


# TOWN OF FREEPORT

## WEST STREET CULVERT REPLACEMENT

### FREEPORT, MAINE

**OWNER:**  
**TOWN OF FREEPORT**  
30 MAIN STREET  
FREEPORT, MAINE  
04032

**CIVIL ENGINEERING & PERMITTING:**

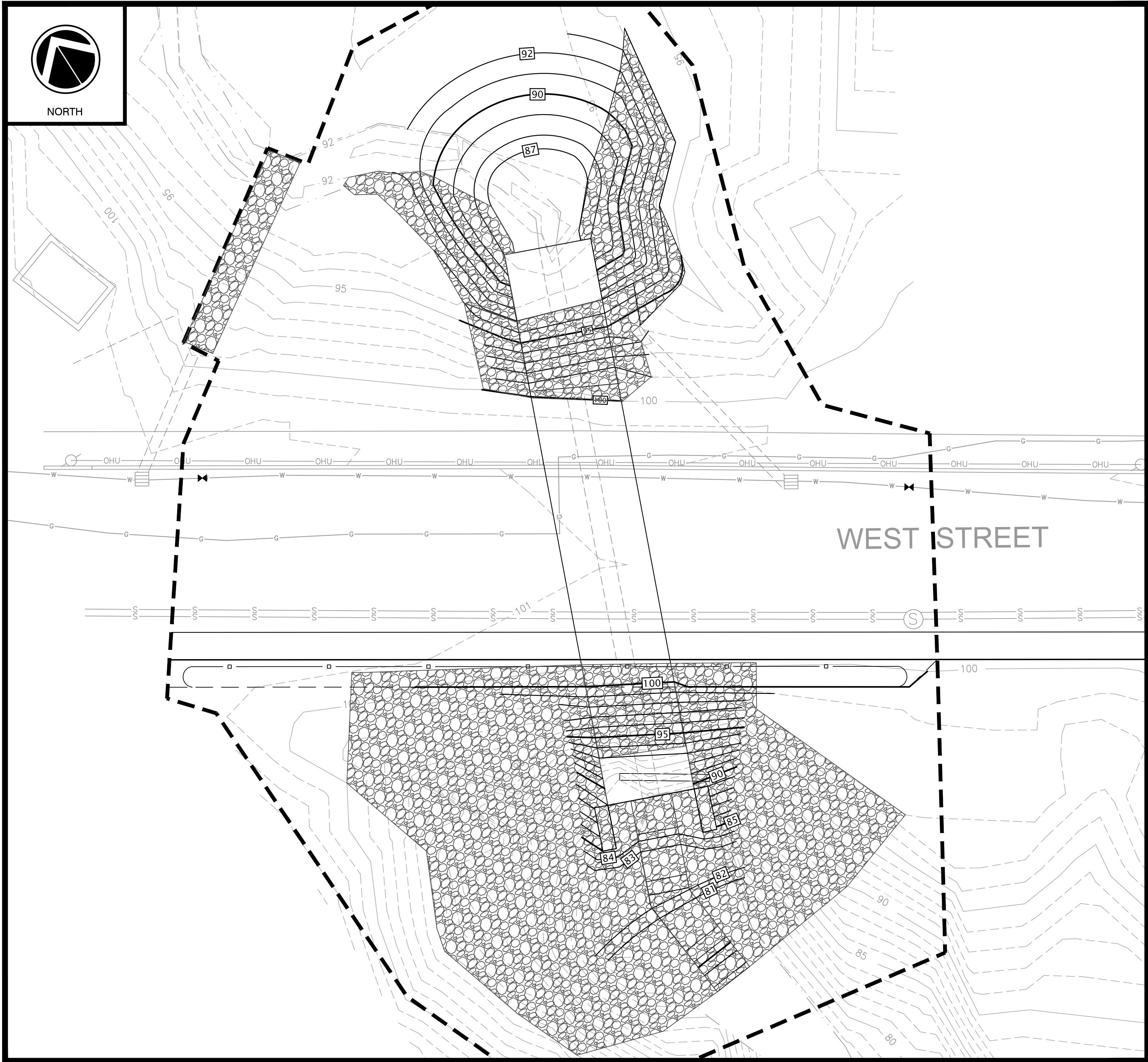
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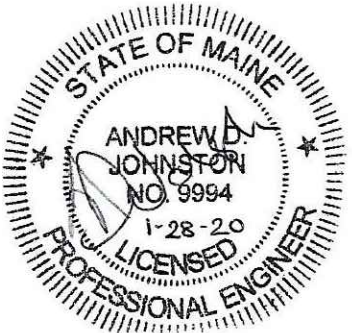
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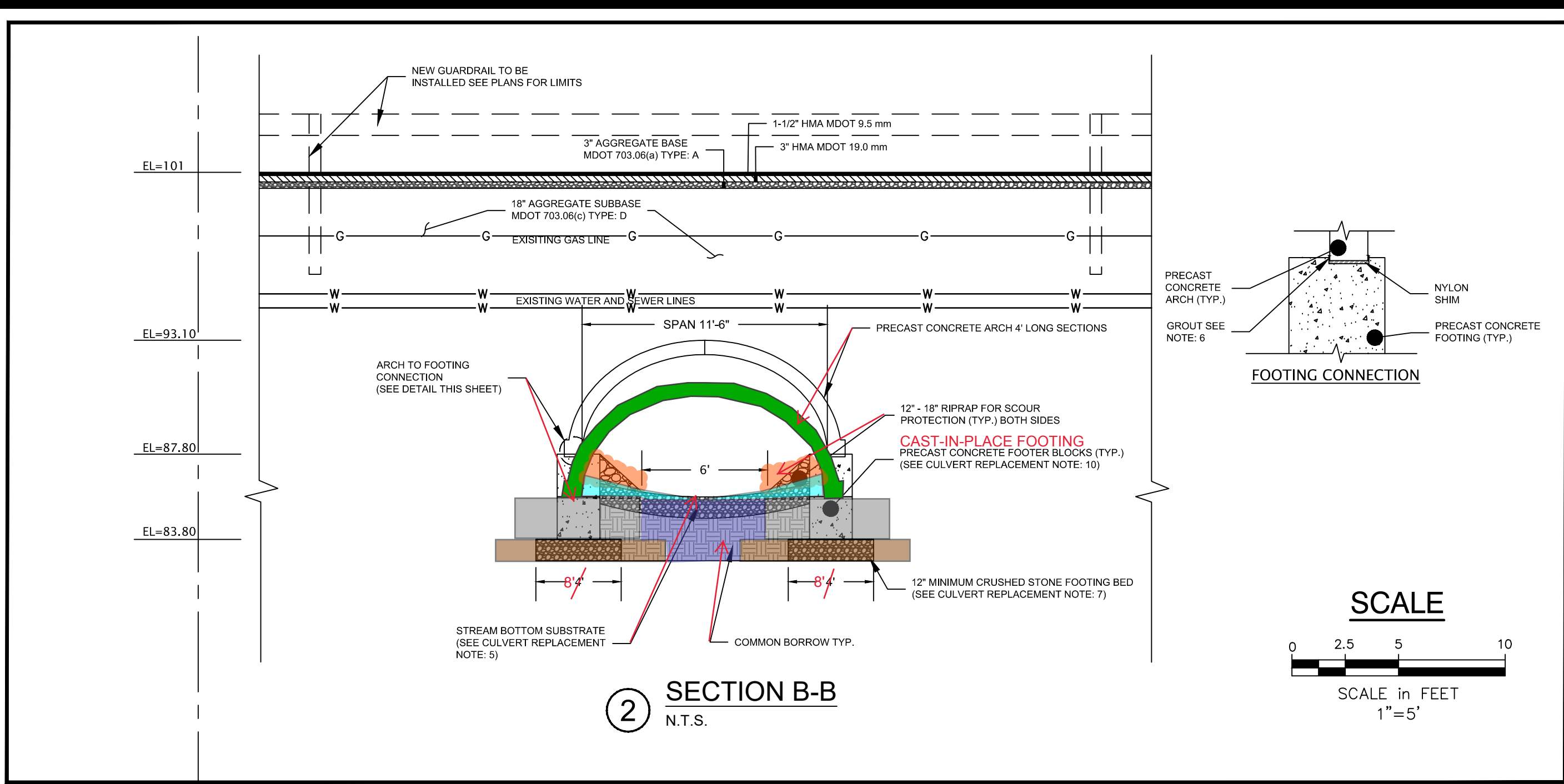
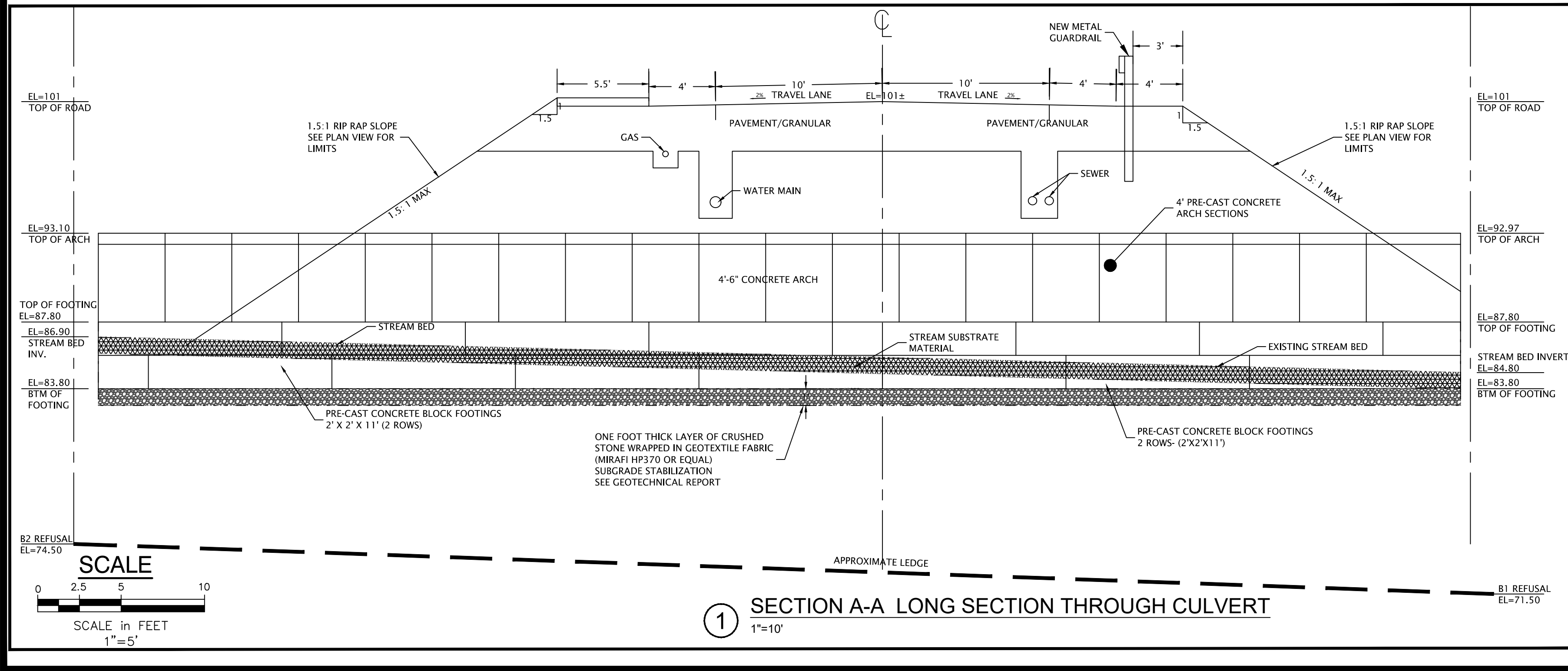
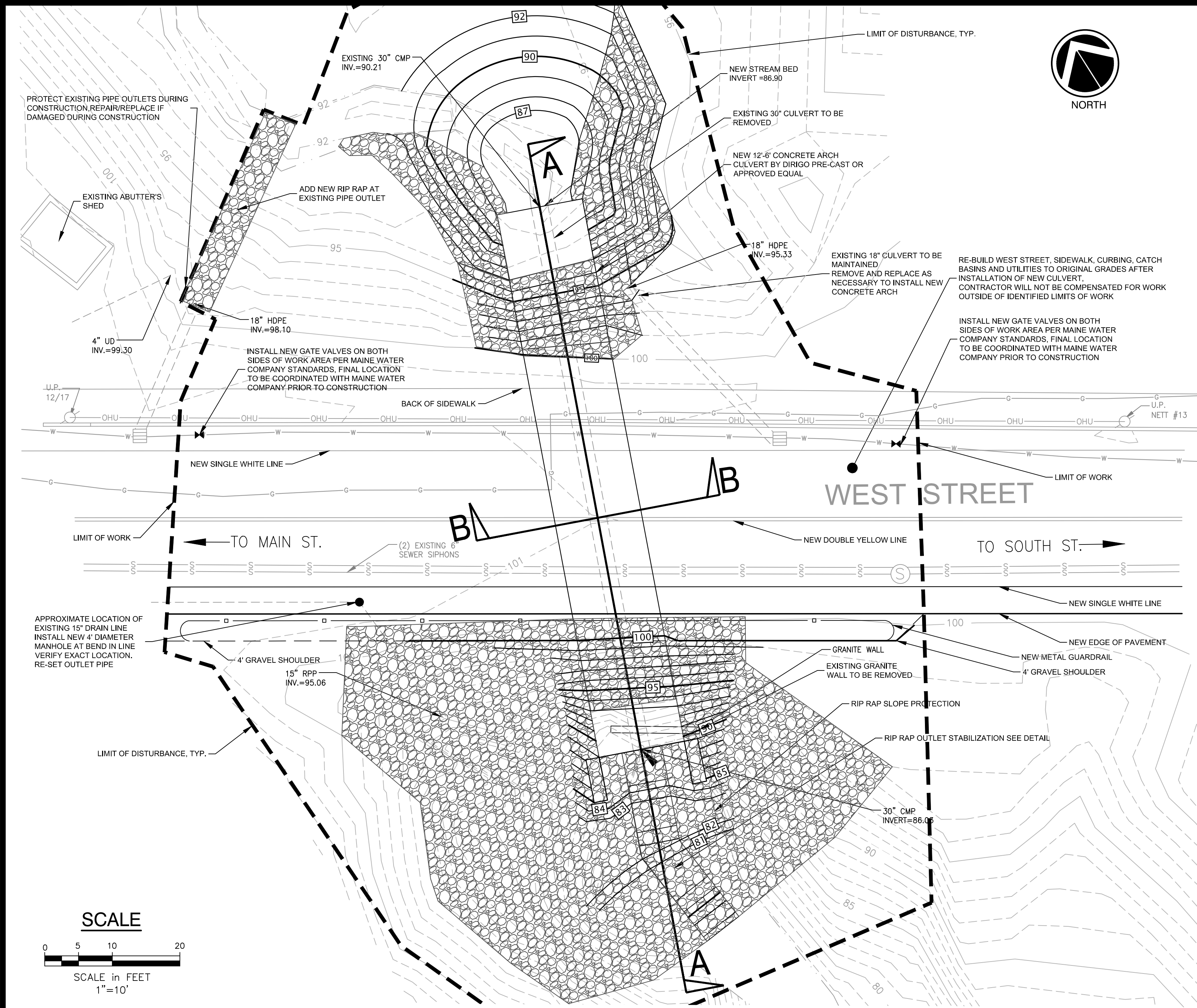
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#### WATER CONTROL NOTES:

1. WATER MUST BE CONTROLLED DURING CONSTRUCTION, BOTH MAINTAINING FLOW OF THE STREAM AT THE SITE, AND ELIMINATING POTENTIAL SEDIMENTATION AND EROSION
2. ANY FISH MUST THOROUGHLY AND CAREFULLY BE REMOVED AND EXCLUDED FROM THE WORK SITE BEFORE IN-STREAM WORK BEGINS (INCLUDING PROPERLY SCREENING PUMP INTAKES)
3. ALL MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION BEST MANAGEMENT PRACTICES FOR SEDIMENT AND EROSION CONTROL MUST BE FOLLOWED
4. PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL SUBMIT A DEWATERING PLAN OR STREAM BYPASS PLAN FOR PROPOSED CONSTRUCTION. THE PLAN SHOULD OUTLINE PROPOSED, MEANS, METHODS AND SEQUENCE OF WORK. OPTIONS INCLUDE USE OF COFFERDAMS AND/OR CONTINUOUS PUMPING OF STREAM FLOW
5. DIRTY WATER MUST BE REMOVED FROM THE WORK SITE AND FILTERED IN NEARBY FOREST TO AVOID CONTAMINATION OF THE STREAM. SUFFICIENT PUMP CAPACITY IS ESSENTIAL TO MAINTAIN WATER CONTROL, WITH BACKUP PUMPS ON HAND OR READILY AVAILABLE

#### NRPA NOTES:

1. ALL EXCAVATIONS SHALL BE DONE IN ACCORDANCE WITH OSHA STANDARDS.
2. WHEELED OR TRACKED EQUIPMENT MAY NOT OPERATE IN THE WATER. EQUIPMENT OPERATING ON THE SHORE MAY, WHERE NECESSARY, REACH INTO THE WATER WITH A BUCKET OR SIMILAR EXTENSION. EQUIPMENT MAY CROSS STREAMS ON ROCK, GRAVEL OR LEDGE BOTTOM.
3. IF WORK IS PERFORMED IN A RIVER, STREAM OR BROOK THAT IS LESS THAN THREE FEET DEEP AT THE TIME OF THE ACTIVITY AND AT THE LOCATION OF THE ACTIVITY, THE APPLICANT MUST PROVIDE FOR TEMPORARY DIVERSION OF FLOW TO THE OPPOSITE SIDE OF THE CHANNEL WHILE WORK IS IN PROGRESS.
4. DIVERSION MAY BE ACCOMPLISHED BY PLACING SANDBAGS, TIMBERS, SHEET STEEL, CONCRETE BLOCKS, 6+ MIL POLYETHYLENE OR GEOTEXTILES FROM THE BANK TO MIDSTREAM ON THE UPSTREAM SIDE OF THE ACTIVITY. NO MORE THAN TWO-THIRDS (2/3) OR 25 FEET OF STREAM WIDTH, WHICHEVER IS LESS, MAY BE DIVERTED AT ONE TIME.
5. ANY MATERIAL USED TO DIVERT WATER FLOW MUST BE COMPLETELY REMOVED UPON COMPLETION OF THE ACTIVITY, AND THE STREAM SUBSTRATE MUST BE RESTORED TO ITS ORIGINAL CONDITION.
6. A PUMP MAY BE OPERATED, WHERE NECESSARY, FOR A TEMPORARY DIVERSION. THE PUMP OUTLET MUST BE LOCATED AND OPERATED SUCH THAT EROSION OR THE DISCHARGE OF SEDIMENT TO THE WATER IS PREVENTED.

#### GENERAL SITE NOTES:

1. EXCAVATE AND STOCKPILE ON-SITE TOPSOIL. TOPSOIL IS TO REMAIN THE PROPERTY OF THE TOWN OF FREEPORT DURING CONSTRUCTION, AND SHALL NOT BE REMOVED FROM THE SITE. AFTER FINAL LOAM AND SEED EXCESS TOPSOIL SHALL BE REMOVED FROM SITE BY CONTRACTOR.
2. PROVIDE SIGNAGE AND BARRICADES TO PREVENT PEDESTRIANS FROM ENTERING THE WORK AREA THROUGHOUT CONSTRUCTION.
3. ALL EXISTING RIP RAP MATERIAL AND GRANITE BLOCK MATERIAL SHOULD BE STOCKPILED ON-SITE AND RE-USED

#### GRADING NOTES:

1. ADD 6\"/>
2. MAINTAIN TEMPORARY EROSION CONTROL MEASURES FOR THE FULL DURATION OF CONSTRUCTION. INSPECT DAILY AND AFTER EACH STORM AND REPAIR AS NEEDED. REMOVE SEDIMENTS FROM THE SITE. PLACE IN AREA OF LOW EROSION POTENTIAL, AND STABILIZE WITH SEED AND MULCH.
3. PLACE TEMPORARY SOIL STABILIZATION WITHIN 2 DAYS OF INITIAL DISTURBANCE. PLACE PERMANENT SOIL STABILIZATION WITHIN 3 DAYS OF FINAL GRADING.

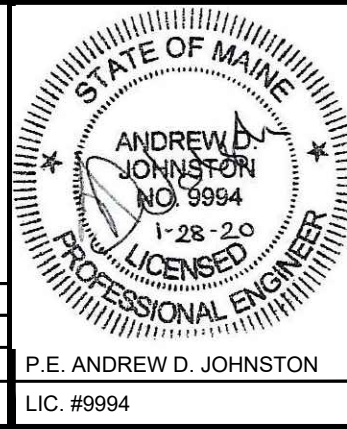

#### CULVERT REPLACEMENT NOTES:

1. EXISTING CONDITIONS BASE MAP FROM SURVEY PERFORMED BY OWEN HASKELL, DATED NOVEMBER 2018 AND SUPPLEMENTED BY SURVEY PERFORMED BY ATLANTIC RESOURCE CONSULTANTS IN OCTOBER 2019.
2. ALL WORK SHALL BE SCHEDULED TO START AFTER JULY 15, 2020 AND BE CONCLUDED BEFORE OCTOBER 1, 2020.
3. ALL WORK SHALL BE IN ACCORDANCE WITH THE STREAM CROSSING STANDARDS CONTAINED IN THE STATE OF MAINE, DEPARTMENT OF ENVIRONMENTAL PROTECTION, NATURAL RESOURCE PROTECTION ACT, PERMIT BY RULE STANDARDS, CHAPTER 305, AS CURRENTLY REVISED. ADDITIONALLY ALL WORK SHALL MEET OR EXCEED THE EXPECTATIONS OF THE MAINE AUDUBON 'STREAM SMART' GUIDELINE FOR FISH FRIENDLY STREAM CROSSINGS.
4. EROSION AND SEDIMENT CONTROLS SHALL COMPLY WITH THE MAINE EROSION AND SEDIMENT CONTROL BMPs, DATED NOVEMBER 2017, OR AS CURRENTLY REVISED.
5. LOCATION, ORIENTATION AND INVERT OF PRECAST CONCRETE ARCH, FOOTINGS AND ABUTMENT BLOCKS MAY BE ADJUSTED TO MEET FIELD CONDITIONS FOUND AT THE TIME OF CONSTRUCTION.
6. PRECAST CONCRETE ARCH, FOOTING BLOCKS AND ABUTMENT BLOCKS SHALL BE MANUFACTURED BY DIRIGO TIMBERLANDS OF NORTH ANSON, MAINE, OR APPROVED EQUAL. ARCH SHALL CONSIST OF 48-INCH LONG SECTIONS, EACH WITH AN OPENING HEIGHT OF 54-INCHES AND A 138-INCH SPAN.
7. MINIMIZE DISTURBANCE TO EXISTING SUBSURFACE STREAM BED MATERIAL TO THE GREATEST EXTENT POSSIBLE.
8. GROUT SHALL BE NON-SHRINK SIKAGROUT 328 BY SIKA CORPORATION OR ENGINEER APPROVED EQUAL.
9. PRECAST CONCRETE ARCH, WING WALLS AND FOOTINGS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS.
10. FINAL FOOTING DESIGN TO BE PROVIDED BY THE TOWN. SUBMIT SHOP DRAWINGS PRIOR TO CONSTRUCTION.

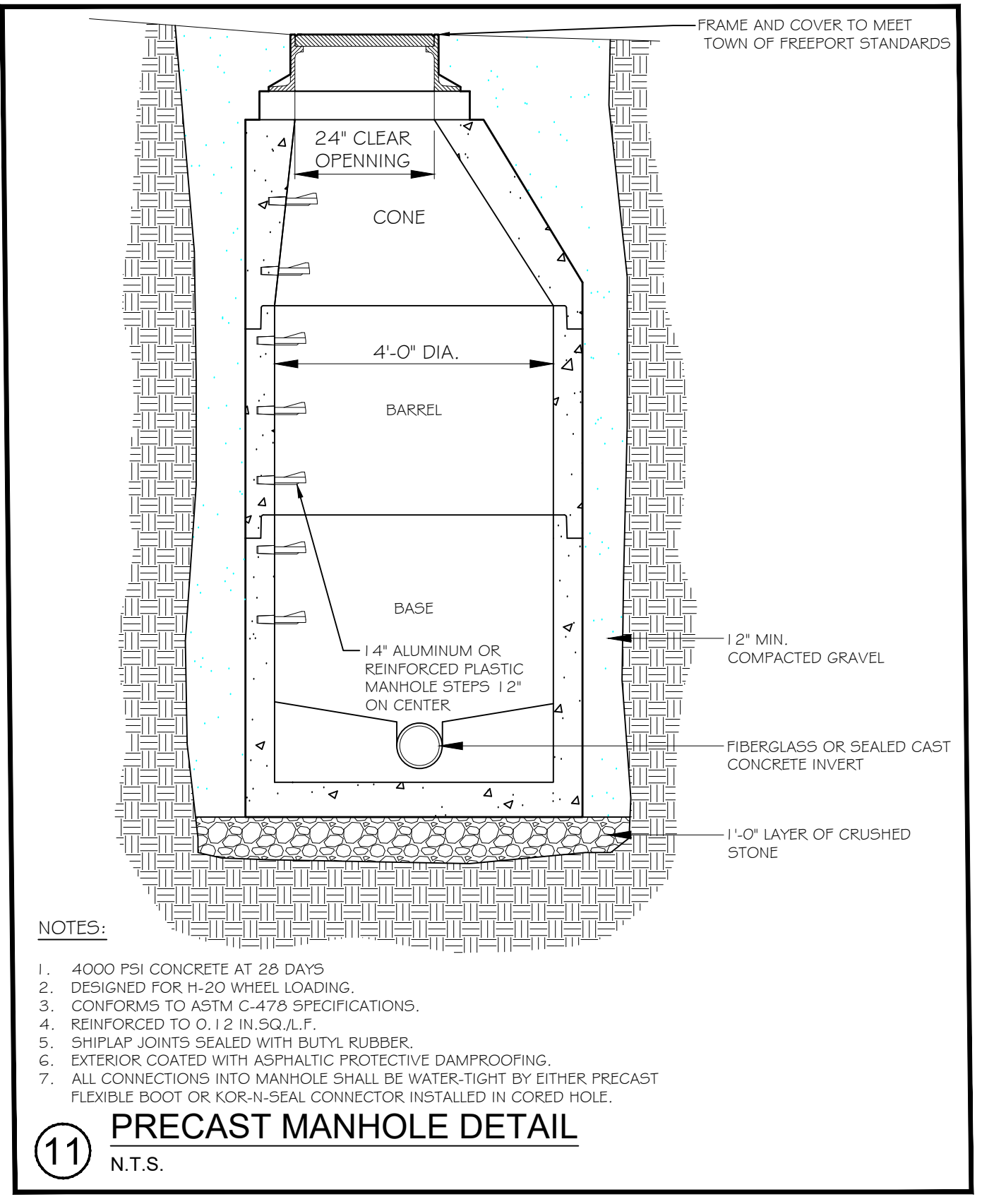
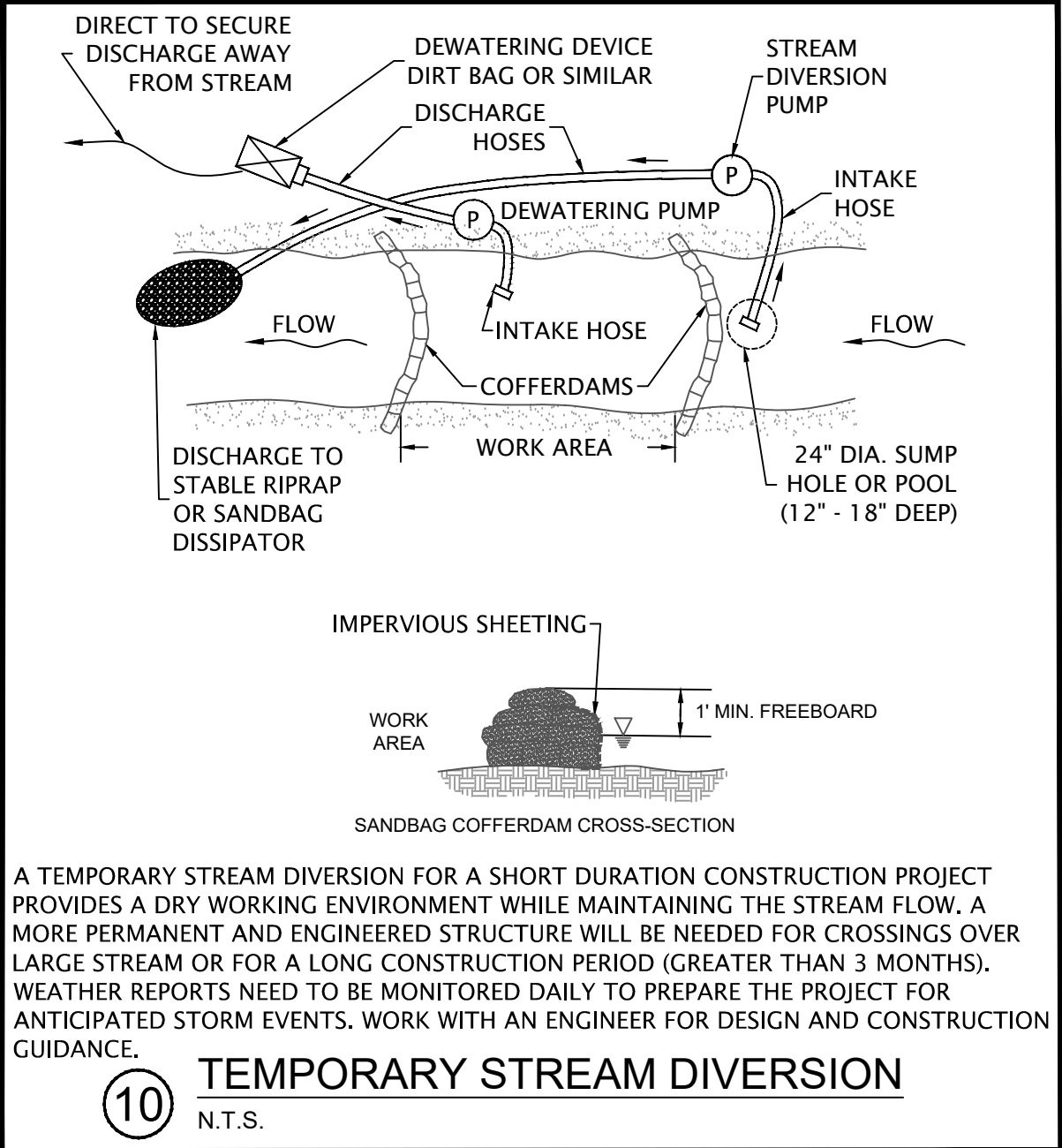
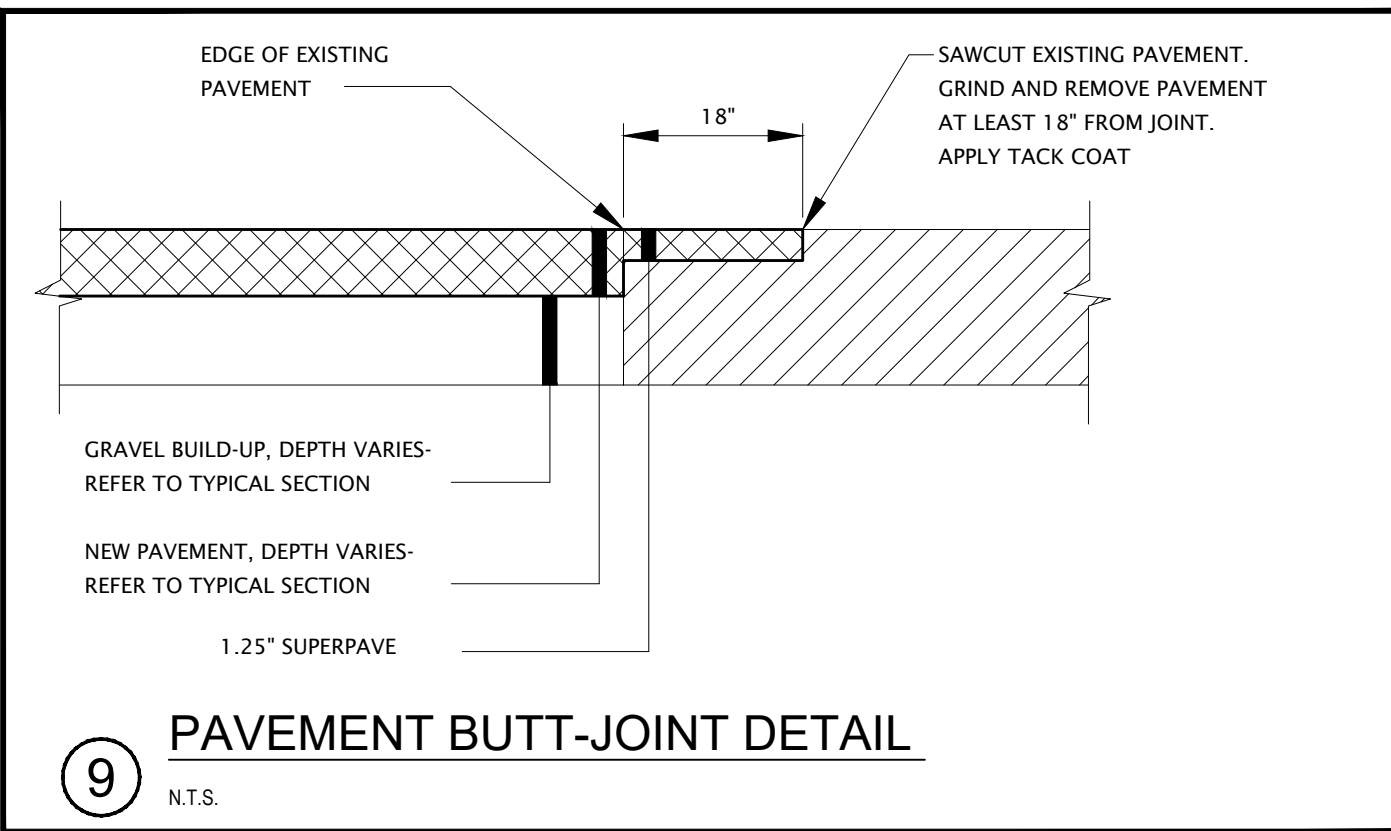
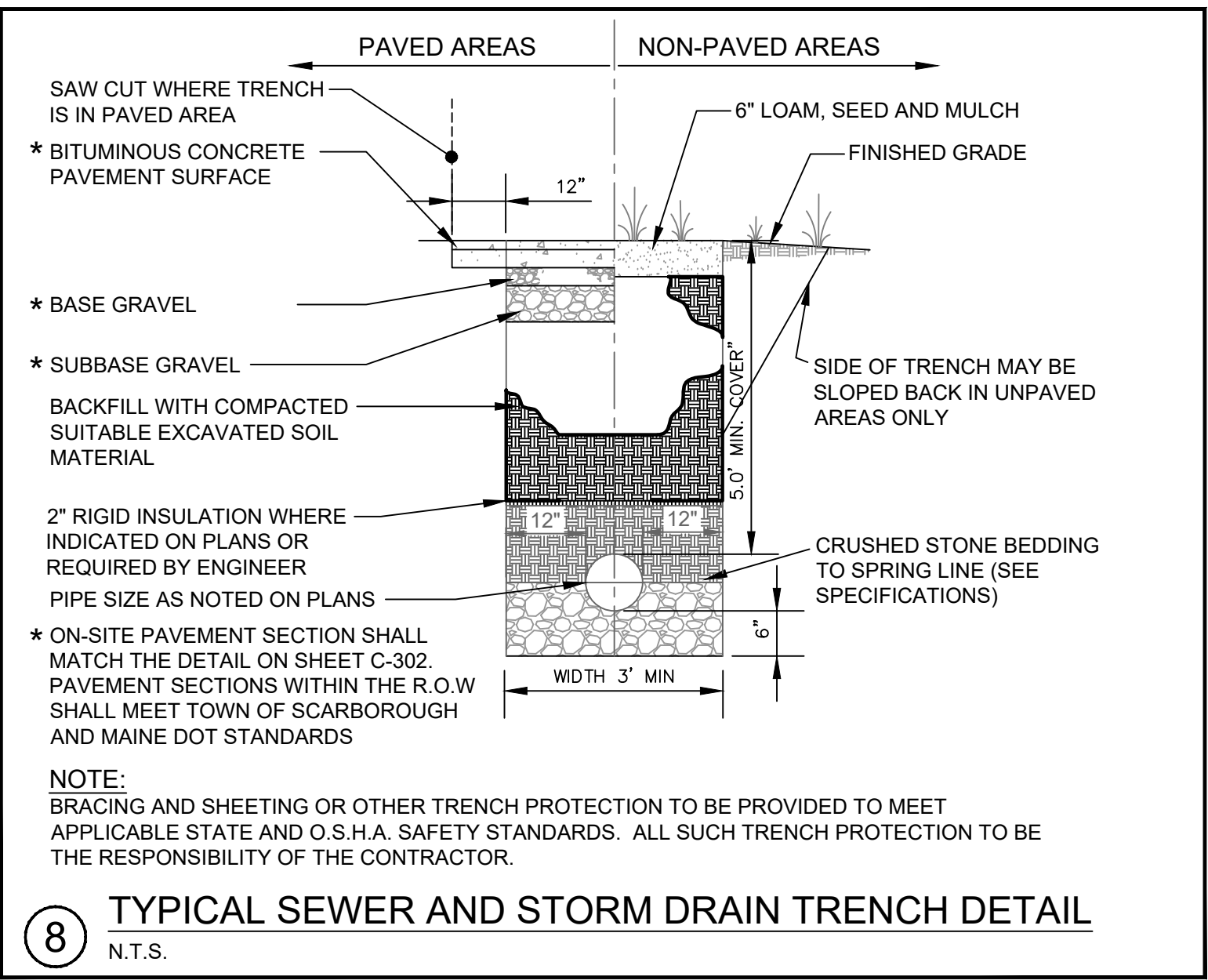
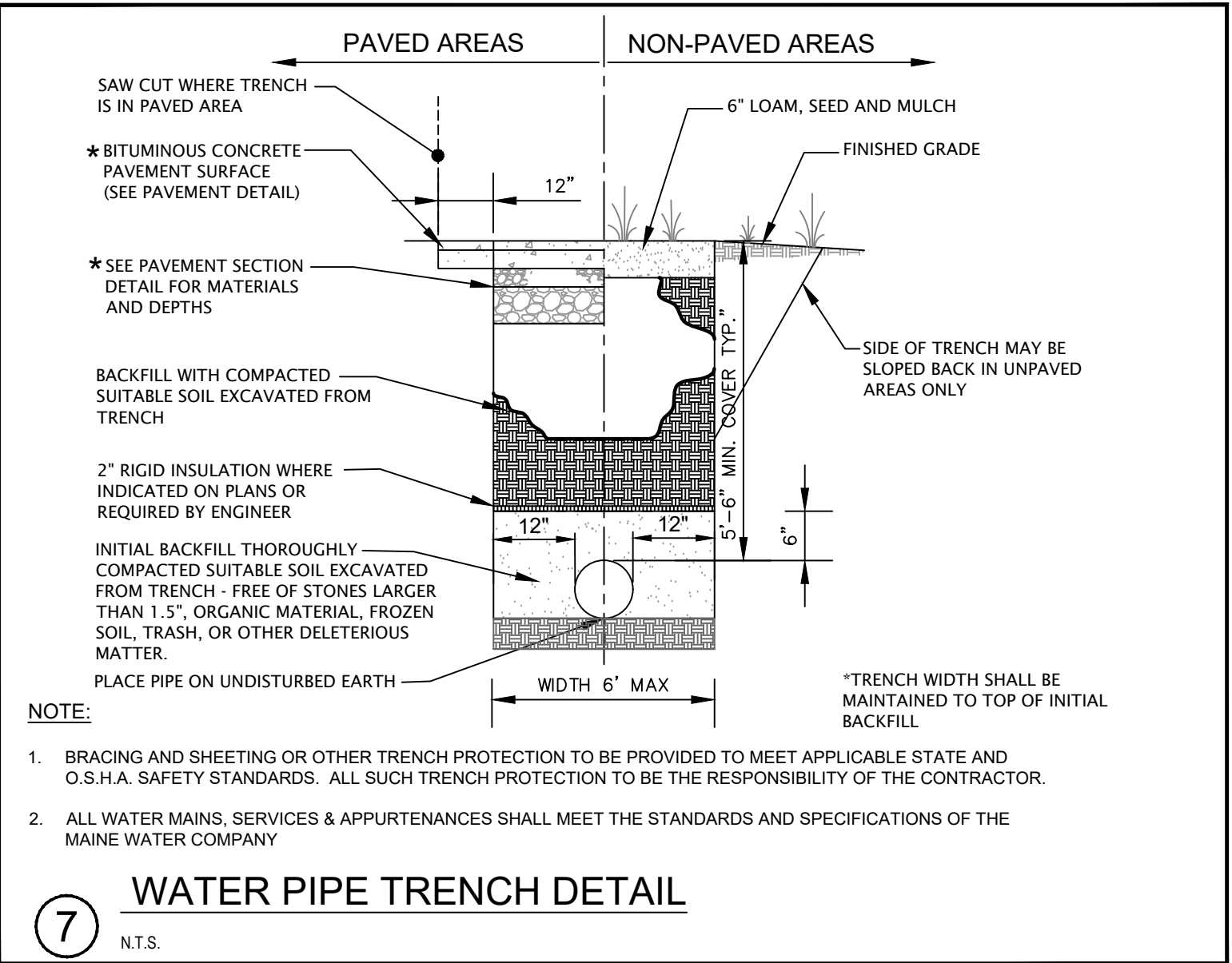
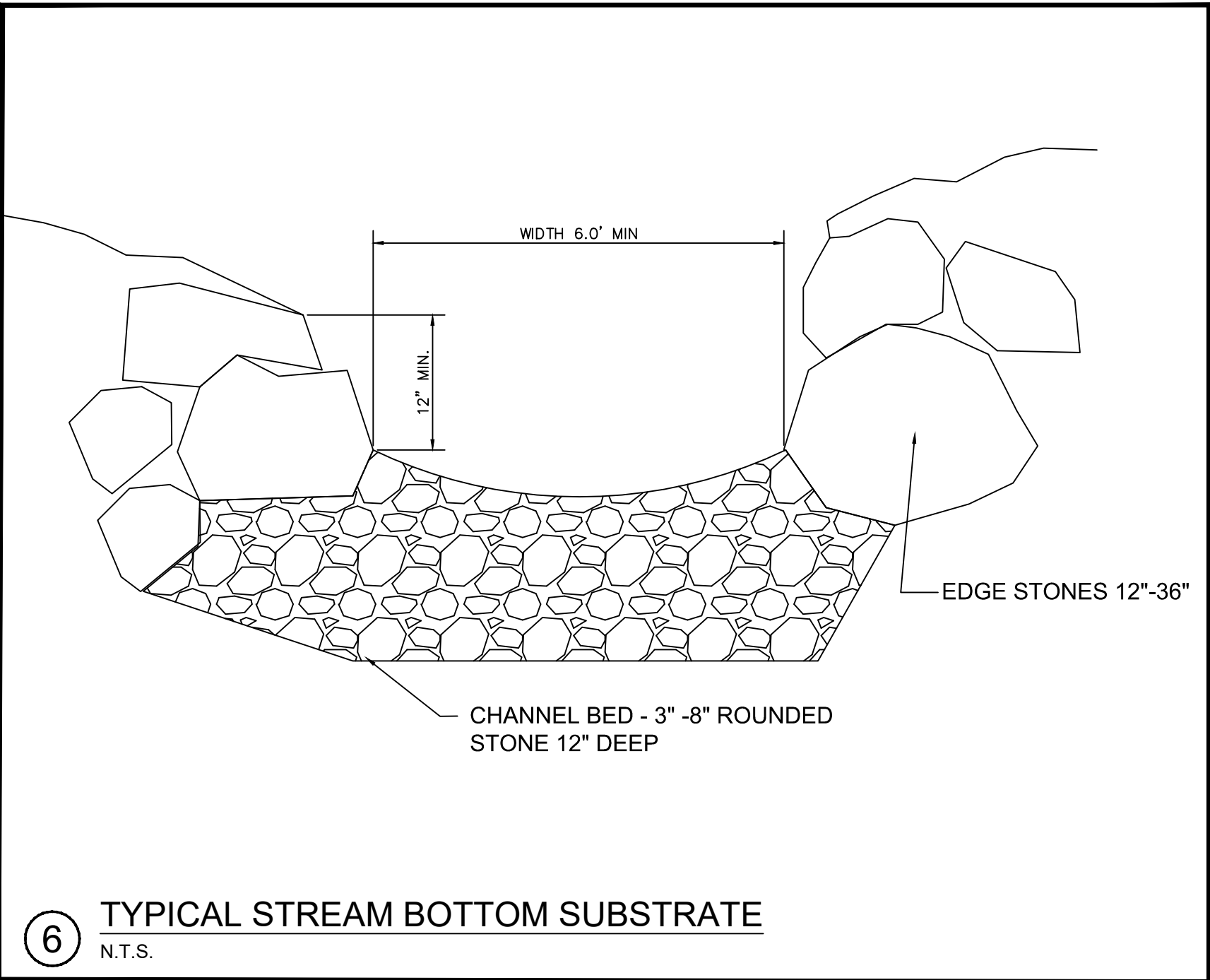
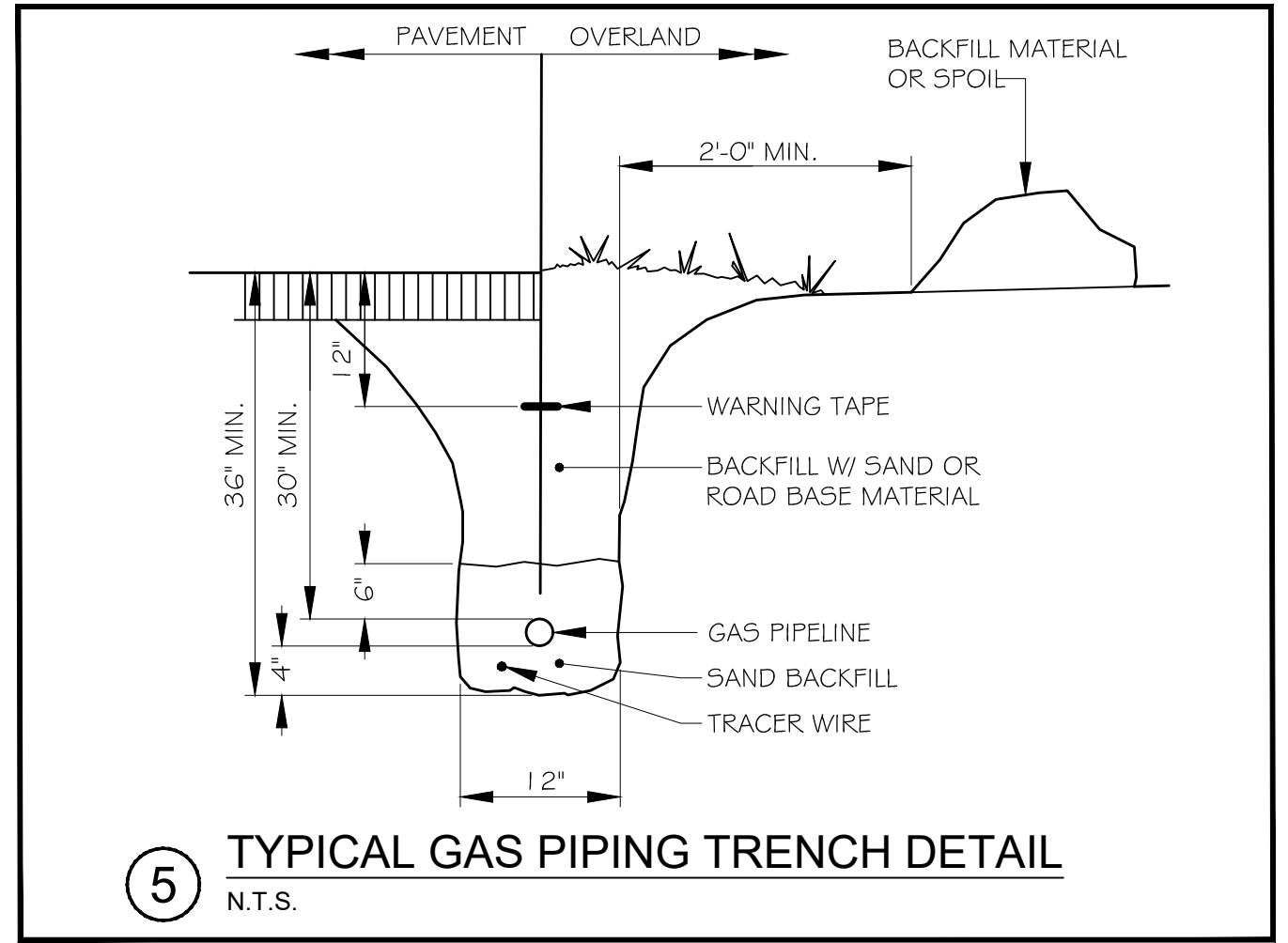
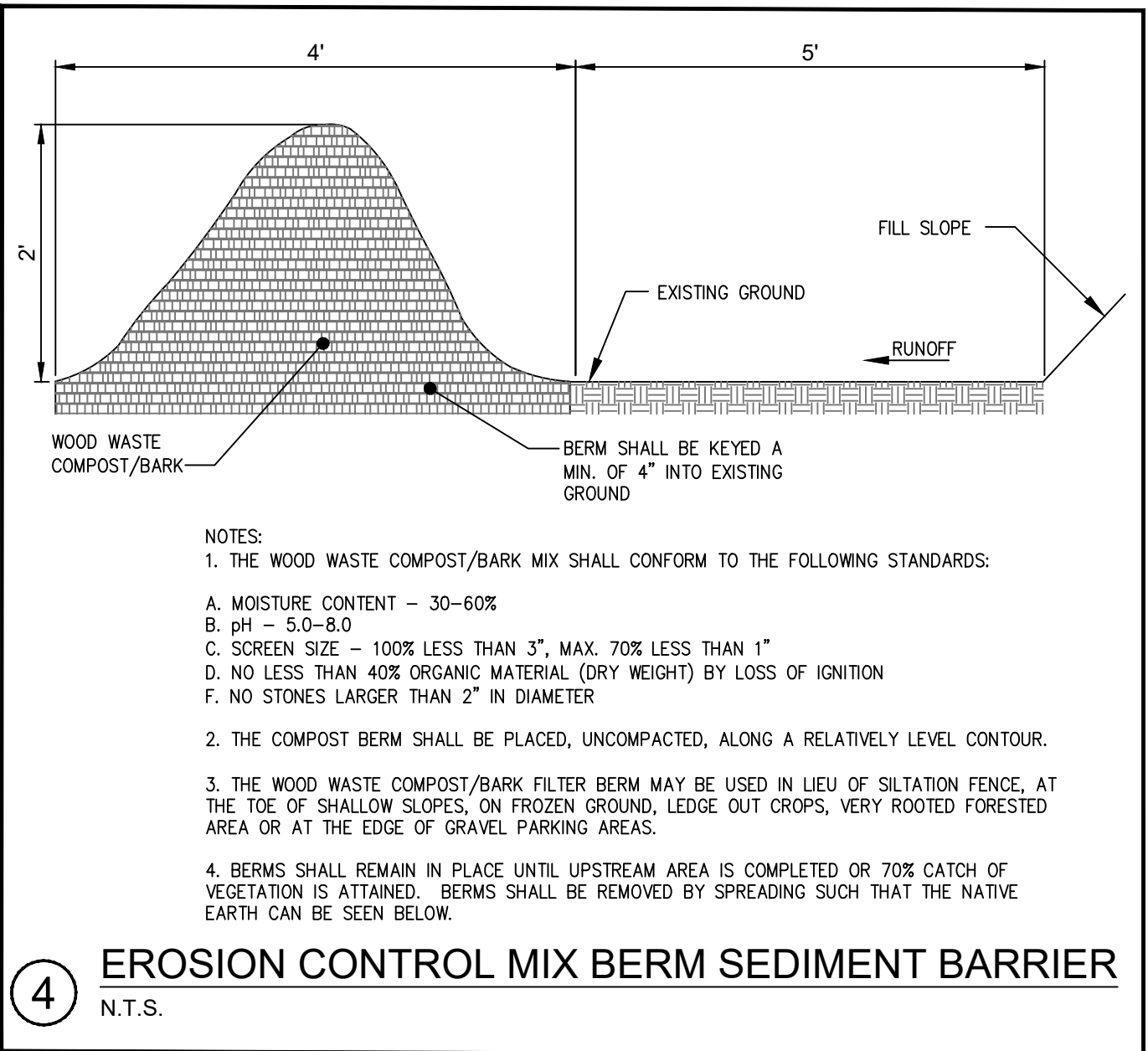
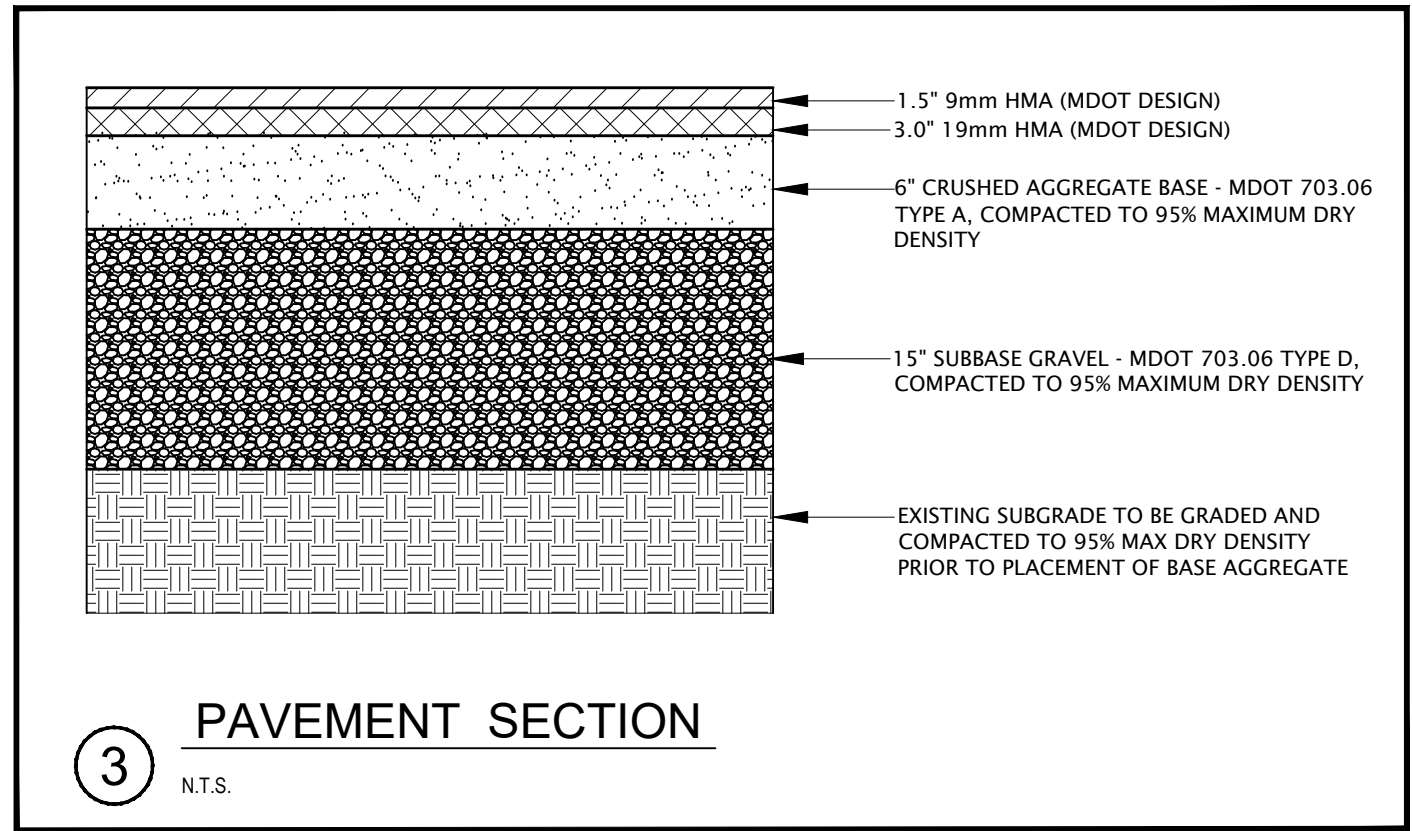
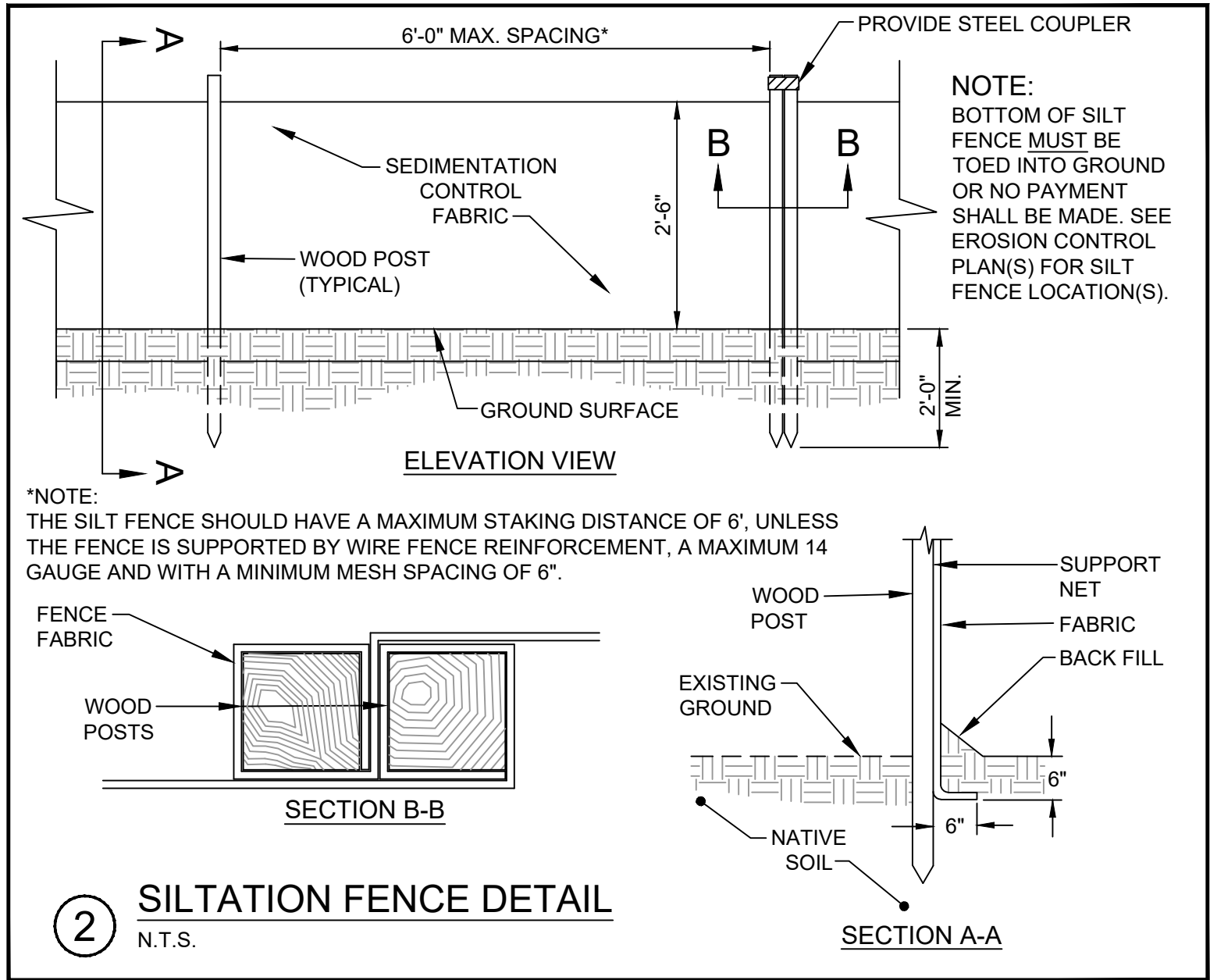
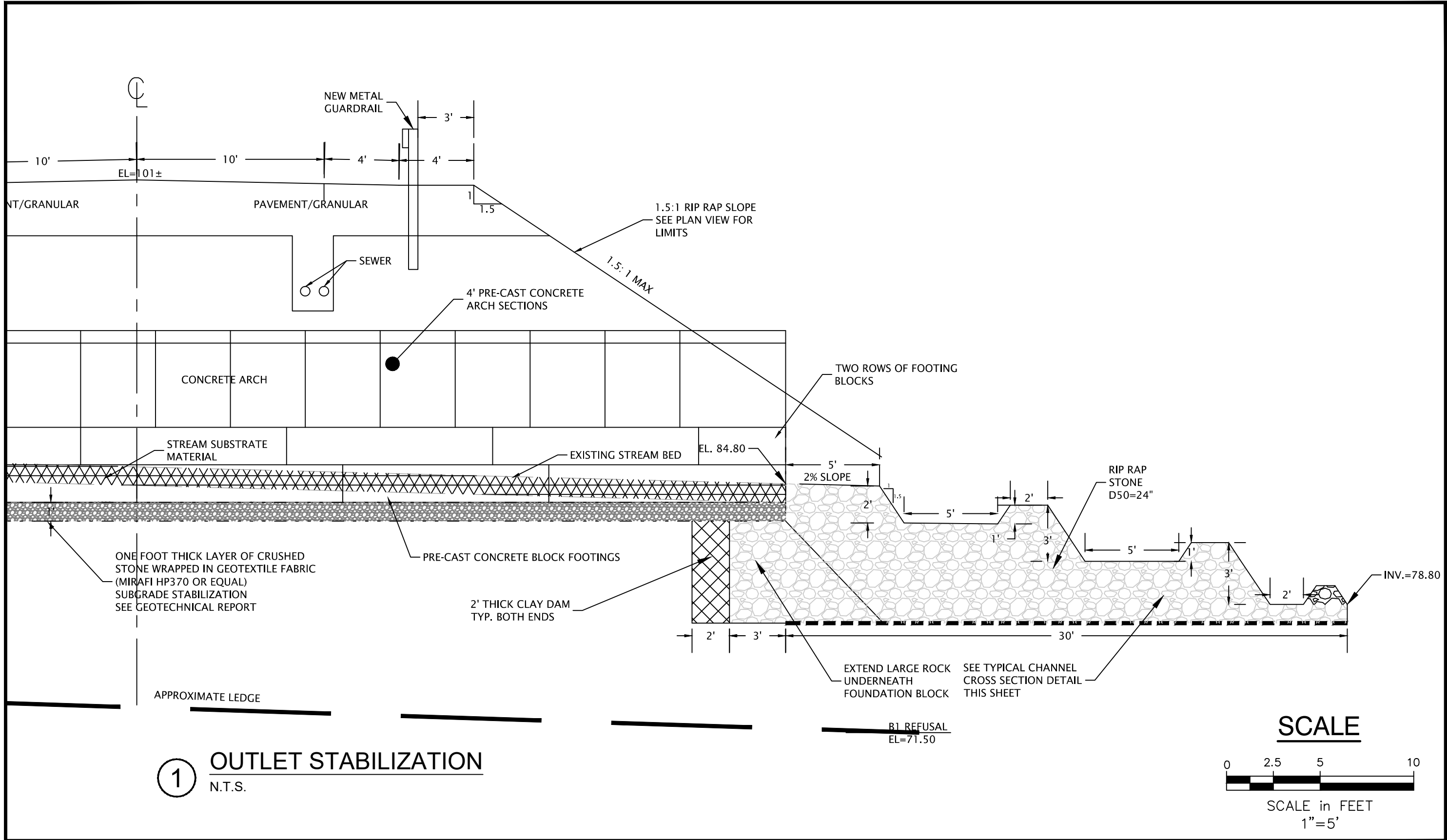
#### UTILITY NOTES:

1. EXISTING SEWER FLOW FROM GRAVITY SYSTEM IN WEST STREET TO SIPHON OUTLET IN SOUTH STREET TO BE MAINTAINED THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE THIS WORK WITH THE FREEPORT SANITARY DISTRICT. ALL BYPASS PUMPING AND OTHER TEMPORARY MEASURES PROPOSED SHALL BE SUBMITTED FOR APPROVAL PRIOR TO THE START OF WORK. REPLACEMENT OF THE SIPHON AFTER INSTALLATION OF THE CULVERT SHALL MEET FREEPORT SANITARY DISTRICT STANDARDS/SPECS.
2. THE CONTRACTOR SHALL INSTALL A TEMPORARY WATER MAIN AROUND THE CONSTRUCTION AREA DURING INSTALLATION OF THE CULVERT, OR ALTERNATIVELY PROVIDE GATE VALVES AT EITHER SIDE OF THE LIMIT OF WORK TO MAINTAIN WATER SERVICE TO THE RESIDENCES ON WEST STREET. THE PERMANENT WATER MAIN REPLACEMENT SHALL MEET THE STANDARDS AND SPECS OF MAINE WATER COMPANY. COORDINATE ALL WORK WITH MAINE WATER COMPANY PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL INSTALL TEMPORARY GAS SERVICE AROUND THE CONSTRUCTION AREA DURING INSTALLATION OF THE CULVERT. PERMANENT GAS LINE REPLACEMENT SHALL MEET THE STANDARDS AND SPECS OF MAINE NATURAL GAS. COORDINATE ALL WORK WITH MAINE NATURAL GAS PRIOR TO CONSTRUCTION.
4. ALL TEMPORARY WORK TO MAINTAIN EXISTING UTILITY SERVICES SHALL BE INCIDENTAL TO THE CONTRACT COST.
5. CONTRACTOR SHALL PROTECT OVERHEAD UTILITIES AND POLES FOR THE DURATION OF THE WORK.

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				Town of Freeport 30 Main Street Freeport, Maine		
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A. SOIL EROSION AND SEDIMENT CONTROL NOTES

TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES INCLUDE THE USE OF STABILIZED CONSTRUCTION ENTRANCES, SILTATION FENCE, EROSION CONTROL MIX, STONE CHECK DAMS, HAY BALE BARRIERS, CATCH BASIN SEDIMENT COLLECTION BAGS, EROSION CONTROL BLANKET, AND TEMPORARY SEEDING AND MULCHING AS REQUIRED. OVER-PUMPING OR DIVERSION OF STREAM FLOW WILL BE REQUIRED FOR THIS PROJECT. PERMANENT DEVICES INCLUDE THE USE OF RIP RAP AT EXPOSED STORM DRAIN AND CULVERT INLETS AND OUTLETS, AND PERMANENT VEGETATION.

A. GENERAL

- IT IS ANTICIPATED THAT CONSTRUCTION MAY BEGIN AS SOON AS POSSIBLE FOLLOWING RECEIPT OF NECESSARY PERMITS.
- ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MAINE EROSION & SEDIMENT CONTROL BMPS - MANUAL FOR DESIGNERS AND ENGINEERS (2016), OR AS CURRENTLY REVISED OR U.S. ENVIRONMENTAL PROTECTION AGENCY PUBLICATION 832/R-92-005 (SEPTEMBER, 1992) STORM WATER MANAGEMENT FOR CONSTRUCTION, CHAPTER 3, WHICHEVER IS MORE STRINGENT.
- ANY ADDITIONAL EROSION AND SEDIMENTATION CONTROL DEEMED NECESSARY BY THE OWNER'S REPRESENTATIVE, DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) PERSONNEL AND/OR MUNICIPAL OFFICIALS SHALL BE INSTALLED BY THE CONTRACTOR.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL FINES RESULTING FROM EROSION OR SEDIMENTATION FROM THE SITE TO SURROUNDING PROPERTIES, WATER BODIES, OR WETLANDS AS A RESULT OF THIS PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSPECTION, REPAIR/ REPLACEMENT/ MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL ALL DISTURBED AREAS ARE STABILIZED TO THE SATISFACTION OF THE ABOVE PERSONNEL. DESCRIPTIONS OF ACCEPTABLE PERMANENT STABILIZATION FOR VARIOUS COVER TYPES FOLLOWS:
  - FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS A 90% COVER OF THE DISTURBED AREA WITH MATURE, HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.
  - FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.
  - FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL. EROSION CONTROL MIX MAY BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE APPROVED APPLICATION RATES AND LIMITATIONS.
  - FOR AREAS STABILIZED WITH RIP RAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIP RAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIP RAP. STONE MUST BE SIZED APPROPRIATELY.
  - PAVED AREAS: FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE COMPACTED GRAVEL SUBBASE IS COMPLETED.
  - FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH MATURE VEGETATION AT LEAST THREE INCHES IN HEIGHT, WITH WELL-GRADED RIP RAP, OR WITH ANOTHER NON-EROSIVE LINING CAPABLE OF WITHSTANDING THE ANTICIPATED FLOW VELOCITIES AND FLOW DEPTHS WITHOUT RELIANCE ON CHECK DAMS TO SLOW FLOW. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE LINING, UNDERCUTTING OF THE BANKS, OR DOWN CUTTING OF THE CHANNEL.

B. EROSION AND SEDIMENTATION CONTROL MEASURES

- PRIOR TO THE BEGINNING OF CONSTRUCTION, THE TEMPORARY SILT FENCE SHALL BE INSTALLED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE, OR ENGINEER. SILT FENCE SHALL BE INSTALLED ALONG THE DOWNGRADIENT SIDE OF CONSTRUCTION WORK AREAS, WITH LOCATIONS BEING ADJUSTED ALONG WITH THE CONSTRUCTION PHASING AREAS. THE CONTRACTOR MAY USE EROSION MIX IN PLACE OF SINGLE SILT FENCE BARRIER.
- THE SILT FENCE SHALL BE INSTALLED PER THE DETAIL PROVIDED IN THE PLAN SET AND INSPECTED IMMEDIATELY AFTER EACH RAINFALL, AND AT LEAST WEEKLY IN THE ABSENCE OF SIGNIFICANT RAINFALL. ANY REQUIRED REPAIRS WILL BE MADE IMMEDIATELY. SEDIMENT DEPOSITS SHALL BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDE OF THE SILT BARRIERS. THIS SEDIMENT WILL BE SPREAD AND STABILIZED IN AREAS OF THE SITE NOT SUBJECT TO EROSION. THE CONTRACTOR SHALL MAKE REPAIRS IMMEDIATELY IF THERE ARE ANY SIGNS OF EROSION OR SEDIMENTATION BELOW THE FENCE LINE. IF SUCH EROSION IS OBSERVED, THE CONTRACTOR SHALL TAKE PROACTIVE ACTION TO IDENTIFY THE CAUSE OF THE EROSION AND TAKE ACTION TO AVOID ITS REOCCURRENCE. PROPER PLACEMENT OF STAKES AND KEYING THE BOTTOM OF THE FABRIC INTO THE GROUND IS CRITICAL TO THE FENCE'S EFFECTIVENESS. IF THERE ARE SIGNS OF UNDERCUTTING AT THE CENTER OR THE EDGES, OR IMPOUNDING OF LARGE VOLUMES OF WATER BEHIND THE FENCE, THE BARRIER SHALL BE REPLACED WITH A STONE CHECK DAM AND MEASURES TAKEN TO AVOID THE CONCENTRATION OF FLOWS NOT INTENDED TO BE DIRECTED TO THE SILT FENCE. SILT FENCE SHALL BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION.
- EROSION CONTROL BERMS MAY BE USED IN PLACE OF SILT FENCE IN THE AREA ADJACENT TO THE DRAINAGEWAY AT THE NORTHWEST CORNER OF THE PROPERTY.
- TEMPORARY SEDIMENT SUMPS WILL PROVIDE SEDIMENTATION CONTROL FOR STORMWATER RUNOFF FROM DISTURBED AREAS DURING CONSTRUCTION UNTIL STABILIZATION HAS BEEN ACHIEVED.
- A CONSTRUCTION ENTRANCE WILL BE CONSTRUCTED AT ALL ACCESS POINTS ONTO THE SITE TO PREVENT TRACKING OF SOIL ONTO ADJACENT LOCAL ROADS AND STREETS.
- SILTSACKS™ WILL BE UTILIZED IN CATCH BASINS IN OR NEAR WORK AREAS AT RISK FROM RECEIVING TRANSPORTED SEDIMENT.
- ALL CATCH BASINS AND FIELD INLETS, NEW OR EXISTING, THAT MAY RECEIVE RUNOFF FROM DISTURBED AREAS MUST BE PROTECTED DURING CONSTRUCTION.
- REMOVAL OF SOD, TREES, BUSHES AND OTHER VEGETATION AND SOIL DISTURBANCE WILL BE KEPT TO A MINIMUM WHILE ALLOWING PROPER SITE DEVELOPMENT.
- GRUBBINGS AND ANY UNUSABLE TOPSOIL SHALL BE STRIPPED AND REMOVED FROM THE PROJECT SITE AND DISPOSED OF IN AN APPROVED MANNER.
- ANY SUITABLE TOPSOIL WILL BE STRIPPED AND STOCKPILED FOR REUSE IN FINAL GRADING. TOPSOIL WILL BE STOCKPILED IN A MANNER SUCH THAT NATURAL DRAINAGE IS NOT OBSTRUCTED AND NO OFF-SITE SEDIMENT DAMAGE WILL RESULT. IF A STOCKPILE IS NECESSARY, THE SIDE SLOPES OF THE TOPSOIL STOCKPILE WILL NOT EXCEED 2:1. TOPSOIL STOCKPILES WILL BE TEMPORARILY SEEDED WITH AROOSTOOK RYE, ANNUAL OR PERENNIAL RYE GRASS WITHIN 7 DAYS OF FORMATION, OR TEMPORARILY MULCHED IF SEEDING CANNOT BE DONE WITHIN THE RECOMMENDED SEEDING DATES. SEDIMENT BARRIERS SHALL BE INSTALLED DOWNSTREAM OF STOCKPILES. STORMWATER SHALL BE DIVERTED AROUND STOCKPILE AREAS.
- TEMPORARY DIVERSION BERMS AND DRAINAGE SWALES SHALL BE CONSTRUCTED AS NECESSARY TO PREVENT OFF-SITE DRAINAGE FROM ENTERING THE WORK AREA.
- TEMPORARY STABILIZATION SHALL BE CONSTRUCTED WITHIN 7 DAYS OF INITIAL DISTURBANCE OF SOILS, PRIOR TO ANY RAIN EVENT, AND PRIOR TO ANY WORK SHUT DOWN LASTING MORE THAN ONE DAY. TEMPORARY STABILIZATION INCLUDES SEED, MULCH, OR OTHER NON-ERODABLE COVER.
- TEMPORARY SEEDING SPECIFICATIONS: WHERE SEEDBED HAS BEEN COMPACTED BY CONSTRUCTION OPERATIONS, LOOSEN SOIL TO A DEPTH OF 2 INCHES BEFORE APPLYING FERTILIZER, LIME, AND SEED. APPLY LIMESTONE AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000 SQUARE FEET) AND 10-10-10 (N-P2O5-K2O) FERTILIZER AT A RATE OF 600 LBS PER ACRE (13.8 LB. PER 1,000 SQUARE FEET). UNIFORMLY APPLY SEED AT THE RECOMMENDED SEEDING RATES AND DATES, APPLY HAY OR STRAW MULCH AT A RATE OF 2 TONS PER ACRES, AND ANCHOR AS NECESSARY. RECOMMENDED TEMPORARY SEEDING DATES AND APPLICATION RATES ARE AS FOLLOWS:  
AROOSTOOK RYE: RECOMMENDED SEEDING DATES: 8/15 -10/1 APPLICATION RATE: 112 LBS/ACRE  
ANNUAL RYE GRASS: RECOMMENDED SEEDING DATES: 4/1 - 7/1 APPLICATION RATE: 40 LBS/ACRE  
PERENNIAL RYE GRASS: RECOMMENDED SEEDING DATES: 8/15 - 9/15 APPLICATION RATE: 40 LBS/ACRE

- PERMANENT SEEDING SPECIFICATION. IF A LANDSCAPE PLAN HAS BEEN PREPARED FOR THE PROJECT, SOIL PREPARATION AND SEED SPECIFICATIONS OF THAT PLAN SHALL SUPERSEDE THESE GENERAL PERMANENT SEEDING REQUIREMENTS. IT IS RECOMMENDED THAT PERMANENT SEEDING BE COMPLETED BETWEEN APRIL 1 AND JUNE 15 OF EACH YEAR. LATE SEASON SEEDING MAY BE DONE BETWEEN AUGUST 15 AND SEPTEMBER 15. AREAS NOT SEEDED OR WHICH DO NOT OBTAIN A SATISFACTORY GROWTH BY OCTOBER 1 SHALL BE SEEDED WITH AROOSTOOK RYE OR MULCHED AT RATES PREVIOUSLY SPECIFIED. SEE WINTER CONDITIONS NOTES FOR SEEDING STABILIZATION AFTER NOVEMBER 1.
  - APPLY TOPSOIL TO A MINIMUM DEPTH OF 4 INCHES. MIX TOPSOIL WITH THE SUBSOIL TO A MINIMUM DEPTH OF 6 INCHES.
  - APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TESTS. IN LIEU OF SOIL TESTS, APPLY GROUND LIMESTONE AT A RATE OF 3 TONS PER ACRE (138 LB. PER 1,000 SQUARE FEET) AND GRANULAR, COMMERCIAL-GRADE, 10-10-10 (N-P2O5-K2O) FERTILIZER AT A RATE OF 800 LBS PER ACRE (18.4 LBS PER 1,000 SQUARE FEET).
  - UNIFORMLY APPLY SEED MIXTURE AT THE RECOMMENDED SEEDING RATES AND DATES, APPLY HAY OR STRAW MULCH AT A RATE OF 2 TONS PER ACRES, AND ANCHOR AS NECESSARY.
  - THE SEED MIXTURE FOR LAWN AND FILTRATION BASIN AREAS SHALL CONSIST OF SEEDS PROPORTIONED BY WEIGHT AS FOLLOWS:  
30% CREEPING RED FESCUE  
50% KENTUCKY BLUEGRASS  
20% ITALIAN/PERENNIAL RYE GRASS  
NOTE: SEED MIXTURE SHALL CONSIST OF AT LEAST TWO VARIETIES OF EACH TYPE OF GRASS. WHEN USED IN A FILTER BASIN, STORMWATER SHALL NOT BE DIRECTED TO THE BASIN UNTIL THE GRASS IS ESTABLISHED.

- MULCH ALL AREAS SEEDED SO THAT SOIL IS NOT VISIBLE THROUGH THE MULCH REGARDLESS OF THE APPLICATION RATE.

- DITCH LININGS, STONE CHECK DAMS, AND RIP RAP INLET AND OUTLET PROTECTION SHALL BE INSTALLED WITHIN 48 HOURS OF COMPLETING THE GRADING OF THAT SECTION OF DITCH OR INSTALLATION OF CULVERT.

- RIP RAP REQUIRED AT CULVERTS AND STORM DRAIN INLETS AND OUTLETS SHALL CONSIST OF FIELD STONE OR ROUGH UNHEWN QUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE.

- EROSION CONTROL BLANKET SHALL BE INSTALLED ON ALL PERMANENT SLOPES STEEPER THAN 20%, IN THE BASE OF DITCHES NOT OTHERWISE PROTECTED, AND ANY DISTURBED AREAS WITHIN 100 FEET OF A PROTECTED NATURAL RESOURCE (E.G. WETLANDS AND WATER BODIES). EROSION CONTROL BLANKET SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

- TEMPORARY CONTROL MEASURES, SUCH AS SILT FENCE, SHALL BE REMOVED WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED.

C. SPECIAL MEASURES FOR SUMMER CONSTRUCTION

DURING DRY SUMMER CONDITIONS, THE CONTRACTOR SHALL:

- IMPLEMENT A PROGRAM TO APPLY DUST CONTROL MEASURES ON A DAILY BASIS EXCEPT THOSE DAYS WHERE PRECIPITATION IS SUFFICIENT TO SUPPRESS DUST FORMATION. THIS PROGRAM SHALL EXTEND TO AND INCLUDE SWEEPING OF ADJACENT STREETS.
- SPRAY ANY MULCHES WITH WATER AFTER ANCHORING TO DAMPEN THE SOIL AND ENCOURAGE EARLY GROWTH. SPRAYING MAY BE REQUIRED SEVERAL TIMES. TEMPORARY SEED MAY BE REQUIRED UNTIL THE LATE SUMMER SEEDING SEASON.
- COVER STOCKPILES OF FINE-GRAINED MATERIALS, OR EXCAVATED SOILS WHICH ARE SUSCEPTIBLE TO EROSION TO PROTECT FROM THE INTENSE, SHORT-DURATION STORMS WHICH ARE MORE PREVALENT IN THE SUMMER MONTHS.
- TAKE ADDITIONAL STEPS NEEDED, INCLUDING WATERING, OR COVERING EXCAVATED MATERIALS TO CONTROL FUGITIVE DUST EMISSIONS TO MINIMIZE REDUCTIONS IN VISIBILITY AND THE AIRBORNE DISBURSEMENT OF FINE-GRAINED SOILS. THIS IS PARTICULARLY IMPORTANT GIVEN THE POTENTIAL PRESENCE OF SOIL CONTAMINANTS, AND THEIR PROXIMITY ALONG THE ADJACENT STREETS AND PROPERTIES.
- THESE MEASURES MAY ALSO BE REQUIRED IN THE SPRING AND FALL DURING THE DRIER PERIODS OF THESE SEASONS.

D. WINTER CONDITIONS

- "WINTER CONSTRUCTION" IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1ST THROUGH APRIL 15TH. IF AREAS WITHIN THE CONSTRUCTION ACTIVITY ARE NOT STABILIZED WITH TEMPORARY OR PERMANENT MEASURES OUTLINED ABOVE BY NOVEMBER 15TH, THEN THE SITE MUST BE PROTECTED WITH ADDITIONAL STABILIZATION MEASURES THAT ARE SPECIFIC TO WINTER CONDITIONS, NO MORE THAN ONE ACRE OF THE SITE MAY BE WITHOUT STABILIZATION AT ONE TIME.
- SILT FENCE: IN LIEU OF PROVIDING THE 6" X 6" TRENCH, FOR FROZEN GROUND, STONY SOIL, THE PRESENCE OF LARGE ROOTS, OR OTHER PROHIBITIVE CONDITIONS, THE BOTTOM 8" TO 12" OF THE FABRIC MAY BE LAID ON EXISTING GRADE AND BACK FILLED WITH STONE ANCHORING MATERIAL, AS SHOWN ON THE DRAWINGS.
- HAY MULCH SHALL BE APPLIED AT TWICE THE STANDARD TEMPORARY STABILIZATION RATE. AT THE END OF EACH CONSTRUCTION DAY, AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE STABILIZED. MULCH MAY NOT BE SPREAD ON TOP OF SNOW.
- AFTER NOVEMBER 1ST OR THE FIRST KILLING FROST FOR THE REGION AND BEFORE SNOW FALL, ALL EXPOSED AND DISTURBED AREAS NOT TO UNDERGO FURTHER DISTURBANCE ARE TO HAVE DORMANT SEEDING. THE DORMANT SEEDING METHOD: PREPARE THE SEEDED, LIME AND FERTILIZE, APPLY THE SELECTED PERMANENT SEED MIXTURE AT DOUBLE THE REGULAR SEEDING RATE, AND MULCH AND ANCHOR. DORMANT SEEDINGS NEED TO BE ANCHORED EXTREMELY WELL ON SLOPES, DITCH BASES AND AREAS OF CONCENTRATED FLOWS. DORMANT SEEDING REQUIRES INSPECTION AND RESEEDING AS NEEDED IN THE SPRING. ALL AREAS WHERE COVER IS INADEQUATE MUST BE IMMEDIATELY RESEEDED AND MULCHED AS SOON AS POSSIBLE.
- ALL VEGETATED DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1ST, OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, MUST BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE UNLESS SPECIFICALLY RELEASED FROM THIS STANDARD BY THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- MULCH NETTING MUST BE USED TO ANCHOR MULCH ON ALL SLOPES GREATER THAN 8% UNLESS EROSION CONTROL BLANKETS OR EROSION CONTROL MIX IS BEING USED ON THESE SLOPES.

E. HOUSEKEEPING

- SPILL PREVENTION. CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON-SITE, INCLUDING STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORM WATER, AND APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING AND IMPLEMENTATION.
- GROUNDWATER PROTECTION. DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN INFILTRATION AREA" IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, TOPOGRAPHY AND OTHER RELEVANT FACTORS, ACCUMULATES RUNOFF THAT INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS.
- AUTHORIZED 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.

- 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.

- 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.

- DEBRIS AND OTHER MATERIAL. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORM WATER, MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE.

- COMPLY WITH THE REQUIREMENTS OF SPECIFICATION SECTION 024116, STRUCTURE DEMOLITION MANAGEMENT, FOR REMOVAL AND DISPOSAL OF CONSTRUCTION DEBRIS AND WASTE.

- TRENCH OR FOUNDATION DE-WATERING. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED AREAS THAT ARE SPECIFICALLY DESIGNATED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE, LIKE A COFFER DAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW OVER DISTURBED AREAS OF THE SITE.

F. INSPECTION AND MAINTENANCE

- INSPECT DISTURBED AND IMPERVIOUS AREAS, EROSION AND STORM WATER CONTROL MEASURES, AREAS USED FOR STORAGE THAT ARE EXPOSED TO PRECIPITATION, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE AT LEAST ONCE A WEEK AND BEFORE AND AFTER A STORM EVENT, PRIOR TO COMPLETION OF PERMANENT STABILIZATION. A PERSON WITH KNOWLEDGE OF EROSION AND STORM WATER CONTROLS, INCLUDING THE STANDARDS IN THE MAINE CONSTRUCTION GENERAL PERMIT AND ANY DEP OR MUNICIPAL COMPANION DOCUMENTS, MUST CONDUCT THE INSPECTION. THIS PERSON MUST BE IDENTIFIED IN THE INSPECTION LOG. IF BEST MANAGEMENT PRACTICES (BMPS) NEED TO BE MODIFIED OF IF ADDITIONAL BMPS ARE NECESSARY, IMPLEMENTATION MUST BE COMPLETED WITHIN 7 CALENDAR DAYS AND PRIOR TO ANY STORM EVENT (0.5IN OR GREATER IN 24-HOUR PERIOD). ALL MEASURES MUST BE MAINTAINED IN EFFECTIVE OPERATING CONDITION UNTIL AREAS ARE PERMANENTLY STABILIZED.

- AN INSPECTION AND MAINTENANCE LOG MUST BE KEPT SUMMARIZING THE SCOPE OF THE INSPECTION, NAME AND QUALIFICATIONS OF THE PERSON PERFORMING THE INSPECTION, DATE, AND MAJOR OBSERVATIONS RELATING TO OPERATION OF EROSION AND SEDIMENTATION CONTROLS AND POLLUTION PREVENTION MEASURES.

- INSPECTION OF THE PROJECT WORK SITE SHALL INCLUDE:
  - IDENTIFICATION OF PROPER EROSION CONTROL MEASURE INSTALLATION IN ACCORDANCE WITH THE EROSION CONTROL DETAIL SHEET.
  - DETERMINE WHETHER EACH EROSION CONTROL MEASURE IS PROPERLY OPERATING. IF NOT, IDENTIFY DAMAGE TO THE CONTROL DEVICE AND DETERMINE REMEDIAL MEASURES.
  - IDENTIFY AREAS WHICH APPEAR VULNERABLE TO EROSION AND DETERMINE ADDITIONAL EROSION CONTROL MEASURES WHICH SHOULD BE USED TO IMPROVE CONDITIONS.
  - INSPECT AREAS OF RECENT SEEDING TO DETERMINE PERCENT CATCH OF GRASS. A MINIMUM CATCH OF 90 PERCENT IS REQUIRED PRIOR TO REMOVAL OF EROSION CONTROL MEASURES.

- IF INSPECTION OF THE SITE INDICATES A CHANGE SHOULD BE MADE TO THE EROSION CONTROL PLAN, TO EITHER IMPROVE EFFECTIVENESS OR CORRECT A SITE-SPECIFIC DEFICIENCY, THE INSPECTOR SHALL IMMEDIATELY IMPLEMENT THE CORRECTIVE MEASURE AND NOTIFY THE OWNER OF THE CHANGE.

- ALL CERTIFICATIONS, INSPECTION FORMS, AND WRITTEN REPORTS PREPARED BY THE INSPECTOR(S) SHALL BE FILED WITH THE OWNER, AND THE PERMIT FILE CONTAINED ON THE PROJECT SITE. ALL WRITTEN CERTIFICATIONS, INSPECTION FORMS, AND WRITTEN REPORTS MUST BE FILED WITHIN ONE (1) WEEK OF THE INSPECTION DATE AND RECORDS MUST BE RETAINED FOR THREE YEARS FROM THE TIME PERMANENT STABILIZATION IS ACHIEVED.

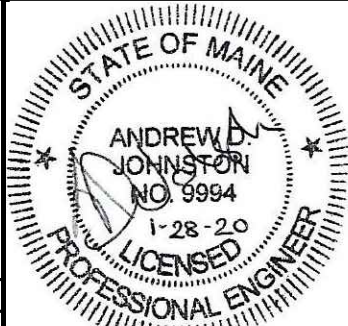

- THE CONTRACTOR HAS SOLE RESPONSIBILITY FOR COMPLYING WITH THE EROSION/SEDIMENT CONTROL REPORT, INCLUDING CONTROL OF FUGITIVE DUST, AND SHALL BE RESPONSIBLE FOR ANY MONETARY PENALTIES RESULTING FROM FAILURE TO COMPLY WITH THESE STANDARDS.

G. CONSTRUCTION SCHEDULE & SEQUENCE (TIMELINES ARE APPROXIMATE AND WILL BE DEPENDENT ON WEATHER AND SITE CONDITIONS).

- PRE-CONSTRUCTION CONFERENCE: PRIOR TO ANY CONSTRUCTION AT THE SITE, REPRESENTATIVES OF THE CONTRACTOR, THE OWNER, AND THE ENGINEER SHALL MEET TO DISCUSS THE SCHEDULING OF THE SITE CONSTRUCTION AND THE DESIGNATION OF THE RESPONSIBLE PARTIES FOR IMPLEMENTING THE PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING THE MEETING. PRIOR TO THE MEETING, THE CONTRACTOR WILL PREPARE A DETAILED SCHEDULE AND A MARKED-UP SITE PLAN INDICATING AREAS AND COMPONENTS OF THE WORK AND KEY DATES SHOWING DATE OF DISTURBANCE AND COMPLETION OF THE WORK. THE CONTRACTOR SHALL CONDUCT A MEETING WITH EMPLOYEES AND SUB-CONTRACTORS TO REVIEW THE EROSION CONTROL PLAN, THE CONSTRUCTION TECHNIQUES WHICH WILL BE EMPLOYED TO IMPLEMENT THE PLAN, AND PROVIDE A LIST OF ATTENDEES AND ITEMS DISCUSSED AT THE MEETING TO THE OWNER. THREE COPIES OF THE SCHEDULE, THE CONTRACTOR'S MEETING MINUTES, AND MARKED-UP SITE PLAN SHALL BE PROVIDED TO THE OWNER.

- THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE REQUIRED TO INSURE THE EFFECTIVENESS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES IS OPTIMIZED.
  - INSTALL SAFETY AND CONSTRUCTION FENCE TO SECURE THE SITE FOR CONSTRUCTION.
  - INSTALL ALL PERIMETER SILTATION FENCE AND EROSION CONTROL BARRIERS. PARTICULAR ATTENTION SHALL BE PAID TO AREAS UPSTREAM OF PROTECTED NATURAL RESOURCES. PROJECT LIMITS OF DISTURBANCE ARE CLEARLY DELINEATED ON THE DRAWINGS - NO ACTIVITY IS ALLOWED OUTSIDE THESE LIMITS. SIGNS SHALL BE ERECTED INDICATING THAT THE DOWNSTREAM AREAS ARE OFF LIMITS TO ALL CONSTRUCTION ACTIVITIES.
  - INSTALL CONSTRUCTION ENTRANCES.
  - INSTALL UTILITY DIVERSIONS AND BYPASS PUMPING MEASURES TO MAINTAIN FLOW IN THE STREAM CHANNEL.

ISSUED FOR BID

					<b>WEST STREET CULVERT REPLACEMENT</b>  <b>EROSION CONTROL</b>  <b>NOTES</b>	 <b>Atlantic Resource Consultants</b> 541 US Route One Freeport, ME 04032 Tel: 207.869.9050
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