CITY OF LEWISTON
PLANNING BOARD MEETING
Monday, February 24, 2020 – 5:30 P.M.
City Council Chambers – First Floor
Lewiston City Building
27 Pine Street, Lewiston, ME

AGENDA

1. **ROLL CALL**

2. **ADJUSTMENTS TO THE AGENDA**

3. **CORRESPONDENCE**

4. **PUBLIC HEARINGS:**

    a) Stoneybrook Consultants, an agent for Colette's Donut Shoppe submitted a development review request to construct a 2,543 s.f. building for a donut shop at 420 Main Street and 23 Whipple Street.

5. **OTHER BUSINESS:**

6. **READING OF THE MINUTES**: Motion to adopt the February 10, 2020 draft minutes

7. **ADJOURNMENT**

The next scheduled Planning Board meeting is March 9, 2020

CITY OF LEWISTON

Department of Planning & Code Enforcement

TO: Lewiston Planning Board

FROM: Douglas Greene, AICP, RLA, City Planner

DATE: February 18, 2020

RE: Dunkin Donuts Project at 420 Main Street

PROJECT DESCRIPTION
An application submitted by Stoneybrook Consultants, Inc. on behalf of Collette's Donut Shoppe to construct a 2,543 sf. drive-in restaurant at 420 Main Street and 23 Whipple Street.

SITE DESCRIPTION
The vacant property at 420 Main Street is zoned Community Business (CB), is .75 acres in size and is the proposed location for a 2,543 sf. building and associated drive-through lanes and parking. The property at 23 Whipple Street is zoned Neighborhood Conservation "B" (NCB), is a .11acre vacant lot and is proposed for a 5 space parking lot accessory to the project at 420 Main Street. The project site slopes down some 14' in elevation from Main Street to the western end of 23 Whipple Street. As a result, the main portion of the project site will be leveled for development by a retaining wall and fill around the southern (Whipple Street), western and northern sides of 420 Main Street.

SITE PLAN
The applicant's site plan shows an entrance into the site for both northern and southern traffic movements on Main Street and a right turn only exit out on to Main Street. The internal vehicular area features two different drive-through lanes, a third by-pass lane and 20 parking spaces on 420 Main Street. An additional five parking spaces are proposed at 23 Whipple Street. The drive-through lanes can fit an additional 16 stacked cars, which can be counted as required parking spaces. The proposed Dunkin Donuts is a Drive-In Restaurant use type, which has a parking requirement of 10 spaces plus one additional space for every 100 square feet of gross floor space. This results in a parking requirement of 36 spaces, which is met by the parking areas described above.

The proposed 2,543 sf. building will have 25 indoor seats plus a portico for outside customer seating. There are two drive-through windows that can serve both drive-up customers and customers who place orders by phone. A small service area is located behind the building for smaller delivery trucks and the applicant has provided schematic drawings that show adequate space for larger delivery trucks and emergency vehicles.

The applicant met with city staff to discuss building design and was encouraged to consider compatibility with the surrounding neighborhood character, as possible. An elevation drawing illustrates a non-conventional Dunkin Donuts building with features that relate to the area. An outdoor portico seating area has a "front porch" feel.

STORMWATER MANAGEMENT

The project will create a total of 26,375 sf. of impervious area.24,092 sf. or 75% of the lot located at 420 Main Street is planned for impervious surface.The CB district allows a maximum of 75% impervious coverage. The lower 5 space parking on 23 Whipple Street (zoned NCB) will create 2,283 sf. of impervious surface, which is 51% of the lot. The NCB allows up to 85% impervious coverage. There is no stormwater system on Whipple Street between Main and Cottage Streets. The developer will create a new stormwater service main on Whipple Street that connects to an existing catch basin on Cottage Street.

The on-site stormwater management is handled through a series of catch basins in the vehicular use and parking area and collected in an underground storage structure located in the rear vehicular area beyond the menu board. The collected stormwater will then move downhill to a rip-rap area on 23 Whipple Street, then on to the new stormwater service main on Whipple Street. Public Works has reviewed and accepted the applicant's detailed stormwater management plan.

RIGHT OF WAY AND STREET IMPROVEMENTS

The applicant proposes to widen Whipple Street on the northern side and to add eight (8) additional on-street parking spaces. The widening of Whipple Street will extend the street and sidewalk to outside of the existing Whipple Street right-of-way. The city is working with the developer on an easement and maintenance agreement for this area. The applicant will reconstruct the sidewalk along the northern side of Whipple Street from Main Street down to Cottage Street is also proposing sidewalk improvements along the frontage of 420 Main Street.

CHANGES TO ON-STREET PARKING

A neighborhood meeting was held on September 5, 2018 to discuss the proposed Dunkin Donuts and the request to add a center turn lane on Main Street from Elm Street to Curtis Street. This action would help traffic flow along Main Street and into the site but would cause the removal of some on-street parking spaces on Main Street. The September 5, 2018 neighborhood meeting was attended by approximately 12 attendees who mostly opposed the proposed addition of a turn lane. Concerns were raised over the proposed development of a Dunkin Donuts, the elimination of on-street parking, and pedestrian safety. The applicant then presented at a Planning Board workshop on September 10, 2018. Staff provided a summary of the neighborhood meeting and the developer and his consultant spoke to the challenges and potential opportunities the project would present. The Board was generally supportive of eliminating on-street parking and adding a turning lane. The City Council held a workshop on September 18, 2018 and discussed the proposed changes to Main Street.

On June 18, 2019, the City Council held a public meeting where the developer requested an amendment to the City's Traffic Schedule (which controls the location of on-street parking) to

remove eight on-street parking spaces on the northwest side of Main Street between Curtis and Elm Streets. The City Council voted 6-0 to approve the proposed changes subject to the Planning Board approving the Development Review Application.

TRAFFIC MOVEMENT PERMIT

Traffic has been a major topic of discussion since the initial development proposal was made. Initial traffic estimates for the development indicated the project would generate over 100 trips in the am/pm peak hour, which is the threshold to trigger a Traffic Movement Permit (TMP). The City of Lewiston has Delegated Authority to review and approve a TMP and coordinates the review with Staff, HNTB (a consulting traffic engineering peer-reviewing firm) and the State DOT.

An initial TMP Pre-Scoping meeting was held on March 11, 2019, where the proposed project and traffic issues were discussed. Based on feedback from that meeting and additional traffic and crash analysis, the developer proposed three mitigation measures to Main Street and Whipple Street to improve safety conditions and traffic movement.

1. Eliminate eight on-street parking spaces on the west side of Main Street between Elm Street and Curtis Street.
2. Install a 12' wide center turn lane on Main Street from Elm Street to Curtis Street.
3. Add approximately eight (8) feet of pavement, additional on-street parking and a new sidewalk to Whipple Street.

A full TMP Scoping meeting was held on January 14, 2020. Based on feedback from that meeting and recommendations from the City's peer Traffic Consultant HNTB, a Traffic Movement Permit has been drafted and included with this staff report as attachment 1. The Traffic Movement Permit application concludes that the proposed project will generate a total of 297 trips during the AM peak hour. The applicant has provided a Traffic Impact Study which is included in the Development Review application.

A summary of the TMP is:

On-Site Mitigation

a. The Developer shall construct a single right-turn-only exit lane from the proposed site. The exit approach shall feature a 3" high mountable concrete island that follows a slight curved alignment (left-to-right), advanced "Right-Turn-Only" pavement markings and "STOP" and "Right-Turn Only" signage that directs store patrons to turn right upon exiting the site.

Off-Site Mitigation

a. The Lewiston City Council on June 18, 2019, voted to designate the west side of Main Street between Elm Street and Curtis Street no-parking anytime. The Developer will install, under the City's supervision and approval, all required "No-Parking Anytime" signs to implement the proposed parking change.
b. The Developer, under the City's supervision and approval, shall have the section of Main Street between Elm and Whipple Street appropriately striped to provide a center two-way left-turn lane; the proposed striping improvement shall continue to the proposed Dunkin

entry driveway as a designated left-turn pocket to the proposed Dunkin Donuts store site and then transition to match the existing pavement markings on Main Street just south of the Curtis Street intersection. Project design and all required pavement markings and signage will be the responsibility of the Applicant.

c. The Developer will, under the City's supervision and approval, widen the north side of Whipple Street a sufficient width to accommodate eight (8) public parallel parking spaces. Additionally, the Developer will install "No-Parking Here to Corner" signs on both sides of Whipple Street in advance of Main Street.

d. The Developer will construct a small parking lot at 410 Main Street with a design mutually agreed to by both the Applicant and Property Owner. The proposed off-street parking lot improvement will require City approval, prior to construction.

e. The City should evaluate pedestrian movement in the area and determine a suitable location for a new pedestrian crosswalk on Main Street. The Developer will provide reasonable and necessary funding to construct the new crosswalk.

STAFF REVIEW

Included in the development review application are the developer's responses to Staff and Department comments (Dated 2/17/20). The Staff now adds the following comments:

1. The applicant is stating that staff at the two pick-up windows will caution drive-through customers about the merging of the two drive-through lanes as cars prepare to exit the right turn only on to Main Street. (Developer response #3)
2. An easement and maintenance agreement has been provided by Public Works and will be modified to fit the Whipple Street street and sidewalk expansion. (Developer response #4)
3. Additional notes have been added to the Site Plan:
    - "Prior to any certificate of occupancy being issued, evidence shall be provided of a final inspection of the stormwater system by the designing engineer along with a written statement indicating the stormwater system and all site improvements have been completed according to the approved plans."
    - "Detailed landscape plan and planting schedule to be submitted and approved by City Staff prior to issuance of a Building Permit."
    - "The developer will reconstruct, under the City's supervision and approval, an additional eight (8) parking spaces along the north side of Whipple Street at 420 Main Street."
    - "The developer will reconstruct, under the City's supervision and approval, the existing sidewalk along the north side of Whipple Street from Main Street to Cottage Street."
    - "A revised lighting plan for the lower parking lot at 23 Whipple Street shall be submitted and approved by City Staff prior to the issuance of a building permit."
    - "The City shall evaluate pedestrian movement in the area and determine a location for a new pedestrian crosswalk on Main Street. The Developer will provide reasonable and necessary funding to construct the new crosswalk."

4. Revisions to the Site Plan include:
    - The addition of a six (6) foot fence around the rear (northern) and side (western) boundaries of the lower parking lot at 23 Whipple Street.
5. While not an approval criteria, the applicant has verbally agreed to commit to constructing the design of the new Dunkin Donuts at 420 Main Street as depicted in the elevation drawing included in the development review application.

All the review comments from city staff have been addressed to the staff's satisfaction with revisions provided by the applicant. City staff has requested written documentation of Technical and Financial Capacity as per Article XIII, Section 4, approval criteria (t).

NEIGHBORHOOD INPUT

Surrounding property owners have spoken out against the proposal at meetings and via phone calls and emails. Attachment 3 is a petition that was presented to the City Council at the June 18, 2019, public meeting along with a cover letter from attorney Kathleen Kienitz, who is requesting a postponement of the February 24, 2020, Planning Board meeting.

PLANNING BOARD ACTION

Staff recommends approval of the proposed project, with the following findings:

1. The applicant meets all of the necessary criteria contained in the Zoning and Land Use Code, including, but not limited to Article XIII, (Development Review and Standards), Section 4 (Approval Criteria items a-w as depicted in attachment 2).
2. The application has addressed the requirements of Maine DOT Chapter 305 for a Traffic Movement Permit as depicted in attachment 1. The on-site mitigation will be made as per Site Plan from Stoneybrook Land Use, Inc., dated February 20, 2020, and the off-site mitigation will be made as conceptually shown on "Schematic Off-Site Improvement Plan" prepared by Stoneybrook Land Use, Inc. dated February 17, 2020.

ACTION NECESSARY

Make a motion to approve the Development Review and Traffic Movement Permit Applications submitted by Stoneybrook Consultants, Inc. on behalf. of Collette's Donut Shoppe to construct a 2,543 sf. drive-in restaurant at 420 Main Street and 23 Whipple Street be approved with the findings that:

1. The applicant meets all of the necessary criteria contained in the Zoning and Land Use Code, including, but not limited to Article XIII, (Development Review and Standards), Section 4 (Approval Criteria a through w, as depicted in attachment 2).
2. The applicant has addressed the requirements of Maine DOT Chapter 305 for a Traffic Movement Permit as depicted in attachment 1. The on-site mitigation will be made as per the Site Plan from Stoneybrook Land Use, Inc., dated February 20, 2020, and the off-site mitigation will be made as conceptually shown on "Schematic Off-Site Improvement Plan" prepared by Stoneybrook Land Use, Inc. dated February 17, 2020.
3. The approval be granted to include if any, specific conditions raised by the Planning Board or Staff.

Attachment 1

CITY OF LEWISTON

Department of Planning & Code Enforcement

City of Lewiston
Traffic Movement Permit

Applicant:	Colette's Donut Shoppe
Developer:	Colette's Donut Shoppe
Project Location:	420 Main Street Lewiston, Maine 04240
Project:	Dunkin Donut Store
Identification #:	XXX
Permit Category:	> 200 PCE
Traffic Engineer:	Traffic Solutions Attention: William J. Bray, PE 17 Mountview Drive Gorham, Maine 04038

Pursuant to the provisions of 23 M.R.S.A. § 704-A and Chapter 305 of the Maine Department of Transportation's Regulations, with delegated review authority granted to the City of Lewiston, the City has considered the application of Colette's Donut Shoppe with supportive data, staff review, and other related materials on file.

PROJECT DESCRIPTION
Colette's Donut Shoppe will construct a 2,543 square foot full-service Duncan Donut's store on a vacant lot located at 420 Main Street. The proposed project is expected to generate a total of 297 "passenger car equivalent" trips during the AM peak hour.

FINDINGS
Based upon a review of the files and related information, the City of Lewiston approves the Traffic Movement Permit application of Colette's Donut Shoppe subject to the following conditions:

MITIGATION
The following mitigation is intended to describe that conceptually shown on "Schematic Off-Site Improvement Plan" dated February 17, 2020 and Site Plan dated February 20, 2020 prepared by Stoneybrook Land Use, Inc. Not all of the mitigation discussed herein may be shown on those or any plan.

ON-SITE MITIGATION
a. The Developer shall construct a single right-turn-only exit lane from the proposed site. The exit approach shall feature a 3" high mountable concrete island that follows a slight curved alignment (left-to-right), advanced "Right-Turn-Only" pavement markings and

"STOP" and "Right-Turn Only" signage that directs store patrons to turn right upon exiting the site.

OFF-SITE MITIGATION

a. The Lewiston City Council on June 18, 2019, voted to designate the west side of Main Street between Elm Street and Curtis Street no-parking anytime. The Developer will install, under the City's supervision and approval, all required "No-Parking Anytime" signs to implement the proposed parking change.
b. The Developer, under the City's supervision and approval, shall have the section of Main Street between Elm and Whipple Street appropriately striped providing a center two-way left-turn lane; the proposed striping improvement shall continue to the proposed Dunkin entry driveway as a designated left-turn pocket to the proposed Dunkin Donut store site and then transition to match the existing pavement markings on Main Street just south of the Curtis Street intersection. Project design and all required pavement markings and signage will be the responsibility of the Applicant.
c. The Developer will, under the City's supervision and approval, widen the north side of Whipple Street a sufficient width to accommodate eight (8) public parallel parking spaces. Additionally, install "No-Parking Here to Corner" signs on both sides of Whipple Street in advance of Main Street.
d. Construct a small parking lot at 410 Main Street with a design mutually agreed to by both the Applicant and Property Owner. The proposed off-street parking lot improvement will require City approval, prior to construction.
e. The City should evaluate pedestrian movement in the area and determine a suitable location for a new pedestrian crosswalk on Main Street. The Developer will provide reasonable and necessary funding to construct the new crosswalk."

OVERALL

A. Provide all necessary auxiliary signs and pavement markings to implement the improvements described herein according to State of Maine and/or National standards.
B. All plantings and signs (permanent and temporary) shall be placed and maintained such that they do not block available sight distances and do not violate the State's "Installations and Obstructions" law. No signage or plantings shall be allowed within the "clear zone" if they constitute a deadly fixed object.

If any of the supporting data or representations for which this permit is based changes in any way or is found to be incorrect/inaccurate, the applicant shall request in writing from the City a decision of what impacts those changes will have on the permit. The applicant will then be required to submit those changes for review and approval and additional mitigation as a result of those changes may be required at the expense of the applicant.

By: _____ Date: _____

David Hediger

Director, Planning and Code Enforcement
City of Lewiston, Maine

to the meeting, of the pending application, the opportunity to submit written comments on the application to the planning board on or before the date of said review and the date, time and place of the planning board meeting at which the application will be considered. All reviews of applications for development review shall be public hearings, and shall be held within 30 days of the date the planning director determined the application to be substantially complete and shall advertise said public hearing in a newspaper of general circulation in the city at least two times, the date of the first publication to be at least six days prior to the date of the hearing.
The planning board shall take final action on said application within 30 days of the public hearing.
Except for developments which involve the creation of a subdivision as defined by 30-A M.R.S.A. Section 4401 as amended, the limits provided for in this subsection may be extended by mutual agreement between the planning director and the applicant. For those developments which involve the creation of a subdivision as defined by 30-A M.R.S.A. Section 4401 as amended, the limits provided in this subsection may be extended only by mutual agreement between the planning board and the applicant.

(i) *Building permit.* One copy of the notice of approval of the application shall be included in the application for a building permit and shall become part of the permit.

(j) *Appeals of staff decisions.* The applicant or any participating abutter may appeal the action of the staff review committee to the board of appeals within 15 days of the committee action.

(k) *De minimis changes to development plans.* The planning director or designee may determine amendments to a development plan are "de minimis," that is of a minor nature, and do not require a formal review process. Accordingly, the amended plan can be signed directly by the planning director or designee. However, amendments to developments which involve the creation of a subdivision as defined by 30-A M.R.S.A. Section 4401, as amended, will require signature of the amended plan by the planning board chair, who may request that the de minimis change be brought before the board for their review and approval prior to the signing of the permanent copy of the plan (mylar.) A report of all approved de minimis changes will be submitted to the planning board or staff review committee as appropriate at their next available meeting.
(Ord. No. 89-3, 4-7-89; Ord. No. 90-4, 5-17-90; Ord. No. 94-18, 12-1-94; Ord. No. 95-10, 9-14-95; Ord. No. 98-6, 7-2-98; Ord. No. 98-12, 11-19-98; Ord. No. 99-15, 8-12-99; Ord. No. 03-09, 7-17-03; Ord. No. 03-17, 1-1-04; Ord. No. 06-17, 2-8-07)

Sec. 4. Approval criteria.

The following criteria are to be used by the staff review committee and the planning board in judging applications for development review and shall serve as minimum requirements for approval of the application. The application shall be approved unless the staff review committee or the planning board determines that the applicant has failed to meet one or more of these standards. In all instances, the burden of proof shall be on the applicant and such burden of proof shall include the production of evidence sufficient to warrant a finding that all applicable criteria have been met.

(a) *Utilization of the site.* The plan for the development will reflect the natural capabilities of the site to support development. Buildings, lots and support facilities will be clustered in those portions of the site that have the most suitable conditions for development. Environmentally sensitive areas such as wetlands, steep slopes, floodplains and unique natural features will be maintained and preserved to the maximum extent. Natural drainage areas will be preserved to the maximum extent.

(b) *Traffic movement into and out of the development area.* The developer has made adequate provision for traffic movement of all types into and out of the development area. Vehicular access to the site will be on roads which have adequate capacity to accommodate the additional traffic generated by the development. Intersections on major access routes to the site within one-half mile of any entrance road which are functioning at a level of service of C or better prior to the development will function at a minimum at level of service C after development. If any intersection is functioning at a level of service D or lower prior to the development, the project will not reduce the current level of service. If a development is located in the highway business (HB), community business (CB), centreville (CV), mill (M), riverfront (RF), urban enterprise (UE), office service (OS), office residential (OR), and industrial (I) districts, which are designated as growth areas within the comprehensive plan, and the plan has been found by the state to be consistent with the growth management program under Title 30-A, Chapter 187, the planning board or staff review committee shall require improvements to the level of traffic service only if the level of service adjacent to or in the vicinity of the development is or would be level of service E or F, as determined by the City of Lewiston's Engineering Department and/or LACTS. In these cases, improvements shall be required so as to bring the traffic service to, at minimum, level of service D. All level of service determinations shall be made in accordance with the "Highway Capacity Manual" (3rd Ed. 1994), and as described in the site plan review and design guidelines.

Before granting approval for any development, the planning board or staff review committee shall determine that any traffic increase attributable to the proposed development will not result in unreasonable congestions or unsafe conditions on a road in the vicinity of the proposed development. The applicant shall provide to the City of Lewiston with an analysis of traffic movement of all types into and out of the development area and with a statement of recommended findings on traffic issues, after consulting, as necessary, with the Maine Department of Transportation (MDOT), the City of Lewiston Engineering Department, and the Lewiston-Auburn Comprehensive Traffic Study (LACTS). The reviewing body may require this analysis to be done by a registered professional engineer. In all cases where the passenger car equivalents at peak hour is 100 or greater, the project must be reviewed by the planning board and a registered professional engineer shall prepare the analysis and recommendations. In all instances, the city shall discuss with the applicant and their representatives the scope of impact evaluation required for the proposed development to be studied, what other agencies need to be consulted, and what other information is required. In making its determination under this subsection, the planning board or staff review committee shall consider the analysis and recommendations provided by the applicant as well as those submitted by the Maine Department of Transportation (MDOT), the City of Lewiston Engineering Department, and the Lewiston-Auburn Comprehensive Traffic Study (LACTS), as applicable. Where required by state law, the applicant shall provide notice to affected abutting municipalities.

The planning board or staff review committee may approve a development not meeting this requirement if the applicant demonstrates that:

(1) A public agency has committed funds to construct the improvements necessary to bring the level of access to this standard; or
(2) The applicant will assume financial responsibility for the improvements necessary to bring the level of service to this standard and will guarantee the completion of the improvements within one year of approval of the project.

(c) *Access into the site.* Vehicular access into the development will provide for safe and convenient access.

(1) Grades, intersections, access and sight distances shall be in accordance with the City of Lewiston's Policy for the Design and Construction of Streets and Sidewalks.

(d) *Internal vehicular circulation.* The layout of the site will provide for the safe movement of passenger, service and emergency vehicles through the site.

(1) Nonresidential projects will provide a clear route for delivery vehicles with appropriate geometric design to allow turning and backing for WB-40 vehicles.
(2) Clear routes of access will be provided and maintained for emergency vehicles to all portions of the site and will be posted with appropriate signage.
(3) The layout and design of parking areas will provide for safe and convenient circulation of vehicles throughout the lot and will prohibit vehicles from backing out onto a street.
(4) All streets will be designed to harmonize with the topographic and natural features of the site. The road network will provide for vehicular and pedestrian safety, all season emergency access, snow storage and delivery and collection services.
    a. Residential streets will be curved whenever practicable to the extent necessary to avoid conformity of lot appearance.
    b. Culs-de-sac and loop streets are encouraged so that through traffic on residential streets is minimized. Similarly, to the extent practicable, driveway access to collector or arterial streets will be minimized to facilitate the free flow of traffic and avoid traffic hazards.
    c. Streets will be designed to provide for proper continuation of streets from adjacent development and for proper projection of streets into adjacent unsubdivided and open land. Where the developer owns substantial contiguous land that is not part of the proposed development, the planning board may require a conceptual layout of streets to serve the contiguous land. This layout will not be binding, but shall provide an indication of how the contiguous area can be served in relation to the proposed development.
    d. Wherever existing or planned streets, topographical features, and public safety permit, streets will run in east-west directions, and lots on a north-south axis, to maximize access to direct sunlight for solar energy systems. The character, extent, width, and grade of all streets will be considered in their relation to existing or planned streets.
(5) Where a development borders an existing narrow road (below standards set in this Code for public streets) or when the comprehensive plan indicates plans for realignment or widening of a road that would require use of some of the land in the development, the applicant shall be required to show areas for widening or realigning such roads on the plan, marked "Reserved for Road Realignment (or Widening) Purposes." It shall be

mandatory to indicate such reservation on the plan when a proposed widening or realignment is shown on the official map. Land reserved for such purposes may not be counted in satisfying setback or yard or area requirements of the zoning districts.

(6) Where a development abuts or contains an existing or proposed arterial street, the board may require marginal access streets (street parallel to arterial street providing access to adjacent lots), reverse frontage lots (that is, frontage on a street other than the existing or proposed arterial street) with screen planting contained in a nonaccess reservation along the rear property line, or such other treatment(s) as may be necessary for adequate protection of residential properties and to afford separation of through and local traffic.

(e) *Pedestrian circulation.* The development plan will provide for a system of pedestrian circulation within the development. This system will connect with existing sidewalks if they exist in the vicinity of the project. The pedestrian network may be located either in the street right-of-way or outside of the right-of-way in open space or recreation areas. The system will be designed to link residential units with recreational and commercial facilities, other common facilities, school bus stops and existing sidewalks in the neighborhood. Sidewalks shall meet the standards identified in the City of Lewiston's Policy for the Design and Construction of Streets and Sidewalks.

(f) Stormwater management. Adequate provisions shall be made for the disposal of all stormwater collected on streets, parking areas, roofs or other impervious surfaces through a stormwater drainage system which will not have adverse impacts on abutting or downstream properties. All projects disturbing less than one acre shall be designed to meet the requirements of this subsection 4(f). All projects including one acre or more of disturbed land shall meet the requirements of this subsection 4(f) and the requirements of the Site Location of Development Law, 38 MRSA, 481--490, the Maine Stormwater Management Law, 38 M.R.S.A. Section 420-D, and regulations promulgated there under, specifically Rules 500, 501, and 502, as amended on August 12, 2015. At the discretion of the director of public works or his/her designee he/she may waive the above requirements, based on a finding that a particular site will have no significant runoff.

(1) The plan will demonstrate the disposal of stormwater on the land at the site of development, and do so through the wise use of the natural features of the site. Stormwater runoff systems will infiltrate, detain or retain water falling on the site such that the rate of flow from the site does not exceed that which would occur in the predevelopment state for a storm of intensity equal to at least a 2-, 10-, and 25-year storm, with a duration equal to the time of concentration. The stormwater quantity calculations must be in accordance with acceptable engineering practice. Acceptable stormwater methodologies and models include but are not limited to TR-20-Computer Program for Project Formulation--Hydrology, Second Edition, U.S. Department of Agriculture, Soil Conservation Service (May 1983); TR-55-Urban Hydrology for Small Watersheds, Second Edition, U.S. Department of Agriculture, Soil Conservation Service (June 1986); TR-55 Microcomputer Program, Version 2.0, (January 15, 1990); and HEC-1 Flood Hydrology Package, U.S. Army Corps of Engineers. Any methodology other than those listed must have prior approval from the director of public works or his/her designee. Use of the 25-year, 24-hour storm as a design standard in this chapter is not intended to prohibit appropriate use of the rational method. The outlet structures of each detention basin must be designed to control 24-hour storms of 2-, 10-, and 25-year

frequencies. Each detention basin must be constructed with an emergency spillway designed to independently convey the unrouted runoff from a 25-year, 24-hour storm event.

Additionally, a waiver from these standards may be granted by the director of public works or his/her designee in the cases specifically identified below:

a. *Discharge to the Androscoggin River*. A project conveys stormwater exclusively in a manmade piped or open drainage system directly into the Androscoggin River. Areas of the project or adjoining properties to be flooded during the 2-, 10-, and 25-year, 24-hour storms must be identified and easements secured, if necessary. A project that changes the flow-type (example: sheet to shallow concentrated), changes the flow channel, or increases the stormwater discharge must secure easements on the intervening property that meet the easement and covenant requirements following in this section. The discharge may not result in erosion of any upland or freshwater wetlands. The director of public works or his/her designee may allow a waiver if it is determined that the increase in peak flow from the site will not significantly affect the peak flow of the receiving waters or result in unreasonable adverse impact on the river.

b. Public stormwater system. A project discharges its stormwater flow into the City of Lewiston Stormwater System, when the applicant has adequately demonstrated to the director of public works or his/her designee that it has the capacity to accommodate increases in flow. The director of public works or his/her designee may allow an insignificant increase in the peak flow from the site or in the peak flow of the receiving waters, if it is determined that the increase cannot be avoided by reasonable changes in project design or density and does not significantly impact abutters or city property.

(2) If the outflow volume is greater than that for the undeveloped site, the developer will demonstrate that downstream channel or system capacity is sufficient to carry the flow without adverse effects, or will be responsible for the improvements to provide the required increase in capacity.

(3) All natural drainage ways will be preserved at their natural gradients and will not be filled or converted to a closed system except as approved by the director of public works or his/her designee and appropriate state agencies.

(4) The design of stormwater drainage systems will insure the acceptance and disposal of stormwater runoff based on quantities calculated per subsection 4(f)(1) above, without damage to streets, adjacent properties or downstream properties.

(5) The design of the storm drainage systems will be fully cognizant of upstream runoff which must pass over or through the site to be developed. The system will be designed to pass upstream flows, based on quantities calculated per subsection 4(f)(1) above, from the land, as fully developed, without surcharging the system.

(6) The maximum length for carrying open stormwater in a street gutter prior to intake at a catch basin will be three hundred feet. No stormwater will be permitted to drain on the surface across a street or across an intersection.

(7) The storm drainage system to serve a proposed development will be designed and installed in accordance with the plans and specifications prepared by a professional engineer, unless waived at the discretion of the director of public works or his/her designee.

(8) The developer will maintain and inspect all components of the stormwater runoff system unless the system is formally accepted by the city, or is placed under the jurisdiction of a legally created property owners association whose charter and powers require maintenance of the system, with adequate financing to carry out this responsibility. Any approved plans must include a statement as to who will be responsible for said maintenance and inspections. The components of the stormwater run-off system shall include, but not be limited to, detention ponds, level spreaders, inlet and outlet protection and structures, swales, etc., and the piping unless the piping is under an accepted city street. For piping under accepted city streets, at the time of street acceptance, the piping shall become the property and maintenance responsibility of the city. An easement shall be provided to the city for the maintenance of this piping. In addition, a separate access easement for all other stormwater runoff components shall be provided to the city for emergency purposes.

(9) The biological and chemical properties of the receiving waters will not be degraded by the stormwater runoff from the development site. The use of oil and grease traps in manholes, the use of on-site vegetated waterways, and the reduction in use of deicing salts and fertilizers may be required, especially where the development stormwater discharges into a gravel aquifer area or other water supply source.

(10) The filling of wetlands on-site will be conducted only in accordance with applicable federal and state law and regulations, including the Natural Resources Protection Act.

(g) *Erosion control.* For all projects, building and site designs and street layouts will fit and utilize existing topography and desirable natural surroundings to the fullest extent possible. Filling, excavation and earth moving activity will be kept to a minimum. Parking lots on sloped areas will be terraced to avoid undue cuts and fills, and the need for retaining walls. Natural vegetation will be preserved and protected wherever possible. Erosion and sedimentation control measures shall comply with the Maine Erosion and Sedimentation Law, 38 M.R.S.A. § 420-C, and regulations promulgated thereunder, as amended, both during construction and continuously after construction is complete. In addition, erosion and sedimentation measures consistent with the Maine Erosion and Sedimentation Control BMPs, Pub. No. DEPLW0588, published by the Maine Department of Environmental Protection (March 2003) shall be implemented.

(1) Storage of fill materials within 50 feet of the banks of any stream, intermittent or perennial or water body will not be allowed.

(2) The top of a cut or the bottom of a fill will not be closer than ten feet from a property line.

(3) Removal of topsoil from any lot will not be allowed, except for that removed from areas to be occupied by buildings, paving or other surfaces that will not be revegetated, or unless in conformance with the performance standards for earth material removal set forth in article XII of this Code.

(h) *Water supply.* The development will be provided with a system of water supply that provides each use with an adequate supply of water meeting the standards of the State of Maine for drinking water. A water system shall be designed and constructed in accordance with the City of Lewiston's Policy for the Design and Construction of Streets and Sidewalks. Developments and projects that will be provided by private water supplies shall demonstrate sufficient water is available for the reasonably foreseeable needs of the development or project.

(i) *Sewage disposal.* A sanitary sewer system will be installed at the expense of the developer, or, if in the opinion of the planning board, service by a sanitary sewer system is not feasible, the board may allow individual underground waste disposal systems to be used. A sewer system shall be designed and constructed in accordance with the City of Lewiston's Policy for the Design and Construction of Streets and Sidewalks.

(j) *Utilities.* The development will be provided with electrical and telephone service adequate to meet the anticipated use of the project.

(1) Each utility system has adequate capacity to service the proposed development.
(2) All overhead utility poles and lines will be located to minimize potential safety hazards and visual impact to the public. Similarly, transformer boxes, meters, pumping stations and other components of the utility system located above ground will be located so as not to be unsightly or hazardous to the public and will be landscaped or otherwise buffered so as to screen the components from public view.

(k) *Natural features.* The landscape will be preserved in its natural state insofar as practical by minimizing tree removal, disturbance and compaction of soil and by retaining existing vegetation insofar as practical during construction.

(1) Extensive grading and filling will be avoided as far as possible.
(2) Cutting of trees on the northerly borders of the development will be avoided to the extent possible to retain a natural wind buffer.
(3) The planning board or staff review committee may require a shadow study if it believes the proposed development may interfere with the solar access of adjacent properties.
(4) If there has been excessive natural vegetation removal from the site since the adoption of the current zoning and land use code prior to the submittal of an application for development review, the planning board or staff review committee may require a regeneration plan to be submitted by a registered forester and to be implemented to revegetate that portion of the site not directly impacted by the proposed development. For the purposes of this section, excessive is defined as the removal of more than 60 percent of trees from a property, either in number of stems or area of tree cover, in any ten-year period.

(l) *Groundwater protection.* The proposed site development and use will not adversely impact either the quality or quantity of groundwater available to abutting properties or public water supply systems. Projects involving common on-site water supply or sewage disposal systems with a capacity of 2,000 gallons per day or greater have demonstrated that the groundwater at the property line will comply, following development, with the standards for safe drinking water as established by the State of Maine.

(m) Water and air pollution. The proposed development will not result in undue water or air pollution.

(n) Exterior lighting. The proposed development will provide for adequate exterior lighting to provide for the safe use of the development in nighttime hours.

(1) All exterior lighting will be designed and shielded to avoid undue adverse impact on neighboring properties and rights-of-way.
(2) Lighting will be provided, at a minimum, in the following areas:
    a. Entrances to facilities and recreation areas;
    b. Street intersections;
    c. Pedestrian crossings; and
    d. Entrance roads.

(o) Waste disposal. The proposed development will provide for adequate disposal of solid wastes and hazardous wastes.

(1) All solid waste will be disposed of at a licensed disposal facility having adequate capacity to accept the project's wastes.
(2) All hazardous wastes will be disposed of at a licensed hazardous waste disposal facility and evidence of a contractual arrangement with the facility has been submitted.

(p) Lot layout.

(q) Landscaping. The development plan will provide for landscaping to define street edges, break up parking areas, soften the appearance of the development and protect abutting properties from adverse impacts of the development.

(1) The landscaping plan will comply with the guidelines contained in the City of Lewiston's Site Plan Review and Design Guidelines as amended.

(r) Shoreland relationship. The development will not adversely affect the water quality or shoreline of any adjacent water body. The development plan will provide for access to abutting navigable water bodies for the use of residents of the development.

(s) Open space. The development plan will provide for recreation areas and open space to meet the needs of residents and users of the development.

(1) For projects involving the construction of ten or more new residential dwelling units, a portion of the site shall be set aside as permanent open space or recreational land.
(2) The size of the area to be set aside for open space shall be based upon the following:
    a. Dwelling units exclusively for occupancy by persons 55 years or older--None.
    b. Dwelling units with less than two rooms designed or used for sleeping--Three hundred fifty square feet per dwelling unit.
    c. Dwelling units with two rooms designed or used for sleeping--Seven hundred square feet per dwelling unit.
    d. Dwelling units with three or more rooms designed or used for sleeping--One thousand square feet per dwelling unit.
    e. For mobile home parks, the size of the area to be set aside shall be no less than ten percent of the combined area of the individual lots within the mobile home park.
(3) No portion of the site used to meet the minimum lot size or minimum lot area per dwelling unit requirements shall be used toward meeting this requirement. This shall include the required open space in a clustered residential development.

(4) The area to be set aside for open space shall be shown on the development plan and marked "Reserved for Recreation and/or Conservation Purposes".

(5) The open space provided to meet this requirement shall be owned and managed by one of the following methods:
   a. Continued ownership by the project owner for developments involving rental housing, mobile home parks and similar situations where the development remains under single ownership; or
   b. Ownership by a condominium or lot owners association for developments involving the creation of separate lots, condominiums or other situations where the development is owned by a number of entities; or
   c. Dedication of the land to the City of Lewiston as public park land; or
   d. Transfer, with permanent restrictions, to a land trust or other recognized conservation organization.

(6) The planning board shall approve the arrangements for the ownership, control and maintenance of the open space as part of the approval of the final plan. No changes in the ownership or management of the open space shall be made without planning board approval. The arrangements for the ownership and management, if the open space is not to be dedicated to the city, shall provide for at least the following:
   a. That the area shall be permanently maintained as open space.
   b. That there shall be no transfer of the open space separately from the remainder of the development without approval of the planning board.
   c. That there shall be no division of the property.
   d. That no structures or buildings other than those shown on the approved plan shall be erected in the open space.
   e. That any agricultural or forestry activity be carried out in accordance with an approved plan of action.

(7) The land designated as open space shall meet the following requirements:
   a. The site shall have pedestrian access from a public street or private road and shall be of such size, shape, and topography as to be usable for open space or recreation purposes, with at least 50 percent of the land to be suitable to be used for active recreation, including, but not limited to, softball fields, swimming pools, tennis courts, bicycle paths, tot lots and hard surface court games.
   b. Parcels which can be combined with existing city-owned property, dedicated open space on adjacent parcels, or with possible future land dedications shall be given priority.
   c. The land will be maintained in a usable condition and retained in a natural state to the maximum extent practicable. All clearing, grading and material placement or removal shall be carried out in accordance with the approved landscape plan and under the supervision of the city engineer and code enforcement officials.

(t) Technical and financial capacity. The applicant has demonstrated that he has the financial and technical capacity to carry out the project in accordance with this Code and the approved plan.

(1) The applicant has submitted evidence from a financial institution or other source of project funding that demonstrates that adequate resources are available to complete the project in accordance with the approved plans.

(u) Buffering. The development will provide for the buffering of adjacent uses where there is a transition from one type of use to another use and to screen service and storage areas. The buffer areas required by the district regulations will be improved and maintained in accordance with the standards set forth in the City of Lewiston's Site Plan Review and Design Guidelines.
(v) Compliance with district regulations. The applicant has established that the development will be consistent with the district regulations of article XI.

(w) Design consistent with performance standards. The applicant has so designed the development as to make it probable that the development and its use will comply with performance standards of article XII, insofar as they maybe applicable.
(Ord. No. 89-3, 4-7-89; Ord. No. 90-10, 10-4-90; Ord. No. 92-12, 6-4-92; Ord. No. 92-18, 9-10-92; Ord. No. 99-11, 5-20-99; Ord. No. 99-15, 8-12-99; Ord. No. 00-5, 5-4-00; Ord. No. 01-23, 2-7-02; Ord. No. 05-21, 1-19-06; Ord. No. 06-17, 2-8-07; Ord. No. 07-02, 3-22-07; Ord. No. 08-08, 10-2-08; Ord. No. 16-12, 12-15-16)

Sec. 5. Coordination with state subdivision law.

To the extent that the following standards are not contained in article XIII, section 4, said standards shall be applicable to the review and approval of subdivisions:

(1) Will not result in undue water or air pollution. In making this determination, it shall at least consider: the elevation of land above sea level and its relation to the floodplains; the nature of soils and subsoils and their ability to adequately support waste disposal; the slope of the land and its effect on effluents; the availability of streams for disposal of effluents; and the applicable state and local health and water resources regulations.
(2) Has sufficient water available for the reasonably foreseeable needs of the subdivision.
(3) Will not cause an unreasonable burden on an existing water supply, if one is to be utilized.
(4) Will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result.
(5) Will not cause unreasonable highway or public road congestion or unsafe conditions with respect to use of the highways or public roads, existing or proposed.
(6) Will provide for adequate sewage waste disposal.
(7) Will not cause an unreasonable burden on the ability of a municipality to dispose of solid waste and sewage, if municipal services are to be utilized.
(8) Will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites or rare and irreplaceable natural areas or any public rights for physical or visual access to the shoreline.
(9) Is in conformance with this Code and the city's comprehensive plan.
(10) The subdivider has adequate financial and technical capacity to meet the above stated standards.
(11) Whenever situated, in whole or in part, within 250 feet of any pond, lake, river or tidal waters, will not adversely affect the quality of that body of water or unreasonably affect the shoreline of that body of water.
(12) Will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of groundwater.
(13) The subdivider will determine, based on the Federal Emergency Management Agency's Flood Boundary and Floodway Maps and Flood Insurance Rate Maps, whether the

Attachment 3

Hediger letter
February 20, 2020

ELDER LAW OFFICES

of Kathleen Kienitz

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Lewiston, ME 04240

Tel: (207) 783-8500
Fax: (207) 786-2468

February 20, 2020

City of Lewiston Planning Board
Lewiston City Hall
27 Pine Street
Lewiston, ME 04240
Attn: David Hediger

Re: Upcoming Meeting

Dear Mr. Hediger:

I am formally requesting that the meeting scheduled for Monday, February 24, 2020 be postponed for the following reasons.

I was informed just yesterday of the meeting which is to discuss a proposal to build a Dunkin Donuts drive-through store on Whipple and Main Street. I own an office building up the street from that site and have attended a couple of the previous meetings at which I have voiced my concerns, relating to reduced parking, increased traffic and general inappropriateness of the location, as have many other individuals who live in that vicinity and would be directly impacted.

I followed procedure as laid out in the Zoning and Land Use Code and collected more than the requisite ten signatures on a petition to reconsider the zoning for the proposed parcel to be developed. Granted, it was an eleventh hour attempt on my part, and had I started prior to the day of the June meeting, I could have easily collected dozens more. I handed the petition to Alicia Rei during a break during at the meeting held on June 16, 2019. I expected that it would be forwarded to the Planning Board for consideration as the procedure is laid out in the code. I now find out that this was never done.

Of the many people I've spoken to in the immediate vicinity, I have encountered only one who is in favor of the project, and this is because he is gaining a handicap parking space in front of his building. Unfortunately, no one else in the vicinity has anything to gain, and much to lose if this project goes forward.

Hediger letter
February 20, 2020

I've enclosed a copy the petition I submitted which lays out the reasons why the zoning of this parcel is inappropriate. To briefly reiterate, the parcel is surrounded on three sides by office/residential and neighborhood conservation zones. It is also directly across the street from the designated historic district. This is a quiet, largely residential neighborhood. One of the developer's stated reasons for moving from his present location to this one is because he deems the current location a bad neighborhood with a lot of criminal activity at night and he complained that because of it, he had to curtail PM hours of operation. What he is not recognizing is that his business - ergo a 24/7 business that operates during most people's sleeping hours - attracts illicit activity. I guarantee you that the same problems will follow him to the new location, only there, it will impact more people because it is a more densely residential neighborhood.

We petitioners, and so many others who did not have the opportunity to sign on to the petition would like due process in this matter.

I therefore respectfully request that you postpone next Monday's meeting and give the petition due consideration.

Sincerely,

Kathleen Kienitz

Enclosures

PROPOSAL TO AMEND ZONING ON MAIN STREET

To: Mayor and City Councilors of the City of Lewiston

From: Kathleen Kienitz, Esq. [signature]

Re: Zoning at Main Street from Curtis Street to Elm Street

Dt: June 18, 2019

This is a petition pursuant to Appendix A - Zoning and Land Use Code, Article XVII Section 5 to extend the Office Residential Zoning that currently covers the properties on both sides of Main Street from Mountain Street to Curtis Street so that the southerly boundary of the Zone continues to Elm Street.

There have been multiple meetings involving a proposal to move the current location of a Dunkin Donuts shop at 319 Main Street to the corner of Whipple Street and Main Street. Multiple residents in the immediate area have voiced their objections to proposed traffic pattern changes that must first be approved by City Council before the building could proceed. Reasons have ranged from the loss of precious on-street parking, to increased traffic and the inappropriate nature of the business given the character of the immediate area. Although the zoning for the proposed Dunkin Donuts is currently Community Business, that section of zoning is a relatively small swath of Main Street surrounded on all sides by either strictly Residential or Office Residential. The proposed Dunkin Donuts would in fact lie on the border of these zones on three of its four sides.

Lewiston created the Maine Street-Frye Street Historic District in 2008 that runs along Main Street from Mountain Ave. on the north to the 425 Main Street which is directly across the street from the proposed Dunkin Donuts site. In fact, three of the designated historic properties lies directly across the street.

Commercial enterprises like Dunkin Donuts involve extremely high vehicular traffic. As new and modern as new Dunkin Donuts might appear, it will be completely unconducive to the character of the abutting properties in the designated historic district. This is all in addition the problems already raised about parking and safety for residents and clients of the small offices. Thus, the proposed zoning change would be in keeping with the city's comprehensive plan for this vicinity which favors residences and offices.

It is therefore respectfully requested by the petitioners that the City Council and the Planning Board duly consider rezoning the area in question as set forth.

6/18/19 Richard Dannels — 427 Maine St apt I

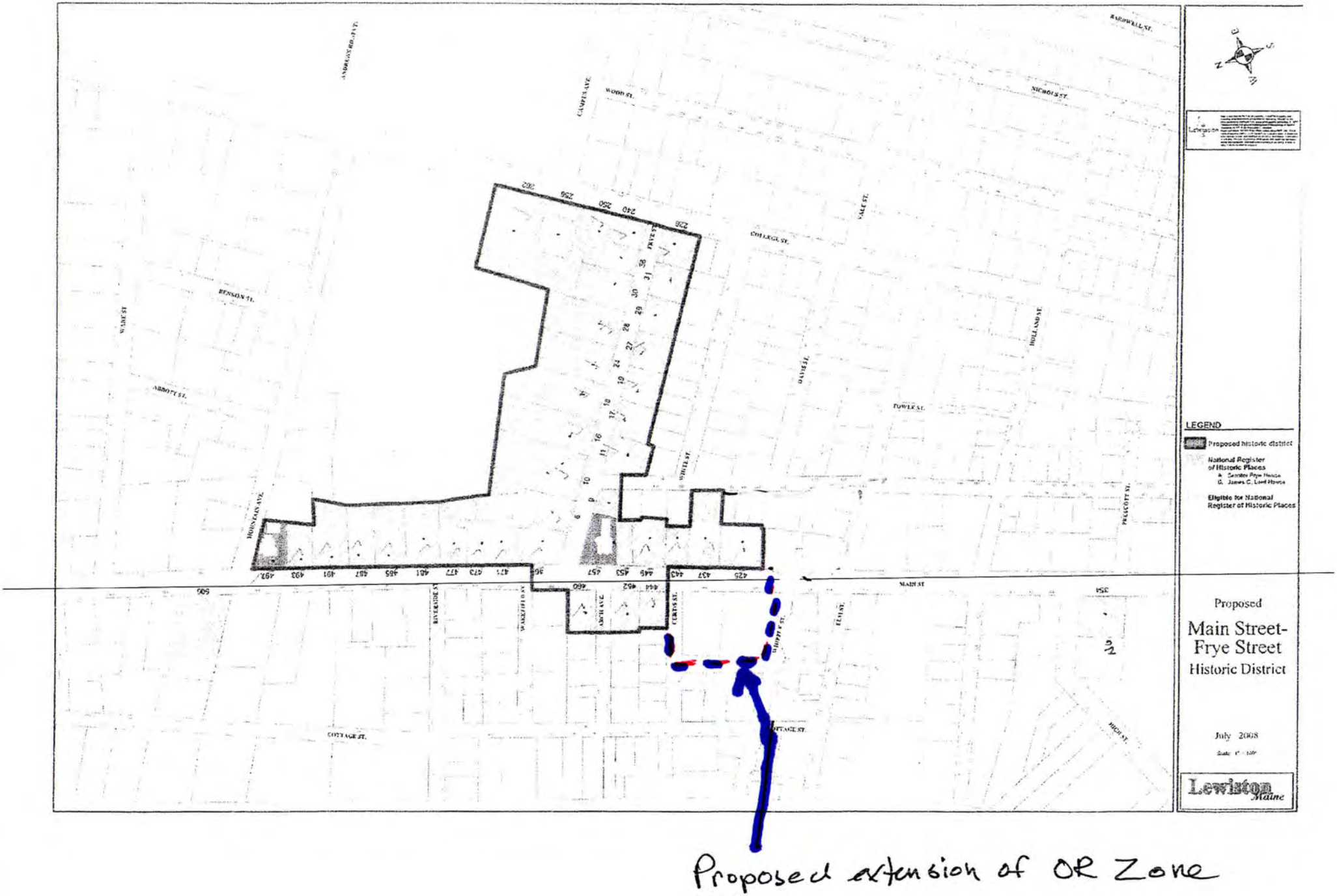
Amato Drah — 449 Main St.

Jim Gautier [signature] — 56 Blake St. Lew.

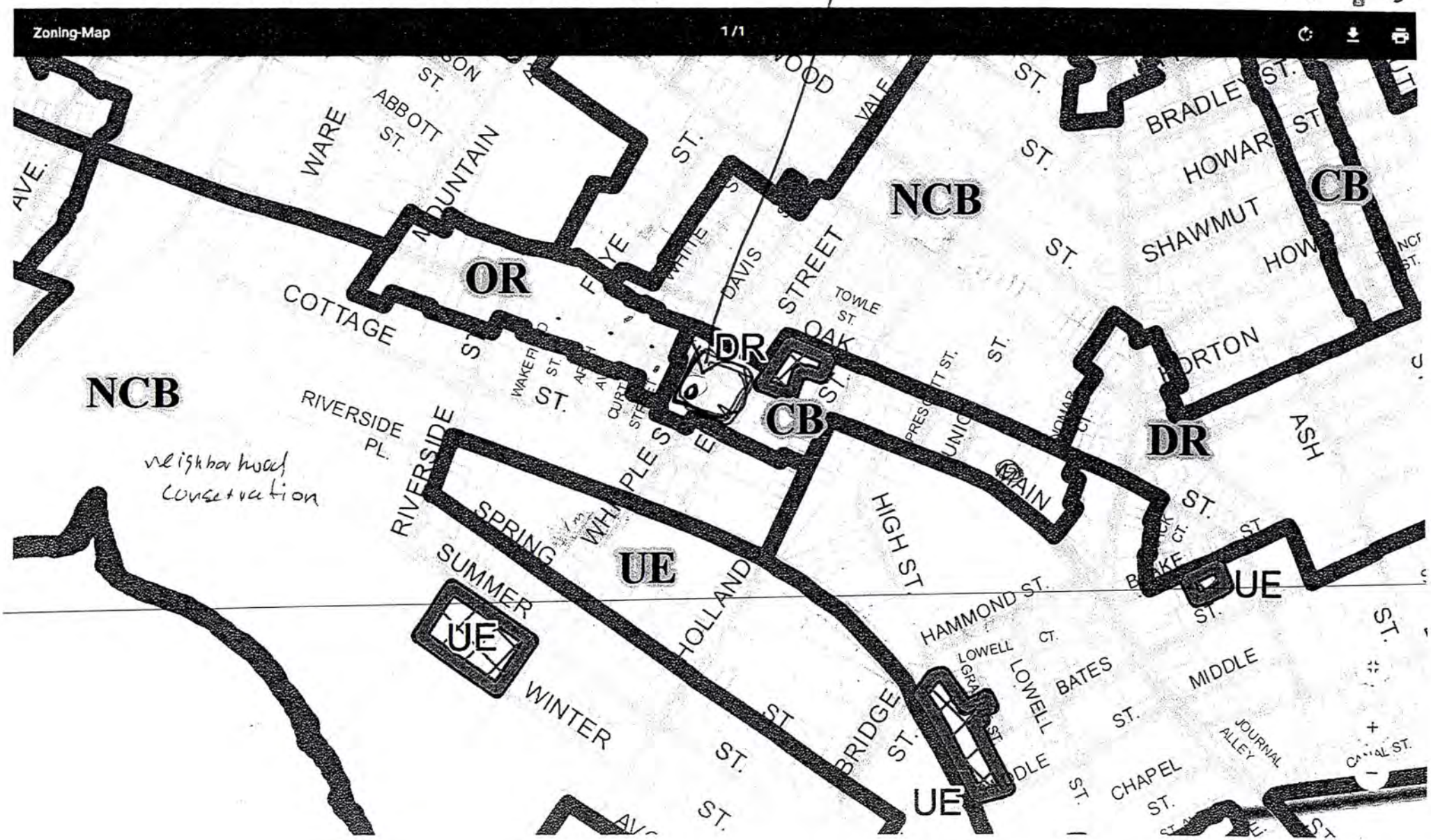
[signature] Grant Kelly — 437 Main St Lew.

Hilde Kelly Hilde Kelly — 437 Main Str. Lew.

Richard Desrochers	Richard Desrochers	427 Main St #1
Jeff Pooler		425 Main Street #1
Cheryl McKeen	Cheryl McKeen	431 Main St #3
Rick King	429 Main St. Apt. 2	Lewiston ME
Dennis Oliver	Dennis Oliver	431 Main St #1
Mary Wagner	Mary Wagner	429 Main St
Jeffrey Wagner	Jeffrey Wagner	429 Main St.


LEGEND
Proposed historic district
National Register of Historic Places
Eligible for National Register of Historic Places
Proposed
Main Street-Frye Street
Historic District
July 2008
Lewiston Maine
Proposed extension of OR Zone

Proposed extension of OR Zone



Stoneybrook
Land Use, Inc.

4846 Sun City Center Blvd., #300
Sun City Center, FL 33573-6281
(207) 513-6123

February 3, 2020
Revised February 17, 2020

Douglas Greene, City Planner
Department of Planning & Code Enforcement
City of Lewiston
27 Pine Street
Lewiston, ME 04240-7201

Re: Dunkin Donuts
420 Main Street
Development Review Application

Dear Doug:

On behalf of Colette's Donut Shoppe (Colette's), I have attached a Development Review Application to establish a Dunkin Donut shop at 420 Main Street. The property is shown on Tax Map 194 as Lots 60 and 61. These lots have been vacant for many years and are currently owned by 420 Main Street LLC. The property is located in the Community Business (CB) and the Neighborhood Conservation B districts. The building is proposed to be located in the CB District where the proposed use is allowed.

The property, by survey, contains about 37,327 square feet. There is 162.62' of frontage on Main Street and 304.57' of frontage on Whipple Street. The property drops in elevation from Main Street, along Whipple Street about 14' to the rear of the site. The survey also identified a public sewer easement for an existing sewer main crossing the property. A copy of the survey prepared by Davis Land Surveying, Inc. is attached.

A full set of site engineering plans, prepared by SJR Engineering, Inc. (SJR) are also attached. These plans provide full details for the site improvements,

utility connections and stormwater improvements. All of these improvements have been designed to meet City standards. We have also attached partial copies of the stormwater reports addressing the requirements of City Ordinances for stormwater and erosion controls for this project.

Colette's plans to replace the current donut shop located at 321 Main Street to this location. The proposed building will include about 2,543 square feet. There will be 25 seats inside plus an outdoor portico for customer use. The portico space has been located between the front of the new building and the back side of the Main Street sidewalk to provide a connection with the neighborhood. The area will be landscaped and seating will be provided to invite conversation and a greater sense of neighborhood. Reduced copies of the preliminary building plans are attached.

The proposed building and site layout represents the Nextgen Prototype for a new Dunkin franchise. The building will have two drive-up windows, two order boards and a mobile pick up lane for To Go orders. Drivers with To Go orders will share the by-pass lane to proceed around the order boards and drive-thru lane stacking to merge with the drive-thru lane near the pick-up windows. The regular drive-thru customers will split at the order board locations and merge back to a single lane before the drive-up windows. This new traffic pattern is shown on the attached site plans.

The site plans show one entrance lane into the site and one, right turn only, exit lane out of the site after driving around the building. This one-way traffic flow allows for 20 parking spaces for customers and employees at the building level. Five additional parking spaces, to be shared with the neighborhood, are provided at the lower level with access from Whipple Street. The plan also shows construction of 8 parallel parking spaces along Whipple Street for neighborhood public parking. Colette's will construct this parking and a new sidewalk and grant the City an easement for those improvements.

After holding public informational meetings and attending workshop meetings with the City Council, the Council conditionally approved, with a vote of

6 – 0, changes to the Traffic Schedule on June 18, 2019 to designate the west side of Main Street (from Elm Street to Curtis Street) "No Parking Anytime". This parking schedule change was approved by the City Council to allow this project the ability to add a center turn lane in Main Street. Schematic level plans for those changes are shown on the attached graphic entitled "2013 Aerial Graphic – Option #2, Main Street Striping" with revised date through April 22, 2019. Improvements shown on this plan will also address an existing high crash location at the intersection of Whipple Street and Main Street as identified in the Traffic Safety Assessment we prepared back in April of 2019.

The change in the City parking schedule will eliminate an on-street handicap parking space used by the business located at 410 Main Street. To replace that handicap parking, Colette's has agreed to construct handicap parking on-site for that business. The attached site plans show the proposed driveway for two handicap spaces to include that driveway curb cut on Main Street in the Traffic Movement Permit application process for this project.

This project will generate 297 vehicle trips in the AM peak hour. Therefore, a Traffic Movement Permit will be required. A Traffic Scoping Application was submitted on January 2, 2020 and a Scoping Meeting was held on January 14th to define the Traffic Study area. The Traffic Impact Study was just completed and we have provided a partial copy of the report and the draft Traffic Movement Permit for the Planning Board's information.

The site design will allow for stacking of 16 vehicles in the drive-thru lanes. Additional stacking is available in the To Go lane and a by-pass lane is provided for those customers using one of the parking spaces on-site. Curbing is provided around the building and a concrete island (raised 3") will be installed to better direct traffic movements at the project's "right turn only" exit to Main Street. This concrete island and the site drives have been designed to allow truck (WB-50) movements through the site for product deliveries. Two attached graphics show the truck movement and movement through the site for the City's new fire truck.

We have shown a small service area behind the building for the smaller delivery trucks to park while unloading. We have also shown a new enclosed dumpster pad at the rear of the building site. The site is elevated above Whipple Street by as much as 14'. A large gravity block retaining wall is proposed around three sides of the site to address this grade change. The wall will be similar in design to the walls at the existing Dunkin or the new Dirigo Credit Union building.

We have shown all utility connections on the project plans. Sewer and water will be connected to existing City service mains located in Whipple Street. Power will be extended overhead from Main Street to a new stub pole and then will be placed underground to the new building. Gas will be connected from the existing main also located in Whipple Street. The project will install a new sewer manhole in Whipple Street at the intersection of the existing cross country sewer line and the sewer main in Whipple Street. This manhole will improve the City's ability to maintain this cross country sewer main running from Curtis Street.

Currently, there is no stormwater system in Whipple Street. To control stormwater flow from this site, Colette's will install a new catch basin in Whipple Street at the lower parking lot level. Stormwater flow from the project will be connected to the catch basin and a new service main will be constructed along Whipple Street to the existing catch basin located at the intersection of Cottage Street. With this construction and the construction of the proposed on-site parking spaces, the existing sidewalk along Whipple Street, from Main Street to Cottage Street, will be reconstructed by Colette's.

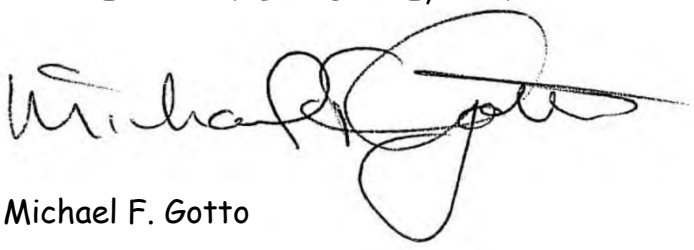
Based upon the Davis survey, there is about 1,801 square feet of existing impervious surface on the parcel. The proposed project will increase impervious area to a total of 26,375 square feet. Of this total, 24,092 square feet is shown in the CB District which results in an impervious coverage is 0.73. City code allows a maximum impervious coverage of 0.75 in the CB District. There is 2,283 square feet of impervious area in the NCB District, or an impervious coverage of 0.51 where 0.85 is allowed in this district. Total lot coverage within the parcel for the building improvements is 0.07. City code allows 0.50 lot coverage in the CB District. No buildings are proposed in the NCB District. The proposed layout will meet all City setbacks and yard requirements.

This Dunkin' could operate 24 hours per day 7 days per week in the future. Current plans are to open at 5:00 AM and close at 11:00 PM. This store will have 25-30 employees working two shifts per day. As noted above, a total of 25 parking spaces will be available on-site for this project. Parking requirements for a drive-in restaurant, which is a similar use, are ten spaces, plus one for every 100 square feet of building area. This would result in a requirement of 36 parking spaces on-site. That number is excessive for this use. Since a drive-thru restaurant operates differently than a drive-in restaurant, the City has always allowed the stacking spaces in the drive-thru lane to be counted to meet parking requirements for this use. We would ask the Planning Board to find that the parking for this site as proposed is acceptable as a similar use.

The total estimated cost for the new building and site improvements is about $1.3 million with construction scheduled to begin as soon as this project is approved. Occupancy of the building is planned by Fall of this year. Final landscaping may not be completed until Spring of next year. We hope you find this application complete and we will plan to attend the Planning Board meeting to answer any questions the Planning Board or staff may have.

Respectfully Yours

STONEYBROOK LAND USE, INC.



Michael F. Gotto

cc: Norm Boulay, Jr.

Development Review Application

City of Auburn Planning and Permitting Department
City of Lewiston Department of Planning and Code Enforcement

PROJECT NAME: Dunkin Donuts

PROPOSED DEVELOPMENT ADDRESS: 420 Main Street

PARCEL ID#: 194-60 & 194-61

REVIEW TYPE: Site Plan/Special Exception ☑ Site Plan Amendment □
Subdivision □ Subdivision Amendment □

PROJECT DESCRIPTION: See Cover Letter

CONTACT INFORMATION:

Applicant		Property Owner	
Name:	Collette's Donut Shoppe, LLC	Name:	420 Main Street, LLC
Address:	26 Rejane Avenue	Address:	P.O. Box 2312
Zip Code	Lewiston, ME 04240	Zip Code	Lewiston, ME 04241
Work #:	(207) 783-1271	Work #:	
Cell #:		Cell #:	
Fax #:		Fax #:	
Home #:		Home #:	
Email:	nboulay01@gmail.com	Email:	
Project Representative		**Other professional representatives for the project (surveyors, engineers, etc.),**	
Name:	Mike Gotto-Stoneybrook Land Use, Inc.	Name:	Davis Land Surveying, LLC
Address:	4846 Sun City Center Blvd., #300	Address:	64 Old County Road
Zip Code	Sun City Center, FL 33573-6281	Zip Code	Oxford, ME 04270
Work #:		Work #:	(207) 345-9991
Cell #:	(207) 513-6123	Cell #:	
Fax #:		Fax #:	
Home #:		Home #:	
Email:	mike@stoneybrookllc.com	Email:	stuart@davislandsurveying.net

PROJECT DATA

The following information is required where applicable, in order to complete the application

IMPERVIOUS SURFACE AREA/RATIO

Existing Total Impervious Area	1,801	0	sq. ft.
Proposed Total Paved Area	21,549	260	sq. ft.
Proposed Total Impervious Area	24,092	260	sq. ft.
Proposed Impervious Net Change	24,092	260	sq. ft.
Impervious surface ratio existing	4.8	0	% of lot area
Impervious surface ratio proposed	73	6	% of lot area

BUILDING AREA/LOT COVERAGE

Existing Building Footprint	0	0	sq. ft.
Proposed Building Footprint	2,543	0	sq. ft.
Proposed Building Footprint Net change	2,543	0	sq. ft.
Existing Total Building Floor Area	0	0	sq. ft.
Proposed Total Building Floor Area	2,543	0	sq. ft.
Proposed Building Floor Area Net Change	2,543	0	sq. ft
New Building	Yes	No	(yes or no)
Building Area/Lot coverage existing	0	0	% of lot area
Building Area/Lot coverage proposed	8	0	% of lot area

ZONING

Existing	CB	NCB
Proposed, if applicable	CB	NCB

LAND USE

Existing	Vacant	
Proposed	Restaurant	Parking

RESIDENTIAL, IF APPLICABLE

Existing Number of Residential Units	0
Proposed Number of Residential Units	0
Subdivision, Proposed Number of Lots	N/A

PARKING SPACES

Existing Number of Parking Spaces	0	0
Proposed Number of Parking Spaces	20	5
Required Number of Parking Spaces	36	
Number of Handicapped Parking Spaces	2	0

ESTIMATED COST OF PROJECT

$1.3 million

DELEGATED REVIEW AUTHORITY CHECKLIST

SITE LOCATION OF DEVELOPMENT AND STORMWATER MANAGEMENT

Existing Impervious Area	1,801	sq. ft.
Proposed Disturbed Area	40,670	sq. ft.
Proposed Impervious Area	26,375	sq. ft.

1. ***If the proposed disturbance is greater than one acre, then the applicant shall apply for a Maine Construction General Permit (MCGP) with MDEP.***
2. ***If the proposed impervious area is greater than one acre including any impervious area crated since 11/16/05, then the applicant shall apply for a MDEP Stormwater Management Permit, Chapter 500, with the City.***
3. ***If total impervious area (including structures, pavement, etc) is greater than 3 acres since 1971 but less than 7 acres, then the applicant shall apply for a Site Location of Development Permit with the City. If more than 7 acres then the application shall be made to MDEP unless determined otherwise.***
4. ***If the development is a subdivision of more than 20 acres but less than 100 acres then the applicant shall apply for a Site Location of Development Permit with the City. If more than 100 acres then the application shall be made to MDEP unless determined otherwise.***

TRAFFIC ESTIMATE

Total traffic estimated in the peak hour-existing (Since July 1, 1997) 0 passenger car equivalents (PCE)

Total traffic estimated in the peak hour-proposed (Since July 1, 1997) 297 passenger car equivalents (PCE)

If the proposed increase in traffic exceeds 100 one-way trips in the peak hour then a traffic movement permit will be required.

Zoning Summary

1. Property is located in the CB/NCB zoning district.
2. Parcel Area: _____ acres / 37,327 square feet(sf).

Regulations	Required/Allowed	Provided
Min Lot Area	None	/ 32,829/4,435
Street Frontage	100'/50'	/ 394.36'/72.83'
Min Front Yard	15'/10'	/ 12.9'/11'
Min Rear Yard	10'/5'	/ 10'/6'
Min Side Yard	10'/5'	/ 10'/7'
Max. Building Height	50'/65'	/ 30'/0
Use Designation	Restaurant/Parking	/ Restaurant/Parking
Parking Requirement	1 space/ per 100 square feet of floor area	+10
Total Parking:	36	/ 25
Overlay zoning districts (if any):		/
Urban impaired stream watershed?	YES (NO) If yes, watershed name	

DEVELOPMENT REVIEW APPLICATION SUBMISSION

Submission shall include payment of fee and fifteen (15) complete packets containing the following materials:

1. Full size plans containing the information found in the attached sample plan checklist.
2. Application form that is completed and signed.
3. Cover letter stating the nature of the project.
4. All written submittals including evidence of right, title and interest.
5. Copy of the checklist completed for the proposal listing the material contained in the submitted application.

Refer to the application checklist for a detailed list of submittal requirements.

L/A's development review process and requirements have been made similar for convenience and to encourage development. Each Citys ordinances are available online at their prospective websites:
Auburn: www.auburnmaine.org. under City Departments/ Planning and Permitting/Land Use Division/ Zoning Ordinance
Lewiston: http://www.ci.lewiston.me.us/clerk/ordinances.htm. Refer to Appendix A of the Code of Ordinances

I hereby certify that I am the Owner of record of the named property, or that the owner of record authorizes the proposed work and that I have been authorized by the owner to make this application as his/her authorized agent. I agree to conform to all applicable laws of this jurisdiction. In addition, I certify that the City's authorized representative shall have the authority to enter all areas covered by this permit at any reasonable hour to enforce the provisions of the codes applicable to this permit.

This application is for development review only; a Performance Guarantee, Inspection Fee, Building Permit Application and other associated fees and permits will be required prior to construction.

Signature of Applicant:	Date: 2/3/20

Development Review Checklist

City of Auburn Planning and Permitting Department
City of Lewiston Department of Planning and Code Enforcement

THE FOLLOWING INFORMATION IS REQUIRED WHERE APPLICABLE TO BE SUBMITTED FOR AN APPLICATION TO BE COMPLETE

PROJECT NAME: Dunkin Donuts - 420 Main Street

PROPOSED DEVELOPMENT ADDRESS and PARCEL #: 194-60 & 194-61

Required Information		Check Submitted		Applicable Ordinance	
Site Plan		**Applicant**	**Staff**	**Lewiston**	**Auburn**
	Owner's Names/Address	✓			
	Names of Development	✓			
	Professionally Prepared Plan	✓			
	Tax Map or Street/Parcel Number	✓			
	Zoning of Property	✓			
	Distance to Property Lines	✓			
	Boundaries of Abutting land	✓			
	Show Setbacks, Yards and Buffers	✓			
	Airport Area of Influence (Auburn only)				
	Parking Space Calcs	✓			
	Drive Openings/Locations	✓			
	Subdivision Restrictions	N/A			
	Proposed Use	✓			
	PB/BOA/Other Restrictions				
	Fire Department Review				
	Open Space/Lot Coverage	✓			
	Lot Layout (Lewiston only)	N/A			
	Existing Building (s)	✓			
	Existing Streets, etc.	✓			
	Existing Driveways, etc.	✓			
	Proposed Building(s)	✓			
	Proposed Driveways	✓			
Landscape Plan					
	Greenspace Requirements	✓			
	Setbacks to Parking	✓			
	Buffer Requirements	✓			
	Street Tree Requirements	N/A			
	Screened Dumpsters	✓			
	Additional Design Guidelines				

	Planting Schedule	N/A			
Stormwater & Erosion Control Plan					
	Compliance w/ chapter 500	N/A			
	Show Existing Surface Drainage				
	Direction of Flow				
	Location of Catch Basins, etc.				
	Drainage Calculations				
	Erosion Control Measures				
	Maine Construction General Permit				
	Bonding and Inspection Fees				
	Post-Construction Stormwater Plan				
	Inspection/monitoring requirements				
	Third Party Inspections (Lewiston only)				
Lighting Plan					
	Full cut-off fixtures				
	Meets Parking Lot Requirements	✓			
Traffic Information					
	Access Management	N/A			
	Signage	✓			
	PCE - Trips in Peak Hour	✓			
	Vehicular Movements	✓			
	Safety Concerns	✓			
	Pedestrian Circulation	✓			
	Police Traffic				
	Engineering Traffic	✓			
Utility Plan					
	Water	✓			
	Adequacy of Water Supply				
	Water main extension agreement	N/A			
	Sewer	✓			
	Available city capacity				
	Electric	✓			
	Natural Gas	✓			
	Cable/Phone	✓			
Natural Resources					
	Shoreland Zone	N/A			
	Flood Plain	N/A			
	Wetlands or Streams	N/A			
	Urban Impaired Stream	N/A			
	Phosphorus Check	N/A			
	Aquifer/Groundwater Protection	N/A			
	Applicable State Permits	N/A			
	No Name Pond Watershed (Lewiston only)	N/A			

	Lake Auburn Watershed (Auburn only)				
	Taylor Pond Watershed (Auburn only)				
Right Title or Interest					
	Verify	✓			
	Document Existing Easements, Covenants, etc.				
Technical & Financial Capacity					
	Cost Est./Financial Capacity	✓			
	Performance Guarantee				
State Subdivision Law					
	Verify/Check	✓			
	Covenants/Deed Restrictions	N/A			
	Offers of Conveyance to City	✓			
	Association Documents	N/A			
	Location of Proposed Streets & Sidewalks	✓			
	Proposed Lot Lines, etc.	N/A			
	Data to Determine Lots, etc.	N/A			
	Subdivision Lots/Blocks	N/A			
	Specified Dedication of Land	N/A			
Additional Subdivision Standards					
	Single-Family Cluster (Lewiston only)				
	Multi-Unit Residential Development (Lewiston only)				
	Mobile Home Parks				
	Private Commercial or Industrial Subdivisions (Lewiston only)				
	PUD (Auburn only)				
A jpeg or pdf of the proposed site plan					
Final sets of the approved plans shall be submitted digitally to the City, on a CD or DVD, in AutoCAD format R 14 or greater, along with PDF images of the plans for archiving					

February 3, 2020

Response to Ordinance Requirements

Article XIII, Section 4

(a) *Utilization of the site* – This project proposes to maximize development in the usable areas of the site. The site design has been planned for full development of the entire parcel. Utilities and stormwater controls have been designed to support the level of development. There are no wetlands, steep slopes, floodplains or unique natural features on the property that will be impacted by this project.

(b) *Traffic Movements* – This project will create more than 100 peak hour new vehicle trips. An application for a Traffic Movement Permit was previously submitted and the site has been designed to meet all Local and State requirements for safe vehicle operations onsite. The off-site improvements proposed have been designed to correct problems of a high crash location at the intersection of Main and Whipple Streets and to support development of this property. The applicant has provided a Traffic Impact Study that has addressed traffic concerns raised at the Traffic Scoping meeting.

(c) *Access to the site* – Access to the project will be from Main Street. The project will operate with a one-way traffic flow around the building - one entrance lane with a dedicated drive-thru lane, "To Go" lane and bypass lane available for customers. There is only one exit lane with right-turn only traffic movements allowed out of the site. All lanes, entrance and exit drives have been designed at safe and convenient locations for vehicle movements in and out of this property.

(d) *Internal vehicular circulation* – Safe movements through the site have been provided.

(e) *Pedestrian circulation* – Safe movements through the site for pedestrian movements have been provided.

(f) *Stormwater management* – Stormwater management has been designed to meet City and MDEP stormwater standards.

(g) *Erosion control* – All improvements for this project will be completed under the requirements outlined on the plan sheet submitted. All erosion control measures proposed meet or exceed all City and MDEP requirements.

(h) *Water supply* – Water will be extended to the site from the public water system on Whipple Street.

(i) *Sewer disposal* – Sewer will be extended to the site from the public sewer system on Whipple Street.

(j) *Utilities* – This project will connect to the existing overhead utility services along Main Street. Power to the proposed building will be installed underground from the new overhead service pole installed at the edge of Main Street.

(k) *Natural features* – This site has been previously disturbed. Buildings and associated improvements were removed. The property has been vacant for many years since. Little or no natural vegetation remains on the property. Grading for this project will disturb the entire site. Trees, landscaping and grass will be planted with the construction to meet the standards of the zoning ordinance.

(l) *Groundwater protection* – There will be no impact to groundwater resources by this project.

(m) *Water and air pollution* – There will be no water or air pollution with this project.

(n) *Exterior lighting* – There will be exterior lighting proposed on the building and in the parking areas. All of this lighting has been designed to meet City requirements and maintain safe lighting limits for vehicle and pedestrian movements.

(o) *Waste disposal* – Waste generated by this project will be collected by the owner and disposed of with existing commercial waste contracts.

(p) *Lot layout* – Not applicable.

(q) *Landscaping* – Landscaping is proposed.

(r) *Shoreland relationship* – Not applicable.

(s) *Open space* – Not applicable.

(t) *Technical and financial capacity* – The application and design plans have been prepared by professionals qualified to perform this work. The applicant has completed numerous projects and owns a number of Dunkin shops. The applicant has a proven track record for completing these types of projects. Funding for this project will be provided by existing cashflow and private funding from Dunkin Corporation.

(u) *Buffering* – Not applicable.

(v) *Compliance with district regulations* – Development of this lot as proposed meets all of the requirements of Article XI, Section 11.

(w) *Design consistent with performance standards* – The improvements proposed will comply with the performance standards of Article XII, insofar as they may be applicable.

Stoneybrook
Land Use, Inc.

4846 Sun City Center Blvd., #300
Sun City Center, FL 33573-6281
(207) 513-6123

February 17, 2020

Douglas Greene, City Planner
Department of Planning & Code Enforcement
City of Lewiston
27 Pine Street
Lewiston, ME 04240-7201

Re: Dunkin Donuts
420 Main Street
Development Review Application

Dear Doug:

On behalf of Colette's Donut Shoppe (Colette's), please accept this letter in response to staff review comments. I have copied each comment below and have provided a response to each of them to help in your review of my responses.

Planning Comments for 420 Main Street/Dunking Donuts

1. Show stacked vehicles in drive-through isles.

Vehicle stacking is shown on the attached Presentation Graphic. Vehicles in the drive-thru lanes only are numbered from the first pickup window back to Main Street.

2. We need a landscaping plan.

Street trees and conceptual landscape beds and lawn areas are shown on the Presentation Graphic. Construction is expected to be completed this year, but landscaping may not be finished until Summer of 2021.

3. Is there a need for directional signage (weaving movement) for the pick-up windows as cars approach exit?

The only areas where weaving movements may be an issue will be between the two pickup windows. Colette's plans to address these concerns with the employees at each pickup window. Each employee will look at traffic movements before handing the customers their order. They will also caution each customer to be aware of traffic behind them as they proceed to the exit drive at Main Street.

4. Will there be an easement/maintenance agreement for the sidewalk along Whipple Street. City will provide.

This easement will also need to cover the parking along Whipple Street. We will work with City staff to get final easement documents prepared and signed by both parties.

5. Need more information on the extent of sidewalk/tip-downs/crosswalks improvements at the corner of Main and Whipple Streets.

The sidewalk at this intersection has been redesigned and is now proposed to be reconstructed as part of this project.

6. Show lighting on the plan and indicate pole height

Light locations are now shown on the project plans. Details for the lights and a photometric plan are attached.

7. Provide detail of business sign at the corner of Main and Whipple St. (type, height, graphic example)

A sample sign detail is attached.

8. Should there be an "entrance only" sign at the entrance on Main Street?

We have added "Entrance Only" signs to the project plans.

9. Concerned about the corner of the "patio" area inside the 20' building setback. This is more than a surface patio (wall, arbor, etc)

Support posts for the portico will be set back more than 20' from the street line. Beams above the patio area will not extend more than 3' into the setback requirement.

10. Wil the stone covered areas around the backside of the building be landscaped?

No. The crushed stone islands shown on the plan will remain stone to prevent fires from cigarettes thrown in these areas along the drive-thru lanes.

11. Please elaborate on how the area beyond the retaining wall, adjacent to neighboring properties will be maintained.

The narrow strip of property along the bottom of the retaining wall, along the north side of the parking area, will be maintained by hand, once or twice per year. Lawn areas in the yard areas of the lower parking lot and along Whipple Street will be mowed at the same time the building upper site areas are mowed.

Fire Department Comments:

1. Please ensure electrical contractor installs light fixtures that are least 13' 6" tall if they overhang a vehicular path area.

See note 11. on the Site Plan.

2. Please include Knox box information or note on the plan.

See note 12. on the Site Plan.

Public Works Comments:

1. Please review angled parking stall dimensions. Ordinance Arty XII Sec. 17 (f)(1)a. requires a 9-ft. by 18-ft. rectangle. It appears the site plan has 60-degree angled parking which would require a 21-ft. dimension from curb to end of space to accommodate the 9 by 18 rectangle. Please see the attached sketch for angled parking layout dimensions.

All angle parking is shown at 20.1' to meet the ordinance requirements.

2. Please revise the crosswalk striping detail on sheet 5. City standards are a minimum width of 6-feet with a preferred width of 8-feet. The paint stripes consist of 24-inch wide stripes with a 24-inch space between

This detail has been revised.

3. Please revise proposed Hydro CAD calculations for catch basin ponds and pipe reaches so that design invert elevations match the site utility plan. The Stormtech chamber pond has actual elevations and the segments connecting should match.

These calculations have been revised as requested.

4. Typical modeling of a catch basin in Hydro CAD is top use a catch basin type pond and use a culvert outlet. This eliminates the need to have a separate reach to model the pipe. The pipe length and other parameters are included in the pond outlet definition.

These calculations have been revised as requested.

5. Please provide a watershed plan for a. the existing conditions and b. for proposed conditions subarea 7.

An existing condition watershed plan is attached.

6. It would be helpful if the watershed plan showed the outlet pipe from the lower riprap swale to catch basin 6.

This outlet is now shown on the watershed plan.

7. Upon approval by the City the applicant should provide stamped engineered plans conforming to MaineDOT standards for the changes to Main Street.

Understood.

Police Comments-

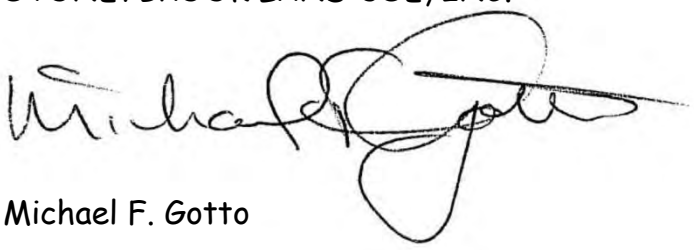
1. I would encourage a follow-up study done in a year after opening, to review any accident data (as previously recommended).

This was discussed, but I don't recall this being something that would be required, as this project is different from the other project discussed at the Scoping Meeting. The final Traffic Study may provide additional guidance on this issue.

I have attached 14 copies of the application materials and plans to support approvals of this project. Please let us know if you have any additional comments. We will plan to attend the Planning Board meeting on February 24th to address any remaining questions or comments.

Respectfully Yours

STONEYBROOK LAND USE, INC.



Michael F. Gotto

cc: Norm Boulay, Jr.

Colette's Donut Shoppe
321 Main Street
Lewiston, ME 04240

To Whom It May Concern:

The signature below authorizes Stoneybrook Consultants, Inc. and Traffic Solutions to act as the applicant's agents in the processing of the enclosed application.

for Colette's Donut Shoppe, applicant

Norman J Boucher President

(print name, title)

Bk 6470 Pg202 #21569
08-26-2005 @ 11:32a

QUITCLAIM DEED WITH COVENANT

Jean R. Dupuis, of Greene, County of Androscoggin, State of Maine, for consideration paid, grants to **420 Main Street LLC** of Lewiston, County of Androscoggin, State of Maine, with **QUITCLAIM COVENANT**, a certain lot or parcel of land situated in Lewiston, County of Androscoggin, and State of Maine, bounded and described as follows:

Commencing on the street running from the Old County Road leading from Lewiston to Greene, across the Maine Central Railroad to the Whipple lot, so-called, at a corner made by said street and a contemplated street, (incorrectly referred to as Cottage Street in prior deeds); thence running westerly on said Whipple Street seventy (70) feet to a stake and stones; thence northerly seventy (70) feet to a stake and stones; thence easterly seventy (70) feet to said contemplated street; thence on the line of said street southerly seventy (70) feet to the first mentioned bounds.

NO MAINE R.E. TRANSFER TAX PAID

Being the same premises conveyed to Henry Free by Jotham P. Norton by deed of April 8, 1867, recorded in Androscoggin County Registry of Deeds, Book 48, Page 28.

Also a certain lot or parcel of land situated in said Lewiston bounded and described as follows:

Beginning at a point on the northeasterly line of Whipple Street sixty-seven (67) feet southeasterly from the easterly line of Cottage Street; thence running northerly at right angles with Whipple Street to the present line between lots now or formerly of Frederick D. Lyford and Henry Free; thence southerly on said last named line about nineteen (19) feet to the line of Whipple Street; thence westerly on the line of Whipple Street three (3) feet to the point of beginning.

Excepting and reserving from the above described premises, so much thereof as was conveyed to Frederick D. Lyford by said Henry Free by deed dated August 8, 1911, recorded in said Registry of Deeds, Book 241, Page 54.

Subject to easement to lay and forever maintain a sewer line over said premises given by said Henry Free to the City of Lewiston by instrument dated June 30, 1902.

Being the same premises conveyed to Grantor by deed of Georgette G. Ginchereau dated July 30, 2002, and recorded in the Androscoggin County Registry of Deeds in Book 5071, Page 25.

IN WITNESS WHEREOF, the Grantor has caused this instrument to be executed on this ninth day of August, 2005.

Witness

Jean R. Dupuis

STATE OF MAINE
COUNTY OF ANDROSCOGGIN, SS August 9, 2005

Then personally appeared the above-named Jean R. Dupuis and acknowledged the foregoing instrument to be his free act and deed.

Before me, SEAL

Joyce C. Croteau
Print Name: Joyce C. Croteau
Notary Public
My Commission Expires: 2006

jc.sc.k:\client\dupuis\420 Main\QuitClaim w-Covenant – 08-05.doc

ANDROSCOGGIN COUNTY
Tina R. Chaunard
REGISTER OF DEEDS

CONTRACT FOR THE SALE OF COMMERCIAL REAL ESTATE

RECEIVED from Colett's Donut Shoppe . _____ , whose mailing address is _____ (hereinafter called "Purchaser"), this 30th day of December , 2019 , the sum of One Thousand Dollars ($1,000.00) as earnest money deposit toward purchase and sale of certain real estate owned by 420 Main Street LLC (hereinafter called the "Seller") and located at _____ in the city/town of Lewiston , County of _____ , State of Maine, described as follows: vacaant land MLS 1406448

_____ and being fully more described at said County Registry of Deeds in Book _____ , Page _____ , upon the terms and conditions indicated below.

1. PERSONAL PROPERTY: The following items of personal property are included in this sale (if applicable):

   _____ .

2. PURCHASE PRICE: The total Purchase Price is _____ Dollars ($ _____). with payment made as follows:

   Earnest money to be delivered on or before Earnest Money given : $ _____
   Other: _____ $ _____
   Other: _____ $ _____
   Balance due at closing, in immediately-available funds: $ _____

3. EARNEST MONEY/ACCEPTANCE: Century 21 Advantage ("Escrow Agent") shall hold the earnest money in a non-interest bearing account and act as escrow agent until closing. This offer shall be valid until December 31 , 2019 at 3 (☐ AM ☒ PM). In the event of Seller's non-acceptance of this offer, the earnest money shall be returned promptly to Purchaser

4. TITLE: Within 14 days of the Effective Date (the "Title Review Period"), Purchaser shall notify Seller in writing (the "Title Objection Notice") of any matters affecting title to the property that are objectionable to Purchaser in Purchaser's sole discretion ("Title Defects"). Purchaser shall be deemed to have waived the right to object to any matter affecting title as of the Effective Date, except for any mortgage, tax lien, mechanics' lien, judgment lien, or other liens encumbering the property (for which no objection is required), if Purchaser fails to specifically identify such matters in the Title Objection Notice (each matter not objected to being a "Permitted Encumbrance"). Within seven (7) days of Seller's receipt of the Title Objection Notice, Seller shall notify Purchaser in writing whether or not Seller elects to cure any of the matters identified in the Title Objection Notice. If Seller elects to cure certain Title Defects, Seller shall use good faith efforts to cure such Title Defects and shall have a period of not more than thirty (30) days after notice of Seller's election within which to cure any such Title Defects (the "Title Cure Period"), and the Closing Date shall be extended until five (5) days after the expiration of the Title Cure Period. Seller agrees that, after the Effective Date, it shall not permit or suffer encumbrance of the property with any liens, easements, leases or other encumbrances without Purchaser's prior written consent, except that Purchaser shall not unreasonably withhold or delay its consent to new leases. On or before the Closing Date, Seller shall remove at its sole cost any such matters affecting the title to the property suffered or created by or consented to by Seller after the Effective Date that are not approved in writing by Purchaser. If Seller elects not to cure any Title Defects or if Title Defects which Seller elects to cure are not cured within the Title Cure Period, then Purchaser shall elect, by written notice to Seller on or before the Closing Date, as the same may be extended, either (i) to accept title to the property subject to such uncured Title Defects without reduction of the purchase price and without any liability on the part of Seller therefor, in which case such Title Defects shall be Permitted Encumbrances, or (ii) to terminate this Contract, whereupon the earnest money immediately shall be returned to Purchaser and neither party shall have any further obligations under this Contract.

5. DEED: In return for payment in full of the purchase price, Seller shall convey the property on March 31, 2020 (the "Closing Date") to Purchaser by Maine Statutory Short-Form Warranty Deed (the "Deed"), and the parties agree to execute and deliver on the Closing Date such other documents that are customary and/or reasonably necessary to complete the conveyance. It is a condition to Purchaser's obligations hereunder that title to the property shall be free and clear of all liens and encumbrances except for the following matters and otherwise in compliance with the requirements of this Contract: (i) zoning restrictions and land use laws and regulations and permits and approvals issued pursuant thereto; (ii) current taxes and assessments attributable to periods from and after the Closing, which Purchaser shall be liable to pay; (iii) leases and occupancies disclosed to Purchaser pursuant to Section 11 below; and (iv) any Permitted Encumbrance.

 Buyer's Initials DS NB Seller's Initials

6. LEASES/TENANT SECURITY DEPOSITS: Seller agrees at closing to transfer to Purchaser, by proper assignment thereof, all Seller's rights under the current leases to the property and any and all security deposits held by Seller pursuant to said leases.

7. POSSESSION/OCCUPANCY: Possession/occupancy of property shall be given to Purchaser on the Closing Date subject only to the leases and tenancies disclosed to Purchaser pursuant to Section 11 below, unless otherwise agreed by both parties in writing.

8. RISK OF LOSS: Until transfer of title, the risk of loss or damage to the property by fire or otherwise is assumed by Seller unless otherwise agreed in writing. The property shall at closing be in substantially the same condition as of the Effective Date, excepting reasonable use and wear. If the property is materially damaged or destroyed prior to closing, Purchaser may either terminate this Contract and be refunded the earnest money deposit, or close this transaction and accept the property in its as-is condition together with an assignment of the Seller's right to any insurance proceeds relating thereto.

9. PRORATIONS: The following items shall be prorated as of the Closing Date:
   a. Real Estate Taxes based on the municipality's tax year. Seller is responsible for any unpaid taxes for prior years.
   b. Fuel.
   c. Metered utilities, such as water and sewer, shall be paid by the Seller through the date of closing.
   d. Purchaser and Seller shall each pay one-half of the transfer tax as required by the laws of the State of Maine.
   e. Rents, estimated monthly common area maintenance charges, estimated monthly property tax payments, and all other additional revenue received by Seller pursuant to leases of the property.
   f. N/A

10. DUE DILIGENCE: Purchaser is advised to seek information from professionals regarding any specific issue of concern. Purchaser acknowledges receipt of property disclosure form attached hereto. Neither Seller nor the Real Estate Licensees identified below make any representations or warranties regarding the condition, permitted use or value of Seller's real or personal property. Purchaser's obligation to close under this Contract is conditioned upon Purchaser's satisfaction with its investigations of the property, which may without limitation include survey, environmental assessment, engineering studies, wetlands or soils studies, zoning compliance or feasibility, and code compliance, all within 0 days of the Effective Date.

    All investigations will be done by professionals chosen and paid for by Purchaser. If the result of any investigation is unsatisfactory to Purchaser, Purchaser may declare this Contract null and void by notifying Seller in writing within the specified number of days set forth above, and said earnest money shall be returned to Purchaser. If Purchaser does not notify Seller that Purchaser's investigations are unsatisfactory within the time period set forth above, this contingency is waived by Purchaser. In the absence of any investigations(s) mentioned above, Purchaser is relying completely upon Purchaser's own opinion as to the condition of the property. Purchaser agrees to restore any disturbance to the property caused by Purchaser's investigations, and Purchaser agrees to indemnify and hold Seller harmless for any claims, damages, losses or costs, including without limitation reasonable attorneys' fees, incurred or suffered by Seller as a result of Purchaser's investigations of the property, which indemnification obligation shall survive termination or closing under this Contract.

11. REVIEW OF LEASES AND INCOME AND EXPENSE INFORMATION: Seller represents: (a) that below is a complete list of all tenants occupying the property under leases or other tenancy arrangements or agreements (the "Leases"), (b) that the Leases are in full force and effect, (c) that to Seller's knowledge, all tenants under the Leases are in full compliance therewith and (d) that Seller is not in violation of its obligations under the Leases. Seller agrees to provide Purchaser within five (5) days of the Effective Date of this Contract complete copies of all Leases, including any amendments, and income and expense information concerning the property. Purchaser shall have N/A days from the date Purchaser has been provided all Leases and income and expense information to review same, and if the result of the review is unsatisfactory to Purchaser, Purchaser may declare the Contract terminated and the earnest money shall be immediately refunded to Purchaser and thereafter neither party shall have any further obligation under this Contract. Seller represents and warrants that income and expense information provided to Purchaser will be true, accurate and complete in all material respects when given. Seller shall use reasonable efforts to obtain a tenant estoppel certificate and a subordination, non disturbance and attornment agreement in form reasonably satisfactory to Purchaser and/or Purchaser's lender for each Lease within N/A days from delivery of forms therefor. Purchaser shall also on a rolling basis have N/A days from the date of actual receipt of fully-executed written tenant estoppel certificates in which to terminate this Contract pursuant to this Section 11 due to unsatisfactory information contained therein and upon such termination the earnest money shall be immediately refunded to Purchaser and thereafter neither party shall have any further obligation under this Contract. Between the Effective Date and the closing, Seller shall not modify, voluntarily terminate or enter into new leases or tenancy arrangements or agreements and shall obtain Purchaser's written consent to any modification or termination of Leases and to any new lease that Seller proposes to enter into with respect to the property, Purchaser's consent not to be unreasonably withheld, conditioned or delayed. In the event that Seller modifies or terminates any Leases or enters into a new Lease without Purchaser's consent, Purchaser's sole remedy shall be to terminate this Contract and receive an immediate refund of the earnest

420 Main Street

money and thereafter neither party shall have any further obligation under this Contract. Failure of Purchaser to timely notify Seller of its termination of the Contract pursuant to any of its foregoing rights to do so under this Section 11 shall be deemed to be a waiver of the applicable right under this Section 11 to terminate the Contract. At the closing, Seller shall deliver written notice to the tenants and occupants of the property of the transfer of the property, and of the tenants' security deposits, to Purchaser. List tenants:

_____

_____

_____

12. FINANCING: Notwithstanding anything to the contrary contained in this Contract, Purchaser's obligation to close hereunder is conditioned upon Purchaser's obtaining within _____ (N/A) days from the Effective Date of this Contract (the "Commitment Date") a written commitment (the "Commitment") from a lender for a mortgage loan of not less than N/A % of the purchase price at an initial interest rate not to exceed N/A % per annum, amortized over a period of not less than _____ (N/A) years and otherwise on terms reasonably acceptable to Purchaser. In the event the Purchaser is unable to obtain the Commitment and Purchaser notifies Seller thereof by the Commitment Date, then Escrow Agent shall immediately return the earnest money to Purchaser, this Contract shall terminate, and neither party shall be under any further obligation under this Contract. It shall be a further condition of Purchaser's obligation to close hereunder that the Commitment shall not lapse, be terminated and/or withdrawn prior to the Closing Date for any reason whatsoever, including but not limited to the property failing to appraise at or above the Purchase Price, or any such other level acceptable to Purchaser and Purchaser's lender sufficient to support the Commitment. In the event the Commitment shall lapse, be terminated and/or withdrawn by Purchaser's lender for any reason (other than at the request of Purchaser) at any time prior to the Closing Date, Purchaser shall within _____ (N/A) days of Purchaser's receipt of notice of lapse, termination and/or withdrawal notify Seller of same, and upon such notification Purchaser may, at Purchaser's option, elect to terminate this Contract and thereafter the earnest money immediately shall be returned to Purchaser and neither party shall have any further obligation under this Contract. If Purchaser does not timely notify Seller that it has failed to obtain the Commitment or that the Commitment has lapsed, terminated and/or been withdrawn, then Purchaser shall be in default of this Contract at the election of Seller. This contingency benefits Purchaser only, and only Purchaser may waive it by providing written notice to Seller specifically waiving this condition and contingency or any part thereof.

13. AGENCY DISCLOSURE: Purchaser and Seller acknowledge that they have been informed that **Kelly Barret/Raymond Becker** ("Transaction Broker") is acting as a transaction broker in this transaction and does not have a client relationship with either Purchaser or Seller. **John Blouin** ("Selling Agent") is acting as a **Associate Broker** agent in this transaction and is representing **420 Main Street LLC** and that **John Blouin** ("Listing Agent") is acting as a **Associate Broker** agent in this transaction and is representing **420 Main Street LLC** (Transaction Broker, Selling Agent and Listing Agent are referred to elsewhere herein as "Licensees").

14. DEFAULT: If the sale of the property as contemplated hereunder is not consummated solely by reason of Purchaser's default hereunder, provided that Seller is then ready, willing and able to consummate the sale of the property as contemplated by this Contract and provided further that all conditions to Purchaser's obligation to consummate such purchase have been satisfied or waived by Purchaser, Seller shall be entitled to either (i) pursue any and all legal and/or equitable remedies or (ii) terminate this Contract and receive the earnest money as full and complete liquidated damages for the breach of this Contract, it being agreed between the parties that the actual damages to Seller in the event of such breach are difficult to ascertain and/or prove and the earnest money is a reasonable estimate and forecast of such actual damages. The parties acknowledge that the payment of the earnest money is not intended as a forfeiture or penalty, but is intended to constitute liquidated damages to Seller. In the event of an undisputed default by either party, the Escrow Agent may deliver the earnest money to the party entitled to it under this Contract, with written notice to both parties pursuant to Maine Real Estate Commission regulations. If a dispute arises between Purchaser and Seller as of the existence of a default hereunder and said dispute is not resolved by the parties within thirty (30) days, the Escrow Agent may elect to file an action in interpleader and deposit the earnest money in the court to resolve said dispute, or otherwise disburse the earnest money pursuant to Maine Real Estate Commission regulations. Purchaser and Seller, jointly and severally, shall indemnify Escrow Agent for all costs, losses, expenses, and damages, including reasonable attorneys' fees, incurred by the Escrow Agent in connection with said action and/or in connection with any dispute relating to this Contract and/or the earnest money.

15. MEDIATION: Any dispute or claim arising out of or relating to this Contract or the property addressed in this Contract shall be submitted to mediation in accordance with the Maine Residential Real Estate Mediation Rules of the Maine Association of Dispute Resolution Professionals or its successor organization. This clause shall survive the closing of this transaction.

16. PRIOR STATEMENTS: This Contract sets forth the entire agreement between the parties, and there are no other representations, agreements or understandings with respect to the subject matter of this Contract. This Contract shall be construed according to the laws of the State of Maine.

17. HEIRS/ASSIGNS: This Contract shall extend to and be obligatory upon heirs, personal representatives, successors, and assigns of Seller and assigns of Buyer.

18. COUNTERPARTS: This Contract may be signed on any number of identical counterparts, including telefax copies and electronically transmitted copies with the same binding effect as if all of the signatures were on one instrument.

19. EFFECTIVE DATE: This Contract is a binding contract when signed by both Seller and Purchaser and when that fact has been communicated to all parties or to their agents. Time is of the essence of this Contract. Seller or Licensees are given permission by the parties to complete the Effective Date blank below with the date of the last signature of the parties, and that date shall be the Effective Date for all purposes under this Contract, and if that blank is not completed, then the Effective Date shall be the date of the last signature of the parties. Except as expressly set forth to the contrary in this Contract, the use of the term "days" in this Contract, including all addenda made a part hereof, shall mean calendar days. Deadlines in this Contract, including all addenda, expressed as "within x days" or the like shall be counted from the Effective Date, unless another starting date is expressly set forth, beginning with the first day after the Effective Date, or such other established starting date, and ending at 5:00 pm, Eastern Time, on the last day counted.

20. CONFIDENTIALITY: Buyer and Seller authorize the disclosure of the information herein to the real estate licensees, attorneys, lenders, appraisers, inspectors, investigators and others involved in the transaction necessary for the purpose of closing this transaction. Buyer and Seller authorize the lender and/or closing agent preparing the closing statement to release a copy of the closing statement to the parties and their licensees prior to, at and after the closing.

21. A copy of this Contract is to be received by all parties and, by signature, receipt of a copy is hereby acknowledged. If not fully understood, consult an attorney.

22. Seller acknowledges that the laws of the State of Maine provide that every buyer of real property located in Maine must withhold a withholding tax equal to 2 1/2 % of the consideration unless Seller furnishes to Purchaser a certificate by the Seller stating, under penalty of perjury, that Seller is a resident of the State of Maine or the transfer is otherwise exempt from withholding.

23. ADDENDA: This Contract has addenda containing additional terms and conditions. Yes ____ No X .

24. OTHER PROVISIONS:
Buyer to pay option price to extend availability for buyer to purchase by 1-31-2020 of $6,000 by 12-31-2019 . All Option money paid is not commissioned on sale and buyer loses this option money if not closed by 1-31-2020. On February -1-2020 an option money of $5000 will be paid to extend contact through 2-28-2020 . If buyer doesn't close by 2-28-2020 than the buyer loses the option money .On 3-1-2020 buyer can extend with a option price of $4,000 till 3-31-2020. If buyer
Continued... See Addendum Additional Lessee Information 1

The parties agree that none of the above are collateral agreements. It is the intent of the parties that except as expressly set forth in this Contract, all covenants, representations, statements and obligations of both parties herein shall not survive closing.

Colett's Donut Shoppe
Legal Name of Purchaser

Tax ID #

By: DocuSigned by: [signature] 55EFB34E4C5A425... Signature

Name/Title, thereunto duly authorized

Seller accepts and agrees to the terms and conditions set forth in this Contract and agrees to pay the Licensees the commission for services according to the terms of the listing agreement or if there is no listing agreement, the sum of _____ . In the event the earnest money is forfeited by Purchaser, it shall be evenly distributed between (1) Licensees and (2) Seller; provided, however, that the Licensees' portion shall not exceed the full amount of the commission specified.

Signed this 12/31/2019 day of _____, _____.

420 Main Street LLC
Legal Name of Seller

Tax ID #

 Buyer's Initials DS [initials] Seller's Initials [initials]

By: _____ 420 Main LLC
Signature

Name/Title, thereunto duly authorized

_____

Legal Name of Escrow Agent

_____

Name/Title, thereunto duly authorized

By: _____
Signature

12/31/2019

EFFECTIVE DATE OF THIS CONTRACT: _____

ADDENDUM

PROPERTY: _____

1) Additional Lessee Information

doesn't close by 3-31-2020 than buyer loses option money . This contract is not conditioned on any town approvals to purchase and any finance contingency . All option money is earned by seller and not applied to purchase price option fee checks to be made out to 420 Main Street LLC

Date: 12/31/2019

DocuSigned by:

Signature 55EFB34E4C5A425...

Date: _____

Signature

Date: _____

Signature

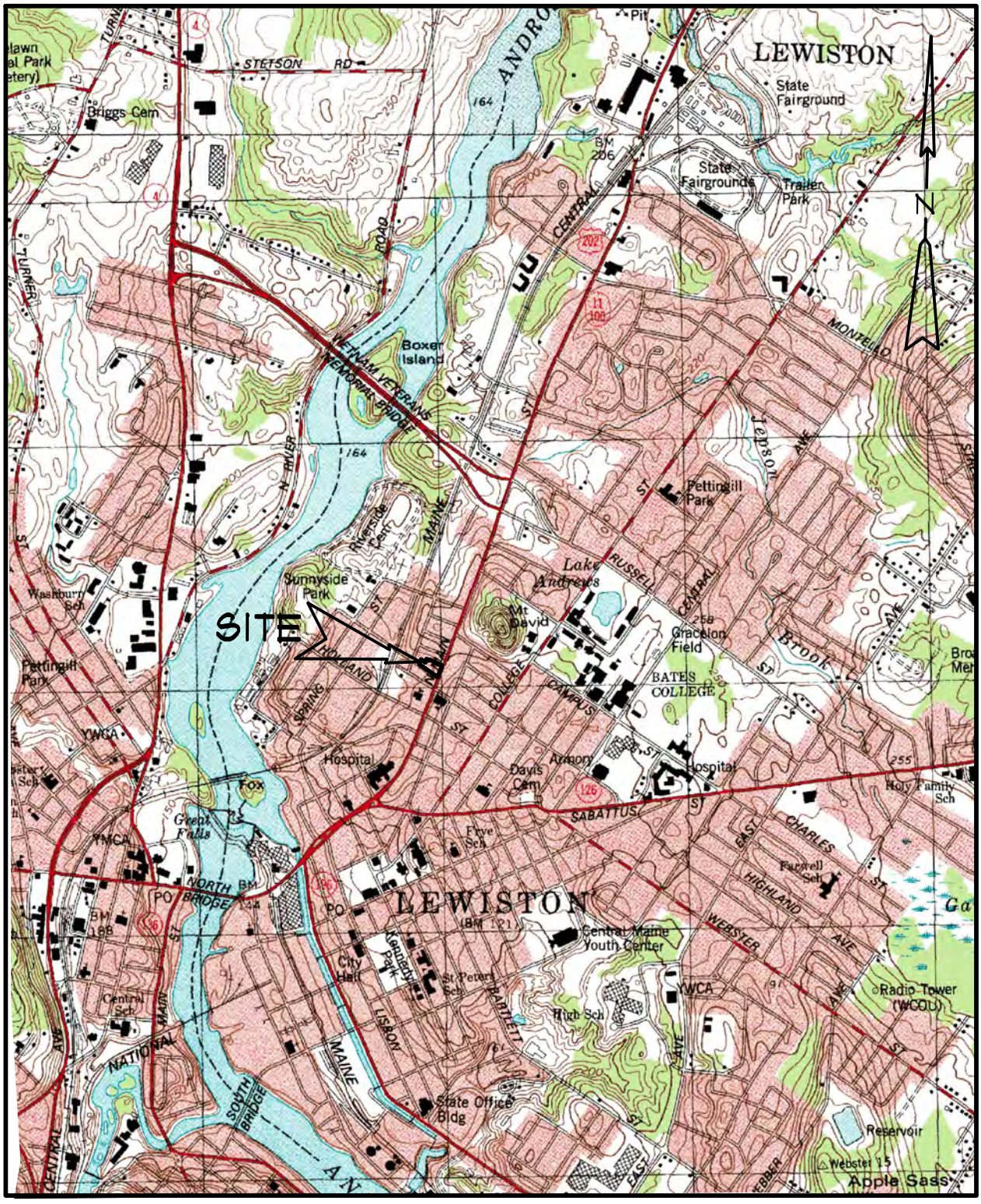
Date: _____

Signature

Date: _____

Signature

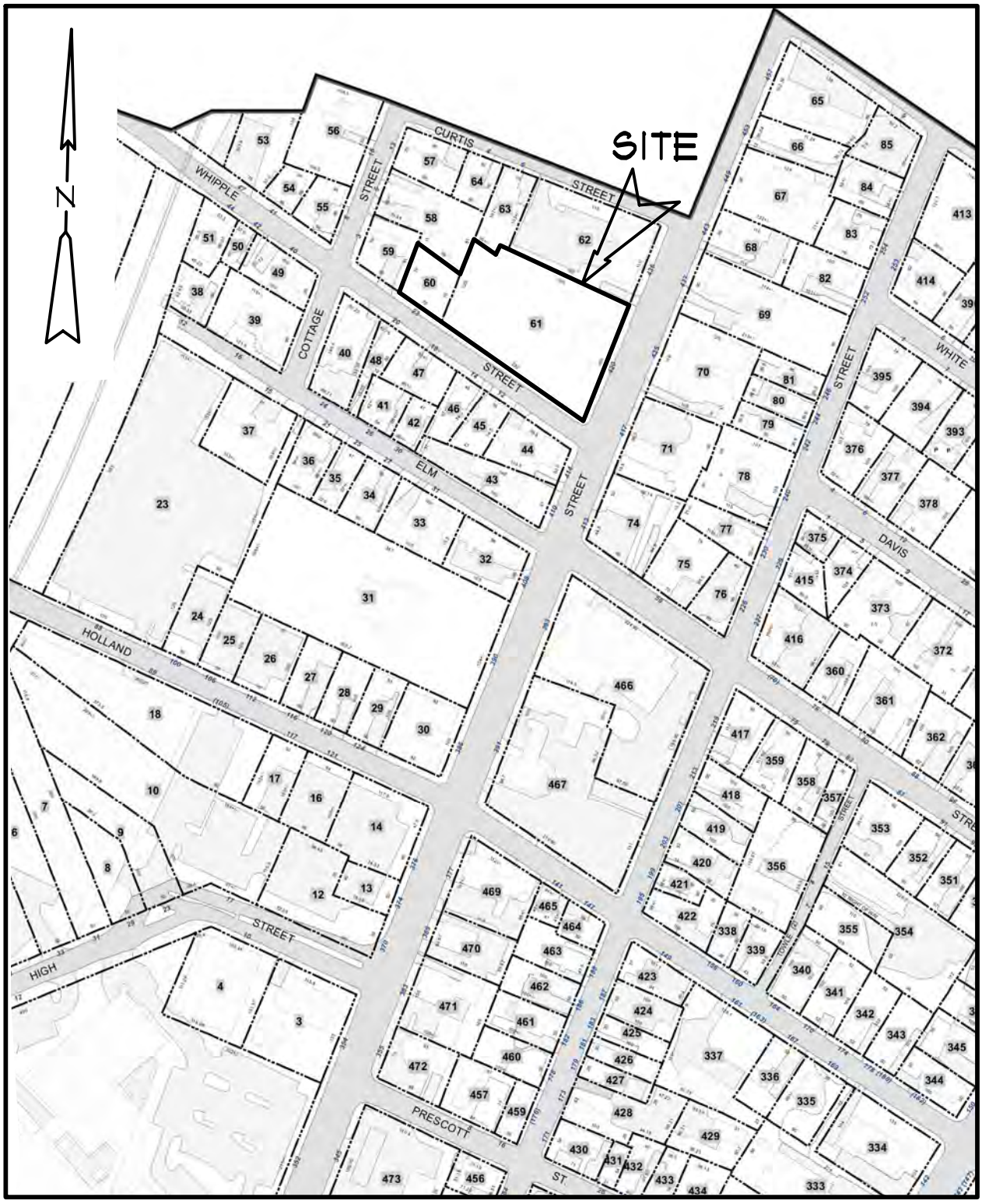
Vallee Harwood & Blouin Real Estate, 89 Water St Hallowell ME 04347 Phone: 2074467708 Fax: 420 Main Street
John Blouin



USGS LOCATION MAP

420 MAIN STREET - LEWISTON
APPLICANT: COLETTE'S DONUT SHOPPE
SCALE: 1" = 2,000'
DATE OF GRAPHIC: NOVEMBER 15, 2019
SOURCE: MAINE OFFICE OF GIS
ORIGINAL PUBLICATION DATE: 1967

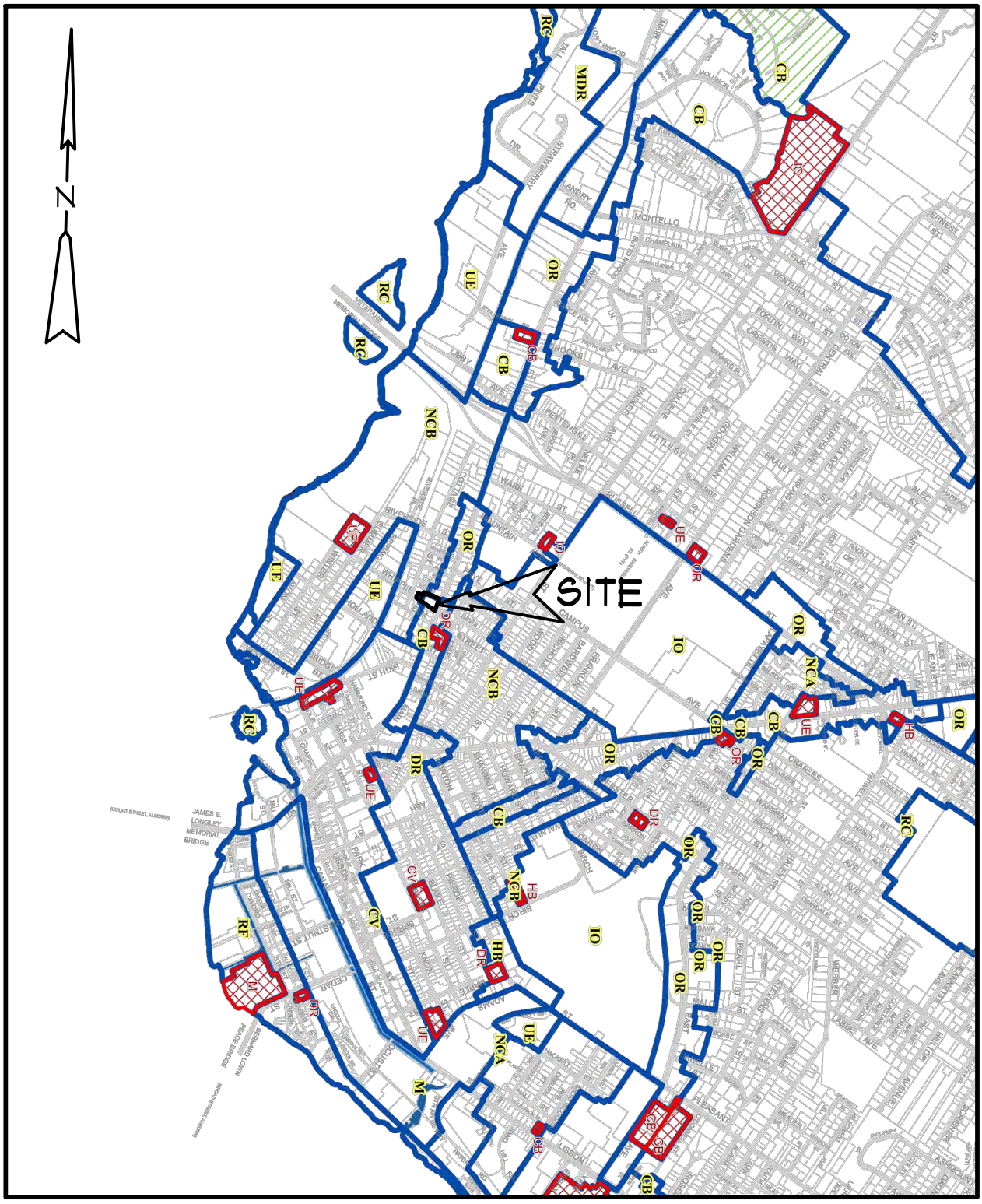
Stoneybrook Consultants, Inc.



TAX MAP

420 MAIN STREET - LEWISTON
APPLICANT: COLETTE'S DONUT SHOPPE
SCALE: 1" = 200'
DATE OF GRAPHIC: DECEMBER 17, 2019
SOURCE: CITY OF LEWISTON TAX MAP 194
PUBLICATION DATE: APRIL 1, 2019

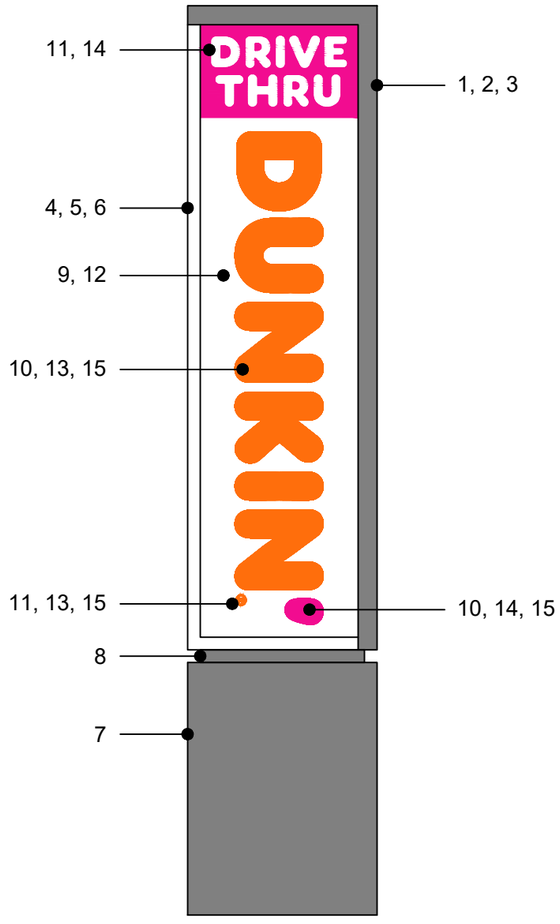
Stoneybrook Consultants, Inc.



ZONING MAP

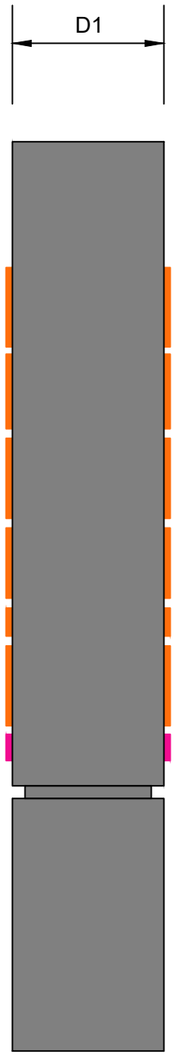
420 MAIN STREET - LEWISTON
APPLICANT: COLETTE'S DONUT SHOPPE
SCALE: 1" = 2,000'
DATE OF GRAPHIC: DECEMBER 17, 2019
SOURCE: CITY OF LEWISTON ZONING MAP
PUBLICATION DATE: JANUARY 2017

Stoneybrook Consultants, Inc.



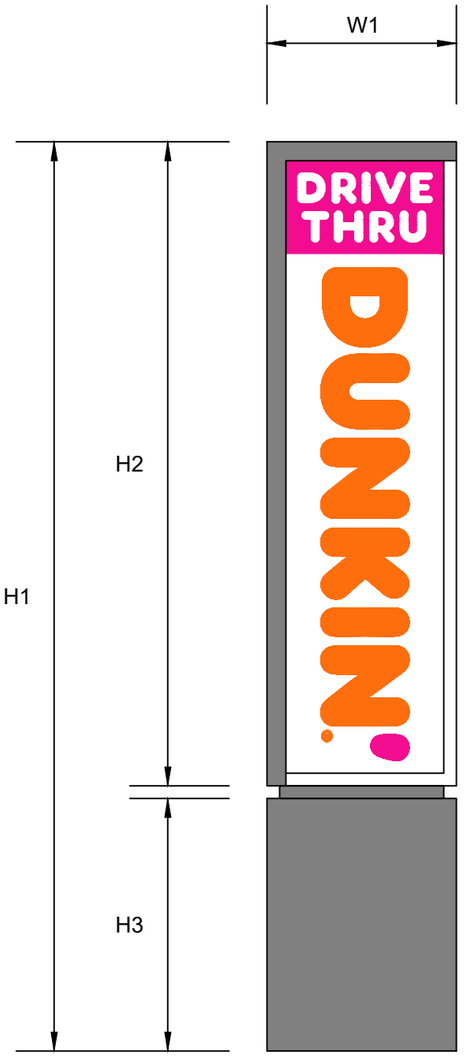
LED ILLUMINATED VERTICAL
PYLON SIGN (SIDE A)

SCALE : N.T.S.



LED ILLUMINATED VERTICAL
PYLON SIGN (SIDE C)

SCALE : N.T.S.



LED ILLUMINATED VERTICAL
PYLON SIGN (SIDE B)

SCALE : N.T.S.

NOTES

1. ALUMINUM ANGLE FRAME CONSTRUCTION
2. .08" ALUMINUM SKIN
3. ALUMINUM RETAINER ACCENT
4. GE TETRA MAX 7100K WHITE LED'S, AS REQUIRED (OR GE REPLACEMENT EQUIVALENT)
5. INTERNAL POWER SUPPLY, AS REQUIRED
6. INTERNAL DISCONNECT SWITCH
7. SUPPORT TUBE
8. ALUMINUM C-CHANNEL REVEAL
9. FACES TO BE FLAT CLEAR SOLAR GRADE POLYCARBONATE
10. "DUNKIN'" LETTERS TO BE EMBOSSED
11. REGISTERED "R" AND "DRIVE THRU" TO BE FLAT GRAPHIC
12. BACKGROUND COLOR 403 WHITE BACK-SPRAY

12A. OPTION : SIGN FACE 2ND SURFACE WHITE FACE / NIGHT FACE BACKGROUND COLOR 403 WHITE BACK-SPRAY, BACKED UP WITH OPAQUE SILVER FOR COMPLETE OPAQUE FINISH FOR NIGHT

13. 3M #3630-3123 DUNKIN' ORANGE TRANSLUCENT FILM 2ND SURFACE
14. 3M #3630-1379 DUNKIN' PINK TRANSLUCENT FILM 2ND SURFACE
15. 3M #3635-70 WHITE DIFFUSER 2ND SURFACE

ADDITIONAL NOTES:

ARTWORK FONT : DUNKIN SANS DISPLAY

EXTERIOR FINISH : PAINT PANTONE 7540C

INTERIOR FINISH : PAINTED REFLECTIVE WHITE

ACCENT FINISH / 1 1/2" CABINET W/ RETAINER : PAINT PANTONE 7540C

REVEAL AND POLE COVER FINISH : PAINT PANTONE 7540C

SKINS REMOVABLE FOR SERVICE ACCESS

SADDLE MOUNT INSTALLATION

ELECTRICAL : (1) 20-AMP / 120 VOLT CIRCUIT

PERIMETER ANGLE : 1 1/2" x 1 1/2" x 3/16" | U.L. LISTED

SIZE	H1	H2	H3	W1	D1	S.F. (BOX)
SMALL	72"	51"	20"	15"	12"	5.31'
MEDIUM	120"	85"	33.25"	25"	12"	14.76'
LARGE	144"	102"	40"	30"	12"	21.25'
CUSTOM	-	-	-	-	-	-

PMS	VINYL / PAINT
PMS 165 - DUNKIN' ORANGE	3M #3630-3123
PMS 219 - DUNKIN' PINK	3M #3630-1379
PMS 7540C - DUNKIN' GRAY	3M #7725-41
PMS COOL GRAY 1C	3M #7725-11

dunkin' brands

THE INTENT OF THIS DRAWING IS TO SHOW A CONCEPTUAL REPRESENTATION OF THE PROPOSED SIGNAGE. DUE TO VARIATIONS IN PRINTING DEVICES AND SUBSTRATES THE FINISHED PRODUCT MAY DIFFER SLIGHTLY FROM DRAWINGS.

DD BUILDING & SITE SIGNAGE

PYLON SIGN

DATE: 10.23.2019 | REV. #01

DUNKIN' BRANDS INC.
CONSTRUCTION SERVICES

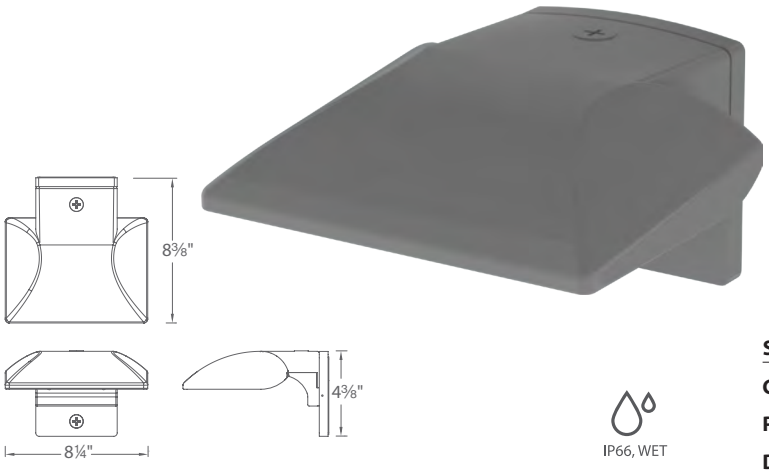
DD-SS-PS-01

EWS-1
WEP- LED 227-30-BZ

HAWK - model: WP-LED2

Endurance Wallpack

WAC LIGHTING
Responsible Lighting®



IP66, WET

Fixture Type: _____

Catalog Number: _____

Project: _____

Location: _____

PRODUCT DESCRIPTION

Die cast aluminum factory sealed housings with patent pending design for a water and dust proof IP66 rated outdoor luminaire

FEATURES

- Factory-Sealed LED Light Engine
- Die-Cast Aluminum Construction
- 20° Forward Throw Illumination
- Photo/Motion Sensor Compatible (Sold Separately)
- Built-in Level For Easy Adjustment
- Suitable to install in all directions
- Multi-Function Dimming: ELV (120V) or 0-10V
- 85 CRI
- 100,000 hour rated life

SPECIFICATIONS

Construction: Die-cast aluminum

Power: Integral driver in luminaire. Universal voltage input (120V-277V)

Dimming: 100% - 30% with 0 - 10V dimmer (120V - 277V)
100% - 15% with Electronic Low Voltage (ELV) dimmer (120V only)

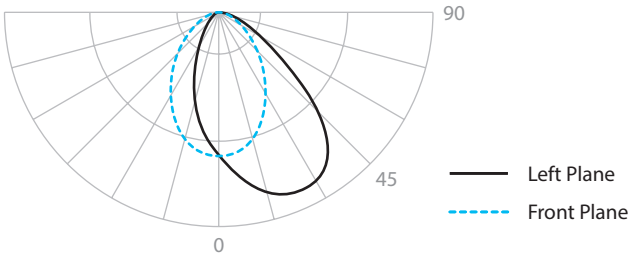
Finish: Architectural Bronze, Graphite, and White

Standards: IP66, Wet Location, ETL & cETL Listed

Total Harmonic Distortion: 35%

Operating Temperature: -40°C (-40°F) to 40°C (104°F)

PHOTOMETRY



ORDER NUMBER

	Power	Comparable	Color Temp		Delivered Lumens	CBCP
WP-LED219	*19W*	*39W HID*	**30**	*3000K*	*1345*	*1022*
			50	*5000K*	*1435*	*1056*
WP-LED227	*27W*	*70W HID*	**30**	*3000K*	*2050*	*1436*
			50	*5000K*	*2095*	*1478*

Finish		
aBZ	*Architectural Bronze*	
aGH	*Architectural Graphite*	
aWT	*Architectural White*	

_____ – ___ – ___

Example: **WP-LED219-30-GH**

ACCESSORIES

Motion Sensor (120V)	**MS-120-BZ**	*Bronze*
	MS-120-GY	*Gray*
	MS-120-WT	*White*

Photo Sensor (120V)	**PC-120-BZ**	*Bronze*
	PC-120-GY	*Gray*
	PC-120-WT	*White*

WAC Lighting
www.waclighting.com
Phone (800) 526.2588 • Fax (800) 526.2585

Headquarters/Eastern Distribution Center
44 Harbor Park Drive • Port Washington, NY 11050
Phone (516) 515.5000 • Fax (516) 515.5050

Western Distribution Center
1750 Archibald Avenue • Ontario, CA 91760
Phone (800) 526.2588 • Fax (800) 526.2585

Lumark

DESCRIPTION

The Prevail LED area, site luminaire combines optical performance, energy efficiency and long term reliability in an advanced, patent pending modern design. Utilizing the latest LED technology, the Prevail luminaire delivers unparalleled uniformity resulting in greater pole spacing. A versatile mount standard arm facilitates ease of installation for both retrofit and new installations. With energy savings greater than 62%, the Prevail fixture replaces 150-400W metal halide fixtures in general area lighting applications such as parking lots, walkways, roadways and building areas.

Catalog #	PRV-A40-UNV-T3-SA-BZ	**Type**	P3
Project			
Comments		**Date**	
Prepared by			

SPECIFICATION FEATURES

Construction
Construction is comprised of a heavy-duty, single-piece die-cast aluminum housing. The LED drivers are mounted in direct contact with the casting to promote low operating temperature and long life. The die-cast aluminum door is tethered to provide easy access to the driver if replacement is required. A one-piece silicone gasket seals the door to the fixture housing. The optics is mounted on a versatile, aluminum plate that dissipates heat from the LEDs resulting in longer life of the fixture. The fixture is IP66 and 3G vibration rated (ANSI C136.31) to insure strength of construction and longevity in the selected application.

Optics
Precision molded, high efficiency optics are precisely designed to shape the distribution, maximizing efficiency and application spacing. Available in Type II, III, IV and V distributions with lumen packages ranging from 6,100 to 18,900 nominal lumens. Light engine configurations consist of 1 or 2 high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L92/60,000 hours at 25°C) per IESNA TM-21. For the ultimate level of spill light control, an optional house side shield accessory can be field or factory installed.

Electrical
LED drivers are mounted to the fixture for optimal heat sinking and ease of maintenance. Thermal management incorporates both conduction and convection to transfer heat rapidly away from the LED source for optimal efficiency and light output. Class 1 electronic drivers have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Available in 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. 10kV/10 kA surge protection standard. 0-10V dimming driver is standard with leads external to the fixture to accommodate controls capability such as dimming and occupancy. Suitable for ambient temperatures from -40°C to 40°C. Optional 50°C HA (high ambient) available. Standard NEMA 3-PIN twistlock photocontrol receptacle and NEMA 7-PIN twistlock photocontrol receptacles are available as options.

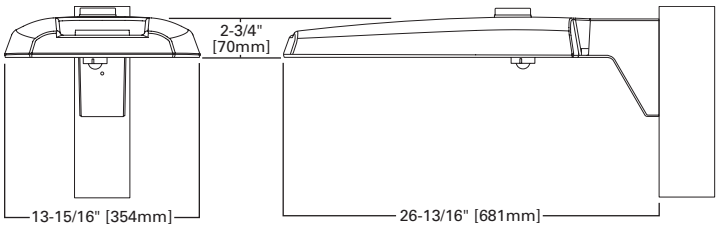
Controls
The Prevail LED luminaire control options are designed to be simple and cost-effective ASHRAE and California Title 24 compliant solutions. The ANSI C136.41 compliant NEMA 7-PIN receptacle enables wireless dimming when used with compatible photocontrol. An integrated dimming and occupancy sensor is a standalone control option available in on/off (MSP) and bi-level dimming (MSP/DIM) operation. The optional LumaWatt system is best described as a peer-to-peer wireless network of luminaire-integral sensors that operate in accordance with programmable profiles. Each sensor is capable of motion and photo sensing, metering power consumption and wireless communication.

Mounting
Standard pole mount arm is bolted directly to the pole and the fixture slides onto the arm and locks in place with a bolt facilitating quick and easy installation. The versatile, patent pending, standard mount arm accommodates multiple drill patterns ranging from 1-1/2" to 4-7/8". Removal of the door on the standard mounting arm enables wiring of the fixture without having to access the driver compartment. A knock-out on the standard mounting arm enables round pole mounting. Wall mount and mast arm mounting options are available. Mast arm adapter fits 2-3/8" O.D. tenon.

Finish
Housing and cast parts finished in five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard color is bronze. Additional colors available in white, grey, black, dark platinum and graphite metallic.

Warranty
Five-year warranty.

DIMENSIONS



PRV PREVAIL

LED

AREA / SITE / ROADWAY LUMINAIRE

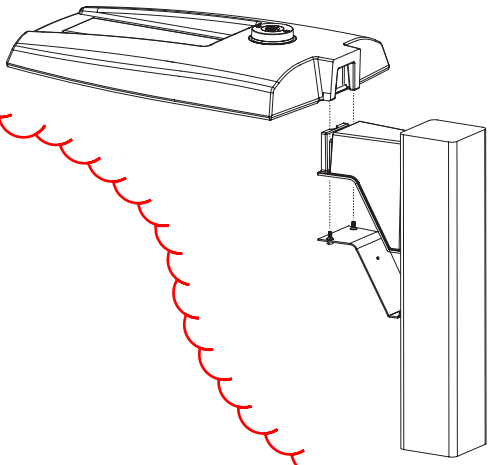
CERTIFICATION DATA
UL and cUL Wet Location Listed
IP66-Rated
3G Vibration Rated
ISO 9001
DesignLights Consortium™ Qualified*

ENERGY DATA
Electronic LED Driver
0.9 Power Factor
<20% Total Harmonic Distortion
120-277V/50 and 60Hz,
347V/60Hz, 480V/60Hz
-40°C Minimum Temperature Rating
+40°C Ambient Temperature Rating

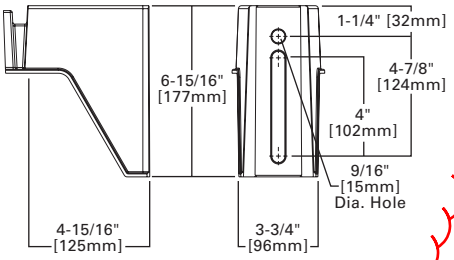
EPA
Effective Projected Area (Sq. Ft.): 0.75

SHIPPING DATA
Approximate Net Weight:
20 lbs. (9.09 kgs.)

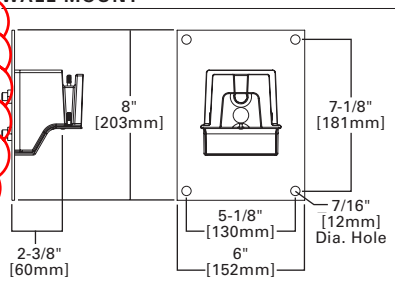
VERSATILE MOUNT SYSTEM



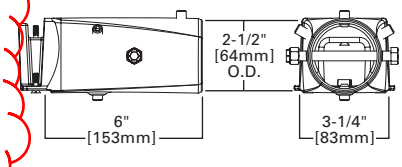
POLE MOUNT ARM



WALL MOUNT

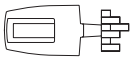


MAST ARM MOUNT

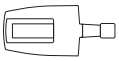


MOUNTING CONFIGURATIONS AND EPAS

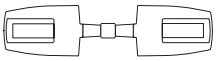
Wall Mount



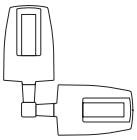
Arm Mount Single
EPA 0.75



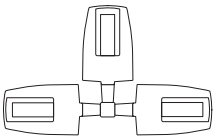
Arm Mount 2 @ 180°
EPA 1.50



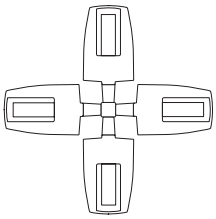
Arm Mount 2 @ 90°
EPA 1.50



Arm Mount 3 @ 90°
EPA 2.25

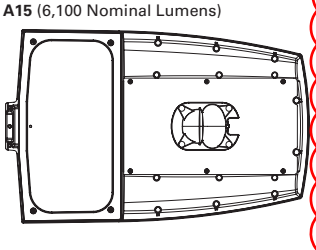


Arm Mount 4 @ 90°
EPA 3.00

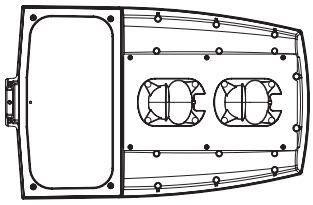


OPTICAL CONFIGURATIONS

A15 (6,100 Nominal Lumens)



A25/A40/A60 (10,200/15,100/18,900 Nominal Lumens)



POWER AND LUMENS

Light Engine		A15	A25	A40	A60
Nominal Power (Watts)		57W	87W	143W	163W
Input Current @ 120V (A)		0.49	0.76	1.23	1.34
Input Current @ 277V (A)		0.22	0.35	0.54	0.60
Input Current @ 347V (A)		0.18	0.28	0.45	0.49
Input Current @ 480V (A)		0.13	0.21	0.33	0.35
Type II	Lumens	6,139	10,204	15,073	18,830
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	B3-U0-G3
Type III	Lumens	6,192	10,292	15,203	18,992
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4
Type IV	Lumens	6,173	10,261	15,157	18,935
	BUG Rating	B1-U0-G3	B2-U0-G3	B2-U0-G4	B2-U0-G5
Type V	Lumens	6,393	10,627	15,697	19,610
	BUG Rating	B3-U0-G3	B4-U0-G3	B4-U0-G4	B5-U0-G4

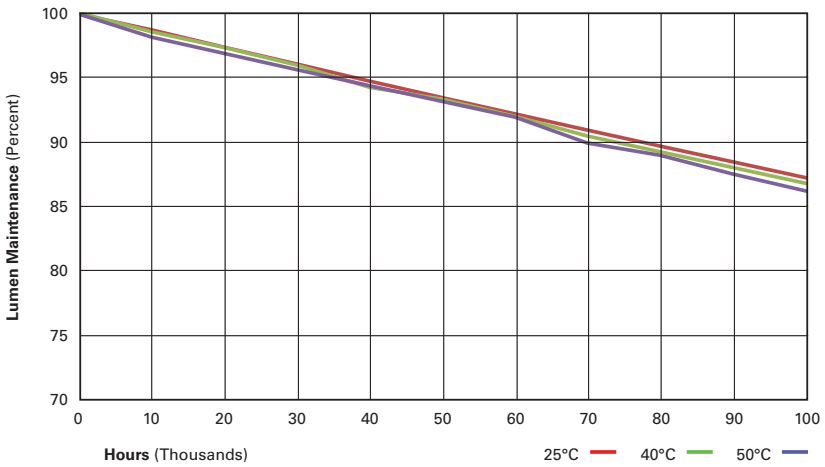
NOTE: Lumen output for standard bronze fixture color. Different housing colors impact lumen output.
IES files for the non-standard colors are available upon request.

LUMEN MAINTENANCE

Ambient Temperature	25,000 Hours*	50,000 Hours*	60,000 Hours*	Theoretical 100,000 Hours	Theoretical L70 (Hours)*
25ºC	> 96%	> 93%	> 92%	> 87%	> 260,000
40ºC	> 96%	> 93%	> 92%	> 87%	> 255,000
50ºC	> 95%	> 92%	> 91%	> 86%	> 250,000

LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
10ºC	1.02
15ºC	1.01
25ºC	1.00
40ºC	0.99



ORDERING INFORMATION

Sample Number: PRV-A25-D-UNV-T3-SA-BZ

Product Family [1,2]	Light Engine [3]	Driver [4]	Voltage	Distribution	Mounting	Color [6]
PRV=Prevail	**A15**=(1 LED) 6,100 Nominal Lumens **A25**=(2 LEDs) 10,200 Nominal Lumens **A40**=(2 LEDs) 15,100 Nominal Lumens **A60**=(2 LEDs) 18,900 Nominal Lumens	**D**=Dimming (0-10V)	**UNV**=Universal (120-277V) **347**=347V **480**=480V [5]	**T2**=Type II **T3**=Type III **T4**=Type IV **T5**=Type V	**SA**=Standard Versatile Arm **MA**=Mast Arm **WM**=Wall Mount Arm	**AP**=Grey **BZ**=Bronze (Standard) **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White

Options (Add as Suffix)	**Accessories** (Order Separately) [11]
7030=70 CRI / 3000K CCT [7] **7050**=70 CRI / 5000K CCT [7] **10K**=10kV/10kA UL 1449 Fused Surge Protective Device **DIMRF-LW**=LumaWatt Wireless Sensor, Wide Lens for 8' - 16' Mounting Height [8,9] **DIMRF-LN**=LumaWatt Wireless Sensor, Narrow Lens for 16' - 40' Mounting Height [8,9] **MSP/DIM-L12**=Integrated Sensor for Dimming Operation, 8' - 12' Mounting Height **MSP/DIM-L30**=Integrated Sensor for Dimming Operation, 12' - 30' Mounting Height **MSP-L12**=Integrated Sensor for ON/OFF Operation, 8' - 12' Mounting Height **MSP-L30**=Integrated Sensor for ON/OFF Operation, 12' - 30' Mounting Height **PER**=NEMA 3-PIN Twistlock Photocontrol Receptacle [10] **PER7**=NEMA 7-PIN Twistlock Photocontrol Receptacle [10] **HSS**=House Side Shield **HA**=50°C High Ambient Temperature	**PRVWM-XX**=Wall Mount Kit **PRVMA-XX**=Mast Arm Mounting Kit **PRVSA-XX**=Standard Arm Mounting Kit **HS/VERD**=House Side Shield **MA1010-XX**=Single Tenon Adapter for 3-1/2" O.D. Tenon **MA1011-XX**=2@180° Tenon Adapter for 3-1/2" O.D. Tenon **MA1012-XX**=3@120° Tenon Adapter for 3-1/2" O.D. Tenon **MA1013-XX**=4@90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1014-XX**=2@90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1015-XX**=2@120° Tenon Adapter for 3-1/2" O.D. Tenon **MA1016-XX**=3@90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1017-XX**=Single Tenon Adapter for 2-3/8" O.D. Tenon **MA1018-XX**=2@180° Tenon Adapter for 2-3/8" O.D. Tenon **MA1019-XX**=3@120° Tenon Adapter for 2-3/8" O.D. Tenon **MA1045-XX**=4@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1048-XX**=2@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1049-XX**=3@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1191-XX**=2@120° Tenon Adapter for 2-3/8" O.D. Tenon **OA/RA1013**=Photocontrol Shorting Cap **OA/RA1014**=NEMA Photocontrol - 120V **OA/RA1016**=NEMA Photocontrol - Multi-Tap 105-285V **OA/RA1027**=NEMA Photocontrol - 480V **OA/RA1201**=NEMA Photocontrol - 347V **ISHH-01**=Integrated Sensor Programming Remote

NOTES:
1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to installation instructions IB500002EN and pole white paper WP513001EN for additional support information.
2. DesignLights Consortium™ Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.
3. Standard 4000K CCT and 70 CRI.
4. Consult factory for driver surge protection values.
5. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
6. Different housing colors impact lumen output. IES files for the non-standard colors are available upon request.
7. Extended lead times apply. Use dedicated IES files for 3000K and 5000K when performing layouts. These files are published on the Prevail luminaire product page on the website.
8. LumaWatt wireless sensors are factory installed and require network components RF-EM-1, RF-GW-1 and RF-ROUT-1 in appropriate quantities. See website for LumaWatt application information.
9. LumaWatt wireless system is not available with photocontrol receptacle (Not needed).
10. Not available with MSP or DIMRF options.
11. Replace XX with paint color.

STOCK ORDERING INFORMATION

Stock Sample Number: PRVS-A25-UNV-T3

Product Family	Light Engine	Voltage	Distribution	Options (Add as Suffix)
PRVS=Prevail	**A15**=(1 LED) 6,100 Nominal Lumens **A25**=(2 LEDs) 10,200 Nominal Lumens **A40**=(2 LEDs) 15,100 Nominal Lumens **A60**=(2 LEDs) 18,900 Nominal Lumens	**UNV**=Universal (120-277V) **347**=347V	**T3**=Type III **T4**=Type IV	**MSP/DIM-L30**=Integrated Sensor for Dimming Operation, Maximum 30' Mounting Height

NOTE: Bronze only, 4000K CCT, 120-277V, 347V, standard mounting arm, standard non-fused 10kV MOV and 0-10V dimming.

COOPER LIGHTING

SSS SQUARE STRAIGHT STEEL

Catalog #	PRV-A40-UNV-T3-SA-BZ	Type
Project		P3
Comments		Date
Prepared by		

FEATURES
- ASTM Grade steel base plate with ASTM A366 base cover
- Hand hole assembly 3" x 5" on 5" and 6" pole; and 2" x 4" on 4" pole
- 10'-39' mounting heights
- Drilled or tenon (specify)

Light Pole

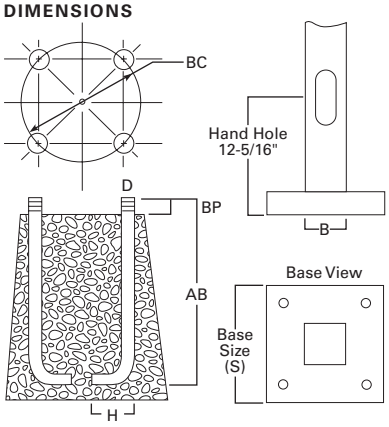
ORDERING INFORMATION

SAMPLE NUMBER: SSS5A20SFM1XG

Product Family	Shaft Size (Inches)[1]	Wall Thickness (Inches)	Mounting Height (Feet)	Base Type	Finish	Mounting Type	Number and Location of Arms	Arm Lengths (Feet)	Options (Add as Suffix)
SSS=Square Straight Steel	**4**=4" **5**=5" **6**=6"	**A**=0.120" **M**=0.188" **X**=0.250"	**10**=10' **15**=15' **20**=20' **25**=25' **30**=30' **35**=35' **39**=39'	**S**=Square Steel Base	**F**=Dark Bronze **G**=Galvanized Steel **J**=Summit White **K**=Carbon Bronze **L**=Dark Platinum **P**=Primer Powder Coat **R**=Hartford Green **S**=Silver **T**=Graphite Metallic **V**=Grey **W**=White **X**=Custom Color **Y**=Black	**2**=2-3/8" O.D. Tenon (4" Long) **3**=3-1/2" O.D. Tenon (5" Long) **4**=4" O.D. Tenon (6" Long) **5**=3" O.D. Tenon (4" Long) **6**=2-3/8" O.D. Tenon (6" Long) **7**=4" O.D. Tenon (10" Long) **A**=Type A Drilling **C**=Type C Drilling **E**=Type E Drilling **F**=Type F Drilling **G**=Type G Drilling **J**=Type J Drilling **K**=Type K Drilling **M**=Type M Drilling **R**=Type R Drilling **Z**=Type Z Drilling	**1**=Single **2**=2 at 180° **3**=Triple[2] **4**=4 at 90° **5**=2 at 90° **X**=None	**X**=None	**A**=1/2" Tapped Hub (Specify location desired) **B**=3/4" Tapped Hub (Specify location desired) **C**=Convenience Outlet[3] **E**=GFCI Convenience Outlet[3] **G**=Ground Lug **H**=Additional Hand Hole[4] **L**=Drilled for Bumper Glitter **V**=Vibration Dampener

NOTES: 1. All shaft sizes nominal. **2.** Square poles are 3 at 90°, round poles are 3 at 120°. **3.** Outlet is located 4' above base and on same side of pole as hand hole, unless specified otherwise. Receptacle not included, provision only. **4.** Additional hand hole is located 12" below pole top and 90° from standard hand hole location, unless otherwise specified.

DIMENSIONS



Effective Projected Area (At Pole Top)

Mounting Height (Feet)	Catalog Number [1,2]	Wall Thickness (Inches)	Base Square [3] (Inches)	Bolt Circle Diameter (Inches)	Anchor Bolt Projection [3] (Inches)	Shaft Size [3] (Inches)	Anchor Bolt Diameter x Length x Hook (Inches)	Net Weight (Pounds)	Maximum Effective Projected Area (Square Feet) [4]				Max. Fixture Load - Includes Bracket (Pounds)
MH			S	BC	BP	B	D x AB x H		80 mph	90 mph	100 mph	110 mph	
10	SSS4A10S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	85	30.0	22.0	17.0	13.0	100
15	SSS4A15S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	118	15.0	11.5	8.7	6.5	100
20	SSS4A20S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	150	8.7	5.9	3.9	2.5	150
20	SSS5A20S	0.120	10-1/2	11	4-1/2	5	3/4 x 25 x 3	183	15.4	11.1	7.9	5.5	150
25	SSS4A25S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	181	3.7	1.7	0.3	--	200
25	SSS5A25S	0.120	10-1/2	11	5	5	3/4 x 25 x 3	222	9.3	6.0	3.5	1.6	200
25	SSS6A25S	0.120	12-1/2	12-1/2	5	6	1 x 36 x 4	284	9.9	6.1	3.5	1.2	200
30	SSS5A30S	0.120	10-1/2	11	4-1/2	5	3/4 x 25 x 3	260	4.7	2.1	--	--	200
30	SSS5M30S	0.188	10-1/2	11	4-1/2	5	3/4 x 25 x 3	392	10.4	6.4	3.5	1.5	200
30	SSS6A30S	0.120	12-1/2	12-1/2	5	6	1 x 36 x 4	330	4.3	1.4	--	--	200
30	SSS6M30S	0.188	12-1/2	12-1/2	5	6	1 x 36 x 4	489	19.0	13.0	8.7	5.6	200
35	SSS5M35S	0.188	10-1/2	11	4-1/2	5	3/4 x 25 x 3	453	5.8	2.8	--	--	200
35	SSS6M35S	0.188	12-1/2	12-1/2	5	6	1 x 36 x 4	564	12.8	7.2	3.7	1.0	200
35	SSS6X35S	0.250	12-1/2	12-1/2	5	6	1 x 36 x 4	738	16.5	11.0	6.8	3.5	200
39	SSS6M39S	0.188	12-1/2	12-1/2	5	6	1 x 36 x 4	618	7.3	3.0	--	--	300
39	SSS6X39S	0.250	12-1/2	12-1/2	5	6	1 x 36 x 4	816	13.0	7.0	3.7	0.8	300

Effective Projected Area (Two Feet Above Pole Top)

Mounting Height (Feet)	Catalog Number [1,2]	Wall Thickness (Inches)	Base Square [3] (Inches)	Bolt Circle Diameter (Inches)	Anchor Bolt Projection [3] (Inches)	Shaft Size [3] (Inches)	Anchor Bolt Diameter x Length x Hook (Inches)	Net Weight (Pounds)	Maximum Effective Projected Area (Square Feet) [4]				Max. Fixture Load - Includes Bracket (Pounds)
MH			S	BC	BP	B	D x AB x H		80 mph	90 mph	100 mph	110 mph	
10	SSS4A10S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	85	23.0	17.5	14.0	11.0	100
15	SSS4A15S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	118	13.4	10.0	7.5	5.7	100
20	SSS4A20S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	150	7.6	5.2	3.4	2.1	150
20	SSS5A20S	0.120	10-1/2	11	4-1/2	5	3/4 x 25 x 3	183	13.8	9.9	7.1	4.9	150
25	SSS4A25S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	181	3.4	1.6	0.3	--	200
25	SSS5A25S	0.120	10-1/2	11	5	5	3/4 x 25 x 3	222	8.5	5.5	3.2	1.5	200
25	SSS6A25S	0.120	12-1/2	12-1/2	5	6	1 x 36 x 4	284	9.1	5.6	3.0	1.2	200
30	SSS5A30S	0.120	10-1/2	11	4-1/2	5	3/4 x 25 x 3	260	1.8	--	--	--	200
30	SSS5M30S	0.188	10-1/2	11	4-1/2	5	3/4 x 25 x 3	392	9.6	5.9	1.9	0.2	200
30	SSS6A30S	0.120	12-1/2	12-1/2	5	6	1 x 36 x 4	330	4.1	1.3	--	--	200
30	SSS6M30S	0.188	12-1/2	12-1/2	5	6	1 x 36 x 4	489	18.5	12.5	8.4	5.3	200
35	SSS5M35S	0.188	10-1/2	11	4-1/2	5	3/4 x 25 x 3	453	5.5	2.4	--	--	200
35	SSS6M35S	0.188	12-1/2	12-1/2	5	6	1 x 36 x 4	564	11.8	7.0	3.5	1.0	200
35	SSS6X35S	0.250	12-1/2	12-1/2	5	6	1 x 36 x 4	738	16.0	10.5	6.4	3.4	200
39	SSS6M39S	0.188	12-1/2	12-1/2	5	6	1 x 36 x 4	618	7.0	2.4	--	--	300
39	SSS6X39S	0.250	12-1/2	12-1/2	5	6	1 x 36 x 4	816	12.0	6.7	3.0	0.5	300

NOTES:
1. Catalog number includes pole with hardware kit. Anchor bolts not included. Before installing, make sure proper anchor bolts and templates are obtained from Eaton's Cooper Lighting business.
2. Tenon size or machining for rectangular arms must be specified. Hand hole position relative to drill location.
3. Shaft size, base square, anchor bolts and projections may vary slightly. All dimensions nominal.
4. EPAs based on shaft properties with wind normal to flat. EPAs calculated using base wind velocity as indicated plus 30% gust factor.

Lumark

DESCRIPTION

The Prevail LED area, site luminaire combines optical performance, energy efficiency and long term reliability in an advanced, patent pending modern design. Utilizing the latest LED technology, the Prevail luminaire delivers unparalleled uniformity resulting in greater pole spacing. A versatile mount standard arm facilitates ease of installation for both retrofit and new installations. With energy savings greater than 62%, the Prevail fixture replaces 150-400W metal halide fixtures in general area lighting applications such as parking lots, walkways, roadways and building areas.

Catalog #	PRV-A40-UNV-T4-SA-BZ	**Type**
Project		P3/P4
Comments		**Date**
Prepared by		

SPECIFICATION FEATURES

Construction
Construction is comprised of a heavy-duty, single-piece die-cast aluminum housing. The LED drivers are mounted in direct contact with the casting to promote low operating temperature and long life. The die-cast aluminum door is tethered to provide easy access to the driver if replacement is required. A one-piece silicone gasket seals the door to the fixture housing. The optics is mounted on a versatile, aluminum plate that dissipates heat from the LEDs resulting in longer life of the fixture. The fixture is IP66 and 3G vibration rated (ANSI C136.31) to insure strength of construction and longevity in the selected application.

Optics
Precision molded, high efficiency optics are precisely designed to shape the distribution, maximizing efficiency and application spacing. Available in Type II, III, IV and V distributions with lumen packages ranging from 6,100 to 18,900 nominal lumens. Light engine configurations consist of 1 or 2 high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L92/60,000 hours at 25°C) per IESNA TM-21. For the ultimate level of spill light control, an optional house side shield accessory can be field or factory installed.

Electrical
LED drivers are mounted to the fixture for optimal heat sinking and ease of maintenance. Thermal management incorporates both conduction and convection to transfer heat rapidly away from the LED source for optimal efficiency and light output. Class 1 electronic drivers have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Available in 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. 10kV/10 kA surge protection standard. 0-10V dimming driver is standard with leads external to the fixture to accommodate controls capability such as dimming and occupancy. Suitable for ambient temperatures from -40°C to 40°C. Optional 50°C HA (high ambient) available. Standard NEMA 3-PIN twistlock photocontrol receptacle and NEMA 7-PIN twistlock photocontrol receptacles are available as options.

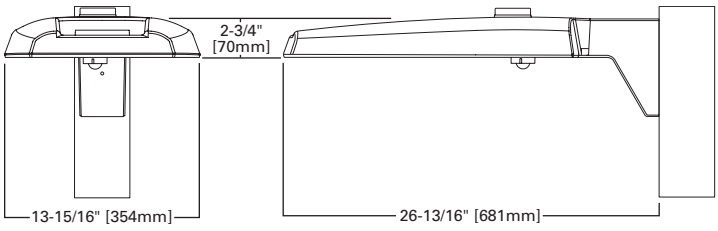
Controls
The Prevail LED luminaire control options are designed to be simple and cost-effective ASHRAE and California Title 24 compliant solutions. The ANSI C136.41 compliant NEMA 7-PIN receptacle enables wireless dimming when used with compatible photocontrol. An integrated dimming and occupancy sensor is a standalone control option available in on/off (MSP) and bi-level dimming (MSP/DIM) operation. The optional LumaWatt system is best described as a peer-to-peer wireless network of luminaire-integral sensors that operate in accordance with programmable profiles. Each sensor is capable of motion and photo sensing, metering power consumption and wireless communication.

Mounting
Standard pole mount arm is bolted directly to the pole and the fixture slides onto the arm and locks in place with a bolt facilitating quick and easy installation. The versatile, patent pending, standard mount arm accommodates multiple drill patterns ranging from 1-1/2" to 4-7/8". Removal of the door on the standard mounting arm enables wiring of the fixture without having to access the driver compartment. A knock-out on the standard mounting arm enables round pole mounting. Wall mount and mast arm mounting options are available. Mast arm adapter fits 2-3/8" O.D. tenon.

Finish
Housing and cast parts finished in five-stage super TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. Standard color is bronze. Additional colors available in white, grey, black, dark platinum and graphite metallic.

Warranty
Five-year warranty.

DIMENSIONS



PRV PREVAIL

LED

AREA / SITE / ROADWAY LUMINAIRE

CERTIFICATION DATA
UL and cUL Wet Location Listed
IP66-Rated
3G Vibration Rated
ISO 9001
DesignLights Consortium™ Qualified*

ENERGY DATA
Electronic LED Driver
0.9 Power Factor
<20% Total Harmonic Distortion
120-277V/50 and 60Hz,
347V/60Hz, 480V/60Hz
-40°C Minimum Temperature Rating
+40°C Ambient Temperature Rating

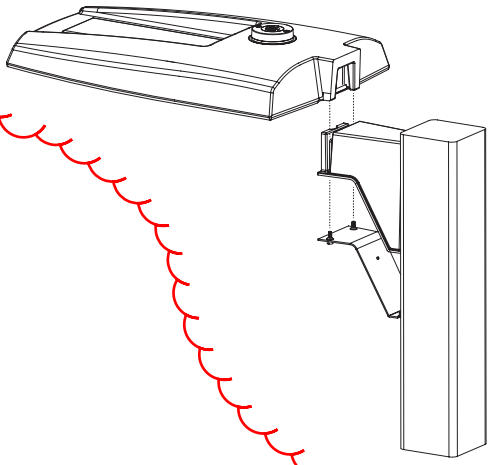
EPA
Effective Projected Area (Sq. Ft.): 0.75

SHIPPING DATA
Approximate Net Weight:
20 lbs. (9.09 kgs.)

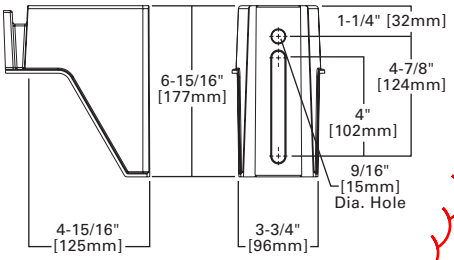
Powering Business Worldwide

*www.designlights.org

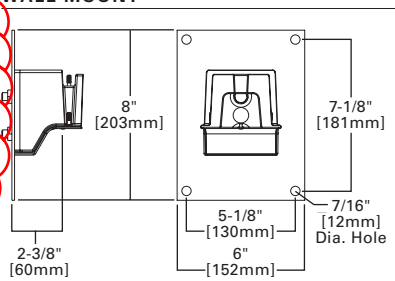
VERSATILE MOUNT SYSTEM



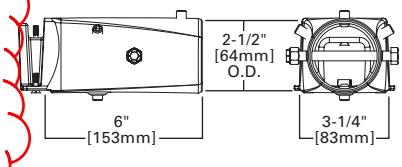
POLE MOUNT ARM



WALL MOUNT

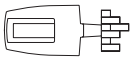


MAST ARM MOUNT

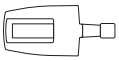


MOUNTING CONFIGURATIONS AND EPAS

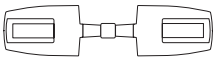
Wall Mount



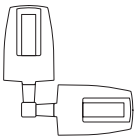
Arm Mount Single
EPA 0.75



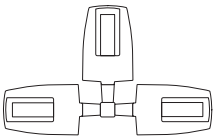
Arm Mount 2 @ 180°
EPA 1.50



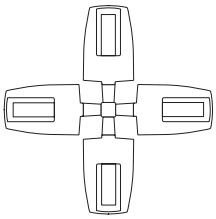
Arm Mount 2 @ 90°
EPA 1.50



Arm Mount 3 @ 90°
EPA 2.25

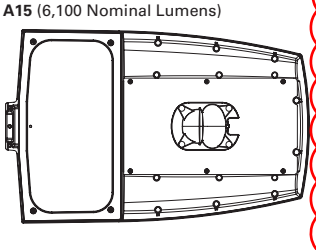


Arm Mount 4 @ 90°
EPA 3.00

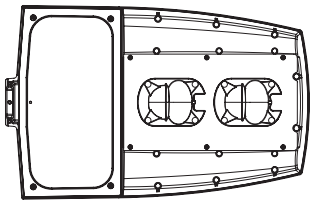


OPTICAL CONFIGURATIONS

A15 (6,100 Nominal Lumens)



A25/A40/A60 (10,200/15,100/18,900 Nominal Lumens)



POWER AND LUMENS

Light Engine		A15	A25	A40	A60
Nominal Power (Watts)		57W	87W	143W	163W
Input Current @ 120V (A)		0.49	0.76	1.23	1.34
Input Current @ 277V (A)		0.22	0.35	0.54	0.60
Input Current @ 347V (A)		0.18	0.28	0.45	0.49
Input Current @ 480V (A)		0.13	0.21	0.33	0.35
Type II	Lumens	6,139	10,204	15,073	18,830
	BUG Rating	B1-U0-G1	B2-U0-G2	B3-U0-G3	B3-U0-G3
Type III	Lumens	6,192	10,292	15,203	18,992
	BUG Rating	B1-U0-G2	B2-U0-G3	B2-U0-G3	B3-U0-G4
Type IV	Lumens	6,173	10,261	15,157	18,935
	BUG Rating	B1-U0-G3	B2-U0-G3	B2-U0-G4	B2-U0-G5
Type V	Lumens	6,393	10,627	15,697	19,610
	BUG Rating	B3-U0-G3	B4-U0-G3	B4-U0-G4	B5-U0-G4

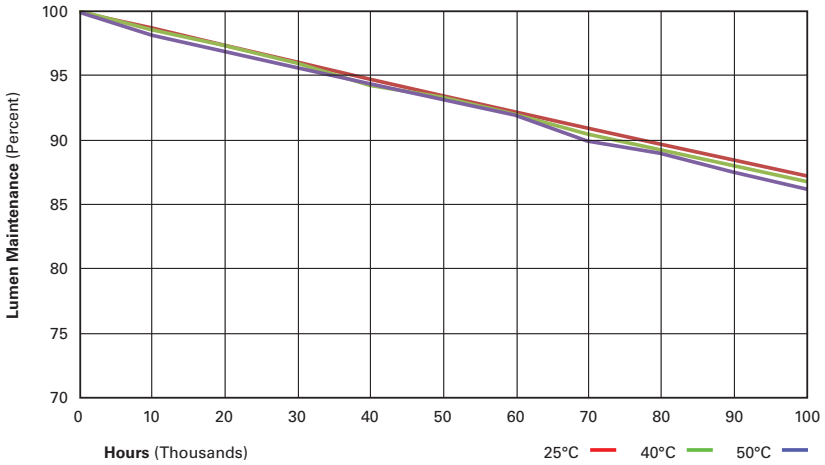
NOTE: Lumen output for standard bronze fixture color. Different housing colors impact lumen output.
IES files for the non-standard colors are available upon request.

LUMEN MAINTENANCE

Ambient Temperature	25,000 Hours*	50,000 Hours*	60,000 Hours*	Theoretical 100,000 Hours	Theoretical L70 (Hours)*
25ºC	> 96%	> 93%	> 92%	> 87%	> 260,000
40ºC	> 96%	> 93%	> 92%	> 87%	> 255,000
50ºC	> 95%	> 92%	> 91%	> 86%	> 250,000

LUMEN MULTIPLIER

Ambient Temperature	Lumen Multiplier
10ºC	1.02
15ºC	1.01
25ºC	1.00
40ºC	0.99



ORDERING INFORMATION

Sample Number: PRV-A25-D-UNV-T3-SA-BZ

Product Family [1,2]	Light Engine [3]	Driver [4]	Voltage	Distribution	Mounting	Color [6]
PRV=Prevail	**A15**=(1 LED) 6,100 Nominal Lumens **A25**=(2 LEDs) 10,200 Nominal Lumens **A40**=(2 LEDs) 15,100 Nominal Lumens **A60**=(2 LEDs) 18,900 Nominal Lumens	**D**=Dimming (0-10V)	**UNV**=Universal (120-277V) **347**=347V **480**=480V [5]	**T2**=Type II **T3**=Type III **T4**=Type IV **T5**=Type V	**SA**=Standard Versatile Arm **MA**=Mast Arm **WM**=Wall Mount Arm	**AP**=Grey **BZ**=Bronze (Standard) **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White

Options (Add as Suffix)	**Accessories** (Order Separately) [11]
7030=70 CRI / 3000K CCT [7] **7050**=70 CRI / 5000K CCT [7] **10K**=10kV/10kA UL 1449 Fused Surge Protective Device **DIMRF-LW**=LumaWatt Wireless Sensor, Wide Lens for 8' - 16' Mounting Height [8,9] **DIMRF-LN**=LumaWatt Wireless Sensor, Narrow Lens for 16' - 40' Mounting Height [8,9] **MSP/DIM-L12**=Integrated Sensor for Dimming Operation, 8' - 12' Mounting Height **MSP/DIM-L30**=Integrated Sensor for Dimming Operation, 12' - 30' Mounting Height **MSP-L12**=Integrated Sensor for ON/OFF Operation, 8' - 12' Mounting Height **MSP-L30**=Integrated Sensor for ON/OFF Operation, 12' - 30' Mounting Height **PER**=NEMA 3-PIN Twistlock Photocontrol Receptacle [10] **PER7**=NEMA 7-PIN Twistlock Photocontrol Receptacle [10] **HSS**=House Side Shield **HA**=50°C High Ambient Temperature	**PRVWM-XX**=Wall Mount Kit **PRVMA-XX**=Mast Arm Mounting Kit **PRVSA-XX**=Standard Arm Mounting Kit **HS/VERD**=House Side Shield **MA1010-XX**=Single Tenon Adapter for 3-1/2" O.D. Tenon **MA1011-XX**=2@180° Tenon Adapter for 3-1/2" O.D. Tenon **MA1012-XX**=3@120° Tenon Adapter for 3-1/2" O.D. Tenon **MA1013-XX**=4@90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1014-XX**=2@90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1015-XX**=2@120° Tenon Adapter for 3-1/2" O.D. Tenon **MA1016-XX**=3@90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1017-XX**=Single Tenon Adapter for 2-3/8" O.D. Tenon **MA1018-XX**=2@180° Tenon Adapter for 2-3/8" O.D. Tenon **MA1019-XX**=3@120° Tenon Adapter for 2-3/8" O.D. Tenon **MA1045-XX**=4@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1048-XX**=2@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1049-XX**=3@90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1191-XX**=2@120° Tenon Adapter for 2-3/8" O.D. Tenon **OA/RA1013**=Photocontrol Shorting Cap **OA/RA1014**=NEMA Photocontrol - 120V **OA/RA1016**=NEMA Photocontrol - Multi-Tap 105-285V **OA/RA1027**=NEMA Photocontrol - 480V **OA/RA1201**=NEMA Photocontrol - 347V **ISHH-01**=Integrated Sensor Programming Remote

NOTES:
1. Customer is responsible for engineering analysis to confirm pole and fixture compatibility for all applications. Refer to installation instructions IB500002EN and pole white paper WP513001EN for additional support information.
2. DesignLights Consortium™ Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.
3. Standard 4000K CCT and 70 CRI.
4. Consult factory for driver surge protection values.
5. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
6. Different housing colors impact lumen output. IES files for the non-standard colors are available upon request.
7. Extended lead times apply. Use dedicated IES files for 3000K and 5000K when performing layouts. These files are published on the Prevail luminaire product page on the website.
8. LumaWatt wireless sensors are factory installed and require network components RF-EM-1, RF-GW-1 and RF-ROUT-1 in appropriate quantities. See website for LumaWatt application information.
9. LumaWatt wireless system is not available with photocontrol receptacle (Not needed).
10. Not available with MSP or DIMRF options.
11. Replace XX with paint color.

STOCK ORDERING INFORMATION

Stock Sample Number: PRVS-A25-UNV-T3

Product Family	Light Engine	Voltage	Distribution	Options (Add as Suffix)
PRVS=Prevail	**A15**=(1 LED) 6,100 Nominal Lumens **A25**=(2 LEDs) 10,200 Nominal Lumens **A40**=(2 LEDs) 15,100 Nominal Lumens **A60**=(2 LEDs) 18,900 Nominal Lumens	**UNV**=Universal (120-277V) **347**=347V	**T3**=Type III **T4**=Type IV	**MSP/DIM-L30**=Integrated Sensor for Dimming Operation, Maximum 30' Mounting Height

NOTE: Bronze only, 4000K CCT, 120-277V, 347V, standard mounting arm, standard non-fused 10kV MOV and 0-10V dimming.

COOPER LIGHTING

SSS SQUARE STRAIGHT STEEL

Catalog #	SSS4-A-20-SF	**Type**
Project		P3/P4
Comments		**Date**
Prepared by		

FEATURES
- ASTM Grade steel base plate with ASTM A366 base cover
- Hand hole assembly 3" x 5" on 5" and 6" pole; and 2" x 4" on 4" pole
- 10'-39' mounting heights
- Drilled or tenon (specify)

Light pole

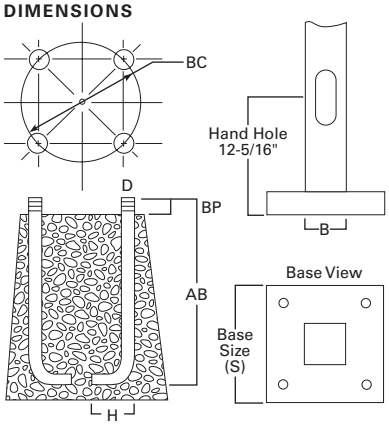
ORDERING INFORMATION

SAMPLE NUMBER: SSS5A20SFM1XG

Product Family	Shaft Size (Inches)[1]	Wall Thickness (Inches)	Mounting Height (Feet)	Base Type	Finish	Mounting Type	Number and Location of Arms	Arm Lengths (Feet)	Options (Add as Suffix)
SSS=Square Straight Steel	**4**=4" **5**=5" **6**=6"	**A**=0.120" **M**=0.188" **X**=0.250"	**10**=10' **15**=15' **20**=20' **25**=25' **30**=30' **35**=35' **39**=39'	**S**=Square Steel Base	**F**=Dark Bronze **G**=Galvanized Steel **J**=Summit White **K**=Carbon Bronze **L**=Dark Platinum **P**=Primer Powder Coat **R**=Hartford Green **S**=Silver **T**=Graphite Metallic **V**=Grey **W**=White **X**=Custom Color **Y**=Black	**2**=2-3/8" O.D. Tenon (4" Long) **3**=3-1/2" O.D. Tenon (5" Long) **4**=4" O.D. Tenon (6" Long) **5**=3" O.D. Tenon (4" Long) **6**=2-3/8" O.D. Tenon (6" Long) **7**=4" O.D. Tenon (10" Long) **A**=Type A Drilling **C**=Type C Drilling **E**=Type E Drilling **F**=Type F Drilling **G**=Type G Drilling **J**=Type J Drilling **K**=Type K Drilling **M**=Type M Drilling **R**=Type R Drilling **Z**=Type Z Drilling	**1**=Single **2**=2 at 180° **3**=Triple[2] **4**=4 at 90° **5**=2 at 90° **X**=None	**X**=None	**A**=1/2" Tapped Hub (Specify location desired) **B**=3/4" Tapped Hub (Specify location desired) **C**=Convenience Outlet[3] **E**=GFCI Convenience Outlet[3] **G**=Ground Lug **H**=Additional Hand Hole[4] **L**=Drilled for Bumper Glitter **V**=Vibration Dampener

NOTES: 1. All shaft sizes nominal. **2.** Square poles are 3 at 90°, round poles are 3 at 120°. **3.** Outlet is located 4' above base and on same side of pole as hand hole, unless specified otherwise. Receptacle not included, provision only. **4.** Additional hand hole is located 12" below pole top and 90° from standard hand hole location, unless otherwise specified.

DIMENSIONS



Effective Projected Area (At Pole Top)

Mounting Height (Feet)	Catalog Number [1,2]	Wall Thickness (Inches)	Base Square [3] (Inches)	Bolt Circle Diameter (Inches)	Anchor Bolt Projection [3] (Inches)	Shaft Size [3] (Inches)	Anchor Bolt Diameter x Length x Hook (Inches)	Net Weight (Pounds)	Maximum Effective Projected Area (Square Feet) [4]				Max. Fixture Load - Includes Bracket (Pounds)
MH			S	BC	BP	B	D x AB x H		80 mph	90 mph	100 mph	110 mph	
10	SSS4A10S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	85	30.0	22.0	17.0	13.0	100
15	SSS4A15S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	118	15.0	11.5	8.7	6.5	100
20	SSS4A20S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	150	8.7	5.9	3.9	2.5	150
20	SSS5A20S	0.120	10-1/2	11	4-1/2	5	3/4 x 25 x 3	183	15.4	11.1	7.9	5.5	150
25	SSS4A25S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	181	3.7	1.7	0.3	--	200
25	SSS5A25S	0.120	10-1/2	11	5	5	3/4 x 25 x 3	222	9.3	6.0	3.5	1.6	200
25	SSS6A25S	0.120	12-1/2	12-1/2	5	6	1 x 36 x 4	284	9.9	6.1	3.5	1.2	200
30	SSS5A30S	0.120	10-1/2	11	4-1/2	5	3/4 x 25 x 3	260	4.7	2.1	--	--	200
30	SSS5M30S	0.188	10-1/2	11	4-1/2	5	3/4 x 25 x 3	392	10.4	6.4	3.5	1.5	200
30	SSS6A30S	0.120	12-1/2	12-1/2	5	6	1 x 36 x 4	330	4.3	1.4	--	--	200
30	SSS6M30S	0.188	12-1/2	12-1/2	5	6	1 x 36 x 4	489	19.0	13.0	8.7	5.6	200
35	SSS5M35S	0.188	10-1/2	11	4-1/2	5	3/4 x 25 x 3	453	5.8	2.8	--	--	200
35	SSS6M35S	0.188	12-1/2	12-1/2	5	6	1 x 36 x 4	564	12.8	7.2	3.7	1.0	200
35	SSS6X35S	0.250	12-1/2	12-1/2	5	6	1 x 36 x 4	738	16.5	11.0	6.8	3.5	200
39	SSS6M39S	0.188	12-1/2	12-1/2	5	6	1 x 36 x 4	618	7.3	3.0	--	--	300
39	SSS6X39S	0.250	12-1/2	12-1/2	5	6	1 x 36 x 4	816	13.0	7.0	3.7	0.8	300

Effective Projected Area (Two Feet Above Pole Top)

Mounting Height (Feet)	Catalog Number [1,2]	Wall Thickness (Inches)	Base Square [3] (Inches)	Bolt Circle Diameter (Inches)	Anchor Bolt Projection [3] (Inches)	Shaft Size [3] (Inches)	Anchor Bolt Diameter x Length x Hook (Inches)	Net Weight (Pounds)	Maximum Effective Projected Area (Square Feet) [4]				Max. Fixture Load - Includes Bracket (Pounds)
MH			S	BC	BP	B	D x AB x H		80 mph	90 mph	100 mph	110 mph	
10	SSS4A10S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	85	23.0	17.5	14.0	11.0	100
15	SSS4A15S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	118	13.4	10.0	7.5	5.7	100
20	SSS4A20S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	150	7.6	5.2	3.4	2.1	150
20	SSS5A20S	0.120	10-1/2	11	4-1/2	5	3/4 x 25 x 3	183	13.8	9.9	7.1	4.9	150
25	SSS4A25S	0.120	10-1/2	11	4-1/2	4	3/4 x 25 x 3	181	3.4	1.6	0.3	--	200
25	SSS5A25S	0.120	10-1/2	11	5	5	3/4 x 25 x 3	222	8.5	5.5	3.2	1.5	200
25	SSS6A25S	0.120	12-1/2	12-1/2	5	6	1 x 36 x 4	284	9.1	5.6	3.0	1.2	200
30	SSS5A30S	0.120	10-1/2	11	4-1/2	5	3/4 x 25 x 3	260	1.8	--	--	--	200
30	SSS5M30S	0.188	10-1/2	11	4-1/2	5	3/4 x 25 x 3	392	9.6	5.9	1.9	0.2	200
30	SSS6A30S	0.120	12-1/2	12-1/2	5	6	1 x 36 x 4	330	4.1	1.3	--	--	200
30	SSS6M30S	0.188	12-1/2	12-1/2	5	6	1 x 36 x 4	489	18.5	12.5	8.4	5.3	200
35	SSS5M35S	0.188	10-1/2	11	4-1/2	5	3/4 x 25 x 3	453	5.5	2.4	--	--	200
35	SSS6M35S	0.188	12-1/2	12-1/2	5	6	1 x 36 x 4	564	11.8	7.0	3.5	1.0	200
35	SSS6X35S	0.250	12-1/2	12-1/2	5	6	1 x 36 x 4	738	16.0	10.5	6.4	3.4	200
39	SSS6M39S	0.188	12-1/2	12-1/2	5	6	1 x 36 x 4	618	7.0	2.4	--	--	300
39	SSS6X39S	0.250	12-1/2	12-1/2	5	6	1 x 36 x 4	816	12.0	6.7	3.0	0.5	300

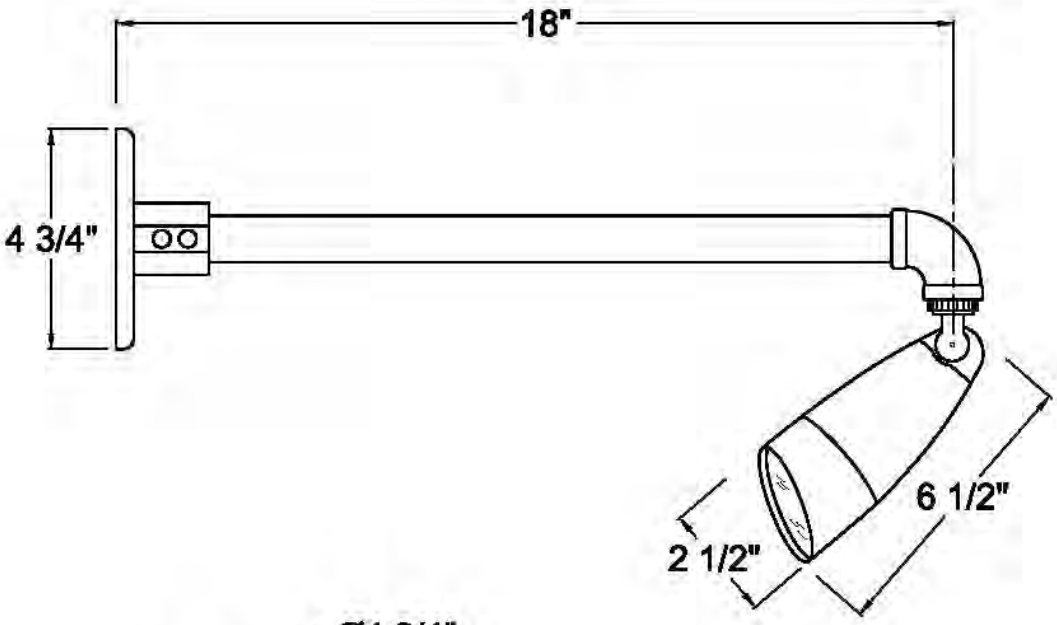
NOTES:
1. Catalog number includes pole with hardware kit. Anchor bolts not included. Before installing, make sure proper anchor bolts and templates are obtained from Eaton's Cooper Lighting business.
2. Tenon size or machining for rectangular arms must be specified. Hand hole position relative to drill location.
3. Shaft size, base square, anchor bolts and projections may vary slightly. All dimensions nominal.
4. EPAs based on shaft properties with wind normal to flat. EPAs calculated using base wind velocity as indicated plus 30% gust factor.

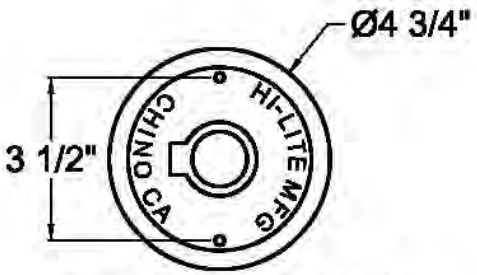
Type WSCX-2

HI-LITE MFG. CO., INC.

13450 Monte Vista Avenue
Chino, California 91710
Telephone: (909) 465-1999
Toll Free: (800) 465-0211
Fax: (909) 465-0907
www.hilitemfg.com

JOB NAME:		
SCALE: N.T.S.	DATE: 09/25/2014	TYPE: WSCXC-2
DRAWN BY: S.M.-D	QTY:	
SHEET:		REV:





CANOPY FRONT VIEW

Item Number	Wattage	Voltage
GU10-119/18-1-119	50W	120V

Finish	Mounting	Lamp/Socket
119-Bronze	Wall Mount	GU10

2 PROPOSED EAST ELEVATION
SCALE: 1/4" = 1'-0"

1 PROPOSED NORTH ELEVATION
SCALE: 1/4" = 1'-0"

AHARONIAN
& ASSOCIATES, INC.
Architects
401-232-5010
www.arch-eng.com

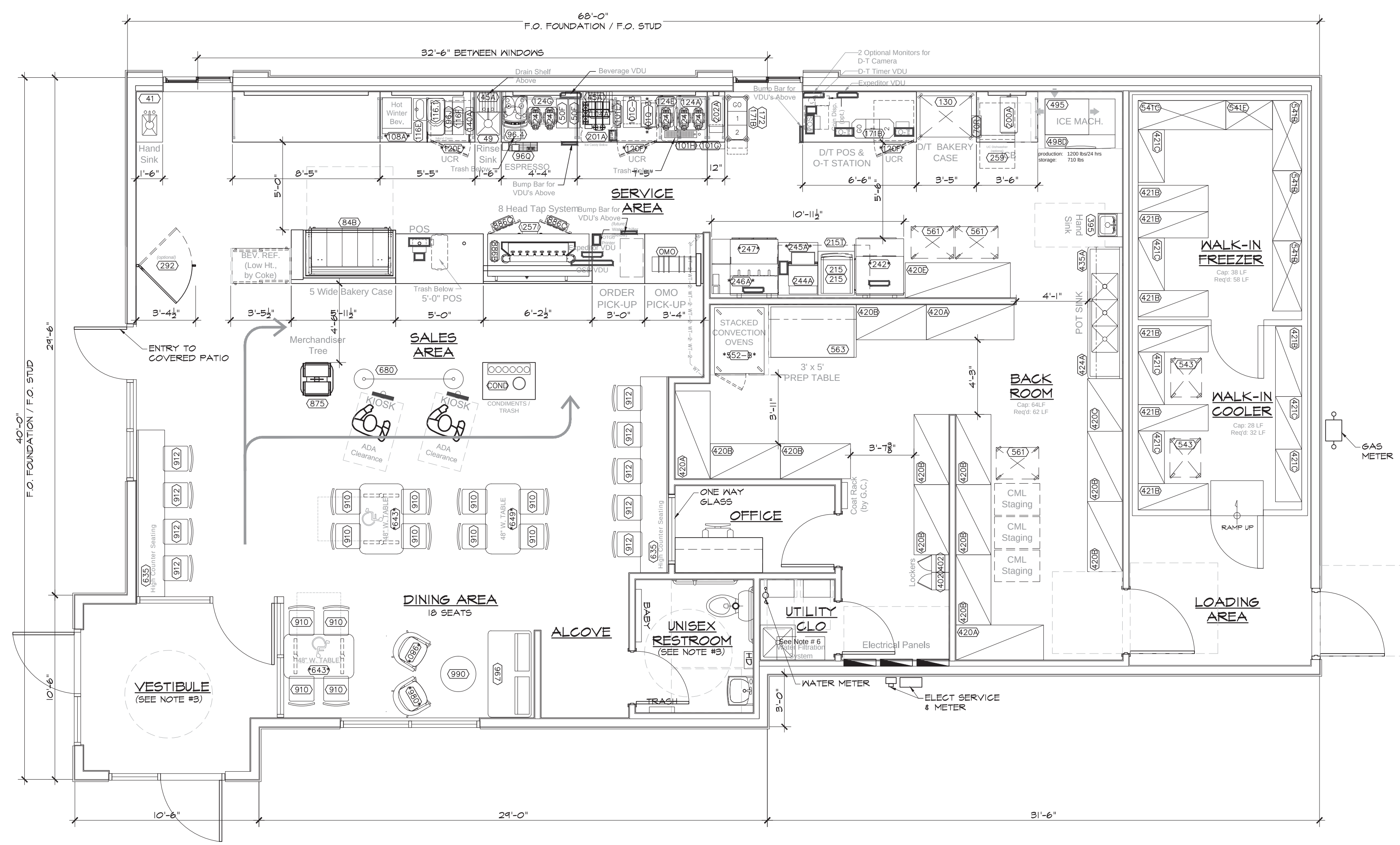
REDUCTION

DUNKIN'
420 MAIN STREET
LEWISTON, ME
SEPTEMBER 16, 2019

2,543 SF (Building)
312 SF (Interior Walk-In Box)
1 DRY DELIVERIES per WK.
1 REF'D DELIVERIES per WK.
25 SEATS
64 LF Dry Storage Shelving

- ▢ = PRINTER (optional)
- ▭ = VIDEO DISPLAY UNIT
- ▢ = PRINTER

0 5' 10'



NOTES:

1. ~~THIS LAYOUT MEETS "GSD" STANDARDS.~~
2. FRANCHISEE'S ARCHITECT SHALL ENSURE 40" MINIMUM CLEAR ACCESS INTO AND THROUGHOUT THE STORE FOR DELIVERY OF LARGE EQUIPMENT ITEMS.
3. FRANCHISEE'S ARCHITECT TO VERIFY COMPLIANCE WITH APPLICABLE ADA AND CODE REQUIREMENTS FOR RESTROOM(S) AND ENTRANCE(S).
4. FRANCHISEE'S ARCHITECT SHALL DETERMINE MENUBOARD SIZE AND CONFIGURATION BASED ON FIELD CONDITIONS AND MENU CHOICES.
5. ~~WINDOW(S) TO BE IN-FILLED, TINTED, OR BLOCKED OUT WITH APPROVED DBI WINDOW GRAPHICS.~~
6. IF A D/T STAGING CART IS PROVIDED, THE STAGING MAT SHOWN AT D/T POS STATION IS NOT REQUIRED.
7. UNSIGHTLY UTILITIES:

   TO ENHANCE THE D/T EXPERIENCE PLAN ACCORDINGLY TO EITHER REMOVE OR SCREEN WHEN POSSIBLE.
8. DEFAULT WATER FILTRATION SYSTEM SHOWN. ARCHITECT TO HAVE WATER TESTED TO VERIFY ACTUAL SYSTEM REQUIRED. BOOSTER PUMP CAN BE ELIMINATED IF INCOMING WATER PRESSURE TO THE BUILDING IS 65PSI OR HIGHER.

ESCALATION NOTES:

If the items below cannot be addressed by the OM & CM, they will need to be reviewed and approved by the OD & DRC.

1. 38 LF Freezer Storage (Required: 58 LF).

CAUTIONARY NOTES:

1. Due to placement of kitchen equipment, no space provided for second coffee station.
3. 28 LF Cooler Storage (Required: 32 LF).

FRANCHISEE PREFERENCES:

- Provide extra dry storage. Relocated existing walk-in box from original store - box is less than two years old
- Place all kitchen equipment as close to Service Area as possible, with storage in Back Room.
- One way glass in Office for security purposes
- Alcove visible to Service Area for security purposes
- Second OT for second menu board order point

REDUCTION

1 PROPOSED FLOOR PLAN
SCALE: 1/4" = 1'-0"

N PLAN

AHARONIAN
& ASSOCIATES INC.
ARCHITECTS

310 George Washington Highway
Suite 100
Smithfield, Rhode Island
0 2 9 1 7

T 401-232-5010
F 401-232-5080
WWW.ARCH-ENG.COM

REVISIONS

NUMBER	REMARKS	DATE
1	OWNER COMMENTS	10/02/19
2	OWNER COMMENTS	10/03/19
3	OWNER COMMENTS	10/18/19
4	STORE PLANNING	10/23/19
5	OWNER COMMENTS	10/25/19
6	OWNER COMMENTS	10/30/19
7	OWNER COMMENTS	11/07/19
8	OWNER COMMENTS	11/13/19

FOR REVIEW

PROJECT TITLE

DUNKIN' BRANDS
[eatdrinkthink]
PC# 359427

420 MAIN STREET
LEWISTON, ME 04240
ANDROSCOGGIN COUNTY

DRAWING TITLE

PROPOSED FLOOR PLAN

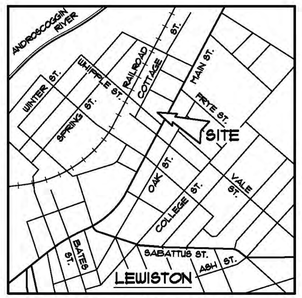
DATE	PROJ NO
SEPT 9, 2019	19146
DRAWN BY: ECM	CHECKED BY: JB

DRAWING NUMBER

K1.1

SCALE : 1" = 20'

0 10 20 40 60 80



LOCATION MAP

NORTH

NOTES

1) EXISTING CONDITIONS ARE BASED UPON A PLAN ENTITLED "EXISTING CONDITIONS & TOPOGRAPHY PLAN OF PROPERTY, 420 MAIN STREET - LEWISTON, MAINE", DATED AUGUST 5, 2019, PREPARED BY DAVIS LAND SURVEYING, LLC.

2) ALL BOOK AND PAGE NUMBERS REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.

3) OWNER OF RECORD - 420 MAIN STREET, LLC
DEED REFERENCE - BOOK 8893, PAGE 181
TAX MAP 194, LOTS 60 & 61

4) THE LOCATION, DEPTH, SIZE & EXISTENCE OF ALL UNDERGROUND UTILITY LINES, TANKS AND/OR STRUCTURES WAS NOT VERIFIED. CONTRACTOR SHALL CONTACT DIGSAFE/ON-TARGET PRIOR TO EXCAVATION TO CONFIRM THE LOCATION OF ALL PUBLIC & PRIVATE UTILITIES WITHIN THE PROJECT AREA.

5) THE PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD HAZARD AREA AS SHOWN ON THE F.E.M.A. FLOOD INSURANCE RATE MAP, PANEL #2300IC 0327E, DATED JULY 8, 2013.

6) ALL SIGNAGE TO BE OBTAINED AND INSTALLED BY THE OWNER.

7) SEE BUILDING PLANS BY ARCHITECT FOR EXACT DIMENSIONS.

8) PATIO BLOCKS ARE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS. BLOCK TYPE TO BE SELECTED BY OWNER.

9) PROVIDE BITUMINOUS CURBING TIPDOWN AT ALL ENDS OF CURB. TIPDOWN TO MEET CITY OF LEWISTON SPECIFICATIONS.

10) REUSE EXISTING GRANITE CURB WHERE POSSIBLE, ADD NEW GRANITE CURB AS NECESSARY.

LEGEND

- BOUNDARY LINE (SUBJECT PARCEL)
- BOUNDARY LINE (OTHER)
- N/F — NOW OR FORMERLY
- 2356/89 — BOOK AND PAGE NUMBER
- IRON ROD OR PIPE FOUND
- EXISTING STOCKADE FENCE
- EXISTING UTILITY POLE WITH OVERHEAD WIRES
- EXISTING WATER SHUT OFF VALVE
- EXISTING HYDRANT
- EXISTING SEWER MANHOLE
- NEW SEWER MANHOLE
- EXISTING CATCH BASIN
- NEW CATCH BASIN
- EXISTING BUILDING
- NEW BUILDING
- EXISTING PAVEMENT
- NEW PAVEMENT (THIS PROJECT)
- NEW CONCRETE PAD

STATE OF MAINE · STEPHEN J. ROBERGE #4853 · REGISTERED PROFESSIONAL ENGINEER
FOR APPROVALS ONLY

REV.	DATE	CHANGES
1	2-11-20	CHANGES PER CITY STAFF REVIEW

DO NOT MODIFY PLAN WITHOUT WRITTEN PERMISSION FROM SJR ENG., INC.

Stoneybrook
Land Use, Inc.
484 S Sun City Center Blvd, #300
Sun City Center, FL 33573-6231

SJR ENGINEERING, INC.
16 THURSTON DRIVE
MONMOUTH, MAINE 04259
(207) 242-6248 tel
steve@sjreng.com
SJR ENGINEERING

DELIVERY TRUCK PATH
420 MAIN STREET
LEWISTON, MAINE
PREPARED FOR
COLETTE'S DONUT SHOPPE
26 REJANE AVENUE - LEWISTON, ME 04240

DATE	PROJECT
2-3-2020	2019-42
DRAWN BY	SCALE
SJR	1" = 20'

SHEET 1

SCALE : 1" = 20'

0 10 20 40 60 80

NORTH

LOCATION MAP

NOTES

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LEGEND

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- BOUNDARY LINE (OTHER)
- N/F NOW OR FORMERLY
- 2356/89 BOOK AND PAGE NUMBER
- IRON ROD OR PIPE FOUND
- EXISTING STOCKADE FENCE
- EXISTING UTILITY POLE WITH OVERHEAD WIRES
- EXISTING WATER SHUT OFF VALVE
- EXISTING HYDRANT
- EXISTING SEWER MANHOLE
- NEW SEWER MANHOLE
- EXISTING CATCH BASIN
- NEW CATCH BASIN
- EXISTING BUILDING
- NEW BUILDING
- EXISTING PAVEMENT
- NEW PAVEMENT (THIS PROJECT)
- NEW CONCRETE PAD

STATE OF MAINE · STEPHEN J. ROBERGE · #8547 · REGISTERED PROFESSIONAL ENGINEER

FOR APPROVALS ONLY

REV.	DATE:	CHANGES:
1	2-11-20	CHANGES PER CITY STAFF REVIEW

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Stoneybrook
Land Use, Inc.
4846 Sun City Center Blvd. #300
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FIRE TRUCK PATH
420 MAIN STREET
LEWISTON, MAINE
PREPARED FOR
COLETTE'S DONUT SHOPPE
26 REJANE AVENUE - LEWISTON, ME 04240

DATE	PROJECT
2-3-2020	2019-42
DRAWN BY	SCALE
SJR	1" = 20'

SHEET 1

February 14, 2020

Mr. Mike Gotto
Stoneybrook Consultants
PO Box 459
Turner, Maine 04282

SJR ENGINEERING

Re: Water Quantity Analysis for Colettes Donut Shoppe, 420 Main St., Lewiston, Maine

Dear Mike,

Colettes Donut Shoppe is proposing to construct a 2,584 sf building plus ancillary parking/traffic maneuvering areas along 420 Main Street in Lewiston. It is anticipated that this project will start construction during the Spring of this construction season (2020).

The site is currently undeveloped. The parcel is located at the intersection of Whipple and Main Streets in Lewiston. It is located on tax map 194, lots 60 and 61. The parcel size is approximately 37,324 sf. Existing conditions have been surveyed by Davis Land Surveying and augmented with topographic contours taken from the City of Lewiston GIS data base for offsite contours. The parcel has access to public sewer, water, and cable utilities. A 12" diameter combined stormwater/sewer line runs through a portion of the parcel.

We have prepared plans and details in order to properly evaluate existing and proposed stormwater impacts from the development. The new grading plan will capture stormwater runoff from the proposed developed area within catch basins and redirect flows to a Stormtech Chamber System under the proposed parking area. At the request of the Lewiston Public Works director, one catch basin will discharge flows to the existing catch basin located at the intersection of Whipple and Main Streets. Discharges from the Stormtech Chamber System will be directed through a proposed

SJR ENGINEERING, INC.
STEVE@SJRENG.COM. 16 THURSTON DRIVE, MONMOUTH, ME. TEL: (207) 242-6248

retaining wall, flow along the parcel in a riprapped drainage ditch to a new catch basin located along Whipple Street. This new Catch Basin will then flow 120' within new 15" diameter stormdrain to the existing Catch basin at the intersection of Whipple and Cottage Streets. Stormwater flows will be attenuated by diverting and capturing stormwater flows from the new construction within the Stormtech Chamber System. No downstream impacts from stormwater flows are expected with this proposal.

Existing Site Conditions

The existing site being proposed for new construction is the location of previous development. Currently, the site is vacant and generally vegetated. A combined stormwater/sewer line traverses the property. This proposal will construct a 2,584 sf building with driveway entrance and associated paved parking surface capable of withstanding vehicle loads for construction. The existing 2 acre watershed encompasses the entire property and includes offsite area. Upslope offsite watershed areas flow through the parcel. The watershed drains to the existing catch basin located at Whipple/Cottage Streets. The topography of the existing site is shown at a two foot contour interval. The slope of the property varies from 1% along the flatter areas to 10% along the steeper slopes of the parcel.

Soils mapping was taken from Androscoggin County Soil Survey medium intensity mapping. These soils have been overlaid onto the site development plan. Soils are identified (see attached soil map) as being "Made Land". We have assumed they fall within the hydrological group "C" type soils. The hydrological group rating is a rating system of the relative permeability of the soil with Group "A" being extremely permeable such as a beach sand, to Group "D" being slow draining such as a wetland area.

Stormwater Analysis

We have prepared a stormwater quantity analysis to size drainage piping

within the parcel as well as accommodate upslope runoff water passing through the site. A pre/post stormwater analysis is necessary as the project impervious area will increase flows from the site without detention.

I have reviewed the drainage characteristics of the watershed area which includes proposed buildings, pavement, lawn areas, and woods, as well upslope watershed areas.

I have used the SCS TR-20 (HydroCad 10.0 computer model) method of computing stormwater runoff peak flow rates. This method accounts for soil types, existing land uses, topography, vegetative cover, and proposed land use for the parcel to be developed. The proposed conditions were analyzed using data for Androscoggin County type III, 24 hour storm distribution (Northeast Regional Climate Center June 2014) with a design frequency of occurrence of 2/10/25 years. One day precipitation values of 3.0/4.5/5.4" have been used for these events. All supporting calculations and data are submitted with this report.

Design Point A – Existing Condition

We have calculated the existing stormwater flows to the common design point along Whipple Street (proposed CB6 location). Existing flows at this location have been calculated to be 2.96/5.24/7.23 cfs for the 2/10/25 year storm events. These flows include both onsite and offsite runoff water within the 2 acre watershed study area.

In the proposed condition, and at the request of the City Public Works Director, we have diverted a portion of the runoff to flow into an existing Catch Basin along Main Street. The remainder of the upper site developed area is captured in catch basins and diverted to a Stormtech Chamber System that is located under the rear parking area. The Stormtech Chamber system is designed to store up to 25 year storm events within the system. Detention is to be controlled by an outlet control manhole that has a steel plate with specific sized holes located

inside the outlet control structure. When these detained flows are hydraulically added to offsite flows and the lower parking area, the net drainage flow rate is the same as the pre-development condition at the design point along Whipple Street.

The Stormtech Chamber system has been sized to accommodate and store flows for stormwater quantity functions and to control flows to less than pre-development runoff conditions. We have calculated significant increases in flow rates in the developed portion of the project for the 2/10/25 year storm events. By constructing the Stormtech Chamber System and sizing the inlets to the stormwater control structure, stormwater flows are captured and contained. These increased flows are then stored (detained) within the system for short periods of time allowing existing peak flow rates to be maintained (or decreased).

Design Point A (CB 6) – Proposed Condition:
Our analysis indicates that the incoming flow rates to the Stormtech Chamber System are 1.49/2.24/2.86 cfs and are reduced to 0.18/0.77/1.41 cfs for the 2/10/25 year storm events at the outlet control manhole. We have designed the system to infiltrate the water under the system in a 6" layer of crushed stone bed. The soils under the system will be clean gravel borrow meeting MDOT Specification 703.20. The Stormtech Chamber System bottom of chamber is set at elevation 239.29. The water elevation within the Stormtech Chamber System is expected to peak at elevations 240.83/241.45/242.17 for the 2/10/25 year storm events. An emergency overflow (elevation 242.28) has been designed into the system should blockage occur or the storm event exceeds capacity of the system.

The Stormtech Chamber System has an outlet control manhole structure with a 12" diameter outlet pipe. The outlet control manhole has a steel plate installed inside the manhole. The steel plate has specific size holes located at specific elevations to control water leaving the Stormtech

Chamber System. These orifices are a 2" wide by 2" tall hole at elevation 239.0, a 11.5" wide by 2" tall hole at elevation 240.83, and a 5.5" wide by 2" tall hole at elevation 241.44. The top of steel plate (elevation 242.28) has been designed as an emergency spillway to pass larger storm events. Initial and ending runoff flows are designed to be infiltrated through the bottom 6" layer of ¾" stone within the chambers. The outlet control structure discharges into the 12" outlet pipe which passes through the retaining wall. This water combines with the lower parking area and upslope offsite runoff and enters into catch basin 6 in Whipple Street. When the outlet control structure flows plus the remaining watershed flows are hydraulically added together with respect to time, the peak flows being discharged into CB 6 are 2.13/4.01/5.81 cfs. These flows are less than the existing conditions.

Design Point	2 Year event	10 Year event	25 Year event
Existing Conditions	2.96 cfs	5.24 cfs	7.23 cfs
Proposed Conditions	2.13 cfs	4.01 cfs	5.81 cfs

Please feel free to contact me if you have any questions concerning the calculations of stormwater from this project. It is important to note that proper erosion control and revegetation of disturbed areas are essential for the proper operation of the stormwater facilities. Maintenance of the yard impervious areas, careful attention to the pavement/seeded interface, and continued maintenance to the Stormtech Chamber System must be a top priority in order for the system to function properly. Thank you for involving this firm on your project.

Please feel free to contact me if you have any questions concerning the calculations of stormwater from this project.

Sincerely yours,

Stephen Roberge, PE
for SJR Engineering Inc.

Colettes Donut Shop
420 Main Street, Lewiston, Maine
Stormwater Project Summary

Revised 02-14-2020

Stormwater Flows at Design Point 1

	2 year	10 year	25 year
Existing Conditions at Design Point	2.96 cfs	5.24 cfs	7.23 cfs
Proposed Conditions at Design Point	2.13 cfs	4.01 cfs	5.81 cfs

Stormwater Flows at Stormtech Chamber System

	2 year	10 year	25 year
Stormtech Chamber inflow/outflow	1.49/0.18 cfs	2.24/0.77 cfs	2.86/1.41 cfs
Elevation height of detained water in system	240.83	241.45	242.17

The Stormtech Chamber System is expected to operate as a storage/infiltration to control post construction flows to pre-existing flow rates. Flows entering into the chamber system must travel the entire length of the system to the control outlet manhole. A control structure has been designed with 3 holes cut into an inside steel plate to control stormwater flows. Storage/detention is created by the Stormtech Chamber system and surrounding stone. The 4 rows by 7 chamber/row unit has a storage capacity of 2306 cf. Flows requiring greater storage than this (greater than 25 year storm event) will be bypassed through the system and over the emergency spillway at the top of steel plate. Stormwater enters the control structure and discharges through a 2" by 2" tall rectangular hole cut into a steel plate at elevation 239.0 to control the 2 year storm event. Stormwater enters the control structure and discharges through a 11.5" wide by 2" tall rectangular hole cut into a steel plate at elevation 240.83 to control the 10 year storm event. Stormwater enters the control structure and discharges through a 5.5" wide by 2" tall rectangular hole cut into a steel plate at elevation 241.44 to control the 25 year storm event. The top of the steel plate is elevation 242.28 to pass emergency flows. The stormwater control structure has a 12" diameter outlet that discharges to a rocked lined plunge pool prior to entering a new catch basin system along Whipple Street.

Design Point

Subcat Reach Pond Link

Routing Diagram for Stormwater Existing condition
Prepared by SJR Engineering Inc., Printed 2/14/2020

Summary for Subcatchment 1S: Design Point

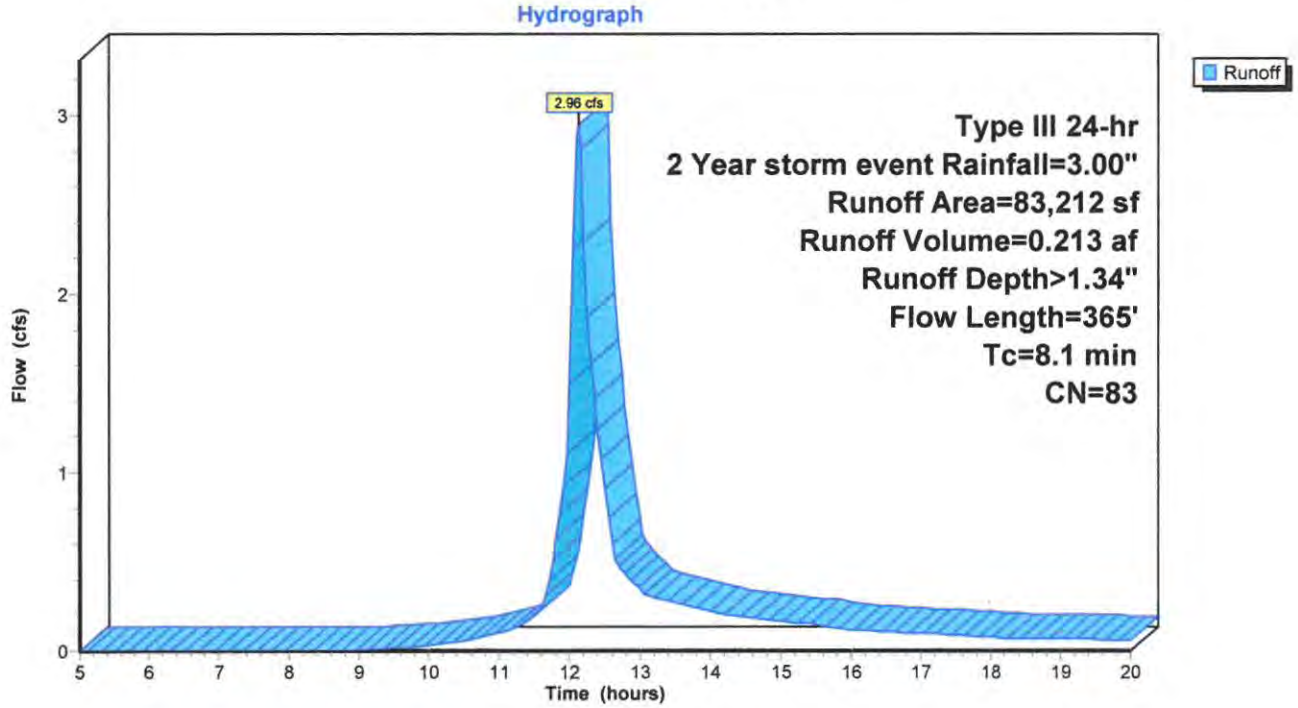
Runoff = 2.96 cfs @ 12.12 hrs, Volume= 0.213 af, Depth> 1.34"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year storm event Rainfall=3.00"

	Area (sf)	CN	Description
*	26,771	98	Paved parking, HSG C (offsite)
*	22,471	74	>75% Grass cover, Good, HSG C (offsite)
*	33,970	77	Brush/meadow/weed, Poor, HSG C
	83,212	83	Weighted Average
	56,441		67.83% Pervious Area
	26,771		32.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	80	0.0750	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
1.1	125	0.0400	1.84		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.0	160	0.0375	1.36		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.1	365	Total			

Subcatchment 1S: Design Point



Summary for Subcatchment 1S: Design Point

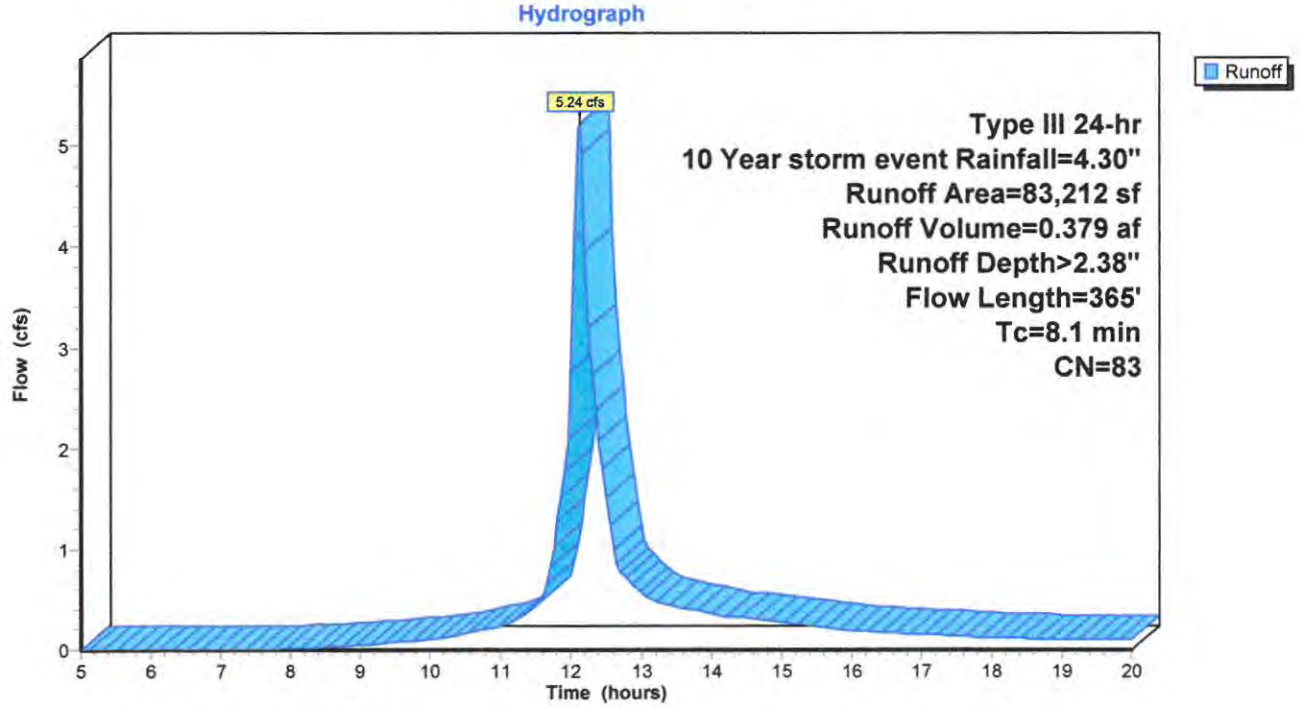
Runoff = 5.24 cfs @ 12.12 hrs, Volume= 0.379 af, Depth> 2.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year storm event Rainfall=4.30"

	Area (sf)	CN	Description
*	26,771	98	Paved parking, HSG C (offsite)
*	22,471	74	>75% Grass cover, Good, HSG C (offsite)
*	33,970	77	Brush/meadow/weed, Poor, HSG C
	83,212	83	Weighted Average
	56,441		67.83% Pervious Area
	26,771		32.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	80	0.0750	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
1.1	125	0.0400	1.84		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.0	160	0.0375	1.36		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.1	365	Total			

Subcatchment 1S: Design Point



Summary for Subcatchment 1S: Design Point

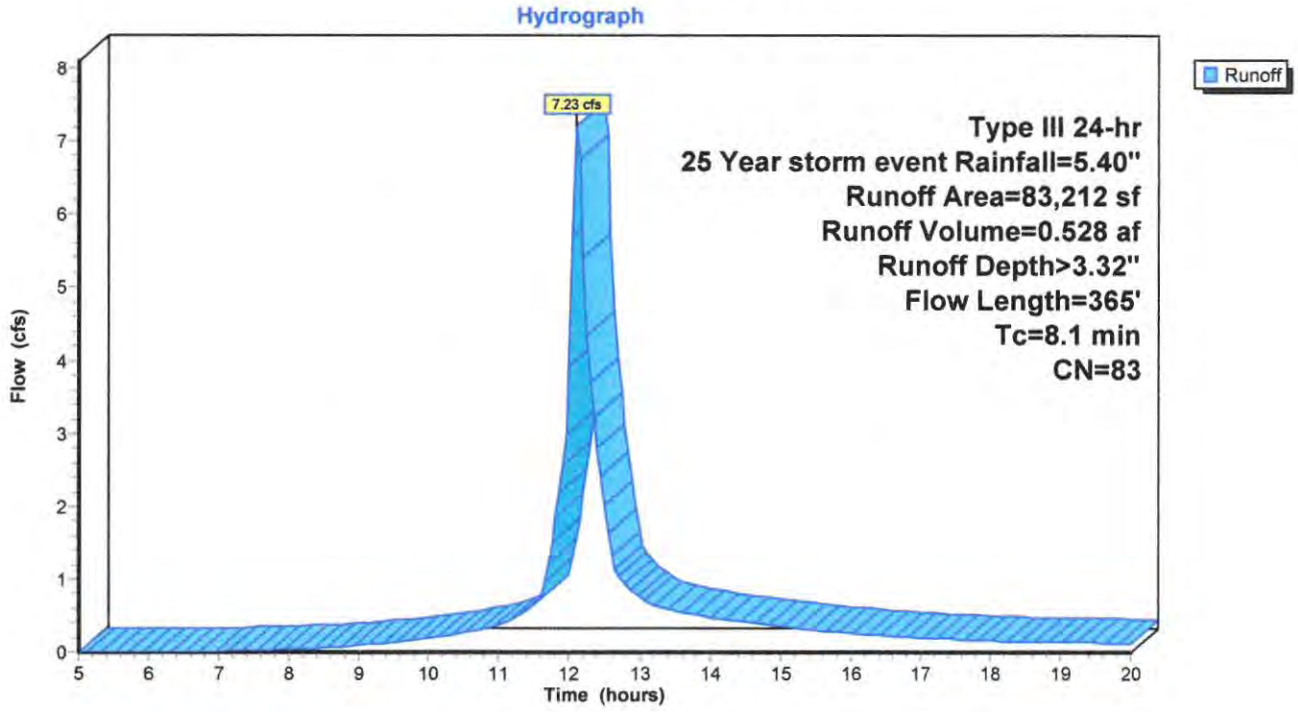
Runoff = 7.23 cfs @ 12.11 hrs, Volume= 0.528 af, Depth> 3.32"

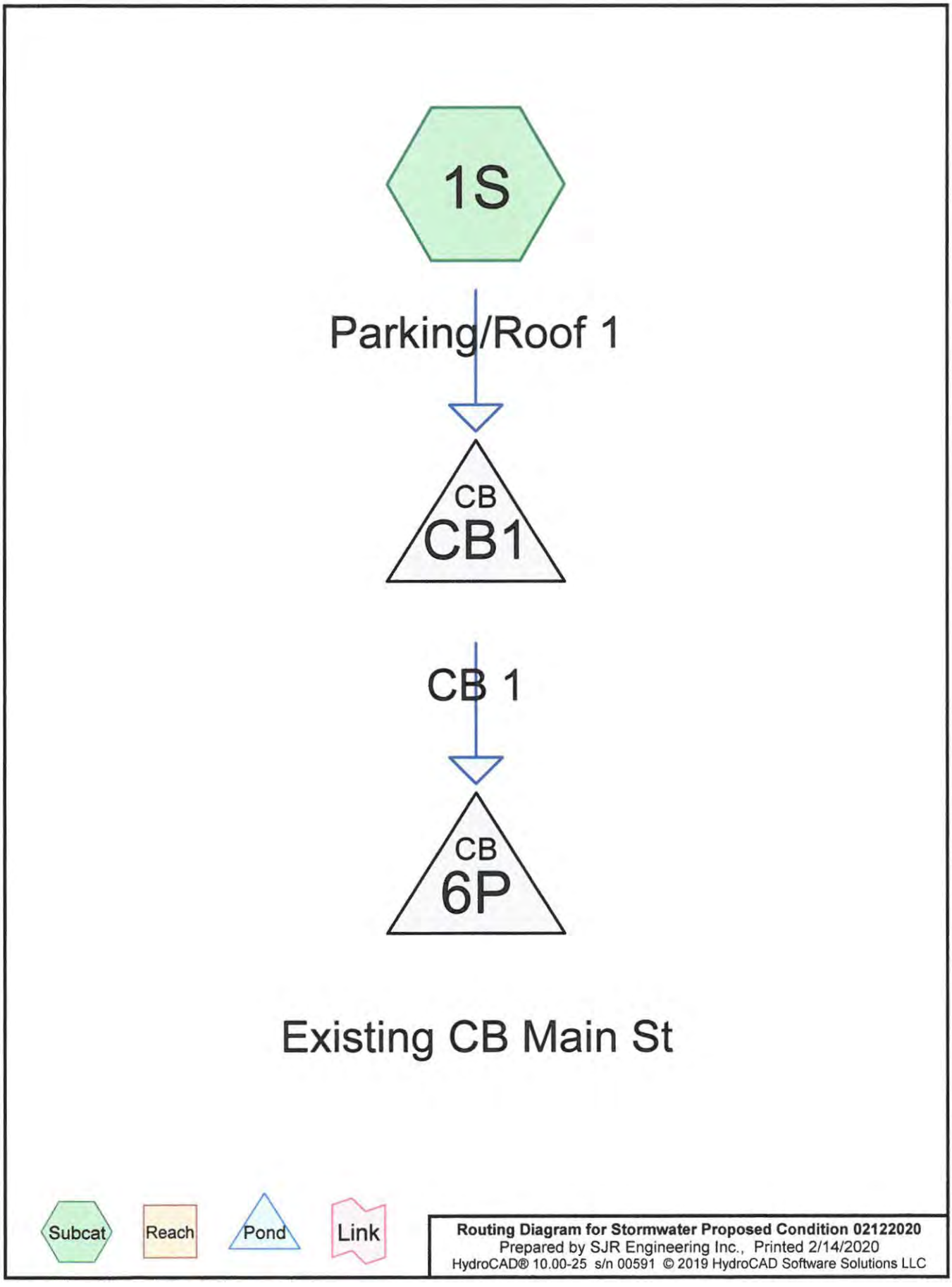
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year storm event Rainfall=5.40"

	Area (sf)	CN	Description
*	26,771	98	Paved parking, HSG C (offsite)
*	22,471	74	>75% Grass cover, Good, HSG C (offsite)
*	33,970	77	Brush/meadow/weed, Poor, HSG C
	83,212	83	Weighted Average
	56,441		67.83% Pervious Area
	26,771		32.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0	80	0.0750	0.27		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
1.1	125	0.0400	1.84		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
2.0	160	0.0375	1.36		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
8.1	365	Total			

Subcatchment 1S: Design Point





Routing Diagram for Stormwater Proposed Condition 02122020
Prepared by SJR Engineering Inc., Printed 2/14/2020

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.052	74	>75% Grass cover, Good, HSG C (1S)
0.110	98	Paved parking, HSG C (1S)
0.162	**90**	**TOTAL AREA**

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	CB1	240.95	240.25	72.0	0.0097	0.012	12.0	0.0	0.0

Summary for Subcatchment 1S: Parking/Roof 1

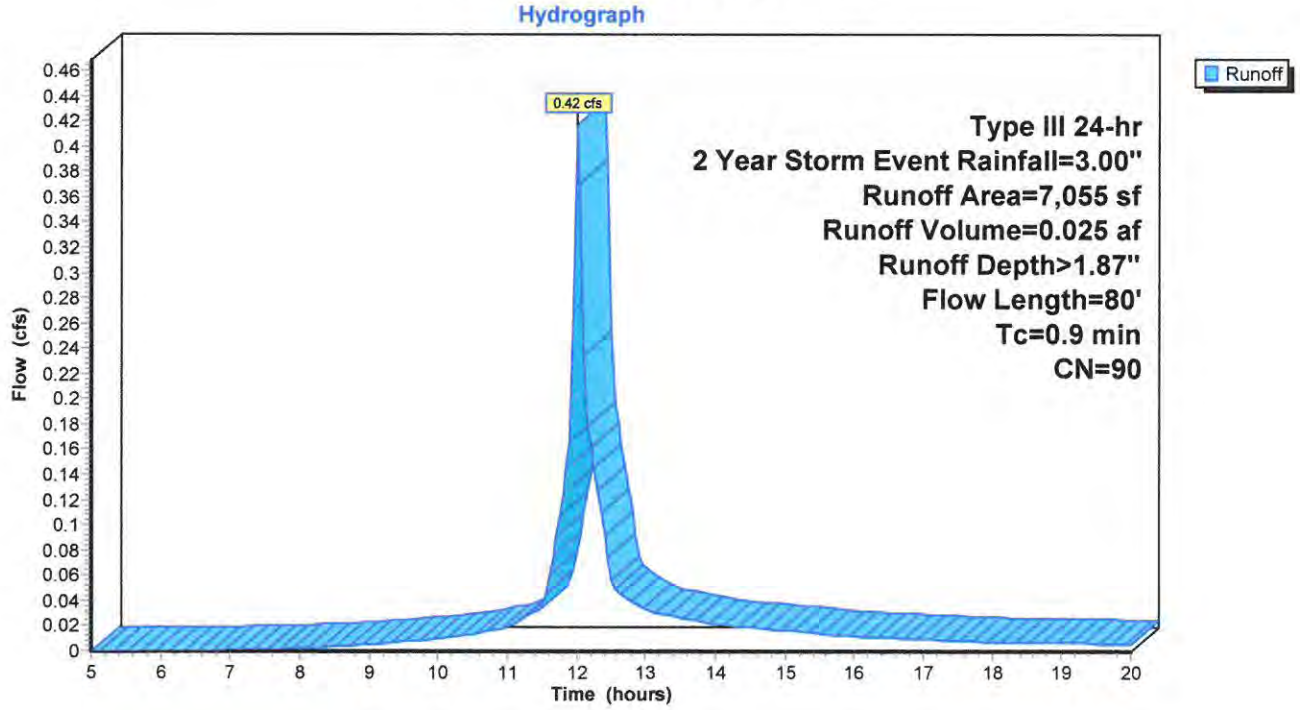
Runoff = 0.42 cfs @ 12.01 hrs, Volume= 0.025 af, Depth> 1.87"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Event Rainfall=3.00"

Area (sf)	CN	Description
4,784	98	Paved parking, HSG C
2,271	74	>75% Grass cover, Good, HSG C
7,055	90	Weighted Average
2,271		32.19% Pervious Area
4,784		67.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	18	0.3000	2.79		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	40	0.0200	1.11		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.2	22	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.9	80	Total			

Subcatchment 1S: Parking/Roof 1



Summary for Pond 6P: Existing CB Main St

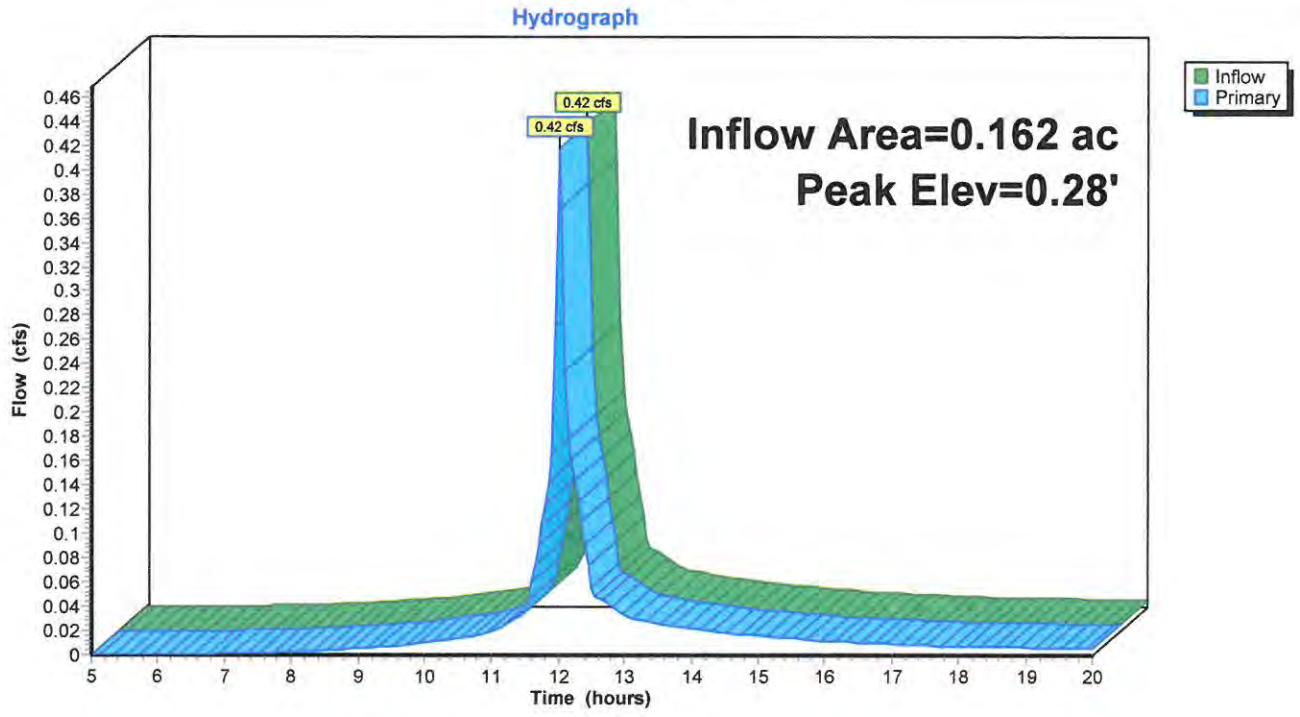
Inflow Area = 0.162 ac, 67.81% Impervious, Inflow Depth > 1.87" for 2 Year Storm Event event
Inflow = 0.42 cfs @ 12.01 hrs, Volume= 0.025 af
Outflow = 0.42 cfs @ 12.01 hrs, Volume= 0.025 af, Atten= 0%, Lag= 0.0 min
Primary = 0.42 cfs @ 12.01 hrs, Volume= 0.025 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.28' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**18.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.40 cfs @ 12.01 hrs HW=0.28' (Free Discharge)
↑└**1=Orifice/Grate** (Orifice Controls 0.40 cfs @ 1.79 fps)

Pond 6P: Existing CB Main St



Summary for Pond CB1: CB 1

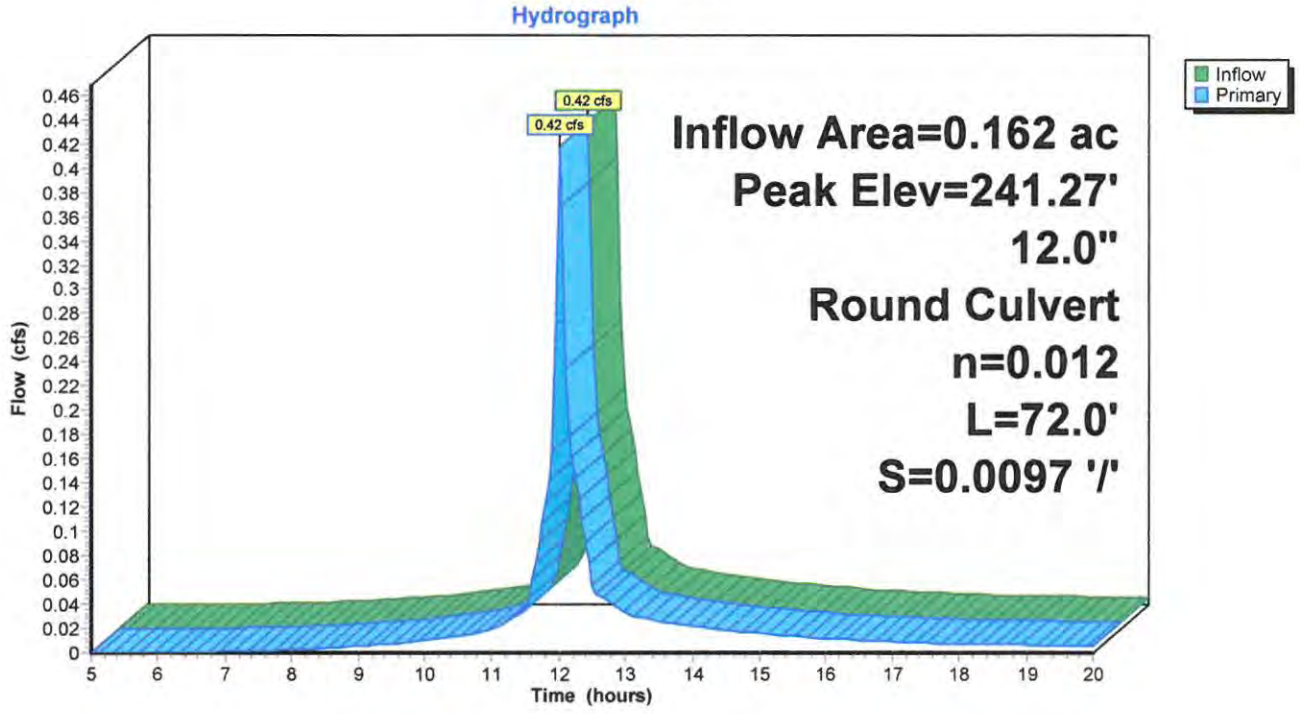
Inflow Area = 0.162 ac, 67.81% Impervious, Inflow Depth > 1.87" for 2 Year Storm Event event
Inflow = 0.42 cfs @ 12.01 hrs, Volume= 0.025 af
Outflow = 0.42 cfs @ 12.01 hrs, Volume= 0.025 af, Atten= 0%, Lag= 0.0 min
Primary = 0.42 cfs @ 12.01 hrs, Volume= 0.025 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 241.27' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	240.95'	**12.0" Round Culvert** L= 72.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.95' / 240.25' S= 0.0097 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.40 cfs @ 12.01 hrs HW=241.26' (Free Discharge)
↑**1=Culvert** (Inlet Controls 0.40 cfs @ 1.90 fps)

Pond CB1: CB 1



Summary for Subcatchment 1S: Parking/Roof 1

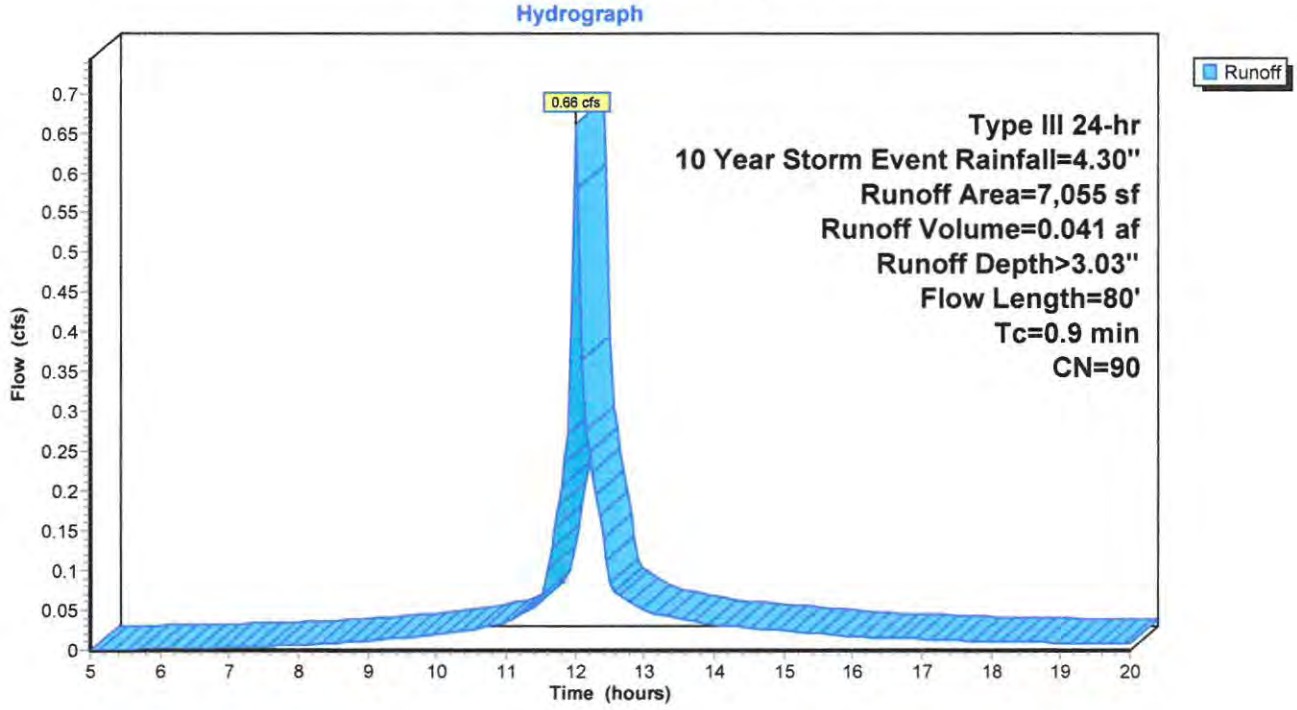
Runoff = 0.66 cfs @ 12.01 hrs, Volume= 0.041 af, Depth> 3.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Event Rainfall=4.30"

Area (sf)	CN	Description
4,784	98	Paved parking, HSG C
2,271	74	>75% Grass cover, Good, HSG C
7,055	90	Weighted Average
2,271		32.19% Pervious Area
4,784		67.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	18	0.3000	2.79		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	40	0.0200	1.11		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.2	22	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.9	80	Total			

Subcatchment 1S: Parking/Roof 1



Summary for Pond 6P: Existing CB Main St

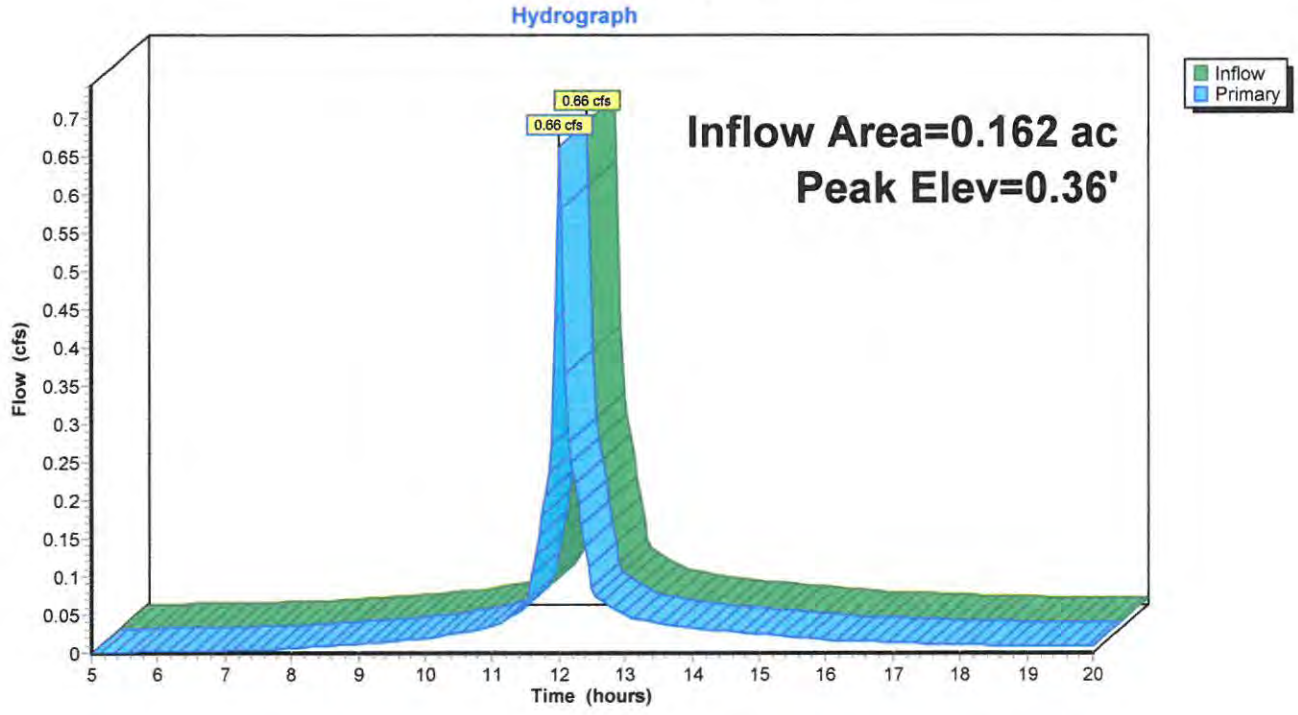
Inflow Area = 0.162 ac, 67.81% Impervious, Inflow Depth > 3.03" for 10 Year Storm Event event
Inflow = 0.66 cfs @ 12.01 hrs, Volume= 0.041 af
Outflow = 0.66 cfs @ 12.01 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.0 min
Primary = 0.66 cfs @ 12.01 hrs, Volume= 0.041 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.36' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**18.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.64 cfs @ 12.01 hrs HW=0.35' (Free Discharge)
↑**1=Orifice/Grate** (Orifice Controls 0.64 cfs @ 2.02 fps)

Pond 6P: Existing CB Main St



Summary for Pond CB1: CB 1

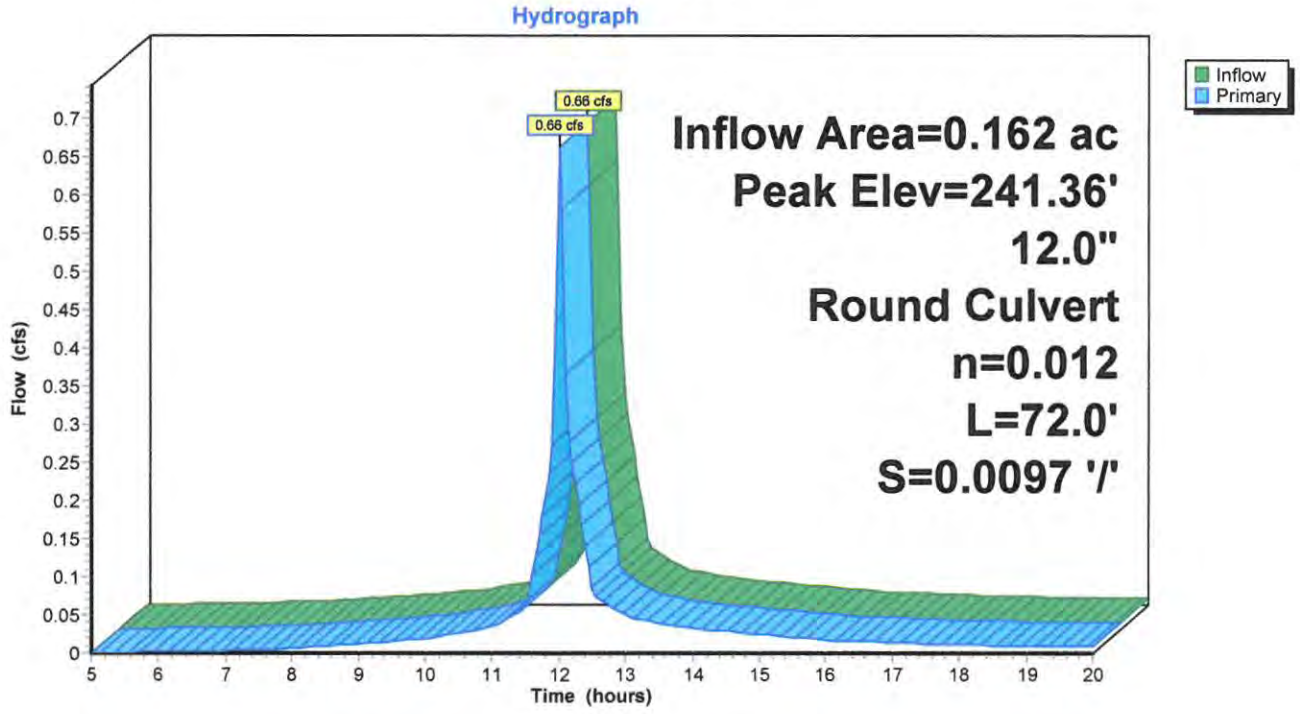
Inflow Area = 0.162 ac, 67.81% Impervious, Inflow Depth > 3.03" for 10 Year Storm Event event
Inflow = 0.66 cfs @ 12.01 hrs, Volume= 0.041 af
Outflow = 0.66 cfs @ 12.01 hrs, Volume= 0.041 af, Atten= 0%, Lag= 0.0 min
Primary = 0.66 cfs @ 12.01 hrs, Volume= 0.041 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 241.36' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	240.95'	**12.0" Round Culvert** L= 72.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.95' / 240.25' S= 0.0097 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.64 cfs @ 12.01 hrs HW=241.35' (Free Discharge)
↑**1=Culvert** (Inlet Controls 0.64 cfs @ 2.16 fps)

Pond CB1: CB 1



Summary for Subcatchment 1S: Parking/Roof 1

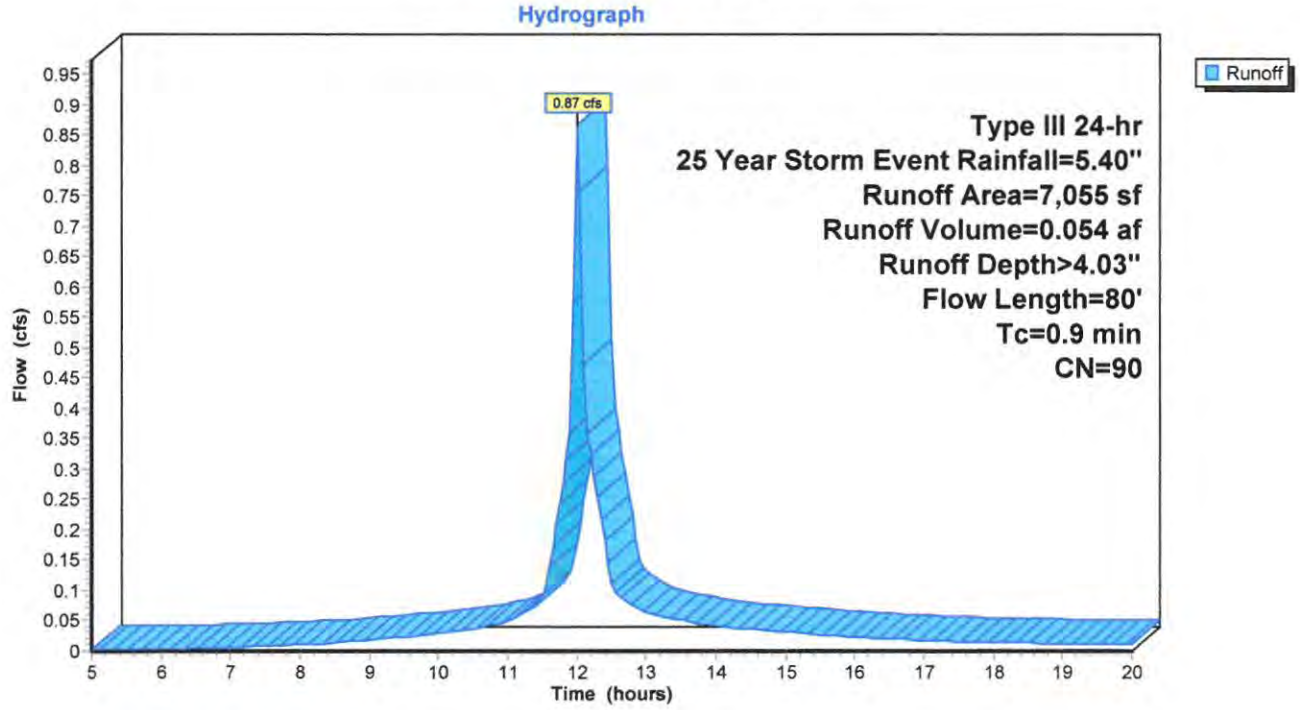
Runoff = 0.87 cfs @ 12.01 hrs, Volume= 0.054 af, Depth> 4.03"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Event Rainfall=5.40"

Area (sf)	CN	Description
4,784	98	Paved parking, HSG C
2,271	74	>75% Grass cover, Good, HSG C
7,055	90	Weighted Average
2,271		32.19% Pervious Area
4,784		67.81% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	18	0.3000	2.79		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	40	0.0200	1.11		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.2	22	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.9	80	Total			

Subcatchment 1S: Parking/Roof 1



Summary for Pond 6P: Existing CB Main St

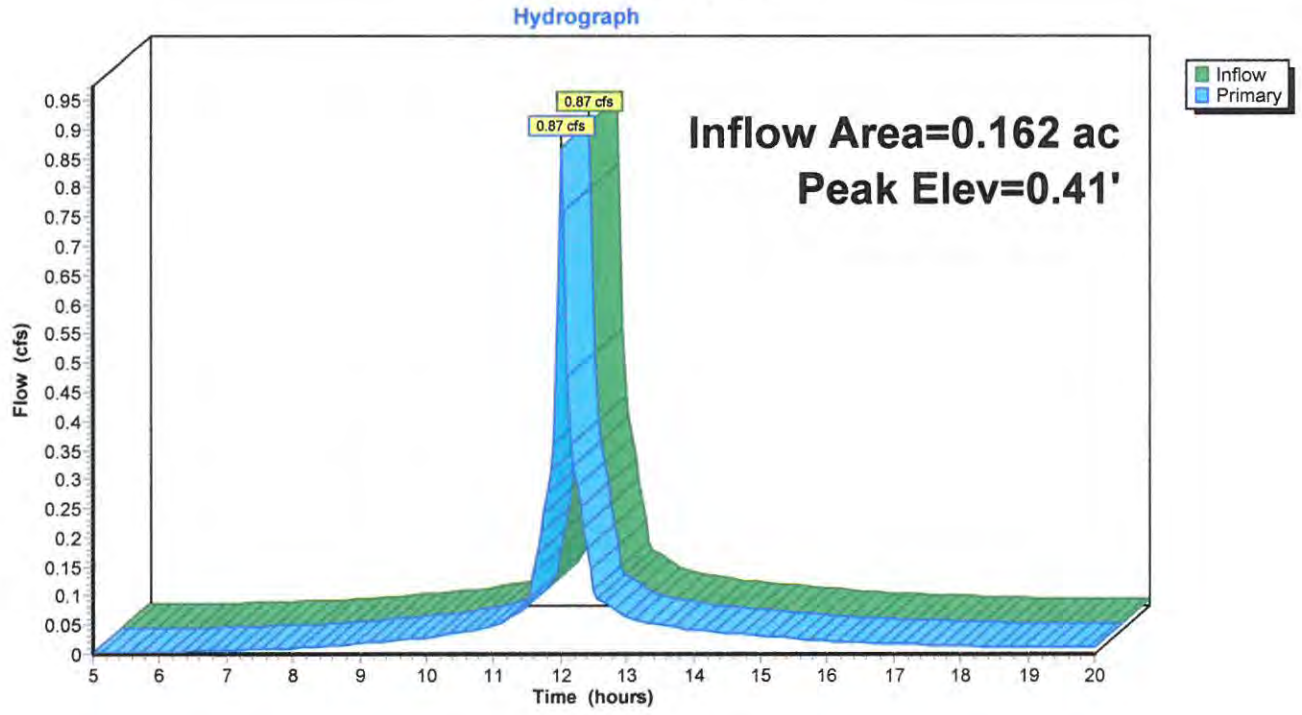
Inflow Area = 0.162 ac, 67.81% Impervious, Inflow Depth > 4.03" for 25 Year Storm Event event
Inflow = 0.87 cfs @ 12.01 hrs, Volume= 0.054 af
Outflow = 0.87 cfs @ 12.01 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min
Primary = 0.87 cfs @ 12.01 hrs, Volume= 0.054 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 0.41' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**18.0" Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=0.83 cfs @ 12.01 hrs HW=0.41' (Free Discharge)
↳**1=Orifice/Grate** (Orifice Controls 0.83 cfs @ 2.17 fps)

Pond 6P: Existing CB Main St



Summary for Pond CB1: CB 1

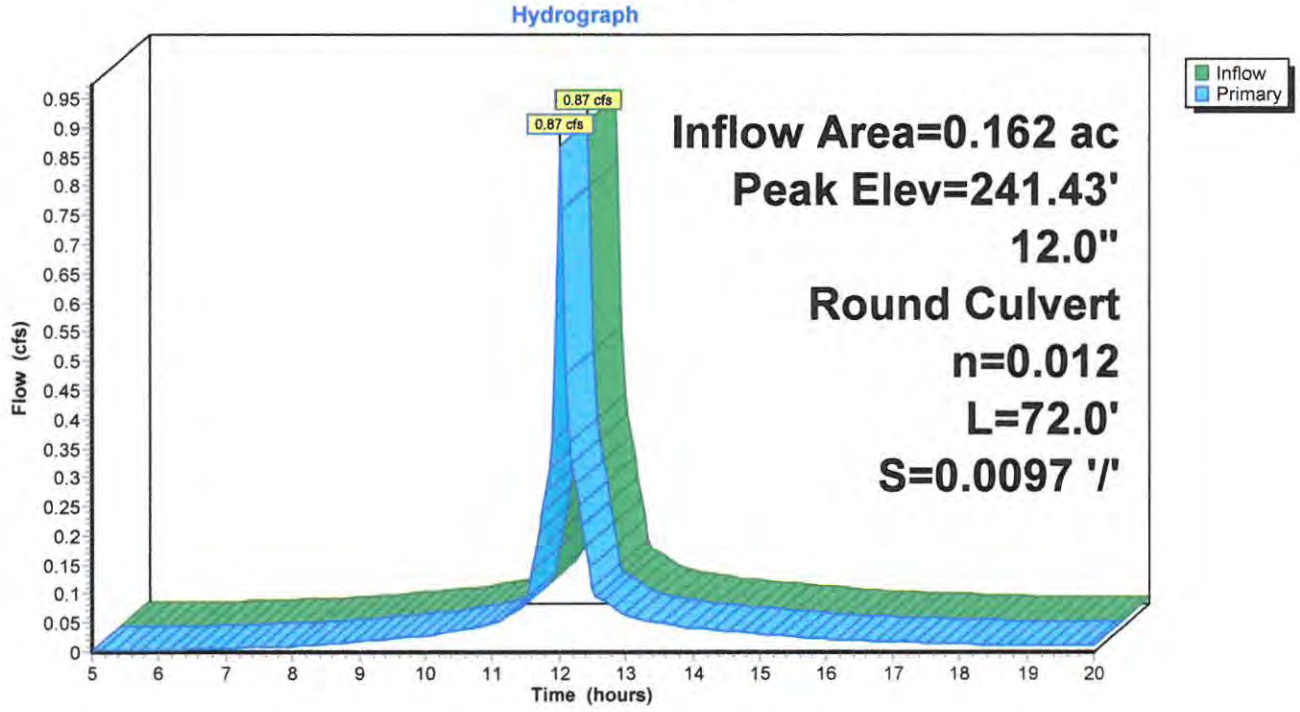
Inflow Area = 0.162 ac, 67.81% Impervious, Inflow Depth > 4.03" for 25 Year Storm Event event
Inflow = 0.87 cfs @ 12.01 hrs, Volume= 0.054 af
Outflow = 0.87 cfs @ 12.01 hrs, Volume= 0.054 af, Atten= 0%, Lag= 0.0 min
Primary = 0.87 cfs @ 12.01 hrs, Volume= 0.054 af

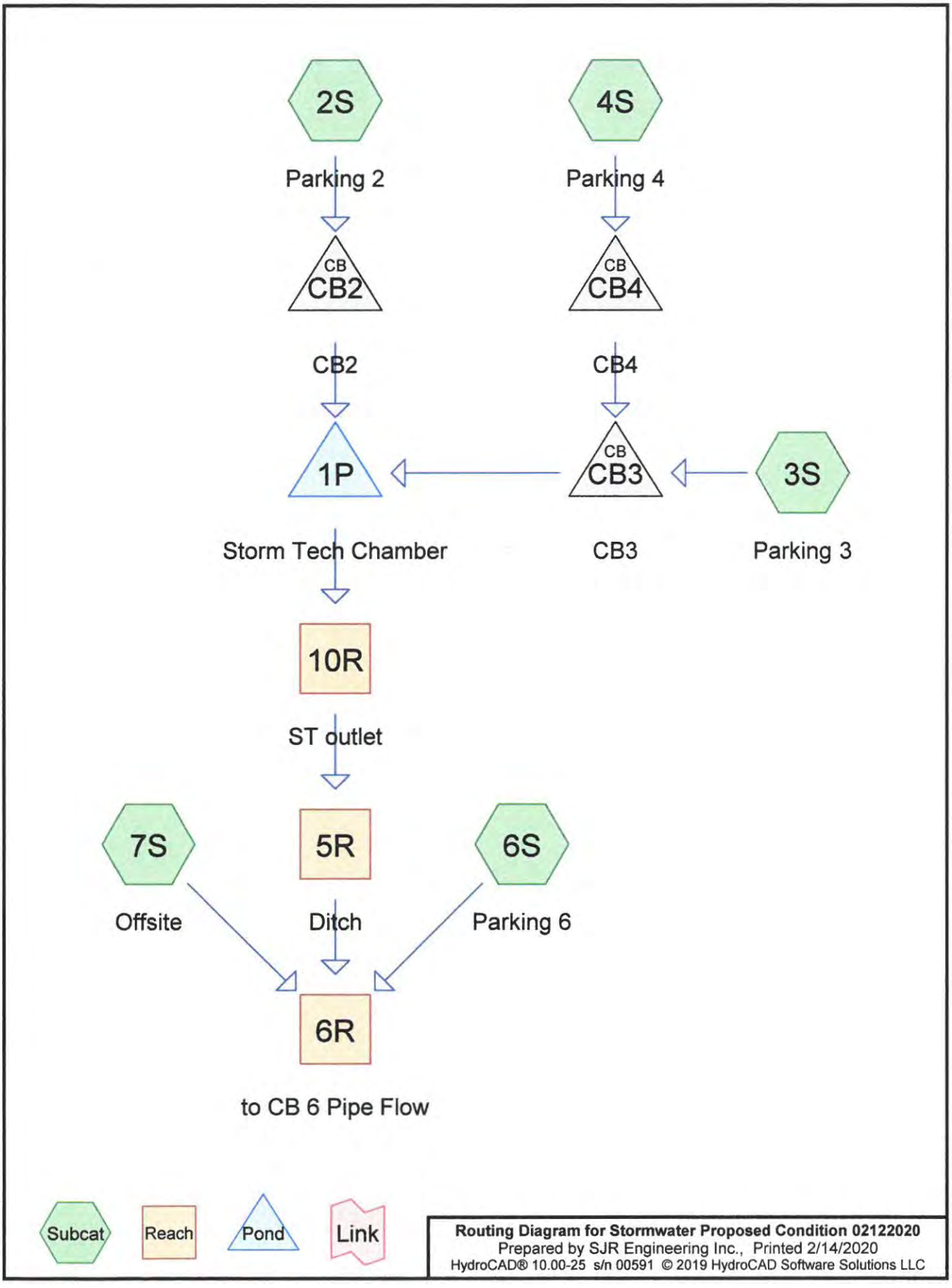
Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 241.43' @ 12.01 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	240.95'	**12.0" Round Culvert** L= 72.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.95' / 240.25' S= 0.0097 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.83 cfs @ 12.01 hrs HW=241.42' (Free Discharge)
↑—**1=Culvert** (Inlet Controls 0.83 cfs @ 2.32 fps)

Pond CB1: CB 1





Routing Diagram for Stormwater Proposed Condition 02122020
Prepared by SJR Engineering Inc., Printed 2/14/2020

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.631	74	>75% Grass cover, Good, HSG C (2S, 3S, 4S, 6S, 7S)
1.045	98	Paved parking, HSG C (2S, 3S, 4S, 6S, 7S)
1.676	**89**	**TOTAL AREA**

Ground Covers (selected 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	0.631	0.000	0.000	0.631	>75% Grass cover, Good	2S, 3S, 4S, 6S, 7S
0.000	0.000	1.045	0.000	0.000	1.045	Paved parking	2S, 3S, 4S, 6S, 7S
0.000	**0.000**	**1.676**	**0.000**	**0.000**	**1.676**	**TOTAL AREA**	

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	6R	228.00	226.25	15.0	0.1167	0.012	15.0	0.0	0.0
2	10R	239.00	238.90	8.0	0.0125	0.012	12.0	0.0	0.0
3	CB2	239.50	239.30	20.0	0.0100	0.012	12.0	0.0	0.0
4	CB3	240.75	239.67	143.0	0.0076	0.012	121.0	0.0	0.0
5	CB4	239.50	239.30	32.0	0.0062	0.012	15.0	0.0	0.0

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

Subcatchment 2S: Parking 2 Runoff Area=9,339 sf 81.79% Impervious Runoff Depth>2.22"
Flow Length=159' Tc=1.4 min CN=94 Runoff=0.62 cfs 0.040 af

Subcatchment 3S: Parking 3 Runoff Area=6,493 sf 86.02% Impervious Runoff Depth>2.32"
Flow Length=160' Tc=1.6 min CN=95 Runoff=0.44 cfs 0.029 af

Subcatchment 4S: Parking 4 Runoff Area=6,448 sf 82.18% Impervious Runoff Depth>2.22"
Flow Length=123' Tc=1.3 min CN=94 Runoff=0.43 cfs 0.027 af

Subcatchment 6S: Parking 6 Runoff Area=4,438 sf 45.38% Impervious Runoff Depth>1.48"
Flow Length=86' Tc=2.2 min CN=85 Runoff=0.21 cfs 0.013 af

Subcatchment 7S: Offsite Runoff Area=46,285 sf 53.95% Impervious Runoff Depth>1.62"
Flow Length=365' Tc=10.0 min CN=87 Runoff=1.87 cfs 0.144 af

Reach 5R: Ditch Avg. Flow Depth=0.04' Max Vel=2.04 fps Inflow=0.18 cfs 0.045 af
n=0.022 L=50.0' S=0.0700 '/' Capacity=63.61 cfs Outflow=0.18 cfs 0.045 af

Reach 6R: to CB 6 Pipe Flow Avg. Flow Depth=0.25' Max Vel=12.04 fps Inflow=2.13 cfs 0.201 af
15.0" Round Pipe n=0.012 L=15.0' S=0.1167 '/' Capacity=23.90 cfs Outflow=2.13 cfs 0.201 af

Reach 10R: ST outlet Avg. Flow Depth=0.14' Max Vel=2.70 fps Inflow=0.18 cfs 0.045 af
12.0" Round Pipe n=0.012 L=8.0' S=0.0125 '/' Capacity=4.32 cfs Outflow=0.18 cfs 0.045 af

Pond 1P: Storm Tech Chamber Peak Elev=240.83' Storage=1,498 cf Inflow=1.49 cfs 0.096 af
Discarded=0.06 cfs 0.051 af Primary=0.18 cfs 0.045 af Outflow=0.24 cfs 0.096 af

Pond CB2: CB2 Peak Elev=239.92' Inflow=0.62 cfs 0.040 af
12.0" Round Culvert n=0.012 L=20.0' S=0.0100 '/' Outflow=0.62 cfs 0.040 af

Pond CB3: CB3 Peak Elev=240.99' Inflow=0.87 cfs 0.056 af
121.0" Round Culvert n=0.012 L=143.0' S=0.0076 '/' Outflow=0.87 cfs 0.056 af

Pond CB4: CB4 Peak Elev=239.84' Inflow=0.43 cfs 0.027 af
15.0" Round Culvert n=0.012 L=32.0' S=0.0062 '/' Outflow=0.43 cfs 0.027 af

Total Runoff Area = 1.676 ac Runoff Volume = 0.252 af Average Runoff Depth = 1.81"
37.67% Pervious = 0.631 ac 62.33% Impervious = 1.045 ac

Summary for Subcatchment 2S: Parking 2

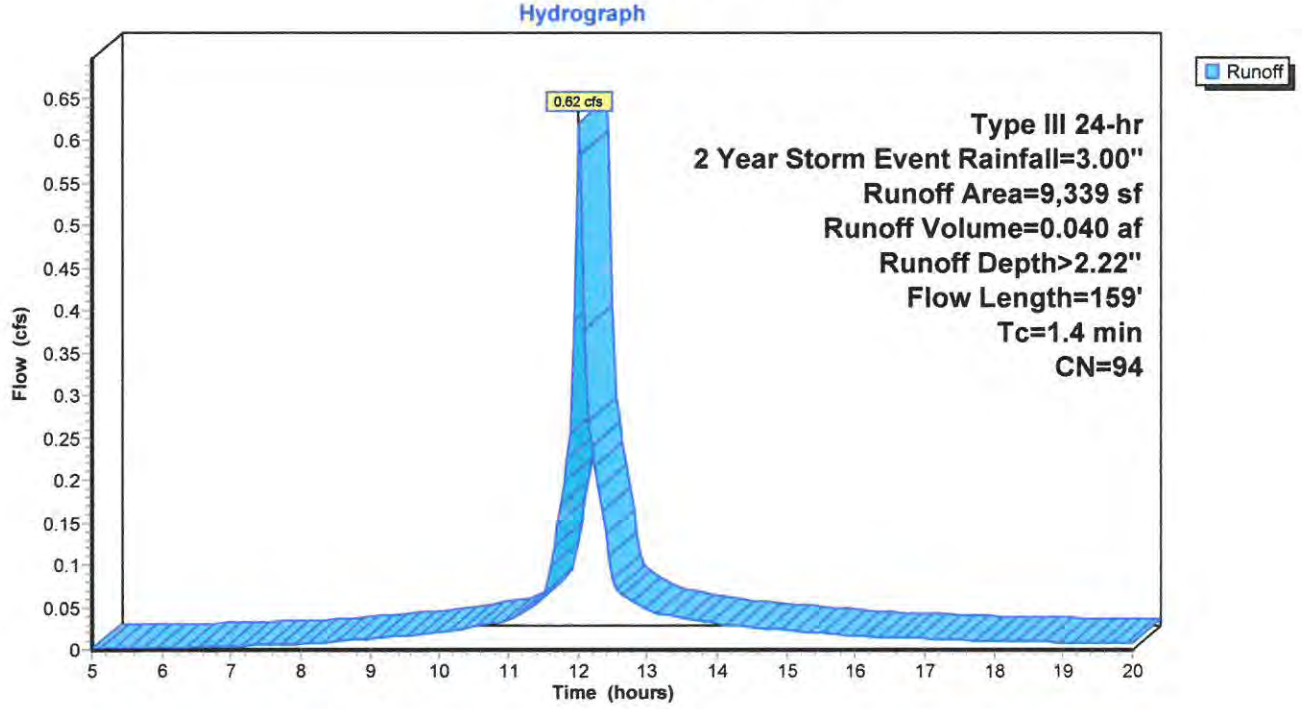
Runoff = 0.62 cfs @ 12.02 hrs, Volume= 0.040 af, Depth> 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Event Rainfall=3.00"

Area (sf)	CN	Description
7,638	98	Paved parking, HSG C
1,701	74	>75% Grass cover, Good, HSG C
9,339	94	Weighted Average
1,701		18.21% Pervious Area
7,638		81.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	18	0.3000	2.79		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	58	0.0200	1.19		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	65	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	18	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	159	Total			

Subcatchment 2S: Parking 2



Summary for Subcatchment 3S: Parking 3

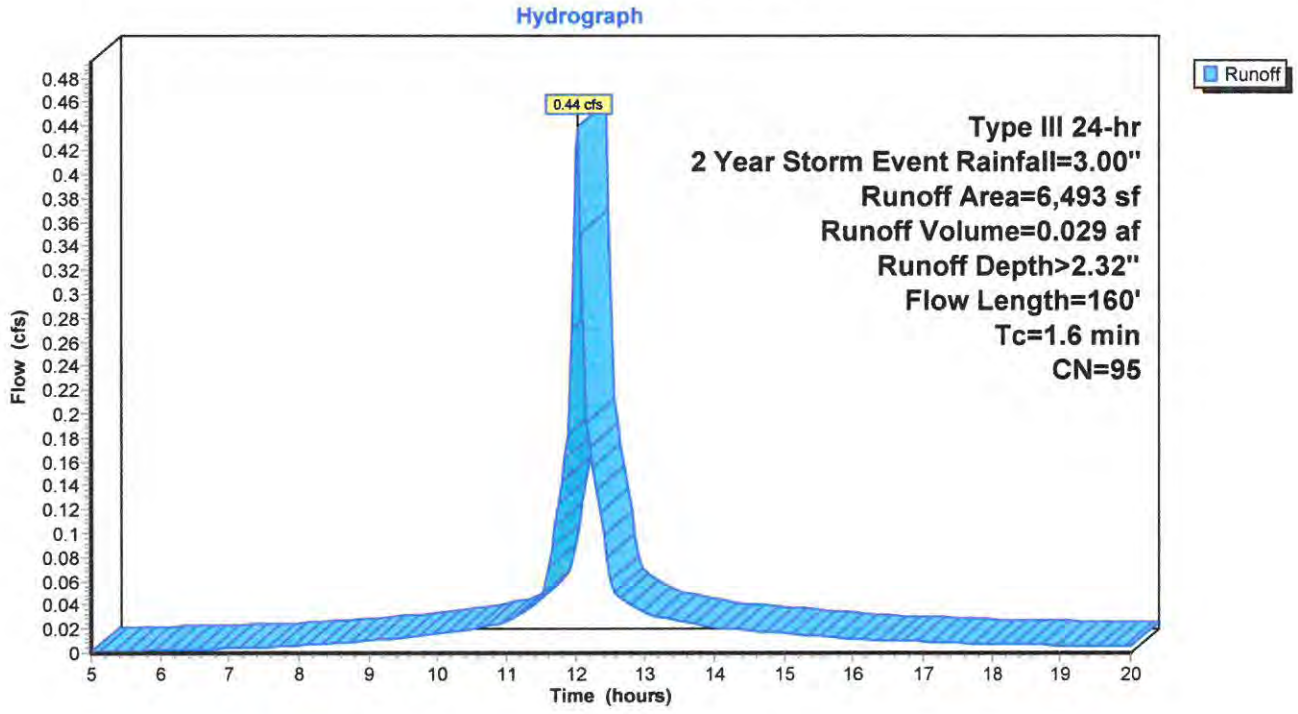
Runoff = 0.44 cfs @ 12.03 hrs, Volume= 0.029 af, Depth> 2.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Event Rainfall=3.00"

Area (sf)	CN	Description
5,585	98	Paved parking, HSG C
908	74	>75% Grass cover, Good, HSG C
6,493	95	Weighted Average
908		13.98% Pervious Area
5,585		86.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	18	0.3000	2.79		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	54	0.0200	1.18		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.7	88	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	160	Total			

Subcatchment 3S: Parking 3



Summary for Subcatchment 4S: Parking 4

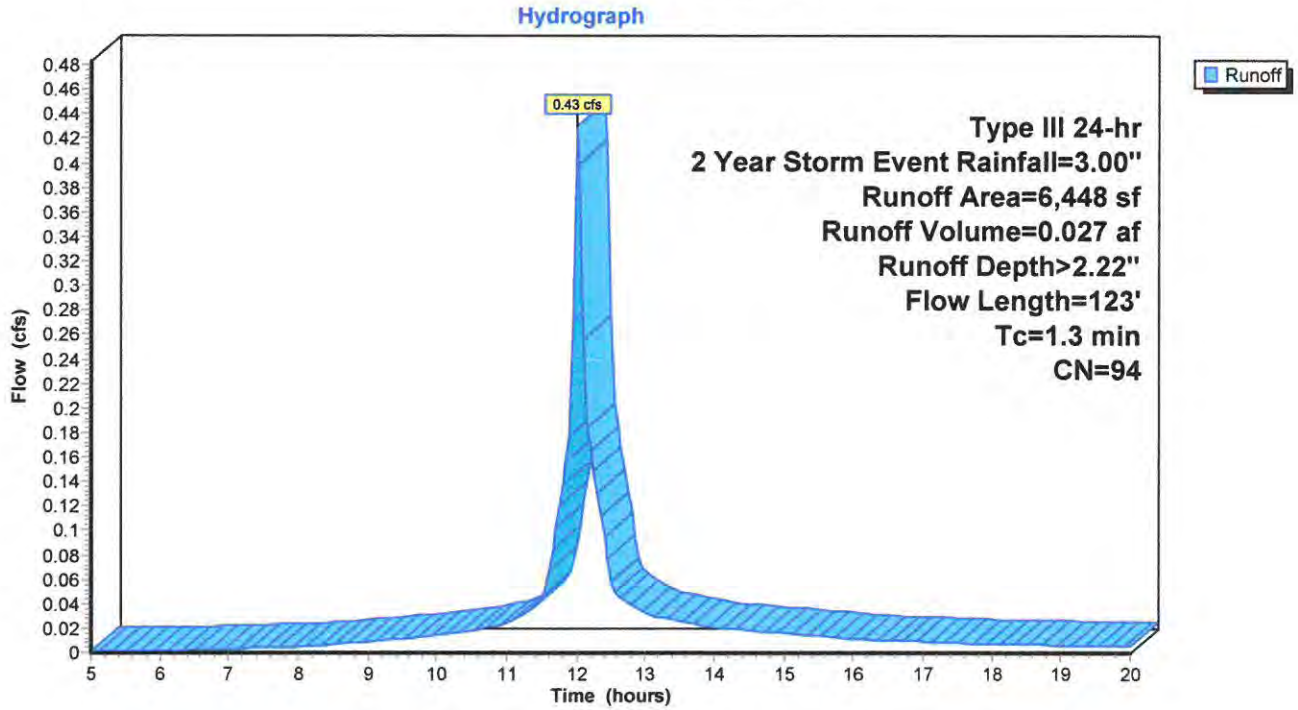
Runoff = 0.43 cfs @ 12.02 hrs, Volume= 0.027 af, Depth> 2.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Event Rainfall=3.00"

Area (sf)	CN	Description
5,299	98	Paved parking, HSG C
1,149	74	>75% Grass cover, Good, HSG C
6,448	94	Weighted Average
1,149		17.82% Pervious Area
5,299		82.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	18	0.3000	2.79		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	54	0.0200	1.18		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	51	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	123	Total			

Subcatchment 4S: Parking 4



Summary for Subcatchment 6S: Parking 6

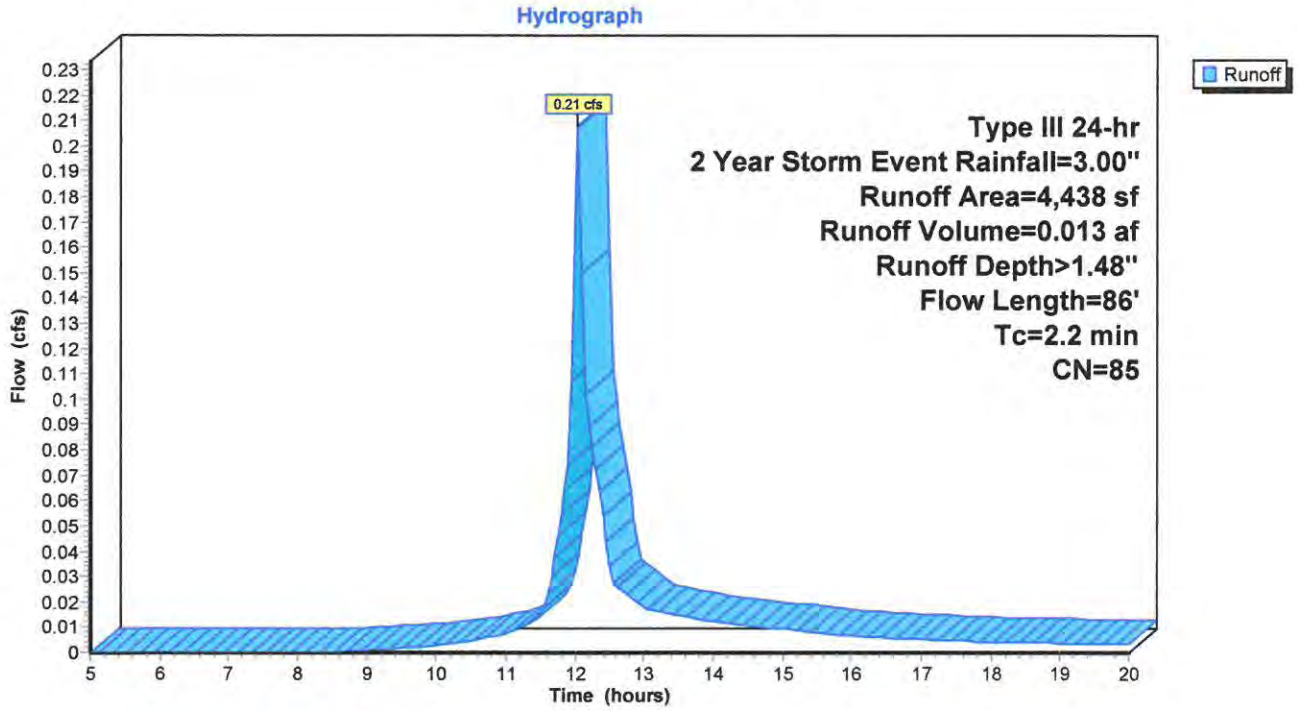
Runoff = 0.21 cfs @ 12.04 hrs, Volume= 0.013 af, Depth> 1.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Event Rainfall=3.00"

Area (sf)	CN	Description
2,014	98	Paved parking, HSG C
2,424	74	>75% Grass cover, Good, HSG C
4,438	85	Weighted Average
2,424		54.62% Pervious Area
2,014		45.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	12	0.2000	0.19		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
0.9	64	0.0200	1.22		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.2	10	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	86	Total			

Subcatchment 6S: Parking 6



Summary for Subcatchment 7S: Offsite

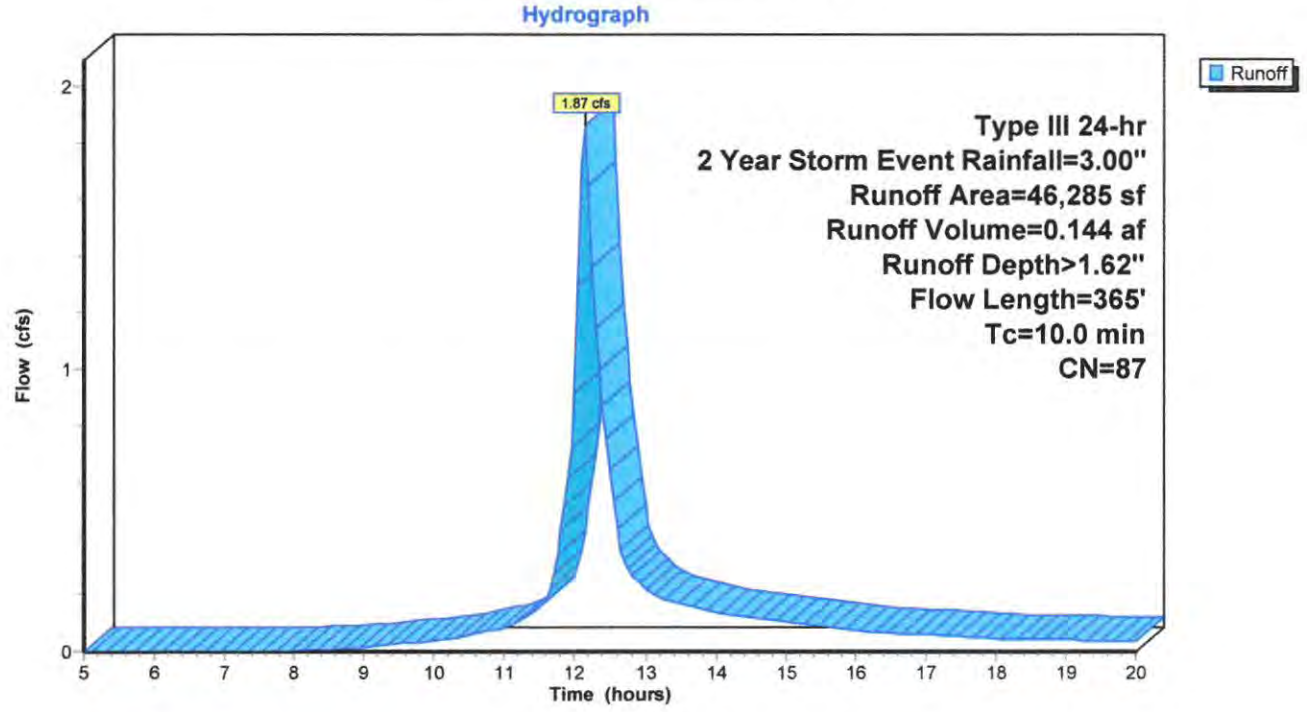
Runoff = 1.87 cfs @ 12.14 hrs, Volume= 0.144 af, Depth> 1.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2 Year Storm Event Rainfall=3.00"

Area (sf)	CN	Description
21,315	74	>75% Grass cover, Good, HSG C
24,970	98	Paved parking, HSG C
46,285	87	Weighted Average
21,315		46.05% Pervious Area
24,970		53.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	80	0.0750	0.18		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
1.1	125	0.0400	1.84		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.6	160	0.0560	1.66		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.0	365	Total			

Subcatchment 7S: Offsite



Summary for Reach 5R: Ditch

Inflow Area = 0.511 ac, 83.13% Impervious, Inflow Depth = 1.06" for 2 Year Storm Event event
Inflow = 0.18 cfs @ 12.47 hrs, Volume= 0.045 af
Outflow = 0.18 cfs @ 12.49 hrs, Volume= 0.045 af, Atten= 0%, Lag= 1.1 min

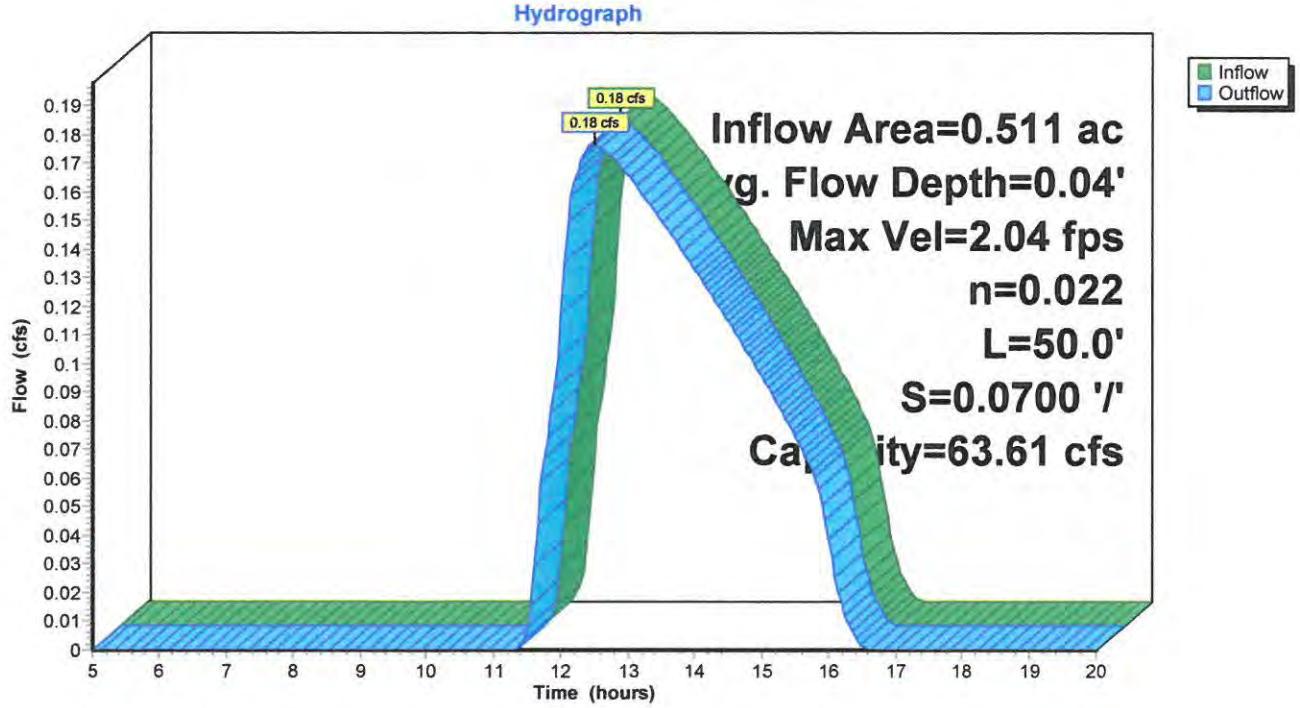
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.04 fps, Min. Travel Time= 0.4 min
Avg. Velocity = 1.62 fps, Avg. Travel Time= 0.5 min

Peak Storage= 4 cf @ 12.48 hrs
Average Depth at Peak Storage= 0.04'
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 63.61 cfs

2.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 8.00'
Length= 50.0' Slope= 0.0700 '/'
Inlet Invert= 231.50', Outlet Invert= 228.00'

‡

Reach 5R: Ditch



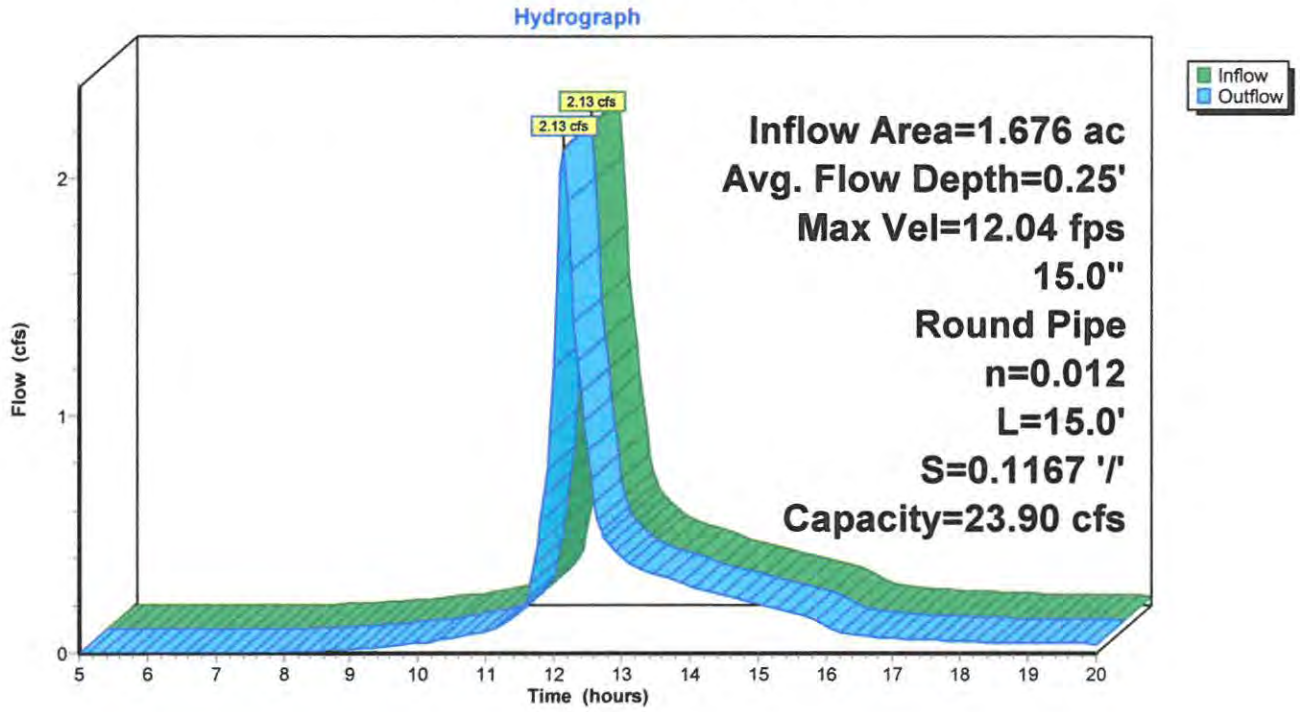
Summary for Reach 6R: to CB 6 Pipe Flow

Inflow Area = 1.676 ac, 62.33% Impervious, Inflow Depth > 1.44" for 2 Year Storm Event event
Inflow = 2.13 cfs @ 12.14 hrs, Volume= 0.201 af
Outflow = 2.13 cfs @ 12.14 hrs, Volume= 0.201 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 12.04 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 4.94 fps, Avg. Travel Time= 0.1 min

Peak Storage= 3 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.25'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 23.90 cfs

15.0" Round Pipe
n= 0.012
Length= 15.0' Slope= 0.1167 '/'
Inlet Invert= 228.00', Outlet Invert= 226.25'



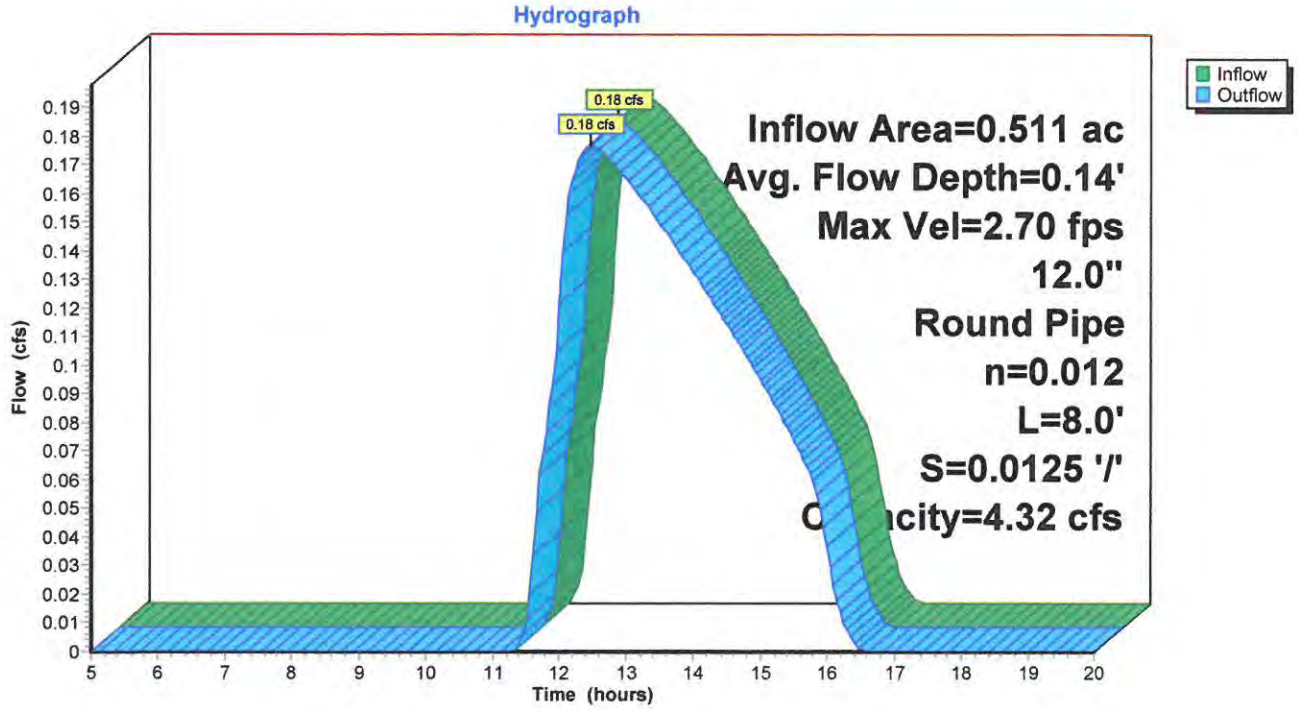
Summary for Reach 10R: ST outlet

Inflow Area = 0.511 ac, 83.13% Impervious, Inflow Depth = 1.06" for 2 Year Storm Event event
Inflow = 0.18 cfs @ 12.47 hrs, Volume= 0.045 af
Outflow = 0.18 cfs @ 12.47 hrs, Volume= 0.045 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.70 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.18 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.47 hrs
Average Depth at Peak Storage= 0.14'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.32 cfs

12.0" Round Pipe
n= 0.012
Length= 8.0' Slope= 0.0125 '/'
Inlet Invert= 239.00', Outlet Invert= 238.90'



Summary for Pond 1P: Storm Tech Chamber

Inflow Area = 0.511 ac, 83.13% Impervious, Inflow Depth > 2.25" for 2 Year Storm Event event
Inflow = 1.49 cfs @ 12.02 hrs, Volume= 0.096 af
Outflow = 0.24 cfs @ 12.47 hrs, Volume= 0.096 af, Atten= 84%, Lag= 26.9 min
Discarded = 0.06 cfs @ 12.47 hrs, Volume= 0.051 af
Primary = 0.18 cfs @ 12.47 hrs, Volume= 0.045 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 240.83' @ 12.47 hrs Surf.Area= 1,096 sf Storage= 1,498 cf

Plug-Flow detention time= 55.2 min calculated for 0.096 af (100% of inflow)
Center-of-Mass det. time= 54.7 min (809.2 - 754.6)

Volume	Invert	Avail.Storage	Storage Description
#1A	238.79'	1,020 cf	**20.50'W x 53.46'L x 3.50'H Field A** 3,836 cf Overall - 1,286 cf Embedded = 2,549 cf x 40.0% Voids
#2A	239.29'	1,286 cf	**ADS_StormTech SC-740 +Cap** x 28 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 28 Chambers in 4 Rows
		2,306 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	238.79'	**2.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = -3.00'
#2	Primary	239.00'	**12.0" Vert. Orifice/Grate** C= 0.600
#3	Device 2	239.00'	**2.0" W x 2.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 2	240.83'	**11.5" W x 2.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 2	241.44'	**5.5" x 2.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Primary	242.28'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.06 cfs @ 12.47 hrs HW=240.83' (Free Discharge)
└**1=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.18 cfs @ 12.47 hrs HW=240.83' (Free Discharge)
└**2=Orifice/Grate** (Passes 0.18 cfs of 4.36 cfs potential flow)
  └**3=Orifice/Grate** (Orifice Controls 0.18 cfs @ 6.36 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)
  └**5=Orifice/Grate** (Controls 0.00 cfs)
└**6=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Storm Tech Chamber - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

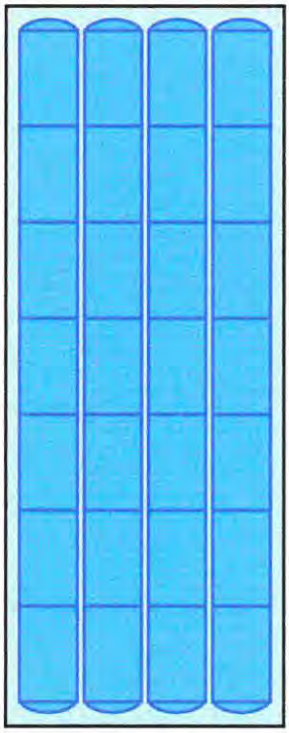
7 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 51.46' Row Length +12.0" End Stone x 2 = 53.46' Base Length
4 Rows x 51.0" Wide + 6.0" Spacing x 3 + 12.0" Side Stone x 2 = 20.50' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

28 Chambers x 45.9 cf = 1,286.3 cf Chamber Storage

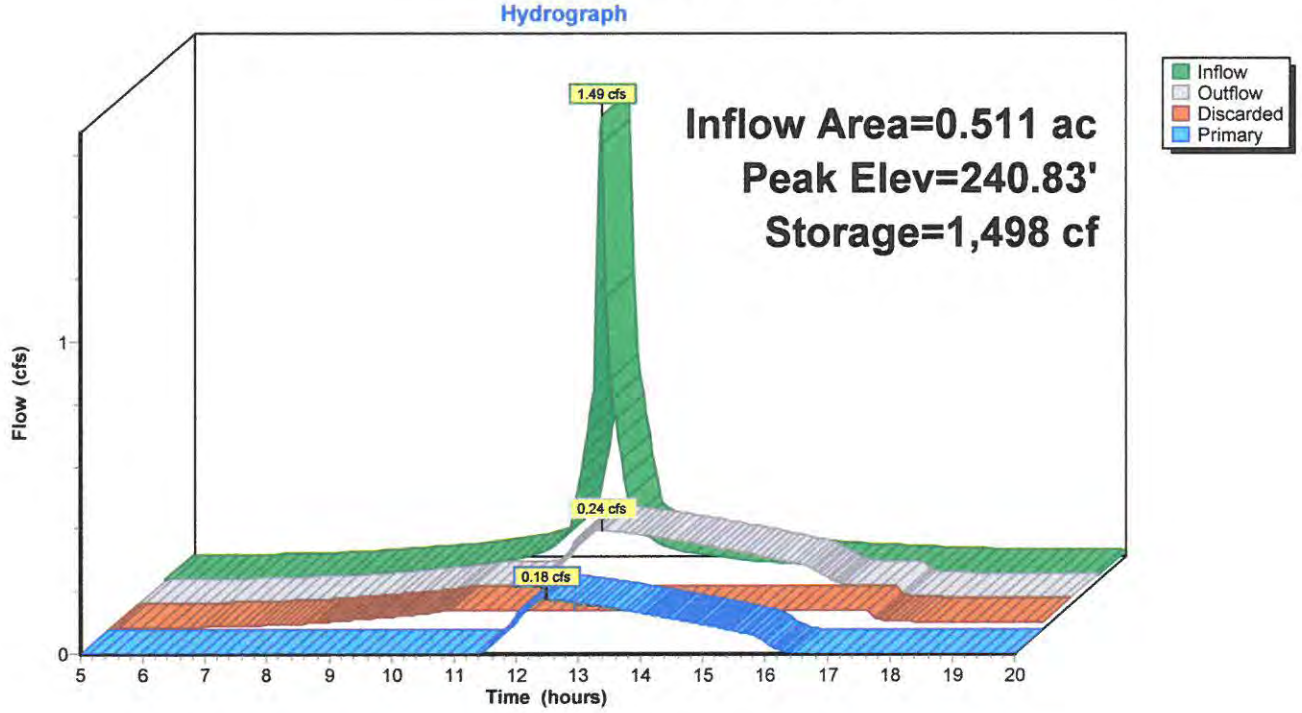
3,835.5 cf Field - 1,286.3 cf Chambers = 2,549.2 cf Stone x 40.0% Voids = 1,019.7 cf Stone Storage

Chamber Storage + Stone Storage = 2,306.0 cf = 0.053 af
Overall Storage Efficiency = 60.1%
Overall System Size = 53.46' x 20.50' x 3.50'

28 Chambers
142.1 cy Field
94.4 cy Stone



Pond 1P: Storm Tech Chamber



Summary for Pond CB2: CB2

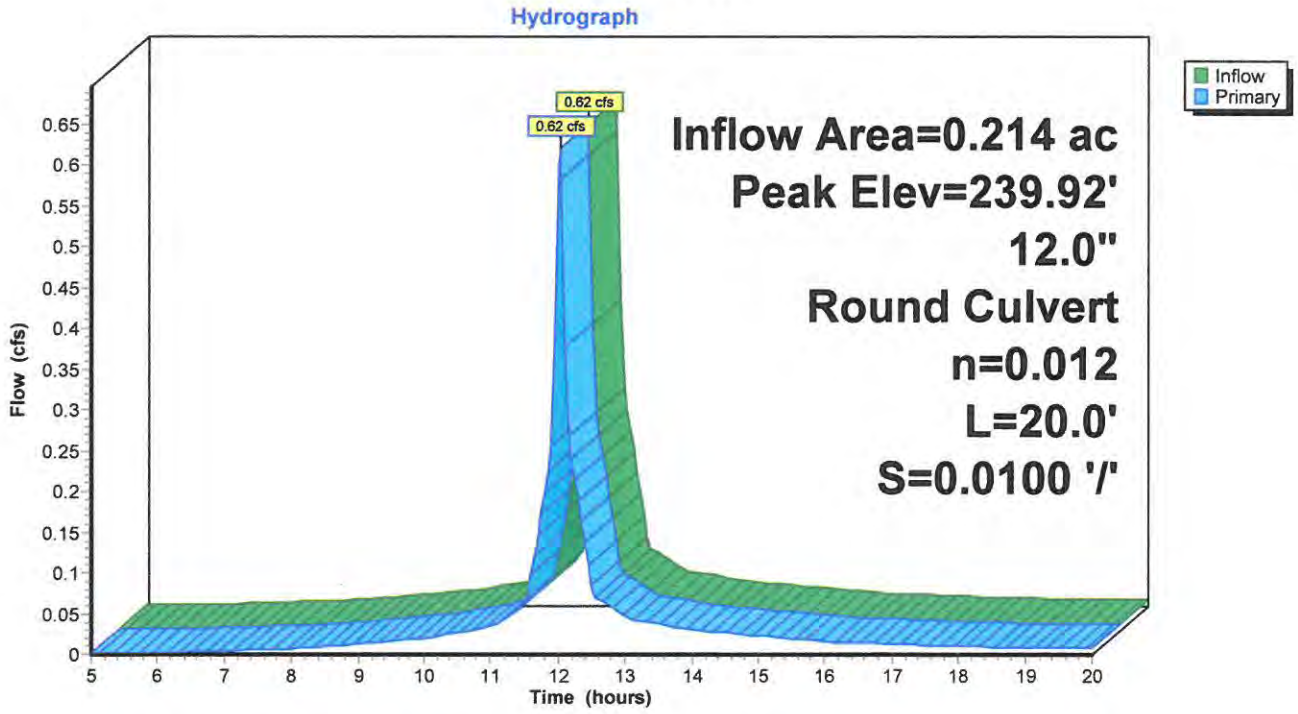
Inflow Area = 0.214 ac, 81.79% Impervious, Inflow Depth > 2.22" for 2 Year Storm Event event
Inflow = 0.62 cfs @ 12.02 hrs, Volume= 0.040 af
Outflow = 0.62 cfs @ 12.02 hrs, Volume= 0.040 af, Atten= 0%, Lag= 0.0 min
Primary = 0.62 cfs @ 12.02 hrs, Volume= 0.040 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 239.92' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	239.50'	**12.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 239.50' / 239.30' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.59 cfs @ 12.02 hrs HW=239.91' (Free Discharge)
↑**1=Culvert** (Barrel Controls 0.59 cfs @ 2.88 fps)

Pond CB2: CB2



Summary for Pond CB3: CB3

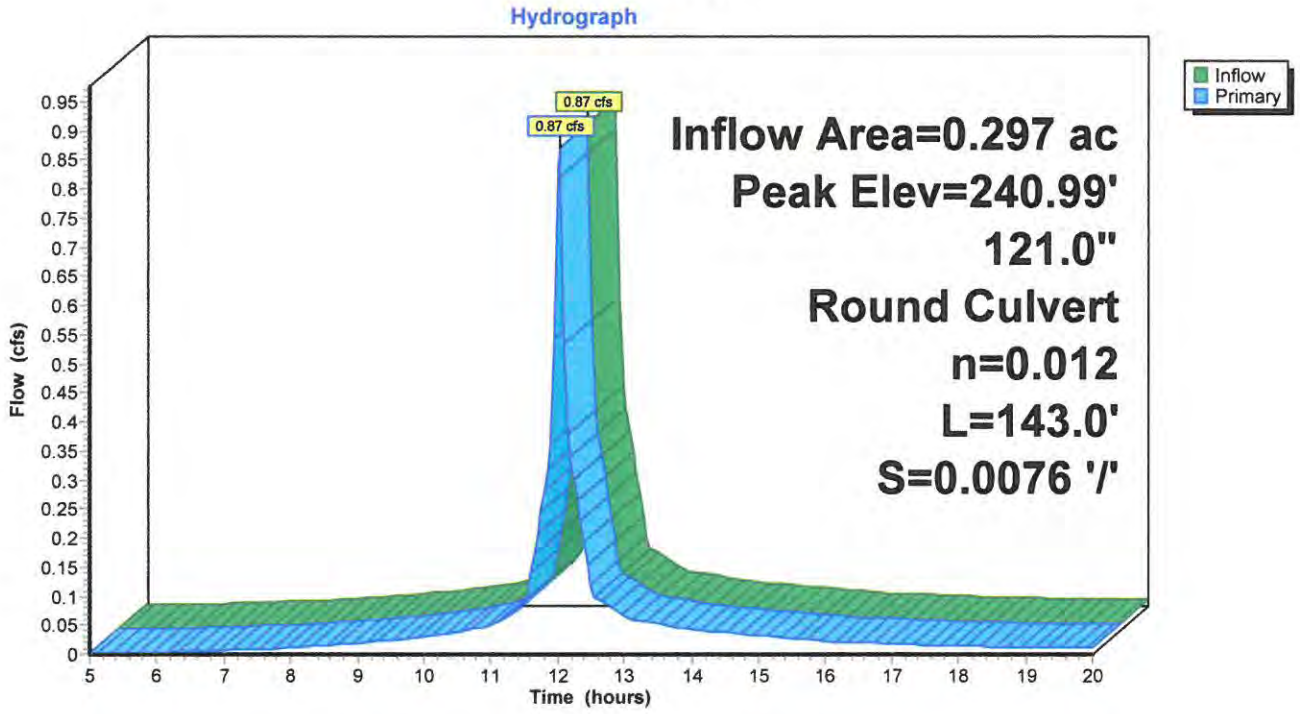
Inflow Area = 0.297 ac, 84.10% Impervious, Inflow Depth > 2.27" for 2 Year Storm Event event
Inflow = 0.87 cfs @ 12.02 hrs, Volume= 0.056 af
Outflow = 0.87 cfs @ 12.02 hrs, Volume= 0.056 af, Atten= 0%, Lag= 0.0 min
Primary = 0.87 cfs @ 12.02 hrs, Volume= 0.056 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 240.99' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	240.75'	**121.0" Round Culvert** L= 143.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.75' / 239.67' S= 0.0076 '/' Cc= 0.900 n= 0.012, Flow Area= 79.85 sf

Primary OutFlow Max=0.80 cfs @ 12.02 hrs HW=240.99' (Free Discharge)
↑**1=Culvert** (Barrel Controls 0.80 cfs @ 2.49 fps)

Pond CB3: CB3



Summary for Pond CB4: CB4

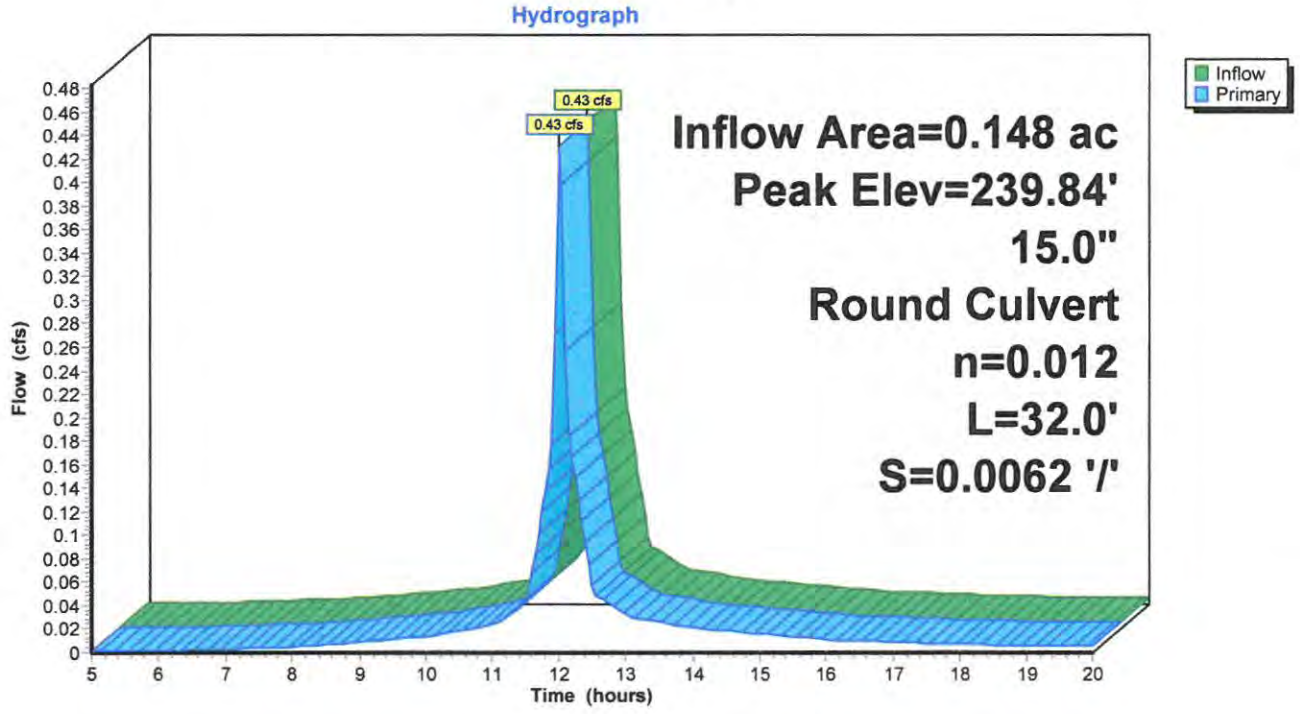
Inflow Area = 0.148 ac, 82.18% Impervious, Inflow Depth > 2.22" for 2 Year Storm Event event
Inflow = 0.43 cfs @ 12.02 hrs, Volume= 0.027 af
Outflow = 0.43 cfs @ 12.02 hrs, Volume= 0.027 af, Atten= 0%, Lag= 0.0 min
Primary = 0.43 cfs @ 12.02 hrs, Volume= 0.027 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 239.84' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	239.50'	**15.0" Round Culvert** L= 32.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 239.50' / 239.30' S= 0.0062 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=0.41 cfs @ 12.02 hrs HW=239.83' (Free Discharge)
↑**1=Culvert** (Barrel Controls 0.41 cfs @ 2.39 fps)

Pond CB4: CB4



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

Subcatchment 2S: Parking 2 Runoff Area=9,339 sf 81.79% Impervious Runoff Depth>3.42"
Flow Length=159' Tc=1.4 min CN=94 Runoff=0.93 cfs 0.061 af

Subcatchment 3S: Parking 3 Runoff Area=6,493 sf 86.02% Impervious Runoff Depth>3.52"
Flow Length=160' Tc=1.6 min CN=95 Runoff=0.66 cfs 0.044 af

Subcatchment 4S: Parking 4 Runoff Area=6,448 sf 82.18% Impervious Runoff Depth>3.42"
Flow Length=123' Tc=1.3 min CN=94 Runoff=0.65 cfs 0.042 af

Subcatchment 6S: Parking 6 Runoff Area=4,438 sf 45.38% Impervious Runoff Depth>2.56"
Flow Length=86' Tc=2.2 min CN=85 Runoff=0.35 cfs 0.022 af

Subcatchment 7S: Offsite Runoff Area=46,285 sf 53.95% Impervious Runoff Depth>2.74"
Flow Length=365' Tc=10.0 min CN=87 Runoff=3.10 cfs 0.242 af

Reach 5R: Ditch Avg. Flow Depth=0.10' Max Vel=3.46 fps Inflow=0.77 cfs 0.085 af
n=0.022 L=50.0' S=0.0700 '/' Capacity=63.61 cfs Outflow=0.77 cfs 0.085 af

Reach 6R: to CB 6 Pipe Flow Avg. Flow Depth=0.35' Max Vel=14.46 fps Inflow=4.01 cfs 0.349 af
15.0" Round Pipe n=0.012 L=15.0' S=0.1167 '/' Capacity=23.90 cfs Outflow=4.01 cfs 0.349 af

Reach 10R: ST outlet Avg. Flow Depth=0.29' Max Vel=4.15 fps Inflow=0.77 cfs 0.085 af
12.0" Round Pipe n=0.012 L=8.0' S=0.0125 '/' Capacity=4.32 cfs Outflow=0.77 cfs 0.085 af

Pond 1P: Storm Tech Chamber Peak Elev=241.45' Storage=1,917 cf Inflow=2.24 cfs 0.147 af
Discarded=0.06 cfs 0.062 af Primary=0.77 cfs 0.085 af Outflow=0.83 cfs 0.147 af

Pond CB2: CB2 Peak Elev=240.04' Inflow=0.93 cfs 0.061 af
12.0" Round Culvert n=0.012 L=20.0' S=0.0100 '/' Outflow=0.93 cfs 0.061 af

Pond CB3: CB3 Peak Elev=241.05' Inflow=1.30 cfs 0.086 af
121.0" Round Culvert n=0.012 L=143.0' S=0.0076 '/' Outflow=1.30 cfs 0.086 af

Pond CB4: CB4 Peak Elev=239.92' Inflow=0.65 cfs 0.042 af
15.0" Round Culvert n=0.012 L=32.0' S=0.0062 '/' Outflow=0.65 cfs 0.042 af

Total Runoff Area = 1.676 ac Runoff Volume = 0.411 af Average Runoff Depth = 2.94"
37.67% Pervious = 0.631 ac 62.33% Impervious = 1.045 ac

Summary for Subcatchment 2S: Parking 2

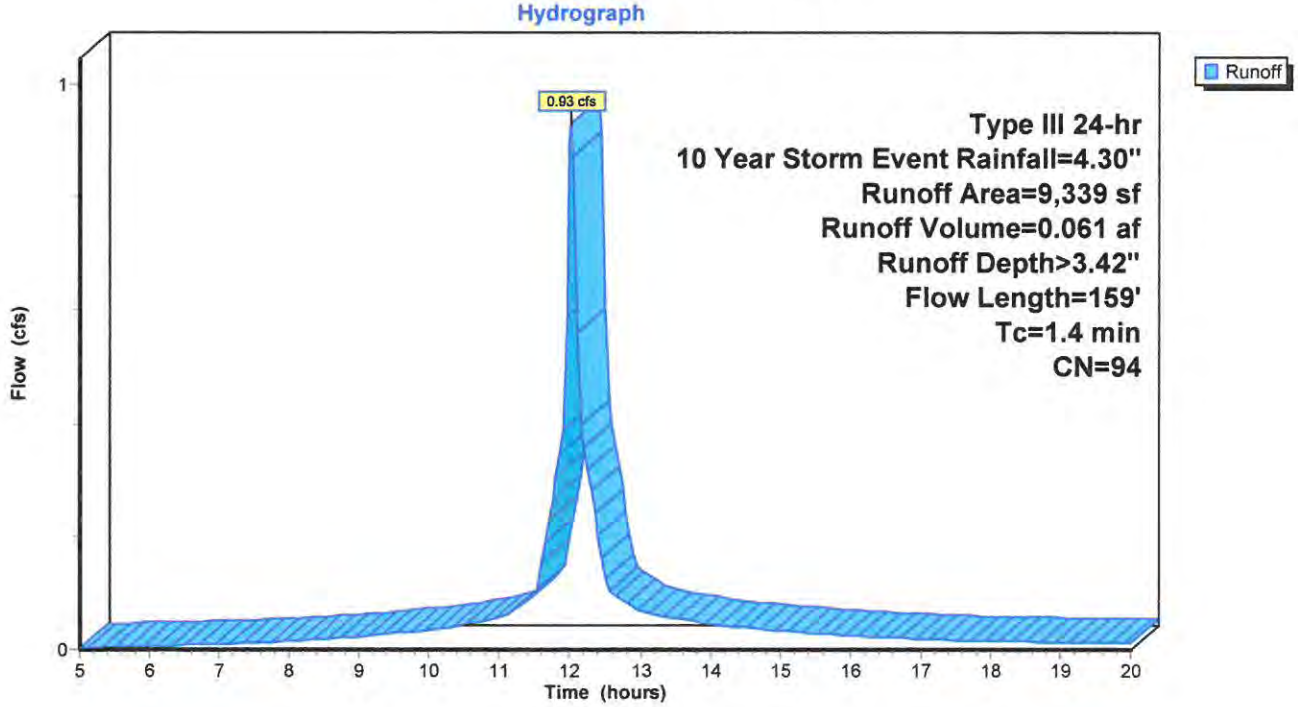
Runoff = 0.93 cfs @ 12.02 hrs, Volume= 0.061 af, Depth> 3.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Event Rainfall=4.30"

Area (sf)	CN	Description
7,638	98	Paved parking, HSG C
1,701	74	>75% Grass cover, Good, HSG C
9,339	94	Weighted Average
1,701		18.21% Pervious Area
7,638		81.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	18	0.3000	2.79		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	58	0.0200	1.19		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	65	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	18	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	159	Total			

Subcatchment 2S: Parking 2



Summary for Subcatchment 3S: Parking 3

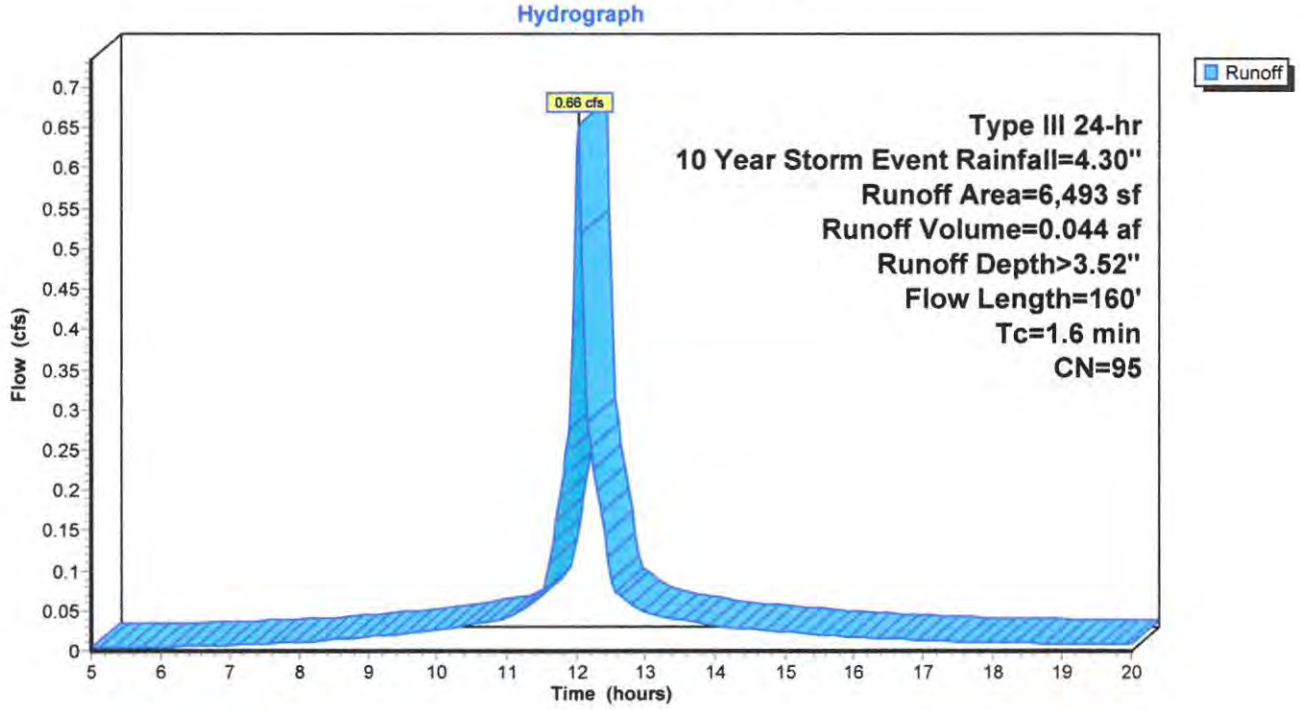
Runoff = 0.66 cfs @ 12.02 hrs, Volume= 0.044 af, Depth> 3.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Event Rainfall=4.30"

Area (sf)	CN	Description
5,585	98	Paved parking, HSG C
908	74	>75% Grass cover, Good, HSG C
6,493	95	Weighted Average
908		13.98% Pervious Area
5,585		86.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	18	0.3000	2.79		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	54	0.0200	1.18		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.7	88	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	160	Total			

Subcatchment 3S: Parking 3



Summary for Subcatchment 4S: Parking 4

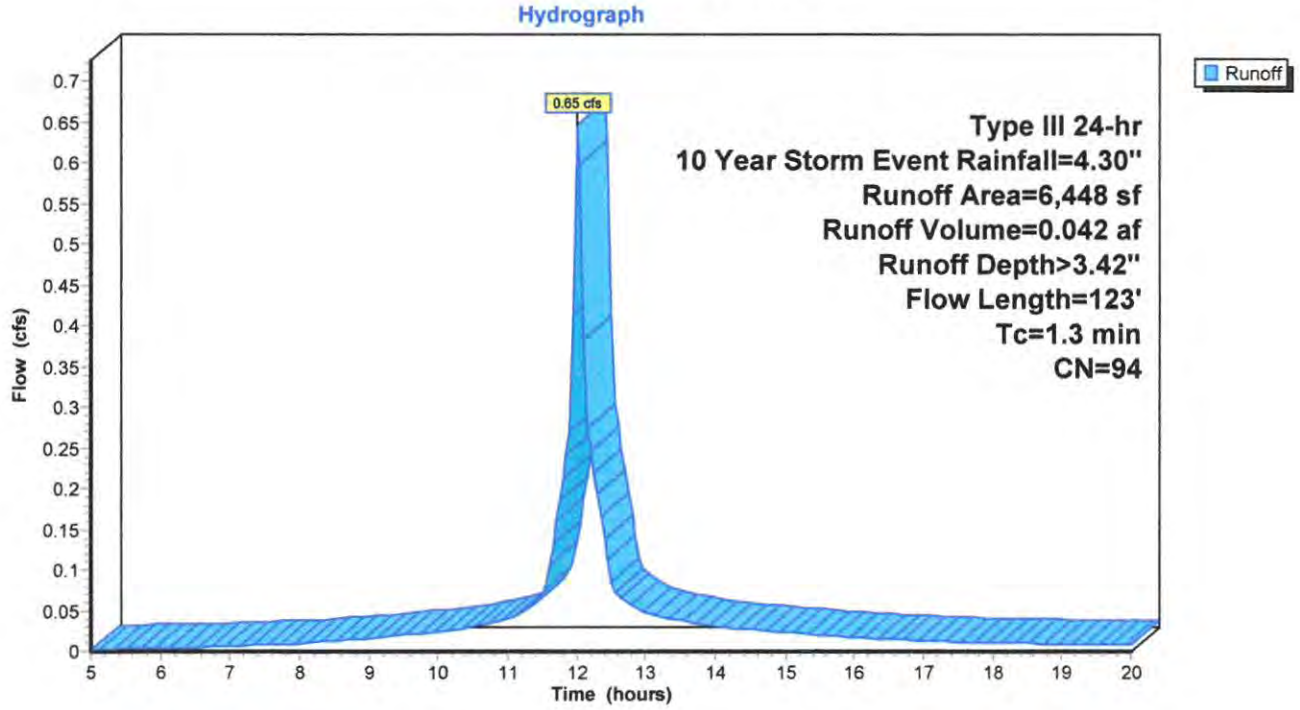
Runoff = 0.65 cfs @ 12.02 hrs, Volume= 0.042 af, Depth> 3.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Event Rainfall=4.30"

Area (sf)	CN	Description
5,299	98	Paved parking, HSG C
1,149	74	>75% Grass cover, Good, HSG C
6,448	94	Weighted Average
1,149		17.82% Pervious Area
5,299		82.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	18	0.3000	2.79		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	54	0.0200	1.18		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	51	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	123	Total			

Subcatchment 4S: Parking 4



Summary for Subcatchment 6S: Parking 6

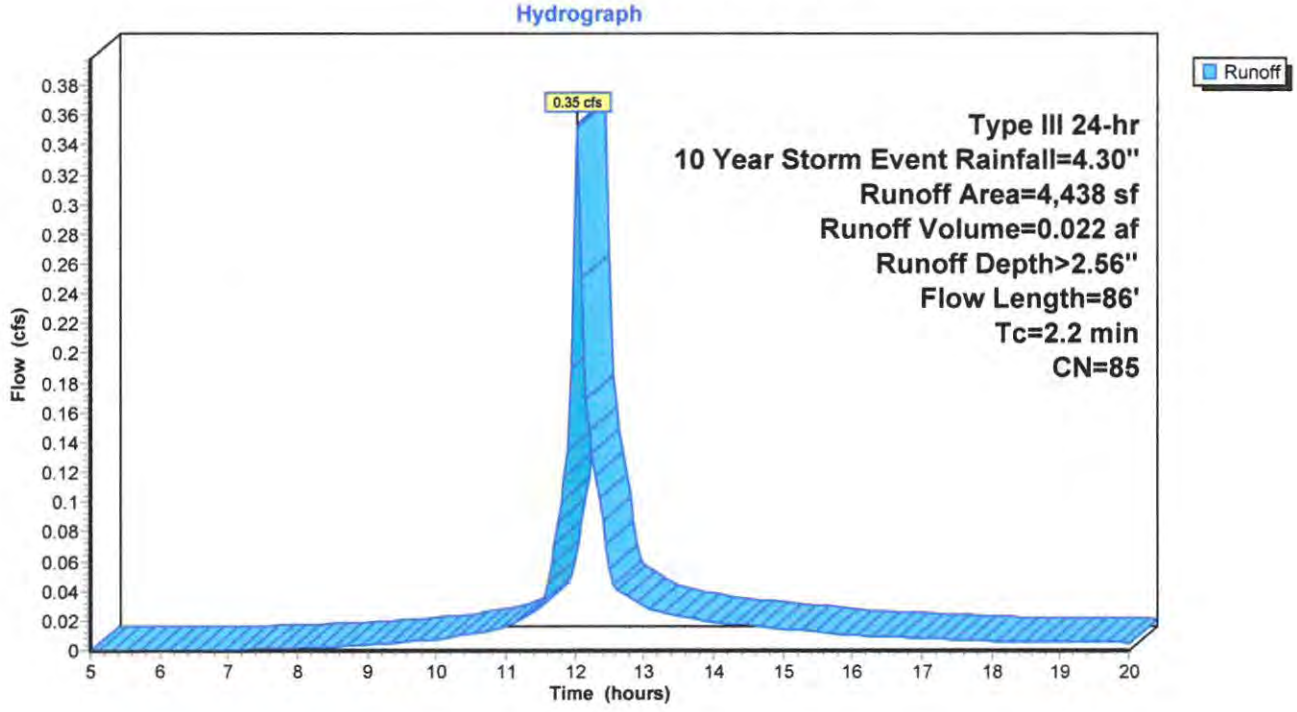
Runoff = 0.35 cfs @ 12.04 hrs, Volume= 0.022 af, Depth> 2.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Event Rainfall=4.30"

Area (sf)	CN	Description
2,014	98	Paved parking, HSG C
2,424	74	>75% Grass cover, Good, HSG C
4,438	85	Weighted Average
2,424		54.62% Pervious Area
2,014		45.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	12	0.2000	0.19		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
0.9	64	0.0200	1.22		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.2	10	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	86	Total			

Subcatchment 6S: Parking 6



Summary for Subcatchment 7S: Offsite

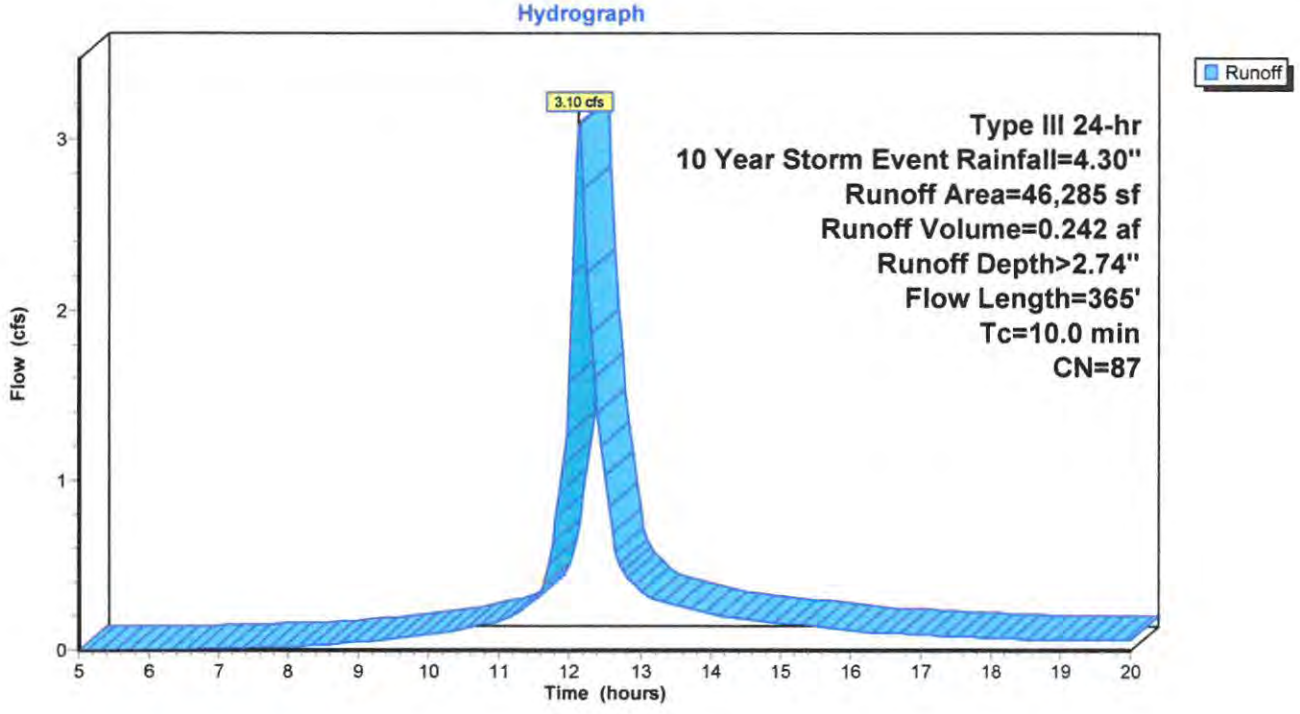
Runoff = 3.10 cfs @ 12.14 hrs, Volume= 0.242 af, Depth> 2.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10 Year Storm Event Rainfall=4.30"

Area (sf)	CN	Description
21,315	74	>75% Grass cover, Good, HSG C
24,970	98	Paved parking, HSG C
46,285	87	Weighted Average
21,315		46.05% Pervious Area
24,970		53.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	80	0.0750	0.18		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
1.1	125	0.0400	1.84		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.6	160	0.0560	1.66		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.0	365	Total			

Subcatchment 7S: Offsite



Summary for Reach 5R: Ditch

Inflow Area = 0.511 ac, 83.13% Impervious, Inflow Depth = 1.99" for 10 Year Storm Event event
Inflow = 0.77 cfs @ 12.21 hrs, Volume= 0.085 af
Outflow = 0.77 cfs @ 12.22 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.3 min

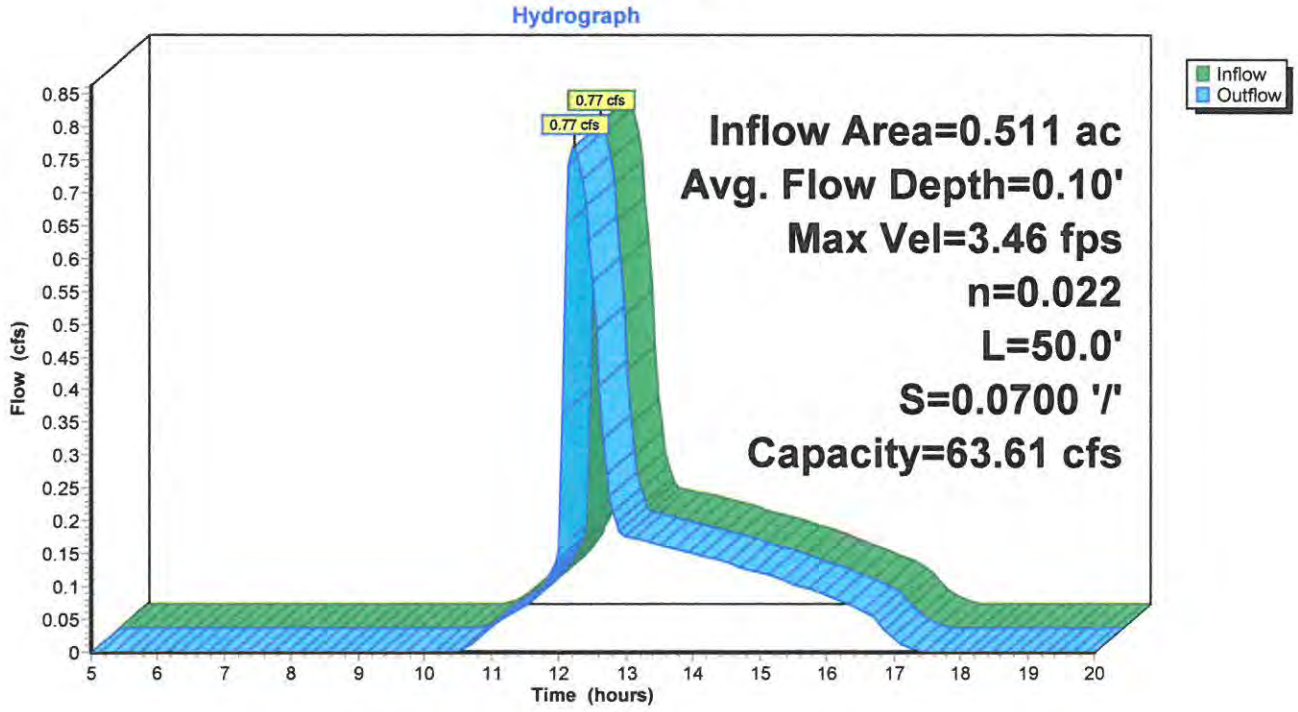
Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 3.46 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.71 fps, Avg. Travel Time= 0.5 min

Peak Storage= 11 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.10'
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 63.61 cfs

2.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 8.00'
Length= 50.0' Slope= 0.0700 '/'
Inlet Invert= 231.50', Outlet Invert= 228.00'

‡

Reach 5R: Ditch



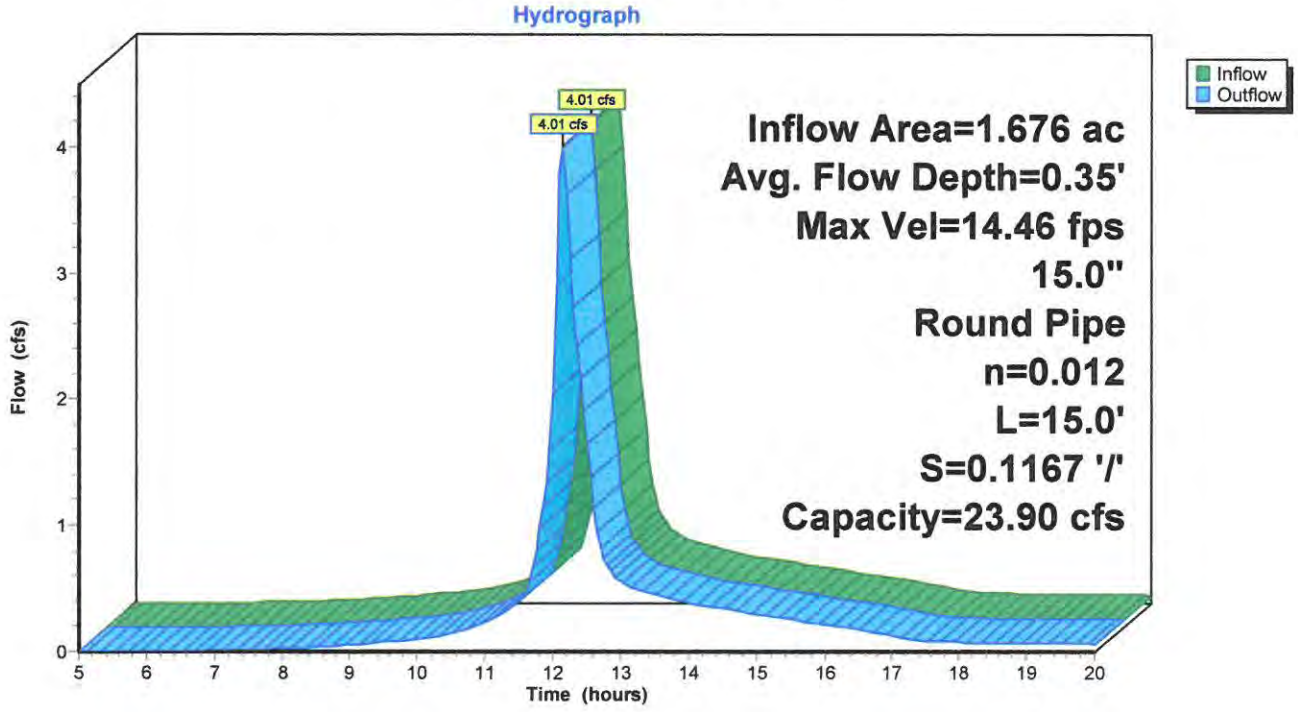
Summary for Reach 6R: to CB 6 Pipe Flow

Inflow Area = 1.676 ac, 62.33% Impervious, Inflow Depth > 2.50" for 10 Year Storm Event event
Inflow = 4.01 cfs @ 12.14 hrs, Volume= 0.349 af
Outflow = 4.01 cfs @ 12.14 hrs, Volume= 0.349 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 14.46 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 5.50 fps, Avg. Travel Time= 0.0 min

Peak Storage= 4 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.35'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 23.90 cfs

15.0" Round Pipe
n= 0.012
Length= 15.0' Slope= 0.1167 '/'
Inlet Invert= 228.00', Outlet Invert= 226.25'



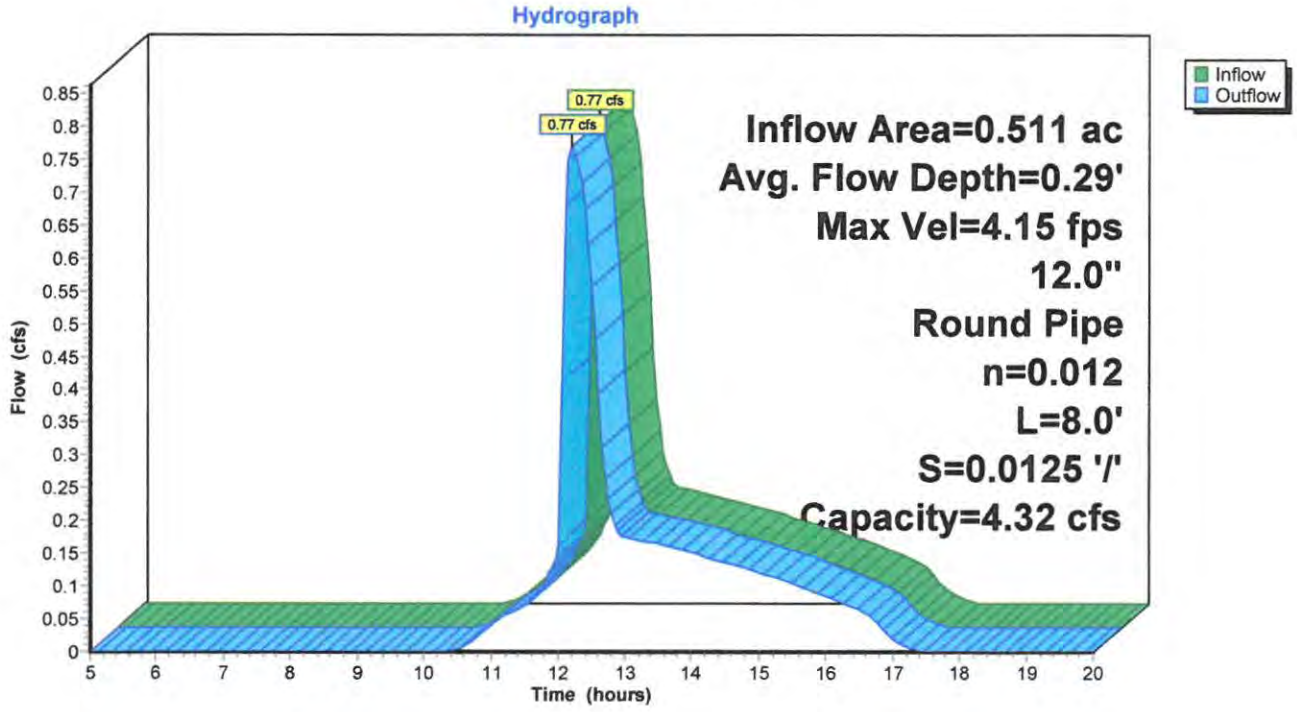
Summary for Reach 10R: ST outlet

Inflow Area = 0.511 ac, 83.13% Impervious, Inflow Depth = 1.99" for 10 Year Storm Event event
Inflow = 0.77 cfs @ 12.21 hrs, Volume= 0.085 af
Outflow = 0.77 cfs @ 12.21 hrs, Volume= 0.085 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.15 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.28 fps, Avg. Travel Time= 0.1 min

Peak Storage= 1 cf @ 12.21 hrs
Average Depth at Peak Storage= 0.29'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.32 cfs

12.0" Round Pipe
n= 0.012
Length= 8.0' Slope= 0.0125 '/'
Inlet Invert= 239.00', Outlet Invert= 238.90'



Summary for Pond 1P: Storm Tech Chamber

Inflow Area = 0.511 ac, 83.13% Impervious, Inflow Depth > 3.45" for 10 Year Storm Event event
Inflow = 2.24 cfs @ 12.02 hrs, Volume= 0.147 af
Outflow = 0.83 cfs @ 12.21 hrs, Volume= 0.147 af, Atten= 63%, Lag= 11.5 min
Discarded = 0.06 cfs @ 12.22 hrs, Volume= 0.062 af
Primary = 0.77 cfs @ 12.21 hrs, Volume= 0.085 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 241.45' @ 12.22 hrs Surf.Area= 1,096 sf Storage= 1,917 cf

Plug-Flow detention time= 51.4 min calculated for 0.147 af (100% of inflow)
Center-of-Mass det. time= 50.8 min (797.3 - 746.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	238.79'	1,020 cf	**20.50'W x 53.46'L x 3.50'H Field A** 3,836 cf Overall - 1,286 cf Embedded = 2,549 cf x 40.0% Voids
#2A	239.29'	1,286 cf	**ADS_StormTech SC-740 +Cap** x 28 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 28 Chambers in 4 Rows
		2,306 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	238.79'	**2.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = -3.00'
#2	Primary	239.00'	**12.0" Vert. Orifice/Grate** C= 0.600
#3	Device 2	239.00'	**2.0" W x 2.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 2	240.83'	**11.5" W x 2.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 2	241.44'	**5.5" x 2.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Primary	242.28'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.06 cfs @ 12.22 hrs HW=241.44' (Free Discharge)
└─**1=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.77 cfs @ 12.21 hrs HW=241.44' (Free Discharge)
├─**2=Orifice/Grate** (Passes 0.77 cfs of 5.27 cfs potential flow)
│ ├─**3=Orifice/Grate** (Orifice Controls 0.21 cfs @ 7.40 fps)
│ ├─**4=Orifice/Grate** (Orifice Controls 0.56 cfs @ 3.51 fps)
│ └─**5=Orifice/Grate** (Weir Controls 0.00 cfs @ 0.23 fps)
└─**6=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Storm Tech Chamber - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

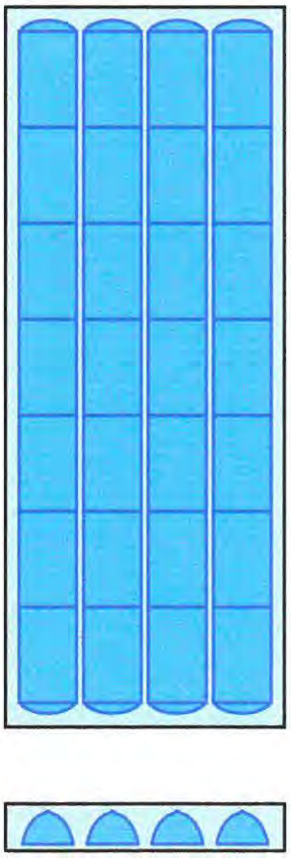
7 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 51.46' Row Length +12.0" End Stone x 2 = 53.46' Base Length
4 Rows x 51.0" Wide + 6.0" Spacing x 3 + 12.0" Side Stone x 2 = 20.50' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

28 Chambers x 45.9 cf = 1,286.3 cf Chamber Storage

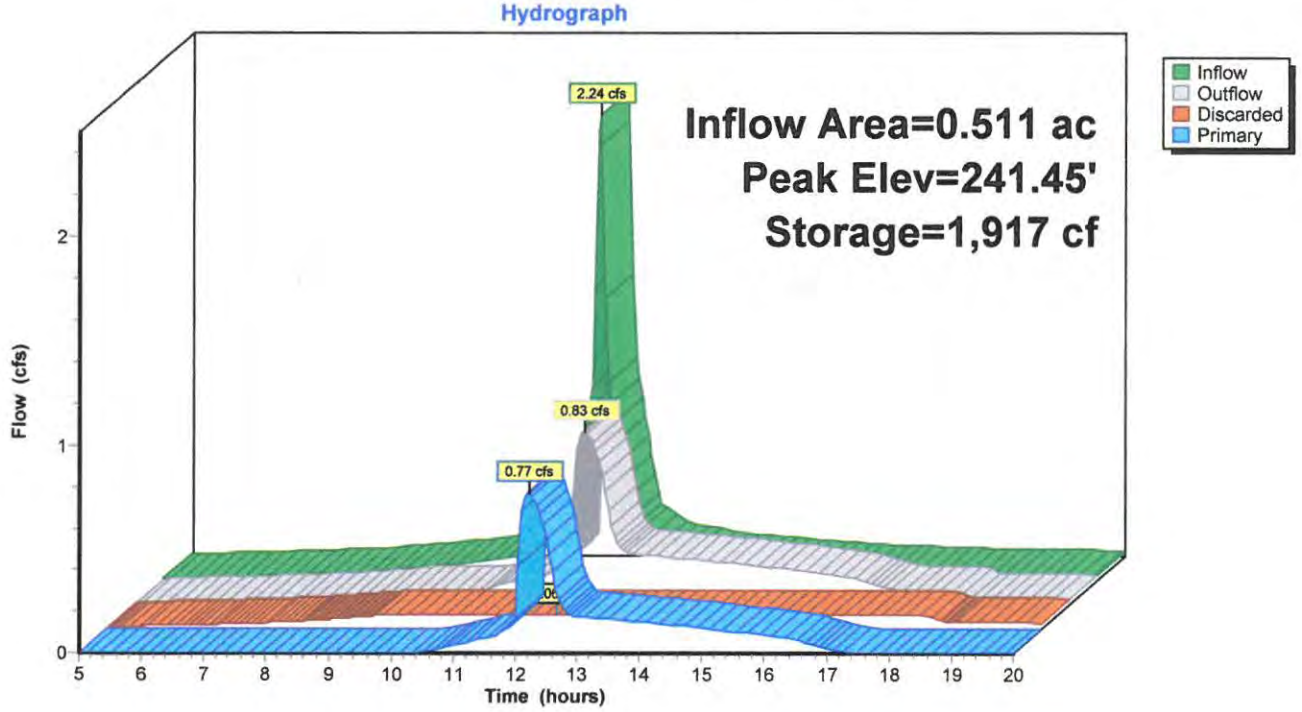
3,835.5 cf Field - 1,286.3 cf Chambers = 2,549.2 cf Stone x 40.0% Voids = 1,019.7 cf Stone Storage

Chamber Storage + Stone Storage = 2,306.0 cf = 0.053 af
Overall Storage Efficiency = 60.1%
Overall System Size = 53.46' x 20.50' x 3.50'

28 Chambers
142.1 cy Field
94.4 cy Stone



Pond 1P: Storm Tech Chamber



Summary for Pond CB2: CB2

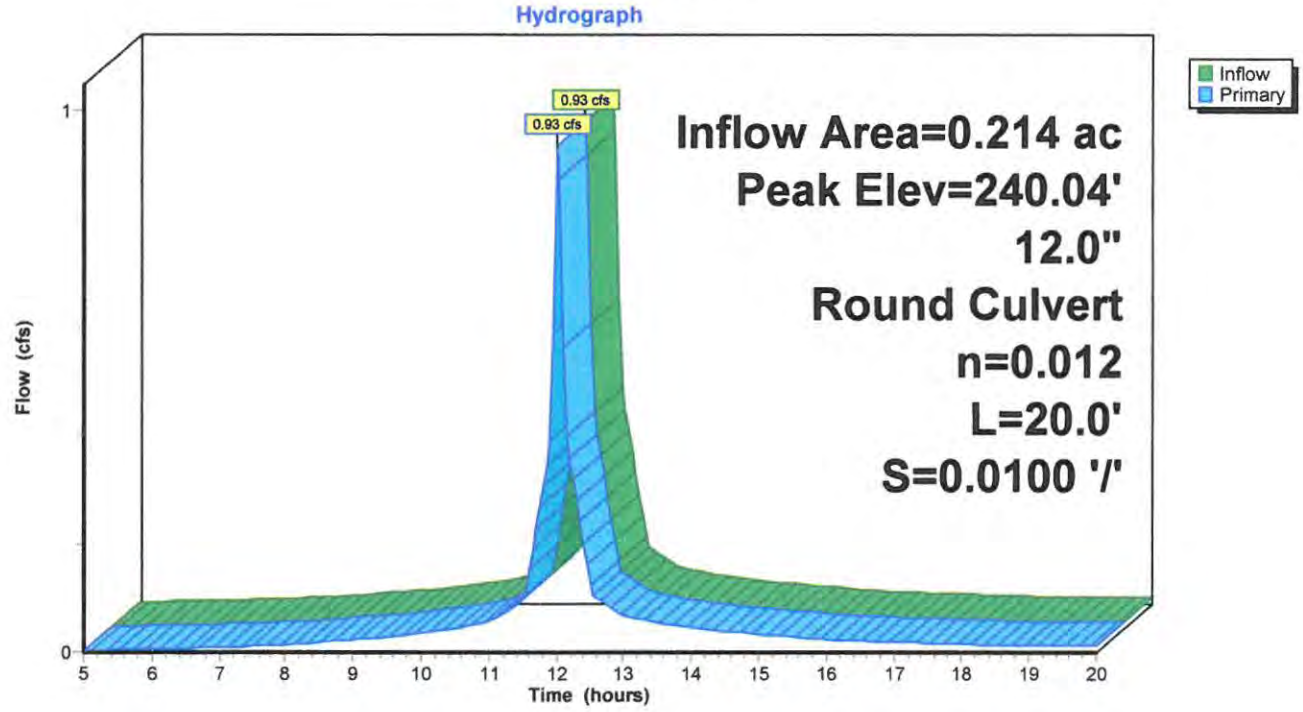
Inflow Area = 0.214 ac, 81.79% Impervious, Inflow Depth > 3.42" for 10 Year Storm Event event
Inflow = 0.93 cfs @ 12.02 hrs, Volume= 0.061 af
Outflow = 0.93 cfs @ 12.02 hrs, Volume= 0.061 af, Atten= 0%, Lag= 0.0 min
Primary = 0.93 cfs @ 12.02 hrs, Volume= 0.061 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 240.04' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	239.50'	**12.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 239.50' / 239.30' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=0.89 cfs @ 12.02 hrs HW=240.02' (Free Discharge)
↑**1=Culvert** (Barrel Controls 0.89 cfs @ 3.13 fps)

Pond CB2: CB2



Summary for Pond CB3: CB3

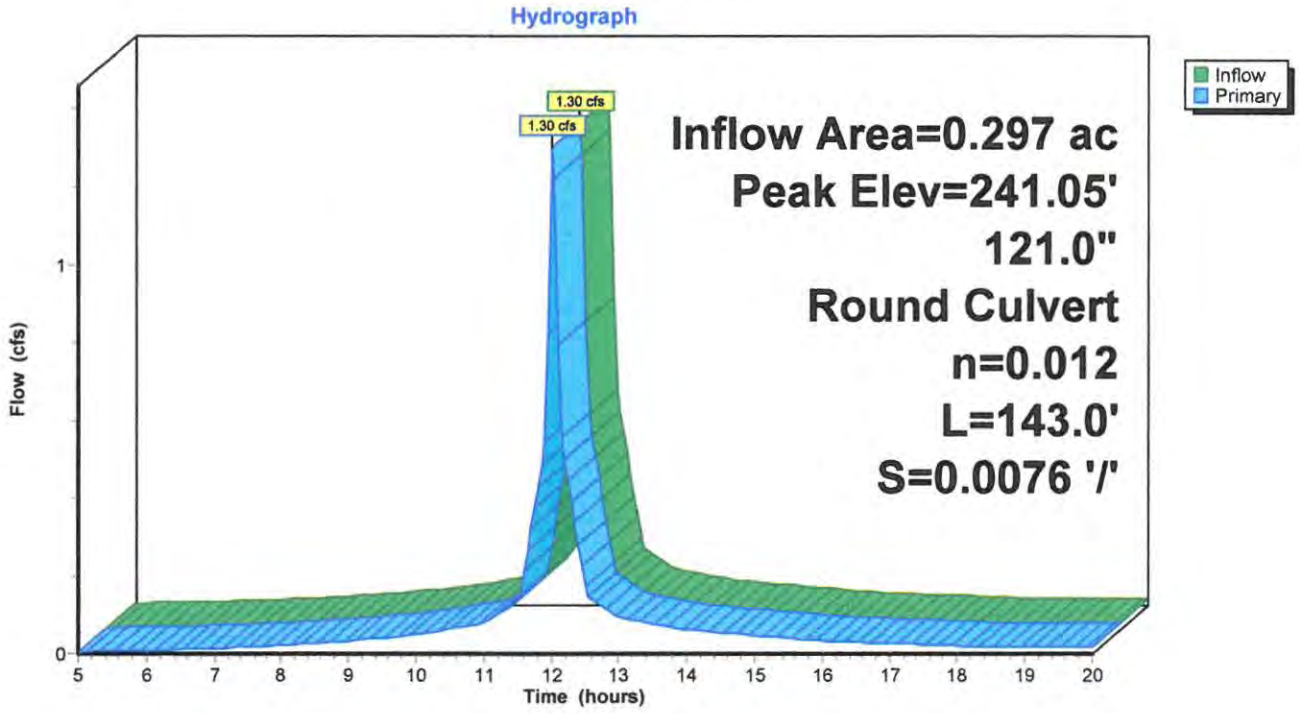
Inflow Area = 0.297 ac, 84.10% Impervious, Inflow Depth > 3.47" for 10 Year Storm Event event
Inflow = 1.30 cfs @ 12.02 hrs, Volume= 0.086 af
Outflow = 1.30 cfs @ 12.02 hrs, Volume= 0.086 af, Atten= 0%, Lag= 0.0 min
Primary = 1.30 cfs @ 12.02 hrs, Volume= 0.086 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 241.05' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	240.75'	**121.0" Round Culvert** L= 143.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.75' / 239.67' S= 0.0076 '/' Cc= 0.900 n= 0.012, Flow Area= 79.85 sf

Primary OutFlow Max=1.23 cfs @ 12.02 hrs HW=241.04' (Free Discharge)
↑**1=Culvert** (Barrel Controls 1.23 cfs @ 2.82 fps)

Pond CB3: CB3



Summary for Pond CB4: CB4

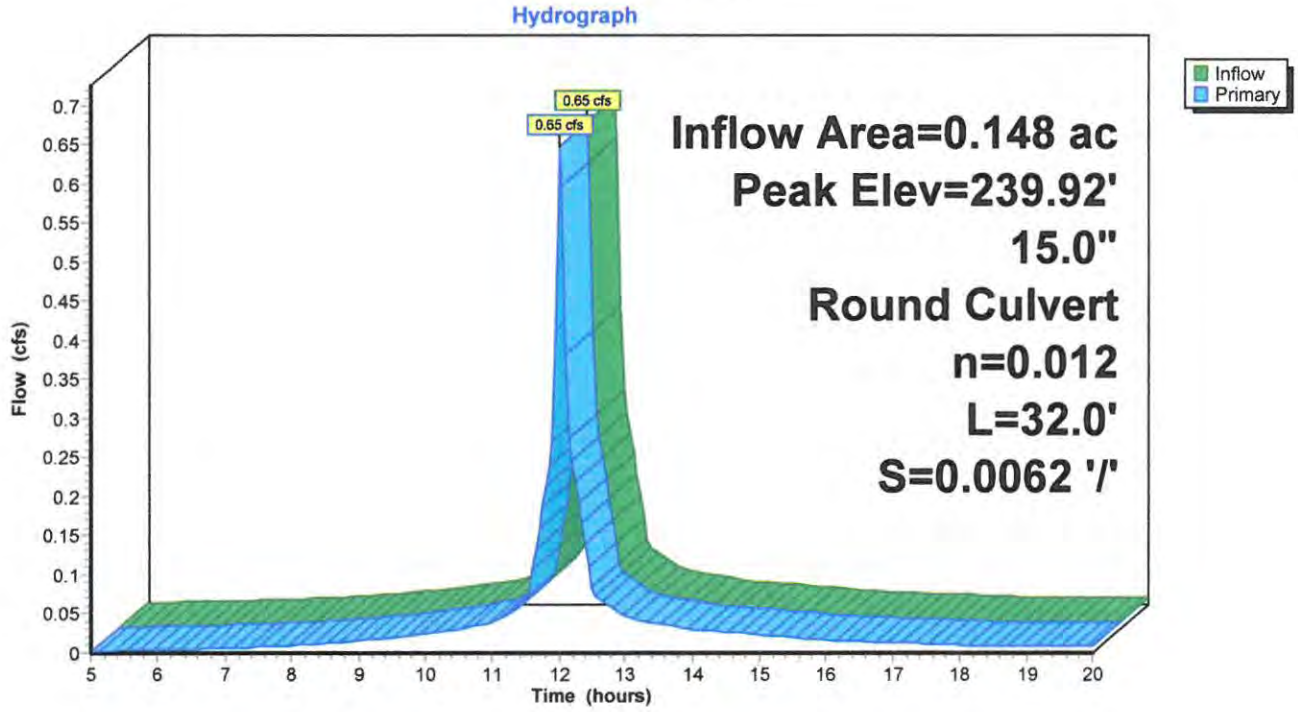
Inflow Area = 0.148 ac, 82.18% Impervious, Inflow Depth > 3.42" for 10 Year Storm Event event
Inflow = 0.65 cfs @ 12.02 hrs, Volume= 0.042 af
Outflow = 0.65 cfs @ 12.02 hrs, Volume= 0.042 af, Atten= 0%, Lag= 0.0 min
Primary = 0.65 cfs @ 12.02 hrs, Volume= 0.042 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 239.92' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	239.50'	**15.0" Round Culvert** L= 32.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 239.50' / 239.30' S= 0.0062 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=0.62 cfs @ 12.02 hrs HW=239.91' (Free Discharge)
↑**1=Culvert** (Barrel Controls 0.62 cfs @ 2.63 fps)

Pond CB4: CB4



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

Subcatchment 2S: Parking 2 Runoff Area=9,339 sf 81.79% Impervious Runoff Depth>4.44"
Flow Length=159' Tc=1.4 min CN=94 Runoff=1.20 cfs 0.079 af

Subcatchment 3S: Parking 3 Runoff Area=6,493 sf 86.02% Impervious Runoff Depth>4.53"
Flow Length=160' Tc=1.6 min CN=95 Runoff=0.84 cfs 0.056 af

Subcatchment 4S: Parking 4 Runoff Area=6,448 sf 82.18% Impervious Runoff Depth>4.44"
Flow Length=123' Tc=1.3 min CN=94 Runoff=0.83 cfs 0.055 af

Subcatchment 6S: Parking 6 Runoff Area=4,438 sf 45.38% Impervious Runoff Depth>3.52"
Flow Length=86' Tc=2.2 min CN=85 Runoff=0.48 cfs 0.030 af

Subcatchment 7S: Offsite Runoff Area=46,285 sf 53.95% Impervious Runoff Depth>3.72"
Flow Length=365' Tc=10.0 min CN=87 Runoff=4.15 cfs 0.329 af

Reach 5R: Ditch Avg. Flow Depth=0.14' Max Vel=4.25 fps Inflow=1.41 cfs 0.122 af
n=0.022 L=50.0' S=0.0700 '/' Capacity=63.61 cfs Outflow=1.41 cfs 0.122 af

Reach 6R: to CB 6 Pipe Flow Avg. Flow Depth=0.42' Max Vel=16.04 fps Inflow=5.81 cfs 0.481 af
15.0" Round Pipe n=0.012 L=15.0' S=0.1167 '/' Capacity=23.90 cfs Outflow=5.81 cfs 0.481 af

Reach 10R: ST outlet Avg. Flow Depth=0.39' Max Vel=4.91 fps Inflow=1.41 cfs 0.122 af
12.0" Round Pipe n=0.012 L=8.0' S=0.0125 '/' Capacity=4.32 cfs Outflow=1.41 cfs 0.122 af

Pond 1P: Storm Tech Chamber Peak Elev=242.17' Storage=2,252 cf Inflow=2.86 cfs 0.190 af
Discarded=0.06 cfs 0.069 af Primary=1.41 cfs 0.122 af Outflow=1.47 cfs 0.190 af

Pond CB2: CB2 Peak Elev=240.12' Inflow=1.20 cfs 0.079 af
12.0" Round Culvert n=0.012 L=20.0' S=0.0100 '/' Outflow=1.20 cfs 0.079 af

Pond CB3: CB3 Peak Elev=241.09' Inflow=1.66 cfs 0.111 af
121.0" Round Culvert n=0.012 L=143.0' S=0.0076 '/' Outflow=1.66 cfs 0.111 af

Pond CB4: CB4 Peak Elev=239.98' Inflow=0.83 cfs 0.055 af
15.0" Round Culvert n=0.012 L=32.0' S=0.0062 '/' Outflow=0.83 cfs 0.055 af

Total Runoff Area = 1.676 ac Runoff Volume = 0.549 af Average Runoff Depth = 3.93"
37.67% Pervious = 0.631 ac 62.33% Impervious = 1.045 ac

Summary for Subcatchment 2S: Parking 2

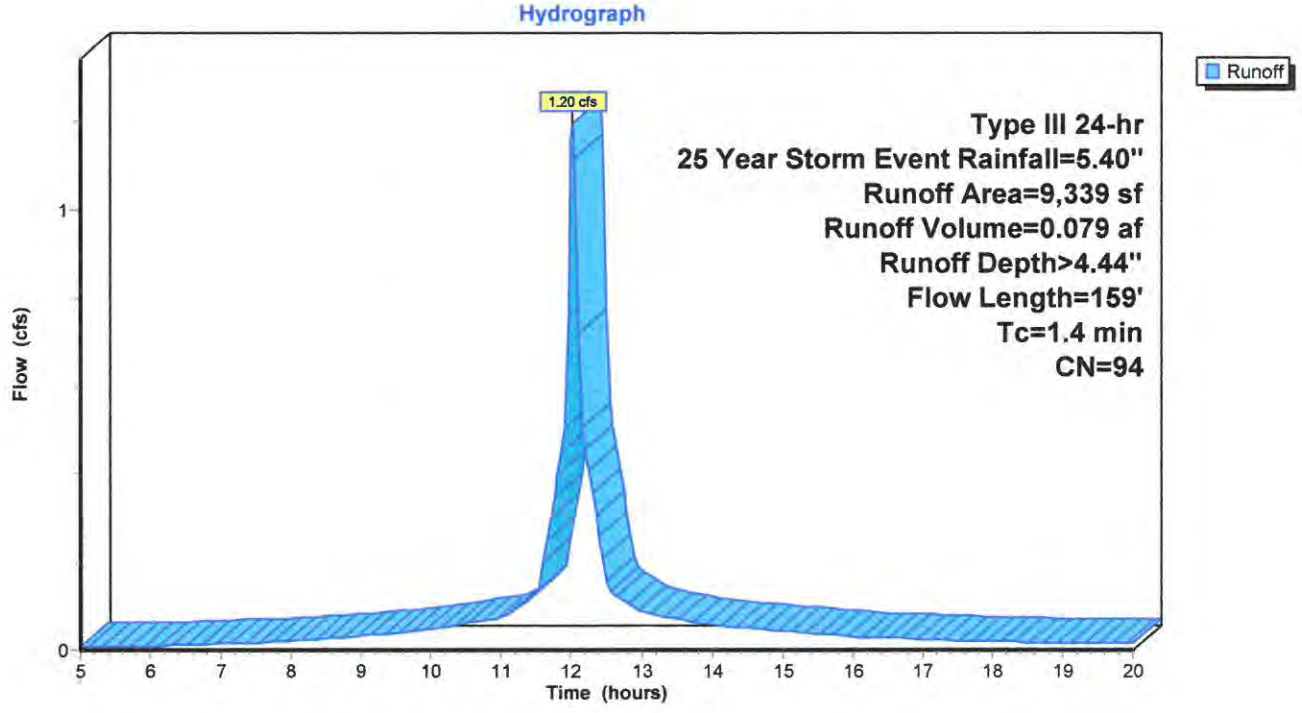
Runoff = 1.20 cfs @ 12.02 hrs, Volume= 0.079 af, Depth> 4.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Event Rainfall=5.40"

Area (sf)	CN	Description
7,638	98	Paved parking, HSG C
1,701	74	>75% Grass cover, Good, HSG C
9,339	94	Weighted Average
1,701		18.21% Pervious Area
7,638		81.79% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	18	0.3000	2.79		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	58	0.0200	1.19		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	65	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.1	18	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	159	Total			

Subcatchment 2S: Parking 2



Summary for Subcatchment 3S: Parking 3

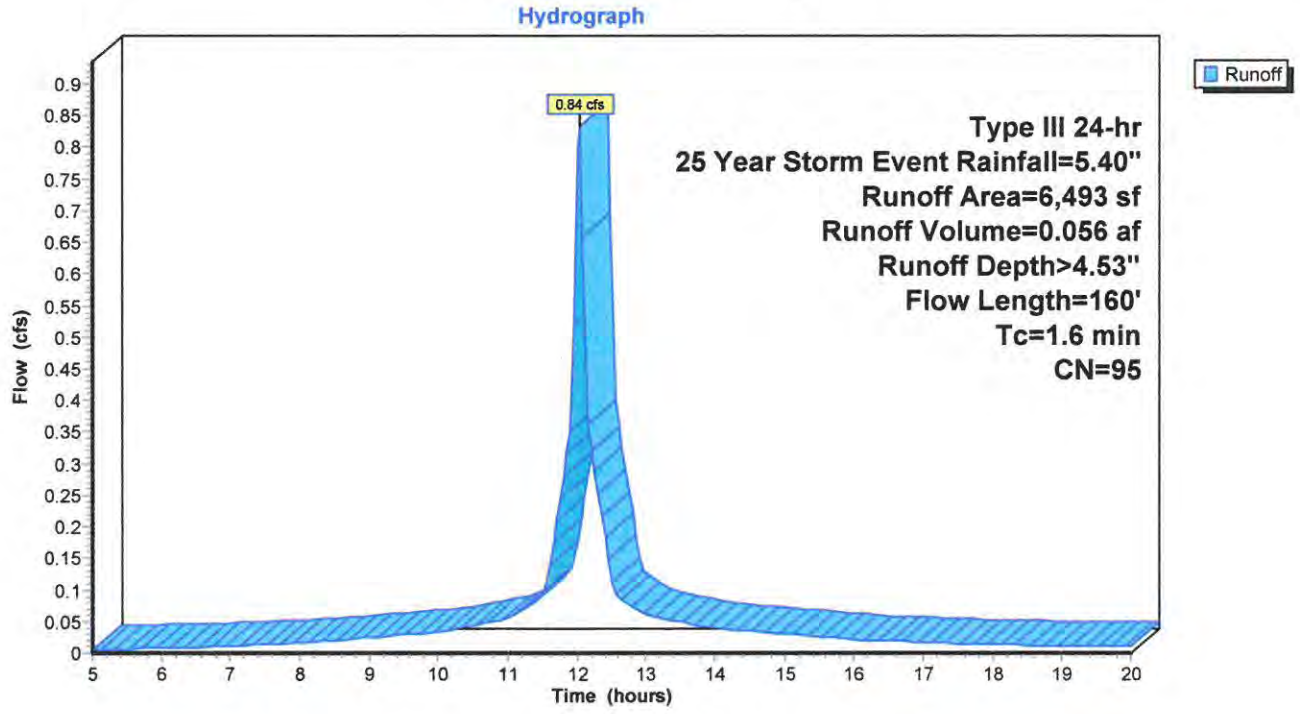
Runoff = 0.84 cfs @ 12.02 hrs, Volume= 0.056 af, Depth> 4.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Event Rainfall=5.40"

Area (sf)	CN	Description
5,585	98	Paved parking, HSG C
908	74	>75% Grass cover, Good, HSG C
6,493	95	Weighted Average
908		13.98% Pervious Area
5,585		86.02% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	18	0.3000	2.79		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	54	0.0200	1.18		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.7	88	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.6	160	Total			

Subcatchment 3S: Parking 3



Summary for Subcatchment 4S: Parking 4

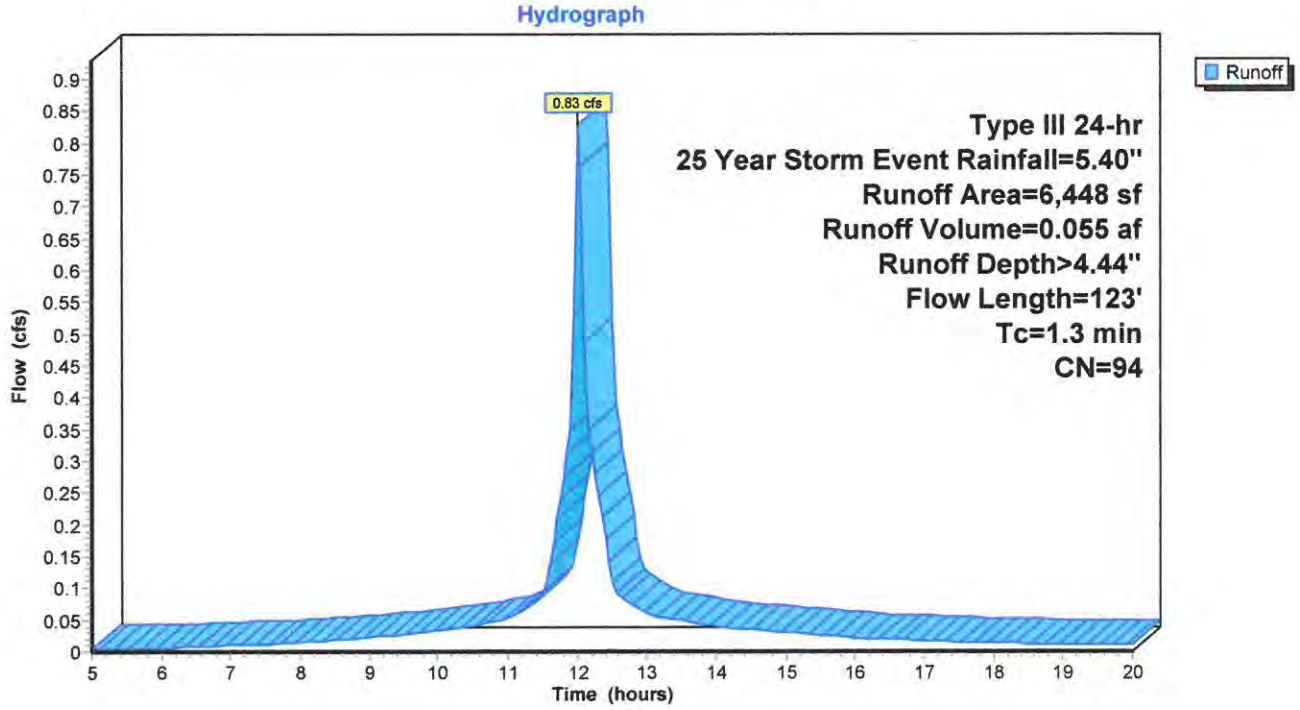
Runoff = 0.83 cfs @ 12.02 hrs, Volume= 0.055 af, Depth> 4.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Event Rainfall=5.40"

Area (sf)	CN	Description
5,299	98	Paved parking, HSG C
1,149	74	>75% Grass cover, Good, HSG C
6,448	94	Weighted Average
1,149		17.82% Pervious Area
5,299		82.18% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.1	18	0.3000	2.79		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.8	54	0.0200	1.18		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.4	51	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.3	123	Total			

Subcatchment 4S: Parking 4



Summary for Subcatchment 6S: Parking 6

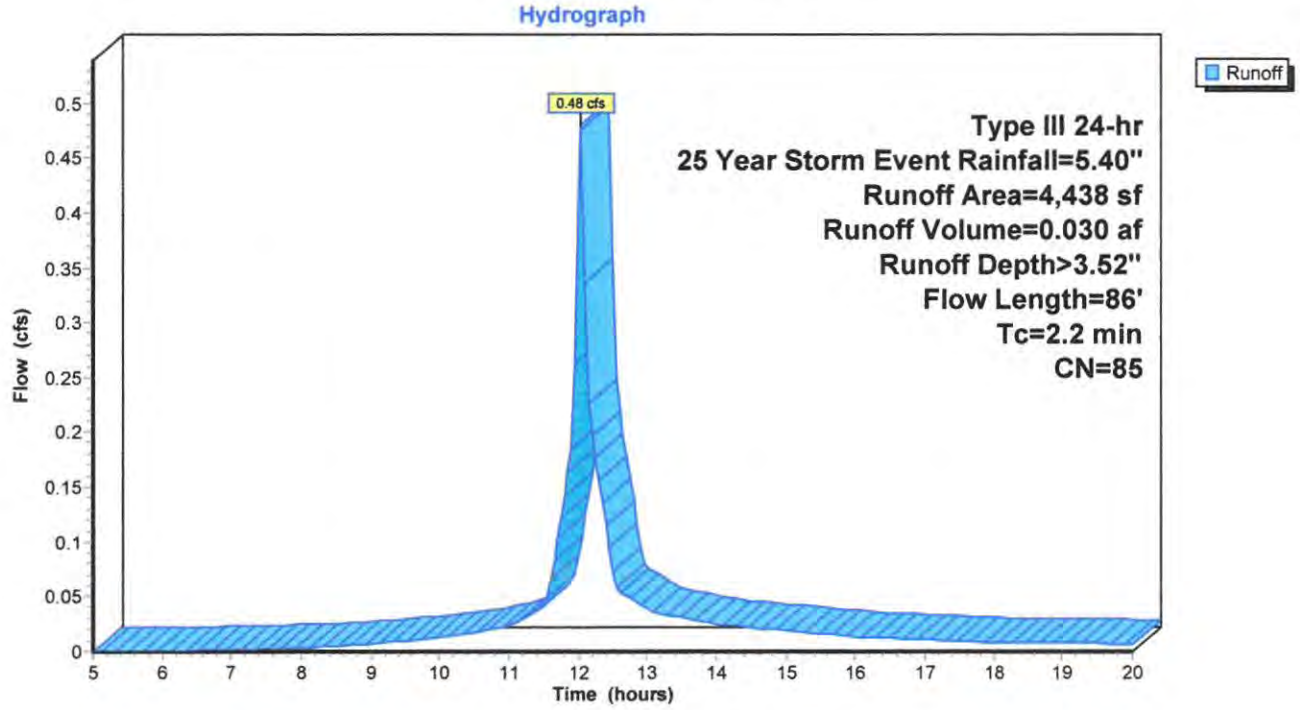
Runoff = 0.48 cfs @ 12.04 hrs, Volume= 0.030 af, Depth> 3.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Event Rainfall=5.40"

Area (sf)	CN	Description
2,014	98	Paved parking, HSG C
2,424	74	>75% Grass cover, Good, HSG C
4,438	85	Weighted Average
2,424		54.62% Pervious Area
2,014		45.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.1	12	0.2000	0.19		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
0.9	64	0.0200	1.22		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.2	10	0.0200	0.99		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	86	Total			

Subcatchment 6S: Parking 6



Summary for Subcatchment 7S: Offsite

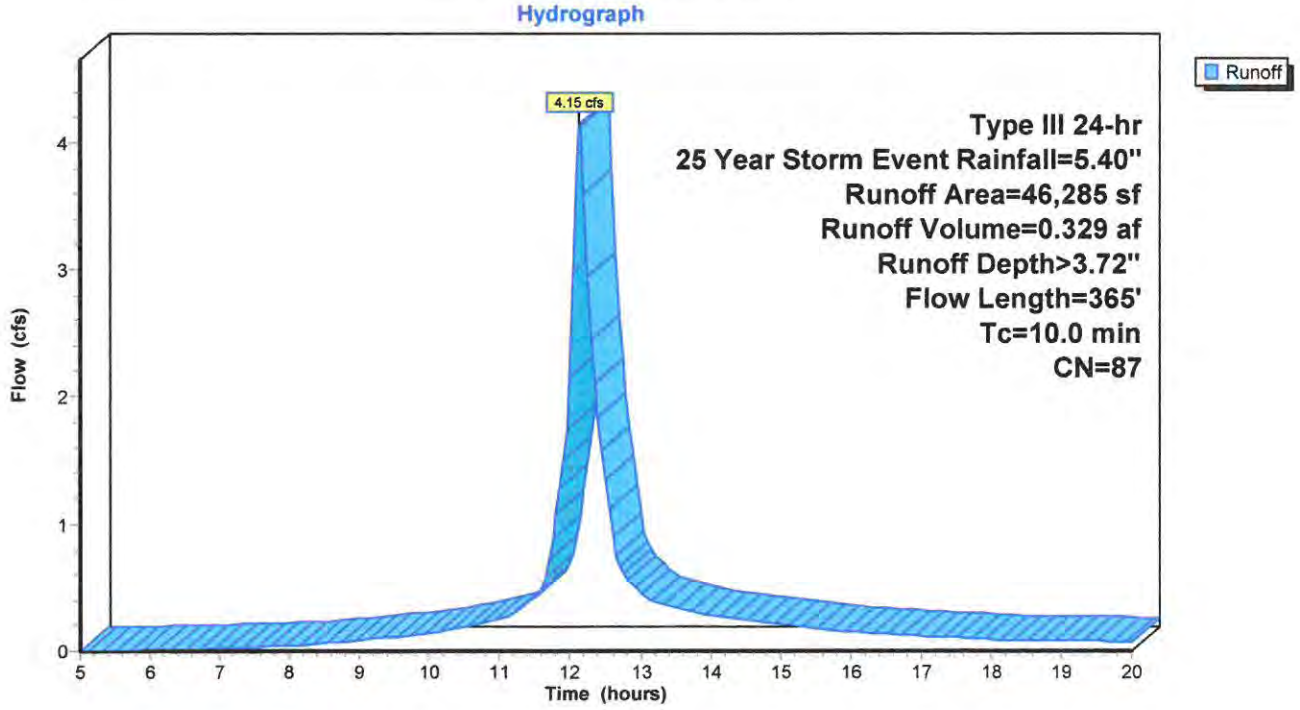
Runoff = 4.15 cfs @ 12.14 hrs, Volume= 0.329 af, Depth> 3.72"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25 Year Storm Event Rainfall=5.40"

Area (sf)	CN	Description
21,315	74	>75% Grass cover, Good, HSG C
24,970	98	Paved parking, HSG C
46,285	87	Weighted Average
21,315		46.05% Pervious Area
24,970		53.95% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.3	80	0.0750	0.18		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
1.1	125	0.0400	1.84		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
1.6	160	0.0560	1.66		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
10.0	365	Total			

Subcatchment 7S: Offsite



Summary for Reach 5R: Ditch

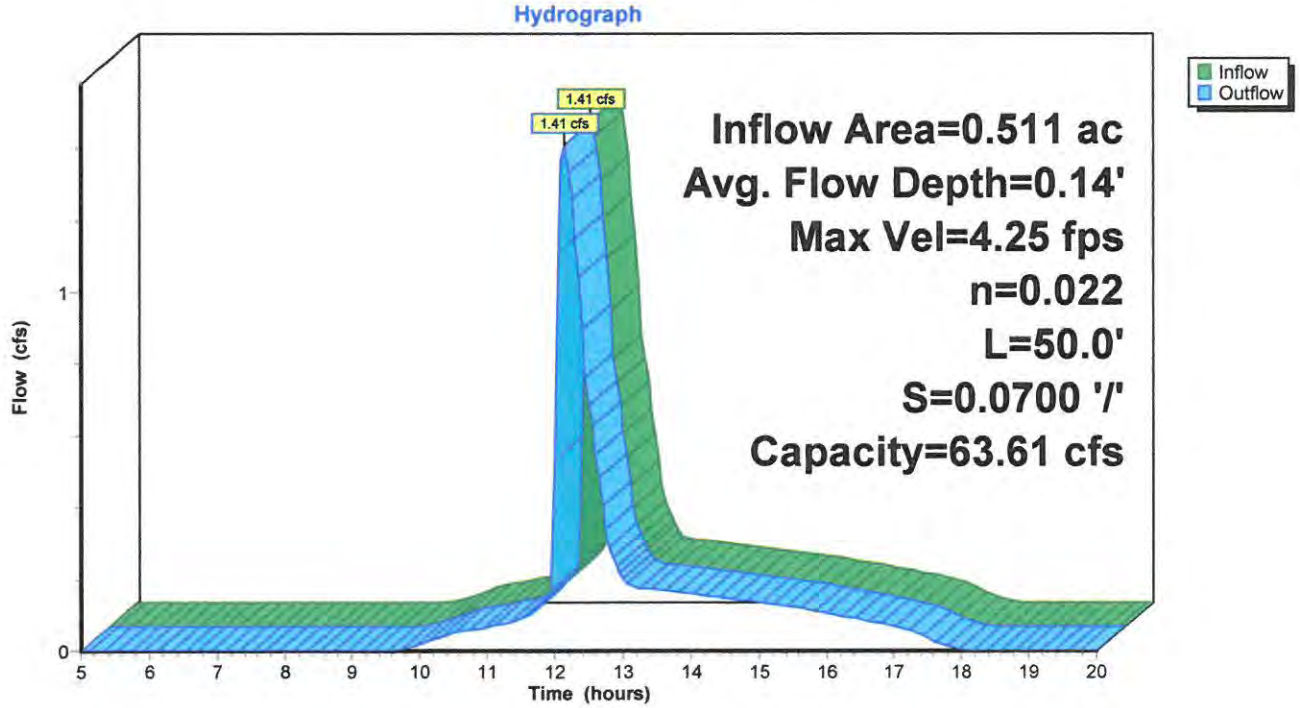
Inflow Area = 0.511 ac, 83.13% Impervious, Inflow Depth = 2.85" for 25 Year Storm Event event
Inflow = 1.41 cfs @ 12.13 hrs, Volume= 0.122 af
Outflow = 1.41 cfs @ 12.14 hrs, Volume= 0.122 af, Atten= 0%, Lag= 0.7 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.25 fps, Min. Travel Time= 0.2 min
Avg. Velocity = 1.75 fps, Avg. Travel Time= 0.5 min

Peak Storage= 17 cf @ 12.14 hrs
Average Depth at Peak Storage= 0.14'
Bank-Full Depth= 1.00' Flow Area= 5.0 sf, Capacity= 63.61 cfs

2.00' x 1.00' deep channel, n= 0.022 Earth, clean & straight
Side Slope Z-value= 3.0 '/' Top Width= 8.00'
Length= 50.0' Slope= 0.0700 '/'
Inlet Invert= 231.50', Outlet Invert= 228.00'

Reach 5R: Ditch



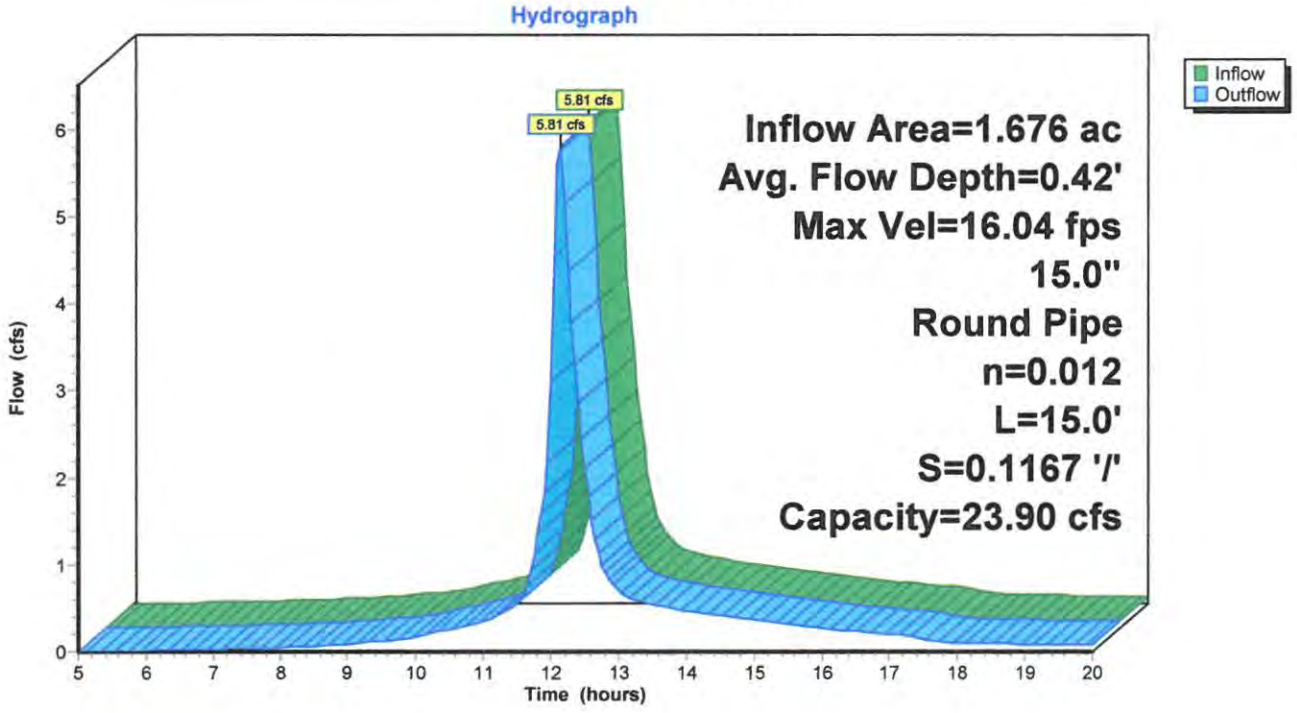
Summary for Reach 6R: to CB 6 Pipe Flow

Inflow Area = 1.676 ac, 62.33% Impervious, Inflow Depth > 3.44" for 25 Year Storm Event event
Inflow = 5.81 cfs @ 12.13 hrs, Volume= 0.481 af
Outflow = 5.81 cfs @ 12.14 hrs, Volume= 0.481 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 16.04 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 5.88 fps, Avg. Travel Time= 0.0 min

Peak Storage= 5 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.42'
Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 23.90 cfs

15.0" Round Pipe
n= 0.012
Length= 15.0' Slope= 0.1167 '/'
Inlet Invert= 228.00', Outlet Invert= 226.25'



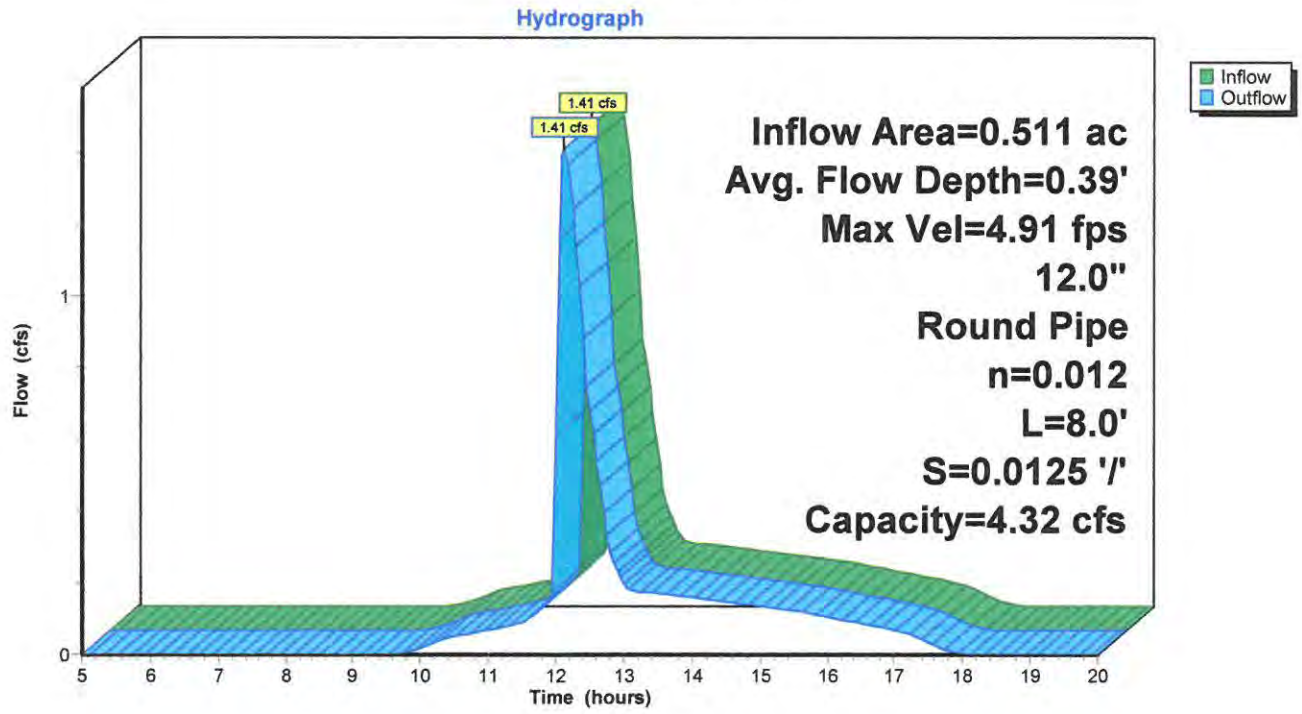
Summary for Reach 10R: ST outlet

Inflow Area = 0.511 ac, 83.13% Impervious, Inflow Depth = 2.85" for 25 Year Storm Event event
Inflow = 1.41 cfs @ 12.13 hrs, Volume= 0.122 af
Outflow = 1.41 cfs @ 12.13 hrs, Volume= 0.122 af, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 4.91 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 2.32 fps, Avg. Travel Time= 0.1 min

Peak Storage= 2 cf @ 12.13 hrs
Average Depth at Peak Storage= 0.39'
Bank-Full Depth= 1.00' Flow Area= 0.8 sf, Capacity= 4.32 cfs

12.0" Round Pipe
n= 0.012
Length= 8.0' Slope= 0.0125 '/'
Inlet Invert= 239.00', Outlet Invert= 238.90'



Summary for Pond 1P: Storm Tech Chamber

Inflow Area = 0.511 ac, 83.13% Impervious, Inflow Depth > 4.46" for 25 Year Storm Event event
Inflow = 2.86 cfs @ 12.02 hrs, Volume= 0.190 af
Outflow = 1.47 cfs @ 12.13 hrs, Volume= 0.190 af, Atten= 48%, Lag= 6.3 min
Discarded = 0.06 cfs @ 12.13 hrs, Volume= 0.069 af
Primary = 1.41 cfs @ 12.13 hrs, Volume= 0.122 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 242.17' @ 12.13 hrs Surf.Area= 1,096 sf Storage= 2,252 cf

Plug-Flow detention time= 49.1 min calculated for 0.189 af (100% of inflow)
Center-of-Mass det. time= 48.3 min (790.8 - 742.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	238.79'	1,020 cf	**20.50'W x 53.46'L x 3.50'H Field A** 3,836 cf Overall - 1,286 cf Embedded = 2,549 cf x 40.0% Voids
#2A	239.29'	1,286 cf	**ADS_StormTech SC-740 +Cap** x 28 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 28 Chambers in 4 Rows
		2,306 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	238.79'	**2.500 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = -3.00'
#2	Primary	239.00'	**12.0" Vert. Orifice/Grate** C= 0.600
#3	Device 2	239.00'	**2.0" W x 2.0" H Vert. Orifice/Grate** C= 0.600
#4	Device 2	240.83'	**11.5" W x 2.0" H Vert. Orifice/Grate** C= 0.600
#5	Device 2	241.44'	**5.5" x 2.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#6	Primary	242.28'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Discarded OutFlow Max=0.06 cfs @ 12.13 hrs HW=242.15' (Free Discharge)
└**1=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=1.40 cfs @ 12.13 hrs HW=242.15' (Free Discharge)
└**2=Orifice/Grate** (Passes 1.40 cfs of 6.16 cfs potential flow)
  └**3=Orifice/Grate** (Orifice Controls 0.23 cfs @ 8.44 fps)
  └**4=Orifice/Grate** (Orifice Controls 0.86 cfs @ 5.36 fps)
  └**5=Orifice/Grate** (Orifice Controls 0.31 cfs @ 4.06 fps)
└**6=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: Storm Tech Chamber - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

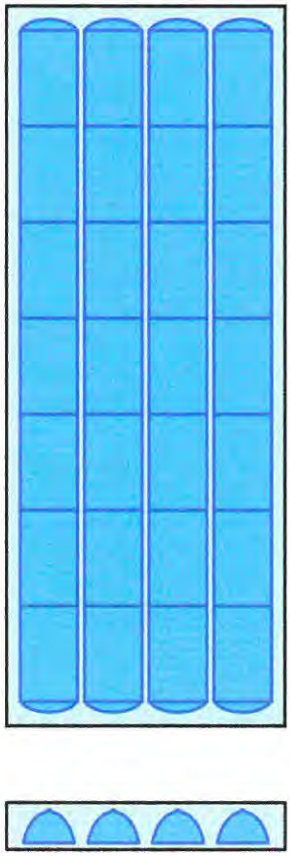
7 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 51.46' Row Length +12.0" End Stone x 2 = 53.46' Base Length
4 Rows x 51.0" Wide + 6.0" Spacing x 3 + 12.0" Side Stone x 2 = 20.50' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

28 Chambers x 45.9 cf = 1,286.3 cf Chamber Storage

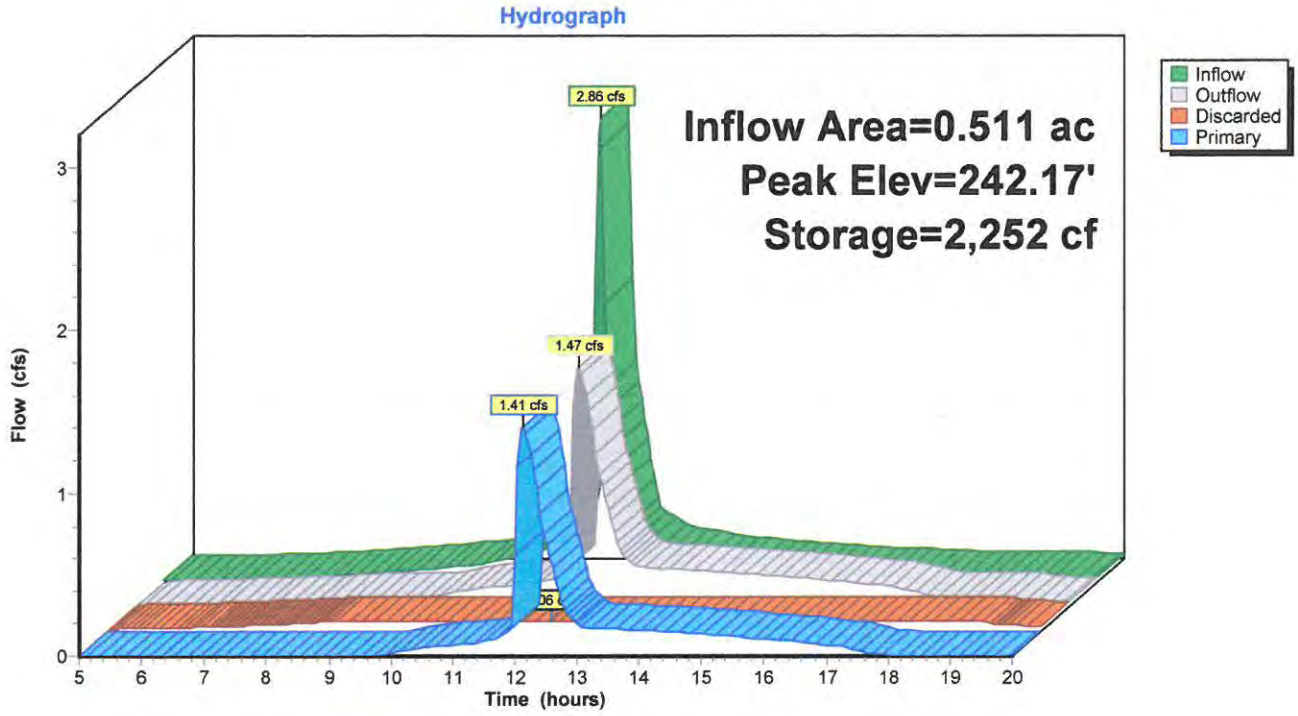
3,835.5 cf Field - 1,286.3 cf Chambers = 2,549.2 cf Stone x 40.0% Voids = 1,019.7 cf Stone Storage

Chamber Storage + Stone Storage = 2,306.0 cf = 0.053 af
Overall Storage Efficiency = 60.1%
Overall System Size = 53.46' x 20.50' x 3.50'

28 Chambers
142.1 cy Field
94.4 cy Stone



Pond 1P: Storm Tech Chamber



Summary for Pond CB2: CB2

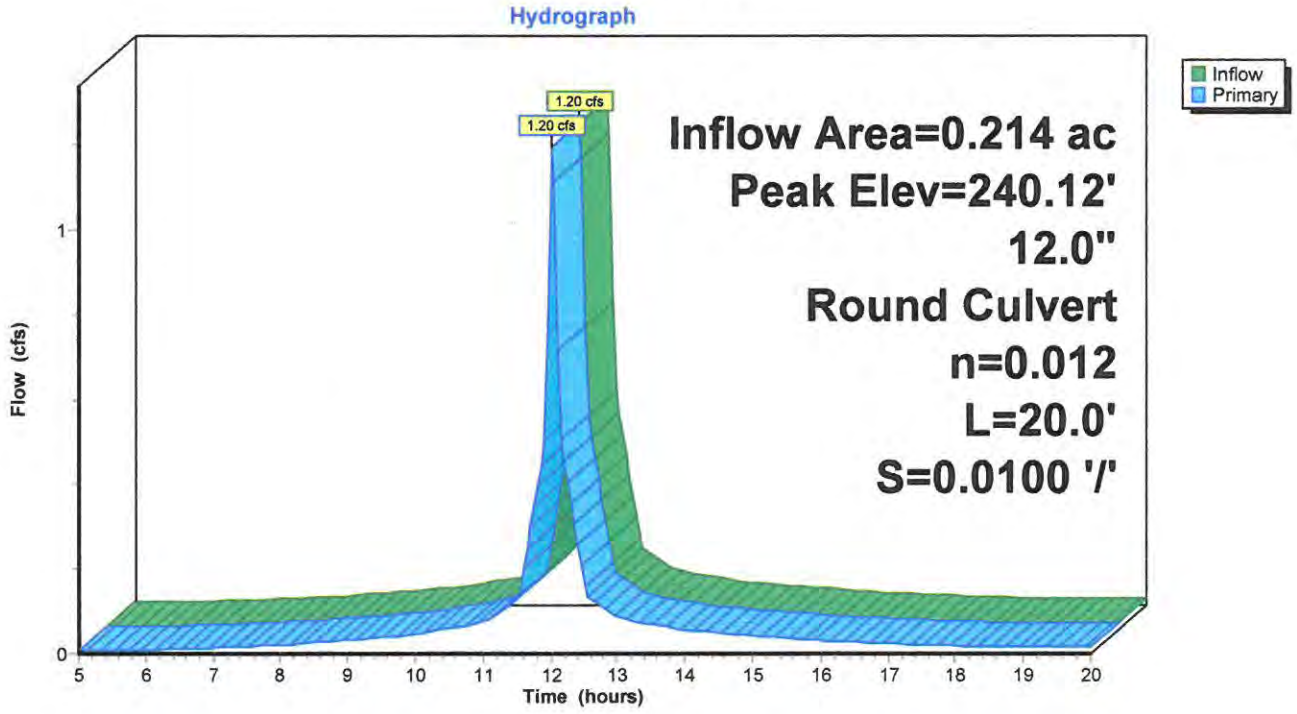
Inflow Area = 0.214 ac, 81.79% Impervious, Inflow Depth > 4.44" for 25 Year Storm Event event
Inflow = 1.20 cfs @ 12.02 hrs, Volume= 0.079 af
Outflow = 1.20 cfs @ 12.02 hrs, Volume= 0.079 af, Atten= 0%, Lag= 0.0 min
Primary = 1.20 cfs @ 12.02 hrs, Volume= 0.079 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 240.12' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	239.50'	**12.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 239.50' / 239.30' S= 0.0100 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf

Primary OutFlow Max=1.14 cfs @ 12.02 hrs HW=240.11' (Free Discharge)
↑**1=Culvert** (Barrel Controls 1.14 cfs @ 3.30 fps)

Pond CB2: CB2



Summary for Pond CB3: CB3

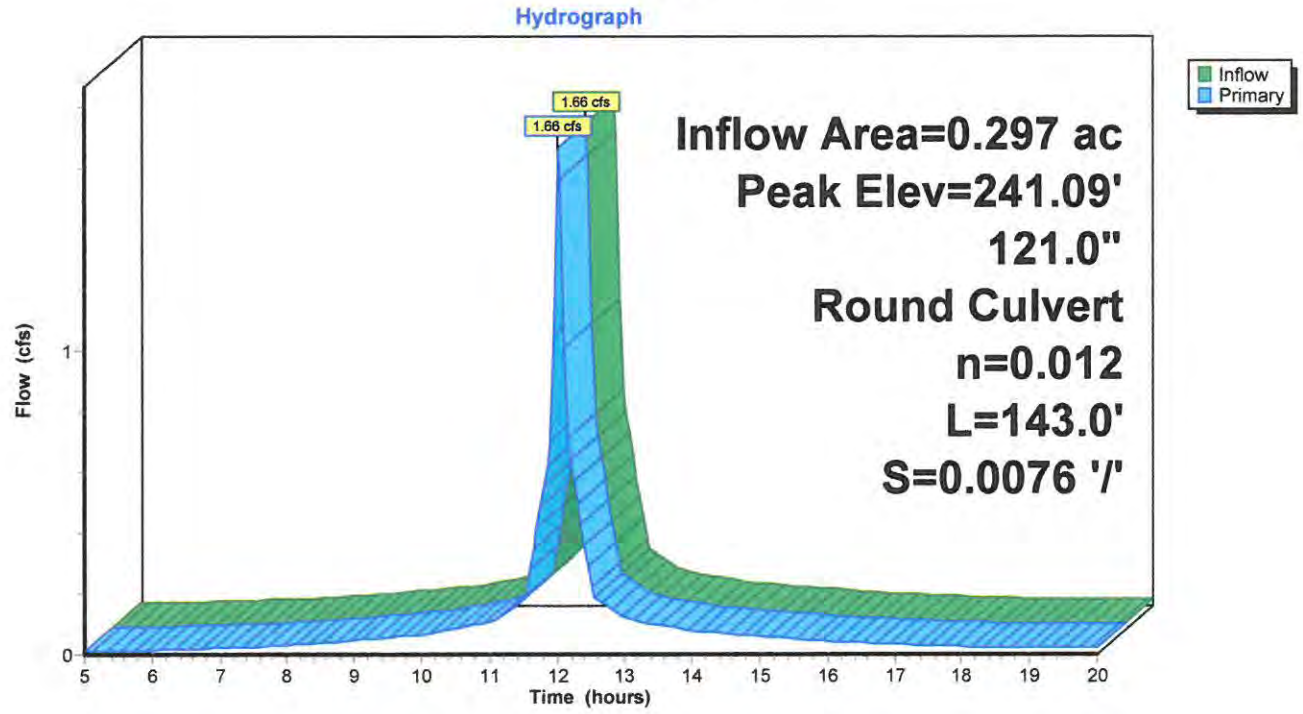
Inflow Area = 0.297 ac, 84.10% Impervious, Inflow Depth > 4.48" for 25 Year Storm Event event
Inflow = 1.66 cfs @ 12.02 hrs, Volume= 0.111 af
Outflow = 1.66 cfs @ 12.02 hrs, Volume= 0.111 af, Atten= 0%, Lag= 0.0 min
Primary = 1.66 cfs @ 12.02 hrs, Volume= 0.111 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 241.09' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	240.75'	**121.0" Round Culvert** L= 143.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 240.75' / 239.67' S= 0.0076 '/' Cc= 0.900 n= 0.012, Flow Area= 79.85 sf

Primary OutFlow Max=1.57 cfs @ 12.02 hrs HW=241.08' (Free Discharge)
↑**1=Culvert** (Inlet Controls 1.57 cfs @ 1.96 fps)

Pond CB3: CB3



Summary for Pond CB4: CB4

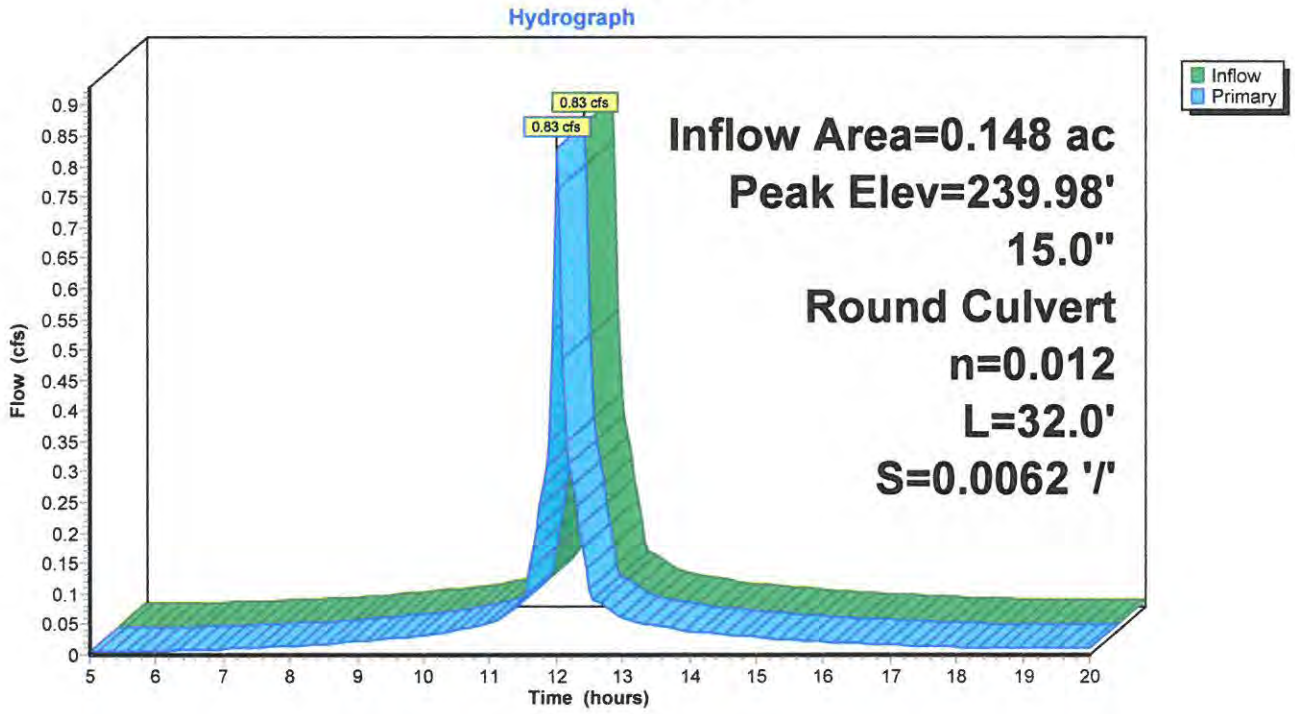
Inflow Area = 0.148 ac, 82.18% Impervious, Inflow Depth > 4.44" for 25 Year Storm Event event
Inflow = 0.83 cfs @ 12.02 hrs, Volume= 0.055 af
Outflow = 0.83 cfs @ 12.02 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.0 min
Primary = 0.83 cfs @ 12.02 hrs, Volume= 0.055 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 239.98' @ 12.02 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	239.50'	**15.0" Round Culvert** L= 32.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 239.50' / 239.30' S= 0.0062 '/' Cc= 0.900 n= 0.012, Flow Area= 1.23 sf

Primary OutFlow Max=0.79 cfs @ 12.02 hrs HW=239.97' (Free Discharge)
↑**1=Culvert** (Barrel Controls 0.79 cfs @ 2.79 fps)

Pond CB4: CB4



Post Construction Stormwater Management Plan

420 MAIN STREET
LEWISTON, MAINE

MS4 Area

Stormwater discharge from the new catch basin will enter into the City's MS4 Area. A qualified Third Party Inspector will be engaged by the Applicant's representative:

Normand Boulay
Collette Donut Shoppe
26 Rejane Avenue
Lewiston, Maine 04240
Tel: 207-783-1271

at least annually to inspect the catch basins, Stormtech Chamber System and other stormwater related features in accordance with the approved Post-Construction Stormwater Management Plan (PCSMP). If the catch basins, Stormtech Chamber System, or other stormwater related features require maintenance to function as intended, the Qualified Third Party shall note the deficiencies and the remedies. The Applicant's representative shall take the required actions to address any deficiencies. The Qualified Third Party Inspector shall provide, on or by May 31 of each year, a completed and signed City of Lewiston Annual Stormwater Management Facilities Certification (SMF) Form, certifying that the SMF have been inspected, and that they are adequately maintained and functioning as intended by the PCSMP, or that they require maintenance or repair, in order to function as intended by the PCSMP. The Qualified Third Party shall provide a record of the required maintenance or deficiency and corrective actions taken.

A Post Construction Stormwater Management Performance guarantee will be executed and filed with the Registry of Deeds.

EROSION AND SEDIMENT CONTROL

The following plans are included in the Site Review Application to satisfy the Basic Standards Submission requirements:

- Plan of Property "420 Main St., Lewiston, Maine" by Davis Land Surveying dated/revised 02-01-2020
- A 7 sheet plan set of "420 Main Street, Lewiston Maine" by SJR Engineering dated 02-03-2020 consisting of Site, Topographic Site, Utility Site, Construction Details (2 pages), Construction Notes, and Watershed plans.
- A 5 sheet plan set of the Stormtech/ADS Chamber System dated/revised 01-27-2020

The Basic Standards herein are for temporary and permanent measures directly associated with the construction activities at the site.

Erosion and sediment control on Site will be implemented in accordance with the "Maine Erosion and Sediment Control BMPs" published by the MDEP. The following are general guidelines and preventative measures to control erosion and sediment during construction activities.

General Practices

- Sediment barriers (e.g., silt fence) will be installed prior to beginning soil disturbance activities (e.g., grubbing, grading) at the perimeter of the property. Sediment barriers will be maintained until the disturbed area is permanently stabilized.
- Exposed soils that will not be worked for more than 7 days will be stabilized with mulch or other non-erodible cover
- Erosion and sediment control features will be inspected and repaired weekly and before and after every storm event.
- All temporary soil stockpiles will be surrounded by silt fence and otherwise protected from creating down-slope sediment issues
- Temporary erosion and sediment control measures will be removed within 30 days after permanent stabilization is attained.

Temporary Erosion and Sediment Control Measures

Temporary erosion and sediment control measures will be in-place prior to beginning construction activities and will be maintained for the duration of the construction project. Silt fencing will be installed along the downslope property lines adjacent to all disturbed areas.

Temporary Mulch/Vegetation

Exposed soil areas that will not be worked for more than 7 days will be mulched. Mulch shall consist of hay or straw that is air-dried, free of undesirable seeds and coarse materials. Mulch will be applied at 2 bales (70-90 pounds) per 1,000 square feet to cover 75-90% of the ground surface. Mulch will be kept moist or anchored in-place to prevent wind disturbance. Erosion control mix and chemical mulches with binder can also be used on site if applied in accordance with MDEP's BMPs.

Temporary vegetation will be used in areas that will not be brought to final grade for a year or less. Preparation of the seedbed will be necessary to ensure sufficient vegetative growth. Soil tests are recommended to determine the appropriate application rate of lime and fertilizer. If soil testing is not feasible, then fertilizer will be applied at a rate of 15 pounds per 1,000 square feet of 10-10-10 (N-P205-K20) or equivalent. Apply limestone (equivalent to 50% calcium plus magnesium oxide) at a rate of 150 pounds per 1,000 square feet. If the soil has been compacted during construction then the soil should be loosened to a depth of approximately 2 inches. Seeding recommendations are provided in the table below.

TEMPORARY GROUND STABILIZATION		
Seed	Pounds per 1,000 sq ft	Recommended Seeding Dates
Winter Rye	2.5	August 30-October 1
Oats	2.0	April 1-July 1 August 30-September 30
Annual Ryegrass	1.0	April 1-July 1
Sudangrass	1.0	May 15-August 30
Perennial	1.0	August 30-September 30

Note: Mulch shall be applied at the rates previously specified following the seed application.

Permanent Stabilization

Areas that will not be worked for more than one year or have been final graded will be permanently stabilized within 7 days. Permanent stabilization at this site will include road sub-base/pavement, permanent seeding, and permanent landscaping. Permanent seeding will be performed upon completion of construction activities. The type of seeding mix to be used for permanent seeding is noted on Sheet 6 CONSTRUCTION NOTES. All disturbed areas not otherwise stabilized shall be graded, smoothed, and prepared for final seeding. Four inches of loam (minimum) shall be spread over the disturbed areas and smoothed to a uniform surface. Soil tests are recommended to determine the appropriate

application rate of lime and fertilizer. If soil testing is not feasible, then fertilizer can be applied at a rate of 15 pounds per 1,000 square feet of 10-20-20 (N-P205-K20) or equivalent. Apply limestone (equivalent to 50% calcium plus magnesium oxide) at a rate of 150 pounds per 1,000 square feet. Both the lime and fertilizer should be worked into the ground to a depth of 4 inches as practical. The seedbed should be subsequently rolled to firm prior to seeding. Mulch will be applied at 2 bales (70-90 pounds) per 1,000 square feet to cover 75-90% of the ground surface. Mulch will be kept moist or anchored in-place to prevent wind disturbance. Erosion control mix and chemical mulches with binder can also be used on site if applied in accordance with MDEP's BMPs.

If hydro-seeding is used lime and fertilizer may be added with the seed and applied simultaneously. The use of straw mulch and adhesive material or 500 pounds of wood fiber mulch provides sufficient erosive protection. Seeding rates will be increased by 10% if hydro-seeding practices are employed.

All construction activities at the site are planned to be completed by or before the fall of 2017. In the event that construction occurs after 45 days prior to the first killing frost (October 15), dormant seeding will be performed. The seed mixture described on Sheet 4 Construction Details would be doubled. Mulch should be applied according to the temporary mulching practices discussed previously. Dormant seeding requires inspection in the Spring. All areas where cover is inadequate shall be immediately reseeded and mulched as soon as possible.

Erosion and sediment control features will not be removed until after all disturbed areas have been stabilized with permanent seeding exhibiting at least 90% vegetative cover.

Dust Control

Dust control methods will be employed on site to prevent movement of dust from exposed soil surfaces that could potentially create hazards to wildlife, humans, or plant life both onsite and offsite. Dust generated by activities at the Site, including dust associated with traffic to and from the Site, will be controlled by sweeping, paving, watering or other best management practices for control of fugitive emissions.

Preventive measures will include the following, as needed:

- Traffic will be restricted to predetermined routes. Exit and entrance during construction will be limited to these locations.
- Natural vegetation and existing paved areas will be maintained to the extent practical.
- Excavation activities will be conducted in phases to reduce the area of land disturbed at any one time.

- Mulching and vegetative practices (e.g., temporary and permanent mulching, temporary and permanent vegetative cover) will be employed to reduce the need for dust control.
- Paved surfaces and roadways will be swept (e.g., mechanical sweeper) where necessary to prevent dust buildup.

Construction will begin immediately following the receipt of all necessary permits. The anticipated construction timeframe is spring-summer 2020.

INSPECTION AND MAINTENANCE PLAN

Construction Inspections

Inspections and maintenance of erosion and sedimentation control measures and stormwater control facilities will be performed during construction. Inspections will include:

- Disturbed and impervious areas.
- Erosion Control Measures.
- Materials storage areas exposed to precipitation.
- Vehicle entry and exit locations.
- Catch Basins
- Stormtech Chamber System

These areas will be inspected at least once per week as well as before and after a storm event, and prior to completing permanent stabilization measures.

An inspection check list sheet is included at the end of this section. The Contractor will be responsible for maintaining and preserving all erosion and sediment control features associated with the Site during construction. Any problems, damage, or costs directly associated with the performance of or lack of erosion control measures and maintenance are the sole responsibility of the Contractor.

In addition to the above, the applicant will retain the services of a professional engineer to inspect the construction and stabilization of all stormwater management structures. If necessary, the inspecting engineer will interpret the construction plan for the contractor. Once all stormwater management structures are constructed and stabilized, the inspecting engineer will notify the department in writing within 30 days to state that the pond has been completed.

Post-Construction Inspections

The site Applicant will be responsible for inspection and maintenance of erosion and sedimentation control measures, stormwater structures, and stormwater BMPs and/or ensuring that the inspection and maintenance tasks are completed after construction is completed. An inspection checklist is included at the end of this section.

The Applicant shall pay for the services for a qualified Third Party observer to conduct inspections of the site, as needed, for compliance with the provisions of the Erosion and Sedimentation Control Plan.

The Third Party inspector will provide the City of Lewiston and the Owner documentation on management of the stormwater facilities as required.

Housekeeping

During and after construction, good housekeeping practices will be employed to minimize potential environmental impacts, specifically:

- Spill Prevention: Both petroleum and non-petroleum products utilized during construction will be stored in compatible and properly labeled containers. When not in use, these containers will be closed and stored in a secure area. A spill kit will be kept in close proximity to the secured area. Temporary fuel storage tanks mobilized to the site for construction will be double-walled. Both preventative and routine maintenance will be conducted to minimize the potential for fuel releases. These activities will be conducted offsite during construction.
- Groundwater Protection: Petroleum, non-petroleum, and other hazardous materials will not be handled on site.
- Fugitive Sediment and Dust: During construction, tracking of mud from construction vehicles into the public road will be minimized. During wet periods, the public road will be swept weekly, at a minimum, to control the amount of mud leaving the Site. During dry periods, fugitive sediment and dust will be controlled on site using a water truck, or calcium chloride application, as necessary.
- Debris and other Materials. Litter, construction debris and chemicals will be stored in a manner such that the exposure to stormwater is minimized. Litter and construction debris will be separated and containerized, as necessary, for proper disposal. Chemicals will be stored in compatible and properly labeled containers and stored in a secure area equipped with a spill kit.

CONSTRUCTION INSPECTION
AND
MAINTENANCE FORMS

CONSTRUCTION

EROSION AND SEDIMENTATION CONTROL MAINTENANCE LOG

420 MAIN STREET, LEWISTON, MAINE

Inspections to be performed once per week, before and after storms, and prior to completing permanent stabilization.

ITEM	DEFECTS	DESCRIPTION OF DEFECTS AND REPAIRS/MAINTENANCE	
Vehicle Entrances and Exits	Yes No		
Disturbed Areas	Yes No		
Impervious Areas	Yes No		
Erosion and Sedimentation Control	Yes No		
Stormwater System	Yes No		
DATE:	**BY:**	**COMPANY:**	**QUALS/POSITION:**

REMARKS:

Disturbed Areas: Inspect mulched and temporary seed areas for rill erosion. Add additional mulch if less than 90% coverage is observed. Inspect nets after rain events for dislocation or failure.

Impervious Areas: Sweep pavement as necessary to keep dust levels to a minimum. Accumulated sediment shall be removed and stored or disposed of appropriately.

Erosion and Sedimentation Control: Inspect silt fence for erosion and/or accumulated sedimentation. Replace silt fence where evidence of undercutting or impounding of water behind the fence occur. Replace fabric that has decomposed. Remove sediment deposits behind silt fence when deposits reach ½ the height of the fence.

Vehicle Entrances and Exits: Check for mudding and clogging of stone and replace as necessary. Sweep pavement at exits where mud has been tracked onto the travelled way.

Stormwater System: Check flow paths for runoff flows to insure paths remain unimpeded and are not eroding. Remove impediments and repair eroding areas with appropriate materials (riprap, geotech fabric, etc.)

EROSION AND SEDIMENTATION CONTROL MAINTENANCE LOG

420 MAIN STREET, LEWISTON, MAINE

Inspections to be performed twice per year, once in the spring and once in the fall and after each significant (>3") rainfall.

ITEM	DEFECTS	DESCRIPTION OF DEFECTS AND REPAIRS/MAINTENANCE	
Ditches	Yes / No		
Culverts	Yes / No		
Paved Areas	Yes / No		
Stormtech Chambers	Yes / No		
Catch Basins	Yes / No		
DATE:	**BY:**	**COMPANY:**	**QUALS/POSITION:**

Ditches and Culverts: Inspect for debris that may impede flow. Control woody vegetation with mowing. Repair any erosion of ditch linings and culvert inlets and outlets.

Paved Areas: Remove accumulated winter sand and debris from all pavement areas annually. Accumulated sediment shall be removed and stored or disposed of appropriately.

Catch Basins: Remove and legally dispose of accumulated debris and sediment from the bottom of the structure, inlet grates, inflow channels to the basin, and pipes between basins.

Stormtech Chambers: Inspect and remove debris from isolator row when sediment accumulates to 3" in depth or greater.

CITY OF LEWISTON

Annual Stormwater Management Facilities Certification

I, _____, certify the following:

I am making this Annual Stormwater Management Facilities Certification for the following property: **420 Main Street, Lewiston, Maine 04240**

The owner of the Property is: **Norm Boulay, Colettes Donut Shoppe, 26 Rejane Avenue, Lewiston, Maine 04240**

I am a Qualified Third-Party Inspector hired by the owner of the Property. I have knowledge of erosion and sedimentation control, and have reviewed approved Post-Construction Stormwater Management Plan for the property.

On _____, I inspected the Stormwater Management Facilities, including but not limited to catch basins, stormtech chamber system, and other stormwater related facilities.

At the time of my inspection of the Stormwater Management Facilities on the Property, I identified the following needs for routine maintenance or deficiencies in the Stormwater Management Facilities:

On _____, the Owner of the property took or had taken the following routine maintenance or the following corrective action(s) to address the deficiencies in the Stormwater Management Facilities stated in 5 above:

As of the date of this certification, the Stormwater Management Facilities are functioning as intended by the approved Post-Construction Stormwater Management Plan for the Property.

Date:_____By:_____

Print Name:_____

Personally appeared the above-named_____, of _____, and acknowledged the foregoing Annual Certification to be said person's free act and deed in said capacity.

Before me, Notary Public, on this date: _____

Signature; _____

Mail this certification to the City of Lewiston at the following address:

Director of Planning and Code Enforcement
City Building
27 Pine Street
Lewiston, Maine 04240

Director of Public Works
103 Adams Avenue
Lewiston, Maine 04240

Colettes Donut Shoppe, 420 Main St., Lewiston

Best Management Practices and Maintenance Plan

Date: January 2020

Collettes Donut Shoppe maintenance staff will be responsible for maintenance and operations of the stormwater system.

INSPECTIONS – During Construction and Post Construction

Areas of construction that will require maintenance of the stormwater system include the following:

- **Detention/Retention/Infiltration Facilities**
  - Stormtech Chamber inspection and maintenance
  - Outlet Control Structure inspection and maintenance
  - Sediment removal and disposal
- **Ditches, Swales, or other open stormwater channels**
  - Embankment inspection and maintenance
  - Channel inspection
  - Sediment removal and disposal
- **Culverts, catch basins, stormwater control structures**
  - Structure inspection and maintenance
  - Inlet and Outlet inspection
  - Debris removal and disposal
- **Buffers/Landscaping**
  - Landscaping inspection and maintenance
  - Landscaping turf inspection and maintenance
  - Debris removal and disposal

The Owners representative will inspect the drainage system, swales, channels, and stormwater structures to determine if a soil blockage or impaired capacity to pass flow exists. Inspections will be performed on a monthly basis from March to November, and quarterly during the remainder of the year. A record of inspections and maintenance or corrective measures shall be kept by the owner.

MAINTENANCE AND CLEANING

The owner will regularly inspect for sediment accumulation, obstructions, debris, and other potential causes for operational difficulty in the conveyance and detention system. Immediate action shall be taken to remedy detrimental obstructions.

The owner will regularly inspect the infiltration rate of the soil filter pond after every major storm event in the first few months to ensure proper function. Thereafter, the chamber system should be inspected bi-annually to ensure that they draining within 24 hours. Sediment shall be removed from the isolator rows when sediment is greater than 3" within the chamber. The removed sediment shall be hauled off site and disposed in an approved location.

A mandatory scheduled maintenance will be performed every four weeks for a period of one hundred and twenty (120) days and will begin after satisfactory completion and acceptance of landscape construction. Ongoing maintenance will be required as necessary.

All sand, salt, etc. accumulated when sweeping the paved parking and display areas, shall be trucked off-site for disposal.

RECORD KEEPING

The owner will maintain inspection records, with recordings of condition of basins, and pipes and annotation of substantial precipitation events or mitigating circumstances in the intervening time for trending to develop the anticipated preventive maintenance schedule.

MAINTENANCE CONTRACT

Should proprietary devices be utilized, a maintenance contract will be established with the manufacturer for regular maintenance and cleaning of the device.

RE-CERTIFICATION

The owner shall submit a certification to the City of Lewiston within three months of the expiration of each five year interval from the date of issuance of the permit. The owner shall submit the maintenance log which identifies inspections completed, erosion problems found, when corrective action was taken, and who completed the work. The certification will include a statement indicating that the stormwater system is working and is being maintained in working condition in accordance with the permit requirements.

Maintenance Log Sheet

Colettes Donut Shoppe, 420 Main St., Lewiston, Maine

Inspector Name	Maintenance Task Completed	Date

Housekeeping

These performance standards apply to all projects.

1. Spill prevention. Controls must be used to prevent pollutants from being discharged from materials on site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.

2. Groundwater protection. During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials.

NOTE: Lack of appropriate pollutant removal best management practices (BMPs) may result in violations of the groundwater quality standard established by 38 M.R.S.A. §465-C(1).

3. Fugitive sediment and dust. Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control.

NOTE: An example of the use of BMPs to control fugitive sediment and dust is as follows: Operations during wet months that experience tracking of mud off the site onto public roads should provide for sweeping of road areas at least once a week and prior to significant storm events. Where chronic mud tracking occurs, a stabilized construction entrance should be provided. Operations during dry months, that experience fugitive dust problems, should wet down the access roads once a week or more frequently as needed.

NOTE: Dewatering a stream without a permit from the department violates state water quality standards and the Natural Resources Protection Act.

4. Debris and other materials. Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source.

NOTE: To prevent these materials from becoming a source of pollutants, construction and post-construction activities related to a project may be required to comply with applicable provision of rules related to solid, universal, and hazardous waste, including, but not limited to, the Maine solid waste and hazardous waste management rules; Maine hazardous waste management rules; Maine oil conveyance and storage rules; and Maine pesticide requirements.

5. Trench or foundation de-watering. Trench de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water must be removed from the ponded area, either through gravity or pumping, and must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin (or pumping water through a sediment dirtbag). Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the department.

NOTE: For guidance on de-watering controls, consult the Maine Erosion and Sediment Control BMPs", Maine Department of Environmental Protection."

6. Non-stormwater discharges. Identify and prevent contamination by non-stormwater discharges.

7. Additional requirements. Additional requirements may be applied on a site-specific basis.

Site Inspection & Maintenance During Construction: Weekly inspections, as well as routine inspections following rainfalls, shall be conducted by the General Site Contractor of all temporary and permanent erosion control devices until final acceptance of the project (90% grass catch). Necessary repairs shall be made to correct undermining or deterioration. Final acceptance shall include a site inspection to verify the stability of all disturbed areas and slopes. Until final inspection, all erosion and sedimentation control measures shall immediately be cleaned, and repaired by the General Contractor as required. Disposal of all temporary erosion control devices shall be the responsibility of the General Contractor.

It is recommended that the Owner hire the services of the design engineer, or other qualified individual, to provide compliance inspections (during active construction) relative to implementation of the Stormwater and Erosion Control Plans. Such inspections should be limited to once a week or as necessary and be reportable to the Owner, and City.

Maintenance Agreement: Short-term sedimentation maintenance shall be the responsibility of the Contractor to clean out all swales, structures, and Stormtech Chamber System prior to turning project over to the Owners. After project turnover, the Owner shall be the responsible party for inspecting and maintaining proper functioning of all stormwater conveyance practices and measures. The Owner may assign an environmental manager to carry out specific tasks identified below.

Structures and Other Measures

Sweeping: Paved parking lots and streets shall be mechanically swept twice per year. The first shall take place in the Fall. The second sweeping shall take place after winter sanding operations terminate, prior to May 1.

Ditches/Swales: Open swales and ditches need to be inspected on a monthly basis or after a major rainfall event to assure that debris or sediments do not reduce the effectiveness of the system. Debris needs to be removed at that time. Any sign of erosion or blockage shall be immediately repaired to assure a vigorous growth to vegetation for the stability of the structure and proper functioning.

Vegetated Ditches: Vegetative should be mowed at least monthly during the growing season to a height of not less than 3 inches. Larger brush or trees must not be allowed to become established in the channel. Unless finely mulched, clippings should be removed to minimize the amount of organic material accumulating in the swales. Any

areas where the vegetation fails will be subject to erosion and should be repaired and revegetated.

Stone Lined Channels: Where stone is displaced from constructed riprap areas, it should be replaced and chinked to assure stability. With time, riprap may need to be added. Vegetation growing through riprap should be removed on a yearly schedule.

Culverts: If sediment in culverts or piped drainage systems exceeds 20% of the diameter of the pipe, it should be removed. This may be accomplished by mechanical means or hydraulic flushing. Care should be taken to prevent the release of the sediments into the downstream receiving areas. All. pipes should be inspected on an annual basis.

Catch Basin/Field Inlets: All catch basins, and any other field inlets throughout the collection system, need to be inspected on a monthly basis to assure that the inlet entry point is clear of debris and will allow the intended water entry. At that time, these will be cleared if necessary. On a yearly basis, or when sediment reaches two thirds of the total volume, catch basins need to be vacuumed and cleaned of all accumulated sediment. Work must be done by a vacuum truck. The removed material must be disposed of in accordance with State of Maine Solid Waste Disposal Rules.

ADVANCED DRAINAGE SYSTEMS, INC.

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Colette's Donut Shoppe REV1

420 Main Street - Lewiston, ME

STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-740, SC-310, OR APPROVED EQUAL.
2. CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
3. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
4. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
5. CHAMBERS SHALL MEET ASTM F2922 (POLYETHYLENE) OR ASTM F2418 (POLYPROPYLENE), "STANDARD SPECIFICATION FOR THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOADS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
7. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
   a. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
   b. A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
   c. STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
8. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-310/SC-740 SYSTEM

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS.^J
   STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT^J

1. STORMTECH SC-310 & SC-740 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-310 & SC-740 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

CONCEPTUAL LAYOUT

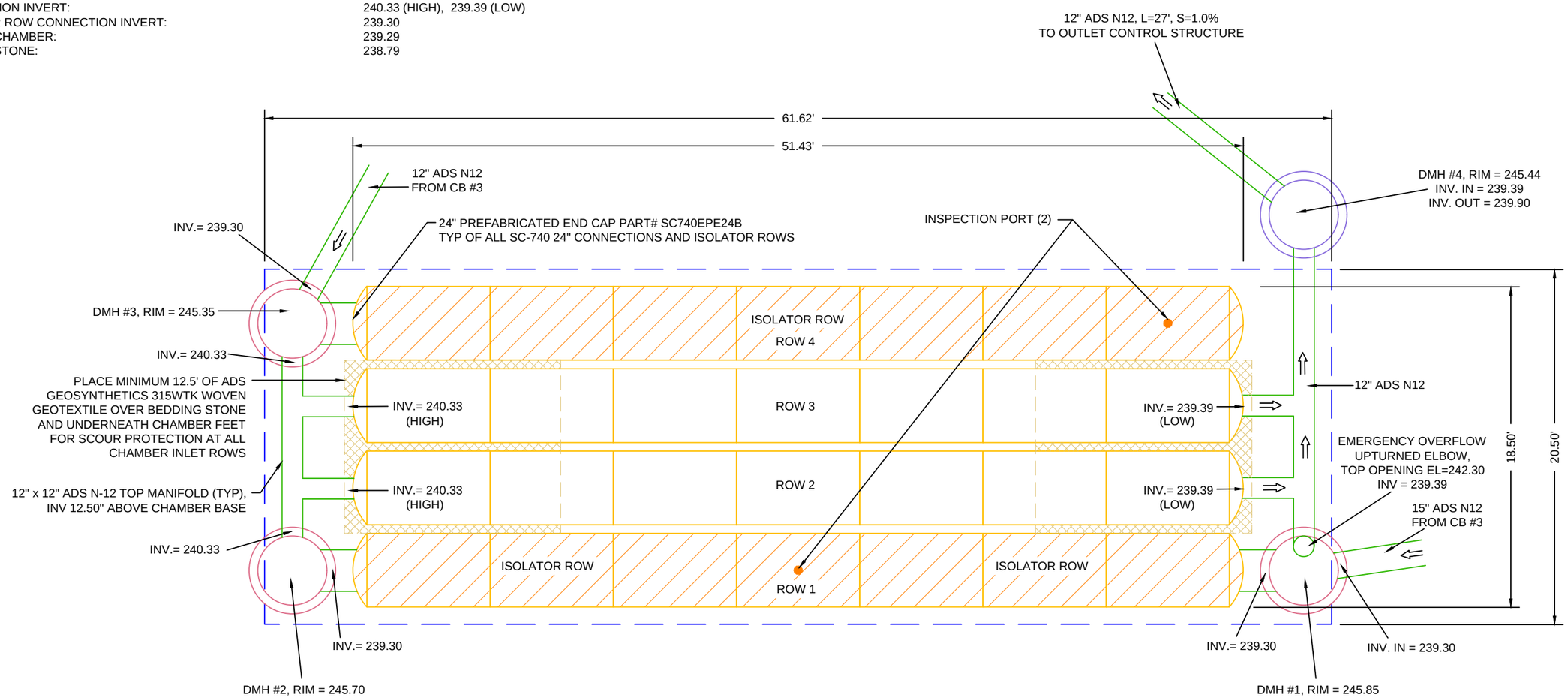
(28) STORMTECH SC-740 CHAMBERS
(8) STORMTECH SC-740 END CAPS
INSTALLED WITH 6" COVER STONE, 6" BASE STONE, 40% STONE VOID
INSTALLED SYSTEM VOLUME: 2540 CF
AREA OF SYSTEM: 1263 **FT²**
PERIMETER OF SYSTEM: 163 **FT**

NOTES

- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.

PROPOSED ELEVATIONS

MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	249.79
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	243.79
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	243.29
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	243.29
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	243.29
TOP OF STONE:	242.29
TOP OF CHAMBER:	241.79
12" CONNECTION INVERT:	240.33 (HIGH), 239.39 (LOW)
24" ISOLATOR ROW CONNECTION INVERT:	239.30
BOTTOM OF CHAMBER:	239.29
BOTTOM OF STONE:	238.79



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STATE OF MAINE
STEPHEN J. ROBERGE #4835
LICENSED PROFESSIONAL ENGINEER
FOR APPROVALS ONLY

Colette's Donut Shoppe REV1
Lewiston, ME

DATE: 01/13/2020 DRAWN: AC
PROJECT #: Tool CHECKED: ---

REV	DRW	CHK	DESCRIPTION
1-15-2020	AC		REVISED SYSTEM ELEVATIONS
1-20-2020	AC		REVISED PER ENGINEER'S PLANS
1-27-20	SJR		ADD SITE SPECIFIC INFORMATION

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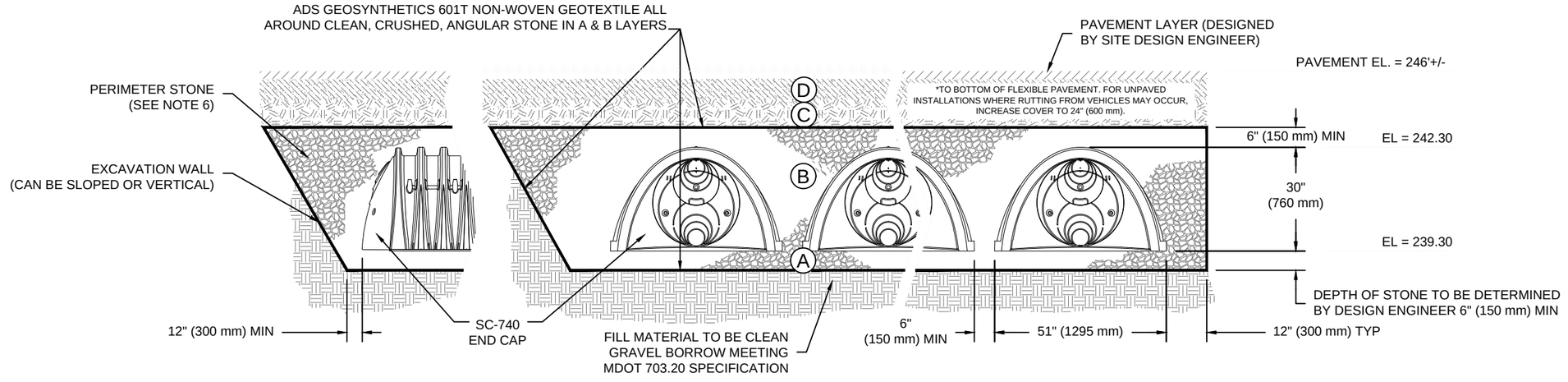
NOT TO SCALE

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. [2] [3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

1. SC-740 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS", OR ASTM F2922 "STANDARD SPECIFICATION FOR POLYETHYLENE (PE) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. THE "SITE DESIGN ENGINEER" REFERS TO THE ENGINEER RESPONSIBLE FOR THE DESIGN AND LAYOUT OF THE STORMTECH CHAMBERS FOR THIS PROJECT.
5. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
6. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

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Colette's Donut Shoppe REV1
Lewiston, ME
DATE: 01/13/2020 DRAWN: AC
PROJECT #: Tool CHECKED: ---

REV	DRW	CHK	DESCRIPTION
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1-27-20	SJR		ADD SITE SPECIFIC INFORMATION

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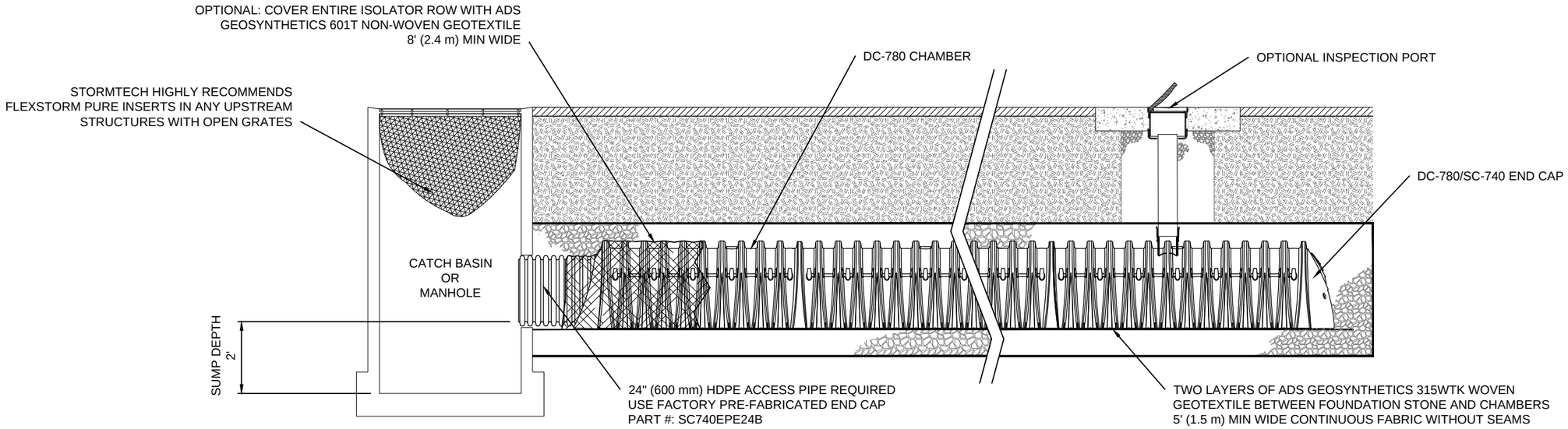

SC-740 ISOLATOR ROW DETAIL

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INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

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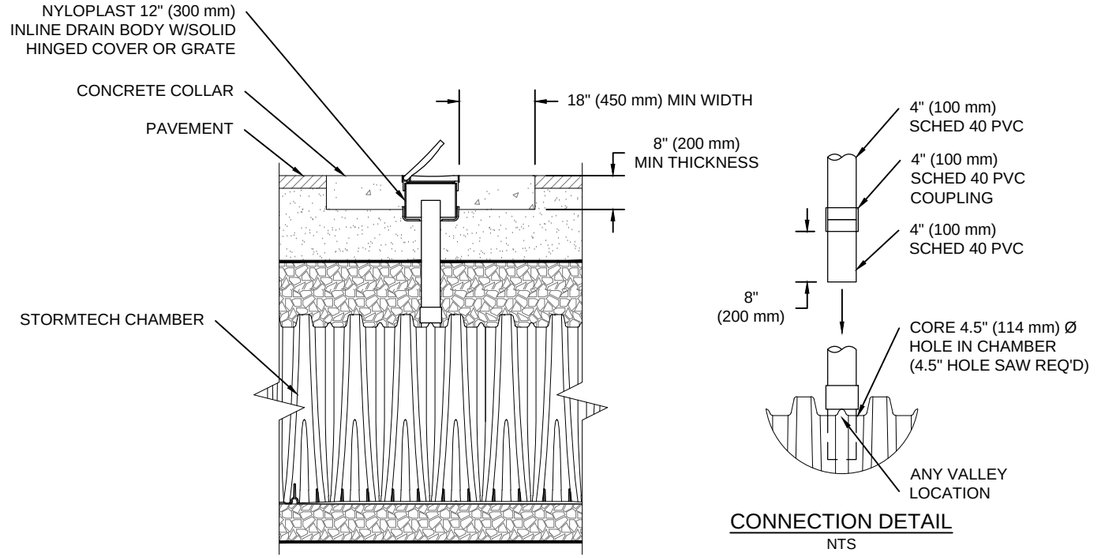

CONNECTION DETAIL
NTS

NOTES:
1. INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY
2. ALL SCHEDULE 40 FITTINGS TO BE SOLVENT CEMENTED.

4" PVC INSPECTION PORT DETAIL

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INSERTA TEE DETAIL

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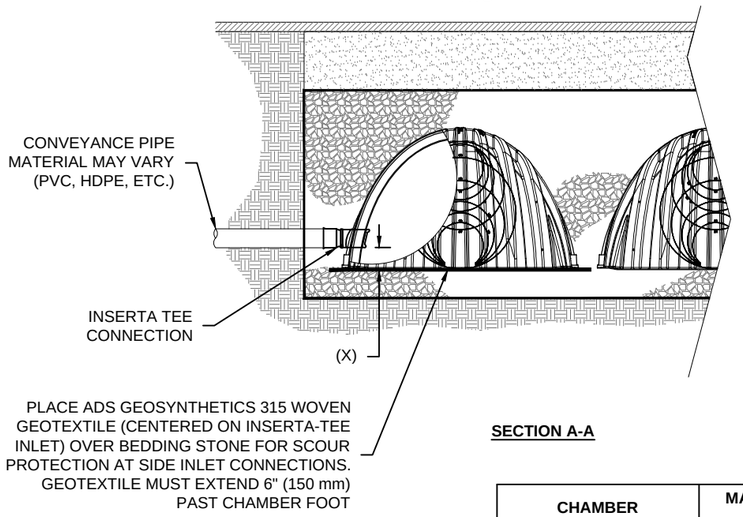
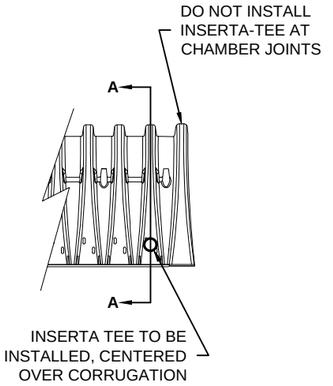


SECTION A-A



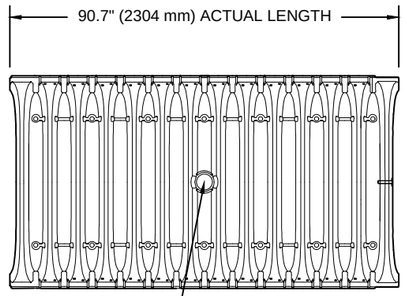
SIDE VIEW

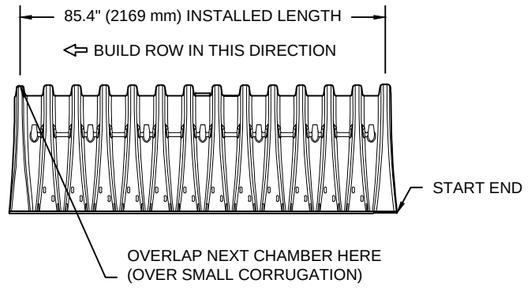
CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

NOTE:
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.

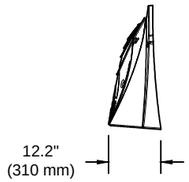
SC-740 TECHNICAL SPECIFICATION

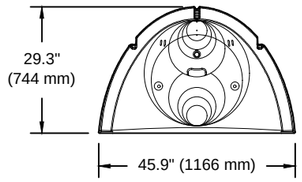
NTS

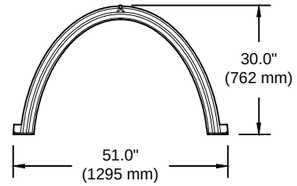




ACCEPTS 4" (100 mm) SCH 40 PVC PIPE FOR INSPECTION PORT. FOR PIPE SIZES LARGER THAN 4" (100 mm) UP TO 10" (250 mm) USE INSERTA TEE CONNECTION CENTERED ON A CHAMBER CREST CORRUGATION



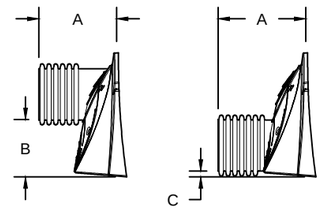




NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	(1.30 m³)
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	(2.12 m³)
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



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

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

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

NOTE: ALL DIMENSIONS ARE NOMINAL

SJR ENGINEERING, INC.
16 THURSTON DRIVE
MONMOUTH, MAINE 04259
(207) 242-6248 tel
steve@sjreng.com
SJR ENGINEERING

Colette's Donut Shoppe REV1
Lewiston, ME

DATE: 01/13/2020 | DRAWN: AC | CHECKED: ---
PROJECT #: Tool

REV	DRW	CHK	DESCRIPTION
1-15-2020	AC		REVISED SYSTEM ELEVATIONS
1-20-2020	AC		REVISED PER ENGINEER'S PLANS

StormTech
Detention • Retention • Water Quality
70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067
860-529-8188 | 888-892-2694 | WWW.STORMTECH.COM

ADS
ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

NORTH

EXISTING WATERSHED

①	IMPERVIOUS AREA	= 26,771 sf
	LAWN AREA	= 22,471 sf
	MEADOW/BRUSH/WEED	= 33,970 sf
	TOTAL AREA	= 83,212 sf

RIM = 230.49
TOP OF 8" HOOD
(OUTLET)=226.05

RIM = 230.1±
(PLUGGED & FULL OF DEBRIS)

12" SD

EXISTING CB
RIM = 230.49

TOP OF 8" HOOD
(OUTLET)=225.19

APPROX. LOCATION

#24 ELM

N/F
ROBERTS APARTMENTS TRUST II
3492/304

#20 WHIPPLE

#18 WHIPPLE

WHIPPLE (BRICK)
INV.=225.66±
12" INV. IN=227.2±

#3 COTTAGE

#5 COTTAGE

N35°02'47"E
19.00'

S35°18'21"W
48.34'

N/F
CJK REALTY HOLDINGS, LLC
8570/195

SHORT GRASS, MEADOW
SHALLOW CON.
L=160', S=3.75%

#4 CURTIS

SEWER LINE LOCATION PER CITY RECORDS (SEE 196/191 FOR EASEMENT)
12" VCP, L=271'±, S=3.49%

5/8" IRF (CAP #436)

RIM = 245.03
INV. OUT=236.65

N/F
ALICE BRAWN
9718/210

#6 CURTIS

17.71'
S24°37'10"W

N/F
LAURIER RIOUX
2854/164

#14 WHIPPLE

8.36%

PAVED SHEET
L=125', S=4.0%

N/F
NORMAND ROUSSEAU
8474/303

#12 WHIPPLE

SIDEWALK

RIM=239.35
INV. OUT=231.73
(1' WIDE TROUGH)
INSTALL NEW 6" SDR35 AT EXISTING SERVICE
INV. IN = 233.2

NEW "NO PARKING HERE TO CORNER" SIGN

S24°37'10"E
185.24'

N63°24'20"W
185.24'

N/F
NEW BEGINNINGS, INC.
2726/212

CURTIS STREET

6" INV=233.86±

INV=233.52±

#410 MAIN

N/F
MAIN STREET LLC
9087/275

#414 MAIN

"NO PARKING HERE TO CORNER" SIGN

GUY WIRE

RETAINING WALL

DECK

#436 MAIN

GRASS SHEET
L=80', S=7.5%

GRAVEL

TRUNK OF LARGE BEECH

STOP SIGN

165.62'

GUY WIRE

SIDEWALK

18"

RIM = 245.25
INV. IN=240.25
INV. OUT=240.25

GRASS

SIDEWALK

SCALE : 1" = 20'

0 10 20 40 60 80

NOTES

1) EXISTING CONDITIONS ARE BASED UPON A PLAN ENTITLED "EXISTING CONDITIONS & TOPOGRAPHY PLAN OF PROPERTY, 420 MAIN STREET - LEWISTON, MAINE", DATED AUGUST 9, 2019, PREPARED BY DAVIS LAND SURVEYING, LLC.

2) ALL BOOK AND PAGE NUMBERS REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.

3) OWNER OF RECORD - 420 MAIN STREET, LLC
DEED REFERENCE - BOOK 8893, PAGE 181
TAX MAP 184, LOTS 60 & 61

4) THE LOCATION, DEPTH, SIZE & EXISTENCE OF ALL UNDERGROUND UTILITY LINES, TANKS AND/OR STRUCTURES WAS NOT VERIFIED. CONTRACTOR SHALL CONTACT DIGSAFE/ON-TARGET PRIOR TO EXCAVATION TO CONFIRM THE LOCATION OF ALL PUBLIC & PRIVATE UTILITIES WITHIN THE PROJECT AREA.

5) THE PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD HAZARD AREA AS SHOWN ON THE FEMA FLOOD INSURANCE RATE MAP, PANEL #2300IC 0321E, DATED JULY 8, 2013.

6) ALL SIGNAGE TO BE OBTAINED AND INSTALLED BY THE OWNER.

7) SEE BUILDING PLANS BY ARCHITECT FOR EXACT DIMENSIONS.

8) PATIO BLOCKS ARE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. BLOCK TYPE TO BE SELECTED BY OWNER.

9) PROVIDE BITUMINOUS CURBING TIPDOWN AT ALL ENDS OF CURB. TIPDOWN TO MEET CITY OF LEWISTON SPECIFICATIONS.

10) REUSE EXISTING GRANITE CURB WHERE POSSIBLE, ADD NEW GRANITE CURB AS NECESSARY.

LEGEND

- BOUNDARY LINE (SUBJECT PARCEL)
- BOUNDARY LINE (OTHER)
- N/F — NOW OR FORMERLY
- 2356/89 — BOOK AND PAGE NUMBER
- IRON ROD OR PIPE FOUND
- EXISTING STOCKADE FENCE
- EXISTING UTILITY POLE WITH OVERHEAD WIRES
- EXISTING WATER SHUT OFF VALVE
- EXISTING HYDRANT
- EXISTING SEWER MANHOLE
- EXISTING CATCH BASIN
- EXISTING HYDRANT
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING STORM DRAIN LINE
- EXISTING GAS LINE
- EXISTING CONTOUR
- EXISTING BUILDING
- EXISTING PAVEMENT

STATE OF MAINE * STEPHEN J. ROBERGE #8327 * REGISTERED PROFESSIONAL ENGINEER
FOR APPROVALS ONLY

REV:	DATE:	CHANGES:

DO NOT MODIFY PLAN WITHOUT WRITTEN PERMISSION FROM SJR ENG., INC.

Stoneybrook
Land Use, Inc.
4846 Sun City Center Blvd, #300
Sun City Center, FL 33573-6281

SJR ENGINEERING, INC.
16 THURSTON DRIVE
MONMOUTH, MAINE 04259
(207) 242-6248 tel
steve@sjreng.com
SJR ENGINEERING

EXISTING WATERSHED PLAN
420 MAIN STREET
LEWISTON, MAINE

PREPARED FOR
COLETTE'S DONUT SHOPPE
26 REJANE AVENUE - LEWISTON, ME 04240

DATE	PROJECT
2-13-2020	2019-42
DRAWN BY	SCALE
SJR	1" = 20'

SHEET WS-2

PROPOSED WATERSHEDS

(1)	IMPERVIOUS AREA	= 4,784 sf
	GREEN SPACE	= 2,271 sf
	TOTAL AREA	= 7,055 sf
(2)	IMPERVIOUS AREA	= 7,638 sf
	GREEN SPACE	= 1,701 sf
	TOTAL AREA	= 9,339 sf
(3)	IMPERVIOUS AREA	= 5,585 sf
	GREEN SPACE	= 908 sf
	TOTAL AREA	= 6,493 sf
(4)	IMPERVIOUS AREA	= 5,299 sf
	GREEN SPACE	= 1,149 sf
	TOTAL AREA	= 6,448 sf
(6)	IMPERVIOUS AREA	= 2,014 sf
	GREEN SPACE	= 2,424 sf
	TOTAL AREA	= 4,438 sf
(7)	IMPERVIOUS AREA	= 24,910 sf
	GREEN SPACE	= 21,315 sf
	TOTAL AREA	= 46,285 sf

NOTES

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- 2356/89 — BOOK AND PAGE NUMBER
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- EXISTING UTILITY POLE WITH OVERHEAD WIRES
- EXISTING WATER SHUT OFF VALVE
- EXISTING HYDRANT
- EXISTING SEWER MANHOLE
- NEW SEWER MANHOLE
- EXISTING CATCH BASIN
- NEW CATCH BASIN
- EXISTING HYDRANT
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING STORM DRAIN LINE
- EXISTING GAS LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- NEW SPOT GRADE
- TC — TOP OF CURB
- BC — BOTTOM OF CURB
- NEW STORM DRAIN PIPE
- NEW UNDER DRAIN PIPE
- NEW SEWER LINE
- NEW WATER LINE
- NEW GAS LINE
- NEW UNDERGROUND ELECTRIC LINE
- EXISTING BUILDING
- NEW BUILDING
- EXISTING PAVEMENT
- NEW PAVEMENT (THIS PROJECT)
- NEW CONCRETE PAD

SCALE : 1" = 20'
0 10 20 40 60 80

STATE OF MAINE * STEPHEN J. ROBERGE #8430 * REGISTERED PROFESSIONAL ENGINEER
FOR APPROVALS ONLY

REV:	DATE:	CHANGES:
1	2-11-20	CHANGES PER CITY STAFF REVIEW

DO NOT MODIFY PLAN WITHOUT WRITTEN PERMISSION FROM SJR ENG., INC.

Stoneybrook Land Use, Inc.
4846 Sun City Center Blvd, #300
Sun City Center, FL 33573-6281

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PROPOSED WATERSHED PLAN
420 MAIN STREET
LEWISTON, MAINE
PREPARED FOR
COLETTE'S DONUT SHOPPE
26 REJANE AVENUE - LEWISTON, ME 04240

DATE	PROJECT
2-3-2020	2019-42
DRAWN BY	SCALE
SJR	1" = 20'

SHEET WS-1

TRAFFIC IMPACT STUDY

FOR

PROPOSED

Dunkin' Donuts Coffee Shop

Partial Copy

Prepared For: Collette's Donut Shoppe
Prepared By: William J. Bray, P.E.

February 2020

INTRODUCTION

The Applicant is proposing to construct a 2,543 square foot full-service Dunkin' Donuts Shop with a total of 25 seats inside plus an outdoor patio for customer use. The proposed building and site layout represent the Nextgen Prototype for all new Dunkin' franchises. The site design includes two drive-up windows, two order boards and a mobile pick-up lane exclusively for "To Go" orders. Drivers with "To Go" orders will share the by-pass lane to proceed around the drive-thru order boards and stacking to merge with the drive-thru lane near the pick-up windows. Drive-thru customers will split forming two lanes to access both proposed order boards and then merge back to a single-lane before the "pick-up" window. Vehicle stacking for a total of eleven vehicles is provided in the dual drive-thru lanes to the order boards with an additional five vehicle lengths to the "pick-up" window. A total of eight vehicle lengths are accommodated in the proposed "To Go" lane to the designated pick-up window for "To-Go" customers. The proposed site design provides vehicle stacking for a combined total of 19 vehicles, based upon an assumed average vehicle length of 20-feet.

The proposed Dunkin' Donuts site design proposes a one-way counterclockwise traffic pattern through a single-entry lane around the building exiting onto Main Street via a right-turn movement only. Left-turn movements to travel north on Main Street are prohibited.

The Applicant will re-configure existing traffic patterns on Main Street between Elm Street and Curtis Street providing a center two-way left-turn lane (CTWLTL) between the noted intersections. The ending section of the proposed Main Street re-striping improvement, between Whipple Street and Curtis Street, will be striped as a single direction left-turn lane to the proposed Dunkin' shop site and then appropriately transition to match exiting Main Street striping.

The Lewiston City Council conditionally approved, with a vote of 6–0, changes to the City's Traffic Schedule on June 18, 2019 to designate the west side of Main Street from Elm Street to Curtis Street "No Parking Anytime". These parking schedule changes allow for the striping of the proposed center two-way left-turn lane (CTWLTL) on Main Street between the noted intersections. Left-turn entry trips to the proposed Dunkin' store will turn left to the site in a designated and striped left-turn pocket on Main Street.

A total of 20 parking spaces are provided on-site for both customers and employees. Five additional parking spaces, to be shared with the neighborhood, are provided at the lower level with direct access from Whipple Street. The Applicant also proposes widening Whipple Street along the frontage of the proposed site providing eight parallel parking spaces for neighborhood public parking. Lastly, existing on-street handicap parking used by the business located at 410 Main Street, which are eliminated by the approved on-street parking changes, will be replaced with construction of a small parking lot located on the property for that business.

The purpose of this study is to examine existing traffic conditions in the general vicinity of the proposed project, estimate the total number of site trips generated by the project, and make a determination as to whether the existing transportation system can safely accommodate the added traffic demand generated by the project.

EXISTING CONDITIONS

Existing Traffic: Manual turning movement counts were collected between the hours of 6:30 and 9:30 a.m. at three traffic intersections located within the general vicinity of the proposed site. The traffic survey locations and the date of the data collection are listed as follows:

1. Main Street @ Whipple Street – December 11, 2018
2. Main Street @ Elm Street – January 22, 2020
3. Main Street @ Curtis Street – January 22, 2020

Traffic data collected during the months of September through June require an adjustment to reflect "*peak*" travel conditions experienced during the summer months of July and August. MaineDOT provides factors for adjusting traffic data collected during other periods of time. MaineDOT utilizes highway classifications of I, II, or III for all State and Local roadways. Group I roadways are defined as urban roadways or those roads that typically see commuter traffic and experience little fluctuation from week to week throughout the year. Group II roadways or arterial roads are those that see a combination of commuter and recreational traffic and; therefore, experience moderate fluctuations during the year. Group III roads or recreational roadways are typically used for recreational purposes and experience significant seasonal fluctuations. MaineDOT has designated Main Street a Group I roadway, which requires the collected traffic data at Location #1 Main Street @ Whipple Street to be adjusted by a factor of approximately 1.15. This location requires a further adjustment to approximate 2020 design hour traffic conditions. MaineDOT's Traffic Count report shows average annual daily traffic volumes on Main Street at Hammond Street (Count Stations 02802 and 02812) increased by approximately 1% per year between the most current study years of 2014 through 2017. Accordingly, the Whipple Street traffic data was adjusted by an annual growth rate of 1% to approximate 2020 design hour traffic conditions. Traffic data collected at both Locations #2 and #3 were seasonally adjusted with a factor of 1.18 to forecast 2020 design hour travel conditions. Figure 1 illustratively presents the estimated 2020 Design Hour Traffic volumes for each of the three study intersections.

Existing Safety Trends: The Maine Department of Transportation's (MaineDOT) Accident Records Section provided the most current three-year (2016 through 2018) safety records for the section of Main Street between Elm Street and Frye Street. MaineDOT's report is presented as follows:

2016 - 2018 Accident Summary
Main Street (Elm Street to Frye Street)

Location	Number of Accidents	Critical Rate Factor
1. Main Street @ Elm Street	7	1.07
2. Main Street @ Whipple Street	7	1.07
3. Main Street @ Curtis Street	1	0.17
4. Main Street @ Frye Street	7	1.08
5. Main Street @ Arch Avenue	1	0.26
6. Main Street btw. Elm Street and Whipple Street	3	0.87
7. Main Street btw. Whipple Street and Curtis Street	5	0.87
8. Main Street btw. Curtis Street and Arch Avenue	2	0.47
9. Main Street btw. Arch Avenue and Frye Street	3	1.18

The MDOT considers any roadway intersection or segment a high crash location if both of the following criteria are met:

- ***8 or more accidents and,***
- ***A Critical Rate Factor greater than 1.00***

As the data presented in the chart shows, there are no high crash locations in the section of Main Street between Elm Street and Frye Street.

The Main Street/Whipple Street intersection was previously categorized by MaineDOT as a high crash location in the prior three-year study period of 2015 through 2017, with a total of 10 reported crashes and a Critical Rate Factor of 1.47. A detailed safety study of the intersection was completed on April 15, 2019 that identified a very clear pattern of crashes occurring within the intersection. Seven (7) of the 10 crashes were "*angle*" accidents

involving a motorist turning to or from Whipple Street being struck by a vehicle traveling either north or south on Main Street. The most current (2016 – 2018) MaineDOT report is most likely an anomaly and the prior safety issues prevalent at the intersection will likely resurface in the next MaineDOT three-year report. The following excerpts from the April 2019 safety report highlight a number of safety problems currently plaguing the intersection and suggests a number of corrective improvements that with implementation could potentially improve traffic safety conditions within the intersection.

Noted Safety Problems

- *Vehicle sightlines for motorists turning left from the Whipple Street approach onto Main Street are significantly impinged by vehicles parked on the corner of Main Street. Motorists were routinely observed "inching" into the intersection to extend their sightline a sufficient distance to complete the left-turn movement onto Main Street.*
- *Whipple Street is a very narrow street and with the existing provision of on-street parking allowed on both sides of the street motorists turning to/from Whipple Street and Main Street are severely restricted in completing their desired turning movement.*
- *"Peak" traffic volumes on Main Street are excessively heavy providing few gaps for traffic turning left into Whipple Street from Main Street.*
- *Motorists turning left from Main Street to Whipple Street create lengthy delay problems for thru traffic traveling northeasterly on Main Street.*

Potential Mitigation Measures

1. *Remove on-street parking on the northwest side of Main Street between Whipple and Elm Streets.*
2. *Re-stripe Main Street to provide either a designated left-turn lane or a center two-way left-turn lane to provide a refuge area for motorists turning left into Whipple Street.*
3. *Remove parking on both sides of Whipple Street within 100-feet of Main Street or widen the existing street to improve circulation from Main Street into Whipple Street.*

The proposed Dunkin Donut site design includes provisions for ensuring that each of the listed safety improvement measures are fully addressed and completed with development of the proposed Dunkin Donut Shoppe site.

SITE TRAFFIC

Site Trip Generation: Trip generation for the proposed full-service Dunkin' Donuts shop was estimated based upon procedures developed in a 2007 study conducted by Gorrill-Palmer, Inc. for the regional office of Dunkin' Donuts. MaineDOT conducted a thorough review of the report and have approved and adopted the following equation as an accepted procedure for calculating trip generation for a Dunkin' Donuts site:

$Y = 0.1061x + 144.49$

[Y = number of trips generated during the AM peak hour and x represents the Average Peak Hour Traffic Volume passing by the site]

The 2018 design hour traffic volume for Main Street (Refer to attached traffic count summary sheet) at the proposed Dunkin' Donuts site is 1,435 vehicles. Accordingly, the estimated volume of traffic generated by the proposed Dunkin' Donuts site during the morning peak hour is **297** vehicle trips.

Site Trip Composition: The 2007 Gorrill-Palmer, Inc. study established that, on average, approximately 15% of the total trips generated by a Dunkin' Donuts site are "*primary*" or new trips to the area; 70% are "*pass-by*" trips, vehicle trips already on the roadway system and; 15% are "*diverted-link*" trips, existing trips on adjacent roadways that shift travel patterns.

The following site trip composition values are determined for the proposed Dunkin' Donuts store:

Primary Trips	= 45 trips
Pass-By Trips	= 208 trips
Diverted Link Trips	= 44 trips
Total Trips	**= 297 trips**

Site Trip Distribution: Vehicle trips generated during the noted AM peak hour were assigned to/from the proposed site based upon a 50%/50% split, which generally conforms to patterns established in the 2007 Gorrill Palmer, Inc. study.

Site Trip Assignment: The proposed site design allows full directional ingress to the site; however, traffic egressing the site must turn right only at Main Street. A "beveled" concrete apron and associated turn restriction signage directs all motorists to turn right at the exit driveway. The proposed site design feature that prohibits left-turn exit movements, coupled with the very high volume of through traffic traveling south on Main Street in the morning peak hour, will temper the actual volume of site trips originating from the south on Main Street. The traffic assignment model must fully consider and account for a reduction in the volume of site trips originating from the south on Main Street. Accordingly, the trip assignment model assumes approximately one-half of the store patrons traveling south to north on Main Street will simply patronize another Dunkin' Donuts store site. The remaining 50% of the drivers that decide to enter from the site via a left-turn from Main Street, upon exiting the site, will turn right as directed and reverse their direction using multiple street connection options. The site trips model assumes the heaviest volume of site trips will arrive from the north and exit south, which reflects the existing travel patterns found on Main Street, where approximately 67% of the through traffic travel north to south on Main Street in the morning peak hour.

Figure 2 illustratively presents the AM peak hour site trip assignment for the proposed Dunkin' Donuts site.

2020 POST-DEVELOPMENT TRAFFIC

Other Development Traffic: Traffic generated by projects that have been approved (or submitted for approval) by the Local Planning Board and/or the Maine Department of Transportation, yet are not opened, must be included in the estimate of pre-development traffic. The City of Lewiston's Planning Staff advised that there are no projects that directly impact through traffic conditions found on Main Street.

2020 Post-Development Traffic: 2020 Post-Development traffic forecasts were prepared for each study intersection (Elm Street, Whipple Street and Curtis Street) and the proposed site entry and exit driveway intersections on Main Street by combining the 2020 design hour travel forecasts illustrated on Figure 1 with the estimated site generated trips highlighted on Figure 2. Figure 3 presents the estimated 2020 post-development traffic forecasts for each of the study intersections and the proposed site driveway.

MOBILITY ANALYSIS

Capacity analyses of both 2020 Pre- and Post-Development traffic conditions were performed utilizing the Synchro and SimTraffic computer models. Level of Service rankings are similar to the academic grading system, where an "*A*" is very good with little delay and "*F*" represents very poor conditions. The following table summarizes the relationship between delay and Level of Service for an unsignalized intersection:

Level of Service Criteria for Unsignalized Intersections

Level of Service	Total Control Delay (sec/veh)
A	Up to 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	Greater than 50.0

2022 pre-development conditions were evaluated for each of the three study intersections based upon existing intersection geometry. The analyses conducted for the 2020 post-development travel condition includes; striping of a proposed center two-way left-turn lane on Main Street between Elm and Whipple Streets and a designated northbound left-turn pocket on Main Street for entry trips to the proposed Dunkin' site.

Table 1, as follows, provides the results of the capacity analyses conducted for each of the three unsignalized study intersections for both the 2022 pre- and post-development travel conditions and the proposed site driveway intersection at Main Street:

Table 1
Level of Service Summary
2020 Pre- and Post-Development Conditions
[AM Peak Hour]

	2020 Pre-Development		2020 Post-Development	
Intersection/Approach	Delay (sec.)	LOS	Delay (sec.)	LOS
1. Main Street @ Elm Street				
- Main Street NB	1 sec.	A	1 sec.	A
- Main Street SB	1 sec.	A	2 secs.	A
- Elm Street EB	25 secs.	C	36 secs.	E
- Elm Street WB	7 secs.	A	15 secs.	B
- Overall Intersection	1 sec.	A	2 secs.	A
2. Main Street @ Whipple Street				
- Main Street NB	1 sec.	A	1 sec.	A
- Main Street SB	1 sec.	A	1 sec.	A
- Whipple Street SE	17 secs.	C	27 secs.	D
Overall Intersection	2 secs.	A	2 sec.	A
3.Main Street @ Curtis Street				
- Main Street NB	1 sec.	A	1 sec.	A
- Main Street SB	1 sec.	A	2 secs.	A
- Curtis Street EB	25 secs.	C	28 secs.	D
- Overall Intersection	1 sec.	A	2 secs	A
4.Dunkin Donut Exit Driveway				
- Main Street NB	n/a	n/a	1 sec.	A
- Main Street SB	n/a	n/a	2 secs	A
- Dunkin Donut Exit Driveway EB	n/a	n/a	24 secs.	C
- Overall Intersection	n/a	n/a	3 secs.	A

Each study intersection highlighted in the preceding table is expected to operate overall at the "*best*" level of service (Level of Service A) under both 2020 pre- and post-development travel conditions; experiencing overall very minimal intersection delay. Motorists entering Main Street from each of the existing side streets do encounter minor delays, consistent with travel conditions found at all side-street approaches in the Main Street corridor. Similar levels of delay are projected for Dunkin' patrons upon exiting right onto Main Street. Vehicles leaving the site will encounter less than 25 seconds of average vehicle delay entering the Main Street corridor.

VEHICLE QUEUE ASSESSMENT

Ninety-fifth (95%) percentile vehicle queues, an output of the detailed capacity analyses, were calculated for the proposed northbound Main Street left-turn entry lane to the proposed Dunkin' site. The results of the traffic simulation model shows the 95th percentile vehicle queue length of Dunkin' patrons attempting a left-turn movement to the site is 50-feet or 2 car lengths. The proposed left-turn pocket on the north approach of Main Street for the entry left-turn movement is conservatively measured at 87-feet, or roughly four car lengths.

SIGHT DISTANCE

The Maine Department of Transportation's Highway Entrance and Driveway Rules, require the following sight distances:

Sight Distance Standards

Speed Limit	Sight Distance
25 mph	200 feet
30	250
35	305
40	360
45	425
50	495
55	570

Sightline measurements were recorded in both directions of travel from the proposed centerline of the proposed exit driveway from the Dunkin' shop site onto Main Street in accordance with standard procedures required by the MaineDOT. Sight distance measurements in excess of 350-feet plus were recorded for both directions of travel from the proposed exit driveway at Main Street. Main Street is posted at 25mph, which requires a clear unobstructed sightline distance of 200-feet.

SUMMARY

1. The proposed Dunkin' Donut Shoppe, if designed with full directional access to/from Main Street, could be expected to generate approximately 297 total site trips during the morning peak hour with half of the trips entering the site and the other half exiting. The proposed site design limits site egress to a right-turn only movement; left-turn exit movements from the site are prohibited. The proposed turn restriction is projected to reduce, albeit not significantly, the volumes of site trips originating from the south on Main Street. The trips assignment model assumes a total of 48 fewer trips (24 entering and 24 exiting trips) will patronize the proposed Dunkin' Donuts Shoppe that currently travel south to north on Main Street. These motorists will stop at another nearby Dunkin' store site for service.

2. MaineDOT's Traffic Safety Bureau's latest three-year (2016 through 2018) safety audit for the section of Main Street between Elm and Frye Streets, a distance of 0.15 miles, does not identify any high crash locations within the study area. The most recent safety data published by MaineDOT doesn't identify the Whipple Street/Main Street as a high crash location; yet, the existing safety problems existing at the intersection continue to persist. An April 15, 2019 intersection safety report completed for the intersection clearly

identified a number of existing problems within the intersection. These types of safety issues don't simply disappear without improvement. The proposed Dunkin site design includes provisions for improving safety at the intersection and along the Main Street corridor.

3. The following on-site and off-site traffic improvements are required to safely cite the proposed Dunkin' Donuts Shoppe on the proposed Main Street/Whipple Street site.
    a. The proposed Site design shall prohibit all left-turn exit movements from the site. A physical barrier shall be constructed in the exit drive apron at Main Street that directs all traffic to turn right-only onto Main Street. Both STOP and "Right-Turn Only" signs and a 24" STOP bar and a "Right-Turn Only" pavement symbol markings shall be installed to further reinforce the proposed site circulation pattern.
    b. The Lewiston City Council voted on June 18, 2019 to designate the west side of Main Street between Curtis and Elms Streets "No-Parking Anytime". Appropriate signage shall be installed within the designated section of Main Street prior to a receipt of a CO for the proposed Dunkin' store.
    c. The section of Main Street between Elm and Whipple Street shall be appropriately striped providing a center two-way left-turn lane; the proposed striping improvement shall continue to the proposed Dunkin' entry driveway as a designated left-turn pocket to the proposed store site and then transition to match the existing pavement markings on Main Street just south of the Curtis Street intersection.
    d. Widen the northside of Whipple Street a sufficient width to accommodate public parallel parking spaces. Additionally, install "No-Parking Here to Corner" signs on both sides of Whipple Street in advance of Main Street.
    e. Lastly, existing on-street handicap parking used by the business located at 410 Main Street, which is eliminated by the approved on-street parking changes, will be replaced with construction of a small parking lot located on the property for that business.

4. Each study intersection is expected to operate overall at the "*best*" level of service (Level of Service A) under both 2020 pre- and post-development travel conditions; experiencing overall very minimal intersection delay. Motorists entering Main Street from each of the existing side streets do encounter minor delays, consistent with travel conditions found at all side-street approaches along the Main Street corridor. Similar levels of delay are projected for Dunkin' patrons upon exiting right onto Main Street. Vehicles leaving the site will encounter less than 25 seconds of average vehicle delay entering the Main Street corridor.

5. Ninety-fifth (95%) percentile vehicle queues, an output of the detailed capacity analyses, were calculated for the proposed northbound Main Street left-turn entry lane to the proposed Dunkin' site. The results of the traffic simulation model shows the 95th percentile vehicle queue length of Dunkin' patrons attempting a left-turn movement to the site is 50-feet or 2 car lengths. The proposed left-turn pocket on the north approach of Main Street for the entry left-turn movement is conservatively measured at 87-feet, or roughly four car lengths.

6. Vehicle sightlines measured directionally from the centerline of the proposed site exit driveway onto Main Street meet and exceed the minimum standard (200-feet) for a posted speed limit of 25mph; the current posted speed limit on Main Street.

NOTES

1) THE PURPOSE OF THIS PLAN IS TO SHOW SCHEMATIC OFF-SITE IMPROVEMENTS TO SECURE APPROVALS FOR A TRAFFIC MOVEMENT PERMIT (TMP) AND CHANGES TO ON-STREET PARKING ON MAIN STREET. 8 PARKING SPACES WILL BE ELIMINATED ON MAIN STREET AND 21 PARKING SPACES WILL REMAIN. UPON APPROVALS OF THE TMP, THE APPLICANT SHALL PROVIDE STAMPED ENGINEERED PLANS CONFORMING TO MAINE DOT STANDARDS FOR ALL CHANGES REQUIRED ON MAIN STREET BY THESE APPROVALS.

2) BOUNDARY INFORMATION WAS TAKEN FROM THE CITY OF LEWISTON TAX MAPS.

3) THE AERIAL PHOTO BACKGROUND WAS TAKEN FROM THE MAINE OFFICE OF GIS AND IS DATED 2013.

SCALE : 1" = 40'

0 20 40 80 120 160

Stoneybrook
Land Use, Inc.
4846 Sun City Center Blvd., #300
Sun City Center, FL 33573-6281

REV:	DATE:	CHANGES:

2013 AERIAL GRAPHIC
SCHEMATIC OFF-SITE IMPROVEMENTS
LEWISTON, MAINE
PREPARED FOR
COLETTE'S DONUT SHOPPE
26 REJEANE AVENUE - LEWISTON, ME 04240

DATE	PROJECT
2-17-2020	18-020
DRAWN BY	SCALE
BRJ	1" = 40'
FILE: 18-020 OS SCH	

SHEET 1

REVISED: APRIL 22, 2019 - CHANGES TO WHIPPLE STREET STRIPING, ADD SIGNS
REVISED: JANUARY 2, 2019 - CHANGES TO MAIN STREET STRIPING
REVISED: SEPTEMBER 10, 2018 - SHOW EXISTING SPACES ON MAIN STREET
REVISED: AUGUST 31, 2018 - CHANGES TO NOTES/STRIPING, ADD PROJECT DESIGN

NOTES

1) THE PURPOSE OF THIS PLAN IS TO SHOW CHANGES TO ON-STREET PARKING ON MAIN STREET. 8 PARKING SPACES WILL BE ELIMINATED ON MAIN STREET AND 21 PARKING SPACES WILL REMAIN. ONE SPACE ON ELM STREET WILL BE IDENTIFIED FOR HANDICAP ACCESSIBLE PARKING. THE EXISTING PAVEMENT ON WHIPPLE STREET WILL BE EXPANDED TO ALLOW FOR 11 PARKING SPACES WHILE MAINTAINING THE 24' TRAVEL WAY.

2) BOUNDARY INFORMATION WAS TAKEN FROM THE CITY OF LEWISTON TAX MAPS.

3) THE AERIAL PHOTO BACKGROUND WAS TAKEN FROM THE MAINE OFFICE OF GIS AND IS DATED 2013.

SCALE : 1" = 40'

0 20 40 80 120 160

2013 AERIAL GRAPHIC - OPTION #2
MAIN STREET STRIPING

LEWISTON, MAINE
ANDROSCOGGIN COUNTY

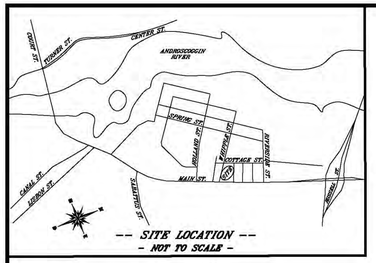
PREPARED FOR

NORM BOULAY

32 WATERS EDGE DRIVE - LEWISTON, MAINE 04240

Stoneybrook Consultants, Inc.
P.O. Box 459 - Turner, Maine 04282 - (207) 224-0252

DATE: AUGUST 2018 JOB NUMBER: 18-020	DRAWN BY: BRJ CHECKED BY: MFG	SCALE: 1" = 40' CADD: 18-020 AER	SHEET 1



NOTES:

1) BEARINGS ARE REFERENCED TO GRID NORTH M.S.P.C.S NAD83.

2) DEED REFERENCES ARE MADE TO THE ANDROSCOGGIN COUNTY RECISTRY OF DEEDS (A.C.R.D.) - AUBURN, MAINE.

3) PURPOSE OF THIS EXISTING CONDITIONS PLAN IS TO SHOW THE BOUNDARY AND TOPOGRAPHY OF LAND AT 420 MAIN STREET, LLC PER DEEDS RECORDED IN THE A.C.R.D. IN DEED BOOK 8893, PAGE 181 AND BOOK 6470, PAGE 202.

4) UTILITIES LINES AS SHOWN BASED ON MARKINGS BY OTHERS. CONTRACTOR SHALL CONTACT DIC SAFE BEFORE ANY DIGCING OR CONSTRUCTION.

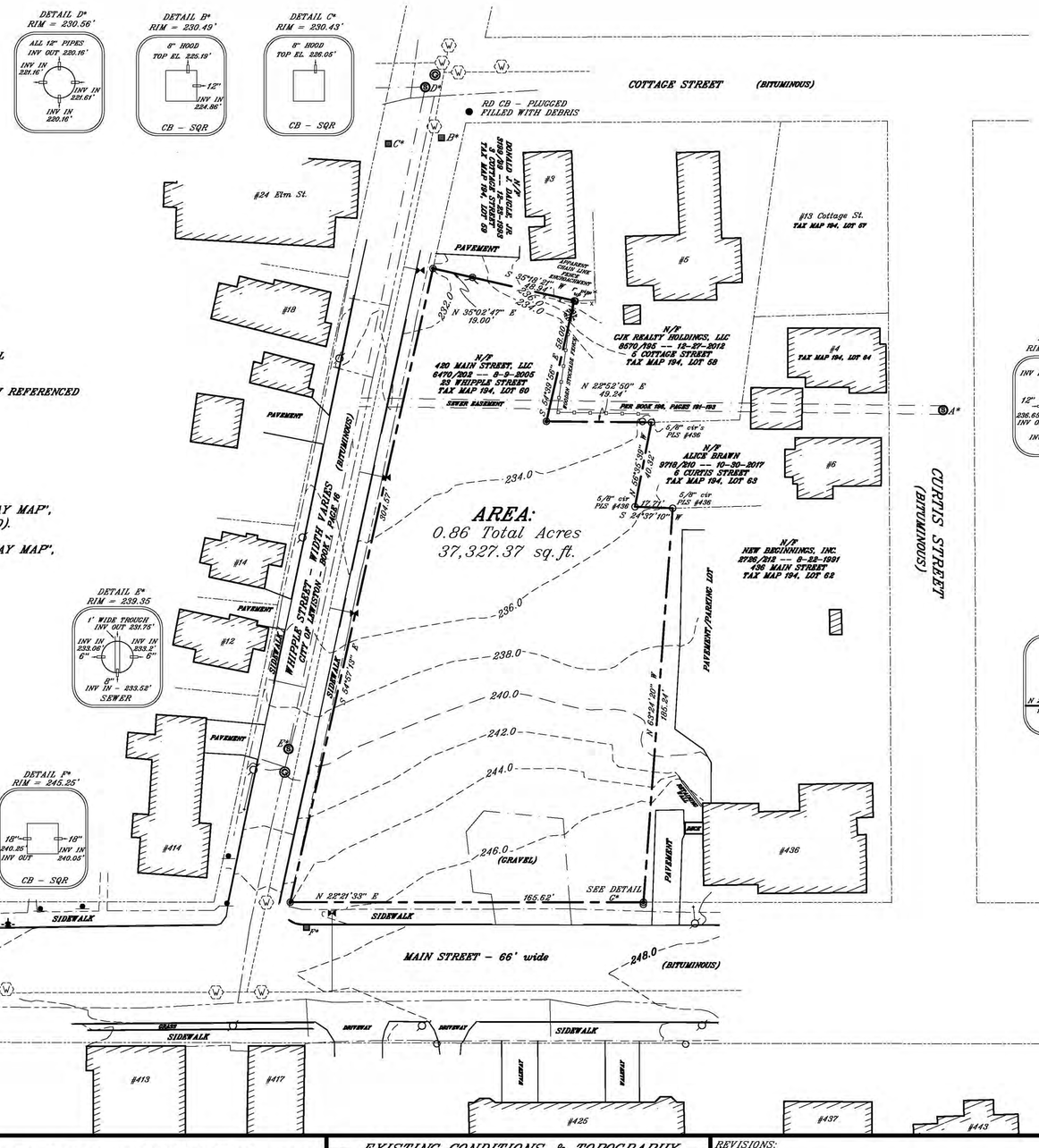
5) THE APPROXIMATE LOCATION OF MAIN STREET, AS SHOWN, BASED ON THE BELOW REFERENCED PLANS AND MONUMENTATION RECOVERED DURING FIELD SURVEY.

REFFERENCES:

1) "STATE OF MAINE DEPARTMENT OF TRANSPORTATION - RIGHT OF WAY MAP", D.O.T. FILE NO. 1-156, DATED MARCH 1982, SHEET 3 OF 3 (UNRECORDED).

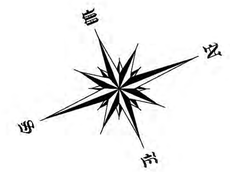
2) "STATE OF MAINE DEPARTMENT OF TRANSPORTATION - RIGHT OF WAY MAP", D.O.T. FILE NO. 1-236, SHEET 1 OF 7 (UNRECORDED).

3) CITY OF LEWISTON TAX MAP 194.



LEGEND

- 5/8" CAPPED REBAR SET - PLS #2208
- IRON PIN FOUND
- WATER VALVE
- SEWER MANHOLE
- CATCH BASINS
- UTILITY POLE AND GUY WIRE
- TREE
- GAS VALVE
- WATER GATE
- SIGN
- HYDRANT
- BUILDING
- GRANITE CURBING



OWNER OF RECORD:

420 MAIN STREET, LLC
8893/181 -- 4-9-2014
420 MAIN STREET
TAX MAP 194, LOT 61

SCALE: 1" = 30'

30 0 15 30 60 120

Revisions:
2-1-2020 - Revised and moved Sewer Easement per information provided by the City of Lewiston & others.

RECORDING INFORMATION:

ANDROSCOGGIN COUNTY RECISTRY OF DEEDS - STATE OF MAINE

RECEIVED _____ AT _____ HOUR _____ MIN. ____ M.

AND RECORDED IN PLAN BOOK _____ , PAGE _____

ATTEST _____ RECISTRAR

DAVIS LAND SURVEYING, LLC
64 OLD COUNTY ROAD - OXFORD, MAINE 04270
990 MINOT AVENUE - AUBURN, MAINE 04210
OFFICE PHONE (207) 345-9991 or (207) 782-3685
CELL (207) 240-3949
EMAIL: stuart@davislandsurveying.net
www.davislandsurveying.net

August 5, 2019 - Revised February 1, 2020

FILE: 378 JOB NO.: 19-054

-- EXISTING CONDITIONS & TOPOGRAPHY --

PLAN OF PROPERTY

420 MAIN STREET - LEWISTON, MAINE

420 MAIN STREET, LLC

P.O. BOX 2312 -- LEWISTON, MAINE 04241

REVISIONS: DATE:

CERTIFICATION:

TO THE BEST OF MY KNOWLEDGE, I HAVE USED ORDINARY AND PRUDENT CONDUCT EXPECTED OF PROFESSIONAL LAND SURVEYORS AND THE RESULTS SHOWN HERE REPRESENT THE LICENSEE'S RESPONSIBILITY TO THE PUBLIC AS REQUIRED UNDER THE STANDARDS OF PRACTICE AS DEFINED BY THE BOARD OF LICENSURE FOR PROFESSIONAL LAND SURVEYORS (M.R.S.A. TITLE 32, CHAPTER 129 DATED APRIL, 2001).

EXCEPT AS FOLLOWS:
1) NO WRITTEN REPORT TO DATE.
2) NO DEED DESCRIPTION TO DATE.

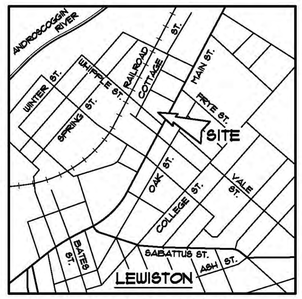
PLAN PREPARED BY: S.F.S.

PLAN CHECKED BY: S.A.D. THIS PLAN IS NOT VALID UNLESS EMBOSSED ABOVE

STUART F. DAVIS 2208 REGISTERED LAND SURVEYOR

SCALE : 1" = 20'

0 10 20 40 60 80



LOCATION MAP

NORTH

NOTES

1) EXISTING CONDITIONS ARE BASED UPON A PLAN ENTITLED "EXISTING CONDITIONS & TOPOGRAPHY PLAN OF PROPERTY, 420 MAIN STREET - LEWISTON, MAINE", DATED AUGUST 5, 2019, PREPARED BY DAVIS LAND SURVEYING, LLC.

2) ALL BOOK AND PAGE NUMBERS REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.

3) OWNER OF RECORD - 420 MAIN STREET, LLC
DEED REFERENCE - BOOK 8893, PAGE 181
TAX MAP 194, LOTS 60 & 61

4) THE LOCATION, DEPTH, SIZE & EXISTENCE OF ALL UNDERGROUND UTILITY LINES, TANKS AND/OR STRUCTURES WAS NOT VERIFIED. CONTRACTOR SHALL CONTACT DIGSAFE/ON-TARGET PRIOR TO EXCAVATION TO CONFIRM THE LOCATION OF ALL PUBLIC & PRIVATE UTILITIES WITHIN THE PROJECT AREA.

5) THE PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD HAZARD AREA AS SHOWN ON THE F.E.M.A. FLOOD INSURANCE RATE MAP, PANEL #2300IC 0327E, DATED JULY 8, 2013.

6) ALL SIGNAGE TO BE OBTAINED AND INSTALLED BY THE OWNER.

7) SEE BUILDING PLANS BY ARCHITECT FOR EXACT DIMENSIONS.

8) PATIO BLOCKS ARE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. BLOCK TYPE TO BE SELECTED BY OWNER.

9) PROVIDE CURBING TIPDOWN WITHIN THE PARCEL BOUNDARIES AT ALL ENDS OF CURB. TIPDOWN TO MEET CITY OF LEWISTON SPECIFICATIONS.

10) REUSE EXISTING GRANITE CURB WITHIN STREET RIGHTS OF WAY WHERE POSSIBLE. ADD NEW GRANITE CURB AS NECESSARY, TO MEET CITY OF LEWISTON SPECIFICATIONS.

11) THIS PLAN WAS PREPARED FOR PRESENTATION PURPOSES TO SHOW STREET TREE LOCATIONS, LANDSCAPE BEDS AND CAR STACKING IN DRIVE-THRU LANES.

LEGEND

- BOUNDARY LINE (SUBJECT PARCEL)
- BOUNDARY LINE (OTHER)
- N/F — NOW OR FORMERLY
- 2356/89 — BOOK AND PAGE NUMBER
- IRON ROD OR PIPE FOUND
- EXISTING STOCKADE FENCE
- EXISTING UTILITY POLE WITH OVERHEAD WIRES
- EXISTING WATER SHUT OFF VALVE
- EXISTING HYDRANT
- EXISTING SEWER MANHOLE
- NEW SEWER MANHOLE
- EXISTING CATCH BASIN
- NEW CATCH BASIN
- EXISTING BUILDING
- NEW BUILDING
- EXISTING PAVEMENT
- NEW PAVEMENT (THIS PROJECT)
- NEW CONCRETE PAD
- NEW STREET TREE (2.5" CALIPER AT PLANTING)
  MIXTURE OF:
  RED MAPLE
  YELLOWOOD
  GREEN ASH
  THORNLESS HONEY LOCUST
- LANDSCAPE BED
  SHRUBS
  GROUND COVER
  SEASONAL COLOR/PERENNIALS
  MULCH
- LAWN

REV.	DATE:	CHANGES:
1	2-20-20	CHANGES PER CITY STAFF COMMENTS

DO NOT MODIFY PLAN WITHOUT WRITTEN PERMISSION FROM SJR ENG., INC.

Stoneybrook
Land Use, Inc.
4846 Sun City Center Blvd. #300
Sun City Center, FL 33573-6281

SJR ENGINEERING, INC.
16 THURSTON DRIVE
MONMOUTH, MAINE 04259
(207) 242-6248 tel
steve@sjreng.com
SJR ENGINEERING

PRESENTATION GRAPHIC
420 MAIN STREET
LEWISTON, MAINE
PREPARED FOR
COLETTE'S DONUT SHOPPE
26 REJANE AVENUE - LEWISTON, ME 04240

DATE	PROJECT
2-17-2020	2019-42
DRAWN BY	SCALE
SJR	1" = 20'

SHEET 1

SCALE : 1" = 20'

0 10 20 40 60 80

LOCATION MAP

NOTES

1) EXISTING CONDITIONS ARE BASED UPON A PLAN ENTITLED "EXISTING CONDITIONS & TOPOGRAPHY PLAN OF PROPERTY, 420 MAIN STREET - LEWISTON, MAINE", DATED AUGUST 5, 2019, PREPARED BY DAVIS LAND SURVEYING, LLC.

2) ALL BOOK AND PAGE NUMBERS REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.

3) OWNER OF RECORD - 420 MAIN STREET, LLC
DEED REFERENCE - BOOK 8893, PAGE 181
TAX MAP 194, LOTS 60 & 61

4) THE LOCATION, DEPTH, SIZE & EXISTENCE OF ALL UNDERGROUND UTILITY LINES, TANKS AND/OR STRUCTURES WAS NOT VERIFIED. CONTRACTOR SHALL CONTACT DIGSAFE/ON-TARGET PRIOR TO EXCAVATION TO CONFIRM THE LOCATION OF ALL PUBLIC & PRIVATE UTILITIES WITHIN THE PROJECT AREA.

5) THE PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD HAZARD AREA AS SHOWN ON THE F.E.M.A. FLOOD INSURANCE RATE MAP, PANEL #2300IC 0327E, DATED JULY 8, 2013.

6) ALL SIGNAGE TO BE OBTAINED AND INSTALLED BY THE OWNER.

7) SEE BUILDING PLANS BY ARCHITECT FOR EXACT DIMENSIONS.

8) PATIO BLOCKS ARE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. BLOCK TYPE TO BE SELECTED BY OWNER.

9) PROVIDE CURBING TIPDOWN WITHIN THE PARCEL BOUNDARIES AT ALL ENDS OF CURB. TIPDOWN TO MEET CITY OF LEWISTON SPECIFICATIONS.

10) REUSE EXISTING GRANITE CURB WITHIN STREET RIGHTS OF WAY WHERE POSSIBLE. ADD NEW GRANITE CURB AS NECESSARY, TO MEET CITY OF LEWISTON SPECIFICATIONS.

11) ALL LIGHTING FIXTURES THAT OVERHANG A VEHICLE PATH AREA MUST BE INSTALLED AT LEAST 13'6" ABOVE PAVEMENT.

12) THE OWNER SHALL PROVIDE A KNOX BOX TO CITY STANDARDS AT THE LOCATION REQUIRED BY CITY OF LEWISTON.

13) LIGHTING DESIGN AND DETAILS BY OTHERS.

14) PRIOR TO ANY CERTIFICATE OF OCCUPANCY BEING ISSUED, EVIDENCE SHALL BE PROVIDED OF A FINAL INSPECTION OF THE STORMWATER SYSTEM BY THE DESIGNING ENGINEER ALONG WITH A WRITTEN STATEMENT INDICATING THE STORMWATER SYSTEM AND ALL SITE IMPROVEMENTS HAVE BEEN COMPLETED ACCORDING TO THE APPROVED PLANS.

15) DETAILED LANDSCAPE PLAN AND PLANTING SCHEDULE TO BE SUBMITTED AND APPROVED BY CITY STAFF PRIOR TO ISSUANCE OF A BUILDING PERMIT.

16) THE DEVELOPER WILL RECONSTRUCT, UNDER THE CITY'S SUPERVISION AND APPROVAL, AN ADDITIONAL 8 PARKING SPACES ALONG THE NORTH SIDE OF WHIPPLE STREET AT 420 MAIN STREET.

17) THE DEVELOPER WILL RECONSTRUCT, UNDER THE CITY'S SUPERVISION AND APPROVAL, THE EXISTING SIDEWALK ALONG THE NORTH SIDE OF WHIPPLE STREET FROM MAIN STREET TO COTTAGE STREET.

18) A REVISED LIGHTING PLAN FOR THE LOWER PARKING LOT AT 23 WHIPPLE STREET SHALL BE SUBMITTED AND APPROVED BY CITY STAFF PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.

19) THE CITY SHALL EVALUATE PEDESTRIAN MOVEMENT IN THE AREA AND DETERMINE A LOCATION FOR A NEW PEDESTRIAN CROSSWALK ON MAIN STREET. THE DEVELOPER WILL PROVIDE THE REASONABLE AND NECESSARY FUNDING TO CONSTRUCT THE NEW CROSSWALK.

LEGEND

- BOUNDARY LINE (SUBJECT PARCEL)
- BOUNDARY LINE (OTHER)
- N/F — NOW OR FORMERLY
- 2356/89 — BOOK AND PAGE NUMBER
- IRON ROD OR PIPE FOUND
- EXISTING STOCKADE FENCE
- EXISTING UTILITY POLE WITH OVERHEAD WIRES
- EXISTING WATER SHUT OFF VALVE
- EXISTING HYDRANT
- EXISTING SEWER MANHOLE
- NEW SEWER MANHOLE
- EXISTING CATCH BASIN
- NEW CATCH BASIN
- EXISTING BUILDING
- NEW BUILDING
- EXISTING PAVEMENT
- NEW PAVEMENT (THIS PROJECT)
- NEW CONCRETE PAD
- PORTICO SUPPORT POST

APPROVAL

APPROVED BY THE CITY OF LEWISTON PLANNING BOARD

IF DEVELOPMENT HAS NOT OCCURRED AS DEFINED WITHIN THE SCOPE OF THE CITY OF LEWISTON CODE OF ORDINANCES, WITHIN 24 MONTHS OF THE DATE OF APPROVAL, DEVELOPMENT REVIEW APPROVAL SHALL EXPIRE. THE APPLICANT MAY NOT BEGIN CONSTRUCTION OR OPERATION OF THE DEVELOPMENT UNTIL A NEW APPROVAL IS GRANTED (ARTICLE XIII, SECTION 11).

STATE OF MAINE * STEPHEN J. ROBERGE #8340 * REGISTERED PROFESSIONAL ENGINEER

FOR APPROVALS ONLY

REV:	DATE:	CHANGES:
2	2-20-20	CHANGES PER CITY STAFF COMMENTS
1	2-11-20	CHANGES PER CITY STAFF REVIEW

DO NOT MODIFY PLAN WITHOUT WRITTEN PERMISSION FROM SJR ENG., INC.

Stoneybrook
Land Use, Inc.
4846 Sun City Center Blvd, #300
Sun City Center, FL 33573-6281

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16 THURSTON DRIVE
MONMOUTH, MAINE 04259
(207) 242-6248 tel
steve@sjreng.com
SJR ENGINEERING

SITE PLAN
420 MAIN STREET
LEWISTON, MAINE
PREPARED FOR
COLETTE'S DONUT SHOPPE
26 REJANE AVENUE - LEWISTON, ME 04240

DATE	PROJECT
2-3-2020	2019-42
DRAWN BY	SCALE
SJR	1" = 20'

SHEET 1

SCALE : 1" = 20'

0 10 20 40 60 80

NORTH

*24 ELM

N/F ROBERTS APARTMENTS TRUST II 3492/304

*20 WHIPPLE

*18 WHIPPLE

N/F MARK TERRIO 4004/338

N/F LAURIER RIOUX 2854/164

*14 WHIPPLE

N/F NORMAND ROUSSEAU 8474/303

*12 WHIPPLE

*410 MAIN

N/F MAIN STREET LLC 9087/275

*414 MAIN

*413 MAIN

*417 MAIN

N/F GUS & TED, LLC 9901/257

N/F ASM PROPERTIES, LLC 6381/320

*425 MAIN

*437 MAIN

*443 MAIN

*3 COTTAGE

*5 COTTAGE

N/F CJK REALTY HOLDINGS, LLC 8570/195

*4 CURTIS

*6 CURTIS

N/F ALICE BRAUN 9718/210

N/F NEW BEGINNINGS, INC. 2726/212

PAVED BARKING LOT

*436 MAIN

WHIPPLE STREET

CURTIS STREET

MAIN STREET

PAVED SIDEWALK

GRANITE CURB

PAVED DRIVE

PAVED PARKING AREA

NEW PAVED PARKING AREA

NEW PAVED AREA

NEW BUILDING F.F. EL.=241.10

NEW CONC. SIDEWALK

NEW GRANITE CURB

NEW BITUM. CURB

NEW GRAN. CURB

NEW CONC. BLOCK RETAINING WALL

RETAINING WALL

STORMTECH CHAMBER SYSTEM (SEE PLANS BY OTHERS)

ENCLOSED DUMPSTER

CONCRETE DUMPSTER PAD

PORTICO w/PATIO BLOCKS (BY OTHERS)

CONC. PAD

STONE

INSTALL STABILIZED CONSTRUCTION EXIT

INSTALL SILT FENCE

INSTALL SILT SACK (TYP.)

RIPRAP (Dso=6")

4' TALL DECORATIVE FENCE MOUNTED TO TOP OF WALL (TYPE BY OWNER)

NEW "NO PARKING THIS SIDE MAIN STREET" SIGN

NEW 3" HIGH MOUNTABLE CONC. ISLAND (SEE DETAIL)

DETECTIBLE WARNING PLATE CAST IN CONC. (TYPICAL)

REMOVE & REINSTALL GRANITE CURB

NEW O.H. WIRES

GUY WIRE

GUY LINE

TRUNK OF LARGE BEECH

STOP SIGN

TIP DOWN

INSPECTION PORT

TW EL.=249.0

TOP/WALL EL.=248.0

TOP/WALL EL.=248.5

PAVEMENT CUT LINE

N35°02'47"E 19.00'

S35°18'21"W 48.34'

S54°39'56"E 58.00'

N22°52'50"E 49.24'

5/8" IRF (CAP #436)

N35°39'59"W 49.32'

S24°37'10"W 17.71'

N63°24'20"W 185.24'

S5°43'13"E 304.57'

165.62'

GRASS

SIDEWALK

WALKWAY

NOTES

1) EXISTING CONDITIONS ARE BASED UPON A PLAN ENTITLED "EXISTING CONDITIONS & TOPOGRAPHY PLAN OF PROPERTY, 420 MAIN STREET - LEWISTON, MAINE", DATED AUGUST 5, 2019, PREPARED BY DAVIS LAND SURVEYING, LLC.

2) ALL BOOK AND PAGE NUMBERS REFER TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS.

3) OWNER OF RECORD - 420 MAIN STREET, LLC
DEED REFERENCE - BOOK 8893, PAGE 181
TAX MAP 194, LOTS 60 & 61

4) THE LOCATION, DEPTH, SIZE & EXISTENCE OF ALL UNDERGROUND UTILITY LINES, TANKS AND/OR STRUCTURES WAS NOT VERIFIED. CONTRACTOR SHALL CONTACT DIGSAFE/ON-TARGET PRIOR TO EXCAVATION TO CONFIRM THE LOCATION OF ALL PUBLIC & PRIVATE UTILITIES WITHIN THE PROJECT AREA.

5) THE PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD HAZARD AREA AS SHOWN ON THE F.E.M.A. FLOOD INSURANCE RATE MAP, PANEL #2300IC 0327E, DATED JULY 8, 2013.

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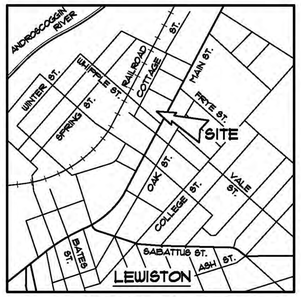
7) SEE BUILDING PLANS BY ARCHITECT FOR EXACT DIMENSIONS.

8) PATIO BLOCKS ARE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. BLOCK TYPE TO BE SELECTED BY OWNER.

9) PROVIDE CURBING TIPDOWN WITHIN THE PARCEL BOUNDARIES AT ALL ENDS OF CURB. TIPDOWN TO MEET CITY OF LEWISTON SPECIFICATIONS.

10) REUSE EXISTING GRANITE CURB WITHIN STREET RIGHTS OF WAY WHERE POSSIBLE, ADD NEW GRANITE CURB AS NECESSARY, TO MEET CITY OF LEWISTON SPECIFICATIONS.

11) LOAM, SEED & MULCH ALL DISTURBED AREAS NOT OTHERWISE DESIGNED.



LOCATION MAP

LEGEND

- BOUNDARY LINE (SUBJECT PARCEL)
- BOUNDARY LINE (OTHER)
- N/F — NOW OR FORMERLY
- 2356/89 — BOOK AND PAGE NUMBER
- IRON ROD OR PIPE FOUND
- EXISTING STOCKADE FENCE
- EXISTING UTILITY POLE WITH OVERHEAD WIRES
- EXISTING WATER SHUT OFF VALVE
- EXISTING HYDRANT
- EXISTING SEWER MANHOLE
- NEW SEWER MANHOLE
- NEW STORM DRAIN MANHOLE (STORM TECH)
- EXISTING CATCH BASIN
- NEW CATCH BASIN
- 218 — EXISTING CONTOUR
- 218 — PROPOSED CONTOUR
- 24.25 — NEW SPOT GRADE
- TC — TOP OF CURB
- BC — BOTTOM OF CURB
- INSTALL SILT FENCE
- INSTALL SILT SACK
- EXISTING BUILDING
- NEW BUILDING
- EXISTING PAVEMENT
- NEW PAVEMENT (THIS PROJECT)
- NEW CONCRETE PAD

STATE OF MAINE STEPHEN J. ROBERTS 10122 REGISTERED PROFESSIONAL ENGINEER

FOR APPROVALS ONLY

REV:	DATE:	CHANGES:
2	2-20-20	CHANGES PER CITY STAFF COMMENTS
1	2-11-20	CHANGES PER CITY STAFF REVIEW

DO NOT MODIFY PLAN WITHOUT WRITTEN PERMISSION FROM SJR ENG., INC.

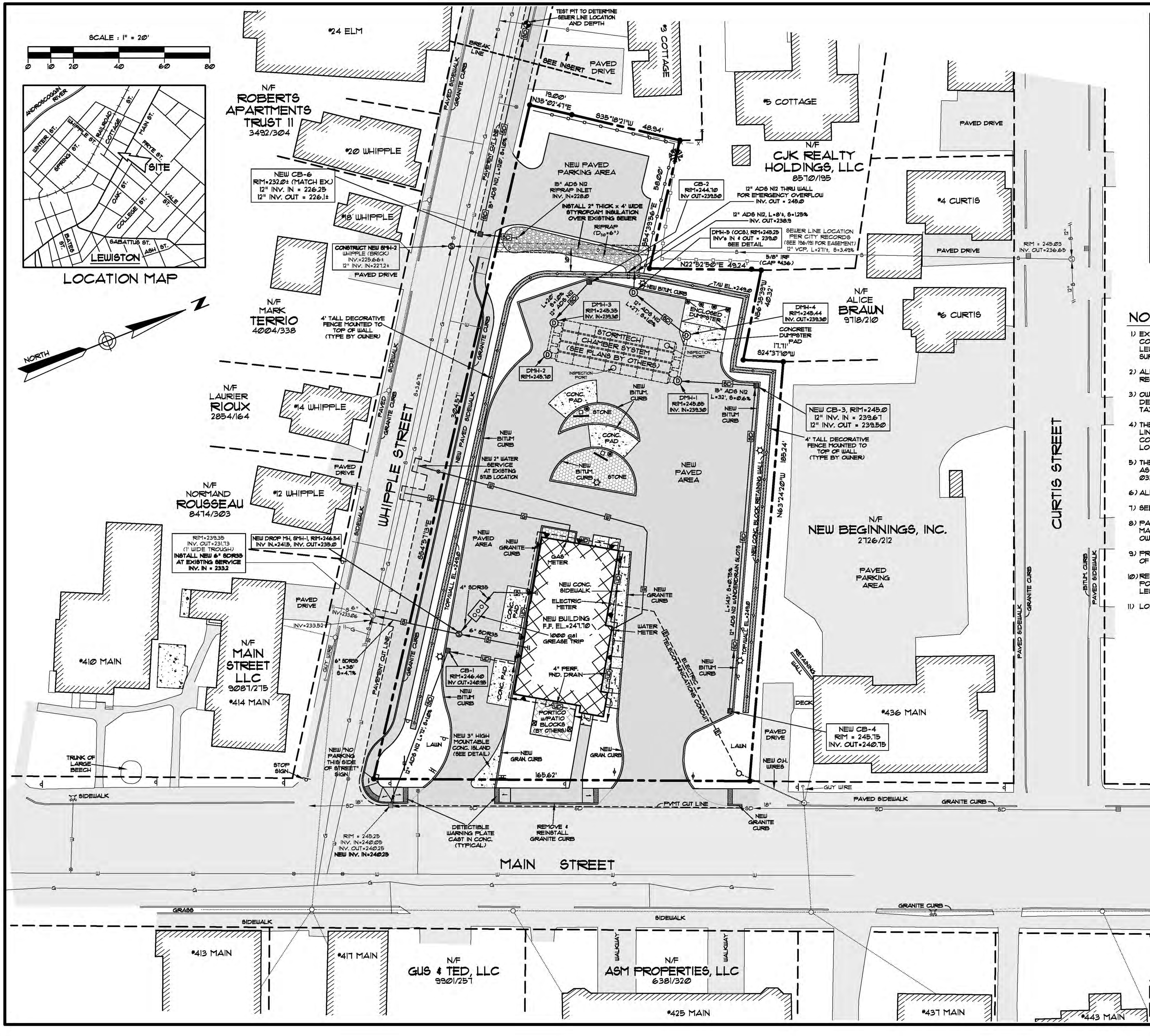
Stoneybrook Land Use, Inc.
4846 Sun City Center Blvd. #300
Sun City Center, FL 33573-6281

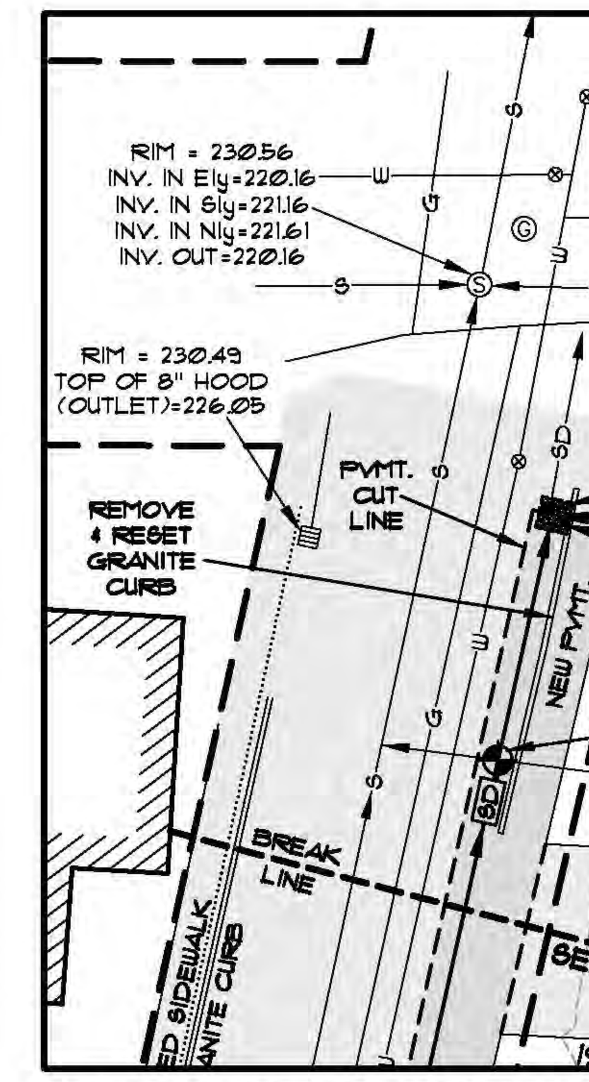
SJR ENGINEERING, INC.
16 THURSTON DRIVE
MONMOUTH, MAINE 04259
(207) 242-6246 tel
steve@sjreng.com
SJR ENGINEERING

TOPOGRAPHIC SITE PLAN
420 MAIN STREET
LEWISTON, MAINE
PREPARED FOR
COLETTE'S DONUT SHOPPE
26 REJANE AVENUE - LEWISTON, ME 04240

DATE	PROJECT
2-3-2020	2019-42
DRAWN BY	SCALE
SJR	1" = 20'

SHEET 2





STORM DRAIN CONNECTION INSERT
SCALE: 1" = 20'

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- EXISTING CATCH BASIN
- NEW CATCH BASIN
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING STORM DRAIN LINE
- EXISTING GAS LINE
- NEW STORM DRAIN PIPE
- NEW UNDER DRAIN PIPE
- NEW SEWER LINE
- NEW WATER LINE
- NEW GAS LINE
- NEW UNDERGROUND ELECTRIC LINE
- EXISTING BUILDING
- NEW BUILDING
- EXISTING PAVEMENT
- NEW PAVEMENT (THIS PROJECT)
- NEW CONCRETE PAD

STATE OF MAINE · STEPHEN ROBERTS · No. 4438 · PROFESSIONAL ENGINEER

FOR APPROVALS ONLY

REV.	DATE:	CHANGES:
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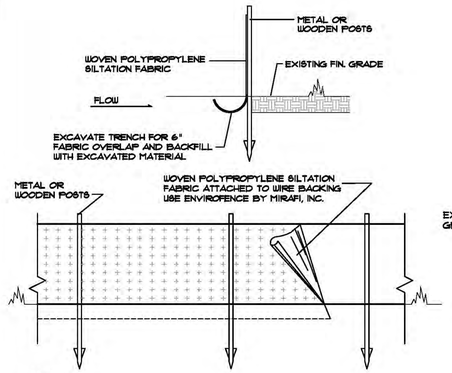
DATE	PROJECT
2-3-2020	2019-42
DRAWN BY	SCALE
SJR	1" = 20'

SHEET 3



NOTES

REFERENCE IS MADE TO THE BEST MANAGEMENT PRACTICE FOR EROSION AND SEDIMENT CONTROL: B-1 SEDIMENT BARRIERS.

SILTATION FABRIC WITH INTEGRAL MESH AND POSTS MAY BE USED.

EROSION CONTROL FILTER BERM IS AN ACCEPTABLE ALTERNATIVE TO SILT FENCING.

SILT FENCE DETAIL

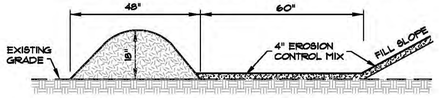
NOT TO SCALE

THE FILTER BERM SHALL CONSIST OF A WOOD WASTE COMPOST/BARK MULCH MIX OR RECYCLED COMPOSTED BARK FLUME GRIT AND FRAGMENTED WOOD GENERATED FROM WATER FLUME LOG HANDLING SYSTEMS. COMPARABLE COMPOSTED MIXES CAN BE USED UPON WRITTEN APPROVAL OF THE ENGINEER.

THE MIX SHALL CONFORM TO THE FOLLOWING: pH BETWEEN 5.0-8.0, PARTICLE SIZE - 100% PASSING THROUGH A 6" SCREEN AND 80% RETAINED ON A ¾" SCREEN, SOLUBLE SALTS CONTENT SHALL BE LESS THAN 4.0 mmhos/cm.

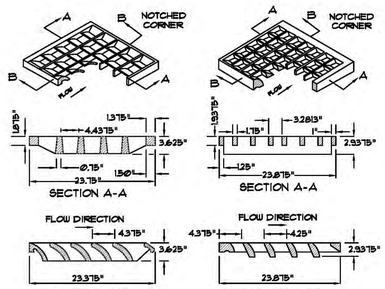
THE COMPOSTED BERM SHALL BE PLACED, UNCOMPACTED, ALONG A RELATIVELY LEVEL CONTOUR.

THE BERM MAY BE USED IN COMBINATION WITH SILT FENCE TO IMPROVE SEDIMENT REMOVAL AND PREVENT CLOGGING OF THE BERM BY LARGER SEDIMENT PARTICLES (SILT FENCE PLACED ON THE UPHILL SIDE OF BERM).



EROSION CONTROL FILTER BERM

NOT TO SCALE

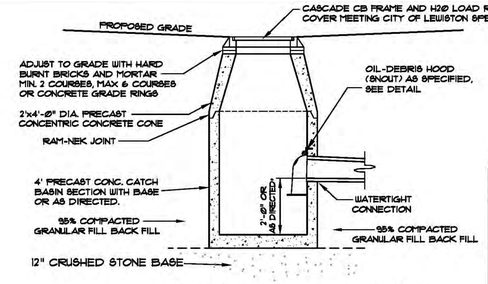


CASCADE CB FRAME AND GRATE TO MEET H20 LOAD RATED REQUIREMENTS

CASCADE GRATES TO MEET CITY OF LEWISTON CONSTRUCTION STANDARDS

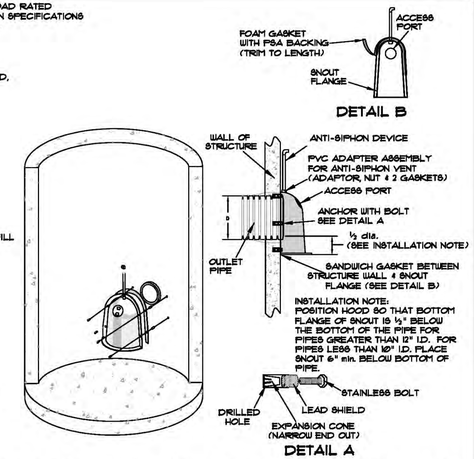
CASCADE TYPE GRATES

NOT TO SCALE



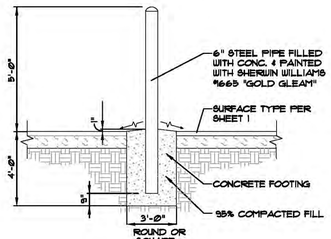
4'-Ø" DIA. CATCH BASIN

NOT TO SCALE



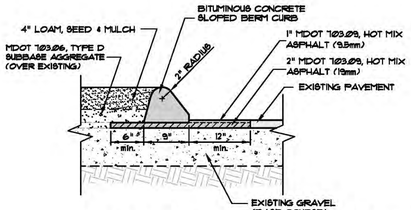
CATCH BASIN SNOUT INSTALLATION DETAIL

NOT TO SCALE



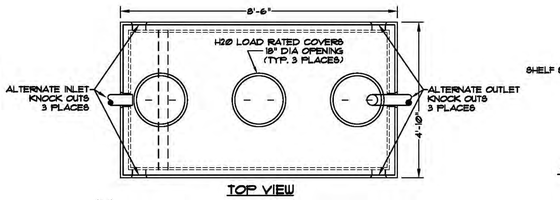
BOLLARD DETAIL

NOT TO SCALE

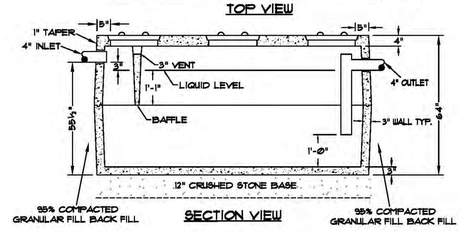


BITUMINOUS CURBING

NOT TO SCALE



TOP VIEW



SECTION VIEW

PRECAST OF MAINE ITEM #A-902

WEIGHT = 8,100 lbs, LIQUID CAPACITY = 1000 gal

DESIGN NOTES:

1 - CONCRETE 4000# PSI AT 28 DAYS.

2 - INLET BAFFLE IS PRECAST AS ONE UNIT WITH THE TOP SECTION OF THE SEPTIC TANK.

3 - TANKS REINFORCED WITH 6"x6"x10 G.A. WIRE.

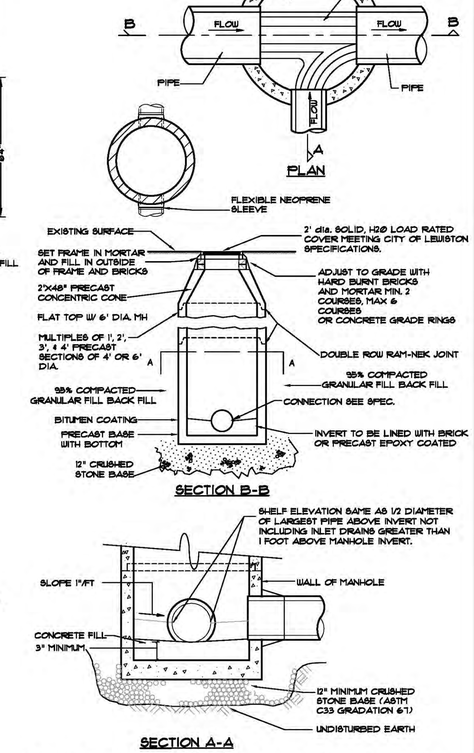
4 - KEYED JOINTS SEALED WITH ASPHALT SEALANT.

5 - HEAVY DUTY SEPTIC TANK TOPS REINFORCED WITH 1/2" REBAR ON 6" CENTERS EACH WAY.

6 - GREASE FILTER AVAILABLE.

GREASE TRAP

NOT TO SCALE



NOTES

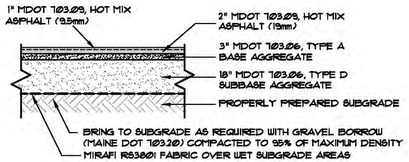
1) COMPACT GRAVEL SUBBASE, BASE COURSE TO 95% OF THEIR MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.

2) HOT MIX ASPHALT PAVEMENT MUST BE COMPACTED TO 92%-97% OF ITS THEORETICAL MAXIMUM DENSITY AS DETERMINED BY ASTM D-2041.

3) A TACK COAT MUST BE USED BETWEEN SUCCESSIVE LIFTS OF BITUMINOUS PAVEMENT.

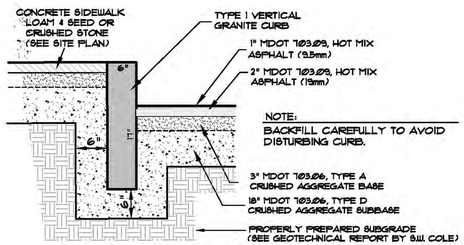
4) PROVIDE NON-FROST SUSCEPTIBLE COMPACTED FILL GRANULAR BORROW (MDOT 703.19) BELOW PAVEMENT IN FILL AREAS.

5) CONTRACTOR SHALL SET GRADE STAKES MARKING SUBBASE AND FINISH GRADE ELEVATIONS FOR CONSTRUCTION REFERENCE.



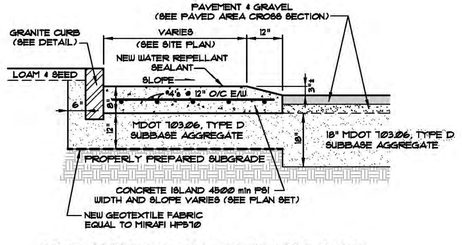
PAVED AREA CROSS SECTION

NOT TO SCALE



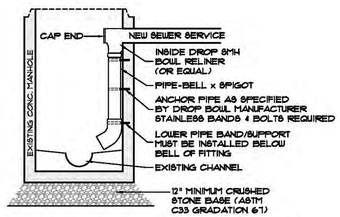
GRANITE CURBING

NOT TO SCALE



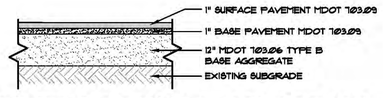
3" RAISED CONCRETE ISLAND

NOT TO SCALE



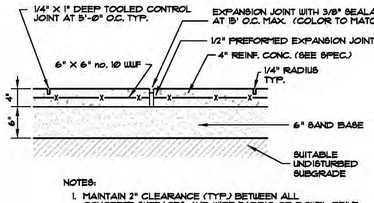
INSIDE DROP MANHOLE DETAIL

NOT TO SCALE



PAVED SIDEWALK CROSS SECTION

NOT TO SCALE

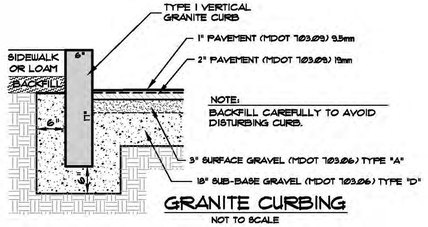


NOTES:

1. MAINTAIN 2" CLEARANCE (TYP.) BETWEEN ALL CONCRETE SURFACES AND WIRE FABRIC OR DOWEL REINF.
2. LOCATE CONTROL JOINTS AT 5'-Ø" O.C. MAX.
3. LOCATE EXPANSION JOINTS AT 20'-Ø" O.C. MAX.

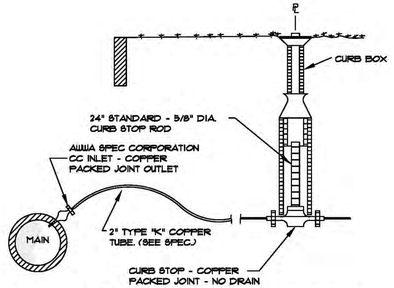
CONCRETE SIDEWALK DETAIL

NOT TO SCALE



GRANITE CURBING

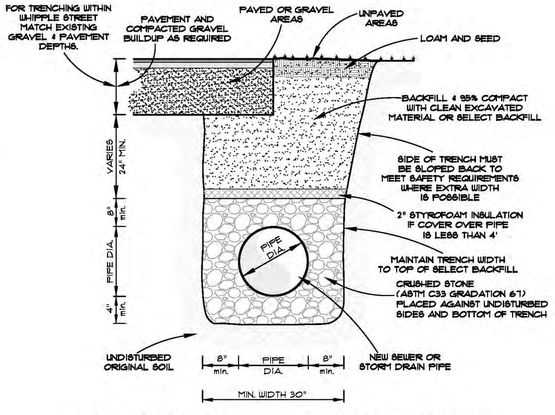
NOT TO SCALE



NOTE: INSTALL 6" (8" IN ROCK) OF SAND, OR WATER DISTRICT APPROVED BACKFILL, ALL AROUND SERVICE LINE.

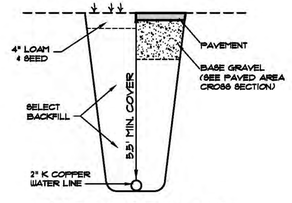
TYPICAL DOMESTIC WATER SERVICE

NOT TO SCALE



STORM DRAIN / SEWER TRENCH DETAIL

NOT TO SCALE



WATER SERVICE TRENCH DETAIL

NOT TO SCALE

SECTION A-A

PRECAST CONCRETE SEWER MANHOLE

NOT TO SCALE

STATE OF MAINE * STEPHEN J. ROBERTS #4836 * REGISTERED PROFESSIONAL ENGINEER
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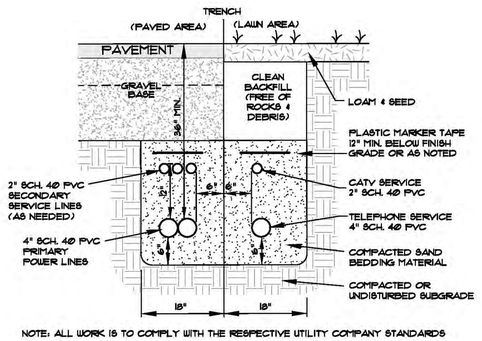
SJR	NTS

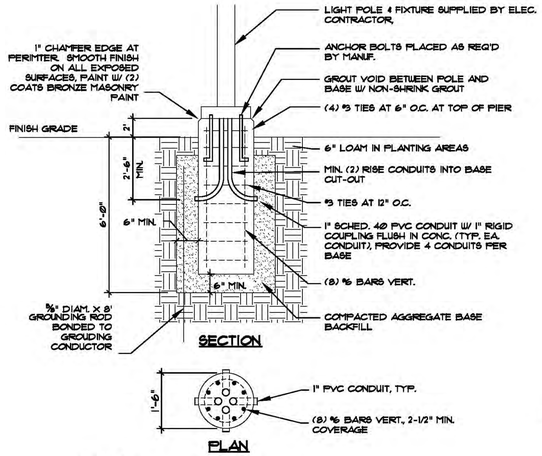
SHEET 4



NOTE: ALL WORK IS TO COMPLY WITH THE RESPECTIVE UTILITY COMPANY STANDARDS

UNDERGROUND UTILITY TRENCH DETAIL

NOT TO SCALE

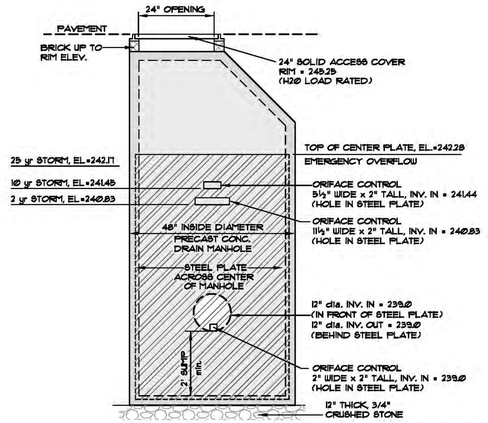


NOTES:

1. CONTRACTOR MAY SUBSTITUTE PRECAST BASE EQUAL TO ABOVE SPECS WITH ARCHITECT APPROVAL
2. CONCRETE: 4000 PSI, ¾" AGG. W/ ENTRAINED AIR AGENT

LIGHT POLE FOUNDATION DETAIL

NOT TO SCALE



ELEVATION VIEW FROM INLET SIDE OF STRUCTURE

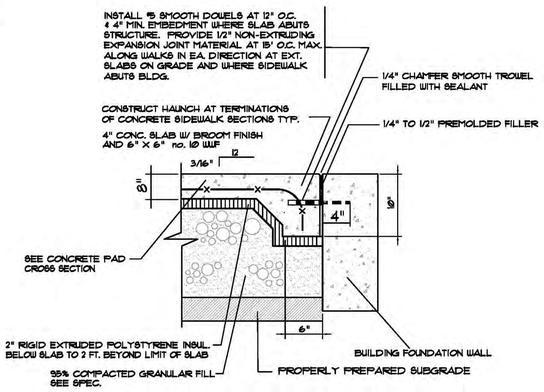
OUTLET CONTROL STRUCTURE DETAIL

(NOT TO SCALE)

FOUNDATION UNDERDRAIN DETAIL
STONE DRIP EDGE

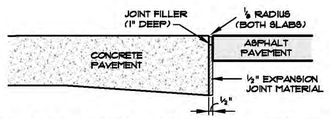
NOT TO SCALE

PAVEMENT SAWCUT JOINT DETAIL



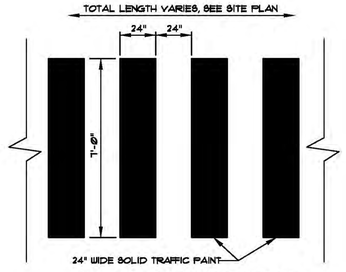
CONCRETE PAD/FOUNDATION WALL JOINT DETAIL

NOT TO SCALE



CONCRETE PAD / ASPHALT INTERFACE

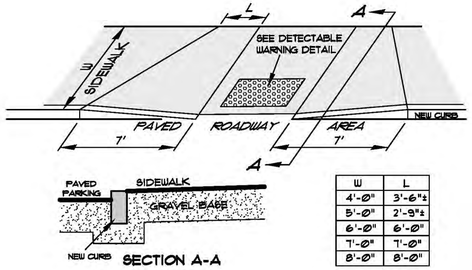
NOT TO SCALE



NOTE : ALL TRAFFIC MARKINGS TO BE SOLID AS PER DIMENSIONS SHOWN

CROSSWALK STRIPING DETAIL

NOT TO SCALE



SECTION A-A

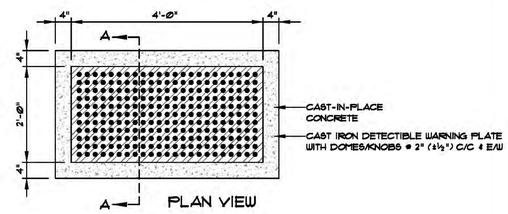
W	L
4'-0"	3'-6"±
5'-0"	2'-9"±
6'-0"	6'-0"
7'-0"	7'-0"
8'-0"	8'-0"

NOTES:

1) THE DIMENSIONS SHOWN AT ROADWAY EDGE ARE FIXED DISTANCES.
2) RAMP CROSS SECTION TO BE SAME AS ADJACENT SIDEWALK (DEPTH OF SURFACE AND FOUNDATION)
3) IN NO CASE ARE THE RAMPS TO BE PLACED BEHIND THE STOP LINE.

NEW CURB PLACEMENT AT SIDEWALK TIPDOWN

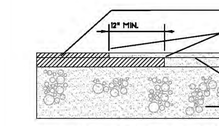
NOT TO SCALE



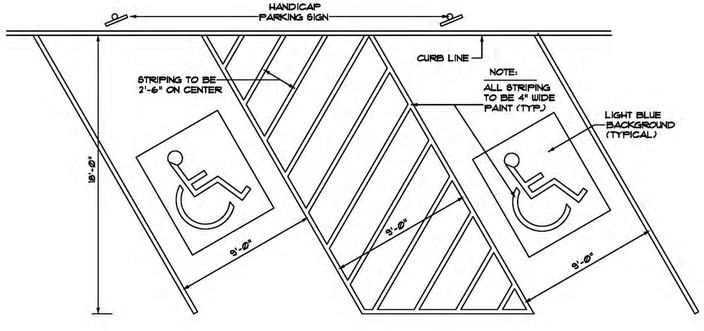
SECTION A-A

DETECTABLE WARNING DETAIL

NOT TO SCALE

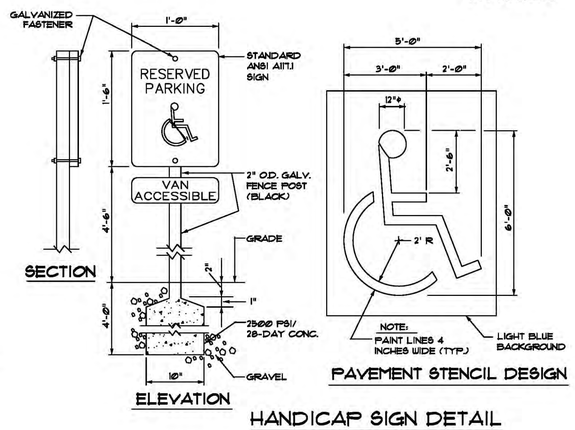


PAVEMENT SAWCUT JOINT DETAIL



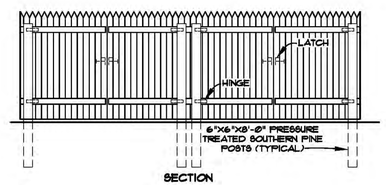
HANDICAPPED PARKING SPACE DETAIL

NOT TO SCALE

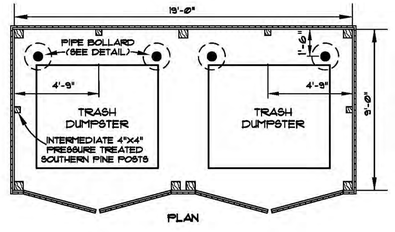


HANDICAP SIGN DETAIL

NOT TO SCALE

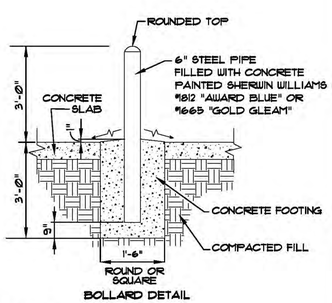


SECTION



PLAN

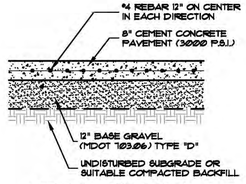
1) 6"X6" PRESSURE TREATED SOUTHERN PINE POSTS SET IN CONCRETE 18" IN DIAMETER BURIED 2'-6" INTO THE GROUND.
2) 4"X4" INTERMEDIATE POSTS TO BE BURIED 2'-6" INTO THE GROUND.



BOLLARD DETAIL

STOCKADE FENCE
TRASH DUMPSTER ENCLOSURE

NOT TO SCALE



CROSS SECTION CONCRETE PAD

NOT TO SCALE

STATE OF MAINE * STEPHEN J. ROBERTS #4859 REGISTERED PROFESSIONAL ENGINEER

FOR APPROVALS ONLY

REV.	DATE:	CHANGES:
1	2-17-20	CHANGES PER CITY STAFF REVIEW

DO NOT MODIFY PLAN WITHOUT WRITTEN PERMISSION FROM SJR ENG., INC.

Stoneybrook
Land Use, Inc.
48146 Sun City Center Blvd. #300
Sun City Center, FL 33573-6281

SJR ENGINEERING, INC.
16 THURSTON DRIVE
MONMOUTH, MAINE 04259
(207) 242-6248 tel
steve@sjreng.com
SJR ENGINEERING

CONSTRUCTION DETAILS
420 MAIN STREET
LEWISTON, MAINE
PREPARED FOR
COLETTE'S DONUT SHOPPE
26 REJANE AVENUE - LEWISTON, ME 04240

DATE	PROJECT
2-3-2020	2019-42
DRAWN BY	SCALE
SJR	NTS

SHEET 5

GENERAL NOTES

1) THE CONTRACTOR IS REFERRED TO THE SPECIFICATIONS REGARDING COORDINATION WITH OTHERS, INCLUDING RESPONSIBILITIES AND RELATED COSTS. ALL UTILITY CONSTRUCTION IS SUBJECT TO APPROVAL INSPECTION BY UTILITY COMPANY PERSONNEL PRIOR TO BACKFILL OF TRENCHES.

2) BELOW GRADE UTILITY INFORMATION IS BASED UPON FIELD SURVEY, MDOT PLANS, CITY OF LEWISTON PLANS, CITY OF LEWISTON GIS WEBSITE, AND INFORMATION PROVIDED BY INDIVIDUAL UTILITY COMPANIES. LOCATIONS AND ELEVATIONS OF PUBLIC UTILITIES SHOWN ARE ONLY APPROXIMATE AND MAY NOT BE COMPLETE. PRIVATE UNDERGROUND UTILITIES SUCH AS, BUT NOT LIMITED TO, SEWER LINES, WATER LINES AND BURIED ELECTRICAL SERVICE ENTRANCES ARE NOT SHOWN. THE CONTRACTOR SHALL ASCERTAIN THE LOCATION AND SIZE OF EXISTING UTILITIES IN THE FIELD WITH THE RESPECTIVE UTILITY REPRESENTATIVE PRIOR TO COMMENCING WORK. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES, INCLUDING SERVICES. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED UTILITIES BE FOUND, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY FOR DIRECTION BEFORE PROCEEDING FURTHER WITH THE WORK IN THIS AREA. ADDITIONAL TEST PITS, BEYOND THOSE SHOWN, MAY BE REQUIRED. UTILITY CONTACTS ARE AS FOLLOWS:

DIG SAFE:
1-888-344-7233

ELECTRICAL:
CENTRAL MAINE POWER
83 EDISON DRIVE
AUGUSTA, ME 04336
TEL. (207) 778-9118

GAS
UNITIL
6075 FOREST AVENUE
PORTLAND, ME 04104
TEL. (207) 797-8002

TELECOMMUNICATIONS:
OXFORD NETWORKS
481 LISBON STREET
LEWISTON, ME 04240
TEL. (207) 336-9911

TIME WARNER CABLE:
7 ALFRED PLOURDE PARKWAY
LEWISTON, ME 04240
TEL. 1-800-833-2253

FAIRPOINT COMMUNICATIONS:
521 E. MOREHEAD ST.
PORTLAND, ME 04101
TEL. 1-800-585-4466

WATER AND SEWER:
KEVIN GAGNE
LEWISTON PUBLIC WORKS DEPT.
WATER AND SEWER DIVISION
103 ADAMS AVENUE
LEWISTON, ME 04240
TEL. (207) 513-3003

3) THE CONTRACTOR IS HEREBY CAUTIONED THAT ALL SITE FEATURES SHOWN HEREON ARE BASED ON FIELD OBSERVATIONS BY THE SURVEYOR AND BY INFORMATION PROVIDED BY UTILITY COMPANIES. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT DIG SAFE (1-888-DIGSAFE) AT LEAST THREE (3) BUT NOT MORE THAN THIRTY (30) DAYS PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION TO VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES.

4) CONTRACTOR SHALL BE AWARE THAT DIG SAFE ONLY NOTIFIES ITS "MEMBER" UTILITIES ABOUT THE DIG. WHEN NOTIFIED, DIG SAFE WILL ADVISE CONTRACTOR OF MEMBER UTILITIES IN THE AREA. CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING AND CONTACTING NON-MEMBER UTILITIES DIRECTLY. NON-MEMBER UTILITIES MAY INCLUDE CITY WATER AND SEWER DISTRICTS AND SMALL LOCAL UTILITIES, AS WELL AS USG PUBLIC WORKS SYSTEMS.

5) CONTRACTORS SHALL BE RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS OF 23 MRSA 3360-A. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE APPROPRIATE UTILITIES TO OBTAIN AUTHORIZATION PRIOR TO RELOCATION OF ANY EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS. IF A UTILITY CONFLICT ARISES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER, THE CITY, AND APPROPRIATE UTILITY COMPANY PRIOR TO PROCEEDING WITH ANY RELOCATION.

6) ALL EXISTING STORM DRAIN LINES ENCOUNTERED DURING CONSTRUCTION ARE TO REMAIN IN SERVICE. ANY EXISTING STORM DRAIN LINES OR CULVERTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CITY. ALL TEST PITS SHALL BE EXCAVATED PRIOR TO CONSTRUCTION LAYOUT AND RESULTS REPORTED TO ENGINEER FOR REVIEW FOR CONFORMANCE WITH PLANS.

7) THE CONTRACTOR MAY ENCOUNTER ASBESTOS CEMENT PIPE DURING PROSECUTION OF THE WORK. CONTRACTOR SHALL CONFORM TO ALL APPLICABLE PROVISIONS OF OSHA, USEPA, MDEP AND ALL OTHER FEDERAL, STATE AND LOCAL REGULATIONS WHEN HANDLING AND/OR DISPOSING OF ASBESTOS CEMENT PRODUCTS.

8) ALL STRUCTURES AND PIPELINES LOCATED ADJACENT TO THE TRENCH EXCAVATION SHALL BE PROTECTED AND FIRMLY SUPPORTED BY THE CONTRACTOR UNTIL THE TRENCH IS BACKFILLED. INJURY TO ANY SUCH STRUCTURES CAUSED BY, OR RESULTING FROM, THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. ALL UTILITIES REQUIRING REPAIR, RELOCATION OR ADJUSTMENT AS A RESULT OF THE PROJECT SHALL BE COORDINATED THROUGH THE RESPECTIVE UTILITY.

9) ALL TEST PITS SHALL BE COMPLETED A MINIMUM OF TWO WEEKS PRIOR TO ORDERING THE ADJACENT STRUCTURES. THE INFORMATION FROM THE TEST PITS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND REVISION.

10) IN THOSE INSTANCES WHERE POWER OR TELEPHONE POLE SUPPORT IS REQUIRED, THE CONTRACTOR SHALL PROVIDE A MINIMUM 48-HOUR NOTIFICATION TO CMP OR FAIRPOINT, RESPECTIVELY. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR TEMPORARY BRACING OF UTILITIES.

11) IN THOSE INSTANCES THAT A UTILITY NEEDS TO BE RELOCATED, THE CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE UTILITY DIVISION/COMPANY TO SCHEDULE THE WORK AFTER THE COMPLETION OF THE TEST PITS.

12) CONTRACTOR SHALL INSTALL AND MAINTAIN TRAFFIC CONTROL SIGNS IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

13) THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRAFFIC FLOW AT ALL TIMES. THE CONTRACTOR IS REQUIRED TO SUBMIT A TRAFFIC CONTROL PLAN TO THE CITY OR THEIR REPRESENTATIVE AT THE PRE-CONSTRUCTION MEETING. THE LEWISTON CITY PUBLIC WORKS DIRECTOR OR HIS DESIGNATE SHALL BE NOTIFIED AT THE PRE-CONSTRUCTION MEETING OF ANY PLANNED STREET CLOSINGS OR DETOURS. ALL TRAFFIC CONTROL SHALL BE IN COMPLIANCE WITH THE MUTCD.

14) THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING ALL PERMITS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE APPLICABLE PROVISIONS OF EACH PERMIT AS THEY APPLY TO THE WORK PRIOR TO BIDDING AND ABIDE BY THOSE PROVISIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL POST ALL BONDS AS REQUIRED, PAY ALL FEES & PROVIDE PROOF OF INSURANCE AS NECESSARY FOR THIS WORK.

15) THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY RIGHTS OF WAY AND EASEMENTS. THE CONTRACTOR SHALL VERIFY THAT THE NECESSARY EASEMENTS HAVE BEEN SECURED BY THE OWNER. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE FAMILIAR WITH THE APPLICABLE PROVISIONS OF EACH EASEMENT AS THEY APPLY TO THE WORK PRIOR TO BIDDING AND ABIDE BY THOSE PROVISIONS DURING CONSTRUCTION. COPIES OF ALL RIGHTS-OF-WAY AND EASEMENTS ARE AVAILABLE FOR REVIEW AT THE OWNER'S OFFICE.

16) THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT OF ALL PROPOSED LINES AND GRADES AS SHOWN ON THE DRAWINGS. THE HORIZONTAL ALIGNMENT OF THE NEW STORM DRAINS AND SANITARY SEWER MAY BE ADJUSTED IN THE FIELD SUBJECT TO PRIOR APPROVAL BY THE ENGINEER.

17) THE SURVEYOR SHALL PROVIDE THE NECESSARY HORIZONTAL AND VERTICAL CONTROL POINTS FOR THE CONTRACTOR FOR WORK OUTSIDE THE STREET RIGHT-OF-WAY AND CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THIS INFORMATION THROUGHOUT CONSTRUCTION. ALL ELEVATIONS REFER TO THE 1988 NATIONAL GEODETIC VERTICAL DATUM UNLESS OTHERWISE NOTED ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL ELEVATION REFERENCE INFORMATION PRIOR TO USE IN CONSTRUCTION.

18) THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESETTING ALL EXISTING PROPERTY MONUMENTATION THAT IS DISTURBED BY HIS OPERATIONS AT NO EXPENSE TO THE CITY. THIS WORK IS TO BE DONE BY A LAND SURVEYOR REGISTERED IN THE STATE OF MAINE.

19) THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEDIMENT CONTROL AND THE PREVENTION OF EROSION. ALL DISTURBED EARTH SURFACES ARE TO BE STABILIZED IN THE SHORTEST PRACTICAL TIME AND TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES SHALL BE EMPLOYED UNTIL SUCH TIME AS ADEQUATE SOIL STABILIZATION HAS BEEN ACHIEVED. TEMPORARY STORAGE OF EXCAVATED MATERIAL IS TO BE IN A MANNER THAT WILL MINIMIZE EROSION. MATERIALS AND METHODS USED FOR TEMPORARY SEDIMENT AND EROSION CONTROL SHALL BE AS SPECIFIED BY THE LATEST EDITION OF THE "MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES" PREPARED BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

20) COMPACTION TESTS SHALL BE PERFORMED IN ACCORDANCE WITH MDOT SPECIFICATIONS WITH RESULTS OF TESTING SUBMITTED TO THE OWNER. ANY SETTLEMENT OCCURRING WITHIN ONE YEAR OF SUBSTANTIAL COMPLETION OF THE PROJECT WILL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.

21) OPEN TRENCHES OUTSIDE OF THE RIGHT OF WAY MAY BE LEFT OPEN IF THE CONTRACTOR PROVIDES SAFE BARRICADING AND LIGHTS.

22) PROPER IMPLEMENTATION AND MAINTENANCE OF EROSION CONTROL MEASURES ARE OF PARAMOUNT IMPORTANCE FOR THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ONSITE INSPECTIONS OF THE OWNER, THEIR REPRESENTATIVES, OR STATE/LOCAL/ FEDERAL INSPECTORS AT NO ADDITIONAL COST TO THE OWNER.

GENERAL NOTES CONTINUED

23) CONTRACTOR SHALL CONTROL DUST WITH APPROPRIATE DUST CONTROL MEASURES. CONTRACTOR SHALL NOT TRACK OR SPILL EARTH AND DEBRIS ON PUBLIC STREETS OUTSIDE THE PROJECT AREA. STREETS OPENED TO THE PUBLIC SHALL BE KEPT SWEPT AND FREE OF DEBRIS.

24) ALL ROAD SURFACES SHALL PITCH 1/4 INCH PER FOOT MINIMUM FROM CENTERLINE TO GUTTER UNLESS OTHERWISE NOTED. ALL VEGETATED AREAS THAT ARE EXCAVATED, FILLED OR OTHERWISE DISTURBED BY THE CONTRACTOR AND ARE NOT TO BE PAVED OR FILLED WITH RIP-RAP SHALL BE LOAMED, GRADED, LIMED, FERTILIZED, SEEDED AND MULCHED AT NO ADDITIONAL EXPENSE TO THE CITY/OWNER.

25) THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND ALL OTHER APPLICABLE LOCAL, STATE AND FEDERAL RULES, REGULATIONS AND LAWS.

26) THE CONTRACTOR SHALL NOT HAVE ANY RIGHT OF PROPERTY IN ANY SUITABLE MATERIALS TAKEN FROM ANY EXCAVATION. SUITABLE EXCAVATED MATERIAL, AS APPROVED BY THE ENGINEER, MAY BE INCORPORATED IN THE PROJECT, WITH EXCESS MATERIAL DISPOSED OF AT A LOCATION APPROVED BY THE CITY/OWNER. THESE PROVISIONS SHALL IN NO WAY RELIEVE THE CONTRACTOR OF HIS OBLIGATIONS TO PROPERLY DISPOSE OF AND REPLACE ANY MATERIAL DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING. THE CONTRACTOR SHALL DISPOSE OF UNSUITABLE AND EXCESS MATERIAL IN ACCORDANCE WITH THE APPLICABLE RULES AND REGULATIONS.

27) THE CONTRACTOR IS TO TAKE SPECIAL CARE NOT TO DAMAGE TREES WITHIN THE CONSTRUCTION AREA UNLESS THEY ARE NOTED TO BE REMOVED.

28) EXISTING STORM MANHOLES OR CATCH BASINS NOT TO REMAIN IN SERVICE SHALL BE REMOVED BY THE CONTRACTOR.

29) PROVIDE 2" RIGID INSULATION OVER WATER AND SEWER MAINS AND SERVICES WHEN COVER IS LESS THAN 4 FEET AND WHERE DIRECTED BY THE ENGINEER. CONTRACTOR SHALL SUPPLY INSULATION.

30) MINOR ADJUSTMENTS TO THE ALIGNMENT OF PROPOSED UTILITIES SHALL BE ALLOWED TO ACCOMMODATE EXISTING UTILITIES WHERE APPROPRIATE AS APPROVED BY THE ENGINEER.

31) A MINIMUM VERTICAL OR HORIZONTAL SEPARATION OF 6 INCHES BETWEEN THE WATER LINES (INCLUDING SERVICES) AND STORM DRAINAGE PIPES AND STRUCTURES, SHALL BE MAINTAINED. 2" RIGID INSULATION SHALL BE INSTALLED WHEN SEPARATION IS LESS THAN 18 INCHES.

32) EXISTING SIGNS THAT ARE IMPACTED BY THIS PROJECT SHALL BE RESET IN ACCORDANCE WITH M.U.T.C.D.

33) CONTRACTOR SHALL RESET OR REBUILD WALKWAY STEPS WHEN NECESSARY. WORK SHALL BE CONSIDERED INCIDENTAL.

34) ALL TEST PITS SHALL BE EXCAVATED PRIOR TO CONSTRUCTION LAYOUT AT THE APPROXIMATE LOCATIONS NOTED ON THE PLANS AND ACTUAL LOCATIONS OF SUBSURFACE UTILITIES SHALL BE REPORTED TO THE CITY ENGINEER WHERE APPROPRIATE, MINOR ADJUSTMENTS TO THE ALIGNMENTS OF PROPOSED LINES SHALL BE MADE TO ACCOMMODATE EXISTING UTILITIES.

35) THE INVERTS INDICATED ON THE PLAN AND PROFILE SHEETS ARE TO THE INSIDE FACE OF THE MANHOLE.

36) STATIONS AND OFFSETS INDICATED ON THE PLAN AND PROFILE SHEETS ARE TO THE CENTER OF THE CATCH BASIN GRATE AND THE CENTER OF THE SEWER AND STORM DRAIN MANHOLE COVER.

37) DEWATERING EFFORTS FROM SANITARY OR COMBINED SEWERS SHALL NOT BE DISCHARGED TO THE STORMDRAIN. DEWATERING EFFORTS FROM STORMWATER SHALL NOT BE DISCHARGED TO THE SEWER OR COMBINED SYSTEM.

38) STORM DRAIN INVERTS FOR CROSS STREET CONNECTIONS SHALL BE BASED ON ELEVATIONS OF EXISTING UTILITIES AS DETERMINED IN THE FIELD. CONTRACTOR SHALL COORDINATE PROPOSED STORM DRAIN INVERTS WITH THE ENGINEER.

39) CONTRACTOR TO VERIFY TYPE (BRICK OR PRECAST CONCRETE) AND CONDITION OF ALL SMH'S AND DMH'S IMPACTED AS PART OF THIS WORK. CONTRACTOR TO MAINTAIN THE INTEGRITY OF ALL STRUCTURES TO BE REUSED. DAMAGE TO EXISTING STRUCTURES SHALL BE REPAIRED AT CONTRACTORS EXPENSE.

40) CONTRACTOR TO REPLACE OR RESET ALL DISTURBED CURBING UPON COMPLETION OF UNDERGROUND UTILITY WORK.

41) CONTRACTOR TO RESTORE SIDEWALKS AND DRIVEWAYS IMPACTED BY CONSTRUCTION.

42) CONTRACTOR TO REGRADE AND REPLANT ESPLANADE AREAS IMPACTED BY CONSTRUCTION.

43) CONTRACTOR TO SAWCUT PAVEMENT AS NECESSARY TO INSTALL UTILITY IMPROVEMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING AREAS WHERE THE EXISTING PAVEMENT WAS REMOVED FOR PAVING, INCLUDING GRADING AND ADDITIONAL SAWCUTTING AS REQUIRED BY THE ENGINEER.

44) CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING, FURNISHING, INSTALLING AND MONITORING ANY SHORING, BRACING OR OTHER EXCAVATION SUPPORT THAT MAY BE REQUIRED TO PROTECT STRUCTURES, UTILITIES, SIDEWALKS, PAVEMENT OR OTHER FACILITIES THAT COULD BE DAMAGED BY SETTLEMENT, LATERAL MOVEMENTS, UNDERMINING, WASHOUT OR OTHER HAZARDS THAT COULD DEVELOP DURING EXCAVATION SUPPORT AND PROTECTION OPERATIONS.

45) CONTRACTOR SHALL VISIT THE SITE AND FAMILIARIZE HIM OR HERSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIM OR HERSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

46) INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND OWNER'S REQUIREMENTS UNLESS SPECIFICALLY OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.

47) CONTRACTOR SHALL CLEAN AND REMOVE DEBRIS AND SEDIMENT DEPOSITED ON PUBLIC STREETS, SIDEWALKS, ADJACENT AREAS, OR OTHER PUBLIC WAYS DUE TO CONSTRUCTION DAILY.

48) THE CONTRACTOR SHALL TAKE FULL RESPONSIBILITY FOR ANY CHANGES AND DEVIATION OF APPROVED PLANS NOT AUTHORIZED BY THE ENGINEER AND/OR OWNER.

49) DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. ANY MODIFICATION TO SUIT FIELD DIMENSION AND CONDITION SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO ANY WORK.

50) BEFORE THE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND MATERIALS, REPAIR OR REPLACE PRIVATE OR PUBLIC PROPERTY WHICH MAY HAVE BEEN DAMAGED OR DESTROYED DURING CONSTRUCTION AS DETERMINED BY THE CITY, CLEAN THE AREAS WITHIN AND ADJACENT TO THE PROJECT WHICH HAVE BEEN OBSTRUCTED BY HIS/HER OPERATIONS, AND LEAVE THE PROJECT AREA NEAT AND PRESENTABLE.

51) THE CONTRACT WORK TO BE PERFORMED ON THIS PROJECT CONSISTS OF FURNISHING ALL REQUIRED LABOR, MATERIALS, EQUIPMENT, IMPLEMENTS, PARTS AND SUPPLIES NECESSARY FOR, OR APPURTENANT TO, THE INSTALLATION OF CONSTRUCTION IMPROVEMENTS IN ACCORDANCE WITH THESE DRAWINGS AND AS FURTHER ELABORATED IN ANY ACCOMPANYING SPECIFICATIONS.

52) THE WORK SHALL BE PERFORMED IN A THOROUGH WORKMANLIKE MANNER. ANY REFERENCE TO A SPECIFICATION OR DESIGNATION OF THE AMERICAN SOCIETY FOR TESTING MATERIALS, FEDERAL SPECIFICATIONS, OR OTHER STANDARDS, CODES OR ORDERS, REFERS TO THE MOST RECENT OR LATEST SPECIFICATION OR DESIGNATION.

53) THE CONTRACTOR SHALL GUARANTEE THE FAITHFUL REMEDY OF ANY DEFECTS DUE TO FAULTY MATERIALS OR WORKMANSHIP AND GUARANTEES PAYMENT FOR ANY RESULTING DAMAGE WHICH SHALL APPEAR WITHIN A PERIOD OF ONE (1) YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION OF THE PROJECT.

54) THE CONTRACTOR SHALL NOT USE PRIVATE PROPERTY FOR STOCKPILING MATERIALS OR PARKING EQUIPMENT OR VEHICLES WITHOUT WRITTEN CONSENT FROM THE PROPERTY OWNER. ANY DAMAGE DONE TO PRIVATE PROPERTY RESULTING FROM THESE ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AT NO ADDITIONAL COST TO THE CITY/OWNER.

EROSION & SEDIMENTATION CONTROL NOTES

1) THE CONTRACTOR SHALL INSPECT EROSION & SEDIMENT CONTROL MEASURES WEEKLY AND AFTER HEAVY RAINFALLS THROUGHOUT THE DURATION OF THE PROJECT INCLUDING WEEKENDS AND HOLIDAYS. INSPECTION REPORTS MUST BE PROVIDED TO THE CITY AND OWNER WITHIN 48-HOURS OF INSPECTION. ALL EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED PER BEST MANAGEMENT PRACTICES.

2) THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING THE EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL HANDBOOK FOR CONSTRUCTION: BEST MANAGEMENT PRACTICES", DEPARTMENT OF ENVIRONMENTAL PROTECTION, DATED MARCH 2015 (DEPLW 588) AND IN ACCORDANCE WITH THE STORMWATER REPORT INCLUDED WITH THE PERMIT APPLICATION APPROVED BY THE CITY OF LEWISTON. ADDITIONAL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY DURING ON-SITE INSPECTIONS BY THE OWNER, THEIR REPRESENTATIVES OR STATE/LOCAL/FEDERAL INSPECTORS AT NO ADDITIONAL COST TO THE OWNER.

3) PRIOR TO CONSTRUCTION, PROPERLY INSTALL SEDIMENT BARRIERS AT THE DOWN GRADIENT EDGE OF THE DISTURBED AREA AND ADJACENT TO DRAINAGE CHANNELS WITHIN THIS AREA.

4) SILT FENCE AND BARK MULCH BERM LOCATIONS SHOWN ARE APPROXIMATE. INSTALL WHERE APPROPRIATE TO CONTROL SEDIMENTATION ON AND OFF SITE. SILT FENCE SHALL BE REMOVED AFTER THE SITE IS STABILIZED WITH AT LEAST 90% VEGETATED GROWTH.

5) NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN TWO TO ONE (2 TO 1).

6) AREAS DISTURBED DURING CONSTRUCTION SHALL BE MINIMIZED. AREAS SHALL BE TEMPORARILY STABILIZED WITH MULCH OR NON-ERODABLE COVER IF EXPOSED SOILS WILL NOT BE WORKED FOR MORE THAN 7 DAYS. PERMANENT SEEDING SHALL TAKE PLACE WITHIN 7 DAYS OF FINAL GRADING.

7) IF FINAL SEEDING OF THE DISTURBED AREAS IS NOT COMPLETED 45 DAYS PRIOR TO THE FIRST KILLING FROST, USE TEMPORARY MULCHING (DORMANT SEEDING MAY BE ATTEMPTED AS WELL) TO PROTECT THE SITE AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.

8) TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINAL GRADED SHALL BE COMPLETED BY AUGUST 15th OR 45 DAYS PRIOR TO THE FIRST KILLING FROST (OCT. 1) TO PROTECT FROM SPRING RUNOFF PROBLEMS.

9) REVEGETATION MEASURES WILL COMMENCE UPON COMPLETION OF CONSTRUCTION EXCEPT AS NOTED ABOVE. ALL DISTURBED AREAS NOT OTHERWISE STABILIZED WILL BE GRADED, SMOOTHED AND PREPARED FOR FINAL SEEDING AS FOLLOWS
A) 4" OF LOAM WILL BE SPREAD OVER DISTURBED AREAS AND SMOOTHED TO A UNIFORM SURFACE.
B) APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TEST. IF SOIL TESTING IS NOT FEASIBLE ON SMALL OR VARIABLE SITES, OR WHERE TIMING IS CRITICAL, FERTILIZER MAY BE APPLIED AT THE RATE OF 1000 POUNDS PER ACRE OR 15 POUNDS PER SQUARE FOOT USING 10-20-20 (N-P2O5-K2O) OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3.3 TONS PER ACRE (150 lbs. PER 1000 s.f.)
C) FOLLOWING SEED BED PREPARATION, DITCHES AND BARK SLOPES WILL BE SEEDED TO A MIXTURE OF 41% CREEPING RED FESCUE, 5% REDTOP AND 48% TALL FESCUE. THE LAWN AREAS WILL BE SEEDED TO A PREMIUM TURF MIXTURE OF 44% KENTUCKY BLUEGRASS, 44% CREEPING RED FESCUE AND 12% PERENNIAL RYEGRASS. SEEDING RATE IS ONE POUND PER 1000 s.f. LAWN QUALITY SOD MAY BE SUBSTITUTED FOR SEED. SEED MIX SHALL CONTAIN 10% ANNUAL RYEGRASS.
D) HAY MULCH AT THE RATE OF 70-90 lbs PER 1000 s.f. OR A HYDRO-APPLICATION OF ASPHALT, WOOD OR PAPER FIBER SHALL BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS WILL BE USED ON HAY MULCH FOR WIND CONTROL.

WINTER CONSTRUCTION NOTES

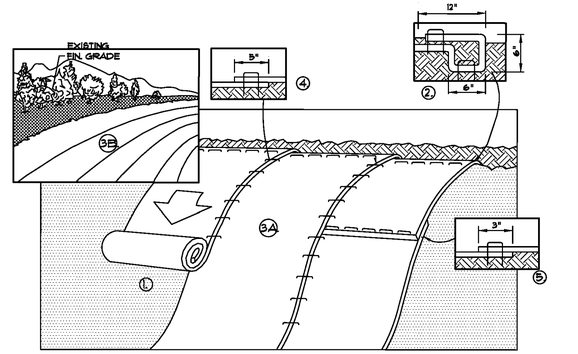
1) WINTER CONSTRUCTION IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1 - APRIL 15. IF DISTURBED AREAS ARE NOT STABILIZED WITH PERMANENT MEASURES BY NOVEMBER 1 OR NEW SOIL DISTURBANCE OCCURS AFTER NOVEMBER 1, BUT BEFORE APRIL 15, THEN THESE AREAS MUST BE PROTECTED AND RUNOFF FROM THEM MUST BE CONTROLLED BY ADDITIONAL MEASURES AND RESTRICTIONS.

2) SITE STABILIZATION - FOR WINTER STABILIZATION, HAY MULCH IS APPLIED AT TWICE THE STANDARD TEMPORARY STABILIZATION RATE. AT THE END OF EACH CONSTRUCTION DAY, AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE STABILIZED. MULCH MAY NOT BE SPREAD ON TOP OF SNOW.

3) SEDIMENT BARRIERS - ALL AREAS WITHIN 75' OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS.

4) DITCH - ALL VEGETATIVE DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1, OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, MUST BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE UNLESS SPECIFICALLY RELEASED FROM THIS STANDARD BY THE DEPARTMENT.

5) SLOPES - MULCH NETTING MUST BE USED TO ANCHOR MULCH ON ALL SLOPES GREATER THAN 8% UNLESS EROSION CONTROL BLANKETS OR EROSION CONTROL MIX IS BEING USED ON THESE SLOPES.



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART ACROSS ENTIRE BLANKET WIDTH.
NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

EROSION CONTROL MAT DETAIL

NOT TO SCALE

STATE OF MAINE · STEPHEN J. ROBERGE #4829 · REGISTERED PROFESSIONAL ENGINEER
FOR APPROVALS ONLY

REV.	DATE	CHANGES

DO NOT MODIFY PLAN WITHOUT WRITTEN PERMISSION FROM SJR ENG., INC.

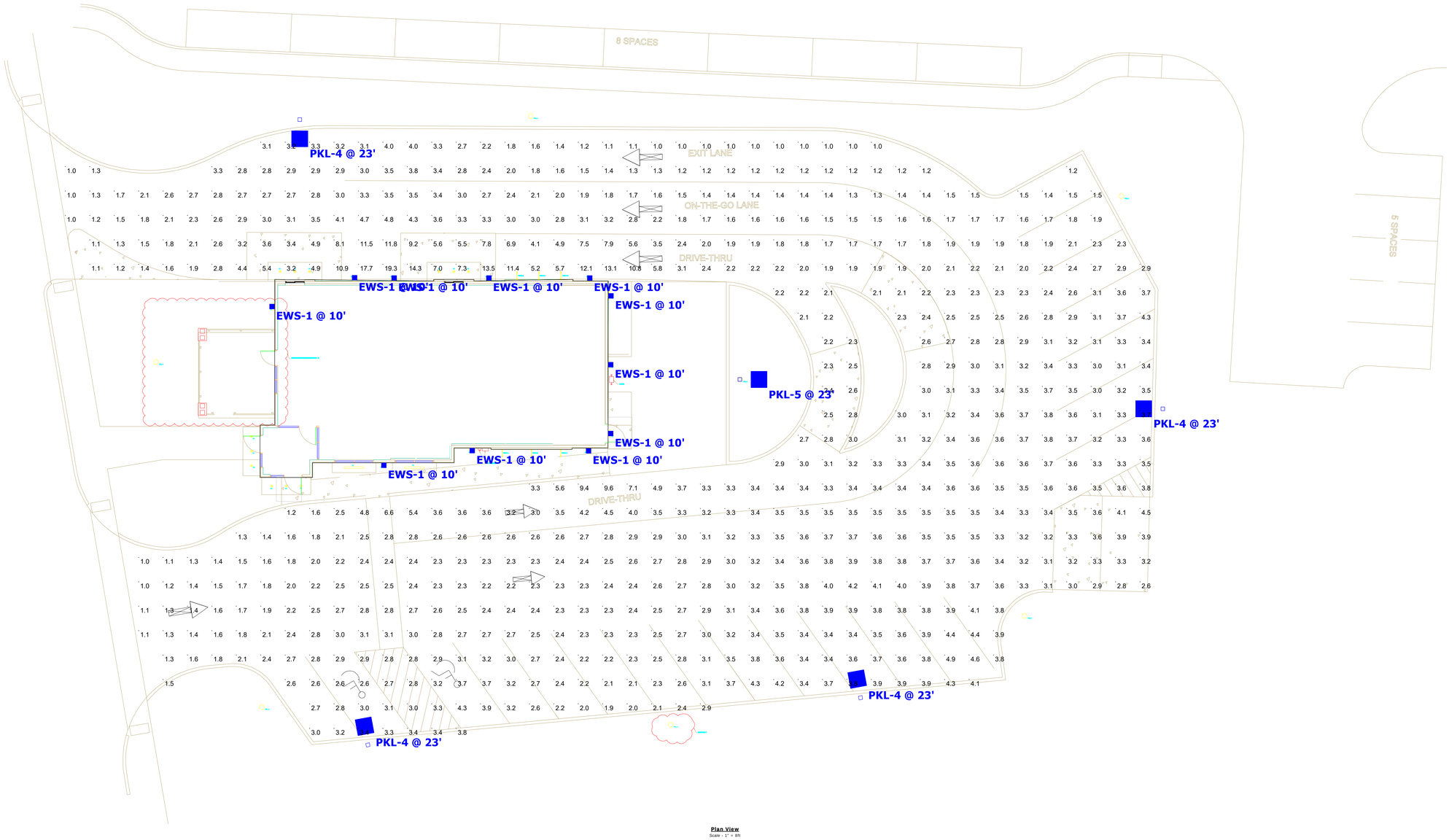
Stoneybrook
Land Use, Inc.
4846 Sun City Center Blvd. #300
Sun City Center, FL 33573-6281

SJR ENGINEERING, INC.
16 THURSTON DRIVE
MONMOUTH, MAINE 04259
(207) 242-6248 tel
steve@sjreng.com
SJR ENGINEERING

CONSTRUCTION NOTES
420 MAIN STREET
LEWISTON, MAINE
PREPARED FOR
COLETTE'S DONUT SHOPPE
26 REJANE AVENUE - LEWISTON, ME 04240

DATE	PROJECT
2-3-2020	2015-42
DRAWN BY	SCALE
SJR	NTS

SHEET 6



Plan View
Scale - 1" = 8ft

Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Light Loss Factor	Wattage
	PKL-4	4	EATON - LUMARK (FORMER COOPER LIGHTING)	PRV-C40-D-UNV-T4-BZ	PREVAIL AREA AND ROADWAY LUMINAIRE (2) 70 CRI, 4000K LEDS AND TYPE IV OPTICS, BRONZE PAINTED FINISH	1	131
	PKL-5	1	EATON - LUMARK (FORMER COOPER LIGHTING)	PRV-C40-D-UNV-T5-BZ	PREVAIL AREA AND ROADWAY LUMINAIRE (2) 70 CRI, 4000K LEDS AND TYPE V OPTICS, BRONZE PAINTED FINISH	1	131
	EWS-1	11	WAC Lighting	WP-LED227-50 A061114		1	26.6

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Parking Lot	+	3.0 fc	19.3 fc	1.0 fc	19.3:1	3.0:1

Luminaires & Lamps Furnished By Villa Lighting Inc. St Louis, MO. 63103
(800)325-0693
www.villalighting.com

The electrical contractor shall be responsible for receiving, storage, installation and wiring of light fixtures.

The electrical contractor shall report any damaged light fixtures or missing parts to Villa Lighting within 48 hours of receipt of light fixture package.

Design is based on current information provided at the time of request. Any changes in mounting height, mounting location, lamp wattage, lamp type, and existing field conditions that effect any of the previously mentioned will void the current layout and require a change request and recalculation. Calculations are based upon a computer simulation and actual field calculations may vary.

Fixtures mounted on 20' pole & 3' base
Light level calculated on the ground

DUNKIN DONUTS - MAIN ST - LEWISTON, ME

Designer
Steve Breidenbach
Date
2/13/2020