What you will also observe is that on the west side of HWY 6 there is predominantly Urban Residential anticipated and to the north of the Public/Semi-public-zoned Dog Park there is more Urban Residential future outlook (i.e., Good Samaritan Village) and Parks and Recreation space.

In light of the final Housing Study 2020 recommendations to start addressing missing middle housing, it will be important to start identifying and slating additional areas within the City limits that could potentially serve this need. This also includes reassessing areas in our existing FLU that may be better served to fit residential housing needs. As we look at the overall FLU of the entire City you will also observe that the areas to the north, west and south all have areas identified as placeholders for residential use, but if you look at the southeastern quadrant of the Cities FLU there is considerably less slated for residential development and nearly none for Suburban Residential. With Industrial developments pushing further east and south we need to consider some of these areas as potential candidates for residential uses. As this same housing study also stated the importance of *ensuring the inclusive residential districts are equally allocated within all portions of the community*. This also means ensuring our Comprehensive FLU allows for that to happen equally.

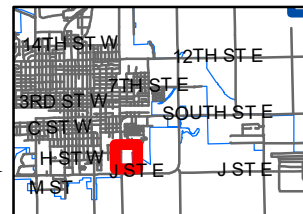
In summary, the surrounding area has been identified in the FLU for residential use and while this immediate area has been zoned and slated for heavy industrial use for nearly the last 50 years, the full capacity of that has never been realized because as the City grew and expanded these heavier uses pushed out further leaving the potential for this area limited to uses that no longer fit.

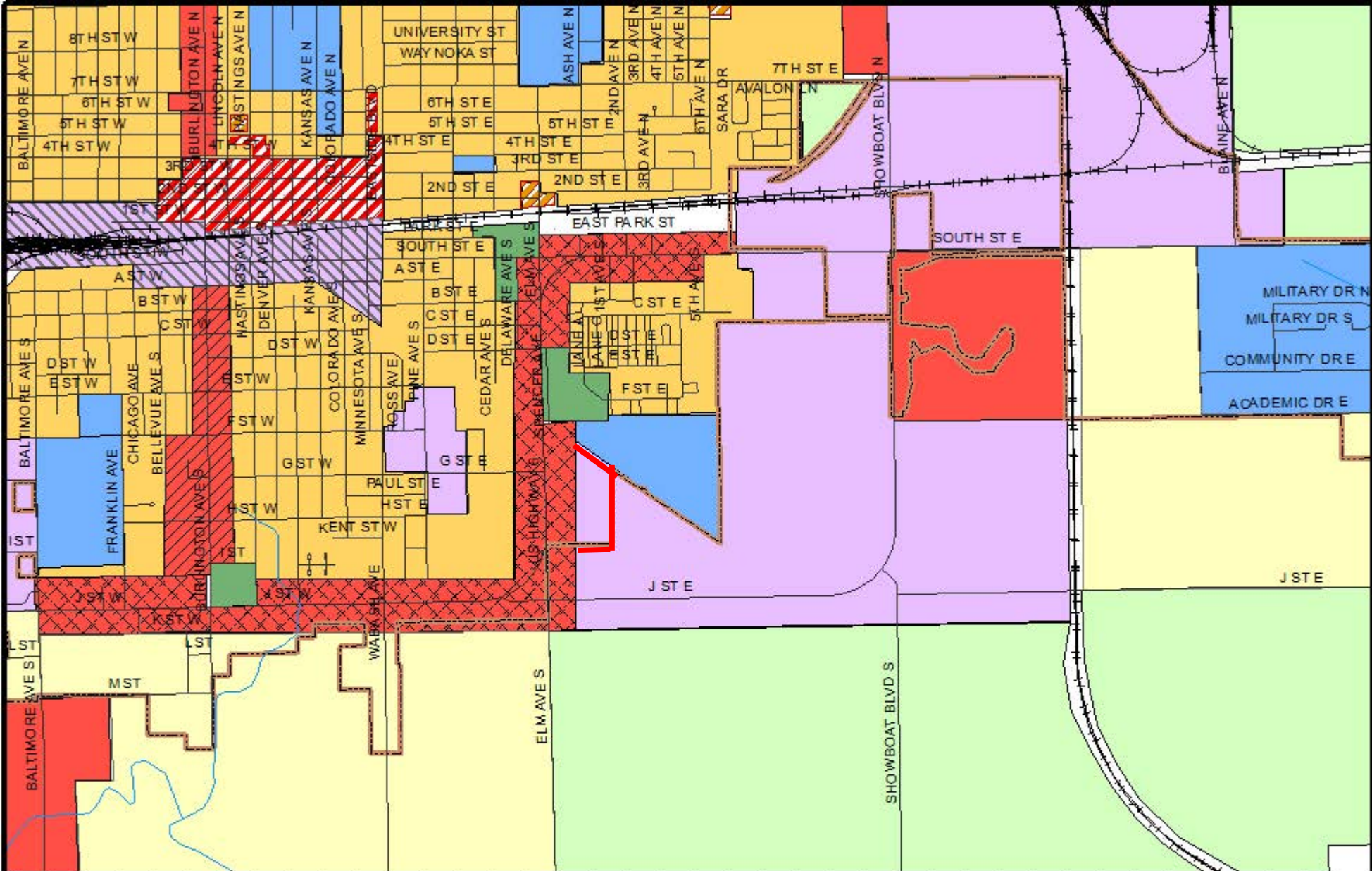
Recommendation:

Staff recommends a motion to recommend approval for an ordinance to amend the City of Hastings Comprehensive Plan Future Land Use Map by changing land use from Employment/Industrial to Suburban Residential for a tract of land comprising a part of the Southwest Quarter (SW ¼) of Section Seventeen (17), Township Seven (7) North, Range Nine (9) West of the 6th P.M., in the City of Hastings, Adams County, Nebraska, including part of Lots One (1), Two (2), Three (3) and Four (4) of Reed's Subdivision of Reed's Addition and Lots (1) and Two (2) of Osborne Subdivision to the City of Hastings, Adams County, Nebraska



N





Future Land Use

City of Hastings, Nebraska

0 800 1,600 3,200 Feet



Land Use:

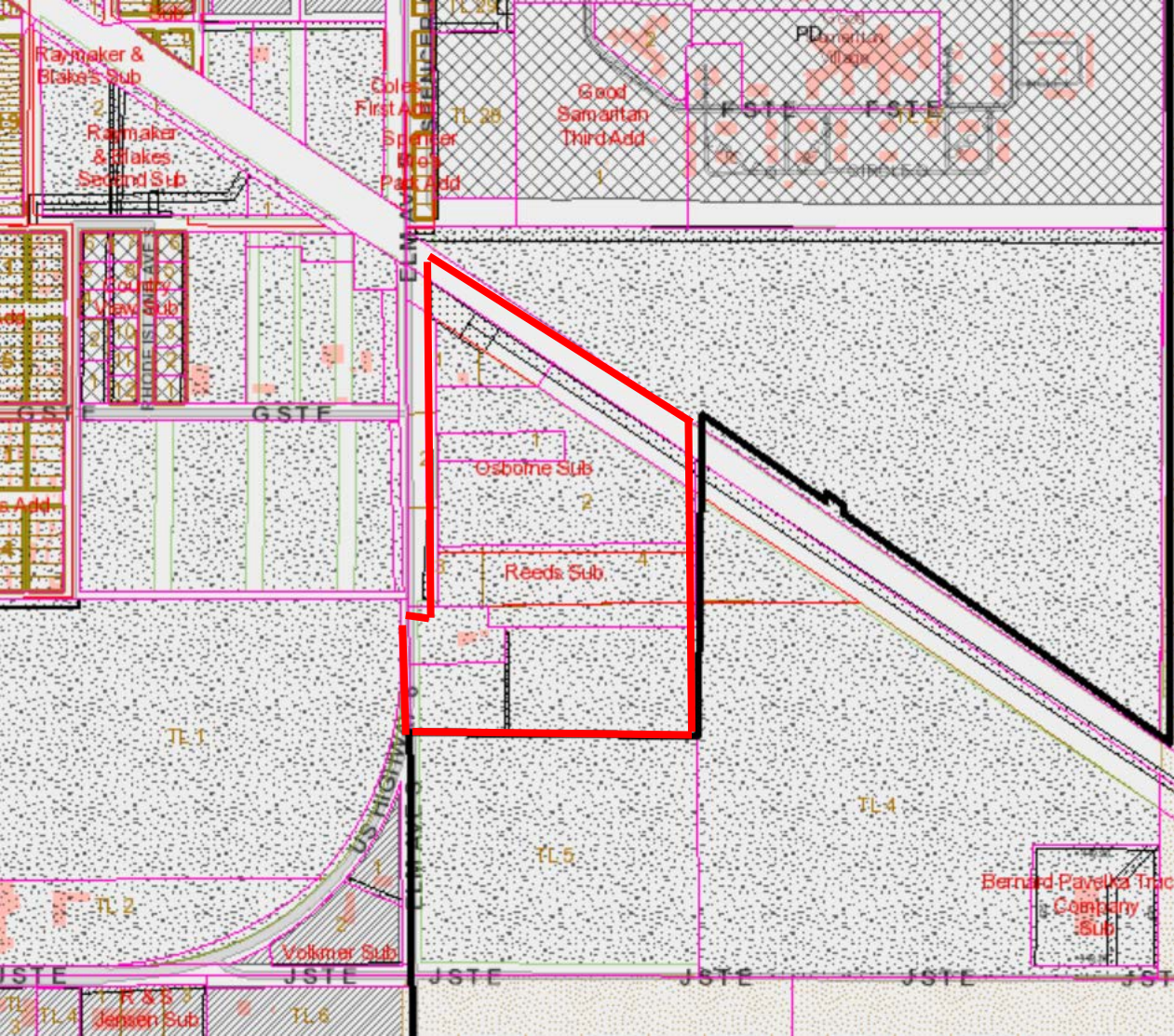
- Rural Residential
- Suburban Residential
- Urban Residential

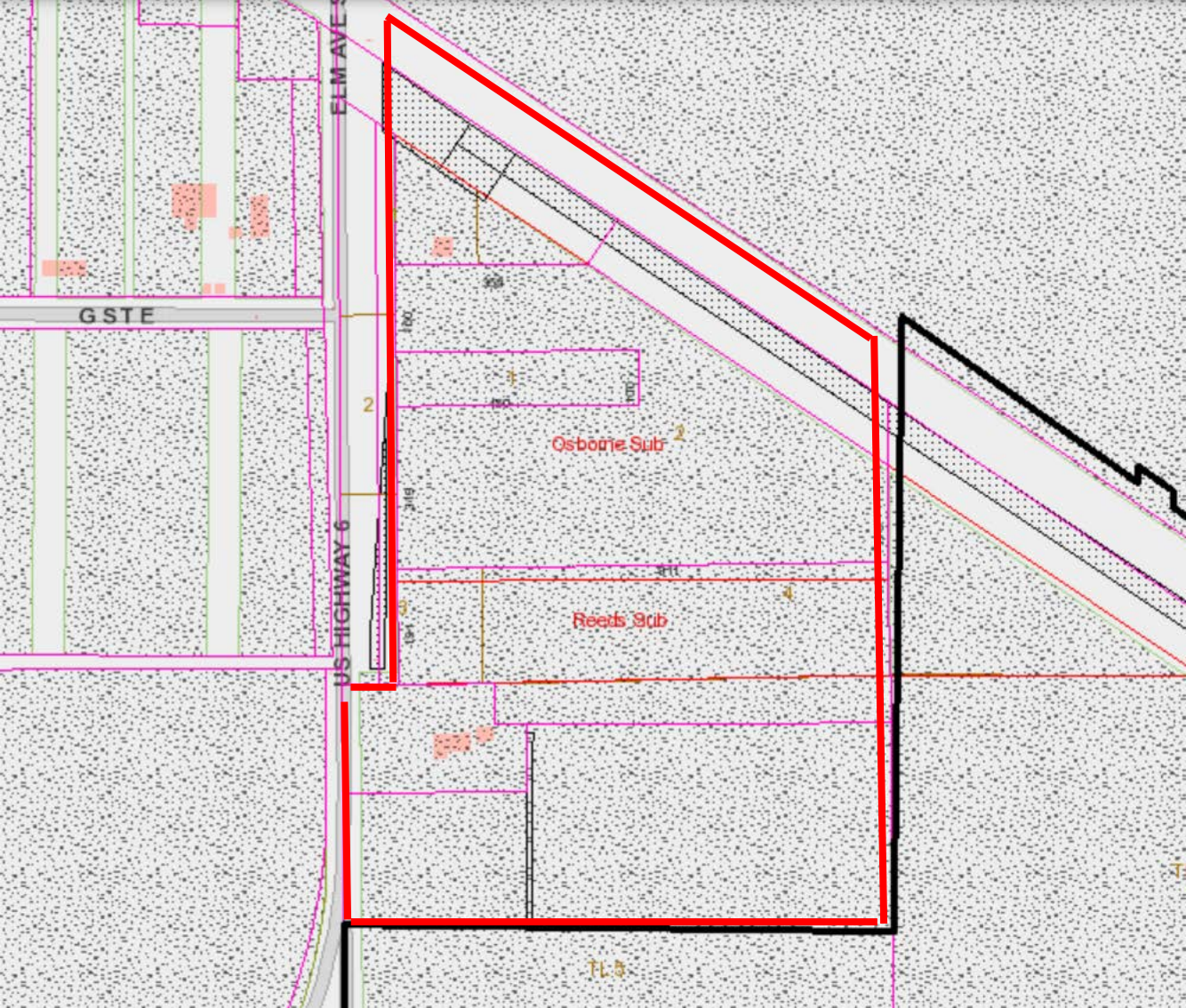
- Mixed-Use - Neighborhood
- Mixed-Use - Community
- Mixed-Use Downtown
- Commercial/Retail
- Employment/Industrial

- Public / Semi-Public
- Parks & Recreation
- Agriculture

Overlay Districts:

- South Burlington Overlay
- Highway 6 Overlay
- Urban Industrial Overlay
- Floodplain
- City Boundary
- ETJ Boundary





DATE 3 / 24 / 2021

FILE NO.

**PROJECT APPLICATION**

City of Hastings – Development Services
220 N. Hastings Avenue, Hastings, NE 68901
Phone: (402) 461-2302; Fax: (402) 461-2304
www.cityofhastings.org

Please check the appropriate box below to indicate the type of application you are requesting. Contact Development Services for minimum requirements. Incomplete applications will not be processed. All applications must be completed by applicant prior to submission with all of the requested support materials by the last Monday of each month or they will be held until the next deadline to be processed.

- | | | | |
|---|---|---|--|
| ☐ Preliminary Plat | ☐ Final Plat | ☐ Short Plat | ☐ Administrative Plat |
| ☐ Code Amendment | ☐ Zoning Change | ☐ Vacation (Plat / ROW / Easements) | |
| ☐ Conditional Use Permit / Amendment | ☐ Planned District / Amendment | ☒ Plan Modification to Redevelopment Plan | |
| ☐ Comprehensive Plan / Amendment | ☐ Annexation Petition / Addition to the City | | |

PROJECT INFORMATIONProject Name: Plan Modification #2021-3 to Redevelopment Area #1Project Address: 306 W. 2nd Within City Limit ☒ Yes ☐ NoExisting Zoning: C-2 Commercial Proposed Zoning / Use: C-2 CommercialExisting Comprehensive Plan Designation: _____ Gross Area: 11,000 sq ftLegal Description: The East Half of Lot Twenty-One (21), and Lots Twenty-Two (22) through Twenty-Four (24), inclusive, Block Nineteen (19), Johnson's Addition to the City of Hastings, Adams County, Nebraska, Number of Lots: 4**APPLICANT INFORMATION**Applicant: Randal Chick, Director, Community Redevelopment Authority Company: Community Redevelopment AuthorityAddress: 301 S. Burlington Tel: 402-461-8415 Fax: _____City: Hastings State: NE Zip: 68901 Email: bidcra@gmail.comProperty Owner: Robert Foote - Foote Realty Company Company: Foote Realty CompanyAddress: 3203 Osborne Drive West Tel: 402-462-5181 Fax: _____City: Hastings State: NE Zip: 68901 Email: bfoote@biggace.comKey Contact: Dr. David Waters Company: DAVALWAT Properties, LLCAddress: 52 Sonja Drive Tel: _____ Fax: _____City: Doniphan State: NE Zip: 68832 Email: drdavidewaters@gmail.com

I hereby acknowledge that all information provided with this application is true to the best of my knowledge.

Robert F. Foote

Property Owner Signature

3/25/2021

Date

Randal Chick

Applicant Signature

3/24/2021

Date

DEPARTMENTAL USE ONLYFees: \$400.00 Receipt No. _____Accepted by Staff: _____ Case No. _____
Signature

REDEVELOPMENT PLAN #1
PLAN MODIFICATION NO. 2021-3
(DAVALWAT Properties LLC
Redevelopment Project)

The Community Redevelopment Authority (CRA) of the City of Hastings intends to amend the Redevelopment Plan for Area #1 within the city, pursuant to the Nebraska Community Development Law (the "Act") and provide for the financing of a specific redevelopment related project in Area #1.

Executive Summary:

Project Description

The project consists of the purchase and redevelopment of the property located at 306 W. 2nd aka The East Half of Lot Twenty-One (21), and Lots Twenty-Two (22) through Twenty-Four (24), inclusive, Block Nineteen (19), Johnson's Addition to the City of Hastings, Adams County, Nebraska. The property will be acquired and renovated for commercial and storage uses, including fire/life safety improvements and building rehabilitation and remodeling.

The use of Tax Increment Financing to aid in rehabilitation expenses associated with redevelopment of the property into a mixed-use building containing up to 60 indoor temperature controlled self-storage units and up to 4,500 square feet of medical offices. The use of Tax Increment Financing is an integral part of the development plan and necessary to make this project affordable. The project will result in renovation of this historic building into a combination of storage and medical office space. This project would not be possible without the use of TIF.

DAVALWAT Properties LLC will purchase the property and currently the building is vacant. The developer is in the process of finalizing development plans and will provide evidence that they have secured adequate debt financing and equity to cover the costs associated with the remodeling and rehabilitation of this building prior to the execution of a Redevelopment Contract. The Hastings Community Redevelopment Authority (CRA) intends to pledge the ad valorem taxes generated over the 15-year period beginning January 1, 2022 towards the allowable costs and associated financing for rehabilitation.

TAX INCREMENT FINANCING TO PAY FOR ACQUISITION AND THE REHABILITATION OF THE PROPERTY WILL COME FROM THE FOLLOWING REAL PROPERTY:

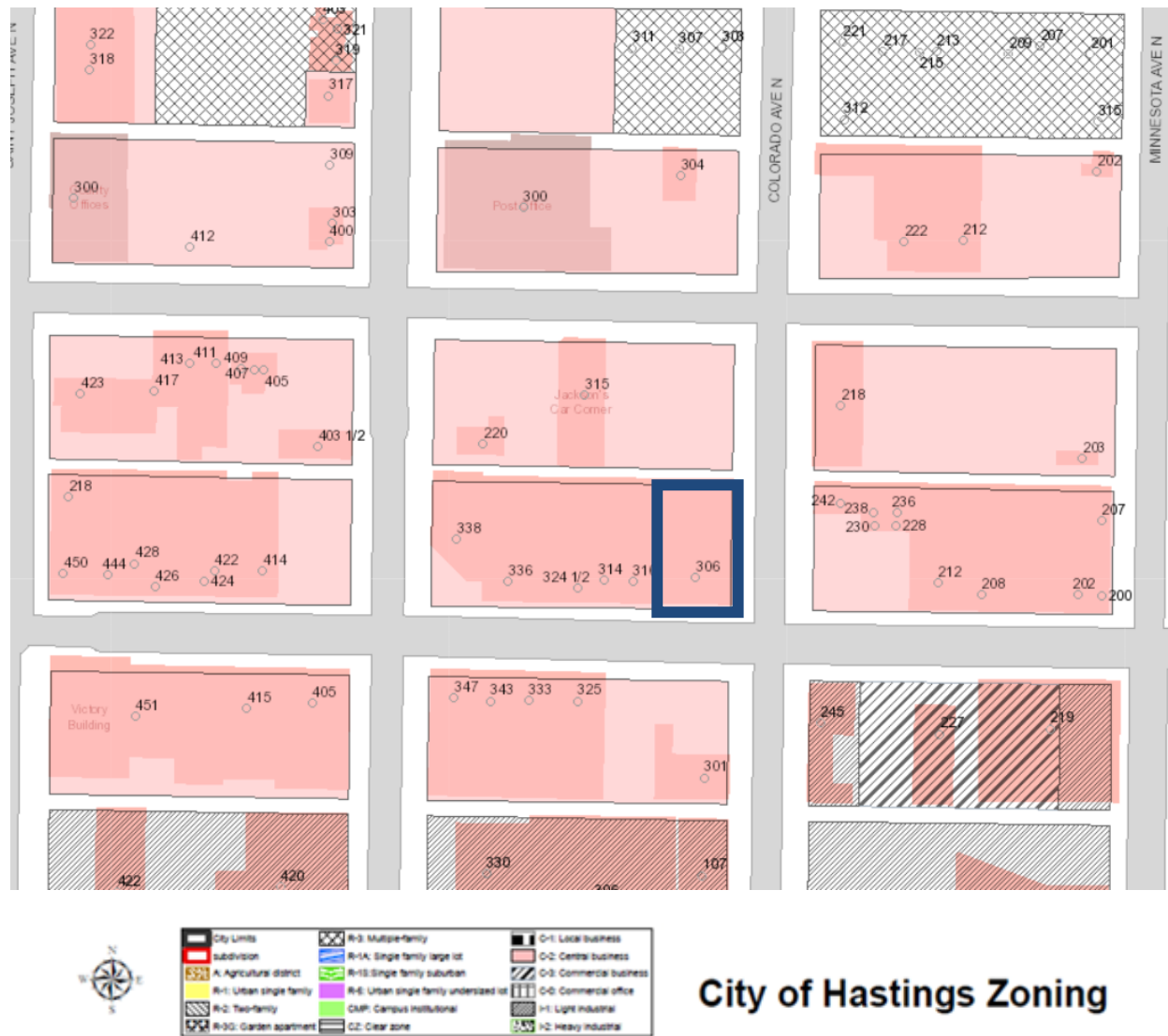
Property Description (the "Redevelopment Project Area")

306 W. 2nd in Hastings, Nebraska

Legal Description: The East Half of Lot Twenty-One (21), and Lots Twenty-Two (22) through Twenty-Four (24), inclusive, Block Nineteen (19), Johnson's Addition to the City of Hastings, Adams County, Nebraska,

DAVALWAT Properties LLC will utilize Tax Increment Financing to aid in site acquisition, site preparation, interior demolition, rehabilitation of the structure, façade enhancements, architectural, engineering and planning costs, capitalized interest, and legal fees, public parking and any other eligible public improvements essential for public uses in accordance with the Redevelopment Plan.

Map of Existing Land Use and Proposed Redevelopment Site



The tax increment will be captured for the tax years the payments for which become delinquent in years 2022 through 2036 inclusive.

The real property ad valorem taxes on the current valuation will continue to be paid to the normal taxing entities. The increase in value will come from the construction of up to 60 climate-controlled storage units and 4,500 square feet of medical office space as permitted by conditional use in the C-2 Commercial Zoning District. The tax increment will be captured for the tax years 2022 through 2036 inclusive. Provided, however, if there is no increase in valuation for the 2022 tax year, the increment will be captured beginning in the year when an increase in value is available for capture and ending fifteen years later.

Project costs for the acquisition, façade enhancements, renovation of the main floor to include climate-controlled storage and medical office space are estimated to be \$851,000. The anticipated project valuation when completed is \$750,000 and the developer projects an incremental valuation increase of approximately \$603,718.

Statutory Pledge of Taxes.

In accordance with Section 18-2147 of the Act and the terms of the Resolution providing for the issuance of the TIF Note, the Authority hereby provides that any ad valorem tax on the Redevelopment Project Area for the benefit of any public body be divided for a period of fifteen years after the effective date of this provision as set forth in the Redevelopment Contract, consistent with this Redevelopment Plan, Said taxes shall be divided as follows:

- a) That portion of the ad valorem tax which is produced by levy at the rate fixed each year by or for each public body upon the redevelopment project valuation shall be paid into the funds, of each such public body in the same proportion as all other taxes collected by or for the bodies; and
- b) That portion of the ad valorem tax on real property in the redevelopment project in excess of such amount, if any, shall be allocated to and, when collected, paid into a special fund of the Authority to pay the principal of; the interest on, and any premiums due in connection with the bonds, loans, notes, or advances on money to, or indebtedness incurred by, whether funded, refunded, assumed, or otherwise, such Authority for financing or refinancing, in whole or in part, a redevelopment project. When such bonds, loans, notes, advances of money, or indebtedness including interest and premium due have been paid, the Authority shall so notify the County Assessor and County Treasurer and all ad valorem taxes upon real property in such redevelopment project shall be paid into the funds of the respective public bodies.

Pursuant to Section 18-2150 of the Act, the ad valorem tax so divided is hereby pledged to the repayment of loans or advances of money, or the incurring of any indebtedness, whether funded, refunded, assumed, or otherwise, by the CRA to finance or refinance, in whole or in part, the redevelopment project, including the payment of the principal of, premium, if any, and interest on such bonds, loans, notes, advances, or indebtedness.

Redevelopment Plan Amendment Complies with the Act:

The Community Development Law requires that a Redevelopment Plan and Project consider and comply with a number of requirements. This Plan Amendment meets the statutory qualifications as set forth below.

- 1. The Redevelopment Project Area was first declared blighted and substandard by action of the Hastings City Council on March 23, 1987 (Resolution No. 1069). In September of 2017 a blight and substandard study was completed and the area was re-declared blighted and substandard by action of the Hastings City Council on November 13, 2017. (§18-2109) Such declaration was made after a public hearing with full compliance with the public notice requirements of §18-2115 of the Act,**
- 2. Conformation to the General Plan for the Municipality as a whole. (§18-2103 /13) (a) and §18-2110)**

Hastings adopted a Comprehensive Plan on February 24, 2009. This redevelopment plan amendment and project are consistent with the Comprehensive Development Plan, in that no changes in the Comprehensive Development Plan elements are intended. This plan merely provides funding for the developer to preserve a historic building for storage and medical office uses on this property as defined by the current and effective zoning regulations. The Hastings Planning Commission will hold a public hearing at their meeting on April 20, 2021 to approve Plan Modification No. 2021-3 to Redevelopment Plan I confirming that this project is consistent with the Comprehensive Development Plan for the City of Hastings.

3. The Redevelopment Plan must be sufficiently complete to address the following items: (§18-2103/13) (b)

a. Land Acquisition:

The Redevelopment Plan for Area I provides for real property acquisition and this plan amendment does not prohibit such acquisition. Foote Realty Company is the current owner of the building on which the Project will be constructed and the developer plans to acquire the property.

b. Demolition and Removal of Structures:

The project to be implemented with this plan does not provide for the demolition and removal of any structures on this property.

c. Future Land Use Plan

See the attached map from the 2009 Hastings Comprehensive Development Plan. All of the area around the site in private ownership is planned for Downtown Mixed Use Commercial development; this includes commercial and office uses within the same structure. The attached map also is an accurate site plan of the area after redevelopment. [§18-2111(5))

Future Land Use Map



Future Land Use
City of Hastings, Nebraska
712 W. 1st St and 119 N. Hastings Ave.
0 25 50 100 Feet



d. Changes to zoning, street layouts and grades or building codes or ordinances or other planning changes

The area is zoned C-2 Commercial District and no zoning changes are anticipated with this project. No changes are anticipated in street layouts or grades. No changes are anticipated in building codes or ordinances nor are any other planning changes contemplated. [§18-2103(b) and §18-2111]

e. Site Coverage and intensity of Use

The developer is rehabilitating the existing building and the current building meets the applicable regulations regarding site coverage and intensity of use. [§18-2103(b) and §18-2111]

f. Additional Public Facilities or Utilities

Sewer, water, gas and electric are available to support this development.

4. The Act requires a Redevelopment Plan provide for relocation of individuals and families displaced as a result of plan implementation. This property has previously been utilized for commercial related uses and no relocation is contemplated or necessary. [§18-2103.02]

5. No member of the Authority, nor any employee thereof holds any interest in any property in this Redevelopment Project Area. [§18-2106]

6. Section 18-2114 of the Act requires that the Authority consider:

1. Method and cost of acquisition and preparation for redevelopment and estimated proceeds from disposal to redevelopers.

The developer plans to purchase the property and acquisition is part of the request for tax increment financing. The CRA has been asked to provide \$145,000 in TIF funding to this project to offset the cost of TIF eligible expenditures. The CRA has identified the following developer TIF eligible expenses for the developers proposed improvements;

- a) site acquisition - \$125,000
- b) structure rehabilitation costs - \$485,000
- c) public parking and sidewalks - \$50,000
- d) capitalized interest on TIF borrowing - \$9,000

The total TIF eligible expenses for this project are \$669,000. The property will be purchased by the developer and the developer will provide and secure all necessary financing.

2. Statement of proposed method of financing the redevelopment project.

The developer will provide all necessary financing for the project. The Authority will assist the project by granting the sum of \$145,000 from the proceeds of the TIF. The proceeds from TIF after the interest is paid will result in approximately \$193,060 of direct aid to the project. This indebtedness will be repaid from the Tax Increment Revenues generated from the project. TIF revenues shall be made available to repay the original debt and associated interest after January 1, 2022 through December 2036.

3. Statement of feasible method of relocating displaced families.

No families will be displaced as a result of this plan.

7. Section 18-2113 of the Act requires:

Prior to recommending a redevelopment plan to the governing body for approval, an authority shall consider whether the proposed land uses and building requirements in the redevelopment project area are designed with the general purpose of accomplishing, in conformance with the general plan, a coordinated, adjusted, and harmonious development of the city and its environs which will, in accordance with present and future needs, promote health, safety, morals, order, convenience, prosperity, and the general welfare, as well as efficiency and economy in the process of development, including, among other things, adequate provision for traffic, vehicular parking, the promotion of safety from fire, panic, and other dangers, adequate provision for light and air, the promotion of the healthful and convenient distribution of population, the provision of adequate transportation, water, sewerage, and other public utilities, schools, parks, recreational and community facilities, and other public requirements, the promotion of sound design and arrangement, the wise and efficient expenditure of public funds, and the prevention of the recurrence of insanitary or unsafe dwelling accommodations or conditions of blight.

The Authority has considered these elements in proposing this Plan Amendment. This amendment, in and of itself will promote consistency with the Hastings Comprehensive Development Plan. This will have the intended result of preventing recurring elements of unsafe buildings and blighting conditions. This will accomplish the goal of both the Downtown Business Improvement District and the Hastings City Council of the prevention of the recurrence of insanitary or unsafe dwelling accommodations or conditions of blight.

8. Time Frame for Development

Development of this project is anticipated to be completed between June 2021 and December 2021. Excess valuation should be available for this project for 15 years beginning with the 2022 tax year.

9. Justification of Project

This is a historic building in downtown Hastings that will be preserved with this project. The main floor will be used for climate controlled self-storage and professional medical office space. The renovation of this building will help to prevent the reoccurrence of blight and substandard conditions in the area.

10. Cost Benefit Analysis

Section 18-2113 of the Act, further requires the Authority conduct a cost benefit analysis of the plan amendment in the event that Tax Increment Financing will be used. This analysis must address specific statutory issues.

As authorized in the Nebraska Community Development Law, §18-2147, Neb. Rev. Stat. (2012), the City of Hastings has analyzed the costs and benefits of the proposed Redevelopment Project, including:

Project Sources and Uses.

Approximately \$193,060 in public funds from tax increment financing provided by the Hastings Community Redevelopment Authority will be required to complete the project. This investment by the Authority and the City will leverage \$706,000 in private sector financing; a private investment of \$3.65 for every public/TIF dollar of investment.

USE OF FUNDS		SOURCE OF FUNDS	
Site Acquisition/site development	\$125,000	Bank Financing	\$581,000
Renovation costs	\$676,000	Owner Equity	\$125,000
Public parking/Sidewalks	\$50,000	TIF	\$145,000
TOTALS	\$851,000	TOTALS	\$851,000

Tax Revenue. The property to be redeveloped is anticipated to have a January 1, 2021, valuation of approximately \$146,282. Based on the 2020 levy of .02258475 this would result in real property taxes of approximately \$3,154.20 which will be paid out to all the existing taxing entities. It is anticipated that the assessed value will increase by \$603,718 upon full completion, as a result of the building redevelopment. This development will result in an additional estimated tax increase of over \$13,634 annually. This tax increment gained from the Redevelopment Project Area would not be available for use as city general tax revenues, for a period of 15 years, or such shorter time as may be required to amortize the TIF bond, but would be used for eligible private redevelopment costs to enable this project to be realized.

Actual 2020 assessed value:	\$146,282
Estimated value after completion	\$750,000
Increment value	\$603,718
Annual TIF generated (estimated)	\$13,634
TIF bond issue	\$145,000

Statement Identifying Financial Gap and Necessity for use of Tax Increment Financing for proposed Project:

A large financial gap exists on this project after conventional financing is utilized. A combination of owner equity, TIF and other incentives are needed to make the project feasible. The developer is contributing owner equity/bank financing of \$706,000 and TIF funding is intended to fill the remaining gap, making this project feasible. The project is asking for \$145,000 in a TIF loan amortized over 15 years. Without the availability of TIF funding for the project, it would not be feasible for the developer to proceed with this redevelopment. Please see the table below which shows rate of returns from 1.37% to 2.30% without TIF funding which is an unacceptable return on investment in today's market.

Proforma Operating Statement w/o TIF						
			<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>	<u>Year 4</u>
Rent Revenue			\$ 100,806	\$ 100,806	\$ 100,806	\$ 100,806
Expenses			\$ (34,539)	\$ (34,930)	\$ (35,329)	\$ (35,735)
NOI Without TIF			\$ 66,267	\$ 65,876	\$ 65,477	\$ 65,071
Debt Service			\$ (63,356)	\$ (63,356)	\$ (63,356)	\$ (63,356)
Cash Flow Without TIF			\$ 2,911	\$ 2,520	\$ 2,121	\$ 1,715
Cash on cash return wo/TIF			2.30%	2.01%	1.70%	1.37%
Equity Investment			\$ 125,000	\$ 125,000	\$ 125,000	\$ 125,000

Proforma with TIF

Expenses		\$ (34,539)	\$ (34,930)	\$ (35,329)	\$ (35,735)
NOI Without TIF		\$ 66,267	\$ 65,876	\$ 65,477	\$ 65,071
Debt Service		\$ (50,711)	\$ (50,711)	\$ (50,711)	\$ (50,711)
Cash Flow Without TIF		\$ 15,556	\$ 15,165	\$ 14,766	\$ 14,360
Rate of return with TIF		12.44%	12.13%	11.81%	11.48%
Equity Investment		\$ 125,000	\$ 125,000	\$ 125,000	\$ 125,000

(a) Tax shifts resulting from the approval of the use of Tax Increment Financing;

The redevelopment project area currently has an estimated valuation of \$146,282. The proposed redevelopment will create additional valuation of \$603,718. No tax shifts are anticipated from the project. The project creates new valuation from the rehabilitation of an historic building which will support taxing entities long after the project is paid off.

(b) Public infrastructure and community public service needs impacts and local tax impacts arising from the approval of the redevelopment project;

No additional public service needs have been identified. Existing water and waste water facilities will not be impacted by this development. The electric utility has sufficient capacity to support the development. Fire and police protection are available and should not be negatively impacted by this development. The addition of life safety elements to this building including rated separations and proper exits actually reduce the chances of negative impacts to the fire department.

(c.) Impacts on employers and employees of firms locating or expanding within the boundaries of the area of the redevelopment project; and

This project will not have a negative impact on employers and employees of firms locating within the boundaries of the redevelopment area but will create new opportunities for these same firms to lease storage space. The project will also provide renovated medical offices in the downtown area consistent with the planned development in Downtown Hastings.

(d.) Impacts on other employers and employees within the city or village and the immediate area that are located outside of the boundaries of the area of the redevelopment project; and

This project will not have a negative impact on other employers in any manner different from any other expanding business within the Hastings area.

(e) Impacts on student populations of school districts within the City or Village:

There is no additional housing associated with this project and it is not anticipated that this will impact schools in any significant way.

(e) Any other impacts determined by the authority to be relevant to the consideration of costs and benefits arising from the redevelopment project.

This project is consistent with the goals of the City Council, the Business Improvement District and the Community Redevelopment Authority to support the renovation and redevelopment of existing

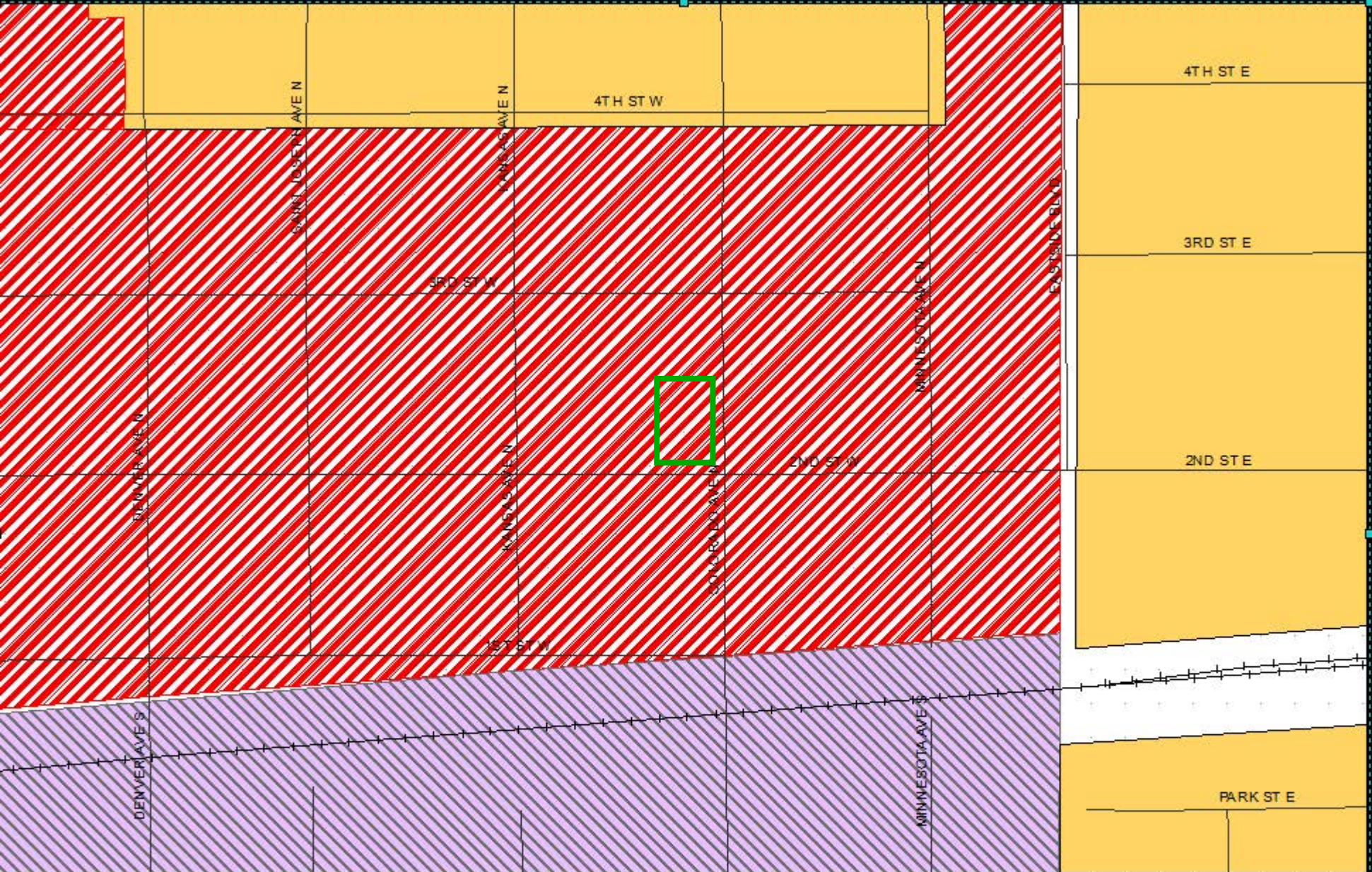
buildings. The project will create additional jobs in the medical field and provide needed climate-controlled storage for downtown residents and business owners.

(f) Any other impacts determined by the authority to be relevant to the consideration of costs and benefits arising from the redevelopment project.

This project is consistent with the goals of the City's Comprehensive Plan, and the 2013 Downtown Hastings Revitalization Plan.

Time Frame for Development

Development of this project is anticipated to be completed between June of 2021 and December of 2021. The base tax year should be calculated on the value of the property as of January 2020. Excess valuation should be available for this project for 15 years beginning in 2022 with taxes due in 2023. Excess valuation will be used to pay the TIF Indebtedness issued by the CRA per the contract between the CRA and the developer for a period not to exceed 15 years on an amount not to exceed \$145,000 the projected amount of increment based upon the anticipated value of the project and current tax rate.



Future Land Use

City of Hastings, Nebraska

0 100 200 400 Feet

Land Use:

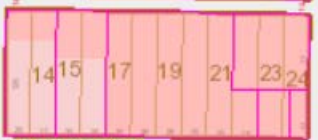
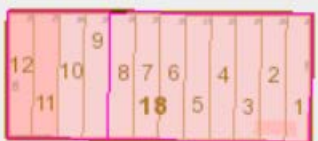
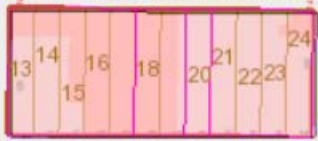
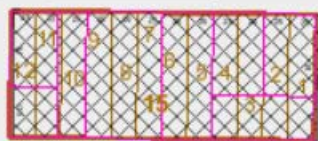
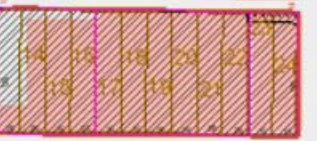
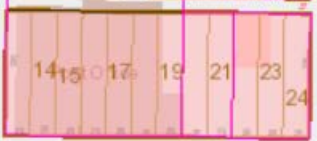
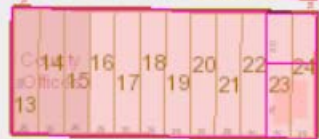
-  Rural Residential
-  Suburban Residential
-  Urban Residential

-  Mixed-Use - Neighborhood
-  Mixed-Use - Community
-  Mixed-Use Downtown
-  Commercial/Retail
-  Employment/Industrial

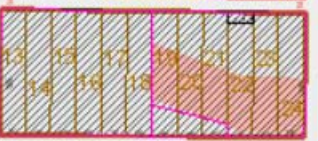
-  Public / Semi-Public
-  Parks & Recreation
-  Agriculture

Overlay Districts:

-  South Burlington Overlay
-  Highway 6 Overlay
-  Urban Industrial Overlay
-  Floodplain
-  City Boundary
-  ETJ Boundary



Johnsons Add



Department: Development Services
Staff Contact: Lisa Parnell-Rowe
Planning Commission Meeting Date: 4/20/2021
File No: 2021-019
Prepared By: Emilia Kienbaum, Administrative Assistant

AGENDA ITEM SUMMARY SHEET

Description of Item:

Public hearing to recommend a request for a Conditional Use Permit (CUP) for First Presbyterian Church Peace Center commonly addressed as 715 W. 7th St, City of Hastings, Adams County, Nebraska.

Motion to recommend approval for a CUP resolution for First Presbyterian Church Peace Center commonly addressed as 715 W. 7th Street, City of Hastings, Adams County, Nebraska.

Names of People/Business affected by this action:

The applicant, the people of Hastings, and the City

Why Planning Commission action is required:

Neb. Rev. Stat. 19-929 requires a conditional use permit to be approved by the City Council unless the City Council has, through a zoning ordinance or special ordinance, generally authorized the Planning Commission to exercise such power and has approved the standards and procedures adopted by the Planning Commission for equitably and judiciously granting such conditional uses or special exceptions. City Code 34-401 requires a recommendation from the Planning Commission before City Council can approve a CUP.

Type of action requested:

Motion

Suggested motion:

Motion to recommend continuance for a CUP resolution for First Presbyterian Church Peace Center commonly addressed as 715 W 7th Street, City of Hastings, Adams County, Nebraska with the following conditions:

- 1) Applicant agrees to enforce Peace Center reduced maximum occupancies to no more than 299 persons in the Peace Center at one time. Occupancies for outdoors events must also follow this occupancy level for their other events and activities.
- 2) Applicant agrees to pull building permit for southern parking lot improvements when ready to accomplish this project. At that time City staff will review this parking lot site plan improvement Conditional Use Permit standards as found in Chapter 34-404 (6).
- 3) There shall be compliance with any other applicable City, County, State or Federal regulations that shall apply.
- 4) This resolution shall be filed with the registrar of deeds so as to provide notice to any person

examining the real estate records of the existence of this CUP. The recording costs incurred to comply with this section shall be paid by the applicant for the CUP

Deadlines associated with action:

This item is rescheduled to be heard at the next regular Planning Commission Meeting May, 18, 2021.

Department head comments:

Staff is requesting that the public hearing on this item be opened to address any potential parties to speak for or against this item, but then continued for more time to prepare case. First submittal of this application and supporting narrative and site plans were incomplete and the second submittal of the narrative was again incomplete. A third attempt was not provided in a timely manner leaving staff with less than 15 calendar days to prepare. The CUP portion of this permit to allow the existing uses as a neighborhood assembly are complete, but the portion to detail the proposed Food Truck when finally received as part of the narrative included details not yet aware of based on Site Visit and past email discussions. These were submitted later than requested as well.

Staff is recommending at this time that this application be continued in the May 18, 2021 agenda after there is more time to assess the food truck and any changes regarding that portion of use on this property.

Recommendation:

Staff is recommending a motion that this CUP request be continued to the May 18, 2021 Planning Commission agenda.

To: Lisa Parnell-Rowe
From: Tony Calhoun, First Presbyterian Church
RE: PEACE Center Narrative

Included in this document are:

Color coded map of building
Parking lot map (with proposed electricity pole location on the west side with a red X)
Room dimensions
Fire extinguisher locations
Escape Route

1. **Room #1** is color coded RED, and it is the SW Garage
Dimensions: 33x35
Total square Footage: 1155 sq. ft
Use: Van Storage, Workshop, Piano Studio
2. **Room #2** is color coded GREEN, and it is the Senior High Fellowship Room
Dimensions: 35x35
Total square Footage: 1225 sq. ft
Use: Senior High Fellowship Classes
3. **Room #3** is color coded PURPLE, and it is the NW Classroom (with kitchenette and bathroom)
Dimensions: 35x35
Total square Footage: 1225 sq. ft
Use: Spanish Language Classes, United Harvest Staging Area, Walker's Fellowship Group, Family Reunions
4. **Room #4** is color coded BLACK and is the Gymnasium (includes 3 separate storage rooms located under the bleachers. One is used by Hastings Food Pantry for overflow canned goods, 2 are used by Hearts and Hands Against Hunger)
Dimensions: 80x94
Total square Footage: 7520 sq. ft
Use: Pickleball, Red Tide Basketball teams, United Harvest, Walker's exercise group, Multi-Purpose Worship Center
5. **Room #5** is color coded YELLOW, and is the NE Classroom (with large, mirrored wall)
Dimensions: 33x36
Total square Footage: 1188 sq. ft
Use: Spanish Folkloric Dance Group, Dog Obedience Classes, United Harvest Staging, Birthday Parties, Day of the Dead Celebrations
6. **Room #6** is color coded ORANGE and is the East Central Room (has upstairs locked access area as well as the roof hatch)
Dimensions: 22x46
Total square Footage: 1012 sq. ft
Use: United Harvest Staging/Prayer Room, Spanish Folkloric Dance Group, Dog Obedience class waiting room
7. **Room #7** is color coded BLUE and is the SE Garage
Dimensions: 16x35
Total square Footage: 560 sq. ft
Use: United Harvest Storage, Farmers to Families weekly food box distribution

8. **Room #8** is color coded BROWN and is Quilter's room
Dimensions: 15x33
Total square Footage: 495sq. ft
Use: FPC Quilter's
9. **Room #9** is color coded RED and is Heart's and Hands Against Hunger East (has small unused space upstairs that is **kept locked and is inaccessible.**)
Dimensions: 33x36
Total square Footage: 1188 sq. ft
Use: Heart's and Hands Against Hunger-Use material from the Orphan Grain Train from Norfolk, NE, to assemble meals which are then distributed worldwide to predominately third world countries as of March 2021, over 7M meals have been packed at this location
10. **Room #10** is color coded PURPLE and is Heart's and Hands Against Hunger West (has small unused space upstairs that is **kept locked and is inaccessible.**)
Dimensions: 33x46
Total square Footage: 1518. ft
Use: Heart's and Hands Against Hunger
11. **Room #11** is color coded BROWN and is the Boiler Room
Dimensions: 15x33
Total square Footage: 495 sq. ft
Use: Building Mechanical Room
12. **Room #12** are the Male and Female Locker Rooms and restrooms (Showers are decommissioned) Both locker rooms have upstairs storage rooms that are **kept locked and are inaccessible.**
Use: Red Tide Basketball teams

Additional Narrative Information:

REGULAR COMMUNITY USE OF THE BUILDING

Food/Feeding Ministries (See attached photos)

- Hearts and Hands Against Hunger Food Packing Ministry – A collaborative community ministry run by the Kiwanis Club that uses the space in rooms 9 and 10 on the map. They bring in outside groups to pack meals that are shipped around the world for disaster response and food relief by Orphan Grain Train. They have 1-4 food packing events each week with groups of 5-50 people.
- United Harvest Mobile Food Pantry – A joint ministry of First Presbyterian Church of Hastings and First United Methodist Church of Hastings. Once a month, on the 3rd Saturday of the month, the entire PEACE Center is converted into a mobile food pantry. 400-500 families are served with a food distribution equivalent to about one weeks worth of groceries. The food comes in on Saturday morning in a semi truck from the Foodbank of the Heartland in Omaha. It is off loaded into the PEACE Center, broken down into food boxes, and distributed to families. Families come from about a 50 mile radius around Hastings to receive the distribution. The distribution takes place over 4 hours, so there are never more than 200 people in the building including recipients and volunteers. This utilizes the whole building.
- Hastings Food Pantry Storage and Sorting Facility – A joint ministry of many churches in Hastings, the Hastings Food Pantry provides a food box distribution to families in need. The Hastings Food Pantry stores and sorts the nonperishable canned goods in the PEACE Center. Every time there is a food drive in Hastings (boy scouts, postal service, etc.) they get thousands of pounds of food that are stored and sorted in the PEACE Center and then taken to the distribution center at First St. Paul's church.

Recreation Ministries (See attached photos)

- Weekday Walking Group – Most weekday mornings, 5-10 senior citizens gather and walk around the gym for 30-60 minutes and then share coffee in the northwest classroom (room 3 on map.)
- Pickleball Group – On Mondays there is an open-gym pickleball group that attracts 4-10 players. On Tuesday and Thursday Evenings the Hastings Pickleball Club plays in the gym.
- Red Tide Homeschool Basketball League – PEACE Center Gym, used 2 times per week
- Wednesday Night Live and Youth Group – Building is utilized on Wednesday afternoons for recreation for a community-wide Children's Christian Education program called "Wednesday Night Live." On Wednesday evenings the building is utilized for recreation and meeting space for the high school youth group
- Boy Scouts – Troop 200 utilizes the PEACE Center for recreation
- Raices de mi Pueblo – Mexican folkloric dance group holds their practices and social events in the PEACE Center. This is part of First Presbyterian Church's outreach to the Hispanic/Latino Community in Hastings

Community Use (See attached photos)

- Central Community College utilizes classroom space
- Classroom space is offered for local families to hold birthday parties and graduation parties
- Hannah Jensen has a piano studio with 50+ private piano students

PARKING

The current configuration of the parking lot provides 95 parking spaces.

Once a month during the United Harvest Mobile Food Pantry, all of the parking lot spots are in use. Food recipients cycle through the parking lot over a 4 hour period.

At special events like weddings and funerals, up to 95 of the parking spots can be in use.

On Sunday mornings during the church hour, 50-80 of the parking spots are in use.

During the rest of the week, there are generally 20-30 cars parked in the lot on a given day, most often in the parking spots that are adjacent to the building.

We are aware that the parking lot is in need of attention and are putting a plan in place to patch the holes in the parking lot.

OCCUPANCY

We are applying for a CUP as a "Neighborhood Community Center." We understand that usage for a "Community Center" is defined in the City Code to not exceed 350 maximum capacity. The church would prefer to maintain a maximum building capacity of 299 as opposed to allowing for 350. This reduced maximum capacity of 299 would avoid certain improvements (i.e., sprinklers) that are too costly at this time to install and maintain. The church is willing to allow this condition of 299 regarding this maximum capacity and we will enforce that capacity.

The church also understands and is willing to enforce a condition in our permit that the upstairs areas in the PEACE Center will remain locked, unused and inaccessible due to the many safety concerns/code issues with these areas. Those areas will be locked and the Facilities Manager of First Presbyterian Church of Hastings will be the only person with a key. That will keep people out of those spaces when various groups are using the building.

BUILDING USE AGREEMENT

Included is a copy of our building use agreement which also explains the rates charged (member and non-member), the requirements, the scheduling and the process to go about using the facility for an event. The point of contact for outside groups that wish to use the building is the church's Office Administrator. She works Monday-Friday, 8:30am-4:30pm and can be reached by phone at 402-462-5147

Building use agreements are all approved by the Trustees of the church, a group of 9 volunteers who meet monthly to oversee the facilities and finances. We ask that building use requests be submitted with at least 1 month notice for approval. The requirements to clean and pickup and close the building are included in the building use agreement.

FOOD TRUCK MINISTRY PROPOSAL

In addition to the use of the PEACE Center (old middle school annex building) outlined above, we also propose using the parking lot for a food truck ministry.

There are two components of this proposal which we will described in detail below:

1. Beto's Tacos Food Truck parked on an ongoing basis

The church does not own the food truck. The church is not seeking to earn revenue from the food truck. The church does not see this as a "commercial use," we see this as part of our ministry and mission, much like providing rooms in the PEACE Center for community groups to use at a nominal cost. This fulfills our vision of the PEACE Center and parking lot being a resource for the community, a "community center."

In this case, we propose to provide a very small portion of our parking lot space for a minority entrepreneur. Our church has been doing outreach into the Hispanic/Latino community over the last four years, and this is a natural outgrowth of that outreach. We were approached by the owner of Beto's Tacos with a request to park his food truck in the PEACE Center parking lot on an ongoing basis. He approached us because of our church's ministry, hospitality, and geographic location. To read more details about how this idea came about and was implemented, you can access our church newsletter: <http://bit.ly/FPCHNews4-11>

The church is not seeking to make any money or financial profit off the presence of the food truck in our parking lot. Providing space is a form of ministry and mission which includes:

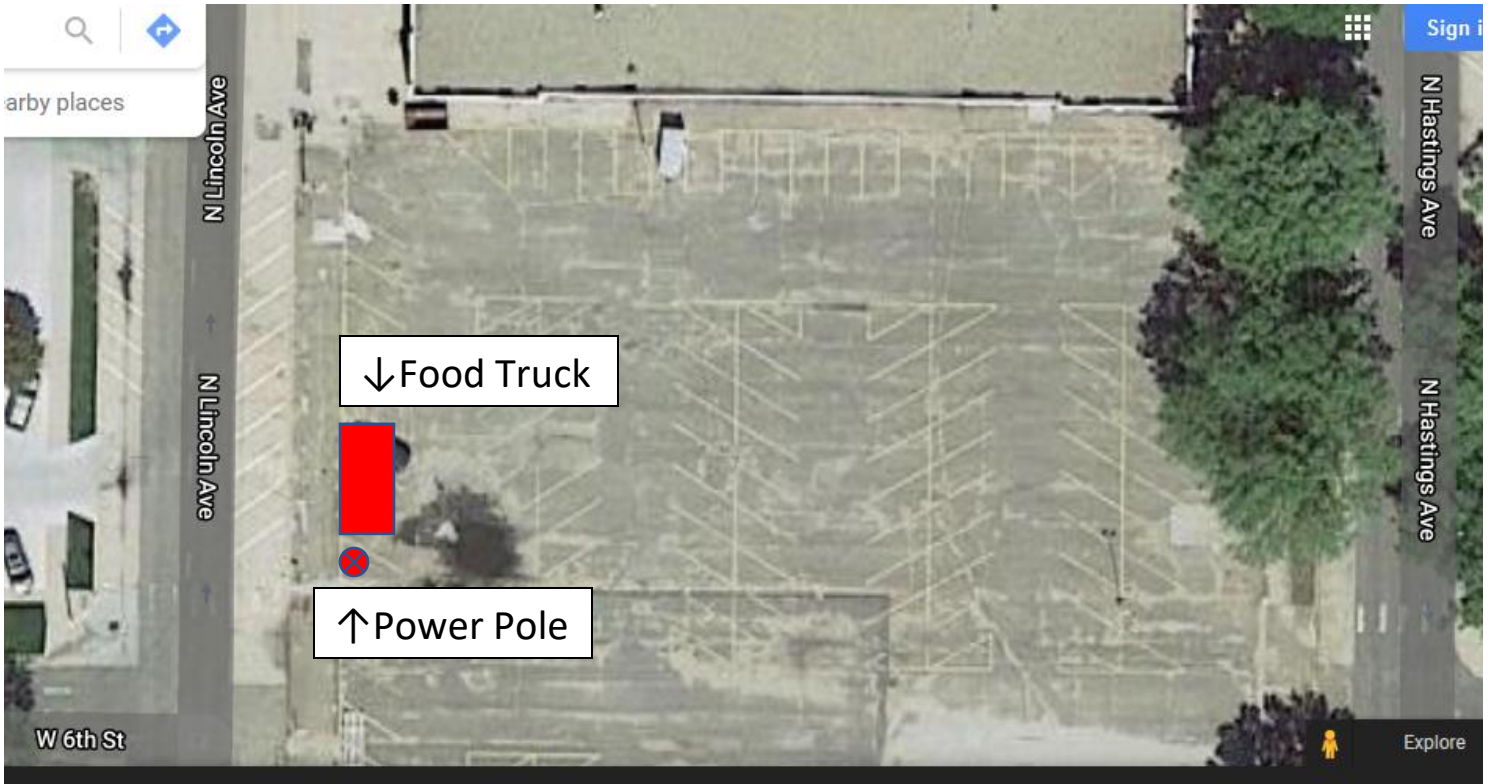
- Supporting a minority entrepreneur
- Creating an additional opportunity for the church to reach out to the community through facilitating a space for fellowship in our church parking lot

Once the food truck gets established, it will make a monthly donation to the church that goes to the parking lot repair and maintenance fund. This is similar to the payments we accept for groups that use the classroom space in the PEACE Center, it will go to offset some of our maintenance costs. This does not impact the non-profit status of the church because the church is allowed to accept donations and facility use fees to offset maintenance, custodial, and utility costs.

In the use agreement between the food truck and the church, it is the responsibility of the food truck to secure all state and local permits and pay all city fees. The food truck is also responsible for securing his own liability insurance. The days, hours, and times that the food truck is open will be determined by the food truck owner. The owner will coordinate with the church to ensure that the hours of operation don't interfere with other church activities.

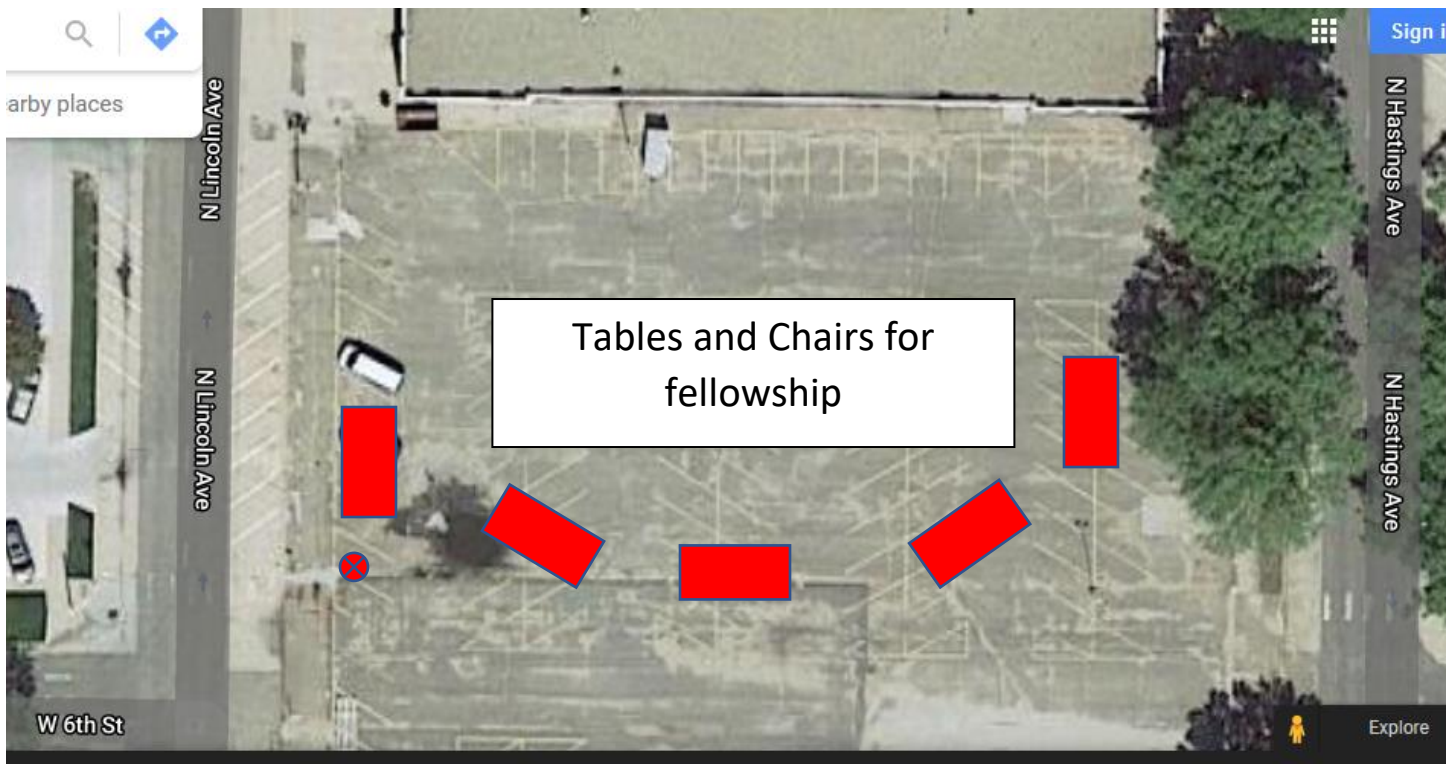
The food truck will remain on the church property overnight and during the week. During the day, the food truck owner may set out tables and chairs in front of the food truck for people to sit.

In order to facilitate this ministry, the church has installed a new power pole in the parking lot with a separate meter. On the next page is a map that shows the location of the power pole and the proposed location of the food truck. Attached is also a sample use agreement between First Presbyterian Church and Beto's Tacos.



2. Food Truck Roundup (occasional one day event)

On occasion, no more than 6 times per year, the church would like to host one day events where we would invite 4-6 food trucks to park in a semi-circle in the PEACE Center parking lot. We would set up folding tables and chairs in the middle of the semicircle and would invite the community to come up and enjoy the food from the food trucks. This event/ministry would provide support to local businesses and also create an opportunity for fellowship and community building. An event like this might also include live music and games and activities like cornhole. Below is a map that approximates what these events would look like.

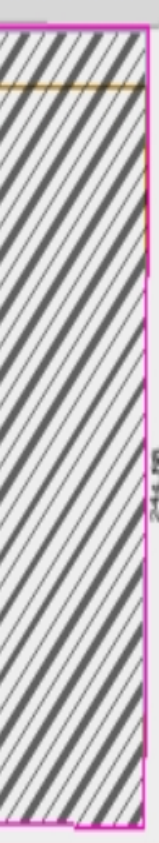


Sub

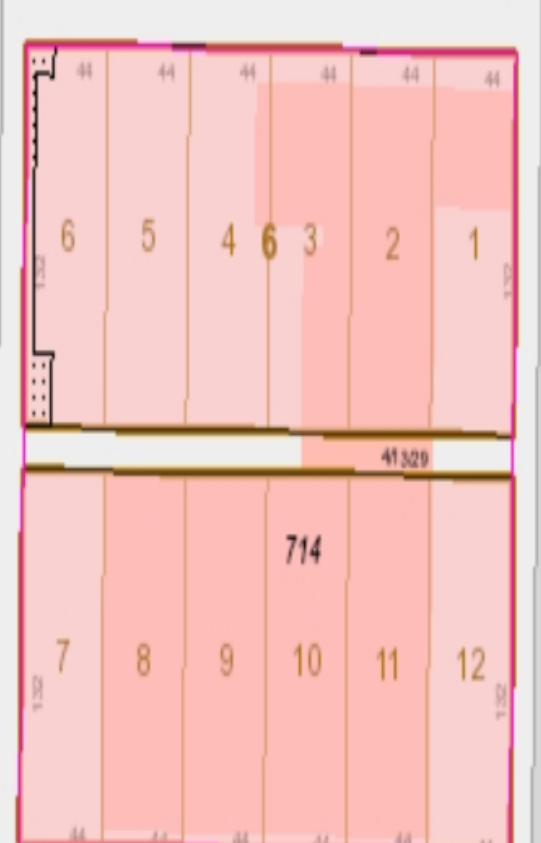
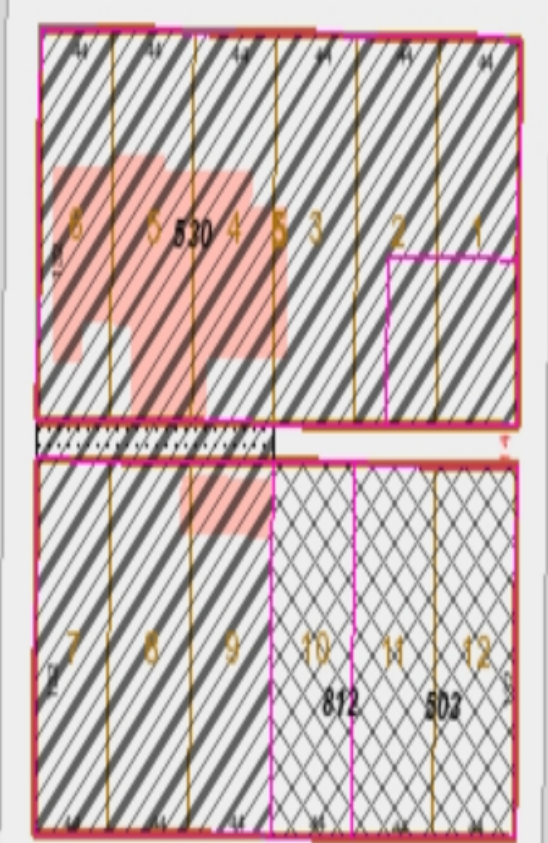
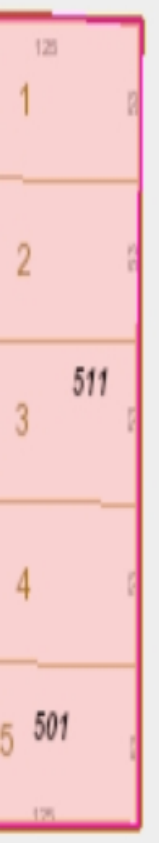
Add

Scpfield
Add

7TH ST W



Original
Town of
Hastings



Ord. 2254

ORDINANCE NO. 2254

AN ORDINANCE OF THE CITY OF HASTINGS, NEBRASKA, TO VACATE A PORTION OF WEST SIXTH STREET IN SAID CITY LOCATED BETWEEN LINCOLN AVENUE AND HASTINGS AVENUE IN SAID CITY, THE SAME BEING A REGULARLY ESTABLISHED AND PLATTED STREET WITHIN SAID CITY.

BE IT ORDAINED BY THE MAYOR AND COUNCIL OF THE CITY OF HASTINGS, NEBRASKA:

SECTION 1. That a portion of West Sixth Street in the City of Hastings lying between Lincoln Avenue and Hastings Avenue in said City, described as follows:

Commencing on a point at the Southwest corner Lot 7, Block 3, Original Town Addition to the City of Hastings as a point of beginning, thence East a distance of 264' to the Southeast corner Lot 12, Block 3, thence South a distance of 70' to the Northeast corner Lot 1, Block 6, Original Town Addition; thence West a distance of 264' to the Northwest corner Lot 6, Block 6, thence North a distance of 70' to the point of beginning.

as originally platted for street purposes, be and the same hereby is vacated and closed in accordance with the laws of Nebraska in connection with the vacation and closing of streets and the City Clerk is hereby authorized, empowered and directed to certify the same to the Register of Deeds of Adams County, Nebraska and to designate upon the official map of the City of Hastings, the closing and vacation thereof.

SECTION 2. That it is deemed advantageous and in public interest, safety and welfare and convenience to vacate said street and that upon such vacation of said street, the same shall be and remain the property of the City of Hastings, but may be conveyed and sold by said City.

SECTION 3. That this ordinance shall be in full force and effect from and after its passage, approval and publication as required by law.

PASSED AND APPROVED by the Mayor and Council of the City of Hastings, Nebraska, this 22nd day of July, 1968.

Herbert Hodge
MAYOR

ATTEST:

Edward L. Dier
City Clerk

George D. McArthur, Attorney.

15 1911-20
Description of property to be vacated, now known as
West Sixth Street, located between Lincoln and Hastings
Avenues.

Commencing on a point at the Southwest corner Lot 7,
Block 2, Original Town Addition to the City of Hastings as
a point of beginning, thence East a distance of 264' to the
Southeast corner Lot 12, Block 3, thence South a distance of
70' to the Northeast corner Lot 1, Block 6, Original Town
Addition, thence West a distance of 264' to the Northwest
corner Lot 6, Block 6, thence North a distance of 70' to the
point of beginning.

HASTINGS.

ADAMS Co.

NEBRASKA

Scale 200 ft to 1 inch 1328.25

NORTH ST

1	5	4	3	2	1
7	8	9	10	11	12

6	5	4	3	2	1
7	8	9	10	11	12

12	11	10	9	8	7	6	5	4	3	2	1
12	11	10	9	8	7	6	5	4	3	2	1

4TH ST

6	5	4	3	2	1
7	8	9	10	11	12

6	5	4	3	2	1
7	8	9	10	11	12

12	11	10	9	8	7	6	5	4	3	2	1
12	11	10	9	8	7	6	5	4	3	2	1

4TH ST

6	5	4	3	2	1
7	8	9	10	11	12

6	5	4	3	2	1
7	8	9	10	11	12

12	11	10	9	8	7	6	5	4	3	2	1
12	11	10	9	8	7	6	5	4	3	2	1

4TH ST

5	4	3	2	1
6	7	8	9	10

5	4	3	2	1
6	7	8	9	10

12	11	10	9	8	7	6	5	4	3	2	1
12	11	10	9	8	7	6	5	4	3	2	1

4TH ST

ST. JOSEPH AV

DENVER AV.





Zoning Application

Date: 03/11/2021

Project

Permit Type: Conditional Use
Project Name: PEACE Center
Project Address: 715 West 7th
City, State, Zip: HASTINGS, NE 68901
In City Limits: Yes
Legal:

Existing Zoning: R-1, Urban Single Family Residential
Proposed Zoning:
Comprehensive Plan:
Gross Area: 69960
of Lots: All?
Proposed Use: Neighborhood assembly <350

Reason for Request: no permit was ever filed upon church purchase

Applicant / Owner

Applicant Name: Tony Calhoun
Company: First Presbyterian Church
Address: 621 N Lincoln Ave
City, State, Zip: Hastings NE 68901
Phone: 402-469-5677
Email: tony@fpchastings.org

Owner Name: FIRST PRESBYTERIAN CHURCH OF HASTINGS NE
Address: 621 N LINCOLN AVE
City, State, Zip: HASTINGS, NE 68901-0000
Phone:
Email:

Key Contact

Key Contact: Tony Calhoun
Company: First Presbyterian Church
Phone: 402-469-5677

Address: 621 N Lincoln Ave
City, State, Zip: Hastings NE 68901
Email: tony@fpchastings.org

I do hereby certify that the information contained herein is true and correct.

Tony Calhoun

Applicant

03/11/2021

Date

03/11/2021

Date

Owner

City of Hastings

220 N. Hastings Avenue
Hastings NE 68901

Payee: FIRST PRESBYTERIAN CHURCH

Date: 3/22/2021 Time: 3:23 PM

Receipt Number: DS1 / 90949

Clerk: TERI

ITEM	REFERENCE	AMOUNT
ZONE	CUP	
Zoning Fees		400.00
DEED Name	FILING FE	
Recording Fees		16.00
Total:		416.00
ass#996457		416.00
Change:		0.00

Lisa Parnell-Rowe

From: Greg Allen-Pickett <greg@fpchastings.org>
Sent: Monday, April 12, 2021 4:18 PM
To: Lisa Parnell-Rowe
Cc: 'Tony Calhoun'; Emilia Kienbaum; 'Ted Schroeder'; Mark Evans
Subject: RE: Peace center CUP permit review comments
Attachments: PEACE Center Narrative Updated 4.11.21.pdf; FOOD TRUCK USE AGREEMENT FPC HASTINGS.pdf; Pt 1 of 3 Facility Use Request Application.pdf; Pt 3 of 3 Use, Indemnification and Hold Harmless Agreement.pdf; Pt 2 of 3 FPC Rental Application.pdf

Lisa:

I apologize for the delay in sending this to you.

Attached is the updated narrative for the PEACE Center which includes the requested information about the food truck in the parking lot. In addition, per your request, I have included the Food Truck Use Agreement as well as the Facility Use Agreement that is used for groups that use space in the PEACE Center building.

I met with Mark Evans today and walked around the PEACE Center parking lot. He informed me where the city ROW is so that we can be sure to locate the food truck in the correct location once it is approved.

Until the CUP has received approval, the food truck will relocate 100 feet south onto the old middle school property. This relocation will likely take place tomorrow 4/13 or Wednesday 4/14. Per our conversation on Friday, that property has been zoned commercial, so the food truck should be considered an "acceptable use" on that property. We are coordinating with the property manager of that property. The truck will remain parked on that property until the CUP is approved for the use of the PEACE Center and PEACE Center parking lot, at which time, pending approval, it will be moved back onto the PEACE Center/First Presbyterian Church property.

I plan to attend the Planning Committee meeting on Tuesday 4/20 at 4pm and will be available to answer any questions at that time.

Thank you for your help with this process.

Rev. Greg Allen-Pickett
Senior Pastor
First Presbyterian Church of Hastings
(402)462-5147
greg@fpchastings.org

From: Lisa Parnell-Rowe [mailto:LParnell-Rowe@cityofhastings.org]
Sent: Friday, April 9, 2021 4:03 PM
To: Greg Allen-Pickett <greg@fpchastings.org>
Cc: 'Tony Calhoun' <tony@fpchastings.org>; Emilia Kienbaum <EKienbaum@cityofhastings.org>; 'Ted Schroeder' <tschro3@live.com>; Mark Evans <mevans@cityofhastings.org>
Subject: RE: Peace center CUP permit review comments

Greg- I have not received a response from you. Please confirm receipt?

Again, I will need you to add the responses regarding your food truck into the narrative so that we can send this around for internal review/approval in time for Planning Commission on April 20th. We are running out of time. I must finalize

Department: Development Services
Staff Contact: Lisa Parnell-Rowe
Planning Commission Meeting Date: 4/20/2021
File No: 2021-020
Prepared By: Emilia Kienbaum, Administrative Assistant

AGENDA ITEM SUMMARY SHEET

Description of Item:

Preliminary/Final Plat for Old Buddies Subdivision commonly addressed as 2115 W 2nd Ave, City of Hastings, Adams County, Nebraska.

Names of People/Business affected by this action:

The applicant, the City and the citizens of the City of Hastings.

Why Planning Commission action is required:

Neb. Rev. Stat. 19-929 states that city council shall not take final action on subdivision development matters without the recommendation of the Planning Commission.

Type of action requested:

Motion

Suggested motion:

Motion to recommend approval of Preliminary/Final plat for Old Buddies Subdivision

Deadlines associated with action:

This preliminary/final subdivision case actions will be up for approval at City Council to be held on May 10, 2021. The applicant will then need to apply for relevant building permits for placing single family home on Lot 2.

Department head comments:

The Development Department and Plat Track review teams (to include County officials) have reviewed this preliminary/final subdivision plat and the applicant has incorporated all recommendations found to be relevant with subdivision design standards and regulations in both 38-202 and 38-203. Platting land located commonly addressed 2115 W. 2nd Avenue, City of Hastings, Adams County, Nebraska. This subdivision plats Tax Lot 10 into 3 lots of record, allowing the owner to sell off a portion of this land for others to utilize for residential development. Our applicant, Mr. Fred Cuba will purchase lots 2 & 3 and place a single-family home on Lot 3 for a home of his own. This proposed house meets all the related R-1A lot size and building setbacks requirements. All related utilities requirements were reviewed with the applicant and additional utility easements have been provided and approved by the Utilities Coordinator.

Recommendation:

Staff recommends motion to recommend approval of Preliminary/Final plat for Old Buddies Subdivision.

AREA OF MINIMAL FLOOD HAZARD Zone X

This is an aerial photograph overlaid with a flood hazard map. A large rectangular area in the center is outlined in red and labeled 'AREA OF MINIMAL FLOOD HAZARD Zone X'. This area contains several buildings and a dirt road. Surrounding this red-outlined area are various irregularly shaped regions outlined in yellow, each labeled with a number (1918, 1914, 1916, 1910, 1908, 1906, 1902, 1900, 1898). To the right of the red-outlined area, a vertical pink line is labeled '2ND AVE N'. The background is an aerial view of a rural or semi-rural landscape with fields, some trees, and scattered buildings.

3

Edwards Sub

2207

TL 1

2115

TL 13

TL 10



TL 14

2020

East TL 12

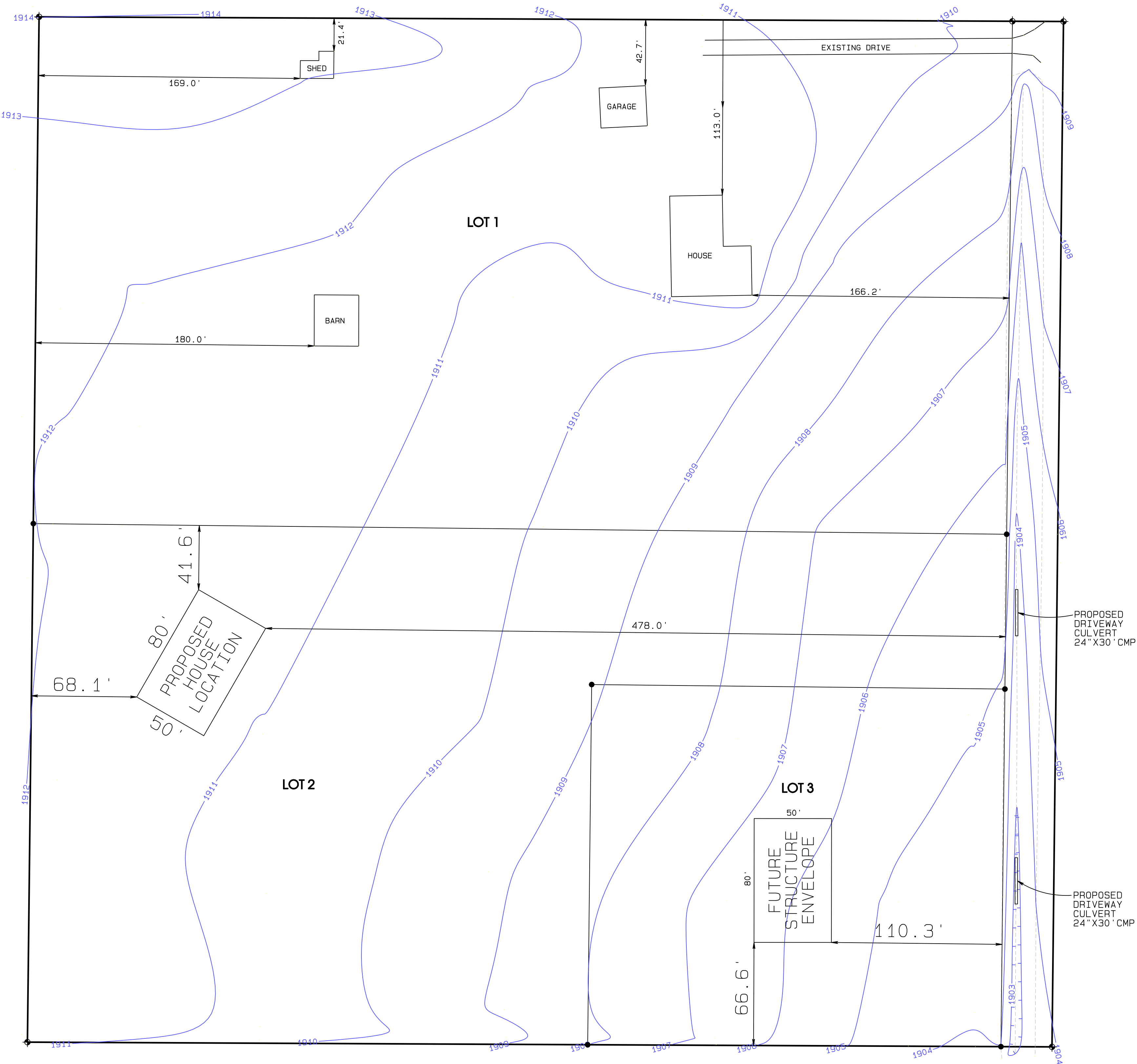
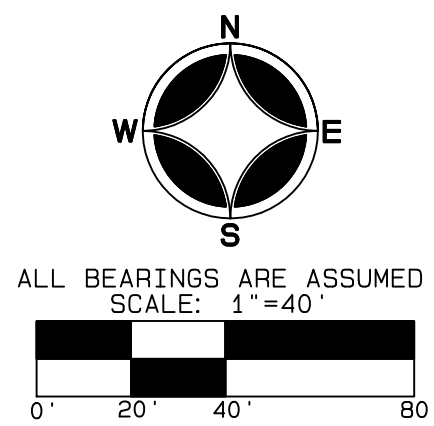
Stuhell Sub

1916

1

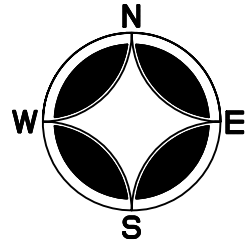
OLD BUDDIES SUBDIVISION

TOPOGRAPHY-FEATURES

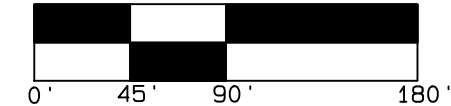


OLD BUDDIES SUBDIVISION
PRELIMINARY / FINAL PLAT

THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 5, TOWNSHIP 7 NORTH, RANGE 9 WEST, OF THE 6TH P.M., IN THE CITY OF HASTINGS, ADAMS COUNTY, NEBRASKA.



ALL BEARINGS ARE ASSUMED
SCALE: 1"=90'



FLOODPLAIN INFORMATION:
NO PORTION OF THE PROPERTY LEGALLY DESCRIBED ON THE PLAT HEREON FALLS WITHIN THE CONFINES OF THE SPECIAL FLOOD HAZARD AREAS AS DETERMINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY AND FIRM MAP, COMMUNITY PANEL NO.31001C0176C, EFFECTIVE 7/5/2018.

GPS PROJECT # 007-2021 SHEET 1 OF 2

- LEGEND :
- M-MEASURED DISTANCE
 - R-RECORD DISTANCE
 - P-PLATTED DISTANCE
 - D-DEED DISTANCE
 - G-GOVERNMENT DISTANCE

- FOUND CORNER
- CALCULATED POINT
- SET 1/2" X 24" REBAR WITH BLUE LS-783 CAP UNLESS NOTED OTHERWISE

SURVEYOR'S CERTIFICATE:

I, HEREBY CERTIFY THAT THIS PLAT OF A SURVEY WAS MADE BY ME OR UNDER MY SUPERVISION AND IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE, AND THAT I AM A LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF NEBRASKA.COMPLETED ON APRIL 12TH, 2021.

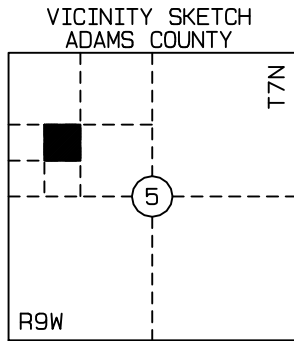
JOSHUA E. GRUMMERT | LS-783

GRUMMERT PROFESSIONAL SERVICES, LLC
2837 WEST HIGHWAY 6, SUITE 206, HASTINGS, NE 68901
PHONE 402-879-5701 EMAIL jmgrummert@yahoo.com
WEBSITE www.grummertsurveying.com

CORNER TIES:
NE CORNER, NE 1/4, SW 1/4 NW 1/4, SEC.5-T7N-R9W
FOUND 1/2"REBAR WITH LS-783 CAP W. 33.00' FOUND 3/4" PIPE
E. 33.00' FD.CHIS.X IN CONCRETE DRIVE
E. 29.16' FOUND NAIL X ON T-PED POST
E. 28.95' FOUND NAIL X FENCE POST

CURRENT AND FUTURE ZONING:
R-1A SINGLE FAMILY
LARGE RESIDENTIAL

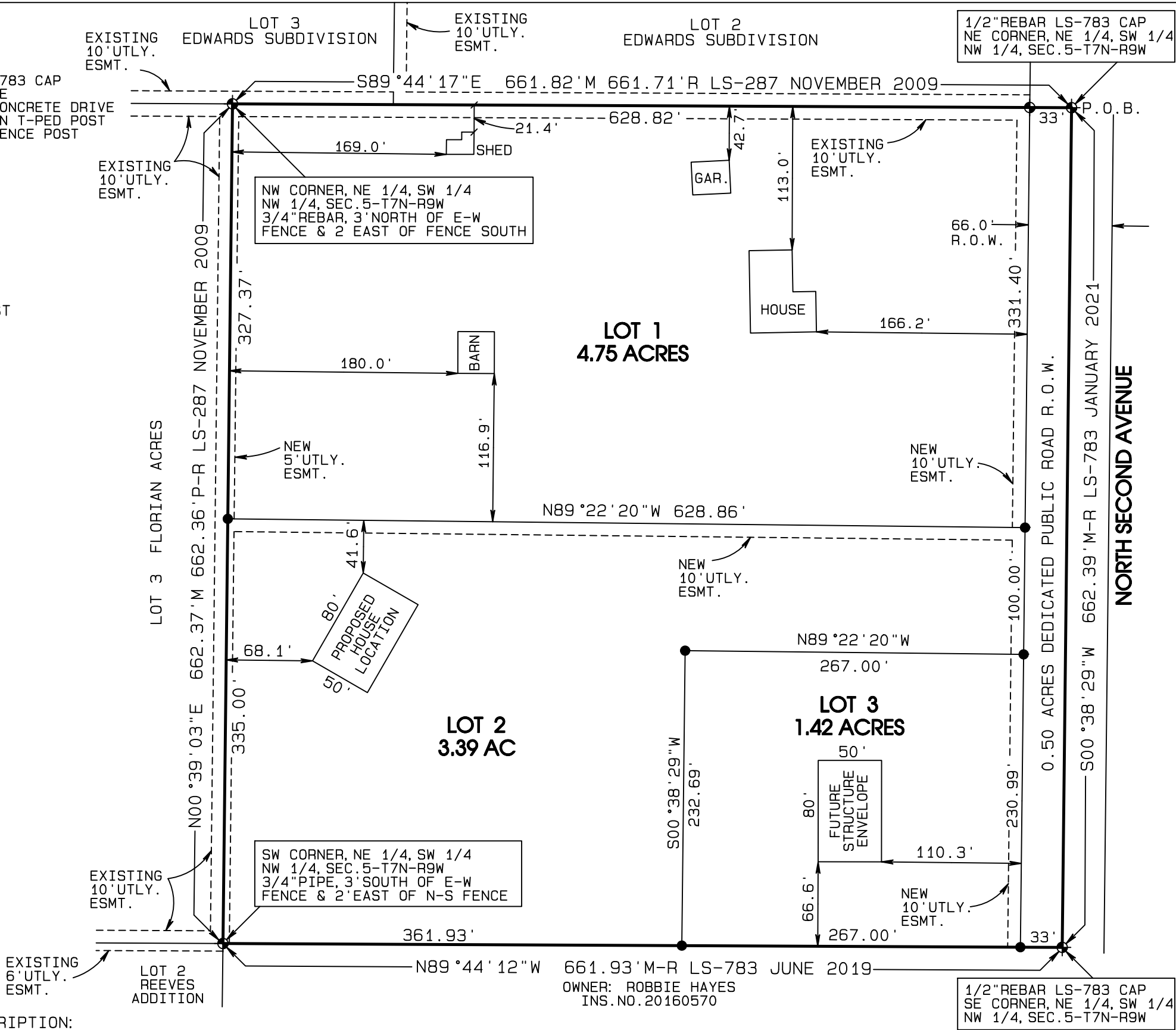
CURRENT OWNER:
HERITAGE BANK, HASTINGS NEBRASKA
TRUSTEE OF THE JOY P.UDEN REVOCABLE TRUST



SEAL

LEGAL DESCRIPTION:

THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 5, TOWNSHIP 7 NORTH, RANGE 9 WEST, OF THE 6TH P.M., IN THE CITY OF HASTINGS, ADAMS COUNTY, NEBRASKA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
BEGINNING THAT THE NORTHEAST CORNER OF SAID NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 5, THENCE S00°38'29"W (ASSUMED BEARING) ON THE EAST LINE OF SAID NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 A DISTANCE OF 662.39 FEET TO THE SOUTHEAST CORNER OF SAID NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4, THENCE N89°44'12"W ON THE SOUTH LINE OF SAID NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 A DISTANCE OF 661.93 FEET TO THE SOUTHWEST CORNER OF SAID NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4, THENCE N00°39'03"E ON THE WEST LINE OF SAID NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 A DISTANCE OF 662.37 FEET TO THE NORTHWEST CORNER OF SAID NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4, THENCE S89°44'17"E ON THE NORTH LINE OF SAID NORTHEAST 1/4 OF THE SOUTHWEST 1/4 OF THE NORTHWEST 1/4 A DISTANCE OF 661.82 FEET TO THE POINT OF BEGINNING, CONTAINING 10.06 ACRES MORE OR LESS, OF WHICH 0.50 ACRES IS OCCUPIED AS PUBLIC ROAD RIGHT OF WAY.



OWNERS CERTIFICATE AND DEDICATION:

KNOW ALL MEN BY THESE PRESENTS, THAT HERITAGE BANK, HASTINGS NEBRASKA, TRUSTEE OF THE JOY P.UDEN REVOCABLE TRUST, BEING THE OWNER OF RECORD OF THE LAND SHOWN ON THIS PLAT AND DESCRIBED IN THE LEGAL DESCRIPTION HEREON, HAVE CAUSED THE SAME TO BE SURVEYED, SUBDIVIDED, PLATTED AND DESIGNATED AS"OLD BUDDIES SUBDIVISION"A SUBDIVISION IN THE CITY OF HASTINGS, ADAMS COUNTY, NEBRASKA AND THAT SAID SURVEYING, SUBDIVIDING, PLATTING AND DESIGNATION WAS DONE WITH THE FREE CONSENT AND IN ACCORDANCE WITH THE DESIRES AND WISHES OF THE UNDERSIGNED OWNERS. BE IT FURTHER KNOWN, THAT SAID OWNER DOES HEREBY DEDICATE ANY STREETS OR EASEMENTS SHOWN ON THE PLAT TO THE CITY OF HASTINGS, ADAMS COUNTY, NEBRASKA.

SIGNED THIS _____ DAY OF _____, 2021.

_____(PRINTED NAME AND TITLE)
HERITAGE BANK, HASTINGS NEBRASKA,
TRUSTEE OF THE JOY P.UDEN REVOCABLE TRUST

_____(SIGNATURE AND TITLE)
HERITAGE BANK, HASTINGS NEBRASKA,
TRUSTEE OF THE JOY P.UDEN REVOCABLE TRUST

ACKNOWLEDGEMENT

STATE OF NEBRASKA }
COUNTY OF _____ } SS

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THE _____ DAY
OF _____, 2021, BY _____(TITLE) _____
HERITAGE BANK, HASTINGS NEBRASKA, TRUSTEE OF THE JOY P.UDEN REVOCABLE TRUST
MY COMMISSION EXPIRES THE _____ DAY OF
_____, _____.

NOTARY (SEAL)

CITY ENGINEER'S APPROVAL

I, THE UNDERSIGNED, DO HEREBY _____ THIS PLAT OF OLD BUDDIES SUBDIVISION
A SUBDIVISION IN THE CITY OF HASTINGS, ADAMS COUNTY, NEBRASKA.

CITY ENGINEER

CITY PLANNING COMMISSION RECOMMENDATION

THIS PLAT OF OLD BUDDIES SUBDIVISION, A SUBDIVISION IN THE CITY OF HASTINGS, ADAMS COUNTY, NEBRASKA, HAS BEEN SUBMITTED TO AND REVIEWED BY THE CITY PLANNING COMMISSION FOR APPROVAL AND IS HEREBY TRANSMITTED TO THE GOVERNING BODY OF THE CITY OF HASTINGS, ADAMS COUNTY, NEBRASKA,

WITH THE RECOMMENDATION THAT SAID PLAT BE _____AS PROPOSED

DATED THIS _____ DAY OF _____, _____.

CHAIRMAN DIRECTOR

CITY TREASURER'S CERTIFICATE

I HEREBY CERTIFY THAT THE RECORDS OF MY OFFICE SHOW NO SPECIAL ASSESSMENTS ARE DELINQUENT UPON THE PROPERTY DESCRIBED IN THE LEGAL DESCRIPTION ON THIS PLAT.

CITY OF HASTINGS TREASURER

MAYOR AND CITY COUNCIL ACTION

THIS PLAT OF OLD BUDDIES SUBDIVISION, A SUBDIVISION IN THE CITY OF HASTINGS, ADAMS COUNTY, NEBRASKA, IS

HEREBY_____, DATED THIS _____DAY OF _____, _____.

MAYOR CITY CLERK

COUNTY TREASURER'S CERTIFICATE

I HEREBY CERTIFY THAT THE RECORDS OF MY OFFICE SHOW NO TAXES ARE DUE OR DELINQUENT UPON THE PROPERTY IN THE LEGAL DESCRIPTION

ON THIS PLAT AS OF THIS _____DAY OF _____, _____.

ADAMS COUNTY TREASURER

REGISTER OF DEEDS CERTIFICATE

STATE OF NEBRASKA }
COUNTY OF ADAMS } SS

THIS IS TO CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD IN THE REGISTER OF DEEDS OFFICE OF ADAMS COUNTY, NEBRASKA

DATE: _____ TIME: _____ INSTRUMENT NO.: _____

REGISTER OF DEEDS

Lisa Parnell-Rowe

From: Fred Cuba <fastfred93@yahoo.com>
Sent: Tuesday, April 13, 2021 1:58 PM
To: Lisa Parnell-Rowe
Subject: Old Buddies sub division

Question 1: The intent of this sub div. is to split 5 acres of land off of original 10 acres for a new home building site. Lot 3 will be a home building site at a later date.

Q2: These 5 acres will be split off of original lot 1. Lot 2 will be 3.39 acres and lot 3 will be 1.42 acres.

Q3: 50x80

Q4: Dependent on the contractors; hopefully by the fall of 2021 depending on weather.

Q5: No covenants that are known.

Thank You, Fred Cuba. 04/13/2021

Department: Development Services
Staff Contact: Lisa Parnell-Rowe
Planning Commission Meeting Date: 4/20/2021
File No: 2021-023
Prepared By: Emilia Kienbaum, Administrative Assistant

AGENDA ITEM SUMMARY SHEET

Description of Item:

Final Plat for Theatre District commonly addressed 3101 W 12th St, City of Hastings, Adams County, Nebraska.

Names of People/Business affected by this action:

The applicant, the citizens of the City of Hastings and the County.

Why Planning Commission action is required:

Neb. Rev. Stat. 19-929 states that city council shall not take final action on subdivision development matters without the recommendation of the Planning Commission.

Type of action requested:

Motion

Suggested motion:

Motion to recommend approval of Final Plat for Theatre District Subdivision.

Deadlines associated with action:

This item for final plat approval is scheduled for consideration at the May 10, 2021 regular meeting of City Council. The next zoning action to occur will be to review and approve the Airport Zoning Permit. Once the Airport zoning permit is approved by Development Services then the Development Plan for Planned district will be submitted for the next possible Planning Commission and City Council review/approval. Finally, the applicant will then need to apply for relevant building permits for placing their most northern multi-family structure on Lot 3 of Block 1.

Department head comments:

This is a replat of a tract of land consisting of all of Block 9, Imperial Village Addition and Lot 1, Imperial Theatre Subdivision owned by Theatre District LLC. Theatre District, LLC has purchased this land and will be utilizing this area for a mixed-use development to include both commercial and residential properties. This project will be done in phases and so this plat is being done to allow for eventually selling off lots for development in the future where there may be interest for purchasing outlying lots. The project plan is to repurpose and remodel the remaining K-Mart portion of the old mall for an indoor recreational facility, construct 2 multi-family

structures geared at living for 55 and older, and the old mall theatre building will also be repurposed and remodeled back to its original use as a theatre. There are also plans for a few outlying lots to the north and east being proposed, where a variety of commercial uses are from retail to grocery in order to create a mixed neighborhood community atmosphere.

The intent of the Final Plat is three-fold and laid out in City Code Section 38-203 (1). Below is a brief discussion of each aspect and the how the Theatre District Subdivision Final Plat meets this intent.

Create accurate public record for Sale of Lot: As previously stated, the owner will develop this area in phases and so this plat was necessary to ensure appropriate division of each of area into lots for the various mixed uses so they can be easily sold off in the future as they are developed. Theatre District Subdivision will consist of 12 total lots and 1 Outlot for a Detention Pond. These lots account for a total of 37.42 acres.

Guarantee construction of all public improvements according to the standards in the subdivision regulations: City Engineering and Utilities has discussed and reviewed appropriate placement of easements (i.e., for access & utilities) with Rega Engineering. Discussions have occurred to better ensure the easements are accurately depicted for appropriate private or public noted purposes and a Post Construction Maintenance Agreement for Stormwater has also been reviewed and worked through between the City Attorney and their Project General Counsel, Mr. Tom Huston. City Engineering will have additional time to review the drainage plan and clarify the more detailed aspects of this important document as we move through the Development Plan, which also includes submittal of a Grading and Drainage Plan. The same is true for the Landscape Plan. In essence these plans are working documents that have from scratch as platting requirements to including greater details as we move through the more detailed Development Plan and then a final state when these important plans are submitted as final products to implement at the stage of pulling building permits. As such, City Planning and Zoning, Parks and Recreation, City Engineering and Utilities have all agreed the necessary content and detail for platting expectations has been met and these important supplemental plans will continue to grow and gain additional details as more information is acquired from other sources like the pending FAA recommendations regarding potential height infringements.

Ensure buildable lots to district zoning:

The base zoning district for this subdivision is C-3, Commercial Business District. This base district allows outright as permitted uses for the multi-family dwellings, a large array of service, commercial and retail uses and conditionally allows for many of the recreation, assembly and entertainment uses proposed. Additionally, though the Base C-3 Commercial Business District will in general need to comply to these regulations in the way of height and bulk of buildings, the amount of light, air and open space, and the parking and loading requirements all the deviations listed in the previous “building lot capability” discussion (above) will also be available for this development to utilize so long as it can be demonstrated as suitable to surrounding area. Further, the uses permitted and the performance standards shall be the same as the base district as well; however, that the applicant, when applying for the Planned Development Plan may voluntary limit the plan as to buildings, improvements and use thereof.

The Planned Development Overlay should allow for some flexibility that may be needed to rearrange or approve potential deviations that would be necessary to mitigate when it comes time to assess FAA recommendations to the existing requirements of airport zoning. To be clear, these deviations will NOT be to the airport zoning requirements, but to any of the allowable variations and departures allowable in a Planned District as spelled out separately for residential and commercial developments (note: some of these vary) in sections 34-215 (3) and (4). In other words, should there need to be adjustments to fit the buildings to lots established in this plat the planned district overlay will provide allowance for departures including but not limited to: 1) buildings may be constructed on platted tracts which are smaller than the minimum lot size requirements where other adjacent permanent open space is provided; 2) buildings may be grouped in clusters or around courts; 3) buildings may be located closer to lot lines than otherwise permitted provided such buildings are architecturally suitable for such a relationship to adjoining buildings and property.

Applicant has satisfactorily met the conditions that were placed on this the Final Plat during Preliminary Plat review/approval. Proof of property tax payments has been provided. Native species for landscaping has been provided in the Landscape Plan and street trees have been reviewed and approved to the extent possible at this time with appropriate notation on this document that these may change to meet FAA recommendations and will be relooked and approved as part of the Development Plan. As stated above the drainage study, grading plan and landscape plan will all continue to be fine-tuned moving forward into Development Plan approval in the near future and the Stormwater Post Construction Agreement has been finalized. This plan also incorporated native vegetation and should promote infiltration and storm-sewer water quality with BMPs. The sidewalks and trails have been added to the final plat, lienholders have been paid and will no longer need to be included as signatories of this plat.

The Development Department and Plat Track review teams (to include County officials) have reviewed this final plat and the applicant has incorporated all recommendations found to be relevant with subdivision design standards and regulations in both 38-202 and 38-203.

Recommendation:

Staff recommends motion to recommend approval Final plat for Theatre District Subdivision.



PERRY REID PROPERTIES

March 29, 2021

Lisa R. Parnell-Rowe
Director of Development Services
220 North Hastings Avenue
Hastings, NE 68901
LParnell-Rowe@cityofhastings.org

RE: Final Plat Submittal for Theatre District Subdivision

Dear Ms. Parnell-Rowe:

Following the recommendation for approval of the Preliminary Plat issued by the Hastings Planning Commission, Rega Engineering proceeded to prepare and assemble the documents pertaining to the Final Plat submittal. I am pleased to provide the following documents to the City of Hastings for the Final Plat of the Theatre District Subdivision:

- Application
- Final Plat Checklist
- Final Plat
- Landscape Plan
- Application Fee to be made via credit card via the phone

Please let us know if you have any questions with regard to the Final Plat submittal for Theatre District Subdivision.

Thanks.

Tom Huston
General Counsel



Plats Application

Date: 03/30/2021

Project

Permit Type:	Final Plat	Existing Zoning:	C-3, General Business
Plat Name:	Theatre District Subdivision	Proposed Zoning:	C-3, General Business
Project Address:	3101 West 12th Street	In City Limits:	Yes
City, State, Zip:	HASTINGS, NE 68901	Proposed Use:	Mixed-Use
Legal:			

Reason for Request: Subdividing the existing parcel into the Theatre District

Applicant / Owner

Applicant Name:	Tom Huston	Owner Name:	THEATRE DISTRICT LLC
Company:	Theatre District, LLC, a Nebraska limited liability company	Company:	Perry Reid Properties-Management, LLC
Address:	9200 Andermatt Drive, Suite A	Address:	9200 ANDERMATT DRIVE STE A
City, State, Zip:	Lincoln, NE 68516	City, State, Zip:	LINCOLN, NE 68526-0000
Phone:	402-488-1666 Ext, 118	Phone:	
Email:	thuston@perryreid.com	Email:	

Key Contact / Surveyor

Key Contact:	[Key Contact]	Surveyor:	Matt Gimple / Lyle Loth
Company:		Company:	REGA Engineering Group
Address:	[Address]	Address:	601 Old Cheney Road, Suite A
City, State, Zip:	Lincoln, NE 68526	City, State, Zip:	Lincoln, NE 68512
Phone:	[Phone #]	Phone:	402-484-7342
Email:	[Key Email]	Email:	matt@regaeng.com

I do hereby certify that the information contained herein is true and correct.

Matt Gimple on behalf of Tom Huston

Applicant

03/30/2021

Date

Matt Gimple on behalf of Perry Reid
Properties-Management, LLC

Owner

03/30/2021

Date

LEGAL DESCRIPTION

A REPLAT OF A TRACT OF LAND CONSISTING OF ALL OF BLOCK 9, IMPERIAL VILLAGE ADDITION AND LOT 1, IMPERIAL THEATRE SUBDIVISION, IN PART OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION 10, T7N, R10W OF THE 6TH P.M., IN THE CITY OF HASTINGS, ADAMS COUNTY, NEBRASKA, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF BLOCK 9, IMPERIAL VILLAGE ADDITION, SAID POINT BEING THE POINT OF BEGINNING; THENCE S00°29'45"E, ALONG THE EAST LINE OF SAID BLOCK 9, IMPERIAL VILLAGE ADDITION, A DISTANCE OF 1248.09 FEET, TO THE SOUTHEAST CORNER OF SAID BLOCK 9, IMPERIAL VILLAGE ADDITION;
THENCE S88°49'20"W, ALONG THE SOUTH LINE OF SAID BLOCK 9, IMPERIAL VILLAGE ADDITION, A DISTANCE OF 208.72 FEET;
THENCE S44°01'50"W, ALONG THE SOUTH LINE OF SAID BLOCK 9, IMPERIAL VILLAGE ADDITION, A DISTANCE OF 322.27 FEET, TO THE SOUTHWEST CORNER OF SAID BLOCK 9, IMPERIAL VILLAGE ADDITION;
THENCE N45°24'52"W, ALONG THE WESTERLY LINE OF SAID BLOCK 9, IMPERIAL VILLAGE ADDITION, A DISTANCE OF 1445.61 FEET;
THENCE N00°56'15"W, ALONG THE WESTERLY LINE OF SAID BLOCK 9, IMPERIAL VILLAGE ADDITION, A DISTANCE OF 145.76 FEET, TO THE SOUTHEAST CORNER OF LOT 1, IMPERIAL THEATRE SUBDIVISION;
THENCE S89°05'34"W, ALONG THE SOUTH LINE OF SAID LOT 1, IMPERIAL THEATRE SUBDIVISION, A DISTANCE OF 266.35 FEET, TO THE SOUTHWEST CORNER OF SAID LOT 1, IMPERIAL THEATRE SUBDIVISION;
THENCE N00°26'09"W, ALONG THE WEST LINE OF SAID LOT 1, IMPERIAL THEATRE SUBDIVISION, A DISTANCE OF 299.74 FEET, TO THE NORTHWEST CORNER OF SAID LOT 1, IMPERIAL THEATRE SUBDIVISION;
THENCE N89°04'59"E, ALONG THE NORTH LINE OF SAID LOT 1, IMPERIAL THEATRE SUBDIVISION, A DISTANCE OF 263.72 FEET, TO THE NORTHEAST CORNER OF SAID LOT 1, IMPERIAL THEATRE SUBDIVISION;
THENCE N89°03'59"E, ALONG THE NORTH LINE OF SAID BLOCK 9, IMPERIAL VILLAGE ADDITION, A DISTANCE OF 1458.93 FEET TO THE POINT OF BEGINNING.

SAID TRACT CONTAINS A TOTAL CALCULATED AREA OF 1,630,036.23 SQUARE FEET OR 37.42 ACRES MORE OR LESS, OF WHICH 1.92 ACRES ARE NEW DEDICATED PUBLIC ROAD RIGHT-OF-WAY.

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THIS BOUNDARY SURVEY WAS MADE UNDER MY SUPERVISION AND THAT I AM A LICENSED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF NEBRASKA.

LYLE L. LOTH
REGISTERED LAND SURVEYOR
LS-314



OWNERS CERTIFICATION

KNOW ALL MEN BY THESE PRESENTS, THEATRE DISTRICT, LLC, A NEBRASKA LIMITED LIABILITY CORPORATION, THE OWNER OF RECORD OF THE REAL ESTATE SHOWN ON THE ACCOMPANYING PLAT AND DESCRIBED IN THE LEGAL DESCRIPTION HEREON, HAVE CAUSED THE SAME TO BE SURVEYED, SUBDIVIDED, REPLATED AND DESIGNATED AS "THEATRE DISTRICT SUBDIVISION", IN THE CITY OF HASTINGS, ADAMS COUNTY, NEBRASKA, AND DO HEREBY DEDICATE THE ROAD RIGHT OF WAY, AS SHOWN THEREON TO THE PUBLIC FOR THEIR USE FOREVER, AND HEREBY DEDICATE THE EASEMENTS AS SHOWN THEREON, EXCLUDING PRIVATE EASEMENTS, TO THE PUBLIC FOR THEIR USE FOREVER FOR THE LOCATION, CONSTRUCTION AND MAINTENANCE FOR PUBLIC SERVICE UTILITIES, TOGETHER WITH THE RIGHTS OF INGRESS AND EGRESS HERETO, AND HEREBY PROHIBITING THE PLANTING OF TREES, BUSHES AND SHRUBS, OR PLACING OTHER OBSTRUCTIONS UPON, OVER, ALONG OR UNDERNEATH THE SURFACE OF SUCH EASEMENTS, AND THAT THE FOREGOING SUBDIVISION AS MORE PARTICULARLY DESCRIBED IN THE DESCRIPTION HEREON AS APPEARS ON THIS PLAT IS MADE WITH THE FREE CONSENT AND IN ACCORDANCE WITH THE DESIRES OF THE UNDERSIGNED OWNERS AND PROPRIETORS.

IN WITNESS WHEREOF, I HAVE AFFIXED MY SIGNATURE HERETO,

AT _____, NEBRASKA, ON THIS _____ DAY OF _____ 20_____.

CRAIG REID, MANAGING MEMBER
THEATRE DISTRICT, LLC, A NEBRASKA LIMITED LIABILITY CORPORATION

ACKNOWLEDGMENT

STATE OF NEBRASKA)
COUNTY) SS

BEFORE ME, A NOTARY PUBLIC, IN AND FOR SAID COUNTY AND STATE, PERSONALLY APPEARED CRAIG REID, MANAGING MEMBER, THEATRE DISTRICT, LLC, A NEBRASKA LIMITED LIABILITY CORPORATION, KNOWN BY ME TO BE THE IDENTICAL PERSON WHOSE NAME IS AFFIXED ON THE "OWNERS CERTIFICATE" ON THIS PLAT, AND ACKNOWLEDGED THE EXECUTION THEREOF TO BE OF HIS OWN FREE WILL AND ACCORD AS SAID OWNER.

WITNESS MY HAND AND NOTARIAL SEAL AT _____, NEBRASKA,

ON THIS _____ DAY OF _____ 20_____.

NOTARY PUBLIC

CITY PLANNING COMMISSION RECOMMENDATION

THIS FINAL PLAT OF "THEATRE DISTRICT SUBDIVISION", A SUBDIVISION TO THE CITY OF HASTINGS, ADAMS COUNTY, NEBRASKA, HAS BEEN SUBMITTED TO AND REVIEWED BY THE CITY PLANNING COMMISSION AND IS HEREBY TRANSMITTED TO THE GOVERNING BODY OF THE CITY OF HASTINGS, ADAMS COUNTY, NEBRASKA, WITH THE RECOMMENDATION THAT SAID FINAL PLAT BE APPROVED AS PROPOSED.

SIGNED THIS _____ DAY OF _____ 20_____.

CHAIRMAN

DIRECTOR

MAYOR AND CITY COUNCIL ACTION

THIS FINAL PLAT OF "THEATRE DISTRICT SUBDIVISION", A SUBDIVISION TO THE CITY OF HASTINGS, ADAMS COUNTY, NEBRASKA, HAS BEEN REVIEWED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF HASTINGS, AND IS HEREBY APPROVED AS PROPOSED.

SIGNED THIS _____ DAY OF _____ 20_____.

MAYOR

CITY CLERK

FINAL PLAT

THEATRE DISTRICT SUBDIVISION

A REPLAT OF ALL OF BLOCK 9, IMPERIAL VILLAGE ADDITION AND LOT 1, IMPERIAL THEATRE SUBDIVISION, IN PART OF THE NORTHEAST (NE 1/4) OF SECTION 10, T7N, R10W OF THE 6TH P.M., IN THE CITY OF HASTINGS, ADAMS COUNTY, NEBRASKA
SAID REPLAT TO BE HEREAFTER KNOWN AS
"THEATRE DISTRICT SUBDIVISION"



Total Lots = 12
Total Outlots = 1
Total Acres = 37.42

WAIVER FOR STREET GRADES

APPLICANT HEREBY WAIVES ANY AND ALL CLAIMS FOR DAMAGES OCCASIONED BY THE ESTABLISHMENT OF GRADES OR THE ALTERATION OF THE SURFACE OF ANY PORTION OF THE STREETS AND ALLEYS TO CONFORM TO SAID GRADE AS ESTABLISHED.

SIGNED THIS _____ DAY OF _____ 20_____.

CRAIG REID, MANAGING MEMBER
THEATRE DISTRICT, LLC, A NEBRASKA LIMITED LIABILITY CORPORATION

COUNTY TREASURER CERTIFICATE

I HEREBY CERTIFY THAT THE RECORDS OF MY OFFICE SHOW NO TAXES ARE DUE OR DELINQUENT UPON THE PROPERTY DESCRIBED IN THE LEGAL DESCRIPTION ON THE ACCOMPANYING PLAT AS OF

THIS _____ DAY OF _____ 20_____.

ADAMS COUNTY TREASURER

REGISTER OF DEEDS CERTIFICATE

STATE OF NEBRASKA)
ADAMS COUNTY) SS

THIS IS TO CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD IN THE REGISTER OF DEEDS OFFICE IN THE ADAMS COUNTY COURTHOUSE IN HASTINGS, NEBRASKA.

DATE: _____ TIME: _____

INSTRUMENT NO. _____

ADAMS COUNTY REGISTRAR OF DEEDS

CITY ENGINEER'S APPROVAL

THIS PLAT OF "THEATRE DISTRICT SUBDIVISION", A SUBDIVISION TO THE CITY OF HASTINGS, ADAMS COUNTY, NEBRASKA, HAS BEEN PRESENTED AND REVIEWED BY ME AND IS HEREBY APPROVED AS PROPOSED.

SIGNED THIS _____ DAY OF _____ 20_____.

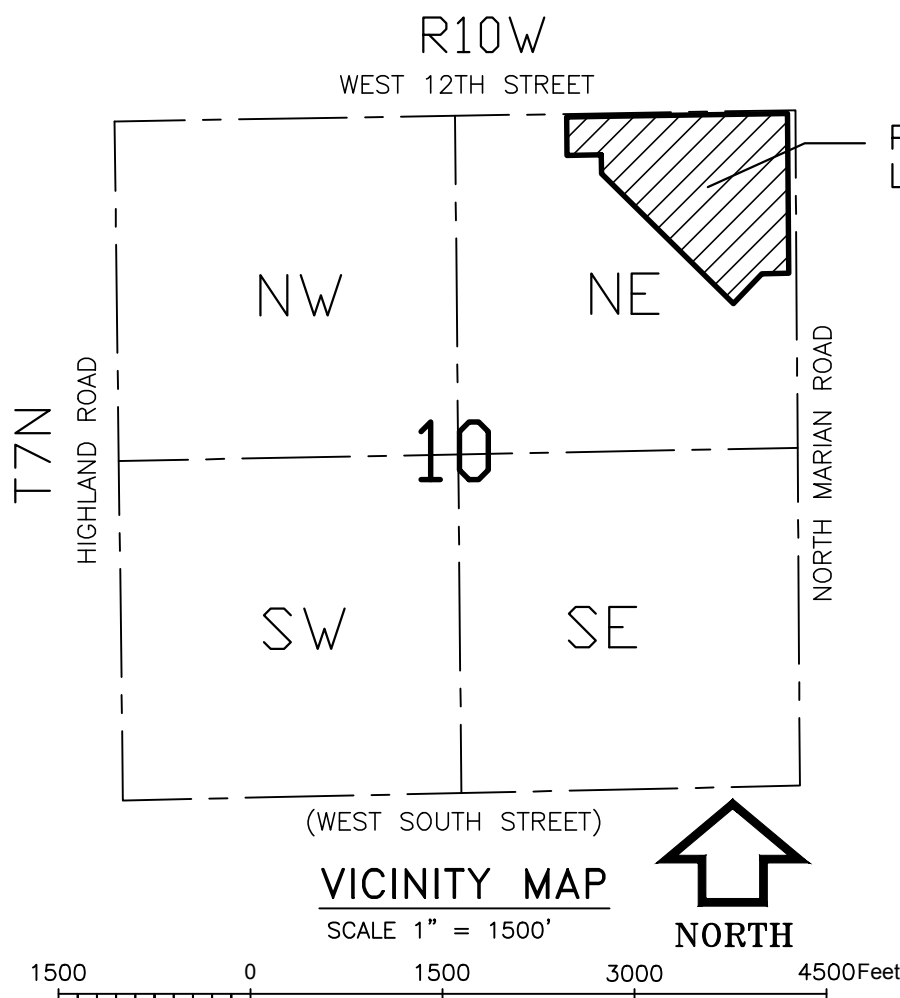
CITY OF HASTINGS ENGINEER

CITY TREASURER CERTIFICATE

I HEREBY CERTIFY THAT THE RECORDS OF MY OFFICE SHOW NO TAXES OR SPECIAL ASSESSMENTS DELINQUENT ON THE PROPERTY DESCRIBED IN THE LEGAL DESCRIPTION ON THE ACCOMPANYING PLAT AS OF

THIS _____ DAY OF _____ 20_____.

CITY OF HASTINGS TREASURER



ENGINEER/LAND SURVEYOR

REGA ENGINEERING GROUP INC.
601 OLD CHENEY ROAD, STE A
LINCOLN, NE 68512

OWNER

THEATRE DISTRICT, LLC
9200 ANDERMATT DRIVE
LINCOLN, NE 68526

ZONING DISTRICTS

EXISTING ZONING: C-3 COMMERCIAL BUSINESS DISTRICT
EXISTING OVERLAY: P.D. PLANNED DISTRICT

FLOOD PLAIN INFORMATION

THE PROPERTY SHOWN ON THE SURVEY LIES WITHIN FLOOD ZONE DESIGNATION ZONE X "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN" ZONES AS DESCRIBED ON THE FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 31001C0160C, BEARING AN EFFECTIVE DATE OF JULY 5, 2018 FOR THE COMMUNITY IN WHICH THE SUBJECT PROPERTY IS LOCATED.

NO.	REVISIONS		
	DESCRIPTION	DATE	BY
	FINAL PLAT SUBMITTAL	03/30/21	MJG
1	CITY COMMENTS	04/15/21	MJG

PROJECT
201055

REGA
ENGINEERING
GROUP, INC.

601 OLD CHENEY RD., SUITE A
LINCOLN, NEBRASKA 68512
(402).484.7342

- ENGINEERING
- PLANNING
- LANDSCAPE ARCHITECTURE
- LAND SURVEYING

THEATRE DISTRICT SUBDIVISION
FINAL PLAT
W. 12TH ST. & N. MARIAN RD.
HASTINGS, NEBRASKA

DATE: 03/30/2021

DESIGNED BY: MJG

DRAWN BY: MJG

CHECKED BY: LLL

SHEET NO.

1 of 1

A REPEAT OF ALL OF BLOCK 9, IMPERIAL VILLAGE ADDITION AND LOT 1, IMPERIAL THEATRE SUBDIVISION,
IN PART OF THE NORTHEAST (NE 1/4) OF SECTION 10, T7N, R10W OF THE 6TH P.M.,
IN THE CITY OF HASTINGS, ADAMS COUNTY, NEBRASKA
SAID REPEAT TO BE HEREAFTER KNOWN AS
"THEATRE DISTRICT SUBDIVISION"


 NORTH
 SCALE 1" = 50'

ISSUED FOR	DATE
CITY COMMENTS	04/09/21

netcall.com
Nebraska 811
Know what's below.
Call before you dig.

THEATRE DISTRICT SUBDIVISION

A REPLAT OF ALL OF BLOCK 9, IMPERIAL VILLAGE ADDITION AND LOT 1, IMPERIAL THEATRE SUBDIVISION, IN PART OF THE NORTHEAST (NE 1/4) OF SECTION 10, T7N, R10W OF THE 6TH P.M., IN THE CITY OF HASTINGS, ADAMS COUNTY, NEBRASKA

SAID REPLAT TO BE HEREAFTER KNOWN AS "THEATRE DISTRICT SUBDIVISION"

LANDSCAPE REQUIREMENTS CALCULATIONS

Lot/Block Description	Code requirement	Lot 1, Block 1	Lot 2, Block 1	Lot 3, Block 1	Lot 4, Block 1	Lot 5, Block 1	Lot 6, Block 1	Lot 7, Block 1	Lot 8, Block 1	Lot 9, Block 1	Lot 10, Block 1	Lot 11, Block 1	Lot 12, Block 1	Lot 13, Block 1	Lot 14, Block 1	OUTLOT 'A'											
Open Space (OS) (SF)	141/500' footprint or 500'x100'	1,022.66	13,390.00	37,500.00	0.00	37,500.00	9,600.00	736.03	0.00	270.57	0.00	12.92	0.00	213.00	0.00	201.59	0.00	356.00	0.00	179.98	0.00	167.12	0.00	223.43	0.00	N/A	119,022.45
OS Large Trees Required	1 LG 11'00ft	19.23	10.00	375.00	0.00	375.00	7.00	7.36	0.00	2.71	0.00	0.13	2.00	2.13	0.00	2.02	0.00	3.56	0.00	1.80	0.00	1.67	0.00	2.23	0.00	N/A	
OS Medium Trees Required	1 MD 17'50ft	25.64	17.00	500.00	0.00	500.00	9.81	0.00	0.00	3.61	0.00	0.17	0.00	2.84	0.00	2.69	0.00	4.75	0.00	2.40	0.00	2.23	0.00	2.96	0.00	N/A	
OS Ornamental Trees Required	1 ORN 11'00ft	19.23	19.00	375.00	0.00	375.00	7.36	0.00	0.00	2.71	0.00	0.13	3.00	2.13	0.00	2.02	0.00	3.56	0.00	1.80	0.00	1.67	0.00	2.23	0.00	N/A	
OS Perimeter Shrubs Required	1/200ft perimeter	52 (520' ft)	52.00	42 (427' ft)	0.00	42.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	
Street Tree Calculations (LF)	Table 305-4	1,379.00	224.35	235.53	137.66	263.72	200.75	269.98	448.86	545.91	437.95	0.00	0.00	550.49	1,727.17												
Res:	1 LG 11'00ft	19.23	10.00	375.00	0.00	375.00	7.00	7.36	0.00	2.71	0.00	0.13	2.00	2.13	0.00	2.02	0.00	3.56	0.00	1.80	0.00	1.67	0.00	2.23	0.00	N/A	
Non-res:	1 LG 17'50ft	19.23	10.00	375.00	0.00	375.00	7.00	7.36	0.00	2.71	0.00	0.13	2.00	2.13	0.00	2.02	0.00	3.56	0.00	1.80	0.00	1.67	0.00	2.23	0.00	N/A	
or 1 MD 17'50ft	25.64	17.00	500.00	0.00	500.00	9.81	0.00	0.00	0.00	3.61	0.00	0.17	0.00	2.84	0.00	2.69	0.00	4.75	0.00	2.40	0.00	2.23	0.00	2.96	0.00	N/A	
or 1 ORN 11'00ft	19.23	19.00	375.00	0.00	375.00	7.36	0.00	0.00	0.00	2.71	0.00	0.13	3.00	2.13	0.00	2.02	0.00	3.56	0.00	1.80	0.00	1.67	0.00	2.23	0.00	N/A	
or 1/200ft perimeter	52 (520' ft)	52.00	42 (427' ft)	0.00	42.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	
Site and Foundation Calculations	Table 305-4	1,379.00	224.35	235.53	137.66	263.72	200.75	269.98	448.86	545.91	437.95	0.00	0.00	550.49	1,727.17												
Res:	1 LG 11'00ft	19.23	10.00	375.00	0.00	375.00	7.00	7.36	0.00	2.71	0.00	0.13	2.00	2.13	0.00	2.02	0.00	3.56	0.00	1.80	0.00	1.67	0.00	2.23	0.00	N/A	
Non-res:	1 LG 17'50ft	19.23	10.00	375.00	0.00	375.00	7.00	7.36	0.00	2.71	0.00	0.13	2.00	2.13	0.00	2.02	0.00	3.56	0.00	1.80	0.00	1.67	0.00	2.23	0.00	N/A	
or 1 MD 17'50ft	25.64	17.00	500.00	0.00	500.00	9.81	0.00	0.00	0.00	3.61	0.00	0.17	0.00	2.84	0.00	2.69	0.00	4.75	0.00	2.40	0.00	2.23	0.00	2.96	0.00	N/A	
or 1 ORN 11'00ft	19.23	19.00	375.00	0.00	375.00	7.36	0.00	0.00	0.00	2.71	0.00	0.13	3.00	2.13	0.00	2.02	0.00	3.56	0.00	1.80	0.00	1.67	0.00	2.23	0.00	N/A	
or 1/200ft perimeter	52 (520' ft)	52.00	42 (427' ft)	0.00	42.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	
Shrubs Requirement	1 LG 11'00ft	19.23	19.00	375.00	0.00	375.00	7.36	0.00	0.00	2.71	0.00	0.13	3.00	2.13	0.00	2.02	0.00	3.56	0.00	1.80	0.00	1.67	0.00	2.23	0.00	N/A	
Shrubs Requirement	1 MD 17'50ft	25.64	17.00	500.00	0.00	500.00	9.81	0.00	0.00	3.61	0.00	0.17	0.00	2.84	0.00	2.69	0.00	4.75	0.00	2.40	0.00	2.23	0.00	2.96	0.00	N/A	
Shrubs Requirement	1 ORN 11'00ft	19.23	19.00	375.00	0.00	375.00	7.36	0.00	0.00	2.71	0.00	0.13	3.00	2.13	0.00	2.02	0.00	3.56	0.00	1.80	0.00	1.67	0.00	2.23	0.00	N/A	
Shrubs Requirement	1/200ft perimeter	52 (520' ft)	52.00	42 (427' ft)	0.00	42.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	
Shrubs Requirement	1 LG 11'00ft	19.23	19.00	375.00	0.00	375.00	7.36	0.00	0.00	2.71	0.00	0.13	3.00	2.13	0.00	2.02	0.00	3.56	0.00	1.80	0.00	1.67	0.00	2.23	0.00	N/A	
Shrubs Requirement	1 MD 17'50ft	25.64	17.00	500.00	0.00	500.00	9.81	0.00	0.00	3.61	0.00	0.17	0.00	2.84	0.00	2.69	0.00	4.75	0.00	2.40	0.00	2.23	0.00	2.96	0.00	N/A	
Shrubs Requirement	1 ORN 11'00ft	19.23	19.00	375.00	0.00	375.00	7.36	0.00	0.00	2.71	0.00	0.13	3.00	2.13	0.00	2.02	0.00	3.56	0.00	1.80	0.00	1.67	0.00	2.23	0.00	N/A	
Shrubs Requirement	1/200ft perimeter	52 (520' ft)	52.00	42 (427' ft)	0.00	42.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	
Shrubs Requirement	1 LG 11'00ft	19.23	19.00	375.00	0.00	375.00	7.36	0.00	0.00	2.71	0.00	0.13	3.00	2.13	0.00	2.02	0.00	3.56	0.00	1.80	0.00	1.67	0.00	2.23	0.00	N/A	
Shrubs Requirement	1 MD 17'50ft	25.64	17.00	500.00	0.00	500.00	9.81	0.00	0.00	3.61	0.00	0.17	0.00	2.84	0.00	2.69	0.00	4.75	0.00	2.40	0.00	2.23	0.00	2.96	0.00	N/A	
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Shrubs Requirement	1/200ft perimeter	52 (520' ft)	52.00	42 (427' ft)	0.00	42.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	
Shrubs Requirement	1 LG 11'00ft	19.23	19.00	375.00	0.00	375.00	7.36	0.00	0.00	2.71	0.00	0.13	3.00	2.13	0.00	2.02	0.00	3.56	0.00	1.80	0.00	1.67	0.00	2.23	0.00	N/A	
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Shrubs Requirement	1/200ft perimeter	52 (520' ft)	52.00	42 (427' ft)	0.00	42.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	
Shrubs Requirement	1 LG 11'00ft	19.23	19.00	375.00	0.00	375.00	7.36	0.00	0.00	2.71	0.00	0.13	3.00	2.13	0.00	2.02	0.00	3.56	0.00	1.80	0.00	1.67	0.00	2.23	0.00	N/A	
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Shrubs Requirement	1/200ft perimeter	52 (520' ft)	52.00	42 (427' ft)	0.00	42.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	
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Shrubs Requirement	1/200ft perimeter	52 (520' ft)	52.00	42 (427' ft)	0.00	42.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	
Shrubs Requirement	1 LG 11'00ft	19.23	19.00	375.00	0.00	375.00	7.36	0.00	0.00	2.71	0.00	0.13	3.00	2.13	0.00	2.02	0.00	3.56	0.00	1.80	0.00	1.67	0.00	2.23	0.00	N/A	
Shrubs Requirement	1 MD 17'50ft	25.64	17.00	500.00	0.00	500.00	9.81	0.00	0.00	3.61	0.00	0.17	0.00	2.84	0.00	2.69	0.00	4.75	0.00	2.40	0.00	2.23	0.00	2.96	0.00	N/A	
Shrubs Requirement	1 ORN 11'00ft	19.23	19.00	375.00	0.00	375.00	7.36	0.00	0.00	2.71	0.00	0.13	3.00	2.13	0.00	2.02	0.00	3.56	0.00	1.80	0.00	1.67	0.00	2.23	0.00	N/A	
Shrubs Requirement	1/200ft perimeter	52 (520' ft)	52.00	42 (427' ft)	0.00	42.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	
Shrubs Requirement	1 LG 11'00ft	19.23	19.00	375.00	0.00	375.00	7.36	0.00	0.00	2.71	0.00	0.13	3.00	2.13	0.00	2.02	0.00	3.56	0.00	1.80	0.00	1.67	0.00	2.23	0.00	N/A	
Shrubs Requirement	1 MD 17'50ft	25.64	17.00	500.00	0.00	500.00	9.81	0.00	0.00	3.61	0.00	0.17	0.00	2.84	0.00	2.69	0.00	4.75	0.00	2.40	0.00	2.23	0.00	2.96	0.00	N/A	
Shrubs Requirement	1 ORN 11'00ft	19.23	19.00	375.00	0.00	375.00</																					

DRAINAGE STUDY REPORT

THEATRE DISTRICT

Hastings, Nebraska

March 10th, 2021

Revised March 23rd, 2021

REGA PROJECT 201055

PREPARED FOR:

City of Hastings

PREPARED BY:

REGA ENGINEERING GROUP, INC.

LINCOLN, NEBRASKA

REGA

**ENGINEERING
GROUP, INC.**

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DRAINAGE SUMMARY

THEATRE DISTRICT DRAINAGE STUDY

PURPOSE

The primary objective of this study was to analyze pre- and post-development drainage areas for the proposed Planned District development in order to attenuate the peak post-development runoff. Lastly, the proposed district development falls under development criteria specified in Chapter 42 of the Hastings Municipal Code and will demonstrate the ability to meet these water quality requirements.

PROJECT LOCATION & DESCRIPTION

The proposed project is located to the southwest of West 12th Street and North Marian Road. The parcels, approximately 37.5 acres, were used for a retail center. Recently, the mall has been demolished. Pre-development conditions are shown in **Figure 1: Pre-development conditions for the Theatre District**. The proposed project consists of re-developing the site into 11 commercial lots and repurposing two existing buildings. The site is adjacent to townhouse and residential to the south and west, the Hastings Airport to the north of West 12th Street and agricultural ground east of North Marian Road. Half of the existing site sheet flows to the northeast corner of the property, while the west half drains to an existing concrete liner that conveys runoff along the edges of the property. Both the existing site and off-site areas drain to the existing box culvert under West 12th Street. The open ditches flow north along North Marian Road and east along West 12th Street, and both converge at the existing box culvert under West 12th Street before continuing in an open ditch along the east side of the City of Hasting's Airport.



Figure 1: Pre-development conditions for Theatre District

STUDY PROCEDURE

A hydrologic analysis was performed using HydroCAD to determine the impacts of the proposed drainage on post-construction conditions. The NRCS Method was used to model storm events and estimate hydrologic conditions for this study. This method relates runoff rates to precipitation depths, land use and topography. The peak runoff rate is determined by an empirical equation that relates the quantity of runoff from a given area to a total rainfall falling at a uniform rate on the same area. Inputs required for the NRCS method include:

- Drainage area (acres)
- Curve Number (CN)
- Time of concentration (Tc)
- Storm distribution

NRCS curve numbers, used for predicting peak runoff, are based on the various land uses and soil types as determined by the National Cooperative Soil Survey published by the United States Department of Agriculture Natural Resources Conservation Service, see **APPENDIX E** for the *USDA Web Soil Survey*. In the case of multiple land uses, a weighted average is calculated. The low curve number of 74 was used for the well vegetated open space with type C soils. The high curve number of 98 was used for interconnected parking lots and building roofs with an estimated 50% impervious area with type C/D soils. The sub basin area, land use, hydrologic soil group, curve number and time of concentration for each sub-basin were calculated and are shown below in **Table 1: Pre-development sub-basin information** and **Table 2: Post-development sub-basin information**.

Table 1: Pre-development sub-basin information

Designation	Area	Land Use	Curve Number*	Time of Concentration**
	(Acres)			(minutes)
A	37.50	Parking/Roofs & Open Space	93	30.0
Off-Site #1	3.40	Residential (1/8 Acre)	90	20.1
Off-Site #2	8.13	Residential (1/8 Acre)	90	13.5

Table 2: Post-development sub-basin information

Designation	Area	Land Use	Curve Number*	Time of Concentration**
	(Acres)			(minutes)
A ₁ , A ₈ -A ₁₇	19.15	Parking/Roofs & Open Space	90	21.6
A ₂ -A ₇	18.35	Parking/Roofs & Open Space	89	12.9
Off-Site #1	3.40	Residential (1/8 Acre)	90	20.1
Off-Site #2	8.13	Residential (1/8 Acre)	90	13.5

* Calculations for the Curve Number were calculated in HydroCAD

** Time of concentration was calculated in HydroCAD

Time of concentration was calculated using the TR-55 method, which takes into account the average basin slope and hydraulic length for each subarea. The hydraulic length is the

distance required from the most remote point in the drainage area to the catchment point. Time of concentration was calculated with HydroCAD. The maximum sheet flow distance used was 150 feet.

A type II rainfall distribution, which has a storm duration of 24 hours, was used to model the 2, 10 and 100-year storm event. The design rainfall intensity rates were from the Hastings Drainage Criteria Manual, Chapter 2, Table 2-9 and are shown below in **Table 3: City of Hastings, NE 24-hour design rainfall**.

Table 3: City of Hastings, NE 24-hour design rainfall

Frequency	24-hr Rainfall (in.)
Water Quality	0.53
2-Year	2.85
10-Year	4.16
100-Year	6.64

PRE-DEVELOPMENT RUNOFF CONDITIONS

The land was previously used for as a commercial shopping center with nearly 80% of the land comprised of impervious pavement or rooftops. The existing site had a high point and stormwater runoff was directed to the property's perimeter where it was conveyed by a concrete liner, storm sewer pipes, or an open ditch before exiting the property through a box culvert under West 12th Street. One drainage sub-basin was used to represent the property within the Planned District Development and two off-site sub-basins were used for areas contributing to the perimeter flows. These drainage sub-areas and their flow paths are illustrated in **Figure 2: Pre-development drainage plan**.

POST-DEVELOPMENT RUNOFF CONDITIONS

The post-development sub-basins is comprised of two sub-basins which can be viewed as the area draining to the proposed retention pond and the remaining areas that continue to drain to the existing open ditches along West 12th Street and North Marian Road. The rational method was used to size new or modified storm sewer pipes, ditches, and inlets, while the NRCS (formerly known as the SCS) method was used to compare the pre- and post-development runoff rates. The post development drainage areas and flow paths are illustrated in **Figure 3: Post-development drainage plan**.

HYDROCAD MODEL

The hydrographs established for the pre-development and post-development sub-basins are shown in **Appendix B: HydroCAD models**. The resulting flow rates and water surface elevations for the pre-development and post-development sub-basins and proposed retention pond are summarized in **Table 4: Hydrologic Results**.

While the proposed development has less impervious area than the existing conditions, the stormwater runoff will be more efficiently conveyed to the northeast corner of the site resulting in higher post-development runoff rates. The proposed retention and water quality pond is in the northeast corner of the site. An outlet structure will be constructed to reduce the flow during the water quality event, while also providing enough storage for a 1-foot freeboard during the 100-year storm event.

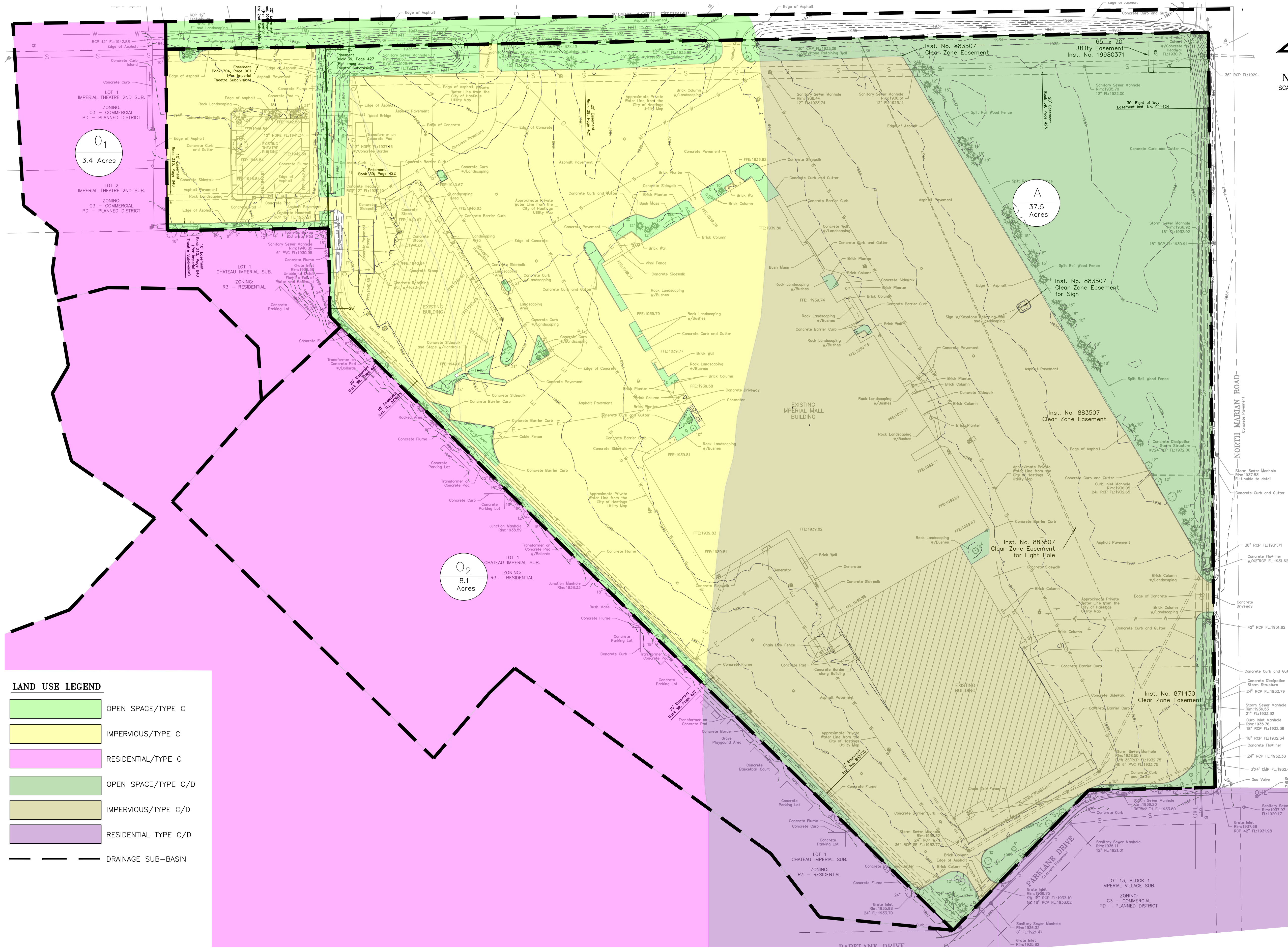


FIGURE 2: PRE-DEVELOPMENT EXHIBIT

PROJECT
201055

REGA
ENGINEERING
GROUP, INC.

601 OLD CHENEY RD., SUITE A
LINCOLN, NEBRASKA 68512
(402) 484.7342

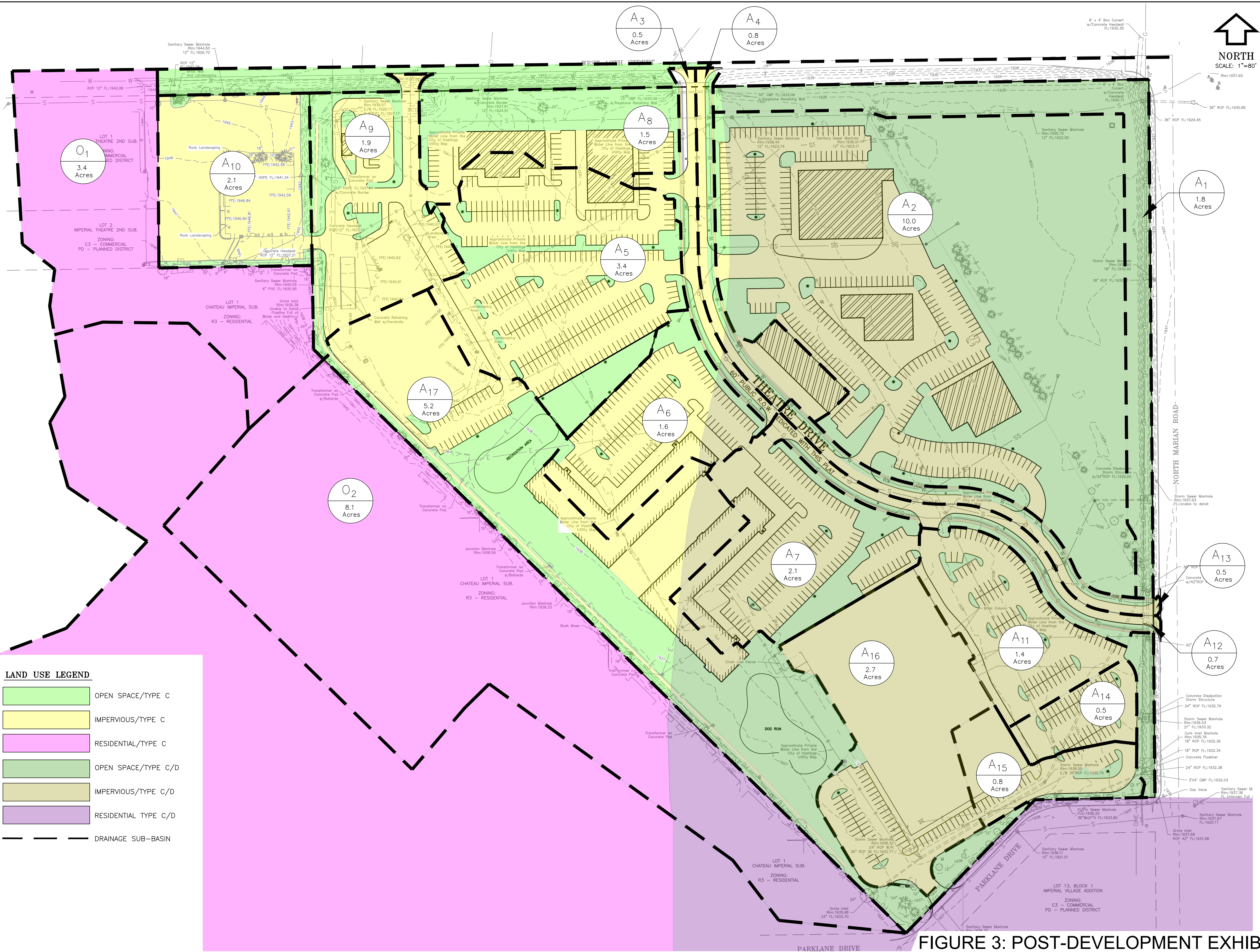
- ENGINEERING
- PLANNING
- LANDSCAPE ARCHITECTURE
- LAND SURVEYING

ISSUED FOR	DATE
PD SET	02/19/21

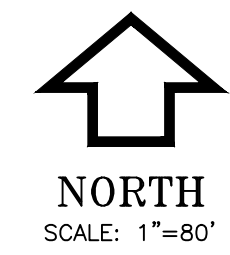
THEATRE DISTRICT
PLANNED DISTRICT DEVELOPMENT
WEST 12TH STREET & NORTH MARIAN ROAD
HASTINGS, NEBRASKA

SHEET NO.

1 of 3



LAND USE LEGEND	
[Green Box]	OPEN SPACE/TYPE C
[Yellow Box]	IMPERVIOUS/TYPE C
[Pink Box]	RESIDENTIAL/TYPE C
[Light Green Box]	OPEN SPACE/TYPE C/D
[Light Yellow Box]	IMPERVIOUS/TYPE C/D
[Light Pink Box]	RESIDENTIAL TYPE C/D
[Dashed Line]	DRAINAGE SUB-BASIN



PROJECT
201055

REGA
ENGINEERING
GROUP, INC.

601 OLD CHENEY RD., SUITE A
LINCOLN, NEBRASKA 68512
(402).484.7342

- ENGINEERING
- PLANNING
- LANDSCAPE ARCHITECTURE
- LAND SURVEYING

ISSUED FOR	DATE
PD SET	02/19/21

THEATRE DISTRICT
PLANNED DISTRICT DEVELOPMENT
WEST 12TH STREET & NORTH MARIAN ROAD
HASTINGS, NEBRASKA

SHEET NO.
2 of 3

FIGURE 3: POST-DEVELOPMENT EXHIBIT

Table 4: Hydrologic Results

	Peak Runoff Rate (CFS)			Maximum Water Surface Elevation (Ft.)			
	2-Year	10-Year	100-Year	2-Year	10-Year	100-Year	Top of Pond
Pre-Development							
A - generated	67.52	105.90	177.60	---	---	---	---
Off-Site #1 - generated	6.90	11.28	19.55	---	---	---	---
Off-Site #2 - generated	20.06	32.67	56.38	---	---	---	---
Overall Pre-Development (PRE)	83.16	131.97	223.12				
Post-Development							
A ₂ -A ₇ - generated	49.79	78.68	132.68	---	---	---	---
A ₂ -A ₇ - attenuated	1.08	1.77	9.44	1932.51	1933.09	1933.82	1935.50
A ₁ , A ₈ -A ₁₇ - generated	35.75	59.44	104.33	---	---	---	---
Off-Site #1 - generated	6.90	11.28	19.55	---	---	---	---
Off-Site #2 - generated	20.06	32.67	56.38	---	---	---	---
Overall Post-Development (POST)	60.19	99.50	174.57				

*Top of Pond includes 1-foot of freeboard.

In addition to the flow rates from HydroCAD, it was desirable to see what the output velocity would be from the 30" RCP daylighting from the retention pond to the existing ditch. The outlet velocity was modeled with two different software to double-check from scour potential. The resulting velocities for the 2, 10, and 100-year storm events are shown in **Table 5: Storm Sewer Outlet Structure Velocity**. Results of the analysis show the proposed pipe velocities are below 10 ft/second which is the regulated velocity for requiring scour measures.

Table 5: Storm Sewer Outlet Structure Velocity

Storm Water Event	30" RCP Velocity from HydroCAD (ft/sec)	30" RCP Velocity from HY-8 (ft/sec)
2-Year	4.1	4.2
10-Year	4.7	4.7
100-Year	7.8	7.4

WATER QUALITY

The City of Hastings Drainage Manual was referenced for water quality calculations. Water Quality for this project was separated into two different categories (Flow Rate and Volume-Based). The first category was based on discharge rates from Table 9-2 of the Hastings Drainage Manual. Table 9-2 describes depicts the water quality flow rate for drainage areas that have impervious surface areas of 6 acres or less. This methodology was applied to the Vegetative Filter Strips, Grass Swale and Area Inlet Filter.

Sub-basins A₈ and A₁₇ utilize the previously mentioned vegetative buffers with native grasses to help slow the sheet flow runoff from the proposed apartments and small parking

lots. These areas will receive a native seed mix and shall have a maximum slope of 2%. The impervious areas for each of the sub-basins were determined and applied to the Central Region from Table 9-2. For example, Sub-basin A₈ has an impervious area of 1.0 acres, therefore from Table 9-2 the designed Water Quality Discharge rate is 0.8 cfs. This is shown below in **Table 6: Post-Construction Stormwater Management Plan** for STF #2.

The existing concrete low flow liner on the south side of the property will be removed and replaced with an 8-foot-wide native grass swale with a 6" perforated underdrain pipe. The maximum side slopes will be 4:1. Due to the proposed swale length, rock check dams will be installed every 200 feet to allow for sedimentation and ease of maintenance. Similarly, to the vegetative filter strips, the contributing drainage areas were converted to cfs.

Sub-basin A₁₁ drains to an interior parking lot with a proposed area inlet filter. This will collect sediment and trash before discharging into the ditch along North Marian Road. The area inlet filter proposed is a Flexstorm FX Standard-S. The specification of this has been added to the drainage report. The proposed vegetative filter strip, area inlet filter, and grass swales are BMP's designed from a flow rate. **Table 6: Post-Construction Stormwater Management Plan** summarizes the planned best management practices (BMP's) and correlates the contributing area from each affected sub-basin.

Table 6: Post-Construction Stormwater Management Plan

STF Identification Number	STF Type	STF Location (Lat/Long)	Drainage Area (Acres)	Impervious Area (Acres)	Design WQCV (CF) or QWQ (CFS)	WQCV (CF) or QWQ (CFS) Provided
1	Vegetative Filter Strip	40°35'38.52"/98°25'25.01"	2.6 [A ₁₇]	0.7	0.6	N/A
2	Vegetative Filter Strip	40°35'48.20"/98°25'27.30"	1.0 [A ₈]	1.0	0.8	N/A
3	Grass Swale	40°35'45.48"/98°25'33.55"	4.0 [A ₉₋₁₀]	3.6	3.0	3.0
4	Grass Swale	40°35'40.82"/98°25'28.82"	10.6 [A ₁₇ & O ₂]	6.0	5.1	5.1
5	Area Inlet Filter	40°35'40.06"/98°25'17.44"	1.4 [A ₁₁]	1.4	1.2	1.2
6	Retention Pond	40°35'16.49"/98°25'17.49"	18.4 [A ₂₋₇]	11.0	21,345	21,484

Table 7: Stormwater Treatment Facilities (STF) #3 & #4, provides the design details for the two proposed grass swales for the water quality event, 2-year, and 100-year storm events. The intention is to design the swale to have a water quality control velocity less than 1 foot per second.

Table 7: Stormwater Treatment Facilities (STF) #3 & #4

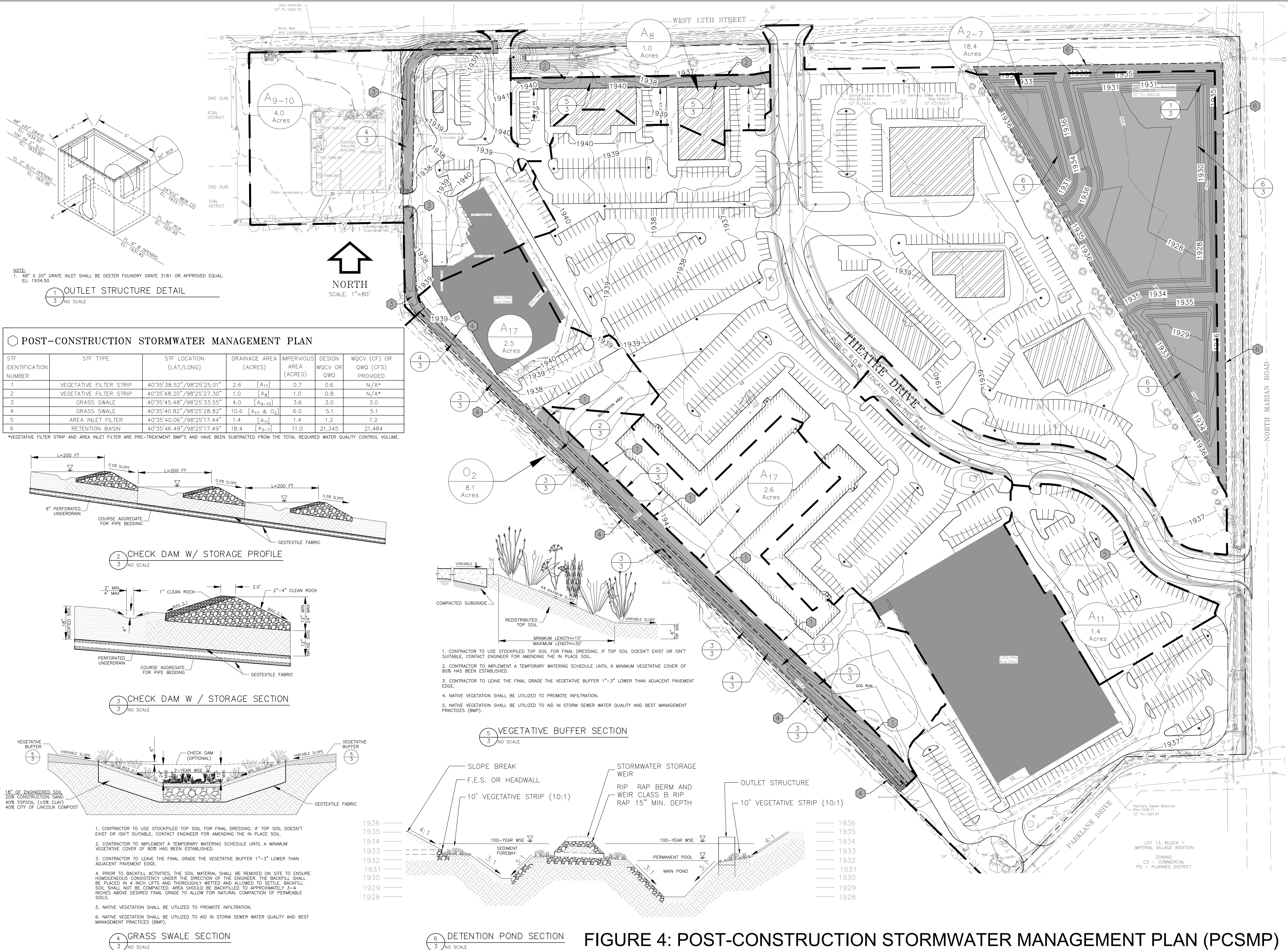
STF #3 [A ₉₋₁₀]			STF #4 [A ₁₇ & O ₂]		
Bottom Width, W _s	8	ft	Bottom Width, W _s	8	ft
Manning's Roughness, n	0.24		Manning's Roughness, n	0.24	
Channel Bottom Slope, S	0.005	ft/ft	Channel Bottom Slope, S	0.005	ft/ft
Side Slope, z (horizontal:vertical) z:1	4		Side Slope, z (horizontal:vertical) z:1	4	
Flow Rate, WQCV	3.00	cfs	Flow Rate, WQCV	5.10	cfs
Flow Rate, 2-Year	14.39	cfs	Flow Rate, 2-Year	24.16	cfs
Flow Rate, 100-Year	37.12	cfs	Flow Rate, 100-Year	70.61	cfs
Flow Depth, WQCV	0.68	ft	Flow Depth, WQCV	0.82	ft
Flow Depth, 2-Year	1.16	ft	Flow Depth, 2-Year	1.37	ft
Flow Depth, 100-Year	1.57	ft	Flow Depth, 100-Year	1.89	ft
Flow Area, WQCV	7.29	ft ²	Flow Area, WQCV	9.25	ft ²
Flow Area, 2-Year	14.66	ft ²	Flow Area, 2-Year	18.47	ft ²
Flow Area, 100-Year	22.42	ft ²	Flow Area, 100-Year	29.41	ft ²
Velocity, WQCV	0.41	ft/s	Velocity, WQCV	0.55	ft/s
Velocity, 2-Year	0.98	ft/s	Velocity, 2-Year	1.31	ft/s
Velocity, 100-Year	1.66	ft/s	Velocity, 100-Year	2.40	ft/s
Minimum Swale Length	497	ft	Minimum Swale Length	720	ft

As discussed, the second category for water quality was volume-based calculations. Drainage sub-basins A₂₋₇ were modeled based on the volume-based formula found in section 9.4.4.1. Drainage sub-basins A₂₋₇ represent a total of 18.4 acres. The retention pond is in the northeast corner of the site near the intersection of West 12th Street and North Marian Road was modeled to handle this water quality volume. During the water quality event, the pond's outlet structure slowly releases runoff through a 6" opening and a 2" slot at the top of the retention pond. This allowed the water quality to drawdown within approximately 36 hours.

Table 8: Proposed Water Quality Control Volume Table

A	Area (Acres)	18.40
P	Relevant Storm (in.)	0.53
I	% impervious of drainage area	61.44
Required Volume (cubic feet)		21,345
Design Volume (cubic feet)		21,484

The post development BMP's and retention facility are illustrated in **Figure 4: Post Construction Stormwater Management Plan (PCSMP)**.



ENVIRONMENTAL IMPACTS

The Information for Planning and Consultation (IPaC) for U.S. Fish and Wildlife Services was used to generate a preliminary list of threatened and endangered species that may be affected by the development of the parcels. There were four threatened, endangered, or candidate species in the vicinity of the project, but none were determined to have any critical habitats. More information can be found in ***APPENDIX D: ENDANGERED AND THREATENED SPECIES LIST***.

FINDINGS

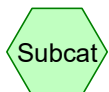
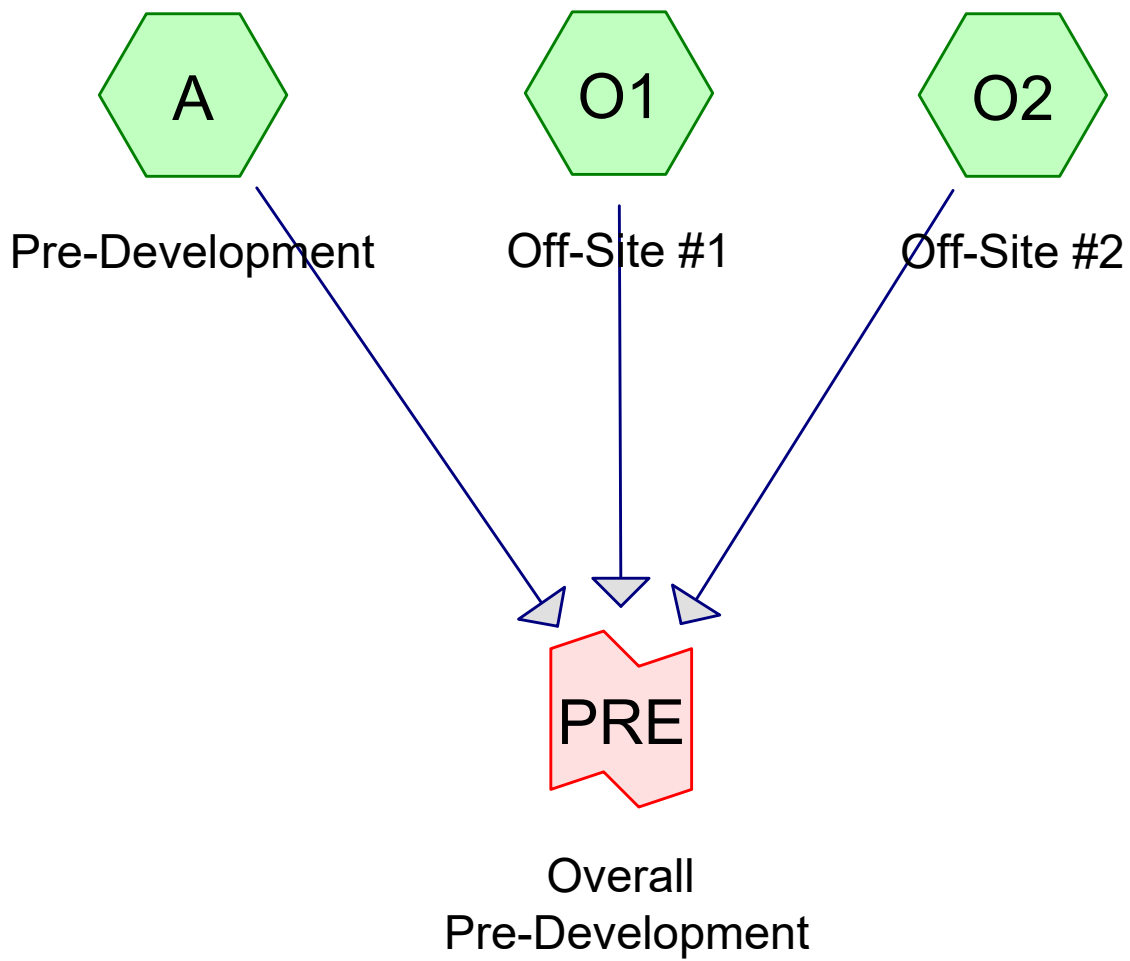
The Theatre District is comprised of approximately 37.5 acres of mostly impervious surfacing, except for areas where the FAA has height restrictions. While the proposed plan significantly cuts down on the impervious surfaces, the efficiencies gained in stormwater routing required detention to attenuate the post-development's peak runoff rate to below the pre-development conditions. The existing concrete swale is being removed and replaced with a grass swale planted with native grasses and vegetative buffers intercepting site sheet flows. Furthermore, the proposed pond's outlet structure is configured to comply with the Hastings Drainage Criteria Manual's water quality requirements. The two existing ditches along West 12th Street and North Marian Road and the existing box culvert structure are not being re-developed and therefore have not been included within this study.

APPENDIX B

HydroCad Models (WQ, 2-year, 10-year, 100-year)

PRE-DEVELOPMENT

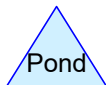
POST-DEVELOPMENT



Subcat



Reach



Pond



Link

Routing Diagram for 201055 Pre Development Hydrologic Model

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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
10.230	90	1/8 acre lots, 65% imp, HSG C (O1, O2)
1.300	91	1/8 acre lots, 65% imp, HSG C/D (O2)
1.920	74	>75% Grass cover, Good, HSG C (A)
6.410	77	>75% Grass cover, Good, HSG C/D (A)
16.850	98	Unconnected pavement, HSG C/D (A)
12.320	98	Unconnected roofs, HSG C (A)
49.030	92	TOTAL AREA

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Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
49.030	HSG C	A, O1, O2
0.000	HSG D	
0.000	Other	
49.030		TOTAL AREA

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Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	11.530	0.000	0.000	11.530	1/8 acre lots, 65% imp	O1, O2
0.000	0.000	8.330	0.000	0.000	8.330	>75% Grass cover, Good	A
0.000	0.000	16.850	0.000	0.000	16.850	Unconnected pavement	A
0.000	0.000	12.320	0.000	0.000	12.320	Unconnected roofs	A
0.000	0.000	49.030	0.000	0.000	49.030	TOTAL AREA	

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Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	A	0.00	0.00	360.0	0.0027	0.012	24.0	0.0	0.0
2	A	0.00	0.00	380.0	0.0027	0.012	36.0	0.0	0.0
3	O2	0.00	0.00	100.0	0.0035	0.012	15.0	0.0	0.0

201055 Pre Development Hydrologic Model

Type II 24-hr 2-Year Rainfall=2.85"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA: Pre-Development

Runoff Area=37.500 ac 77.79% Impervious Runoff Depth>1.96"
Flow Length=3,488' Tc=30.0 min CN=93 Runoff=67.52 cfs 6.139 af

SubcatchmentO1: Off-Site #1

Runoff Area=3.400 ac 65.00% Impervious Runoff Depth>1.71"
Flow Length=675' Tc=20.1 min CN=90 Runoff=6.90 cfs 0.485 af

SubcatchmentO2: Off-Site #2

Runoff Area=8.130 ac 65.00% Impervious Runoff Depth>1.72"
Flow Length=475' Tc=13.5 min CN=90 Runoff=20.06 cfs 1.163 af

Link PRE: Overall Pre-Development

Inflow=83.16 cfs 7.787 af
Primary=83.16 cfs 7.787 af

Total Runoff Area = 49.030 ac Runoff Volume = 7.787 af Average Runoff Depth = 1.91"
25.22% Pervious = 12.365 ac 74.78% Impervious = 36.665 ac

201055 Pre Development Hydrologic Model

Type II 24-hr 2-Year Rainfall=2.85"

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Summary for Subcatchment A: Pre-Development

Runoff = 67.52 cfs @ 12.24 hrs, Volume= 6.139 af, Depth> 1.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-Year Rainfall=2.85"

Area (ac)	CN	Description
1.920	74	>75% Grass cover, Good, HSG C
* 6.410	77	>75% Grass cover, Good, HSG C/D
12.320	98	Unconnected roofs, HSG C
* 16.850	98	Unconnected pavement, HSG C/D
37.500	93	Weighted Average
8.330		22.21% Pervious Area
29.170		77.79% Impervious Area
29.170		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	150	0.0060	0.76		Sheet Flow, Smooth surfaces n= 0.011 P2= 2.15"
1.7	150	0.0051	1.45		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.9	68	0.0043	1.33		Shallow Concentrated Flow, Paved Kv= 20.3 fps
3.8	180	0.0015	0.79		Shallow Concentrated Flow, Paved Kv= 20.3 fps
14.6	1,315	0.0009	1.50	76.72	Channel Flow, Concrete Liner Area= 51.1 sf Perim= 176.4' r= 0.29' n= 0.013 Concrete, trowel finish
1.5	360	0.0027	4.05	12.73	Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012 Concrete pipe, finished
1.2	380	0.0027	5.31	37.55	Pipe Channel, 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.012
3.0	885	0.0015	4.92	437.12	Channel Flow, Area= 88.9 sf Perim= 34.5' r= 2.58' n= 0.022 Earth, clean & straight
30.0	3,488	Total			

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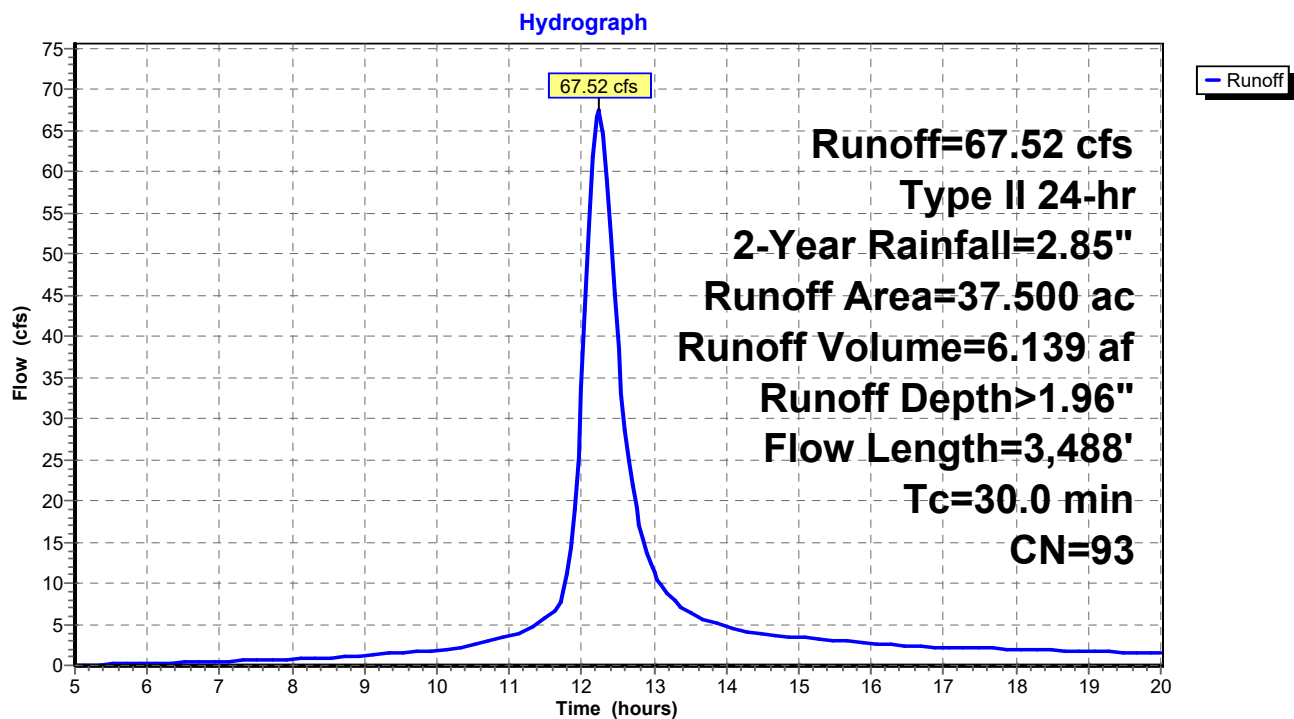
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Type II 24-hr 2-Year Rainfall=2.85"

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Subcatchment A: Pre-Development



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Type II 24-hr 2-Year Rainfall=2.85"

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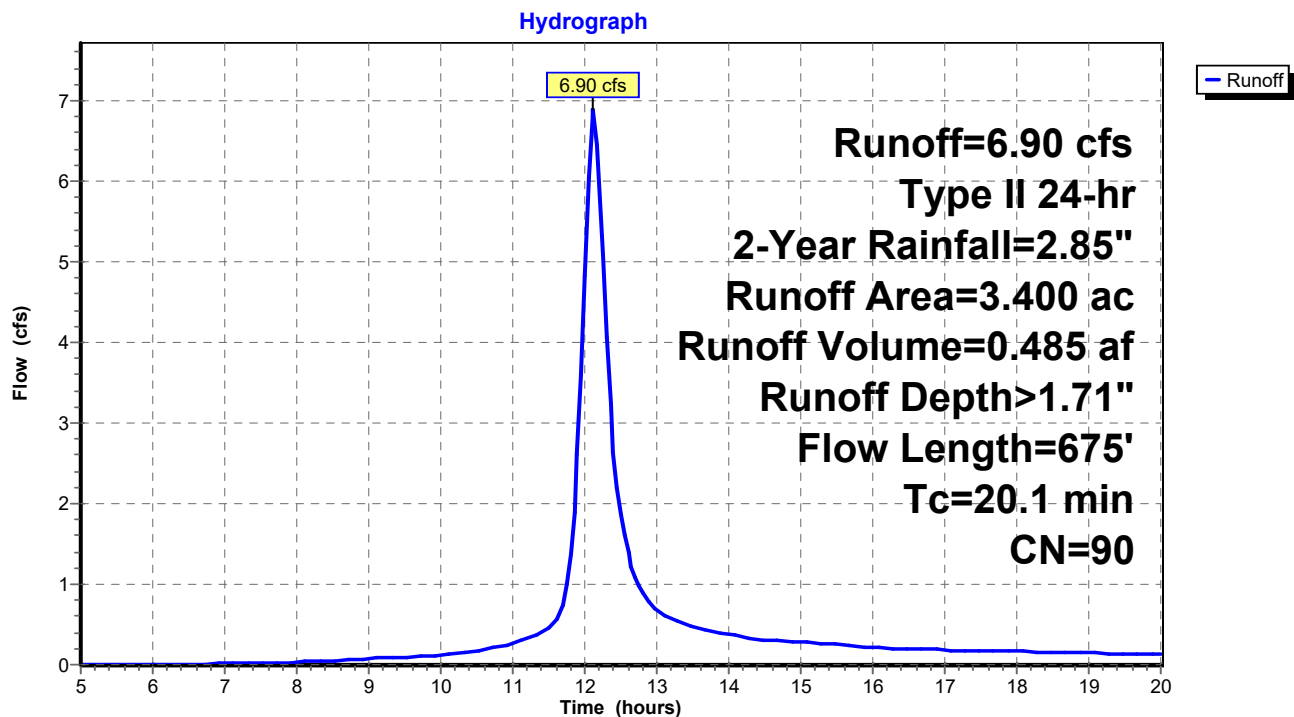
Summary for Subcatchment O1: Off-Site #1

Runoff = 6.90 cfs @ 12.12 hrs, Volume= 0.485 af, Depth> 1.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-Year Rainfall=2.85"

Area (ac)	CN	Description
3.400	90	1/8 acre lots, 65% imp, HSG C
1.190		35.00% Pervious Area
2.210		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	75	0.0200	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.15"
4.4	300	0.0050	1.14		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
6.2	300	0.0025	0.81		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
20.1	675	Total			

Subcatchment O1: Off-Site #1

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Type II 24-hr 2-Year Rainfall=2.85"

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Summary for Subcatchment O2: Off-Site #2

Runoff = 20.06 cfs @ 12.05 hrs, Volume= 1.163 af, Depth> 1.72"

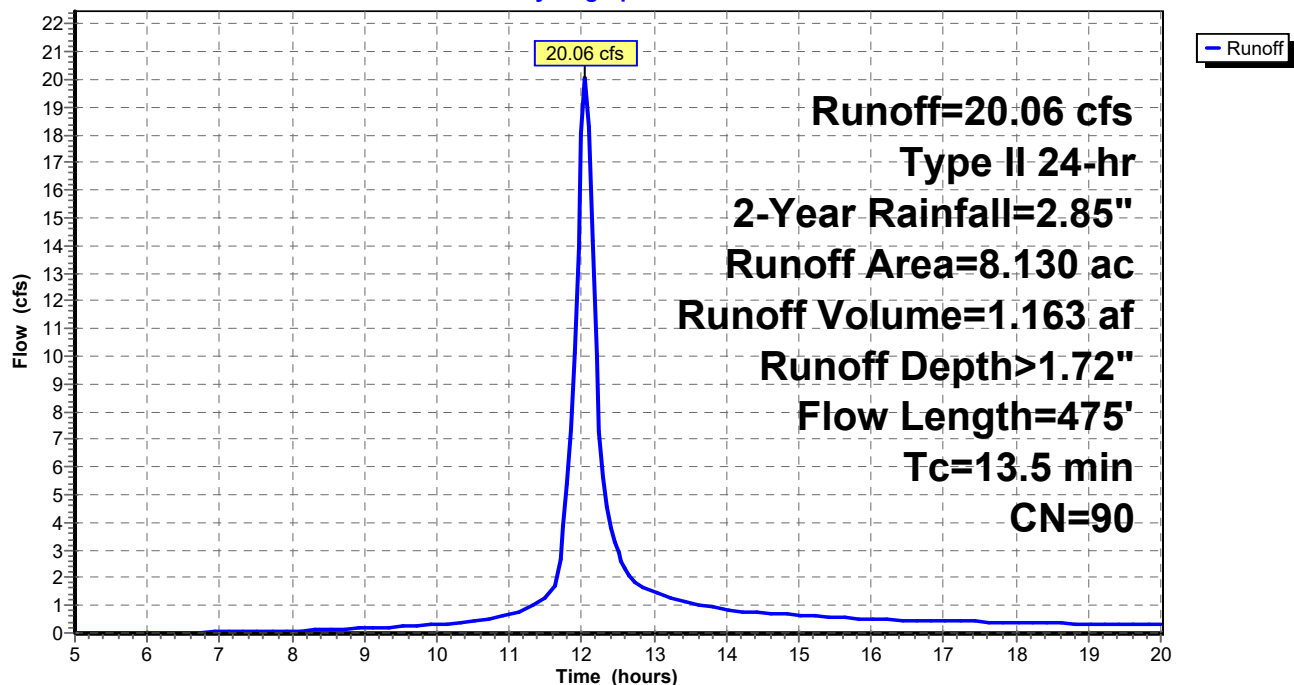
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-Year Rainfall=2.85"

Area (ac)	CN	Description
6.830	90	1/8 acre lots, 65% imp, HSG C
* 1.300	91	1/8 acre lots, 65% imp, HSG C/D
8.130	90	Weighted Average
2.845		35.00% Pervious Area
5.284		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	75	0.0200	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.15"
3.5	300	0.0050	1.44		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.5	100	0.0035	3.37	4.14	Pipe Channel, 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
13.5	475	Total			

Subcatchment O2: Off-Site #2

Hydrograph



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Type II 24-hr 2-Year Rainfall=2.85"

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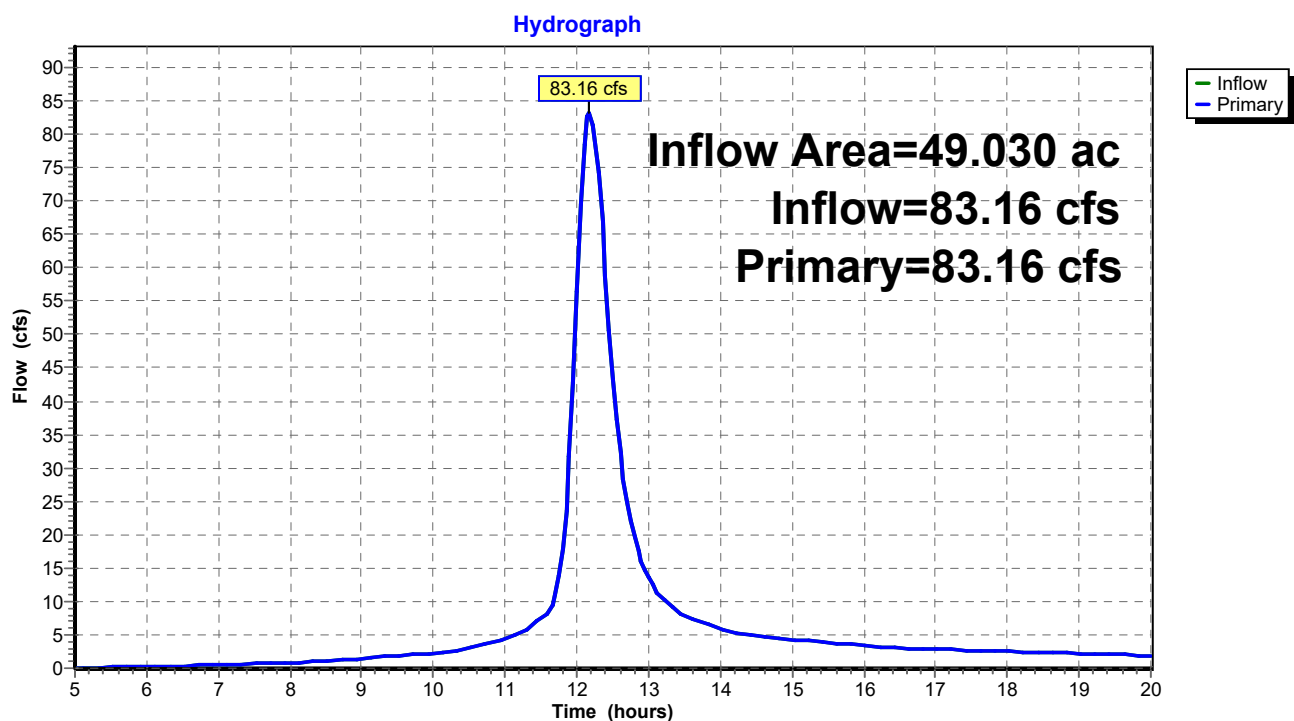
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Summary for Link PRE: Overall Pre-Development

Inflow Area = 49.030 ac, 74.78% Impervious, Inflow Depth > 1.91" for 2-Year event
Inflow = 83.16 cfs @ 12.18 hrs, Volume= 7.787 af
Primary = 83.16 cfs @ 12.18 hrs, Volume= 7.787 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link PRE: Overall Pre-Development



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Type II 24-hr 10-Year Rainfall=4.16"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA: Pre-Development

Runoff Area=37.500 ac 77.79% Impervious Runoff Depth>3.15"
Flow Length=3,488' Tc=30.0 min CN=93 Runoff=105.90 cfs 9.841 af

SubcatchmentO1: Off-Site #1

Runoff Area=3.400 ac 65.00% Impervious Runoff Depth>2.87"
Flow Length=675' Tc=20.1 min CN=90 Runoff=11.28 cfs 0.812 af

SubcatchmentO2: Off-Site #2

Runoff Area=8.130 ac 65.00% Impervious Runoff Depth>2.87"
Flow Length=475' Tc=13.5 min CN=90 Runoff=32.67 cfs 1.945 af

Link PRE: Overall Pre-Development

Inflow=131.97 cfs 12.598 af
Primary=131.97 cfs 12.598 af

Total Runoff Area = 49.030 ac Runoff Volume = 12.598 af Average Runoff Depth = 3.08"
25.22% Pervious = 12.365 ac 74.78% Impervious = 36.665 ac

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Type II 24-hr 10-Year Rainfall=4.16"

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Summary for Subcatchment A: Pre-Development

Runoff = 105.90 cfs @ 12.23 hrs, Volume= 9.841 af, Depth> 3.15"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=4.16"

Area (ac)	CN	Description
1.920	74	>75% Grass cover, Good, HSG C
* 6.410	77	>75% Grass cover, Good, HSG C/D
12.320	98	Unconnected roofs, HSG C
* 16.850	98	Unconnected pavement, HSG C/D
37.500	93	Weighted Average
8.330		22.21% Pervious Area
29.170		77.79% Impervious Area
29.170		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	150	0.0060	0.76		Sheet Flow, Smooth surfaces n= 0.011 P2= 2.15"
1.7	150	0.0051	1.45		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.9	68	0.0043	1.33		Shallow Concentrated Flow, Paved Kv= 20.3 fps
3.8	180	0.0015	0.79		Shallow Concentrated Flow, Paved Kv= 20.3 fps
14.6	1,315	0.0009	1.50	76.72	Channel Flow, Concrete Liner Area= 51.1 sf Perim= 176.4' r= 0.29' n= 0.013 Concrete, trowel finish
1.5	360	0.0027	4.05	12.73	Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012 Concrete pipe, finished
1.2	380	0.0027	5.31	37.55	Pipe Channel, 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.012
3.0	885	0.0015	4.92	437.12	Channel Flow, Area= 88.9 sf Perim= 34.5' r= 2.58' n= 0.022 Earth, clean & straight
30.0	3,488	Total			

201055 Pre Development Hydrologic Model

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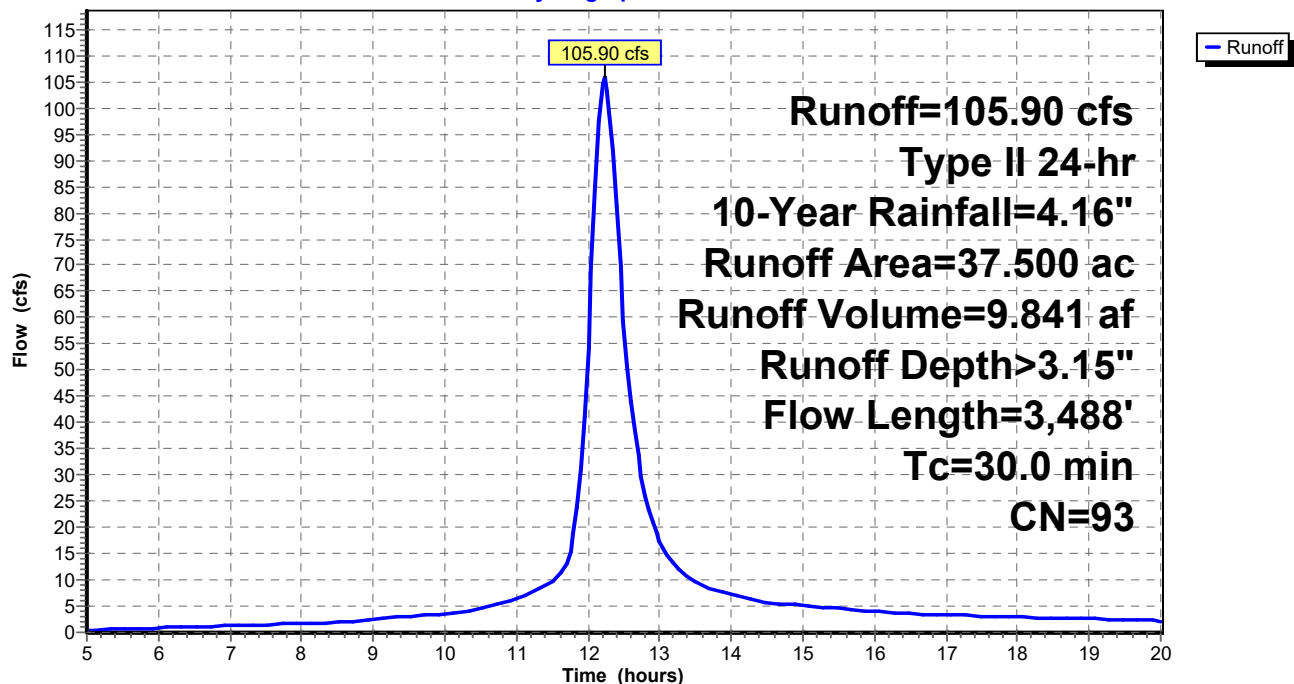
Type II 24-hr 10-Year Rainfall=4.16"

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Subcatchment A: Pre-Development

Hydrograph



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Type II 24-hr 10-Year Rainfall=4.16"

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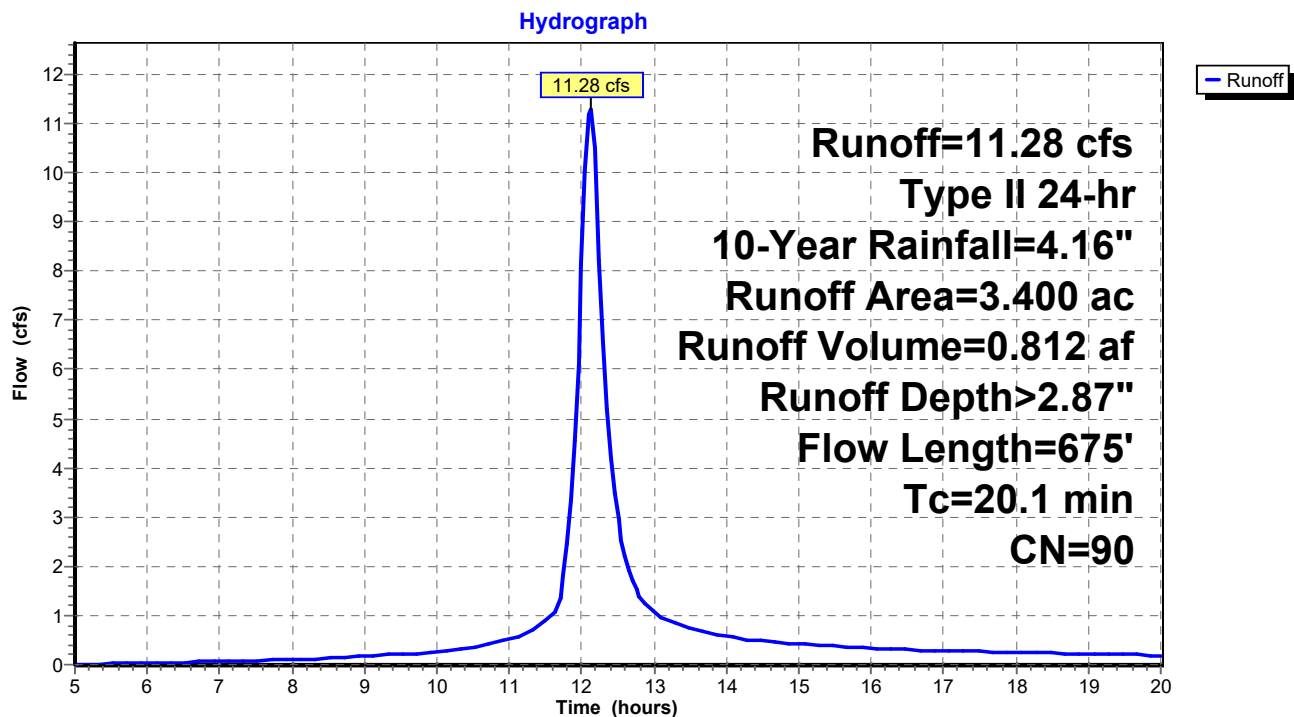
Summary for Subcatchment O1: Off-Site #1

Runoff = 11.28 cfs @ 12.12 hrs, Volume= 0.812 af, Depth> 2.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=4.16"

Area (ac)	CN	Description
3.400	90	1/8 acre lots, 65% imp, HSG C
1.190		35.00% Pervious Area
2.210		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	75	0.0200	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.15"
4.4	300	0.0050	1.14		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
6.2	300	0.0025	0.81		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
20.1	675	Total			

Subcatchment O1: Off-Site #1

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Type II 24-hr 10-Year Rainfall=4.16"

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Summary for Subcatchment O2: Off-Site #2

Runoff = 32.67 cfs @ 12.05 hrs, Volume= 1.945 af, Depth> 2.87"

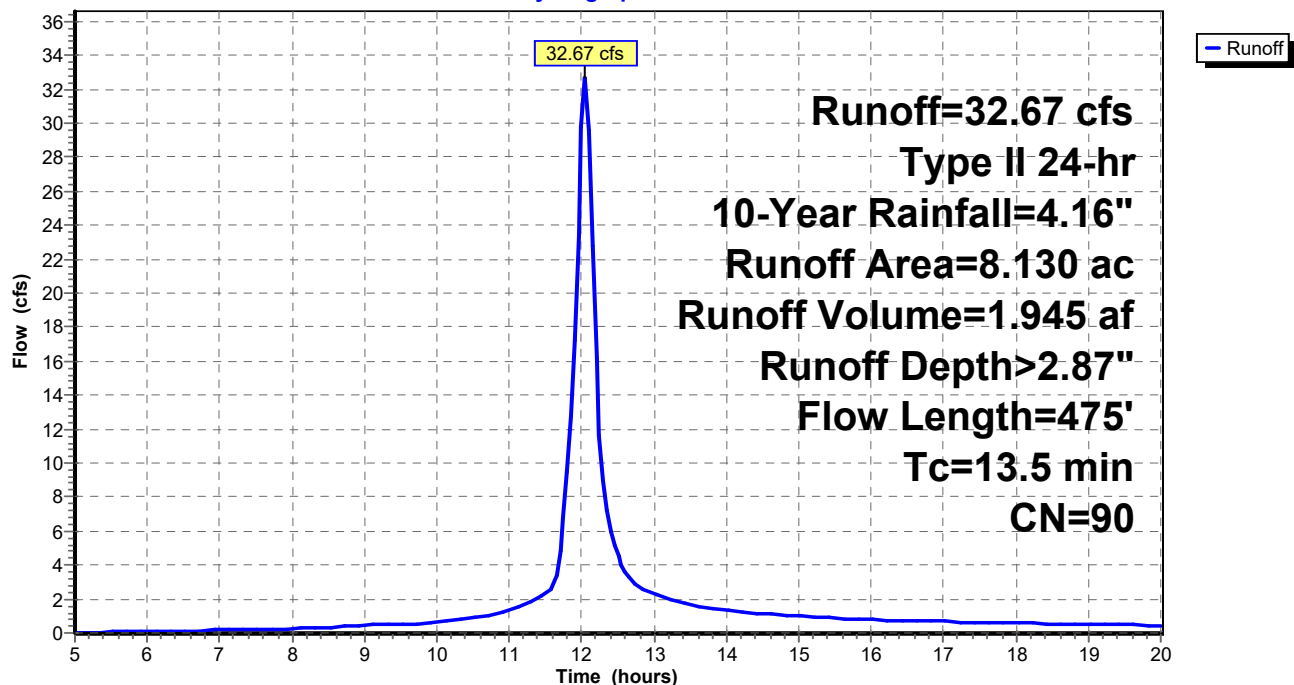
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-Year Rainfall=4.16"

Area (ac)	CN	Description
6.830	90	1/8 acre lots, 65% imp, HSG C
* 1.300	91	1/8 acre lots, 65% imp, HSG C/D
8.130	90	Weighted Average
2.845		35.00% Pervious Area
5.284		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	75	0.0200	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.15"
3.5	300	0.0050	1.44		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.5	100	0.0035	3.37	4.14	Pipe Channel, 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
13.5	475	Total			

Subcatchment O2: Off-Site #2

Hydrograph



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Type II 24-hr 10-Year Rainfall=4.16"

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Summary for Link PRE: Overall Pre-Development

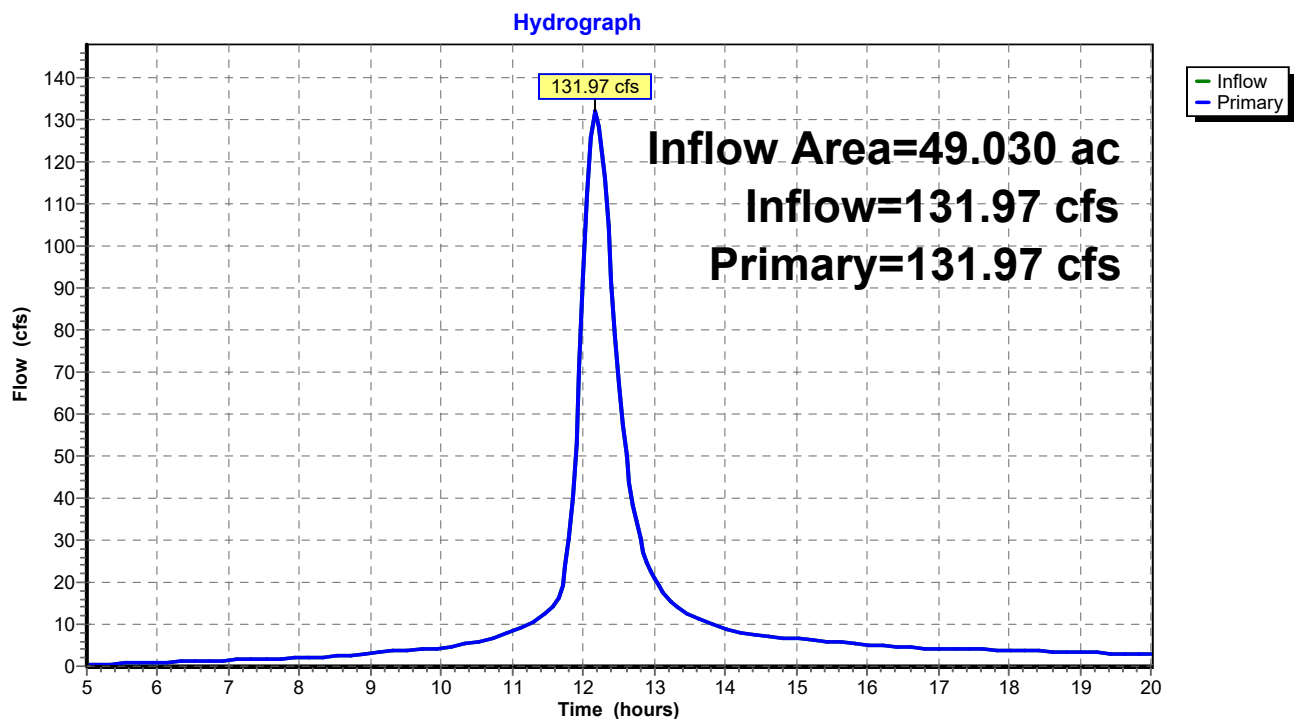
Inflow Area = 49.030 ac, 74.78% Impervious, Inflow Depth > 3.08" for 10-Year event

Inflow = 131.97 cfs @ 12.17 hrs, Volume= 12.598 af

Primary = 131.97 cfs @ 12.17 hrs, Volume= 12.598 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Link PRE: Overall Pre-Development



201055 Pre Development Hydrologic Model

Type II 24-hr 100-Year Rainfall=6.64"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA: Pre-Development

Runoff Area=37.500 ac 77.79% Impervious Runoff Depth>5.41"
Flow Length=3,488' Tc=30.0 min CN=93 Runoff=177.60 cfs 16.910 af

SubcatchmentO1: Off-Site #1

Runoff Area=3.400 ac 65.00% Impervious Runoff Depth>5.11"
Flow Length=675' Tc=20.1 min CN=90 Runoff=19.55 cfs 1.449 af

SubcatchmentO2: Off-Site #2

Runoff Area=8.130 ac 65.00% Impervious Runoff Depth>5.12"
Flow Length=475' Tc=13.5 min CN=90 Runoff=56.38 cfs 3.469 af

Link PRE: Overall Pre-Development

Inflow=223.12 cfs 21.828 af
Primary=223.12 cfs 21.828 af

Total Runoff Area = 49.030 ac Runoff Volume = 21.828 af Average Runoff Depth = 5.34"
25.22% Pervious = 12.365 ac 74.78% Impervious = 36.665 ac

201055 Pre Development Hydrologic Model

Type II 24-hr 100-Year Rainfall=6.64"

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Summary for Subcatchment A: Pre-Development

Runoff = 177.60 cfs @ 12.23 hrs, Volume= 16.910 af, Depth> 5.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=6.64"

Area (ac)	CN	Description
1.920	74	>75% Grass cover, Good, HSG C
* 6.410	77	>75% Grass cover, Good, HSG C/D
12.320	98	Unconnected roofs, HSG C
* 16.850	98	Unconnected pavement, HSG C/D
37.500	93	Weighted Average
8.330		22.21% Pervious Area
29.170		77.79% Impervious Area
29.170		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	150	0.0060	0.76		Sheet Flow, Smooth surfaces n= 0.011 P2= 2.15"
1.7	150	0.0051	1.45		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.9	68	0.0043	1.33		Shallow Concentrated Flow, Paved Kv= 20.3 fps
3.8	180	0.0015	0.79		Shallow Concentrated Flow, Paved Kv= 20.3 fps
14.6	1,315	0.0009	1.50	76.72	Channel Flow, Concrete Liner Area= 51.1 sf Perim= 176.4' r= 0.29' n= 0.013 Concrete, trowel finish
1.5	360	0.0027	4.05	12.73	Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012 Concrete pipe, finished
1.2	380	0.0027	5.31	37.55	Pipe Channel, 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.012
3.0	885	0.0015	4.92	437.12	Channel Flow, Area= 88.9 sf Perim= 34.5' r= 2.58' n= 0.022 Earth, clean & straight
30.0	3,488	Total			

201055 Pre Development Hydrologic Model

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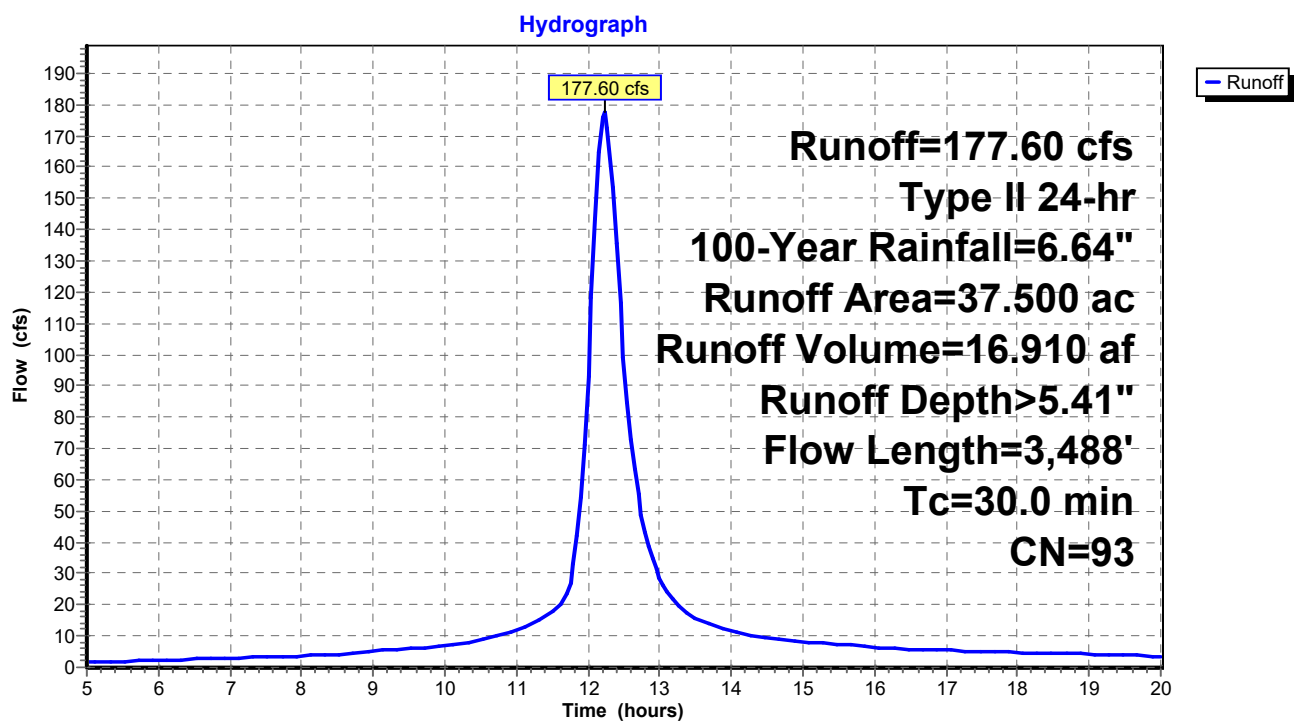
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Type II 24-hr 100-Year Rainfall=6.64"

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Subcatchment A: Pre-Development



201055 Pre Development Hydrologic Model

Type II 24-hr 100-Year Rainfall=6.64"

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Summary for Subcatchment O1: Off-Site #1

Runoff = 19.55 cfs @ 12.12 hrs, Volume= 1.449 af, Depth> 5.11"

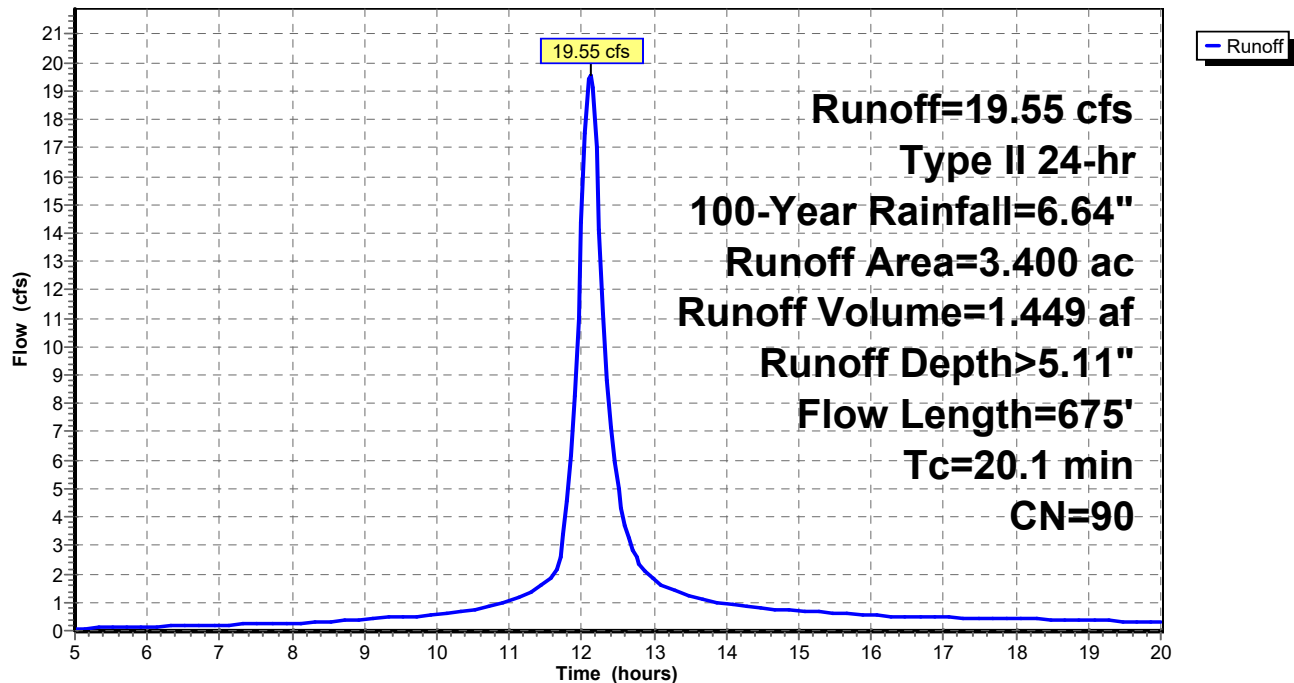
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=6.64"

Area (ac)	CN	Description
3.400	90	1/8 acre lots, 65% imp, HSG C
1.190		35.00% Pervious Area
2.210		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	75	0.0200	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.15"
4.4	300	0.0050	1.14		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
6.2	300	0.0025	0.81		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
20.1	675	Total			

Subcatchment O1: Off-Site #1

Hydrograph



201055 Pre Development Hydrologic Model

Type II 24-hr 100-Year Rainfall=6.64"

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Summary for Subcatchment O2: Off-Site #2

Runoff = 56.38 cfs @ 12.05 hrs, Volume= 3.469 af, Depth> 5.12"

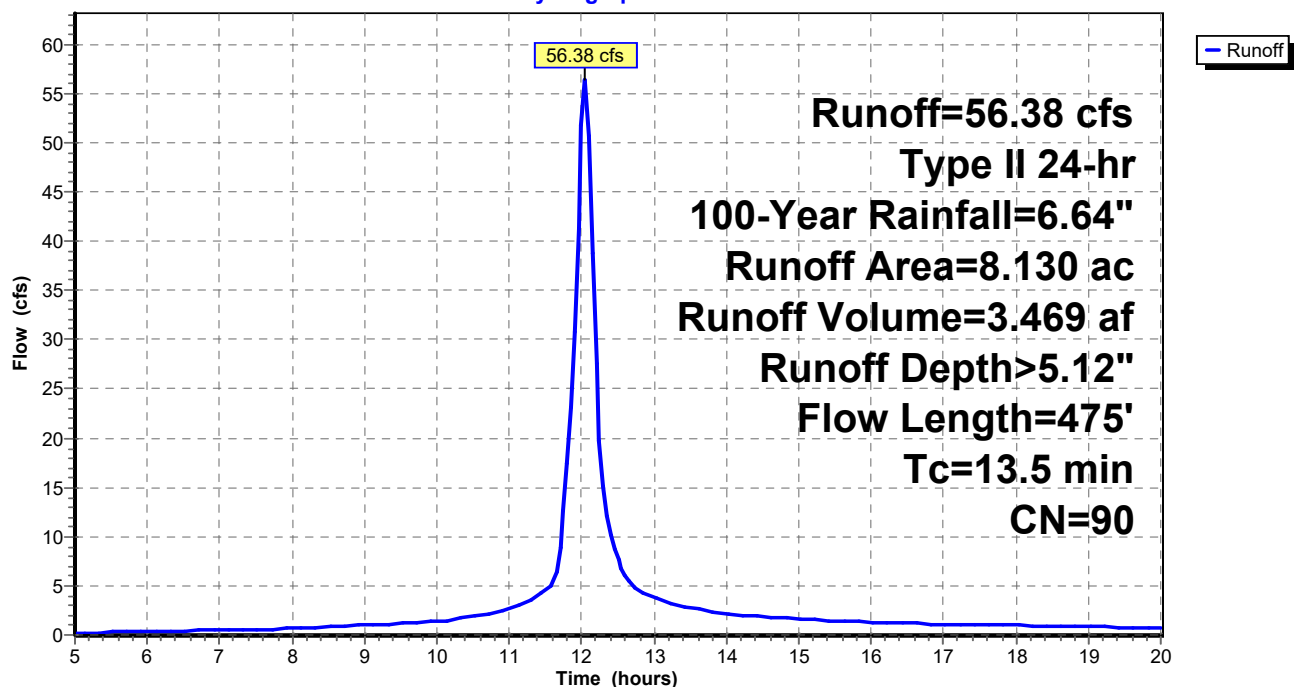
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 100-Year Rainfall=6.64"

Area (ac)	CN	Description
6.830	90	1/8 acre lots, 65% imp, HSG C
* 1.300	91	1/8 acre lots, 65% imp, HSG C/D
8.130	90	Weighted Average
2.845		35.00% Pervious Area
5.284		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	75	0.0200	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.15"
3.5	300	0.0050	1.44		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.5	100	0.0035	3.37	4.14	Pipe Channel, 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
13.5	475	Total			

Subcatchment O2: Off-Site #2

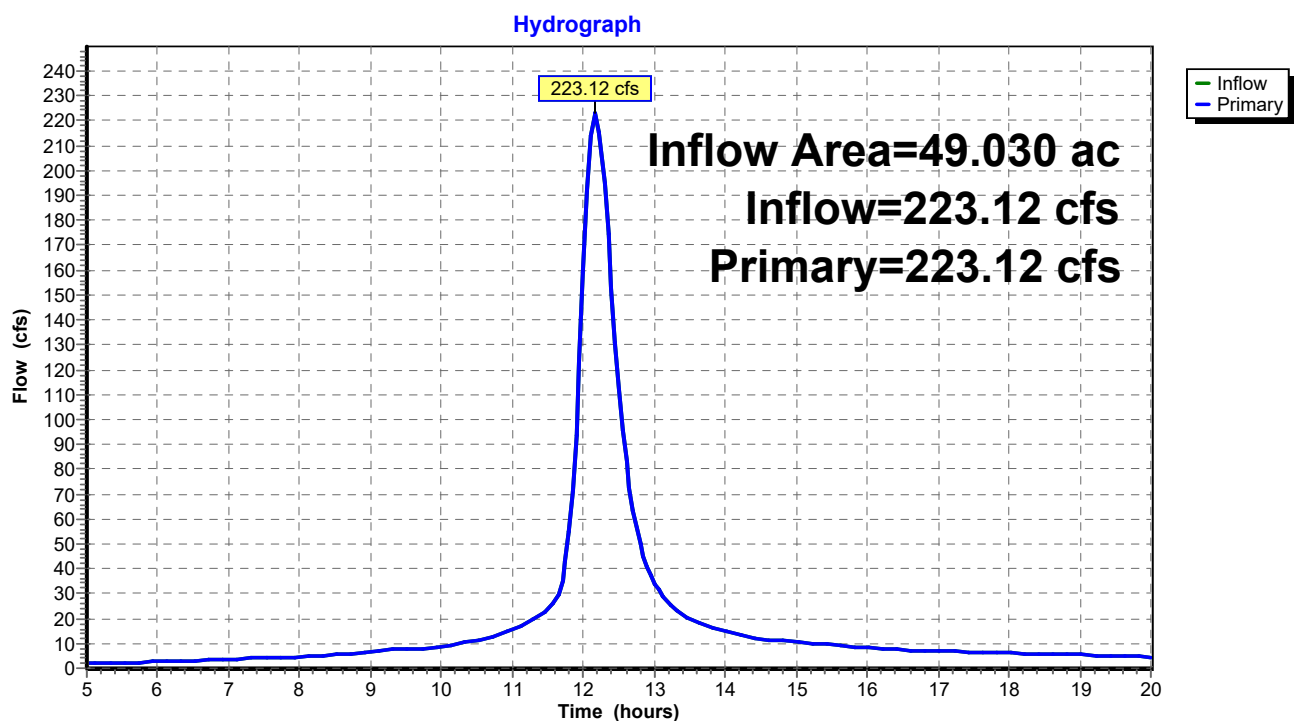
Hydrograph

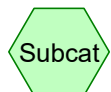
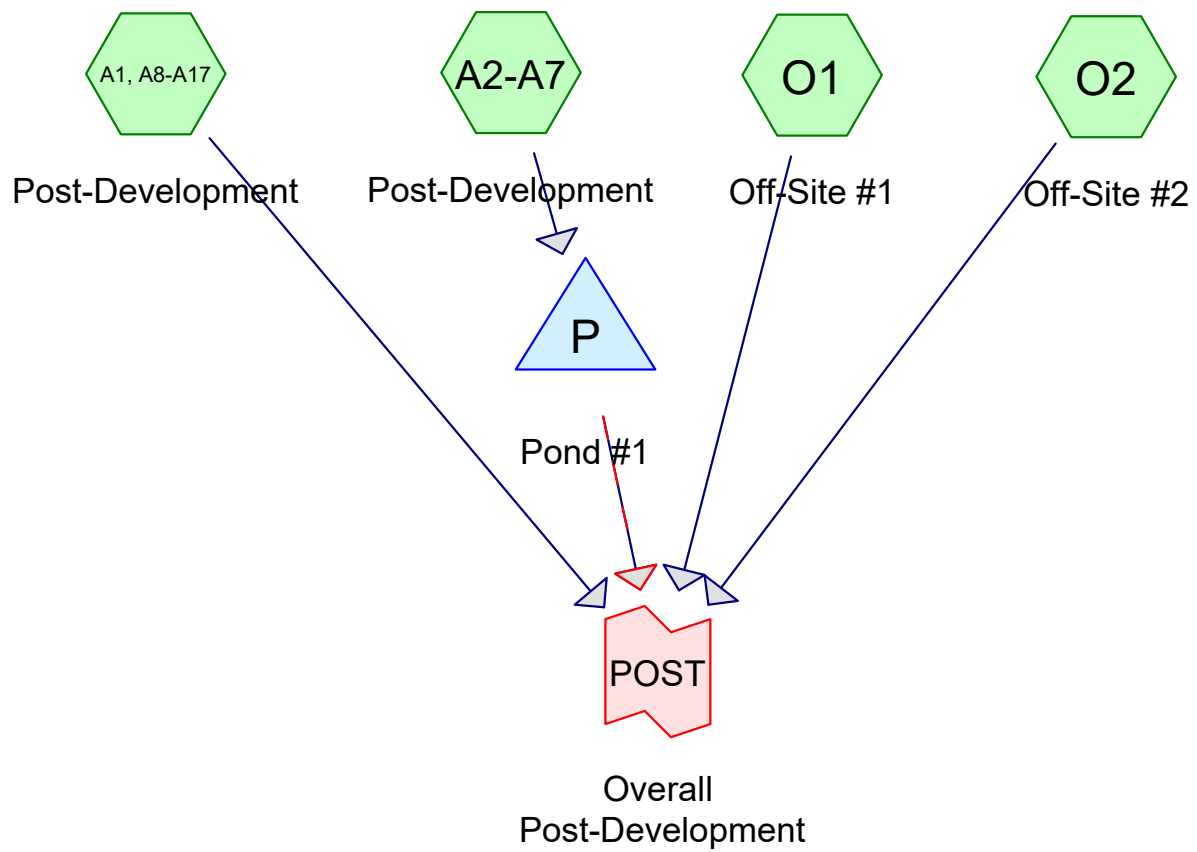


Summary for Link PRE: Overall Pre-Development

Inflow Area = 49.030 ac, 74.78% Impervious, Inflow Depth > 5.34" for 100-Year event
Inflow = 223.12 cfs @ 12.17 hrs, Volume= 21.828 af
Primary = 223.12 cfs @ 12.17 hrs, Volume= 21.828 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

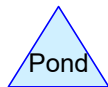
Link PRE: Overall Pre-Development



Subcat



Reach



Pond



Link

Routing Diagram for 201055 Revised Post Development Hydrologic Model

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201055 Revised Post Development Hydrologic Model

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
10.230	90	1/8 acre lots, 65% imp, HSG C (O1, O2)
1.300	91	1/8 acre lots, 65% imp, HSG C/D (O2)
4.000	74	>75% Grass cover, Good, HSG C (A1, A8-A17, A2-A7)
8.590	77	>75% Grass cover, Good, HSG C/D (A1, A8-A17, A2-A7)
12.710	98	Unconnected pavement, HSG C/D (A1, A8-A17, A2-A7)
10.250	98	Unconnected roofs, HSG C (A1, A8-A17, A2-A7)
1.950	98	Water Surface, HSG D (A2-A7)
49.030	91	TOTAL AREA

201055 Revised Post Development Hydrologic Model

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Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	A1, A8-A17	0.00	0.00	360.0	0.0027	0.012	24.0	0.0	0.0
2	A1, A8-A17	0.00	0.00	380.0	0.0027	0.012	36.0	0.0	0.0
3	A2-A7	0.00	0.00	490.0	0.0050	0.012	24.0	0.0	0.0
4	O2	0.00	0.00	100.0	0.0035	0.012	15.0	0.0	0.0
5	P	1,931.45	1,930.71	60.0	0.0123	0.012	30.0	0.0	0.0

Time span=5.00-48.00 hrs, dt=0.05 hrs, 861 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA1, A8-A17: Runoff Area=19.150 ac 61.62% Impervious Runoff Depth=0.05"
Flow Length=3,488' Tc=21.6 min CN=89 Runoff=0.52 cfs 0.084 af

SubcatchmentA2-A7:Post-Development Runoff Area=18.350 ac 71.44% Impervious Runoff Depth=0.10"
Flow Length=753' Tc=12.9 min CN=92 Runoff=2.21 cfs 0.158 af

SubcatchmentO1: Off-Site #1 Runoff Area=3.400 ac 65.00% Impervious Runoff Depth=0.07"
Flow Length=675' Tc=20.1 min CN=90 Runoff=0.15 cfs 0.019 af

SubcatchmentO2: Off-Site #2 Runoff Area=8.130 ac 65.00% Impervious Runoff Depth=0.07"
Flow Length=475' Tc=13.5 min CN=90 Runoff=0.48 cfs 0.045 af

Pond P: Pond #1 Peak Elev=1,931.54' Storage=5,974 cf Inflow=2.21 cfs 0.158 af
Primary=0.03 cfs 0.063 af Secondary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.063 af

Link POST: Overall Post-Development Inflow=1.04 cfs 0.211 af
Primary=1.04 cfs 0.211 af

Total Runoff Area = 49.030 ac Runoff Volume = 0.306 af Average Runoff Depth = 0.07"
33.91% Pervious = 16.626 ac 66.09% Impervious = 32.405 ac

Summary for Subcatchment A1, A8-A17: Post-Development

Runoff = 0.52 cfs @ 12.23 hrs, Volume= 0.084 af, Depth= 0.05"

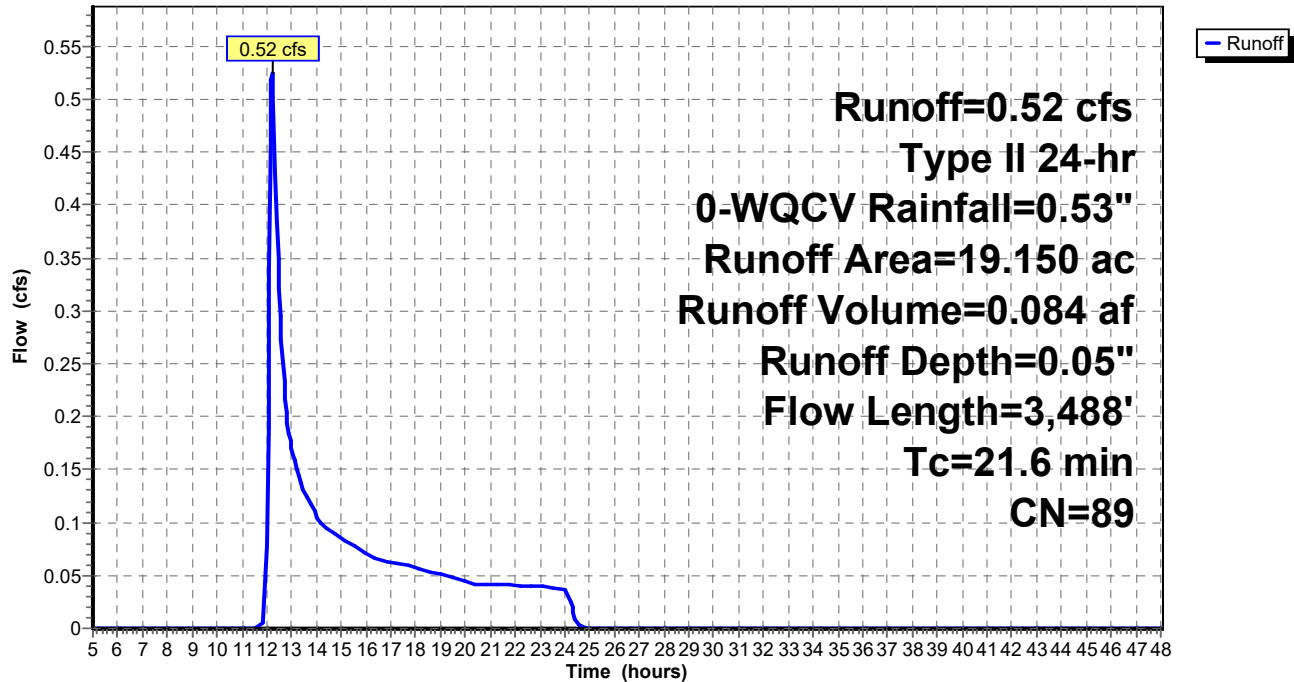
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 0-WQCV Rainfall=0.53"

Area (ac)	CN	Description
2.900	74	>75% Grass cover, Good, HSG C
* 4.450	77	>75% Grass cover, Good, HSG C/D
5.670	98	Unconnected roofs, HSG C
* 6.130	98	Unconnected pavement, HSG C/D
19.150	89	Weighted Average
7.350		38.38% Pervious Area
11.800		61.62% Impervious Area
11.800		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	150	0.0060	0.76		Sheet Flow, Smooth surfaces n= 0.011 P2= 2.15"
1.7	150	0.0051	1.45		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.9	68	0.0043	1.33		Shallow Concentrated Flow, Paved Kv= 20.3 fps
3.8	180	0.0015	0.79		Shallow Concentrated Flow, Paved Kv= 20.3 fps
6.2	1,315	0.0050	3.54	180.83	Channel Flow, Concrete Liner Area= 51.1 sf Perim= 176.4' r= 0.29' n= 0.013 Concrete, trowel finish
1.5	360	0.0027	4.05	12.73	Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012 Concrete pipe, finished
1.2	380	0.0027	5.31	37.55	Pipe Channel, 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.012
3.0	885	0.0015	4.92	437.12	Channel Flow, Area= 88.9 sf Perim= 34.5' r= 2.58' n= 0.022 Earth, clean & straight
21.6	3,488	Total			

Subcatchment A1, A8-A17: Post-Development

Hydrograph



Summary for Subcatchment A2-A7: Post-Development

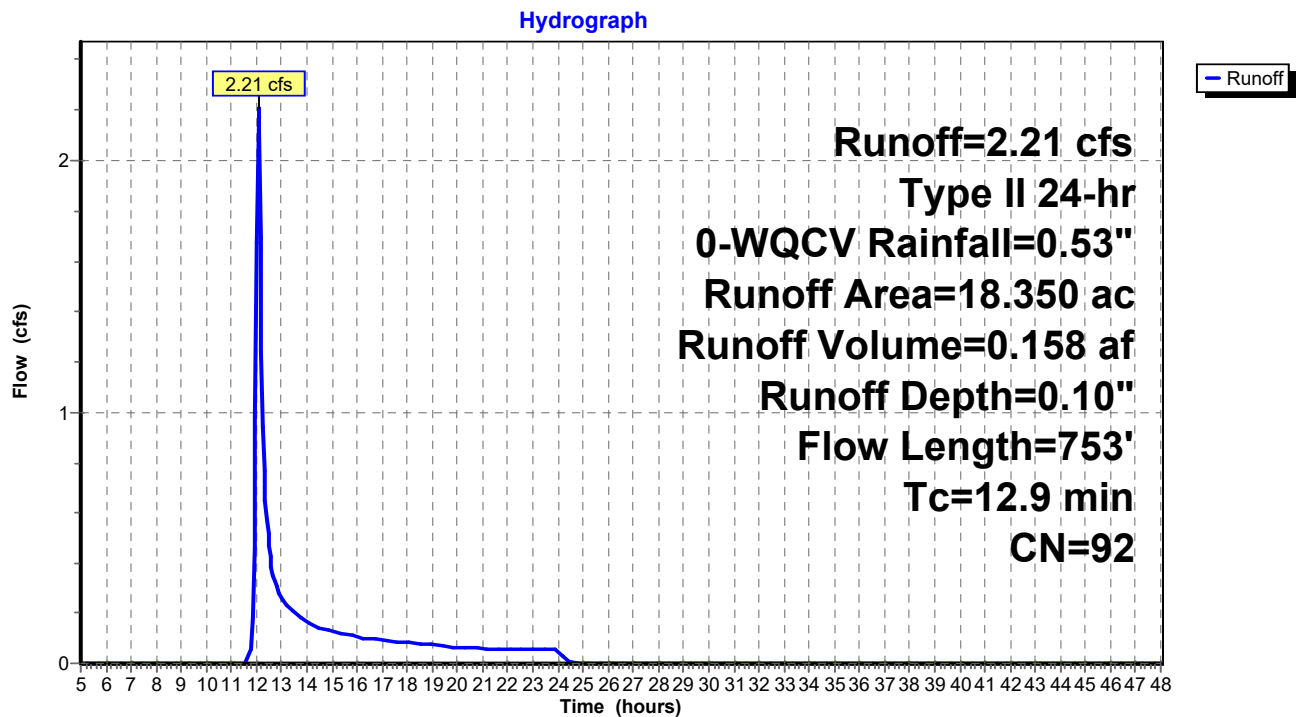
Runoff = 2.21 cfs @ 12.07 hrs, Volume= 0.158 af, Depth= 0.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 0-WQCV Rainfall=0.53"

Area (ac)	CN	Description
1.100	74	>75% Grass cover, Good, HSG C
* 4.140	77	>75% Grass cover, Good, HSG C/D
4.580	98	Unconnected roofs, HSG C
* 6.580	98	Unconnected pavement, HSG C/D
1.950	98	Water Surface, HSG D
18.350	92	Weighted Average
5.240		28.56% Pervious Area
13.110		71.44% Impervious Area
11.160		85.13% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	45	0.0100	0.09		Sheet Flow, Grass: Short n= 0.150 P2= 2.15"
2.2	150	0.0051	1.15		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.9	68	0.0040	1.28		Shallow Concentrated Flow, Paved Kv= 20.3 fps
1.5	490	0.0050	5.52	17.33	Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012
12.9	753	Total			

Subcatchment A2-A7: Post-Development



Summary for Subcatchment O1: Off-Site #1

Runoff = 0.15 cfs @ 12.19 hrs, Volume= 0.019 af, Depth= 0.07"

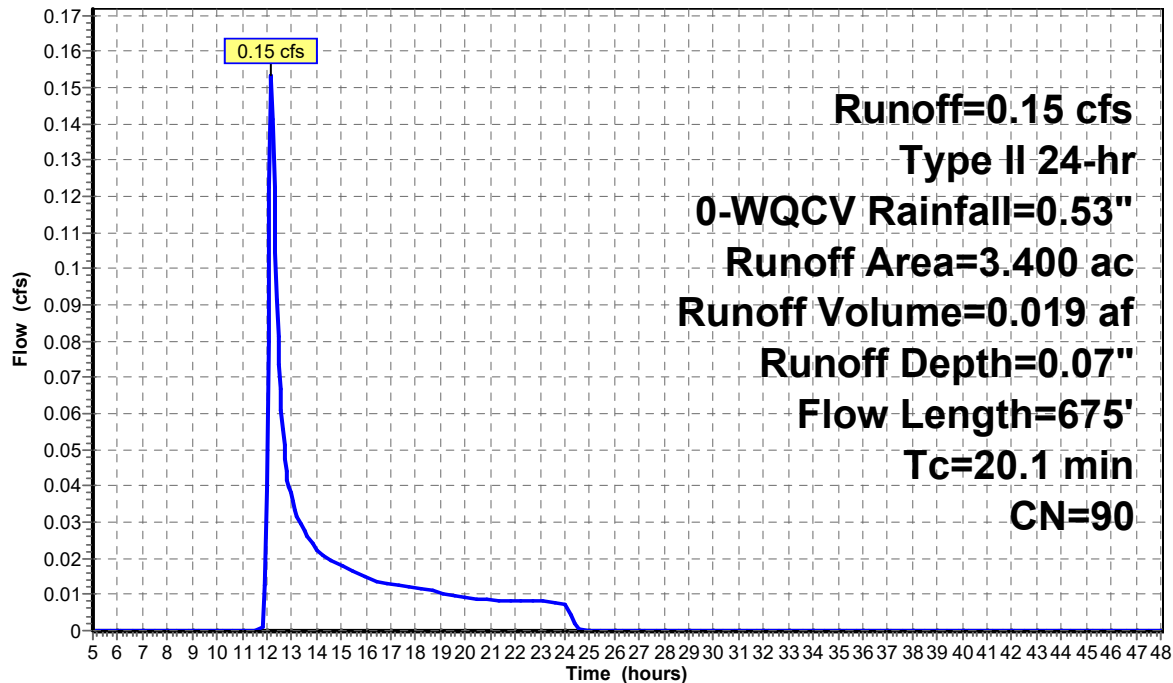
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 0-WQCV Rainfall=0.53"

Area (ac)	CN	Description
3.400	90	1/8 acre lots, 65% imp, HSG C
1.190		35.00% Pervious Area
2.210		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	75	0.0200	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.15"
4.4	300	0.0050	1.14		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
6.2	300	0.0025	0.81		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
20.1	675	Total			

Subcatchment O1: Off-Site #1

Hydrograph



Summary for Subcatchment O2: Off-Site #2

Runoff = 0.48 cfs @ 12.10 hrs, Volume= 0.045 af, Depth= 0.07"

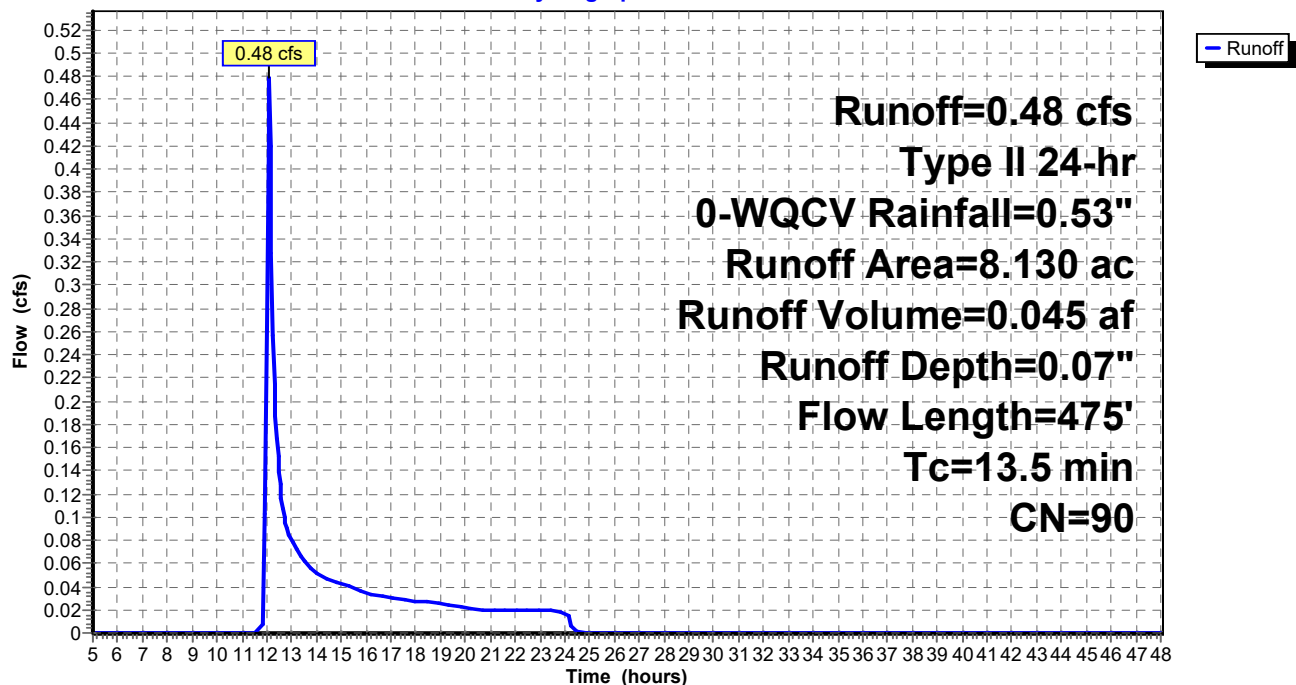
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 0-WQCV Rainfall=0.53"

Area (ac)	CN	Description
6.830	90	1/8 acre lots, 65% imp, HSG C
* 1.300	91	1/8 acre lots, 65% imp, HSG C/D
8.130	90	Weighted Average
2.845		35.00% Pervious Area
5.284		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	75	0.0200	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.15"
3.5	300	0.0050	1.44		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.5	100	0.0035	3.37	4.14	Pipe Channel, 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
13.5	475	Total			

Subcatchment O2: Off-Site #2

Hydrograph



Summary for Pond P: Pond #1

Inflow Area = 18.350 ac, 71.44% Impervious, Inflow Depth = 0.10" for 0-WQCV event
 Inflow = 2.21 cfs @ 12.07 hrs, Volume= 0.158 af
 Outflow = 0.03 cfs @ 24.19 hrs, Volume= 0.063 af, Atten= 99%, Lag= 726.9 min
 Primary = 0.03 cfs @ 24.19 hrs, Volume= 0.063 af
 Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 1,931.54' @ 24.19 hrs Surf.Area= 87,589 sf Storage= 5,974 cf

Plug-Flow detention time= 1,060.5 min calculated for 0.063 af (40% of inflow)
 Center-of-Mass det. time= 894.9 min (1,791.7 - 896.8)

Volume	Invert	Avail.Storage	Storage Description
#1	1,931.45'	515,742 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,931.45	0	0	0
1,931.50	86,971	2,174	2,174
1,932.00	94,074	45,261	47,436
1,932.50	101,181	48,814	96,249
1,933.00	106,797	51,995	148,244
1,933.50	111,784	54,645	202,889
1,934.00	116,794	57,145	260,034
1,934.50	122,357	59,788	319,821
1,935.00	127,592	62,487	382,309
1,935.50	135,381	65,743	448,052
1,936.00	135,381	67,691	515,742

Device	Routing	Invert	Outlet Devices
#1	Primary	1,931.45'	30.0" Round Culvert L= 60.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,931.45' / 1,930.71' S= 0.0123 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Device 1	1,931.45'	6.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	1,931.95'	2.0" W x 24.0" H Vert. Orifice/Grate C= 0.600
#4	Device 1	1,933.17'	24.0" W x 12.0" H Vert. Orifice/Grate X 2.00 C= 0.600
#5	Device 1	1,934.50'	11.7" x 2.4" Horiz. Orifice/Grate X 2.00 columns X 7 rows C= 0.600 in 30.0" x 30.0" Grate (44% open area) Limited to weir flow at low heads
#6	Secondary	1,935.50'	250.0' long x 14.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.64 2.67 2.70 2.65 2.64 2.65 2.65 2.63

Primary OutFlow Max=0.03 cfs @ 24.19 hrs HW=1,931.54' (Free Discharge)

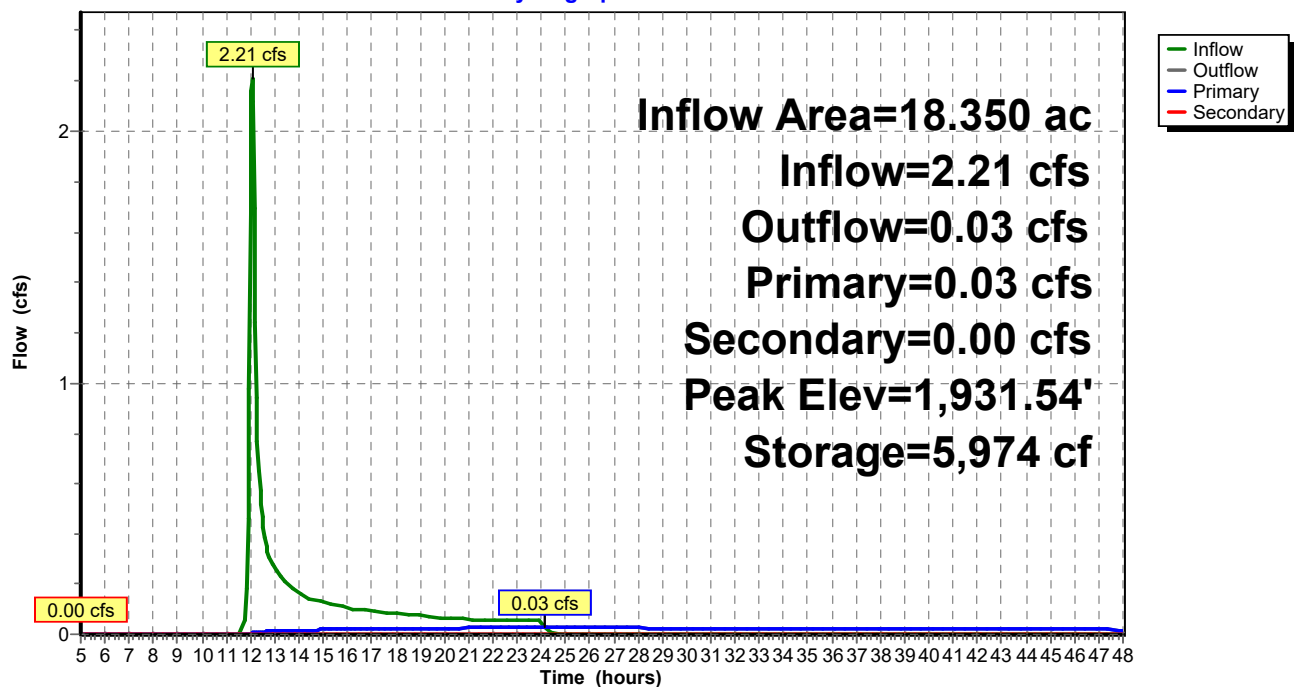
- 1=Culvert (Passes 0.03 cfs of 0.06 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.03 cfs @ 1.04 fps)
- 3=Orifice/Grate (Controls 0.00 cfs)
- 4=Orifice/Grate (Controls 0.00 cfs)
- 5=Orifice/Grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=1,931.45' (Free Discharge)

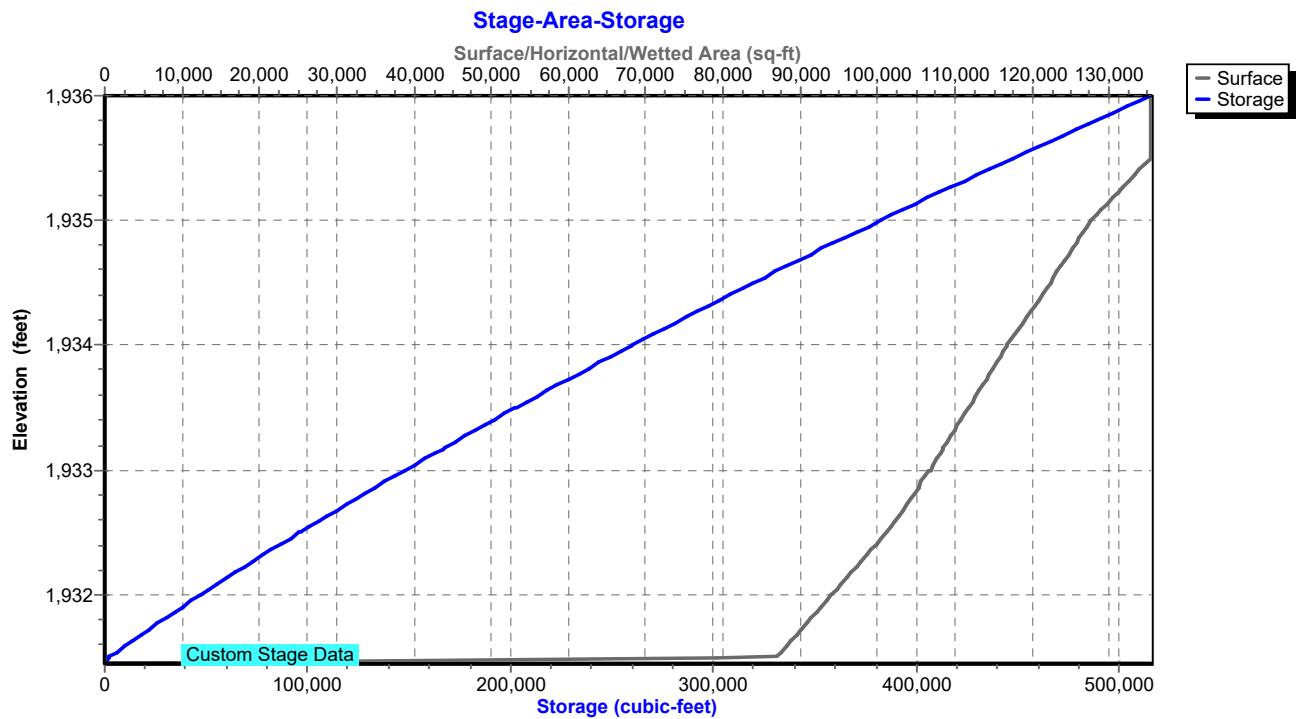
- 6=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond P: Pond #1

Hydrograph



Pond P: Pond #1

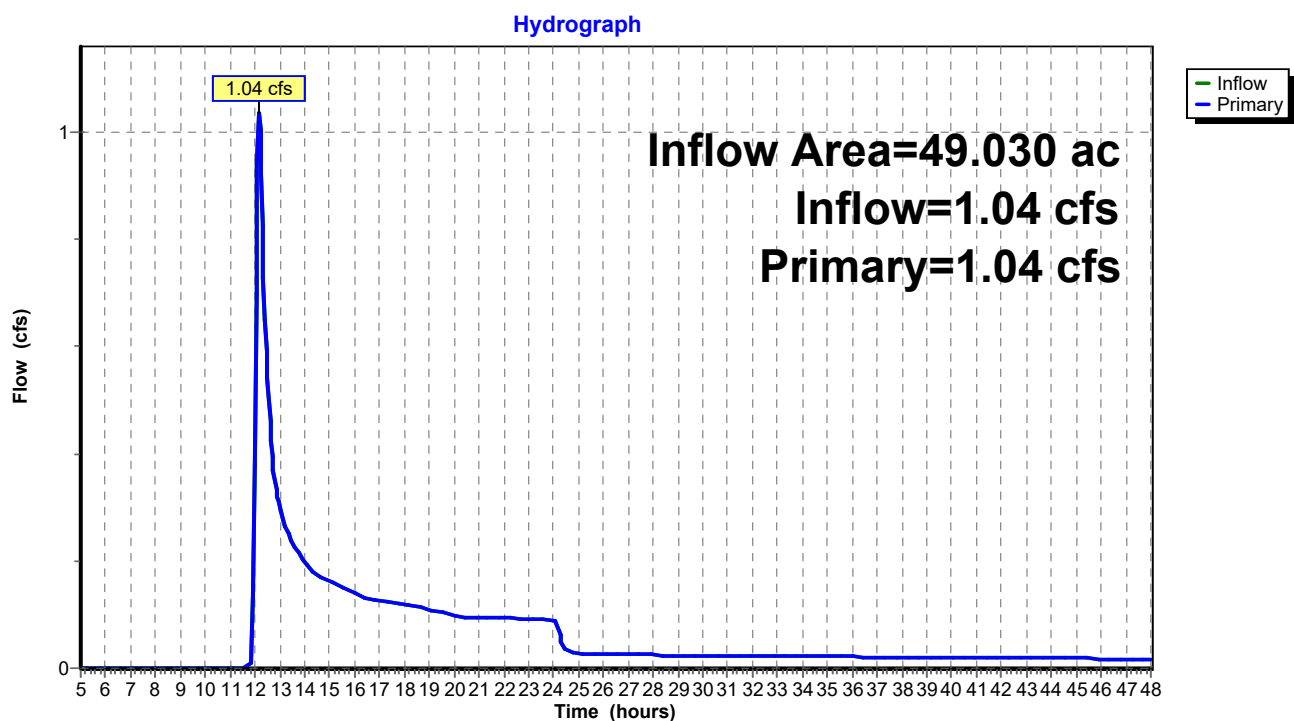


Summary for Link POST: Overall Post-Development

Inflow Area = 49.030 ac, 66.09% Impervious, Inflow Depth > 0.05" for 0-WQCV event
Inflow = 1.04 cfs @ 12.16 hrs, Volume= 0.211 af
Primary = 1.04 cfs @ 12.16 hrs, Volume= 0.211 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs

Link POST: Overall Post-Development



201055 Revised Post Development Hydrologic Model Type II 24-hr 2-Year Rainfall=2.85"

Prepared by REGA Engineering Group

Printed 3/23/2021

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Time span=5.00-48.00 hrs, dt=0.05 hrs, 861 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA1, A8-A17:

Runoff Area=19.150 ac 61.62% Impervious Runoff Depth=1.76"
Flow Length=3,488' Tc=21.6 min CN=89 Runoff=35.75 cfs 2.816 af

SubcatchmentA2-A7:Post-Development

Runoff Area=18.350 ac 71.44% Impervious Runoff Depth=2.02"
Flow Length=753' Tc=12.9 min CN=92 Runoff=49.79 cfs 3.089 af

SubcatchmentO1: Off-Site #1

Runoff Area=3.400 ac 65.00% Impervious Runoff Depth=1.85"
Flow Length=675' Tc=20.1 min CN=90 Runoff=6.90 cfs 0.523 af

SubcatchmentO2: Off-Site #2

Runoff Area=8.130 ac 65.00% Impervious Runoff Depth=1.85"
Flow Length=475' Tc=13.5 min CN=90 Runoff=20.06 cfs 1.251 af

Pond P: Pond #1

Peak Elev=1,932.51' Storage=97,399 cf Inflow=49.79 cfs 3.089 af
Primary=1.08 cfs 2.300 af Secondary=0.00 cfs 0.000 af Outflow=1.08 cfs 2.300 af

Link POST: Overall Post-Development

Inflow=60.19 cfs 6.891 af
Primary=60.19 cfs 6.891 af

Total Runoff Area = 49.030 ac Runoff Volume = 7.679 af Average Runoff Depth = 1.88"
33.91% Pervious = 16.626 ac 66.09% Impervious = 32.405 ac

Summary for Subcatchment A1, A8-A17: Post-Development

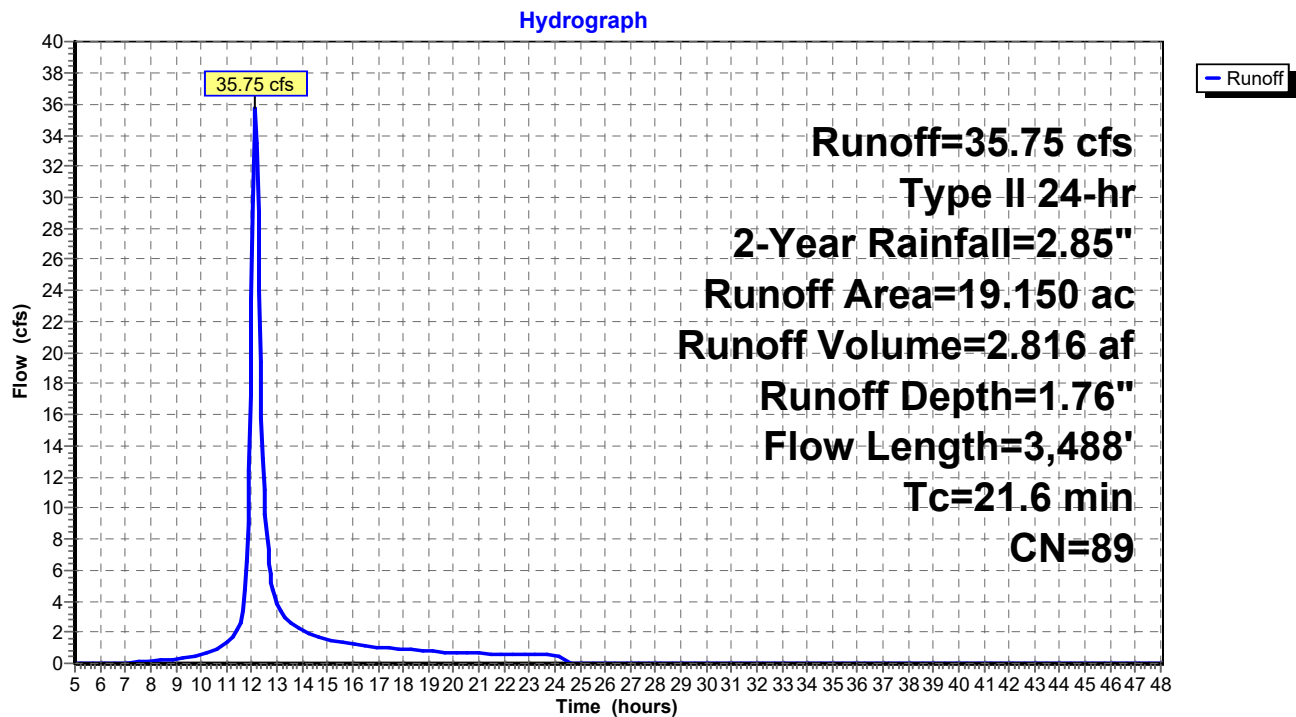
Runoff = 35.75 cfs @ 12.14 hrs, Volume= 2.816 af, Depth= 1.76"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 2-Year Rainfall=2.85"

Area (ac)	CN	Description
2.900	74	>75% Grass cover, Good, HSG C
* 4.450	77	>75% Grass cover, Good, HSG C/D
5.670	98	Unconnected roofs, HSG C
* 6.130	98	Unconnected pavement, HSG C/D
19.150	89	Weighted Average
7.350		38.38% Pervious Area
11.800		61.62% Impervious Area
11.800		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	150	0.0060	0.76		Sheet Flow, Smooth surfaces n= 0.011 P2= 2.15"
1.7	150	0.0051	1.45		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.9	68	0.0043	1.33		Shallow Concentrated Flow, Paved Kv= 20.3 fps
3.8	180	0.0015	0.79		Shallow Concentrated Flow, Paved Kv= 20.3 fps
6.2	1,315	0.0050	3.54	180.83	Channel Flow, Concrete Liner Area= 51.1 sf Perim= 176.4' r= 0.29' n= 0.013 Concrete, trowel finish
1.5	360	0.0027	4.05	12.73	Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012 Concrete pipe, finished
1.2	380	0.0027	5.31	37.55	Pipe Channel, 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.012
3.0	885	0.0015	4.92	437.12	Channel Flow, Area= 88.9 sf Perim= 34.5' r= 2.58' n= 0.022 Earth, clean & straight
21.6	3,488	Total			

Subcatchment A1, A8-A17: Post-Development



Summary for Subcatchment A2-A7: Post-Development

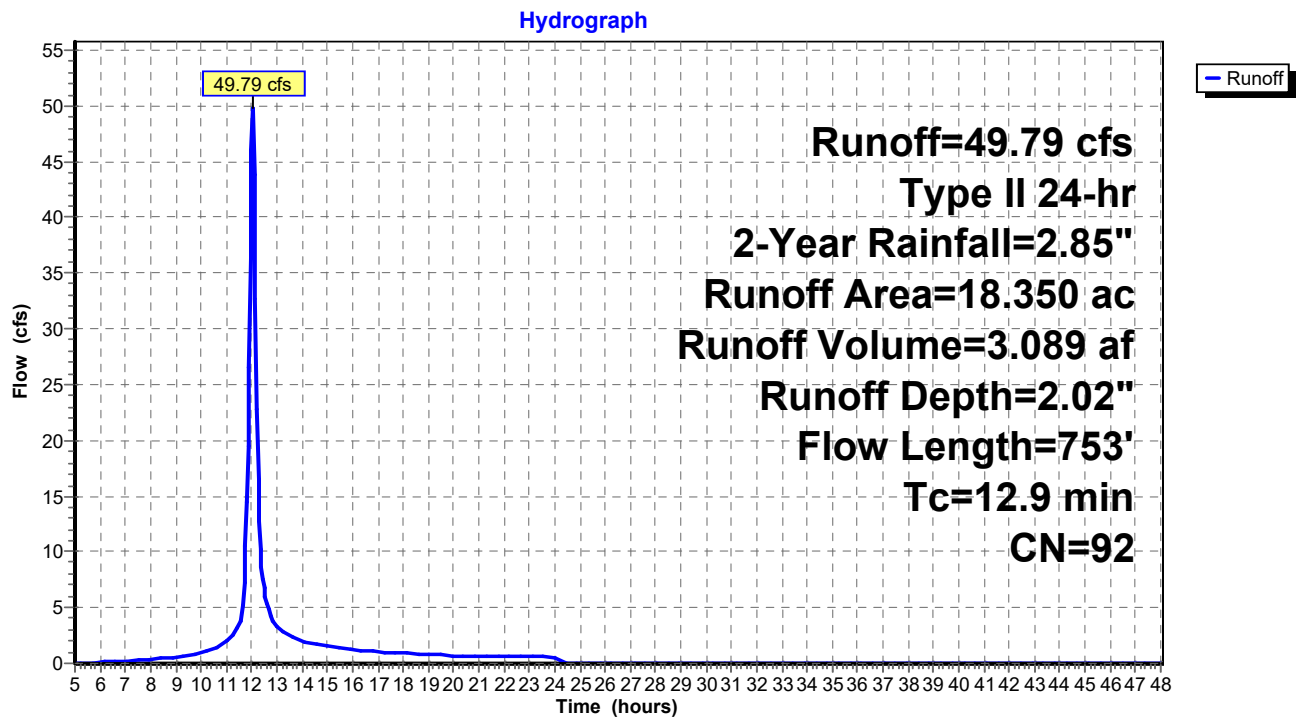
Runoff = 49.79 cfs @ 12.04 hrs, Volume= 3.089 af, Depth= 2.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 2-Year Rainfall=2.85"

Area (ac)	CN	Description
1.100	74	>75% Grass cover, Good, HSG C
* 4.140	77	>75% Grass cover, Good, HSG C/D
4.580	98	Unconnected roofs, HSG C
* 6.580	98	Unconnected pavement, HSG C/D
1.950	98	Water Surface, HSG D
18.350	92	Weighted Average
5.240		28.56% Pervious Area
13.110		71.44% Impervious Area
11.160		85.13% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	45	0.0100	0.09		Sheet Flow, Grass: Short n= 0.150 P2= 2.15"
2.2	150	0.0051	1.15		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.9	68	0.0040	1.28		Shallow Concentrated Flow, Paved Kv= 20.3 fps
1.5	490	0.0050	5.52	17.33	Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012
12.9	753	Total			

Subcatchment A2-A7: Post-Development



Summary for Subcatchment O1: Off-Site #1

Runoff = 6.90 cfs @ 12.12 hrs, Volume= 0.523 af, Depth= 1.85"

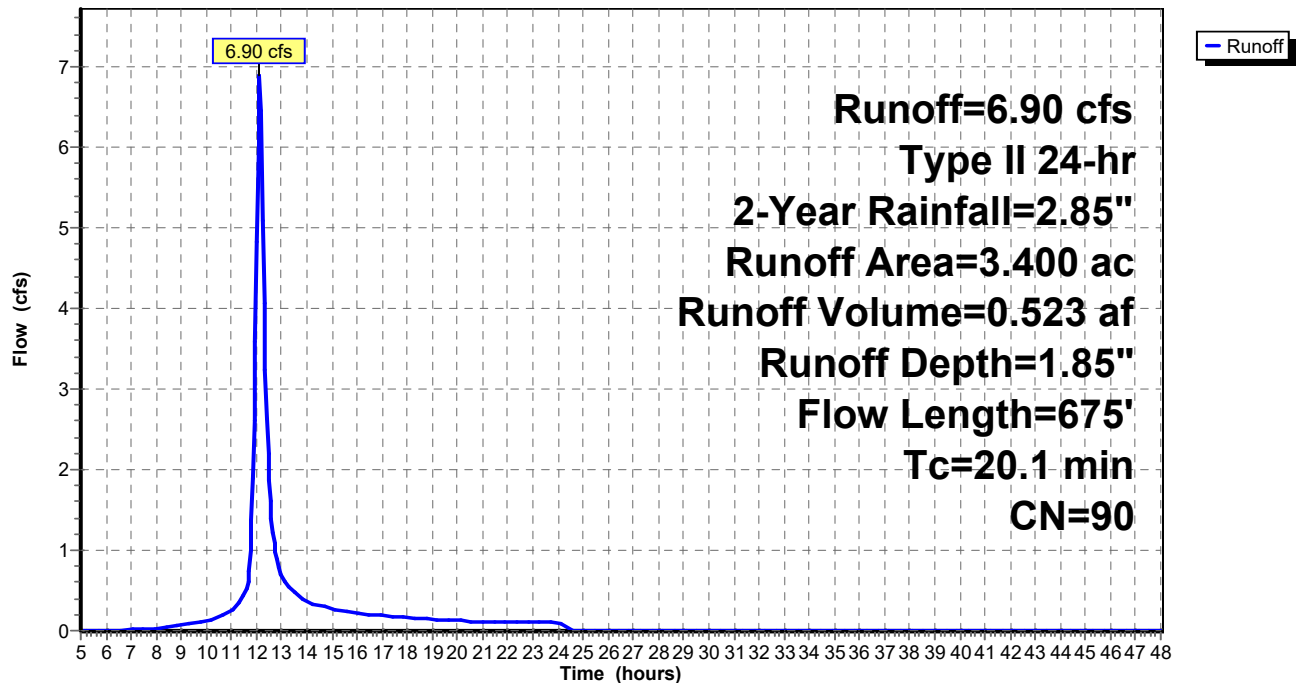
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 2-Year Rainfall=2.85"

Area (ac)	CN	Description
3.400	90	1/8 acre lots, 65% imp, HSG C
1.190		35.00% Pervious Area
2.210		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	75	0.0200	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.15"
4.4	300	0.0050	1.14		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
6.2	300	0.0025	0.81		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
20.1	675	Total			

Subcatchment O1: Off-Site #1

Hydrograph



Summary for Subcatchment O2: Off-Site #2

Runoff = 20.06 cfs @ 12.05 hrs, Volume= 1.251 af, Depth= 1.85"

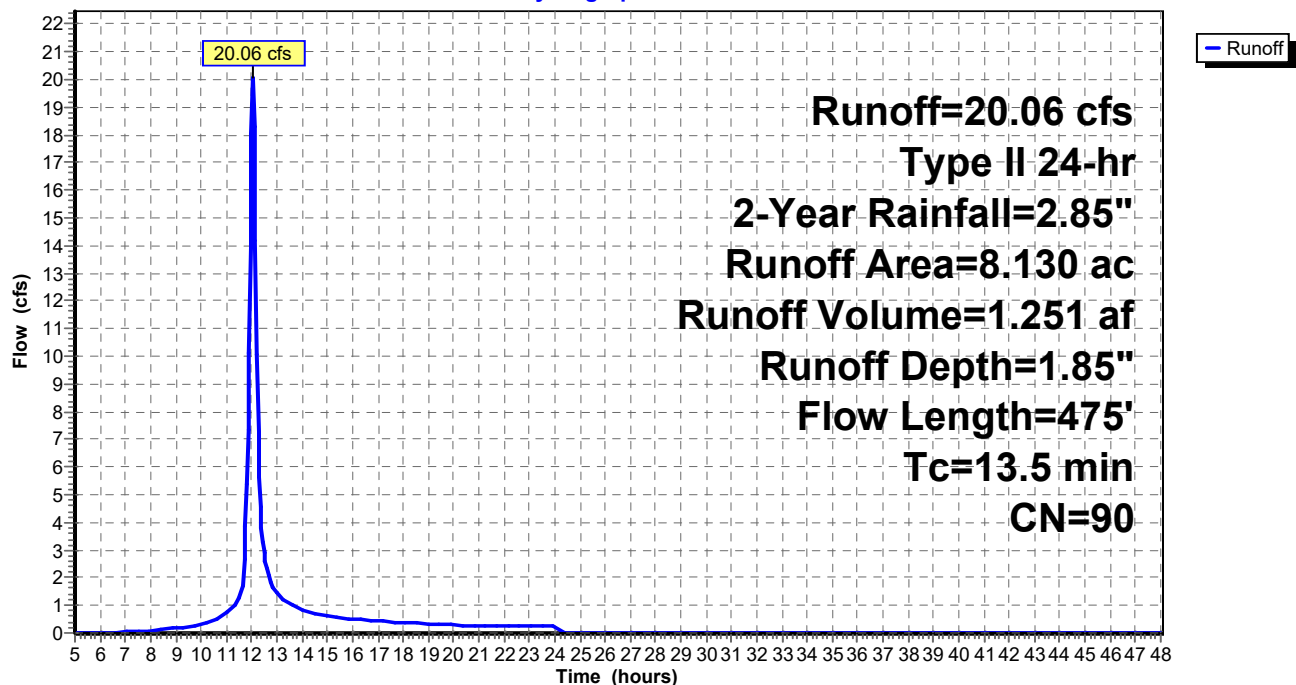
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 2-Year Rainfall=2.85"

Area (ac)	CN	Description
6.830	90	1/8 acre lots, 65% imp, HSG C
* 1.300	91	1/8 acre lots, 65% imp, HSG C/D
8.130	90	Weighted Average
2.845		35.00% Pervious Area
5.284		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	75	0.0200	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.15"
3.5	300	0.0050	1.44		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.5	100	0.0035	3.37	4.14	Pipe Channel, 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
13.5	475	Total			

Subcatchment O2: Off-Site #2

Hydrograph



Summary for Pond P: Pond #1

Inflow Area = 18.350 ac, 71.44% Impervious, Inflow Depth = 2.02" for 2-Year event
 Inflow = 49.79 cfs @ 12.04 hrs, Volume= 3.089 af
 Outflow = 1.08 cfs @ 16.59 hrs, Volume= 2.300 af, Atten= 98%, Lag= 273.0 min
 Primary = 1.08 cfs @ 16.59 hrs, Volume= 2.300 af
 Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 1,932.51' @ 16.59 hrs Surf.Area= 101,309 sf Storage= 97,399 cf

Plug-Flow detention time= 895.5 min calculated for 2.300 af (74% of inflow)
 Center-of-Mass det. time= 804.3 min (1,609.5 - 805.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,931.45'	515,742 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,931.45	0	0	0
1,931.50	86,971	2,174	2,174
1,932.00	94,074	45,261	47,436
1,932.50	101,181	48,814	96,249
1,933.00	106,797	51,995	148,244
1,933.50	111,784	54,645	202,889
1,934.00	116,794	57,145	260,034
1,934.50	122,357	59,788	319,821
1,935.00	127,592	62,487	382,309
1,935.50	135,381	65,743	448,052
1,936.00	135,381	67,691	515,742

Device	Routing	Invert	Outlet Devices
#1	Primary	1,931.45'	30.0" Round Culvert L= 60.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,931.45' / 1,930.71' S= 0.0123 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Device 1	1,931.45'	6.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	1,931.95'	2.0" W x 24.0" H Vert. Orifice/Grate C= 0.600
#4	Device 1	1,933.17'	24.0" W x 12.0" H Vert. Orifice/Grate X 2.00 C= 0.600
#5	Device 1	1,934.50'	11.7" x 2.4" Horiz. Orifice/Grate X 2.00 columns X 7 rows C= 0.600 in 30.0" x 30.0" Grate (44% open area) Limited to weir flow at low heads
#6	Secondary	1,935.50'	250.0' long x 14.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.64 2.67 2.70 2.65 2.64 2.65 2.65 2.63

Primary OutFlow Max=1.08 cfs @ 16.59 hrs HW=1,932.51' (Free Discharge)

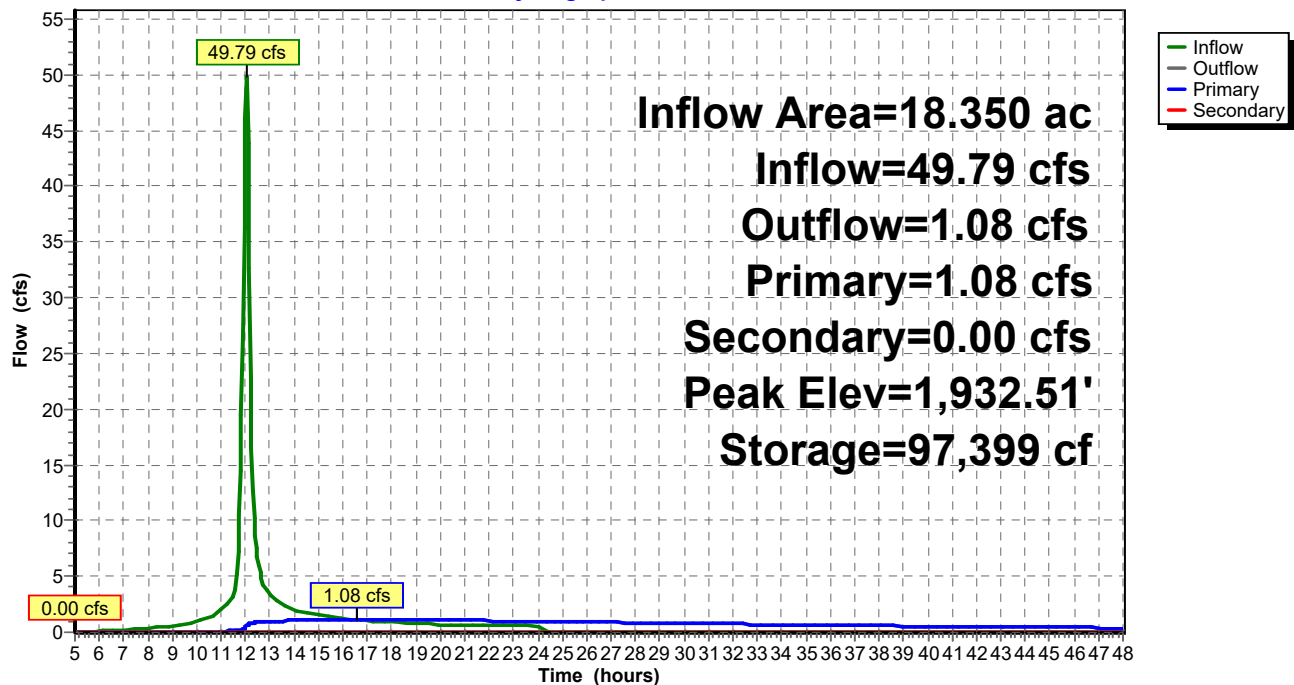
- 1=Culvert (Passes 1.08 cfs of 6.96 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 0.85 cfs @ 4.34 fps)
- 3=Orifice/Grate (Orifice Controls 0.23 cfs @ 2.41 fps)
- 4=Orifice/Grate (Controls 0.00 cfs)
- 5=Orifice/Grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=1,931.45' (Free Discharge)

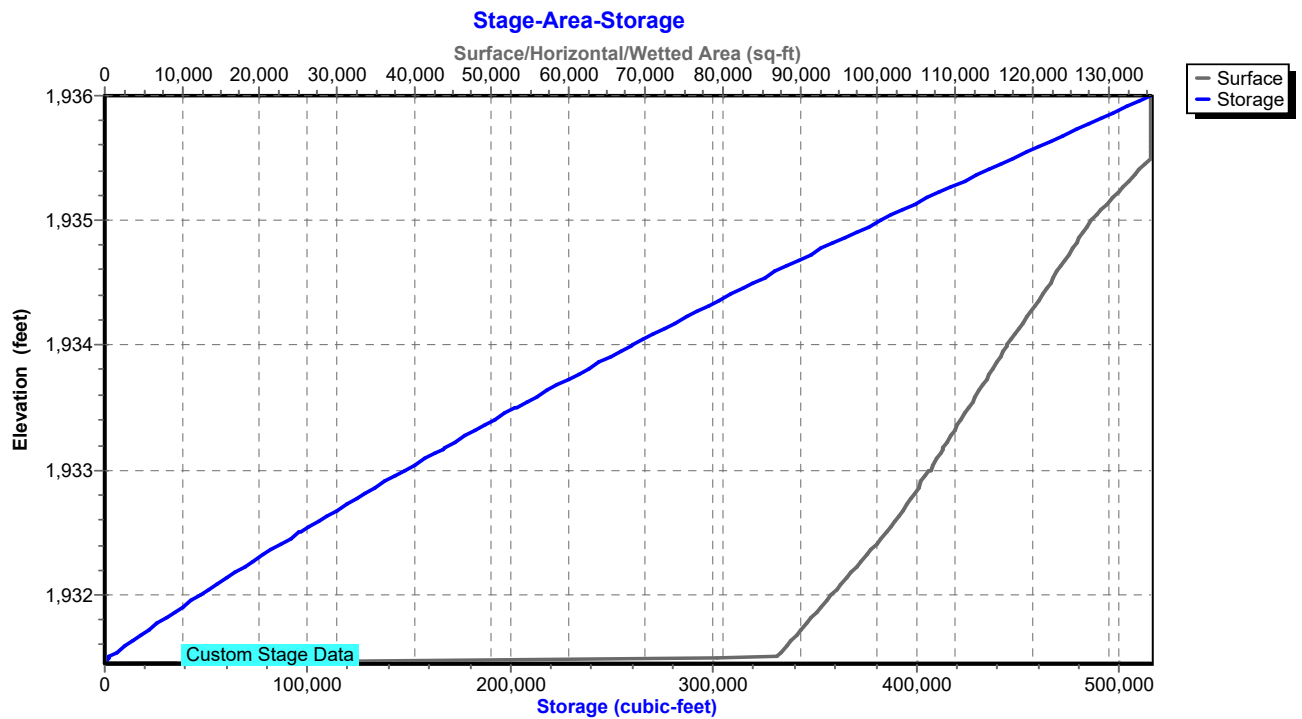
- 6=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond P: Pond #1

Hydrograph



Pond P: Pond #1

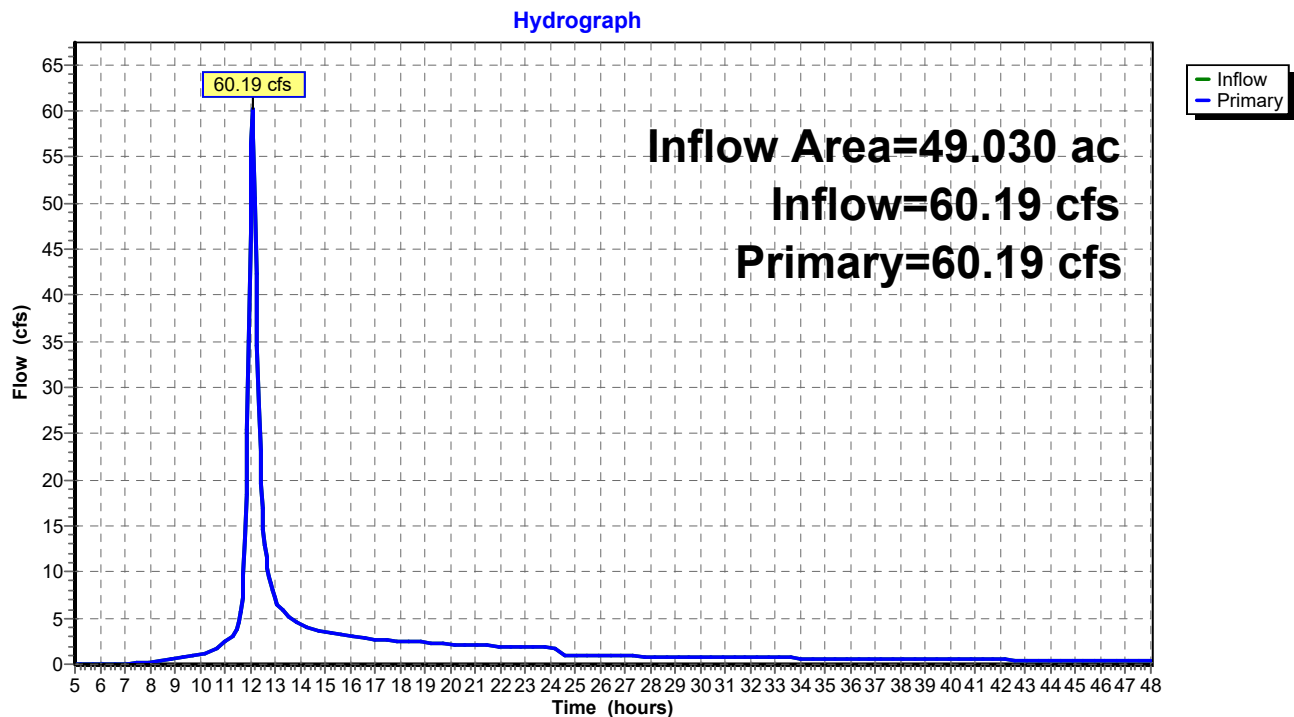


Summary for Link POST: Overall Post-Development

Inflow Area = 49.030 ac, 66.09% Impervious, Inflow Depth > 1.69" for 2-Year event
Inflow = 60.19 cfs @ 12.10 hrs, Volume= 6.891 af
Primary = 60.19 cfs @ 12.10 hrs, Volume= 6.891 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs

Link POST: Overall Post-Development



201055 Revised Post Development Hydrologic Model Type II 24-hr 10-Year Rainfall=4.16"

Prepared by REGA Engineering Group

Printed 3/23/2021

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Time span=5.00-48.00 hrs, dt=0.05 hrs, 861 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA1, A8-A17: Runoff Area=19.150 ac 61.62% Impervious Runoff Depth>2.97"
Flow Length=3,488' Tc=21.6 min CN=89 Runoff=59.44 cfs 4.745 af

SubcatchmentA2-A7:Post-Development Runoff Area=18.350 ac 71.44% Impervious Runoff Depth>3.27"
Flow Length=753' Tc=12.9 min CN=92 Runoff=78.68 cfs 4.995 af

SubcatchmentO1: Off-Site #1 Runoff Area=3.400 ac 65.00% Impervious Runoff Depth>3.07"
Flow Length=675' Tc=20.1 min CN=90 Runoff=11.28 cfs 0.870 af

SubcatchmentO2: Off-Site #2 Runoff Area=8.130 ac 65.00% Impervious Runoff Depth>3.07"
Flow Length=475' Tc=13.5 min CN=90 Runoff=32.67 cfs 2.080 af

Pond P: Pond #1 Peak Elev=1,933.09' Storage=158,221 cf Inflow=78.68 cfs 4.995 af
Primary=1.77 cfs 3.737 af Secondary=0.00 cfs 0.000 af Outflow=1.77 cfs 3.737 af

Link POST: Overall Post-Development Inflow=99.50 cfs 11.433 af
Primary=99.50 cfs 11.433 af

Total Runoff Area = 49.030 ac Runoff Volume = 12.691 af Average Runoff Depth = 3.11"
33.91% Pervious = 16.626 ac 66.09% Impervious = 32.405 ac

Summary for Subcatchment A1, A8-A17: Post-Development

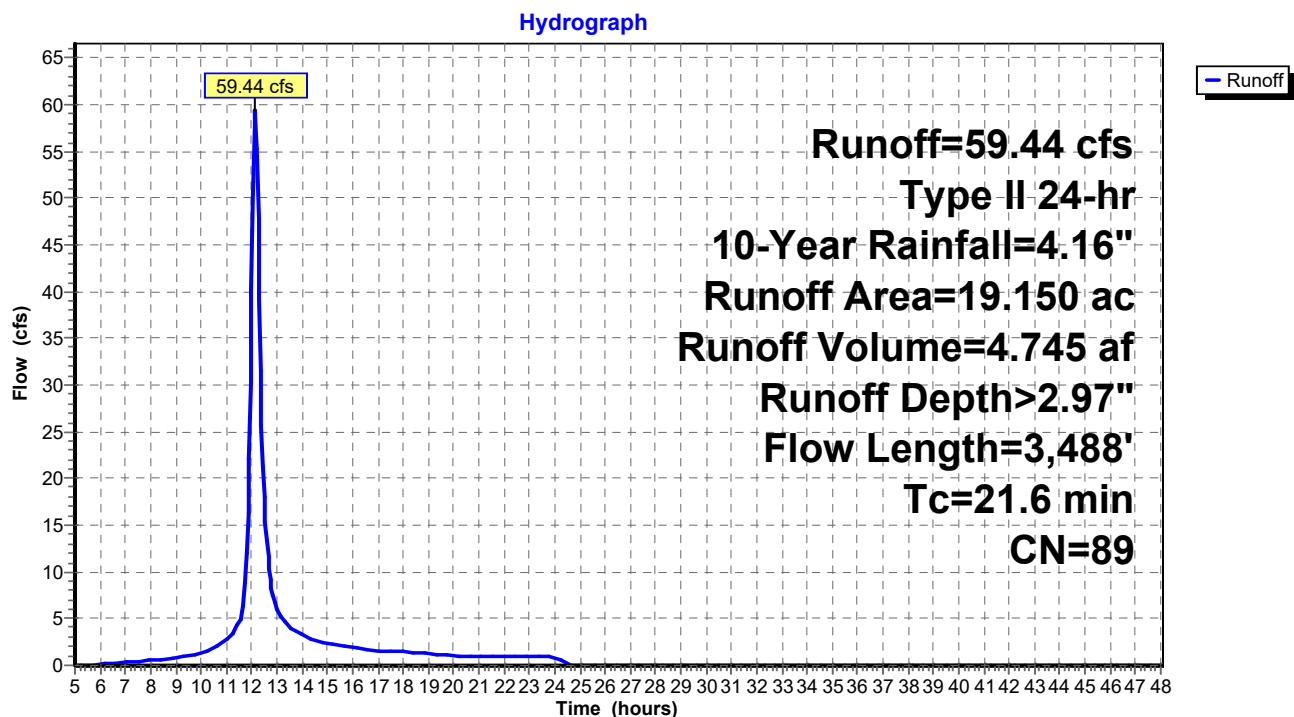
Runoff = 59.44 cfs @ 12.14 hrs, Volume= 4.745 af, Depth> 2.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=4.16"

Area (ac)	CN	Description
2.900	74	>75% Grass cover, Good, HSG C
* 4.450	77	>75% Grass cover, Good, HSG C/D
5.670	98	Unconnected roofs, HSG C
* 6.130	98	Unconnected pavement, HSG C/D
19.150	89	Weighted Average
7.350		38.38% Pervious Area
11.800		61.62% Impervious Area
11.800		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	150	0.0060	0.76		Sheet Flow, Smooth surfaces n= 0.011 P2= 2.15"
1.7	150	0.0051	1.45		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.9	68	0.0043	1.33		Shallow Concentrated Flow, Paved Kv= 20.3 fps
3.8	180	0.0015	0.79		Shallow Concentrated Flow, Paved Kv= 20.3 fps
6.2	1,315	0.0050	3.54	180.83	Channel Flow, Concrete Liner Area= 51.1 sf Perim= 176.4' r= 0.29' n= 0.013 Concrete, trowel finish
1.5	360	0.0027	4.05	12.73	Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012 Concrete pipe, finished
1.2	380	0.0027	5.31	37.55	Pipe Channel, 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.012
3.0	885	0.0015	4.92	437.12	Channel Flow, Area= 88.9 sf Perim= 34.5' r= 2.58' n= 0.022 Earth, clean & straight
21.6	3,488	Total			

Subcatchment A1, A8-A17: Post-Development



Summary for Subcatchment A2-A7: Post-Development

Runoff = 78.68 cfs @ 12.04 hrs, Volume= 4.995 af, Depth> 3.27"

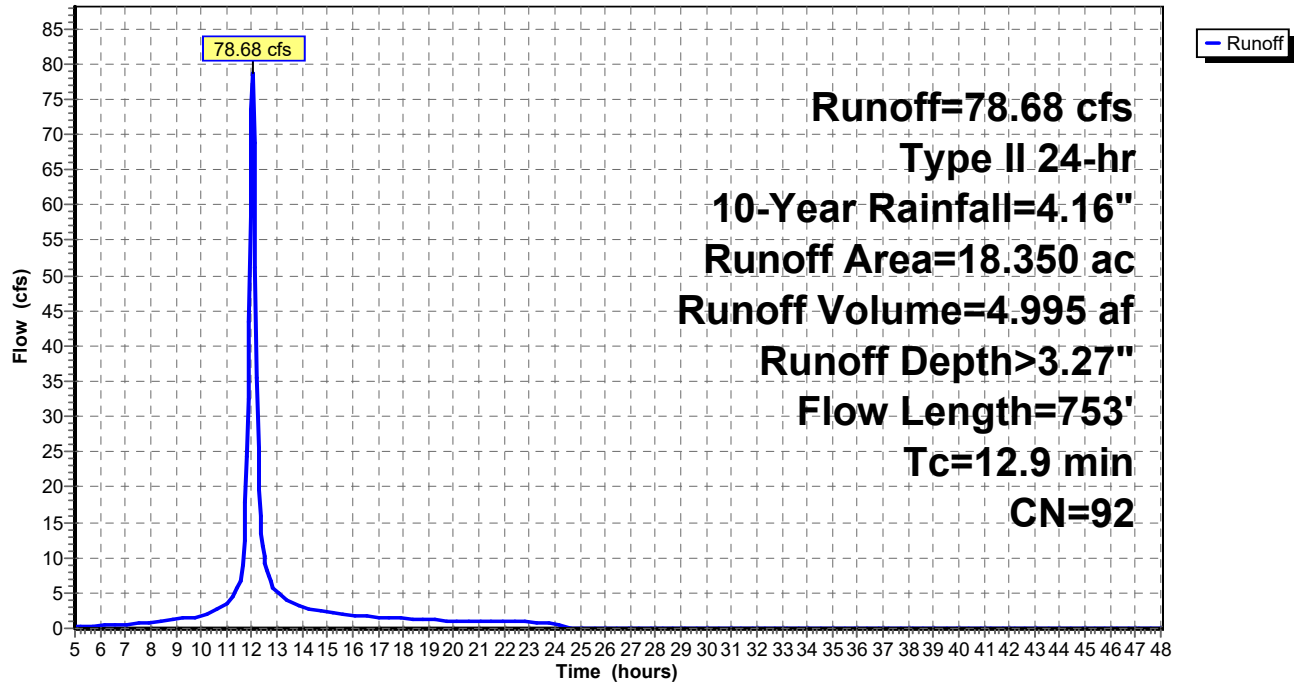
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=4.16"

Area (ac)	CN	Description
1.100	74	>75% Grass cover, Good, HSG C
* 4.140	77	>75% Grass cover, Good, HSG C/D
4.580	98	Unconnected roofs, HSG C
* 6.580	98	Unconnected pavement, HSG C/D
1.950	98	Water Surface, HSG D
18.350	92	Weighted Average
5.240		28.56% Pervious Area
13.110		71.44% Impervious Area
11.160		85.13% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	45	0.0100	0.09		Sheet Flow, Grass: Short n= 0.150 P2= 2.15"
2.2	150	0.0051	1.15		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.9	68	0.0040	1.28		Shallow Concentrated Flow, Paved Kv= 20.3 fps
1.5	490	0.0050	5.52	17.33	Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012
12.9	753	Total			

Subcatchment A2-A7: Post-Development

Hydrograph



Summary for Subcatchment O1: Off-Site #1

Runoff = 11.28 cfs @ 12.12 hrs, Volume= 0.870 af, Depth> 3.07"

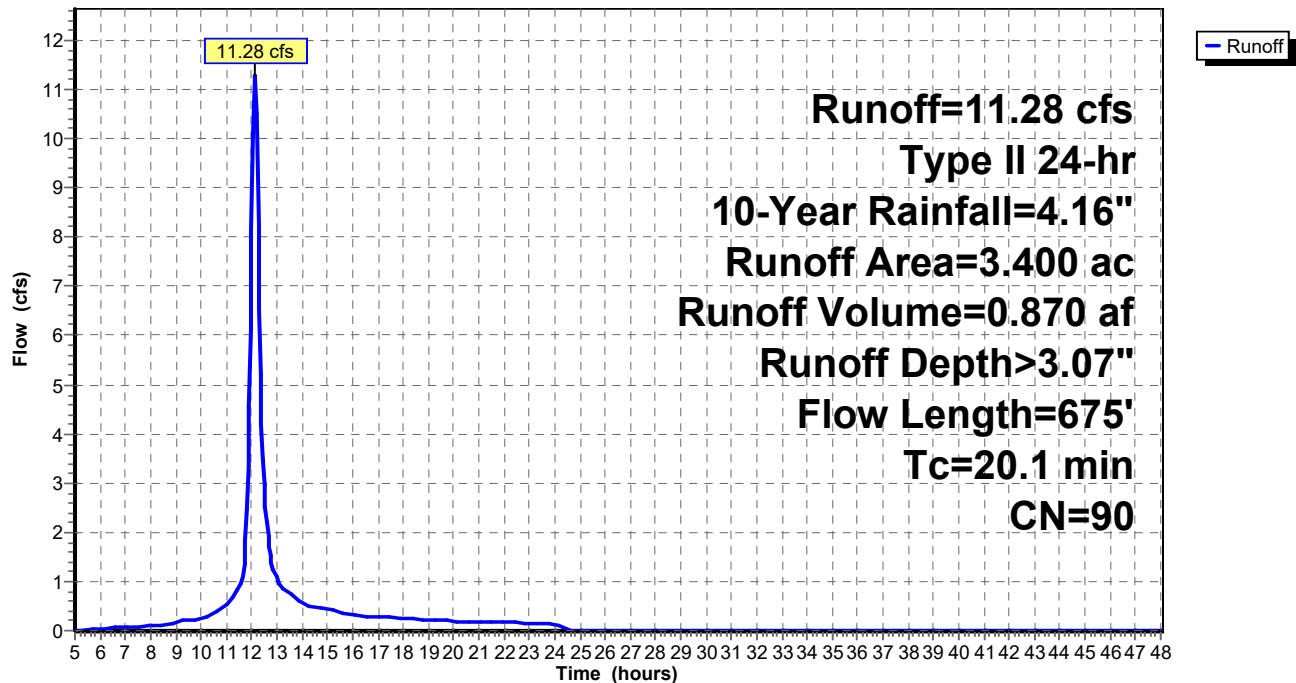
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=4.16"

Area (ac)	CN	Description
3.400	90	1/8 acre lots, 65% imp, HSG C
1.190		35.00% Pervious Area
2.210		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	75	0.0200	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.15"
4.4	300	0.0050	1.14		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
6.2	300	0.0025	0.81		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
20.1	675	Total			

Subcatchment O1: Off-Site #1

Hydrograph



Summary for Subcatchment O2: Off-Site #2

Runoff = 32.67 cfs @ 12.05 hrs, Volume= 2.080 af, Depth> 3.07"

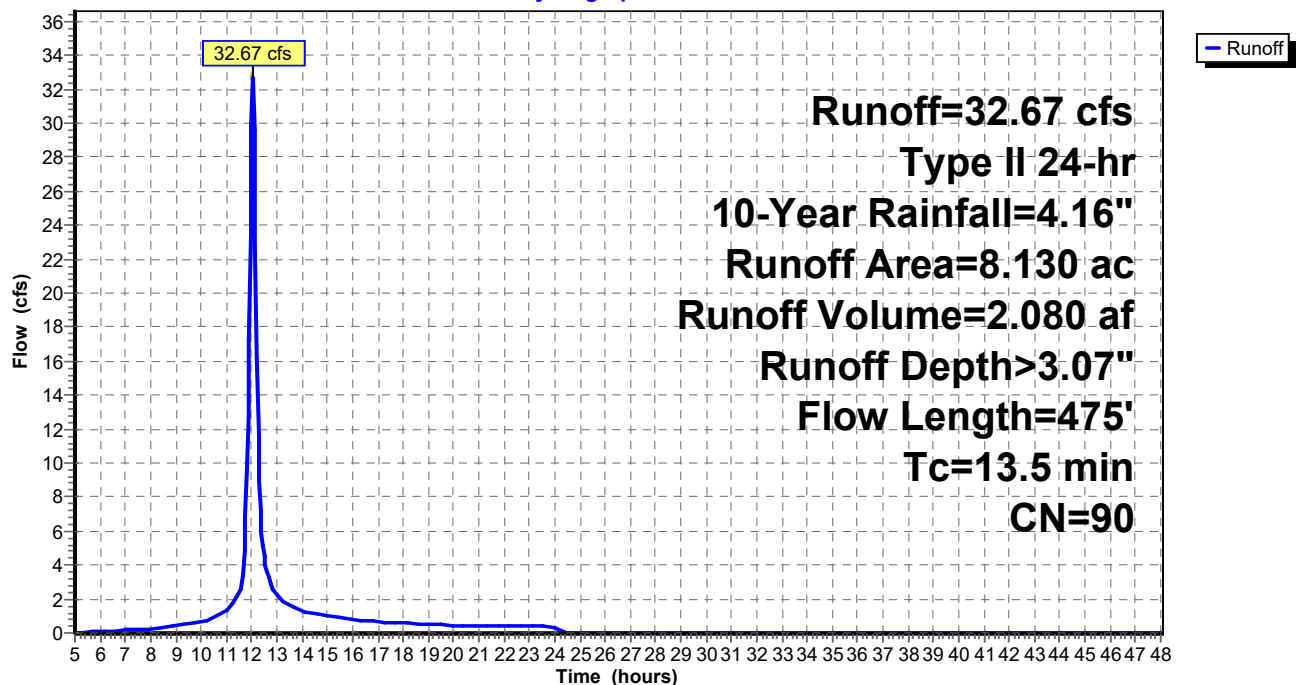
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 10-Year Rainfall=4.16"

Area (ac)	CN	Description
6.830	90	1/8 acre lots, 65% imp, HSG C
* 1.300	91	1/8 acre lots, 65% imp, HSG C/D
8.130	90	Weighted Average
2.845		35.00% Pervious Area
5.284		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	75	0.0200	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.15"
3.5	300	0.0050	1.44		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.5	100	0.0035	3.37	4.14	Pipe Channel, 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
13.5	475	Total			

Subcatchment O2: Off-Site #2

Hydrograph



Summary for Pond P: Pond #1

[82] Warning: Early inflow requires earlier time span

Inflow Area = 18.350 ac, 71.44% Impervious, Inflow Depth > 3.27" for 10-Year event
 Inflow = 78.68 cfs @ 12.04 hrs, Volume= 4.995 af
 Outflow = 1.77 cfs @ 16.06 hrs, Volume= 3.737 af, Atten= 98%, Lag= 241.3 min
 Primary = 1.77 cfs @ 16.06 hrs, Volume= 3.737 af
 Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 1,933.09' @ 16.06 hrs Surf.Area= 107,725 sf Storage= 158,221 cf

Plug-Flow detention time= 891.8 min calculated for 3.732 af (75% of inflow)
 Center-of-Mass det. time= 803.8 min (1,596.5 - 792.7)

Volume	Invert	Avail.Storage	Storage Description
#1	1,931.45'	515,742 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,931.45	0	0	0
1,931.50	86,971	2,174	2,174
1,932.00	94,074	45,261	47,436
1,932.50	101,181	48,814	96,249
1,933.00	106,797	51,995	148,244
1,933.50	111,784	54,645	202,889
1,934.00	116,794	57,145	260,034
1,934.50	122,357	59,788	319,821
1,935.00	127,592	62,487	382,309
1,935.50	135,381	65,743	448,052
1,936.00	135,381	67,691	515,742

Device	Routing	Invert	Outlet Devices
#1	Primary	1,931.45'	30.0" Round Culvert L= 60.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,931.45' / 1,930.71' S= 0.0123 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Device 1	1,931.45'	6.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	1,931.95'	2.0" W x 24.0" H Vert. Orifice/Grate C= 0.600
#4	Device 1	1,933.17'	24.0" W x 12.0" H Vert. Orifice/Grate X 2.00 C= 0.600
#5	Device 1	1,934.50'	11.7" x 2.4" Horiz. Orifice/Grate X 2.00 columns X 7 rows C= 0.600 in 30.0" x 30.0" Grate (44% open area) Limited to weir flow at low heads
#6	Secondary	1,935.50'	250.0' long x 14.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.64 2.67 2.70 2.65 2.64 2.65 2.65 2.63

Primary OutFlow Max=1.77 cfs @ 16.06 hrs HW=1,933.09' (Free Discharge)

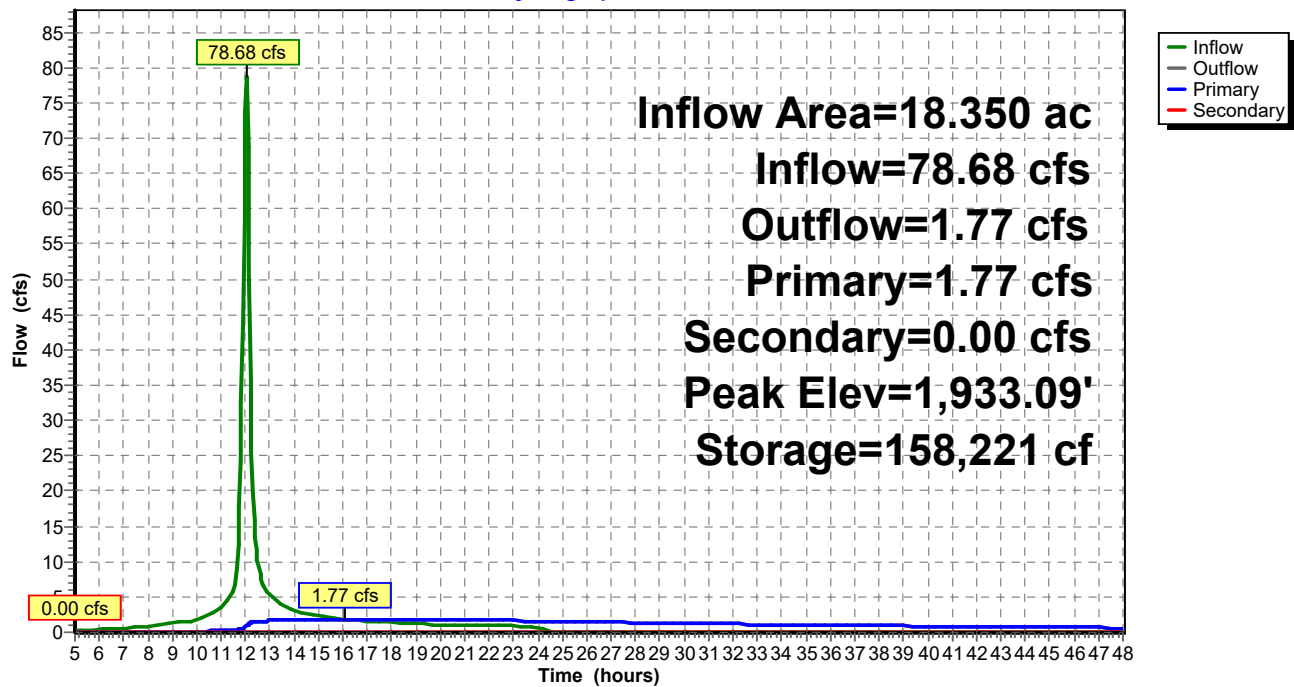
- 1=Culvert (Passes 1.77 cfs of 14.75 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 1.12 cfs @ 5.68 fps)
- 3=Orifice/Grate (Orifice Controls 0.65 cfs @ 3.43 fps)
- 4=Orifice/Grate (Controls 0.00 cfs)
- 5=Orifice/Grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=1,931.45' (Free Discharge)

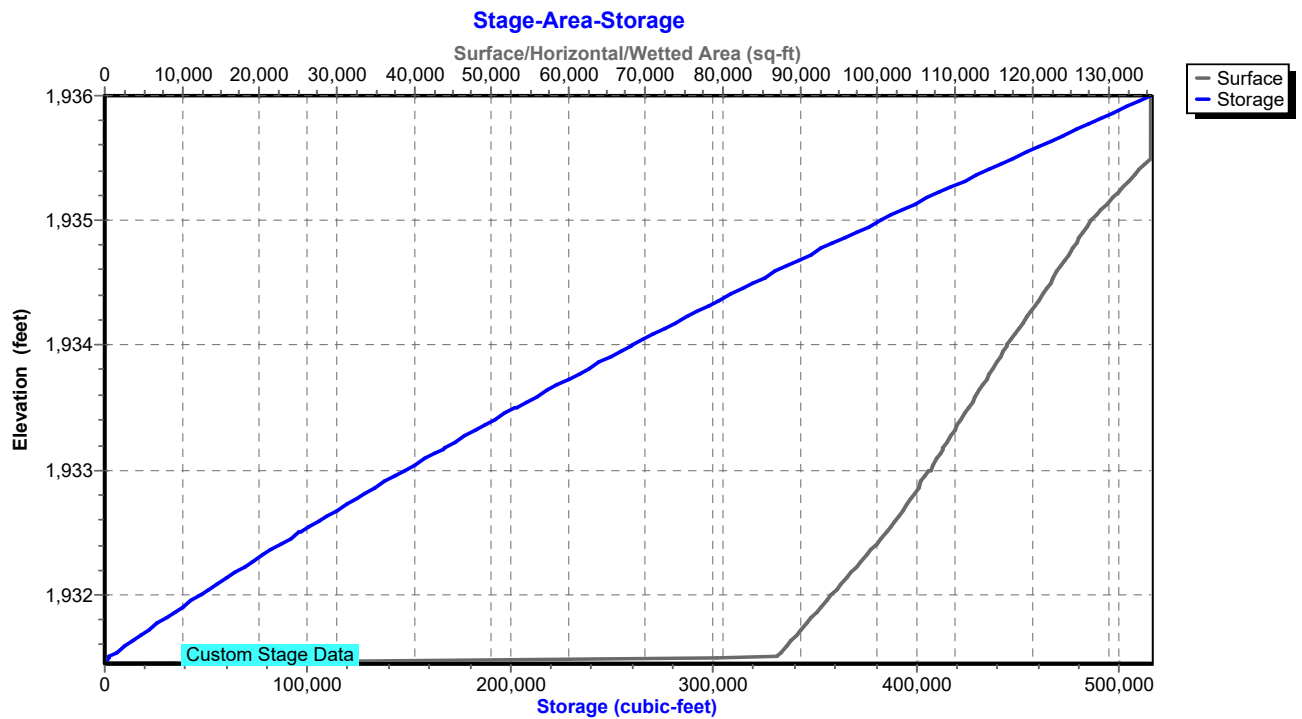
- 6=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond P: Pond #1

Hydrograph



Pond P: Pond #1

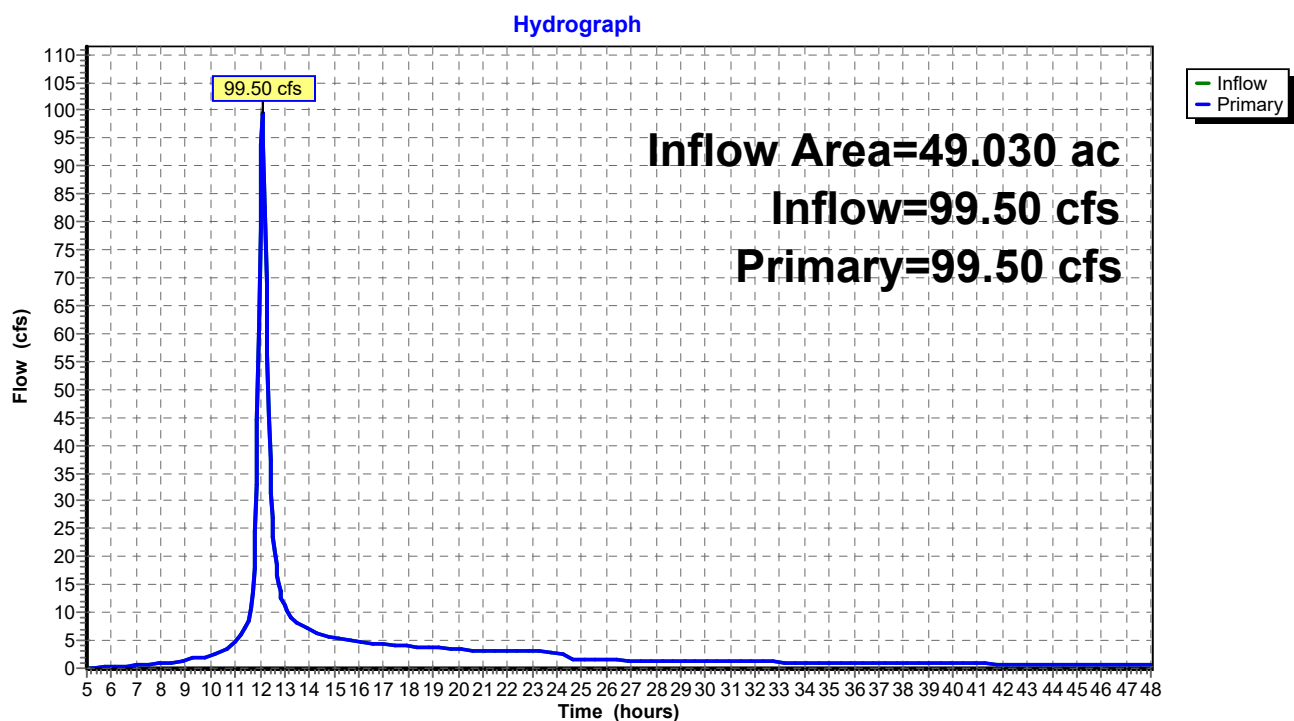


Summary for Link POST: Overall Post-Development

Inflow Area = 49.030 ac, 66.09% Impervious, Inflow Depth > 2.80" for 10-Year event
Inflow = 99.50 cfs @ 12.10 hrs, Volume= 11.433 af
Primary = 99.50 cfs @ 12.10 hrs, Volume= 11.433 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs

Link POST: Overall Post-Development



Time span=5.00-48.00 hrs, dt=0.05 hrs, 861 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

SubcatchmentA1, A8-A17: Runoff Area=19.150 ac 61.62% Impervious Runoff Depth>5.34"
Flow Length=3,488' Tc=21.6 min CN=89 Runoff=104.33 cfs 8.528 af

SubcatchmentA2-A7:Post-Development Runoff Area=18.350 ac 71.44% Impervious Runoff Depth>5.65"
Flow Length=753' Tc=12.9 min CN=92 Runoff=132.68 cfs 8.647 af

SubcatchmentO1: Off-Site #1 Runoff Area=3.400 ac 65.00% Impervious Runoff Depth>5.45"
Flow Length=675' Tc=20.1 min CN=90 Runoff=19.55 cfs 1.544 af

SubcatchmentO2: Off-Site #2 Runoff Area=8.130 ac 65.00% Impervious Runoff Depth>5.45"
Flow Length=475' Tc=13.5 min CN=90 Runoff=56.38 cfs 3.691 af

Pond P: Pond #1 Peak Elev=1,933.82' Storage=238,918 cf Inflow=132.68 cfs 8.647 af
Primary=9.44 cfs 7.136 af Secondary=0.00 cfs 0.000 af Outflow=9.44 cfs 7.136 af

Link POST: Overall Post-Development Inflow=174.57 cfs 20.899 af
Primary=174.57 cfs 20.899 af

Total Runoff Area = 49.030 ac Runoff Volume = 22.410 af Average Runoff Depth = 5.48"
33.91% Pervious = 16.626 ac 66.09% Impervious = 32.405 ac

Summary for Subcatchment A1, A8-A17: Post-Development

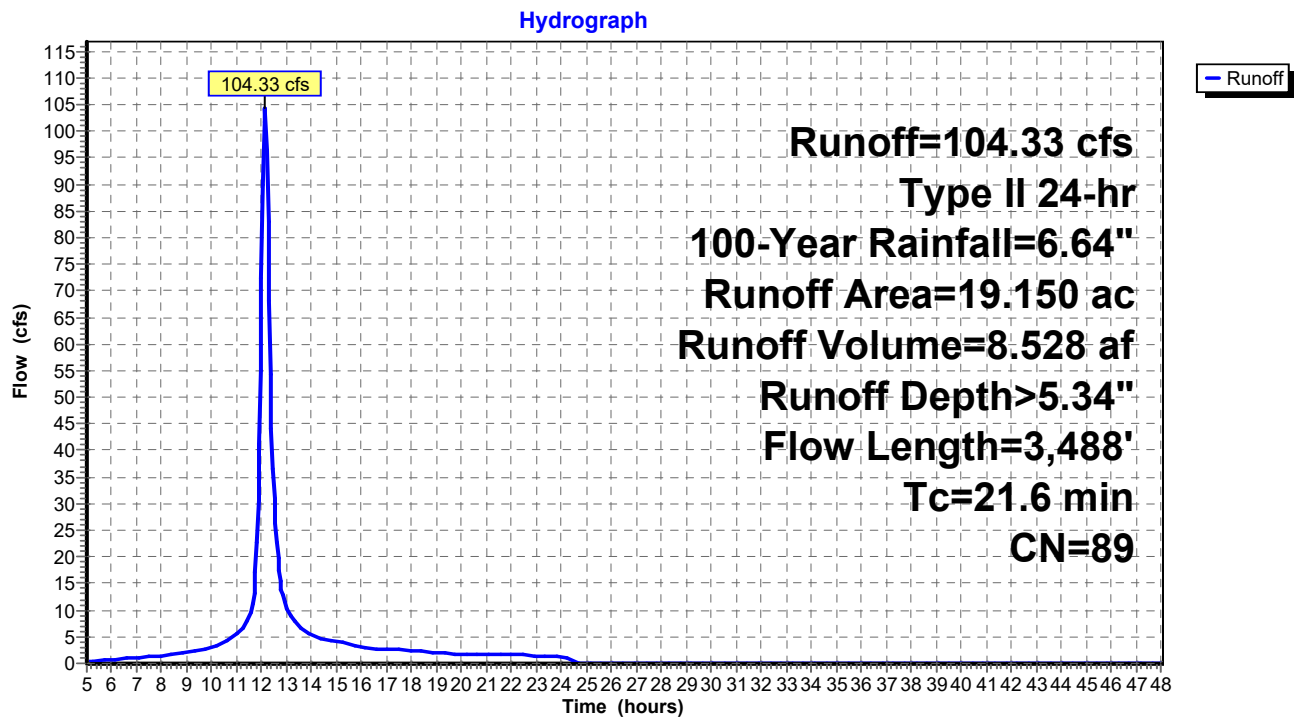
Runoff = 104.33 cfs @ 12.14 hrs, Volume= 8.528 af, Depth> 5.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-Year Rainfall=6.64"

Area (ac)	CN	Description
2.900	74	>75% Grass cover, Good, HSG C
* 4.450	77	>75% Grass cover, Good, HSG C/D
5.670	98	Unconnected roofs, HSG C
* 6.130	98	Unconnected pavement, HSG C/D
19.150	89	Weighted Average
7.350		38.38% Pervious Area
11.800		61.62% Impervious Area
11.800		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	150	0.0060	0.76		Sheet Flow, Smooth surfaces n= 0.011 P2= 2.15"
1.7	150	0.0051	1.45		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.9	68	0.0043	1.33		Shallow Concentrated Flow, Paved Kv= 20.3 fps
3.8	180	0.0015	0.79		Shallow Concentrated Flow, Paved Kv= 20.3 fps
6.2	1,315	0.0050	3.54	180.83	Channel Flow, Concrete Liner Area= 51.1 sf Perim= 176.4' r= 0.29' n= 0.013 Concrete, trowel finish
1.5	360	0.0027	4.05	12.73	Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012 Concrete pipe, finished
1.2	380	0.0027	5.31	37.55	Pipe Channel, 36.0" Round Area= 7.1 sf Perim= 9.4' r= 0.75' n= 0.012
3.0	885	0.0015	4.92	437.12	Channel Flow, Area= 88.9 sf Perim= 34.5' r= 2.58' n= 0.022 Earth, clean & straight
21.6	3,488	Total			

Subcatchment A1, A8-A17: Post-Development



Summary for Subcatchment A2-A7: Post-Development

Runoff = 132.68 cfs @ 12.04 hrs, Volume= 8.647 af, Depth> 5.65"

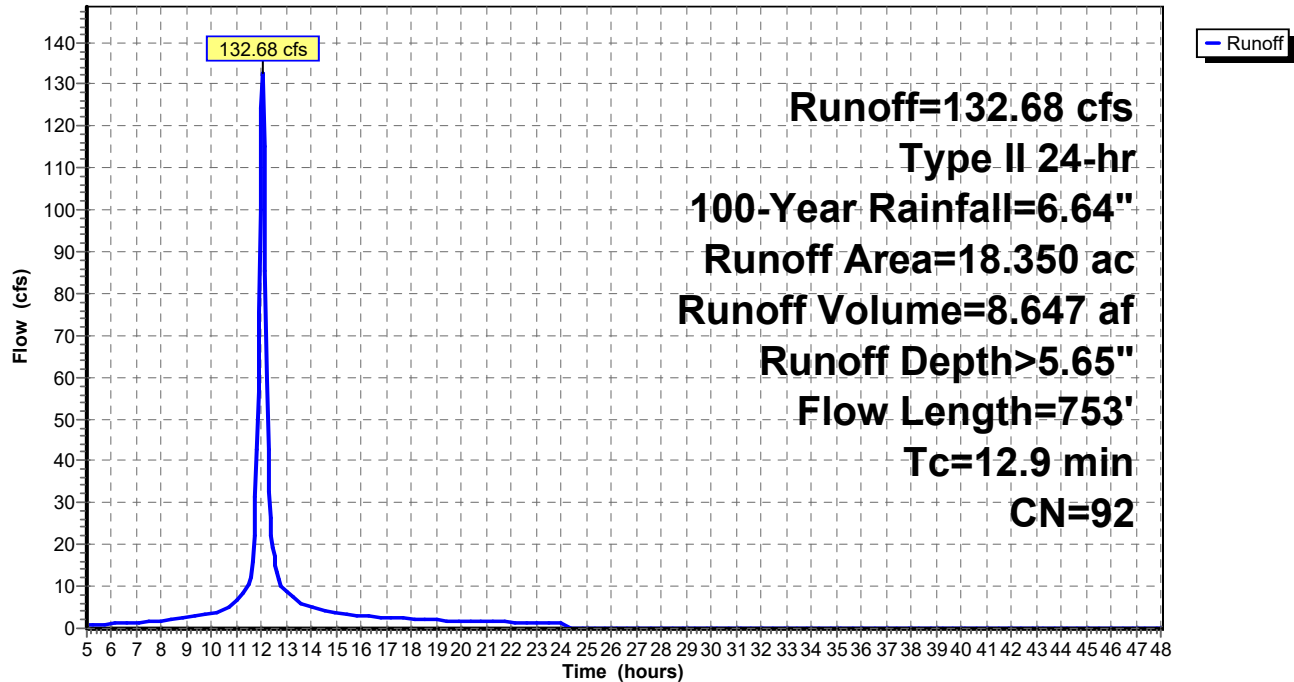
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-Year Rainfall=6.64"

Area (ac)	CN	Description
1.100	74	>75% Grass cover, Good, HSG C
* 4.140	77	>75% Grass cover, Good, HSG C/D
4.580	98	Unconnected roofs, HSG C
* 6.580	98	Unconnected pavement, HSG C/D
1.950	98	Water Surface, HSG D
18.350	92	Weighted Average
5.240		28.56% Pervious Area
13.110		71.44% Impervious Area
11.160		85.13% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.3	45	0.0100	0.09		Sheet Flow, Grass: Short n= 0.150 P2= 2.15"
2.2	150	0.0051	1.15		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
0.9	68	0.0040	1.28		Shallow Concentrated Flow, Paved Kv= 20.3 fps
1.5	490	0.0050	5.52	17.33	Pipe Channel, 24.0" Round Area= 3.1 sf Perim= 6.3' r= 0.50' n= 0.012
12.9	753	Total			

Subcatchment A2-A7: Post-Development

Hydrograph



Summary for Subcatchment O1: Off-Site #1

Runoff = 19.55 cfs @ 12.12 hrs, Volume= 1.544 af, Depth> 5.45"

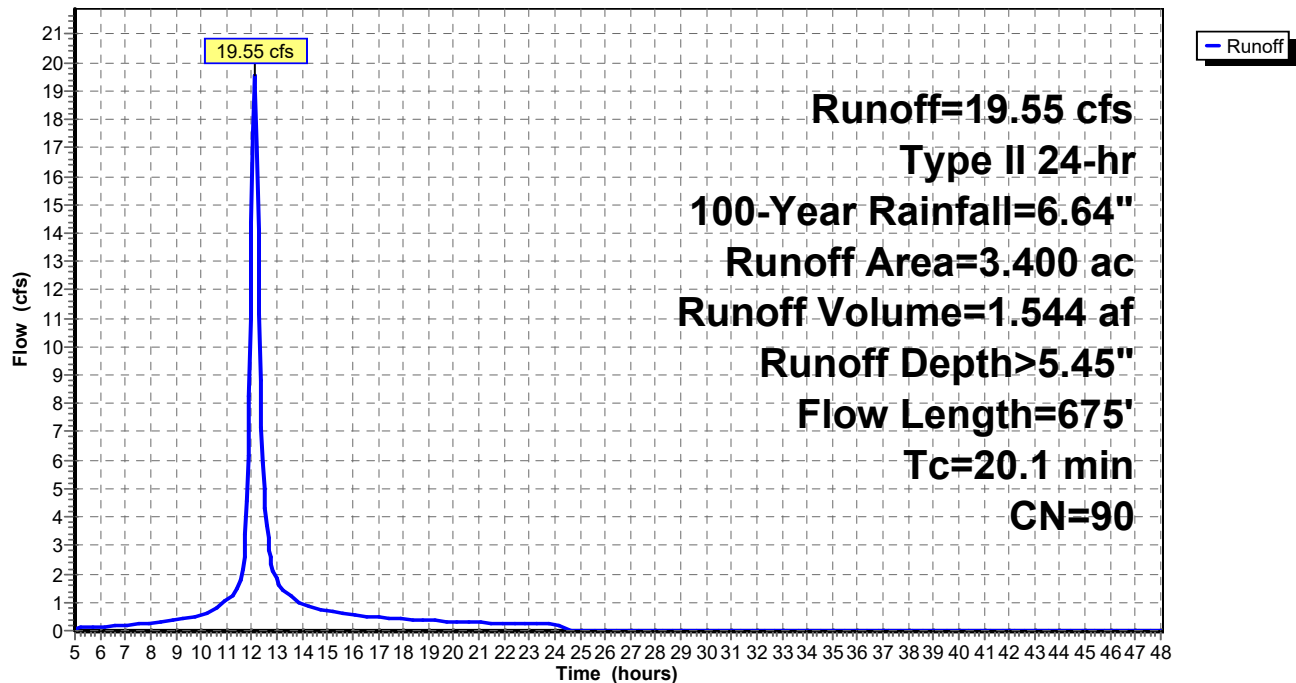
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-Year Rainfall=6.64"

Area (ac)	CN	Description
3.400	90	1/8 acre lots, 65% imp, HSG C
1.190		35.00% Pervious Area
2.210		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	75	0.0200	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.15"
4.4	300	0.0050	1.14		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
6.2	300	0.0025	0.81		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
20.1	675	Total			

Subcatchment O1: Off-Site #1

Hydrograph



Summary for Subcatchment O2: Off-Site #2

Runoff = 56.38 cfs @ 12.05 hrs, Volume= 3.691 af, Depth> 5.45"

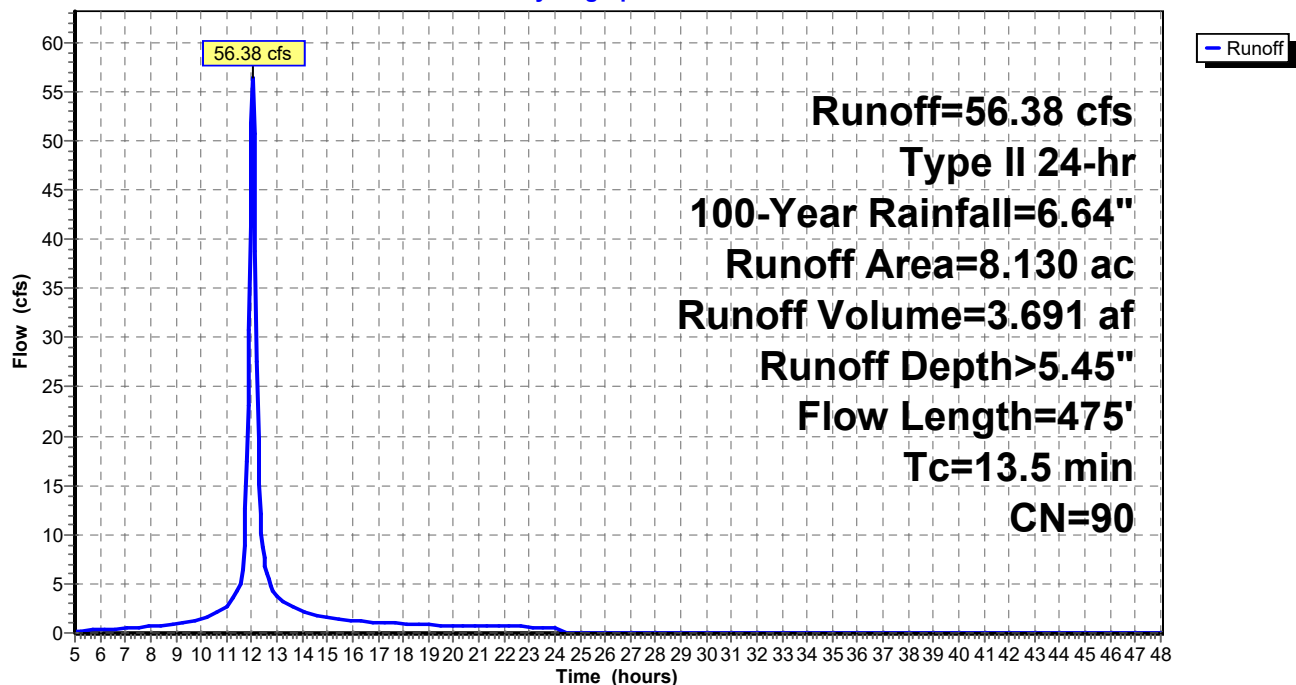
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Type II 24-hr 100-Year Rainfall=6.64"

Area (ac)	CN	Description
6.830	90	1/8 acre lots, 65% imp, HSG C
* 1.300	91	1/8 acre lots, 65% imp, HSG C/D
8.130	90	Weighted Average
2.845		35.00% Pervious Area
5.284		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.5	75	0.0200	0.13		Sheet Flow, Grass: Short n= 0.150 P2= 2.15"
3.5	300	0.0050	1.44		Shallow Concentrated Flow, Paved Kv= 20.3 fps
0.5	100	0.0035	3.37	4.14	Pipe Channel, 15.0" Round Area= 1.2 sf Perim= 3.9' r= 0.31' n= 0.012
13.5	475	Total			

Subcatchment O2: Off-Site #2

Hydrograph



Summary for Pond P: Pond #1

[82] Warning: Early inflow requires earlier time span

Inflow Area = 18.350 ac, 71.44% Impervious, Inflow Depth > 5.65" for 100-Year event
 Inflow = 132.68 cfs @ 12.04 hrs, Volume= 8.647 af
 Outflow = 9.44 cfs @ 12.88 hrs, Volume= 7.136 af, Atten= 93%, Lag= 50.1 min
 Primary = 9.44 cfs @ 12.88 hrs, Volume= 7.136 af
 Secondary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs
 Peak Elev= 1,933.82' @ 12.88 hrs Surf.Area= 114,968 sf Storage= 238,918 cf

Plug-Flow detention time= 632.3 min calculated for 7.134 af (83% of inflow)
 Center-of-Mass det. time= 558.3 min (1,339.6 - 781.3)

Volume	Invert	Avail.Storage	Storage Description
#1	1,931.45'	515,742 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
1,931.45	0	0	0
1,931.50	86,971	2,174	2,174
1,932.00	94,074	45,261	47,436
1,932.50	101,181	48,814	96,249
1,933.00	106,797	51,995	148,244
1,933.50	111,784	54,645	202,889
1,934.00	116,794	57,145	260,034
1,934.50	122,357	59,788	319,821
1,935.00	127,592	62,487	382,309
1,935.50	135,381	65,743	448,052
1,936.00	135,381	67,691	515,742

Device	Routing	Invert	Outlet Devices
#1	Primary	1,931.45'	30.0" Round Culvert L= 60.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 1,931.45' / 1,930.71' S= 0.0123 '/' Cc= 0.900 n= 0.012, Flow Area= 4.91 sf
#2	Device 1	1,931.45'	6.0" Vert. Orifice/Grate C= 0.600
#3	Device 1	1,931.95'	2.0" W x 24.0" H Vert. Orifice/Grate C= 0.600
#4	Device 1	1,933.17'	24.0" W x 12.0" H Vert. Orifice/Grate X 2.00 C= 0.600
#5	Device 1	1,934.50'	11.7" x 2.4" Horiz. Orifice/Grate X 2.00 columns X 7 rows C= 0.600 in 30.0" x 30.0" Grate (44% open area) Limited to weir flow at low heads
#6	Secondary	1,935.50'	250.0' long x 14.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.64 2.67 2.70 2.65 2.64 2.65 2.65 2.63

Primary OutFlow Max=9.43 cfs @ 12.88 hrs HW=1,933.82' (Free Discharge)

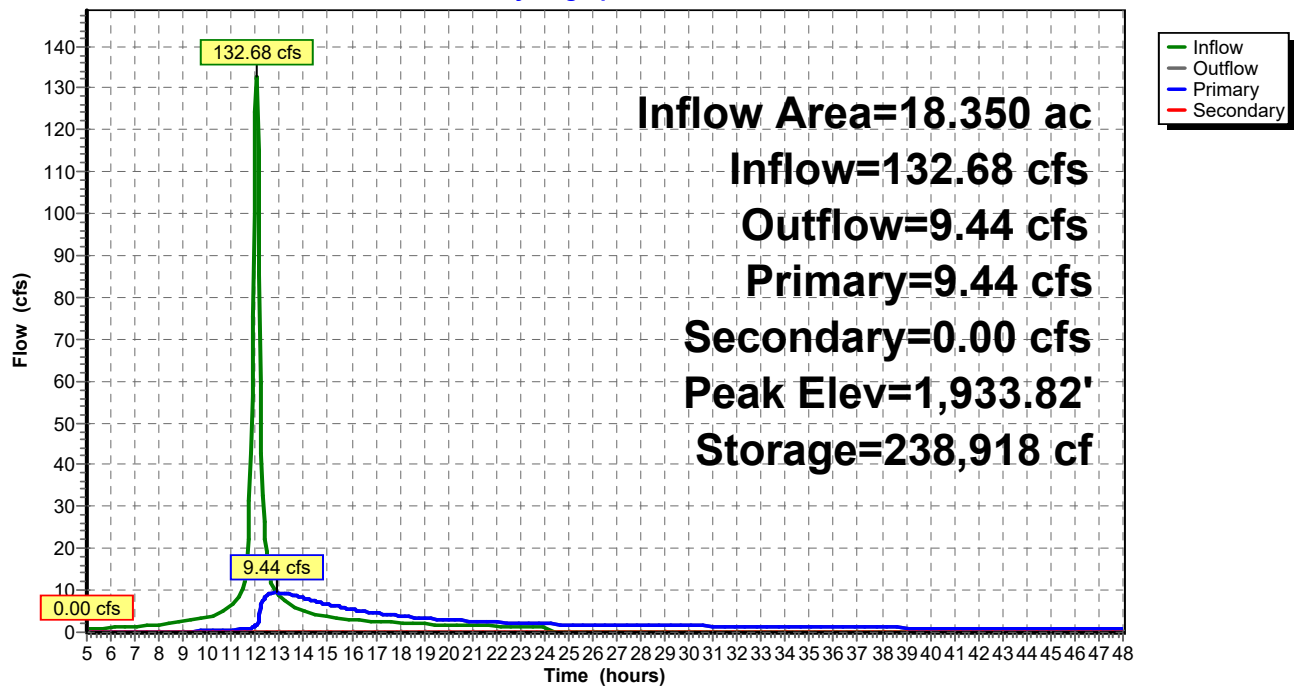
- 1=Culvert (Passes 9.43 cfs of 25.19 cfs potential flow)
- 2=Orifice/Grate (Orifice Controls 1.38 cfs @ 7.01 fps)
- 3=Orifice/Grate (Orifice Controls 1.37 cfs @ 4.39 fps)
- 4=Orifice/Grate (Orifice Controls 6.69 cfs @ 2.58 fps)
- 5=Orifice/Grate (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 5.00 hrs HW=1,931.45' (Free Discharge)

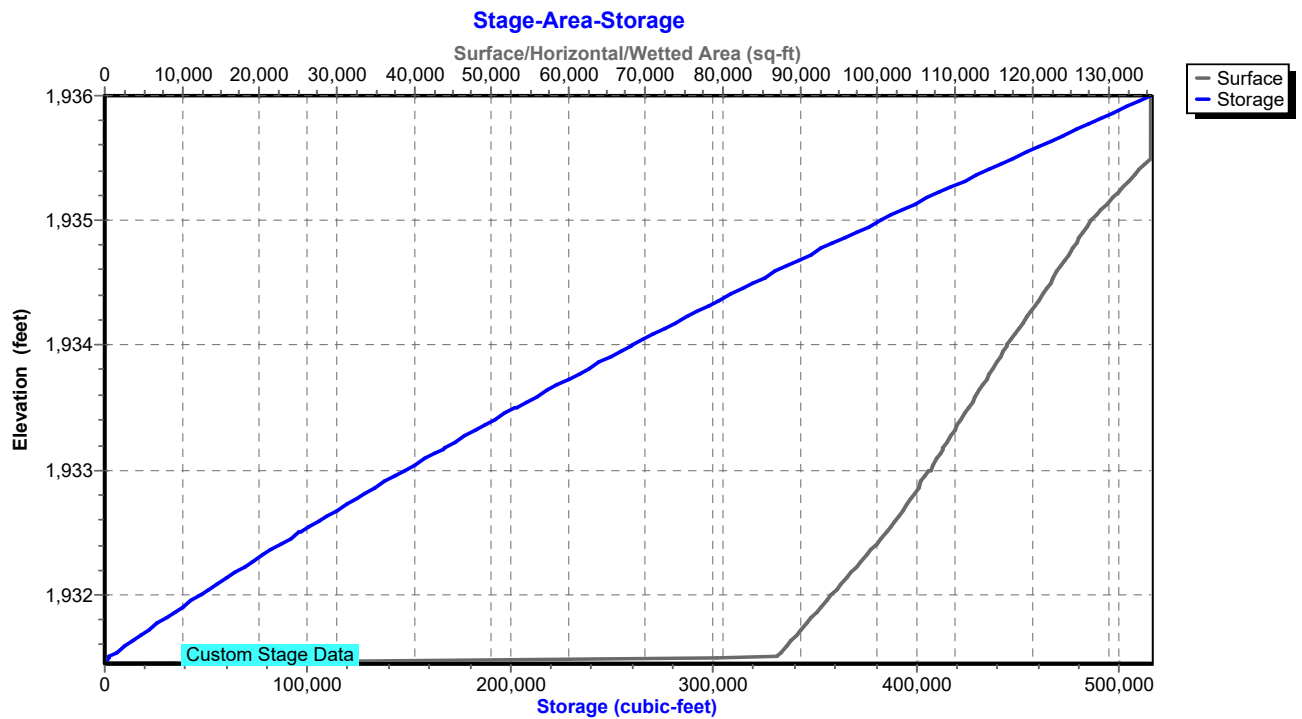
- 6=Broad-Crested Rectangular Weir(Controls 0.00 cfs)

Pond P: Pond #1

Hydrograph



Pond P: Pond #1

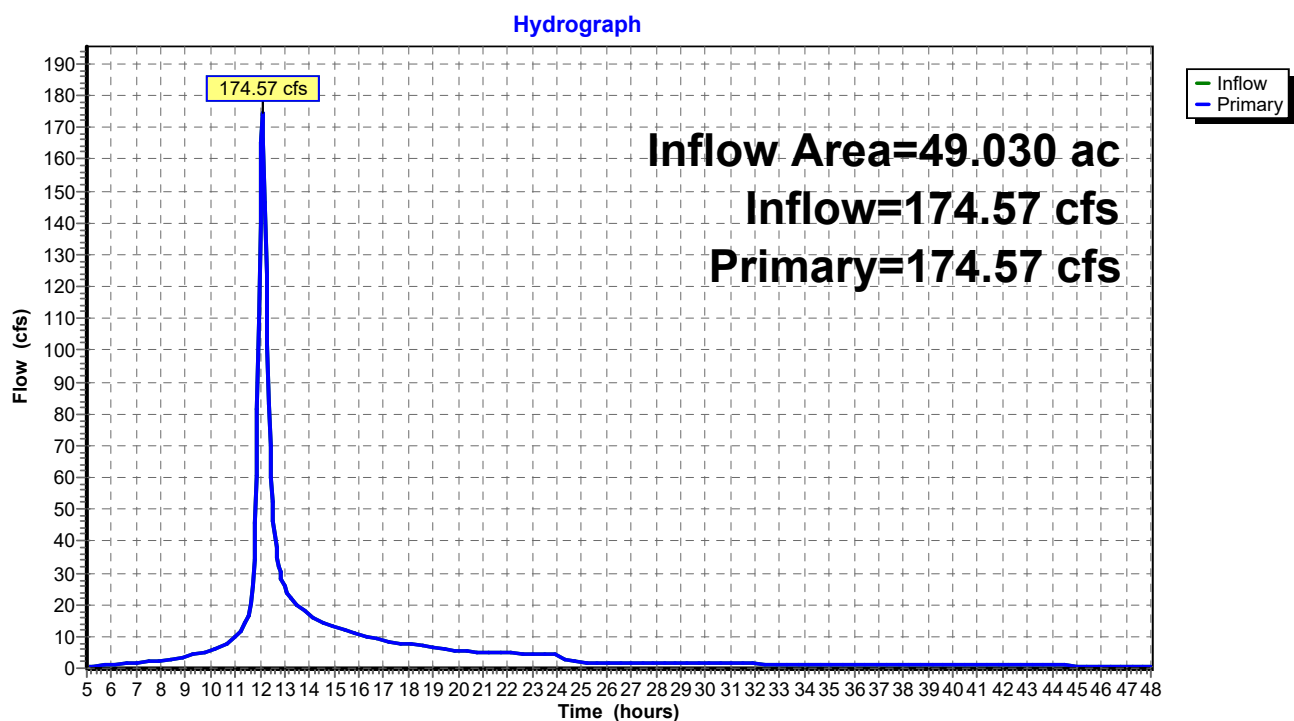


Summary for Link POST: Overall Post-Development

Inflow Area = 49.030 ac, 66.09% Impervious, Inflow Depth > 5.11" for 100-Year event
Inflow = 174.57 cfs @ 12.10 hrs, Volume= 20.899 af
Primary = 174.57 cfs @ 12.10 hrs, Volume= 20.899 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-48.00 hrs, dt= 0.05 hrs

Link POST: Overall Post-Development



APPENDIX C

POST CONSTRUCTION STORMWATER MANAGEMENT PLAN (PCSMP) SUBMITTAL CHECKLIST

Post-Construction Stormwater Management Plan (PCSMP)

Submittal Checklist



Preliminary submittals required by the City will include preliminary information. Final submittals shall be representative of the intended construction bid package.

PROJECT NAME: Theatre District - Hastings, Nebraska

PLANS

- ☒ Site topography including existing contours, property lines and easements, utilities, and site features such as existing water bodies, trees and shrubs, pavement and other structures
- ☒ Proposed contours
- ☒ Proposed inlets, storm sewer, culverts, and drainageways
- ☒ Proposed STFs and/or detention facilities
- ☒ Proposed roadways, parking, building footprints, and other structures
- ☒ A table shall be provided in construction drawings that includes, for each Stormwater Treatment Facility (STF) The information shall be provided on drawings in a format that is consistent with the following:

STF Identification Number	STF Type	STF Location (Lat/Long)	Drainage Area (Acres)	Design WQCV (cf) or Q _{WQ} (cfs)	WQCV (cf) or Q _{WQ} (cfs) Provided

CALCULATIONS

- ☒ Water Quality Volume (WQCV) or Water Quality Volume Discharge Rate (Q_{WQ}) for each STF (To be included with a site design or subdivision drainage study)
- ☒ Drainage Study

AGREEMENTS

A maintenance agreement is required for neighborhood level and lot level STFs. If an agreement is made for mitigation off site or other agreements are made, make note and describe below

- ☐ Inspection and Maintenance Agreement
- ☐ Other Agreement

CERTIFICATION OF PERMANENT STFs

Unless otherwise indicated by the City, a Hold on the Certificate of Occupancy will be placed on the project until the STF has been certified. If applicable, check “Hold” until certification is received. If not applicable, check N/A.

- ☒ Hold on C.O.
- ☐ N/A

Submitted upon completion of a project; a statement by a professional engineer licensed in the State of Nebraska or person(s) under the direct supervision of a professional engineer licensed in the State of Nebraska attesting that the completed project is in compliance with the approved Final Plan.

- ☐ Certification of Permanent STFs
- ☐ Record Drawings (if required by City)

☐ Hold on C.O. Released (if applicable)

Released By:

APPENDIX D

THREATENED AND ENDANGERED SPECIES LIST



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Nebraska Ecological Services Field Office
9325 B South Alda Rd., Ste B
Wood River, NE 68883-9565
Phone: (308) 382-6468 Fax: (308) 384-8835
<http://www.fws.gov/nebraskaes>

In Reply Refer To:

February 05, 2021

Consultation Code: 06E22000-2021-SLI-0238

Event Code: 06E22000-2021-E-00365

Project Name: Imperial Mall - Hastings, Nebraska

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

[http://](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html)

www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
 - Migratory Birds
 - Wetlands
-

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Nebraska Ecological Services Field Office

9325 B South Alda Rd., Ste B

Wood River, NE 68883-9565

(308) 382-6468

Project Summary

Consultation Code: 06E22000-2021-SLI-0238

Event Code: 06E22000-2021-E-00365

Project Name: Imperial Mall - Hastings, Nebraska

Project Type: DEVELOPMENT

Project Description: REGA Engineering Group, Inc. is applying for a Planned District Development to re-develop the commercial area known as the Imperial Mall in Hastings, Nebraska. The commercial development will remove all the old paving and infrastructure to create a new public street with commercial lots on either side. We are projecting 11 building pads comprised of potential grocery stores, apartments, fast-food restaurants, and retail space. The site demolition will occur in early 2021 with site grading finishing up around June 2021. The majority of the existing trees are to remain, except for trees that were within the old parking lot islands. The public utilities will be completed by the end of 2021. The timeline to achieve the full build out is unknown at this time.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@40.5949407,-98.42279262296589,14z>



Counties: Adams County, Nebraska

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Whooping Crane <i>Grus americana</i> Population: Wherever found, except where listed as an experimental population There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Fishes

NAME	STATUS
Pallid Sturgeon <i>Scaphirhynchus albus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7162	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

■ probability of presence ■ breeding season | survey effort — no data

SPECIES JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

Red-headed
Woodpecker
BCC Rangewide
(CON)



Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

APPENDIX E

USDA WEB SOIL SURVEY



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Adams County, Nebraska**

Imperial Mall - Hastings, NE



January 25, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Adams County, Nebraska
Survey Area Data: Version 23, Jun 3, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 2, 2015—Mar 2, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3820	Butler silt loam, 0 to 1 percent slopes	24.3	61.5%
3864	Hastings silt loam, 0 to 1 percent slopes	11.1	28.1%
3880	Holder silt loam, 1 to 3 percent slopes	4.1	10.4%
Totals for Area of Interest		39.6	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Adams County, Nebraska

3820—Butler silt loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2qsjx
Elevation: 1,130 to 2,770 feet
Mean annual precipitation: 23 to 31 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 149 to 175 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Butler and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Butler

Setting

Landform: Swales
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Loess

Typical profile

Ap - 0 to 9 inches: silt loam
E - 9 to 13 inches: silt loam
Bt - 13 to 34 inches: silty clay
BC - 34 to 41 inches: silty clay loam
C - 41 to 79 inches: silty clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 4 to 12 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 4 percent
Maximum salinity: Nonsaline (0.0 to 0.6 mmhos/cm)
Available water capacity: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: R075XY057NE - Clayey Plains
Forage suitability group: Wet (G075XY900NE)
Other vegetative classification: Wet (G075XY900NE)

Custom Soil Resource Report

Hydric soil rating: No

Minor Components

Fillmore, frequently ponded

Percent of map unit: 8 percent

Landform: Playas

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Dip

Down-slope shape: Concave

Across-slope shape: Concave

Ecological site: R075XY049NE - Closed Upland Depression

Other vegetative classification: Closed Upland Depression (G075XY910NE)

Hydric soil rating: Yes

Crete

Percent of map unit: 6 percent

Landform: Hillslopes

Landform position (two-dimensional): Summit

Landform position (three-dimensional): Interfluve

Down-slope shape: Linear

Across-slope shape: Linear

Ecological site: R075XY057NE - Clayey Plains

Hydric soil rating: No

Olbut, occasionally ponded

Percent of map unit: 1 percent

Landform: Playas

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Dip

Down-slope shape: Concave

Across-slope shape: Concave

Ecological site: R075XY083NE - Saline Depression

Other vegetative classification: Saline (G075XY895NE)

Hydric soil rating: Yes

3864—Hastings silt loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2qsjy

Elevation: 1,130 to 2,770 feet

Mean annual precipitation: 23 to 31 inches

Mean annual air temperature: 50 to 54 degrees F

Frost-free period: 149 to 175 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Hastings and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hastings

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loess

Typical profile

Ap - 0 to 6 inches: silt loam
A - 6 to 13 inches: silty clay loam
BA - 13 to 17 inches: silty clay loam
Bt - 17 to 32 inches: silty clay loam
Bk - 32 to 39 inches: silty clay loam
C - 39 to 79 inches: silt loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline (0.0 to 0.8 mmhos/cm)
Available water capacity: High (about 11.5 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: C
Ecological site: R075XY058NE - Loamy Plains
Forage suitability group: Loam (G075XY100NE)
Other vegetative classification: Loam (G075XY100NE)
Hydric soil rating: No

Minor Components

Crete

Percent of map unit: 5 percent
Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R075XY057NE - Clayey Plains
Hydric soil rating: No

Fillmore, frequently ponded

Percent of map unit: 4 percent
Landform: Playas

Custom Soil Resource Report

Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R075XY049NE - Closed Upland Depression
Other vegetative classification: Closed Upland Depression (G075XY910NE)
Hydric soil rating: Yes

Butler

Percent of map unit: 4 percent
Landform: Swales
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: R075XY057NE - Clayey Plains
Other vegetative classification: Wet (G075XY900NE)
Hydric soil rating: No

Holder

Percent of map unit: 2 percent
Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R075XY058NE - Loamy Plains
Other vegetative classification: Loam (G075XY100NE)
Hydric soil rating: No

3880—Holder silt loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2qskd
Elevation: 1,130 to 2,770 feet
Mean annual precipitation: 23 to 31 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 149 to 175 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Holder and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Holder

Setting

Landform: Hillslopes
Landform position (two-dimensional): Summit

Custom Soil Resource Report

Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Loess

Typical profile

Ap - 0 to 10 inches: silt loam
BA - 10 to 14 inches: silty clay loam
Bt - 14 to 28 inches: silty clay loam
BC - 28 to 36 inches: silt loam
C - 36 to 79 inches: silt loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline (0.0 to 0.8 mmhos/cm)
Available water capacity: High (about 11.9 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: R075XY058NE - Loamy Plains
Forage suitability group: Loam (G075XY100NE)
Other vegetative classification: Loam (G075XY100NE)
Hydric soil rating: No

Minor Components

Hastings

Percent of map unit: 10 percent
Landform: Hillslopes
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: R075XY058NE - Loamy Plains
Other vegetative classification: Loam (G075XY100NE)
Hydric soil rating: No

Butler

Percent of map unit: 5 percent
Landform: Swales
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Concave
Across-slope shape: Linear
Ecological site: R075XY057NE - Clayey Plains
Other vegetative classification: Wet (G075XY900NE)

Custom Soil Resource Report

Hydric soil rating: No

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Qualities and Features

Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

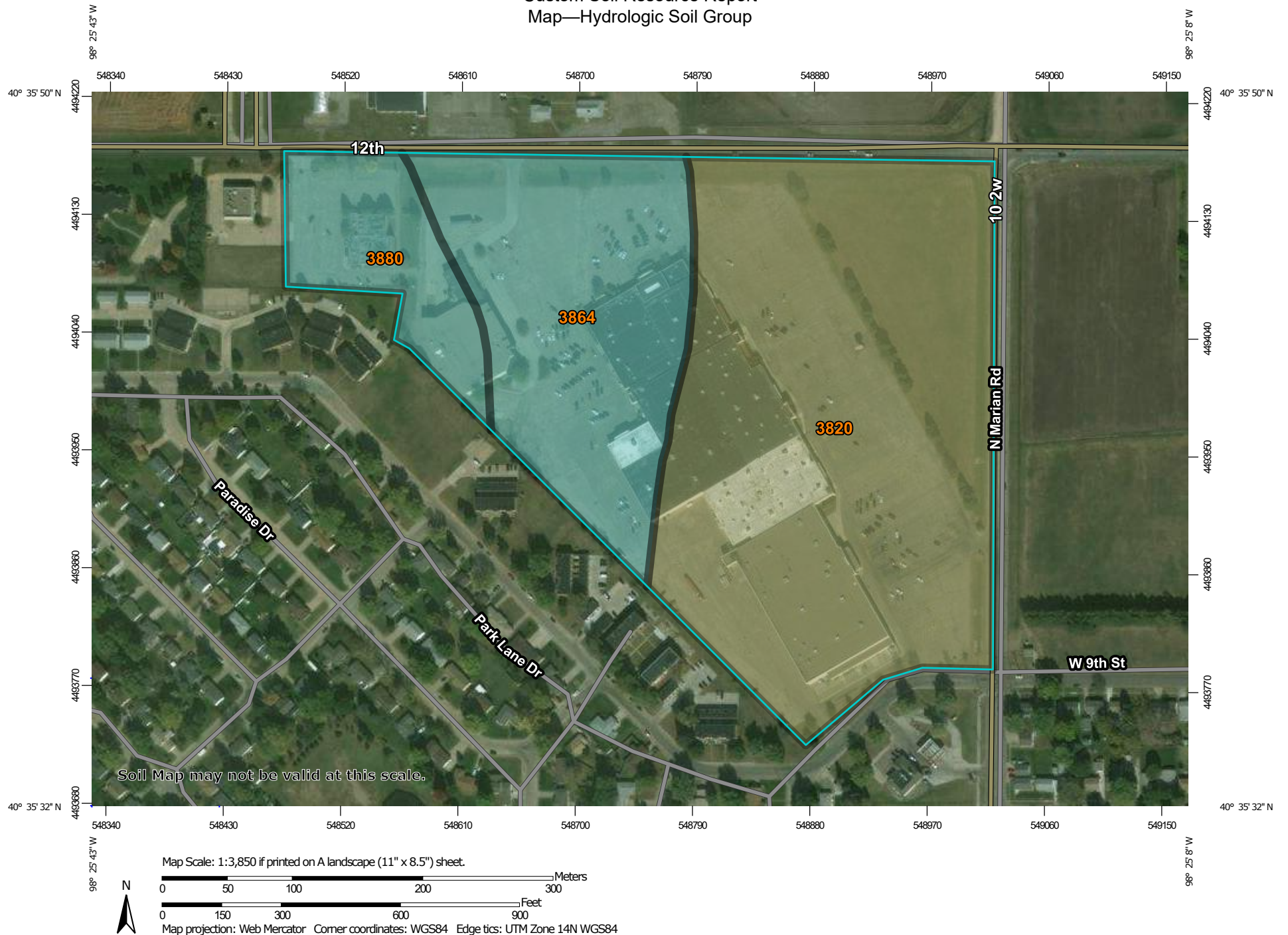
Custom Soil Resource Report

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Custom Soil Resource Report Map—Hydrologic Soil Group



Custom Soil Resource Report

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Adams County, Nebraska
Survey Area Data: Version 23, Jun 3, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 2, 2015—Mar 2, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
3820	Butler silt loam, 0 to 1 percent slopes	C/D	24.3	61.5%
3864	Hastings silt loam, 0 to 1 percent slopes	C	11.1	28.1%
3880	Holder silt loam, 1 to 3 percent slopes	C	4.1	10.4%
Totals for Area of Interest			39.6	100.0%

Rating Options—Hydrologic Soil Group*Aggregation Method: Dominant Condition**Component Percent Cutoff: None Specified**Tie-break Rule: Higher*

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Custom Soil Resource Report

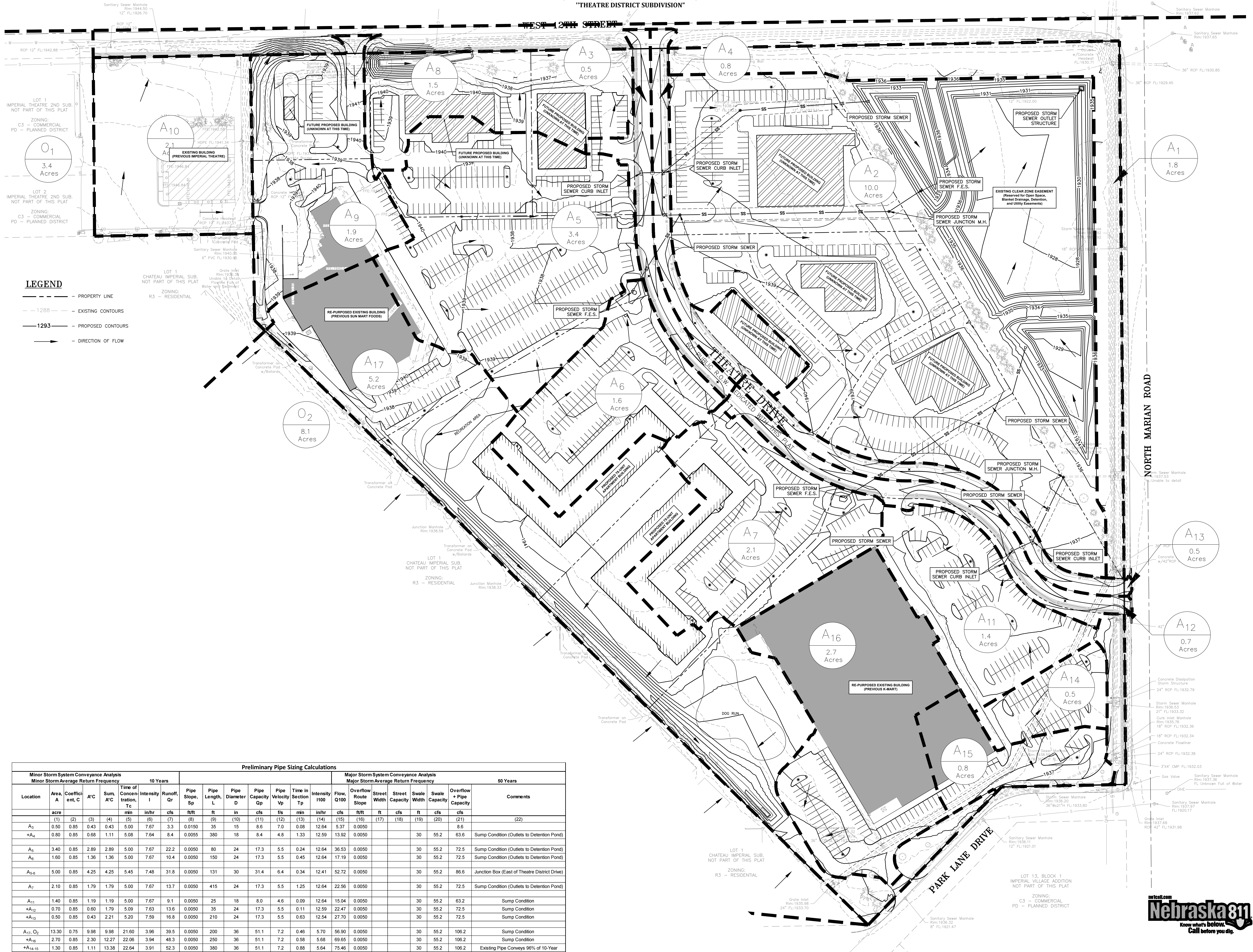
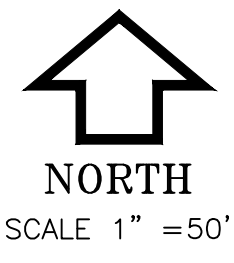
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PRELIMINARY PLAT
THEATRE DISTRICT SUBDIVISION

A REPLAT OF ALL OF BLOCK 9, IMPERIAL VILLAGE ADDITION AND LOT 1, IMPERIAL THEATRE SUBDIVISION,
IN PART OF THE NORTHEAST (NE 1/4) OF SECTION 10, T7N, R10W OF THE 6TH P.M.,
IN THE CITY OF HASTINGS, ADAMS COUNTY, NEBRASKA
SAID REPLAT TO BE HEREINAFTER KNOWN AS
"THEATRE DISTRICT SUBDIVISION"



- LEGEND**
- PROPERTY LINE
 - - - 1288 --- EXISTING CONTOURS
 - 1293 — PROPOSED CONTOURS
 - DIRECTION OF FLOW

Preliminary Pipe Sizing Calculations																						
Minor Storm System Conveyance Analysis												Major Storm System Conveyance Analysis										
Minor Storm Average Return Frequency												Major Storm Average Return Frequency										
10 Years						50 Years																
Location	Area, A	Coefficient, C	A'C	Sum, A'C	Time of Concentration, Tc	Intensity I	Runoff, Qr	Pipe Slope, Sp	Pipe Length, L	Pipe Diameter D	Pipe Capacity Qp	Pipe Velocity Vp	Time in Section Tp	Intensity I100	Flow, Q100	Overflow Route Slope	Street Width	Street Capacity	Swale Width	Swale Capacity	Overflow + Pipe Capacity	Comments
acre	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
A3	0.50	0.85	0.43	0.43	5.00	7.67	3.3	0.0150	35	15	8.6	7.0	0.08	12.64	5.37	0.0050					8.6	
	0.80	0.85	0.68	1.11	5.08	7.64	8.4	0.0055	380	18	8.4	4.8	1.33	12.59	13.92	0.0050			30	55.2	63.6	Sump Condition (Outlets to Detention Pond)
A5	3.40	0.85	2.89	2.89	5.00	7.67	22.2	0.0050	80	24	17.3	5.5	0.24	12.64	36.53	0.0050			30	55.2	72.5	Sump Condition (Outlets to Detention Pond)
	A6	1.60	0.85	1.36	1.36	5.00	7.67	10.4	0.0050	150	24	17.3	5.5	0.45	12.64	17.19	0.0050		30	55.2	72.5	Sump Condition (Outlets to Detention Pond)
A5,6	5.00	0.85	4.25	4.25	5.45	7.48	31.8	0.0050	131	30	31.4	6.4	0.34	12.41	52.72	0.0050			30	55.2	86.6	Junction Box (East of Theatre District Drive)
A7	2.10	0.85	1.79	1.79	5.00	7.67	13.7	0.0050	415	24	17.3	5.5	1.25	12.64	22.56	0.0050			30	55.2	72.5	Sump Condition (Outlets to Detention Pond)
A11	1.40	0.85	1.19	1.19	5.00	7.67	9.1	0.0050	25	18	8.0	4.6	0.09	12.64	15.04	0.0050			30	55.2	63.2	Sump Condition
	+A12	0.70	0.85	0.60	1.79	5.09	7.63	13.6	0.0050	35	24	17.3	5.5	0.11	12.59	22.47	0.0050		30	55.2	72.5	Sump Condition
	+A13	0.50	0.85	0.43	2.21	5.20	7.59	16.8	0.0050	210	24	17.3	5.5	0.63	12.54	27.70	0.0050		30	55.2	72.5	Sump Condition
A17, O2	13.30	0.75	9.98	9.98	21.60	3.96	39.5	0.0050	200	36	51.1	7.2	0.46	5.70	56.90	0.0050			30	55.2	106.2	Sump Condition
+A16	2.70	0.85	2.30	12.27	22.06	3.94	48.3	0.0050	250	36	51.1	7.2	0.58	5.68	69.65	0.0050			30	55.2	106.2	Sump Condition
+A16-15	1.30	0.85	1.11	13.38	22.64	3.91	52.3	0.0050	380	36	51.1	7.2	0.88	5.64	75.46	0.0050			30	55.2	106.2	Existing Pipe Conveys 96% of 10-Year

Completed 02/19/2021

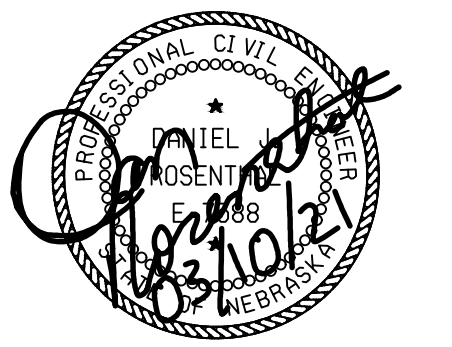
PROJECT
201055

REGA
ENGINEERING
GROUP, INC.

601 OLD CHENEY RD., SUITE A
LINCOLN, NEBRASKA 68512
(402) 484-7342
• ENGINEERING
• PLANNING
• LANDSCAPE
ARCHITECTURE
• LAND SURVEYING

ISSUED FOR	DATE
PP SUBMIT	02/23/21
CITY COMMENTS	03/10/21
CITY COMMENTS	03/30/21

THEATRE DISTRICT SUBDIVISION
PRELIMINARY PLAT
W. 12TH ST. & N. MARIAN RD.
HASTINGS, NEBRASKA



SHEET NO.
3 of 5



GRADING & DRAINAGE PLAN

STORMWATER MANAGEMENT PLAN MAINTENANCE AGREEMENT AND EASEMENT

WHEREAS, Theatre District, LLC, a Nebraska limited liability company, is the owner of Lots 1-8, Block 1, and Lots 1-4, Block 2, and Outlot “A”, Theatre District Subdivision, Hastings, Adams County, Nebraska (“Property”); and

WHEREAS, Theatre District, LLC shall be referred to hereinafter as the “Property Owner”, and its administrators, executors, successors, heirs and assigns, shall hereinafter be referred to collectively as the “Successors”; and

WHEREAS, the City of Hastings, Nebraska (hereinafter the “City”) requires and the Property Owner agrees that the health, safety and welfare of the citizens of the City require that stormwater management facilities (hereinafter referred to as the “facilities”) must be constructed and perpetually maintained on the Property.

NOW, THEREFORE, in consideration of the foregoing premises, the covenants contained herein, and the following terms and conditions, the Property Owner agrees as follows:

1. The Property Owner shall construct the facilities at its sole expense, in strict accordance with the **Theatre District Grading and Drainage Plan** attached as Exhibit “A” (the “Drainage Plan”), which has been reviewed and approved by the City. The Drainage Plan includes a detention facility located on Outlot “A” of the subdivision.
2. The Property Owner and its Successors shall perpetually maintain, at their sole expense, the facilities in strict accordance with the Drainage Plan, which shall include all of the inspection and maintenance activity described in the Maintenance Form attached as Exhibit “B”. The Property Owner and its successors shall also comply with any requirements set forth in the Hastings Municipal Code, the City’s Drainage Criteria Manual, and City’s Design Standards.
3. The Property Owner and its Successors shall submit an annual maintenance report for the facilities in the form of Exhibit “B” to the City commencing one year from the date of this

Agreement. Said report shall be sent to the City of Hastings, Engineering Department, 1228 No. Denver Avenue, Hastings, Nebraska 68901.

4. The Property Owner and its Successors hereby grant the City, its authorized agents and employees, permission to enter upon the Property and to inspect the facilities whenever the City deems necessary. The City shall provide the Property Owner copies of any inspection findings and a directive to commence repairs if necessary. If repairs to the facilities are necessary, the Property Owner must provide the City a written response within seven (7) calendar days addressing what actions will be taken to correct any deficiencies and providing a schedule of repairs within a reasonable timeframe. Whenever possible, the City will provide notice prior to entry.
5. The Property Owner and its Successors agree that should it fail to correct any defects in the facilities within a reasonable time frame agreed to in the response by the Property Owner for corrective actions, or shall fail to maintain the facilities in accordance with the attached Exhibit "A" and with the law and applicable executive regulations or, in the event of an emergency as determined by the City or its designee in its sole discretion, the City or its designee is authorized to enter the Property to make all repairs and to perform all maintenance, construction and reconstruction as the City or its designee deems necessary.
6. The City or its designee shall have the right to recover from the Property Owner and its Successors and assigns, including any property owner's association which holds title to the detention facility located on Outlot "A", any and all reasonable costs the City expends to maintain or repair the facilities or to correct any operational deficiencies subject to the provisions of the immediately preceding sentence relating to acts of the City. Failure to pay the City or its designee all of its expended costs, after forty-five (45) days written notice, shall constitute a breach of the Agreement. The City or its designee shall thereafter be entitled to bring an action against the Property Owner and its Successors to pay, or foreclose upon the lien hereby authorized by the Agreement against the Property, or both. Interest, collection costs, and reasonable attorney fees shall be added to the recovery of the successful party. The City shall have the right to record a lien against the Property for any and all costs incurred by the City which remain unpaid after the City delivers the notice required by this paragraph. Any such lien shall be junior to any existing lien of record including consensual liens recorded by lenders.
7. The Property Owner shall not obligate the City to maintain or repair the facilities, and the City shall not be liable to any person for the condition or operation of the facilities.
8. The Property Owner and its Successors hereby indemnify and hold harmless the City and its authorized agents and employees for any and all damages, accidents, casualties, occurrences or claims that may arise or be asserted against the City from the construction, presence, existence or maintenance of the facilities by the Property Owner. In the event a claim is asserted against the City, its authorized agents or employees, the City shall promptly notify the Property Owner and the Property Owner shall defend, at its own expense, any suit based on such claim unless due solely to the negligence of the City, in which event the City shall be required to defend any such suit at its own expense.

Notwithstanding the foregoing, if any claims are made against both the City and the Property Owner, each will be required to defend any such suit or claim at its own expense. Each shall be responsible for payment of any recovery to the extent determined in such suit. If any judgment or claims against the City, its authorized agents or employees shall be allowed, the Property Owner shall pay for all costs and expenses in connection therewith except to the extent of the negligence or intentional act of the City.

9. The Property Owner shall not in any way diminish, limit or restrict the right of the City to enforce any of its ordinances as authorized by law.
10. The Agreement shall be recorded with the Register of Deeds of Adams County, Nebraska and shall constitute a covenant running with the land and shall be binding on the Property Owner and its Successors, including any homeowners or business association or any other successors in interest.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the dates as set forth below.

“CITY”

CITY OF HASTINGS, NEBRASKA,

By: _____
Engineering Department Director

“PROPERTY OWNER”

Theatre District, LLC, a Nebraska limited liability company

By: _____
Craig Reid, Manager

STATE OF NEBRASKA)
) ss.
COUNTY OF _____)

The foregoing was acknowledged before me this ____ day of _____, 20__, by
_____ dated.

Notary Public

EXHIBIT A
DRAINAGE PLAN

EXHIBIT B
(Maintenance Form)