

City of Biddeford
City Council - Special Meeting
December 05, 2019 6:00 PM Council Chambers

- 1. Roll Call**
- 2. Pledge of Allegiance**
- 3. Adjustment(s) to Agenda**
- 4. Consideration of Minutes**
 - 4.1. Meeting Minutes - November 19, 2019
[11-19-2019 Council Meeting Minutes](#)
- 5. Orders of the Day**
 - 5.1. 2019.131) Authorization/Appropriation for Seeds of Hope Warming Center
[12-05-2019 Seeds of Hope Warming Center-ORDER 2019.131](#)
[11-19-2019 Seeds of Hope-Warming Center Info](#)
[12-05-2019 Seeds of Hope Warming Center-LETTER.docx](#)
[12-05-2019 Seeds of Hope Warming Center-Oil Costs Projections.docx](#)
 - 5.2. 2019.132) Amendment/Part III (Land Development Regulations) Article XIII (Amendments), Sec. 3 (Contract and Conditional Zoning)/Contract Zone #18 Sawmill Park Properties, LLC, Indian Cliff Development, and Mike Eon Associates, Ltd
[12-05-2019 Contract Zone-18 Barra Road-Order 2019.132](#)
[12-05-2019 Briefing Memo - Contract Zone 18 Barra Road](#)
[1 - Saxon Contract Zone Cover Letter](#)
[12-05-2019 Contract Zone 18 - AGREEMENT-clean version.docx](#)
[12-05-2019 Contract Zone 18 - AGREEMENT-mark up.docx](#)
[2a - Contract Zone 18 Exhibit A Survey](#)
[2b - Contract Zone 18 Exhibit B PB FoF and Recommendation](#)
[2bi - Exhibit A to PB FoF 15 Pg Plan Set](#)
[2c - Contract Zone 18 Exhibit C 15 Pg Plan Set](#)
[3 - Saxon Rendering](#)
[4 - 2018.23 Saxon Final NOD 11/06/19](#)
- 6. Public Addressing the Council..(5 minute limit per speaker; 30 minute total time limit)**
- 7. City Manager Report**
- 8. Other Business**
- 9. Council President Addressing the Council**
- 10. Mayor Addressing the Council**
- 11. Adjourn**

**COUNCIL MEETING
NOVEMBER 19, 2019**

Mayor Casavant called the meeting to order at 6:00 p.m.

Roll Call: Michael Swanton, John McCurry, Jr., Stephen St. Cyr, Robert Quattrone, Jr., Amy Clearwater, Norman Belanger, Michael Ready, Laura Seaver, Marc Lessard

The Council, and all who were present, recited the Pledge of Allegiance.

There were no adjustments to the agenda.

Proclamation: Small Business Saturday – November 30, 2019

Mayor Casavant read the proclamation.

Presentation: Warming Center – Seeds of Hope

Reverend Shirley Bowen, Executive Director of Seeds of Hope Neighborhood Center addressed the Council on a proposal from Seeds of Hope to serve as a warming center during the winter months and a cooling center in the summer months. Within the proposal is a request for a partnership with the City, as well as financial support.

Generally, the Council is supportive in providing funds to Seeds of Hope for a warming (and cooling) center. Seeds of Hope is asked to work on more definitive operating costs and bring a formal request for funds to the Council at the next Council Meeting.

Presentation: 2020/2021 Capital Improvement Projects (CIP) Budget

City Manager, James Bennett gave a general overview of the 2020/2021 Capital Improvement Projects (CIP) Budget; including what the Council can expect as far as policy decisions in the next fiscal year.

Consideration of Minutes: November 7, 2019

Motion by Councilor McCurry, seconded by Councilor Clearwater to accept the minutes as printed.

Vote: Unanimous.

Second Readings:

{For a copy of the ordinance amendments and first readings, see the council meeting minutes of November 7, 2019}

2019.117) Amendment/Ch. 14, Aviation, Division 3-Airport Manager, Sec. 14-61-Nomination/Amend Appointing Authority

Motion by Councilor McCurry, seconded by Councilor Clearwater to grant the second reading of the ordinance amendment.

Vote: Unanimous.

2019.118) Amendment/Ch. 22, Businesses, Art. II, Licenses and Permits, Generally, Sec. 22-11-Fees/Amend Language for Motor Vehicle Agent Fees

Motion by Councilor McCurry, seconded by Councilor Clearwater to grant the second reading of the ordinance amendment.

Vote: Unanimous.

Orders of the Day:

2019.121

IN BOARD OF CITY COUNCIL..NOVEMBER 19, 2019

BE IT ORDERED, that the City Council of the City of Biddeford does hereby authorize the City Manager to purchase two (2) 2020 Ford Edge automobiles, as per bid of November 12, 2019, from Arundel Ford. The purchase of these vehicles shall not exceed \$57,218.00 (before discounts valued at \$4,400.00).

The purchase of these vehicles is included in the FY20 Budget, account 21204-60603

NOTE: The Finance Committee will review this item on November 19, 2019 and vote to recommend it to the City Council for approval.

Motion by Councilor McCurry, seconded by Councilor Clearwater to grant the order.
Vote: Unanimous.

2019.122 **IN BOARD OF CITY COUNCIL. NOVEMBER 19, 2019**
BE IT ORDERED, that the City Manager be authorized to receive, execute, and record a deed from John Hall, dba Buckthorn West, LLC, to accept Cherryfield Avenue as a public way subject to the conditions outlined in the City Engineer's memo of November 19, 2019.

Motion by Councilor McCurry, seconded by Councilor Ready to grant the order.
Vote: Unanimous.

2019.123 **IN BOARD OF CITY COUNCIL ... NOVEMBER 19, 2019**
BE IT ORDERED, pursuant to Chapter 62, Section 101 of the Code of Ordinances, the City Council of the City of Biddeford does hereby waive the following requirements for Eagle River Run Project off River Road, for purposes of their pending subdivision review by the Planning Board and for future consideration of the acceptance of Eagle River Run, as a public street.

1. Waive the requirements for a 5 foot sidewalk. Instead the developer will construct a 3-foot paved walkway as indicated on the submitted Planning Board Preliminary Subdivision Plans.
2. Install striping to define the 3 foot sidewalk and to install signage to depict the sidewalk/street separation line.
3. Reference attached request for waiver by applicant's representative

Motion by Councilor Ready, seconded by Councilor Belanger to grant the order.
Vote: 7/2; Councilors McCurry and Lessard opposed.
Councilors Swanton, St. Cyr, Quattrone, Clearwater, Belanger, Ready and Seaver in favor.
Motion carries.

2019.124 **IN BOARD OF CITY COUNCIL, NOVEMBER 19, 2019**
BE IT ORDERED, that the City Council of the City of Biddeford does hereby accept and endorse the Thatcher Brook Stormwater Compensation Fee Utilization Plan and Compensation Fund (CPUF) as attached hereto.

Motion by Councilor Ready, seconded by Councilor McCurry to grant the order.
Vote: Unanimous.

2019.125 **IN BOARD OF CITY COUNCIL..NOVEMBER 19, 2019**
BE IT ORDERED, that the City Council of the City of Biddeford does hereby authorize the City Manager to enter into an agreement with Wright-Pierce in an amount not-to-exceed \$137,000 for engineering and design of a pump station and CSO holding tank at Gooch Street with associated gravity and force main connections.

Funding for this project shall be through the existing CSO Bond at 31459-61009.

Motion by Councilor McCurry, seconded by Councilor Clearwater to grant the order.
Vote: Unanimous.

2019.126 **IN BOARD OF CITY COUNCIL..NOVEMBER 19, 2019**
BE IT ORDERED, that the City Council of the City of Biddeford does hereby approve a budget amendment to appropriate funds from Route 111 Mill Redevelopment TIF (Tax Increment Financing) for the completion of Public Process for Green Space located at 3 Lincoln Street. For an amount not to exceed \$15,000 (account number 21179-61010).

Motion by Councilor Lessard, seconded by Councilor Belanger to grant the order.
Vote: 8/1; Councilor McCurry opposed.
Councilors Swanton, St. Cyr, Quattrone, Clearwater, Belanger, Ready, Seaver and Lessard in favor.
Motion carries.

2019.127 **IN BOARD OF CITY COUNCIL..NOVEMBER 19, 2019**
BE IT ORDERED, that the City Council of the City of Biddeford does hereby authorize the City Manager to enter into an agreement with Wright-Pierce for engineering services and design services for the RiverWalk in an amount not to exceed \$47,100.

Funding for this project shall be within the \$3,000,000 allocation for the RiverWalk under the garage project. For accounting purposes, expenses will be charged to 10011-10162 Miscellaneous A/R.

Motion by Councilor Clearwater, seconded by Councilor Quattrone to grant the order.
Vote: 7/2; Councilors McCurry and Swanton opposed.
Councilors St. Cyr, Quattrone, Clearwater, Belanger, Ready, Seaver and Lessard in favor.
Motion carries.

2019.128 **IN BOARD OF CITY COUNCIL..NOVEMBER 19, 2019**
BE IT ORDERED, that the City Council of the City of Biddeford does hereby authorize the City Manager to enter into an agreement with James W. Sewall Co in the amount of \$47,570 for engineering services associated with long-term transportation planning and traffic study for the Elm Street, Pearl Street, Lincoln Street triangle.

Funding for the project will be covered under the Route 111 Mill Redevelopment TIF (Tax Increment Financing) at 31179-61012.

Motion by Councilor Belanger, seconded by Councilor Clearwater to grant the order.
Vote: 5/4; Councilors Lessard, Ready, Seaver and McCurry opposed.
Councilors Swanton, St. Cyr, Quattrone, Clearwater and Belanger in favor.
Motion carries.

2019.129 **IN BOARD OF CITY COUNCIL..NOVEMBER 19, 2019**
BE IT ORDERED, that the City Council of the City of Biddeford does hereby authorize the City Manager to enter into an agreement with James W. Sewall Co in the amount of \$38,970 for engineering services associated with the redesign of Pearl Street.

Funding for the project will be covered under the Route 111 Mill Redevelopment TIF (Tax Increment Financing) at 31179-61012.

Motion by Councilor Belanger, seconded by Councilor Clearwater to grant the order.
Vote: 6/3; Councilors McCurry, Lessard and Seaver opposed.
Councilors Swanton, St. Cyr, Quattrone, Clearwater, Belanger and Ready in favor.
Motion carries.

2019.130 **IN BOARD OF CITY COUNCIL... NOVEMBER 19, 2019**
BE IT ORDERED, that the City Manager is authorized to begin the process of establishing a so-called "Special Assessment District" as depicted on Figure 1 – Special Assessment District.

BE IT FURTHER ORDERED, that the process for establishing the Special Assessment District shall include at a minimum, legal review, direct notice to all affected property owners regarding the process, opportunity for public comment, and presentation to the City Council for final review and acceptance.

Note: Funding for the process of establishing a Special Assessment District is limited to legal costs through the city solicitor's office and administrative incidentals falling under the city manager's purchasing authority.

Motion by Councilor Clearwater, seconded by Councilor McCurry to grant the order.
Vote: 7/2; Councilors Seaver and Ready opposed.

Councilors Swanton, McCurry, St. Cyr, Quattrone, Clearwater, Belanger and Lessard in favor.
Motion carries.

Appointments:

IN BOARD OF CITY COUNCIL...NOVEMBER 19, 2019

ORDERED, that I, Alan M. Casavant, Mayor of the City of Biddeford, do hereby
re-appoint:

**Richard “Rick” Laverriere
371 South Street
Ward 6**

to the *Airport Commission*, for a term to expire in December 2022.

BE IT FURTHER ORDERED, that Rick Laverriere be appointed as CHAIR of the Airport
Commission for 2020.

Motion by Councilor Belanger, seconded by Councilor Clearwater to confirm the appointment.
Vote: Unanimous.

IN BOARD OF CITY COUNCIL...NOVEMBER 19, 2019

ORDERED, that I, Alan M. Casavant, Mayor of the City of Biddeford, do hereby
re-appoint:

**Gerald Bernier
19 Taylor Street
Ward 7**

to the *Airport Commission*, for a term to expire in December 2022.

Motion by Councilor Belanger, seconded by Councilor Clearwater to confirm the appointment.
Vote: Unanimous.

IN BOARD OF CITY COUNCIL...NOVEMBER 19, 2019

ORDERED, that I, Alan M. Casavant, Mayor of the City of Biddeford, do hereby
re-appoint:

**Richard “Rick” Laverriere
371 South Street
Ward 6**

to the *Biddeford Fire Advisory Committee*, for a term to expire in December 2024.

Motion by Councilor Belanger, seconded by Councilor Clearwater to confirm the appointment.
Vote: Unanimous.

IN BOARD OF CITY COUNCIL...NOVEMBER 19, 2019

ORDERED, that I, Alan M. Casavant, Mayor of the City of Biddeford, do hereby
re-appoint:

**Brian Fleurant
77 Prospect Street
Ward 4**

as **CHAIR** of the *Wastewater Management Commission* for 2020.

Motion by Councilor Belanger, seconded by Councilor Clearwater to confirm the appointment.
Vote: Unanimous.

Public Addressing the Council..(5 minute limit per speaker; 30 minute total time limit):
A couple citizens addressed their comments to the Council.

City Manager Report:

City Manager, James Bennett answered the question posed by one of the public speakers. To the best of his knowledge, the Lincoln Mill Project developers will be pulling the project permits by the end of this week.

Other Business:

Councilor Lessard: appreciated the CIP budget presentation earlier in this meeting. He thinks it may be time for the City to start selling off some of its assets and start investing money in other ways. He suggested that the City look at what possible zoning changes may need to be made in order for further residential expansion on the outskirts of the City, and in doing so, growing the tax base. He also suggested that the Council look into ways to bring more “experiences” to the City in an effort to attract more young people.

Councilor Seaver: with this being her last council meeting, she thanked her constituents for believing in her and hopes that she has represented them well in her two terms as Councilor. She thanked her fellow Councilors for maintaining professionalism and working together for the good of the City – even when they had differing opinions. Lastly, she thanked the City Staff for all their hard work and dedication.

Councilor Quattrone: wished everyone a Happy Thanksgiving. He also gave a warm farewell to out-going Councilors Laura Seaver and Mike Swanton.

Councilor Swanton: expressed his pleasure at having served on the Council for the past 8 years. He encouraged folks to run and get involved.

Council President Addressing the Council: Councilor McCurry thanked Councilors Seaver and Swanton for their years of service on the Council and wished them well. He also wished everyone a Happy Thanksgiving.

Mayor Addressing the Council: Mayor Casavant shared that he’s received comments from citizens who watch the council meetings that they have a difficult time following what is going on during the meetings. He suggested maybe slowing down a bit and actually reading more of the Council Orders so that folks know what is being considered and voted on.

Mayor Casavant thanked Councilors Seaver and Swanton for their service on the Council and he expressed that he has enjoyed working with them.

Executive Session: 1 MRSA 405(6)(E)..Consultation with Legal Counsel on Pending Legal Matters

Motion by Councilor McCurry, seconded by Councilor Clearwater to move into Executive Session.

Vote: Unanimous.

Time: 7:56 p.m.

Motion by Councilor McCurry, seconded by Councilor Lessard to move out of Executive Session.

Vote: Unanimous.

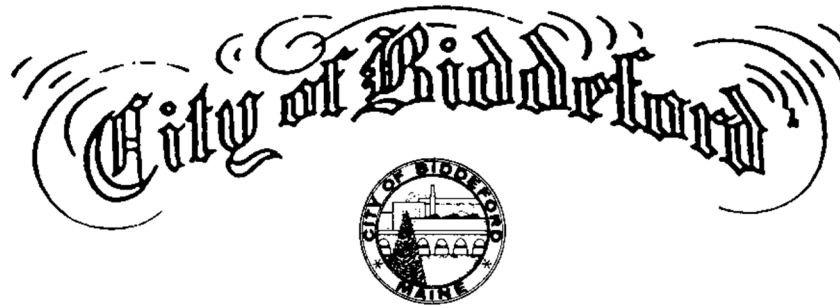
Time: 8:26 p.m.

Motion by Councilor McCurry, seconded by Councilor Lessard to adjourn.

Vote: Unanimous.

time: 8:26 p.m.

Attest by: _____
Carmen J. Morris, City Clerk



2019.131

IN BOARD OF CITY COUNCIL...DECEMBER 5, 2019

BE IT ORDERED, that the City Council of the City of Biddeford does hereby authorize a budget appropriation in the amount of \$_____ in support of the Seeds of Hope Warming Center.

BE IT FURTHER ORDERED, that the Seeds of Hope Warming Center shall operate at the hours and under the conditions specified in the adopted planning document.

Funding for this project is proposed to be assigned to Contingency.



Extended Warming Center Hours

Purpose

Seeds of Hope, in partnership with the City of Biddeford, will offer an extension of our Warming, Cooling and Hospitality Center mission when certain weather and/or emergency conditions are met assuming we have not experienced a loss of power at our facility. When the criteria call for it, our Center will remain open during overnight hours in order to ensure the safety of our citizens. This is a pilot program which will be evaluated over the course of the winter to determine its long-term viability. There is no guarantee that the service will continue beyond the winter months.

The Program

Determination of service – the weather guidelines are spelled out for winter only. If this service extends into the summer months, those guidelines will be outlined in the future. These are guidelines only. Final determination of daily extended hours will be determined by the Executive Director of Seeds of Hope and Biddeford's Emergency Manager.

- 1) When the temperature is predicted to be $\leq$ 10 degrees F; or
- 2) When the temperature is predicted to be 15 degrees F with a windchill of 10 degrees or lower; or
- 3) When the temperature is predicted to be 15 degrees F
 - a. with precipitation during overnight hours lasting 3 hours or longer, or
 - b. with 6 or more inches of snow accumulation, or
 - c. with other life-threatening circumstances as determined by Seeds of Hope/City of Biddeford, or
- 4) when families/individuals have been displaced due to fire or other emergencies during overnight hours and a space for victims is needed to meet with Red Cross and GA.

Hours of Operation

In general, the extended hours will be held from 8:00 pm – 8:00 am. These hours will vary depending upon the regularly scheduled uses of the building and available staffing and volunteers.

Staffing

The Extended Service hours will be staffed with an on-call trained professional and supported by 2-3 community volunteers all of whom will remain awake all night monitoring the facility and the neighbors.

Operating Procedures

- 1) No child under the age of 18 is permitted in the Center unless accompanied at all times by an adult who is 18 years of age or older.
- 2) The community room will remain set up as per our normal operations. No cots or mattresses will be available. Only children 14 years of age or younger will be permitted to sleep on the floor on blankets.
- 3) Adults must sit at the tables and may put their heads down to sleep.
- 4) Volunteers will ensure that coffee/tea and juice will be available during the extended hours of operation. They will provide limited cold breakfast beginning at 6:30 am.
- 5) Neighbors will be permitted to go outside to smoke, but only one at a time, and will remain silent while outside so local residents will not be disturbed.
- 6) All guidelines of conduct during our normal operating hours will be in force during our extended hours, with higher expectations for reduced television watching and lowered voices so that those who wish may sleep.
- 7) Staff and volunteers will have authority to require removal of any person being disruptive or in violation of any policies which create an unsafe environment. Any action requiring removal of a neighbor or necessitating use of police, fire or ambulance services, will be documented in writing and will be reviewed by the Executive Director the following day for any follow-up. In the case of an extreme emergency, such as loss of life, fire, or other significant occurrences, the Executive Director will be called and will likely respond in person to provide support.
- 8) Neighbors failing to exit the property as required by the staff/volunteers will be subject to removal by the police. Staff/volunteers will not physically remove anyone.
- 9) In general, no physical contact is made with our neighbors. We never know if someone has touch aversion or triggers, so their boundaries are honored at all times. Hugs are permitted only
10) when initiated by the neighbor and should be A-frame or side hugs.
- 11) Behavior of neighbors will determine their future ability to access the services of the extended hours.
- 12) Statistics will be kept as to the number of neighbors who use the services, as well as other demographic information.
- 13) If the Extended Service hours are required for more than three (3) consecutive nights the CDC/Public Health will conduct a health screening to insure no contagious diseases are being spread.



Community Standards

The Seeds of Hope Neighborhood Center welcomes all who enter here. We believe everyone who walks through our doors is a precious child of God. With this belief, we pledge to our neighbors that our life with you will be grounded in respect, kindness, compassion & dignity.

We also expect that our neighbors extend the same courtesies to each other, the volunteers and the staff. You need not believe what we believe, but while here, we expect you will act as if you do. We ask that those who work, volunteer or visit this neighborhood center treat each other and the physical facility with the utmost respect, including:

- Noise levels that respect the needs of everyone
- Language that does not include profanity, is not sexual in nature, or is otherwise offensive communication whether verbal or non-verbal.
- Interactions that do not involve verbal, physical, or emotional abuse or intimidation or threat of such;
- No possession of drugs, alcohol, knives, firearms, or other weapons;
- An understanding that unless specifically determined, conversations taking place in the Center are not considered confidential and may even mandate reporting to authorities.

We reserve the right to prohibit from our facilities: any individual or group deemed unsafe, or with the potential to create a disrespectful and/or unsafe climate for neighbors, volunteers and staff; or any individual or group whose behavior or presence otherwise jeopardizes the goals set forth in the Mission Statement as may be determined by the Executive Director and/or Board of Directors, in accordance with the protocol established by the Board. Any questions regarding these standards should be addressed to the Executive Director.

Extended Hour Staff Position

Job Description

The paid staff person for Seeds of Hope's extended warming/hospitality center hours will be the primary decision maker for the overnight hours of the warming/hospitality program. The staff will be trained in operations and risk management, as well as the overall mission and vision of the work of the Center to ensure a continuity of welcome, safety and civility for our neighbors. Staff will report directly to the Executive Director.

Qualifications:

- 1) Bachelor's degree or commensurate experience.
- 2) Successfully pass a background check, which Seeds of Hope will arrange and evaluate.
- 3) Strong verbal and written skills.
- 4) Maturity.
- 5) Compassion and ability to be sensitive to the needs of a vulnerable population.
- 6) Demonstrated leadership skills and ability to work with and motivate a team.

Primary Responsibilities

Remain awake during full overnight shift monitoring the building for any safety issues and ensuring that the behavior of the neighbors falls within Center guidelines.

Do a casual informal assessment of neighbors (through greeting each one) upon their arrival at the Center for any possible health issues needing immediate attention. Provide oversight of any medications requiring refrigeration, which will be stored in a location separate from general consumable products. Only those medications requiring refrigeration will be taken into our possession until the neighbor leaves the following morning.

Address any conduct violations and either achieve compliance or removal of the person in violation.

When neighbors go outside of the Center, monitor their behavior to ensure noise levels are extremely low and not disruptive to the surrounding residential population.

Immediately contact 911 for any needed medical or police response. Provide care consistent with training and manage the scene until the outside agency arrives. Complete necessary paperwork following incident(s).

Draft 11/13

Budget

Average nights at 10 degrees or below	28	
# of hours/shift of extended service hours	12	
Hourly rate for medical staff	\$30/hour (this may be too low)	
Anticipated cost for staff for winter season 25 nights x 12 hrs./night x \$30/hr		\$ 9,000
Additional fuel oil / electricity expense	\$5,000 / \$2,000	7,000
Additional food expense	\$5,000	5,000
Additional operating costs (paper products, trash/recycling, etc.)	\$1,000	1,000
Medical supplies (AED and other life-saving items)	\$1,500/\$500	<u>2,000</u>
<u>Estimated Total</u>		\$24,000



35 South Street
Biddeford, Maine 04005

"It all begins with a meal..."

December 4, 2019

Mayor Alan Casavant,

Council Members: William Emhiser
John McCurry, Jr.
Stephen St.Cyr,
Robert Quattrone, Jr.
Amy Clearwater
Norman Belanger
Michael Ready
Marc Lessard
Doris Ortiz

Dear Mayor Casavant and City Councilors,

I am writing to provide you further financial information regarding our desire to extend our warming center services into the overnight hours when certain weather criteria are met. It was requested that we come back before you on December 6 with more specifics. I also met, as requested, with City Manager Jim Bennett to discuss the information you would need to entertain our funding request. Following that conversation, it made sense to provide two scenarios for you to consider.

Some specific details I want to highlight:

- This pilot is for the 3 coldest months, Early January – Early April only. We did not do summer projections, or for next fall, as I understand that those expenses would fall into your next fiscal year. If this pilot is successful, we would bring an additional request forward for next year.
- If the request for funding is not approved, we are unable to move forward with this service.
- If funding is approved, the second task is to hire a contract paid person and recruit teams of volunteers that would support that person in oversight. If we are unable to recruit enough volunteers, we would not be able to offer the service.
- Due to commitments already made, the earliest we could begin would be the second week of January.

We deeply appreciate your willingness to entertain this initiative. I will be present at the meeting to answer any questions you might have.

Warm regards,

Rev. Shirley Bowen, Executive Director

rev.shirley@seedsofhope4me.org

207.283.1783

www.seedsofhope4me.org

Seeds of Hope Neighborhood Center collaborates with our local communities and neighbors to find meaningful solutions to poverty, isolation, and despair in a welcoming and compassionate environment.



35 South Street
Biddeford, Maine 04005

"It all begins with a meal..."



Budget Request – 2 scenarios

	30 nights	40 nights
Average nights at 20 degrees or below		40
10 degrees or below	28	
# of hours/shift of extended service	12	12
Hourly rate for paid staff	\$30/hour	\$30/hour
Anticipated cost for staff for winter season # of nights x 12 hrs./night x \$30/hr	\$10,800	\$ 14,400
Additional fuel oil / electricity expense See attached oil math	\$6,372	\$8,496
Insurance	\$2,000	\$2,000
Additional food expense	\$4,000	\$4,500
Additional operating costs (paper products, trash/recycling, etc.)	\$1,000	\$1,000
Medical supplies (AED and basic first-aid kit supplies)	\$1,500	\$1,500
Exterior Security Camera	<u>\$1,000</u>	<u>\$1,000</u>
<u>Estimated Total</u>	\$26,672	\$32,896

Oil Consumption Calculations

Jan-March 2019

63 days of service for 5 hrs/day = 315 hrs. of heating

1896 gallons of oil was delivered / 315 hrs = 6 gal./hour

Paid \$5032.00

Projection of additional cost Jan-March 2020 @ 30 nights

30 days of service for 12 hrs/day = 360 hrs. of additional heating (conservative because we may not close between 1 and 8 pm) depending on weather

360 hrs x 6 gal./hour = 2160 gallons

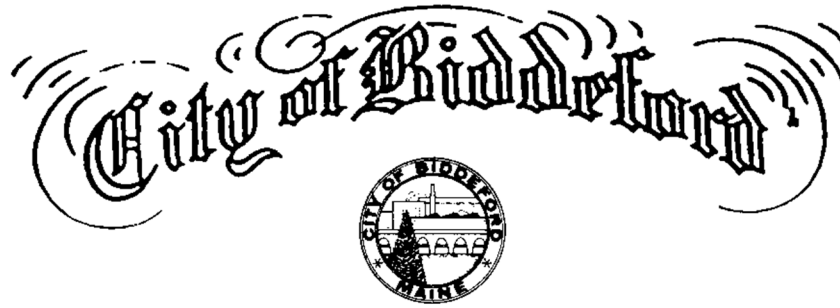
2160 gallons x \$2.95/gal. = \$6,372

Projection of additional cost Jan-March 2020 @ 40 nights

40 days of service for 12 hrs/day = 480 hrs. of additional heating (conservative because we may not close between 1 and 8 pm) depending on weather

480 hrs x 6 gal./hour = 2880 gallons

2880 gallons x \$2.95/gal. = \$8,496



2019.132

IN BOARD OF CITY COUNCIL..DECEMBER 5, 2019

BE IT ORDERED by the City Council of Biddeford, Maine to amend the Code of Ordinances of the City of Biddeford as follows:

Part III (Land Development Regulations) Article XIII (Amendments), § 3 (Contract and Conditional Zoning) is amended as follows:

Contract Zone #18 Sawmill Park Properties, LLC, Indian Cliff Development Corporation, and Mike Eon Associates, Ltd. (Tax Map 2, Lot 43-1 and 42-1 and Tax Map 7, Lot 15).

BE IT FURTHER ORDERED by the City Council of Biddeford, Maine that Contract Zone #18, as recommended by the Planning Board on November 20, 2019, be adopted, and that said Contract Zone be considered an amendment to the Zoning Ordinance and the Official Zoning Map of the City of Biddeford,

BE IT FURTHER ORDERED that the City Manager be authorized to sign and execute an Agreement between the City of Biddeford and Sawmill Park Properties, LLC, Indian Cliff Development Corporation, and Mike Eon Associates, Ltd. to establish said Contract Zone #18.

Note: Attached is documentation from the City Planner regarding proposed Contract Zone #18.



CITY OF BIDDEFORD PLANNING DEPARTMENT

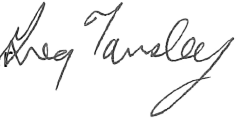
Greg D. Tansley, A.I.C.P.
205 Main Street
PO Box 586
Biddeford, ME 04005
(207) 284-9115

Greg.Tansley@biddefordmaine.org

MEMORANDUM

To: Mayor Casavant
Council President McCurry & Members of City Council
J. Bennett, City Manager

CC: Mike Eon, Applicants Representative

From: Greg Tansley, AICP, City Planner 

Date: November 26, 2019

Re: **Proposed Contract Zone #18 – Sawmill Park Properties, LLC, Indian Cliff Development Corporation, and Mike Eon Associates, Ltd.**

On August 7, 2018, the City Council **endorsed** the concept of a Contract Zone for Sawmill Park Properties, LLC, Indian Cliff Development Corporation, and Mike Eon Associates, Ltd., for a 250-residential unit project in two connected buildings off the end of Barra Road. The housing would be market rate and would consist of studios and 1-bedroom units. According to the applicant, such a project can serve the workforce of Biddeford that desire to be close to the medical, retail, and commercial opportunities in the Route 111/Alfred Street area of Biddeford, as well as being close to the Turnpike and employment and services elsewhere.

Due to the zoning that exists over the property involved and the density proposed, the applicant requires the Contract Zone in order to implement the project.

The applicant has appeared before the Planning Board on several occasions over the course of more than one (1) year working with the Planning Board on the Contract Zone proposal before you now. On November 20, 2019, the Planning Board held a final Public Hearing on the proposal before you and there were no public comments regarding the proposed Contract Zone. **The Board unanimously voted to recommend that the City Council approve Contract Zone #18.**

I have included several documents (numbered below and on each document) for your review to assist you as you consider the Contract Zone, including the following:

1. A Cover Letter from the Sawmill Park Properties, LLC dated 11/26/2019;
2. The Draft Contract Zone Agreement presented for City Council consideration;

- 2.a. EXHIBIT A – Survey
- 2.b. EXHIBIT B – The Planning Board’s Recommendation and Findings of Fact,
signed by both the Applicant and the Planning Board Chair;
 - 2.b.1. FOF Plan Set
- 2.c. EXHIBIT C - Plan Set (2.b.1. Plan Set and 2.c. Plan Set are the same)
- 3. Visual Rendering from Barra Road of the project; and
- 4. Planning Board Notice of Decision – Site Plan and Subdivision Approval.

Please let me know if you have any questions about this item.

Cc: File

Sawmill Park Properties, LLC
P.O. Box 444
Biddeford, ME 04005
November 26, 2019

To the Mayor and City Council of Biddeford:

Sawmill Properties, LLC has been working on seeking approval for Contract 18 since our initial application dated July 27, 2018. We have met with and received the recommendation of the City Council to proceed with our application for a zone change.

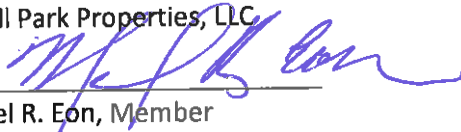
We have met with the planning board and received approval of our plans and a recommendation to the City Council to approval the Contract Zone. The plan approval occurred on November 6, 2019, and the Planning Board's recommendation is in front of you together with the details of the project.

We request approval of Contract Zone 18.

Thank you.

Sincerely,

Sawmill Park Properties, LLC

By: 

Michael R. Eon, Member

Lettercouncil/1/3477-004

DRAFT – FOR CITY COUNCIL CONSIDERATION

CONTRACT ZONE AGREEMENT

AGREEMENT made as of _____, 2019, by and between Sawmill Park Properties, LLC, a Maine limited liability company with an established place of business in Biddeford, York County, Maine, Indian Cliff Development Corporation, a Maine corporation with an established place of business in Biddeford, Maine, and Mike Eon Associates, Ltd., a Maine corporation with an established place of business in Biddeford, Maine, (hereinafter, jointly and severally called the “Owner”) and THE CITY OF BIDDEFORD, a body politic and corporate located in Biddeford, Maine, (hereinafter called “Biddeford”).

WHEREAS, the Owner (or one of them) is the owner of certain real estate (the “Property”) situated at and near Barra Road, so-called, in Biddeford, the Property is currently designated as portions of Tax Map 2, Lots 43-1 and 42-1 and Tax Map 7, Lot 15, and contains approximately 10 acres. Owner desires to transfer to Saxon Partners, LLC (the “Developer”) who intends to develop the Property as a 250 unit apartment complex on the Property. The description of the Property is shown on the plan entitled “Standard Boundary & Existing Conditions-Sheet 2” prepared by BH2M as revised though 11/4/19, attached hereto as EXHIBIT A; and

WHEREAS, Owner has applied for and obtained approval to re-zone the Property pursuant to the Contract Zoning provisions of the Zoning Ordinance of the City of Biddeford to create Contract Zone 18; and

WHEREAS, the parties are entering into this Agreement to provide written contractual evidence of the agreement of the parties and the terms and conditions of the Contract Zone.

NOW, THEREFORE,

in consideration of the mutual agreements hereinafter set forth and in consideration of the granting of the zoning ordinance change, the parties agree as follows:

1. Development of the Property. Owner agrees that in the event it shall transfer title to Developer, it shall require as a condition of sale that the Developer or its assignee approved by the Biddeford Planning Board or such other municipal board or committee having jurisdiction (the “Approved Assignee”) shall develop the Property in accordance with the following provisions and conditions:

A. Findings of Fact and Recommendations of the City of Biddeford Planning Board attached hereto as EXHIBIT B; and

B. Materials and plans entitled “Barra Road Apartments, A 250 unit Apartment Project, 60 Barra Road, Biddeford, Maine”, prepared by BH2M and consisting of 15 pages

attached hereto as EXHIBIT C, SHEET 1 of which contains the signatures of the Biddeford Planning Board members and will be duly recorded in the York Registry of Deeds.

2. Failure to Complete Development. In the event the Developer, or its Approved Assignee, shall fail to commence significant construction of the improvements within four (4) years of the effective date of the Contract Zone Agreement, or shall fail to complete construction within seven (7) years of the effective date of the Contract Zone Agreement, the Contract Zone granted hereby shall automatically be void and the Property shall revert to the zoning classification that the Property was in on the date of the Contract Zone Agreement. Significant commencement of construction shall mean the installation of all infrastructure improvements and grading within the limits of the Project.

In the event that the zones have changed, the Property shall revert to the zoning classifications of the abutting properties. In the event the abutting properties shall have more than one zoning classification, the Property shall become part of the more restrictive abutting zone.

3. Construction and Effect. This agreement shall be construed in accordance with the laws of the State of Maine and shall be binding upon and inure to the benefit of the successors and assigns of the parties hereto.

IN WITNESS WHEREOF, the parties have caused this instrument to be signed all as of the day and date above written.

Witness:

SAWMILL PARK PROPERTIES, LLC

By: _____
Michael R. Eon, Member

INDIAN CLIFF DEVELOPMENT CORP.

By: _____
Michael R. Eon, President

MIKE EON ASSOCIATES, LTD.

By: _____
Michael R. Eon, President

CITY OF BIDDEFORD

By: _____

James Bennett, Its Manager

DRAFT

DRAFT – FOR CITY COUNCIL CONSIDERATION

CONTRACT ZONE AGREEMENT

AGREEMENT made as of _____, 2019, by and between Sawmill Park Properties, LLC, a Maine limited liability company with an established place of business in Biddeford, York County, Maine, Indian Cliff Development Corporation, a Maine corporation with an established place of business in Biddeford, Maine, and Mike Eon Associates, Ltd., a Maine corporation with an established place of business in Biddeford, Maine, (hereinafter, jointly and severally called the “Owner”) and THE CITY OF BIDDEFORD, a body politic and corporate located in Biddeford, Maine, (hereinafter called “Biddeford”).

WHEREAS, the Owner (or one of them) is the owner of certain real estate (the “Property”) situated at and near Barra Road, so-called, in Biddeford, the Property is currently designated as portions of Tax Map 2, Lots 43-1 and 42-1 and Tax Map 7, Lot 15, and contains approximately 10 acres. Owner desires to transfer to Saxon Partners, LLC (the “Developer”) who intends to develop the Property as a 250 unit apartment complex on the Property. The description of the Property is shown on the plan entitled “Standard Boundary & Existing Conditions-Sheet 2” prepared by BH2M as revised though 11/4/19, attached hereto as EXHIBIT A; and

WHEREAS, Owner has applied for and obtained approval to re-zone the Property pursuant to the Contract Zoning provisions of the Zoning Ordinance of the City of Biddeford to create Contract Zone 18; and

WHEREAS, the parties are entering into this Agreement to provide written contractual evidence of the agreement of the parties and the terms and conditions of the Contract Zone.

NOW, THEREFORE,

in consideration of the mutual agreements hereinafter set forth and in consideration of the granting of the zoning ordinance change, the parties agree as follows:

1. Development of the Property. Owner agrees that in the event it shall transfer title to Developer, it shall require as a condition of sale that the Developer or its assignee approved by the Biddeford Planning Board or such other municipal board or committee having jurisdiction (the “Approved Assignee”) shall develop the Property in accordance with the following provisions and conditions:

A. Findings of Fact and Recommendations of the City of Biddeford Planning Board attached hereto as EXHIBIT B; and

B. Materials and plans entitled “Barra Road Apartments, A 250 unit Apartment Project, 60 Barra Road, Biddeford, Maine”, prepared by BH2M and consisting of 15 pages

attached hereto as EXHIBIT C, SHEET 1 of which contains the signatures of the Biddeford Planning Board members and will be duly recorded in the York Registry of Deeds.

2. Failure to Complete Development. In the event the Developer, or its Approved Assignee, shall fail to commence significant construction of the improvements within four (4) years of the effective date of the Contract Zone Agreement, or shall fail to complete construction within seven (7) years of the effective date of the Contract Zone Agreement, the Contract Zone granted hereby shall automatically be void and the Property shall revert to the zoning classification that the Property was in on the date of the Contract Zone Agreement. Significant commencement of construction shall mean the installation of all infrastructure improvements and grading within the limits of the Project.

In the event that the zones have changed, the Property shall revert to the zoning classifications of the abutting properties. In the event the abutting properties shall have more than one zoning classification, the Property shall become part of the more restrictive abutting zone.

3. Construction and Effect. This agreement shall be construed in accordance with the laws of the State of Maine and shall be binding upon and inure to the benefit of the successors and assigns of the parties hereto.

IN WITNESS WHEREOF, the parties have caused this instrument to be signed all as of the day and date above written.

Witness:

SAWMILL PARK PROPERTIES, LLC

By: _____
Michael R. Eon, Member

INDIAN CLIFF DEVELOPMENT CORP.

By: _____
Michael R. Eon, President

MIKE EON ASSOCIATES, LTD.

By: _____
Michael R. Eon, President

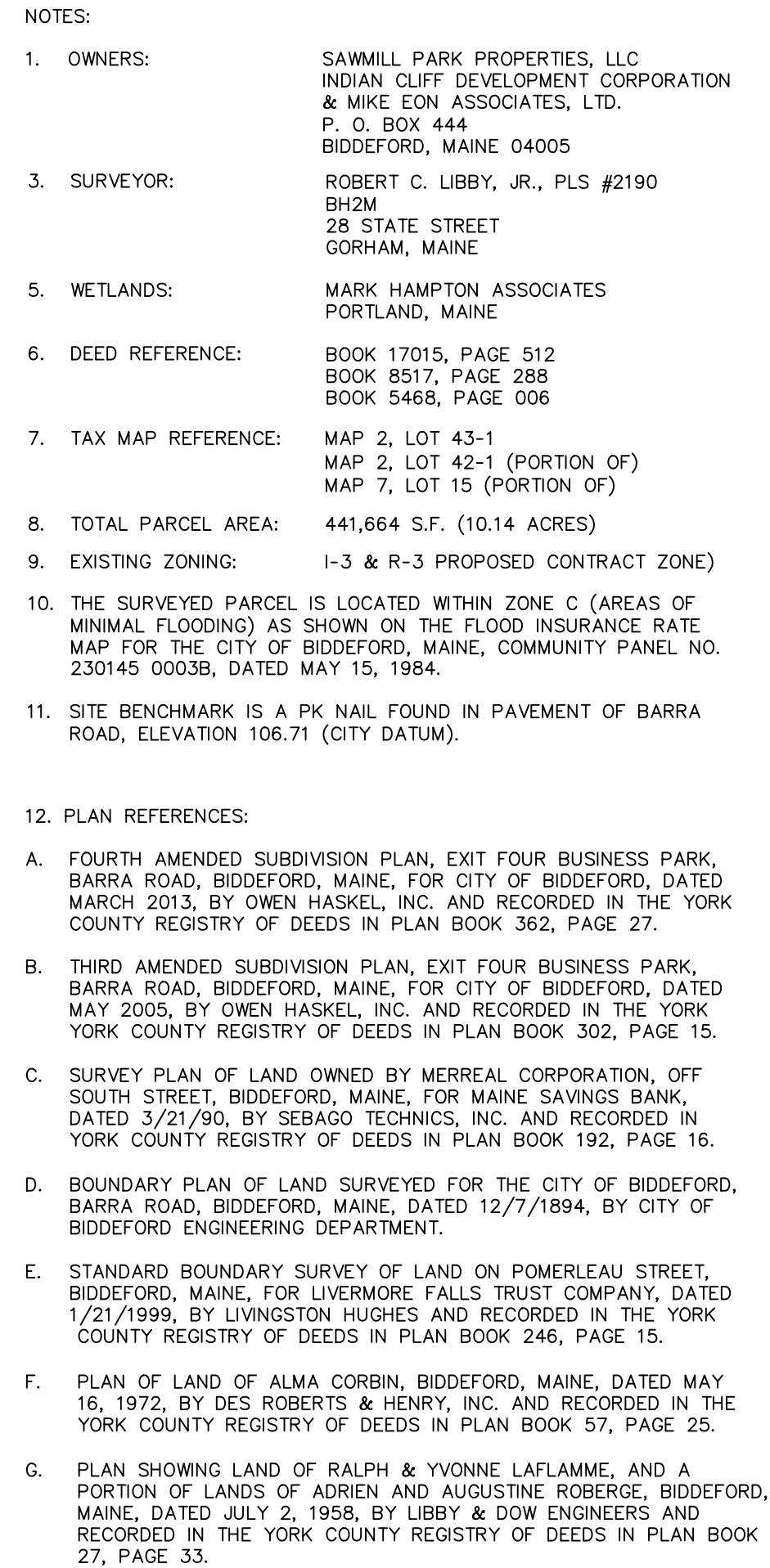
CITY OF BIDDEFORD

By: _____

James Bennett, Its Manager

DRAFT

2.a



NO.	DATE	REVISION
1	04/08/19	Preliminary Submission to City of Biddeford
2	06/10/19	Revisions per City Review
3	09/11/19	Revisions Based on Follow-up City Review Comments
4	10/09/19	Final Plan Submission
5	11/4/19	Revised per City Final Review

 **BH2M**

Berry, Huff, McDonald, Miltigan Inc.
Engineers, Surveyors

28 State Street
Gorham, Maine 04038

Tel. (207) 839-2771
Fax (207) 839-8250

FOR
Saxon Partners
25 Recreation Drive
Hingham, MA 02043

STANDARD BOUNDARY &
EXISTING CONDITIONS

LAND OF
SAWMILL PROPERTIES, LLC
INDIAN CLIFF DEVELOPMENT CORP.
MIKE FON ASSOCIATES, LTD
60 BARBA ROAD
BIDDEFORD, MAINE

DESIGNED C. MacDonald	DATE April 2019
DRAWN Dept.	SCALE As Noted
CHECKED R. Libby	JOB. NO. 18070

SHEET
2

REPRODUCTION OR REUSE OF THIS
DOCUMENT WITHOUT THE
EXPRESSED WRITTEN CONSENT
OF BH2M INC. IS PROHIBITED



MARK J. HAMPTON

CSS #216

ROBERT C. LIBBY JR.

PLS #2190

EXHIBIT B

2.b.

Findings of Fact and Recommendations of the City of Biddeford Planning Board

To: Mayor Alan Casavant
Members of the Biddeford City Council

The Planning Board of the City of Biddeford has met and reviewed the Request for Contract Zone submitted by Sawmill Park Properties, LLC, Indian Cliff Development Corporation and Mike Eon Associates, Ltd, with respect to property located at and near Barra Road in Biddeford. The property is composed of portions of properties currently designated as Tax Map 2, Lots 43-1 and 43-2, and Tax Map 7, Lot 15 and contains 441,664 square feet (10.14 acres). The Project will involve the construction of two joined building (Building A and Building B) and will contain, in total, 250 units of residential housing together with 322 parking spaces. In addition to the creation of a Contract Zone, it will be necessary for the Project to be further reviewed under the site plan review procedures of the Biddeford Zoning Ordinance as well as the Maine Department of Environmental Protection.

Upon review, the Planning Board of the City of Biddeford makes the following findings of fact:

- A. The proposed contract zone as hereinafter set forth is consistent with the Comprehensive Plan of the City of Biddeford in that the area to be developed is located in a section of the City of Biddeford which is currently developed for large scale uses such as medical offices, hotels, office buildings, and elderly care support facilities; and
- B. The proposed residential use is consistent with the existing or permitted uses within the original zone that is, the existing R-3 zone which encompasses a portion of the property is a residential zone which permits multifamily structures and that portion of the property which is located in the I-3 zone is adjacent to the R-3 zone and can be absorbed into it without adversely affecting the remainder of the I-3 zone; and
- C. The proposed zone change shall meet all of the area, front yard, side yard, rear yard and height requirements of the proposed contract zone; and
- D. The proposed zone will not create unreasonable traffic congestion on contiguous or adjacent streets, provided anticipate improvements required by various governmental approvals are constructed; and
- E. The proposed zone change and use authorized includes provisions for providing and maintaining adequate:
 - 1. Utility services; and
 - 2. Sewage disposal; and
 - 3. Drainage; and

4. Solid waste disposal; and
 5. Access; and
 6. Parking and loading; and
 7. All other necessary site improvements; and
- F. The proposed use will conform to the general character of the neighborhood in that the materials to be used, style of buildings, fences, plantings and the like are compatible with the character of the neighborhood; and
- G. Insofar as practicable, the landscaping will be preserved in its natural state; and
- H. There will be sufficient setbacks of structures and screening to provide an adequate visual and sound barrier; and
- I. Off-street parking facilities are sufficiently screened from view of surrounding properties; and
- J. There will be no significant adverse effect resulting from the proposed use and the proposed zone change upon the public health, safety and general welfare of the neighborhood.

The Planning Board of the City of Biddeford specifically finds there is a demonstrated need for the type of housing to be constructed which is intended to be for personnel employed by businesses located in the neighborhood, most especially the medical workforce. While Biddeford does have an existing rental housing stock, the vast majority of vacant apartments exist on upper floors without elevators making access difficult. This Project will have first floor level apartments and will provide elevator access to the upper floors.

The Planning Board of the City of Biddeford therefore recommends that the Request for Zone Change be affirmatively acted upon by the City Council.

The Board recommends that the real estate depicted on the Materials and plans entitled "Barra Road Apartments, A 250 unit Apartment Project, 60 Barra Road, Biddeford, Maine", prepared by BH2M and consisting of 15 pages attached hereto as Exhibit A, be rezoned pursuant to the provisions of Article XVII, Section 3 of the Zoning Ordinance of the City of Biddeford to a zone which is labelled Contract Zone 18 (CZ-18).

CZ-18 shall provide for the following:

1. The permitted uses in the zone shall include the multifamily apartment buildings containing no more than 250 units of housing in the two joined buildings.
2. The minimum lot size for each unit shall be 1500 square feet. All buildings shall be located

as ultimately approved by the Biddeford Planning Board as a part of its separate review under the Site Plan Review standards of the City of Biddeford Zoning Ordinance.

3. No building or structure as located and constructed shall exceed the height as set forth in the underlying R-3 and I-3 Zones.

In consideration of such Contract Zone Change the Applicant agrees to use Applicant's (or the Developer's) best efforts to:

1. Construct thereon a maximum of 250 units of multifamily residential housing, all in accordance with the aforesaid Plan.

It shall be a condition of this Contract Zone Change that, in the event the Developer, or its Approved Assignee, shall fail to commence significant construction of the improvements within four (4) years of the effective date of the Contract Zone, or shall fail to complete construction within seven (7) years of the effective date of the Zone Change, the Zone Change granted hereby shall automatically be void and the Property shall revert to the zoning classification that the Property was in of the date of the Contract Zone Agreement. Significant commencement of construction shall mean the installation of all infrastructure improvements and grading within the limits of the Project.

In the event that the zones have changed, the Property shall revert to the zoning classifications of the abutting properties. In the event the abutting properties shall have more than one zoning classification, the Property shall become part of the more restrictive abutting zone.

November 26, 2019

City of Biddeford Planning Board

By:


Its Chairman duly authorized

The undersigned Applicant agrees with the City of Biddeford to be bound by the terms, conditions and provisions of this Approval, if the zone change is enacted

Nov. 26, 2019

SAWMILL PARK PROPERTIES, LLC

By:


Michael R. Eon, Member

INDIAN CLIFF DEVELOPMENT CORP.

By: _____

Michael R. Eon, President

MIKE EON ASSOCIATES, LTD.

By: _____

Michael R. Eon, President

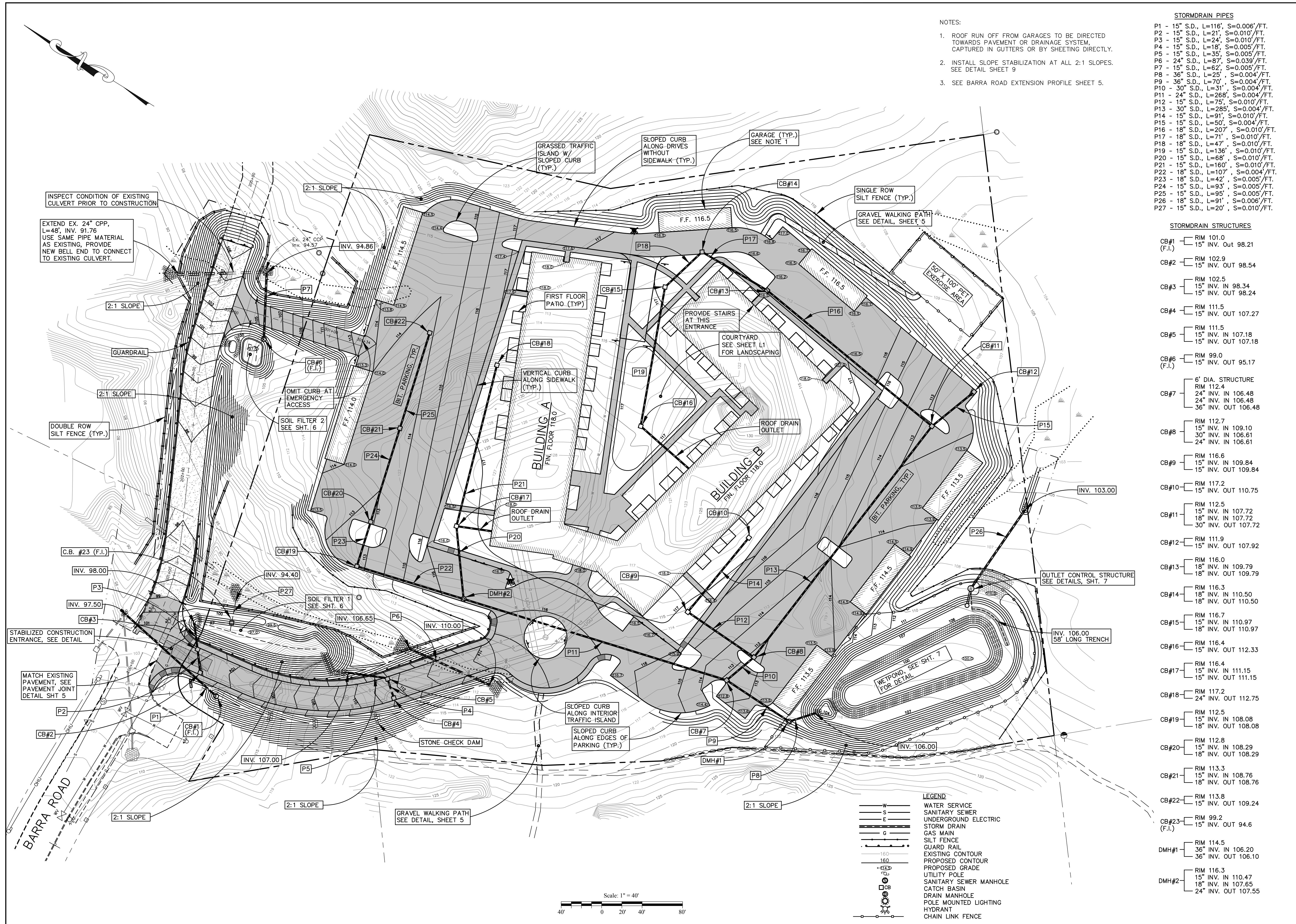
BARRA ROAD APARTMENTS
A 250 UNIT APARTMENT PROJECT
60 BARRA ROAD, BIDDEFORD, MAINE



PLAN INDEX

1	SITE PLAN
2	STANDARD BOUNDARY & EXISTING CONDITIONS PLAN
3	GRADING & EROSION CONTROL PLAN
4	ACCESS DRIVES PLAN EXTENSION AND PROFILES
5	DETAILS A
6	DETAILS B
7	WETPOND LAYOUT AND DETAILS
8	UTILITY DETAILS
9	EROSION CONTROL DETAILS
A	PRE-DEVELOPMENT DRAINAGE PLAN
B	POST-DEVELOPMENT DRAINAGE PLAN
L1	LANDSCAPE PLAN
L2	LANDSCAPE DETAILS, NOTES & IMAGES
L3	PHOTOMETRICS & LIGHTING PLAN

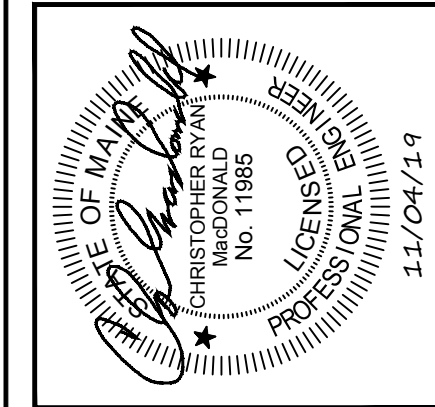




STORMDRAIN PIPES		
P1	- 15" S.D., L=116', S=0.006'/FT.	
P2	- 15" S.D., L=21', S=0.010'/FT.	
P3	- 15" S.D., L=24', S=0.010'/FT.	
P4	- 15" S.D., L=18', S=0.005'/FT.	
P5	- 15" S.D., L=35', S=0.005'/FT.	
P6	- 24" S.D., L=87', S=0.039'/FT.	
P7	- 15" S.D., L=62', S=0.005'/FT.	
P8	- 36" S.D., L=25', S=0.004'/FT.	
P9	- 36" S.D., L=70', S=0.004'/FT.	
P10	- 30" S.D., L=31', S=0.004'/FT.	
P11	- 24" S.D., L=268', S=0.004'/FT.	
P12	- 15" S.D., L=75', S=0.010'/FT.	
P13	- 30" S.D., L=285', S=0.004'/FT.	
P14	- 15" S.D., L=91', S=0.010'/FT.	
P15	- 15" S.D., L=50', S=0.004'/FT.	
P16	- 18" S.D., L=207', S=0.010'/FT.	
P17	- 18" S.D., L=71', S=0.010'/FT.	
P18	- 18" S.D., L=47', S=0.010'/FT.	
P19	- 15" S.D., L=136', S=0.010'/FT.	
P20	- 15" S.D., L=68', S=0.010'/FT.	
P21	- 15" S.D., L=160', S=0.010'/FT.	
P22	- 18" S.D., L=107', S=0.004'/FT.	
P23	- 18" S.D., L=42', S=0.005'/FT.	
P24	- 15" S.D., L=93', S=0.005'/FT.	
P25	- 15" S.D., L=95', S=0.005'/FT.	
P26	- 18" S.D., L=91', S=0.006'/FT.	
P27	- 15" S.D., L=20', S=0.010'/FT.	

STORMDRAIN STRUCTURES		
CB#1	- RIM 101.0 15" INV. OUT 98.21 (F.I.)	
CB#2	- RIM 102.9 15" INV. OUT 98.54	
CB#3	- RIM 102.5 15" INV. IN 98.34 15" INV. OUT 98.24	
CB#4	- RIM 111.5 15" INV. OUT 107.27	
CB#5	- RIM 111.5 15" INV. IN 107.18 15" INV. OUT 107.18	
CB#6	- RIM 99.0 15" INV. OUT 95.17 (F.I.)	
CB#7	- 6" DIA. STRUCTURE RIM 112.4 24" INV. IN 106.48 24" INV. IN 106.48 36" INV. OUT 106.48	
CB#8	- RIM 112.7 15" INV. IN 109.10 30" INV. IN 106.61 24" INV. IN 106.61	
CB#9	- RIM 116.6 15" INV. IN 109.84 15" INV. OUT 109.84	
CB#10	- RIM 117.2 15" INV. OUT 110.75	
CB#11	- RIM 112.5 15" INV. IN 107.72 18" INV. IN 107.72 30" INV. OUT 107.72	
CB#12	- RIM 111.9 15" INV. OUT 107.92	
CB#13	- RIM 116.0 18" INV. IN 109.79 18" INV. OUT 109.79	
CB#14	- RIM 116.3 18" INV. IN 110.50 18" INV. OUT 110.50	
CB#15	- RIM 116.7 15" INV. IN 110.97 18" INV. OUT 110.97	
CB#16	- RIM 116.4 15" INV. OUT 112.33	
CB#17	- RIM 116.4 15" INV. IN 111.15 15" INV. OUT 111.15	
CB#18	- RIM 117.2 24" INV. OUT 112.75	
CB#19	- RIM 112.5 15" INV. IN 108.08 18" INV. OUT 108.08	
CB#20	- RIM 112.8 15" INV. IN 108.29 18" INV. OUT 108.29	
CB#21	- RIM 113.3 15" INV. IN 108.76 18" INV. OUT 108.76	
CB#22	- RIM 113.8 15" INV. OUT 109.24	
CB#23	- RIM 99.2 15" INV. OUT 94.6 (F.I.)	
DMH#1	- RIM 114.5 36" INV. IN 106.20 36" INV. OUT 106.10	
DMH#2	- RIM 116.3 15" INV. IN 110.47 18" INV. IN 107.65 24" INV. OUT 107.55	

REVISION		DESCRIPTION
NO.	DATE	
1	04/08/19	Preliminary Submission to City of Biddeford
2	05/01/19	Revisions based on updated building footprint
3	06/10/19	Revisions based on City review comments Submitted to DEP & City
4	09/11/19	Revisions Based on Follow-up City Review Comments
5	10/09/19	Final Plan Submission
6	11/14/19	Revised per City Final Review



BH2M

Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors
28 State Street
Biddeford, Maine 04005
Tel: (207) 839-2771
Fax: (207) 839-8250

FOR
Savon Partners
23 Recreation Drive
Hingham, MA 02043

GRADING AND
EROSION CONTROL

250 UNIT APARTMENTS

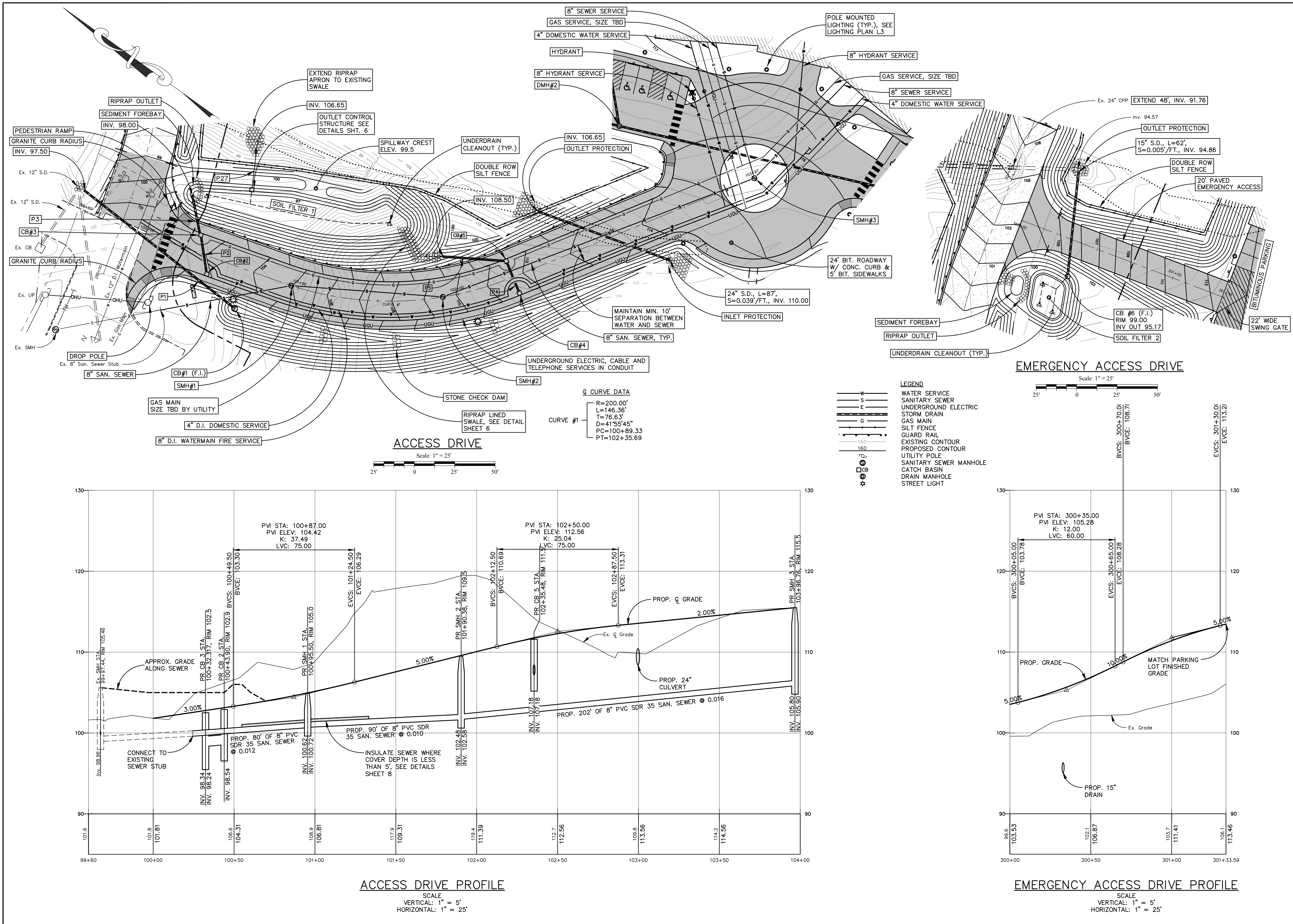
60 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED C. MacDonald	DATE April 2019
DRAWN Dept.	SCALE As Noted
CHECKED S. Blake	JOB, NO. 18070

SHEET

3

REPRODUCTION OR REUSE OF THIS
DOCUMENT WITHOUT THE
EXPRESSED WRITTEN CONSENT
OF BH2M INC. IS PROHIBITED



NO.	DATE	REVISION	DESCRIPTION
1	04/08/19		Preliminary Submission to City of Biddeford
2	05/01/19		Revisions based on updated building footprint
3	06/10/19		Revisions based on City review comments Submitted to DEP & City
4	09/11/19		Revisions Based on Follow-up City Review Comments
5	10/09/19		Final Plan Submission
6	11/14/19		Revised per City Final Review

C. MacDonald
No. 11985
Professional Engineer
State of Maine

BH2M

Berry, Huff, MacDonald, Milligan Inc.
Engineers, Surveyors
28 State Street
Biddeford, Maine 04005
Tel: (207) 839-2771
Fax: (207) 839-8250

FOR
Saxon Partners
23 Recreation Drive
Hingham, MA 02043

**ACCESS DRIVES PLAN
EXTENSION AND PROFILE**

250 UNIT APARTMENTS

60 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED	DATE
C. MacDonald	April 2019

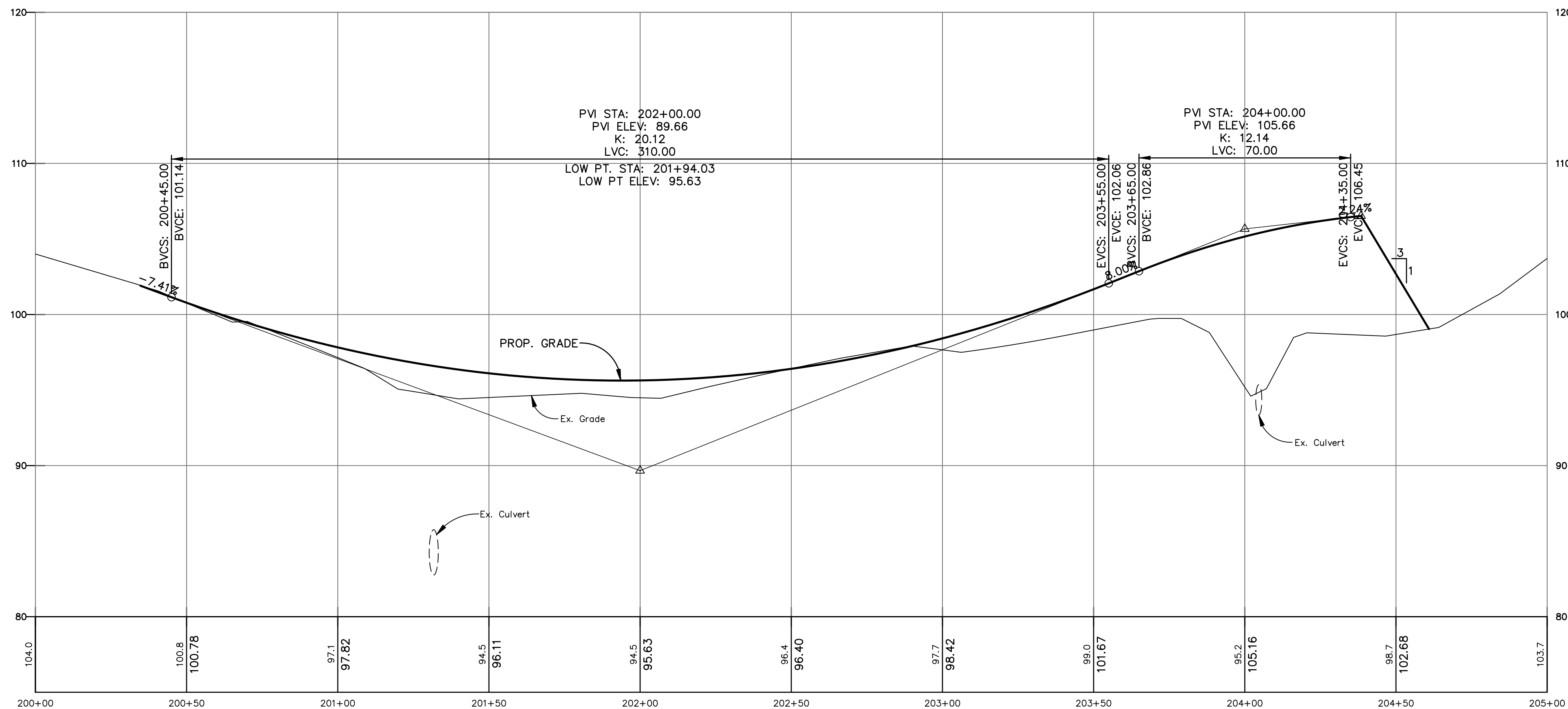
DRAWN	SCALE
Dept.	As Noted

CHECKED	JOB. NO.
S. Blake	18070

SHEET

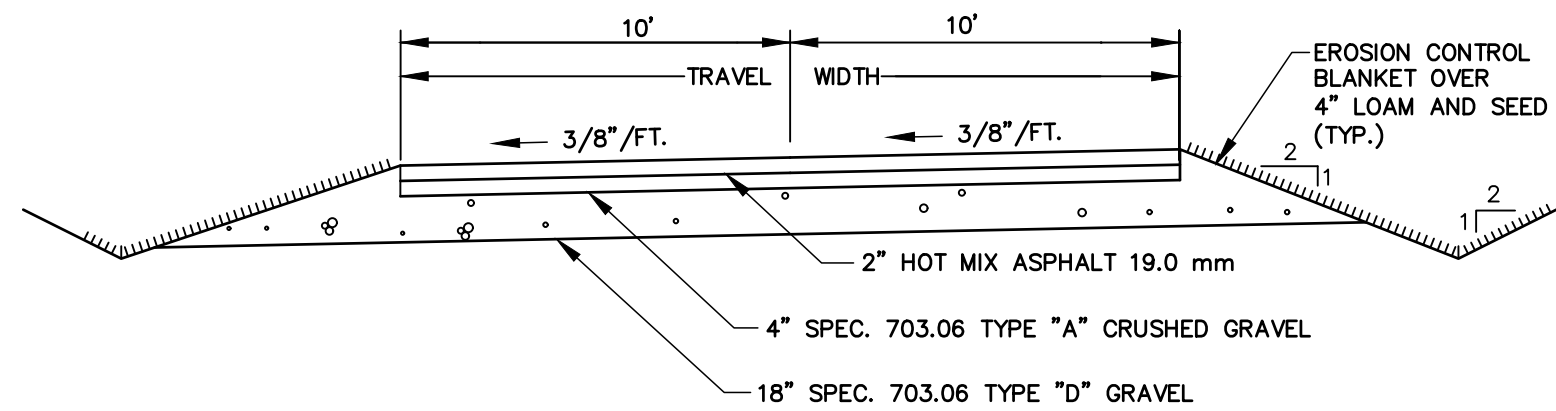
4

REPRODUCTION OR REUSE OF THIS DOCUMENT WITHOUT THE EXPRESSED WRITTEN CONSENT OF BH2M INC. IS PROHIBITED



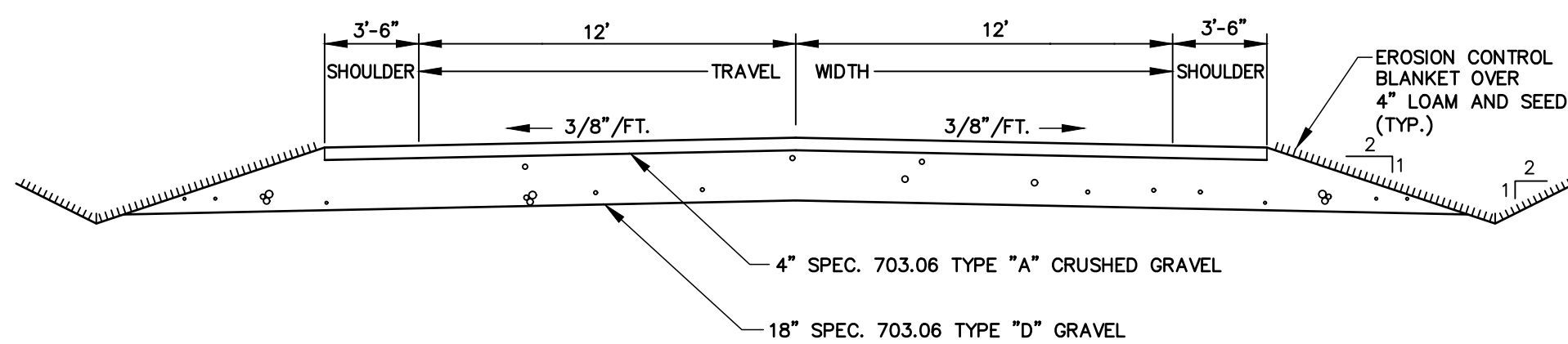
BARRA ROAD EXTENSION PROFILE

SCALE
VERTICAL: 1" = 5'
HORIZONTAL: 1" = 25'



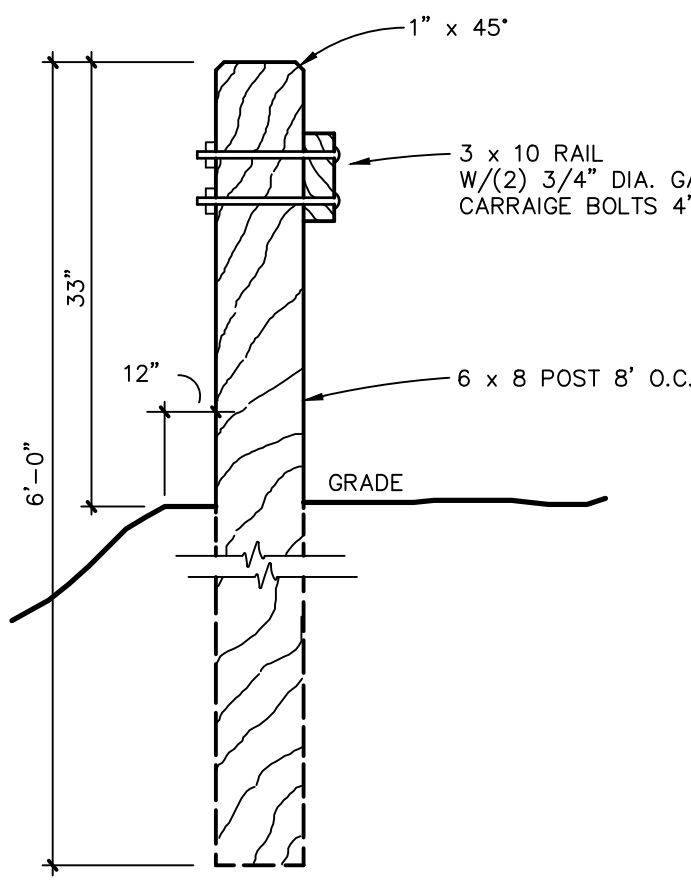
EMERGENCY ACCESS DRIVE SECTION

NTS



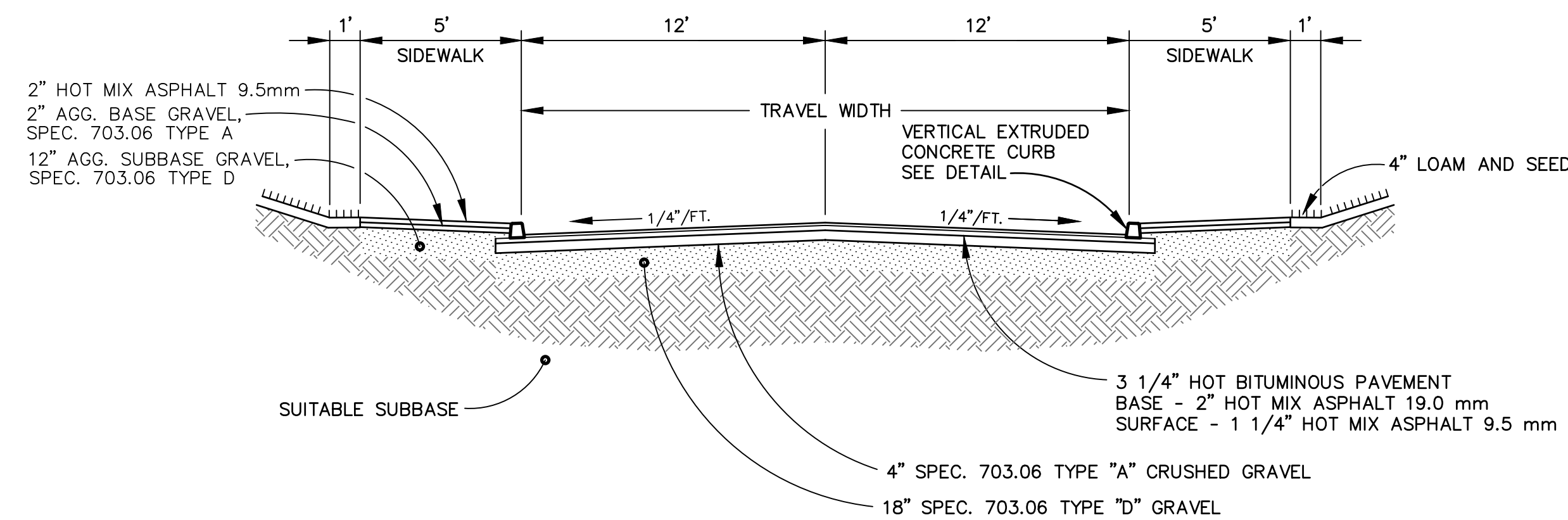
BARRA ROAD EXTENSION SECTION

NTS



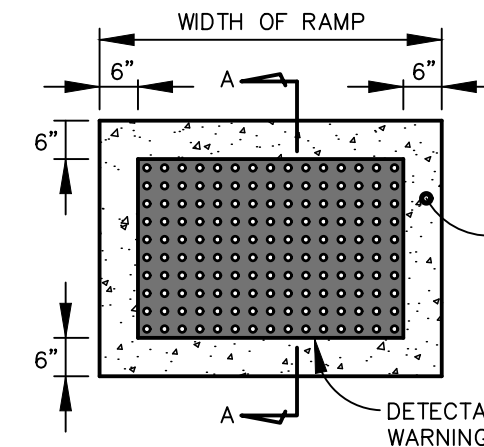
TYPICAL WOODEN GUARD RAIL

NTS

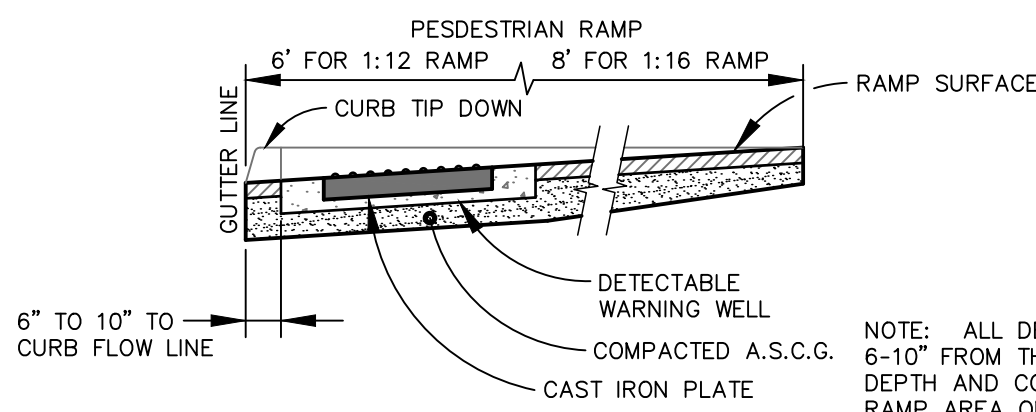


ACCESS DRIVE SECTION

NTS



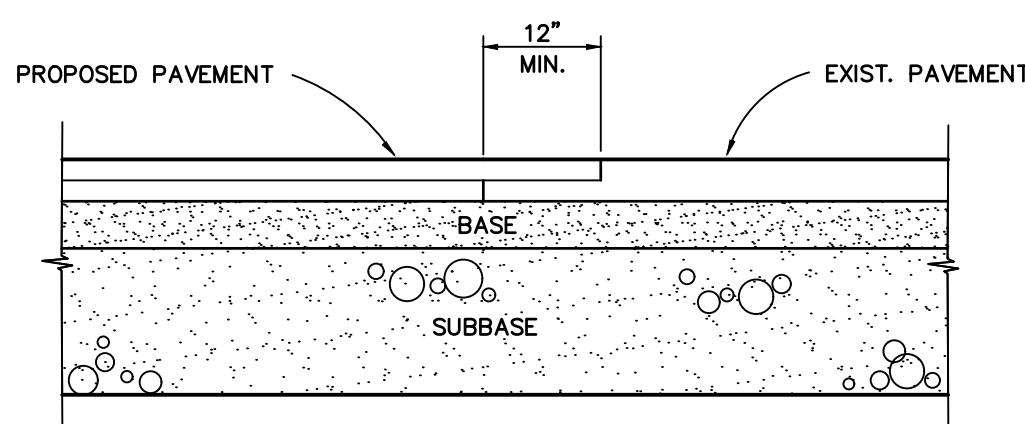
PLAN VIEW OF DETECTABLE WARNING WELL



SIDE SECTION OF DETECTABLE WARNING, WELL, CURB AND GUTTER

DETECTABLE WARNING MAT EMBEDDING

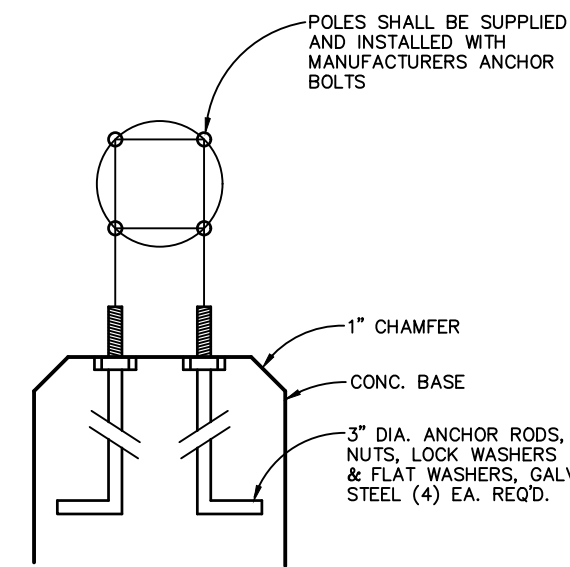
NTS



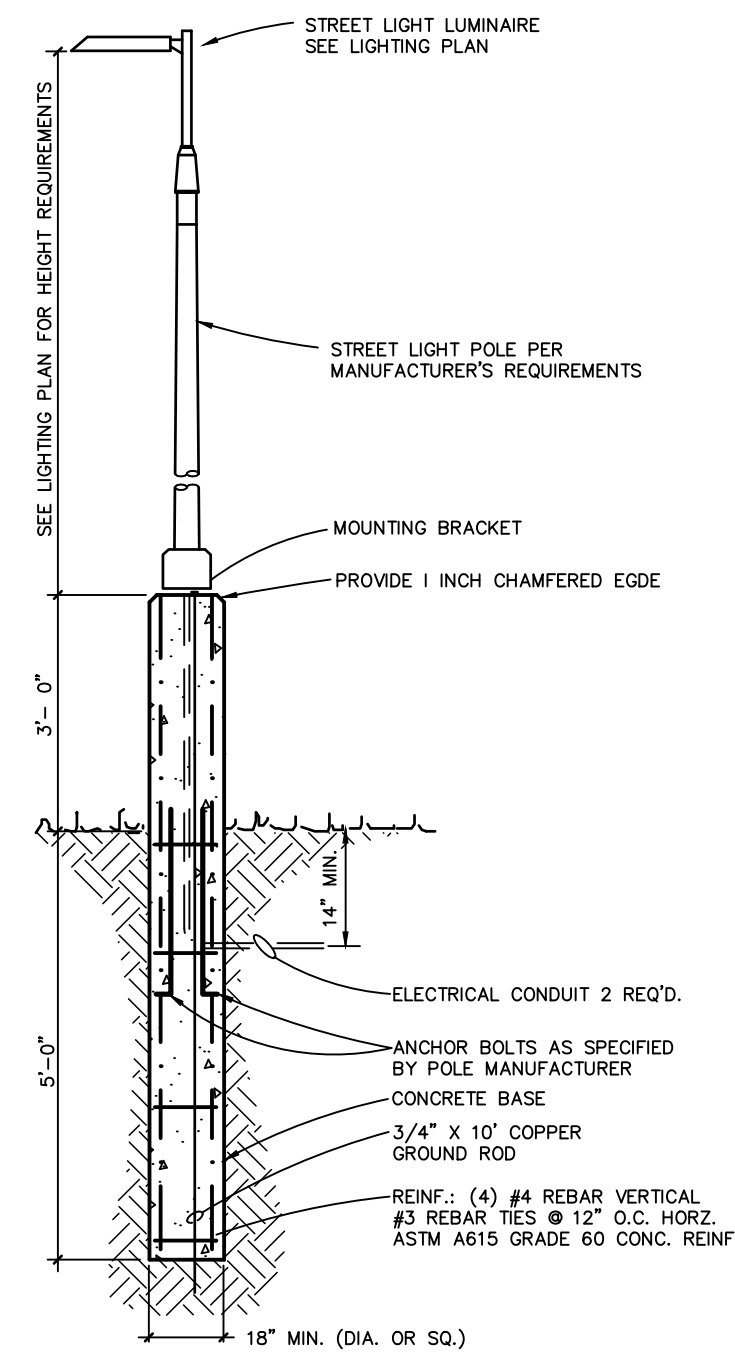
SAWCUT EXIST. PAVEMENT ALONG A SMOOTH LINE TO A NEAT EVEN VERTICAL JOINT, APPLY TACK PRIOR TO PROPOSED PAVING (AS REQ'D)

PAVEMENT JOINT DETAIL

NTS



BOLT LAYOUT & MATERIALS

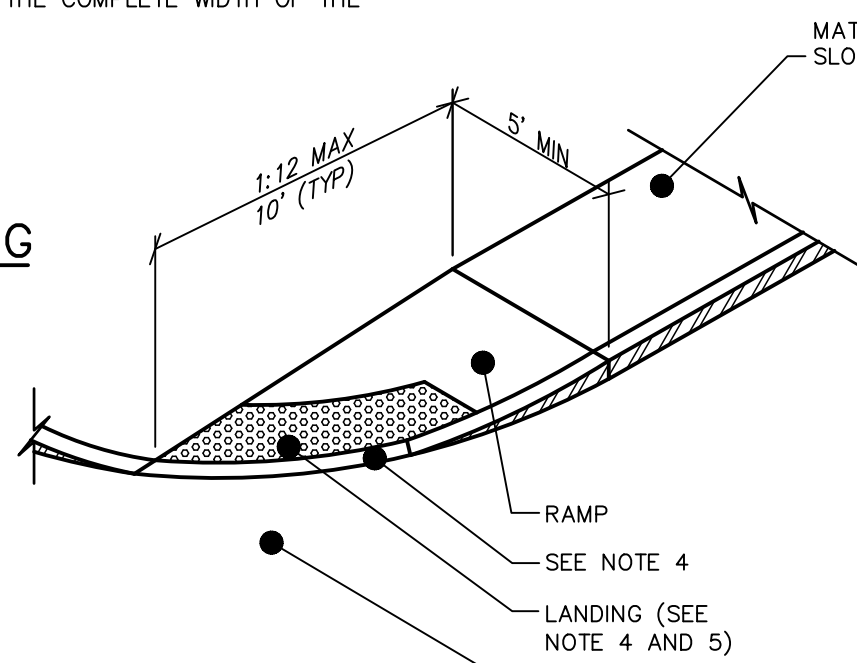


LIGHT POLE DETAIL

NTS

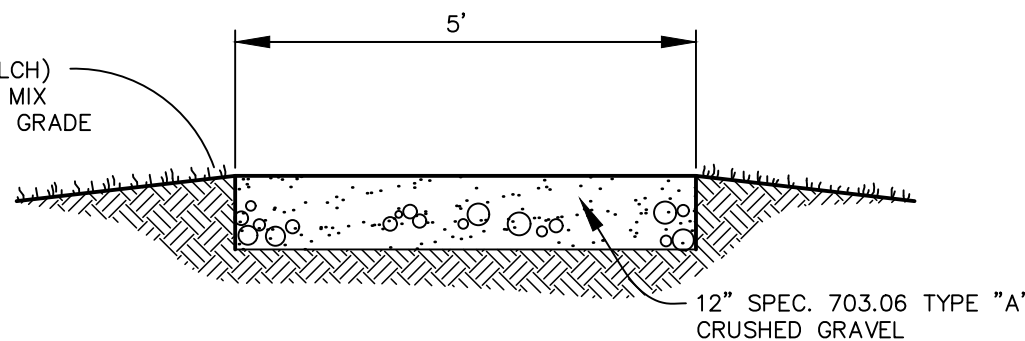
NOTE:

- CURB RAMP LENGTHS ARE BASED ON SIX (6) INCH CURB REVEAL HEIGHT AND NO RUNNING SLOPE. RAMP LENGTHS SHALL BE ADJUSTED AS NECESSARY TO ACCOMMODATE VARYING CURB REVEAL HEIGHTS AND TO MATCH RUNNING SLOPES OF ADJACENT ROADWAY AND SIDEWALK SLOPES.
- DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES AND SHALL HAVE A BASE DIAMETER OF 0.9 INCHES (23 mm) MINIMUM AND 1.4 INCHES (36 mm) MAXIMUM; A TOP DIAMETER OF 50 PERCENT OF THE BASE DIAMETER MINIMUM TO 65 PERCENT OF THE BASE DIAMETER MAXIMUM AND A HEIGHT OF 0.2 INCHES (5.1 mm), A CENTER-TO-CENTER SPACING OF 1.6 INCHES (41mm) MINIMUM AND 2.4 INCHES (61mm) MAXIMUM, AND A BASE-TO-BASE SPACING OF 0.65 INCHES (17mm) MINIMUM, MEASURED BETWEEN THE MOST ADJACENT DOMES ON A SQUARE GRID.
- DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNINGS USED ON INTERIOR SURFACES SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE CONTACT.
- ALL ACCESSIBLE ROUTE SIDEWALKS INTERSECTING ROADWAYS, DRIVEWAYS, OR OTHER VEHICULAR CROSSINGS REQUIRE DETECTABLE WARNINGS. DETECTABLE WARNING ZONES SHALL BE INSTALLED SIX (6) INCHES (OR THE HORIZONTAL THICKNESS OF THE ADJACENT CURB) FROM THE FLOW LINE OF THE CURB, EXTEND INTO THE SIDEWALK FOR A 24" DEPTH, AND COVER THE COMPLETE WIDTH OF THE SIDEWALK OR RAMP AREA. DETECTABLE WARNING ZONES SHALL CONFORM TO THE SLOPE REQUIREMENTS OF THE RAMP, LANDING, OR ACCESSIBLE ROUTE AS DEFINED IN THE SPECIFIED DETAIL. DETECTABLE WARNINGS SHALL NOT BE INSTALLED IN FLARED SIDES, IF THE RAMP INCLUDES FLARED SIDES.
- ALL LANDING AREAS SHALL BE 5 FEET WIDE BY 5 FEET LONG (MINIMUM DIMENSIONS). THE SLOPE OF THE LANDING AREA SHALL NOT EXCEED A 1:48 IN ANY DIRECTION.
- ALL ACCESSIBLE ROUTE SLOPES ADJOINING THE LANDING AREA, EXCLUDING THE CURB RAMP, SHALL NOT EXCEED A SLOPE OF 1:20 UNLESS OTHERWISE NOTED.



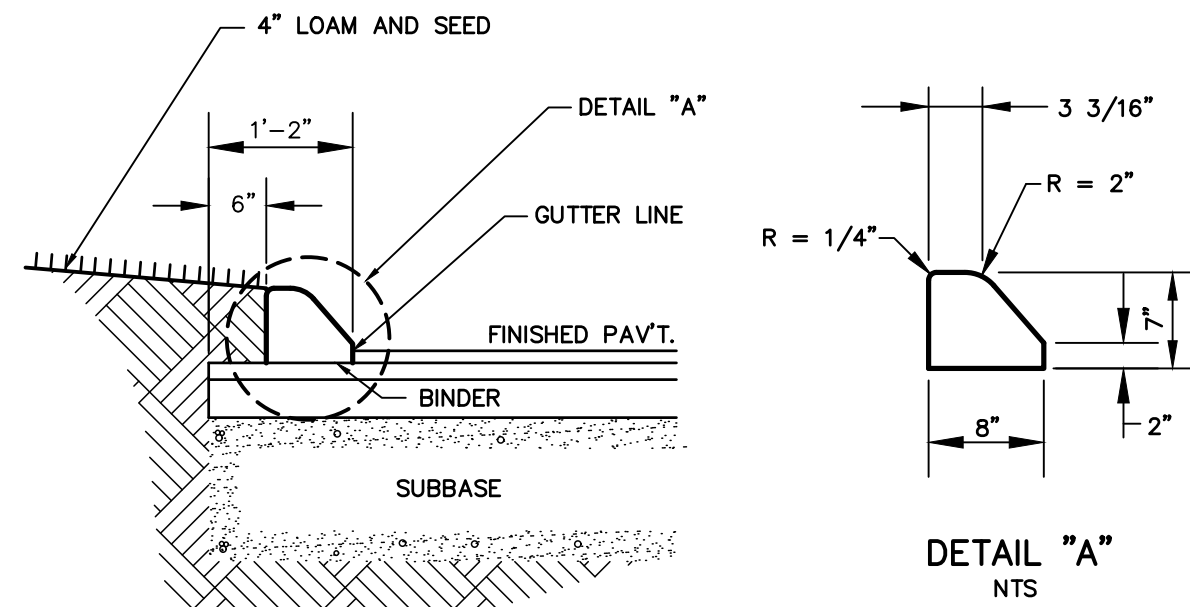
ADA RAMP

NTS



GRAVEL PATH

NTS

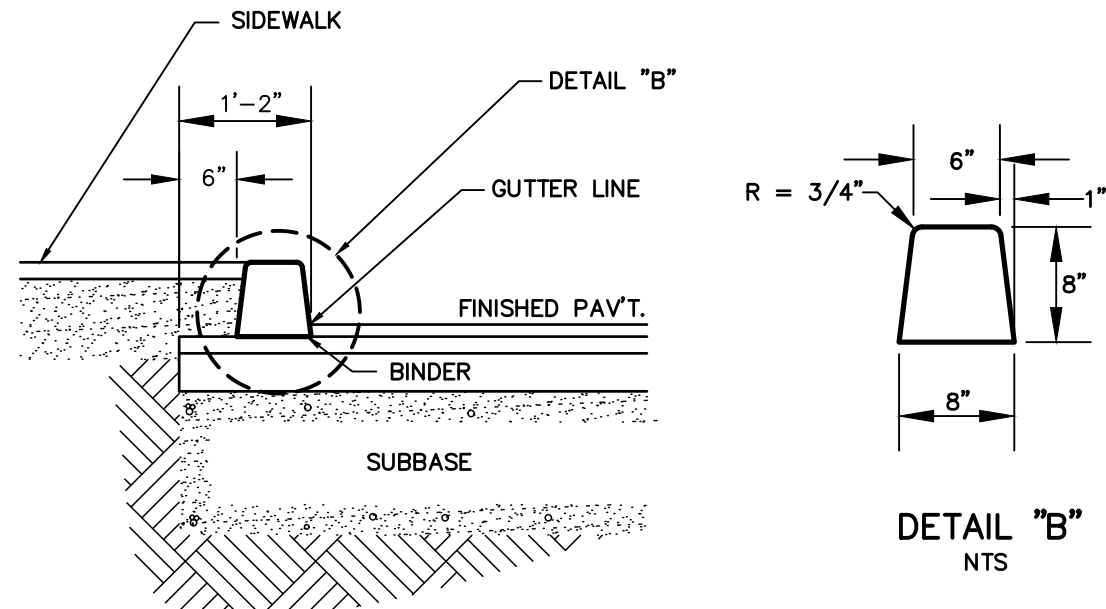


DETAIL "A"

NTS

SLOPED CURB

NTS



DETAIL "B"

NTS

VERTICAL CURB

NTS

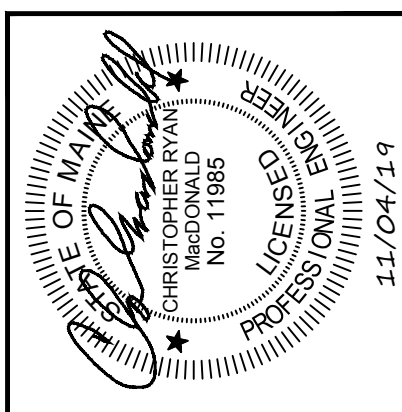
NOTES:

- 1 LB. FIBER MESH SHALL BE ADDED TO EVERY CUBIC YARD OF CONCRETE. THE CONCRETE WILL CONTAIN THE MAXIMUM AMOUNT OF WATER TO BE OF A CONSISTENCY THAT THE CONCRETE WILL MAINTAIN THE SHAPE OF THE CURB SECTION WITHOUT SUPPORT. THIS MIX ALSO MEETS THE READY MIX REQUIREMENTS OF ASTM C94 AND WILL MEET OR EXCEED 4,000 PSI IN 28 DAYS.
- THE PAVEMENT SHALL BE THOROUGHLY CLEANED TO REMOVE DUST, DIRT AND OIL BEFORE APPROVED ADHESIVE IS APPLIED PER MANUFACTURERS SPECIFICATIONS.
- THE FIBER REINFORCED MIX SHALL BE FED INTO THE VIBRATING HOPPER WHERE IT IS COMPACTED INTO THE DESIRED MOLD PROFILE.
- FRESHLY EXTRUDED CURB SHALL BE LIGHTLY TOUCHED UP WITH A STEEL HAND TROWEL. CONTROL JOINTS SHALL BE TOOLED AS SOON AS POSSIBLE AT 9' INTERVALS. ADDITIONAL CONTROL JOINTS ADDED ON RADIUS AS NECESSARY.
- THE FINISHED CURB WILL BE COATED WITH AN APPROVED CURING COMPOUND.
- FOLLOW MANUFACTURERS INSTALLATION INSTRUCTIONS AND TEMPERATURE RESTRICTIONS.
- USE VERTICAL CURB FOR ALL AREAS ADJACENT TO SIDEWALK. USE SLOPED CURB IN ALL OTHER AREAS.

EXTRUDED CONCRETE CURB

NTS

NO.	DATE	DESCRIPTION
1	04/08/19	Preliminary Submission to City of Biddeford
2	06/10/19	Revisions based on City review comments Submitted to DEP & City
3	09/11/19	Revisions Based on Follow-up City Review Comments
4	10/09/19	Final Plan Submission
5	11/1/19	Revised per City Final Review



BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors
28 State Street
Biddeford, Maine 04005
Tel: (207) 839-2771
Fax: (207) 839-8250

FOR
SAVOR PARTNERS
23 Recreation Drive
Hingham, MA 02043

DETAILS A
250 UNIT APARTMENTS
60 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED W. Pelkey	DATE April 2019
DRAWN Dept.	SCALE As Noted
CHECKED S. Blake	JOB. NO. 18070

SHEET
5
REPRODUCTION OR REUSE OF THIS DOCUMENT WITHOUT THE EXPRESSED WRITTEN CONSENT OF BH2M INC. IS PROHIBITED

GRASSED UNDERDRAIN SOIL FILTER NOTES

REFERENCES

1. MAINE STORMWATER BEST MANAGEMENT PRACTICES (BMP), VOLUME III BMP TECHNICAL DESIGN MANUAL, CHAPTER 7 FILTRATION BMPs (LATEST REVISION).

CONSTRUCTION METHODS

1. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION MATERIALS, INSTALLATION, MEANS, METHODS, AND SCHEDULING.
2. ALL WORK SHALL BE IN CONFORMANCE WITH THE PROJECT PLANS AND BMPs REFERENCED ABOVE.

DE-WATERING PLAN

1. DURING CONSTRUCTION OF THE SITE AND VEGETATED SOIL FILTER, THE CONTRACTOR SHALL BE PREPARED TO IMPLEMENT A DEWATERING PLAN IN ANTICIPATION OF HEAVY RAIN EVENTS.
2. THE AREA OF THE BASIN MAY BE EXCAVATED IN PREPARATION OF THE INSTALLATION OF THE UNDERDRAIN AND MAY BE USED FOR A SEDIMENT TRAP FOR THE SITE DURING CONSTRUCTION. AFTER EXCAVATION OF THE BASIN, THE OUTLET STRUCTURE AND PIPING SYSTEM SHALL BE INSTALLED AT THE APPROPRIATE ELEVATION AND PROTECTED WITH A SEDIMENT BARRIER. THE BASIN IS TO BE USED AS A SEDIMENT TRAP, THE SIDES OF THE EMBANKMENTS MUST BE MULCHED AND MAINTAINED TO PREVENT EROSION.

SOIL MEDIA

1. THE SOIL MEDIA SHALL CONSIST OF SILTY SANDY SOIL OR SOIL MIXTURE COMBINED WITH 20% TO 25% BY VOLUME (NO LESS THAN 10% BY DRY WEIGHT) OF MODERATELY SHREDDED BARK OR WOOD FIBER MULCH.
2. THE SOIL FILTER MEDIA SAND SHALL MEET THE GRADATION IN TABLE 7-2 (MDOOT 703.01) WITH ADDITIONAL FINES ADDED IF NECESSARY.
3. THE RESULTING SOIL FILTER MEDIA SHALL HAVE 8% TO 12% BY WEIGHT PASSING THE #200 SIEVE AND SHALL HAVE A CLAY CONTENT OF LESS THAN 2%.
4. THE COARSE GRAVEL MATERIAL SHALL MEET THE GRADATION OF TABLE 7.1 (MDOOT 703.22 UNDERDRAIN, TYPE B).
5. THE FILTER MEDIA SHALL BE LIGHTLY COMPACTED BETWEEN 90% AND 92% STANDARD PROCTOR (ASTM D698) AND SHALL HAVE A PERMEABILITY OF 2.4 IN/HR TO 4 IN/HR.
6. THE CLAY CONTENT SHALL BE < 2%.

CONSTRUCTION

1. SOIL FILTER MEDIA, COARSE GRAVEL, AND UNDERDRAIN BEDDING MATERIAL SHALL BE COMPACTED TO BETWEEN 90% AND 92% STANDARD PROCTOR.
2. PERFORATED UNDERDRAIN PIPE SHALL BE 4" AND 6" SCHEDULE 40 OR SDR 35 PVC PIPE. SPACED 8 FEET AND 4 FEET ON CENTER AS SHOWN ON PLANS.
3. TRIBUTARY AREAS SHALL BE STABILIZED PRIOR TO INSTALLATION OF THE SOIL FILTER MEDIA MIXTURE AND UNDERDRAIN. STABILIZED IS DEFINED AS PAVED IF IN A PARKING AREA OR ROADWAY AND 90% GRASS CATCH IF IN A VEGETATED AREA.
4. OUTFLOW OF THE VEGETATED SOIL FILTER SHALL BE CONTROLLED BY A 2" PLASTIC TYPE 34-8 BALL VALVE WITH TYPE 615 BALL VALVE HANDLE EXTENSION (AVAILABLE FROM E.J. PRESCOTT OR EQUIVALENT). A THREE-PIECE VALVE BOX (AVAILABLE FROM E.J. PRESCOTT OR EQUIVALENT) SHALL BE INSTALLED OVER THE VALVE.
5. ALL EQUIPMENT USED WITHIN THE LIMITS OF THE VEGETATED SOIL FILTER SHALL BE LOW GROUND PRESSURE VEHICLES (LESS THAN 2.0 PSI) WHEN FULLY LOADED.
6. IF VEGETATION IS NOT ESTABLISHED WITHIN THE FIRST YEAR, THE CONTRACTOR SHALL INSTALL A 2-3 INCH LAYER OF LOAM (WITH LESS THAN 2% CLAY AS TESTED VIA HYDROMETER TEST) ON THE SURFACE OF THE GRASS FILTER AND RE-SEED/MULCH.
7. THE SURFACE OF THE VEGETATED SOIL FILTER SHALL BE PLANTED WITH A GRASS SPECIES THAT IS TOLERANT OF FREQUENT INUNDATION AND WELL-DRAINED SOILS. UPON SEEDING, THE SURFACES SHALL BE MULCHED WITH HAY OR AN EROSION CONTROL BLANKET BUT SHALL NOT BE FERTILIZED. AN APPROPRIATE SEED MIXTURE SHOULD CONTAIN THE FOLLOWING OR BE AN EQUIVALENT CONSERVATION TYPE MIX:

CREeping RED FESCUE	20 LBS/ACRE
TALL FESCUE	20 LBS/ACRE
BERMUDOGRASS TREFOIL	8 LBS/ACRE
TOTAL	48 LBS/ACRE

TESTING AND SUBMITTALS

1. THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE FILTER MEDIA. ALL TESTING RESULTS SHALL BE SUBMITTED TO THE PROJECT ENGINEER.
2. SUBMIT SAMPLES OF EACH TYPE OF MATERIAL TO BE BLENDED FOR THE MIXED FILTER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE WILL BE DETERMINED BY TESTING LABORATORY.
3. THE CONTRACTOR SHALL PERFORM A SIEVE ANALYSIS CONFORMING TO ASTM C136 (STANDARD TEST METHODS FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES, 1996A) ON EACH TYPE OF SAMPLE MATERIAL INCLUDING A HYDROMETER TEST FOR CLAY CONTENT.
4. THE CONTRACTOR SHALL PERFORM A PERMEABILITY TEST ON THE SOIL MEDIA MIXTURE CONFORMING TO ASTM D2434.
5. THE CONTRACTOR SHALL PERFORM ONE COMPACTION DENSITY TEST ON THE IN-PLACE SOIL FILTER MEDIA FOR EVERY 1,500 S.F. OF BED OR FRACTION THEREOF. THE TEST SHALL CONFORM TO ASTM 2922.
6. UPON COMPLETION OF THE VEGETATED SOIL FILTER MEDIA AND THE ESTABLISHMENT OF 80% CATCH OF GRASS OVER THE FILTER MEDIA, THE CONTRACTOR SHALL FLOOD THE VEGETATED BASIN TO THE SPILLWAY WITH CLEAR WATER AND ADJUST THE OUTFLOW TO OBTAIN A 24-HOUR TO 32-HOUR RELEASE TIME.

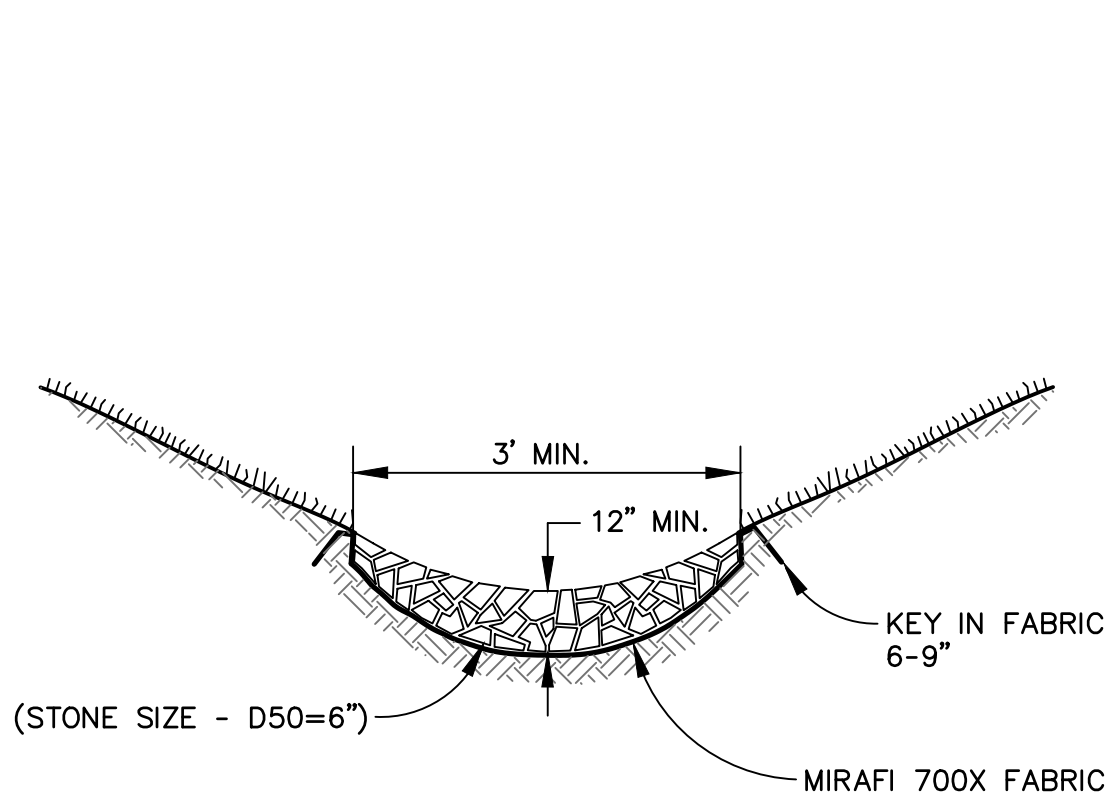
CONSTRUCTION OVERSIGHT

1. THE CONTRACTOR SHALL MEET THE "CONSTRUCTION OVERSIGHT" SECTION OF CHAPTER 7, FILTRATION BMPs (REVISED MAY 2016) OF THE STORMWATER MANAGEMENT FOR MAINE, VOLUME II, BMPs TECHNICAL DESIGN MANUAL.
2. THE DESIGN ENGINEER SHALL BE CONDUCTING PERIODIC SITE OVERSIGHT OF THE CONSTRUCTION AS DESCRIBED BELOW AND IN COMPLIANCE WITH THE PERMITS.
3. THE ENGINEER SHALL REVIEW AND APPROVE ALL CONTRACTOR SUBMITTALS.
4. THE CONTRACTOR SHALL GIVE THE ENGINEER A PROPOSED CONSTRUCTION SCHEDULE AND A 48-HOUR NOTICE FOR ALL SITE VISITS.
5. INSPECTIONS SHALL INCLUDE:
 - PRE-CONSTRUCTION MEETING WITH CONTRACTOR
 - INSPECTION OF EXCAVATION IF USED FOR SEDIMENT TRAP
 - INSPECTION OF EXCAVATION HOLE.
 - AFTER PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND
 - ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACK-FILLED.
 - AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO
 - INSTALLATION OF THE FILTER MEDIA.
 - AFTER FILTER MEDIA HAS BEEN INSTALLED AND SEED.
 - AFTER ONE YEAR TO INSPECT VEGETATION UPTAKE AND OBSERVE
 - FLOODING TEST.

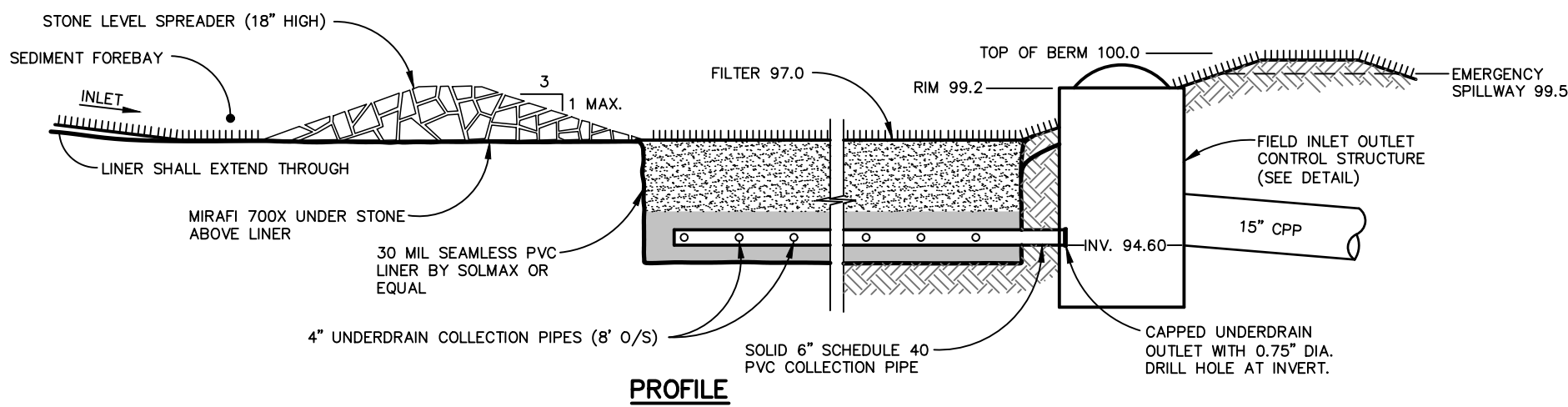
TABLE 7-1 UNDERDRAIN SPECS.	
SIEVE SIZE	% BY WEIGHT
1"	100
1/2"	100
#4	100
#10	100
#20	100
#40	100
#60	100
#80	100
#100	100
#120	100
#140	100
#160	100
#180	100
#200	100

TABLE 7-2 AGGREGATE SPECS.	
SIEVE SIZE	% BY WEIGHT
3/8"	100
#4	100
#10	100
#20	100
#40	100
#60	100
#80	100
#100	100
#120	100
#140	100
#160	100
#180	100
#200	100

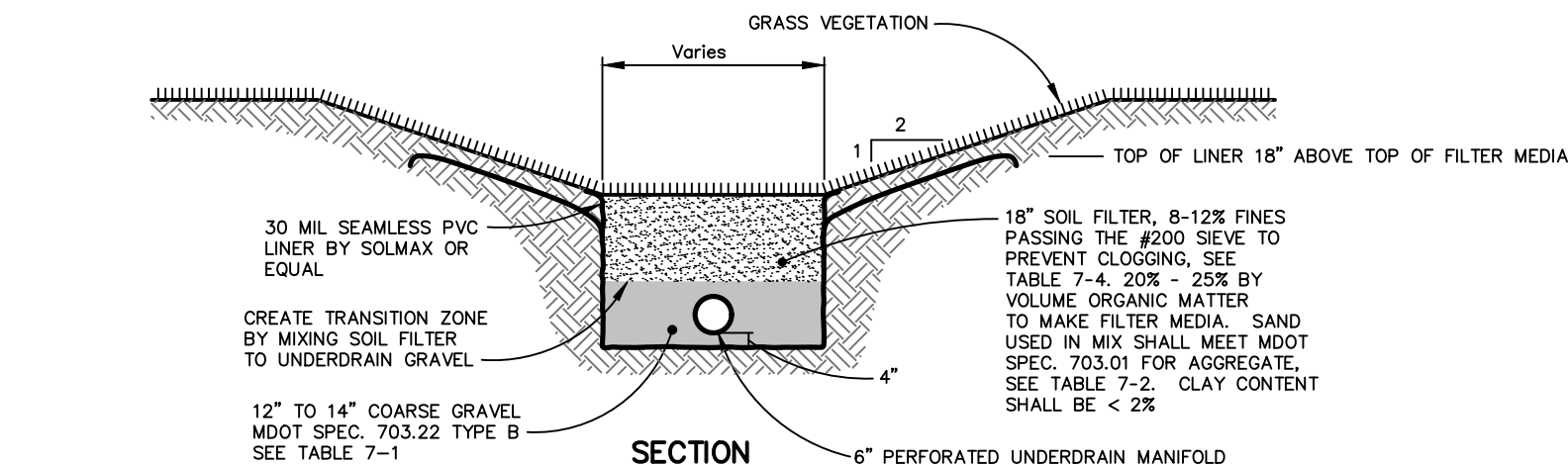
TABLE 7-4 COARSE LOAMY SAND SIEVE ANALYSIS SPECIFICATION	
SIEVE #	% PASSING BY WEIGHT
#10	85-100
#20	75-100
#40	65-100
#60	55-100
#80	45-100
#100	35-100
#120	25-100
#140	15-100
#160	10-100
#180	5-100
#200	0-100



RIPRAP LINED SWALE
N.T.S.

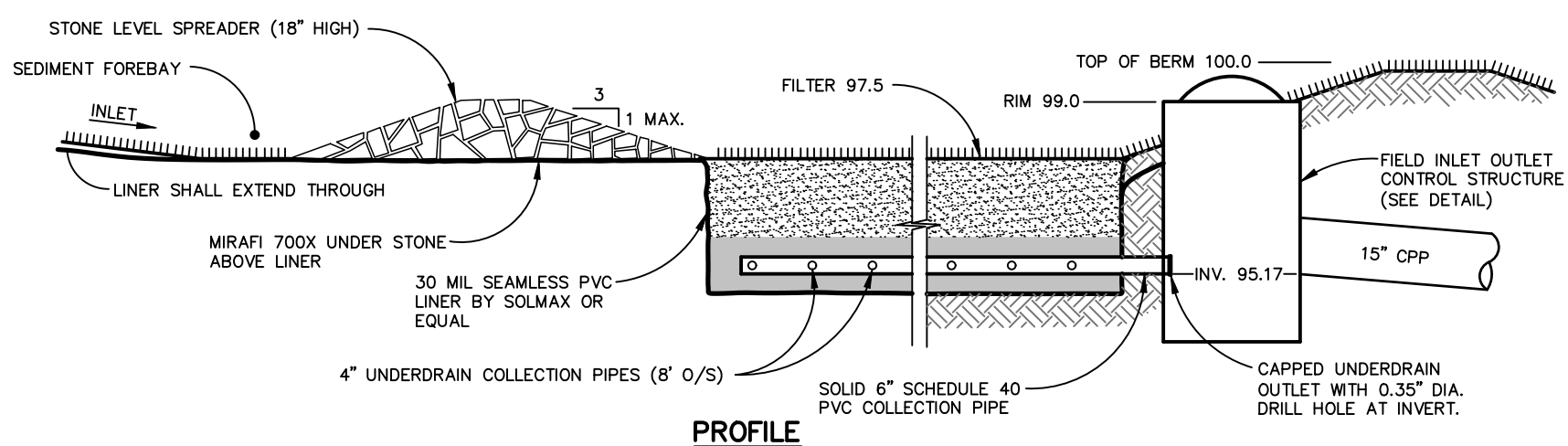


PROFILE

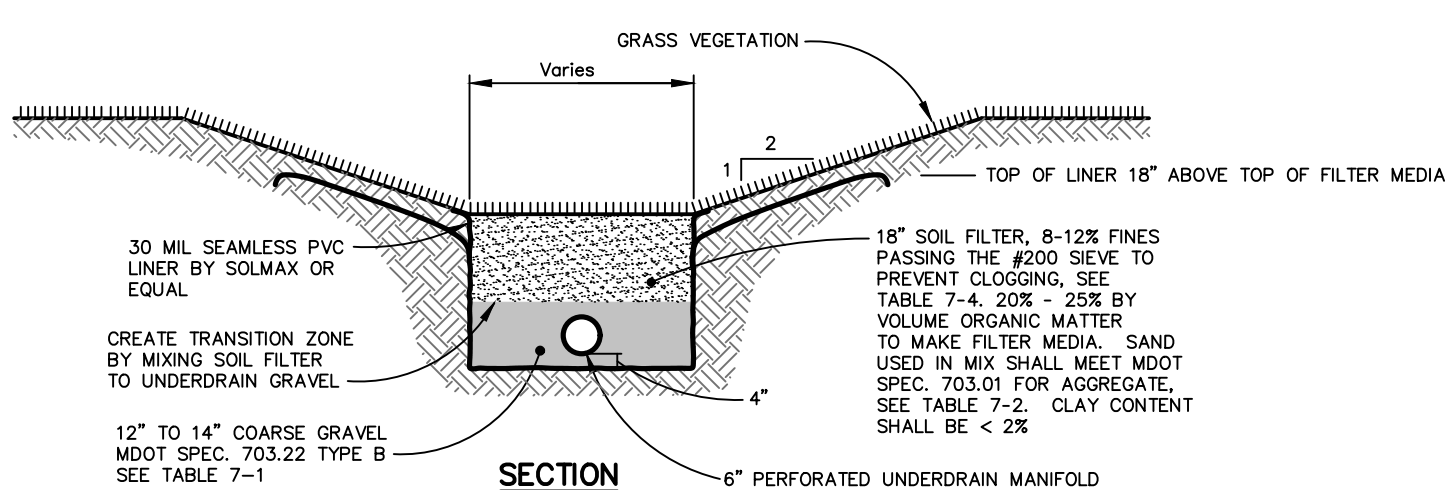


SECTION

**GRASSED UNDERDRAIN
SOIL FILTER # 1**
N.T.S.



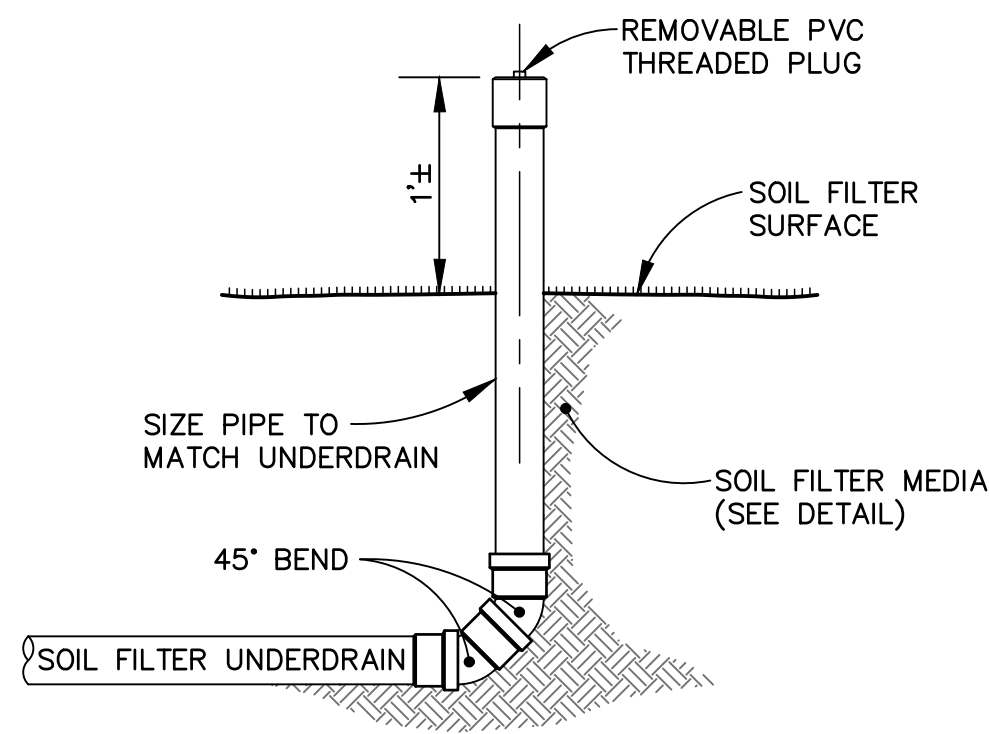
PROFILE



SECTION

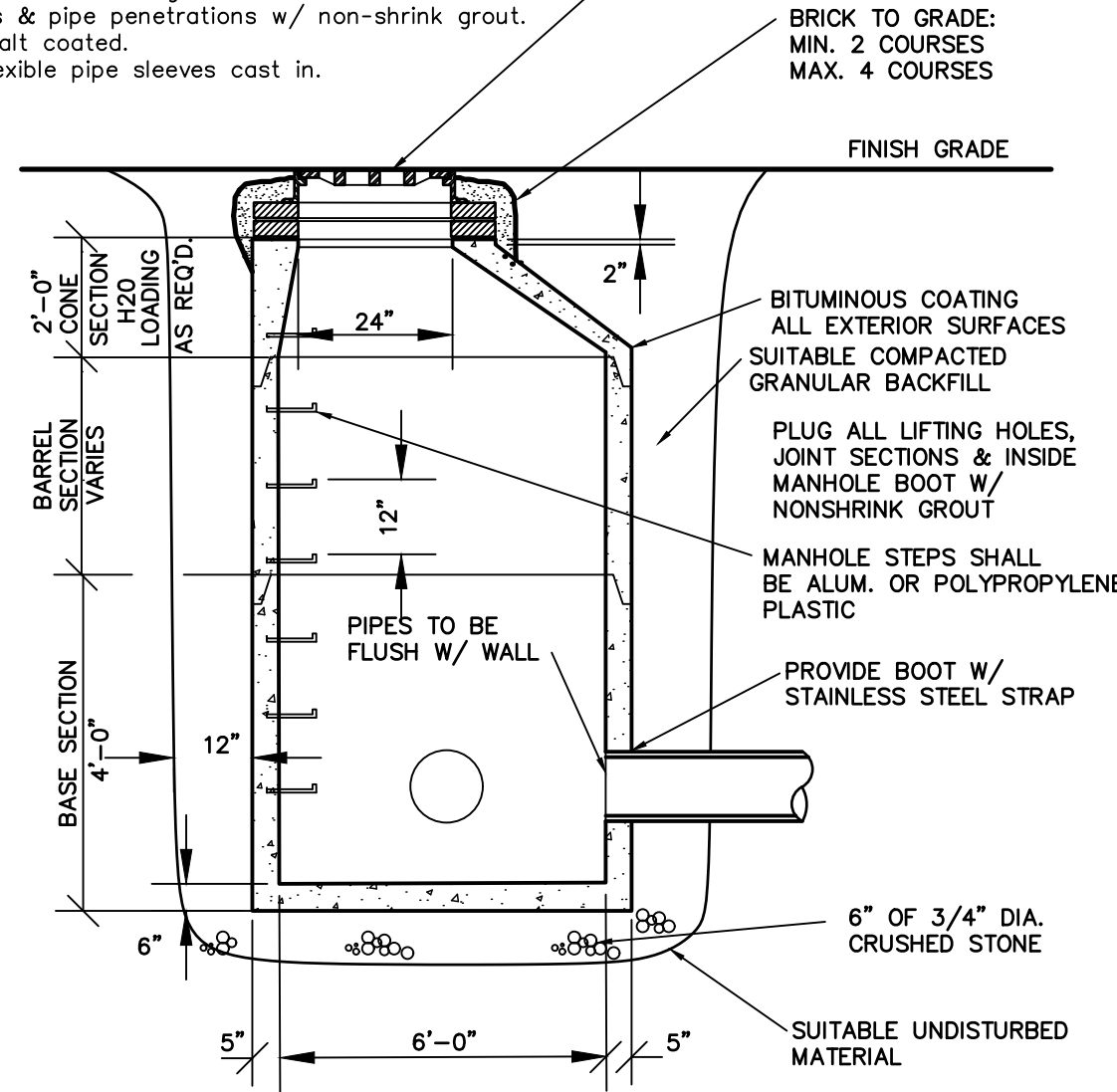
**GRASSED UNDERDRAIN
SOIL FILTER # 2**
N.T.S.

NOTES:
INSTALL SLOPE STABILIZATION
AT 2:1 SLOPES, SEE DETAIL SHEET 9



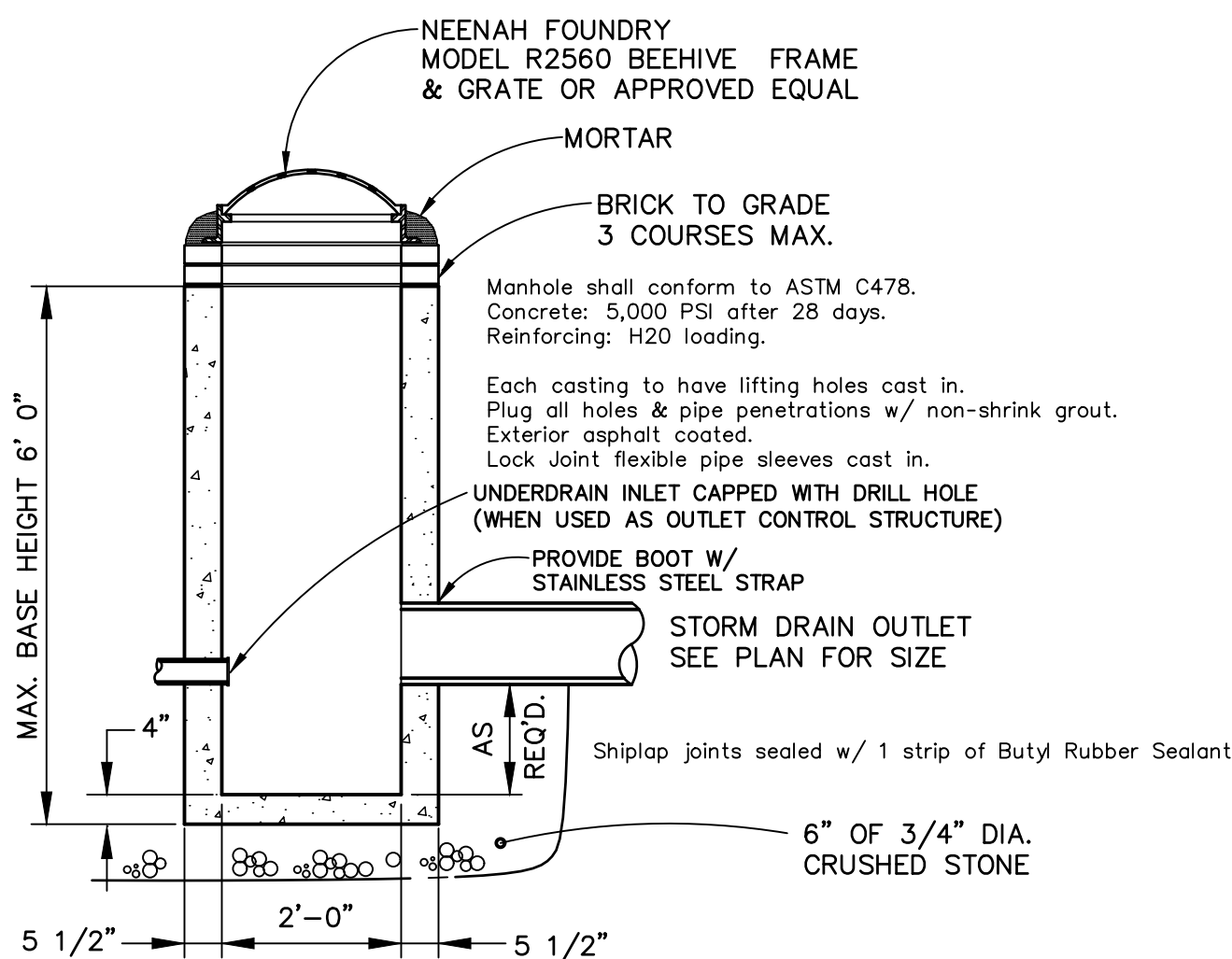
UNDERDRAIN CLEANOUT DETAIL
N.T.S.

Manhole shall conform to ASTM C478.
Concrete: 4,000 PSI after 28 days.
Reinforcing: H20 loading.
Shiplap joints sealed w/ 1 strip of Butyl Rubber Sealant.
Each casting to have lifting holes cast in.
Plug all holes & pipe penetrations w/ non-shrink grout.
Exterior asphalt coated.
Lock Joint flexible pipe sleeves cast in.



NOTE: USE A CASCO TRAP ON ALL OUTLETS AS APPLICABLE.

**PRECAST CONCRETE
DRAIN MANHOLE**
N.T.S.



NOTE: USE A CASCO TRAP ON ALL OUTLETS AS APPLICABLE.

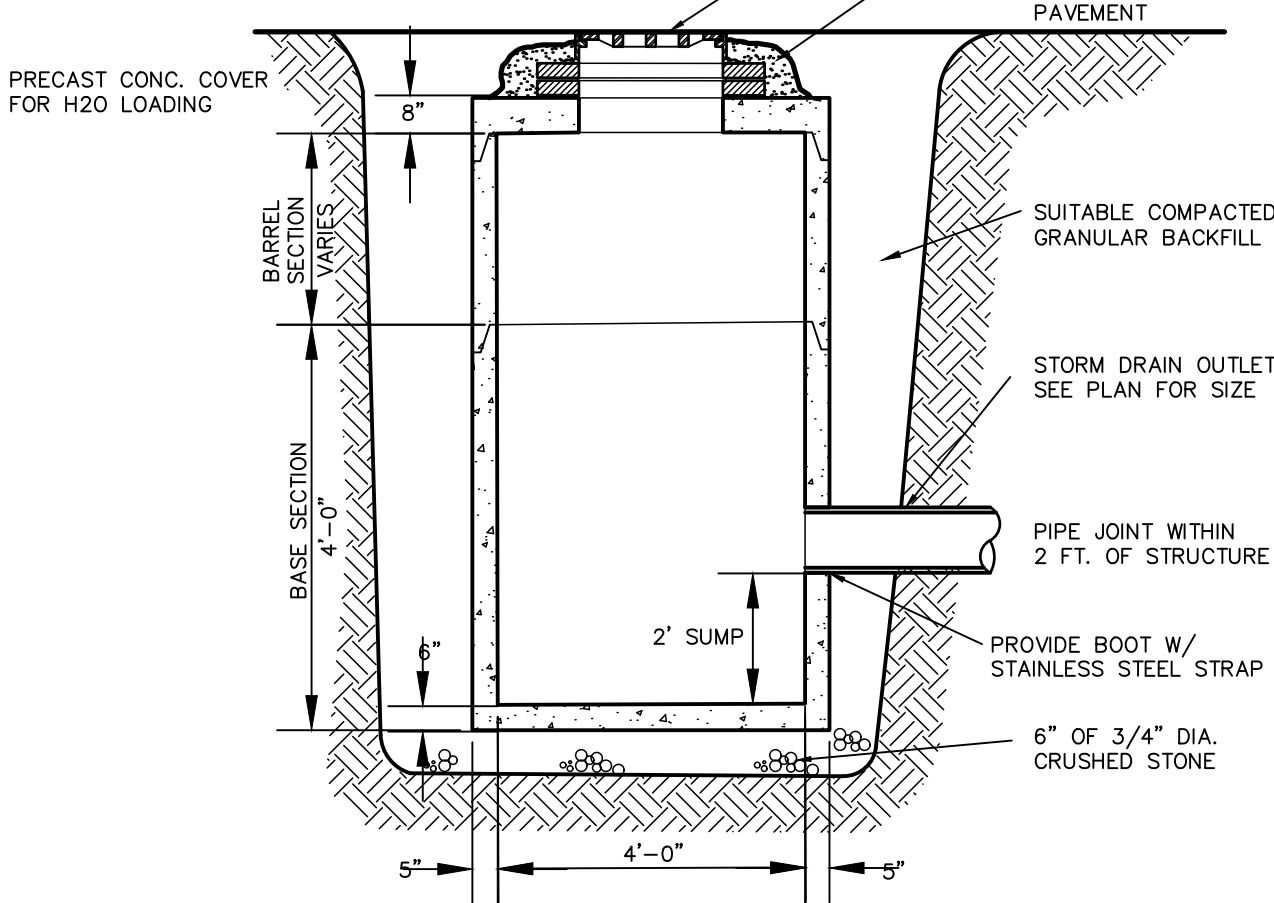
**PRECAST CONCRETE
FIELD INLET DETAIL**
N.T.S.

SIZE	A	B	C	D	E	F	G	H
6"	5 1/2"	13 3/4"	13 3/4"	5 3/4"	5 3/4"	11 5/8"	6 1/2"	7 1/4"
8"	7 1/2"	15 1/2"	15 1/2"	5 1/2"	5 3/4"	13 3/4"	8 3/4"	9 3/4"
10"	9 1/2"	16 1/4"	16 1/4"	6"	6 1/4"	14 1/8"	11 1/2"	12 3/8"
12"	11 1/2"	17 1/2"	17 1/2"	8"	8 1/2"	17 1/2"	12 3/4"	13 3/8"
15"	14 1/2"	22 1/2"	22 1/2"	10 1/4"	10 3/4"	21 1/4"	14 1/4"	15 3/4"

- Notes:
1. Install an Etheridge Foundry Casco Trap in all catch basins with a 12" or 15" outlet pipe
 2. The Casco Trap is an Etheridge style designed to eliminate cementing of the trap. To install, insert trap into outlet storm drain with the hood down.

CASCO TRAP DETAIL
N.T.S.

Manhole shall conform to ASTM C478.
Concrete: 4,000 PSI after 28 days.
Reinforcing: H20 loading.
Shiplap joints sealed w/ 1 strip of Butyl Rubber Sealant.
Each casting to have lifting holes cast in.
Plug all holes & pipe penetrations w/ non-shrink grout.
Exterior asphalt coated.
Lock Joint flexible pipe sleeves cast in.

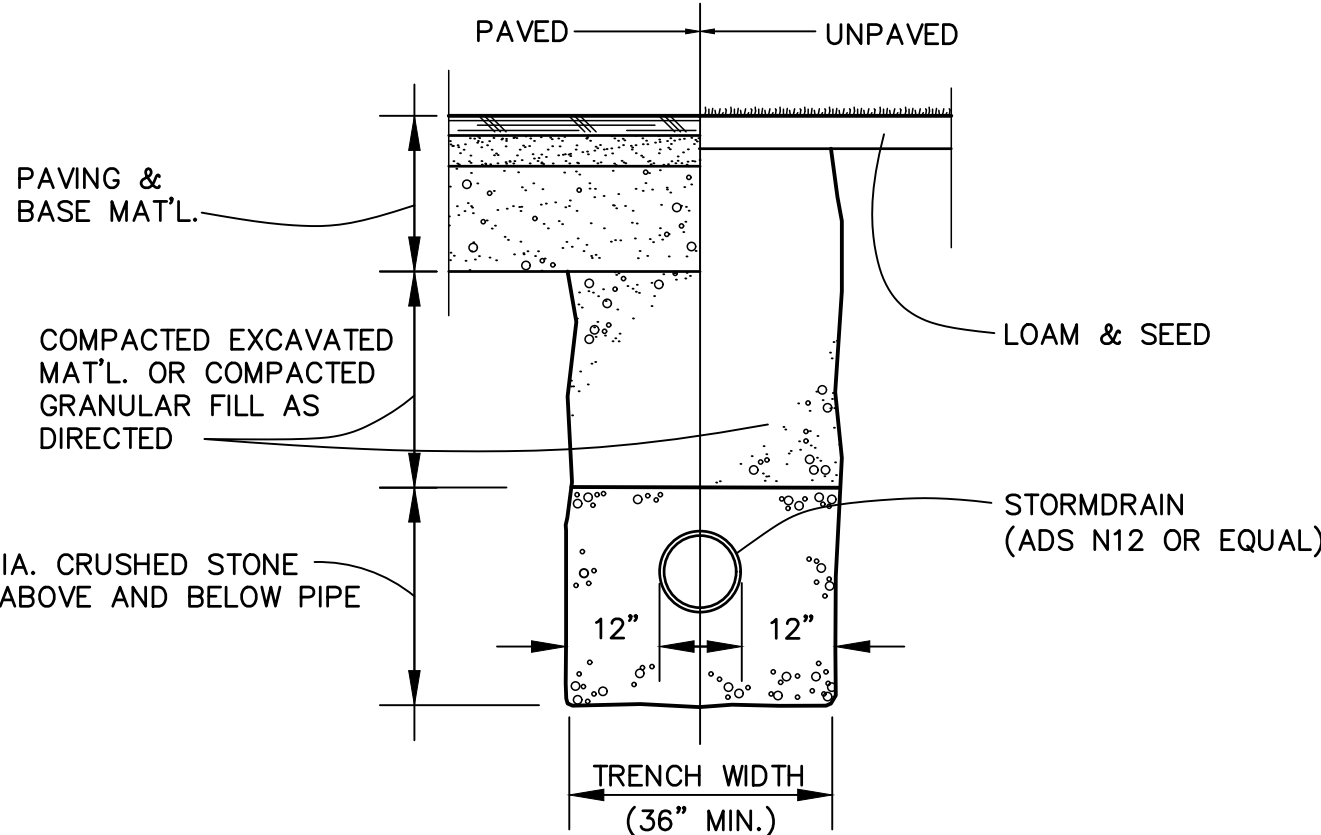


NOTE: USE A CASCO TRAP ON ALL OUTLETS AS APPLICABLE.

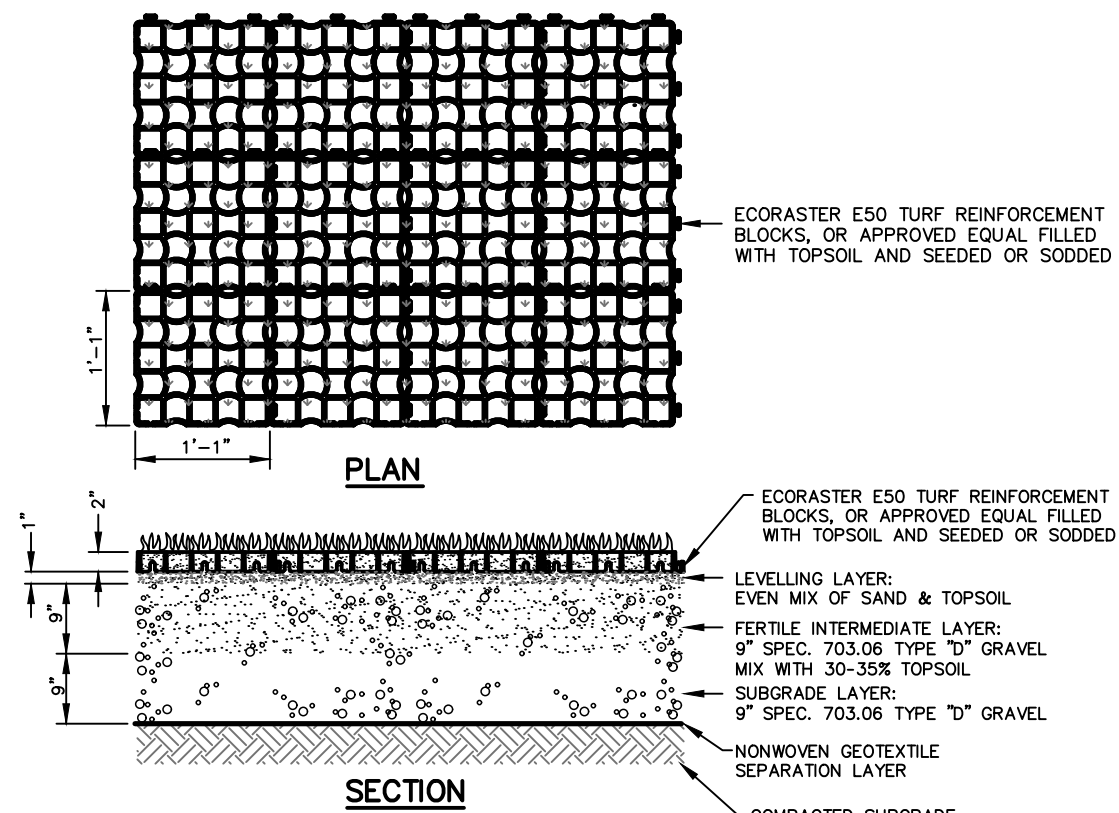
**PRECAST CONCRETE
CATCH BASIN DETAIL**
N.T.S.

NOTES:

1. Trench width shown is payment width for rockexcavation & replacement of unsuitable material.
2. Do not mechanically compact directly over flexible pipe (e.g. PVC, Polyethylene)
3. Concrete pipe shall have sand bedding.



TRENCH DETAIL
N.T.S.

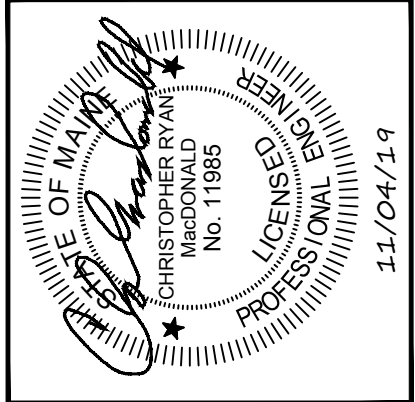


NOTES:

1. TYPICAL SEED MIX:
 - 40% CREeping RED FESCUE,
 - 20% TALL FESCUE,
 - 10% PERENNIAL RYE GRASS, AND
 - 20% KENTUCKY BLUE GRASS, WITH
 - LONG TERM FERTILIZER.
 - ROLLED SOD IS ALSO ACCEPTABLE.
2. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

REINFORCED TURF FIRE LANE
N.T.S.

REVISION		DESCRIPTION
NO.	DATE	DESCRIPTION
1	04/08/19	Preliminary Submission to City of Biddeford
2	06/10/19	Revisions based on City review comments Submitted to DEP & City
3	09/11/19	Revisions Based on Follow-up City Review Comments
4	10/09/19	Final Plan Submission
5	11/14/19	Revised per City Final Review



BH2M
Berry, Huff, MacDonald, Milligan, Inc.
Engineers, Surveyors
28 State Street
Biddeford, Maine 04005
Tel: (207) 859-9771
Fax: (207) 859-8250

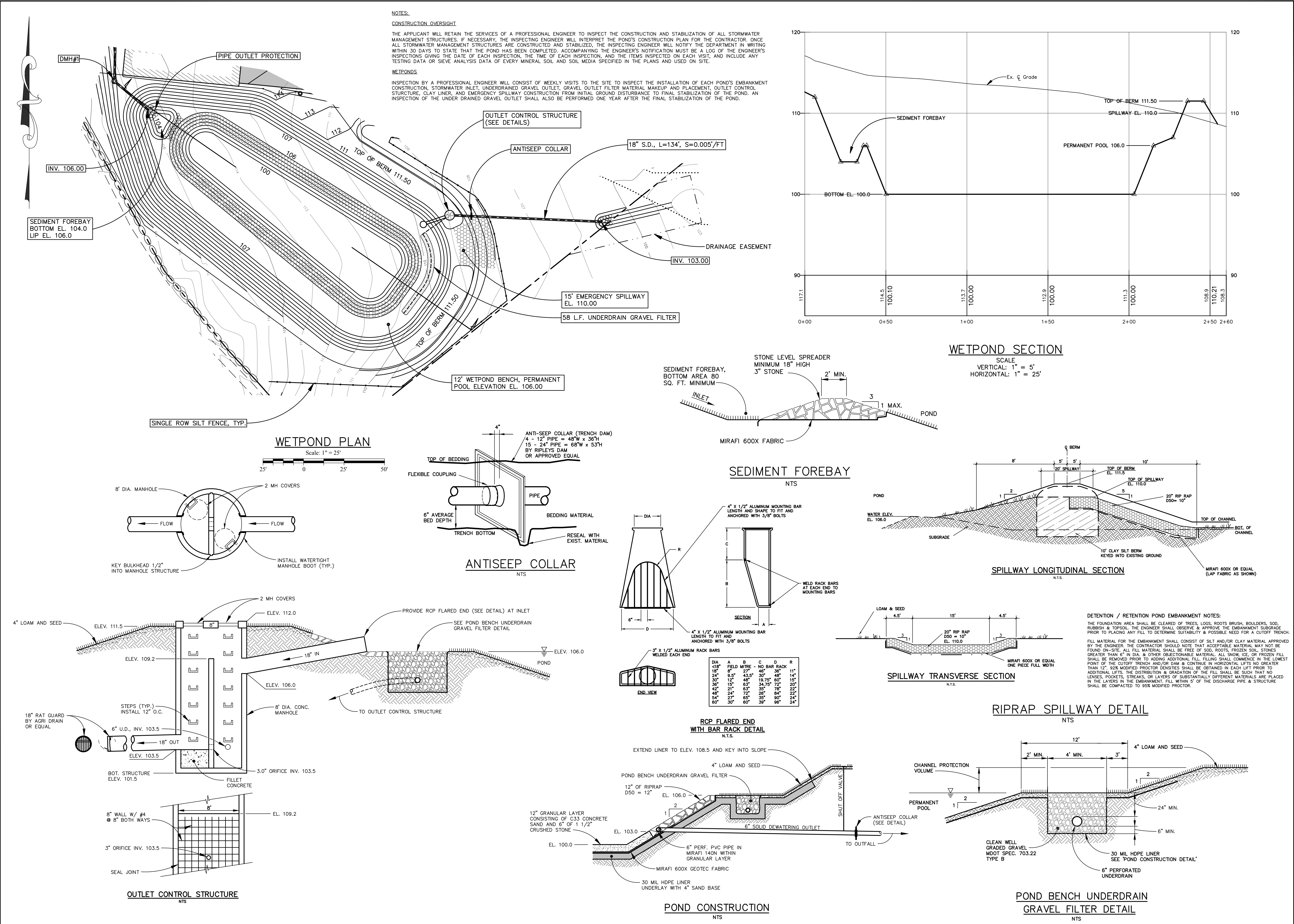
FOR
SAVON PARTNERS
23 Recreation Drive
Hingham, MA 02043

DETAILS B
250 UNIT APARTMENTS
60 BARRA ROAD
BIDDEFORD, MAINE

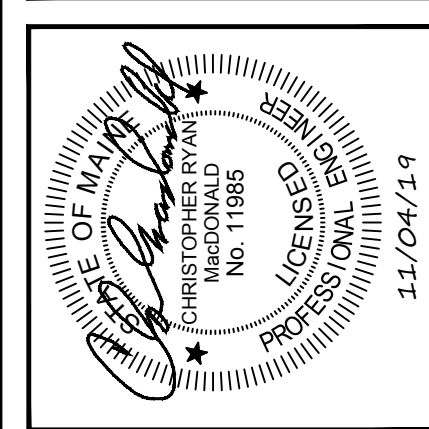
DESIGNED W. Pelkey	DATE April 2019
DRAWN Dept.	SCALE As Noted
CHECKED S. Blake	JOB. NO. 18070

SHEET 6

REPRODUCTION OR REUSE OF THIS DOCUMENT WITHOUT THE EXPRESSED WRITTEN CONSENT OF BH2M INC. IS PROHIBITED



NO.	DATE	REVISION	DESCRIPTION
1	04/08/19		Preliminary Submission to City of Biddeford
2	06/10/19		Revisions based on City review comments Submitted to DEP & City
3	09/11/19		Revisions Based on Follow-up City Review Comments
4	10/09/19		Final Plan Submission
5	11/14/19		Revised per City Final Review



BH2M

Berry, Huff, MacDonald, Milligan Inc.
Engineers, Surveyors

28 State Street
Gorham, Maine 04038

Tel: (207) 839-2771
Fax: (207) 839-8250

FOR
SAVON PARTNERS
23 Recreation Drive
Hingham, MA 02043

WETPOND LAYOUT AND DETAILS

250 UNIT APARTMENTS

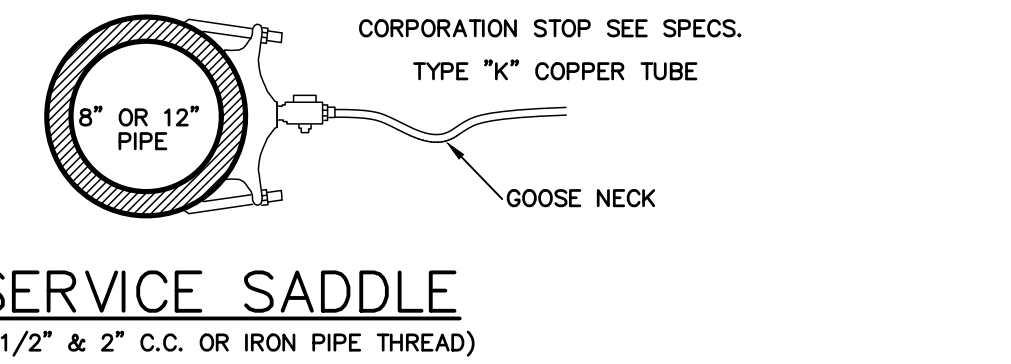
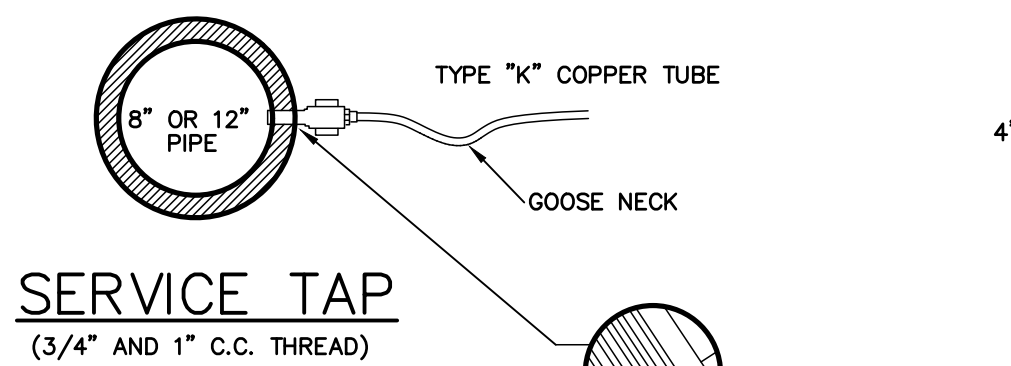
60 BARRE ROAD
BIDDEFORD, MAINE

DESIGNED C. MacDonald	DATE April 2019
DRAWN Dept.	SCALE As Noted
CHECKED S. Blake	JOB. NO. 18070

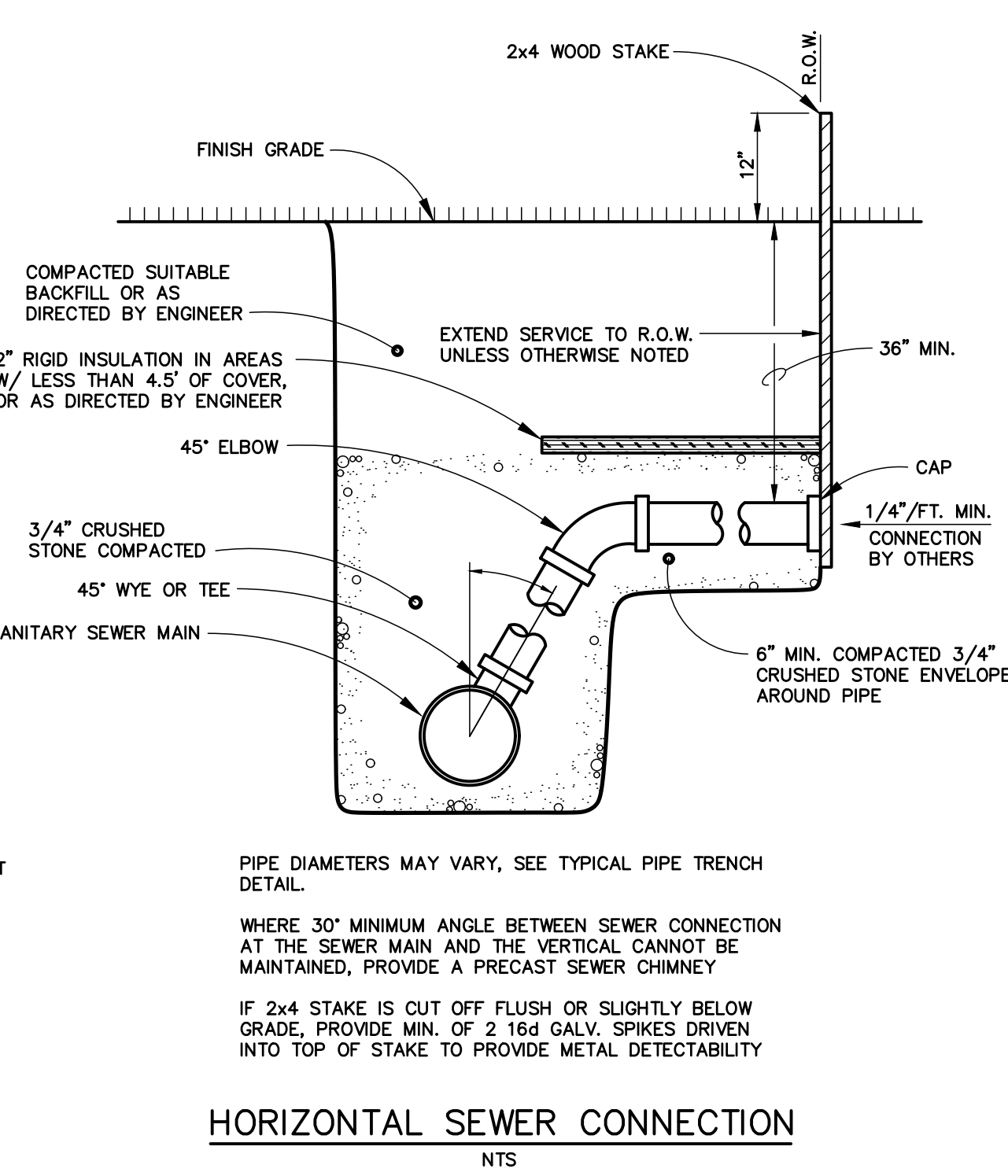
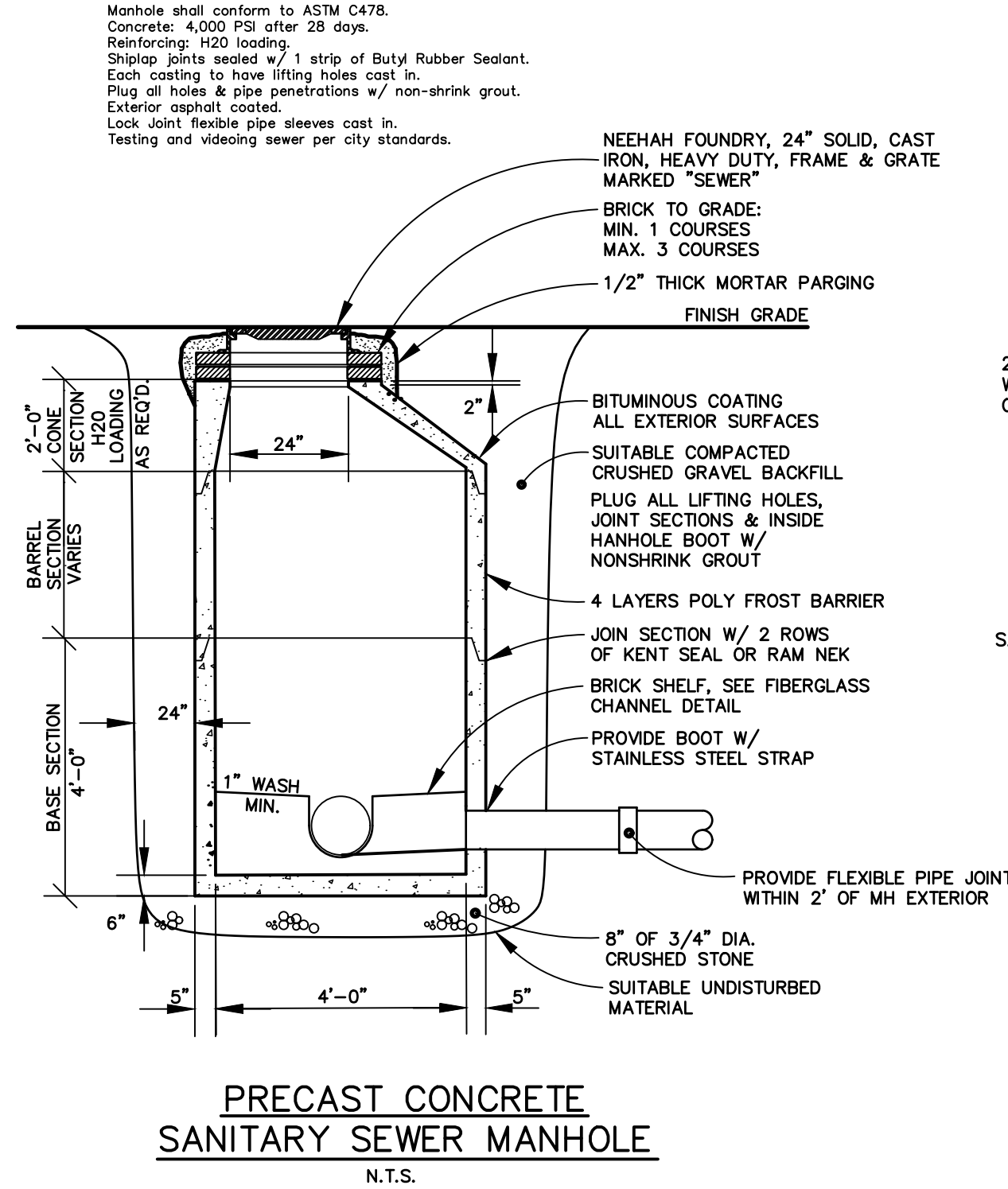
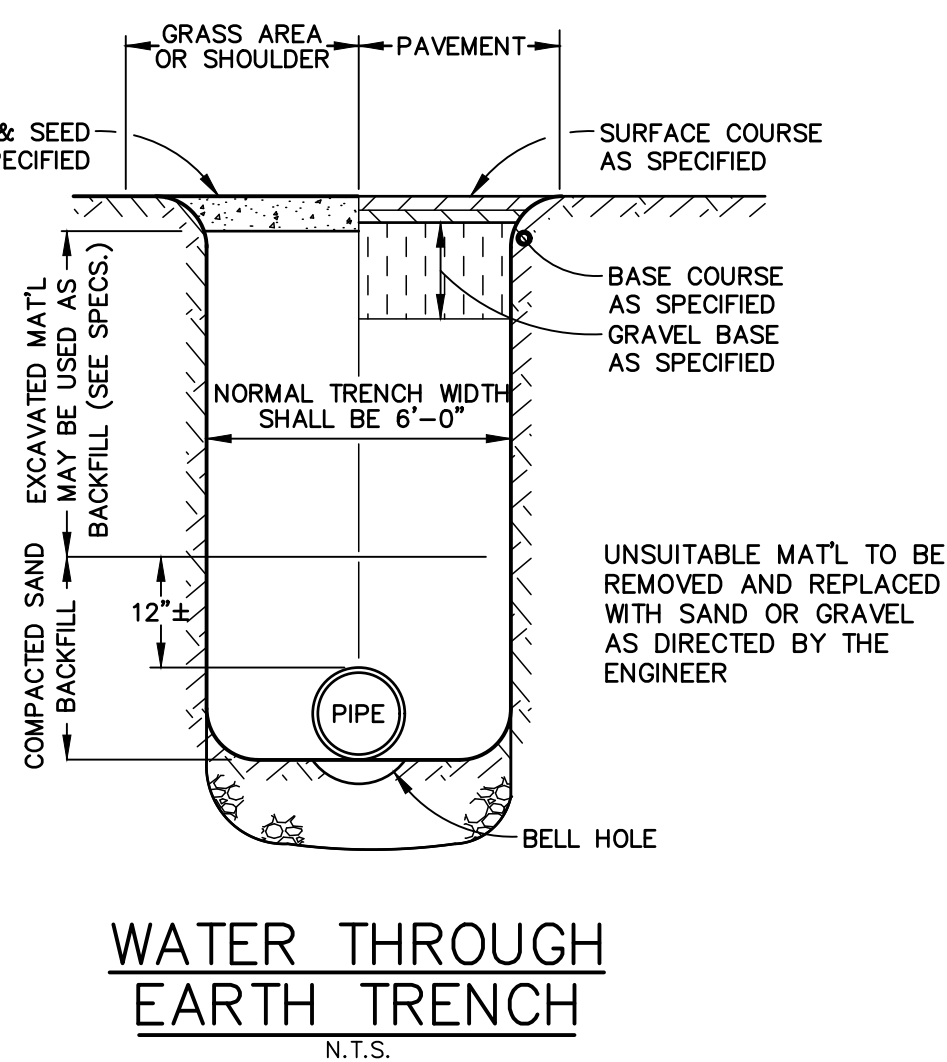
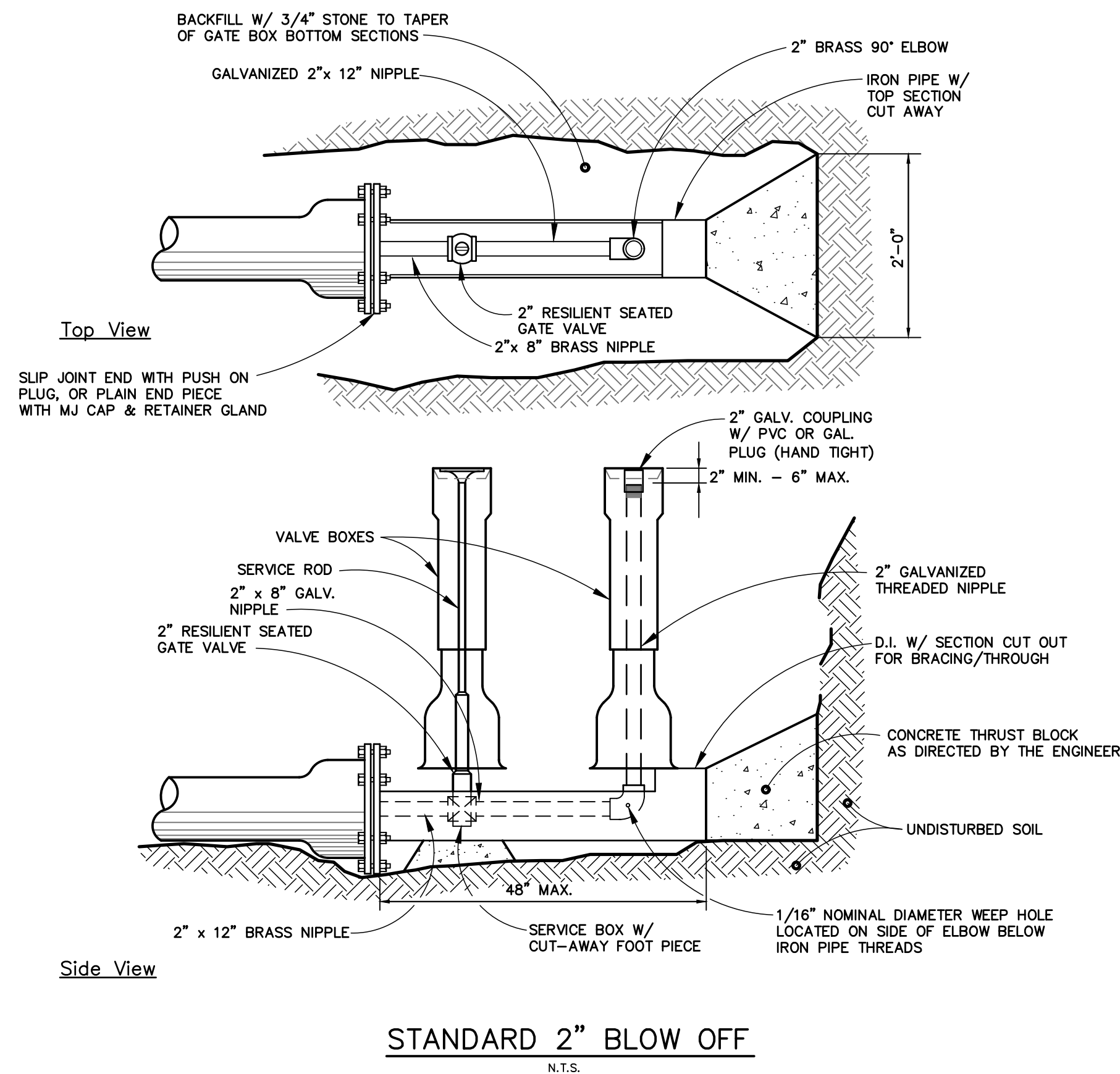
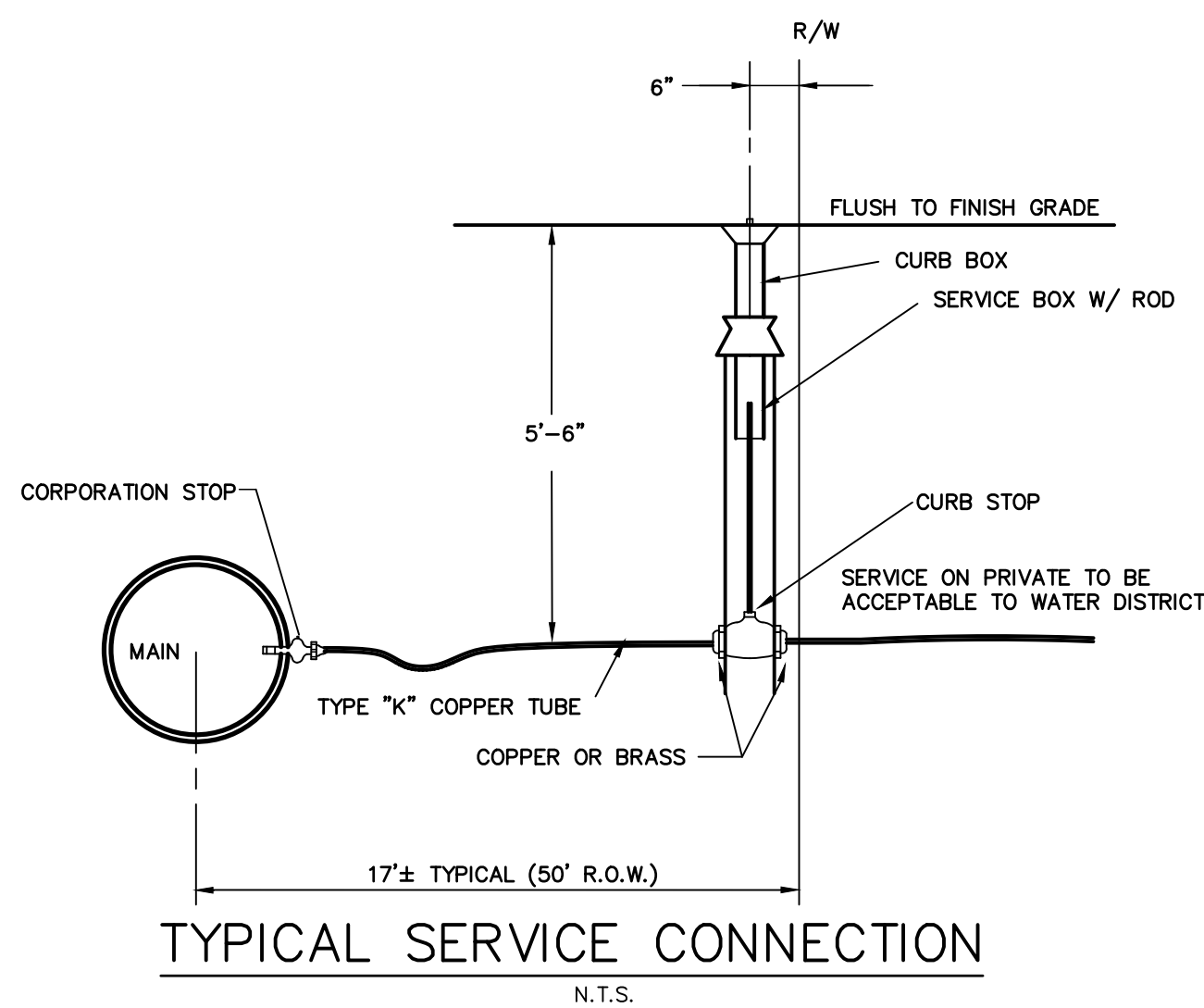
SHEET

7

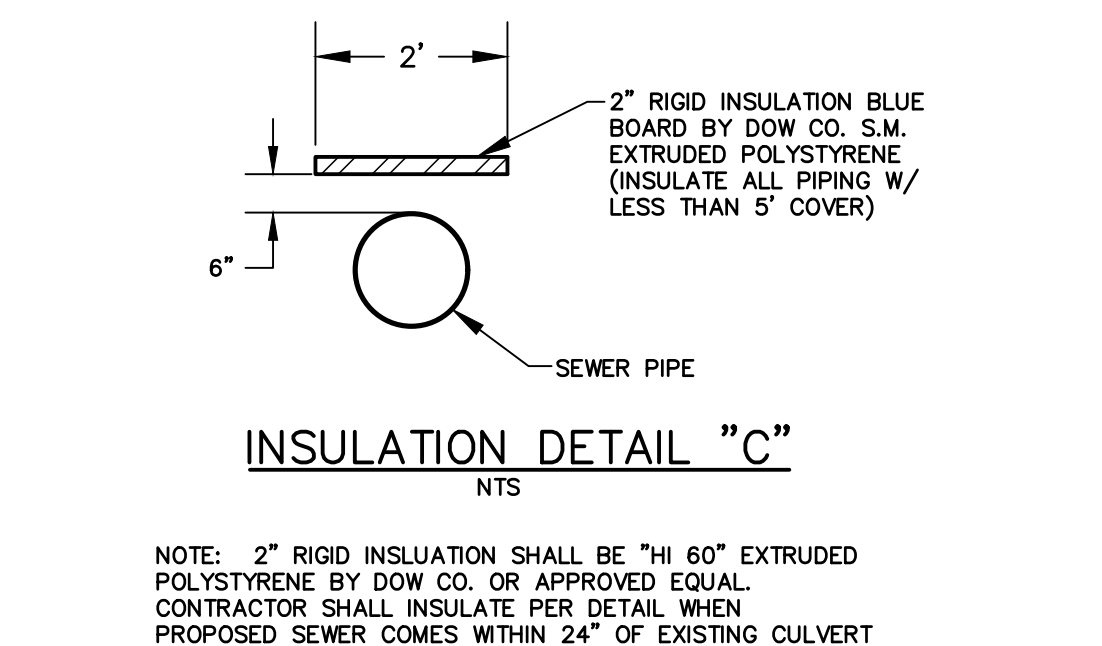
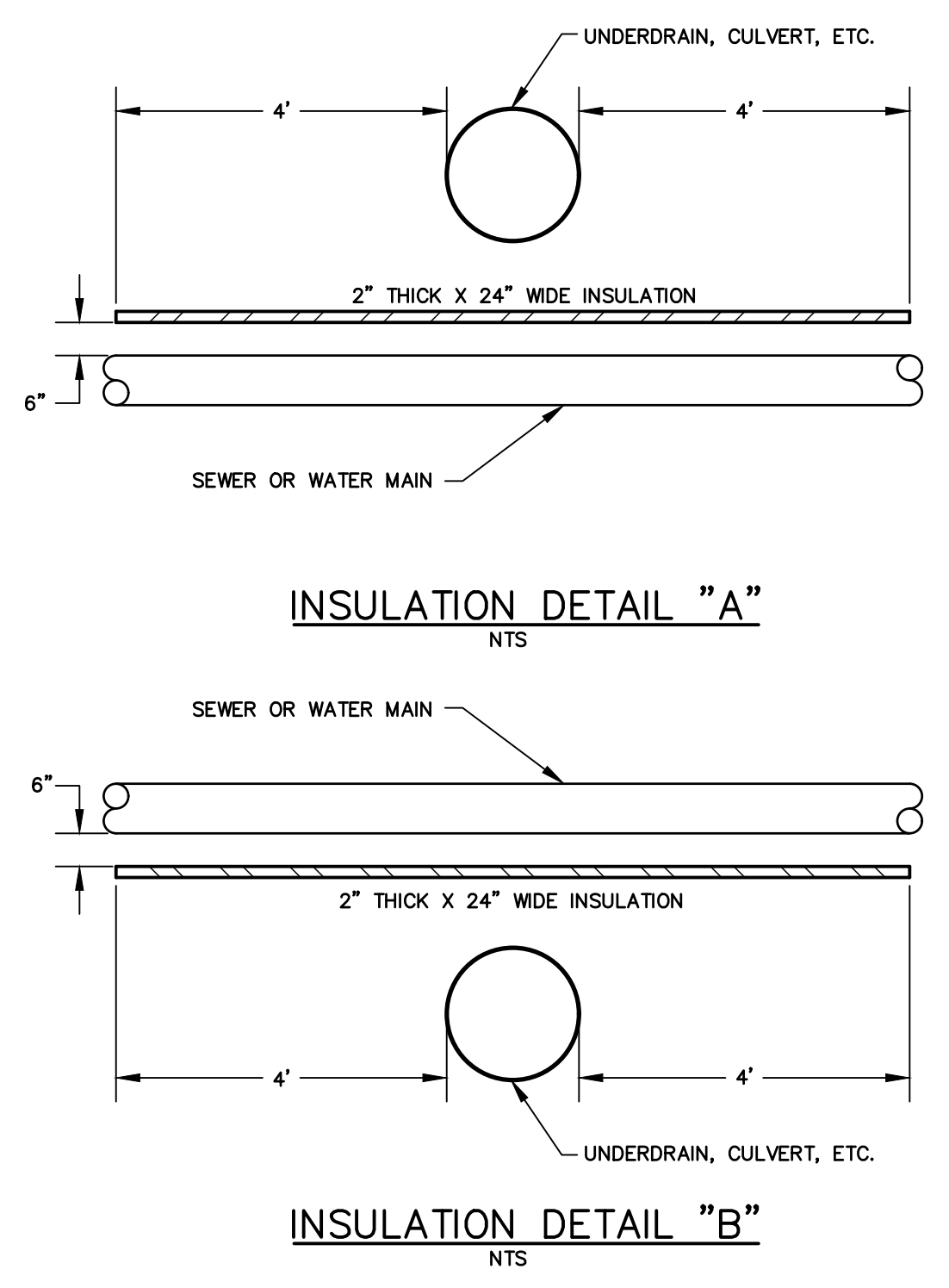
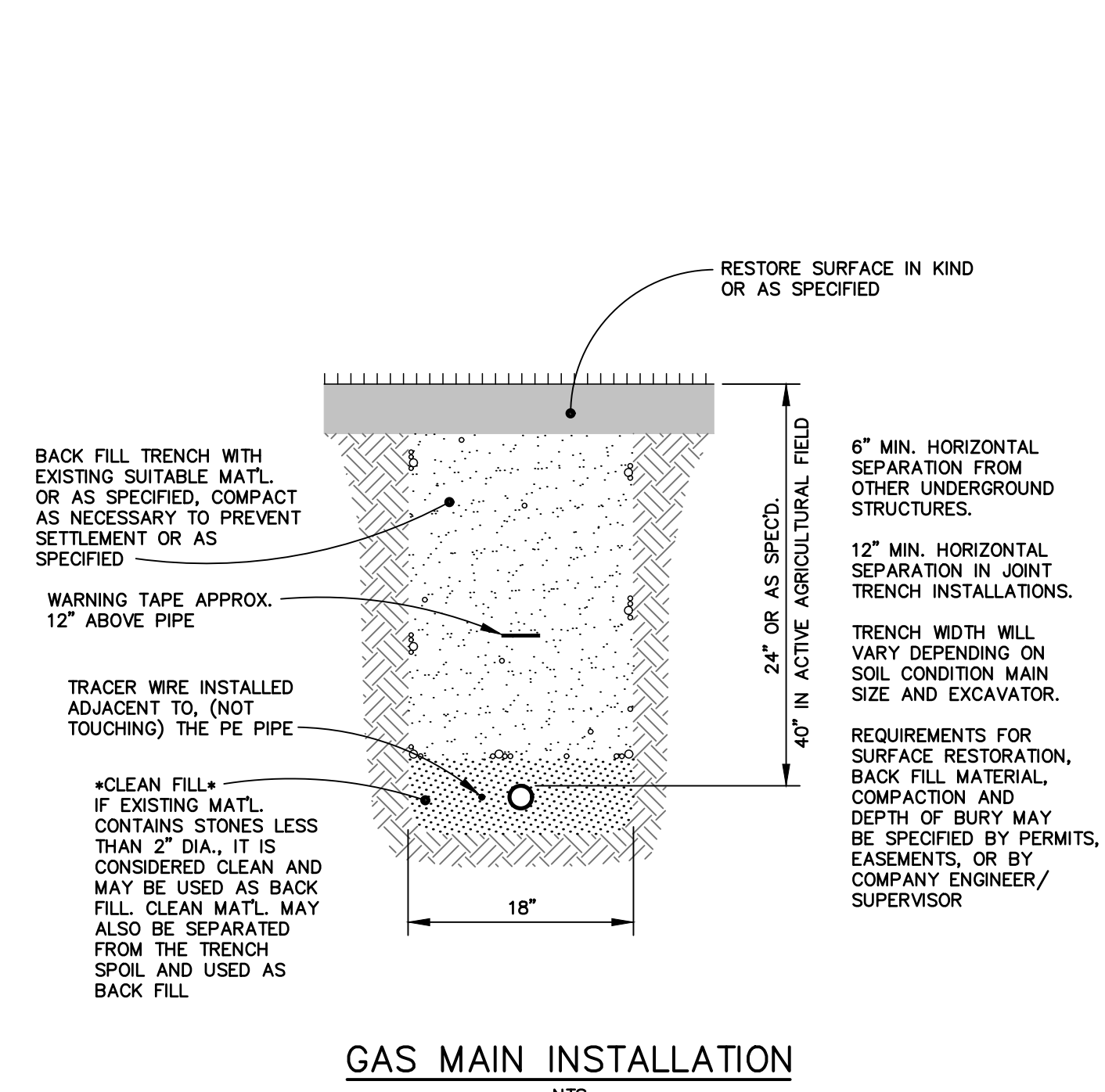
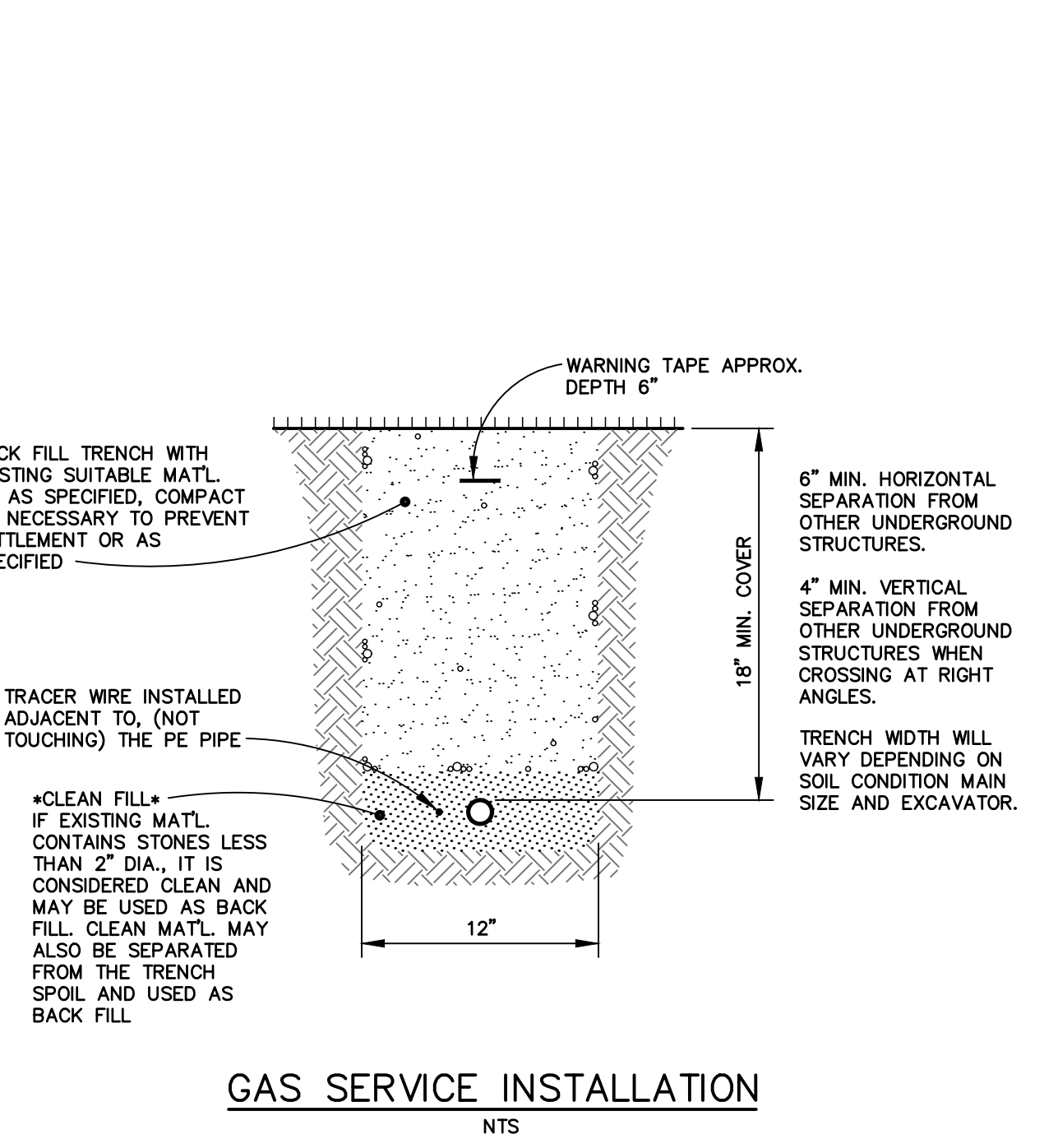
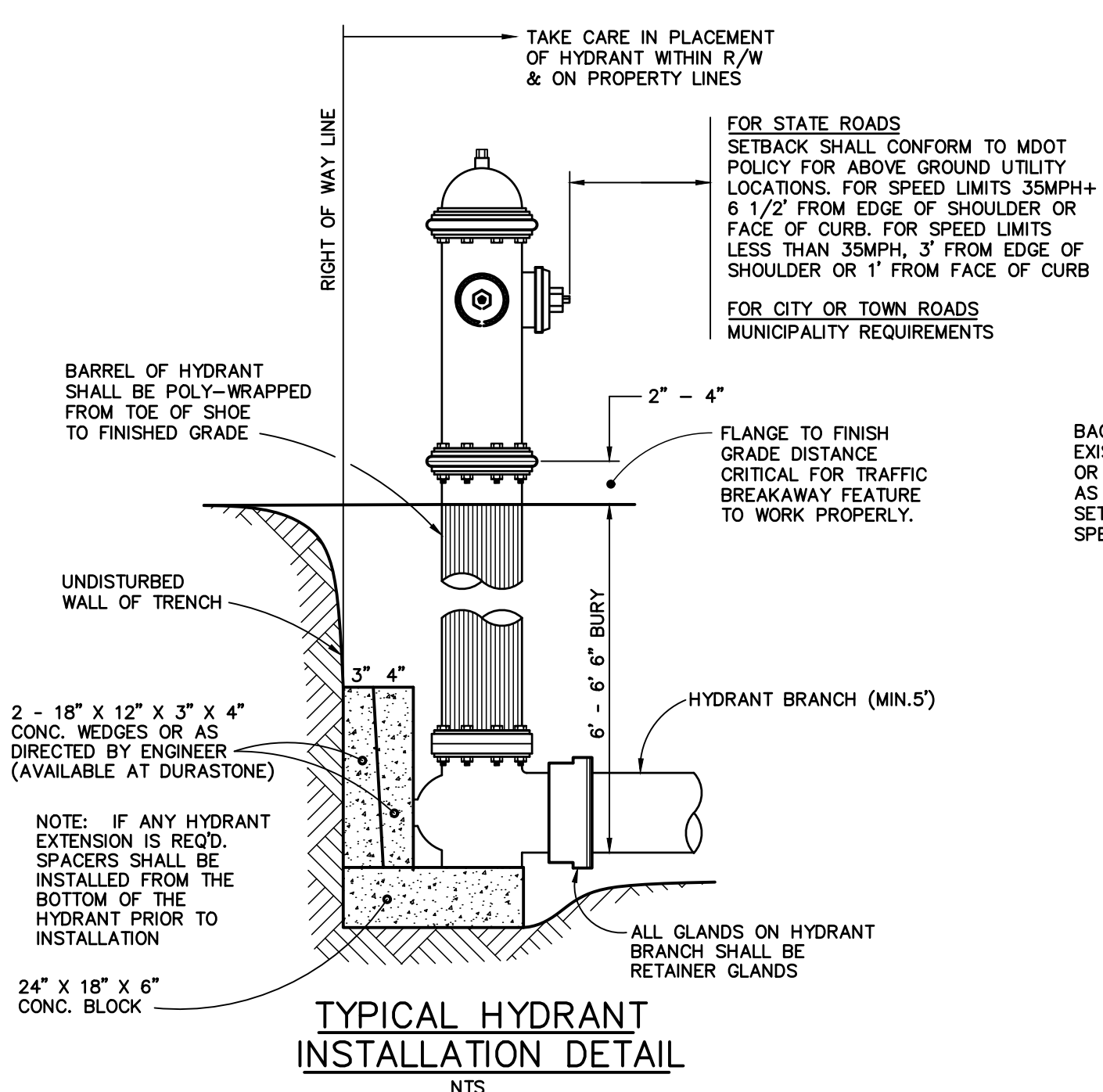
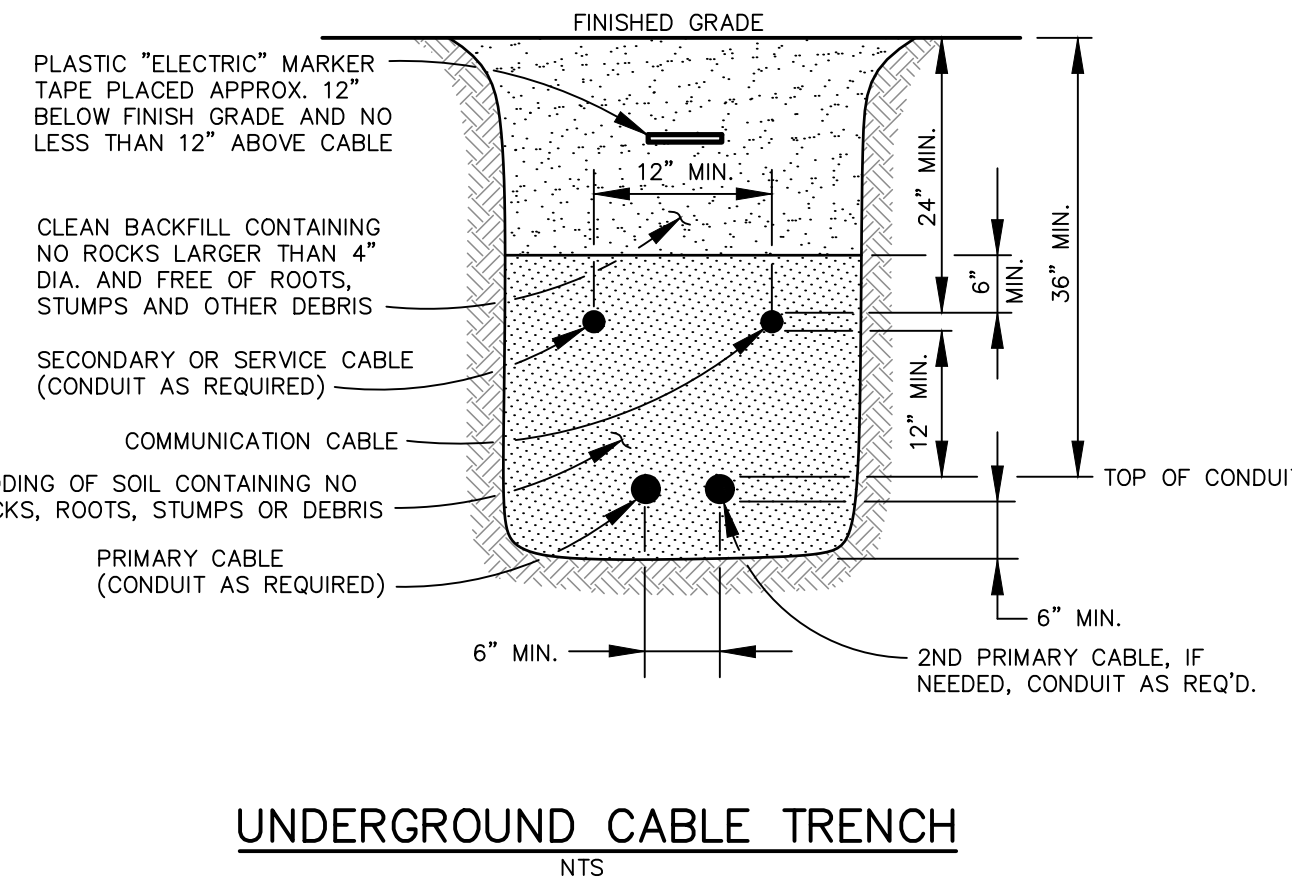
REPRODUCTION OR REUSE OF THIS DOCUMENT WITHOUT THE EXPRESSED WRITTEN CONSENT OF BH2M INC. IS PROHIBITED



NOTE: SERVICE CONNECTIONS (DIRECT TAPS AND SERVICE CLAMPS) WILL BE INSTALLED SO THAT THE OUTLET IS AT AN ANGLE OF NOT MORE THAN 45° ABOVE THE HORIZONTAL. ALWAYS PUT A BEND OR "GOOSENECK" IN THE SERVICE LINE PRIOR TO CONNECTING TO PROVIDE FLEXIBILITY AND "GIVE" TO COUNTERACT THE EFFECTS OF A LOAD DUE TO SETTLEMENT OR EXPANSION AND/OR CONTRACTION (SEE DETAILS).

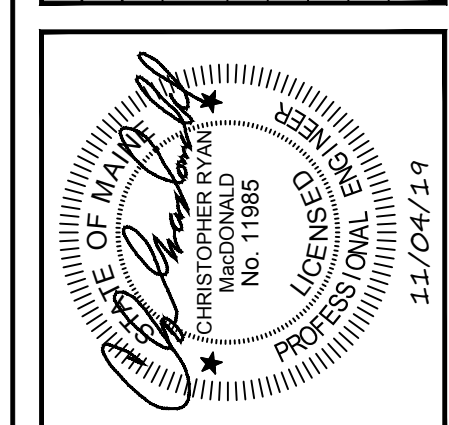


NOTES:
INSTALLATION SHOULD NOT ALLOW THE INTER-TWINGING OF CABLES.
COMMUNICATION AND POWER CABLES SHALL HAVE NO LESS THAN 12" OF RADIAL SEPARATION.
CONDUITS FOR POWER AND COMMUNICATION CABLES SHALL BE SPECIFIED BY APPROPRIATE UTILITY COMPANIES.



NOTE: 2" RIGID INSULATION SHALL BE "HI 60" EXTRUDED POLYSTYRENE BY DOW CO. OR APPROVED EQUAL. CONTRACTOR SHALL INSULATE PER DETAIL WHEN PROPOSED SEWER COMES WITHIN 24" OF EXISTING CULVERT

REVISION		DESCRIPTION
NO.	DATE	DESCRIPTION
1	04/08/19	Preliminary Submission to City of Biddeford
2	06/10/19	Revisions based on City review comments Submitted to DEP & City
3	09/11/19	Revisions Based on Follow-up City Review Comments
4	10/09/19	Final Plan Submission
5	11/11/19	Revised per City Final Review



BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors
28 State Street
Biddeford, Maine 04005
Tel: (207) 839-2771
Fax: (207) 839-8250

FOR
Saxon Partners
25 Recreation Drive
Hingham, MA 02043

UTILITY DETAILS
250 UNIT APARTMENTS
60 BARRE ROAD
BIDDEFORD, MAINE

DESIGNED W. Pelkey	DATE April 2019
DRAWN Dept.	SCALE As Noted
CHECKED S. Blake	JOB NO. 18070

SHEET
8
REPRODUCTION OR REUSE OF THIS DOCUMENT WITHOUT THE EXPRESSED WRITTEN CONSENT OF BH2M INC. IS PROHIBITED

EROSION AND SEDIMENT CONTROL PLAN

THIS PLAN HAS BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. THIS PLAN IS BASED ON THE STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION IN DEVELOPING AREAS AS CONTAINED IN THE LATEST REVISION OF TO THE 2016 MAINE EROSION AND SEDIMENT CONTROL BMP'S MANUAL FOR DESIGNERS AND ENGINEERS, AND THE LATEST REVISION TO THE 2014 MAINE EROSION AND SEDIMENT CONTROL FIELD GUIDE FOR CONTRACTORS. SEE MANUALS FOR ADDITIONAL INFORMATION AND DETAILS.

THE PROPOSED LOCATIONS OF SILTATION AND EROSION CONTROL STRUCTURES ARE SHOWN ON THE SITE PLAN.

1. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL BMP'S", DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST REVISION.
2. THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE LEFT IN AN UNTREATED OR UNVEGETATED CONDITION FOR A MINIMUM TIME PERIOD. AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 7 DAYS OF INITIAL DISTURBANCE OF THE SOIL. IF THE DISTURBANCE IS WITHIN 75 FEET OF A WETLAND OR WATERBODY, THE AREA SHALL BE STABILIZED WITHIN 2 DAYS OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST.
3. EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
4. EXPOSED AREA SHOULD BE LIMITED TO THAT WHICH CAN BE MULCHED IN ONE DAY.
5. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED SUCH THAT NO MORE THAN ONE ACRE OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION.
6. SEDIMENT BARRIERS (EROSION CONTROL MIX, STONE CHOCK DAMS, STABILIZED CONSTRUCTION ENTRANCE, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM. THE CONTRACTOR SHALL MAINTAIN THE STABILIZED CONSTRUCTION ENTRANCE UNTIL ALL DISTURBED AREAS ARE STABILIZED.
7. INSTALL EROSION CONTROL MIX AT TOE OF SLOPES TO FILTER SILT FROM RUNOFF. SEE E.G. MIX DETAIL FOR PROPER INSTALLATION. EROSION CONTROL MIX WILL REMAIN IN PLACE PER NOTE #5. THE USE OF AN EROSION CONTROL MIX BERM IS PROHIBITED ON SLOPES STEEPER THAN 3:1 OR WHERE THERE IS FLOWING WATER.
8. ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED, AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY BEFORE AND FOLLOWING ANY SIGNIFICANT RAINFALL (ONE INCH OR MORE IN A 24-HOUR PERIOD) OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSITION. IF AN INSPECTION DETERMINES THAT A CORRECTIVE ACTION OR REPAIR SHALL BE STARTED BY THE END OF THE NEXT WORKDAY AND COMPLETED WITHIN SEVEN DAYS OR BEFORE THE NEXT STORM EVENT. WHEN A CORRECTIVE ACTION IS REQUIRED, THE ACTION OR REPAIR SHALL BE STARTED BY THE END OF THE NEXT WORKDAY AND COMPLETED WITHIN SEVEN DAYS OR BEFORE THE NEXT STORM EVENT. REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE STABILIZED BY TURF. EROSION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS OF PERMANENT STABILIZATION. PERMANENT STABILIZATION IS 90% GRASS CATCH IN VEGETATED AREAS.
9. NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN ONE AND ONE HALF TO ONE (1.5 TO 1).
10. 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 SOIL AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
11. TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINAL GRADED SHALL BE COMPLETED BY AUG. 15 OR 45 DAYS PRIOR TO THE FIRST KILLING FROST (OCT. 1) TO PROTECT FROM SPRING RUNOFF PROBLEMS.
12. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED ONTO OPEN AREAS. POST SEEDING SEDIMENT, IF ANY WILL BE DISPOSED OF IN AN ACCEPTABLE MANNER.
13. 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. FOUR INCHES 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 800 POUNDS PER ACRE OR 18.4 POUNDS PER 1,000 SQUARE FEET USING 10-20-20 (N-P200-K20) OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB PER 1,000 SQ. FT.).
 - c. FOLLOWING SEED BED PREPARATION, DITCHES AND BACK SLOPES WILL BE SEED TO A MIXTURE OF 47% CREEPING RED FESCUE, 5% REDTOP, AND 48% TALL FESCUE. THE LAWN AREAS WILL BE SEED TO A PREMIUM TURF MIXTURE OF 44% KENTUCKY BLUEGRASS, 44% CREEPING RED FESCUE, AND 12% PERENNIAL RYEGRASS. SEEDING RATE IS 1.03 LBS PER 1000 SQ. FT. LAWN QUALITY SOD MAY BE SUBSTITUTED FOR SEED. SEED MIX SHALL CONTAIN 10% ANNUAL RYE GRASS.
 - d. HAY MULCH AT THE RATE OF 70-90 LBS PER 1000 SQUARE FEET OR A HYDRO-APPLICATION OF ASPHALT, WOOD OR PAPER FIBER FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS WILL BE USED ON HAY MULCH FOR WIND CONTROL.
14. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS ONCE THE SITE IS STABILIZED WITH 90% GRASS CATCH IN VEGETATED AREAS. TEMPORARY EROSION AND SEDIMENT CONTROL BLANKET SHALL BE USED IN ALL DITCHES AND SWALES AS SHOWN IN DETAILS.
15. WETLANDS WILL BE PROTECTED WITH EROSION CONTROL MIX OR SILT FENCE INSTALLED AT THE EDGE FOR THE WETLAND OR THE BOUNDARY OF WETLAND DISTURBANCE. ALL AREAS WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS DURING WINTER CONSTRUCTION.
16. ALL STORMWATER WILL BE PREVENTED FROM RUNNING ONTO STOCKPILES. SEDIMENT BARRIERS WILL BE INSTALLED DOWNGRADIENT OF ALL STOCKPILES.
17. PERMANENT POST-CONSTRUCTION BMP'S (VEGETATED SWALES, MUD POUNDS, ETC.) WILL NOT BE USED TO MANAGE FLOWS DURING CONSTRUCTION WITHOUT SPECIAL PROTECTION AND/OR RESTORATION.

MULCH AND MULCH ANCHORING

MULCH LOCATION	MULCH	RATE (1000 S.F.)
PROTECTED AREA	STRAW OR HAY *	100 POUNDS
WINDY AREAS	SHREDDED OR CHOPPED CORNSTALKS	185-275 POUNDS
	STRAW OR HAY (ANCHORED) *	100 POUNDS

* A HYDRO-APPLICATION OF ASPHALT, WOOD, OR PAPER FIBER MAY BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS SHALL BE USED ON HAY MULCH FOR WIND CONTROL.

MULCH ANCHORING

ANCHOR MULCH WITH PEG AND TWINE (1 SO. YD./BLOCK); MULCH NETTING (AS PER MANUFACTURER); WOOD CELLULOSE FIBER (750 LBS/ACRE); USE OF A SERATED STRAP, NETTING FOR SMALL AREAS AND ROAD DITCHES MAY BE PERMITTED.

Additional temporary seed mixture (for periods less than 12 months).

Season	Seed	Rate
Summer (5/15 - 8/15)	Sudangrass	40 lbs/acre
	Oats	80 lbs/acre
Late Summer/Early Fall	Pennell Ryegrass	40 lbs/acre
Fall (9/15 - 11/1)	Winter Rye	112 lbs/acre
Winter (11/1 - 4/1)	Mulch w/ Dormant Seed	80 lbs/acre**
Spring (4/1 - 7/1)	Oats	80 lbs/acre
	Annual Ryegrass	40 lbs/acre

**Seed Rate Only

EROSION CONTROL MIX

EROSION CONTROL MIX (ECM) SHALL MEET THE REQUIREMENTS PROVIDED IN THE LATEST REVISION OF MAINE DEP'S EROSION AND SEDIMENTATION CONTROL BMP MANUAL. ECM IS ACCEPTABLE FOR USE ON SLOPES OF GREATER THAN 3:1 BUT LESS THAN 1:1. ECM SHALL CONSIST OF WELL-GRADED ORGANIC COMPONENT 50 - 100% OF DRY WEIGHT, AND COMPOSED OF FIBROUS AND ELONGATED FRAGMENTS. ECM SHALL BE FREE OF DUST, FERTILIZER, AND OTHER HAZARDOUS MATERIALS. CONSTRUCTION DEBRIS, ECM SHALL BE EVENLY DISTRIBUTED AND APPLIED AT A THICKNESS OF 2" ON 3:1 SLOPES, WITH AN ADDITIONAL 1/2" PER 20' OF SLOPE FOR A MAXIMUM OF 100' IN LENGTH. SLOPES GREATER THAN 3:1, ECM SHALL BE APPLIED AT THICKNESS OF 4" OR 5" FOR SLOPES GREATER THAN 60' IN LENGTH.

SLOPES GREATER THAN 3:1 MAY ALSO REQUIRE ADDITIONAL SLOPE STABILIZATION DEPENDING ON UPGRADIENT RUNOFF AND OTHER SITE SPECIFIC CONDITIONS. SEE SLOPE STABILIZATION DETAIL FOR ADDITIONAL INFORMATION.

EROSION CONTROL DURING CONSTRUCTION

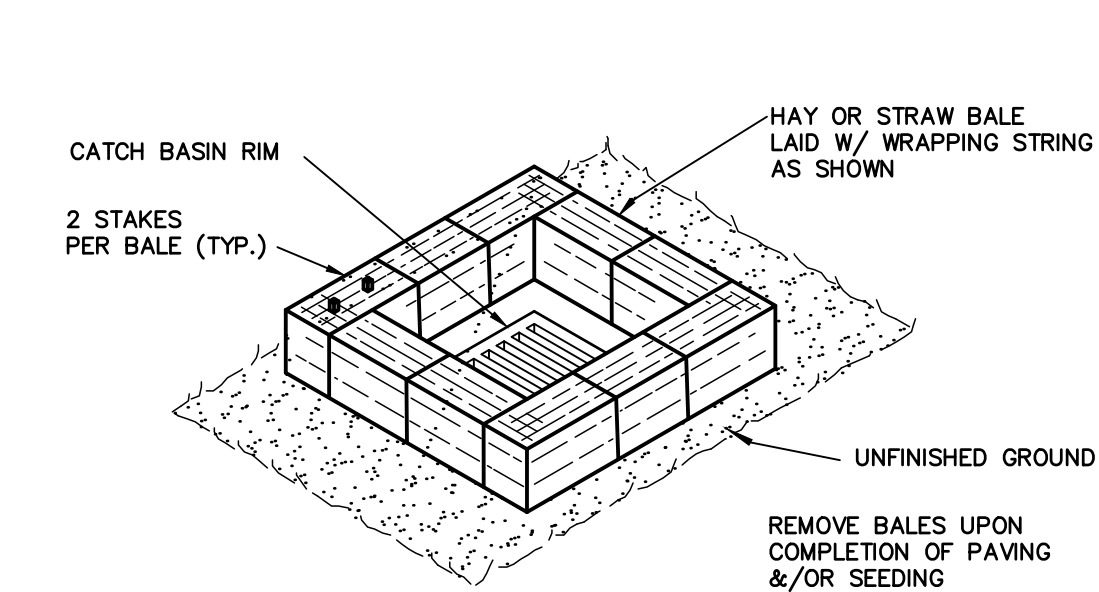
- WINTER CONSTRUCTION
1. WINTER CONSTRUCTION PERIOD: OCTOBER 1 THROUGH APRIL 15
2. OVERWINTER STABILIZATION OF DITCHES AND CHANNELS:
ALL STONE LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. ALL GRASS LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY SEPTEMBER 1. IF A DITCH OR CHANNEL IS NOT GRASS-LINED BY SEPTEMBER 1, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE DITCH FOR LATE FALL AND WINTER.
- A. INSTALL A SOD LINING IN THE DITCH:
A DITCH MUST BE LINED WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES: PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL, AND ANCHORING THE SOD AT THE BASE OF THE DITCH WITH 2x12 OR PLASTIC WASH TO PREVENT THE SOD FROM SLOUGHING DURING FLOW CONDITIONS. SEE THE PERMANENT VEGETATION BMP SECTION.
 - B. INSTALL A STONE LINING IN THE DITCH:
A DITCH MUST BE LINED WITH STONE RIPRAP BY NOVEMBER 15. A REGISTERED PROFESSIONAL ENGINEER MUST BE HIRED TO DETERMINE THE STONE SIZE AND LINING THICKNESS NEEDED TO WITHSTAND THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH. IF NECESSARY, THE CONTRACTOR WILL REGRADE THE DITCH PRIOR TO PLACING THE STONE LINING SO TO PREVENT THE STONE LINING FROM REDUCING THE DITCH'S CROSS-SECTIONAL AREA.
 - C. OVERWINTER STABILIZATION OF DISTURBED SLOPES:
ALL STONE-COVERED SLOPES MUST BE STABILIZED BY NOVEMBER 15. ALL SLOPES TO BE VEGETATED MUST BE SEEDING AND MULCHED BY SEPTEMBER 1. THE DEPARTMENT WILL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15% TO BE A SLOPE. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER. STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS. BY OCTOBER 1 THE DISTURBED SLOPE MUST BE SEEDING WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED MULCH OVER THE SEEDING. IF THE RYE FAILS TO COVER AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE SLOPE BY NOVEMBER 1, THEN THE CONTRACTOR WILL COVER THE SLOPE WITH A LAYER OF EROSION CONTROL MIX OR WITH STONE RIPRAP AS DESCRIBED IN THE FOLLOWING STANDARDS.
3. STABILIZE THE SOIL WITH SOD:
THE DISTURBED SLOPE MUST BE STABILIZED WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
4. STABILIZE THE SOIL WITH EROSION CONTROL MIX:
EROSION CONTROL MIX MUST BE PROPERLY INSTALLED BY NOVEMBER 15. THE CONTRACTOR WILL NOT USE EROSION CONTROL MIX TO STABILIZE SLOPES HAVING GREATER THAN 50% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE. SEE THE TEMPORARY MULCHING BMP SECTION.
5. STABILIZE THE SOIL WITH STONE RIPRAP:
PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15. THE DEVELOPMENTS OWNER WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP. SEE THE RIPRAP SLOPE STABILIZATION BMP SECTION.
6. OVERWINTER STABILIZATION OF DISTURBED SLOPES:
BY SEPTEMBER 15, ALL DISTURBED SLOPES ON AREAS HAVING A SLOPE LESS THAN 15% MUST BE SEEDING AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.
- A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION:
BY OCTOBER 1, SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDING SOIL WITH HAY OR STRAW AT 75 POUNDS PER 1000 SQUARE FEET AND ANCHOR THE MULCH WITH PLASTIC NETTING. MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 50% OF THE DISTURBED SOD BEFORE NOVEMBER 1, THEN MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED BELOW.
 - B. STABILIZE THE SOIL WITH SOD:
STABILIZE THE DISTURBED SLOPE WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
 - C. STABILIZE THE SOIL WITH MULCH:
BY NOVEMBER 15, MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 50 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.
7. MAINTENANCE:
IF AN INSPECTION DETERMINES THAT A CORRECTIVE ACTION IS REQUIRED, THE ACTION OR REPAIR SHALL BE STARTED BY THE END OF THE NEXT WORKDAY AND COMPLETED WITHIN SEVEN DAYS OR BEFORE THE NEXT STORM EVENT. MAINTENANCE MEASURES SHALL BE APPLIED FOLLOWING THE ENTIRE CONSTRUCTION SEASON. ONCE A WEEK AND BEFORE AND AFTER EACH RAINFALL, SNOW STORM OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF EROSION CONTROL MEASURES AND REPAIR MEASURES AS NEEDED TO INSURE THEIR CONTINUOUS FUNCTION. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL INSPECT, REPAIR AND REPAIR ANY DAMAGES AND/OR WARE SPOTS. AN ESTABLISHED VEGETATIVE COVER MEANS A MINIMUM OF 65 TO 80% OF AREAS VEGETATED WITH WINDING GROUND.

STABILIZATION SCHEDULE BEFORE WINTER:

- SEPTEMBER 15
- ALL DISTURBED AREAS MUST BE SEEDING AND MULCHED.
ALL SLOPES MUST BE STABILIZED, SEEDING AND MULCHED.
ALL GRASS-LINED DITCHES AND CHANNELS MUST BE STABILIZED WITH MULCH OR AN EROSION CONTROL BLANKET.
- OCTOBER 1
- IF THE SLOPE IS STABILIZED WITH AN EROSION CONTROL BLANKET AND SEEDING, ALL DISTURBED AREAS TO BE PROTECTED WITH AN ANNUAL GRASS MUST BE SEEDING AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET AND MULCHING.
- NOVEMBER 15
- ALL STONE LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED.
SLOPES THAT ARE COVERED WITH RIPRAP MUST BE CONSTRUCTED BY THIS DATE.
- DURING WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.
- AREAS WITHIN 75 FEET OF STREAMS, WETLANDS, AND OTHER PROTECTED NATURAL RESOURCES THAT ARE NOT STABILIZED WITH VEGETATION BY DEC. 1 SHALL BE MULCHED AND ANCHORED WITH NETTING. IF WORK CONTINUES IN THIS AREA DURING THE WINTER, A DOUBLE LINE OF SEDIMENT BARRIERS MUST BE USED.

HOUSEKEEPING:

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, CONTAMINANT, 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. ANY 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 CONTAMINANT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.
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. ANY OFFSITE TRACKING OF MUD OR SEDIMENT SHALL BE VACUATED IMMEDIATELY AND PRIOR TO THE NEXT SIGNIFICANT STORM EVENT.
4. DEBRIS AND OTHER MATERIALS, LITTER, CONSTRUCTION DEBRIS, AND CHEMICALS EXPOSED TO STORMWATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.
5. TRENCH OR FOUNDATION DE-WATERING, TRENCH DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, POUNDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER MUST BE REMOVED FROM THE POUND 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 AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIPMENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.
 - DISCHARGES FROM FIREFIGHTING ACTIVITY:
 - FIRE HYDRANT FLUSHINGS;
 - VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED);
 - DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX C(3);
 - ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL THAT DOES NOT INVOLVE DETERGENTS;
 - PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
 - UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
 - UNCONTAMINATED GROUNDWATER OR SPRING WATER;
 - FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
 - UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5));
 - POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
 - LANDSCAPE IRRIGATION.
6. UNAUTHORIZED NON-STORMWATER DISCHARGES, THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON STORMWATER OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:
 - WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
 - FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
 - SOAPS, SOLVENTS OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
 - TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.
7. ADDITIONAL REQUIREMENTS, ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.



LOW POINT SEDIMENT CONTROL BARRIER

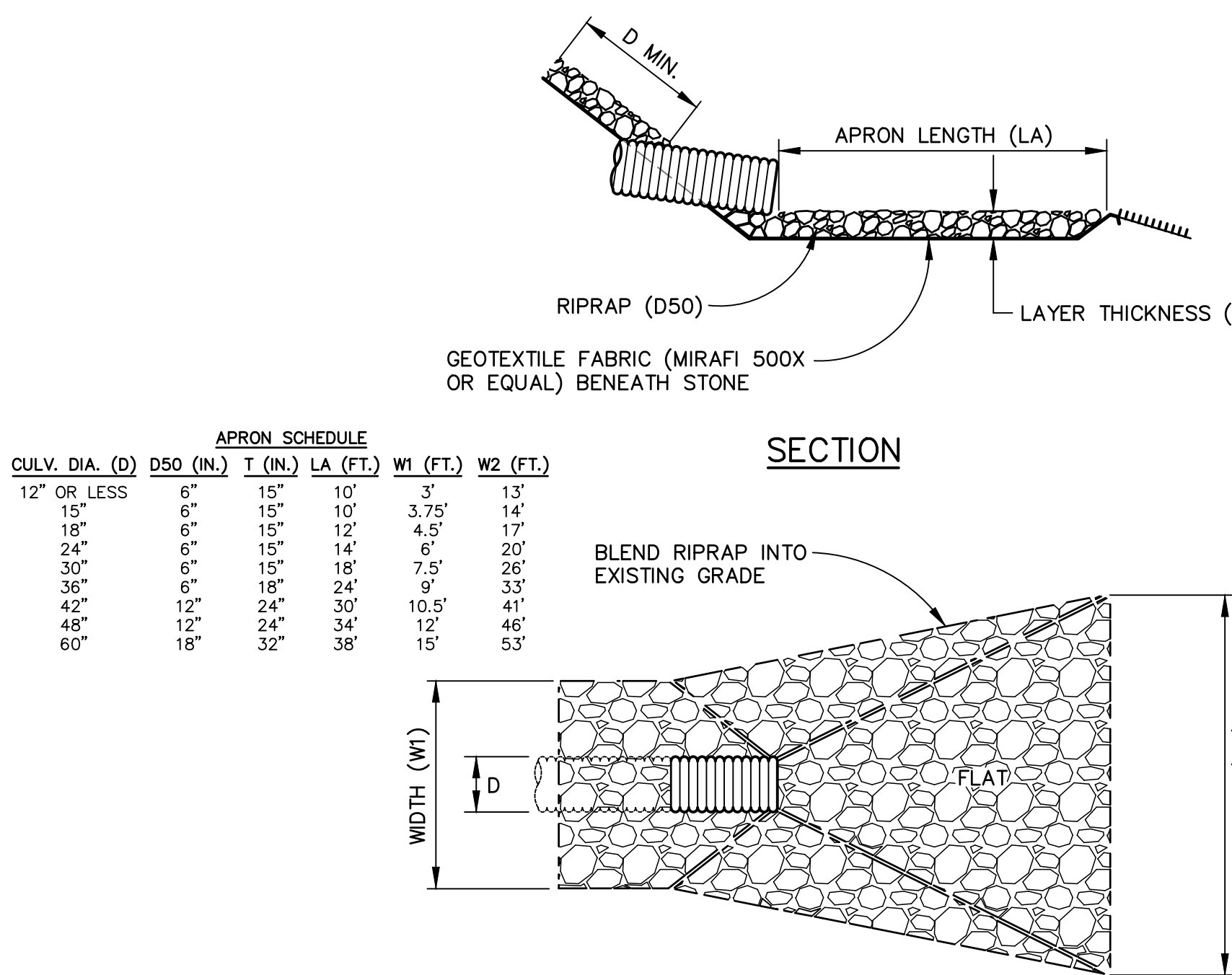
N.T.S.

Slope Stabilization Detail

N.T.S.

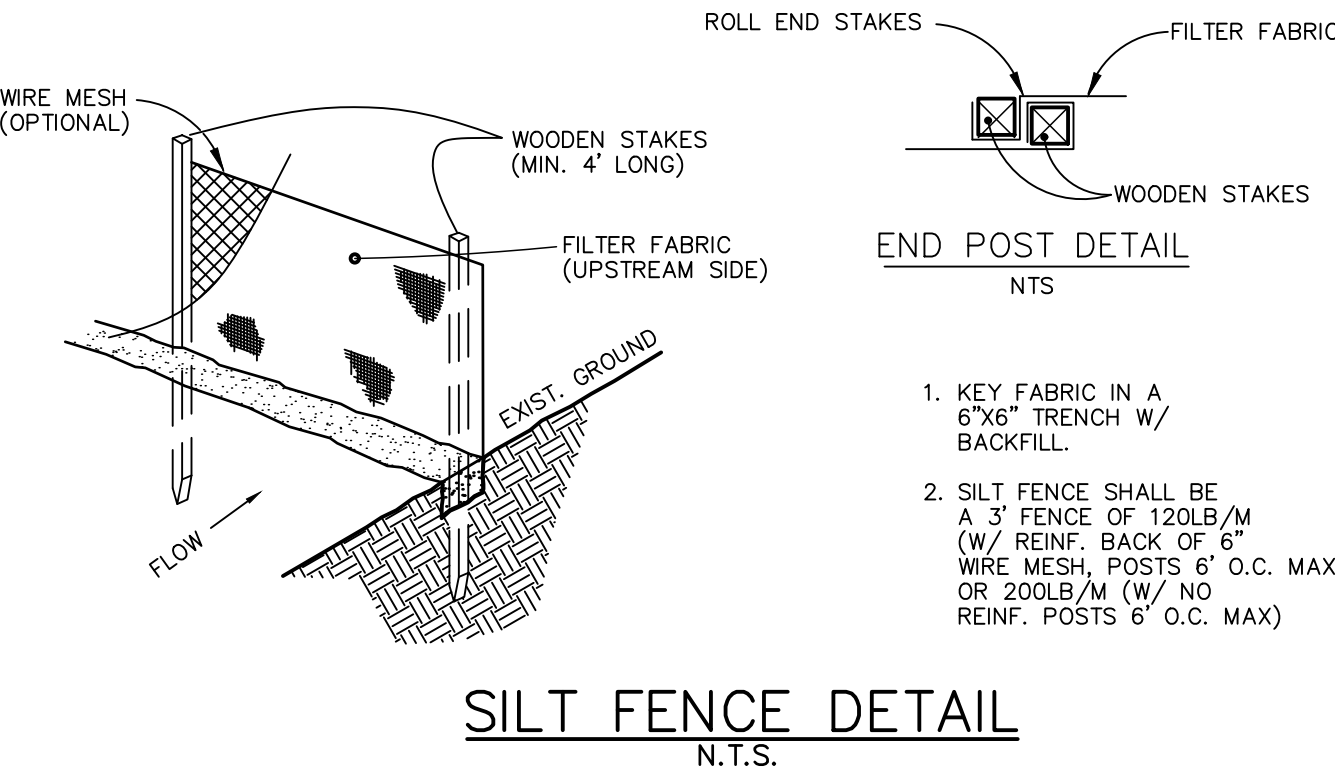
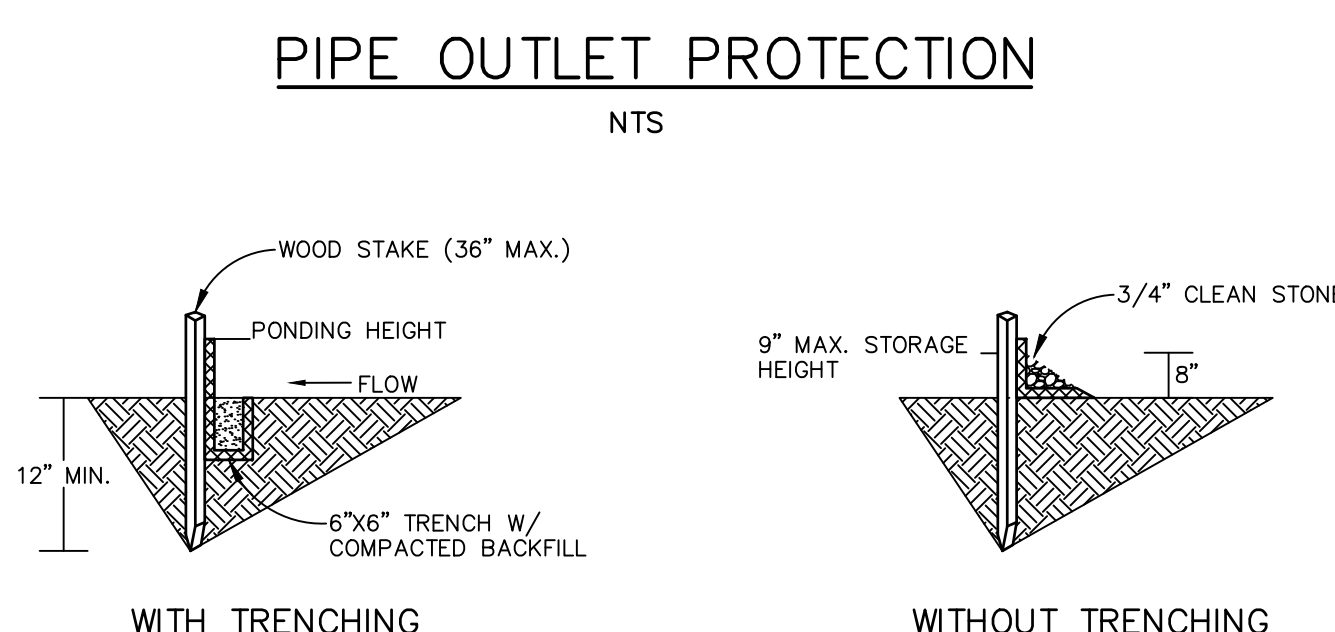
1. Prepare soil before installing blankets, including lime, fertilizer & seed.
2. Begin at top of slope by anchoring blanket in 6" x 6" trench. Backfill & compact trench after staping.
3. Roll blankets down or horizontally across slope.
4. The edges of parallel blankets must be stapled with approx. 2" overlap.
5. When blankets must be spliced down the slope, splice blankets end over end (shingle style) with approx. 4" overlap. Staple through overlapped area, approx. 12" apart.
6. Erosion control blankets shall be used on slopes steeper than 3:1 but limited to a max. of 2:1.

Slope Stabilization:
Erosion Control Blanket shall be in accordance with M.D.O.T. standard specifications, Section 6.13, Temporary Erosion Control Blankets and Extended Use Erosion Control Blankets.



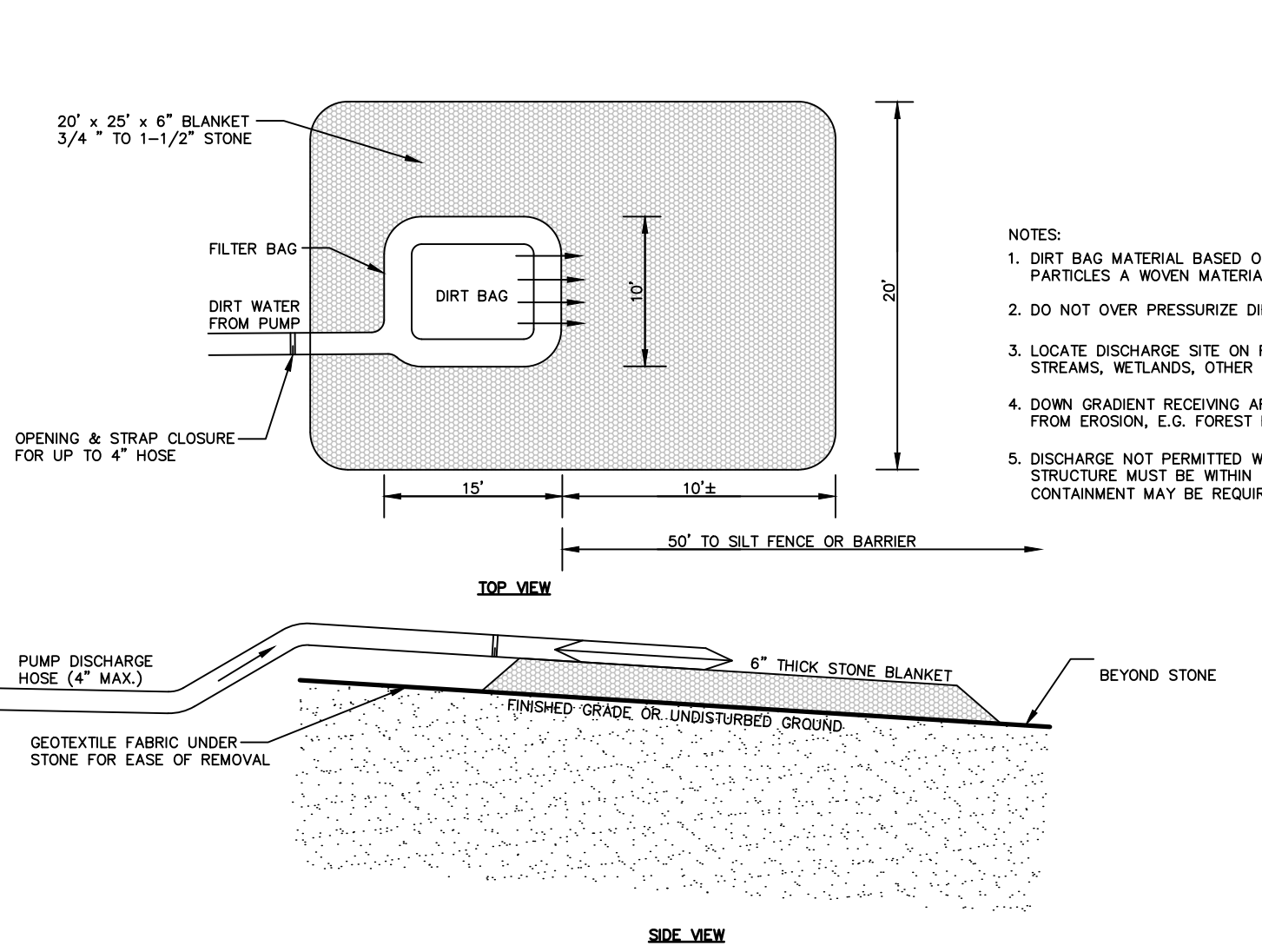
PIPE OUTLET PROTECTION

N.T.S.

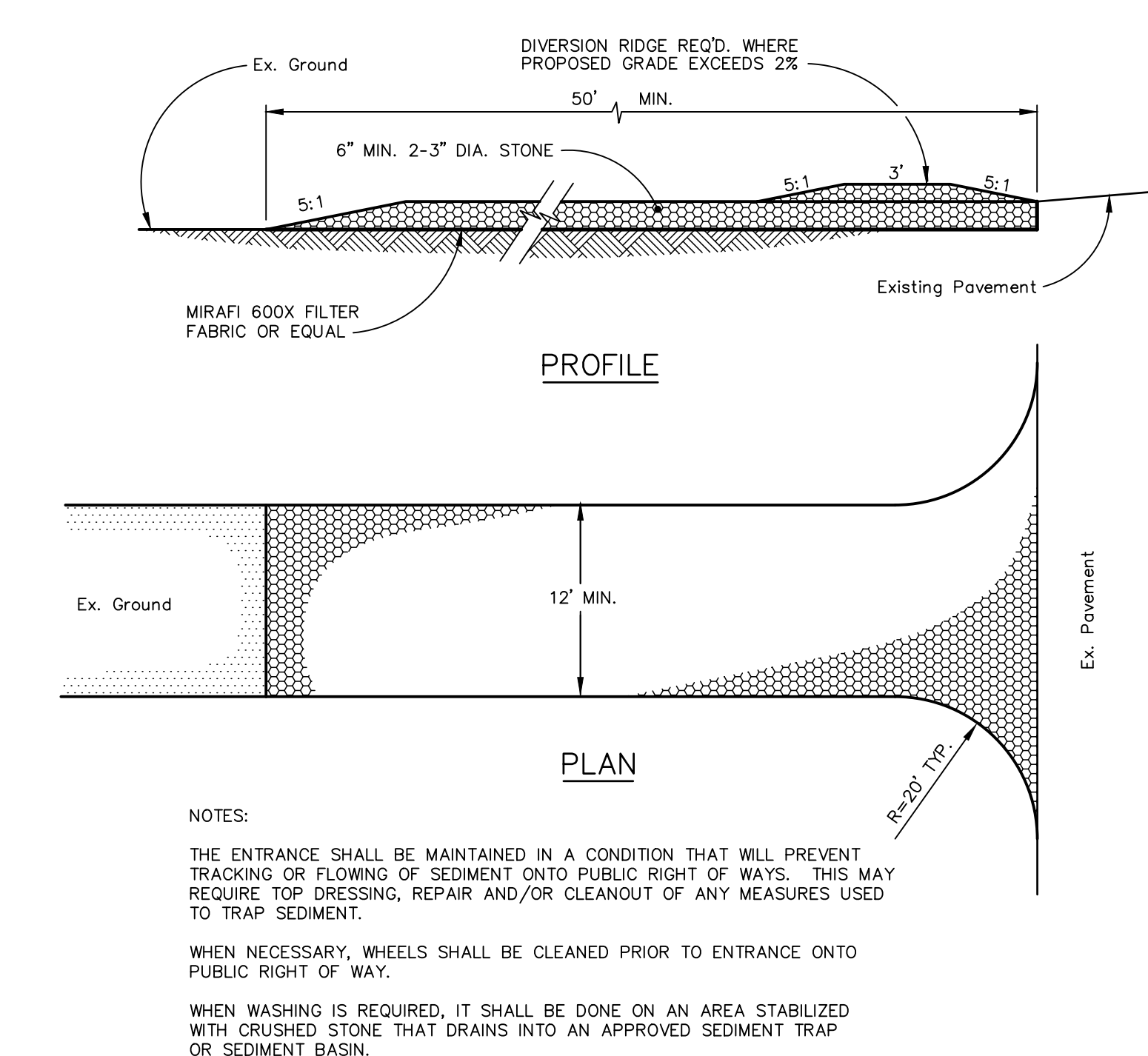


SILT FENCE DETAIL

N.T.S.

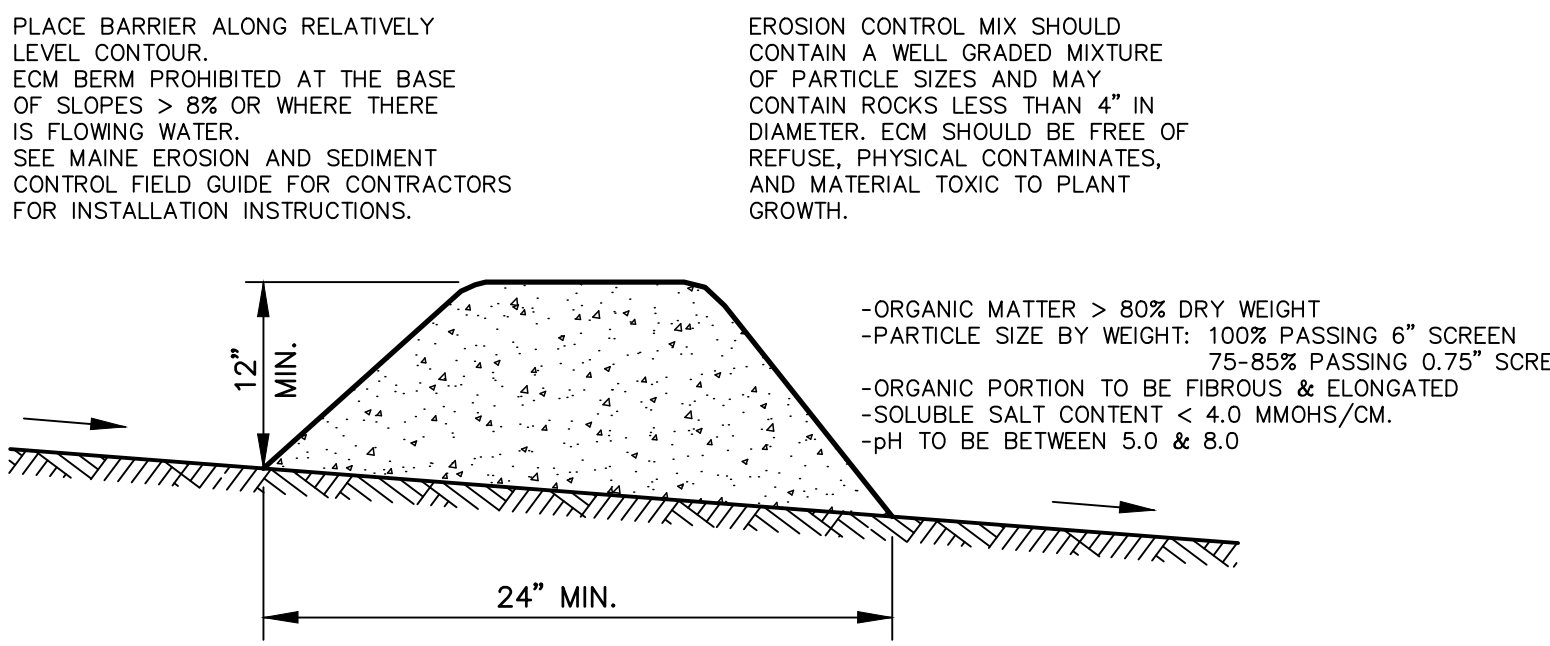


PUMPED DISCHARGE SEDIMENT CONTROL DEVICE (\"DIRT BAG\")



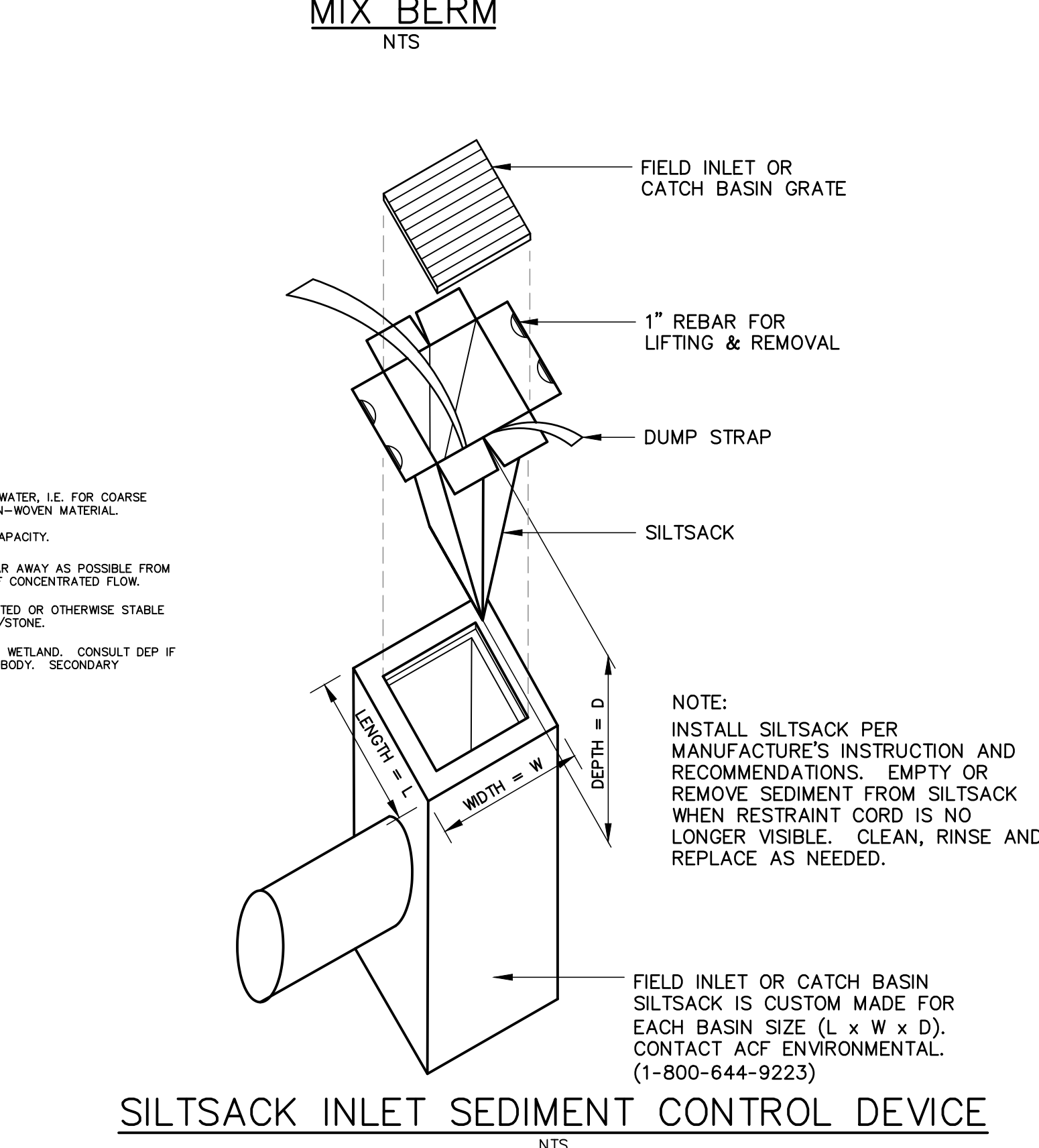
STABILIZED CONSTRUCTION ENTRANCE

N.T.S.



EROSION CONTROL MIX BERM

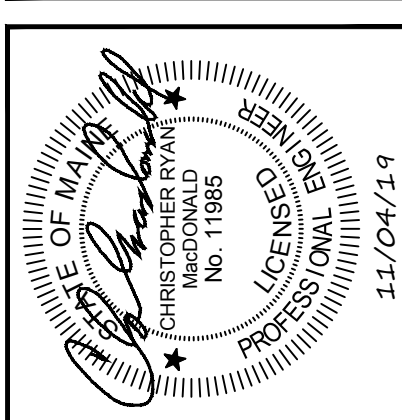
N.T.S.



SILTSACK INLET SEDIMENT CONTROL DEVICE

N.T.S.

REVISION		DESCRIPTION
NO.	DATE	DESCRIPTION
1	04/08/19	Preliminary Submission to City of Biddeford
2	06/10/19	Revisions based on City review comments Submitted to DEP & City
3	09/11/19	Revisions Based on Follow-up City Review Comments
4	10/09/19	Final Plan Submission
5	11/14/19	Revised per City Final Review



BH2M

Berry, Huff, McDonald, Milligan, Inc.

Engineers, Surveyors

Tel: (207) 859-9771 Fax: (207) 859-8250

28 State Street
Biddeford, Maine 04005

FOR
Sutton Partners
23 Recreation Drive
Hingham, MA 02043

EROSION CONTROL DETAILS

250 UNIT APARTMENTS

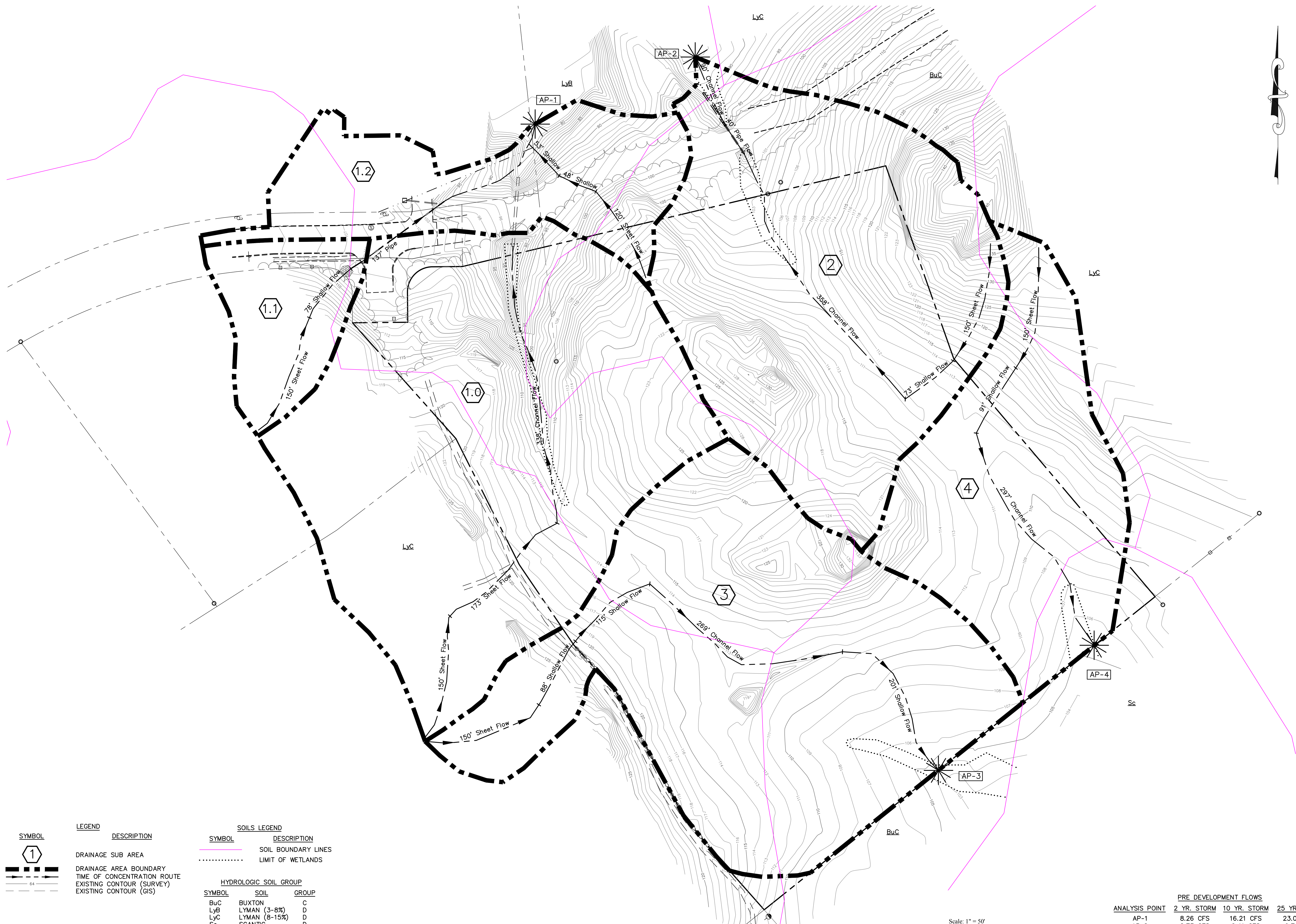
60 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED	DATE
W. Pelkey	April 2019
DRAWN	SCALE
Dept.	As Noted
CHECKED	JOB. NO.
S. Blake	18070

SHEET

9

REPRODUCTION OR REUSE OF THIS DOCUMENT WITHOUT THE EXPRESSED WRITTEN CONSENT OF BH2M INC. IS PROHIBITED



SYMBOL

1

LEGEND

DESCRIPTION

SYMBOL

DESCRIPTION

1

DRAINAGE SUB AREA

DRAINAGE AREA BOUNDARY

TIME OF CONCENTRATION ROUTE

EXISTING CONTOUR (SURVEY)

EXISTING CONTOUR (GIS)

SOIL BOUNDARY LINES

LIMIT OF WETLANDS

HYDROLOGIC SOIL GROUP

SYMBOL

SOIL

GROUP

BuC

BUXTON

C

LyB

LYMAN (3-8%)

D

LyC

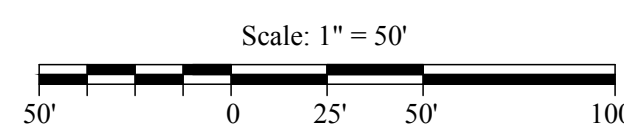
LYMAN (8-15%)

D

Sc

SCANTIC

D



PRE-DEVELOPMENT FLOWS			
ANALYSIS POINT	2 YR. STORM	10 YR. STORM	25 YR. STORM
AP-1	8.26 CFS	16.21 CFS	23.03 CFS
AP-2	2.73 CFS	6.41 CFS	9.76 CFS
AP-3	3.39 CFS	7.33 CFS	10.84 CFS
AP-4	1.63 CFS	3.70 CFS	5.57 CFS

REVISION

DESCRIPTION

NO.

DATE

DESCRIPTION

1

04/08/19

Preliminary Submission to City of Biddeford

2

06/10/19

Revisions based on City review comments Submitted to DEP & City

3

09/11/19

Revisions Based on Follow-up City Review Comments

4

10/09/19

Final Plan Submission

5

11/14/19

Revised per City Final Review

STATE OF MAINE

PROFESSIONAL SEAL

CHRISTOPHER J. MACDONALD

NO. 11885

11/14/2019

11/14/2019

11/14/2019

BH2M

Engineers, Surveyors

Berry, Huff, MacDonald, Milligan Inc.

28 State Street

Gorham, Maine 04038

Tel: (207) 839-2771

Fax: (207) 839-8250

FOR

Saxon Partners

23 Recreation Drive

Hingham, MA 02043

PRE-DEVELOPMENT DRAINAGE PLAN

250 UNIT APARTMENTS

60 BARRA ROAD

BIDDEFORD, MAINE

DESIGNED

C. MacDonald

DATE

April 2019

DRAWN

Dept.

SCALE

As Noted

CHECKED

S. Blake

JOB. NO.

18070

SHEET

A

REPRODUCTION OR REUSE OF THIS DOCUMENT WITHOUT THE EXPRESSED WRITTEN CONSENT OF BH2M INC. IS PROHIBITED

LANDSCAPE PLAN - SAXON PARTNERS - BARRA ROAD

GENERAL NOTES:

1. Landscape Plan only. Developed via civil drawings from BH2M, aerial map imagery, and gis data. not a substitute for a legal boundary survey by a licensed surveyor.

PARKING LOT TREE REQ:

PROPOSED PARKING AREA: 94,725 SF

94,725 / 10,890 ($\frac{1}{4}$ ACRE): 8.7 TREES

TREES					
SYMBOL	SCIENTIFIC NAME	COMMON NAME	QTY.	SIZE	DESCRIPTION
ARN	Acer rubrum 'Northwood'	Northwood Red Maple	14	2" cal.	60x40"; Full Sun, very hardy, oval crown, red fall color, seedless
ACA	Carpinus caroliniana	American Hornbeam	13	1.75" cal.	30x30"; Full to part Sun, smooth bark, native, few pest problems
CTH	Chamaecyparis thyoides 'Glauc'	Blue Coastal White Cedar	19	5-6"	Full to part Sun, native, blue grey foliage
GTR	Gleditsia triacanthos var. inermis 'Skyline'	Skyline Honeylocust	5	2" cal.	45x20"; Full to part Sun, very tolerant of urban stresses
PIG	Picea glauca	White Spruce	6	6-7"	Full Sun, native, good windbreak and visual screen

SHRUBS					
SYMBOL	SCIENTIFIC NAME	COMMON NAME	QTY.	SIZE	DESCRIPTION
BGM	Buxus x 'Green Mountain'	Green Mountain Boxwood	9	#3	Full to part shade; hardy
HYE	Hydrangea macrophylla 'Endless Summer' Blushing Bride	Blushing Bride Hydrangea	8	#3	Full to part Sun, 3x5', pink, repeat bloomer
HYM	Hydrangea arborescens 'Invincible Spirit'	Invincible Spirit Hydrangea	9	#3	Full to part Shade, 4x6', pink, repeat bloomer
JUH	Juniperus squamata 'Holger'	Holger Juniper	23	18-24"	Full Sun, 3x4', fast-growing, sparkling blue
PRV	Panicum virgatum 'Northwind'	Northwind Switch Grass	2	#2	5x2'; Full to part sun, tolerant of poor soils
RRU	Rosa rugosa 'Rubrum'	Red Rugosa Rose	16	#3	Full Sun, 6x6', pink flowers, urban tolerant
TAM	Taxus x media 'Densiformis'	Yew	60	2-2.5'	4x8'; Full Sun to Full Shade, hardy, spready, evergreen
TAH	Taxus x media 'Hicksii'	Upright Yew	19	3-3.5'	Full sun to full shade, narrow upright, dark green, very hardy
VBU	Viburnum burkwoodii	Burkwood Viburnum	43	3-4'	8x6'; Full Sun to part Shade, nearly evergreen, fragrant white flowers

KW Architects PC
PO Box 404
Wells, Maine 04090
207.332.9199
www.maine-architects.com

ARCHITECTS

Saxon Partners
at
Barra Road, Biddeford, Maine

REVISIONS

#	DATE	DESCRIPTION
A	4/9/19	PB SUBMITTAL
B	10/4/19	REV. PB SUBMITTAL

DATE:	10/4/19
-------	---------

PROJECT #	180906
-----------	--------

DRAWN BY:	KLD
-----------	-----

CHECKED BY:	-
-------------	---

DRAWING SCALE	1" = 30'
---------------	----------

SHEET TITLE

Landscape Plan
Saxon Partners
at Barra Road

L1

© COPYRIGHT 2015
REPRODUCTION OR REUSE OF
THIS DOCUMENT IS PROHIBITED

CONCEPT IMAGES:

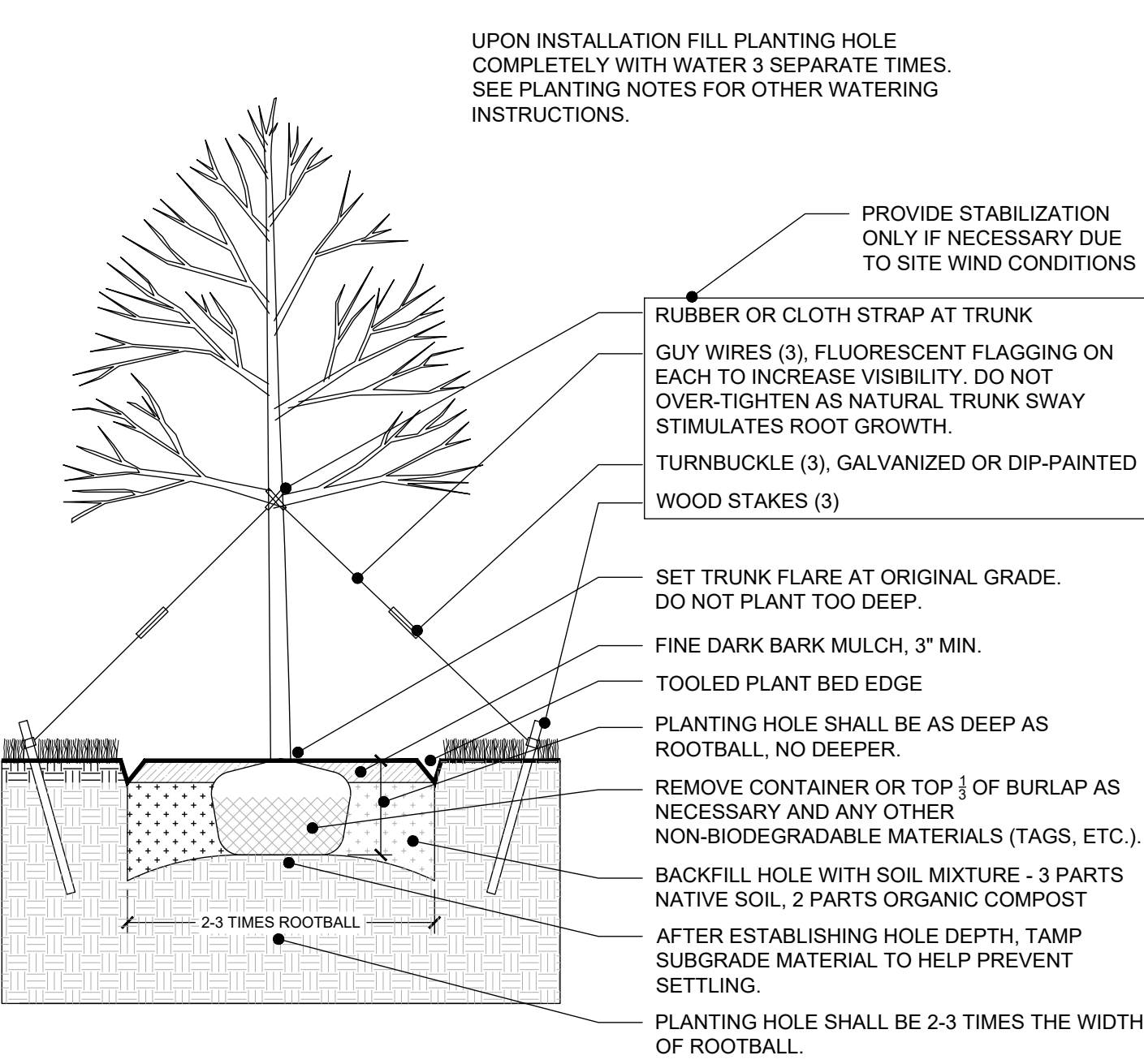
COURTYARD



FENCE



PLANTING INSTRUCTIONS:



PLANTING NOTES:

- 1. STREET TREES SHALL BE PLANTED 12' FROM BACK OF CURB ALONG SOUTH SIDE OF DRIVE AND 3'-6" FROM EDGE OF SIDEWALK ALONG NORTH SIDE.
- 2. ALL PROPOSED PLANT MATERIAL SHALL BE INSTALLED IN MULCHED BEDS WITH 3" MIN. FINE DARK BARK MULCH. IF NO PLANT BED SHOWN, PLANT SHALL RECEIVE A 4' DIAMETER MIN. PLANT BED.
- 3. PLANTING HOLES SHALL BE 2-3 TIMES THE WIDTH AND EQUALLY AS DEEP AS THE ROOTBALL. DO NOT BURY TRUNK FLARE.
- 4. ALL PLANTINGS SHALL BE BACKFILLED WITH SOIL MIXTURE THAT IS 3 PARTS NATIVE SOIL, 2 PARTS ORGANIC COMPOST.
- 5. WATER ALL PLANTS THOROUGHLY UPON INSTALLATION - FILL EACH PLANTING HOLE WITH WATER THREE (3) TIMES. DURING THE ESTABLISHMENT PERIOD, CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE WATER FOR ALL INSTALLED PLANTS FOR A MINIMUM OF 2 WEEKS.
- 6. CONTRACTOR SHALL PROVIDE A 1 YEAR GUARANTEE FOR ALL PLANT MATERIAL BEGINNING AT SUBSTANTIAL COMPLETION OR SITE ACCEPTANCE.
- 7. SET ORANGE, POLYETHYLENE, SAFETY FENCE AT DRIP LINE (OR AS NEAR TO DRIP LINE AS CONSTRUCTION ACTIVITIES ALLOW) AROUND ALL TREES MARKED FOR PROTECTION.

PLANT IMAGES:

TREES



SHRUBS



KW Architects PC
PO Box 404
Wells, Maine 04090
207.332.9199
www.maine-architects.com



Saxon Partners
at
Barra Road, Biddeford, Maine

REVISIONS		
#	DATE	DESCRIPTION
A	4/9/19	PB SUBMITTAL
B	10/4/19	REV. PB SUBMITTAL

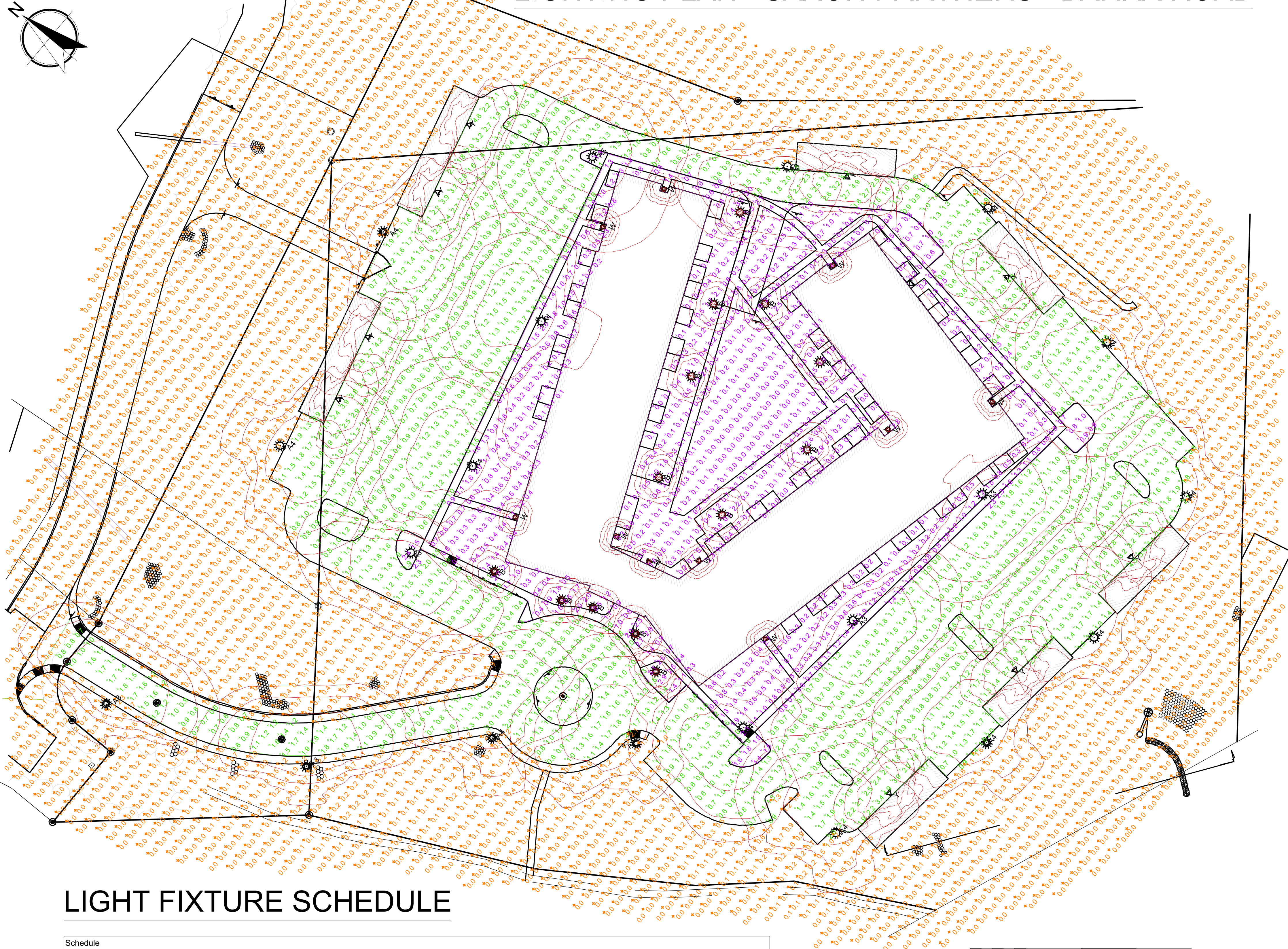
DATE:	10/4/19
PROJECT #	180906
DRAWN BY:	KLD
CHECKED BY:	-
DRAWING SCALE	N.T.S.

SHEET TITLE
Landscape Details,
Notes, & Images
Saxon Partners
at Barra Road

L2

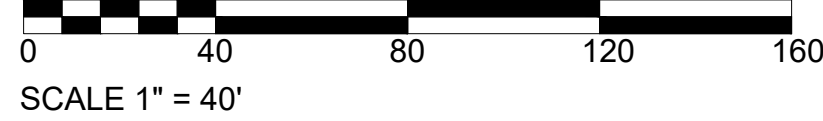
© COPYRIGHT 2015
REPRODUCTION OR REUSE OF
THIS DOCUMENT WITHOUT
WRITTEN PERMISSION OF
KW ARCHITECTS IS PROHIBITED

LIGHTING PLAN - SAXON PARTNERS - BARRA ROAD



LIGHT FIXTURE SCHEDULE

Schedule											
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	A3	6	Lithonia Lighting	DSX0 LED P5 40K T3M MVOLT SPA DBDXD with SSS 25 4C DM19AS DBDXD	DSX0 LED Area Fixture; mounted at 25ft	LED	1	DSX0_LED_P5_4 0K_T3M_MVOLT .ies	11346	0.9	89
	A4	13	Lithonia Lighting	DSX0 LED P5 40K TFTM MVOLT SPA DBDXD with SSS 25 4C DM19AS DBDXD	DSX0 LED Area Fixture; mounted at 25ft	LED	1	DSX0_LED_P5_4 0K_TFTM_MVOLT .ies	11680	0.9	89
	A5	1	Lithonia Lighting	DSX0 LED P5 40K T5M MVOLT SPA DBDXD with SSS 25 4C DM19AS DBDXD	DSX0 LED Area Fixture; mounted at 25ft	LED	1	DSX0_LED_P5_4 0K_T5M_MVOLT .ies	12126	0.9	89
	B	13	INTRIGUE LIGHTING	LEF PT 55LED 40K D TY5 XX XXX	LARGER EUROTECH FULL CUTOFF; mounted at 12ft	LED	1	LEF-PT-70LED-WHL .ies	2037	0.67	55
	W	10	INTRIGUE LIGHTING	ET WA 19LED 40K D CA SHD XX UNV XXX	EUROTECH Wallmount; mounted at 8ft	LED	1	LEF-PT-70LED-WHL .ies	2037	0.31	19
	Y	9	Lithonia Lighting	DSXW1 LED 10C 1000 40K T3M MVOLT	DSXW1 LED WITH (1) 10 LED LIGHT ENGINES, TYPE T3M OPTIC, 4000K, @ 1000mA; mounted at 9ft	LED	1	DSXW1_LED_10 C_1000_40K_T3 M_MVOLT .ies	3873	0.9	38.8



Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Landscape Area		0.6 fc	3.3 fc	0.0 fc	N/A	N/A
Outside of Parking Lot		0.1 fc	2.3 fc	0.0 fc	N/A	N/A
Parking Lot		1.2 fc	5.4 fc	0.4 fc	13.5:1	3.0:1



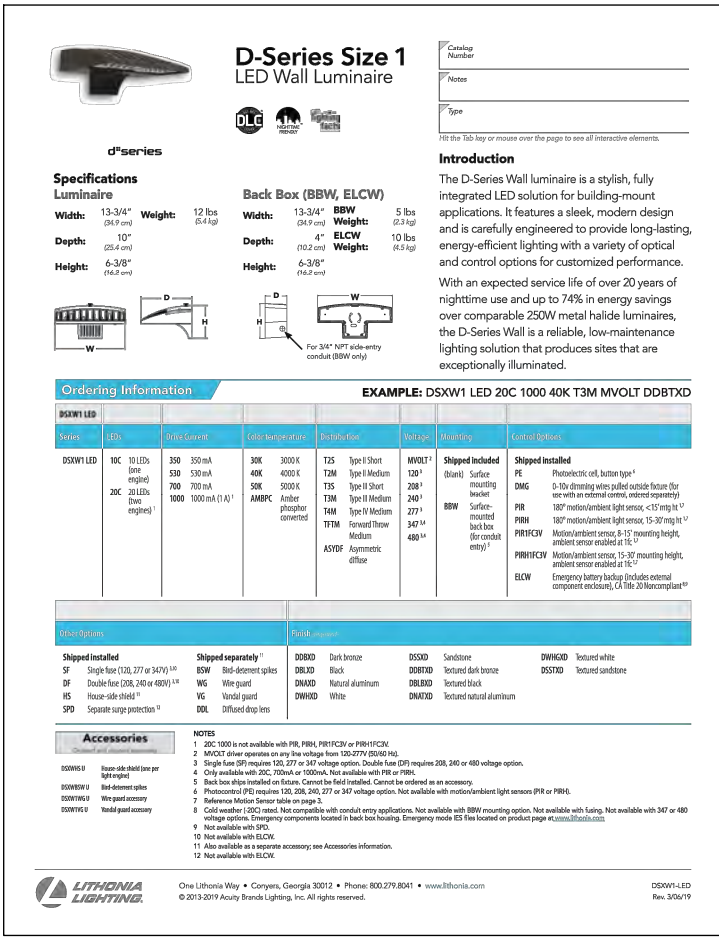
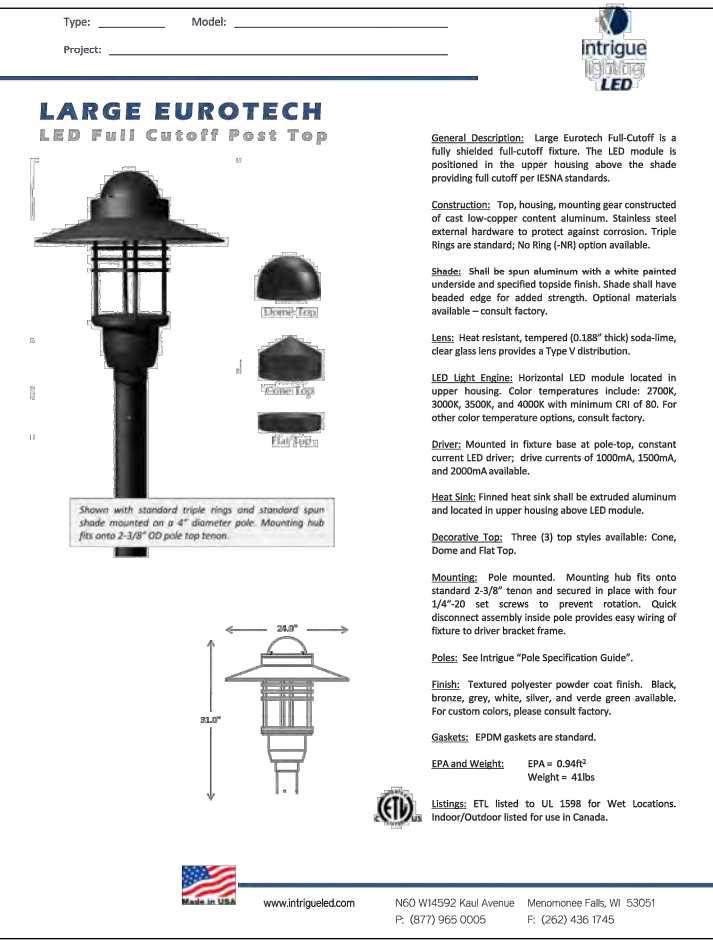
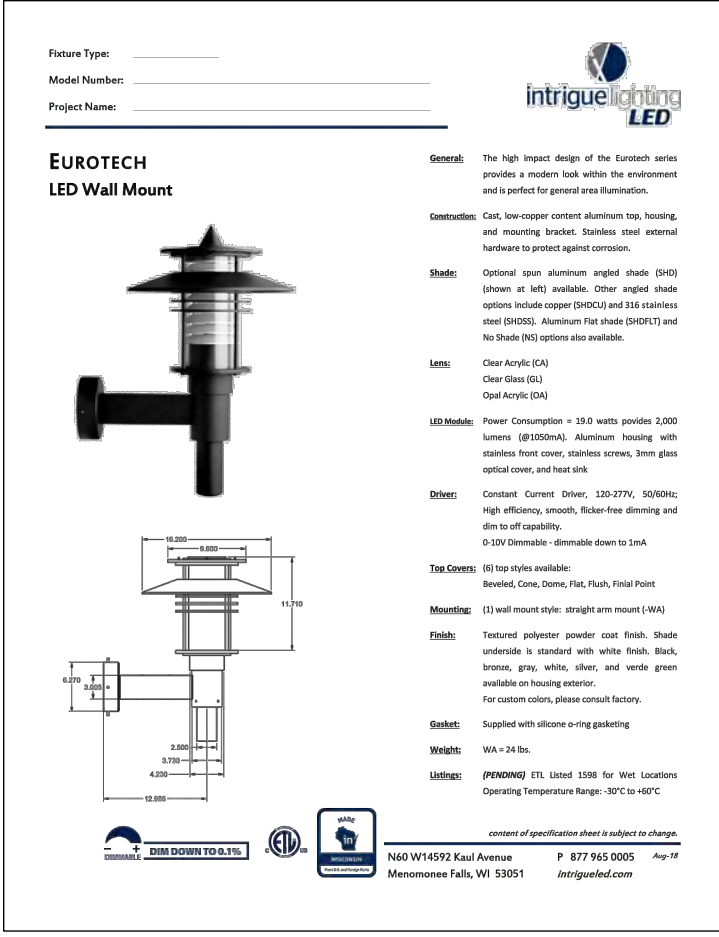
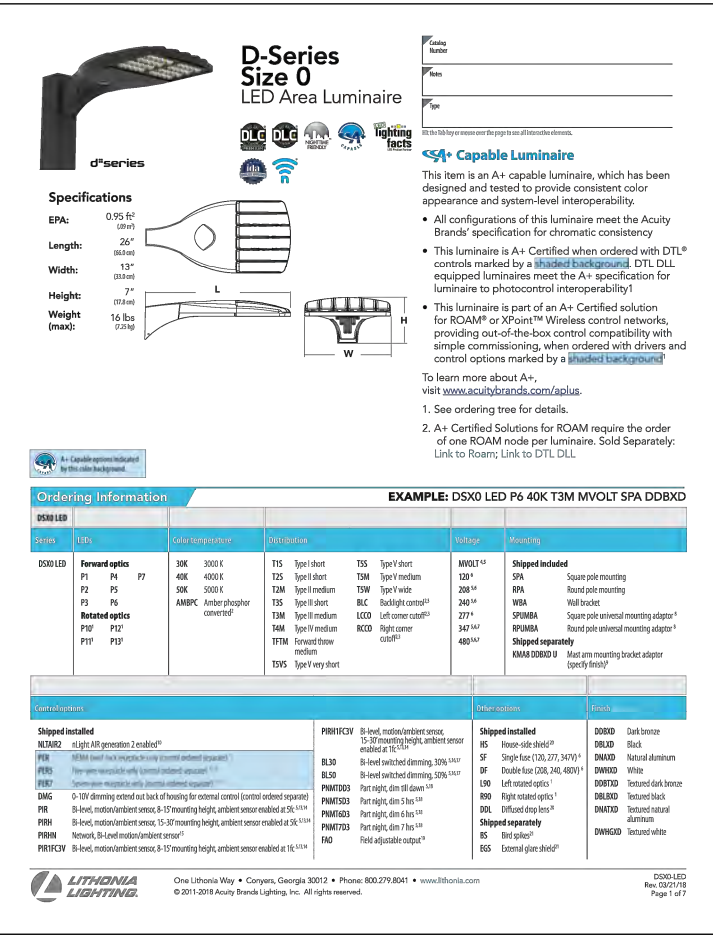
GENERAL NOTES:

- LIGHTING PLAN ONLY. DEVELOPED VIA CIVIL DRAWINGS FROM BH2M, AERIAL MAP IMAGERY, AND GIS DATA. NOT A SUBSTITUTE FOR A LEGAL BOUNDARY SURVEY BY A LICENSED SURVEYOR.
- PHOTOMETRIC AND SCHEDULE INFORMATION PROVIDED BY VISIBLE LIGHT, INC.

LIGHTING NOTES:

- REFER TO FIXTURE SCHEDULE FOR MOUNTING HEIGHTS.
- LIGHT POLE SPECIFICATION INFORMATION T.B.D. FINISH TO MATCH FIXTURE.
- ALL LIGHT POLES SHALL BE MOUNTED ON A PREFAB CONCRETE BASES WITH CONDUIT ADEQUATE FOR ELECTRICAL WIRING, DIAMETER(S) T.B.D.
- ALL 'A' FIXTURE CONCRETE BASES SHALL HAVE A 30" REVEAL AND BE SET 4' MIN. BELOW FINISHED GRADE (6'- 6" MIN. OVERALL HEIGHT).
- ALL 'B' FIXTURE CONCRETE BASES SHALL HAVE A 12" REVEAL AND BE SET 4' MIN. BELOW FINISHED GRADE (5' MIN. OVERALL HEIGHT).
- REFER TO MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION AND WIRING INFORMATION.

FIXTURE CUT SHEETS:



REVISIONS

#	DATE	DESCRIPTION
A	4/9/19	PB SUBMITTAL
B	10/4/19	REV. PB SUBMITTAL

DATE:	10/4/19
PROJECT #	180906
DRAWN BY:	KLD
CHECKED BY:	-
DRAWING SCALE	1" = 40'

SHEET TITLE

Photometrics
& Lighting Plan
Saxon Partners
at Barra Road

L3

© COPYRIGHT 2015
REPRODUCTION OR REUSE OF
THIS DOCUMENT WITHOUT
WRITTEN PERMISSION OF
KW ARCHITECTS IS PROHIBITED

KW Architects PC

PO Box 404

Wells, Maine 04090

207.332.9199

www.maine-architects.com

ARCHITECTS

Saxon Partners
at
Barra Road, Biddeford, Maine

EXHIBIT C

2.c.

BARRA ROAD APARTMENTS

A 250 UNIT APARTMENT PROJECT
60 BARRA ROAD, BIDDEFORD, MAINE

SAXON
PARTNERS

25 RECREATION PARK DRIVE, SUITE 204
HINGHAM, MA 02043

PLAN INDEX

1	SITE PLAN
2	STANDARD BOUNDARY & EXISTING CONDITIONS PLAN
3	GRADING & EROSION CONTROL PLAN
4	ACCESS DRIVES PLAN EXTENSION AND PROFILES
5	DETAILS A
6	DETAILS B
7	WETPOND LAYOUT AND DETAILS
8	UTILITY DETAILS
9	EROSION CONTROL DETAILS
A	PRE-DEVELOPMENT DRAINAGE PLAN
B	POST-DEVELOPMENT DRAINAGE PLAN
L1	LANDSCAPE PLAN
L2	LANDSCAPE DETAILS, NOTES & IMAGES
L3	PHOTOMETRICS & LIGHTING PLAN



Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors

28 State Street
Gorham, Maine 04038
Tel. (207) 839-2771
Fax (207) 839-8250

EXISTING ACCESS
WAY TO LAND
OF INDIAN CLIFF
DEVELOPMENT
CORP.

INV. 94.
24" CPP
CULVERT

Counseling Services Inc.
Bk. 14527, Pg. 959
See Plan References A & B

CURVE DATA
R=30.00', L=47.12'
R=30.00', L=47.12'

SOILS LEGEND

SLOPE DESIGNATION

A = 0 - 3%

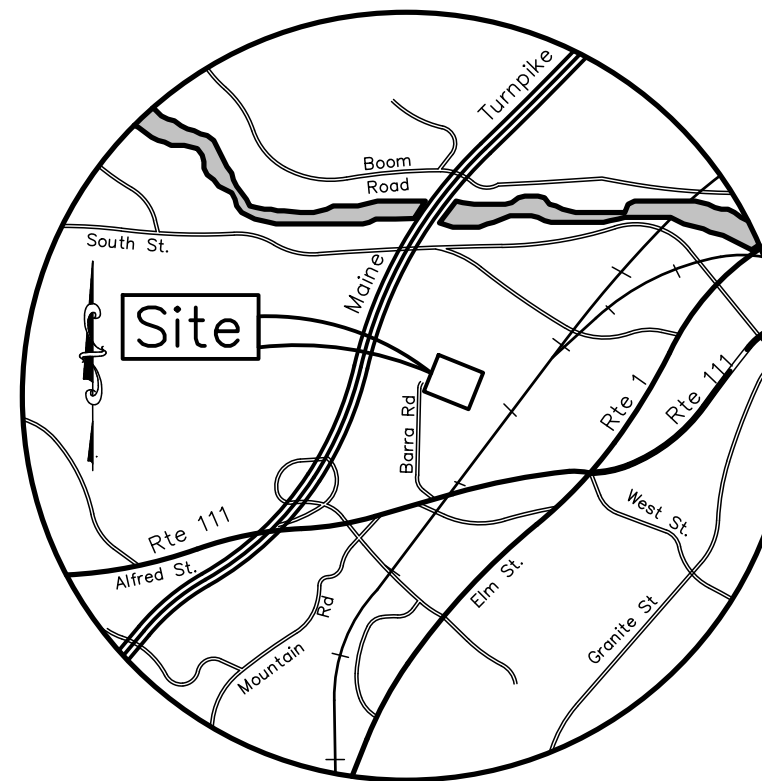
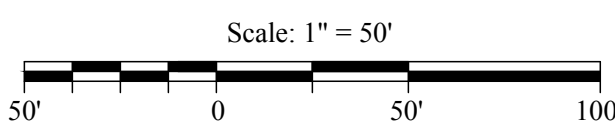
B = 3 - 8%

C = 8 - 15%

D = 15 - 25%

F = > 25%

EWD
WD
MWD
SPD
PD
VPD

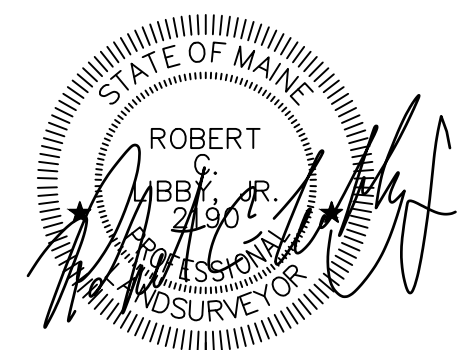


LOCATION MAP
SCALE: 1" = 2 MILES

1. OWNERS: SAWMILL PARK PROPERTIES, LLC
INDIAN CLIFF DEVELOPMENT CORPORATION & MIKE EON ASSOCIATES, LTD.
P. O. BOX 444
BIDDEFORD, MAINE 04005
3. SURVEYOR: ROBERT C. LIBBY, JR., PLS #2190
BHM2
28 STATE STREET
GORHAM, MAINE
5. WETLANDS: MARK HAMPTON ASSOCIATES
PORTLAND, MAINE
6. DEED REFERENCE: BOOK 17015, PAGE 512
BOOK 8517, PAGE 288
BOOK 5468, PAGE 006
7. TAX MAP REFERENCE: MAP 2, LOT 43-1
MAP 2, LOT 42-1 (PORTION OF)
MAP 7, LOT 15 (PORTION OF)
8. TOTAL PARCEL AREA: 441,664 S.F. (10.14 ACRES)
9. EXISTING ZONING: I-3 & R-3 PROPOSED CONTRACT ZONE)
10. THE SURVEYED PARCEL IS LOCATED WITHIN ZONE C (AREAS OF MINIMAL FLOODING) AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR THE CITY OF BIDDEFORD, MAINE, COMMUNITY PLAN NO. 230145 0003B, DATED MAY 15, 1984.
11. SITE BENCHMARK IS A PK NAIL FOUND IN PAVEMENT OF BARRA ROAD, ELEVATION 106.71 (CITY DATUM).
12. PLAN REFERENCES:
 - A. FOURTH AMENDED SUBDIVISION PLAN, EXIT FOUR BUSINESS PARK, BARRA ROAD, BIDDEFORD, MAINE, FOR CITY OF BIDDEFORD, DATED MARCH 2013, BY OWEN HASKEL, INC. AND RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 362, PAGE 27.
 - B. THIRD AMENDED SUBDIVISION PLAN, EXIT FOUR BUSINESS PARK, BARRA ROAD, BIDDEFORD, MAINE, FOR CITY OF BIDDEFORD, DATED MAY 2005, BY OWEN HASKEL, INC. AND RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 302, PAGE 15.
 - C. SURVEY PLAN OF LAND OWNED BY MERREAL CORPORATION, OFF SOUTH STREET, BIDDEFORD, MAINE, FOR MAINE SAVINGS BANK, DATED 3/21/90, BY SEBAGO TECHNIQS, INC. AND RECORDED IN YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 192, PAGE 16.
 - D. BOUNDARY PLAN OF LAND SURVEYED FOR THE CITY OF BIDDEFORD, BARRA ROAD, BIDDEFORD, MAINE, DATED 12/7/1894, BY CITY OF BIDDEFORD ENGINEERING DEPARTMENT.
 - E. STANDARD BOUNDARY SURVEY OF LAND ON POWERLEAU STREET, BIDDEFORD, MAINE, FOR LIVERMORE FALLS TRUST COMPANY, DATED 1/21/1999, BY LIVINGSTON HUGHES AND RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 246, PAGE 15.
 - F. PLAN OF LAND OF ALMA CORBIN, BIDDEFORD, MAINE, DATED MAY 16, 1972, BY DES ROBERTS & HENRY, INC. AND RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 57, PAGE 25.
 - G. PLAN SHOWING LAND OF RALPH & YVONNE LAFAMME, AND A PORTION OF LANDS OF ADRIEN AND AUGUSTINE ROBERGE, BIDDEFORD MAINE, DATED JULY 2, 1958, BY LIBBY & DOW ENGINEERS AND RECORDED IN THE YORK COUNTY REGISTRY OF DEEDS IN PLAN BOOK 27, PAGE 33.

I CERTIFY THAT THIS SURVEY CONFORMS
TO THE MAINE BOARD OF LICENSURE
FOR PROFESSIONAL LAND SURVEYORS
TECHNICAL STANDARDS OF PRACTICE FOR
A STANDARD BOUNDARY SURVEY WITH
THE FOLLOWING EXCEPTIONS:

1. NO SURVEYORS REPORT



PLS #2190



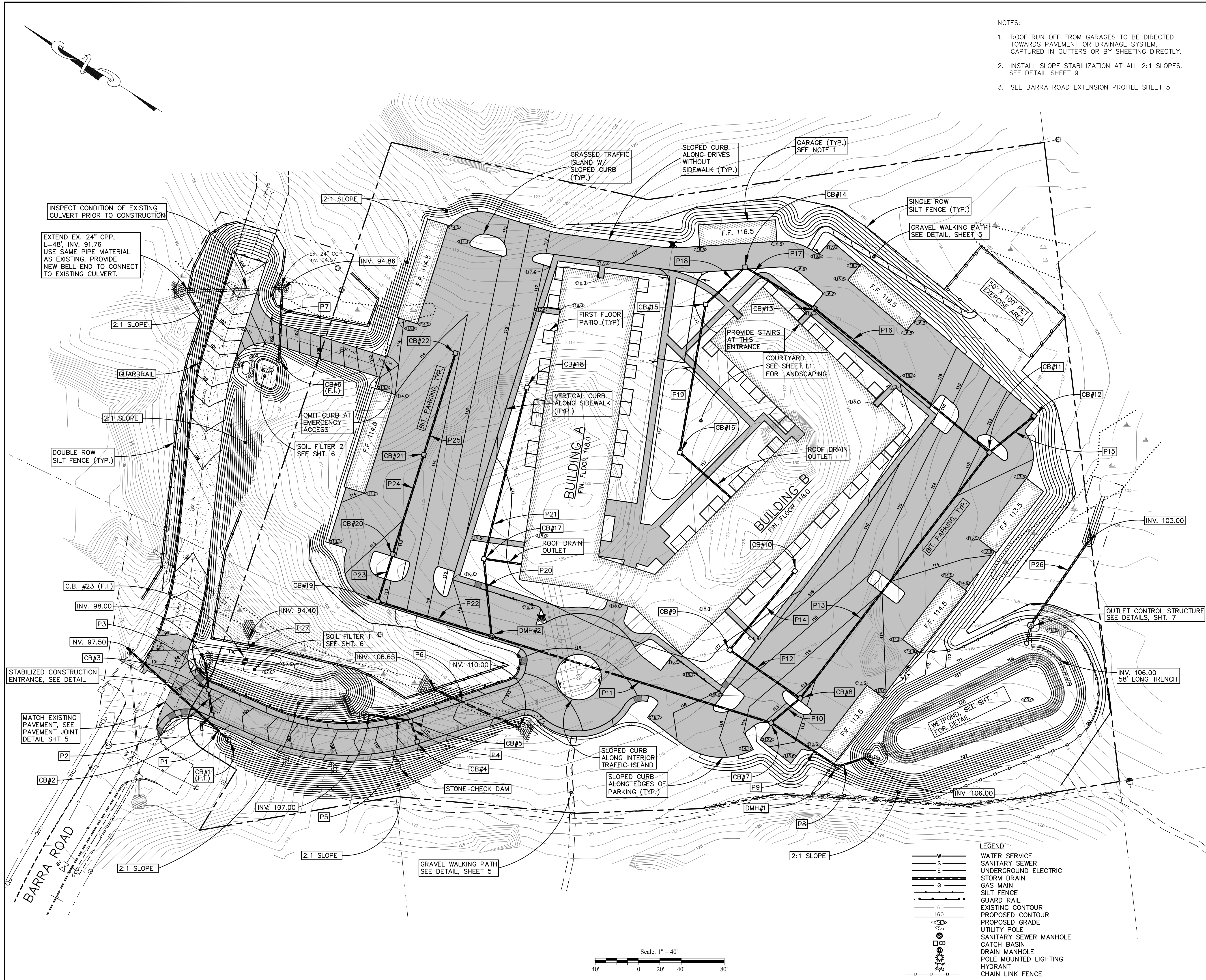
Berry, Huff, McDonald, Milfigan Inc.
Engineers, Surveyors
28 State Street
Gardham, Maine 04038
Tel. (207) 839-2771
Fax (207) 839-8250

Saxon Partners
25 Recreation Drive
Bellingham, MA 02043

STANDARD BOUNDARY & EXISTING CONDITIONS

SHEET
2

REPRODUCTION OR REUSE OF THIS
DOCUMENT WITHOUT THE
EXPRESSED WRITTEN CONSENT
OF RH2M INC. IS PROHIBITED.

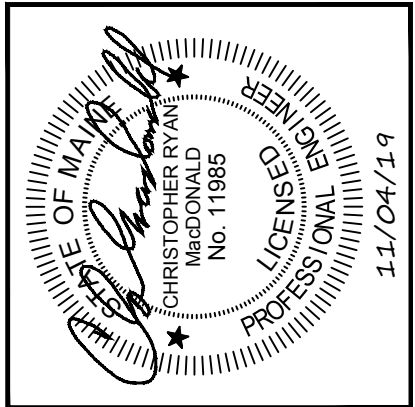


- NOTES:
1. ROOF RUN OFF FROM GARAGES TO BE DIRECTED TOWARDS PAVEMENT OR DRAINAGE SYSTEM, CAPTURED IN GUTTERS OR BY SHEETING DIRECTLY.
 2. INSTALL SLOPE STABILIZATION AT ALL 2:1 SLOPES. SEE DETAIL SHEET 9
 3. SEE BARRA ROAD EXTENSION PROFILE SHEET 5.

STORMDRAIN PIPES		
P1	- 15" S.D., L=116', S=0.006'/FT.	
P2	- 15" S.D., L=21', S=0.010'/FT.	
P3	- 15" S.D., L=24', S=0.010'/FT.	
P4	- 15" S.D., L=18', S=0.005'/FT.	
P5	- 15" S.D., L=35', S=0.005'/FT.	
P6	- 24" S.D., L=87', S=0.039'/FT.	
P7	- 15" S.D., L=62', S=0.005'/FT.	
P8	- 36" S.D., L=25', S=0.004'/FT.	
P9	- 36" S.D., L=70', S=0.004'/FT.	
P10	- 30" S.D., L=31', S=0.004'/FT.	
P11	- 24" S.D., L=268', S=0.004'/FT.	
P12	- 15" S.D., L=75', S=0.010'/FT.	
P13	- 30" S.D., L=285', S=0.004'/FT.	
P14	- 15" S.D., L=91', S=0.010'/FT.	
P15	- 15" S.D., L=50', S=0.004'/FT.	
P16	- 18" S.D., L=207', S=0.010'/FT.	
P17	- 18" S.D., L=71', S=0.010'/FT.	
P18	- 18" S.D., L=47', S=0.010'/FT.	
P19	- 15" S.D., L=136', S=0.010'/FT.	
P20	- 15" S.D., L=68', S=0.010'/FT.	
P21	- 15" S.D., L=160', S=0.010'/FT.	
P22	- 18" S.D., L=107', S=0.004'/FT.	
P23	- 18" S.D., L=42', S=0.005'/FT.	
P24	- 15" S.D., L=93', S=0.005'/FT.	
P25	- 15" S.D., L=95', S=0.005'/FT.	
P26	- 18" S.D., L=91', S=0.006'/FT.	
P27	- 15" S.D., L=20', S=0.010'/FT.	

STORMDRAIN STRUCTURES		
CB#1	- RIM 101.0	15" INV. OUT 98.21 (F.I.)
CB#2	- RIM 102.9	15" INV. OUT 98.54
CB#3	- RIM 102.5	15" INV. IN 98.34 15" INV. OUT 98.24
CB#4	- RIM 111.5	15" INV. OUT 107.27
CB#5	- RIM 111.5	15" INV. IN 107.18 15" INV. OUT 107.18
CB#6	- RIM 99.0	15" INV. OUT 95.17 (F.I.)
CB#7	- 6" DIA. STRUCTURE	RIM 112.4 24" INV. IN 106.48 24" INV. IN 106.48 36" INV. OUT 106.48
CB#8	- RIM 112.7	15" INV. IN 109.10 30" INV. IN 106.61 24" INV. IN 106.61
CB#9	- RIM 116.6	15" INV. IN 109.84 15" INV. OUT 109.84
CB#10	- RIM 117.2	15" INV. OUT 110.75
CB#11	- RIM 112.5	15" INV. IN 107.72 18" INV. IN 107.72 30" INV. OUT 107.72
CB#12	- RIM 111.9	15" INV. OUT 107.92
CB#13	- RIM 116.0	18" INV. IN 109.79 18" INV. OUT 109.79
CB#14	- RIM 116.3	18" INV. IN 110.50 18" INV. OUT 110.50
CB#15	- RIM 116.7	15" INV. IN 110.97 18" INV. OUT 110.97
CB#16	- RIM 116.4	15" INV. OUT 112.33
CB#17	- RIM 116.4	15" INV. IN 111.15 15" INV. OUT 111.15
CB#18	- RIM 117.2	24" INV. OUT 112.75
CB#19	- RIM 112.5	15" INV. IN 108.08 18" INV. OUT 108.08
CB#20	- RIM 112.8	15" INV. IN 108.29 18" INV. OUT 108.29
CB#21	- RIM 113.3	15" INV. IN 108.76 18" INV. OUT 108.76
CB#22	- RIM 113.8	15" INV. OUT 109.24
CB#23	- RIM 99.2	15" INV. OUT 94.6 (F.I.)
DMH#1	- RIM 114.5	36" INV. IN 106.20 36" INV. OUT 106.10
DMH#2	- RIM 116.3	15" INV. IN 110.47 18" INV. IN 107.65 24" INV. OUT 107.55

REVISION		DESCRIPTION
NO.	DATE	
1	04/08/19	Preliminary Submission to City of Biddeford
2	05/01/19	Revisions based on updated building footprint
3	06/10/19	Revisions based on City review comments Submitted to DEP & City
4	09/11/19	Revisions Based on Follow-up City Review Comments
5	10/09/19	Final Plan Submission
6	11/14/19	Revised per City Final Review



BH2M

Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors
28 State Street
Biddeford, Maine 04005
Tel: (207) 839-2771
Fax: (207) 839-8250

FOR
Savon Partners
23 Recreation Drive
Hingham, MA 02043

GRADING AND
EROSION CONTROL

250 UNIT APARTMENTS

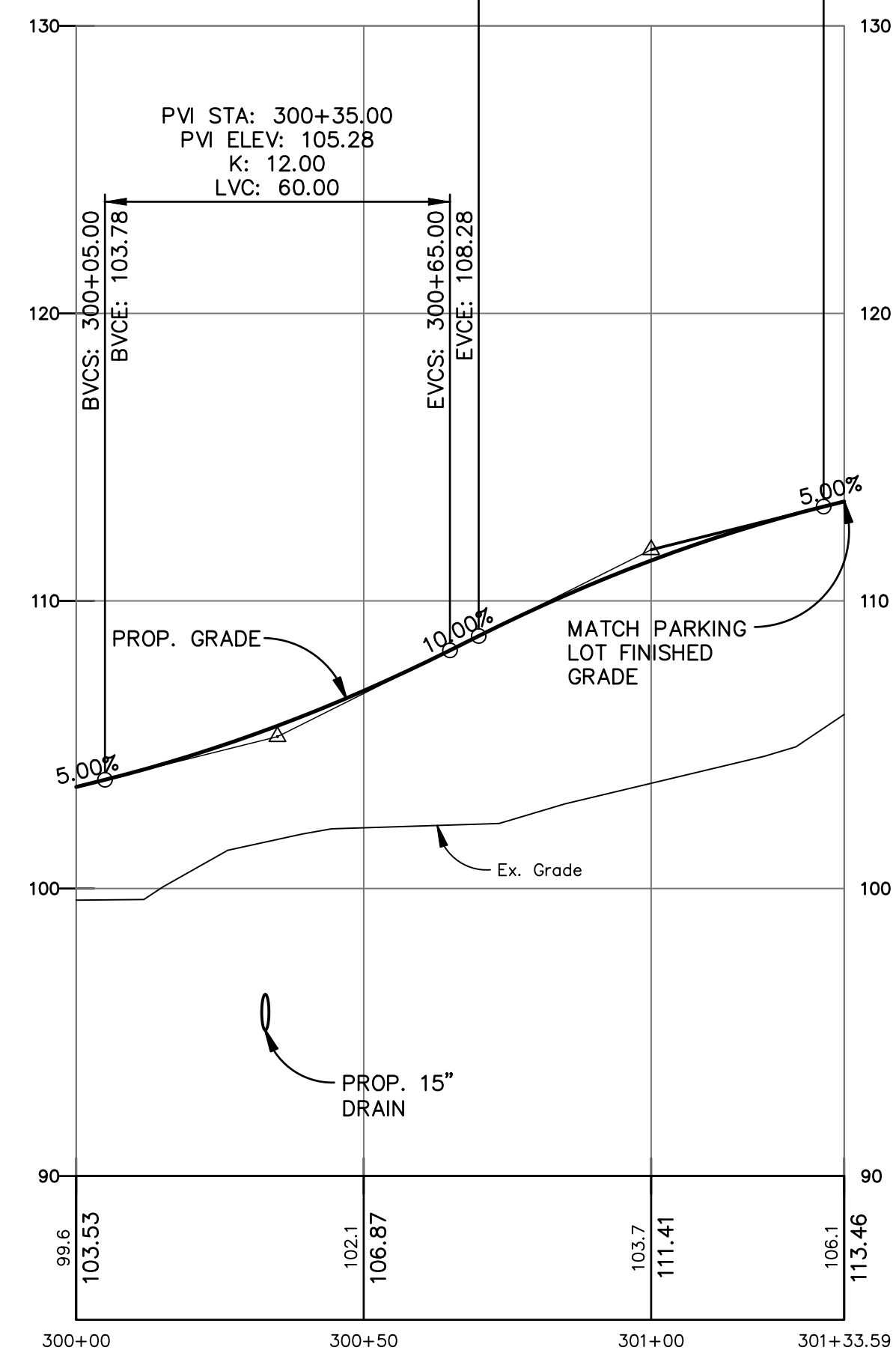
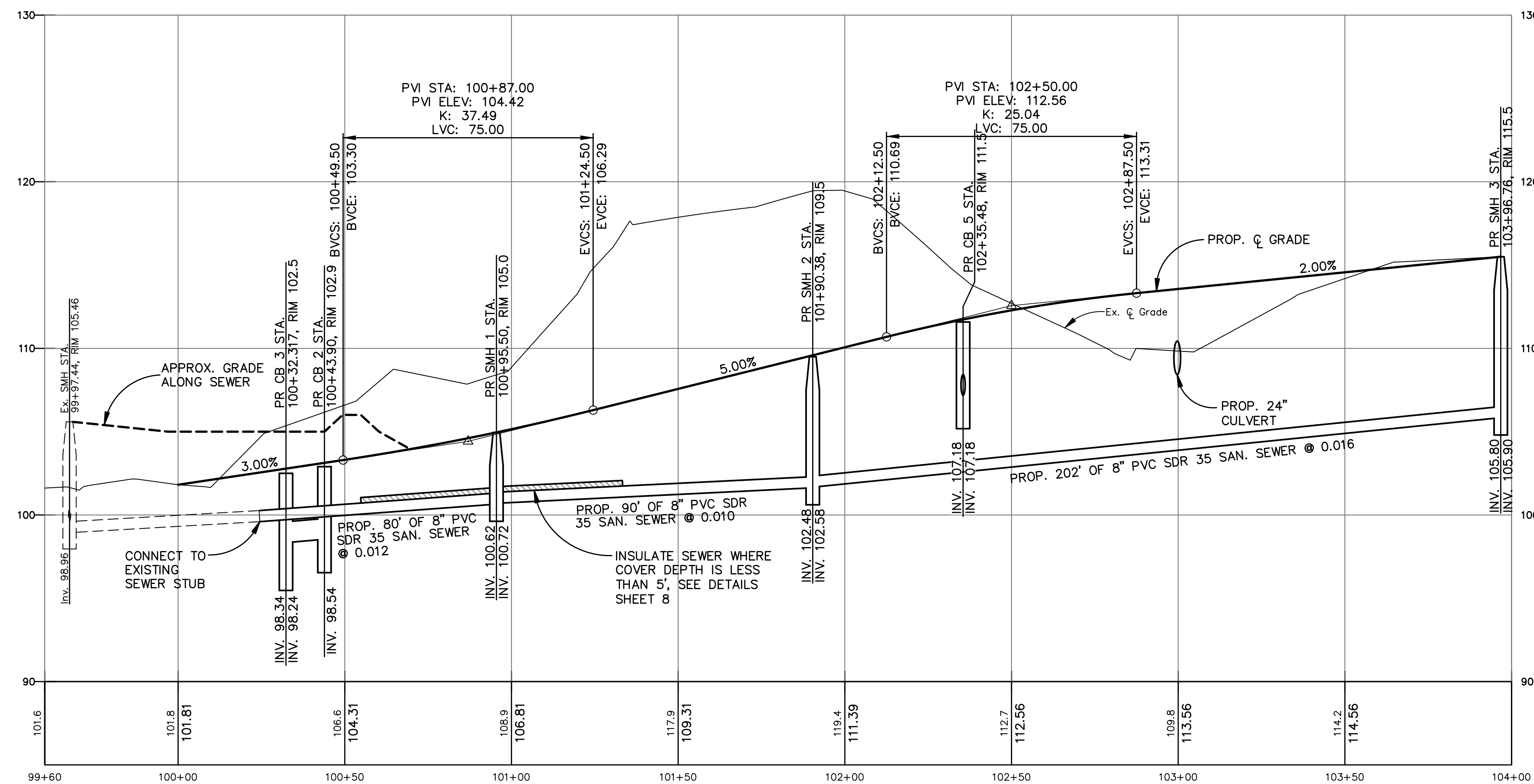
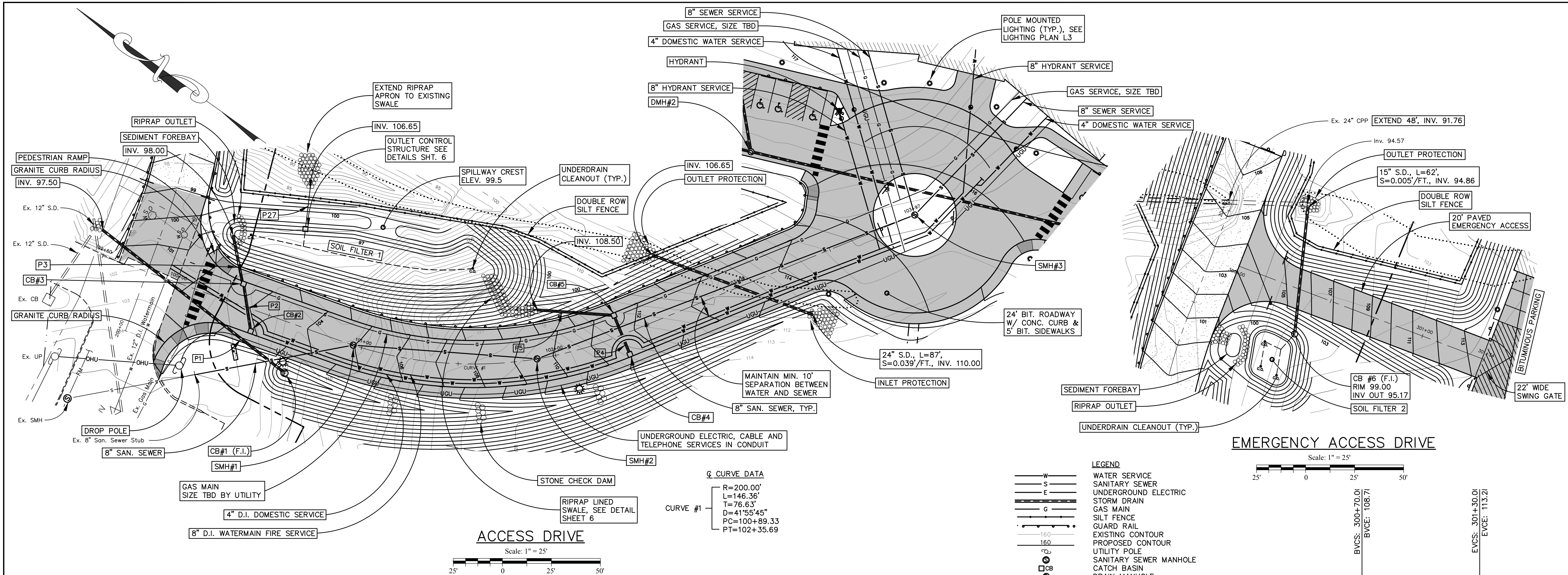
60 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED C. MacDonald	DATE April 2019
DRAWN Dept.	SCALE As Noted
CHECKED S. Blake	JOB. NO. 18070

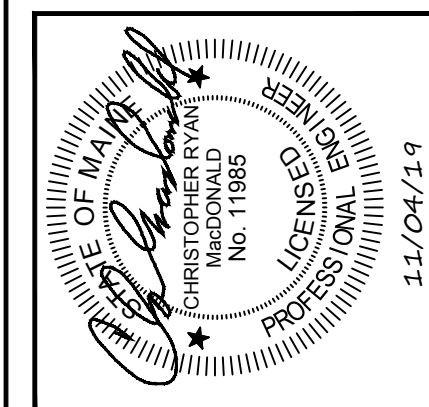
SHEET

3

REPRODUCTION OR REUSE OF THIS DOCUMENT WITHOUT THE EXPRESSED WRITTEN CONSENT OF BH2M INC. IS PROHIBITED



NO.	DATE	REVISION	DESCRIPTION
1	04/08/19		Preliminary Submission to City of Biddeford
2	05/01/19		Revisions based on updated building footprint
3	06/10/19		Revisions based on City review comments Submitted to DEP & City
4	09/11/19		Revisions Based on Follow-up City Review Comments
5	10/09/19		Final Plan Submission
6	11/14/19		Revised per City Final Review



BH2M

Berry, Huff, MacDonald, Milligan Inc.
Engineers, Surveyors

28 State Street
Biddeford, Maine 04005

Tel: (207) 839-2771
Fax: (207) 839-8250

FOR
Saxon Partners
23 Recreation Drive
Hingham, MA 02043

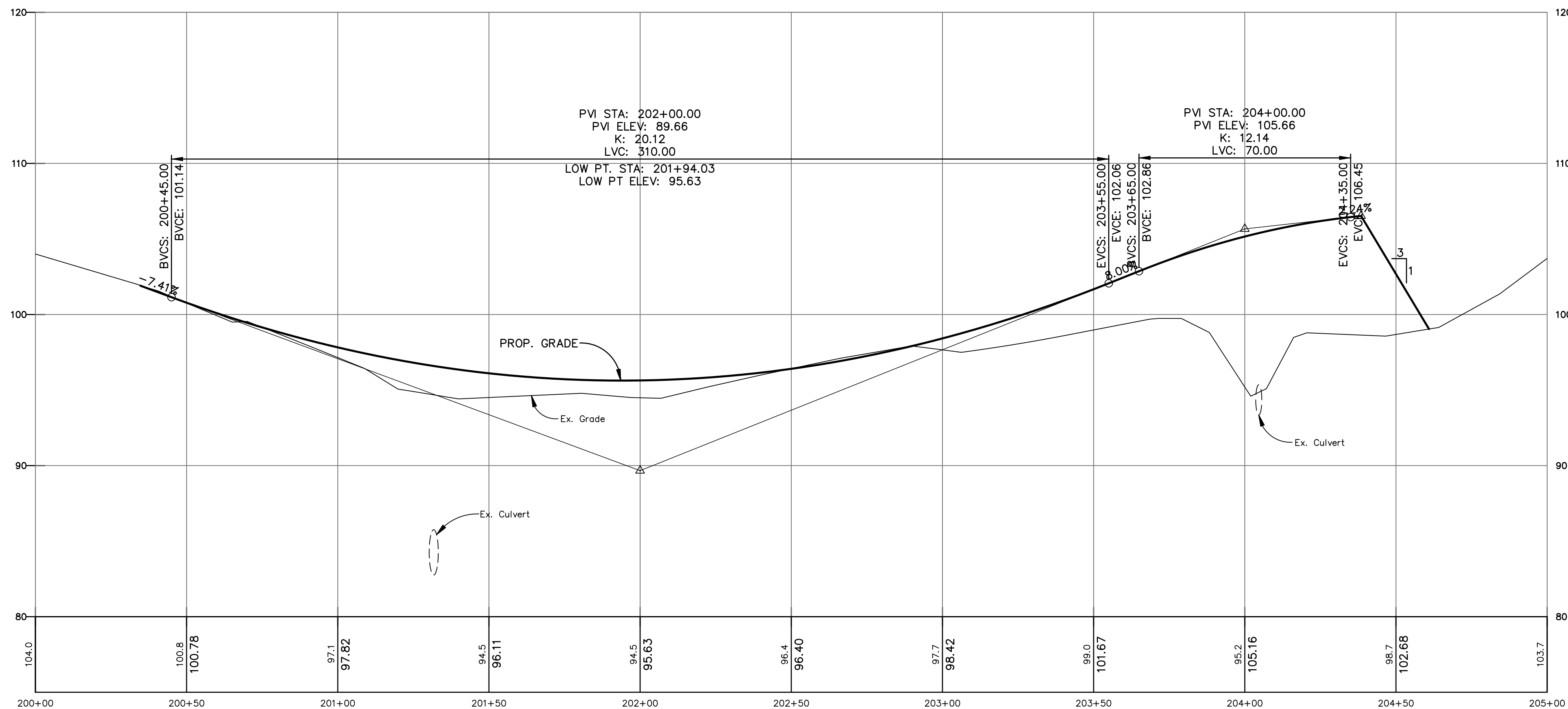
ACCESS DRIVES PLAN EXTENSION AND PROFILE

250 UNIT APARTMENTS

DESIGNED C. MacDonald	DATE April 2019
DRAWN Dept.	SCALE As Noted
CHECKED S. Blake	JOB. NO. 18070

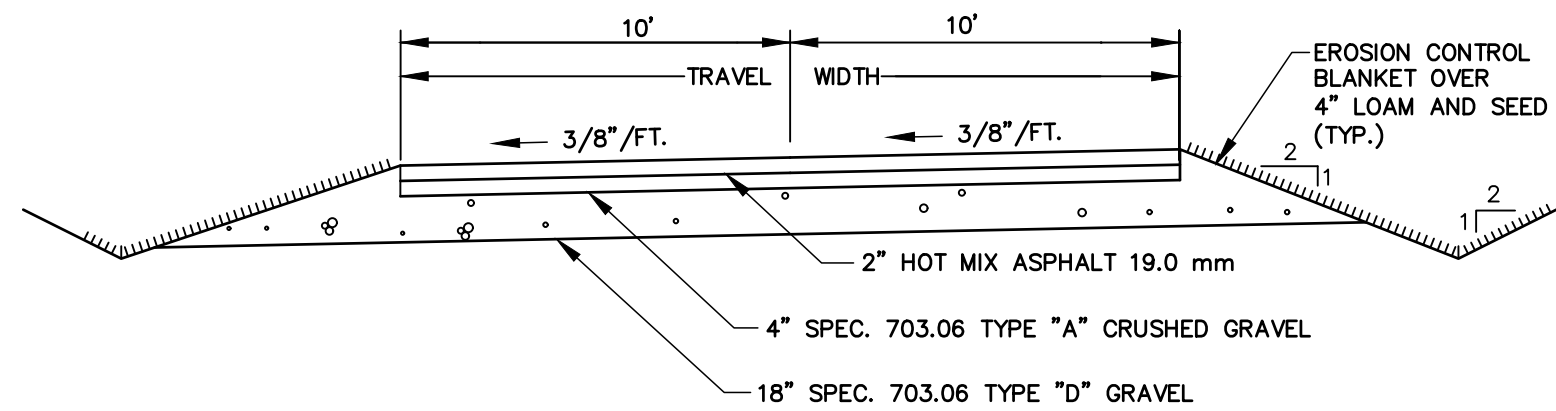
SHEET
4

REPRODUCTION OR REUSE OF THIS DOCUMENT WITHOUT THE EXPRESSED WRITTEN CONSENT OF BH2M INC. IS PROHIBITED



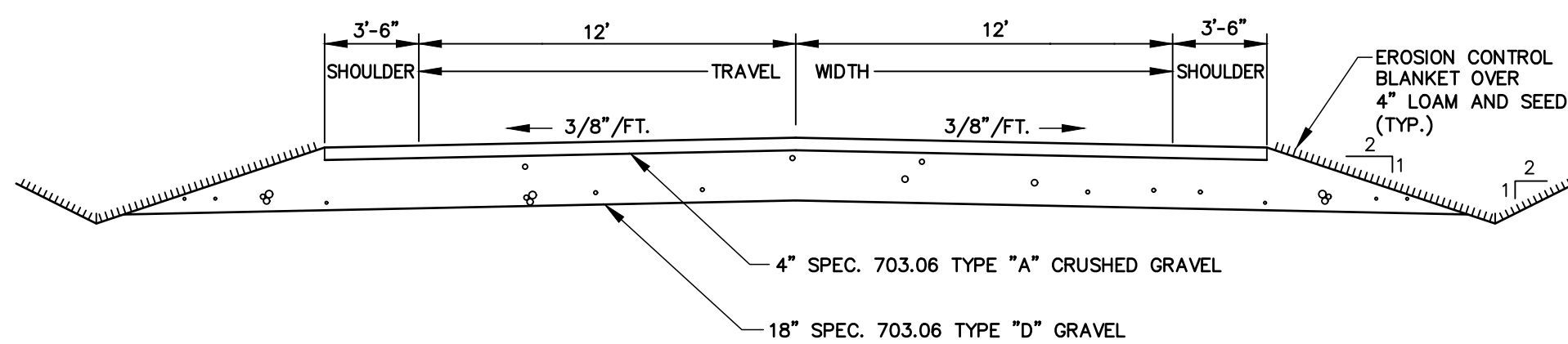
BARRA ROAD EXTENSION PROFILE

SCALE
VERTICAL: 1" = 5'
HORIZONTAL: 1" = 25'



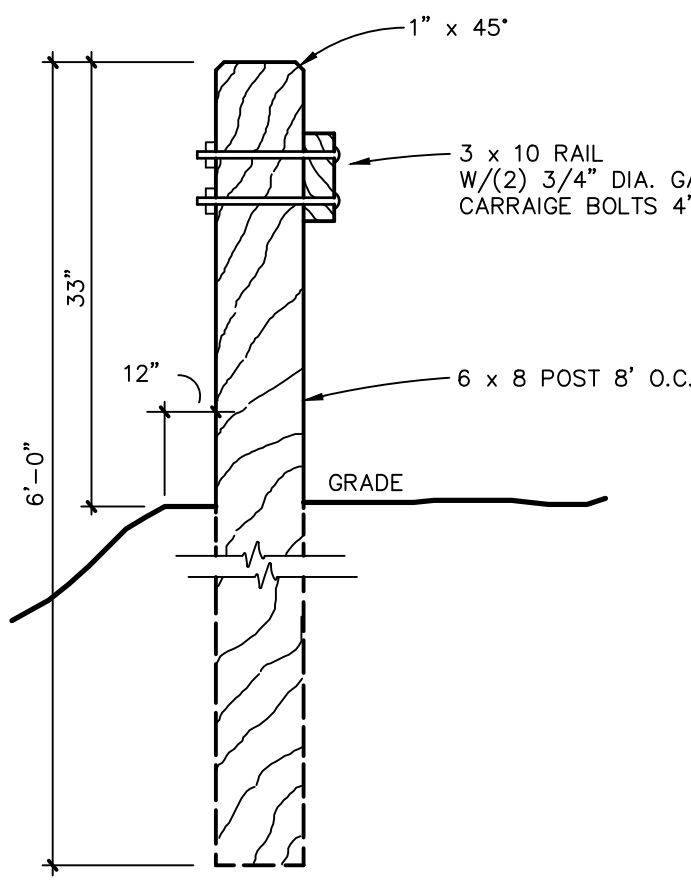
EMERGENCY ACCESS DRIVE SECTION

NTS



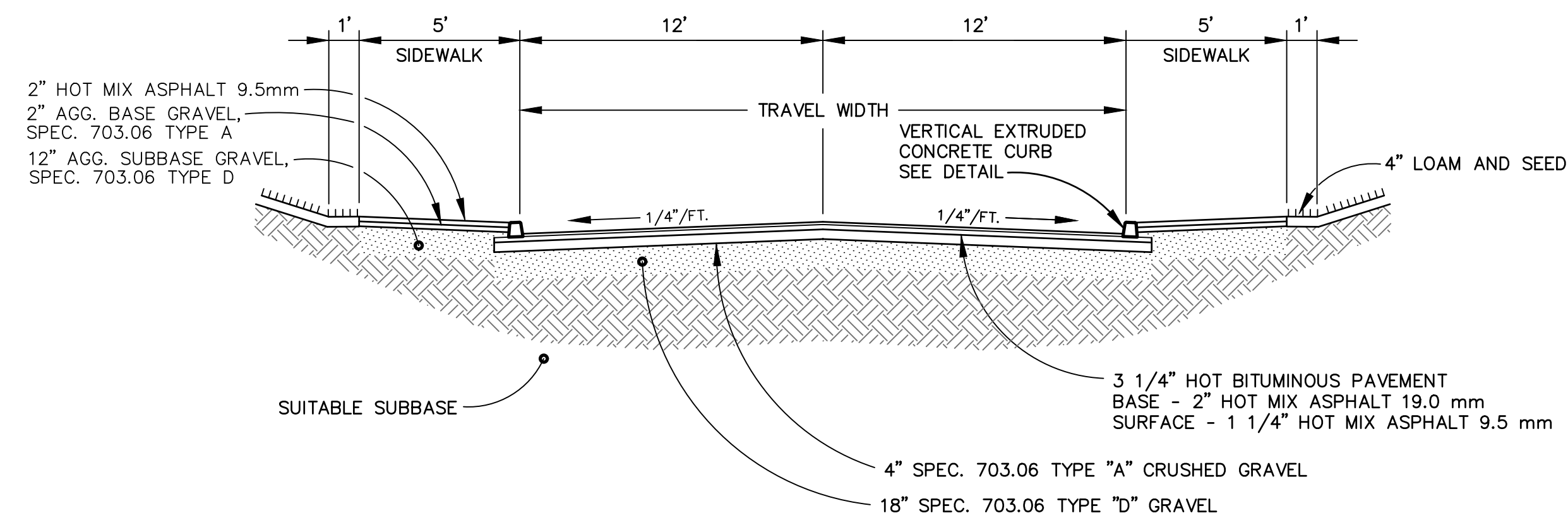
BARRA ROAD EXTENSION SECTION

NTS



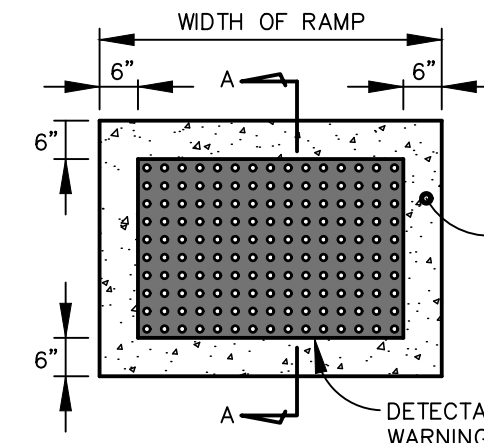
TYPICAL WOODEN GUARD RAIL

NTS

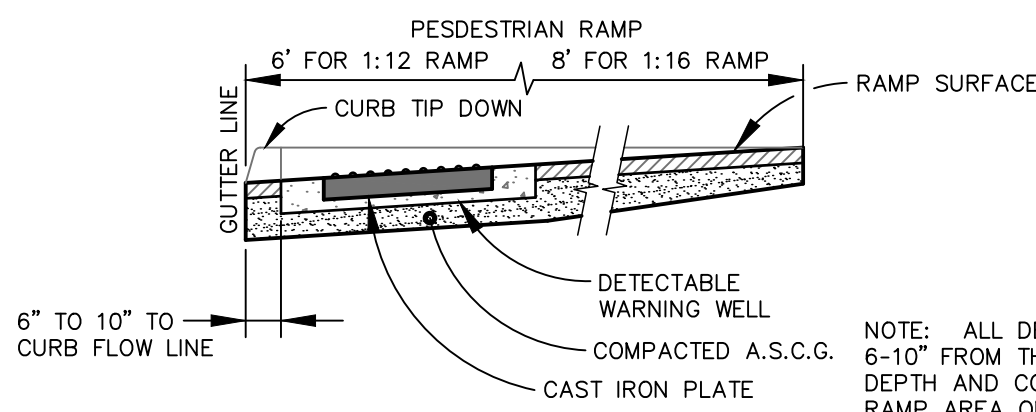


ACCESS DRIVE SECTION

NTS



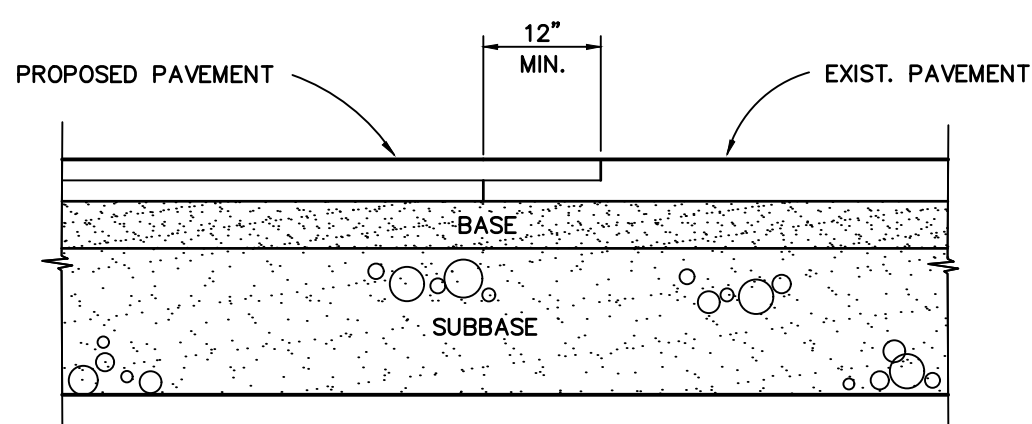
PLAN VIEW OF DETECTABLE WARNING WELL



SIDE SECTION OF DETECTABLE WARNING, WELL, CURB AND GUTTER

DETECTABLE WARNING MAT EMBEDDING

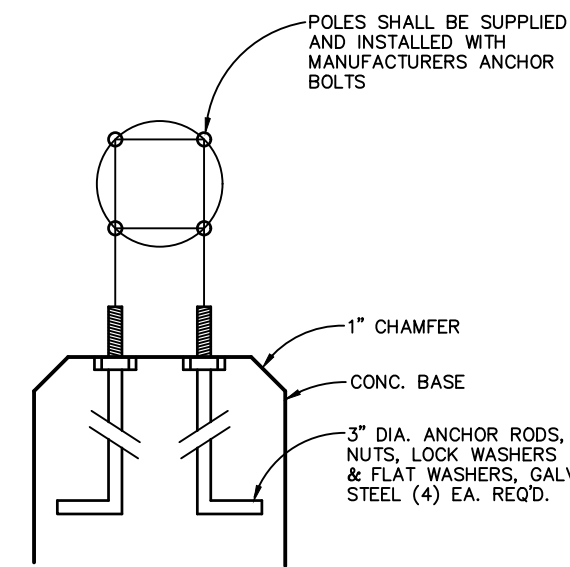
NTS



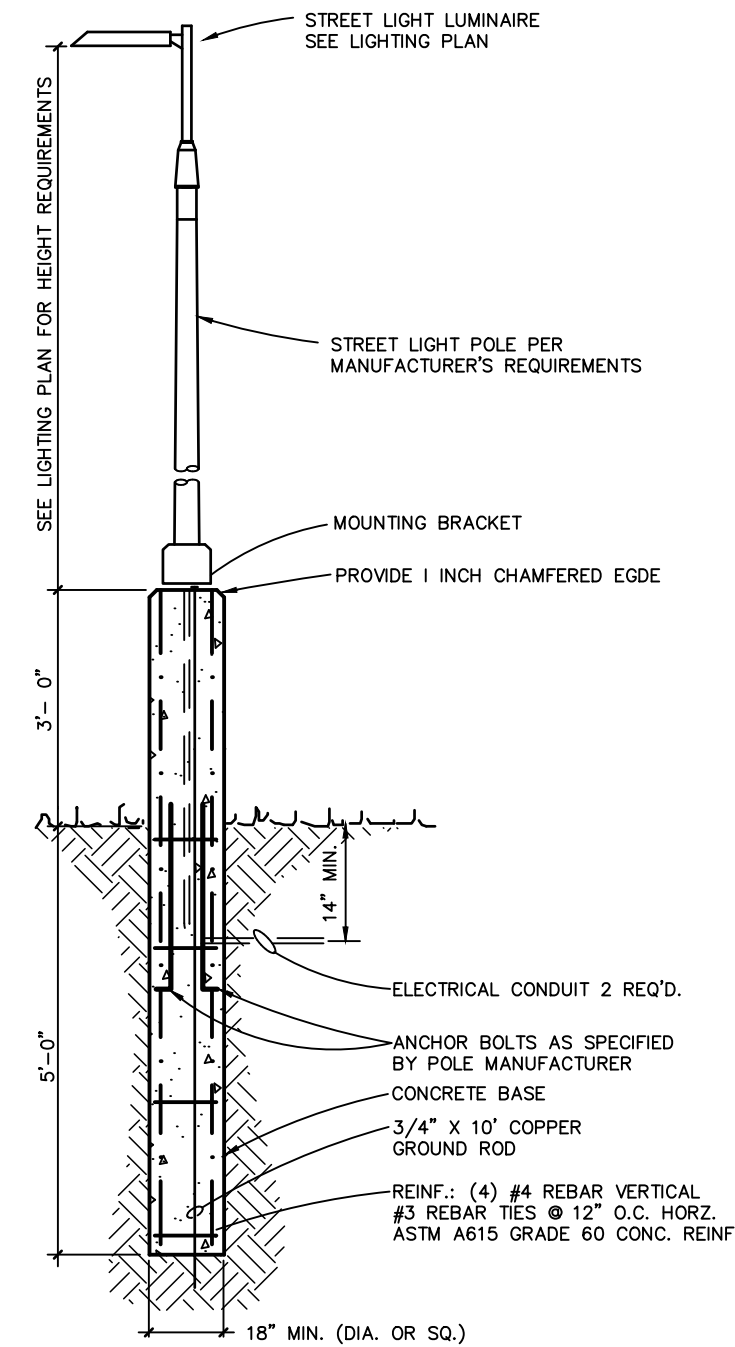
SAWCUT EXIST. PAVEMENT ALONG A SMOOTH LINE TO A NEAT EVEN VERTICAL JOINT, APPLY TACK PRIOR TO PROPOSED PAVING (AS REQ'D)

PAVEMENT JOINT DETAIL

NTS



BOLT LAYOUT & MATERIALS

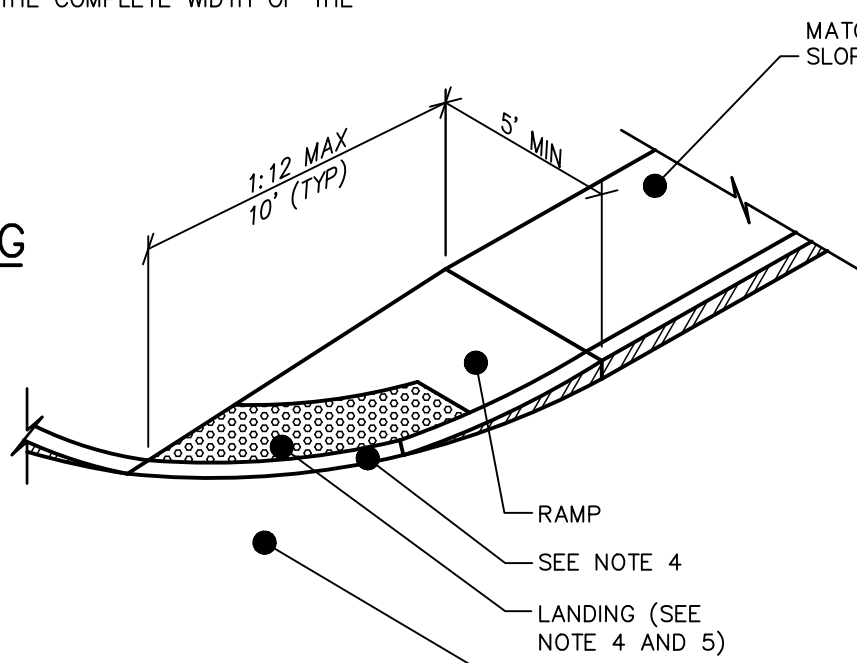


LIGHT POLE DETAIL

NTS

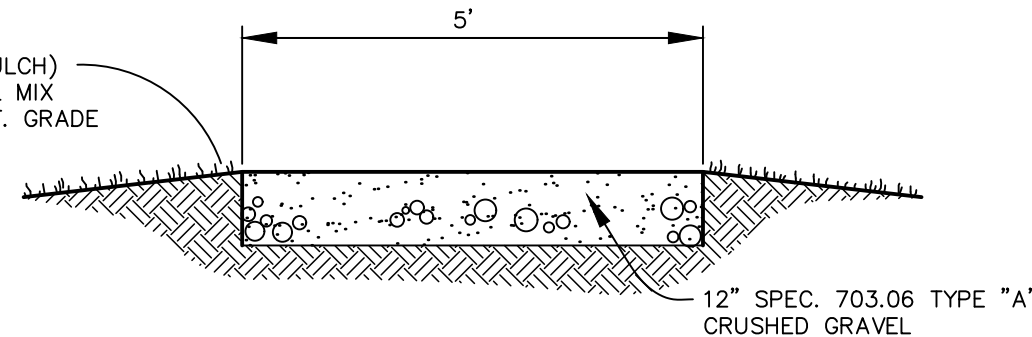
NOTE:

- CURB RAMP LENGTHS ARE BASED ON SIX (6) INCH CURB REVEAL HEIGHT AND NO RUNNING SLOPE. RAMP LENGTHS SHALL BE ADJUSTED AS NECESSARY TO ACCOMMODATE VARYING CURB REVEAL HEIGHTS AND TO MATCH RUNNING SLOPES OF ADJACENT ROADWAY AND SIDEWALK SLOPES.
- DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES AND SHALL HAVE A BASE DIAMETER OF 0.9 INCHES (23 mm) MINIMUM AND 1.4 INCHES (36 mm) MAXIMUM; A TOP DIAMETER OF 50 PERCENT OF THE BASE DIAMETER MINIMUM TO 65 PERCENT OF THE BASE DIAMETER MAXIMUM AND A HEIGHT OF 0.2 INCHES (5.1 mm), A CENTER-TO-CENTER SPACING OF 1.6 INCHES (41mm) MINIMUM AND 2.4 INCHES (61mm) MAXIMUM; AND A BASE-TO-BASE SPACING OF 0.65 INCHES (17mm) MINIMUM, MEASURED BETWEEN THE MOST ADJACENT DOMES ON A SQUARE GRID.
- DETECTABLE WARNINGS SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNINGS USED ON INTERIOR SURFACES SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE CONTACT.
- ALL ACCESSIBLE ROUTE SIDEWALKS INTERSECTING ROADWAYS, DRIVEWAYS, OR OTHER VEHICULAR CROSSINGS REQUIRE DETECTABLE WARNINGS. DETECTABLE WARNING ZONES SHALL BE INSTALLED SIX (6) INCHES (OR THE HORIZONTAL THICKNESS OF THE ADJACENT CURB) FROM THE FLOW LINE OF THE CURB, EXTEND INTO THE SIDEWALK FOR A 24" DEPTH, AND COVER THE COMPLETE WIDTH OF THE SIDEWALK OR RAMP AREA. DETECTABLE WARNING ZONES SHALL CONFORM TO THE SLOPE REQUIREMENTS OF THE RAMP, LANDING, OR ACCESSIBLE ROUTE AS DEFINED IN THE SPECIFIED DETAIL. DETECTABLE WARNINGS SHALL NOT BE INSTALLED IN FLARED SIDES, IF THE RAMP INCLUDES FLARED SIDES.
- ALL LANDING AREAS SHALL BE 5 FEET WIDE BY 5 FEET LONG (MINIMUM DIMENSIONS). THE SLOPE OF THE LANDING AREA SHALL NOT EXCEED A 1:48 IN ANY DIRECTION.
- ALL ACCESSIBLE ROUTE SLOPES ADJOINING THE LANDING AREA, EXCLUDING THE CURB RAMP, SHALL NOT EXCEED A SLOPE OF 1:20 UNLESS OTHERWISE NOTED.



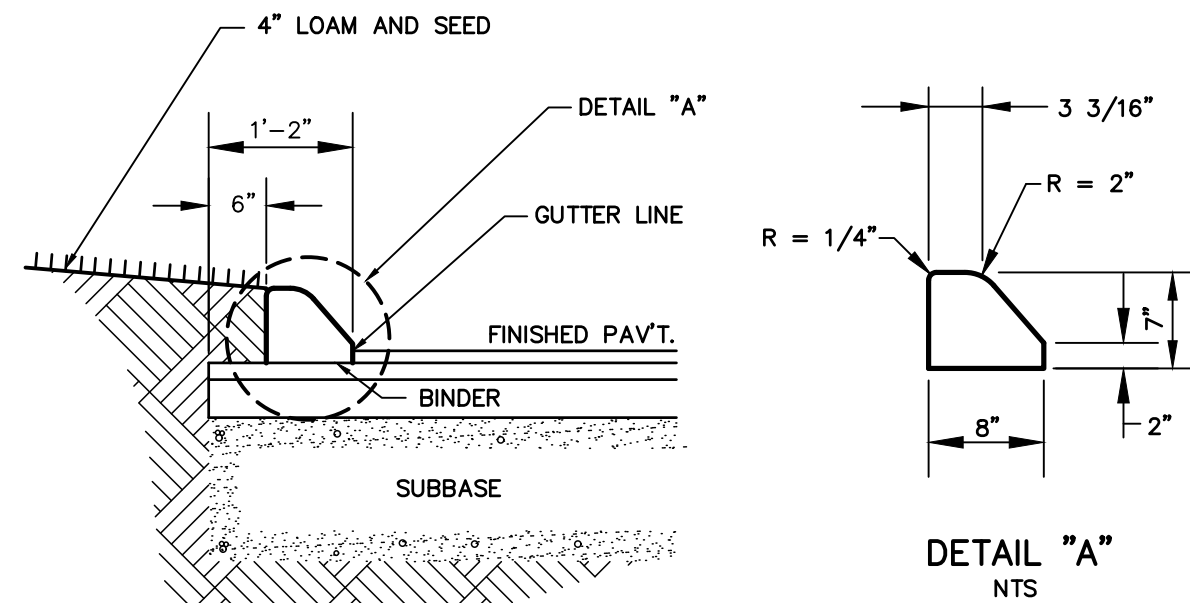
ADA RAMP

NTS



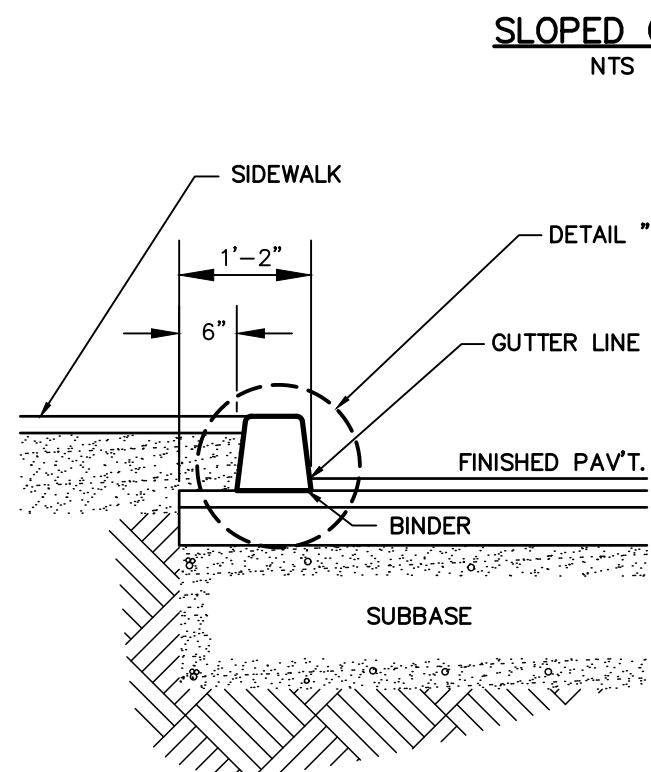
GRAVEL PATH

NTS



DETAIL "A"

NTS



DETAIL "B"

NTS

VERTICAL CURB

NTS

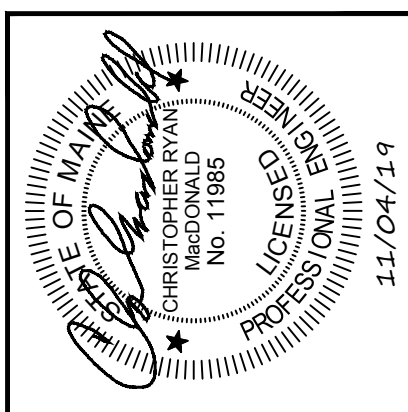
NOTES:

- 1 LB. FIBER MESH SHALL BE ADDED TO EVERY CUBIC YARD OF CONCRETE. THE CONCRETE WILL CONTAIN THE MAXIMUM AMOUNT OF WATER TO BE OF A CONSISTENCY THAT THE CONCRETE WILL MAINTAIN THE SHAPE OF THE CURB SECTION WITHOUT SUPPORT. THIS MIX ALSO MEETS THE READY MIX REQUIREMENTS OF ASTM C94 AND WILL MEET OR EXCEED 4,000 PSI IN 28 DAYS.
- THE PAVEMENT SHALL BE THOROUGHLY CLEANED TO REMOVE DUST, DIRT AND OIL BEFORE APPROVED ADHESIVE IS APPLIED PER MANUFACTURERS SPECIFICATIONS.
- THE FIBER REINFORCED MIX SHALL BE FED INTO THE VIBRATING HOPPER WHERE IT IS COMPACTED INTO THE DESIRED MOLD PROFILE.
- FRESHLY EXTRUDED CURB SHALL BE LIGHTLY TOUCHED UP WITH A STEEL HAND TROWEL. CONTROL JOINTS SHALL BE TOOLED AS SOON AS POSSIBLE AT 9' INTERVALS. ADDITIONAL CONTROL JOINTS ADDED ON RADIUS AS NECESSARY.
- THE FINISHED CURB WILL BE COATED WITH AN APPROVED CURING COMPOUND.
- FOLLOW MANUFACTURERS INSTALLATION INSTRUCTIONS AND TEMPERATURE RESTRICTIONS.
- USE VERTICAL CURB FOR ALL AREAS ADJACENT TO SIDEWALK. USE SLOPED CURB IN ALL OTHER AREAS.

EXTRUDED CONCRETE CURB

NTS

NO.	DATE	DESCRIPTION
1	04/08/19	Preliminary Submission to City of Biddeford
2	06/10/19	Revisions based on City review comments Submitted to DEP & City
3	09/11/19	Revisions Based on Follow-up City Review Comments
4	10/09/19	Final Plan Submission
5	11/1/19	Revised per City Final Review



BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors
28 State Street
Biddeford, Maine 04005
Tel: (207) 839-2771
Fax: (207) 839-8250

FOR
SAVORY PARTNERS
23 Recreation Drive
Hingham, MA 02043

250 UNIT APARTMENTS
60 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED W. Pelkey	DATE April 2019
DRAWN Dept.	SCALE As Noted
CHECKED S. Blake	JOB. NO. 18070

SHEET
5
REPRODUCTION OR REUSE OF THIS DOCUMENT WITHOUT THE EXPRESSED WRITTEN CONSENT OF BHM INC. IS PROHIBITED

GRASSED UNDERDRAIN SOIL FILTER NOTES

REFERENCES

1. MAINE STORMWATER BEST MANAGEMENT PRACTICES (BMP), VOLUME III BMP TECHNICAL DESIGN MANUAL, CHAPTER 7 FILTRATION BMPs (LATEST REVISION).

CONSTRUCTION METHODS

1. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION MATERIALS, INSTALLATION, MEANS, METHODS, AND SCHEDULING.
2. ALL WORK SHALL BE IN CONFORMANCE WITH THE PROJECT PLANS AND BMPs REFERENCED ABOVE.
3. THE SOIL FILTER MEDIA AND VEGETATION SHALL NOT BE INSTALLED UNTIL THE AREA THAT DRAINS TO THE FILTER HAS BEEN PERMANENTLY STABILIZED WITH PAVEMENT OR OTHER STRUCTURES, 90% VEGETATION COVER OR PERMANENT STABILIZATION.

DE-WATERING PLAN

1. DURING CONSTRUCTION OF THE SITE AND VEGETATED SOIL FILTER, THE CONTRACTOR SHALL BE PREPARED TO IMPLEMENT A DEWATERING PLAN IN ANTICIPATION OF HEAVY RAIN EVENTS.
2. THE AREA OF THE BASIN MAY BE EXCAVATED IN PREPARATION OF THE INSTALLATION OF THE UNDERDRAIN AND MAY BE USED FOR A SEDIMENT TRAP FOR THE SITE DURING CONSTRUCTION. AFTER EXCAVATION OF THE BASIN, THE OUTLET STRUCTURE AND PIPING SYSTEM SHALL BE INSTALLED AT THE APPROPRIATE ELEVATION AND PROTECTED WITH A SEDIMENT BARRIER. THE BASIN IS TO BE USED AS A SEDIMENT TRAP, THE SIDES OF THE EMBANKMENTS MUST BE MULCHED AND MAINTAINED TO PREVENT EROSION.

SOIL MEDIA

1. THE SOIL MEDIA SHALL CONSIST OF SILTY SANDY SOIL OR SOIL MIXTURE COMBINED WITH 20% TO 25% BY VOLUME (NO LESS THAN 10% BY DRY WEIGHT) OF MODERATELY SHREDDED BARK OR WOOD FIBER MULCH.
2. THE SOIL FILTER MEDIA SAND SHALL MEET THE GRADATION IN TABLE 7-2 (MDOOT 703.01) WITH ADDITIONAL FINES ADDED IF NECESSARY.
3. THE RESULTING SOIL FILTER MEDIA SHALL HAVE 8% TO 12% BY WEIGHT PASSING THE #200 SIEVE AND SHALL HAVE A CLAY CONTENT OF LESS THAN 2%.
4. THE COARSE GRAVEL MATERIAL SHALL MEET THE GRADATION OF TABLE 7.1 (MDOOT 703.22 UNDERDRAIN, TYPE B).
5. THE FILTER MEDIA SHALL BE LIGHTLY COMPACTED BETWEEN 90% AND 92% STANDARD PROCTOR (ASTM D698) AND SHALL HAVE A PERMEABILITY OF 2.4 IN/HR TO 4 IN/HR.
6. THE CLAY CONTENT SHALL BE < 2%.

CONSTRUCTION

1. SOIL FILTER MEDIA, COARSE GRAVEL, AND UNDERDRAIN BEDDING MATERIAL SHALL BE COMPACTED TO BETWEEN 90% AND 92% STANDARD PROCTOR.
2. PERFORATED UNDERDRAIN PIPE SHALL BE 4" AND 6" SCHEDULE 40 OR SDR 35 PVC PIPE. SPACED 8 FEET AND 4 FEET ON CENTER AS SHOWN ON PLANS.
3. TRIBUTARY AREAS SHALL BE STABILIZED PRIOR TO INSTALLATION OF THE SOIL FILTER MEDIA MIXTURE AND UNDERDRAIN. STABILIZED IS DEFINED AS PAVED IF IN A PARKING AREA OR ROADWAY AND 90% GRASS CATCH IF IN A VEGETATED AREA.
4. OUTFLOW OF THE VEGETATED SOIL FILTER SHALL BE CONTROLLED BY A 2" PLASTIC TYPE 34-8 BALL VALVE WITH TYPE 615 BALL VALVE HANDLE EXTENSION (AVAILABLE FROM E.J. PRESCOTT OR EQUIVALENT), A THREE-PIECE VALVE BOX (AVAILABLE FROM E.J. PRESCOTT OR EQUIVALENT) SHALL BE INSTALLED OVER THE VALVE.
5. ALL EQUIPMENT USED WITHIN THE LIMITS OF THE VEGETATED SOIL FILTER SHALL BE LOW GROUND PRESSURE VEHICLES (LESS THAN 2.0 PSI) WHEN FULLY LOADED.
6. IF VEGETATION IS NOT ESTABLISHED WITHIN THE FIRST YEAR, THE CONTRACTOR SHALL INSTALL A 2-3 INCH LAYER OF LOAM (WITH LESS THAN 2% CLAY AS TESTED VIA HYDROMETER TEST) ON THE SURFACE OF THE GRASS FILTER AND RE-SEED/MULCH.
7. THE SURFACE OF THE VEGETATED SOIL FILTER SHALL BE PLANTED WITH A GRASS SPECIES THAT IS TOLERANT OF FREQUENT INUNDATION AND WELL-DRAINED SOILS. UPON SEEDING, THE SURFACES SHALL BE MULCHED WITH HAY OR AN EROSION CONTROL BLANKET BUT SHALL NOT BE FERTILIZED. AN APPROPRIATE SEED MIXTURE SHOULD CONTAIN THE FOLLOWING OR BE AN EQUIVALENT CONSERVATION TYPE MIX:

CREeping RED FESCUE	20 LBS/ACRE
TALL FESCUE	20 LBS/ACRE
BERMUDOGT TREFOLI	8 LBS/ACRE
TOTAL	48 LBS/ACRE

TESTING AND SUBMITTALS

1. THE CONTRACTOR SHALL IDENTIFY THE LOCATION OF THE SOURCE OF EACH COMPONENT OF THE FILTER MEDIA. ALL TESTING RESULTS SHALL BE SUBMITTED TO THE PROJECT ENGINEER.
2. SUBMIT SAMPLES OF EACH TYPE OF MATERIAL TO BE BLENDED FOR THE MIXED FILTER MEDIA AND SAMPLES OF THE UNDERDRAIN BEDDING MATERIAL. SAMPLES MUST BE A COMPOSITE OF THREE DIFFERENT LOCATIONS (GRABS) FROM THE STOCKPILE OR PIT FACE. SAMPLE SIZE WILL BE DETERMINED BY TESTING LABORATORY.
3. THE CONTRACTOR SHALL PERFORM A SIEVE ANALYSIS CONFORMING TO ASTM C136 (STANDARD TEST METHODS FOR SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES, 1996A) ON EACH TYPE OF SAMPLE MATERIAL INCLUDING A HYDROMETER TEST FOR CLAY CONTENT.
4. THE CONTRACTOR SHALL PERFORM A PERMEABILITY TEST ON THE SOIL MEDIA MIXTURE CONFORMING TO ASTM D2434.
5. THE CONTRACTOR SHALL PERFORM ONE COMPACTION DENSITY TEST ON THE IN-PLACE SOIL FILTER MEDIA FOR EVERY 1,500 S.F. OF BED OR FRACTION THEREOF. THE TEST SHALL CONFORM TO ASTM 2922.
6. UPON COMPLETION OF THE VEGETATED SOIL FILTER MEDIA AND THE ESTABLISHMENT OF 80% CATCH OF GRASS OVER THE FILTER MEDIA, THE CONTRACTOR SHALL FLOOD THE VEGETATED BASIN TO THE SPILLWAY WITH CLEAR WATER AND ADJUST THE OUTFLOW TO OBTAIN A 24-HOUR TO 32-HOUR RELEASE TIME.

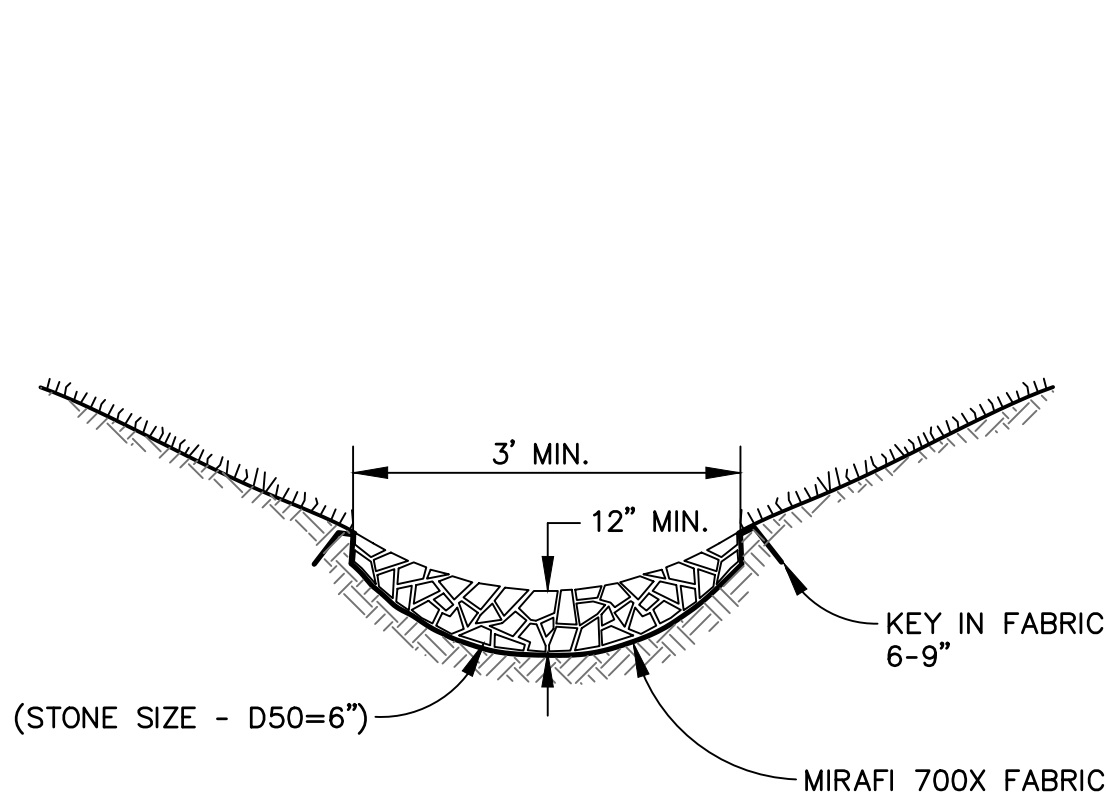
CONSTRUCTION OVERSIGHT

1. THE CONTRACTOR SHALL MEET THE "CONSTRUCTION OVERSIGHT" SECTION OF CHAPTER 7, FILTRATION BMPs (REVISED MAY 2016) OF THE STORMWATER MANAGEMENT FOR MAINE, VOLUME II, BMPs TECHNICAL DESIGN MANUAL.
2. THE DESIGN ENGINEER SHALL BE CONDUCTING PERIODIC SITE OVERSIGHT OF THE CONSTRUCTION AS DESCRIBED BELOW AND IN COMPLIANCE WITH THE PERMITS.
3. THE ENGINEER SHALL REVIEW AND APPROVE ALL CONTRACTOR SUBMITTALS.
4. THE CONTRACTOR SHALL GIVE THE ENGINEER A PROPOSED CONSTRUCTION SCHEDULE AND A 48-HOUR NOTICE FOR ALL SITE VISITS.
5. INSPECTIONS SHALL INCLUDE:
 - PRE-CONSTRUCTION MEETING WITH CONTRACTOR
 - INSPECTION OF EXCAVATION IF USED FOR SEDIMENT TRAP
 - INSPECTION OF EXCAVATION HOLE.
 - AFTER PRELIMINARY CONSTRUCTION OF THE FILTER GRADES AND
 - ONCE THE UNDERDRAIN PIPES ARE INSTALLED BUT NOT BACK-FILLED.
 - AFTER THE DRAINAGE LAYER IS CONSTRUCTED AND PRIOR TO
 - INSTALLATION OF THE FILTER MEDIA.
 - AFTER FILTER MEDIA HAS BEEN INSTALLED AND SEED.
 - AFTER ONE YEAR TO INSPECT VEGETATION UPTAKE AND OBSERVE
 - FLOODING TEST.

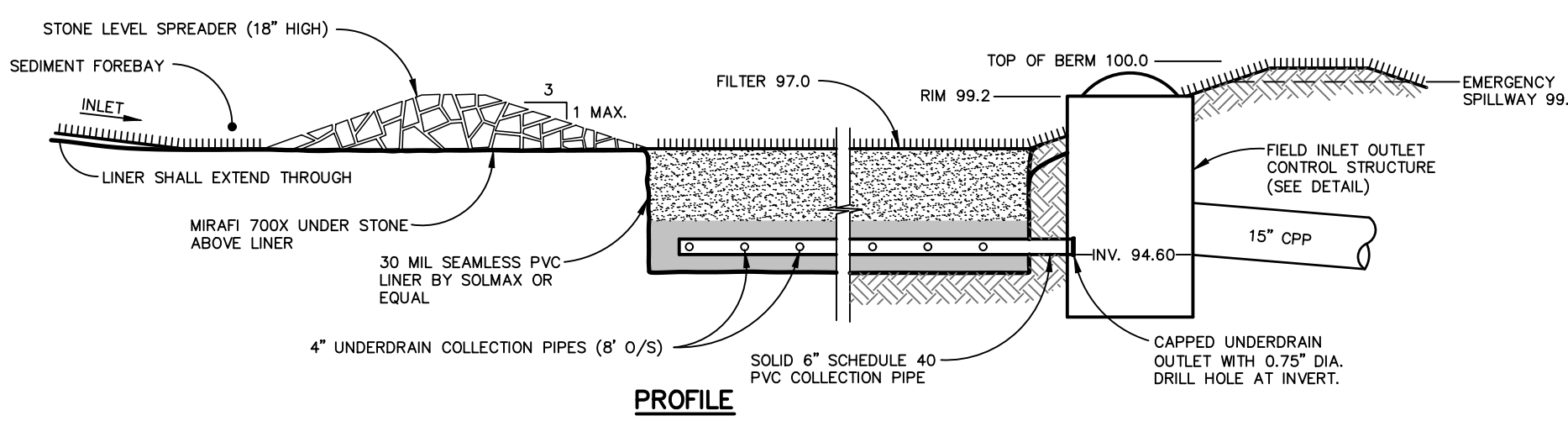
TABLE 7-1 UNDERDRAIN SPECS. MDOOT #703.22		
SIEVE SIZE	% BY WEIGHT	
1"	100	
1/2"	100	
#4	100	
#10	100	
#20	100	
#40	100	
#60	100	
#80	100	
#100	100	
#120	100	
#140	100	
#160	100	
#180	100	
#200	100	

TABLE 7-2 AGGREGATE SPECS. MDOOT #703.01		
SIEVE SIZE	% BY WEIGHT	
3/8"	100	
#4	100	
#10	100	
#20	100	
#40	100	
#60	100	
#80	100	
#100	100	
#120	100	
#140	100	
#160	100	
#180	100	
#200	100	

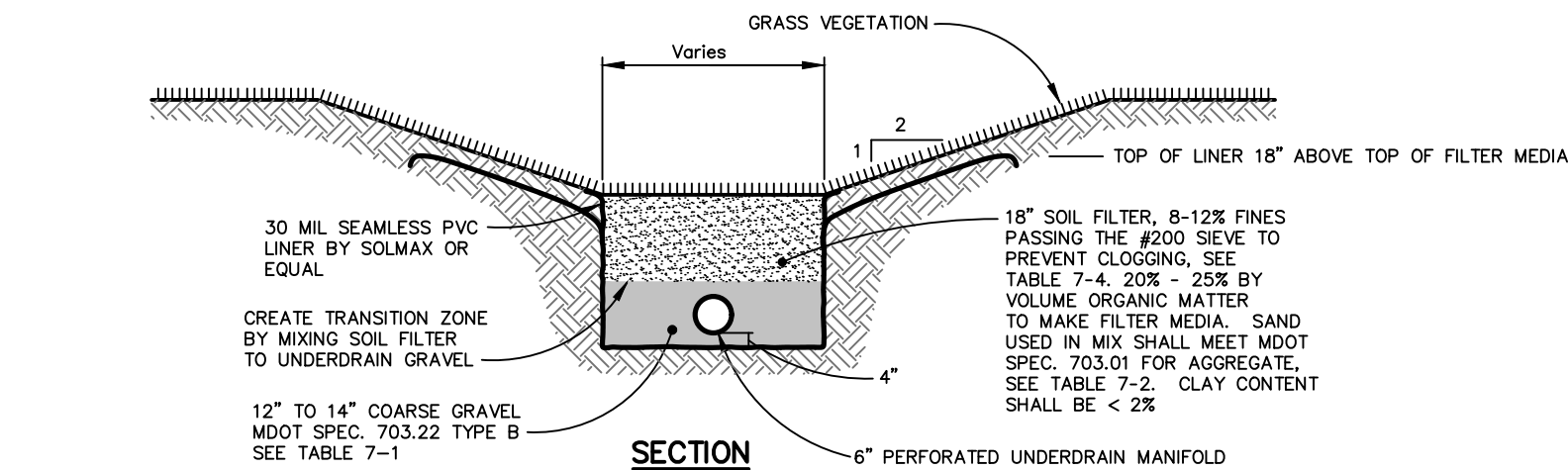
TABLE 7-4 COARSE LOAMY SAND SIEVE ANALYSIS SPECIFICATION		
SIEVE #	% PASSING BY WEIGHT	
#10	85-100	
#20	75-100	
#40	65-100	
#60	55-100	
#80	45-100	
#100	35-100	
#120	25-100	
#140	15-100	
#160	10-100	
#180	5-100	
#200	0-100	



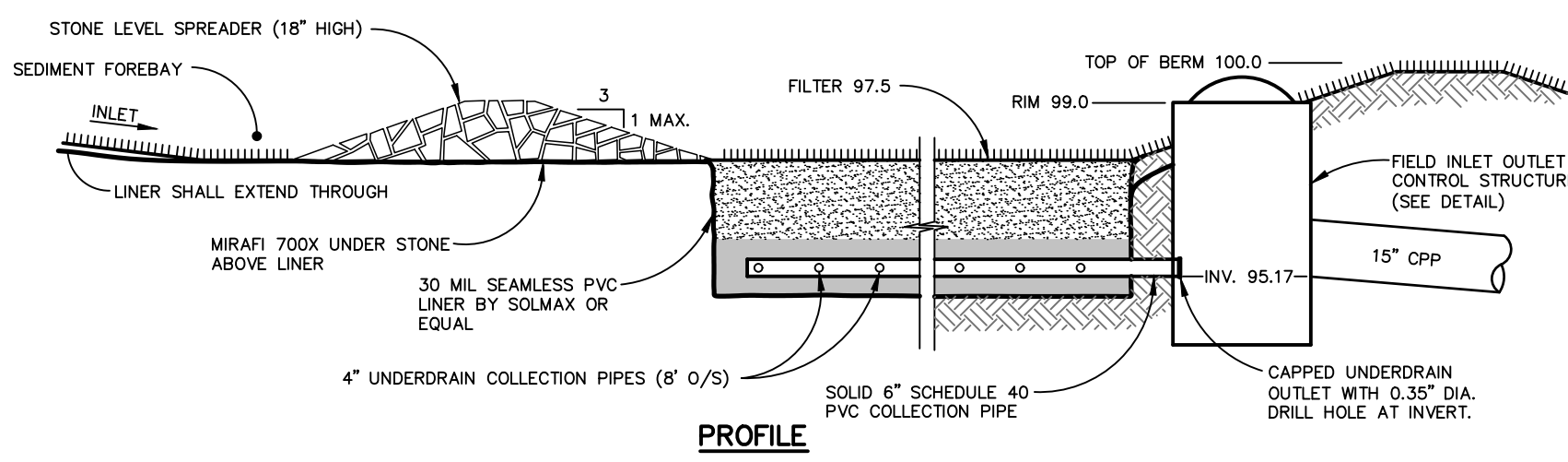
RIPRAP LINED SWALE
N.T.S.



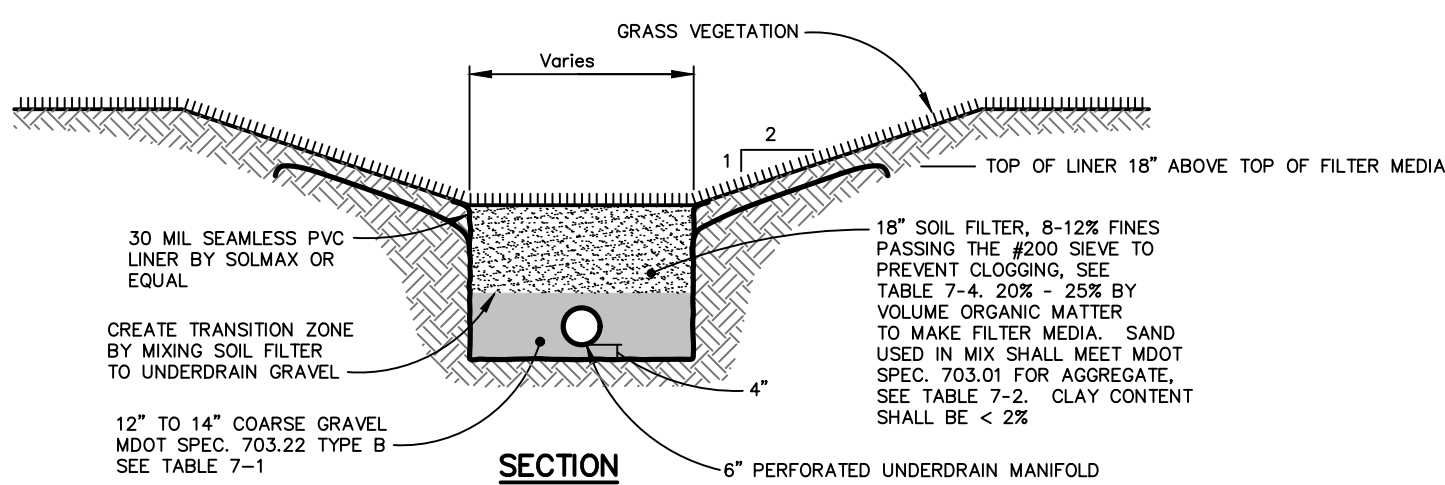
PROFILE



SECTION
GRASSED UNDERDRAIN
SOIL FILTER # 1
N.T.S.

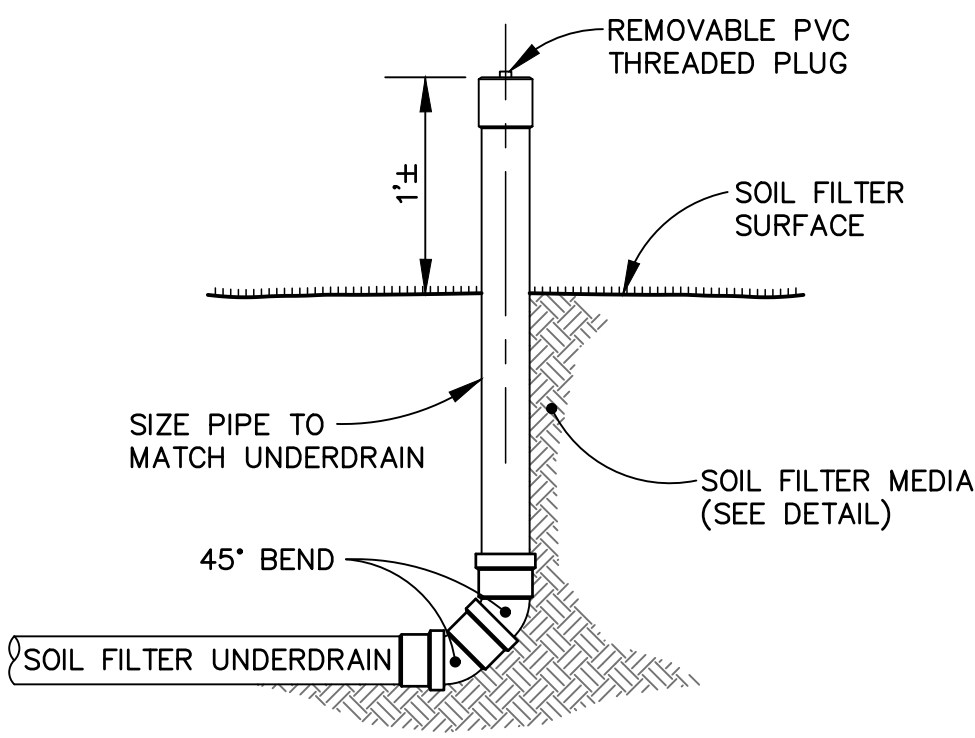


PROFILE



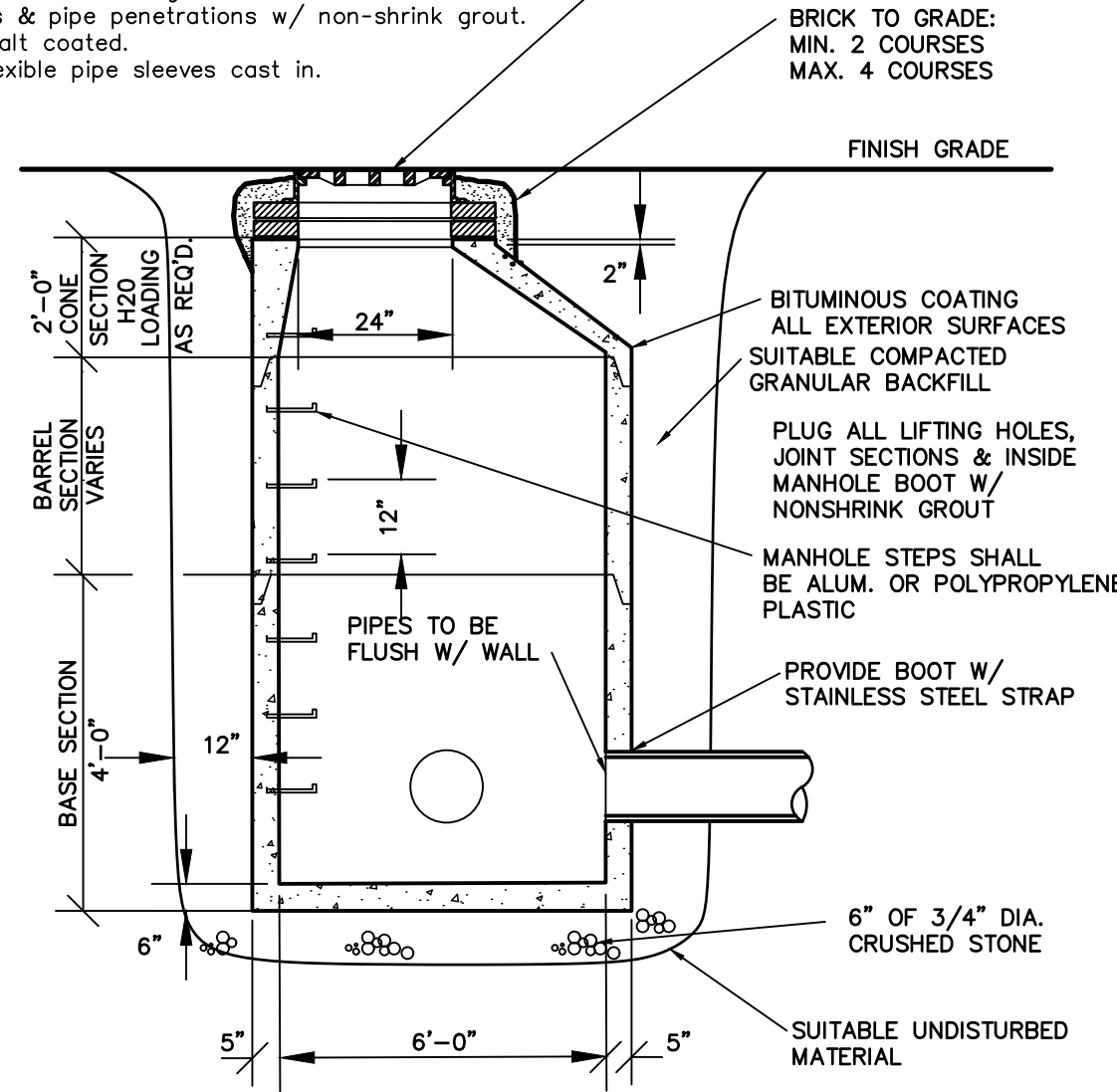
SECTION
GRASSED UNDERDRAIN
SOIL FILTER # 2
N.T.S.

NOTES:
INSTALL SLOPE STABILIZATION
AT 2:1 SLOPES, SEE DETAIL SHEET 9



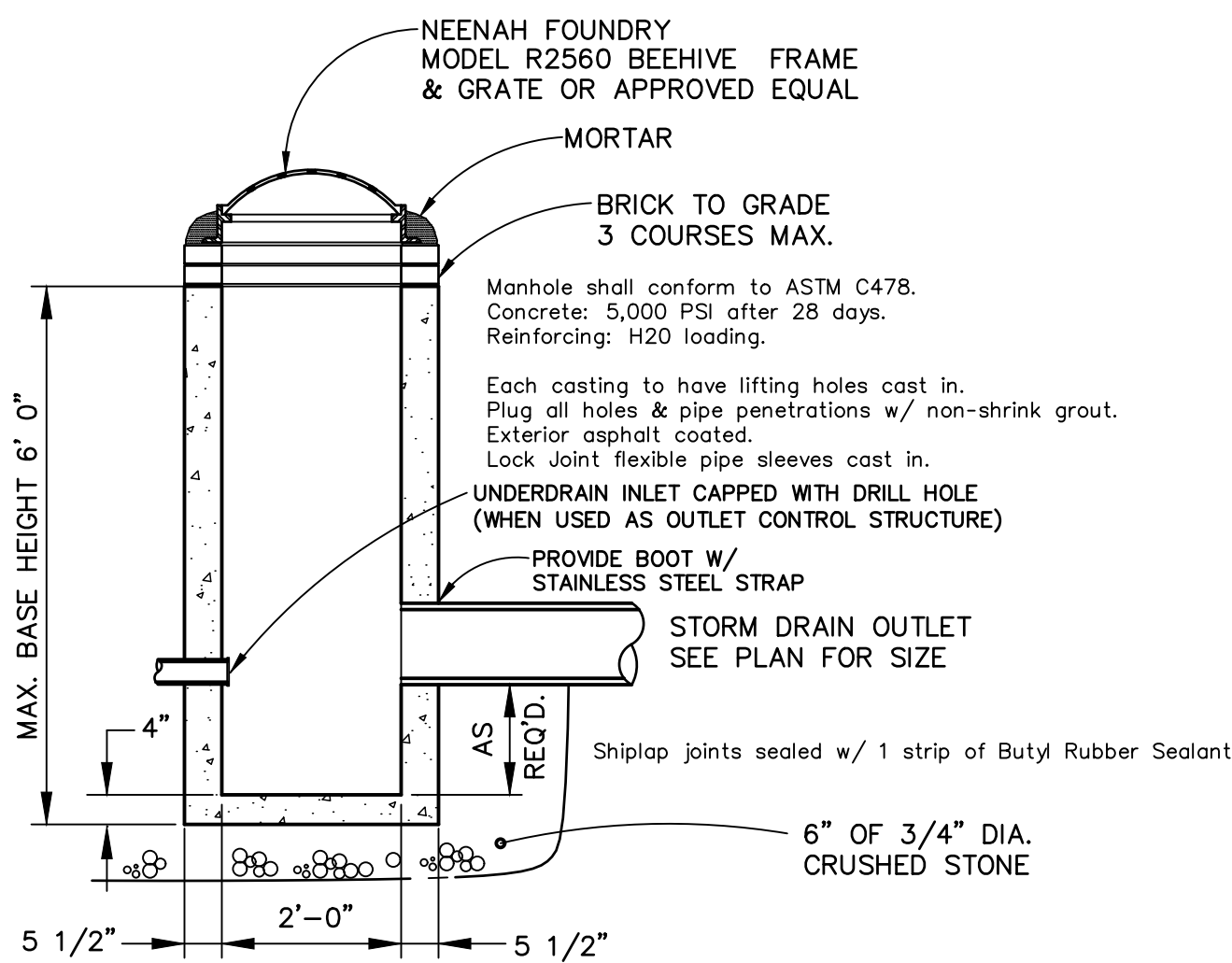
UNDERDRAIN CLEANOUT DETAIL
N.T.S.

Manhole shall conform to ASTM C478.
Concrete: 4,000 PSI after 28 days.
Reinforcing: H20 loading.
Shiplap joints sealed w/ 1 strip of Butyl Rubber Sealant.
Each casting to have lifting holes cast in.
Plug all holes & pipe penetrations w/ non-shrink grout.
Exterior asphalt coated.
Lock Joint flexible pipe sleeves cast in.



NOTE: USE A CASCO TRAP ON ALL OUTLETS AS APPLICABLE.

PRECAST CONCRETE
DRAIN MANHOLE
N.T.S.



NOTE: USE A CASCO TRAP ON ALL OUTLETS AS APPLICABLE.

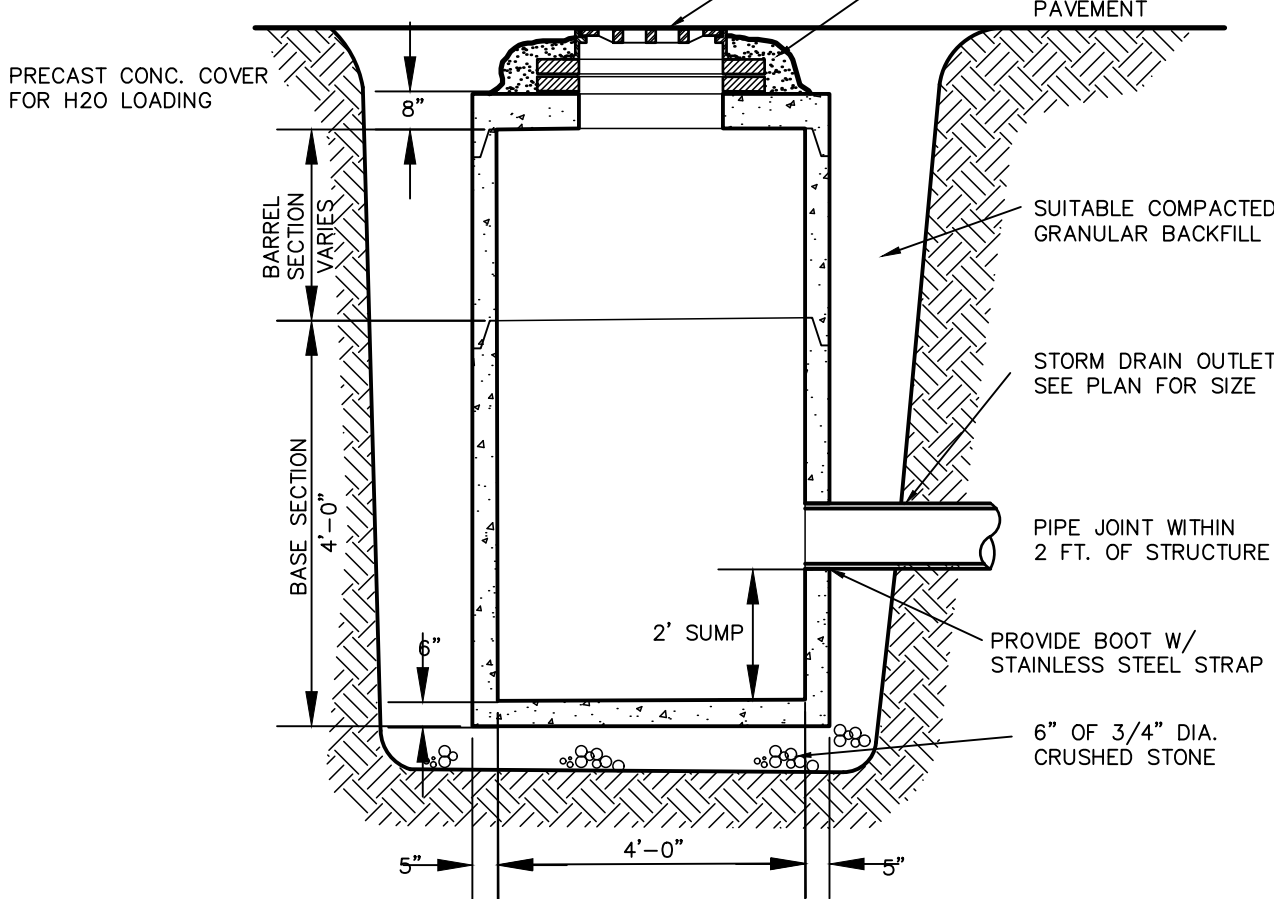
PRECAST CONCRETE
FIELD INLET DETAIL
N.T.S.

SIZE	A	B	C	D	E	F	G	H
6"	5 1/2"	13 3/4"	13 3/4"	5 3/4"	5 3/4"	11 5/8"	6 1/2"	7 1/4"
8"	7 1/2"	15 1/2"	15 1/2"	5 1/2"	5 3/4"	13 3/4"	8 3/4"	9 3/4"
10"	9 1/2"	16 1/4"	16 1/4"	6"	6 1/4"	14 1/8"	11 1/2"	12 3/8"
12"	11 1/2"	17"	17"	8"	8 1/2"	17 1/2"	12 3/4"	13 3/8"
15"	14 1/2"	22 1/2"	23"	10 1/4"	5 3/8"	21"	14 1/4"	15 3/4"

- Notes:
1. Install an Etheridge Foundry Casco Trap in all catch basins with a 12" or 15" outlet pipe
 2. The Casco Trap is an Etheridge style designed to eliminate cementing of the trap. To install, insert trap into outlet storm drain with the hood down.

CASCO TRAP DETAIL
N.T.S.

Manhole shall conform to ASTM C478.
Concrete: 4,000 PSI after 28 days.
Reinforcing: H20 loading.
Shiplap joints sealed w/ 1 strip of Butyl Rubber Sealant.
Each casting to have lifting holes cast in.
Plug all holes & pipe penetrations w/ non-shrink grout.
Exterior asphalt coated.
Lock Joint flexible pipe sleeves cast in.

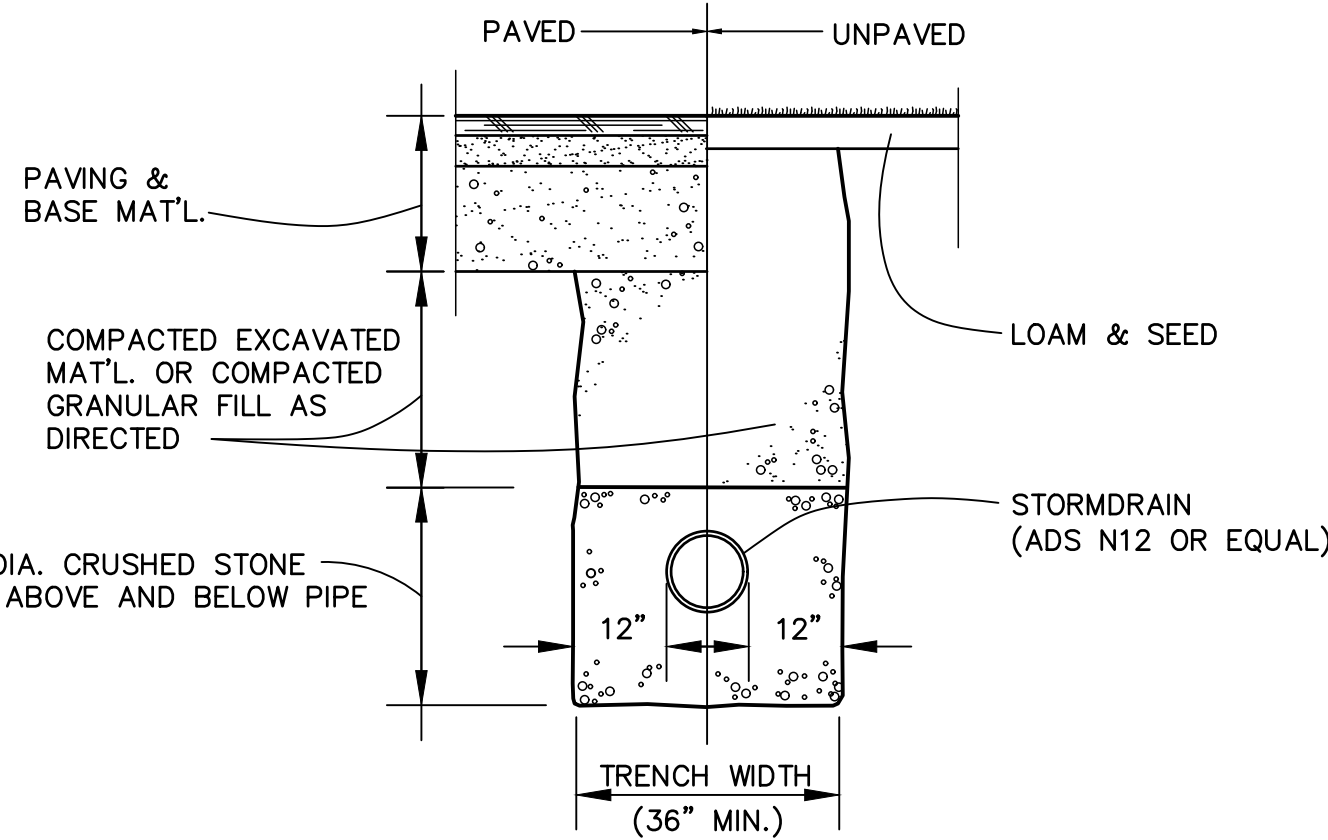


NOTE: USE A CASCO TRAP ON ALL OUTLETS AS APPLICABLE.

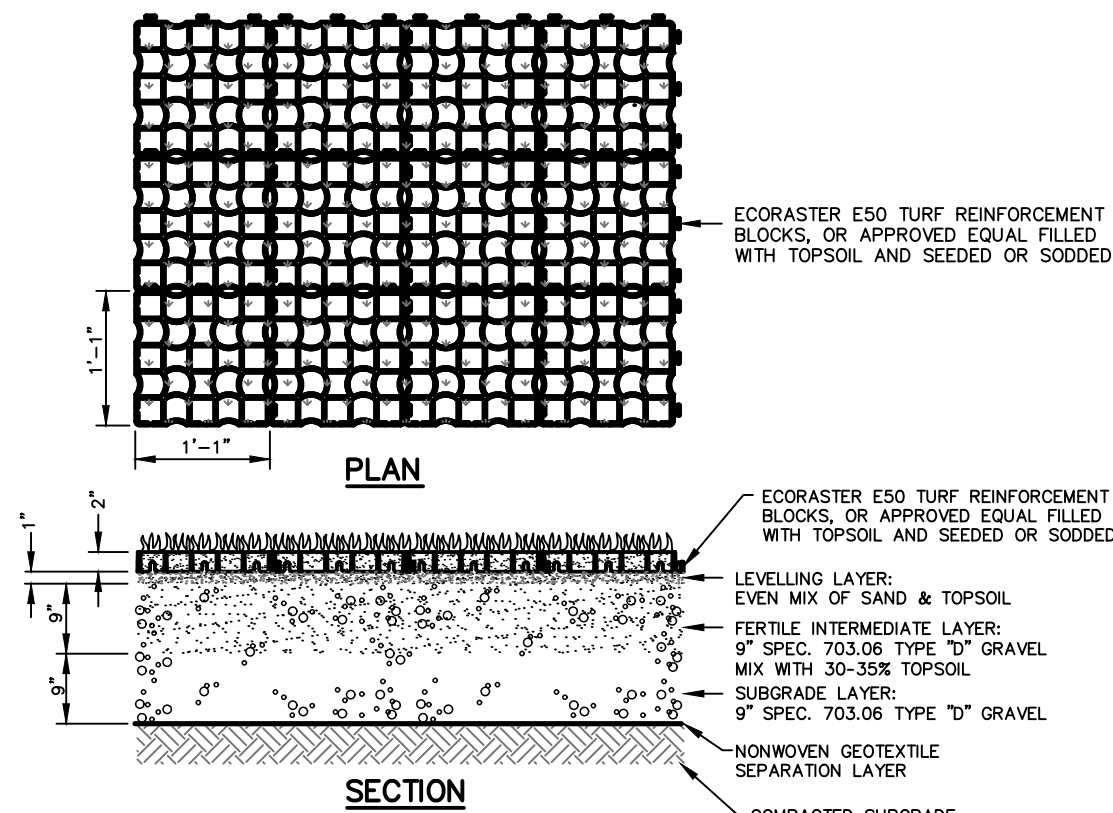
PRECAST CONCRETE
CATCH BASIN DETAIL
N.T.S.

NOTES:

1. Trench width shown is payment width for rockexcavation & replacement of unsuitable material.
2. Do not mechanically compact directly over flexible pipe (e.g. PVC, Polyethylene)
3. Concrete pipe shall have sand bedding.



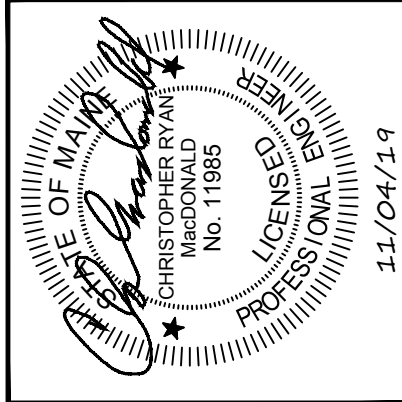
TRENCH DETAIL
N.T.S.



- NOTES:
1. TYPICAL SEED MIX:
 - 40% CREeping RED FESCUE,
 - 20% TALL FESCUE,
 - 10% PERENNIAL RYE GRASS, AND
 - 20% KENTUCKY BLUE GRASS, WITH
 - LONG TERM FERTILIZER.
 - ROLLED SOD IS ALSO ACCEPTABLE.
 2. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.

REINFORCED TURF FIRE LANE
N.T.S.

REVISION		DESCRIPTION
NO.	DATE	DESCRIPTION
1	04/08/19	Preliminary Submission to City of Biddeford
2	06/10/19	Revisions based on City review comments Submitted to DEP & City
3	09/11/19	Revisions Based on Follow-up City Review Comments
4	10/09/19	Final Plan Submission
5	11/11/19	Revised per City Final Review



BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors
28 State Street
Biddeford, Maine 04005
Tel: (207) 859-9771
Fax: (207) 859-8250

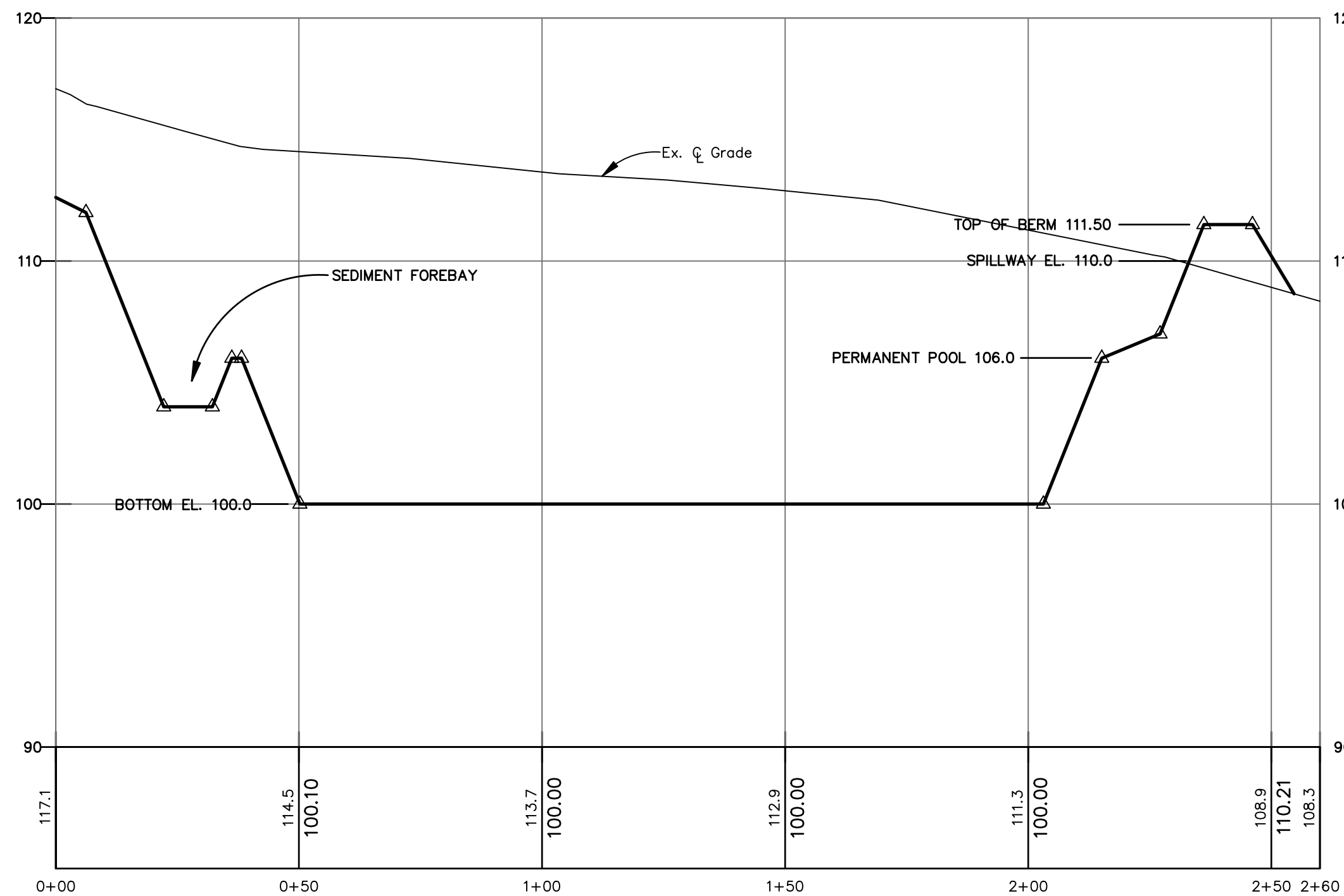
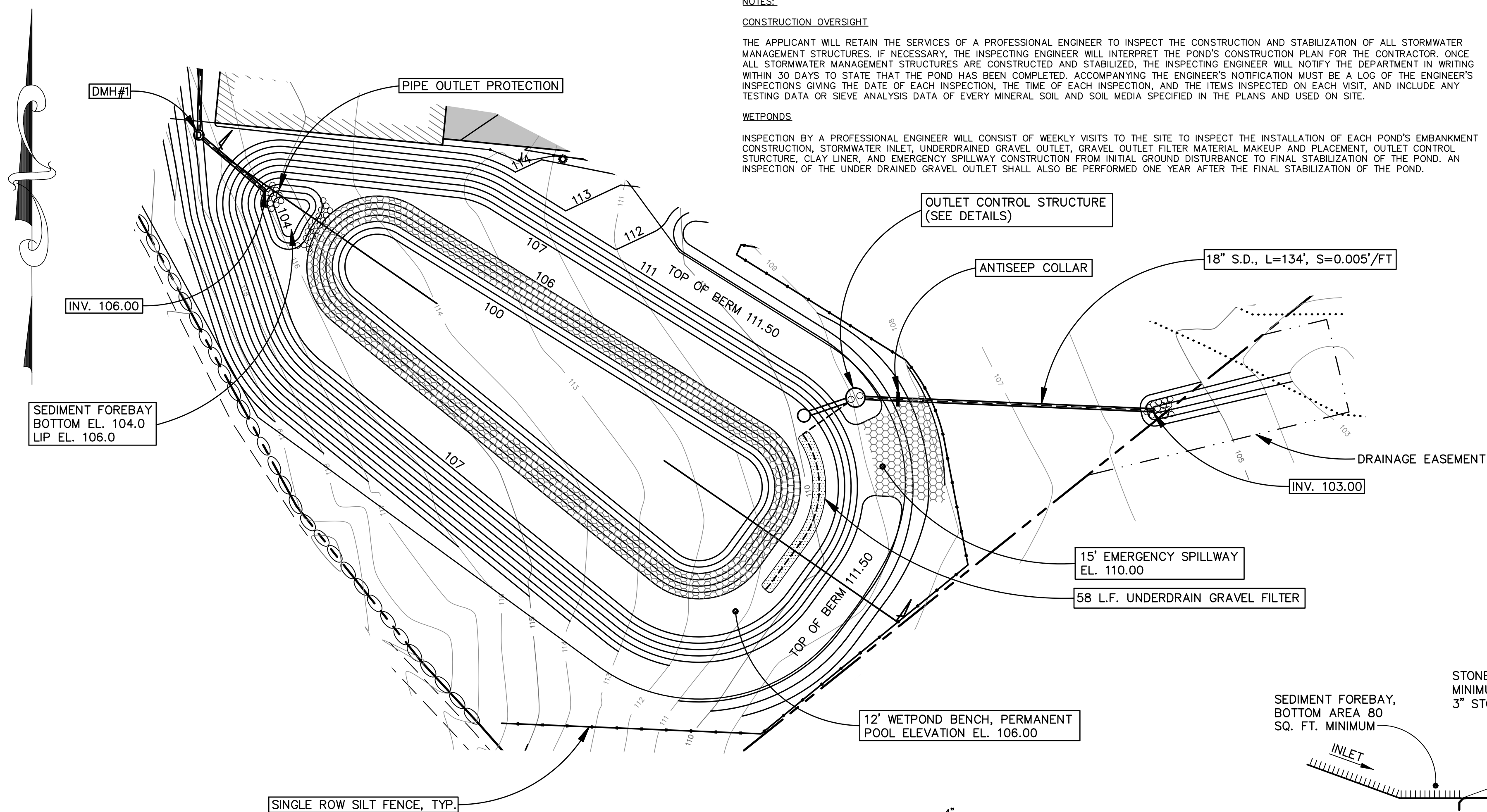
FOR
SAVON PARTNERS
23 Recreation Drive
Hingham, MA 02043

DETAILS B
250 UNIT APARTMENTS
60 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED W. Pelkey	DATE April 2019
DRAWN Dept.	SCALE As Noted
CHECKED S. Blake	JOB. NO. 18070

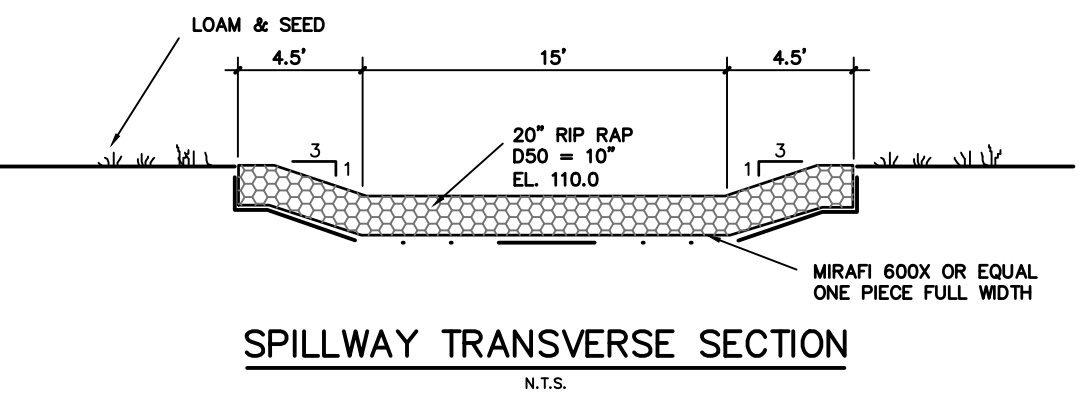
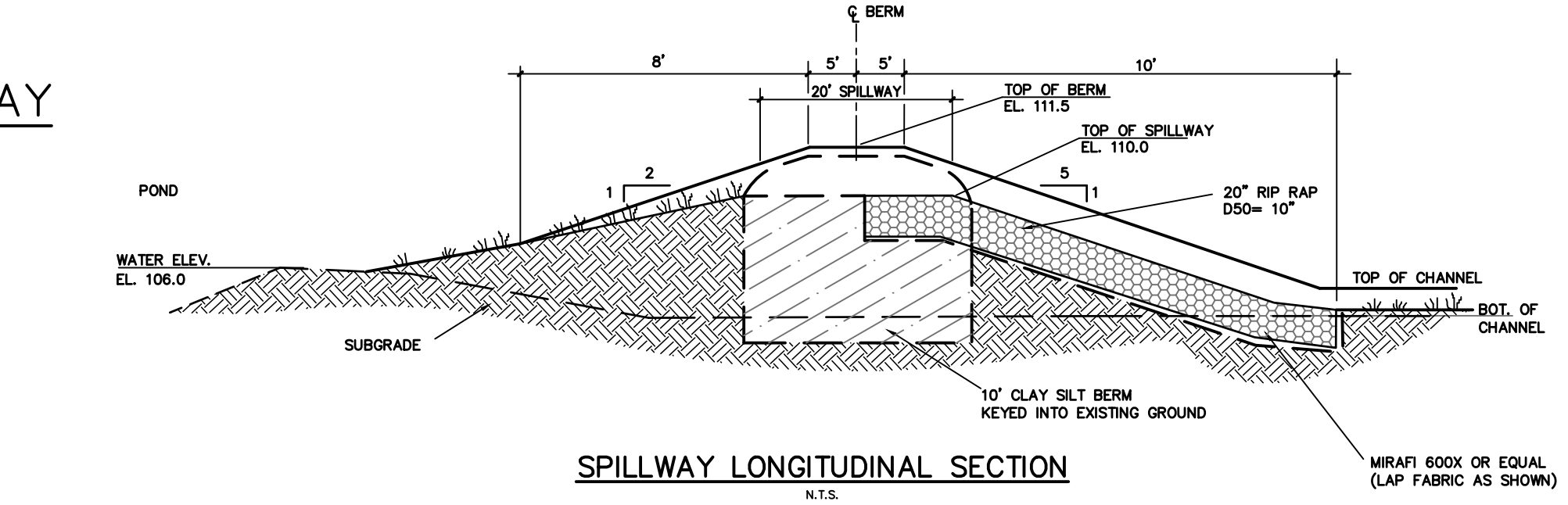
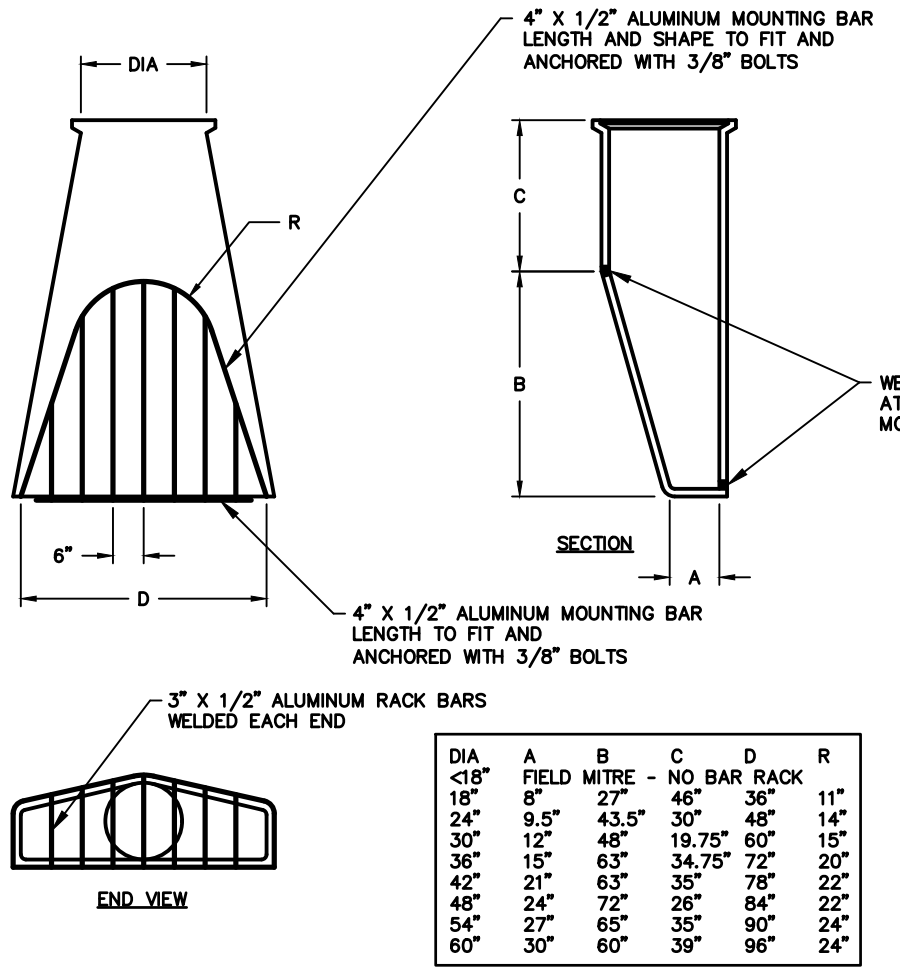
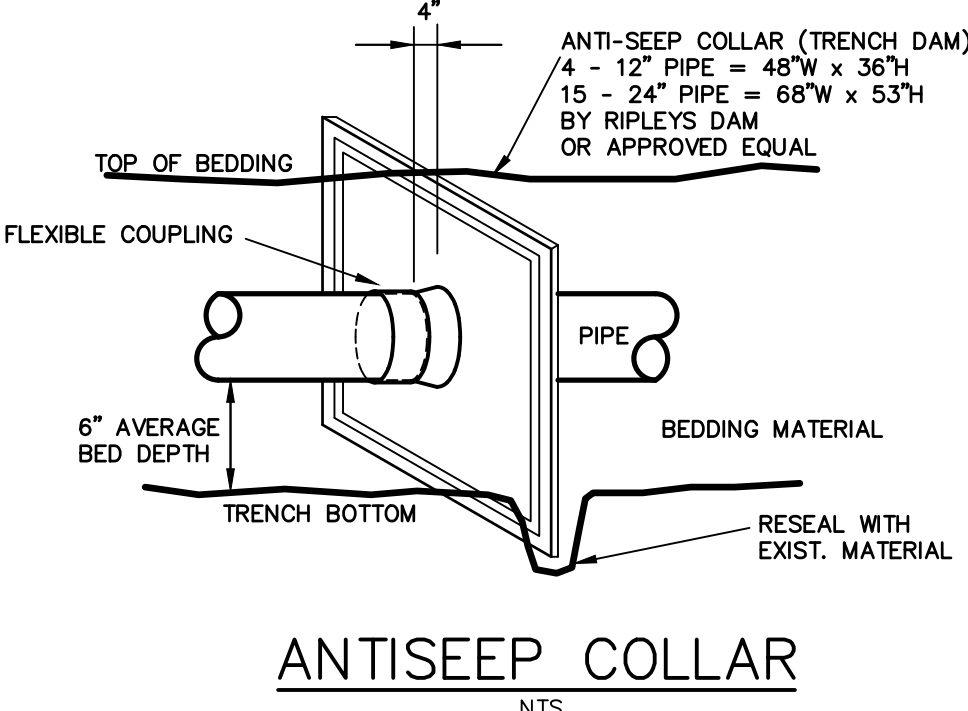
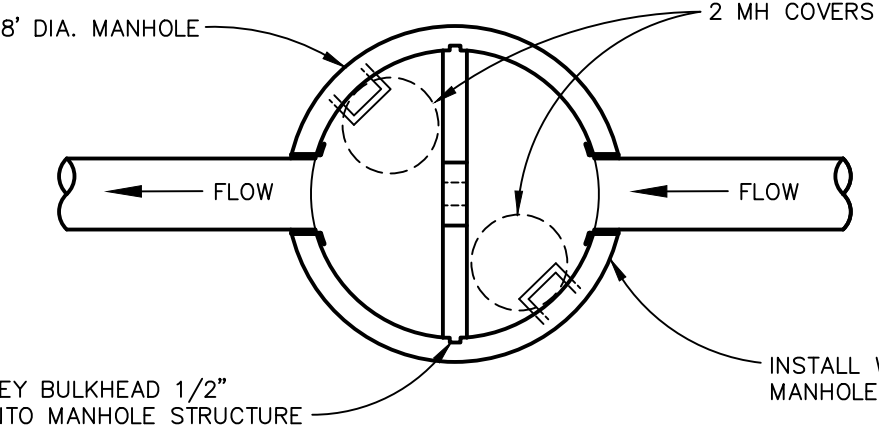
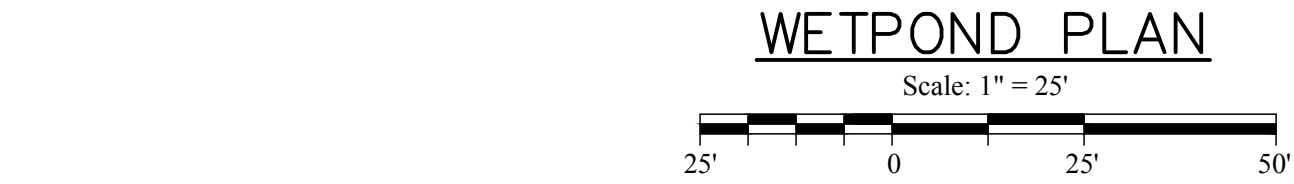
SHEET
6

REPRODUCTION OR REUSE OF THIS DOCUMENT WITHOUT THE EXPRESSED WRITTEN CONSENT OF BH2M INC. IS PROHIBITED



WETPOND SECTION

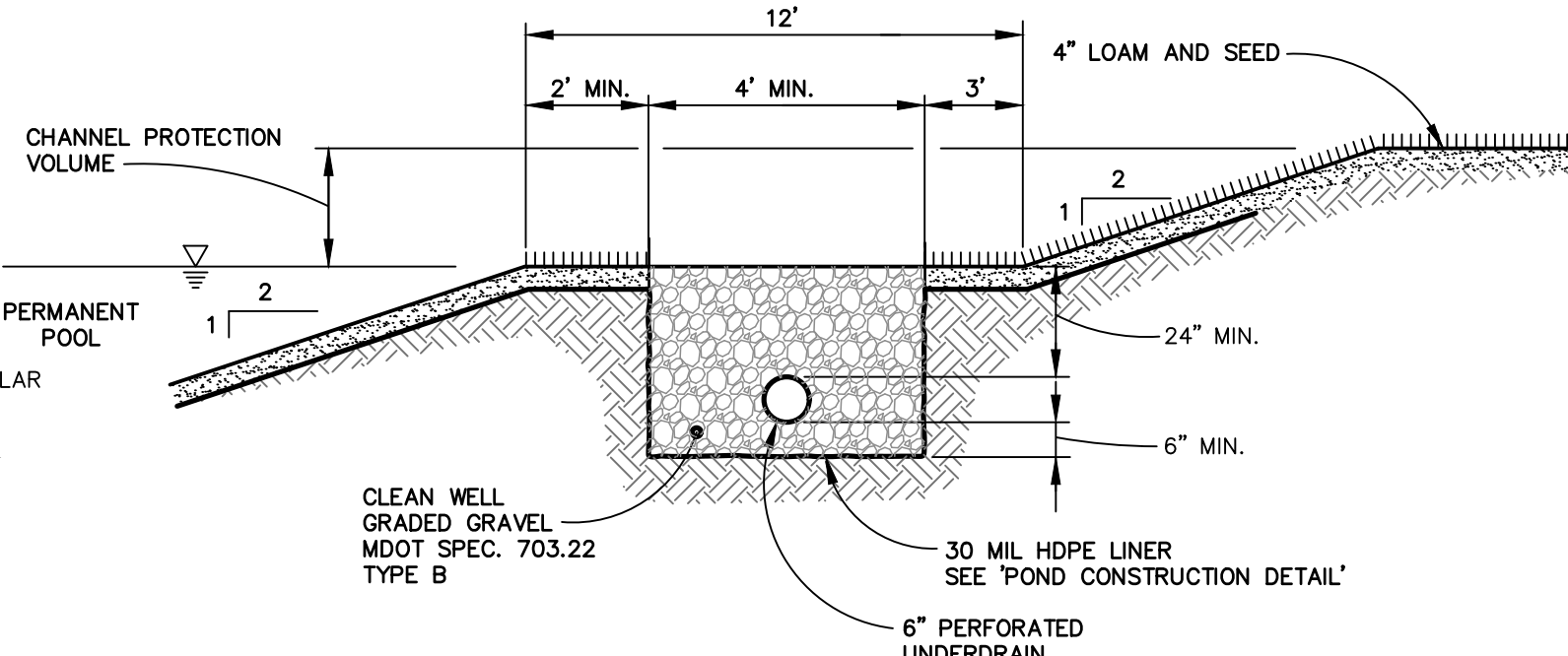
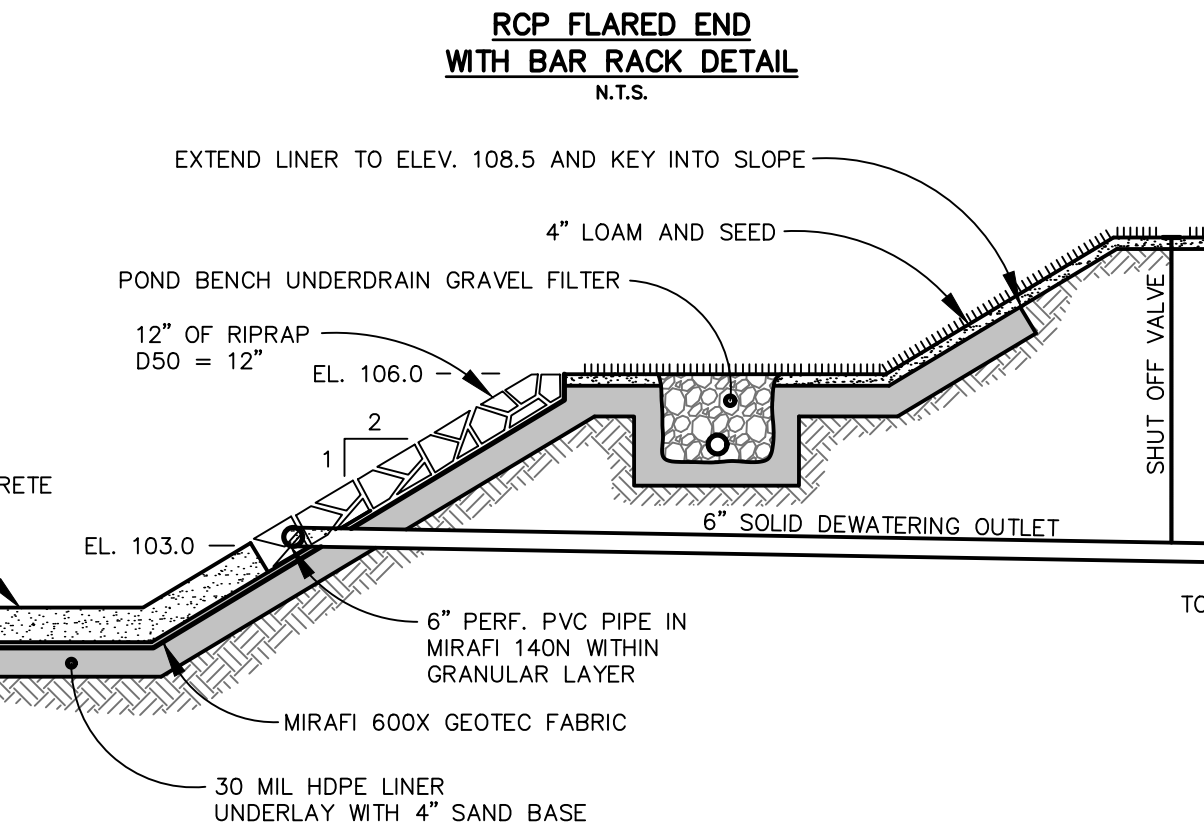
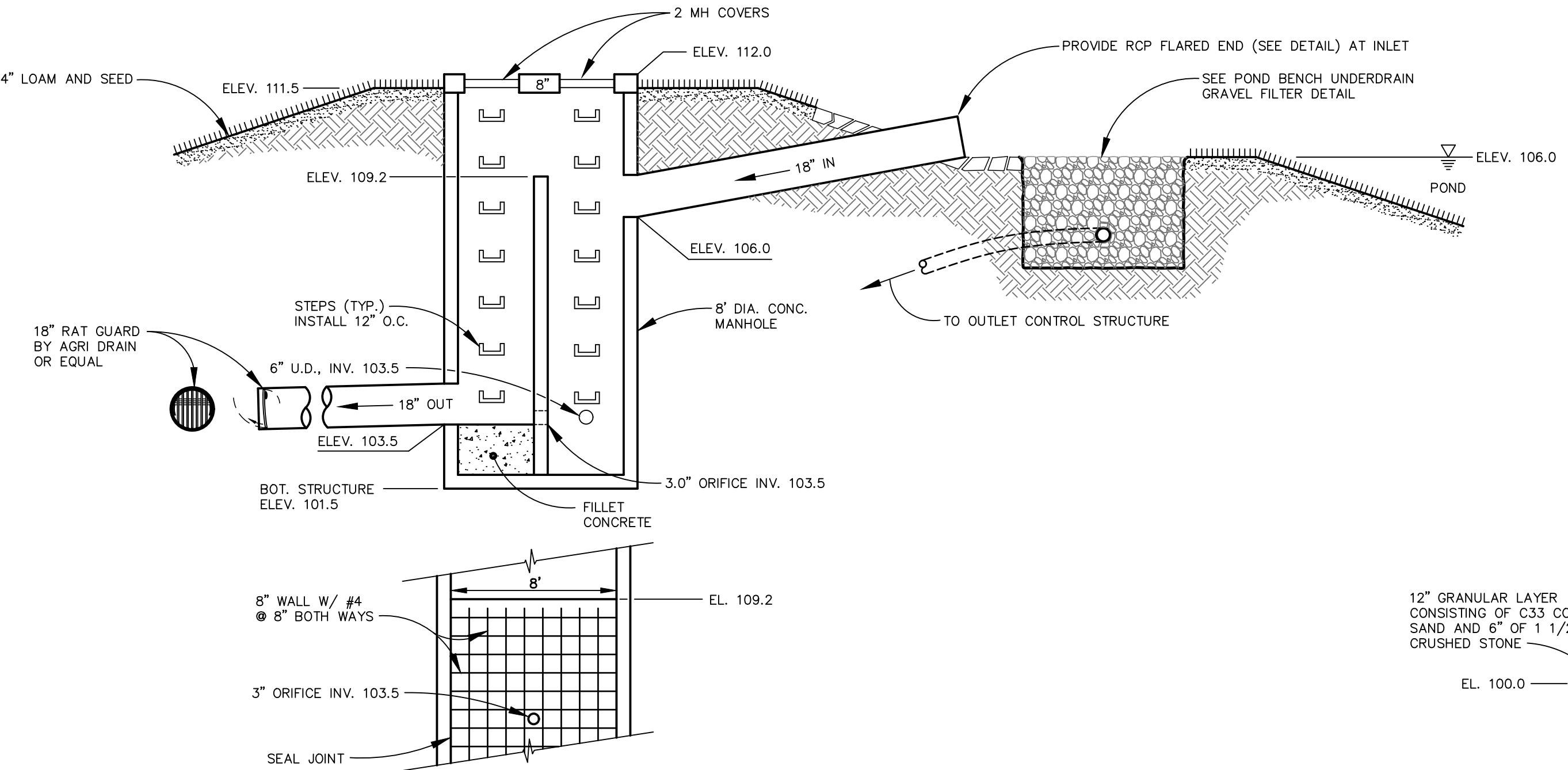
SCALE:
VERTICAL: 1" = 5'
HORIZONTAL: 1" = 25'



DETENTION / RETENTION POND EMBANKMENT NOTES:

THE FOUNDATION AREA SHALL BE CLEARED OF TREES, LOGS, ROOTS, BRUSH, BOULDERS, SOD, RUBBISH & TOPSOIL. THE ENGINEER SHALL OBSERVE & APPROVE THE EMBANKMENT SUBGRADE PRIOR TO PLACING ANY FILL TO DETERMINE SUITABILITY & POSSIBLE NEED FOR A CUTOFF TRENCH.

FILL MATERIAL FOR THE EMBANKMENT SHALL CONSIST OF SILT AND/OR CLAY MATERIAL APPROVED BY THE ENGINEER. THE CONTRACTOR SHOULD NOTE THAT ACCEPTABLE MATERIAL MAY NOT BE FOUND ON-SITE. ALL FILL MATERIAL SHALL BE FREE OF SOD, ROOTS, FROZEN SOIL, STONES GREATER THAN 6" IN DIA., & OTHER OBJECTIONABLE MATERIAL. ALL SNOW, ICE, OR FROZEN FILL SHALL BE REMOVED PRIOR TO ADDING ADDITIONAL FILL. FILLING SHALL COMMENCE IN THE LOWEST POINT OF THE CUTOFF TRENCH AND/OR DAM & CONTINUE IN HORIZONTAL LIFTS NO GREATER THAN 12" S2R MODIFIED PROCTOR DENSITIES SHALL BE OBTAINED IN EACH LIFT PRIOR TO ADDITIONAL LIFTS. THE DISTRIBUTION & GRADATION OF THE FILL SHALL BE SUCH THAT NO LENSES, POCKETS, STREAMS, OR LAYERS OF SUBSTANTIALLY DIFFERENT MATERIALS ARE PLACED IN THE LAYERS IN THE EMBANKMENT. FILL WITHIN 5' OF THE DISCHARGE PIPE & STRUCTURE SHALL BE COMPACTED TO 95% MODIFIED PROCTOR.

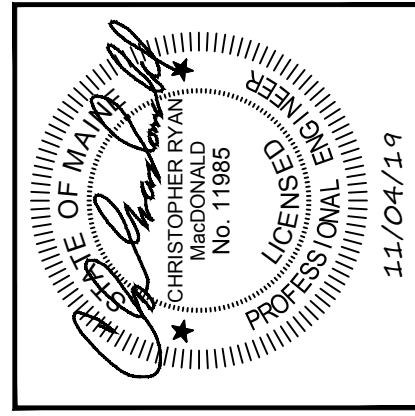


OUTLET CONTROL STRUCTURE
NTS

POND CONSTRUCTION
NTS

POND BENCH UNDERDRAIN GRAVEL FILTER DETAIL
NTS

NO.	DATE	REVISION	DESCRIPTION
1	04/08/19		Preliminary Submission to City of Biddeford
2	06/10/19		Revisions based on City review comments Submitted to DEP & City
3	09/11/19		Revisions Based on Follow-up City Review Comments
4	10/09/19		Final Plan Submission
5	11/14/19		Revised per City Final Review



BH2M

Berry, Huff, MacDonald, Milligan Inc.
Engineers, Surveyors

28 State Street
Gorham, Maine 04038

Tel: (207) 839-2771
Fax: (207) 839-8250

FOR
SAVON PARTNERS
23 Recreation Drive
Hingham, MA 02043

WETPOND LAYOUT AND DETAILS

250 UNIT APARTMENTS

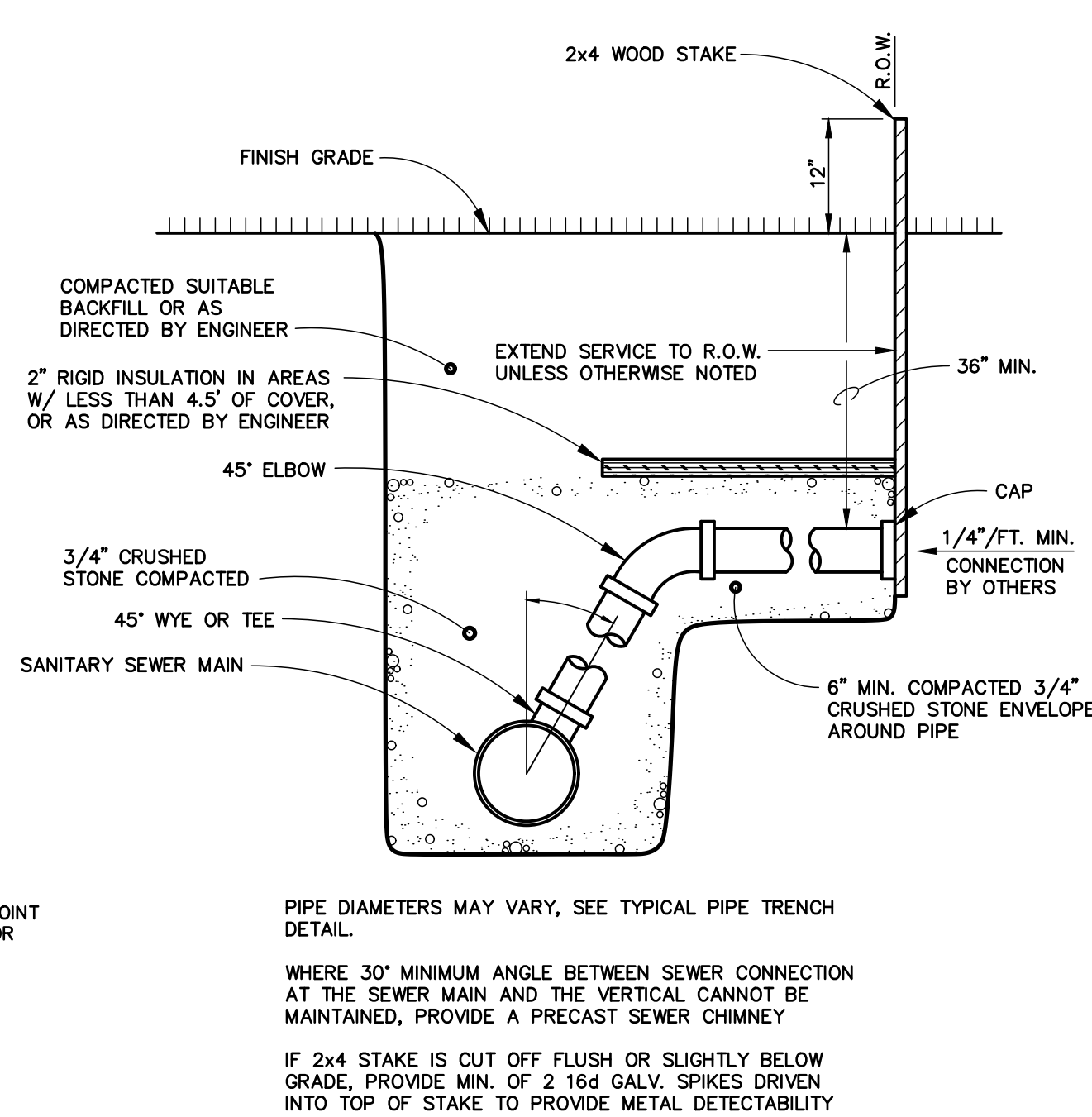
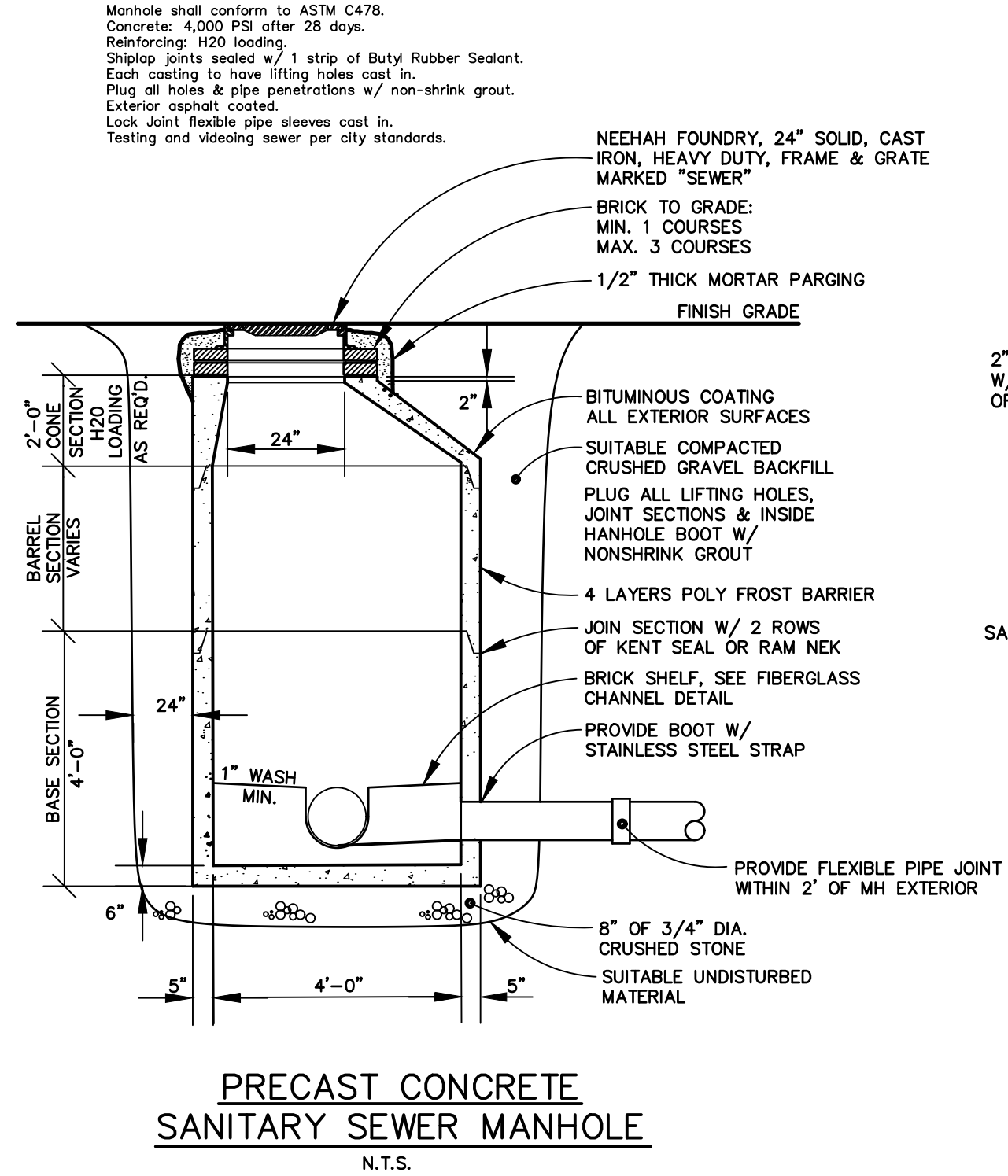
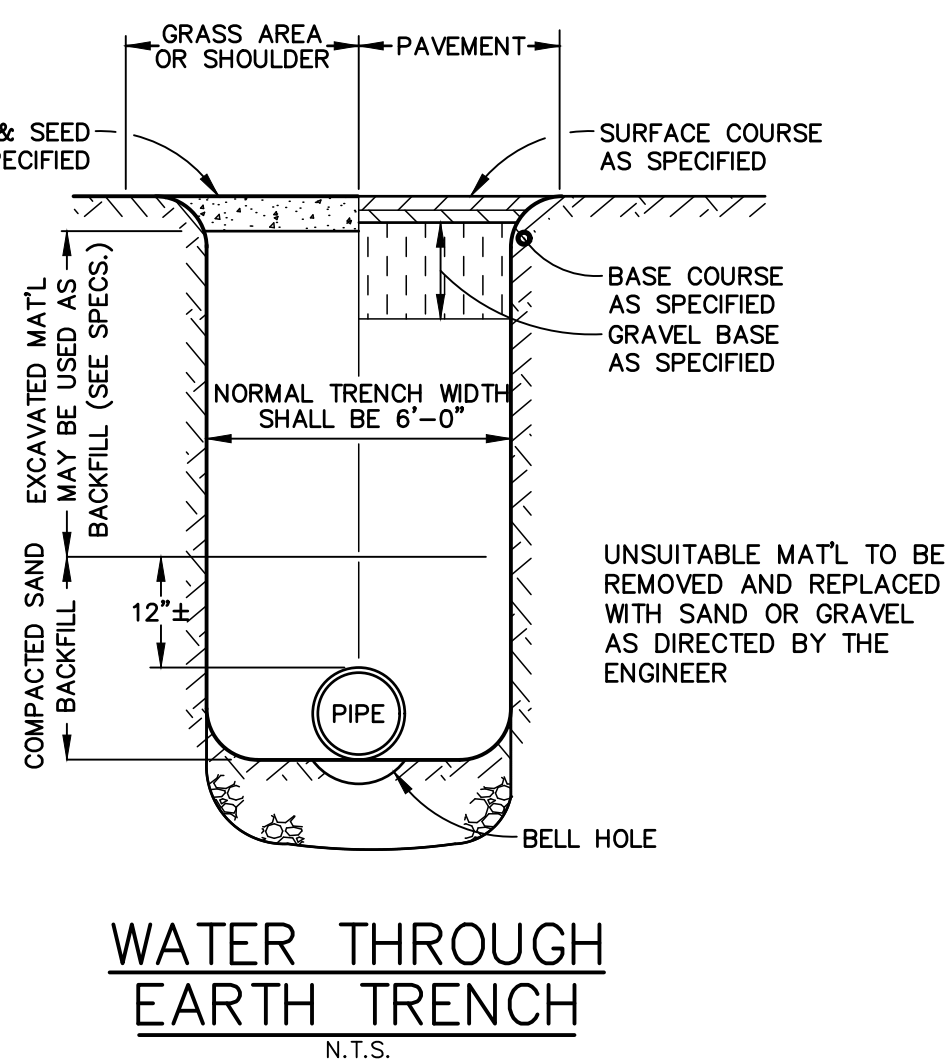
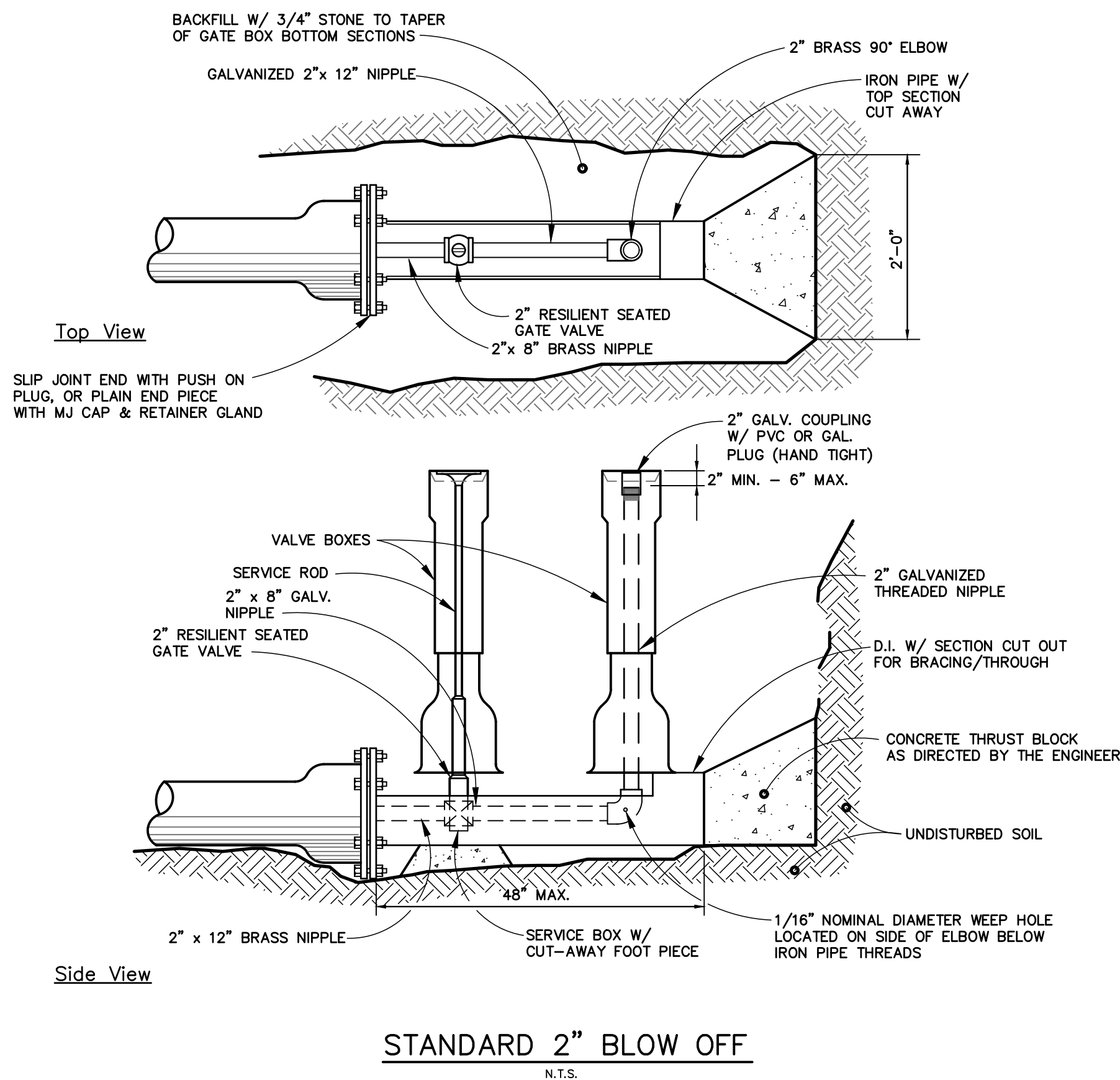
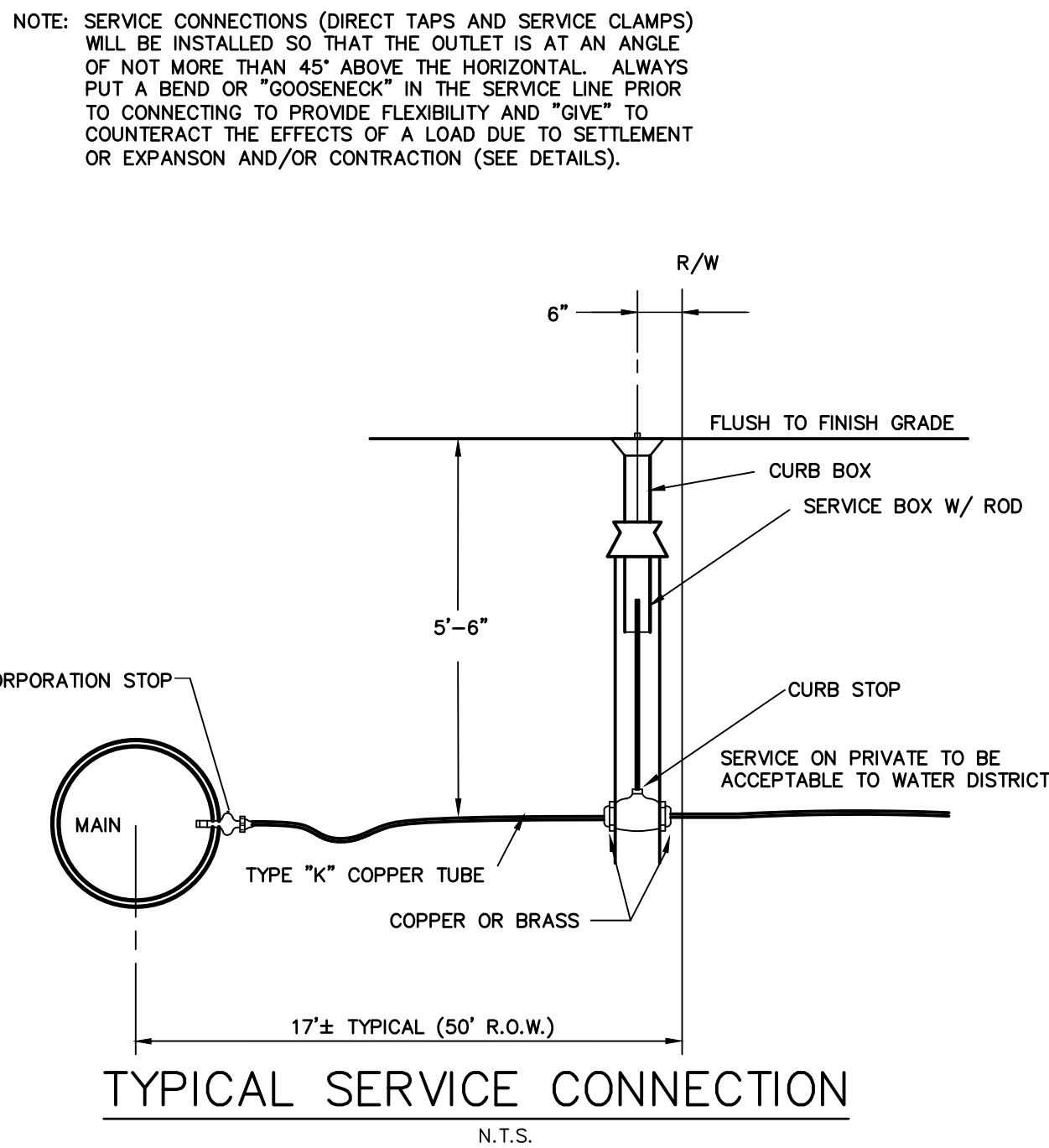
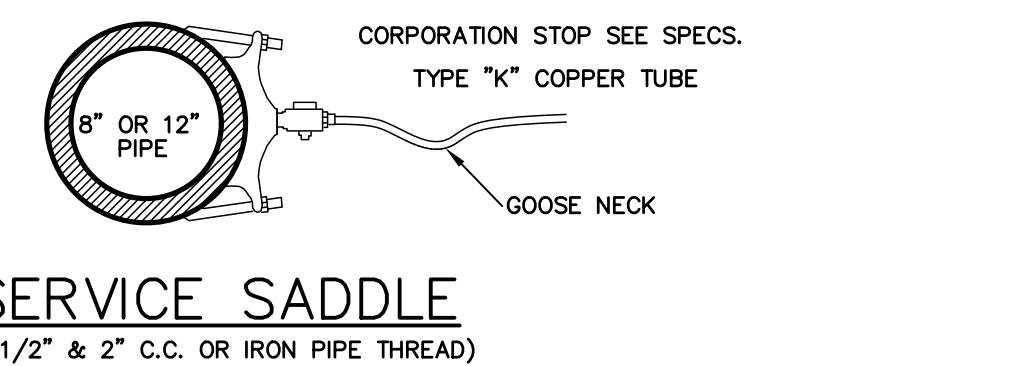
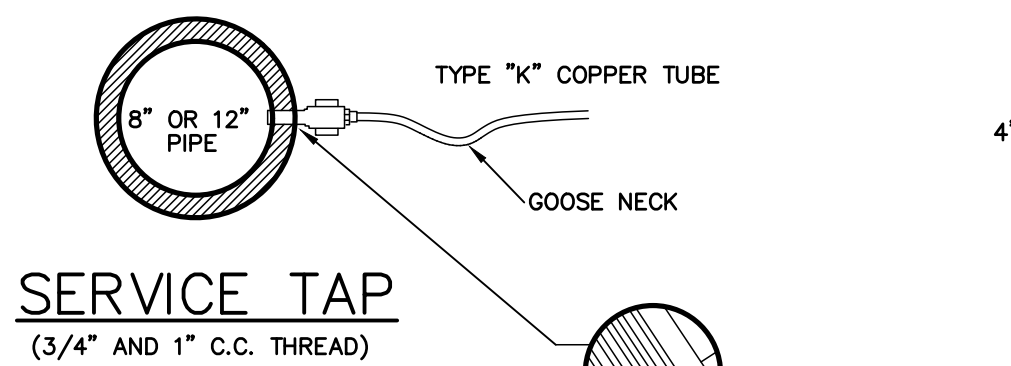
60 BARRE ROAD
BIDDEFORD, MAINE

DESIGNED C. MacDonald	DATE April 2019
DRAWN Dept.	SCALE As Noted
CHECKED S. Blake	JOB. NO. 18070

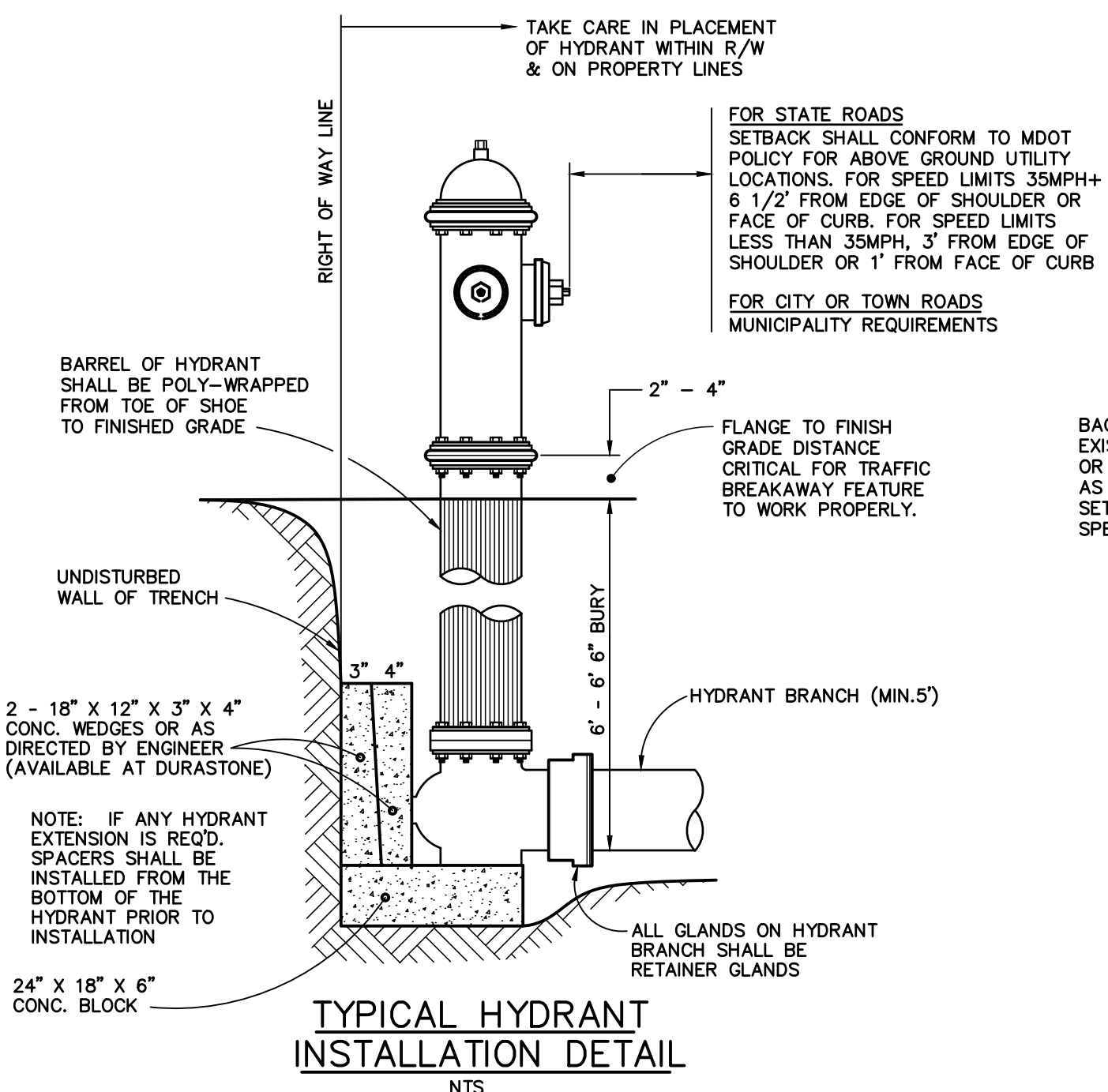
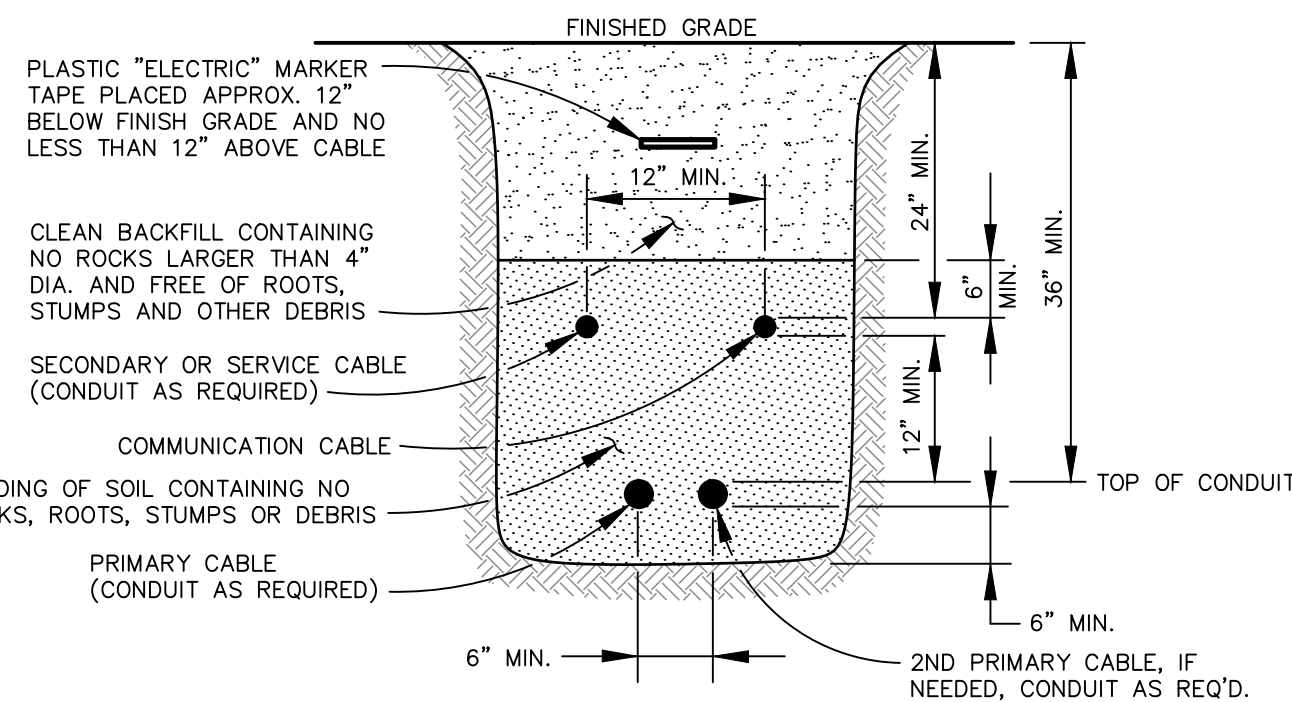
SHEET

7

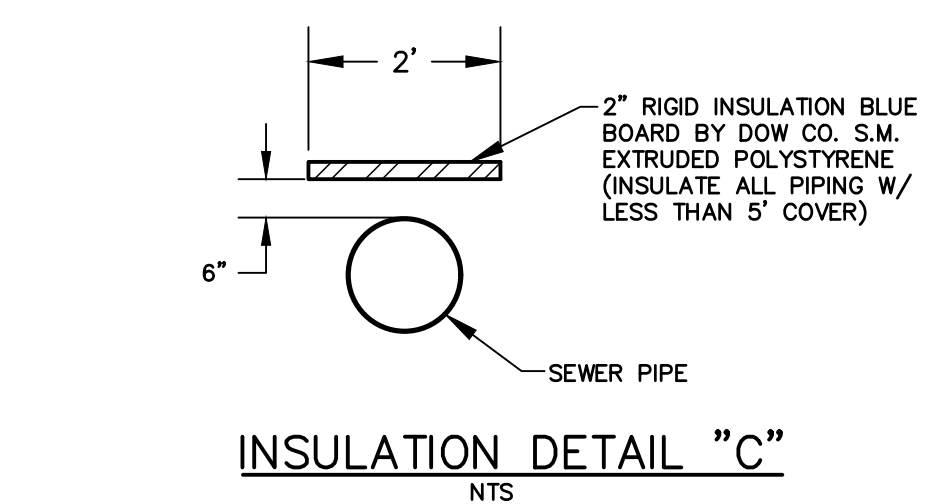
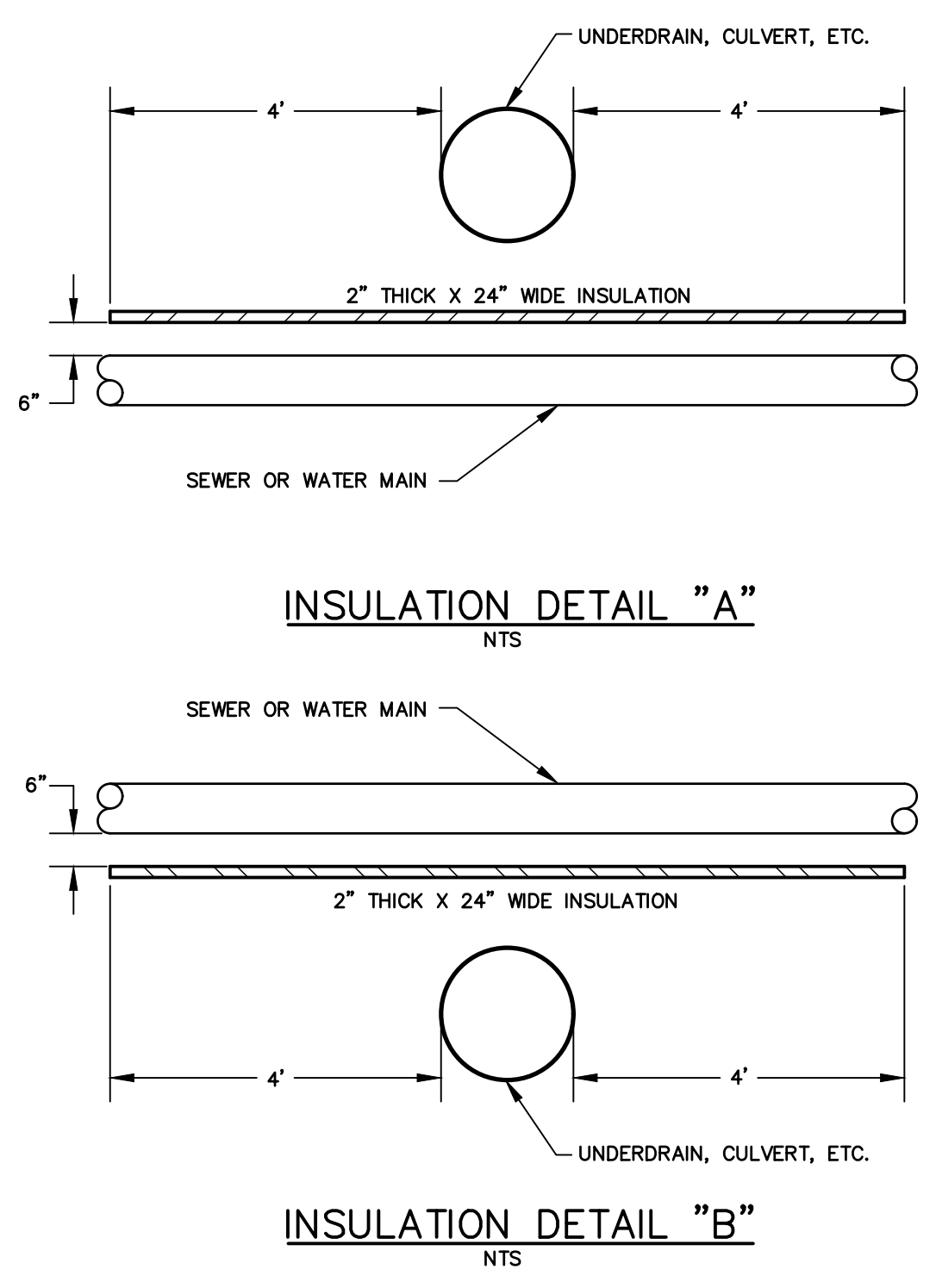
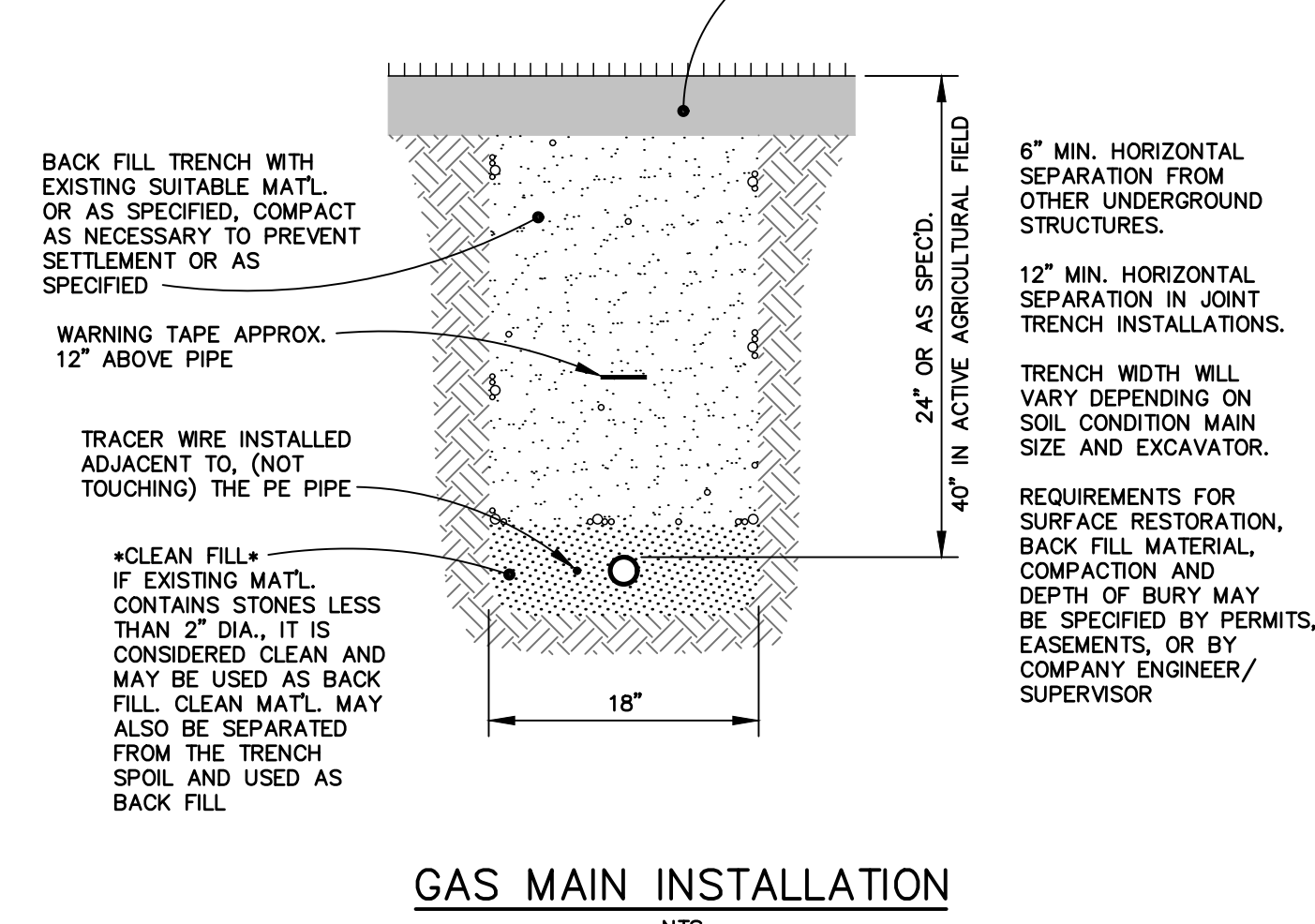
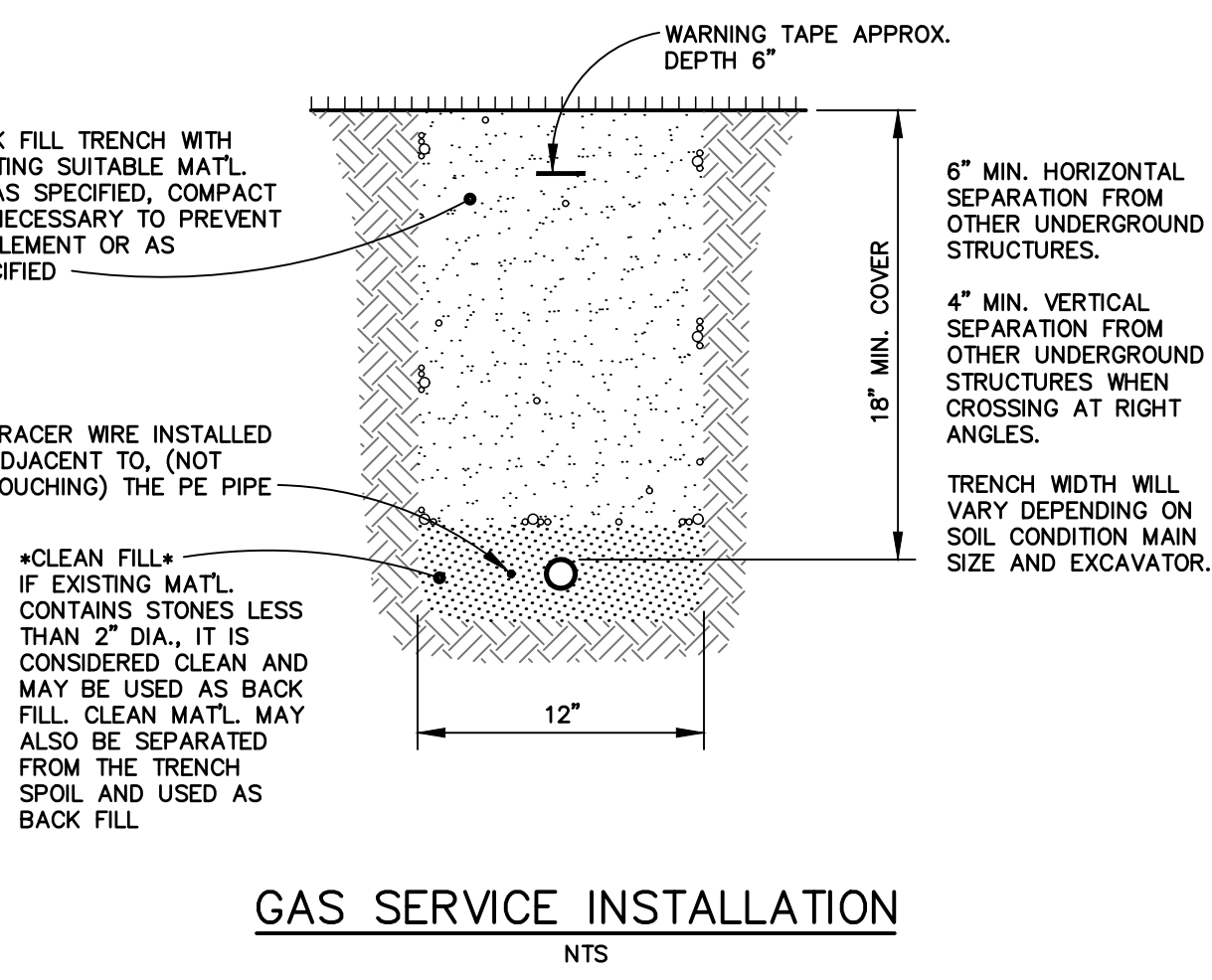
REPRODUCTION OR REUSE OF THIS DOCUMENT WITHOUT THE EXPRESSED WRITTEN CONSENT OF BH2M INC. IS PROHIBITED



NOTES:
INSTALLATION SHOULD NOT ALLOW THE INTER-TWING OF CABLES.
COMMUNICATION AND POWER CABLES SHALL HAVE NO LESS THAN 12" OF RADIAL SEPARATION.
CONDUITS FOR POWER AND COMMUNICATION CABLES SHALL BE SPECIFIED BY APPROPRIATE UTILITY COMPANIES.



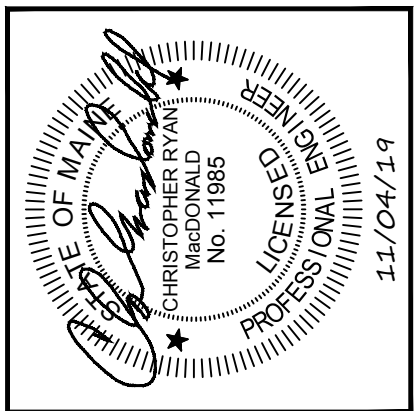
UNDERGROUND CABLE TRENCH
N.T.S.



NOTE: 2" RIGID INSULATION SHALL BE "HI 60" EXTRUDED POLYSTYRENE BY DOW CO. OR APPROVED EQUAL. CONTRACTOR SHALL INSULATE PER DETAIL WHEN PROPOSED SEWER COMES WITHIN 24" OF EXISTING CULVERT

INSULATION DETAIL "C"
N.T.S.

NO.	DATE	DESCRIPTION
1	04/08/19	Preliminary Submission to City of Biddeford
2	06/10/19	Revisions based on City review comments Submitted to DEP & City
3	09/11/19	Revisions Based on Follow-up City Review Comments
4	10/09/19	Final Plan Submission
5	11/14/19	Revised per City Final Review



BH2M
Berry, Huff, McDonald, Milligan Inc.
Engineers, Surveyors
28 State Street
Biddeford, Maine 04005
Tel: (207) 839-2771
Fax: (207) 839-8250

FOR
Saxon Partners
25 Recreation Drive
Hingham, MA 02043

UTILITY DETAILS
250 UNIT APARTMENTS
60 BARRE ROAD
BIDDEFORD, MAINE

DESIGNED W. Pelkey	DATE April 2019
DRAWN Dept.	SCALE As Noted
CHECKED S. Blake	JOB NO. 18070

SHEET 8

REPRODUCTION OR REUSE OF THIS DOCUMENT WITHOUT THE EXPRESSED WRITTEN CONSENT OF BH2M INC. IS PROHIBITED

EROSION AND SEDIMENT CONTROL PLAN

THIS PLAN HAS BEEN DEVELOPED AS A STRATEGY TO CONTROL SOIL EROSION AND SEDIMENTATION DURING AND AFTER CONSTRUCTION. THIS PLAN IS BASED ON THE STANDARDS AND SPECIFICATIONS FOR EROSION PREVENTION IN DEVELOPING AREAS AS CONTAINED IN THE LATEST REVISION OF THE 2016 MAINE EROSION AND SEDIMENT CONTROL BMP'S MANUAL FOR DESIGNERS AND ENGINEERS, AND THE LATEST REVISION TO THE 2014 MAINE EROSION AND SEDIMENT CONTROL FIELD GUIDE FOR CONTRACTORS. SEE MANUALS FOR ADDITIONAL INFORMATION AND DETAILS.

THE PROPOSED LOCATIONS OF SILTATION AND EROSION CONTROL STRUCTURES ARE SHOWN ON THE SITE PLAN.

1. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE IN ACCORDANCE WITH THE "MAINE EROSION AND SEDIMENT CONTROL BMP'S", DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST REVISION.
2. THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE LEFT IN AN UNTREATED OR UNVEGETATED CONDITION FOR A MINIMUM TIME PERIOD. AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 7 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 7 DAYS OF INITIAL DISTURBANCE OF THE SOIL. IF THE DISTURBANCE IS WITHIN 75 FEET OF A WETLAND OR WATERBODY, THE AREA SHALL BE STABILIZED WITHIN 2 DAYS OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST.
3. EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.
4. EXPOSED AREA SHOULD BE LIMITED TO THAT WHICH CAN BE MULCHED IN ONE DAY.
5. CONTINUATION OF EARTHWORK OPERATIONS ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED SUCH THAT NO MORE THAN ONE ACRE OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION.
6. SEDIMENT BARRIERS (EROSION CONTROL MIX, STONE CHOCK DAMS, STABILIZED CONSTRUCTION ENTRANCE, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE OF THE CONTRIBUTING DRAINAGE AREA ABOVE THEM. THE CONTRACTOR SHALL MAINTAIN THE STABILIZED CONSTRUCTION ENTRANCE UNTIL ALL DISTURBED AREAS ARE STABILIZED.
7. INSTALL EROSION CONTROL MIX AT TOE OF SLOPES TO FILTER SILT FROM RUNOFF. SEE E.G. MIX DETAIL FOR PROPER INSTALLATION. EROSION CONTROL MIX WILL REMAIN IN PLACE PER NOTE #5. THE USE OF AN EROSION CONTROL MIX BERM IS PROHIBITED ON SLOPES STEEPER THAN 3:1 OR WHERE THERE IS FLOWING WATER.
8. ALL EROSION CONTROL STRUCTURES WILL BE INSPECTED, REPLACED, AND/OR REPAIRED EVERY 7 DAYS AND IMMEDIATELY BEFORE AND FOLLOWING ANY SIGNIFICANT RAINFALL (ONE INCH OR MORE IN A 24-HOUR PERIOD) OR SNOW MELT OR WHEN NO LONGER SERVICEABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSITION. IF AN INSPECTION DETERMINES THAT A CORRECTIVE ACTION OR REPAIR SHALL BE STARTED BY THE END OF THE NEXT WORKDAY AND COMPLETED WITHIN SEVEN DAYS OR BEFORE THE NEXT STORM EVENT. REPAIRS SHALL BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE STABILIZED BY TURF. EROSION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS OF PERMANENT STABILIZATION. PERMANENT STABILIZATION IS 90% GRASS CATCH IN VEGETATED AREAS.
9. NO SLOPES, EITHER PERMANENT OR TEMPORARY, SHALL BE STEEPER THAN ONE AND ONE HALF TO ONE (1.5 TO 1).
10. 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 SOIL AND DELAY SEEDING UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
11. TEMPORARY SEEDING OF DISTURBED AREAS THAT HAVE NOT BEEN FINAL GRADED SHALL BE COMPLETED BY AUG. 15 OR 45 DAYS PRIOR TO THE FIRST KILLING FROST (OCT. 1) TO PROTECT FROM SPRING RUNOFF PROBLEMS.
12. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO THE SITE AND REGRADED ONTO OPEN AREAS. POST SEEDING SEDIMENT, IF ANY, WILL BE DISPOSED OF IN AN ACCEPTABLE MANNER.
13. 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. FOUR INCHES 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 800 POUNDS PER ACRE OR 18.4 POUNDS PER 1,000 SQUARE FEET USING 10-20-20 (N-P200-K20) OR EQUIVALENT. APPLY GROUND LIMESTONE (EQUIVALENT TO 50% CALCIUM PLUS MAGNESIUM OXIDE) AT A RATE OF 3 TONS PER ACRE (138 LB PER 1,000 SQ. FT.).
 - c. FOLLOWING SEED BED PREPARATION, DITCHES AND BACK SLOPES WILL BE SEED TO A MIXTURE OF 47% CREEPING RED FESCUE, 5% REDTOP, AND 48% TALL FESCUE. THE LAWN AREAS WILL BE SEED TO A PREMIUM TURF MIXTURE OF 44% KENTUCKY BLUEGRASS, 44% CREEPING RED FESCUE, AND 12% PERENNIAL RYEGRASS. SEEDING RATE IS 1.03 LBS PER 1000 SQ. FT. LAWN QUALITY SOD MAY BE SUBSTITUTED FOR SEED. SEED MIX SHALL CONTAIN 10% ANNUAL RYE GRASS.
 - d. HAY MULCH AT THE RATE OF 70-90 LBS PER 1000 SQUARE FEET OR A HYDRO-APPLICATION OF ASPHALT, WOOD OR PAPER FIBER FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS WILL BE USED ON HAY MULCH FOR WIND CONTROL.
14. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS ONCE THE SITE IS STABILIZED WITH 90% GRASS CATCH IN VEGETATED AREAS. TEMPORARY EROSION AND SEDIMENT CONTROL BLANKET SHALL BE USED IN ALL DITCHES AND SWALES AS SHOWN IN DETAILS.
15. WETLANDS WILL BE PROTECTED WITH EROSION CONTROL MIX OR SILT FENCE INSTALLED AT THE EDGE FOR THE WETLAND OR THE BOUNDARY OF WETLAND DISTURBANCE. ALL AREAS WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS DURING WINTER CONSTRUCTION.
16. ALL STORMWATER WILL BE PREVENTED FROM RUNNING ONTO STOCKPILES. SEDIMENT BARRIERS WILL BE INSTALLED DOWNGRADIENT OF ALL STOCKPILES.
17. PERMANENT POST-CONSTRUCTION BMP'S (VEGETATED SWALES, MUD POUNDS, ETC.) WILL NOT BE USED TO MANAGE FLOWS DURING CONSTRUCTION WITHOUT SPECIAL PROTECTION AND/OR RESTORATION.

MULCH AND MULCH ANCHORING

MULCH LOCATION	MULCH	RATE (1000 S.F.)
PROTECTED AREA	STRAW OR HAY *	100 POUNDS
WINDY AREAS	SHREDDED OR CHOPPED CORNSTALKS	185-275 POUNDS
	STRAW OR HAY (ANCHORED) *	100 POUNDS

* A HYDRO-APPLICATION OF ASPHALT, WOOD, OR PAPER FIBER MAY BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS SHALL BE USED ON HAY MULCH FOR WIND CONTROL.

MULCH ANCHORING

ANCHOR MULCH WITH PEG AND TWINE (1 SO. YD./BLOCK); MULCH NETTING (AS PER MANUFACTURER); WOOD CELLULOSE FIBER (750 LBS/ACRE); USE OF A SERATED ASPHALT NETTING FOR SMALL AREAS AND ROAD DITCHES MAY BE PERMITTED.

Additional temporary seed mixture (for periods less than 12 months).

Season	Seed	Rate
Summer (5/15 - 8/15)	Sudangrass	40 lbs/acre
	Oats	80 lbs/acre
Late Summer/Early Fall	Pennell Ryegrass	40 lbs/acre
Fall (9/15 - 11/1)	Winter Rye	112 lbs/acre
Winter (11/1 - 4/1)	Mulch w/ Dormant Seed	80 lbs/acre**
Spring (4/1 - 7/1)	Oats	80 lbs/acre
	Annual Ryegrass	40 lbs/acre

**Seed Rate Only

EROSION CONTROL MIX

EROSION CONTROL MIX (ECM) SHALL MEET THE REQUIREMENTS PROVIDED IN THE LATEST REVISION OF MAINE DEP'S EROSION AND SEDIMENTATION CONTROL BMP MANUAL. ECM IS ACCEPTABLE FOR USE ON SLOPES OF GREATER THAN 3:1 BUT LESS THAN 1:1. ECM SHALL CONSIST OF WELL-GRADED ORGANIC COMPONENT 50 - 100% OF DRY WEIGHT, AND COMPOSED OF FIBROUS AND ELONGATED FRAGMENTS. ECM SHALL BE FREE OF FERTILIZER, PESTICIDES, MATERIAL TOXIC TO PLANT GROWTH OR CONSTRUCTION DEBRIS. ECM SHALL BE EVENLY DISTRIBUTED AND APPLIED AT A THICKNESS OF 2" ON 3:1 SLOPES, WITH AN ADDITIONAL 1/2" PER 20' OF SLOPE FOR A MAXIMUM OF 100' IN LENGTH. SLOPES GREATER THAN 3:1, ECM SHALL BE APPLIED AT THICKNESS OF 4" OR 5" FOR SLOPES GREATER THAN 60' IN LENGTH.

SLOPES GREATER THAN 3:1 MAY ALSO REQUIRE ADDITIONAL SLOPE STABILIZATION DEPENDING ON UPGRADIENT RUNOFF AND OTHER SITE SPECIFIC CONDITIONS. SEE SLOPE STABILIZATION DETAIL FOR ADDITIONAL INFORMATION.

MULCH LOCATION	MULCH	RATE (1000 S.F.)
PROTECTED AREA	STRAW OR HAY *	100 POUNDS
WINDY AREAS	SHREDDED OR CHOPPED CORNSTALKS	185-275 POUNDS
	STRAW OR HAY (ANCHORED) *	100 POUNDS

* A HYDRO-APPLICATION OF ASPHALT, WOOD, OR PAPER FIBER MAY BE APPLIED FOLLOWING SEEDING. A SUITABLE BINDER SUCH AS CURASOL OR RMB PLUS SHALL BE USED ON HAY MULCH FOR WIND CONTROL.

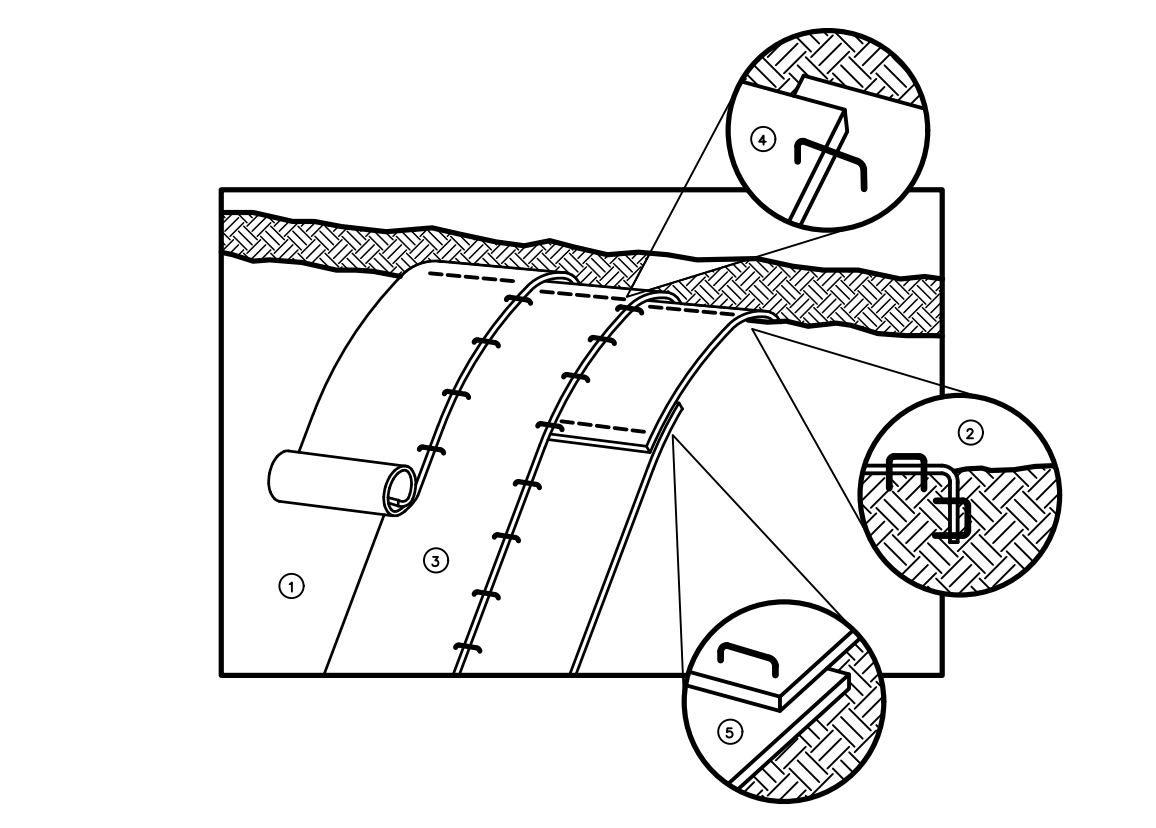
Season	Seed	Rate
Summer (5/15 - 8/15)	Sudangrass	40 lbs/acre
	Oats	80 lbs/acre
Late Summer/Early Fall	Pennell Ryegrass	40 lbs/acre
Fall (9/15 - 11/1)	Winter Rye	112 lbs/acre
Winter (11/1 - 4/1)	Mulch w/ Dormant Seed	80 lbs/acre**
Spring (4/1 - 7/1)	Oats	80 lbs/acre
	Annual Ryegrass	40 lbs/acre

**Seed Rate Only

EROSION CONTROL MIX

EROSION CONTROL MIX (ECM) SHALL MEET THE REQUIREMENTS PROVIDED IN THE LATEST REVISION OF MAINE DEP'S EROSION AND SEDIMENTATION CONTROL BMP MANUAL. ECM IS ACCEPTABLE FOR USE ON SLOPES OF GREATER THAN 3:1 BUT LESS THAN 1:1. ECM SHALL CONSIST OF WELL-GRADED ORGANIC COMPONENT 50 - 100% OF DRY WEIGHT, AND COMPOSED OF FIBROUS AND ELONGATED FRAGMENTS. ECM SHALL BE FREE OF FERTILIZER, PESTICIDES, MATERIAL TOXIC TO PLANT GROWTH OR CONSTRUCTION DEBRIS. ECM SHALL BE EVENLY DISTRIBUTED AND APPLIED AT A THICKNESS OF 2" ON 3:1 SLOPES, WITH AN ADDITIONAL 1/2" PER 20' OF SLOPE FOR A MAXIMUM OF 100' IN LENGTH. SLOPES GREATER THAN 3:1, ECM SHALL BE APPLIED AT THICKNESS OF 4" OR 5" FOR SLOPES GREATER THAN 60' IN LENGTH.

SLOPES GREATER THAN 3:1 MAY ALSO REQUIRE ADDITIONAL SLOPE STABILIZATION DEPENDING ON UPGRADIENT RUNOFF AND OTHER SITE SPECIFIC CONDITIONS. SEE SLOPE STABILIZATION DETAIL FOR ADDITIONAL INFORMATION.



1. Prepare soil before installing blankets, including lime, fertilizer & seed.
2. Begin at top of slope by anchoring blanket in 6" x 6" trench. Backfill & compact trench after staping.
3. Roll blankets down or horizontally across slope.
4. The edges of parallel blankets must be stapled with approx. 2" overlap.
5. When blankets must be spliced down the slope, place blankets end over end (shingle style) with approx. 4" overlap. Staple through overlapped area, approx. 12" apart.
6. Erosion control blankets shall be used on slopes steeper than 3:1 but limited to a max. of 2:1.

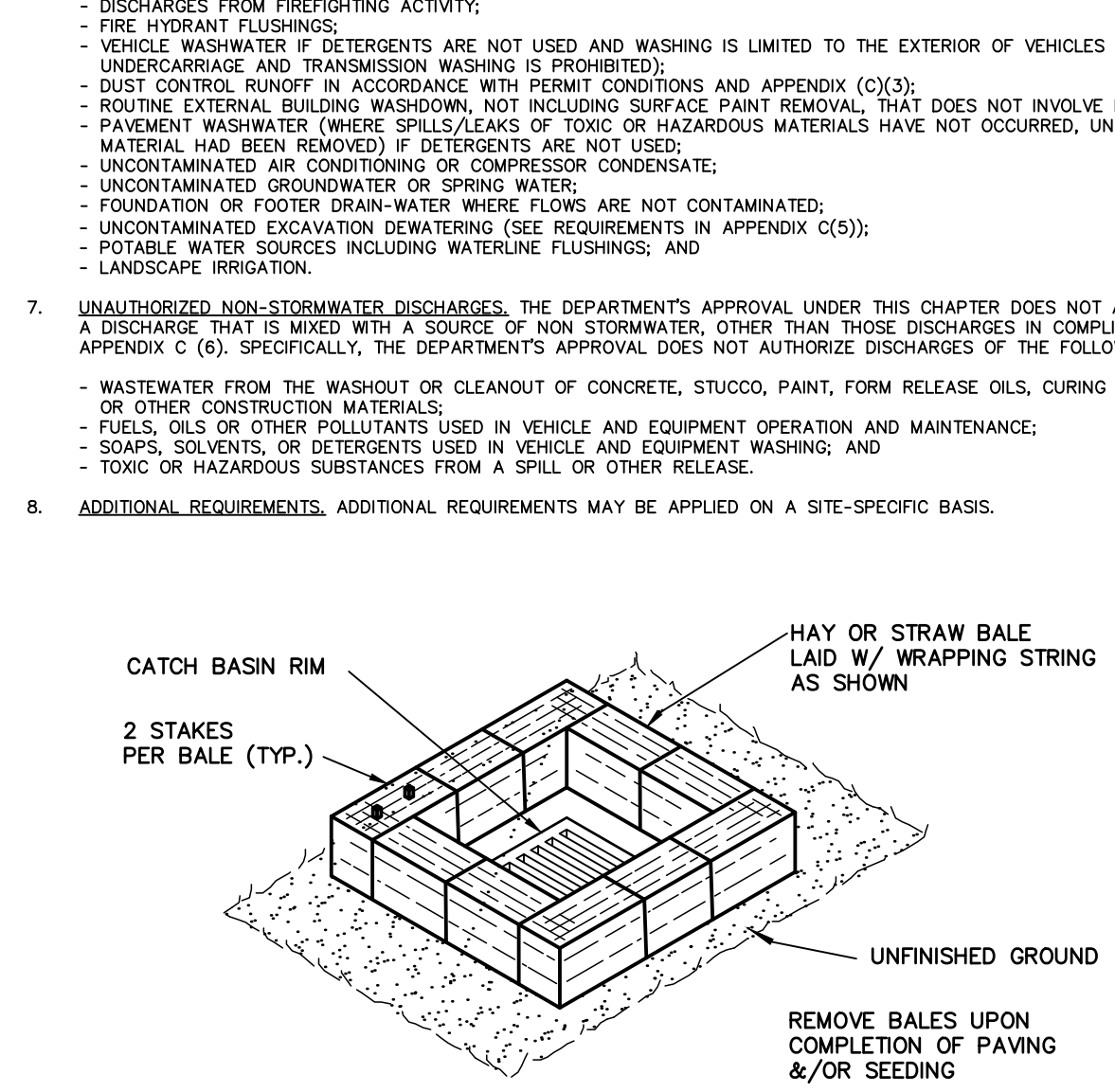
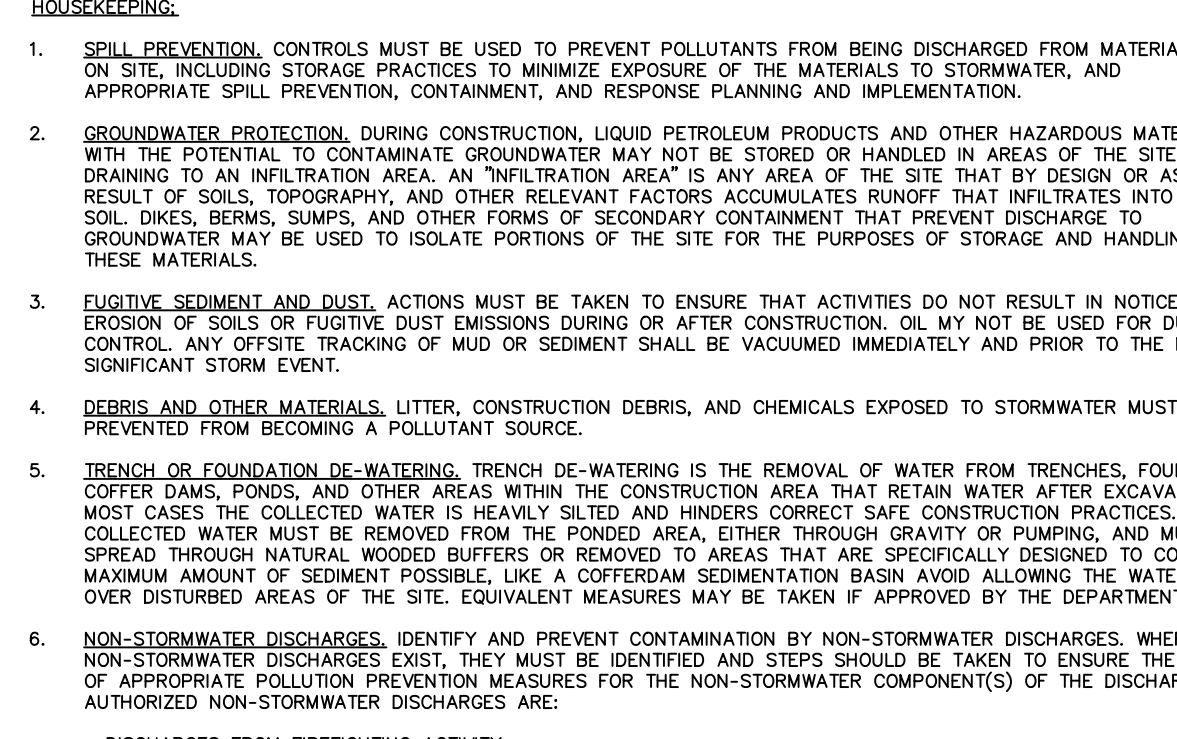
Slope Stabilization:
Erosion Control Blanket shall be in accordance with M.D.O.T. standard specifications, Section 6.13, Temporary Erosion Control Blankets and Extended Use Erosion Control Blankets.

Slope Stabilization Detail

N.T.S.

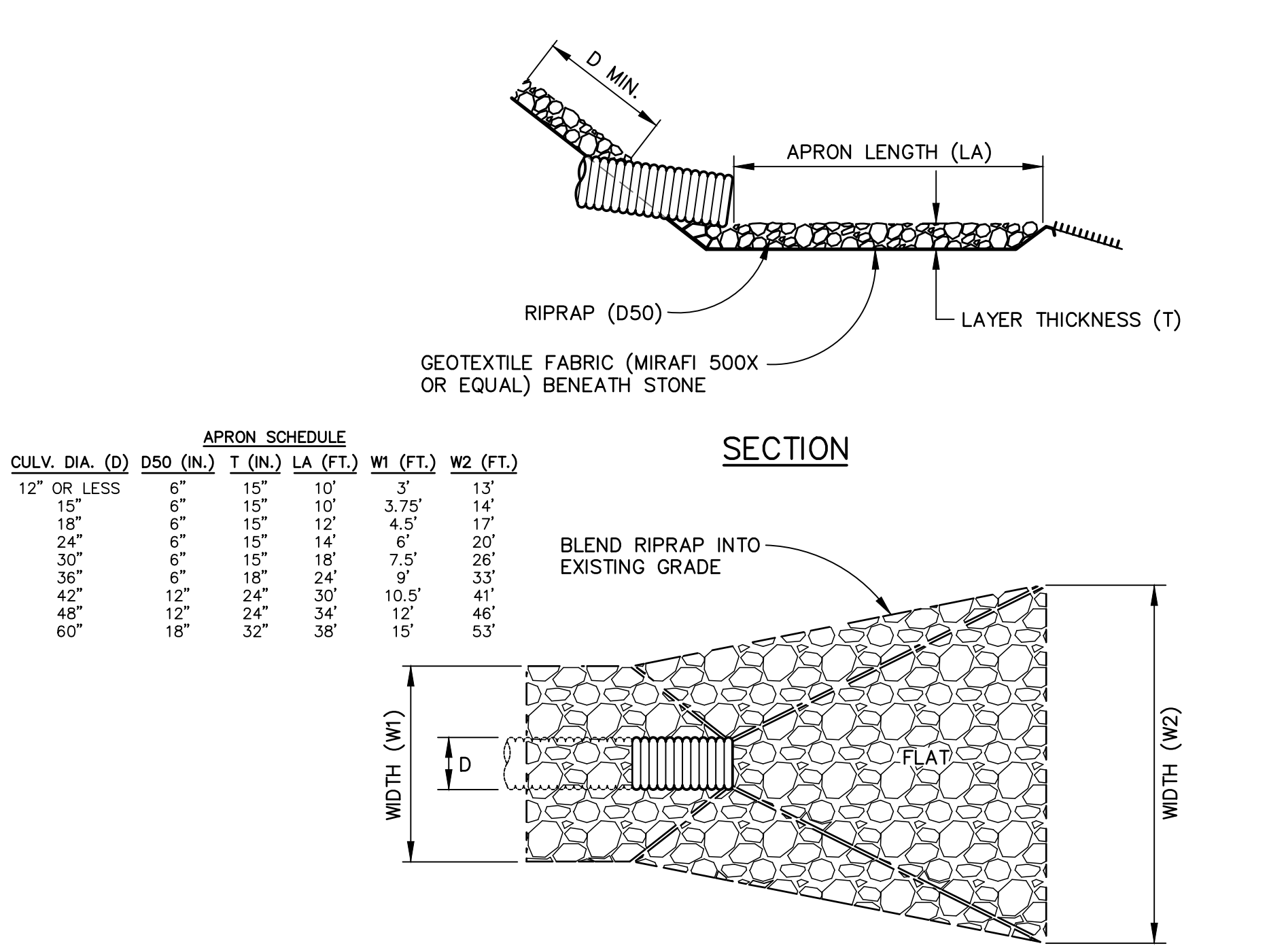
- EROSION CONTROL DURING CONSTRUCTION
- WINTER CONSTRUCTION
1. WINTER CONSTRUCTION PERIOD: OCTOBER 1 THROUGH APRIL 15
2. OVERWINTER STABILIZATION OF DITCHES AND CHANNELS:
ALL STONE LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY NOVEMBER 15. ALL GRASS LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED BY SEPTEMBER 1. IF A DITCH OR CHANNEL IS NOT GRASS-LINED BY SEPTEMBER 1, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE DITCH FOR LATE FALL AND WINTER.
- A. INSTALL A SOD LINING IN THE DITCH:
A DITCH MUST BE LINED WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES: PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL, AND ANCHORING THE SOD AT THE BASE OF THE DITCH WITH 2x12 PLASTIC NETTING TO PREVENT THE SOD FROM SLOUGHING DURING FLOW CONDITIONS. SEE THE PERMANENT VEGETATION BMP SECTION.
 - B. INSTALL A STONE LINING IN THE DITCH:
A DITCH MUST BE LINED WITH STONE RIPRAP BY NOVEMBER 15. A REGISTERED PROFESSIONAL ENGINEER MUST BE HIRED TO DETERMINE THE STONE SIZE AND LINING THICKNESS NEEDED TO WITHSTAND THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHIN THE DITCH. IF NECESSARY, THE CONTRACTOR WILL REGRADE THE DITCH PRIOR TO PLACING THE STONE LINING SO TO PREVENT THE STONE LINING FROM REDUCING THE DITCH'S CROSS-SECTIONAL AREA.
 - C. OVERWINTER STABILIZATION OF DISTURBED SLOPES:
ALL STONE-COVERED SLOPES MUST BE STABILIZED BY NOVEMBER 15. ALL SLOPES TO BE VEGETATED MUST BE SEEDING AND MULCHED BY SEPTEMBER 1. THE DEPARTMENT WILL CONSIDER ANY AREA HAVING A GRADE GREATER THAN 15% TO BE A SLOPE. IF A SLOPE TO BE VEGETATED IS NOT STABILIZED BY SEPTEMBER 1, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE SLOPE FOR LATE FALL AND WINTER. STABILIZE THE SOIL WITH TEMPORARY VEGETATION AND EROSION CONTROL MATS. BY OCTOBER 1 THE DISTURBED SLOPE MUST BE SEEDING WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET AND THEN INSTALL EROSION CONTROL MATS OR ANCHORED MULCH OVER THE SEEDING. IF THE RYE FAILS TO COVER AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 75% OF THE SLOPE BY NOVEMBER 1, THEN THE CONTRACTOR WILL COVER THE SLOPE WITH A LAYER OF EROSION CONTROL MIX OR WITH STONE RIPRAP AS DESCRIBED IN THE FOLLOWING STANDARDS.
- APRON SCHEDULE
- | CULV. DIA. (D) | D50 (IN.) | T (IN.) | LA (FT.) | W1 (FT.) | W2 (FT.) |
|----------------|-----------|---------|----------|----------|----------|
| 12" OR LESS | 6" | 15" | 10' | 3' | 13' |
| 15" | 6" | 15" | 10' | 3.75' | 14' |
| 18" | 6" | 15" | 12' | 4.5' | 17' |
| 24" | 6" | 15" | 14' | 6' | 20' |
| 30" | 6" | 15" | 18' | 7.5' | 26' |
| 36" | 6" | 18" | 24' | 9' | 33' |
| 42" | 12" | 24" | 30' | 10.5' | 41' |
| 48" | 12" | 24" | 34' | 12' | 46' |
| 60" | 18" | 32" | 38' | 15' | 53' |
- A. STABILIZE THE SOIL WITH SOD:
THE DISTURBED SLOPE MUST BE STABILIZED WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES THE CONTRACTOR PINNING THE SOD ONTO THE SLOPE WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL. SOD INSTALLATION TO STABILIZE SLOPES HAVING A GRADE GREATER THAN 33% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE.
 - B. STABILIZE THE SOIL WITH EROSION CONTROL MIX:
EROSION CONTROL MIX MUST BE PROPERLY INSTALLED BY NOVEMBER 15. THE CONTRACTOR WILL NOT USE EROSION CONTROL MIX TO STABILIZE SLOPES HAVING GREATER THAN 50% (2H:1V) OR HAVING GROUNDWATER SEEPS ON THE SLOPE FACE. SEE THE TEMPORARY MULCHING BMP SECTION.
 - C. STABILIZE THE SOIL WITH STONE RIPRAP:
PLACE A LAYER OF STONE RIPRAP ON THE SLOPE BY NOVEMBER 15. THE DEVELOPMENTS OWNER WILL HIRE A REGISTERED PROFESSIONAL ENGINEER TO DETERMINE THE STONE SIZE NEEDED FOR STABILITY ON THE SLOPE AND TO DESIGN A FILTER LAYER FOR UNDERNEATH THE RIPRAP. SEE THE RIPRAP SLOPE STABILIZATION BMP SECTION.
4. OVERWINTER STABILIZATION OF DISTURBED SLOPES:
BY SEPTEMBER 15, ALL DISTURBED SLOPES ON AREAS HAVING A SLOPE LESS THAN 15% MUST BE SEEDING AND MULCHED. IF THE DISTURBED AREAS ARE NOT STABILIZED BY THIS DATE, THEN ONE OF THE FOLLOWING ACTIONS MUST BE TAKEN TO STABILIZE THE SOIL FOR LATE FALL AND WINTER.
- A. STABILIZE THE SOIL WITH TEMPORARY VEGETATION:
BY OCTOBER 1, SEED THE DISTURBED SOIL WITH WINTER RYE AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET, LIGHTLY MULCH THE SEEDING SOIL WITH HAY OR STRAW AT 7.5 POUNDS PER 1000 SQUARE FEET, AND ANCHOR THE MULCH WITH PLASTIC NETTING. MONITOR GROWTH OF THE RYE OVER THE NEXT 30 DAYS. IF THE RYE FAILS TO GROW AT LEAST THREE INCHES OR FAILS TO COVER AT LEAST 50% OF THE DISTURBED SLOPE BEFORE NOVEMBER 1, THEN MULCH THE AREA FOR OVER-WINTER PROTECTION AS DESCRIBED BELOW.
 - B. STABILIZE THE SOIL WITH SOD:
THE DISTURBED SLOPE MUST BE STABILIZED WITH PROPERLY INSTALLED SOD BY OCTOBER 1. PROPER INSTALLATION INCLUDES PINNING THE SOD ONTO THE SOIL WITH WIRE PINS, ROLLING THE SOD TO GUARANTEE CONTACT BETWEEN THE SOD AND UNDERLYING SOIL, AND WATERING THE SOD TO PROMOTE ROOT GROWTH INTO THE DISTURBED SOIL.
 - C. STABILIZE THE SOIL WITH MULCH:
BY NOVEMBER 15, MULCH THE DISTURBED SOIL BY SPREADING HAY OR STRAW AT A RATE OF AT LEAST 10 POUNDS PER 1000 SQUARE FEET ON THE AREA SO THAT NO SOIL IS VISIBLE THROUGH THE MULCH. IMMEDIATELY AFTER APPLYING THE MULCH, ANCHOR THE MULCH WITH PLASTIC NETTING TO PREVENT WIND FROM MOVING THE MULCH OFF THE DISTURBED SOIL.
5. MAINTENANCE:
IF AN INSPECTION DETERMINES THAT A CORRECTIVE ACTION IS REQUIRED, THE ACTION OR REPAIR SHALL BE STARTED BY THE END OF THE NEXT WORKDAY AND COMPLETED WITHIN SEVEN DAYS OR BEFORE THE NEXT STORM EVENT. MAINTENANCE MEASURES SHALL BE APPLIED FOLLOWING THE ENTIRE CONSTRUCTION SEASON. ONCE A WEEK AND BEFORE AND AFTER EACH RAINFALL, SNOW STORM OR PERIOD OF THAWING AND RUNOFF, THE SITE CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF EROSION CONTROL MEASURES AND REPAIRS AS NEEDED TO INSURE THEIR CONTINUOUS FUNCTION. FOLLOWING THE TEMPORARY AND/OR FINAL SEEDING AND MULCHING, THE CONTRACTOR SHALL INSPECT, REPAIR AND REPAIR ANY DAMAGES AND/OR BARE SPOTS. AN ESTABLISHED VEGETATIVE COVER MEANS A MINIMUM OF 65 TO 80% OF AREAS VEGETATED WITH WINDROW GRASS.
- STABILIZATION SCHEDULE BEFORE WINTER:
- SEPTEMBER 15
ALL DISTURBED AREAS MUST BE SEEDING AND MULCHED.
ALL SLOPES MUST BE STABILIZED, SEEDING AND MULCHED.
ALL GRASS LINED DITCHES AND CHANNELS MUST BE STABILIZED WITH MULCH OR AN EROSION CONTROL BLANKET.
- OCTOBER 1
IF THE SLOPE IS STABILIZED WITH AN EROSION CONTROL BLANKET AND SEEDING, ALL DISTURBED AREAS TO BE PROTECTED WITH AN ANNUAL GRASS MUST BE SEEDING AT A SEEDING RATE OF 3 POUNDS PER 1000 SQUARE FEET AND MULCHING PRIOR TO PLACEMENT.
- NOVEMBER 15
ALL STONE LINED DITCHES AND CHANNELS MUST BE CONSTRUCTED AND STABILIZED.
SLOPES THAT ARE COVERED WITH RIPRAP MUST BE CONSTRUCTED BY THIS DATE.
6. DURING WINTER CONSTRUCTION PERIOD ALL SNOW SHALL BE REMOVED FROM AREAS OF SEEDING AND MULCHING PRIOR TO PLACEMENT.
- AREAS WITHIN 75 FEET OF STREAMS, WETLANDS, AND OTHER PROTECTED NATURAL RESOURCES THAT ARE NOT STABILIZED WITH VEGETATION BY DEC. 1 SHALL BE MULCHED AND ANCHORED WITH NETTING. IF WORK CONTINUES IN THIS AREA DURING THE WINTER, A DOUBLE LINE OF SEDIMENT BARRIERS MUST BE USED.

- HOUSEKEEPING:
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, CONTAMINANT, 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 CONTAMINANT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.
 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. ANY OFFSITE TRACKING OF MUD OR SEDIMENT SHALL BE VACUUMED IMMEDIATELY AND PRIOR TO THE NEXT SIGNIFICANT STORM EVENT.
 4. DEBRIS AND OTHER MATERIALS, LITTER, CONSTRUCTION DEBRIS, AND CHEMICALS EXPOSED TO STORMWATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.
 5. TRENCH OR FOUNDATION DE-WATERING, TRENCH DE-WATERING IS THE REMOVAL OF WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, POUNDS, AND OTHER AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED AND HINDERS CORRECT SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER MUST BE REMOVED FROM THE POUND 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 AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE. EQUIPMENT MEASURES MAY BE TAKEN IF APPROVED BY THE DEPARTMENT.
 6. NON-STORMWATER DISCHARGES, IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES, WHERE ALLOWED. NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED NON-STORMWATER DISCHARGES ARE:
 - DISCHARGES FROM FIREFIGHTING ACTIVITY;
 - FIRE HYDRANT FLUSHINGS;
 - VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE AND TRANSMISSION WASHING IS PROHIBITED);
 - DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS AND APPENDIX C(3);
 - ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL THAT DOES NOT INVOLVE DETERGENTS;
 - PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED;
 - UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE;
 - UNCONTAMINATED GROUNDWATER OR SPRING WATER;
 - FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT CONTAMINATED;
 - UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN APPENDIX C(5));
 - POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND
 - LANDSCAPE IRRIGATION.
 7. UNAUTHORIZED NON-STORMWATER DISCHARGES, THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE THAT IS MIXED WITH A SOURCE OF NON STORMWATER, OTHER THAN THOSE DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE FOLLOWING:
 - WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CONSTRUCTION MATERIALS;
 - FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE;
 - SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND EQUIPMENT WASHING; AND
 - TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER RELEASE.
 8. ADDITIONAL REQUIREMENTS, ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.



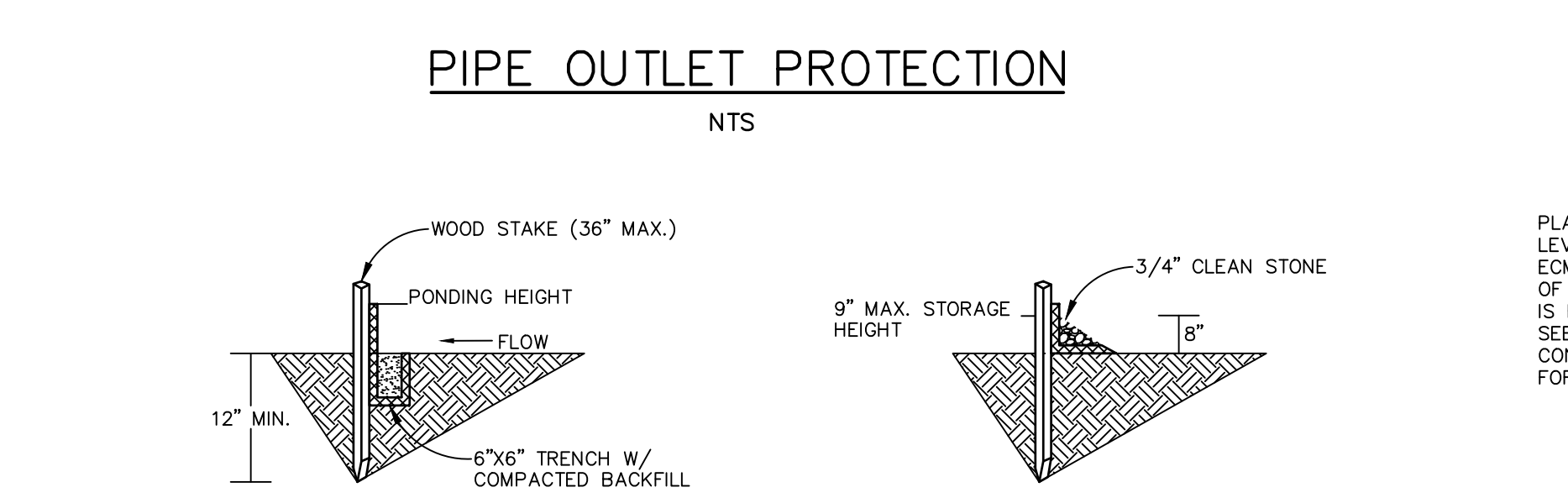
LOW POINT SEDIMENT CONTROL BARRIER

N.T.S.



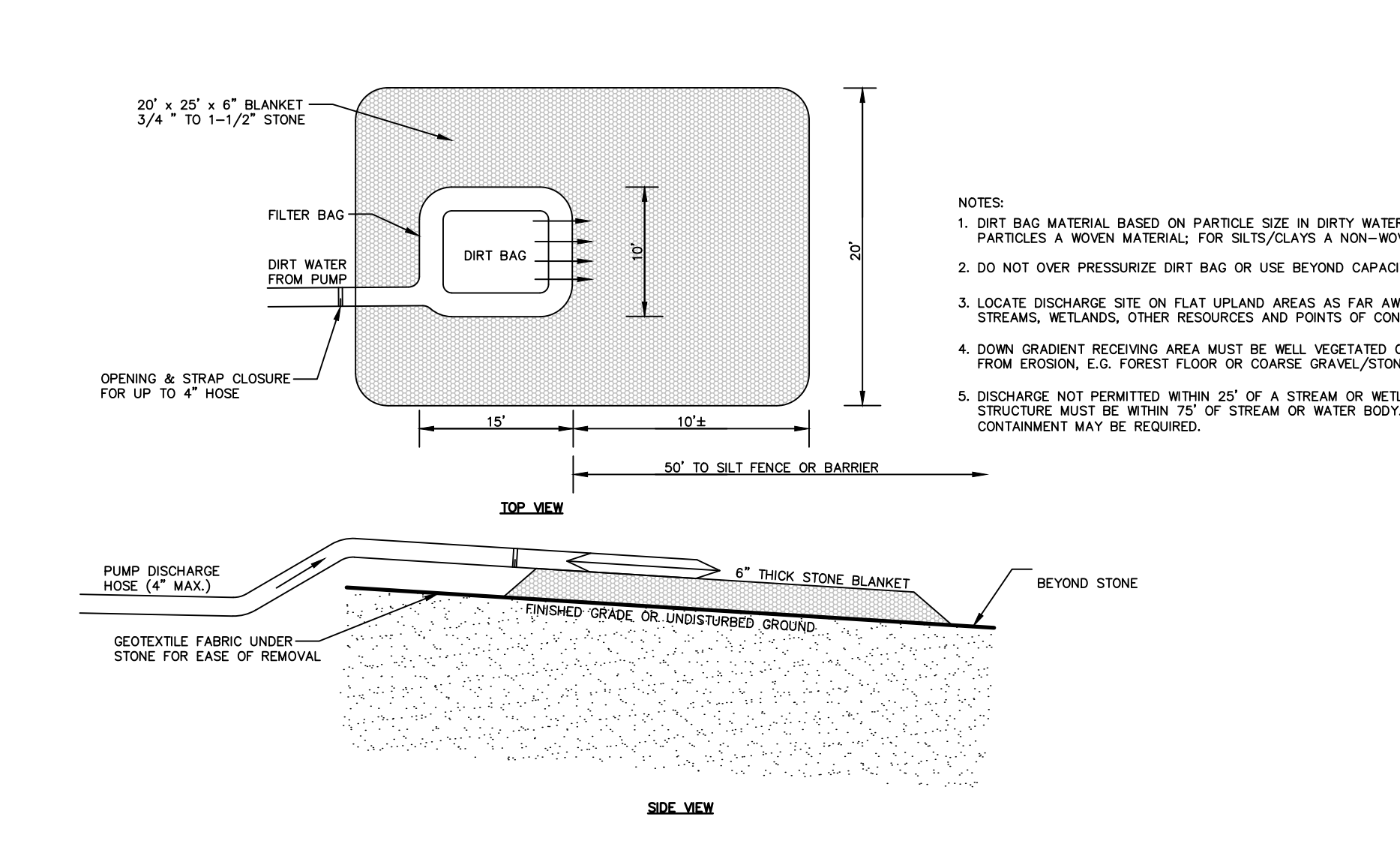
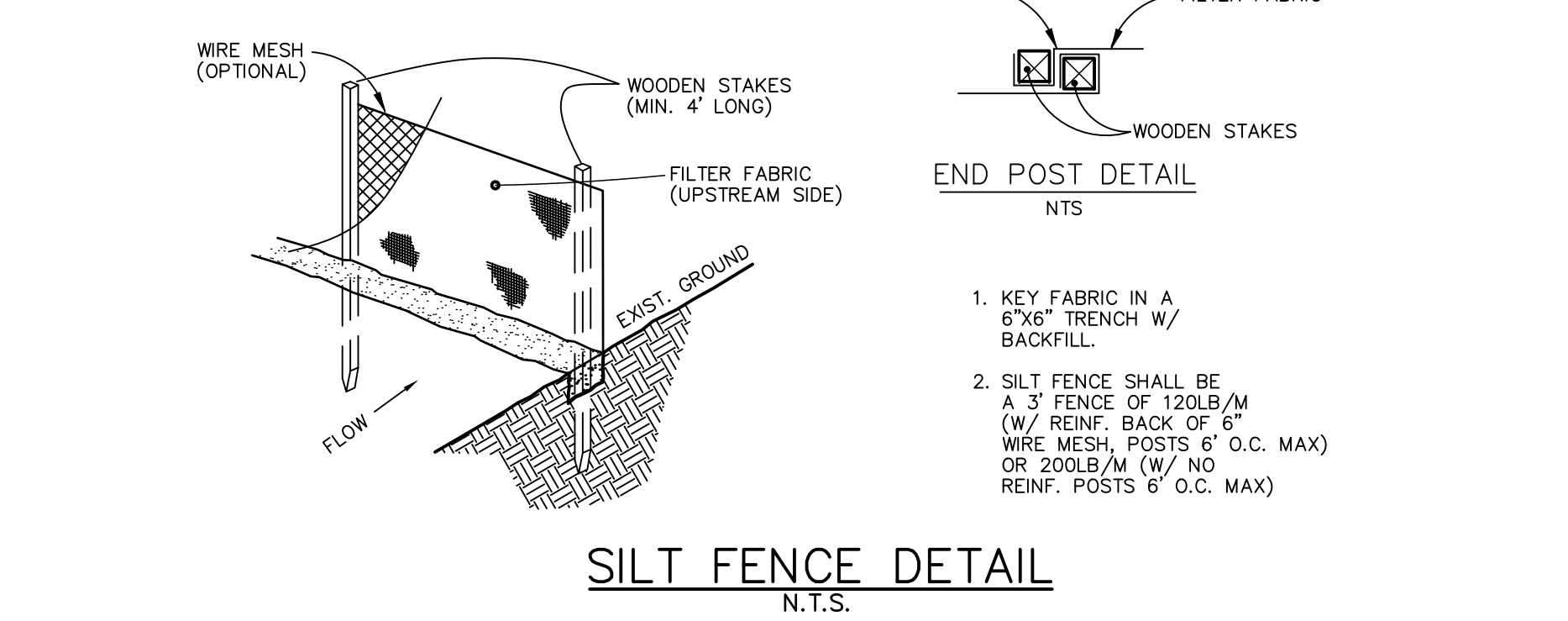
PIPE OUTLET PROTECTION

N.T.S.



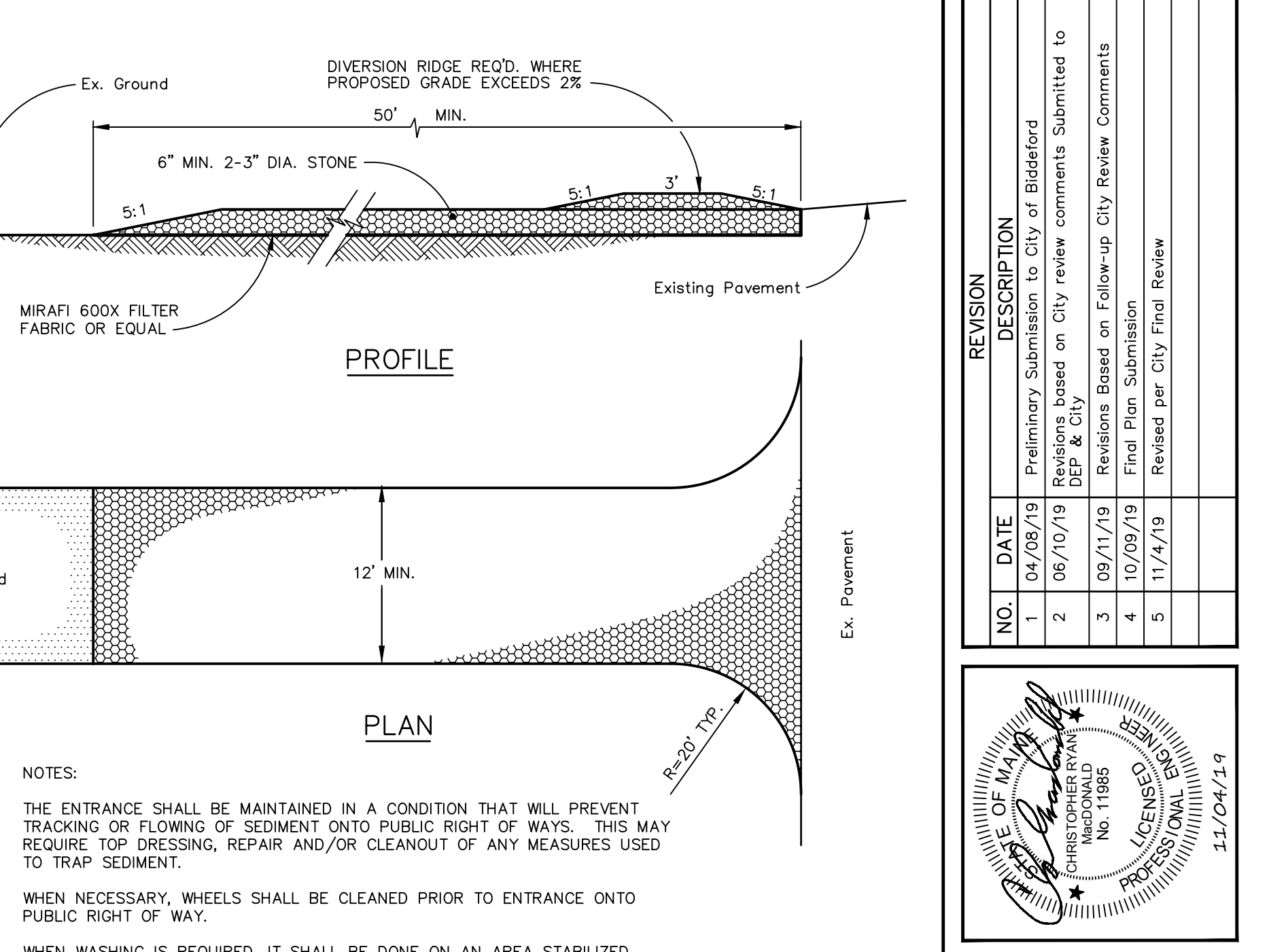
SILT FENCE DETAIL

N.T.S.



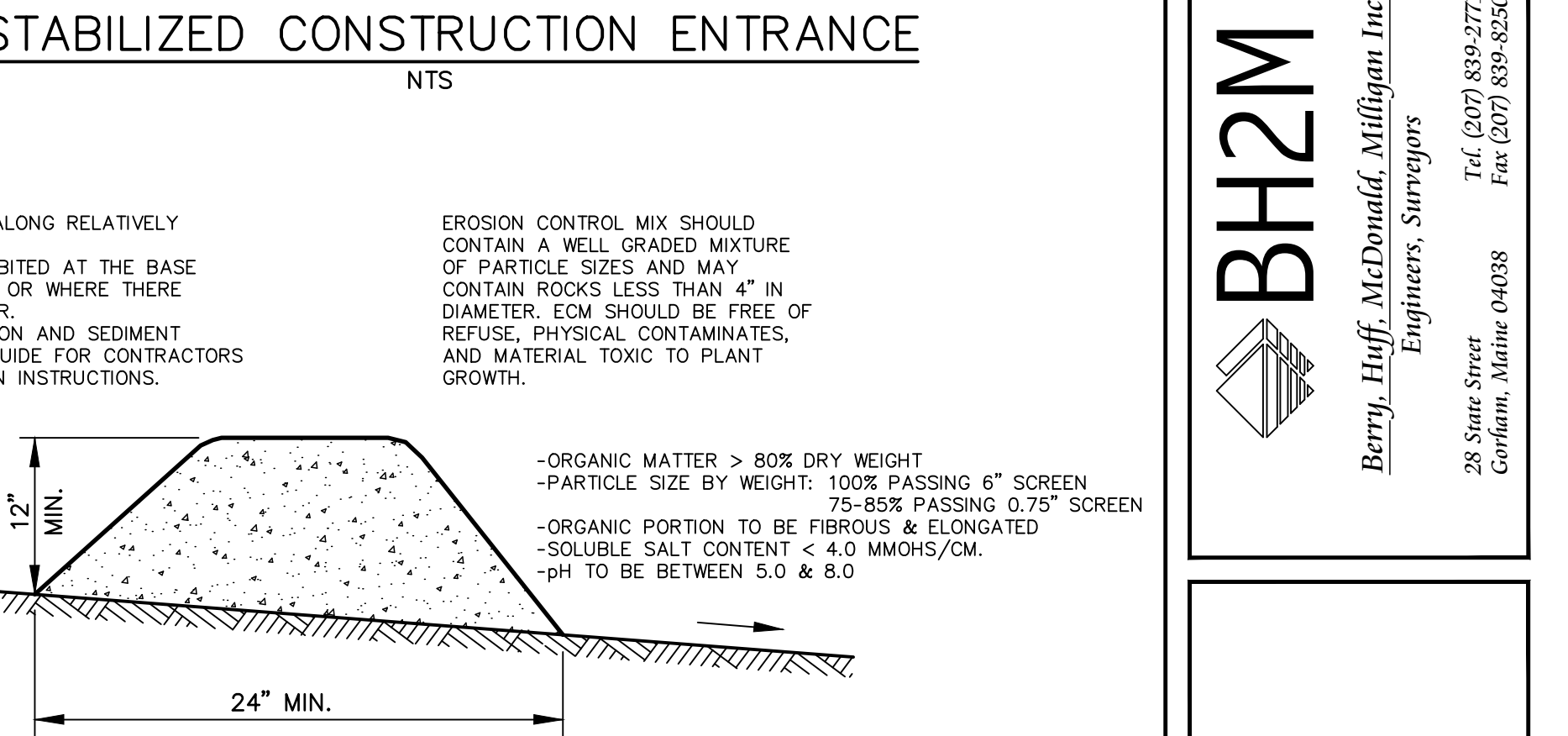
PUMPED DISCHARGE SEDIMENT CONTROL DEVICE ("DIRT BAG")

N.T.S.



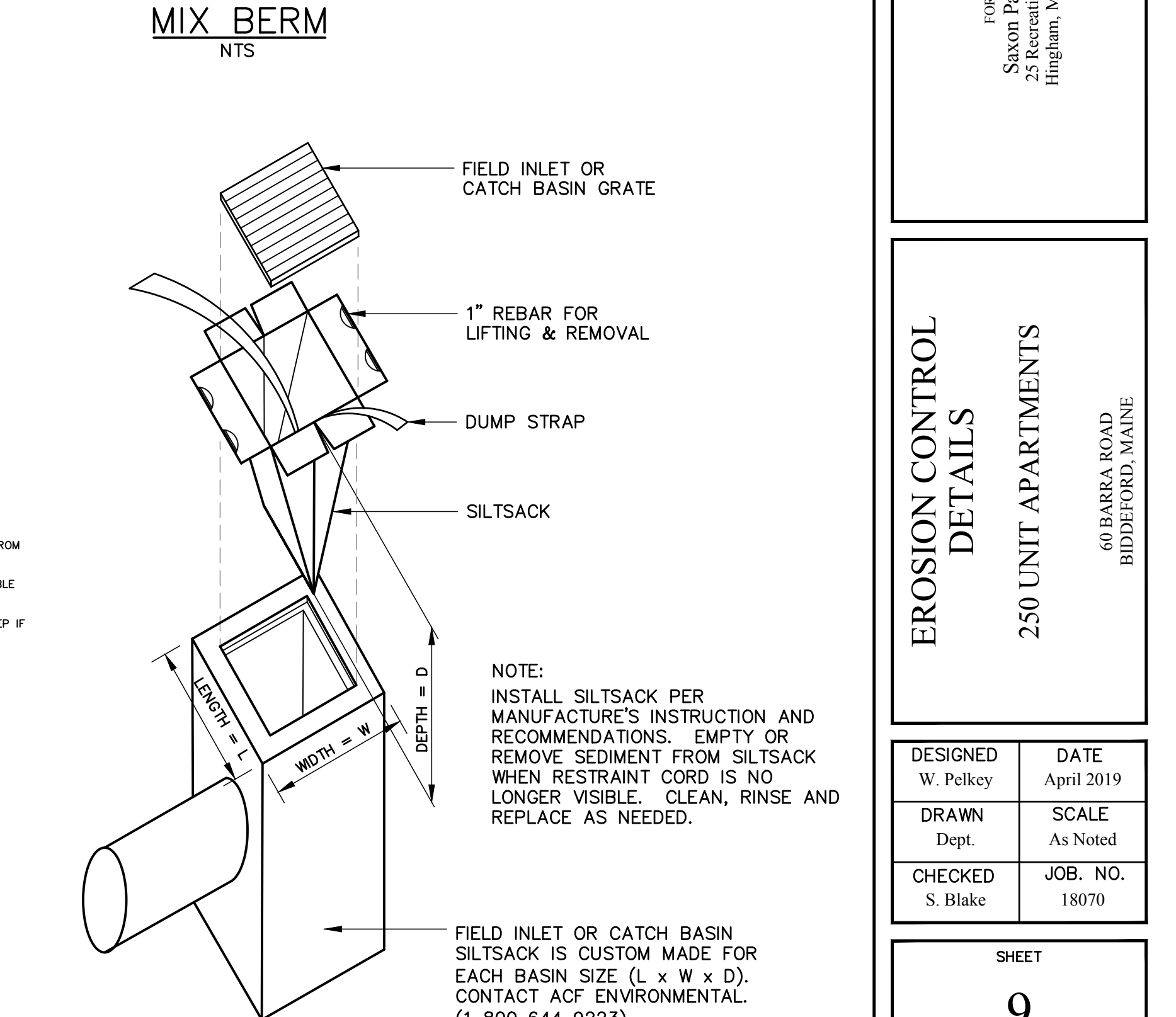
STABILIZED CONSTRUCTION ENTRANCE

N.T.S.



EROSION CONTROL MIX BERM

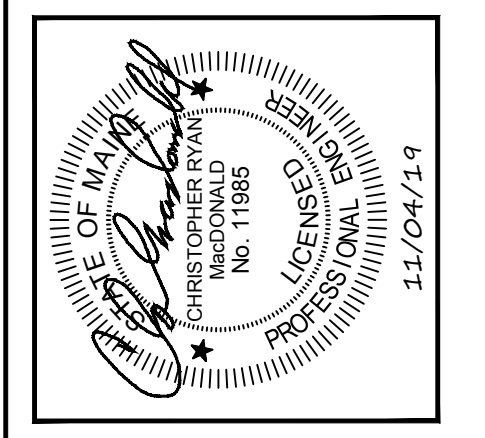
N.T.S.



SILTSACK INLET SEDIMENT CONTROL DEVICE

N.T.S.

NO.	DATE	DESCRIPTION
1	04/08/19	Preliminary Submission to City of Biddeford
2	06/10/19	Revisions based on City review comments Submitted to DEP & City
3	09/11/19	Revisions Based on Follow-up City Review Comments
4	10/09/19	Final Plan Submission
5	11/14/19	Revised per City Final Review



BH2M

Berry, Huff, McDonald, Milligan, Inc.
Engineers, Surveyors

28 State Street
Biddeford, Maine 04005

Tel: (207) 859-9771
Fax: (207) 859-8250

FOR
Sutton Partners
23 Recreation Drive
Hingham, MA 02043

EROSION CONTROL DETAILS

250 UNIT APARTMENTS

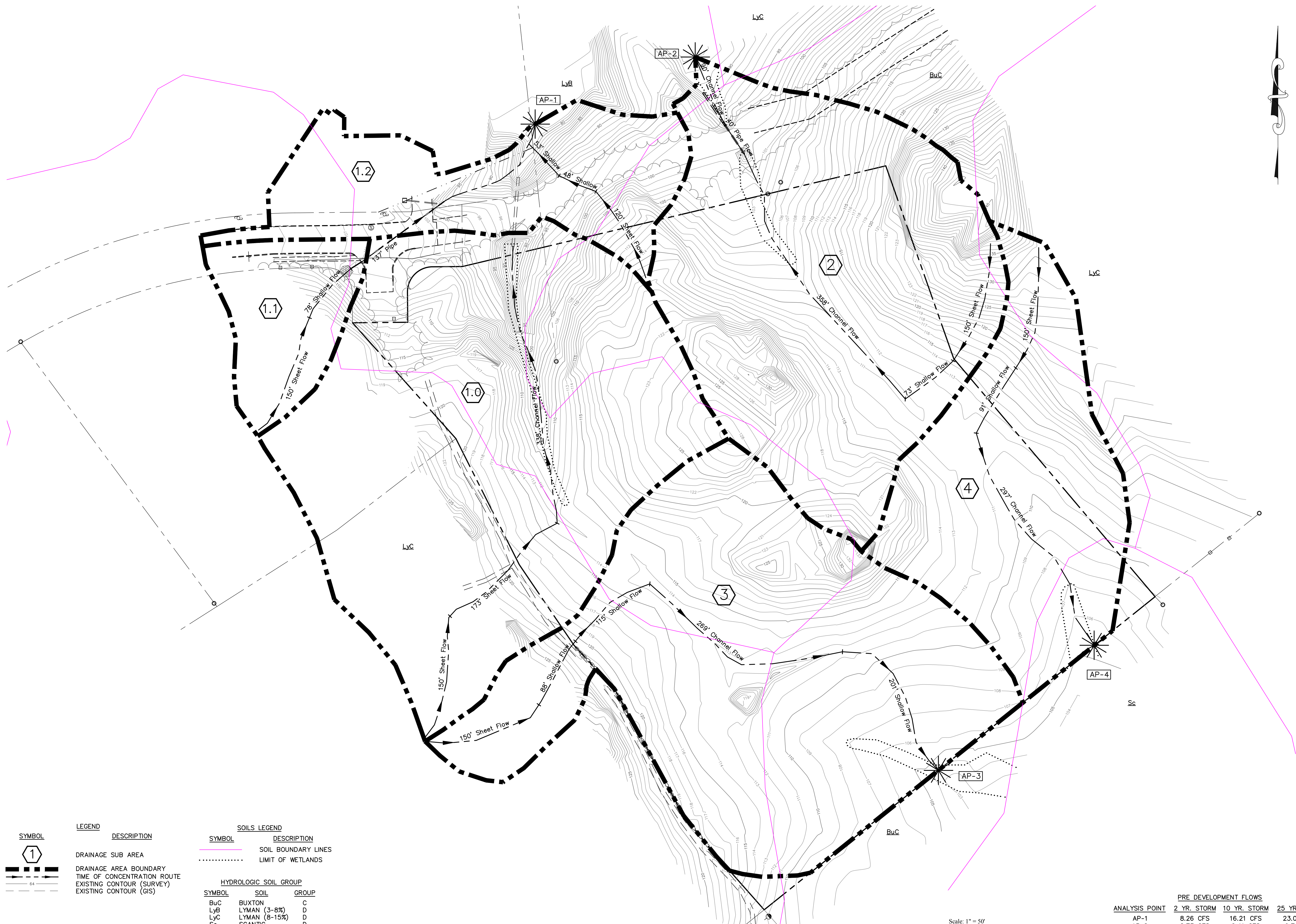
60 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED	DATE
W. Pelkey	April 2019
DRAWN	SCALE
Dept.	As Noted
CHECKED	JOB. NO.
S. Blake	18070

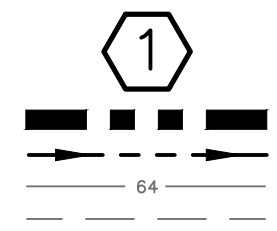
SHEET

9

REPRODUCTION OR REUSE OF THIS DOCUMENT WITHOUT THE EXPRESSED WRITTEN CONSENT OF BH2M INC. IS PROHIBITED



SYMBOL



LEGEND

DESCRIPTION

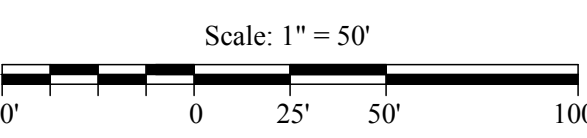
DRAINAGE SUB AREA
DRAINAGE AREA BOUNDARY
TIME OF CONCENTRATION ROUTE
EXISTING CONTOUR (SURVEY)
EXISTING CONTOUR (GIS)

SOILS LEGEND

SYMBOL DESCRIPTION
SOIL BOUNDARY LINES
LIMIT OF WETLANDS

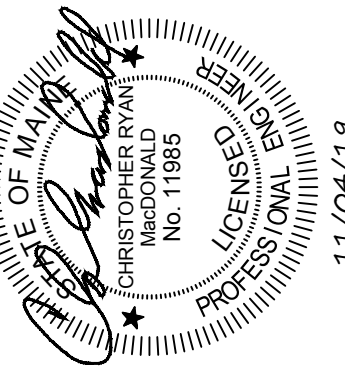
HYDROLOGIC SOIL GROUP

SYMBOL	SOIL	GROUP
BuC	BUXTON	C
LyB	LYMAN (3-8%)	D
LyC	LYMAN (8-15%)	D
Sc	SCANTIC	D



ANALYSIS POINT	PRE-DEVELOPMENT FLOWS		
	2 YR. STORM	10 YR. STORM	25 YR. STORM
AP-1	8.26 CFS	16.21 CFS	23.03 CFS
AP-2	2.73 CFS	6.41 CFS	9.76 CFS
AP-3	3.39 CFS	7.33 CFS	10.84 CFS
AP-4	1.63 CFS	3.70 CFS	5.57 CFS

NO.	DATE	REVISION DESCRIPTION
1	04/08/19	Preliminary Submission to City of Biddeford
2	06/10/19	Revisions based on City review comments Submitted to DEP & City
3	09/11/19	Revisions Based on Follow-up City Review Comments
4	10/09/19	Final Plan Submission
5	11/14/19	Revised per City Final Review



BH2M
Engineers, Surveyors
Berry, Huff, MacDonald, Milligan Inc.
28 State Street
Gorham, Maine 04038
Tel: (207) 839-2771
Fax: (207) 839-8250

FOR
Saxon Partners
23 Recreation Drive
Hingham, MA 02043

PRE-DEVELOPMENT
DRAINAGE PLAN
250 UNIT APARTMENTS
60 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED C. MacDonald	DATE April 2019
DRAWN Dept.	SCALE As Noted
CHECKED S. Blake	JOB. NO. 18070

SHEET
A

REPRODUCTION OR REUSE OF THIS DOCUMENT WITHOUT THE EXPRESSED WRITTEN CONSENT OF BH2M INC. IS PROHIBITED



SYMBOL

1

LEGEND

DESCRIPTION

DRAINAGE SUB AREA

DRAINAGE AREA BOUNDARY

TIME OF CONCENTRATION ROUTE

EXISTING CONTOUR (SURVEY)

EXISTING CONTOUR (GIS)

SOILS LEGEND

SYMBOL

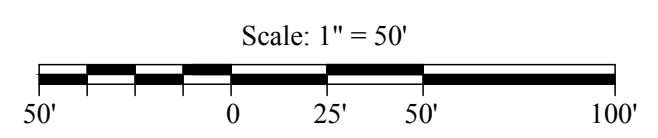
DESCRIPTION

SOIL BOUNDARY LINES

LIMIT OF WETLANDS

HYDROLOGIC SOIL GROUP

SYMBOL	SOIL	GROUP
BuC	BUXTON	C
LyB	LYMAN (3-8%)	D
LyC	LYMAN (8-15%)	D
Sc	SCANTIC	D



ANALYSIS POINT	POST DEVELOPMENT FLOWS		
	2 YR. STORM	10 YR. STORM	25 YR. STORM
AP-1	6.98 CFS	15.99 CFS	22.91 CFS
AP-2	0.93 CFS	3.06 CFS	4.55 CFS
AP-3	0.84 CFS	2.28 CFS	10.45 CFS
AP-4	1.62 CFS	3.59 CFS	5.38 CFS

REVISION

NO.	DATE	DESCRIPTION
1	04/08/19	Preliminary Submission to City of Biddeford
2	06/10/19	Revisions based on City review comments Submitted to DEP & City
3	09/11/19	Revisions Based on Follow-up City Review Comments
4	10/09/19	Final Plan Submission
5	11/4/19	Revised per City Final Review

STATE OF MAINE

Professional Seal

BERNARD J. HUFF

Professional Engineer

No. 11885

11/04/2019

BH2M

Berry, Huff, MacDonald, Milligan Inc.

Engineers, Surveyors

28 State Street
Gorham, Maine 04038

Tel: (207) 839-2771
Fax: (207) 839-8250

FOR

Saxon Partners

23 Recreation Drive
Hingham, MA 02043

POST-DEVELOPMENT DRAINAGE PLAN

250 UNIT APARTMENTS

60 BARRA ROAD
BIDDEFORD, MAINE

DESIGNED C. MacDonald	DATE April 2019
DRAWN Dept.	SCALE As Noted
CHECKED S. Blake	JOB. NO. 18070

SHEET

B

REPRODUCTION OR REUSE OF THIS DOCUMENT WITHOUT THE EXPRESSED WRITTEN CONSENT OF BH2M INC. IS PROHIBITED



LANDSCAPE PLAN - SAXON PARTNERS - BARRA ROAD

GENERAL NOTES:

- Landscape Plan only. Developed via civil drawings from BH2M, aerial map imagery, and gis data. not a substitute for a legal boundary survey by a licensed surveyor.

PARKING LOT TREE REQ:

PROPOSED PARKING AREA:	94,725 SF
94,725 / 10,890 (1/4 ACRE):	8.7 TREES

PLANT SCHEDULE

TREES					
SYMBOL	SCIENTIFIC NAME	COMMON NAME	QTY.	SIZE	DESCRIPTION
ARN	Acer rubrum 'Northwood'	Northwood Red Maple	14	2" cal.	60x40'; Full Sun, very hardy, oval crown, red fall color, seedless
CCA	Carpinus caroliniana	American Hornbeam	13	1.75" cal.	30x30'; Full to part sun, smooth bark, native, few pest problems
CTH	Chamaecyparis thyoides 'Glaucia'	Blue Coastal White Cedar	19	5-6'	Full to part sun, native, blue grey foliage
GTR	Gleditsia triacanthos var. inermis 'Skyline'	Skyline Honeylocust	5	2" cal.	45x20'; Full to part sun, very tolerant of urban stresses
PIG	Picea glauca	White Spruce	6	6-7'	Full Sun, native, good windbreak and visual screen
SHRUBS					
SYMBOL	SCIENTIFIC NAME	COMMON NAME	QTY.	SIZE	DESCRIPTION
BGM	Buxus x 'Green Mountain'	Green Mountain Boxwood	9	#3	Full to part shade; hardy
HYE	Hydrangea macrophylla 'Endless Summer' Blushing Bride	Blushing Bride Hydrangea	8	#3	Full to part sun, 3x5', pink, repeat bloomer
HYM	Hydrangea arborescens 'Invincibelle Spirit'	Invincibelle Spirit Hydrangea	9	#3	Full to part shade, 4x6', pink, repeat bloomer
JUH	Juniperus squamata 'Holger'	Holger Juniper	23	18-24"	Full Sun, 3x4', fast-growing, sparkling blue
PVN	Panicum virgatum 'Northwind'	Northwind Switch Grass	2	#2	5x2'; Full to part sun, tolerant of poor soils
RRU	Rosa rugosa 'Rubrum'	Red Rugosa Rose	16	#3	Full Sun, 6x6', pink flowers, urban tolerant
TAM	Taxus x media 'Densiformis'	Yew	60	2-2.5'	4x8'; Full Sun to Full Shade, hardy, spready, evergreen
TAH	Taxus x media 'Hicksii'	Upright Yew	19	3-3.5'	Full sun to full shade, narrow upright, dark green, very hardy
VBU	Viburnum burkwoodii	Burkwood Viburnum	43	3-4'	8x6'; Full Sun to part Shade, nearly evergreen, fragrant white flowers

KW Architects PC
PO Box 404
Wells, Maine 04090
207.332.9199
www.maine-architects.com



Saxon Partners
at
Barra Road, Biddeford, Maine

REVISIONS		
#	DATE	DESCRIPTION
A	4/9/19	PB SUBMITTAL
B	10/4/19	REV. PB SUBMITTAL

DATE:	10/4/19
PROJECT #	180906
DRAWN BY:	KLD
CHECKED BY:	-
DRAWING SCALE	1" = 30'

SHEET TITLE

Landscape Plan
Saxon Partners
at Barra Road

L1

COPYRIGHT 2015
REPRODUCTION OR REUSE OF
THIS DOCUMENT WITHOUT
THE WRITTEN PERMISSION OF
KW ARCHITECTS IS PROHIBITED

CONCEPT IMAGES:

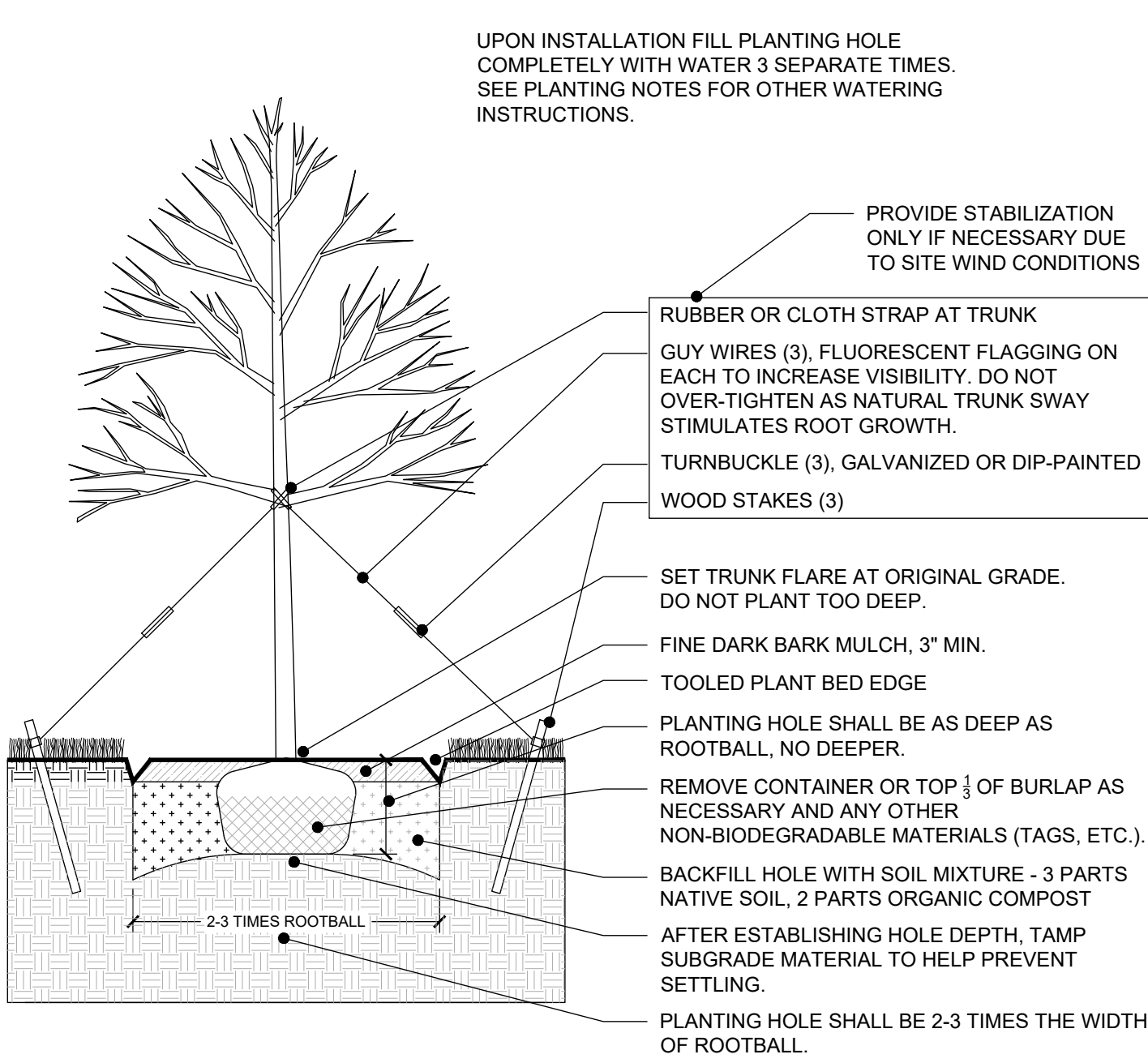
COURTYARD



FENCE



PLANTING INSTRUCTIONS:



PLANTING NOTES:

1. STREET TREES SHALL BE PLANTED 12' FROM BACK OF CURB ALONG SOUTH SIDE OF DRIVE AND 3'-6" FROM EDGE OF SIDEWALK ALONG NORTH SIDE.
2. ALL PROPOSED PLANT MATERIAL SHALL BE INSTALLED IN MULCHED BEDS WITH 3" MIN. FINE DARK BARK MULCH. IF NO PLANT BED SHOWN, PLANT SHALL RECEIVE A 4' DIAMETER MIN. PLANT BED.
3. PLANTING HOLES SHALL BE 2-3 TIMES THE WIDTH AND EQUALLY AS DEEP AS THE ROOTBALL. DO NOT BURY TRUNK FLARE.
4. ALL PLANTINGS SHALL BE BACKFILLED WITH SOIL MIXTURE THAT IS 3 PARTS NATIVE SOIL, 2 PARTS ORGANIC COMPOST.
5. WATER ALL PLANTS THOROUGHLY UPON INSTALLATION - FILL EACH PLANTING HOLE WITH WATER THREE (3) TIMES. DURING THE ESTABLISHMENT PERIOD, CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE WATER FOR ALL INSTALLED PLANTS FOR A MINIMUM OF 2 WEEKS.
6. CONTRACTOR SHALL PROVIDE A 1 YEAR GUARANTEE FOR ALL PLANT MATERIAL BEGINNING AT SUBSTANTIAL COMPLETION OR SITE ACCEPTANCE.
7. SET ORANGE, POLYETHYLENE, SAFETY FENCE AT DRIP LINE (OR AS NEAR TO DRIP LINE AS CONSTRUCTION ACTIVITIES ALLOW) AROUND ALL TREES MARKED FOR PROTECTION.

PLANT IMAGES:

TREES



SHRUBS



KW Architects PC
PO Box 404
Wells, Maine 04090
207.332.9199
www.maine-architects.com



Saxon Partners
at
Barra Road, Biddeford, Maine

REVISIONS		
#	DATE	DESCRIPTION
A	4/9/19	PB SUBMITTAL
B	10/4/19	REV. PB SUBMITTAL

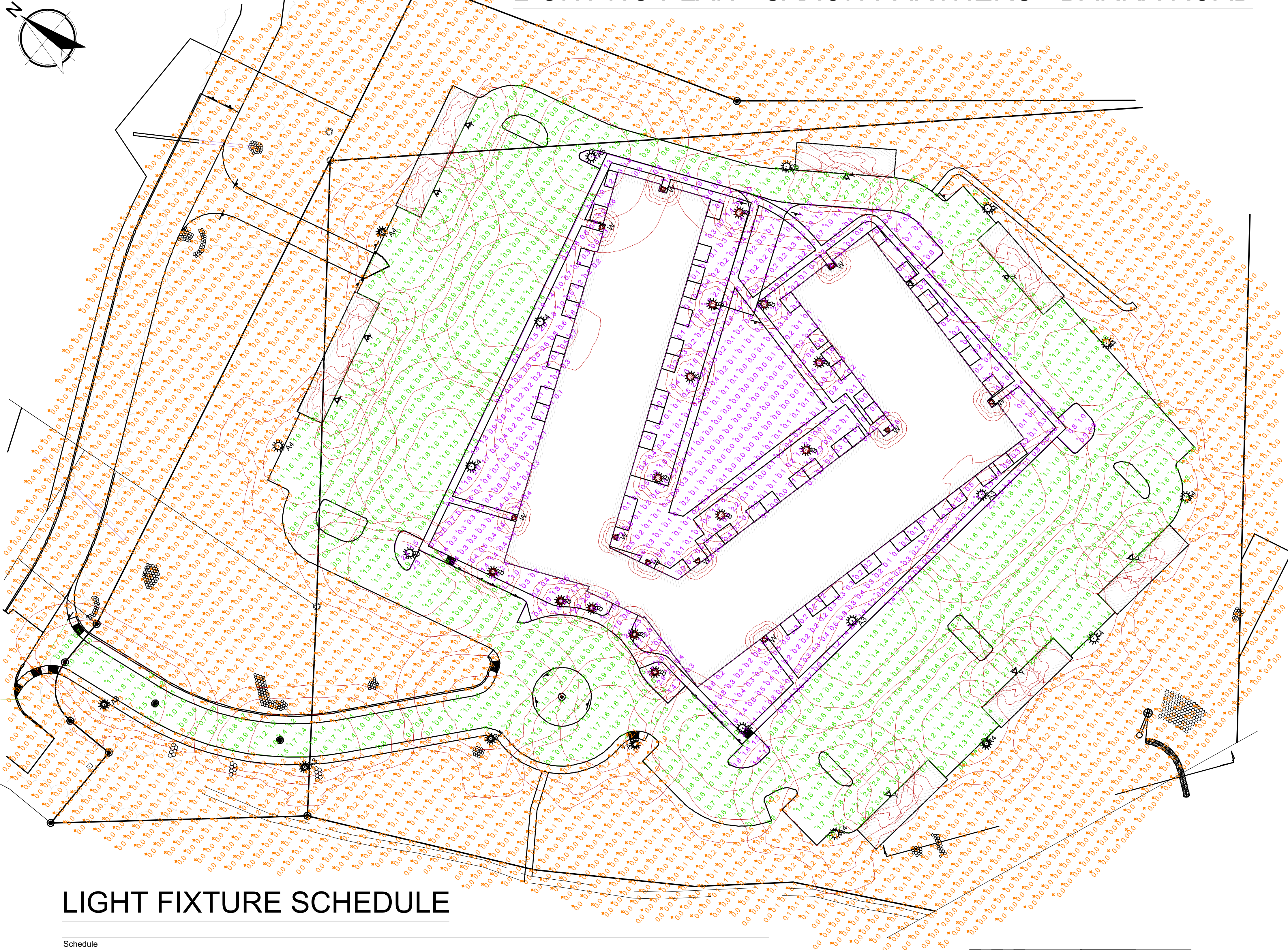
DATE:	10/4/19
PROJECT #	180906
DRAWN BY:	KLD
CHECKED BY:	-
DRAWING SCALE	N.T.S.

SHEET TITLE
Landscape Details,
Notes, & Images
Saxon Partners
at Barra Road

L2

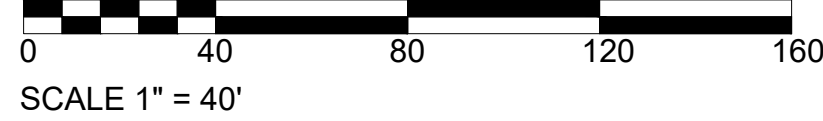
© COPYRIGHT 2015
REPRODUCTION OR REUSE OF
THIS DOCUMENT WITHOUT
WRITTEN PERMISSION OF
KW ARCHITECTS IS PROHIBITED

LIGHTING PLAN - SAXON PARTNERS - BARRA ROAD



LIGHT FIXTURE SCHEDULE

Schedule											
Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	A3	6	Lithonia Lighting	DSX0 LED P5 40K T3M MVOLT SPA DBDXD with SSS 25 4C DM19AS DBDXD	DSX0 LED Area Fixture; mounted at 25ft	LED	1	DSX0_LED_P5_4 0K_T3M_MVOLT .ies	11346	0.9	89
	A4	13	Lithonia Lighting	DSX0 LED P5 40K TFTM MVOLT SPA DBDXD with SSS 25 4C DM19AS DBDXD	DSX0 LED Area Fixture; mounted at 25ft	LED	1	DSX0_LED_P5_4 0K_TFTM_MVOLT .ies	11680	0.9	89
	A5	1	Lithonia Lighting	DSX0 LED P5 40K T5M MVOLT SPA DBDXD with SSS 25 4C DM19AS DBDXD	DSX0 LED Area Fixture; mounted at 25ft	LED	1	DSX0_LED_P5_4 0K_T5M_MVOLT .ies	12126	0.9	89
	B	13	INTRIGUE LIGHTING	LEF PT 55LED 40K D TY5 XX XXX	LARGER EUROTCH FULL CUTOFF; mounted at 12ft	LED	1	LEF-PT-70LED-WHL .ies	2037	0.67	55
	W	10	INTRIGUE LIGHTING	ET WA 19LED 40K D CA SHD XX UNV XXX	EUROTCH Wallmount; mounted at 8ft	LED	1	LEF-PT-70LED-WHL .ies	2037	0.31	19
	Y	9	Lithonia Lighting	DSXW1 LED 10C 1000 40K T3M MVOLT	DSXW1 LED WITH (1) 10 LED LIGHT ENGINES, TYPE T3M OPTIC, 4000K, @ 1000mA; mounted at 9ft	LED	1	DSXW1_LED_10 C_1000_40K_T3 M_MVOLT .ies	3873	0.9	38.8



Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Landscape Area		0.6 fc	3.3 fc	0.0 fc	N/A	N/A
Outside of Parking Lot		0.1 fc	2.3 fc	0.0 fc	N/A	N/A
Parking Lot		1.2 fc	5.4 fc	0.4 fc	13.5:1	3.0:1



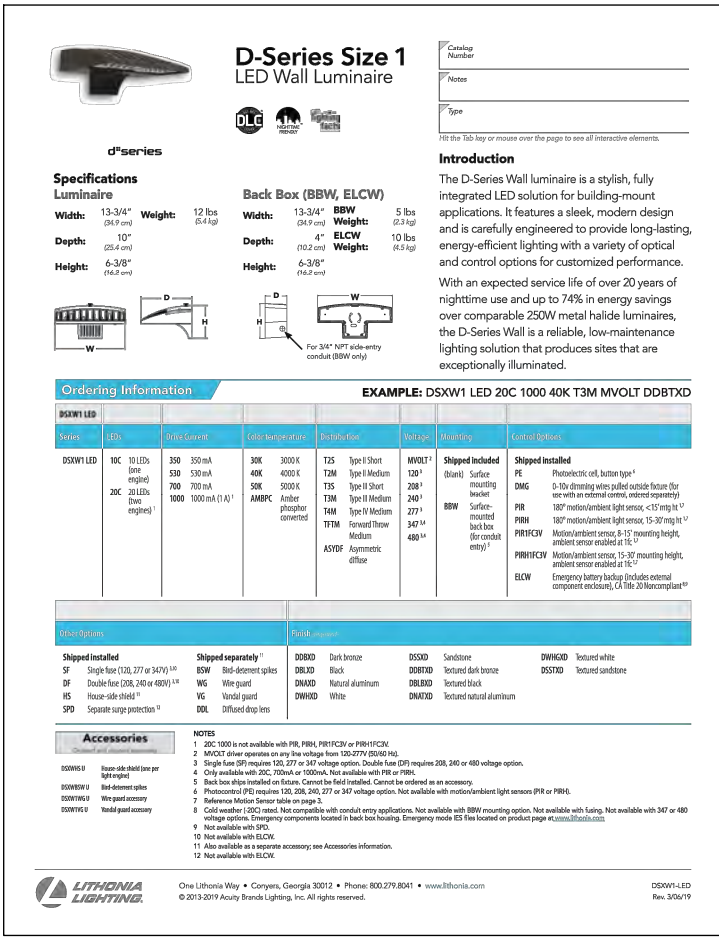
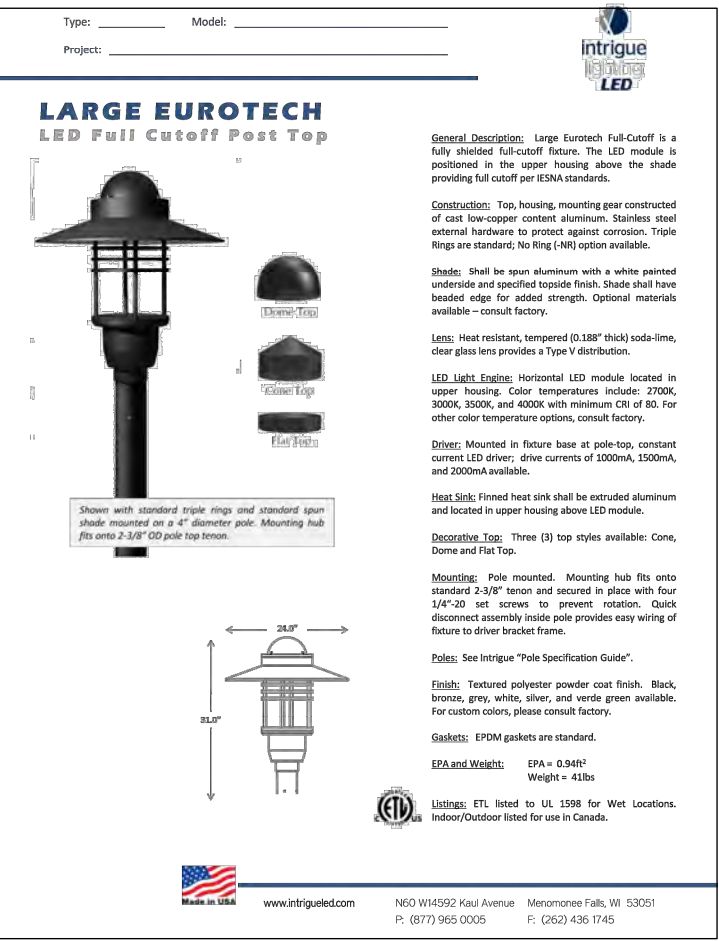
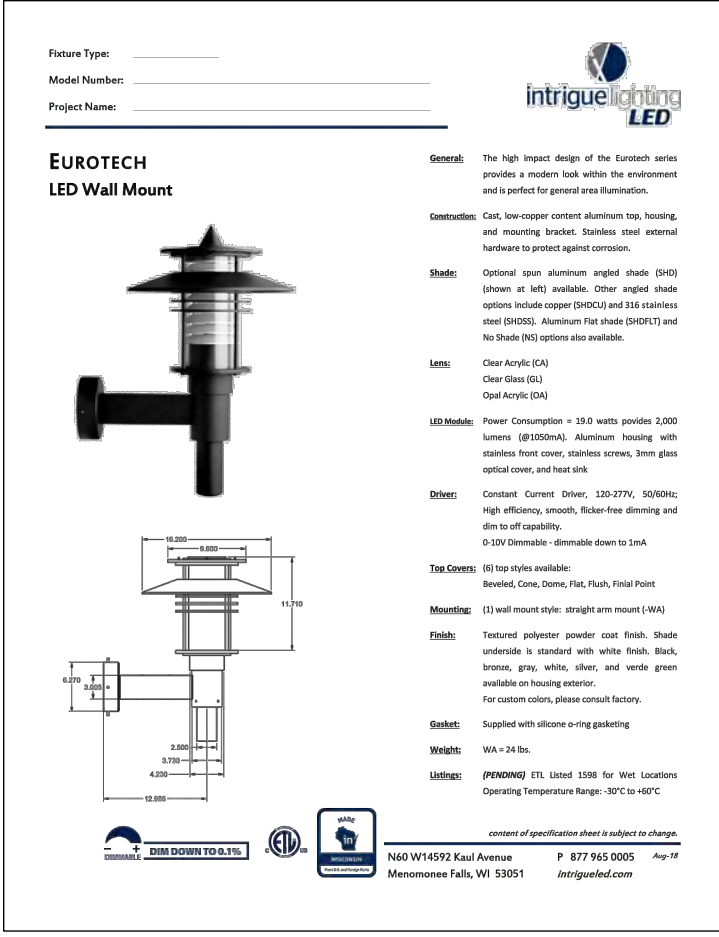
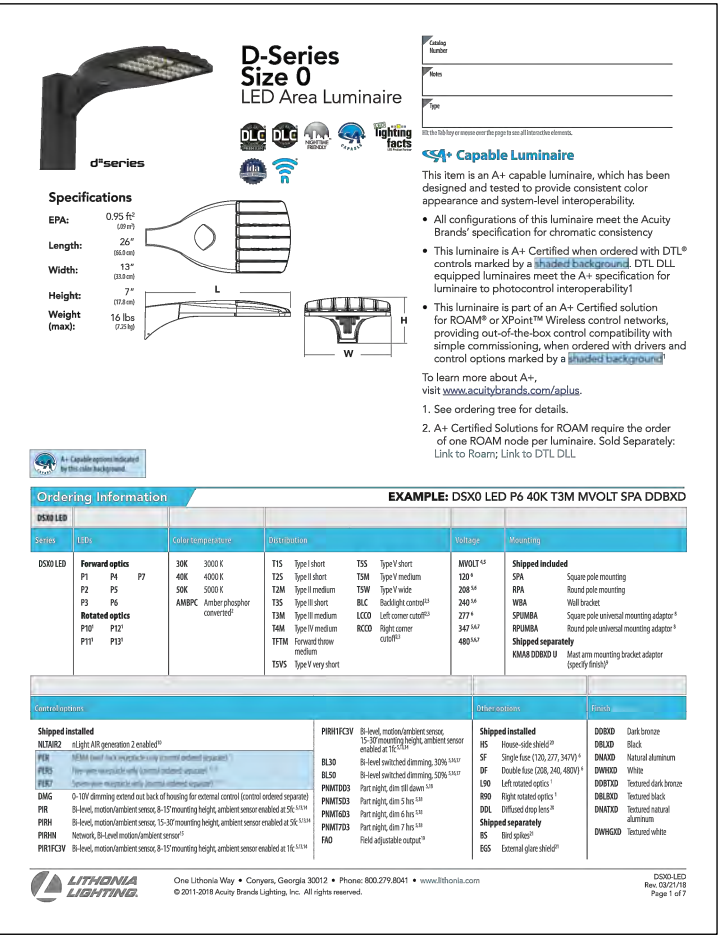
GENERAL NOTES:

- LIGHTING PLAN ONLY. DEVELOPED VIA CIVIL DRAWINGS FROM BH2M, AERIAL MAP IMAGERY, AND GIS DATA. NOT A SUBSTITUTE FOR A LEGAL BOUNDARY SURVEY BY A LICENSED SURVEYOR.
- PHOTOMETRIC AND SCHEDULE INFORMATION PROVIDED BY VISIBLE LIGHT, INC.

LIGHTING NOTES:

- REFER TO FIXTURE SCHEDULE FOR MOUNTING HEIGHTS.
- LIGHT POLE SPECIFICATION INFORMATION T.B.D. FINISH TO MATCH FIXTURE.
- ALL LIGHT POLES SHALL BE MOUNTED ON A PREFAB CONCRETE BASES WITH CONDUIT ADEQUATE FOR ELECTRICAL WIRING, DIAMETER(S) T.B.D.
- ALL 'A' FIXTURE CONCRETE BASES SHALL HAVE A 30" REVEAL AND BE SET 4' MIN. BELOW FINISHED GRADE (6'- 6" MIN. OVERALL HEIGHT).
- ALL 'B' FIXTURE CONCRETE BASES SHALL HAVE A 12" REVEAL AND BE SET 4' MIN. BELOW FINISHED GRADE (5' MIN. OVERALL HEIGHT).
- REFER TO MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION AND WIRING INFORMATION.

FIXTURE CUT SHEETS:



REVISIONS

#	DATE	DESCRIPTION
A	4/9/19	PB SUBMITTAL
B	10/4/19	REV. PB SUBMITTAL

DATE:	10/4/19
PROJECT #	180906
DRAWN BY:	KLD
CHECKED BY:	-
DRAWING SCALE	1" = 40'

SHEET TITLE

Photometrics
& Lighting Plan
Saxon Partners
at Barra Road

L3

© COPYRIGHT 2015
REPRODUCTION OR REUSE OF
THIS DOCUMENT WITHOUT
WRITTEN PERMISSION OF
KW ARCHITECTS IS PROHIBITED

KW Architects PC

PO Box 404

Wells, Maine 04090

207.332.9199

www.maine-architects.com

ARCHITECTS

Saxon Partners

at

Barra Road, Biddeford, Maine



CONCEPT RENDERING - SAXON APTS. AT BARRA ROAD

KW Architects PC
(207) 332-9199
www.maine-architects.com

ARCHITECTS

Saxon Partners
at
Barra Road, Biddeford, Maine

REVISIONS		
#	DATE	DESCRIPTION
1	4/28/19	FOR SUBMITTAL

DATE:	4/28/19
PROJECT #	100006
DRAWN BY:	KLD
CHECKED BY:	-
DRAWING SCALE	N/A

SHEET TITLE

Concept Rendering

L4



CITY OF BIDDEFORD PLANNING DEPARTMENT

Greg D. Tansley, A.I.C.P.
205 Main Street
PO Box 586
Biddeford, ME 04005
(207) 284-9115

Greg.Tansley@Biddefordmaine.org

NOTICE OF DECISION

November 12, 2019

William Thompson
BH2M Engineers
28 State Street
Gorham, ME 04038

RE: 2018.23 PUBLIC HEARING: Contract Zone and Final Subdivision Review/Site Plan Review for Mike Eon Associates, LTD and Saxon Partners to develop 250 residential rental units located off Barra Road (Tax Map 2, Lots 43-1 & 42-1, Tax Map 7, Lot 15) in the I-3 and R-3 zones.

Dear Bill,

At their meeting of November 6, 2019 the Biddeford Planning Board reviewed the Contract Zone and Final Subdivision and Site Plan for Saxon Partners for a 250-Unit Residential project at the end of Barra Road (Tax Map 2, Lots 43-1 and 42-1 and Tax Map 7, Lot 15) in the I-3 and R-3 Zones. Sawmill Park Properties owns the property and you and Mike Eon presented the application proposal to the Planning Board.

Based on the presentation and the materials submitted, the Planning Board granted the following waivers:

1. Article VI, Section 26.f., – Steep slopes greater than 3:1 and grading within 10 feet of a property line.

Following the granting of the waivers, the Planning Board approved the site plan and subdivision and approved the findings of fact conditioned on the following:

1. **Prior to any ground disturbance or issuance of any permits:**
 - a. The applicant must submit a recorded copy of the Notice of Decision for the subdivision/site plan approval to the Planning Office.
 - b. A stormwater mitigation fee of \$XXX,XXX (in an amount to be determined by the Planning Department) shall be paid to the Planning Department based on the Maine DEP Site Location of Development Act Urban Impaired Stream Compensation Fee Maine DEP Chapter 501 SS 3.A.{1}

- c. A pre-construction meeting with the contractor needs to be held with the Engineering Office to discuss inspection requirements.
 - d. A copy of all required Maine DEP and Maine DOT Permits must be submitted to the Planning Department.
 - e. An Erosion and Sedimentation Control Performance Guarantee (acceptable to the Planning Department) in the amount of \$235,774.50 (10% of 150% of total estimated site improvements cost) an amount to be determined by the Planning Department) shall be submitted to the Planning Department.
 - f. Salt Management Plan to be provided for review and approval by the Planning Department.
2. Prior to issuance of any occupancy permits:
 - a. A compliance inspection needs to occur by the Engineering Department to determine that all site improvements as shown on the submitted plan were constructed in accordance with the approved plans.
 - b. A performance guarantee (acceptable to the Engineering Department) in the amount of 150% of any remaining site improvements shall be submitted to the Planning Department. Amount to be determined based on City inspections and the recommendation of the City Engineer. With no improvements completed, the estimated cost of improvements would be \$1,571,830.00 requiring a Performance Guarantee of \$2,357,745.00.
 2. Prior to commencing any work in the City Right-of-Way the applicant must obtain a road-opening permit from the Public Works Department.
 3. No trash is permitted to be placed at the curb for City pickup. Trash pickup and disposal, for all units associated with this approval or previous approvals, is the responsibility of the applicant.
 4. Best management practices shall be adhered to during all ground disturbance operations. All Catch Basin's in the vicinity of earthwork operations shall have silt sacks installed & maintained for the duration of the work.
 5. All erosion and sediment control measures need to be installed. Applicant shall notify the Engineering Department once installed so that Staff may inspect said installation, as necessary.
 6. The applicant shall obtain all other pertinent local, state and federal permits, licenses, and insurance such as blasting, building, electrical, plumbing, etc., prior to commencing business, unless authority issuing said permit allows for such actions.
 7. Once completed, as-built drawings of the site shall be provided to the Planning Department.
 8. Upon completion of the work the project engineer shall certify that the project has been completed as per the approved plans or shall note any deviations from the approved plans.
 9. Standard Conditions of Approval apply.
 10. This approval is conditioned upon approval of a Contract Zone by the Biddeford City Council.

The Planning Board Site Plan approval shall be valid for one (1) year from the date of said approval. If a building permit has not been issued within one (1) year, then said approval shall become automatically null and void.

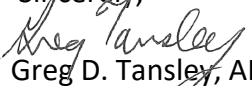
The final approval of the subdivision plan shall be valid for a period of two years. If within that time period, proposed infrastructure improvements, such as roadways, sewer or and water lines, are not completed in such a manner as to serve, or service, 75 percent of the lots/units approved, approval for lots/units not served or serviced, by the existing in-place improvements shall be voided and no permits shall be issued for such lots/units not serviced.

NOTE: A Public Hearing is scheduled for November 20 in order for the Planning Board to make a recommendation to the City Council regarding the Contract Zone.

Appeals of the Planning Board's decision may be made as per the Biddeford Revised Code of Ordinances.

Please contact us at 284-9115 if you have any questions.

FOR THE BIDDEFORD PLANNING BOARD

Sincerely,

Greg D. Tansley, AICP
City Planner

Cc: M. Eon, Mike Eon Associates, Ltd. (via e-mail)
T. Milligan, P.E., City Engineer (via e-mail)
R. Fecteau, Code Enforcement Officer (via e-mail)
T. Saucier, P.E., Site Design Associates (via e-mail)
File



CITY OF BIDDEFORD

PLANNING DEPARTMENT

Greg D. Tansley, A.I.C.P.
205 Main Street
PO Box 586
Biddeford, ME 04005
(207) 284-9115

Greg.Tansley@Biddefordmaine.org

Standard Conditions of Approval

Owner/Applicant: Saxon Partners
25 Recreation Drive
Hingham, MA 02043

Project Description: 250-Unit Residential Development

Project Location: Off Barra Road

Tax Map / Lot Number: Tax Map 2, Lot 43-1; Tax Map 2, Lot 42-1; and Tax Map 7, Lot 15

Project ID: 2018.23

1. The material provided for the proposed project has been reviewed only for general conformance to the City technical requirements. The applicant(s) and/or their technical consultant shall be responsible for the actual design details and completeness of their work. It is incumbent upon the applicant(s) to ensure that the project is in conformance and complies with all City Codes, ordinances and regulations as well as with all state regulations, including, but not limited to, space and bulk standards, performance standards, use standards and other zoning type requirements.
2. All work shall be in conformance with the approved plans and submission documents. No deviations from the approved plans are permitted without prior approval from the Planning Board for major changes, and from the City Planner and City Engineer for minor changes. The City Planner shall make the determination of major or minor.
3. If Site Development is required as part of the project, a Letter of Credit or other surety acceptable to the City of Biddeford shall be submitted prior to the issuance of permits or site work being initiated. The financial guarantee shall be established for 150% of the cost of the remaining project improvements. (Items include but are not limited to the following):
 - a. Landscaping
 - b. Paving
 - c. Work within ROW (existing or proposed)
 - d. Drainage

- e. Loam & seed
 - f. Sediment & erosion control
 - g. As-builts
 - h. Monuments
4. Prior to any ground disturbance, the applicant shall establish a construction inspection account equal to: \$3,000 PAID.
 5. Prior to any ground disturbance, a pre-construction meeting with the owner/applicant, contractor, and City is required. Contact the Engineering Department to schedule this meeting.
 6. Contact the Department of Public Works for driveway location permits, curb cut permits and/or street opening permits prior to the start of construction.
 7. If Site Development is required as part of the project, an as-built plan must be provided to the City of Biddeford Engineering Office at the end of the project on mylar and on a disk, in a format, which can be read by the City of Biddeford's Geographic Information System software. If a disk copy cannot be provided, a charge for staff time to enter the plan into the City system will be assessed to the applicant.
 8. The applicant shall incorporate appropriate erosion control measures into this project to reduce erosion affects from the work. All disturbed areas must be re-vegetated and/or otherwise stabilized at the appropriate stage of the work per Maine DEP standards in the Best Management Practice (BMP) manual.
 9. That the Article VI Performance Standards requirements regarding Dust, Fumes, Vapors & Gases (sect 25), Explosive Materials (sect 28), Glare (sect 37), Noise (sect 48) be followed.
 10. The applicant is required to comply with all applicable requirements of Chapter 70 (Utilities) and Chapter 71 (Utilities/Industrial Pretreatment Program).
 11. The applicant shall obtain all other pertinent local, state and federal permits, licenses, and insurance such as blasting, building, electrical, plumbing, etc prior to commencing business.
 12. If Site Development is required as part of the project, at the completion of the project the owner/applicant shall request a final inspection. This request shall be directed to the Planning Office. Performance Guarantees and remaining escrow accounts shall not be released until the Planning Office certifies that the project has been completed and is in compliance with the approval and all applicable City Ordinances.