

**SITE IMPROVEMENT PLAN
FOR A PROPOSED**

SELF-STORAGE FACILITY

**850 MANTON AVENUE
PROVIDENCE, RHODE ISLAND
AP 34, LOT 381**

ZONING DISTRICT: C-3 (HEAVY COMMERCIAL DISTRICT)



IMAGE COURTESY OF CUSTOM BUILDERS OF RHODE ISLAND, DATED MARCH, 2022

APPROVALS:

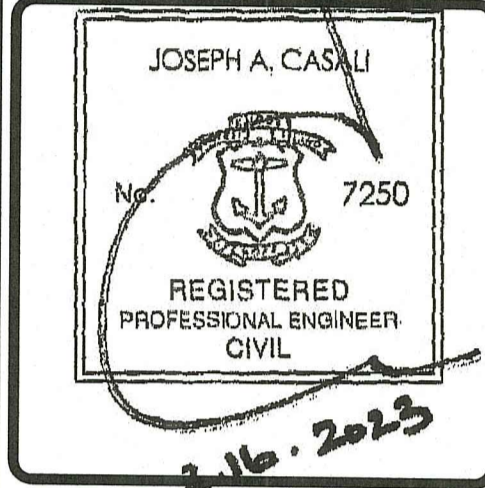
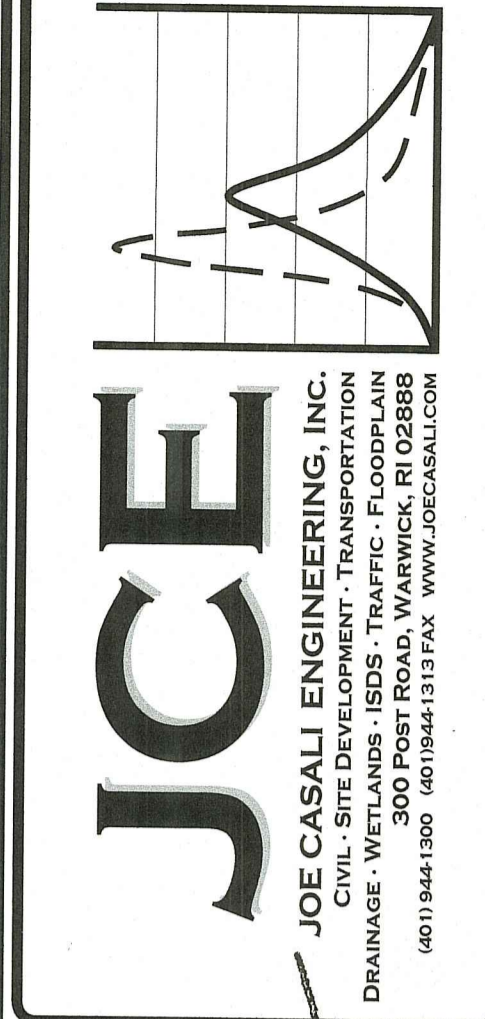
MASTER PLAN: PROVIDENCE CITY PLAN COMMISSION (CPC) - (OCTOBER 19, 2021)
PRELIMINARY PLAN: PROVIDENCE CITY PLAN COMMISSION (CPC) - (MAY 17, 2022)

FILINGS:

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT - PRELIMINARY DETERMINATION
NARRAGANSETT BAY COMMISSION - INDIRECT CONNECTION PERMIT
PROVIDENCE WATER SUPPLY BOARD
PROVIDENCE ENGINEERING DIVISION
PROVIDENCE CITY FORESTER

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL
DATED: MAR 27 2023 FILE # 22-0406
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

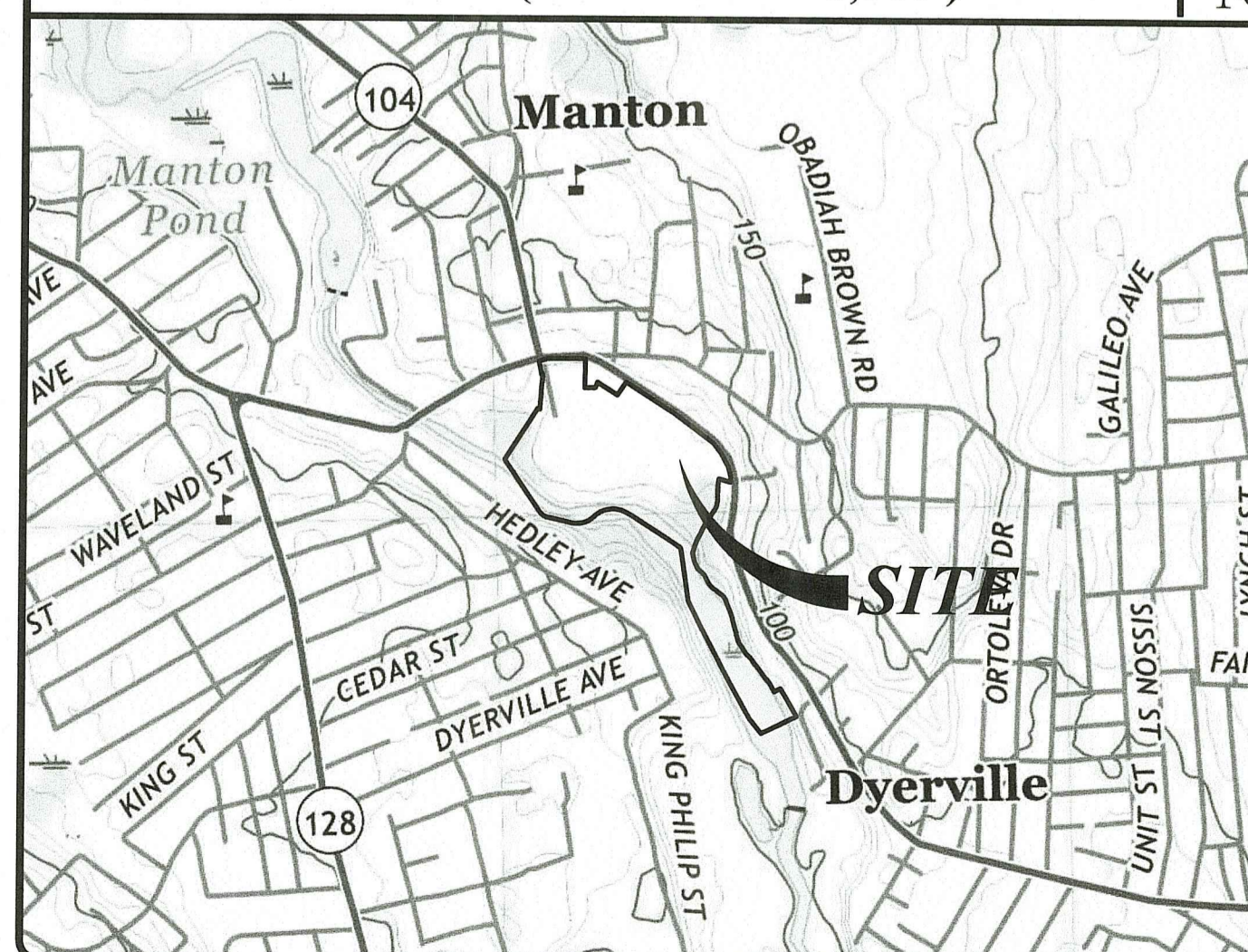
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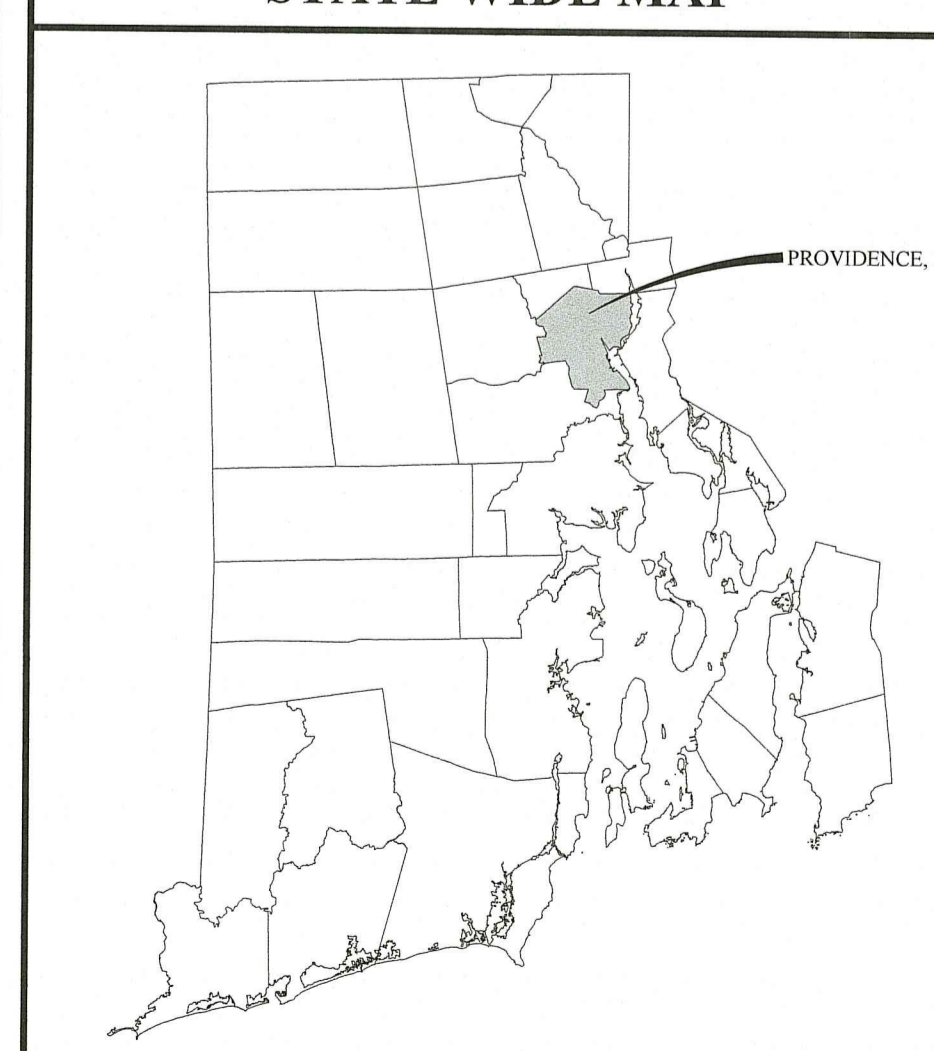
PROJECT TEAM

OWNER:	CALVI REALTY CO INC 1385 HANCOCK STREET TAX DEPT 8TH FL QUINCY, MA 02169-5103	CIVIL ENGINEER:	JOE CASALI ENGINEERING, INC. 300 POST ROAD WARWICK, RI 02888 PHONE: 401-944-1300 FAX: 401-944-1313
APPLICANT:	BLUEDOG CAPITAL PARTNERS, LLC C/O MR. RICHARD TASCA, ESQ. ONE CUSTOM HOUSE ST., SUITE 4 PROVIDENCE, RI 02903	SURVEYOR:	WATERMAN ENGINEERING CO. 46 SUTTON AVENUE EAST PROVIDENCE, RI 02914 PHONE: 401-438-5775
GENERAL CONTRACTOR:	CUSTOM BUILDERS OF RI C/O MR. RICK NARDELLA 289 COWESETT AVE WEST WARWICK, RI 02893 PHONE: 401-821-9663	LANDSCAPE ARCHITECT:	DIANE C. SOULE & ASSOCIATES, ASLA 422 FARNUM PILE SMITHFIELD, RI 02917 PHONE: 401-231-0736

LOCUS MAP (SCALE: 1" = 1,000')



STATE WIDE MAP



INDEX OF DRAWINGS

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RI Department of Environmental Management
FEB 22 2023
Office of Water Resources

REVISIONS:

NO.	DATE	DESCRIPTION
R1	6/14/2022	RIDEM FILING
R2	2/16/2023	RIDEM RTC

DESIGNED BY: WMLJR
DRAWN BY: SEPSD
CHECKED BY: JAC
DATE: MARCH 2022
PROJECT NO: 20-56a

PRELIMINARY,
NOT FOR CONSTRUCTION

COVER SHEET

SHEET 1 OF 13

C:\20-56 Blue Dwg\20-56a 850 Manton Avenue\CAD\850 Manton Ave [DEN RT] - R2.dwg Feb. 22, 2023 11:22am

GENERAL NOTES:

- 1. A PARTIAL CLASS I BOUNDARY SURVEY & CLASS III TOPOGRAPHIC SURVEY WAS COMPLETED IN MAY 2021 BY WATERMAN ENGINEERING COMPANY, 46 SUTTON AVENUE, PROVIDENCE, RI 02914.
2. THE PROPOSED PROJECT AREA IS WITHIN ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN) AND THE WOONASQUATUCKET RIVER AT THE SOUTHERN BOUNDARY OF THE PROPERTY IS WITHIN THE FLOODWAY ZONE AE, AS SHOWN ON THE FIRM MAP FOR THE CITY OF PROVIDENCE MAP NUMBER 44007C0304J, EFFECTIVE DATE OCTOBER 2, 2015. THE FLOODPLAIN BOUNDARIES AND THE COASTAL BARRIER DEPICTED HAVE BEEN OVERLAID AND APPROXIMATED USING FEMA'S ONLINE NATIONAL FLOOD HAZARD LAYER (NFHL) DATASET.
3. THE SUBJECT PROPERTY IS LOCATED WITHIN THE WOONASQUATUCKET RIVER WATERSHED.
4. THERE ARE NO KNOWN ACTIVE AGRICULTURAL USES ON OR ADJACENT TO THE SITE. THERE ARE NO HISTORIC CEMETERIES ON OR IMMEDIATELY ADJACENT TO THE SITE. THE SITE DOES LIE WITHIN AN ENVIRONMENTAL JUSTICE AREA.
5. WETLANDS WITHIN THE PROJECT AREA WERE DELINEATED BY NATURAL RESOURCE SERVICES, INC. IN JUNE 2021.
6. EXISTING SOILS ON THE SITE HAVE BEEN CLASSIFIED AS RIPPOWAM FINE SANDY LOAM (RU), MERRIMAC-URBAN LAND COMPLEX, 0-8% SLOPES, UDORTHERTS-URBAN LAND COMPLEX (UD) AND WATER (W).
7. SEWER, WATER, AND GAS ARE AVAILABLE WITHIN MANTON AVENUE.
8. THE SITE IS SUBJECT TO A SEWER LINE EASEMENT.

SITE NOTES:

- 1. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (R&D) OF ALL MATERIALS INDICATED ON THE PLANS.
2. ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS, AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE FEDERAL AMERICAN WITH DISABILITIES ACT AND WITH ALL APPLICABLE STATE AND LOCAL LAWS AND REGULATIONS, WHICHEVER IS MORE STRINGENT.
3. STOCKPILES OF EARTH MATERIALS SHALL NOT BE LOCATED ADJACENT TO DRAINAGE STRUCTURES.
4. ALL DISTURBED AREAS OUTSIDE OF THE PAVED AREAS WILL RECEIVE A MINIMUM OF 6" OF LOAM AND SEED.
5. THE LAYOUT SHOWN REPRESENTS A GRAPHICAL DESIGN, AND PRIOR TO THE CONSTRUCTION, THE CONTRACTOR SHALL ENGAGE A PROFESSIONAL LAND SURVEYOR (PLS) REGISTERED IN THE STATE OF RHODE ISLAND TO SET AND VERIFY ALL LINES AND GRADES. ALL EXISTING UTILITY LOCATIONS AND ELEVATIONS ARE TO BE CONFIRMED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY ITEMS FOUND WHICH DO NOT MATCH THE PLANS MUST BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO CONSTRUCTION FOR REVIEW. NO WORK SHALL PROCEED UNTIL AUTHORIZED BY THE ENGINEER.
6. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SURVEY LAYOUT SERVICES FOR THE WORK AND SHALL SUBMIT "AS-BUILT" DRAWINGS OF ALL WORK, WHICH SHALL BE STAMPED AND CERTIFIED BY A RHODE ISLAND REGISTERED PROFESSIONAL LAND SURVEYOR.
7. ANY ITEM OF WORK NOT SPECIFICALLY INDICATED ON THE PLANS BUT IS REQUIRED FOR THE COMPLETE CONSTRUCTION OF THE PROJECT WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND INCLUDED IN THE CONTRACT BID PRICE. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL EXISTING SITE CONDITIONS.
8. REFER TO ARCHITECTURAL PLANS, STRUCTURAL PLANS, PLUMBING PLANS AND ELECTRICAL PLANS FOR ACTUAL SIZE OF THE PROPOSED BUILDINGS AND WORK WITHIN 5 FEET OF THE PROPOSED BUILDINGS.
9. WHERE NECESSARY TO REMOVE CURBS, CATCH BASINS OR DRAINS TO COMPLETE WORK, THE CONTRACTOR SHALL REPLACE SUCH ITEMS TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER.
10. ANY EXISTING PIPE OR UTILITY DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT NO COST TO THE OWNER.
11. THE CONTRACTOR SHALL RESTORE TO ITS ORIGINAL CONDITION OR REPLACE TREES, SHRUBS, FENCES, SIGNS, GUARDRAILS, DRIVEWAYS, SIDEWALKS AND ANY OTHER OBJECT AFFECTED BY THIS OPERATION, UNLESS OTHERWISE NOTED ON THE SITE PLANS.
12. THE TOPS OF ALL VALVE BOXES AND CURB BOXES SHALL BE FLUSH WITH GROUND OR PAVEMENT SURFACE LEVEL AND PLUMB, UNLESS OTHERWISE DIRECTED.
13. ROADWAYS SHALL BE LEFT PASSABLE AT ALL TIMES. CLOSURE OF ROADWAY IS NOT PERMITTED.
14. WATER SERVICE SHALL BE MAINTAINED AT ALL TIMES.
15. IF ENCOUNTERED, ALL LEDGE TO BE REMOVED BY MECHANICAL MEANS.
16. ALL CONSTRUCTION WORK SHALL BE PERFORMED IN THE DRY. THE CONTRACTOR SHALL PROVIDE, OPERATE AND MAINTAIN ALL PUMPS, DRAINS, WET POINTS, SCREENS, OR OTHER FACILITIES NECESSARY TO CONTROL, COLLECT AND DISPOSE OF ALL SURFACE AND SUBSURFACE WATER ENCOUNTERED IN THE PERFORMANCE OF THE WORK.
17. ALL SITE WORK, INCLUDING BUT NOT LIMITED TO, BITUMINOUS PAVEMENT, ROADWAY CONSTRUCTION, AGGREGATE MATERIALS, DRAINAGE STRUCTURES, CURBING, SIDEWALK, LANDSCAPING, SAW CUTTING, ETC. SHALL CONFORM TO THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, AMENDED DECEMBER 2010 (WITH LATEST ADDENDA) AND THE RIDOT STANDARD DETAILS, 1998 EDITION (WITH LATEST ADDENDA).

MAINTENANCE AND PROTECTION OF TRAFFIC NOTES:

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MAINTENANCE AND PROTECTION OF PEDESTRIAN AND VEHICULAR TRAFFIC INCLUDING POLICE PROTECTION. ALL TEMPORARY AND VEHICULAR SIGNS, BARRICADES AND LANE CLOSURES SHALL BE IN CONFORMANCE WITH THE LATEST REVISIONS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2009 EDITION.
2. TEMPORARY CONSTRUCTION SIGNS AND ALL APPLICABLE TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF WORK IN ANY AREA OPEN TO TRAFFIC.
3. THE PRIVATE VEHICLES OF CONSTRUCTION WORKERS SHALL NOT BE PARKED IN THE CITY RIGHT-OF-WAY.
4. ALL MAINTENANCE AND PROTECTION OF TRAFFIC CONTROL SETUPS, SIGNS CHANNELING DEVICES, ETC, SHALL BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2009 EDITION.
5. SIGN MOUNTINGS SHALL BE IN ACCORDANCE WITH THE RIDOT SPECIFICATIONS FOR TEMPORARY CONSTRUCTION SIGNS.

DRAINAGE SYSTEM NOTES:

- 1. THE PROPOSED DRAINAGE LINES SHALL BE ADS N-12 HDPE PIPE OR AN APPROVED EQUAL UNLESS OTHERWISE NOTED ON THE SITE PLANS.
2. ALL RIM ELEVATIONS SHOWN ARE APPROXIMATE AND ARE TO BE SET FLUSH WITH FINAL GRADES.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES

- 1. THE LIMITS OF CLEARING, GRADING, AND DISTURBANCE SHALL BE KEPT TO A MINIMUM WITHIN THE PROPOSED AREA OF CONSTRUCTION. ALL AREAS OUTSIDE OF THESE LIMITS, AS DEPICTED ON THE PLAN SHALL BE TOTALLY UNDISTURBED, TO REMAIN IN NATURAL CONDITION.
2. ALL CATCH BASINS SHALL BE PROTECTED WITH SILTSACK SEDIMENT TRAPS DURING CONSTRUCTION ACTIVITIES. ALL PROPOSED STORM WATER DISCHARGE AREAS SHALL BE LINED WITH A RIPRAP SPLASH PAD AND PROTECTED WITH STAKED HAYBALE OUTLET PROTECTION (R.I. STD. 9.1.0), OR STAKED HAYBALE WITH SILT FENCE (R.I. STD. 9.3.0) OUTLET PROTECTION (STAKED HAYBALE OR STAKED HAYBALE WITH SILT FENCE) SHALL ALSO BE INSTALLED AT ALL EXISTING STORMWATER DISCHARGE LOCATIONS WHERE DISTRIBUTING PIPES, CATCH BASINS, AND MANHOLES ARE TO BE CLEANED AND FLUSHED.
3. ALL DISTURBED SLOPES EITHER NEWLY CREATED OR CURRENTLY EXPOSED SHALL BE SEEDED, PROTECTED AND MAINTAINED BY THE CONTRACTOR. THE CONTRACTOR SHALL REGULARLY CHECK ALL SEEDED AREAS TO ENSURE THAT A GOOD STANDING OF VEGETATION IS MAINTAINED.
4. ALL SILT FENCE, TEMPORARY TREATMENT (HAY, STRAW, ETC.) AND TEMPORARY EROSION PROTECTION SHALL BE MAINTAINED BY THE CONTRACTOR THROUGHOUT CONSTRUCTION AND SHALL REMAIN IN PLACE UNTIL AN ACCEPTABLE STAND OF GRASS OR APPROVED GROUND COVER IS ESTABLISHED.
5. STOCKPILES OF TOPSOIL SHALL NOT BE LOCATED NEAR WATERWAYS. THEY SHALL HAVE SIDE SLOPES OF NO GREATER THAN 2:1 AND SHALL BE TEMPORARILY SEEDED AND/OR STABILIZED PER CONTRACT SPECIFICATIONS.
6. THE SILT FENCE/HAYBALES SHALL BE CHECKED BY THE CONTRACTOR ON A WEEKLY BASIS AND AFTER EACH STORM FOR UNDERMINING OR DETERIORATION. THE CONTRACTOR SHALL REPAIR OR REPLACE ANY SILT FENCE/HAYBALES AS NEEDED. THE CONTRACTOR SHALL CLEAN THE ACCUMULATED SEDIMENT IF HALF OF THE ORIGINAL HEIGHT OF THE HAY-BALES BECOMES FILLED WITH SEDIMENTS.
7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN ALL SOIL EROSION AND SEDIMENT CONTROLS ON THE PROJECT SITE FOR THE ENTIRE DURATION OF THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL FOLLOW THE DIRECTION OF THE RESIDENT ENGINEER, TOWN ENGINEER, OR OWNER WITH REGARD TO INSTALLATION, MAINTENANCE, AND REPAIR OF ALL SOIL EROSION AND SEDIMENTATION CONTROLS ON THE PROJECT SITE. TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROLS (HAYBALES, SILT FENCE, ETC.) SHALL BE MAINTAINED UNTIL ALL EXPOSED SOILS ARE SATISFACTORILY STABILIZED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND/OR RESEEDING ALL AREAS THAT DO NOT DEVELOP WITHIN ONE YEAR FROM THE COMPLETION OF CONSTRUCTION.
8. ALL REFERENCED SOIL EROSION AND SEDIMENTATION CONTROLS INCLUDING MATERIALS USED, APPLICATION RATES AND THE INSTALLATION PROCEDURES SHALL BE PERFORMED PER THE "RHODE ISLAND EROSION AND SEDIMENTATION HANDBOOK", DATED 1993 AMENDED 2014.

MISCELLANEOUS UTILITY NOTES:

- 1. PRIOR TO CONSTRUCTION ALL POTENTIAL UTILITY/DRAINAGE CONFLICTS MUST BE IDENTIFIED BY THE CONTRACTOR. ANY MODIFICATIONS TO THE PROPOSED UTILITIES TO AVOID CONFLICTS MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
2. OVERHEAD ELECTRIC AND TELEPHONE SERVICES ARE TO BE REMOVED BY THE APPROPRIATE UTILITY COMPANY AND COORDINATED BY THE CONTRACTOR.
3. THE CONTRACTOR SHALL AT ALL TIMES PROVIDE A SUFFICIENT NUMBER OF WORKMEN AND GUARDS AS MAY BE NECESSARY TO PROPERLY SAFEGUARD THE PUBLIC FROM THEIR OPERATIONS.
4. THE CONTRACTOR SHALL TAKE PRECAUTIONS AGAINST DAMAGING OF PAVING, SIDEWALKS, UTILITIES, OR PRIVATE PROPERTIES AND SHALL PROMPTLY REPAIR AT THEIR OWN EXPENSE ANY DAMAGE TO SUCH PAVING, SIDEWALKS, UTILITIES, OR PRIVATE PROPERTIES TO THE SATISFACTION OF THE OWNER OR CITY.
5. EXISTING UTILITY FRAMES AND COVERS FOR SANITARY SEWER, WATER, GAS, STORM DRAINAGE AND OTHER UTILITIES SHALL BE ADJUSTED TO GRADE AS REQUIRED IN NEW PAVING AND PAVEMENT OVERLAY AREAS.
6. ALL SEWER CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE NARRAGANSETT BAY COMMISSION SEWER REQUIREMENTS.
7. ALL NEW SEWER PIPES AND MANHOLES SHALL BE CLEANED AND TESTED PRIOR TO ACCEPTANCE. GRAVITY SEWER PIPES SHALL BE REQUIRED TO PASS BOTH LOW PRESSURE AIR AND DEFLECTION (IE., MANDEREL) TESTING. LOW PRESSURE SEWER PIPING SHALL BE REQUIRED TO PASS A LOW PRESSURE (IE., HYDROSTATIC) TEST.
8. A BACKFLOW PREVENTION DEVICE MUST BE INSTALLED AT EACH SEWER SERVICE BUILDING CONNECTION THAT IS BELOW THE RIM ELEVATION OF THE NEAREST SEWER MANHOLE, AS REQUIRED BY THE INTERNATIONAL PLUMBING CODE AND THE NARRAGANSETT BAY COMMISSION.
9. APPLICANT IS REQUIRED TO PROVIDE TWO SETS OF FINAL AS-BUILT PLANS TO NARRAGANSETT BAY COMMISSION AND ENGINEERING DEPARTMENT UPON COMPLETION OF CONSTRUCTION, PRIOR TO FINAL ACCEPTANCE. AS-BUILT PLANS SHALL INCLUDE FIELD MEASUREMENTS OF ALL INSTALLED PIPE AND APPURTENANCES, INCLUDING LENGTH, SLOPE, MANHOLE RIMS AND INVERTS, AS WELL AS SWING TIES/MEASUREMENTS TO ALL MANHOLES, SEWER STUDS, AND/OR LATERAL SERVICE CONNECTIONS.
10. INSPECTION OF ALL SEWER CONSTRUCTION SHALL BE PERFORMED BY NARRAGANSETT BAY COMMISSION. APPLICANT SHALL PROVIDE SCHEDULE FOR CONSTRUCTION AS SOON AS POSSIBLE TO ALLOW FOR DEVELOPMENT OF INSPECTION FEE, TO BE PAID BY APPLICANT DIRECTLY TO THE NARRAGANSETT BAY COMMISSION. UPON PAYMENT OF FEE, COMMENCEMENT OF CONSTRUCTION INSPECTION REQUIRES MINIMUM NOTIFICATION OF 48-HOURS.
11. APPLICANT IS RESPONSIBLE FOR SECURING ALL REQUIRED PERMITS FROM LOCAL, STATE, AND/OR FEDERAL AGENCIES WITH REGULATORY JURISDICTION OVER THE PROPOSED WORK. COPIES OF ALL PERMITS SHALL BE PROVIDED TO NARRAGANSETT BAY COMMISSION AND CITY ENGINEER PRIOR TO CONSTRUCTION. ALL SEWER CONSTRUCTION SHALL BE PERFORMED BY A DRAIN LAYER LICENSED IN THE STATE OF RHODE ISLAND AND THE TOWN OF SMITHFIELD.
12. NO FLOW WILL BE ACCEPTED UNTIL A COMPLETION CERTIFICATE IS ISSUED.
13. THE CONTRACTOR SHALL CONFINE HIS CONSTRUCTION OPERATIONS AND ACTIVITIES TO WITHIN THE STREET LINES, EASEMENT AND/OR RIGHT-OF-WAY, AS SHOWN ON THE DRAWINGS.
14. PRIOR TO CONSTRUCTION OF THE RELOCATION OF ALL WATER MAINS, THE CONTRACTOR SHALL COORDINATE WITH PROVIDENCE WATER SUPPLY BOARD FOR INSPECTION AND CHLORINATION OF NEW PIPING, FITTINGS AND VALVES.

BMP MAINTENANCE SCHEDULE:

- 1. ALL MAINTENANCE (INCLUDING CLEANING) REQUIRED DURING THE CONSTRUCTION PHASE OF THE PROJECT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL INCLUDE:
A. MEASURES NEEDED TO ENSURE THE PROPER OPERATION OF THE STORMWATER RUNOFF (DRAINAGE) AND WATER QUALITY CONTROL SYSTEMS TO INCLUDE INSPECTION, CLEANING AND REPAIRS ALL PIPES, INTAKE AND DISCHARGE STRUCTURES, CATCH BASIN SUMPS, AND MANHOLES.
B. INSPECTION OF ALL SLOPES, BERMS, AND OTHER CONTROL STRUCTURES FOR STRUCTURAL INTEGRITY/STABILITY AND EVIDENCE OF SOIL EROSION PROCESSES, AND MAINTENANCE OF THESE STRUCTURES IF NECESSARY. INSPECTIONS SHALL BE PERFORMED FOLLOWING ALL RAIN EVENTS OF 1/2 INCH RAINFALL OR MORE IN A 24-HOUR PERIOD, OR BI-MONTHLY IF NO RAINFALL EVENT OCCURS.
2. UPON COMPLETION OF THE PROJECT CONSTRUCTION, AND PRIOR TO VACATING THE SITE, THE CONTRACTOR SHALL CONDUCT A FINAL INSPECTION AND CLEANING OF THE DRAINAGE SYSTEM AND ALL ASSOCIATED STRUCTURES.
3. ALL INSTALLATION, CLEANING, AND MAINTENANCE OF THE STORMWATER DRAINAGE SYSTEM SHALL FOLLOW AT LEAST THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION MINIMUM STANDARDS, SECTION 212 AND SECTION 708. WHERE APPROPRIATE, PROCEDURES REGARDING THE DRAINAGE INSTALLATION, CLEANING, INSPECTION, AND MAINTENANCE OF THE STORMWATER DRAINAGE SYSTEM SHALL BE FOLLOWED AS OUTLINED IN THE "RHODE ISLAND STORMWATER DESIGN AND INSTALLATION STANDARDS MANUAL" (RIDEM/RICRMC, 2010).
4. AFTER CONSTRUCTION, STORMWATER BMPs SHALL BE INSPECTED AND MAINTAINED BY THE OLD COUNTY VILLAGE CONDOMINIUM ASSOCIATION AS FOLLOWS:

CATCH BASINS

- INSPECTIONS SHALL BE PERFORMED A MINIMUM OF 2 TIMES PER YEAR (SPRING/FALL). UNITS SHALL BE CLEANED WHENEVER THE DEPTH OF SEDIMENT IS GREATER THAN OR EQUAL TO 2-FEET (LESS THAN 2-FEET FROM THE BOTTOM OF PIPE). ALL REMOVED SEDIMENT SHALL BE TESTED TO DETERMINE POLLUTANT CONTENT AND SHALL BE REMOVED IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.
• THE INLET GRATE SHALL NOT BE WELDED TO THE FRAME SO THAT THE SUMP CAN BE EASILY INSPECTED AND MAINTAINED.

ROOF DRAIN LEADERS

- PERFORM ROUTINE ROOF INSPECTIONS QUARTERLY.
• KEEP ROOFS CLEAN AND FREE OF DEBRIS.
• KEEP ROOF DRAINAGE SYSTEMS CLEAR.

UNDERGROUND INFILTRATION SYSTEM

- INFILTRATION SYSTEMS SHALL BE INSPECTED ON A BI-ANNUAL BASIS TO ENSURE PROPER FUNCTIONS. INSPECTION PORTS SHALL BE USED TO VERIFY THAT THE SYSTEMS ARE DRAINING WITHIN 72 HOURS. IF THE SYSTEM FAILS TO DRAIN WITHIN 72-HOURS, THE SYSTEM SHALL BE CLEANED OR REPLACED AS NECESSARY.
• THE INFILTRATION SYSTEM SHALL BE INSPECTED BI-ANNUALLY FOR SEDIMENT ACCUMULATIONS. IF THE SYSTEM HAS ACCUMULATED 3 INCHES OF SEDIMENT, THE SEDIMENT SHALL BE REMOVED BY FLUSHING FROM THE SYSTEM WITH HIGH PRESSURE WATER JETS AND AND VACUUMING THE SEDIMENT AND DEBRIS THROUGH THE ACCESS PORTS. ALL SEDIMENT REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL STATE AND FEDERAL REGULATIONS.

LOAMING & SEEDING

SEEDING ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH SECTION L.02 SEEDING OF THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, 2010 EDITION (WITH LATEST ADDENDA), AND SHALL ALSO CONFORM TO THE FOLLOWING:

- 1. AFTER ROUGH GRADING IS COMPLETED, ALL DISTURBED AREAS AND AREAS LABELED AS 'LOAM AND SEED' ARE TO BE BROUGHT TO AN ELEVATION OF 6" BELOW THE PROPOSED FINISHED GRADE. SCARIFY THE SUBGRADE TO A DEPTH OF 12" WITH THE TEETH OF A BACKHOE OR A POWER RAKE TO RESULT IN AN UNCOMPACTED SUBSOIL. 6" OF GOOD QUALITY TOPSOIL IS TO BE APPLIED AND RAKED TO FINISHED GRADE.
2. THE TOPSOIL IS TO BE GOOD QUALITY LOAM, FERTILE AND FREE OF WEEDS, STICKS AND STONES OVER 3/4" IN SIZE AND OTHERWISE COMPLYING WITH SECTION M.18.01 OF THE RHODE ISLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADWAY AND BRIDGE CONSTRUCTION, 2010 EDITION (WITH LATEST ADDENDA),
3. PRIOR TO SEEDING OR SODDING, FERTILIZE WITH 10-10-10 OR EQUIVALENT ANALYSIS. AT LEAST 40% OF THE FERTILIZER NITROGEN SHALL BE IN SLOW RELEASE FORM. INCORPORATE THE FERTILIZER INTO THE TOP 1-2" OF THE PLANTING SOIL. APPLY AT A RATE OF 8 LBS. PER 1000 SQUARE FEET.
4. APPLY LIME AT A RATE OF ONE TON PER ACRE AND UNIFORMLY INCORPORATE INTO THE TOP 1-2" OF TOPSOIL.
5. SEEDING
AFTER THE SEED BED IS PREPARED, SEED IS TO BE BROADCAST EVENLY OVER THE SURFACE AND WORKED INTO THE TOP 1" OF SOIL. SEED SHALL BE APPROVED URI #2 OR APPROVED EQUAL. APPLY AT A RATE OF 4-5 LBS. PER 1000 SQUARE FEET OR AS OTHERWISE DIRECTED BY THE MANUFACTURER.

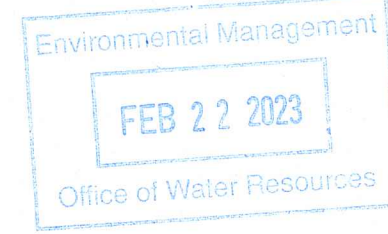
URI #2 IMPROVED SEED MIX, % BY WEIGHT:

- 40% CREEPING RED FESCUE
20% IMPROVED PERENNIAL RYEGRASS
20% IMPROVED KENTUCKY BLUEGRASS
20% KENTUCKY BLUEGRASS

RECOMMENDED SEEDING DATES ARE APRIL 1 TO JUNE 15 AND AUGUST 15 TO OCTOBER 15. AT THE CONTRACTORS DISCRETION, SEED MAY BE APPLIED BY HYDROSEEDING RATHER THAN THE METHOD DESCRIBED ABOVE.

SEQUENCE & STAGING OF PROPOSED CONSTRUCTION ACTIVITIES:

- THIS IS A GENERAL SEQUENCE AND STAGING OF CONSTRUCTION ACTIVITIES. A DETAILED SEQUENCE WITH TIME LINES SHALL BE ESTABLISHED BY THE CONTRACTOR IN COORDINATION WITH THE OWNER, ENGINEER AND SITE CONTRACTORS PRIOR TO THE START OF CONSTRUCTION.
1. SURVEY AND STAKE THE PROPOSED DRAINAGE BMPs (UNDERGROUND INFILTRATION CHAMBER SYSTEMS), PARKING LOTS, WATER LINE, SEWER LINE AND LIMIT OF DISTURBANCE.
2. PLACE SEDIMENTATION BARRIERS (SILT FENCE) AS SHOWN ON THE PLANS AND AS STAKED OUT IN THE FIELD. IN NO CASE IS THE LIMIT OF WORK TO EXTEND BEYOND THE SEDIMENTATION BARRIERS.
3. BEGIN SITE WORK (CLEARING AND GRUBBING, EXCAVATING AND GRADING ETC.) TOPSOIL IS TO BE STRIPPED AND STOCKPILED WITHIN DISTURBANCE LIMITS. THE STOCKPILES ARE TO BE PROTECTED BY A ROW OF SEDIMENTATION BARRIERS. STOCKPILES TO BE COVERED OR TEMPORARILY SEEDED.
4. EXCAVATE AND CONSTRUCT STORMWATER MANAGEMENT AREAS AS SHOWN ON PLAN. DIVERT ALL THE RUNOFF FROM DISTURBED AREAS TO THE PROPOSED STORMWATER STORAGE AREA.
5. INSTALL UTILITIES AND DRAINAGE INCLUDING DRAINAGE PIPE. SEED ALL DISTURBED AREAS.
6. BEGIN BUILDING CONSTRUCTION.
7. BEGIN PAVEMENT AND PROPOSED GRADING.
8. FINISH PAVEMENT CONSTRUCTION.
9. MAINTAIN SEDIMENT AND EROSION CONTROLS WHILE BUILDING ARE CONSTRUCTED.
10. FINISH LANDSCAPING AND PERMANENT STABILIZATION.
11. INSPECT AND REPAIR ALL DRAINAGE STRUCTURES INCLUDING DISCHARGE POINTS. REMOVE ANY DEBRIS (LEAVES, TREE LIMBS, BULDERS, ETC.) FROM DRAINAGE INLETS AND OUTLETS. FLUSH ALL SEDIMENTS FROM DRAINAGE PIPES AND APPLY TOPSOIL TO PONDS.
12. REMOVE ALL TEMPORARY SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ONCE VEGETATION HAS BEEN ESTABLISHED TO ALL DISTURBED AREAS.



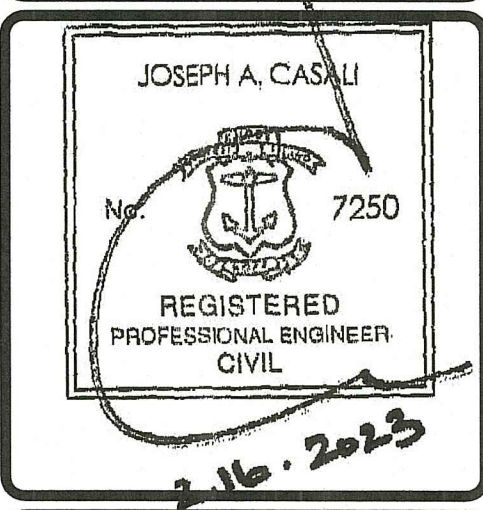
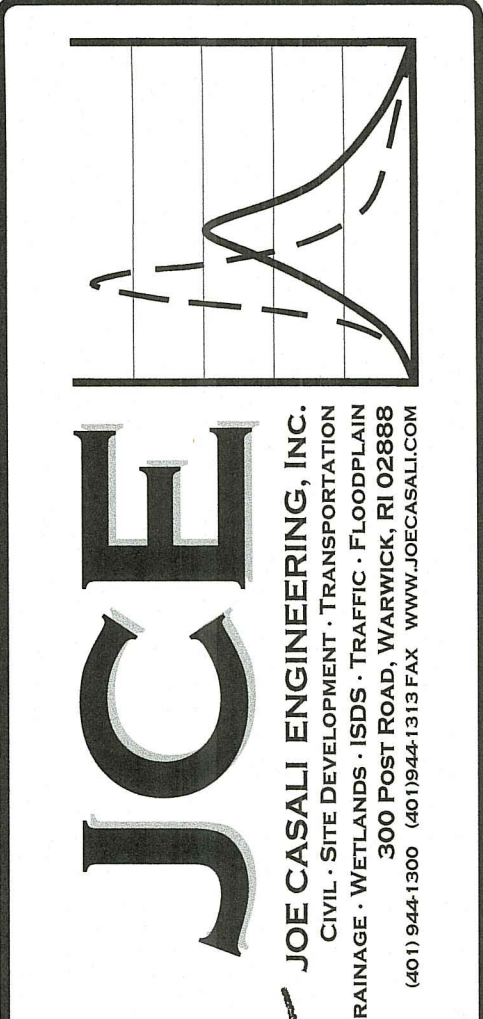
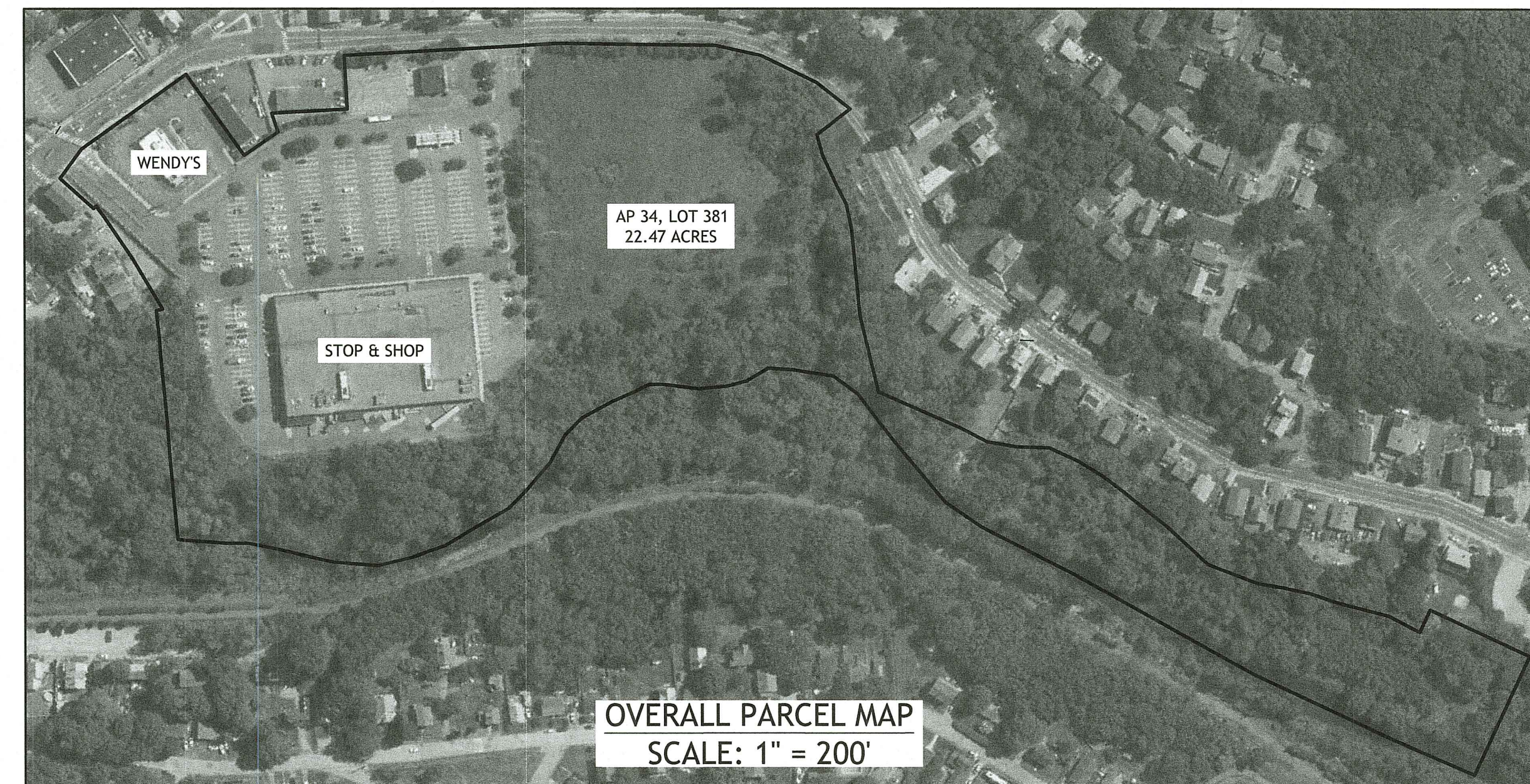
LEGEND

- EXISTING PROPERTY LINE
ABUTTING PROPERTY LINE
BUILDING SETBACK LINE
EXISTING CONTOUR
PROPOSED CONTOUR
EXISTING STONE WALL
EXISTING CURB
PROPOSED CURB
EXISTING GUARD RAIL
EXISTING DRAIN LINE
PROPOSED DRAIN LINE
EXISTING DRAINAGE MANHOLE
PROPOSED DRAINAGE MANHOLE
EXISTING CATCH BASIN
PROPOSED CATCH BASIN
EXISTING UTILITY POLE
PROPOSED UTILITY POLE
EXISTING TELECOM DUCTBANK
EXISTING ELECTRIC DUCTBANK
RELOCATED ELECTRIC DUCTBANK
EXISTING GAS LINE
PROPOSED GAS LINE
EXISTING WATER LINE
PROPOSED WATER LINE
EXISTING WATER SHUT OFF VALVE
PROPOSED WATER SHUT OFF VALVE
EXISTING SEWER LINE
PROPOSED SEWER LINE
EXISTING SEWER MANHOLE
PROPOSED SEWER MANHOLE
NOW OR FORMERLY
TREE LINE
SILT FENCE
LIMIT OF DISTURBANCE
TEMPORARY LIMIT OF DISTURBANCE
TEST HOLE

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL

DATED: MAR 27 2023 FILE # 20-0426
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



SELF-STORAGE FACILITY
850 MANTON AVENUE
PROVIDENCE, RHODE ISLAND
AP 34, LOT 381

Table with 3 columns: NO., DATE, DESCRIPTION. Revisions include R1 6/14/2022 RIDEM FILING and R2 2/16/2023 RIDEM RTC.

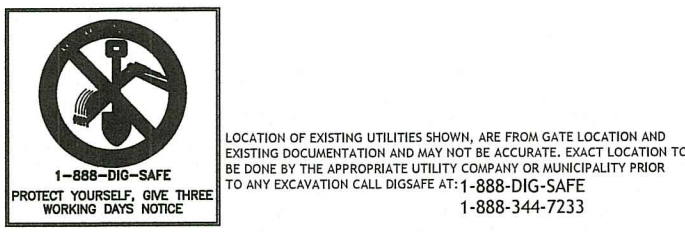
DESIGNED BY: WMLJR
DRAWN BY: SEP/SD
CHECKED BY: JAC
DATE: MARCH 2022
PROJECT NO: 20-56a

PRELIMINARY, NOT FOR CONSTRUCTION

GENERAL NOTES & LEGEND

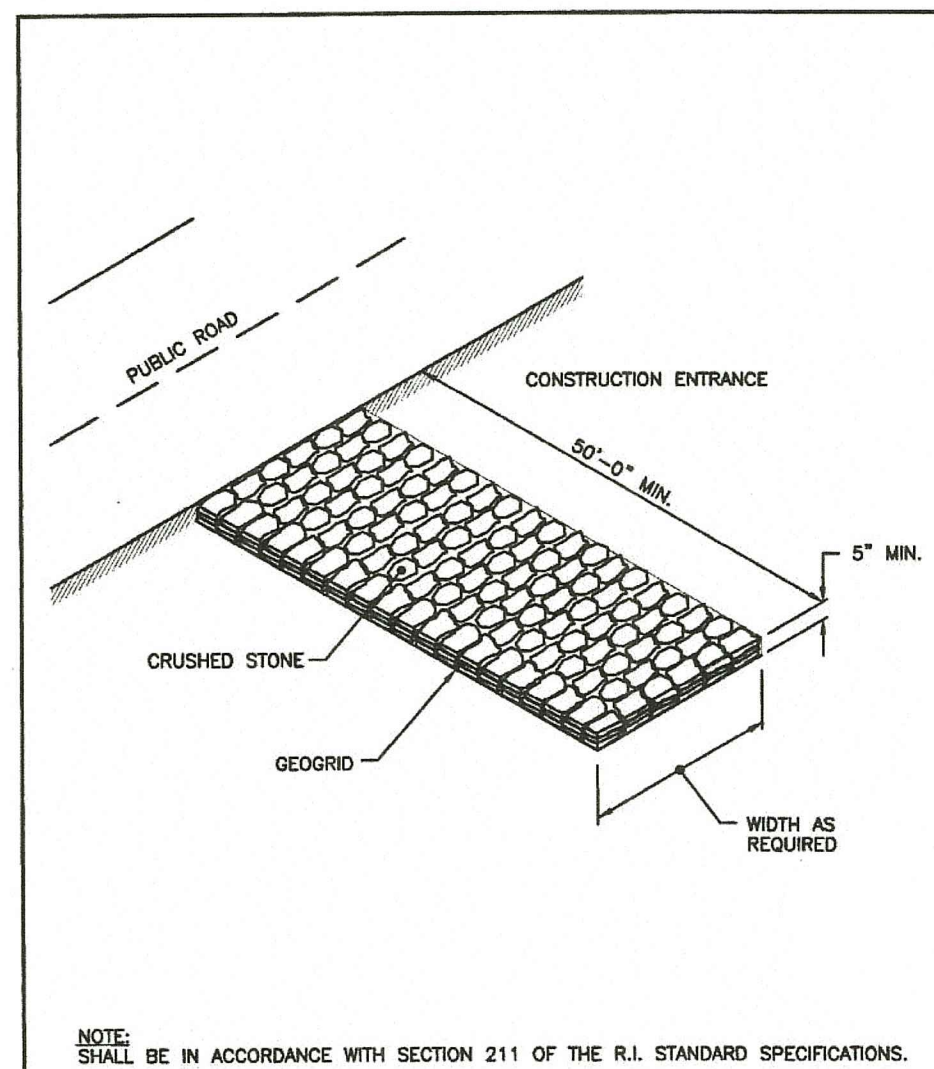
SHEET 2 OF 13

Q:\20-56 Blue Dog\20-56a 850 Manton Avenue\MCAD\850 Manton Ave (DEA RTC) - RZ.dwg Feb. 22, 2023 11:22am



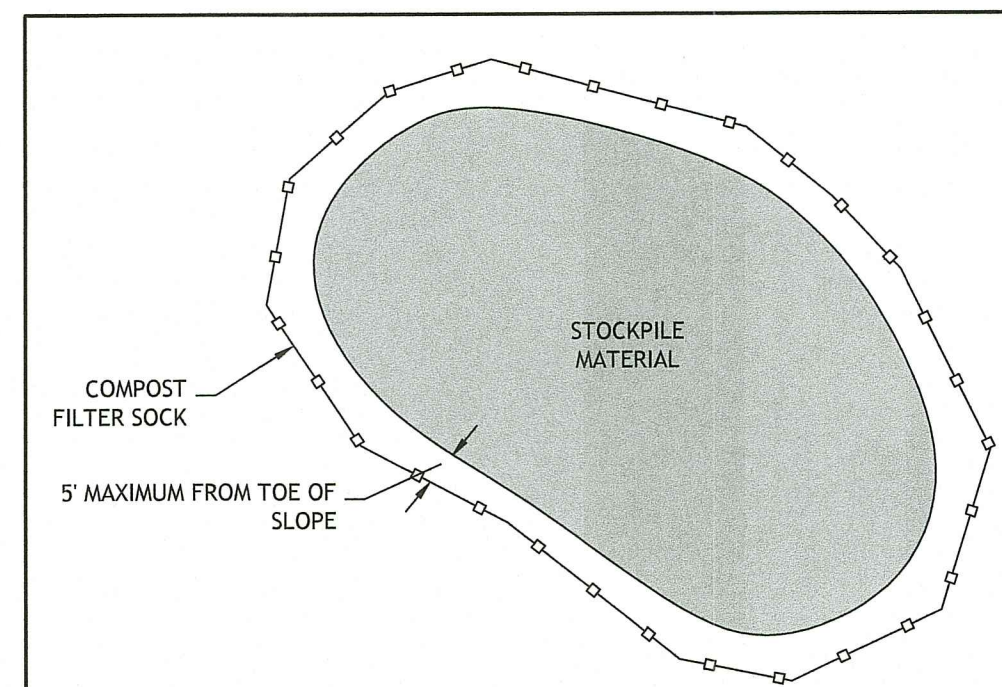
ZONING CRITERIA	REQUIRED	EXISTING
ZONING DISTRICT	C-3	C-3
MINIMUM LOT AREA	NONE	22.47 ACRES
MINIMUM BUILDING HEIGHT	NONE	N/A
MINIMUM FIRST STORY HEIGHT	11 FT	N/A
MAXIMUM BUILDING HEIGHT	50 FT	N/A
TOTAL MAXIMUM IMPERVIOUS SURFACE COVERAGE	NONE	N/A
MINIMUM FRONT SETBACK	NONE	N/A
MINIMUM INTERIOR SIDE SETBACK	10 FT	N/A
MINIMUM CORNER SIDE SETBACK	NONE	N/A
MINIMUM REAR SETBACK	NONE	N/A

- NOT TO EXCEED 4 STORIES
- NONE, UNLESS MULTI-TENANT RETAIL CENTER, THEN 503.B APPLIES
- NONE, UNLESS ABUTTING A RESIDENTIAL DISTRICT, THEN 10'
- NONE, UNLESS ABUTTING A RESIDENTIAL DISTRICT THEN 20'

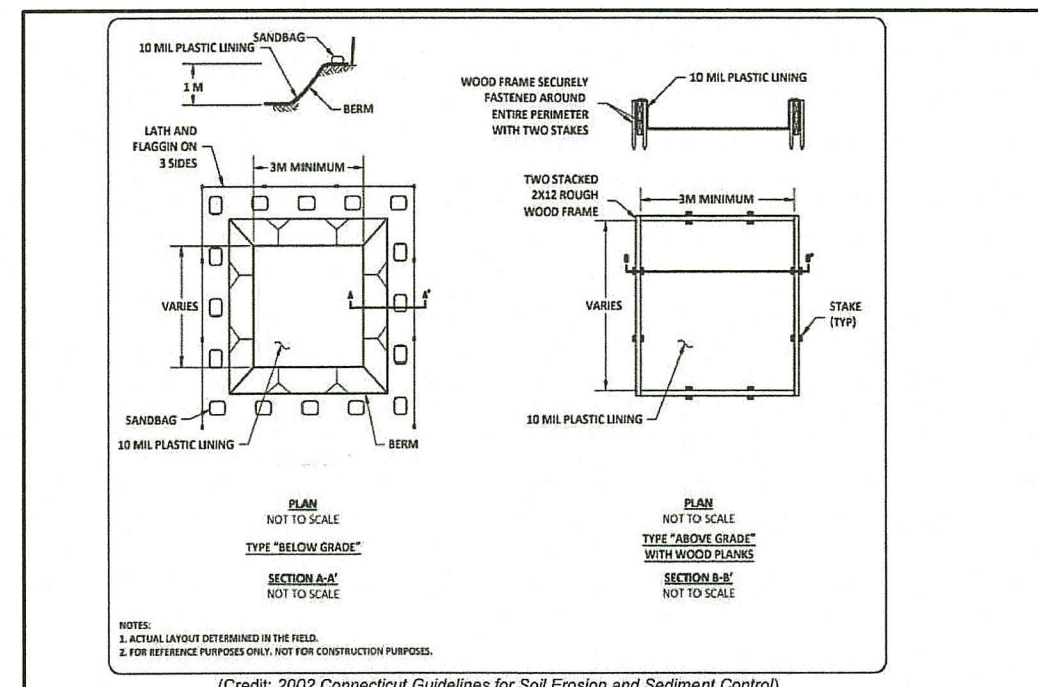


RHODE ISLAND DEPARTMENT OF TRANSPORTATION		
CONSTRUCTION ACCESS		
NO.	BY	DATE
1	JAC	JUNE 15, 1998
2	JAC	MAR 27, 2023

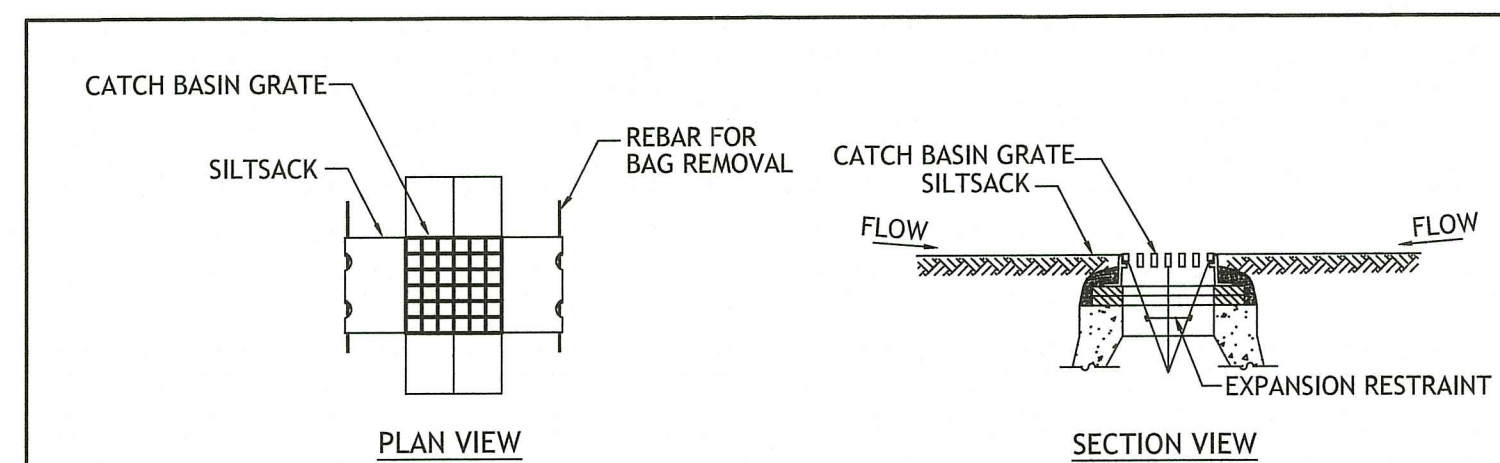
R.I. STANDARD 9.9.0



1 STOCKPILE DETAIL
NOT TO SCALE

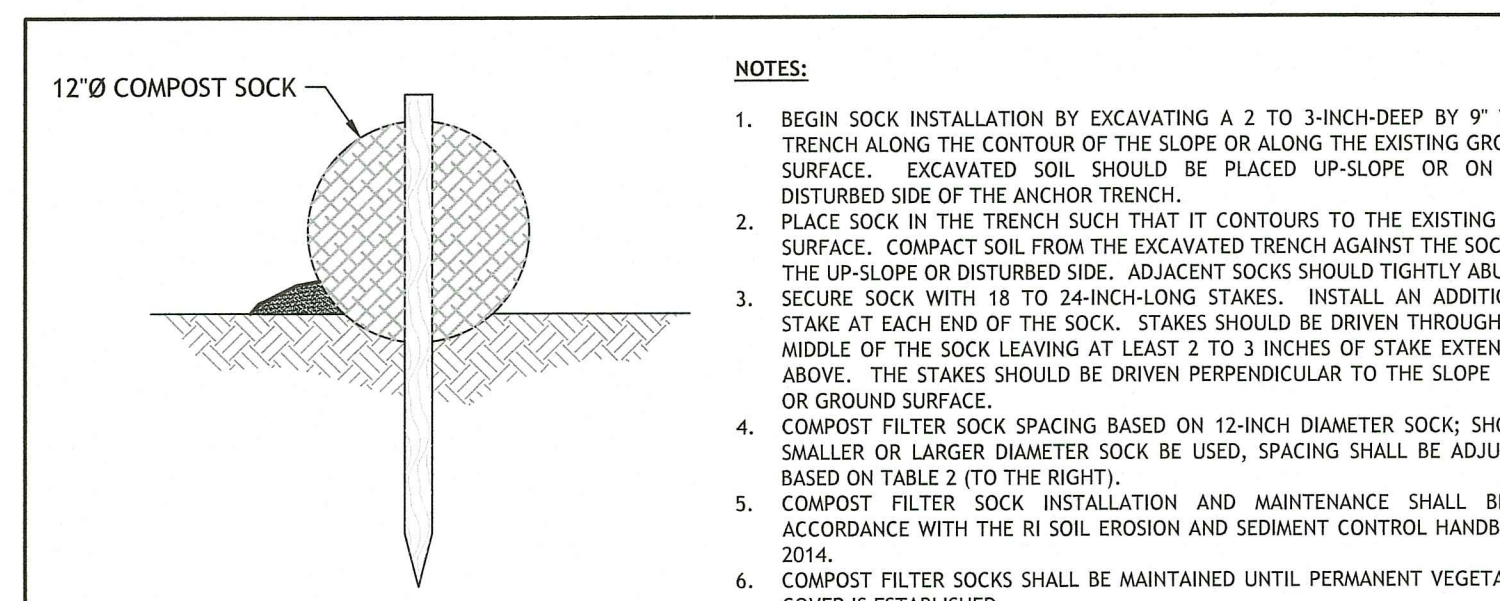


2 TEMP. CONCRETE WASHOUT FACILITY
NOT TO SCALE



- Notes:
- INSTALL SILTSACK IN ALL PROPOSED CATCH BASINS IDENTIFIED ON THE GRADING & DRAINAGE PLAN.
 - GRATE TO BE PLACED OVER SILTSACK. SILTSACK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS AND CLEANING OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED. MAINTAIN UNTIL UPSTREAM AREAS HAVE BEEN PERMANENTLY STABILIZED.

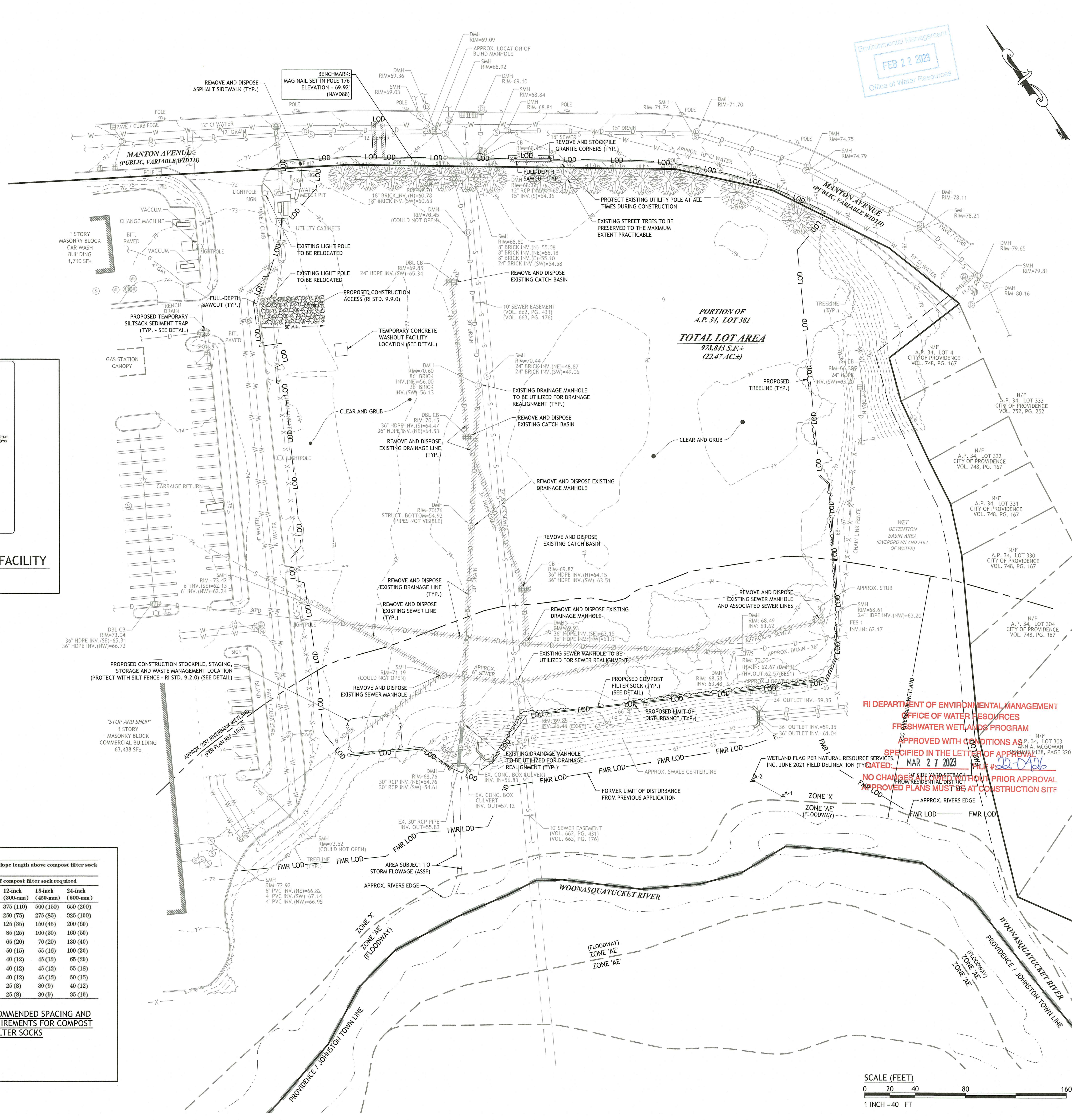
3 SILT SACK SEDIMENT TRAP
NOT TO SCALE



- NOTES:
- BEGIN SOCK INSTALLATION BY EXCAVATING A 2 TO 3-INCH-DEEP BY 9" WIDE TRENCH ALONG THE CONTOUR OF THE SLOPE OR ALONG THE EXISTING GROUND SURFACE. EXCAVATED SOIL SHOULD BE PLACED UP-SLOPE OR ON THE DISTURBED SIDE OF THE ANCHOR TRENCH.
 - PLACE SOCK IN THE TRENCH SUCH THAT IT CONTOURS TO THE EXISTING SOIL SURFACE. COMPACT SOIL FROM THE EXCAVATED TRENCH AGAINST THE SOCK ON THE UP-SLOPE OR DISTURBED SIDE. ADJACENT SOCKS SHOULD TIGHTLY ABUT.
 - SECURE SOCK WITH 18 TO 24-INCH-LONG STAKES. INSTALL AN ADDITIONAL STAKE AT EACH END OF THE SOCK. STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE SOCK LEAVING AT LEAST 2 TO 3 INCHES OF STAKE EXTENDING ABOVE. THE STAKES SHOULD BE DRIVEN PERPENDICULAR TO THE SLOPE FACE OR GROUND SURFACE.
 - COMPOST FILTER SOCK SPACING BASED ON 12-INCH DIAMETER SOCK; SHOULD SMALLER OR LARGER DIAMETER SOCK BE USED, SPACING SHALL BE ADJUSTED BASED ON TABLE 2 (TO THE RIGHT).
 - COMPOST FILTER SOCK INSTALLATION AND MAINTENANCE SHALL BE IN ACCORDANCE WITH THE RI SOIL EROSION AND SEDIMENT CONTROL HANDBOOK, 2014.
 - COMPOST FILTER SOCKS SHALL BE MAINTAINED UNTIL PERMANENT VEGETATIVE COVER IS ESTABLISHED.

Slope %	Maximum slope length above compost filter sock in ft (m)			
	8-inch (200-mm)	12-inch (300-mm)	18-inch (450-mm)	24-inch (600-mm)
2 (or less)	300 (90)	375 (110)	500 (150)	650 (200)
5	200 (60)	250 (75)	275 (85)	325 (100)
10	100 (30)	125 (35)	150 (45)	200 (60)
15	70 (20)	85 (25)	100 (30)	150 (50)
20	50 (15)	65 (20)	70 (20)	100 (30)
25	40 (12)	50 (15)	55 (16)	100 (30)
30	30 (9)	40 (12)	45 (13)	65 (20)
35	30 (9)	40 (12)	45 (13)	55 (15)
40	30 (9)	40 (12)	45 (13)	50 (15)
45	20 (6)	25 (8)	30 (9)	40 (12)
50	20 (6)	25 (8)	30 (9)	35 (10)

FIGURE 2: RECOMMENDED SPACING AND DIAMETER REQUIREMENTS FOR COMPOST FILTER SOCKS



Environmental Management
FEB 27 2023
Office of Water Resources

JCE
JOE CASALI ENGINEERING, INC.
Civil, Structural, Mechanical, Electrical, Plumbing, Fire, Floodplain
DRAINAGE, WETLANDS, ISDS, TRAFFIC, WATERSHED, RI 02888
(401) 944-1300 (401)944-1313 FAX WWW.JCEONLINE.COM

JOSEPH A. CASALI
No. 7250
REGISTERED PROFESSIONAL ENGINEER
CIVIL
2.16.2023

SELF-STORAGE FACILITY
850 MANTON AVENUE
PROVIDENCE, RHODE ISLAND
AP 34, LOT 381

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATE: MAR 27 2023
FILE # 2023-02-026
NO CHANGE TO THE 10' SIDE YARD SETBACK FROM RESIDENTIAL DISTRICT WITHOUT PRIOR APPROVAL
PROPOSED PLANS MUST BE AT CONSTRUCTION SITE

REVISIONS:

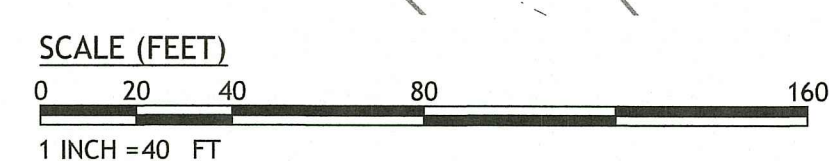
NO.	DATE	DESCRIPTION
R1	6/14/2022	RIDEM FILING
R2	2/16/2023	RIDEM RTC

DESIGNED BY: WMLJR
DRAWN BY: SEPSD
CHECKED BY: JAC
DATE: MARCH 2022
PROJECT NO: 20-56a

PRELIMINARY,
NOT FOR CONSTRUCTION

EXISTING CONDITIONS & SITE PREP. PLAN

SHEET 3 OF 13



Q:\20-56-Blue Dog\20-56a_850 Manton Avenue\ACAD\850 Manton Ave [DEM RTC] - R2.dwg Feb. 22, 2023 1:12:28am

ZONING CRITERIA	REQUIRED	EXISTING	PROPOSED
ZONING DISTRICT	C-3	C-3	C-3
MINIMUM LOT AREA	NONE	22.47 ACRES	11 ACRES
MINIMUM BUILDING HEIGHT	NONE	N/A	>11 FT
MAXIMUM BUILDING HEIGHT	11 FT	N/A	<50 FT
MAXIMUM BUILDING COVERAGE	NONE	N/A	-
TOTAL MAXIMUM IMPERVIOUS SURFACE COVERAGE	NONE	N/A	-
MINIMUM FRONT SETBACK	NONE ²	N/A	42.5 FT
MINIMUM INTERIOR SIDE SETBACK	10 FT ³	N/A	93.9 FT
MINIMUM CORNER SIDE SETBACK	NONE	N/A	N/A
MINIMUM REAR SETBACK	NONE ⁴	N/A	N/A

- NOT TO EXCEED 4 STORES
- NONE, UNLESS MULTI-TENANT RETAIL CENTER, THEN 503.B APPLIES
- NONE, UNLESS ABUTTING A RESIDENTIAL DISTRICT, THEN 10'
- NONE, UNLESS ABUTTING A RESIDENTIAL DISTRICT THEN 20'

OFF-STREET PARKING SPACE REQUIREMENTS:
PER SECTION 1402, TABLE 14-1 - OFF STREET VEHICLE AND BICYCLE PARKING REQUIREMENTS

PARKING CATEGORY: SELF-STORAGE FACILITY
1 PARKING SPACE PER 50 STORAGE UNITS (NO BICYCLE SPACES REQUIRED)

PROPOSED 730 STORAGE UNITS / 50 STORAGE UNITS = 14.6 = 15 PARKING SPACES REQUIRED

ADA REQUIRES 1 HANDICAP SPACE FOR LOTS OF BETWEEN 1 SPACE TO 25 SPACES

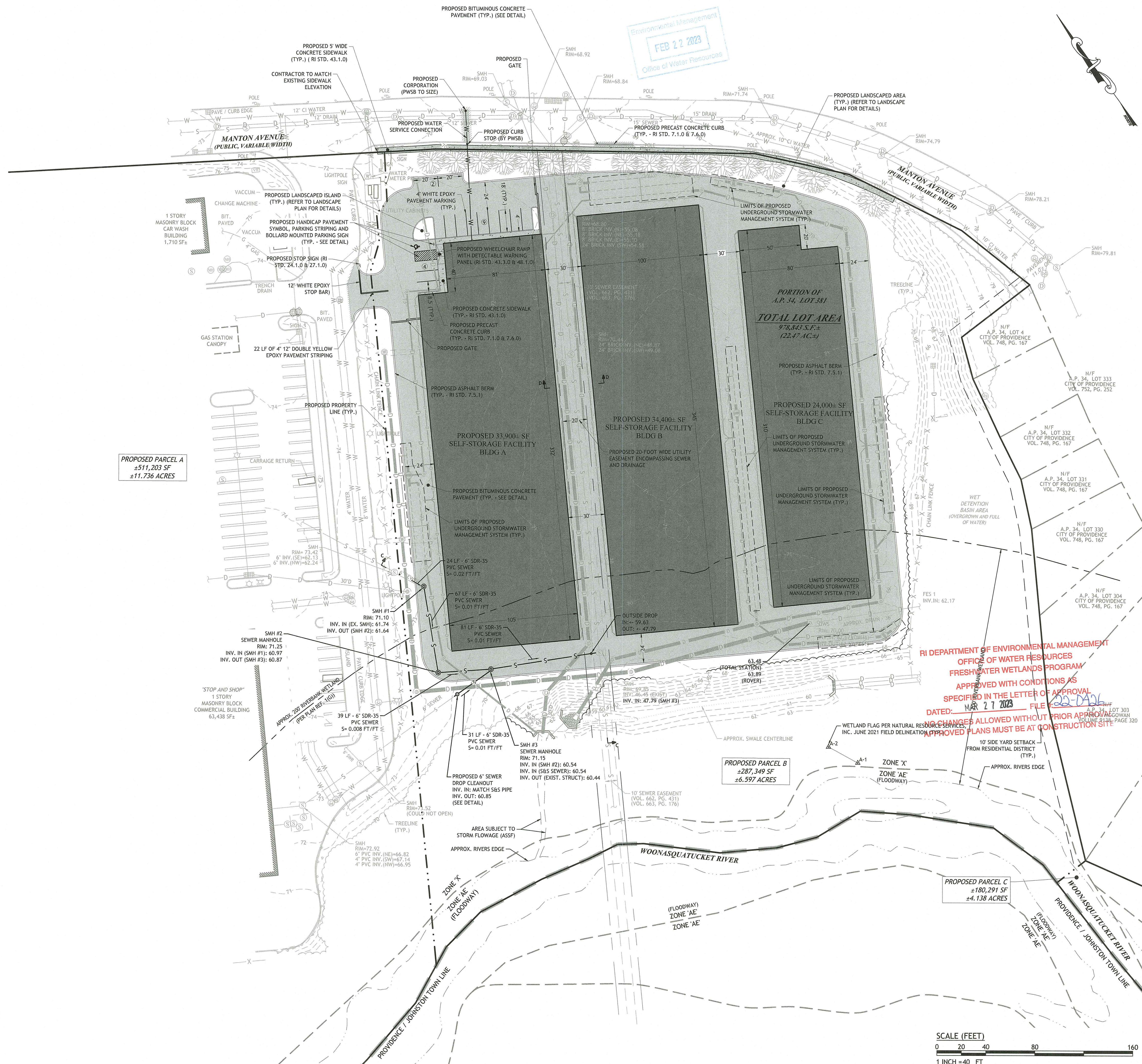
**REQUIRED: 15 SPACES (1 VAN ACCESSIBLE)
PROVIDED: 15 PARKING SPACES (1 VAN ACCESSIBLE)**

SITE LIGHTING REQUIREMENTS:
PER SECTION 1301 - EXTERIOR LIGHTING

SITE LIGHTING TO BE DESIGNED IN ACCORDANCE WITH SECTION 1301 OF THE CITY OF PROVIDENCE ZONING ORDINANCE.

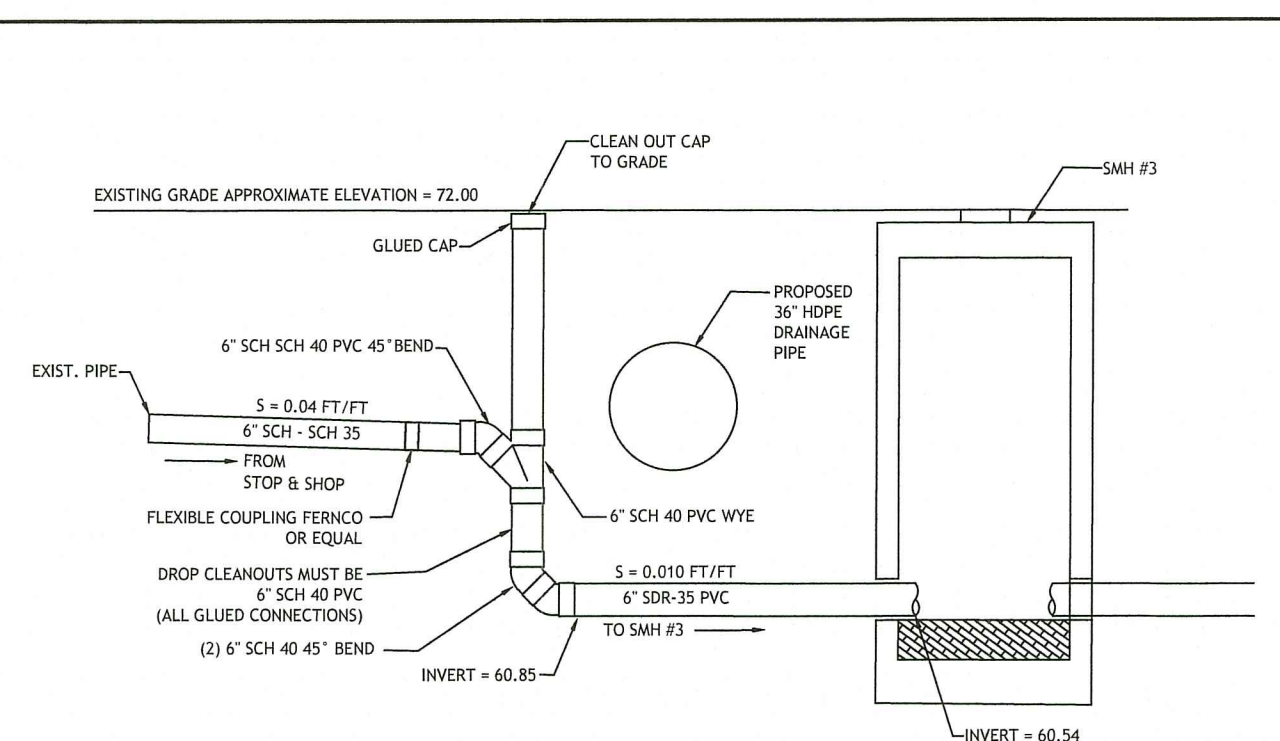
SIGN REQUIREMENTS:

SITE SIGNAGE TO BE DESIGNED IN ACCORDANCE WITH SECTION 16 OF THE CITY OF PROVIDENCE ZONING ORDINANCE.



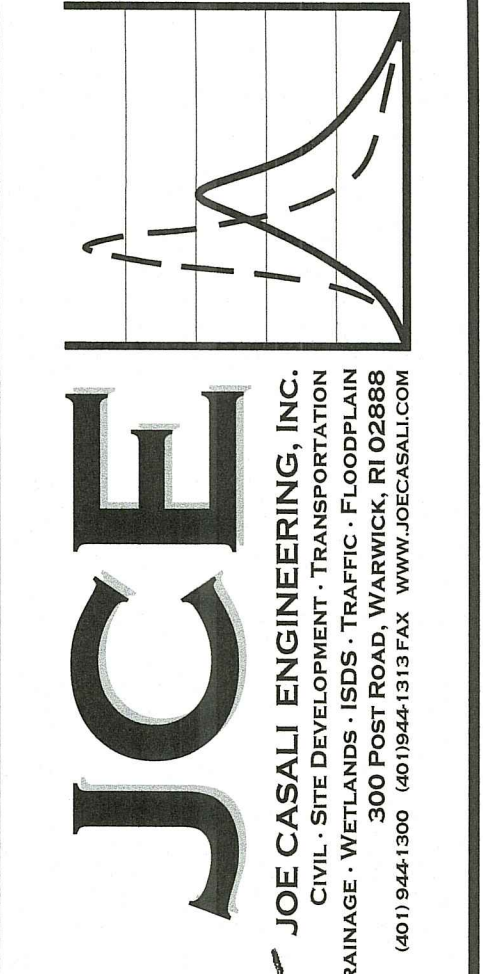
Environmental Management
FEB 27 2023
Office of Water Resources

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATED: MAR 27 2023 FILE: 2023-001
REVISIONS ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



NOTES:
1. SEWER LATERAL SHALL HAVE A MINIMUM 18\"/>

5 DROP CLEANOUT DETAIL
NOT TO SCALE



JOSEPH A. CASALI
No. 7250
REGISTERED PROFESSIONAL ENGINEER
CIVIL
2.16.2023

SELF-STORAGE FACILITY
850 MANTON AVENUE
PROVIDENCE, RHODE ISLAND
AP 34, LOT 381

REVISIONS:

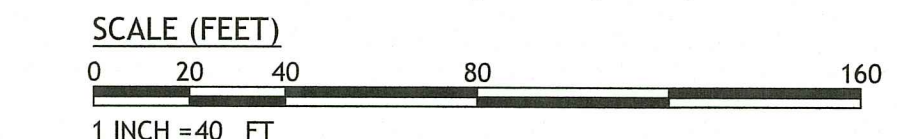
NO.	DATE	DESCRIPTION
R1	6/14/2022	RIDEM FILING
R2	2/16/2023	RIDEM RTC

DESIGNED BY: WMLJR
DRAWN BY: SEP/SD
CHECKED BY: JAC
DATE: MARCH 2022
PROJECT NO: 20-56a

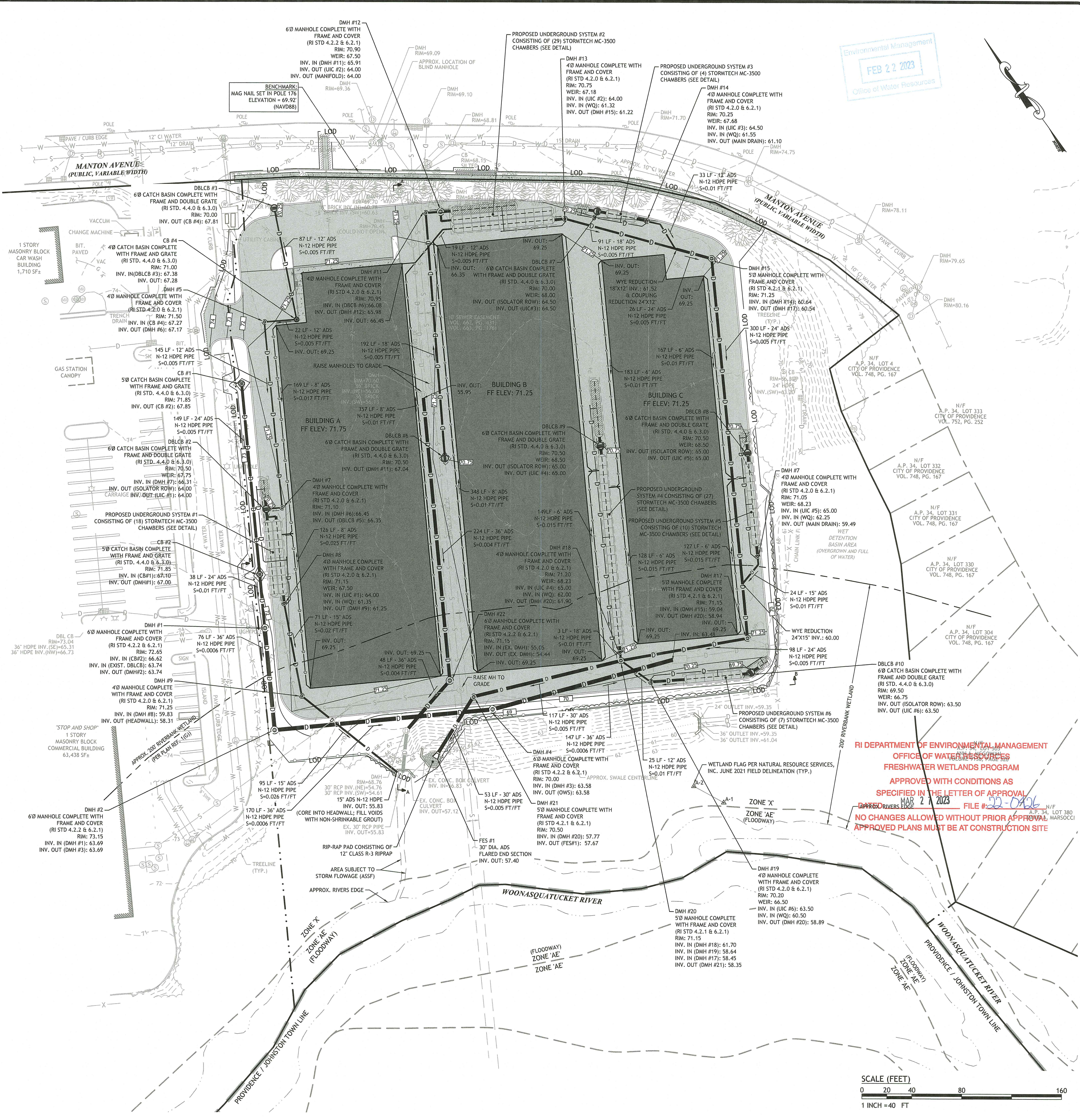
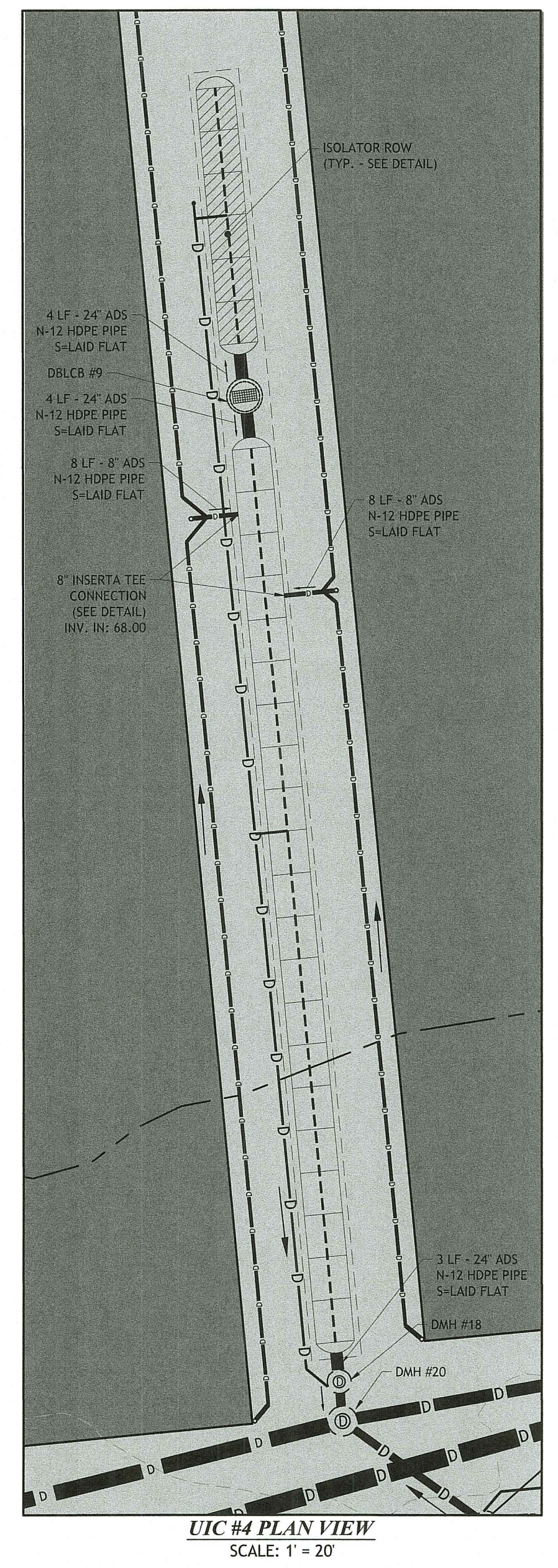
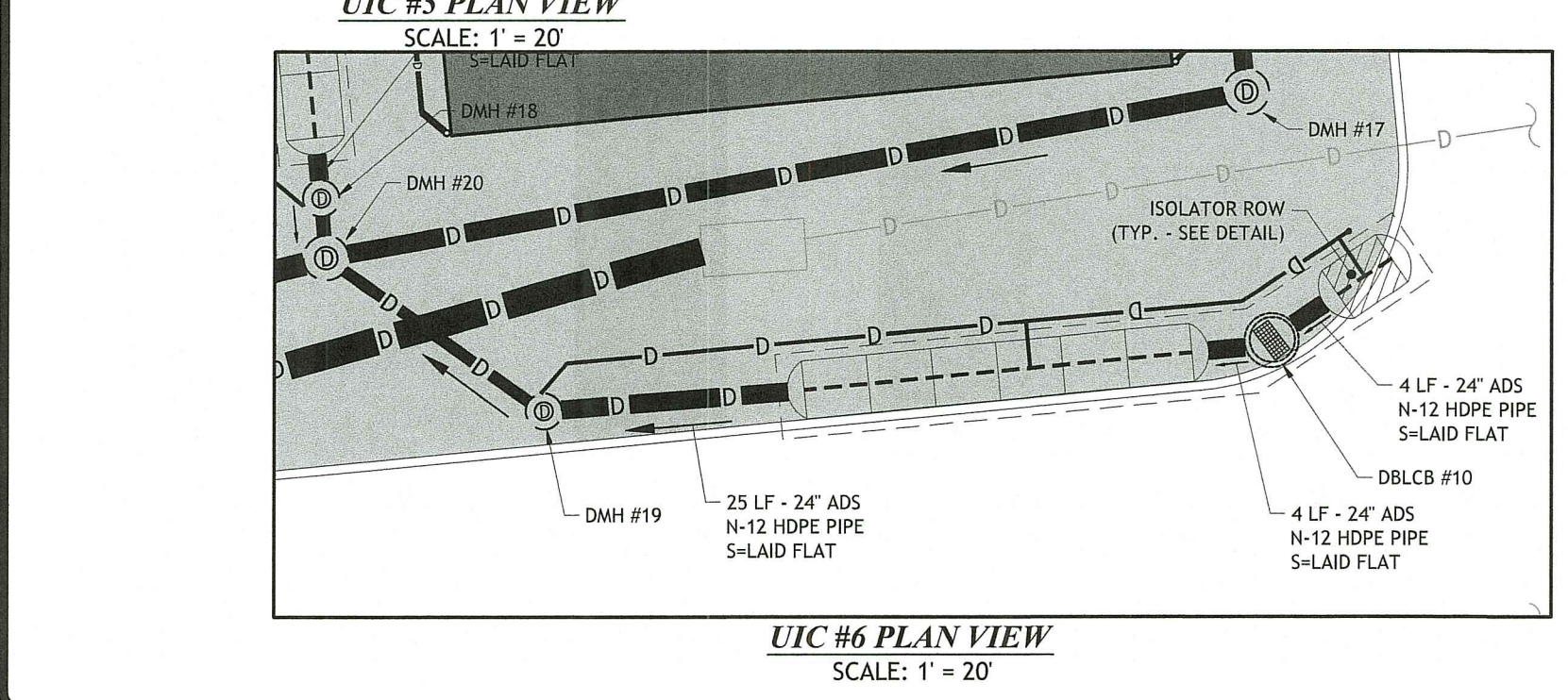
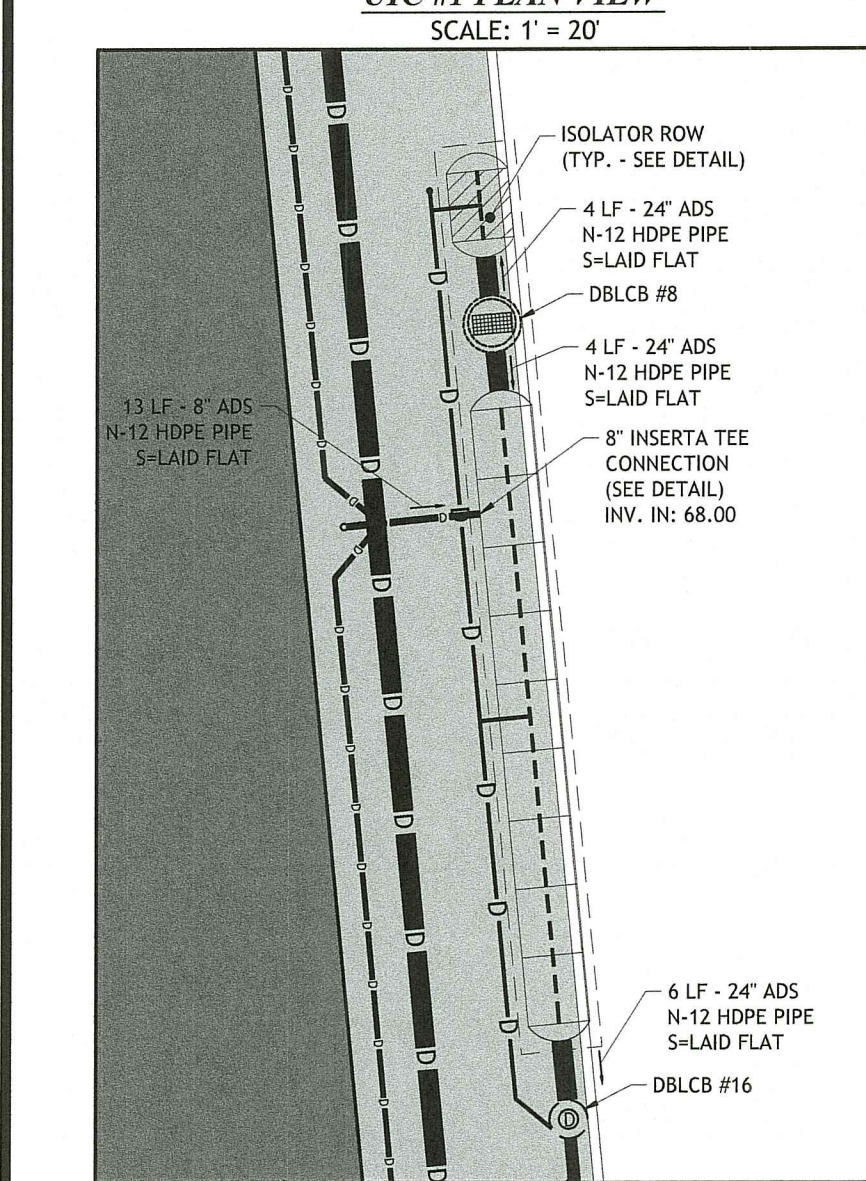
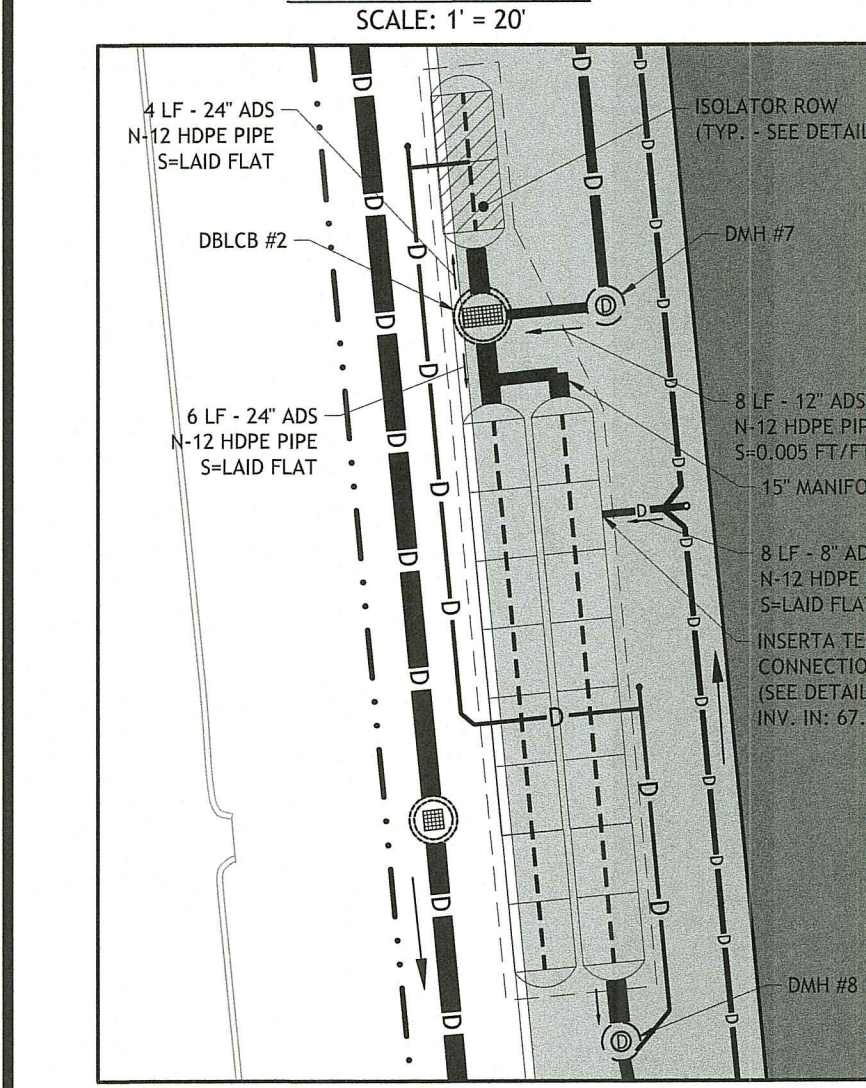
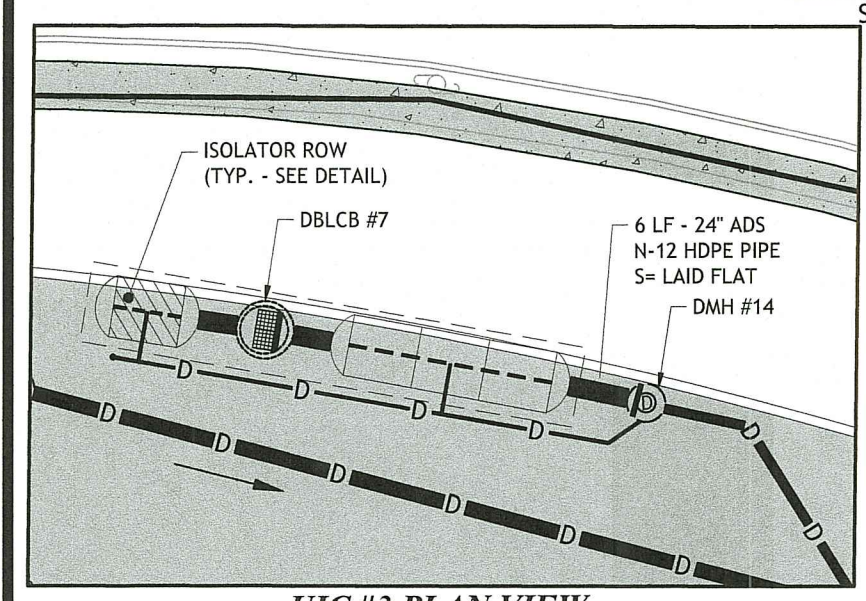
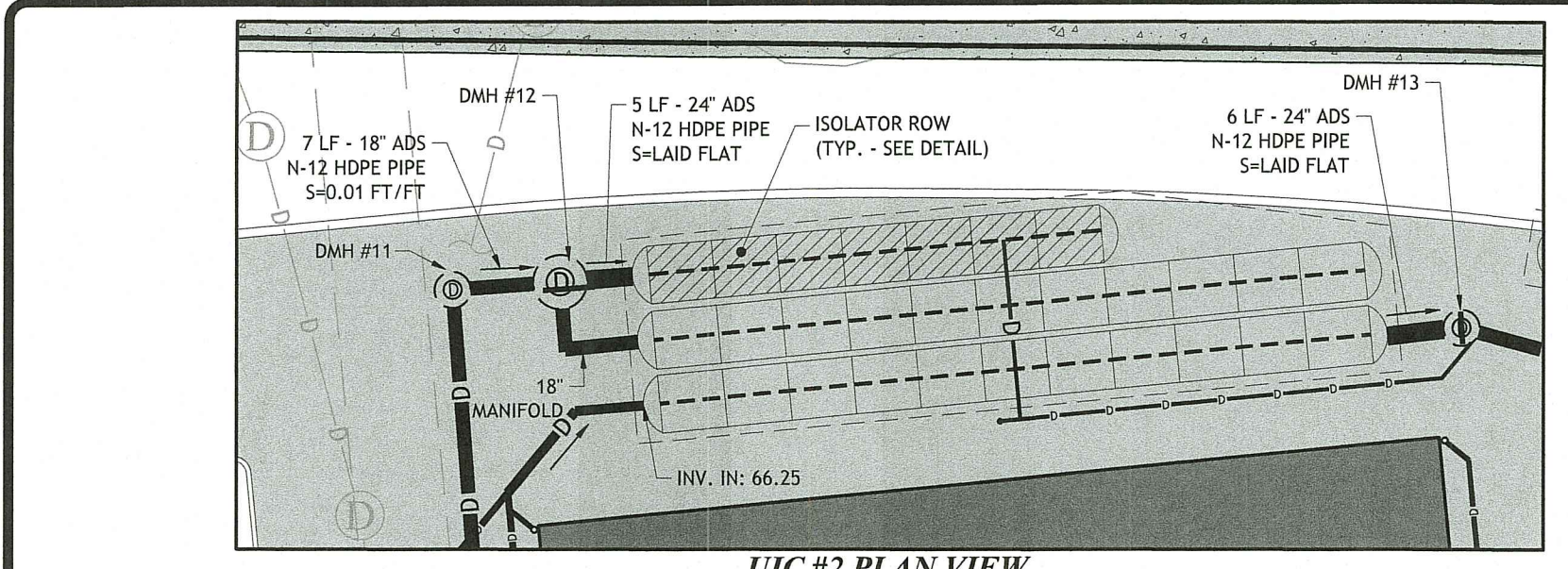
PRELIMINARY,
NOT FOR CONSTRUCTION

SITE & UTILITY PLAN

SHEET 4 OF 13



01/20/2023 11:23am C:\Users\jacob.doggett\OneDrive\Documents\850 Manton Avenue\850 Manton Ave [DEM F10] - R2.dwg Feb. 23, 2023 11:23am



Environmental Management
FEB 22 2023
Office of Water Resources

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

SCALE (FEET)
0 20 40 80 160
1 INCH = 40 FT

JOE
JOE CASALI ENGINEERING, INC.
CIVIL, SITE DEVELOPMENT, TRANSPORTATION
DRAINAGE, WETLANDS, ISDS - TRAFFIC, FLOODPLAIN
300 POST ROAD, WARWICK, RI 02886
401.944.1300 / 401.944.1313 FAX: 401.944.1300

JOSEPH A. CASALI
No. 7250
REGISTERED PROFESSIONAL ENGINEER
CIVIL
2.16.2023

SELF-STORAGE FACILITY
850 MANTON AVENUE
PROVIDENCE, RHODE ISLAND
AP 34, LOT 381

REVISIONS:

NO.	DATE	DESCRIPTION
R1	6/14/2022	RIDEM FILING
R2	2/16/2023	RIDEM RTC

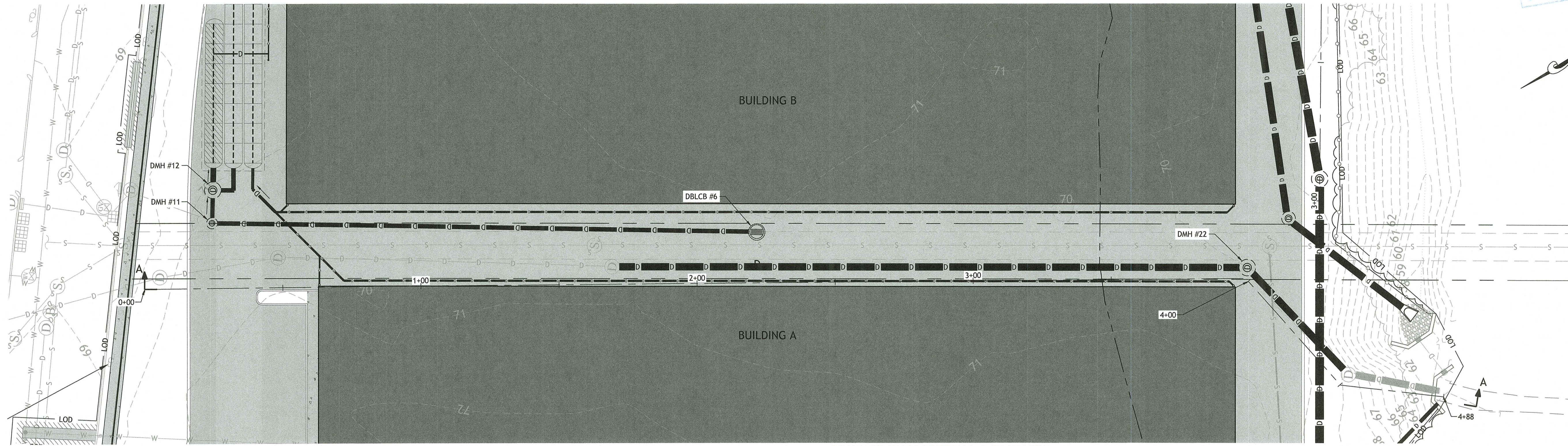
DESIGNED BY: WMLJR
DRAWN BY: SEP/SD
CHECKED BY: JAC
DATE: MARCH 2022
PROJECT NO: 20-56a

PRELIMINARY,
NOT FOR CONSTRUCTION

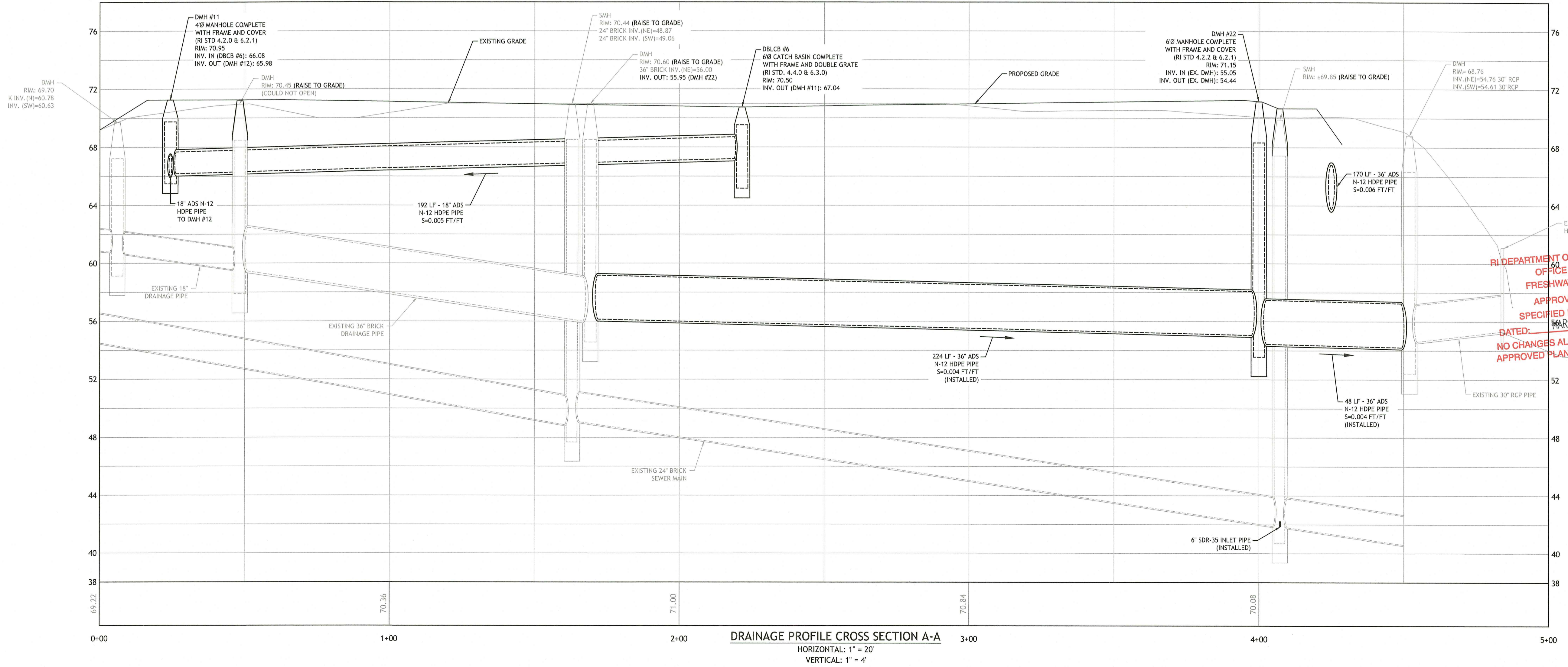
GRADING & DRAINAGE PLAN

SHEET 5 OF 13

Environmental Management
 FEB 22 2023
 Office of Water Resources

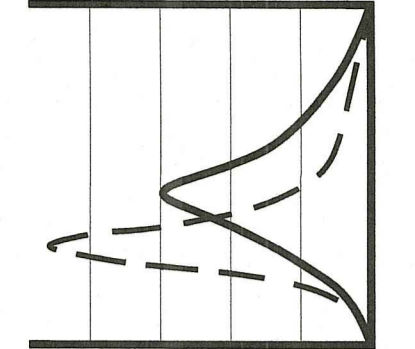


DRAINAGE CROSS SECTION A-A (PLAN VIEW)
 HORIZONTAL: 1" = 20'



DRAINAGE PROFILE CROSS SECTION A-A
 HORIZONTAL: 1" = 20'
 VERTICAL: 1" = 4'

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS AS
 SPECIFIED IN THE LETTER OF APPROVAL
 DATED: MAR 27 2023 FILE # 20-026
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
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JOE CASALI ENGINEERING, INC.
 CIVIL - SITE DEVELOPMENT - TRANSPORTATION
 DRAINAGE - WETLANDS - SDS - TRAFFIC - FLOODPLAIN
 300 POST ROAD, WARWICK, RI 02888
 (401) 944-1300

JOSEPH A. CASALI
 No. 7250
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL
 2-16-2023

SELF-STORAGE FACILITY
850 MANTON AVENUE
PROVIDENCE, RHODE ISLAND
AP 34, LOT 381

REVISIONS:

NO.	DATE	DESCRIPTION
R1	6/14/2022	RIDEM FILING
R2	2/16/2023	RIDEM RTC

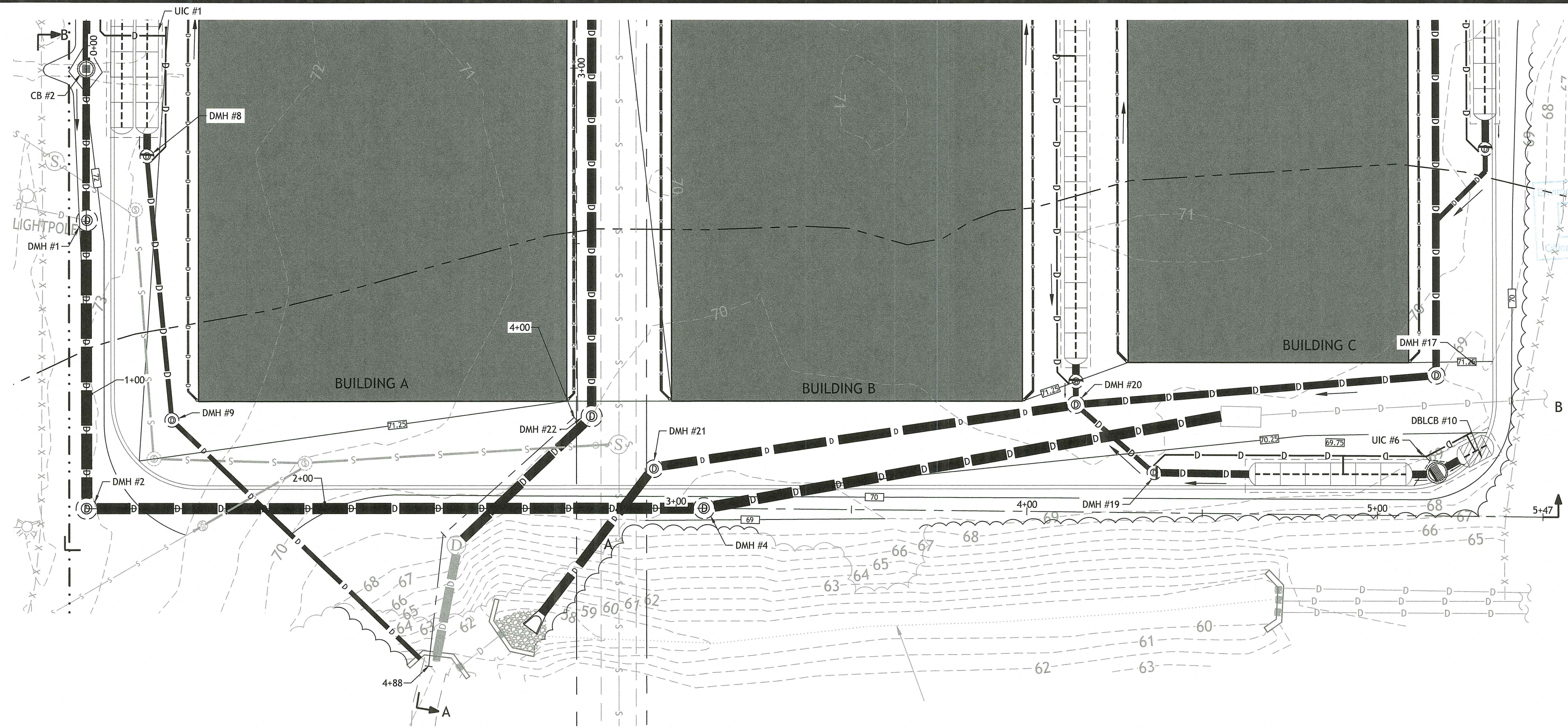
DESIGNED BY: WMLJR
 DRAWN BY: SEP/SD
 CHECKED BY: JAC
 DATE: MARCH 2022
 PROJECT NO: 20-56a

PRELIMINARY,
 NOT FOR CONSTRUCTION

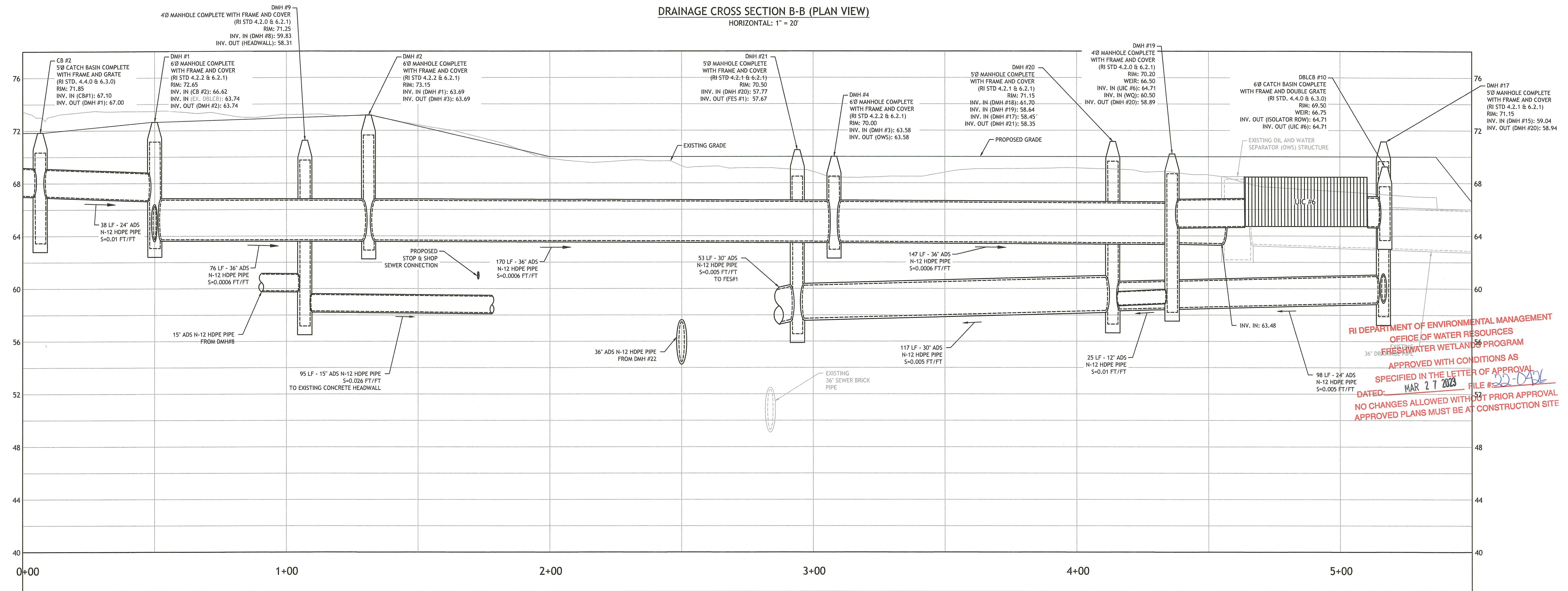
DRAINAGE PROFILE I

SHEET 6 OF 13

O:\20-56 Blue Dog\20-56a 850 Manton Avenue\ACAD\850 Manton Ave [DEM RTC] - R2.dwg Feb. 22, 2023 11:53am

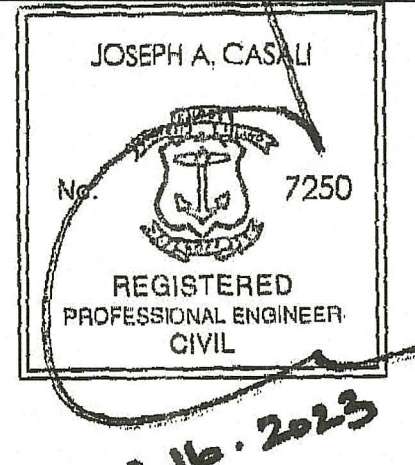
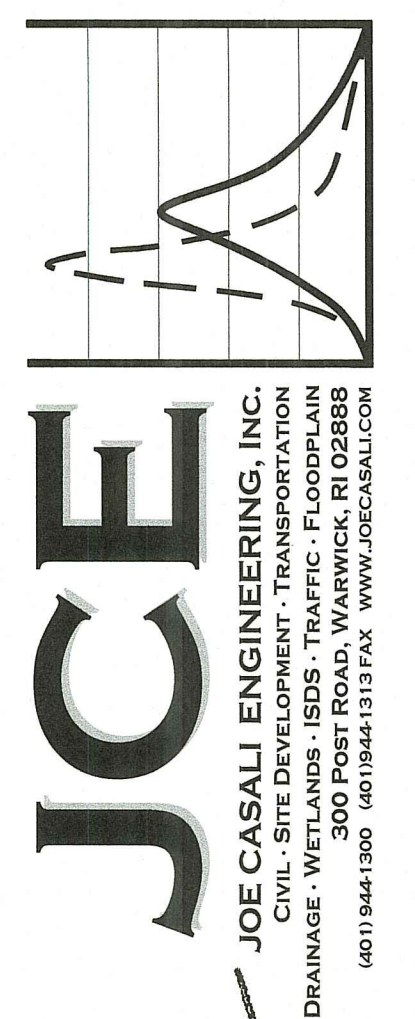


DRAINAGE CROSS SECTION B-B (PLAN VIEW)
HORIZONTAL: 1" = 20'



DRAINAGE PROFILE CROSS SECTION B-B
HORIZONTAL: 1" = 20'
VERTICAL: 1" = 4'

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATED: MAR 27 2023 FILE # 22-082
NO CHANGES ALLOWED WITH OUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



SELF-STORAGE FACILITY
850 MANTON AVENUE
PROVIDENCE, RHODE ISLAND
AP 34, LOT 381

REVISIONS:

NO.	DATE	DESCRIPTION
R1	6/14/2022	RIDEM FILING
R2	2/16/2023	RIDEM RTC

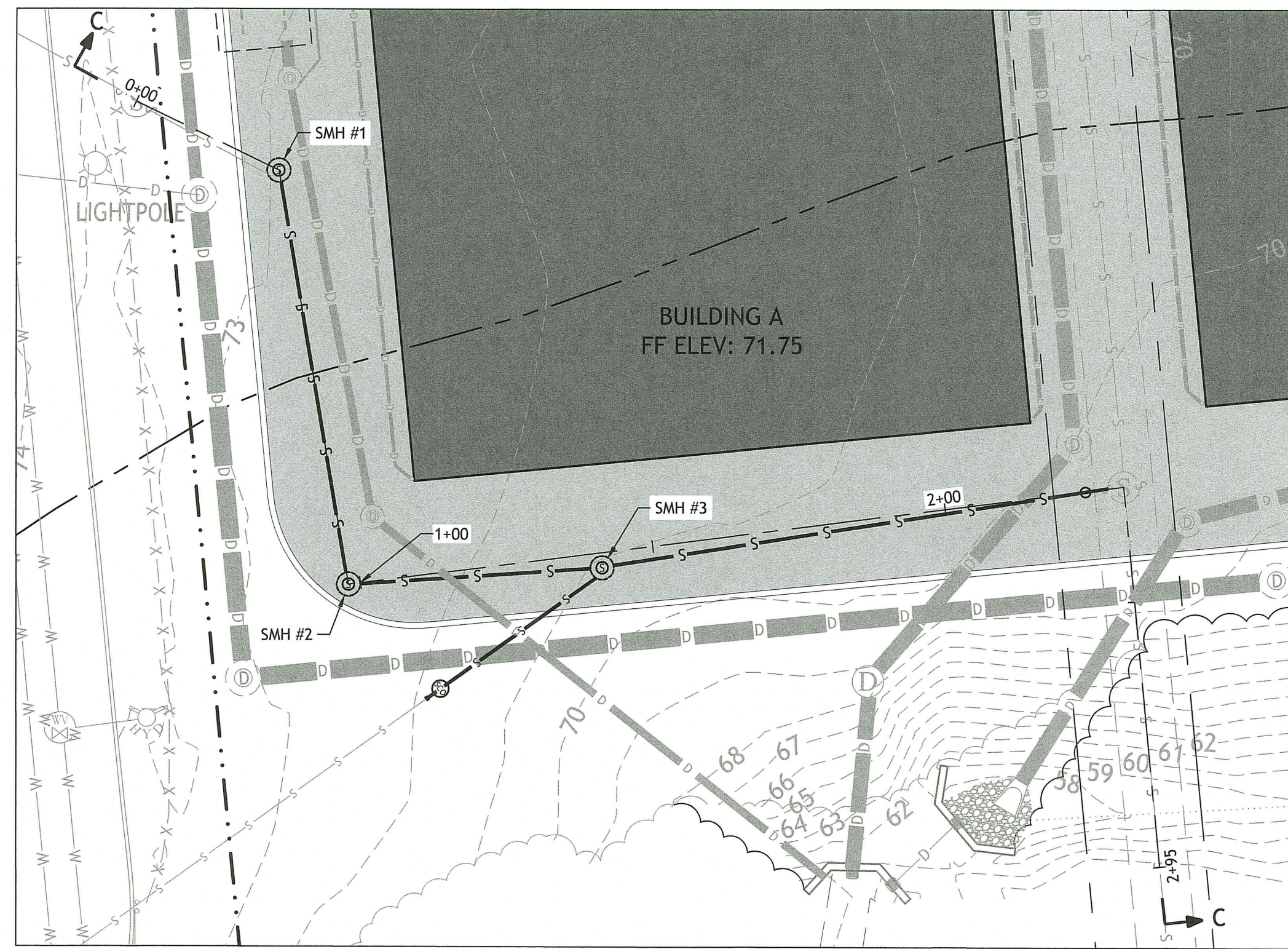
DESIGNED BY: WMLJR
DRAWN BY: SEP/SD
CHECKED BY: JAC
DATE: MARCH 2022
PROJECT NO.: 20-56a

PRELIMINARY,
NOT FOR CONSTRUCTION

**DRAINAGE
PROFILE II**

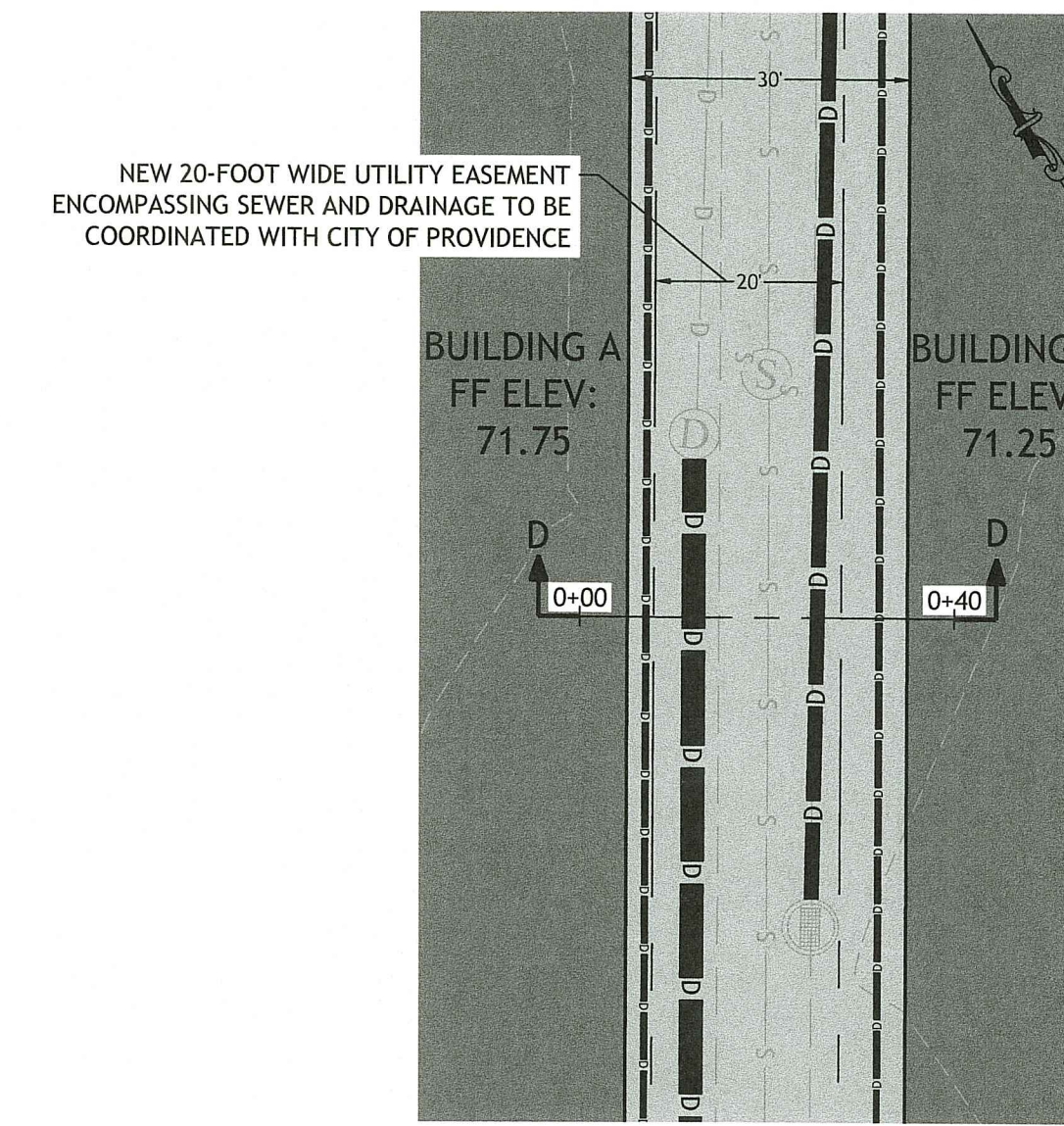
**SHEET
7 OF 13**

Q:\20-56-Blue\20-56a-850 Manton Avenue\ACAD\850 Manton Ave (DEM RTC) - R2.dwg, Feb. 22, 2023 11:23am

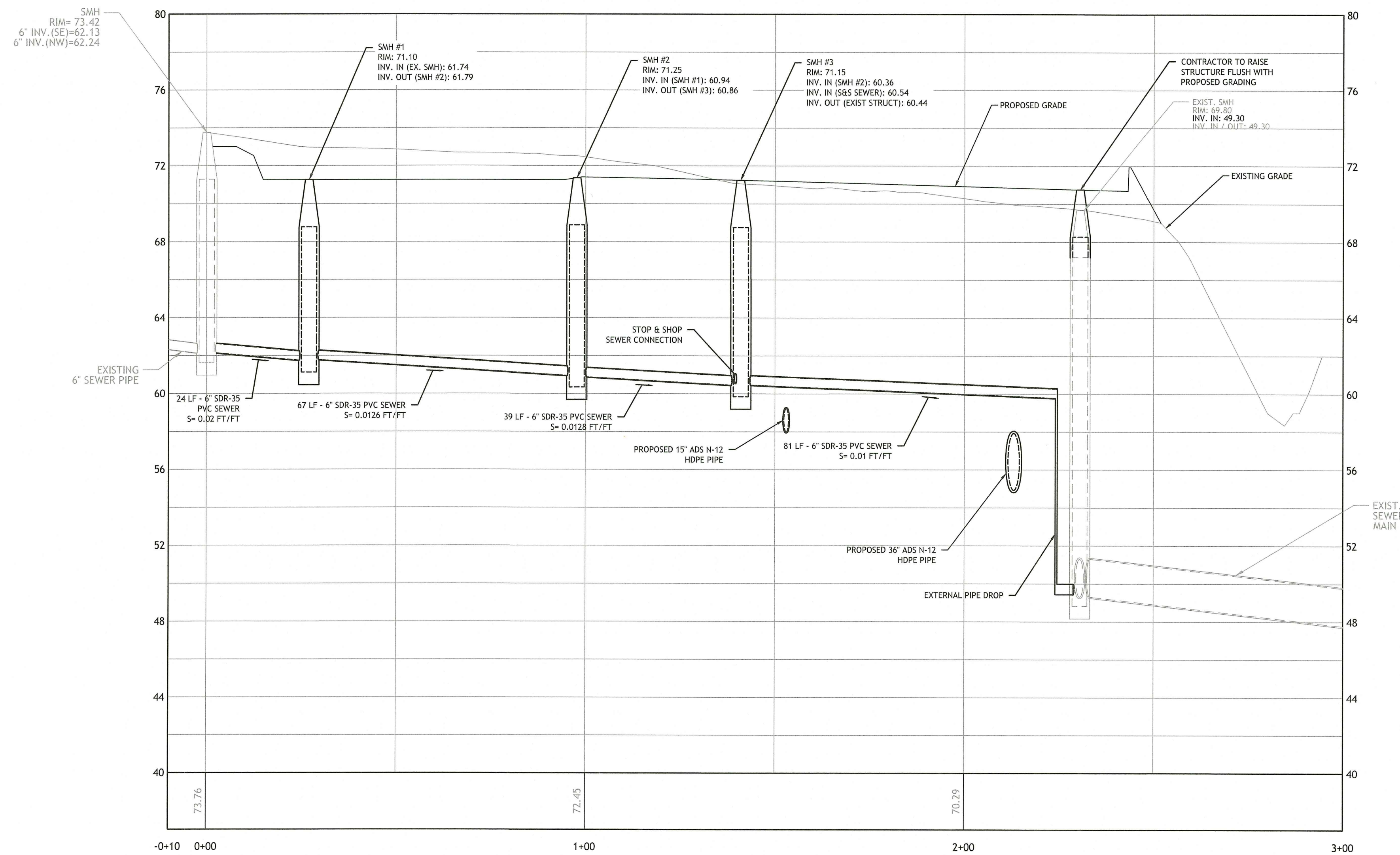


SEWER CROSS SECTION C-C (PLAN VIEW)
HORIZONTAL: 1" = 20'

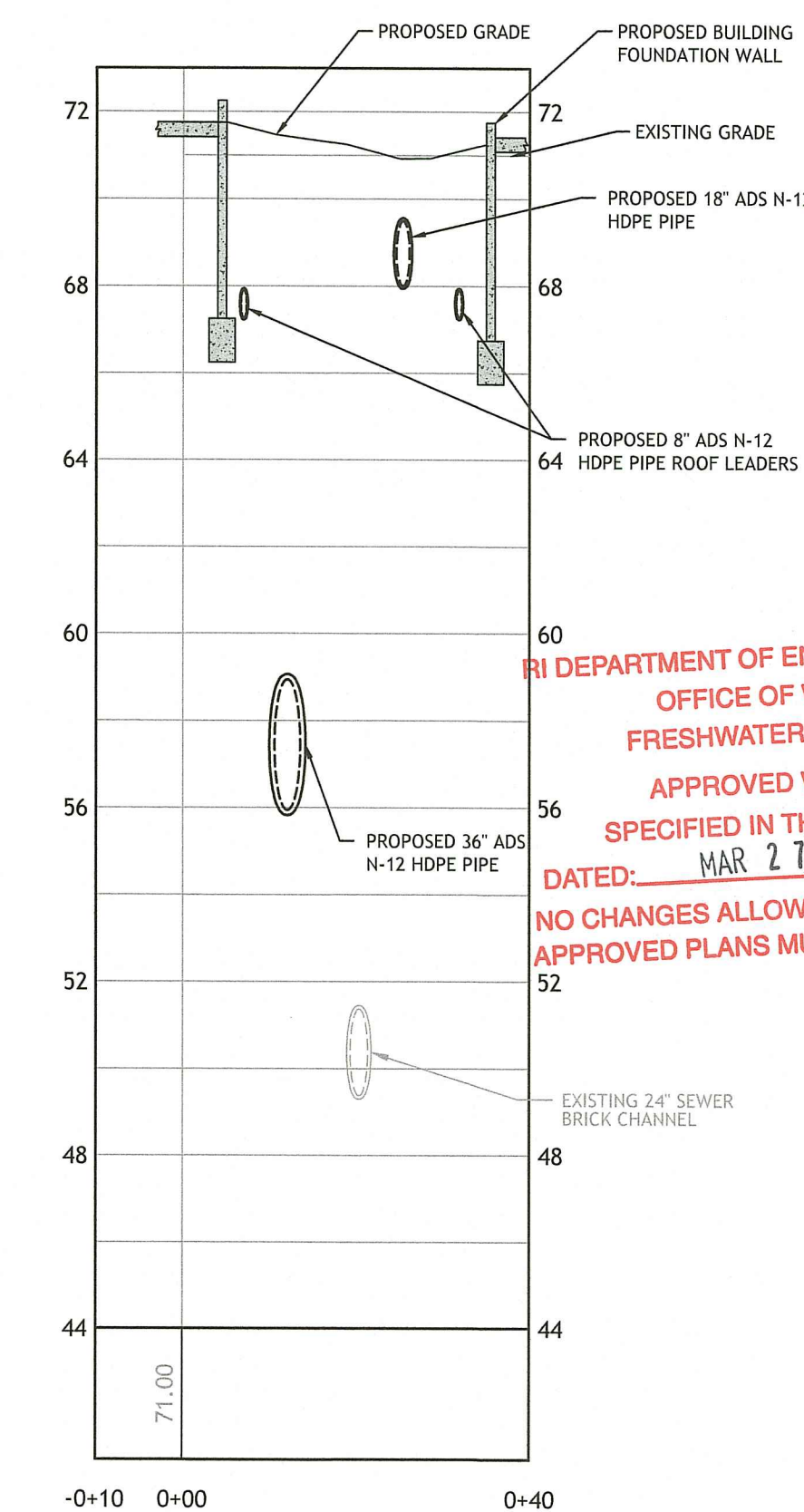
Environmental Management
FEB 22 2023
Office of Water Resources



SEWER CROSS SECTION D-D (PLAN VIEW)
HORIZONTAL: 1" = 20'



SEWER PROFILE CROSS SECTION C-C
HORIZONTAL: 1" = 20'
VERTICAL: 1" = 4'



SEWER PROFILE CROSS SECTION D-D
HORIZONTAL: 1" = 20'
VERTICAL: 1" = 4'

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL
DATED: MAR 27 2023 FILE # 22-0426
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SELF-STORAGE FACILITY
850 MANTON AVENUE
PROVIDENCE, RHODE ISLAND
AP 34, LOT 381

REVISIONS:

NO.	DATE	DESCRIPTION
R1	6/14/2022	RIDEM FILING
R2	2/16/2023	RIDEM RTC

DESIGNED BY: WMLJR
DRAWN BY: SEP/SD
CHECKED BY: JAC
DATE: MARCH 2022
PROJECT NO: 20-56a

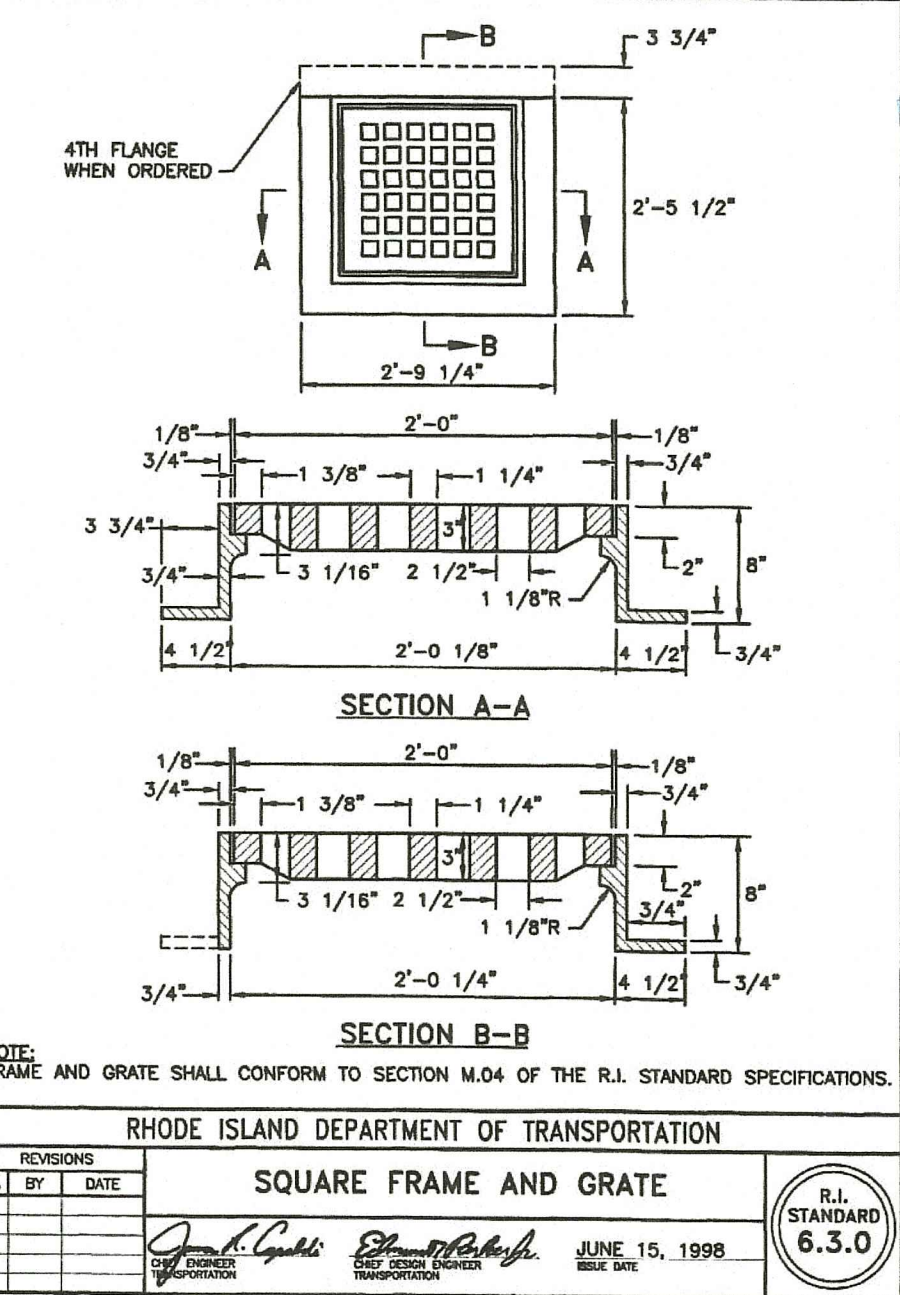
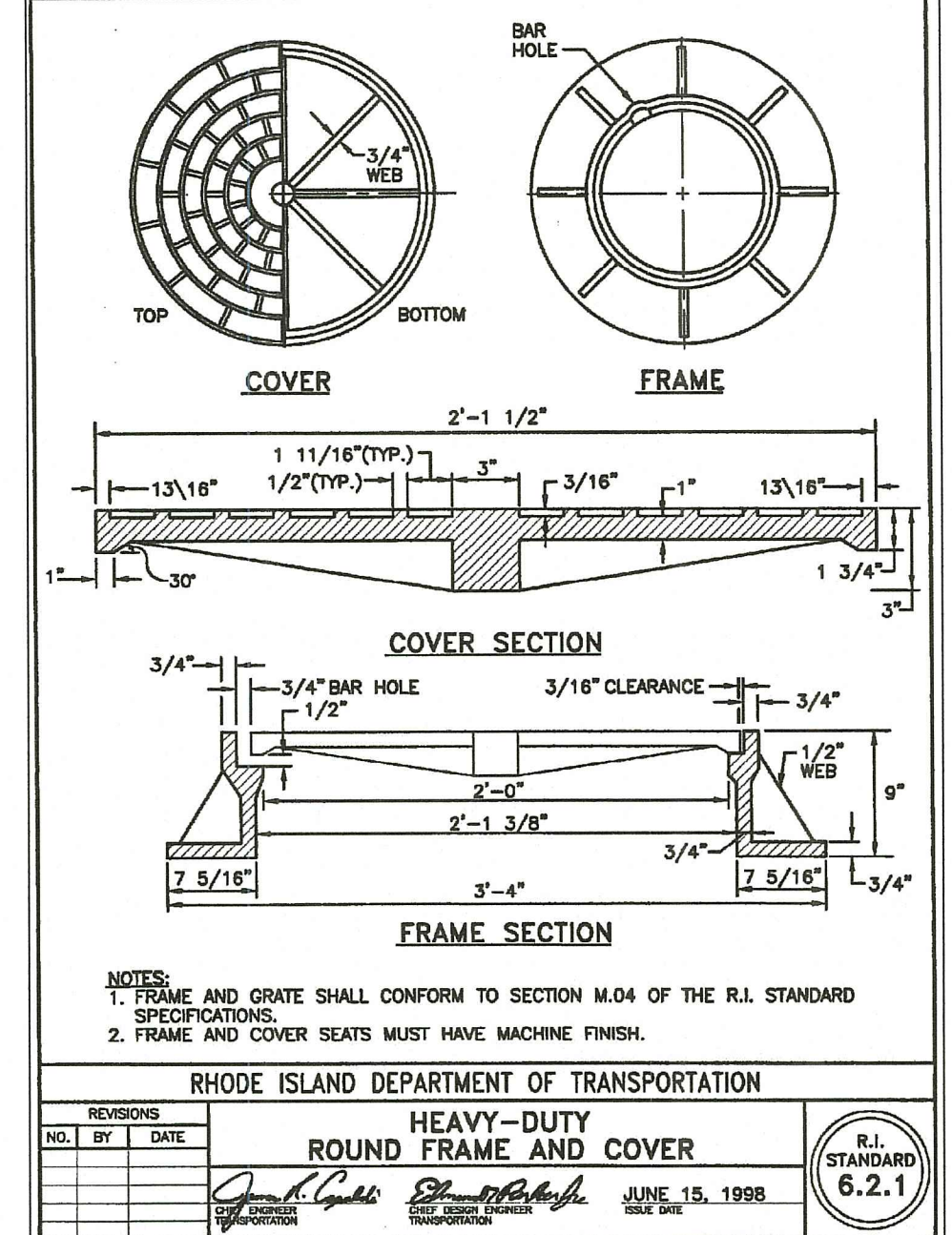
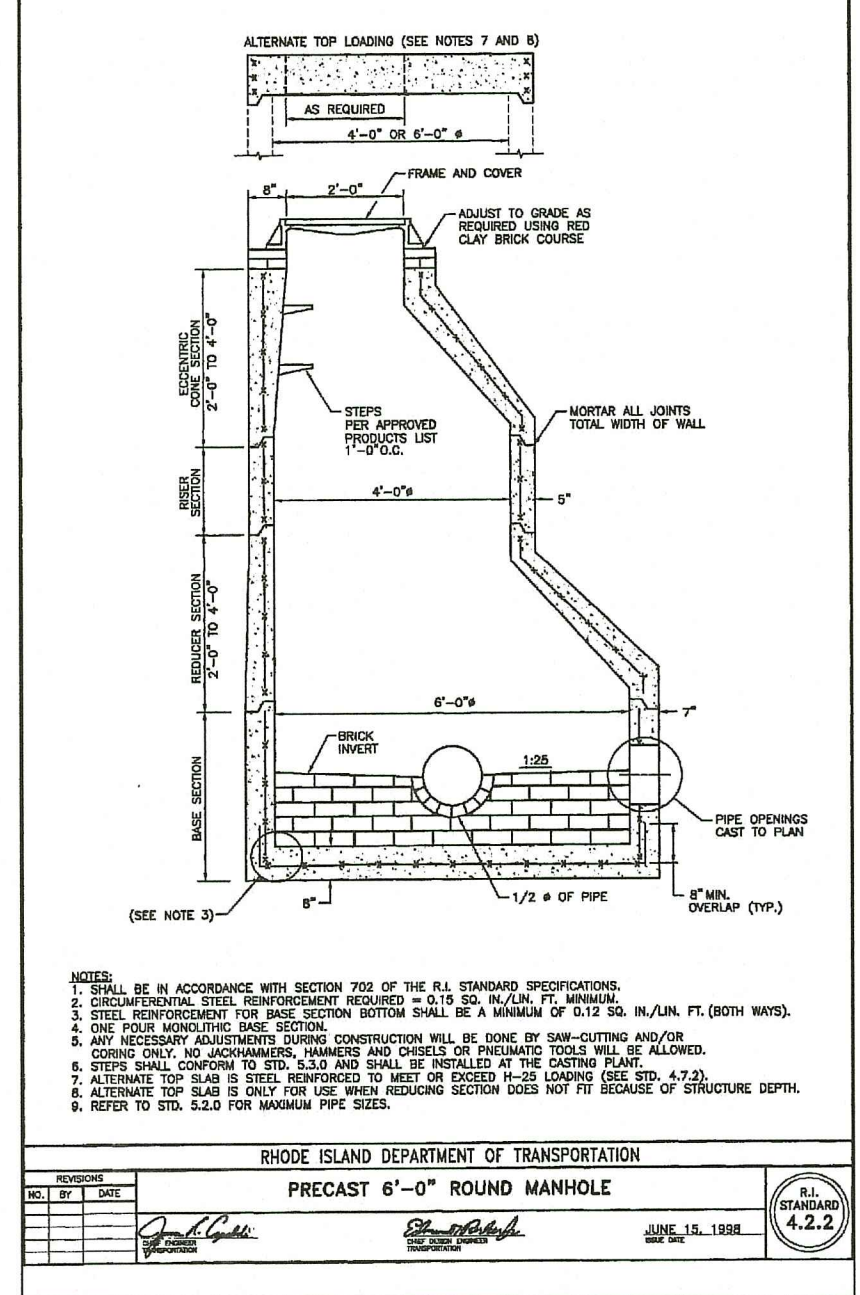
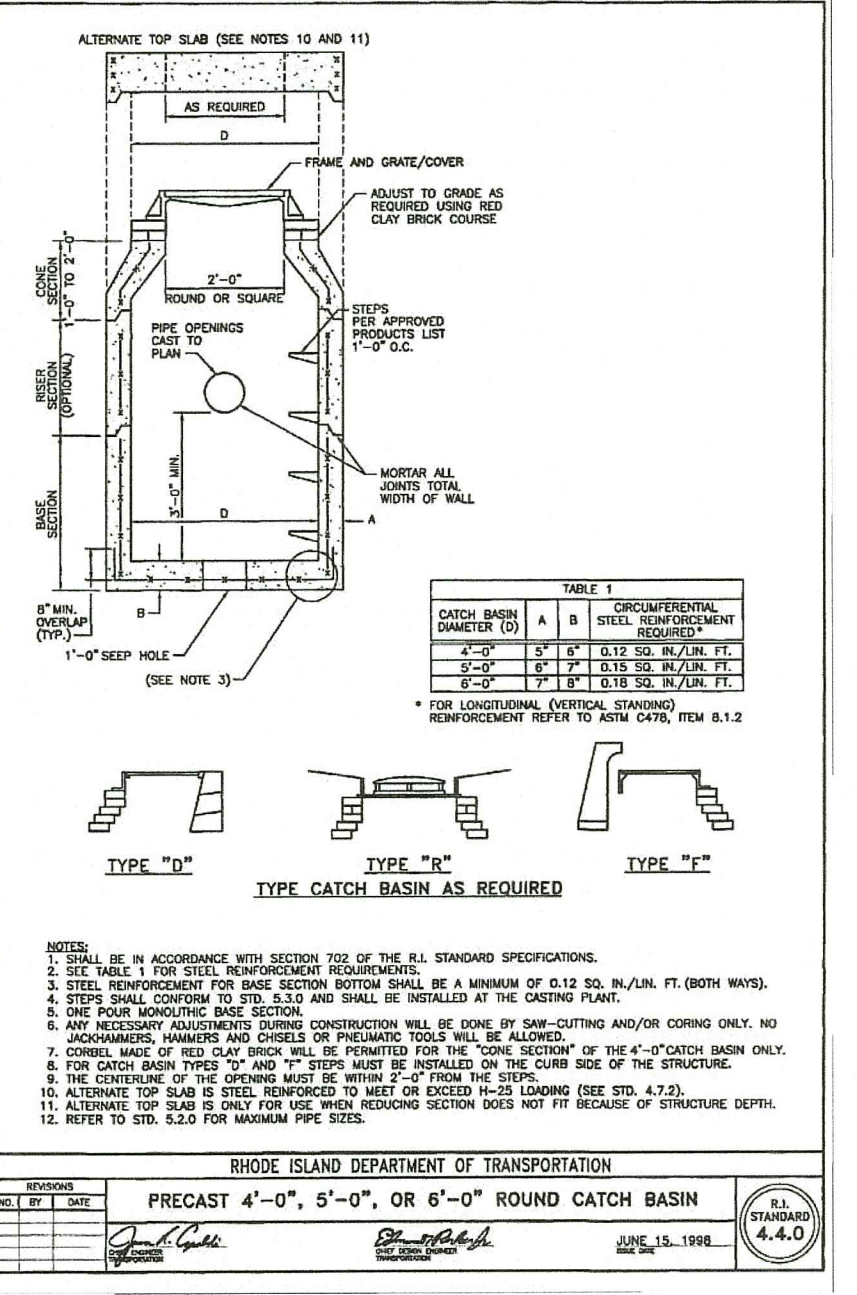
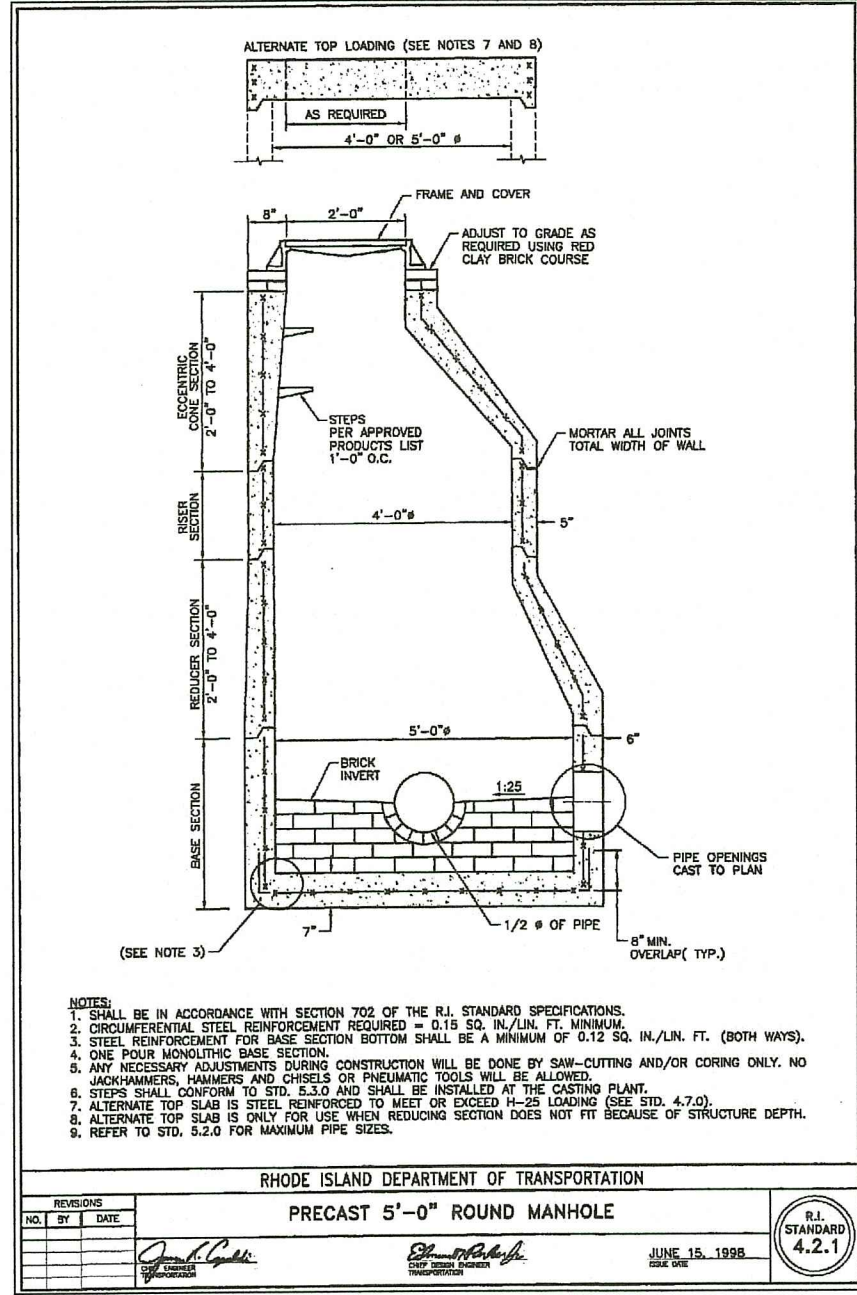
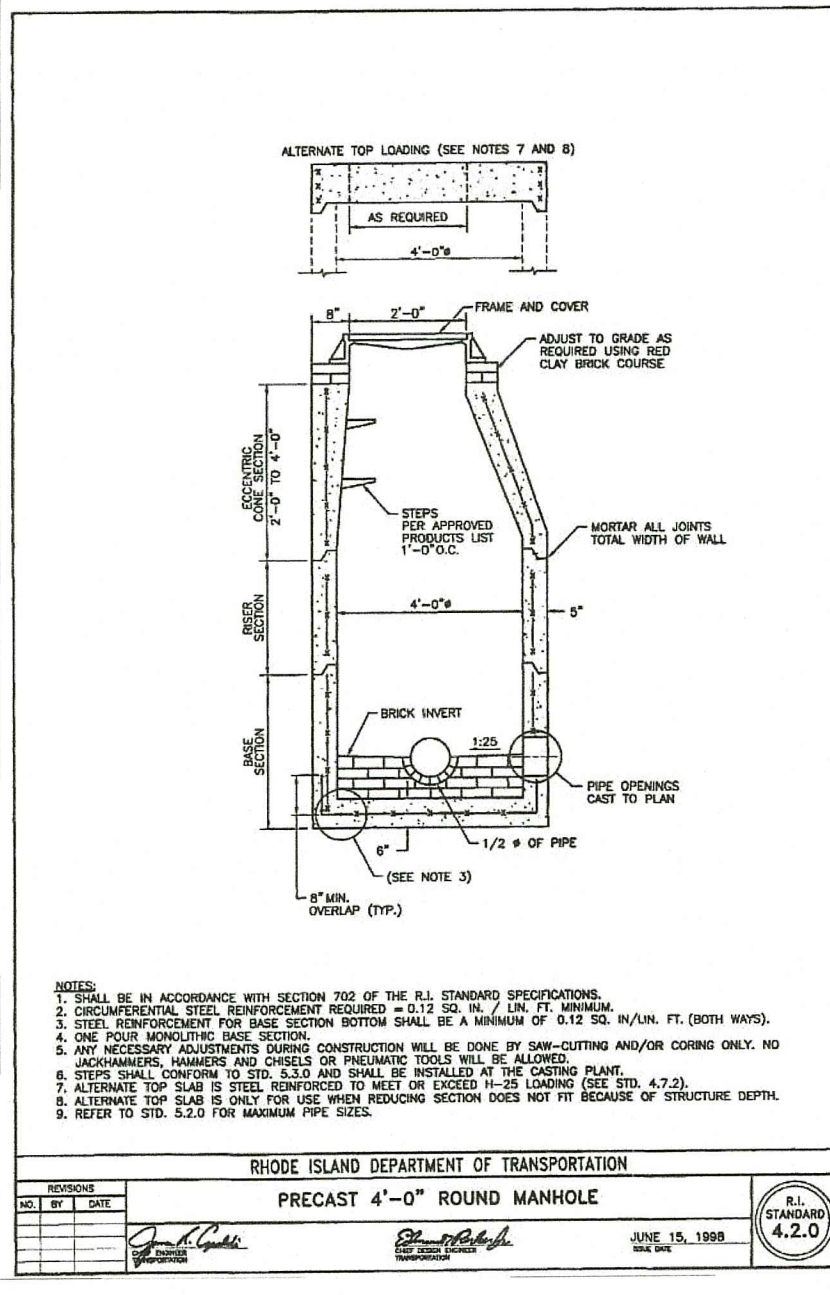
PRELIMINARY,
NOT FOR CONSTRUCTION

**SEWER
PROFILE**

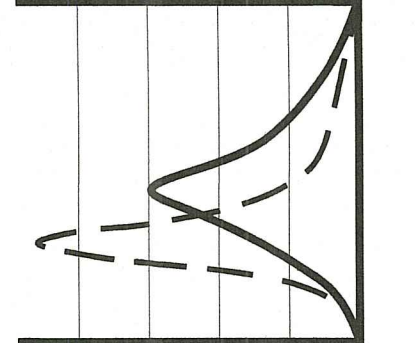
**SHEET
8 OF 13**

JOSEPH A. CASALI
No. 7250
REGISTERED
PROFESSIONAL ENGINEER
CIVIL
2-16-2023

Q:\20-56 Blue Dog\20-56a 850 Manton Avenue\ACAD\850 Manton Ave [DEM RTIC] - R2.dwg Feb. 22, 2023 11:23am

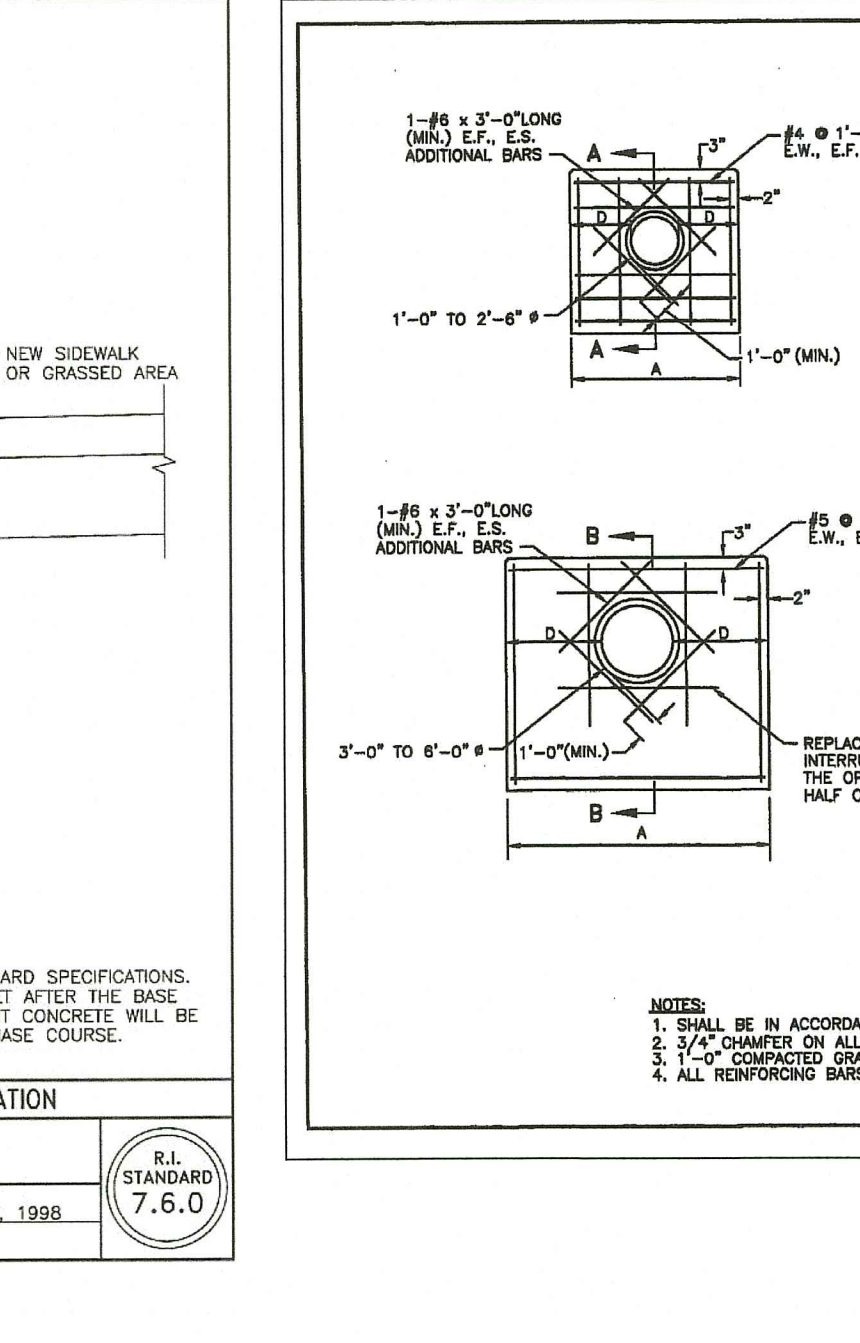
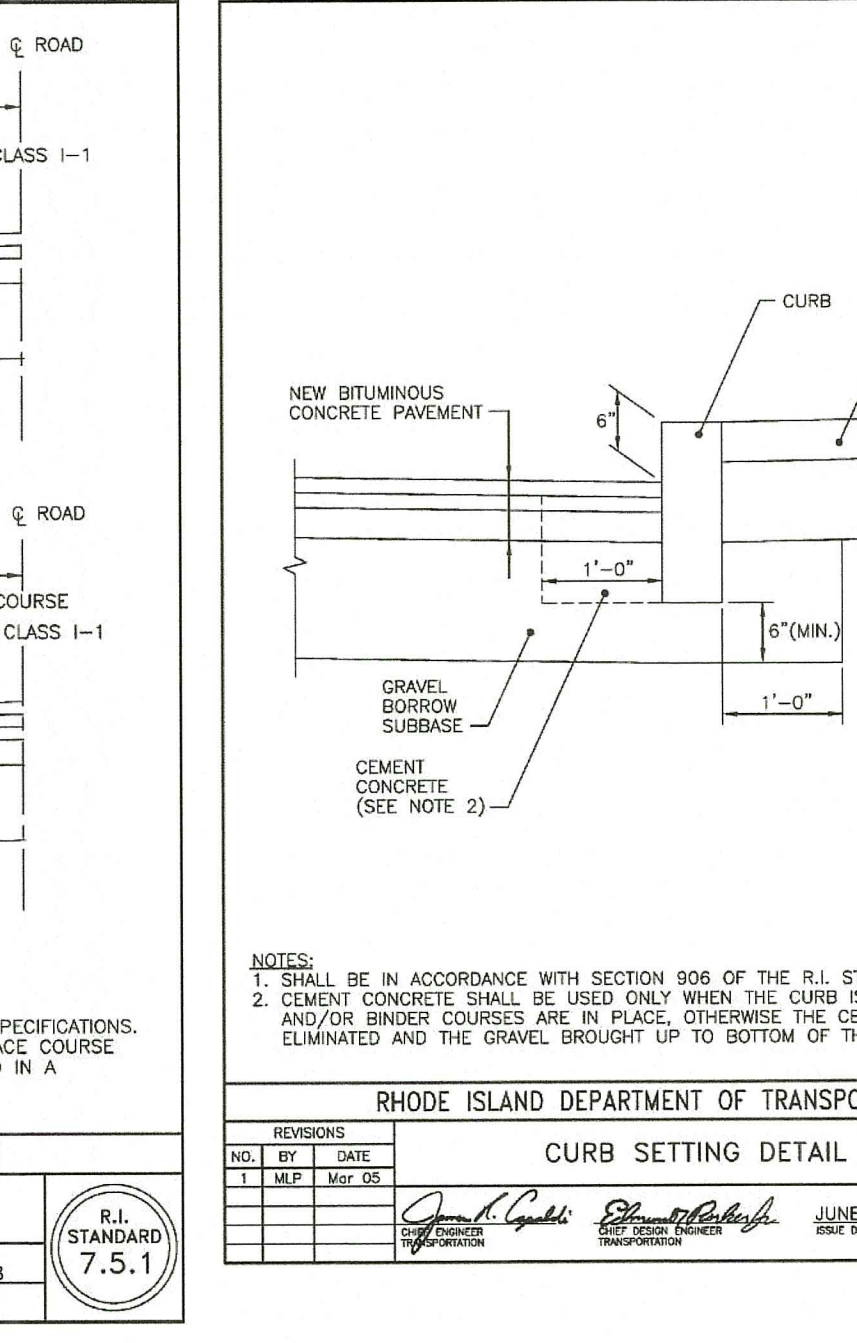
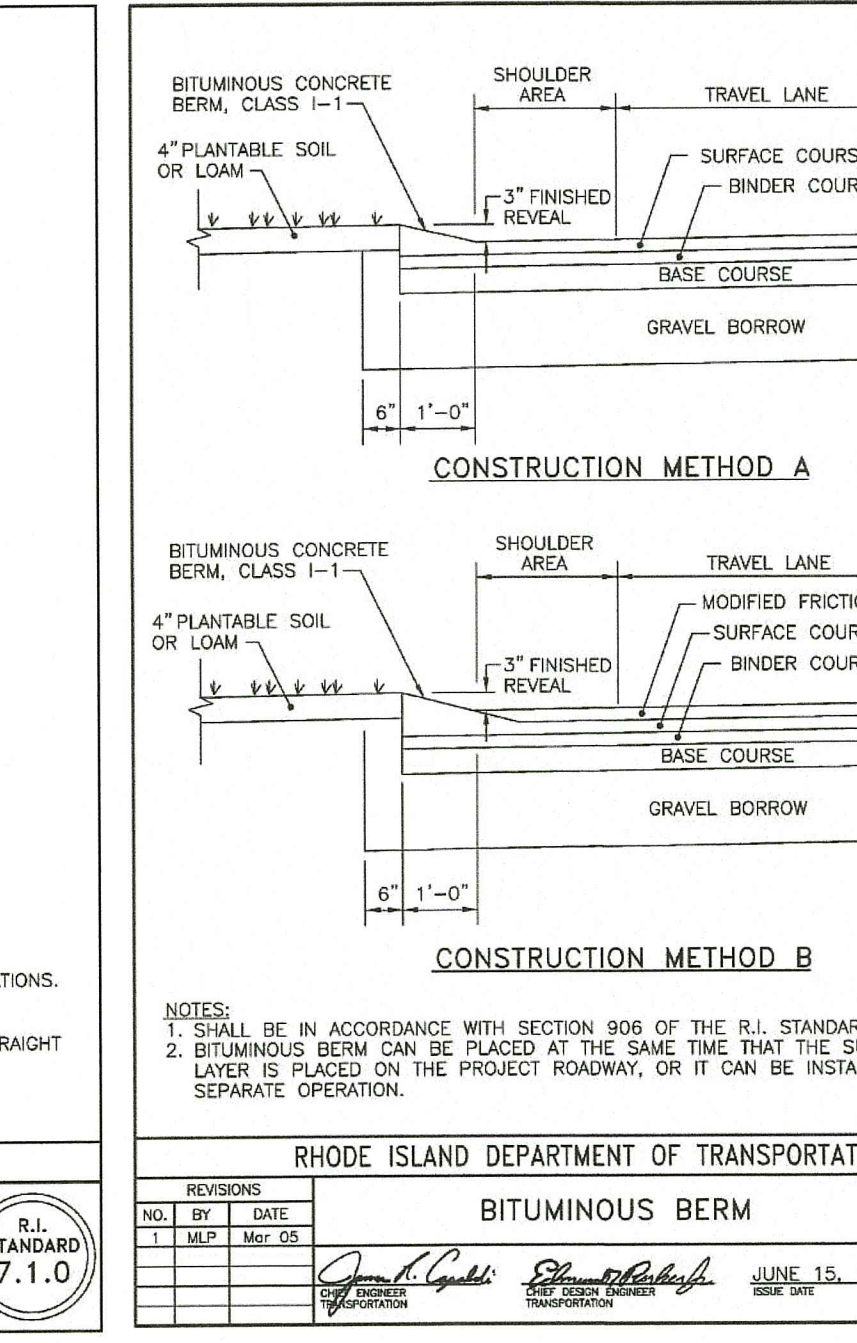
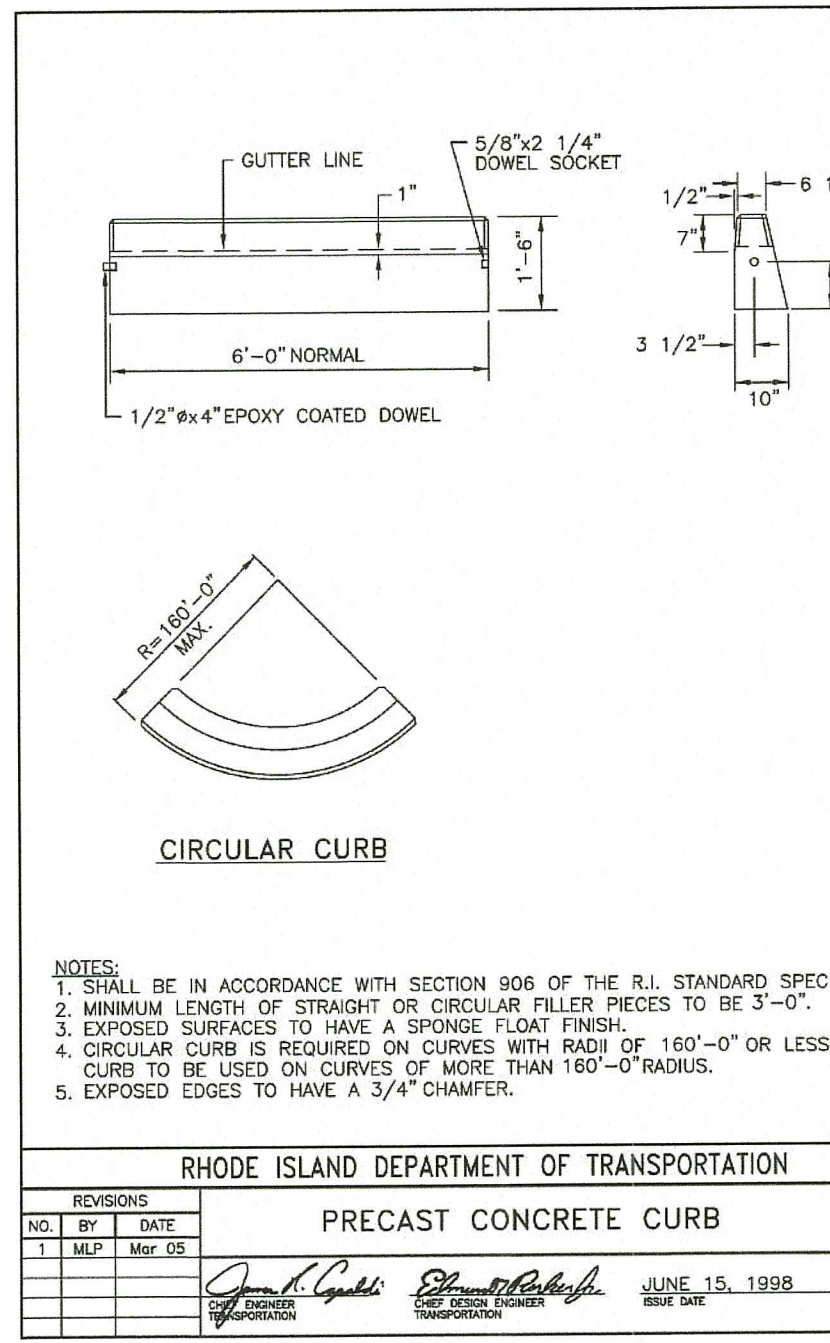


Environmental Management
FEB 22 2023
 Office of Water Resources



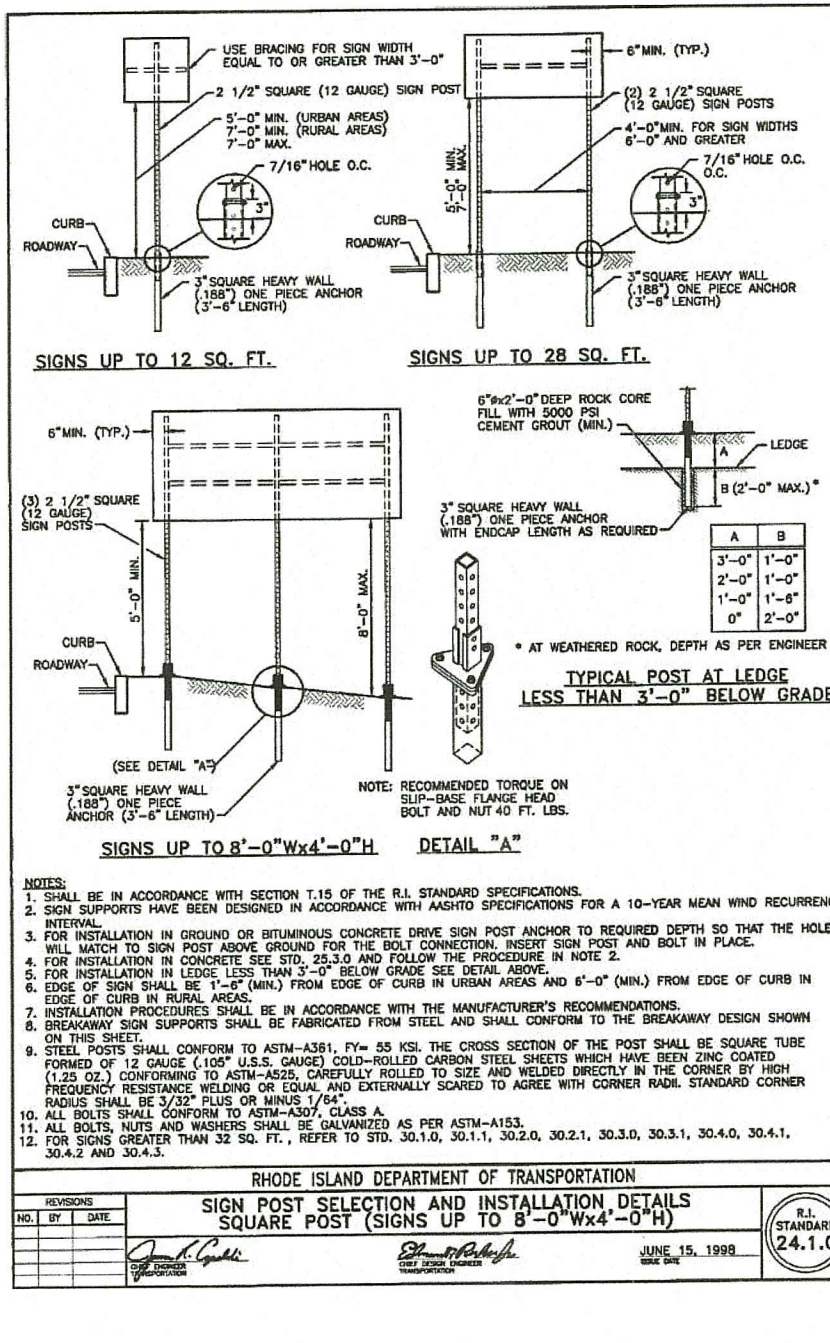
JOE CASALI ENGINEERING, INC.
 CIVIL, SITE DEVELOPMENT, TRANSPORTATION
 DRAINAGE, WETLANDS, I.D.S., TRAFFIC - FLOODPLAIN
 300 POST ROAD, WARWICK, RI 02888
 (401) 944-1100 (401) 944-1313 FAX WWW.JCEONLINE.COM

JOSEPH A. CASALI
 No. 6150 7250
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL
 2-16-2023



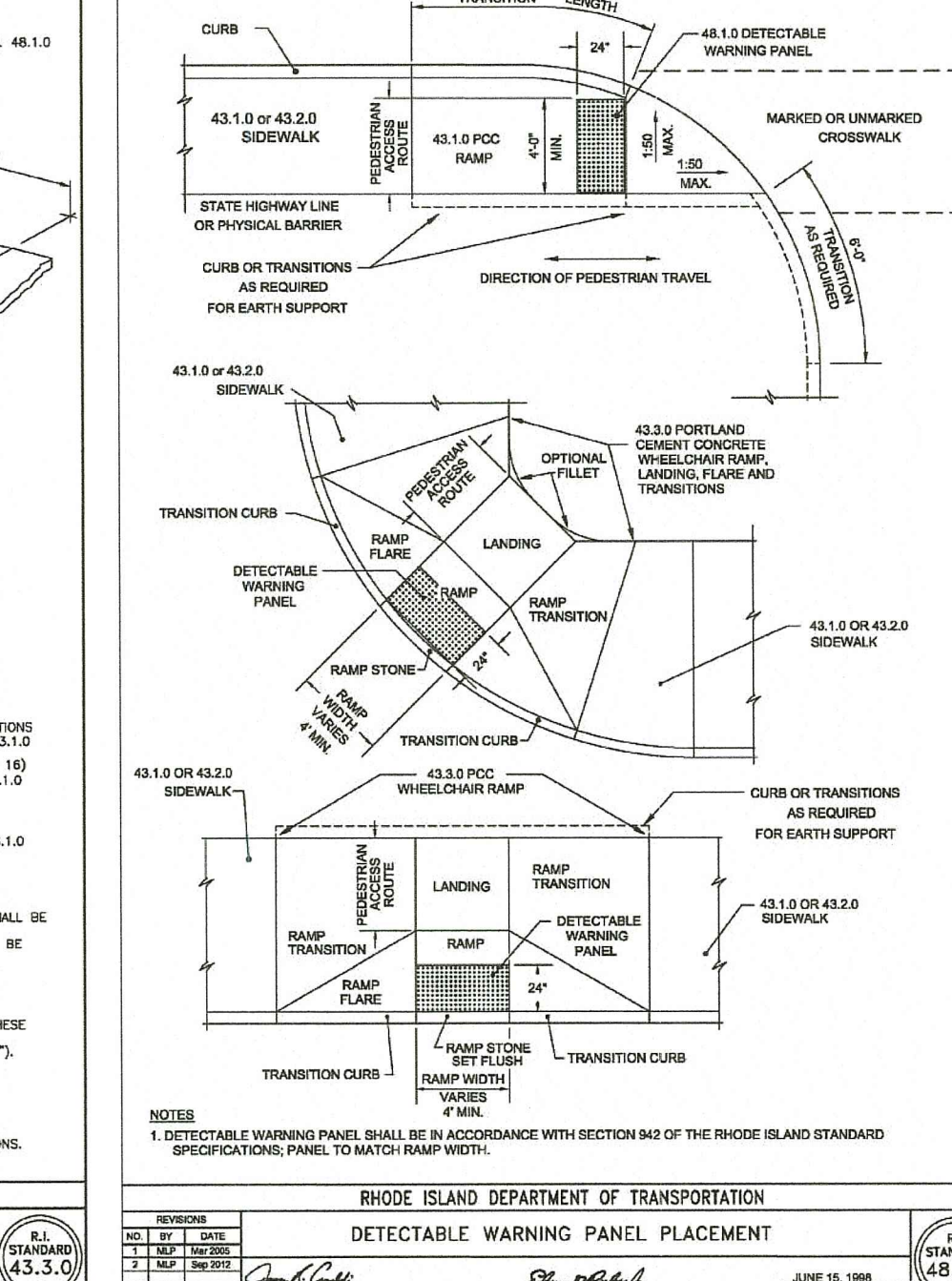
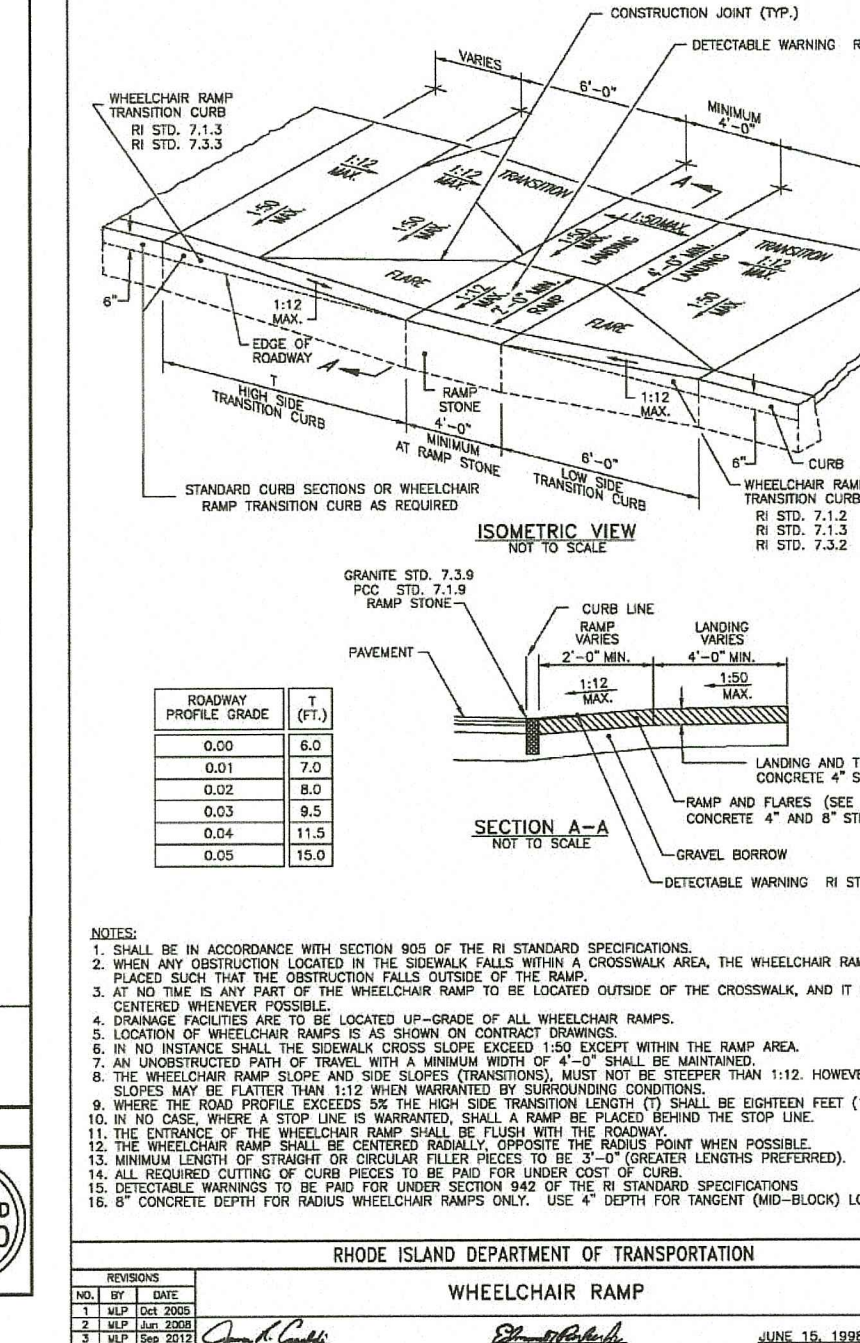
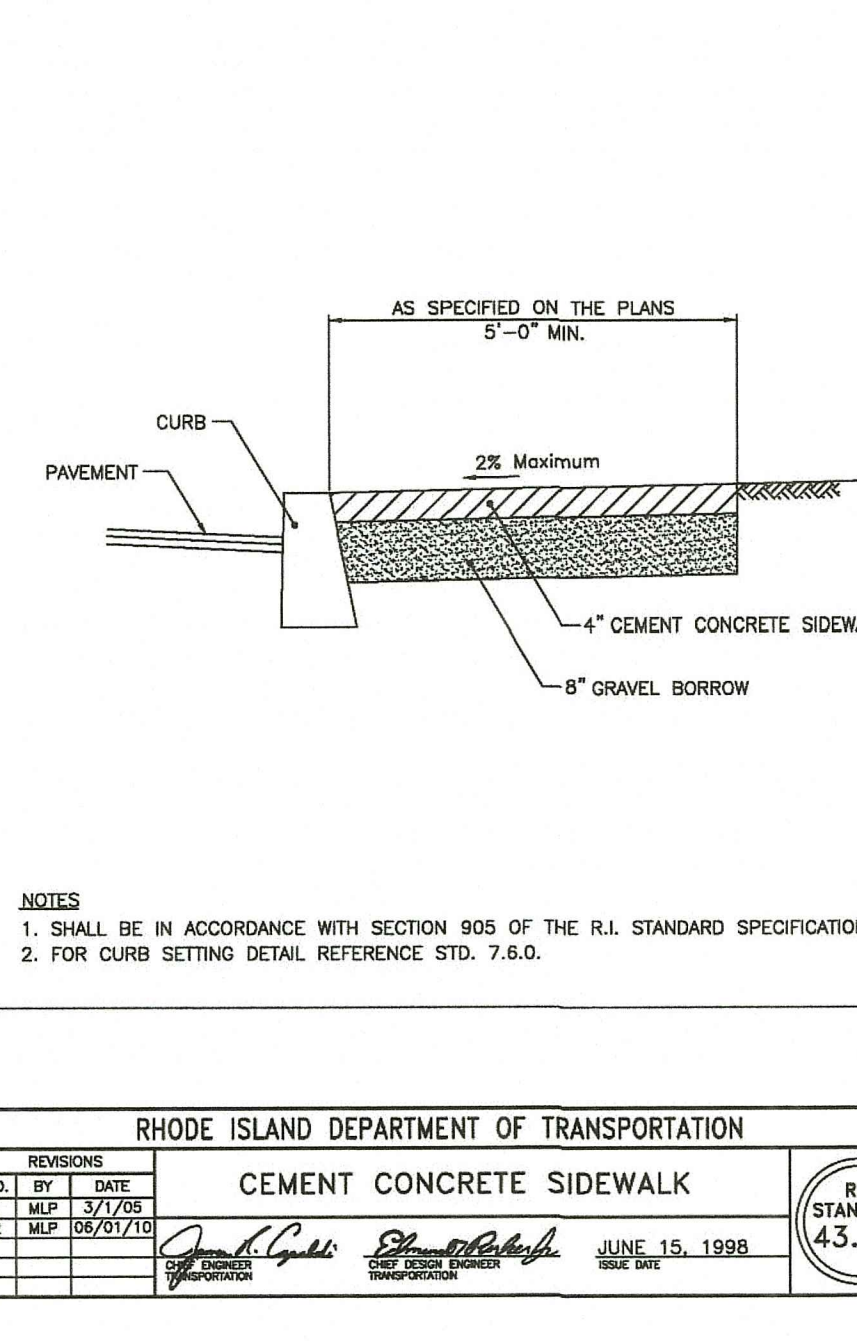
RHODE ISLAND DEPARTMENT OF TRANSPORTATION
 CONCRETE HEADWALLS FOR PIPE CULVERTS

SPACING	A	C	D	E	SQ. FT.
1'-0"	3'-0"	2'-2"	1'-0"	-	13.2
1'-3"	3'-9"	2'-5"	1'-3"	-	17.2
1'-6"	4'-6"	2'-8"	1'-6"	-	21.2
1'-9"	5'-3"	2'-11"	1'-9"	-	25.2
2'-0"	6'-0"	3'-2"	2'-0"	-	30.2
2'-3"	6'-9"	3'-5"	2'-3"	-	35.2
2'-6"	7'-6"	3'-8"	2'-6"	-	42.2
3'-0"	9'-0"	4'-0"	3'-0"	1'-5"	84.1
3'-6"	11'-0"	4'-6"	3'-6"	1'-7"	111.8
4'-0"	12'-0"	5'-0"	4'-0"	1'-9"	148.5
4'-6"	14'-4"	5'-8"	4'-6"	1'-11"	188.3
5'-0"	16'-0"	6'-0"	5'-0"	2'-1"	232.4
5'-6"	17'-8"	6'-8"	5'-6"	2'-3"	284.8
6'-0"	19'-4"	7'-0"	6'-0"	2'-5"	343.8



RHODE ISLAND DEPARTMENT OF TRANSPORTATION
 REGULATORY SIGNS

LEGEND	STOP	NO LEFT TURN	NO RIGHT TURN	NO U-TURN	NO THROUGH TRUCKS	NO TRUCKS	NO TRUCKS OVER 10,000 LBS	NO TRUCKS OVER 10,000 LBS AND 6'-0" HIGH	NO TRUCKS OVER 10,000 LBS AND 6'-0" HIGH AND 8'-0" WIDE	NO TRUCKS OVER 10,000 LBS AND 6'-0" HIGH AND 8'-0" WIDE AND 8'-0" WIDE	NO TRUCKS OVER 10,000 LBS AND 6'-0" HIGH AND 8'-0" WIDE AND 8'-0" WIDE AND 8'-0" WIDE
LEGEND	STOP	NO LEFT TURN	NO RIGHT TURN	NO U-TURN	NO THROUGH TRUCKS	NO TRUCKS	NO TRUCKS OVER 10,000 LBS	NO TRUCKS OVER 10,000 LBS AND 6'-0" HIGH	NO TRUCKS OVER 10,000 LBS AND 6'-0" HIGH AND 8'-0" WIDE	NO TRUCKS OVER 10,000 LBS AND 6'-0" HIGH AND 8'-0" WIDE AND 8'-0" WIDE	NO TRUCKS OVER 10,000 LBS AND 6'-0" HIGH AND 8'-0" WIDE AND 8'-0" WIDE AND 8'-0" WIDE



RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS AS
 SPECIFIED IN THE LETTER OF APPROVAL
 DATED: WAP 27 2023 FILE # 20-046
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

REVISIONS:

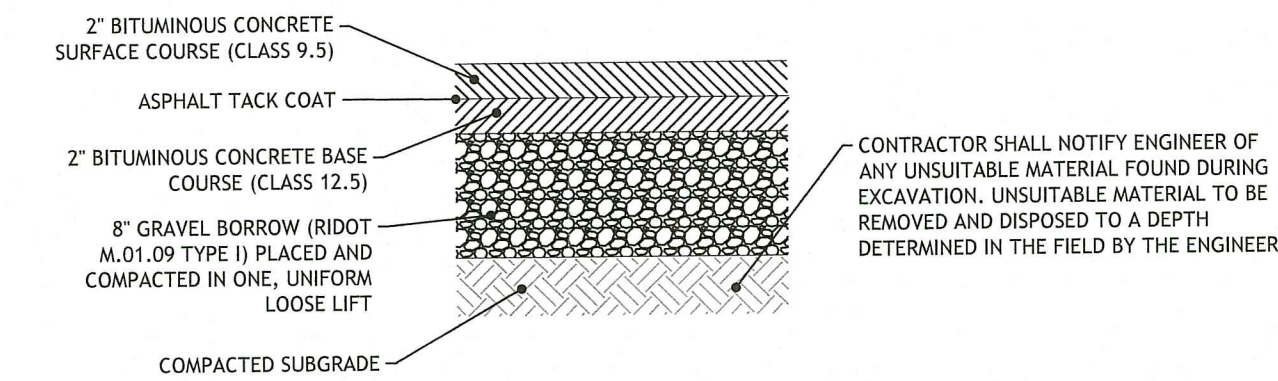
NO.	DATE	DESCRIPTION
R1	6/14/2022	RIDEM FILING
R2	2/16/2023	RIDEM RTC

DESIGNED BY: WMLR
 DRAWN BY: SEPD
 CHECKED BY: JAC
 DATE: MARCH 2022
 PROJECT NO: 20-56a

PRELIMINARY,
 NOT FOR CONSTRUCTION

RI STANDARD DETAILS

SHEET 9 OF 13



NOTES:

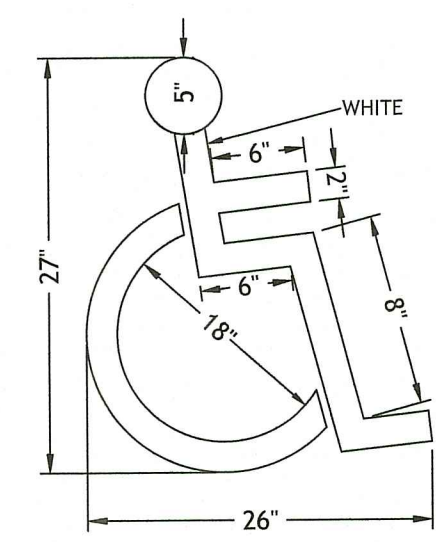
- IF UNSUITABLE MATERIALS ARE ENCOUNTERED AT SUBGRADE ELEVATION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER. THE DEPTH OF UNSUITABLE MATERIAL TO BE REMOVED WILL BE DETERMINED IN THE FIELD. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE THE UNSUITABLE MATERIALS AND REPLACE WITH SUITABLE MATERIAL APPROVED BY THE ENGINEER.
- MINIMUM COMPACTION FOR GRAVEL BORROW SUB-BASE AND SUBGRADE: 95% MODIFIED PROCTOR.

6 BITUMINOUS CONCRETE PAVEMENT
NOT TO SCALE



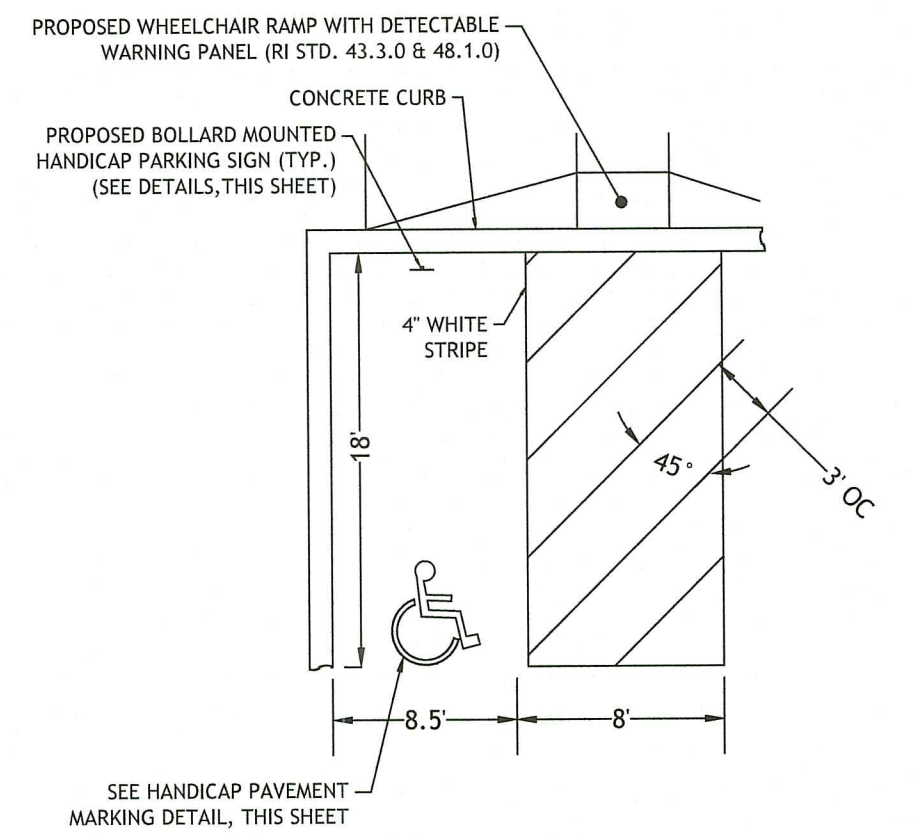
- NOTES:**
- SIGNS ARE TO CONFORM WITH THE MOST RECENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- * VAN ACCESSIBLE SIGNS FOR SPACES ADJACENT TO THE 8' STRIPED ISLE.
- SIGN NOTES:**
- SIGN POSTS SHALL BE GALVANIZED STEEL U-CHANNEL (3 1/2" WIDE-MIN) AND INSTALLED IN CONFORMANCE TO M.U.T.C.D. AND RHODE ISLAND STANDARD SPECIFICATIONS.
 - POSTS SHALL BE DRIVEN TO A DEPTH OF 4 FEET (MIN).
 - THE EDGE OF THE SIGN SHALL BE 18" FROM THE FACE OF THE CURB.
 - WITHIN SIDEWALK LOCATIONS THE SIGN POST WILL BE INSTALLED WITHIN A 8'X8' SQUARE BOX FORM.

7 HANDICAP PARKING SIGNS
NOT TO SCALE

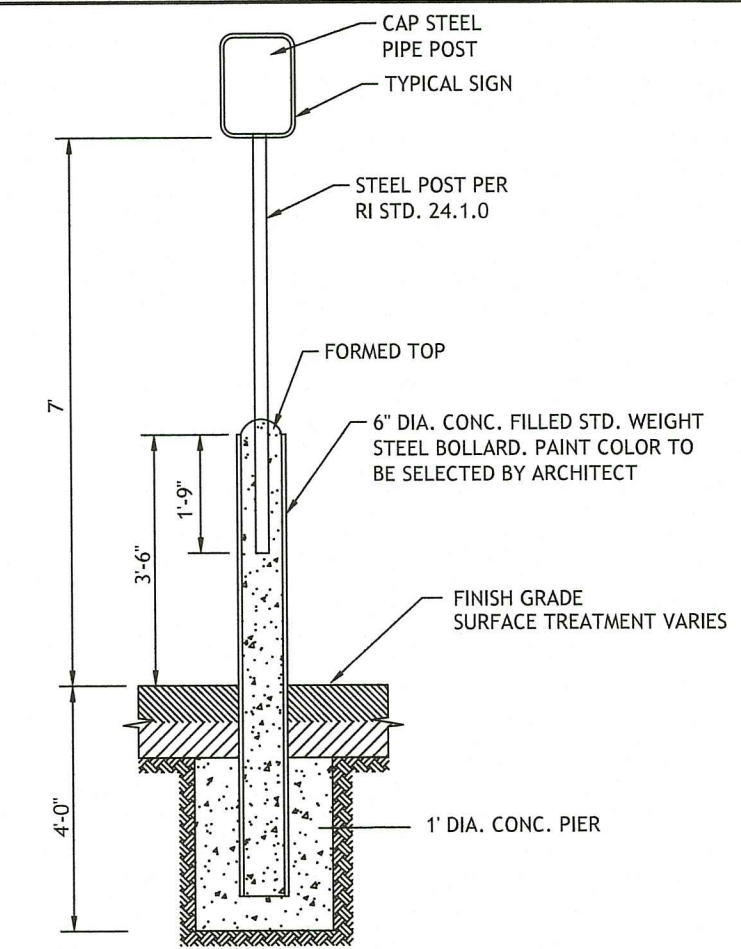


- NOTES:**
- ALL HANDICAP PARKING AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE RHODE ISLAND STATE BUILDING CODE.

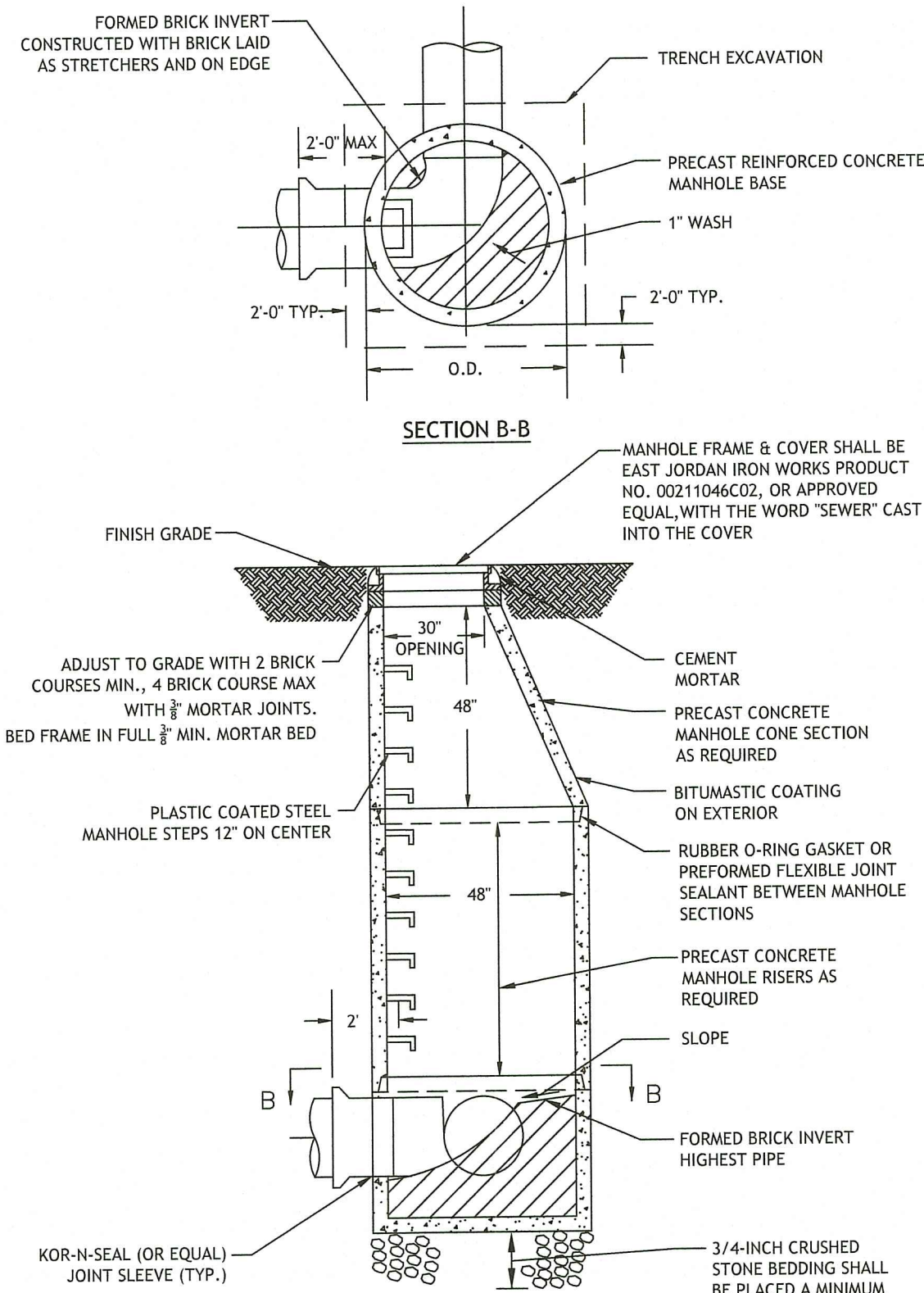
8 HANDICAP PAVEMENT MARKING
NOT TO SCALE



9 HANDICAP PARKING STALL
NOT TO SCALE

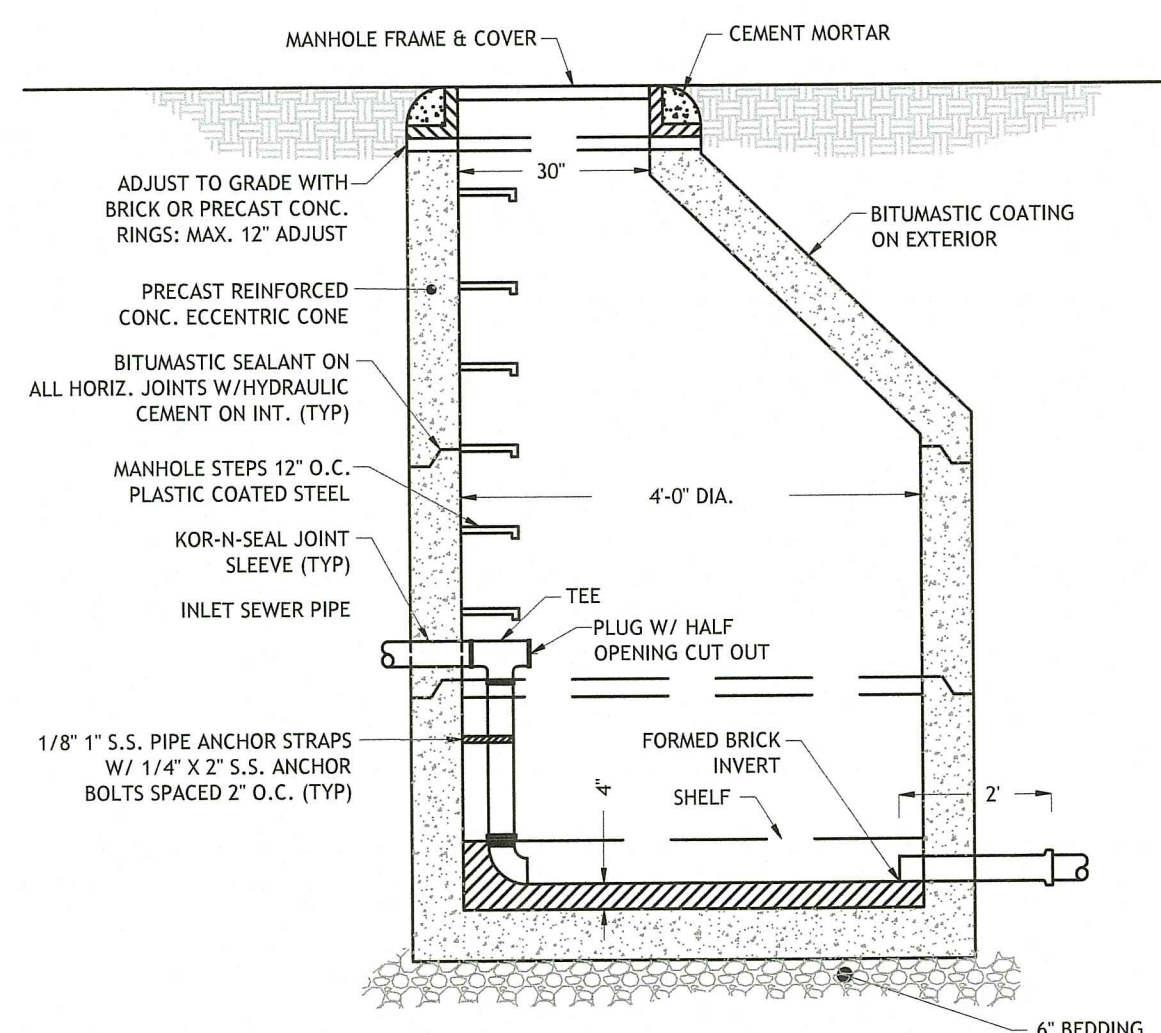


10 BOLLARD MOUNTED SIGN DETAIL
NOT TO SCALE



- NOTES:**
- ALL LIFTING HOLES TO BE PLUGGED IN AND OUT WITH HYDRAULIC CEMENT.
 - ALL JOINTS TO BE HYDRAULICALLY CEMENTED.
 - BACKFILL TO BE SCREENED WITH NO STONES LARGER THAN 2" DIAMETER.

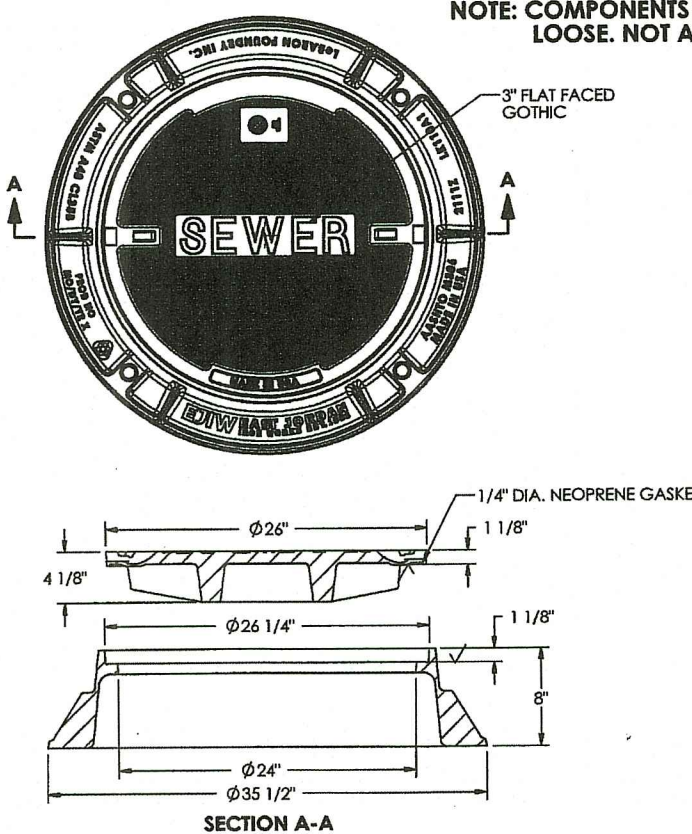
11 TYPICAL SEWER MANHOLE DETAIL
NOT TO SCALE



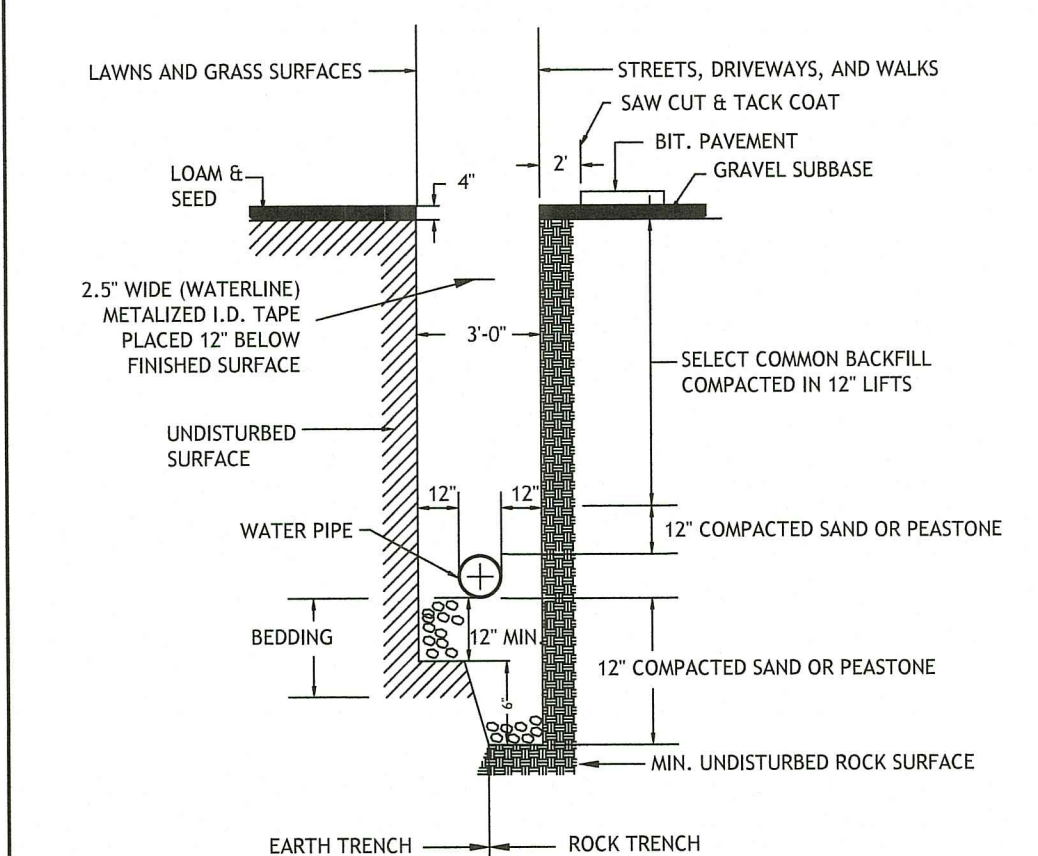
- NOTES:**
- ALL LIFTING HOLES TO BE PLUGGED IN AND OUT WITH HYDRAULIC CEMENT.
 - DROP PIPE SHALL BE PVC AND SAME SIZE AS INLET SEWER.

12 INSIDE DROP SANITARY MANHOLE DETAIL
NOT TO SCALE

2111Z 2110A1GS Set

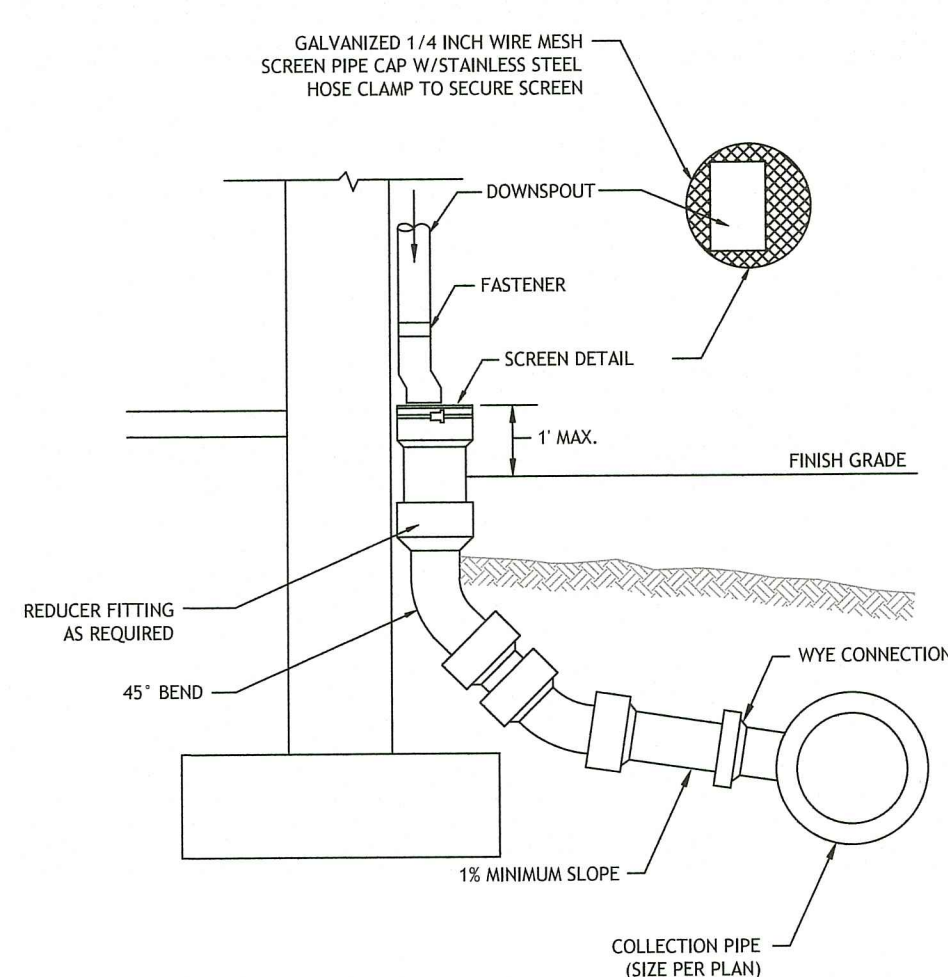


13 SEWER MANHOLE FRAME & COVER DETAIL
NOT TO SCALE



- NOTES:**
- COMPACTED SAND OR PEASTONE FOUNDATION SHALL BE PLACED 12" UNDER THE PIPE UP TO THE PIPE GRADE, THE PIPE Laid THEREON, AND COMPACTED SAND OR PEASTONE PULLED AGAINST THE PIPE SIDE TO FIRMLY HOLD THE PIPE IN PLACE. NO BLOCKS OR STONES SHALL BE USED TO SUPPORT THE PIPE.
 - COMPACTED SAND OR PEASTONE HAUNCHING SHALL BE BROUGHT LEVEL TO THE TOP OF THE PIPE AND OUT TO THE TRENCH WALL AT THIS ELEVATION FOR ALL PIPE. COMPACTED SAND OR PEASTONE BLANKET SHALL BE PLACED 12" ABOVE THE PIPE.
 - WATER PIPE SHALL HAVE AT LEAST 5-FEET OF COVER AT ALL TIMES.

14 WATER LINE TRENCH DETAIL
NOT TO SCALE



15 DOWNSPOUT LEADER CONNECTION DETAIL
NOT TO SCALE

Environmental Management
FEB 22 2023
Office of Water Resources

JCE
JOE CASALI ENGINEERING, INC.
CIVIL, SITE DEVELOPMENT, TRANSPORTATION
DRAINAGE, 16 BOSTON AVENUE, WARWICK, RI 02886
(401) 844-1300 (401) 844-1313 FAX WWW.JCEENGINEERING.COM

JOSEPH A. CASALI
No. 7250
REGISTERED PROFESSIONAL ENGINEER
CIVIL
2-16-2023

SELF-STORAGE FACILITY
850 MANTON AVENUE
PROVIDENCE, RHODE ISLAND
AP 34, LOT 381

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL
DATED: MAR 27 2023 FILE # 22-0926
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

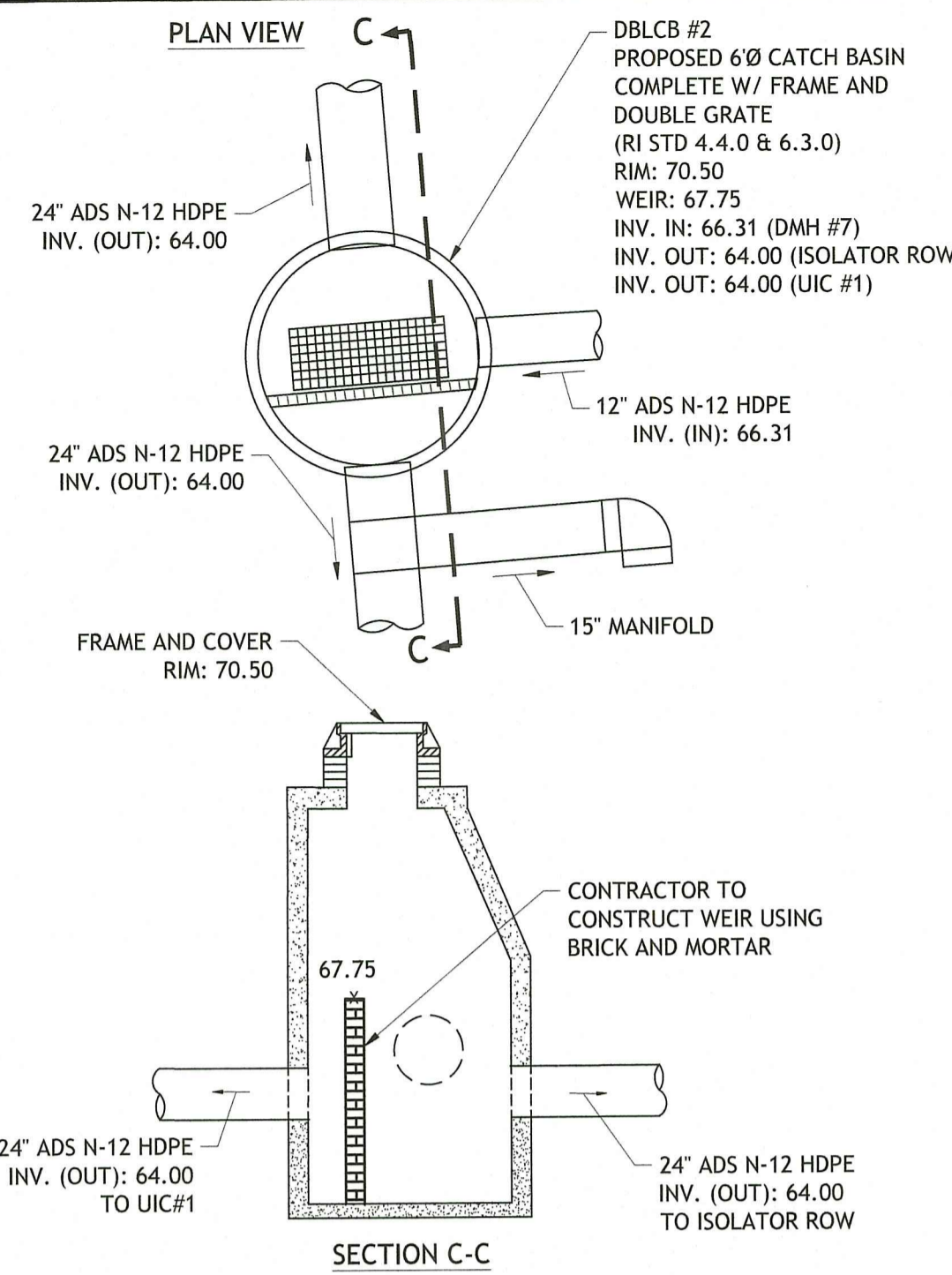
REVISIONS:	NO.	DATE	DESCRIPTION
	R1	6/14/2022	RIDEM FILING
	R2	2/16/2023	RIDEM RTC

DESIGNED BY: WML/R
DRAWN BY: SEP/SD
CHECKED BY: JAC
DATE: MARCH 2022
PROJECT NO: 20-56a

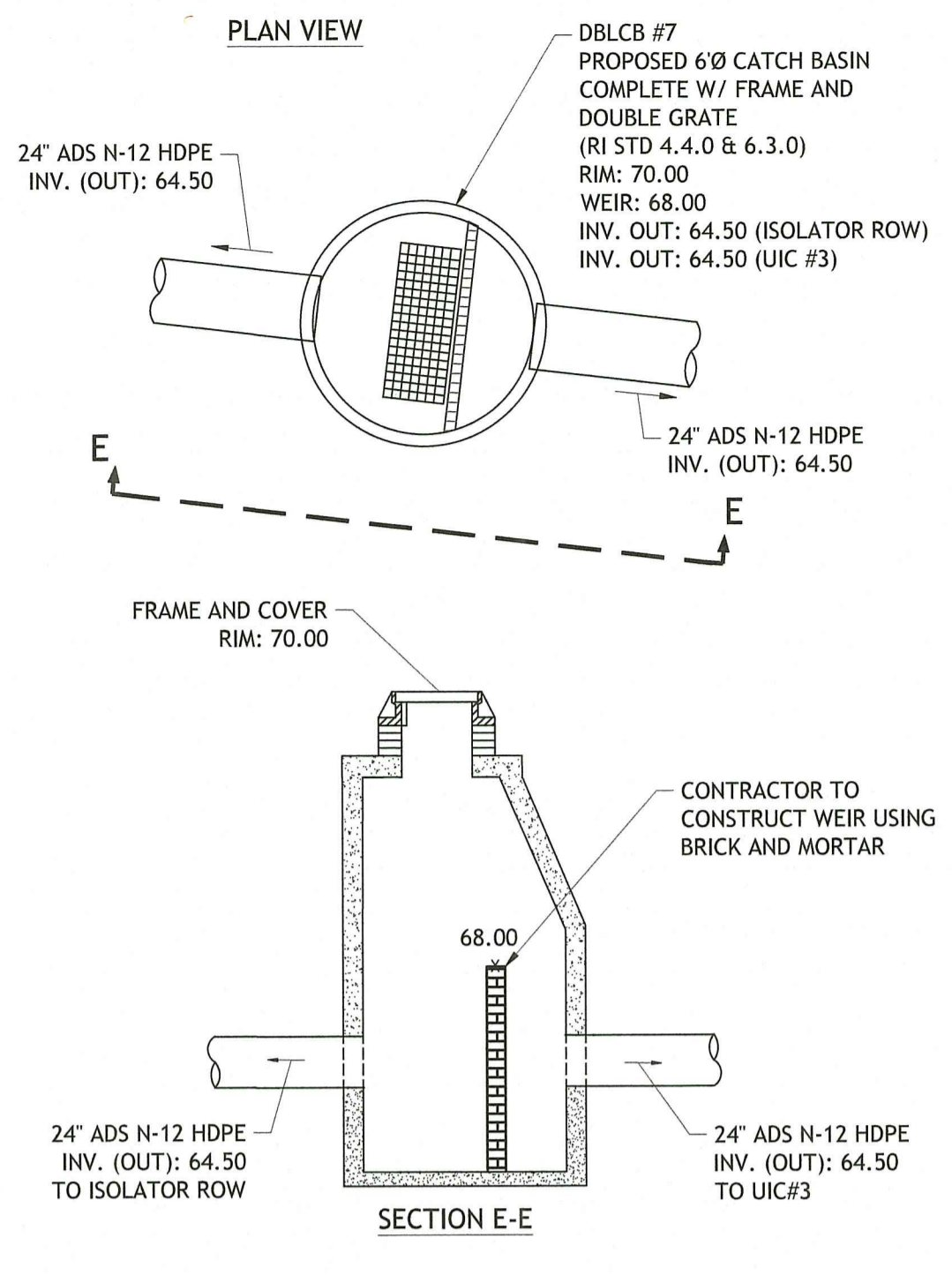
PRELIMINARY,
NOT FOR CONSTRUCTION

SITE DETAILS

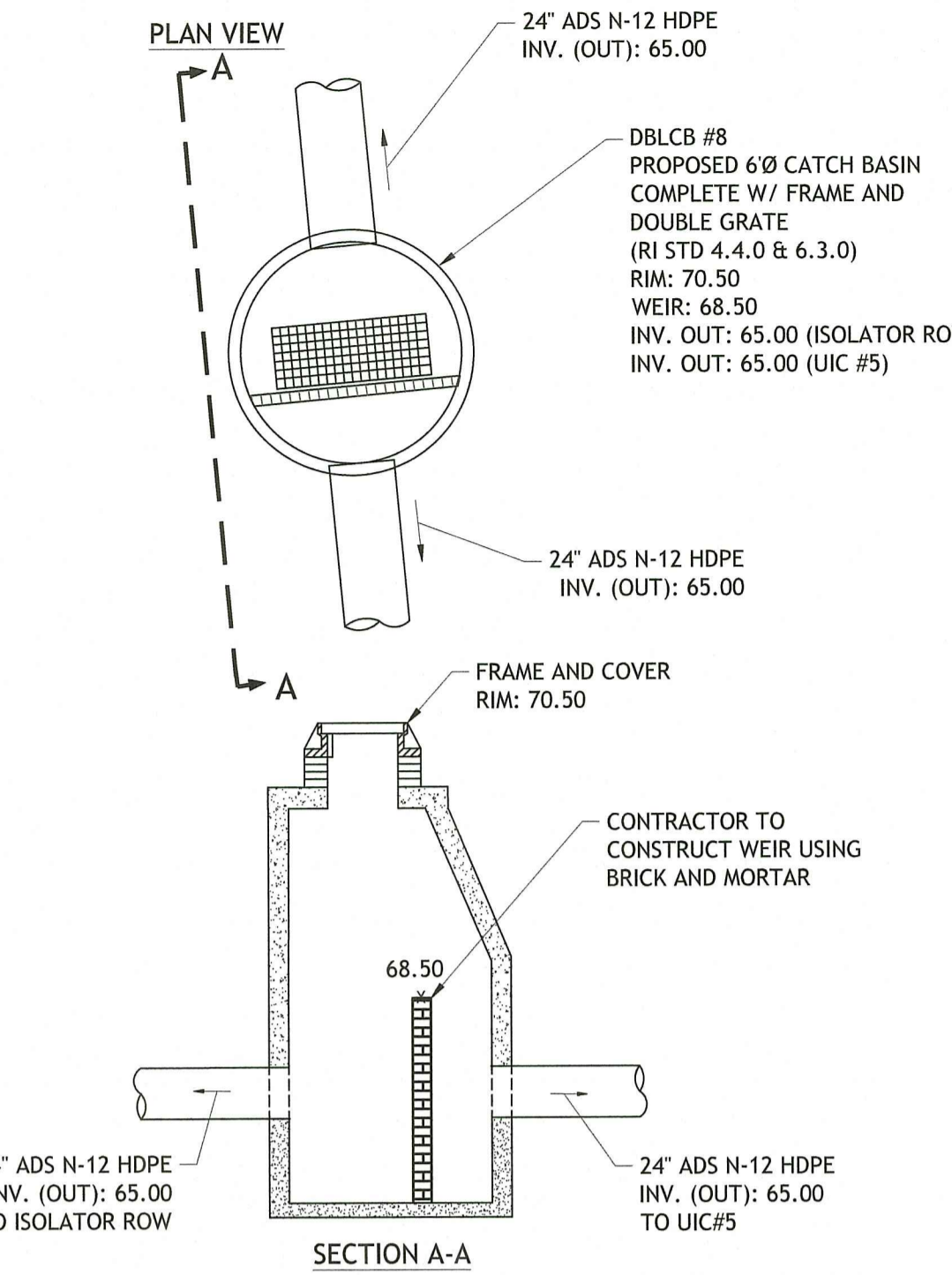
SHEET 10 OF 13



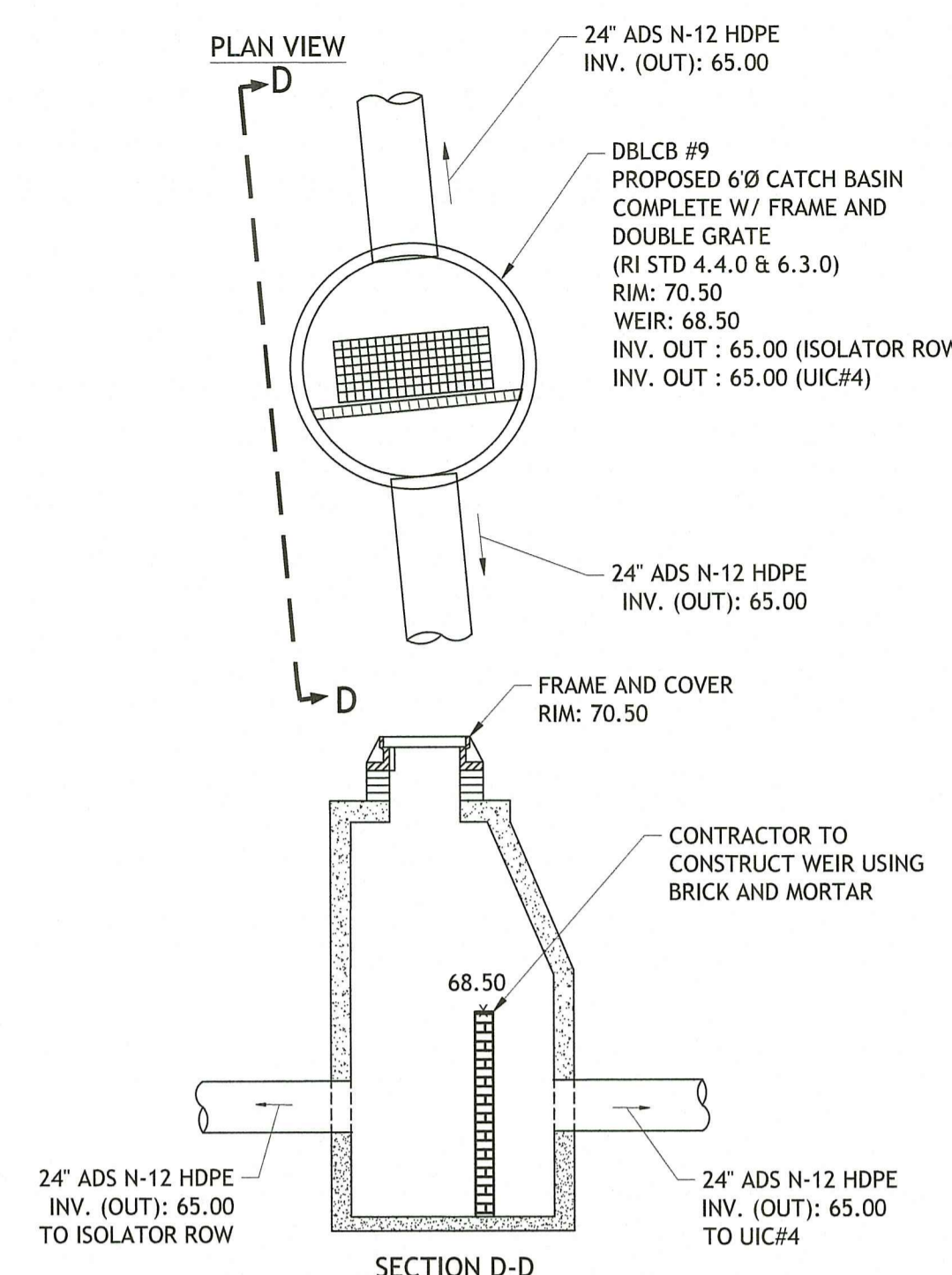
16 DBLCB #2 - CATCH BASIN WITH WEIR
NOT TO SCALE



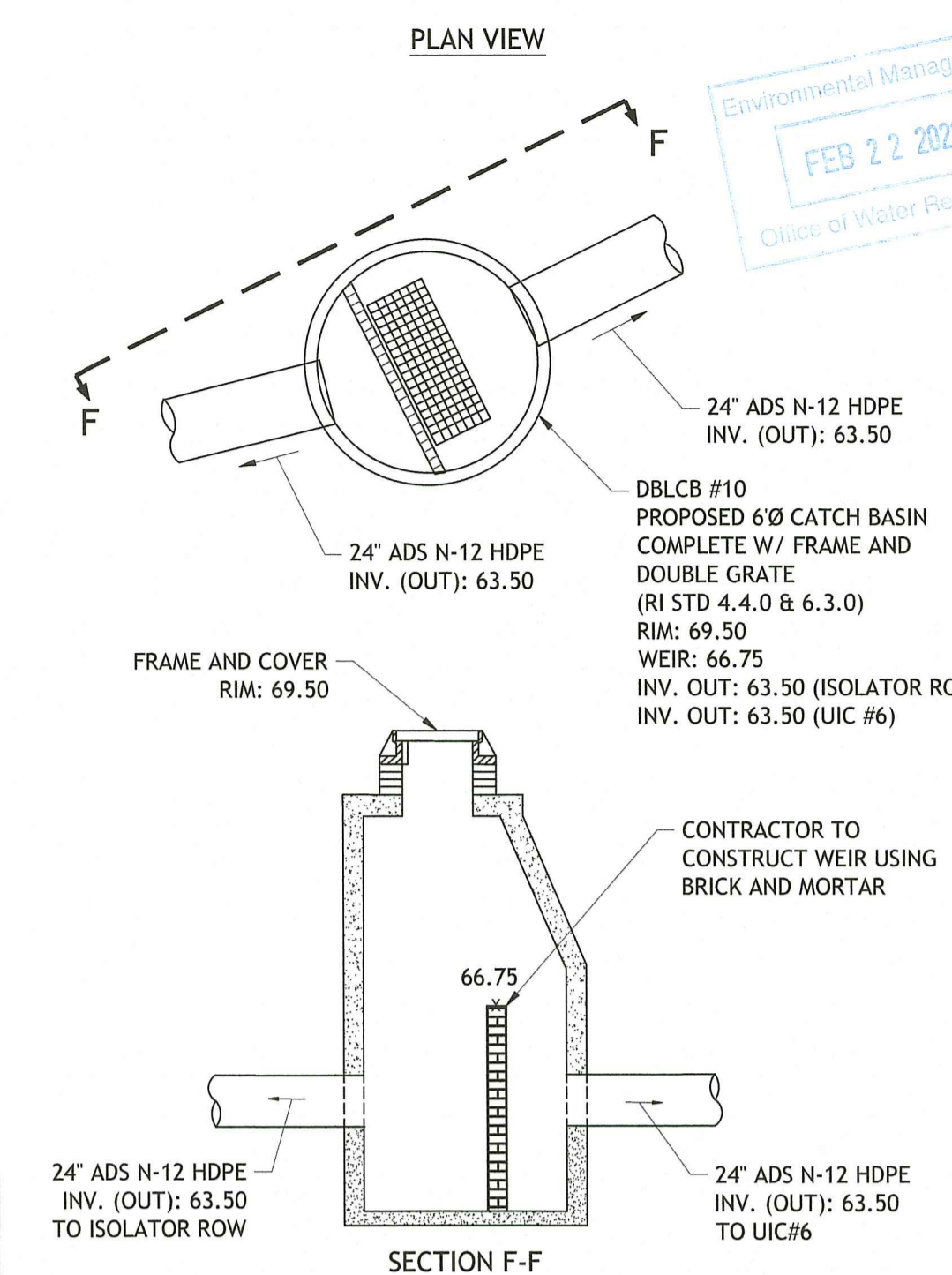
17 DBLCB #7 - CATCH BASIN WITH WEIR
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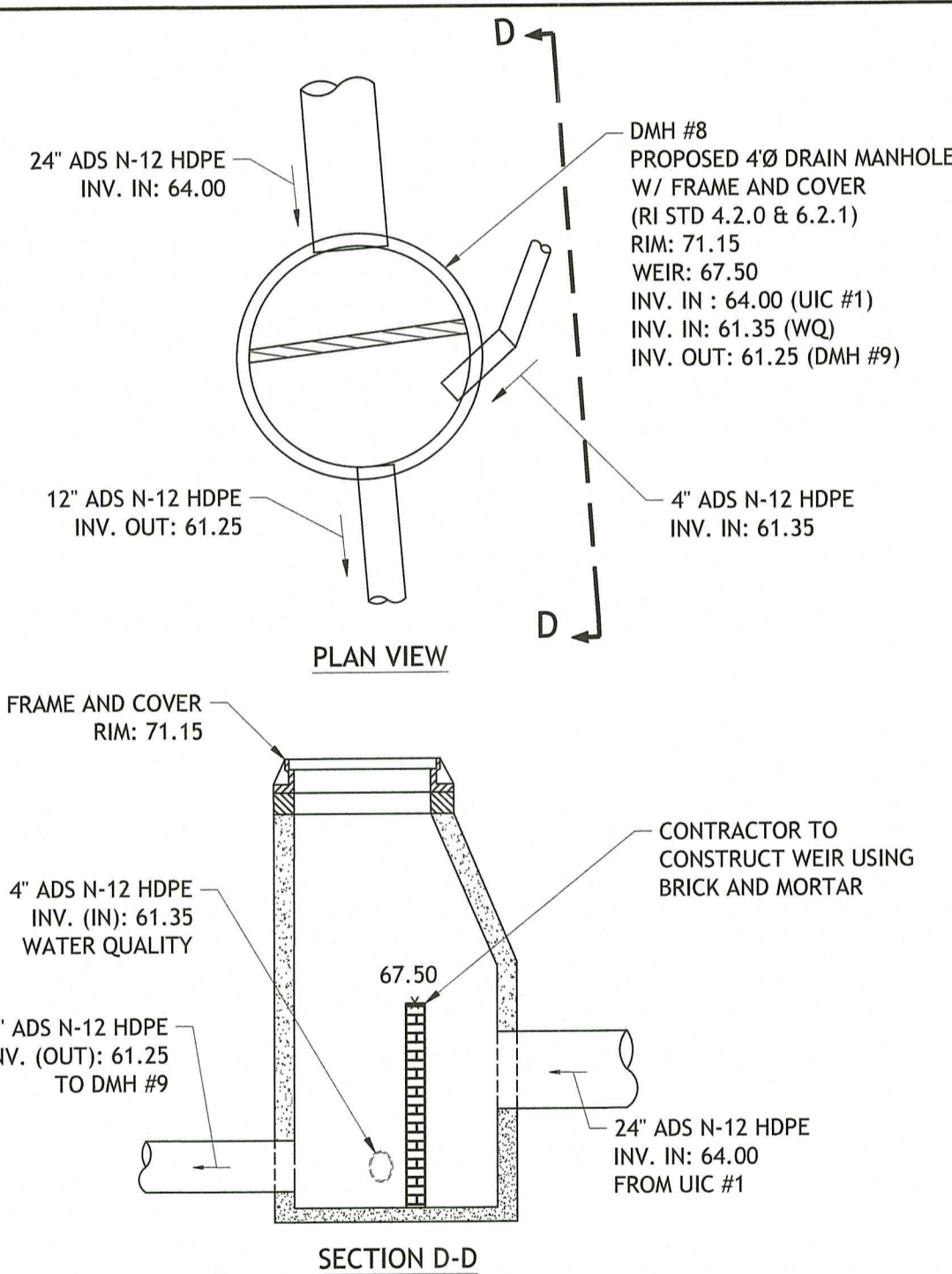
18 DBLCB #8 - CATCH BASIN WITH WEIR
NOT TO SCALE



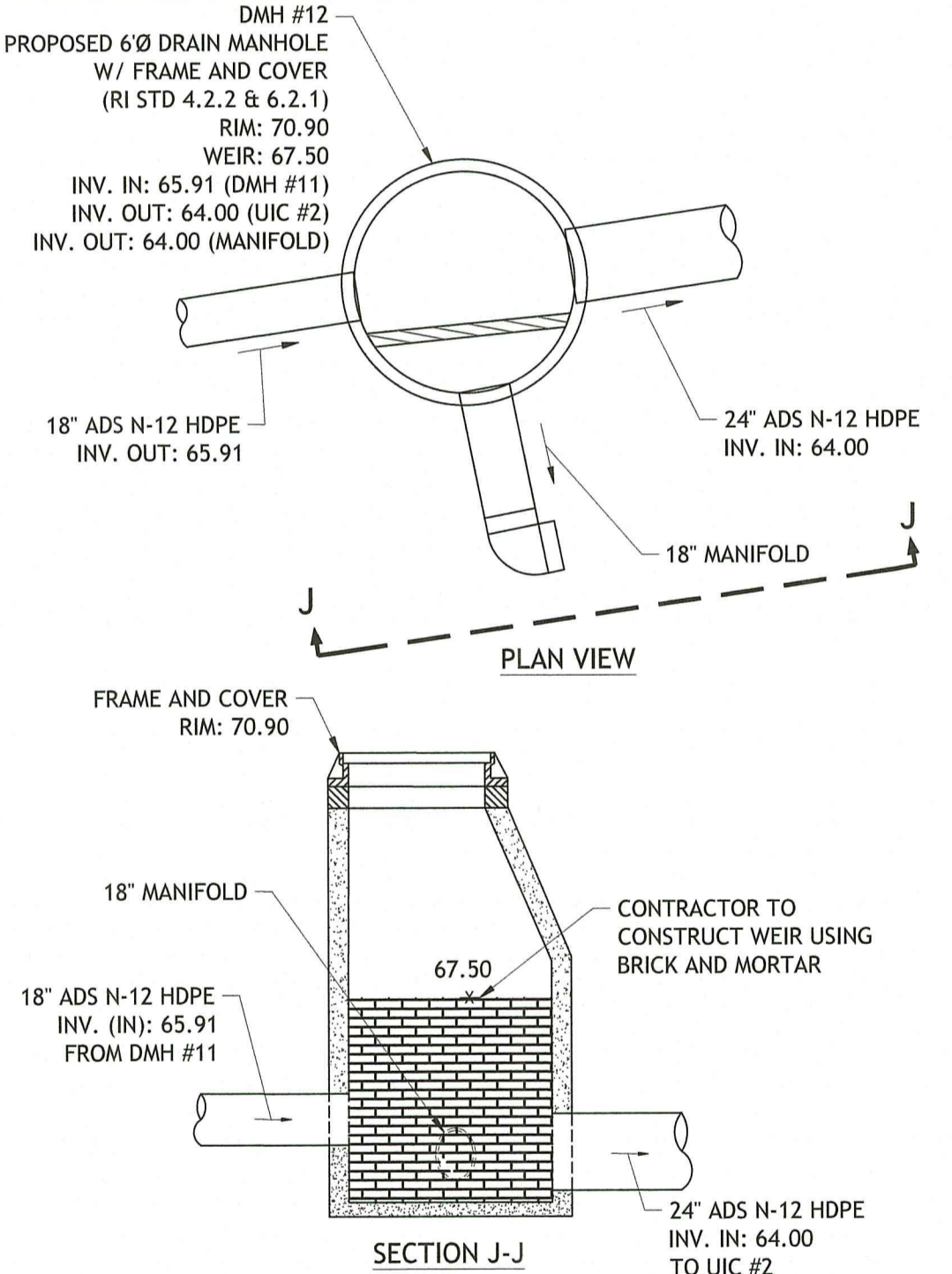
19 DBLCB #9 - CATCH BASIN WITH WEIR
NOT TO SCALE



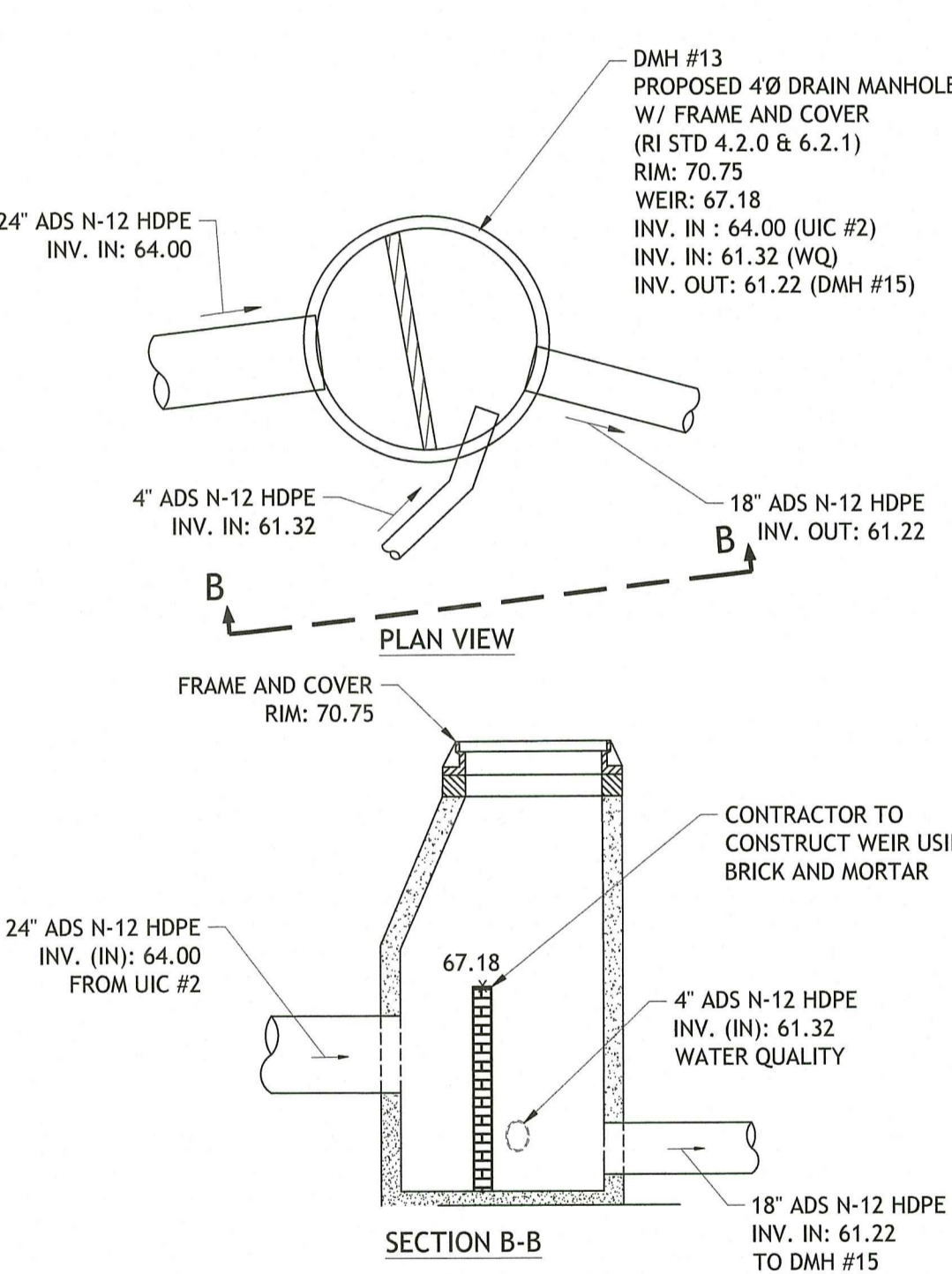
20 DBLCB #10 - CATCH BASIN WITH WEIR
NOT TO SCALE



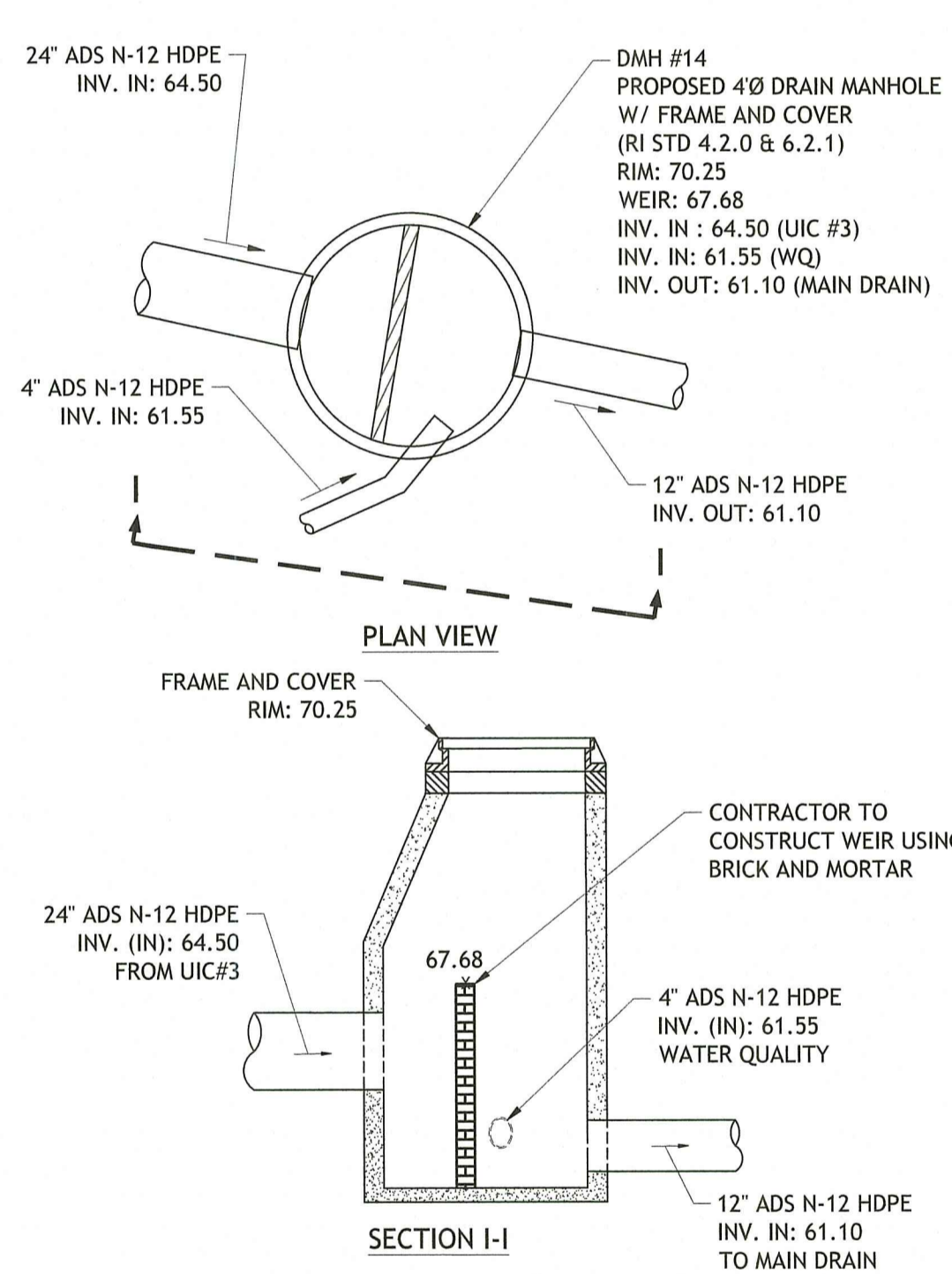
21 DMH #8 - DIVERSION MANHOLE
NOT TO SCALE



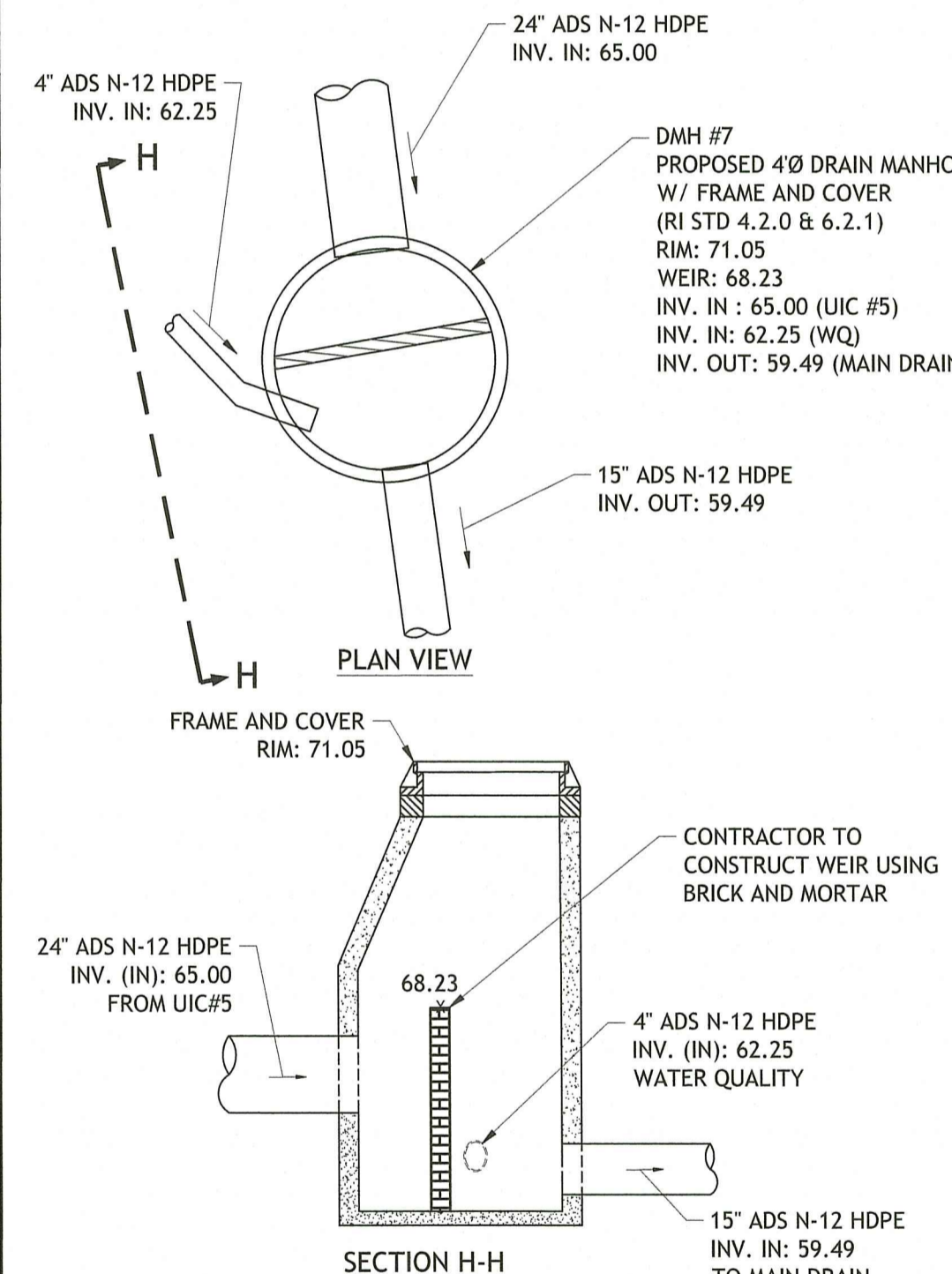
22 DMH #12 - DIVERSION MANHOLE
NOT TO SCALE



23 DMH #13 - DIVERSION MANHOLE
NOT TO SCALE



24 DMH #14 - DIVERSION MANHOLE
NOT TO SCALE



25 DMH #7 - DIVERSION MANHOLE
NOT TO SCALE

FlexStorm® Connector Pipe Screen

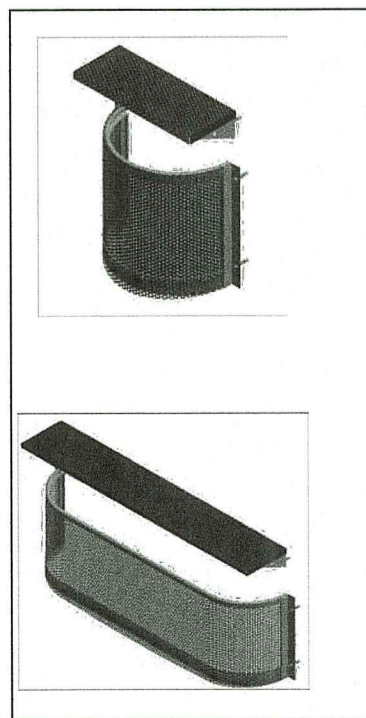
FlexStorm Connector Pipe Screen (CPS) is the perfect tool to help you meet your Total Maximum Daily Load. Whether for a retrofit or a new construction, there is a CPS that will fit your catch basin. A CPS retains large volumes of trash and sediment inside the catch basin, where it can be regularly removed by a vacuum truck, instead of conveying debris through the stormwater system.

Features

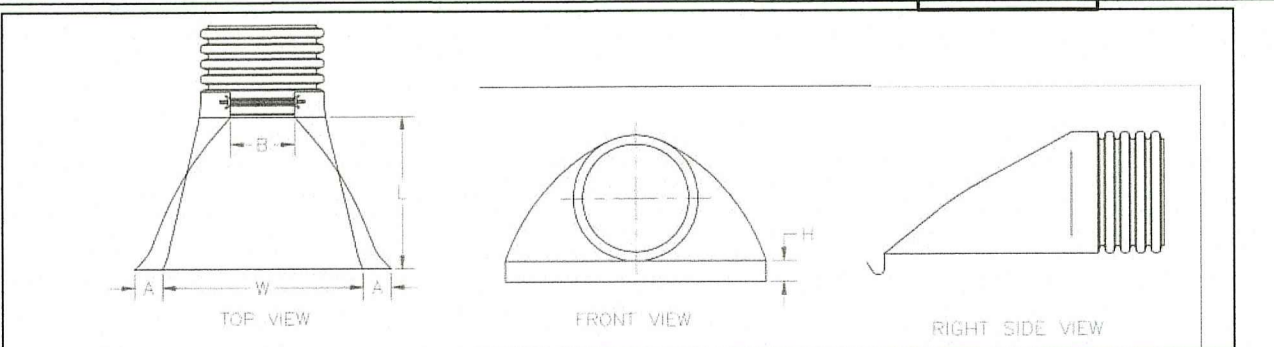
- Constructed from 14GA perforated stainless steel, reinforced with 12GA U-channels around entire perimeter
- Trash accumulates in catch basin instead of downstream
- Keeps all particles larger than 0.197" (5 mm) inside catch basin
- 50% open area for high flow; designed to match basin hydraulics

Benefits

- Good for retrofits, new applications or city-wide installs
- Comes in multiple shapes, depending on the catch basin
- Rolled panels provide increased strength compared to flat screens
- Quick and easy installation; ships sized to the catch basin so assembly is not required



		PIPE DIAMETER, in (mm)					
		12	15	18	24	30	36
		(300)	(375)	(450)	(600)	(750)	(900)
A	in (mm)	6.5 (165)	6.5 (165)	7.5 (191)	7.5 (191)	7.5 (191)	7.5 (191)
B (max)	in (mm)	10.0 (254)	10.0 (254)	15.0 (381)	15.0 (381)	22.0 (559)	25.0 (635)
H	in (mm)	6.5 (165)	6.5 (165)	6.5 (165)	6.5 (165)	8.6 (218)	8.6 (218)
L	in (mm)	25.0 (635)	25.0 (635)	32.0 (813)	36.0 (914)	50.0 (1270)	50.0 (1270)
W	in (mm)	29.0 (737)	29.0 (737)	35.0 (889)	45.0 (1143)	63.0 (1600)	63.0 (1600)



26 FLARED END SECTION SPECIFICATIONS
NOT TO SCALE

C:\10-56 Blue Day\10-56a_850 Manton Avenue\CAD\850 Manton Ave [DEAN RTC] - R2.dwg, Feb. 22, 2023 11:23am

JOSEPH A. CASALI
No. 7250
REGISTERED PROFESSIONAL ENGINEER CIVIL
2-16-2023

SELF-STORAGE FACILITY
850 MANTON AVENUE
PROVIDENCE, RHODE ISLAND
AP 34, LOT 381

REVISIONS:

NO.	DATE	DESCRIPTION
R1	6/14/2022	RIDEM FILING
R2	2/16/2023	RIDEM RTC

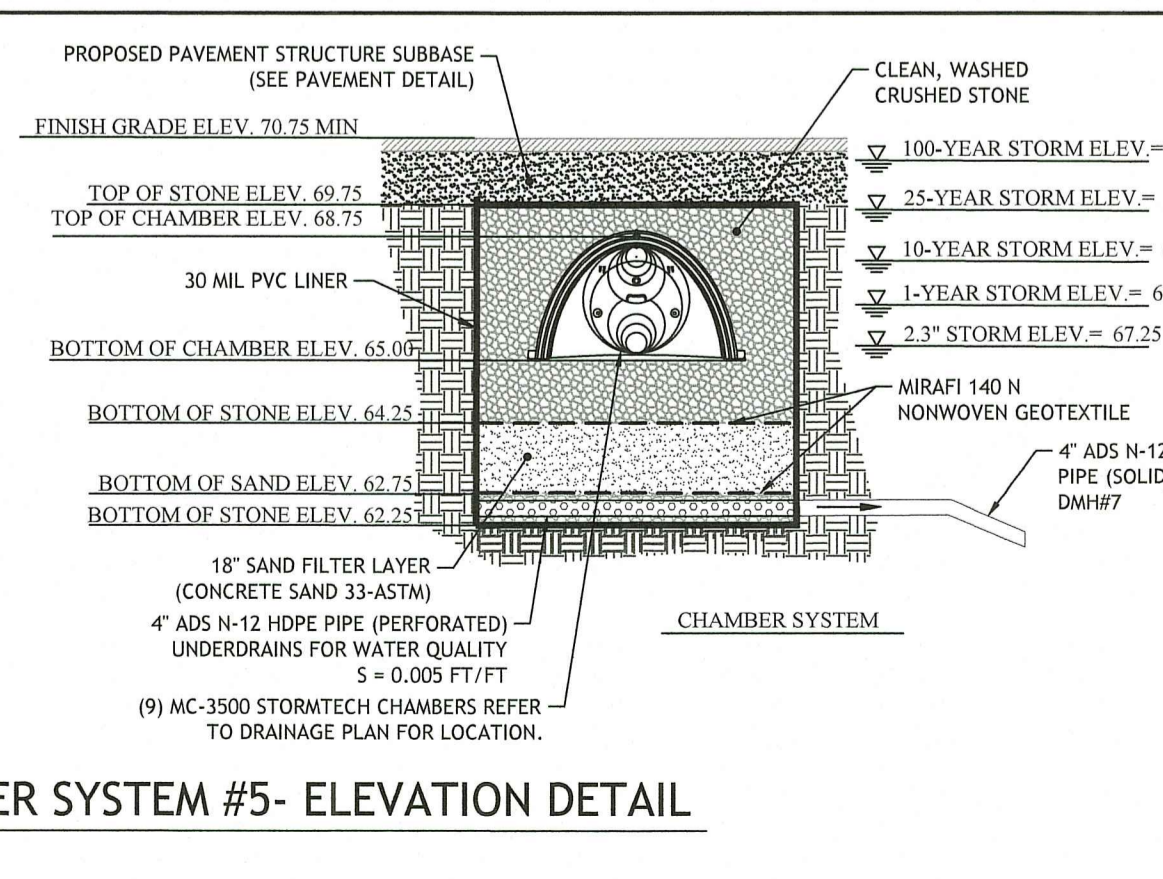
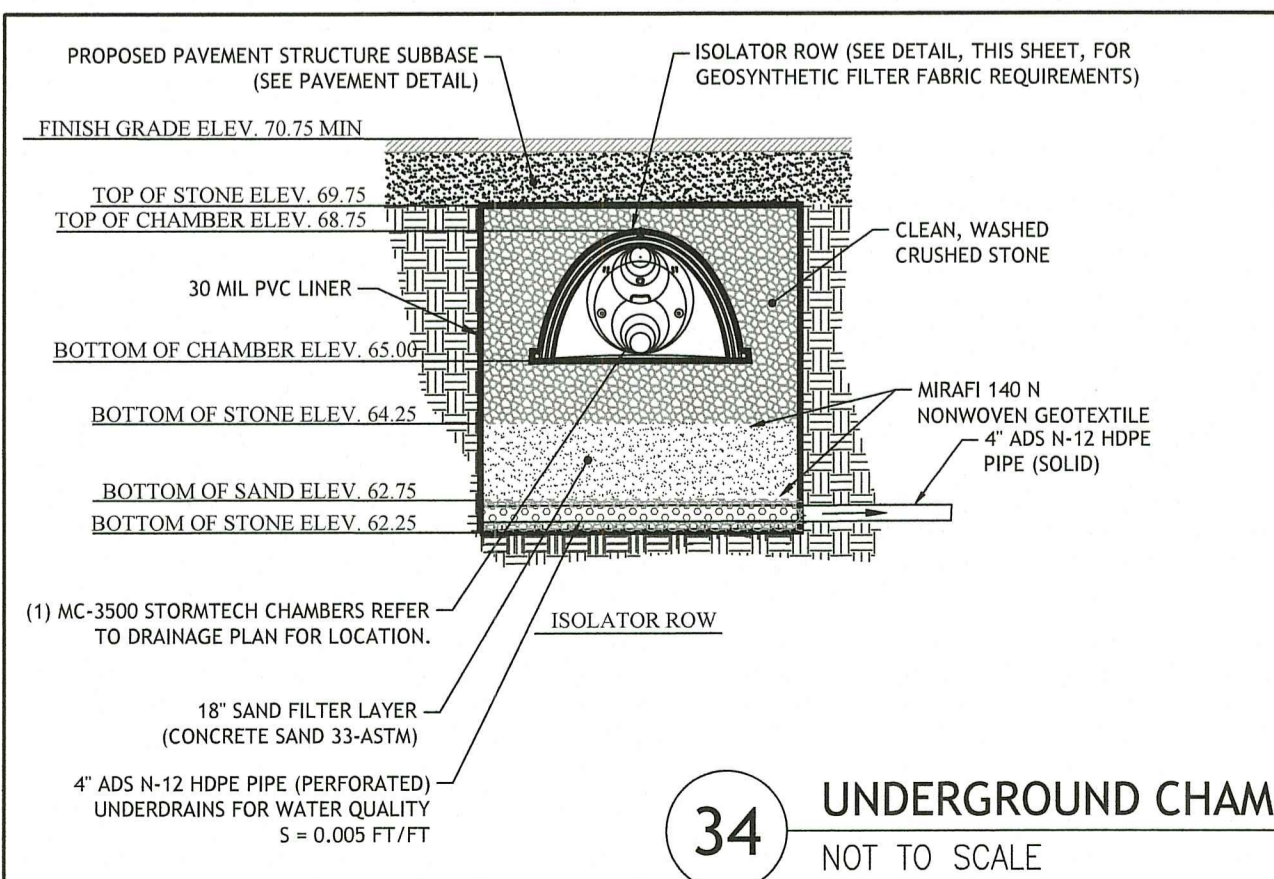
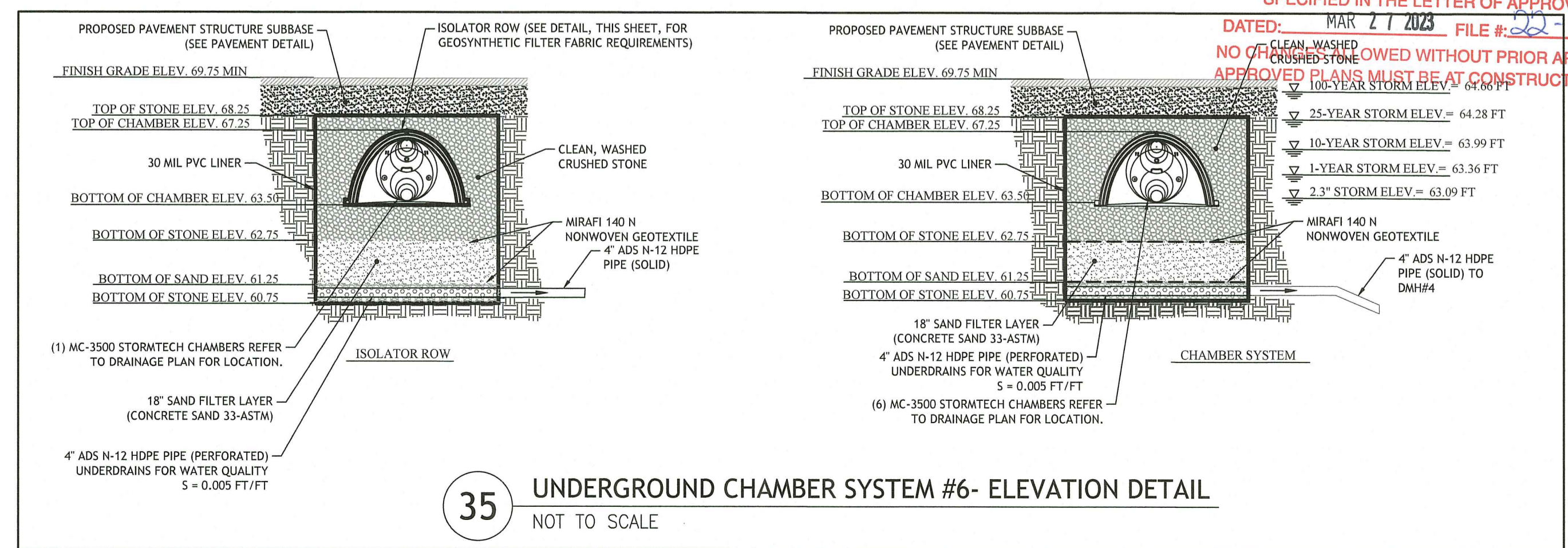
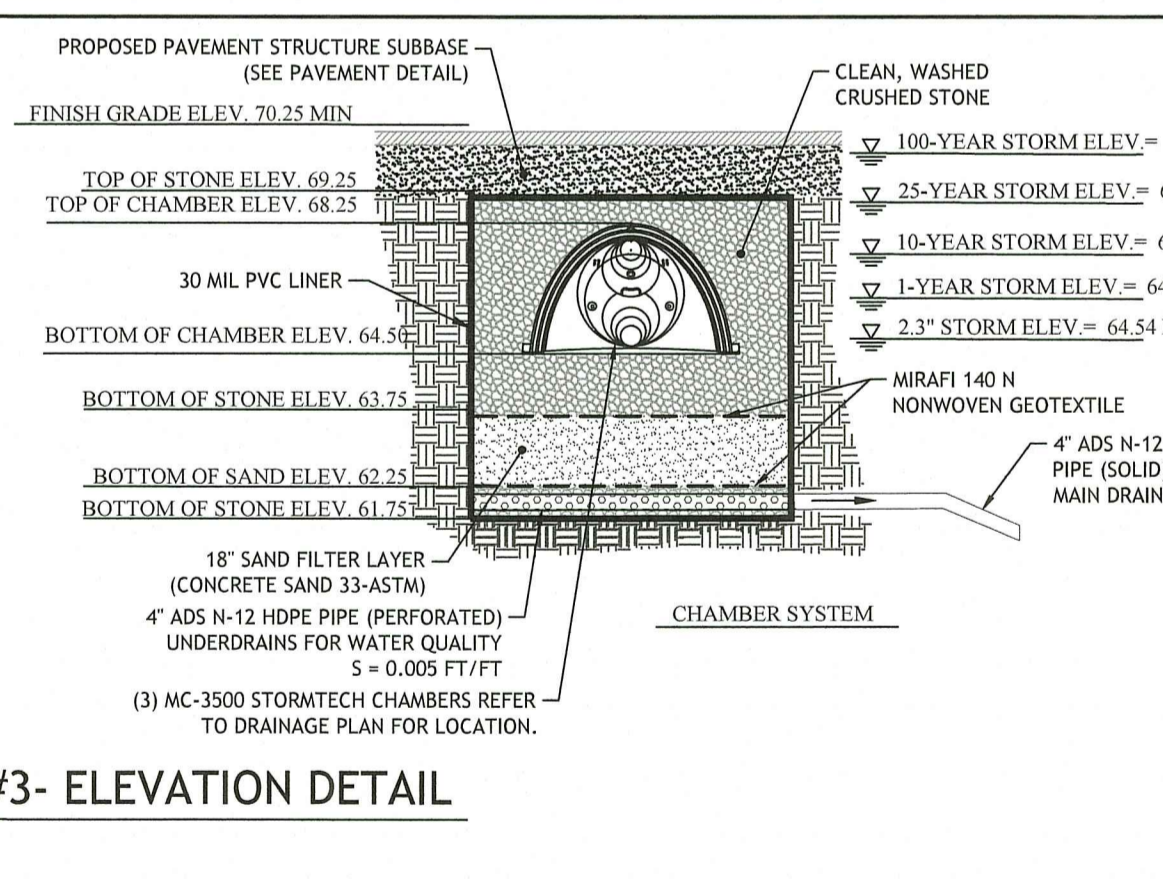
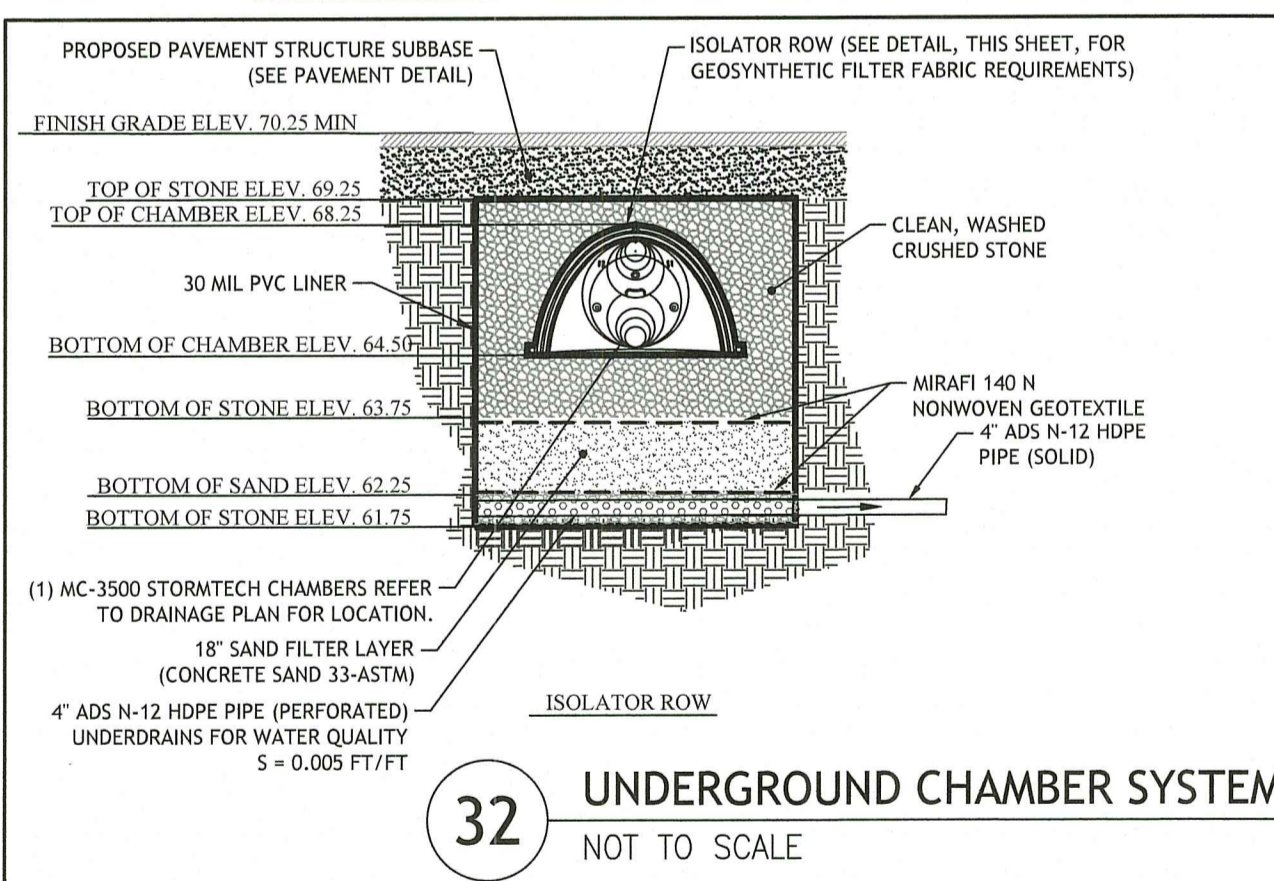
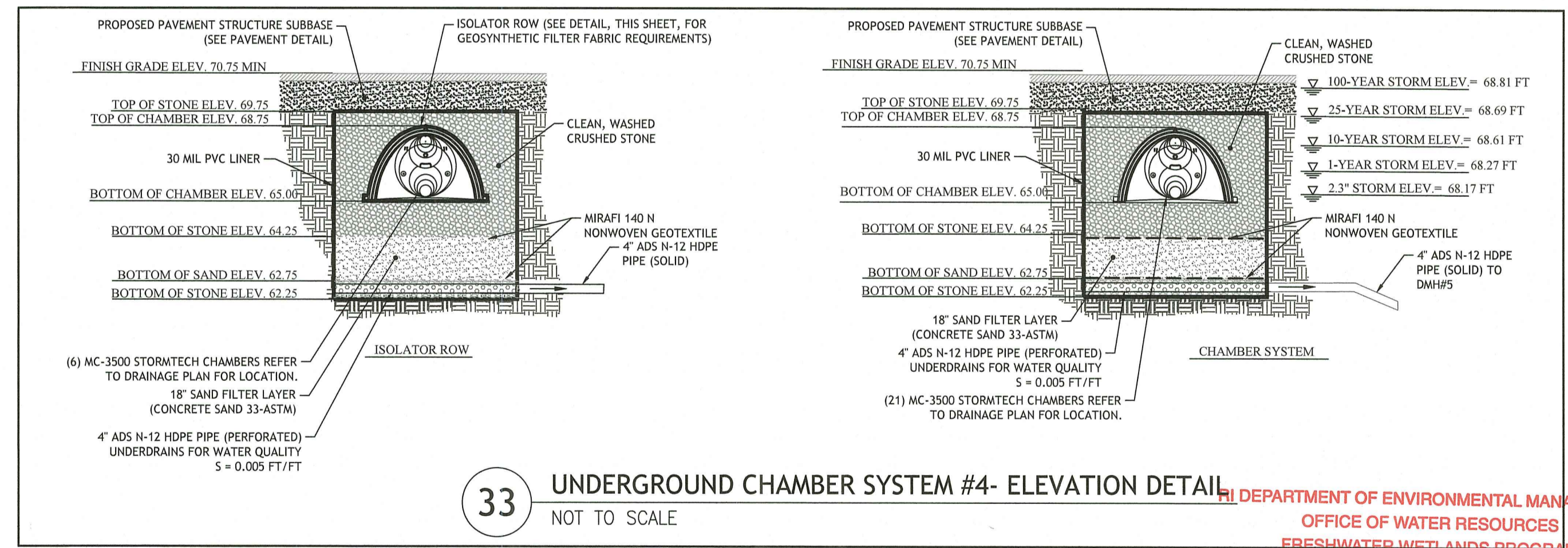
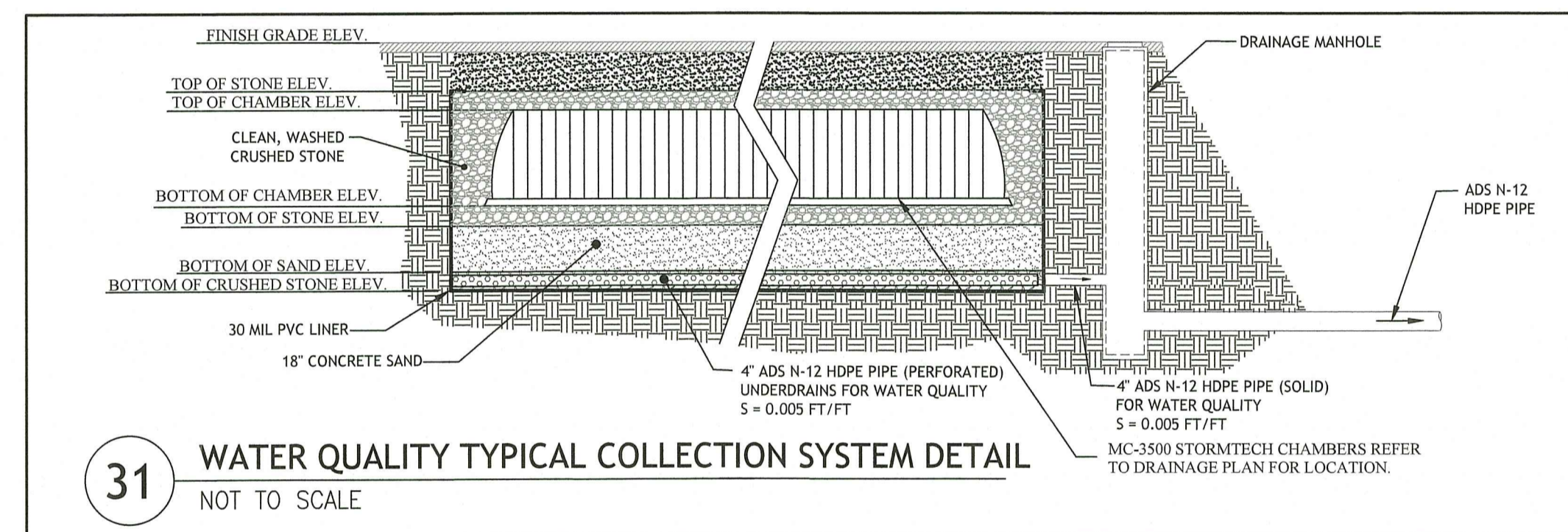
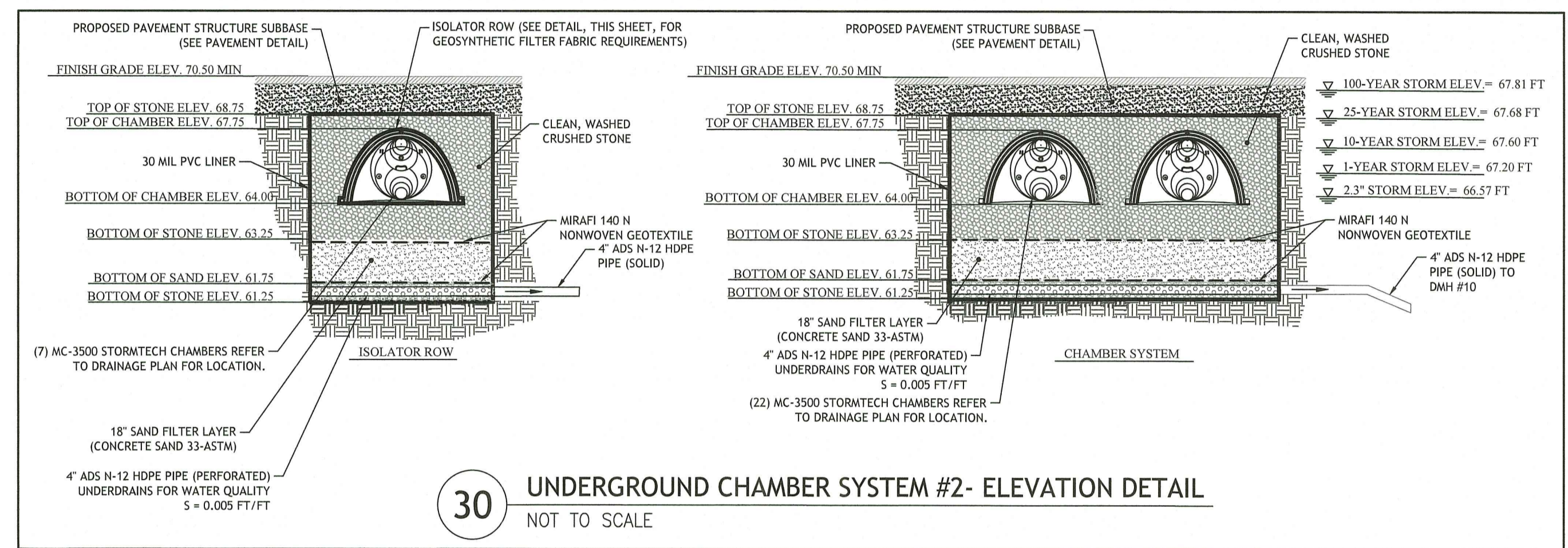
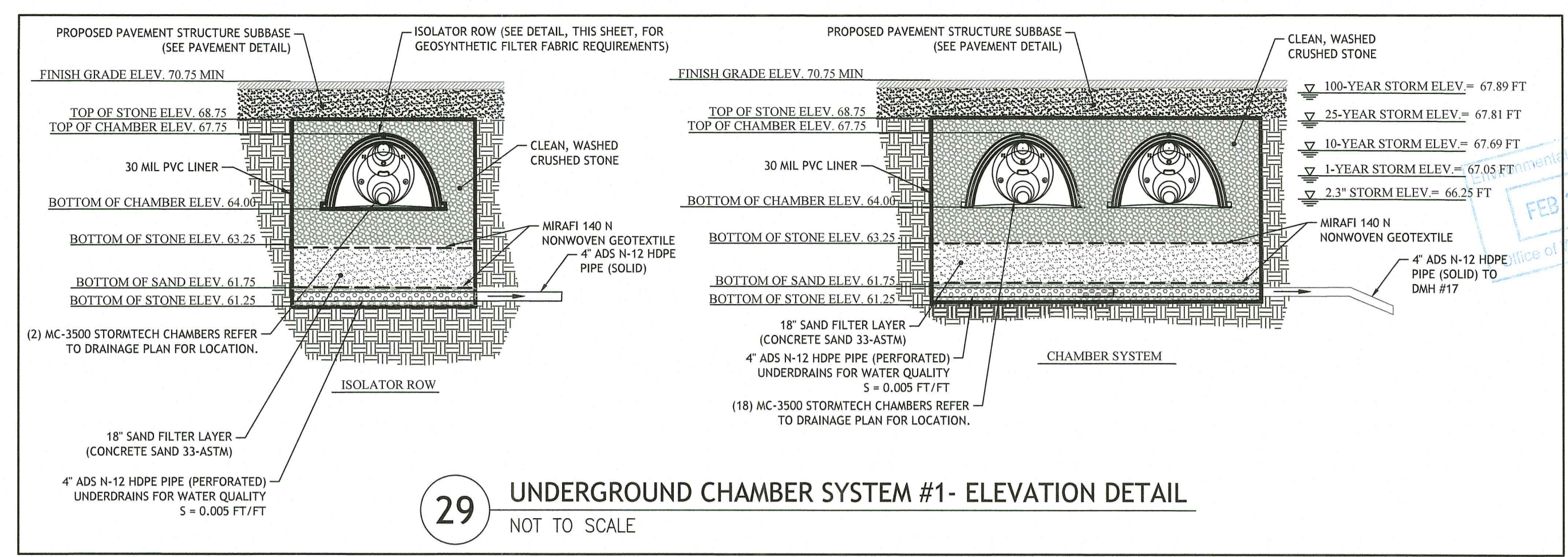
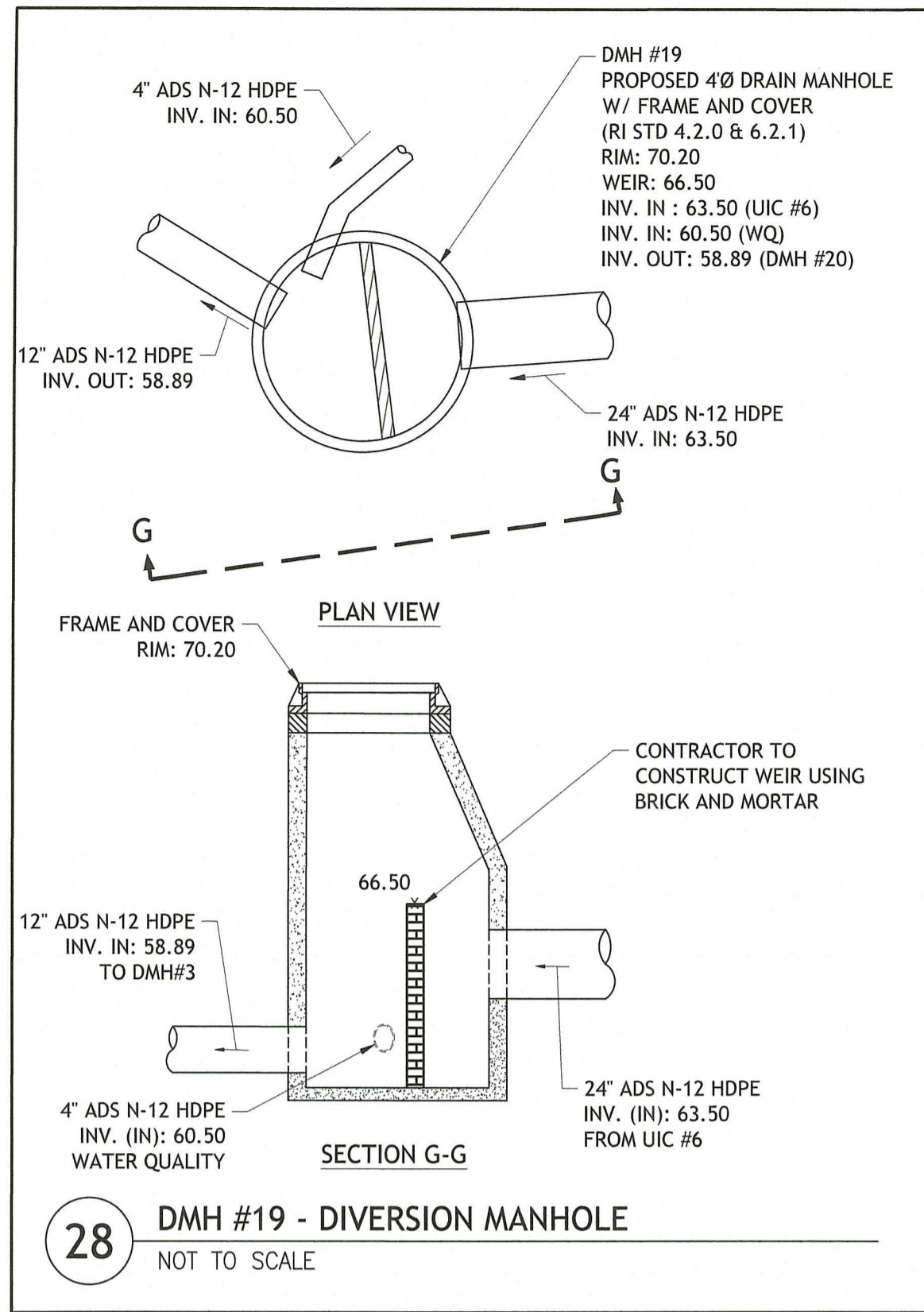
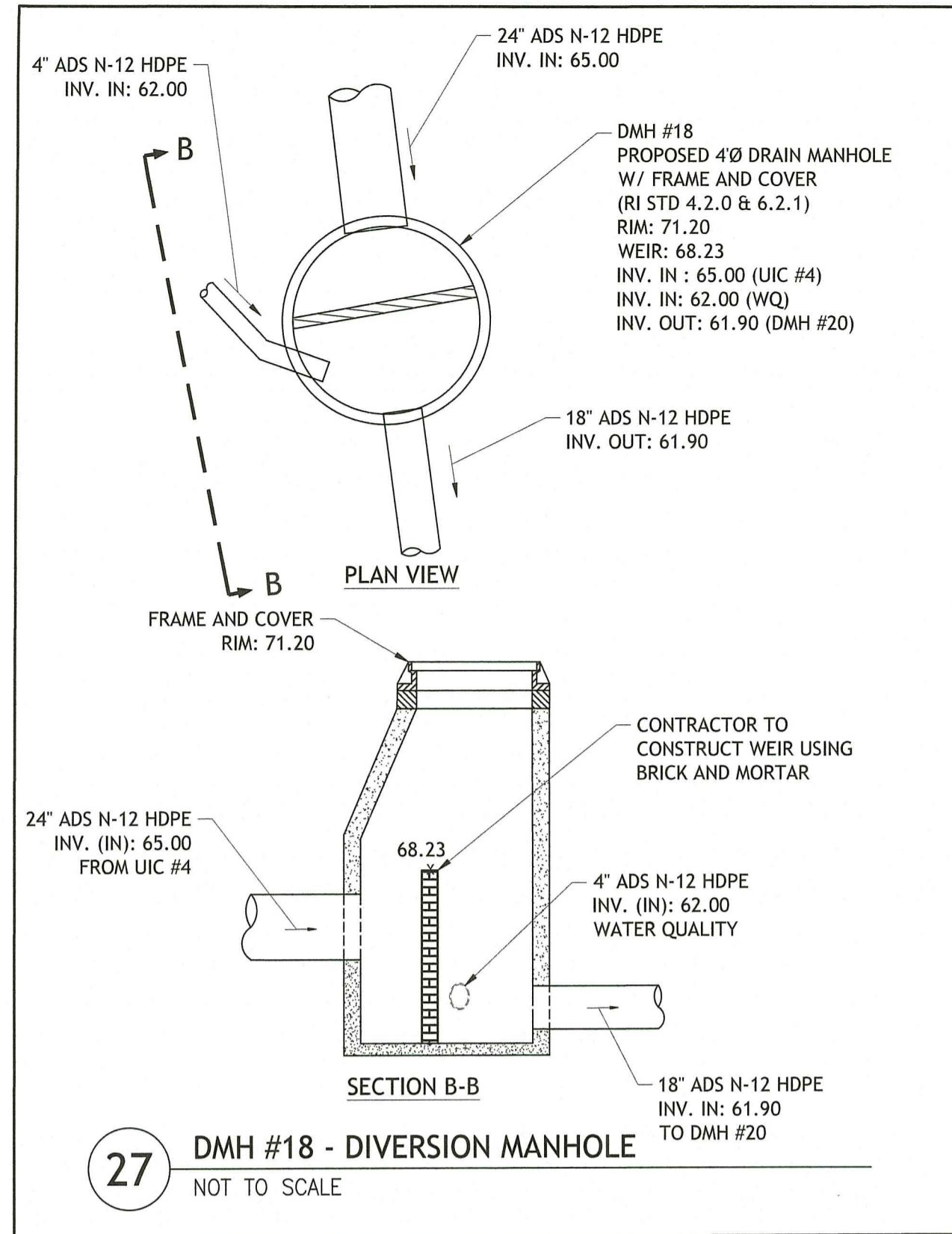
RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATED: MAR 21 2023 FILE # 22-026

DESIGNED BY: WMLJR
DRAWN BY: SEPSD
CHECKED BY: JAC
DATE: MARCH 2022
PROJECT NO: 20-56a

PRELIMINARY,
NOT FOR CONSTRUCTION

DRAINAGE DETAILS I

SHEET 11 OF 13



APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL DATED: MAR 27 2023 FILE # 22-10126

JOE CASALI ENGINEERING, INC.
 CIVIL - SITE DEVELOPMENT - TRANSPORTATION
 DRAINAGE - WETLANDS - ISDS - TRAFFIC - FLOODPLAIN
 300 POST ROAD, WARWICK, RI 02888
 (401) 944-1300 | www.joeengineering.com

JOSEPH A. CASALI
 No. 7250
 REGISTERED PROFESSIONAL ENGINEER - CIVIL
 FEB 22 2023

SELF-STORAGE FACILITY
 850 MANTON AVENUE
 PROVIDENCE, RHODE ISLAND
 AP 34, LOT 381

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
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 DATED: MAR 27 2023 FILE # 22-10126
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REVISIONS:

NO.	DATE	DESCRIPTION
R1	6/14/2022	RIDEM FILING
R2	2/16/2023	RIDEM RTC

DESIGNED BY: WMLJR
 DRAWN BY: SEP/SD
 CHECKED BY: JAC
 DATE: MARCH 2022
 PROJECT NO: 20-56a

PRELIMINARY,
 NOT FOR CONSTRUCTION

**DRAINAGE
 DETAILS II**

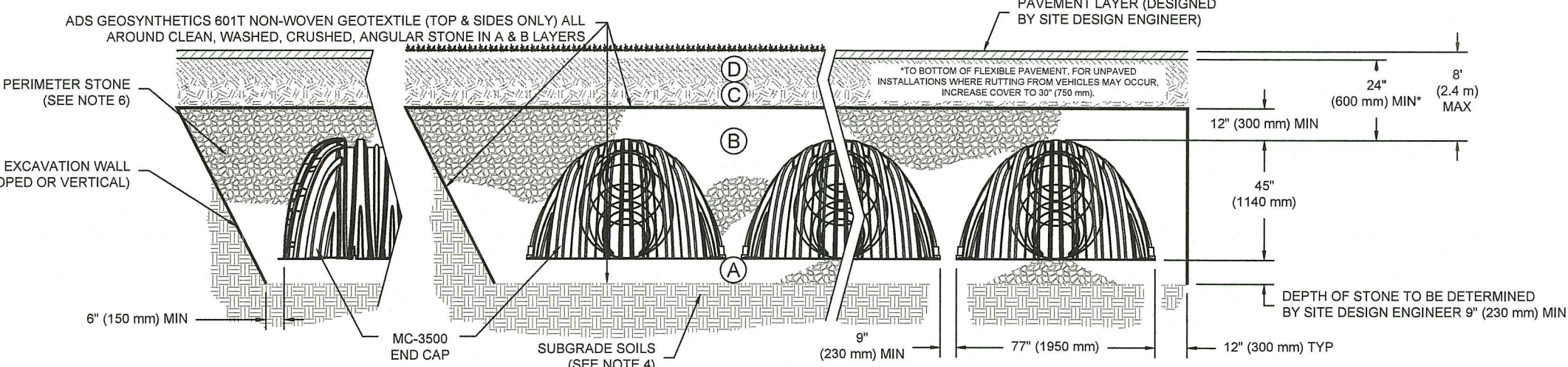
**SHEET
 12 OF 13**

Q:\20-56a Blue Dwg\20-56a_850 Manton Avenue\ACAD\350 Manton Ave (DEM, RTC) - R2.dwg, Feb. 22, 2023 11:23am

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	AASHTO M145* A-1, A-2, A-3 OR AASHTO M43* 3, 3S7, 4, 4S7, 5, 5S, 57, 6, 67, 68, 7, 7B, 8, 8B, 8, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 90% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43* 3, 4	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43* 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. 1"

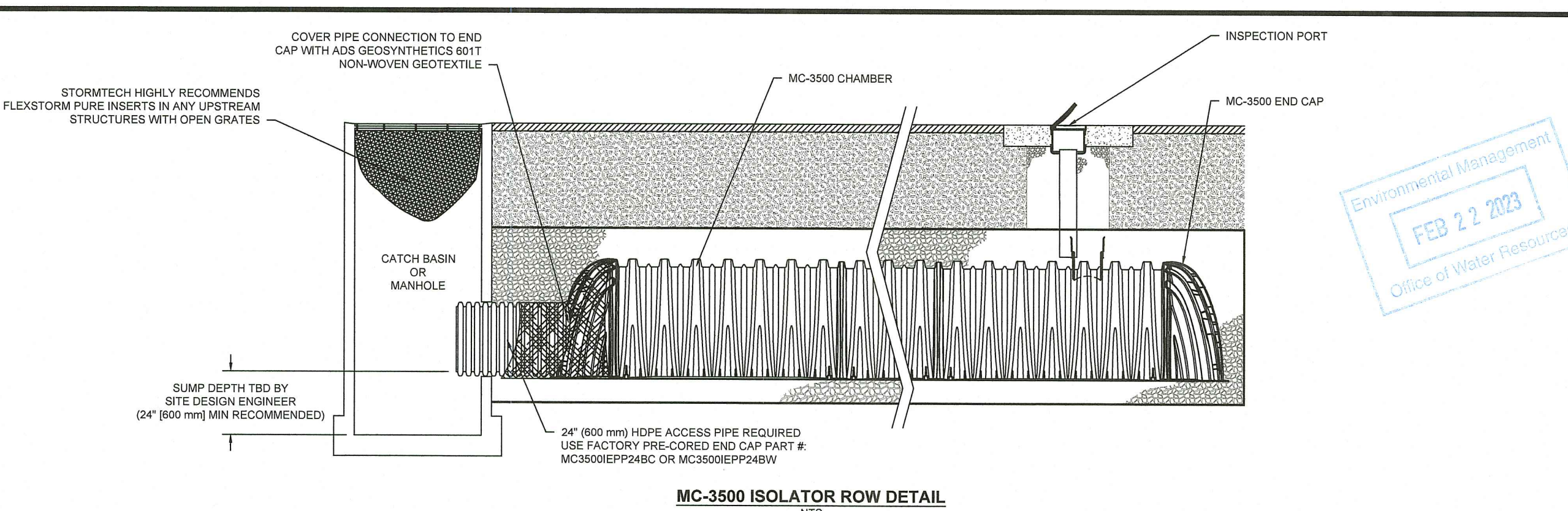
PLEASE NOTE:
 1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE."
 2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
 3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



NOTES:

- MC-3500 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- ONCE LAYER 'C' IS PLACED, ANY SOIL MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

STANDARD CROSS SECTION
 DATE: 1/18/14
 PROJECT #:
 DRAWN: ALM
 CHECKED: ALM
 REVISIONS:
 1 OF 1

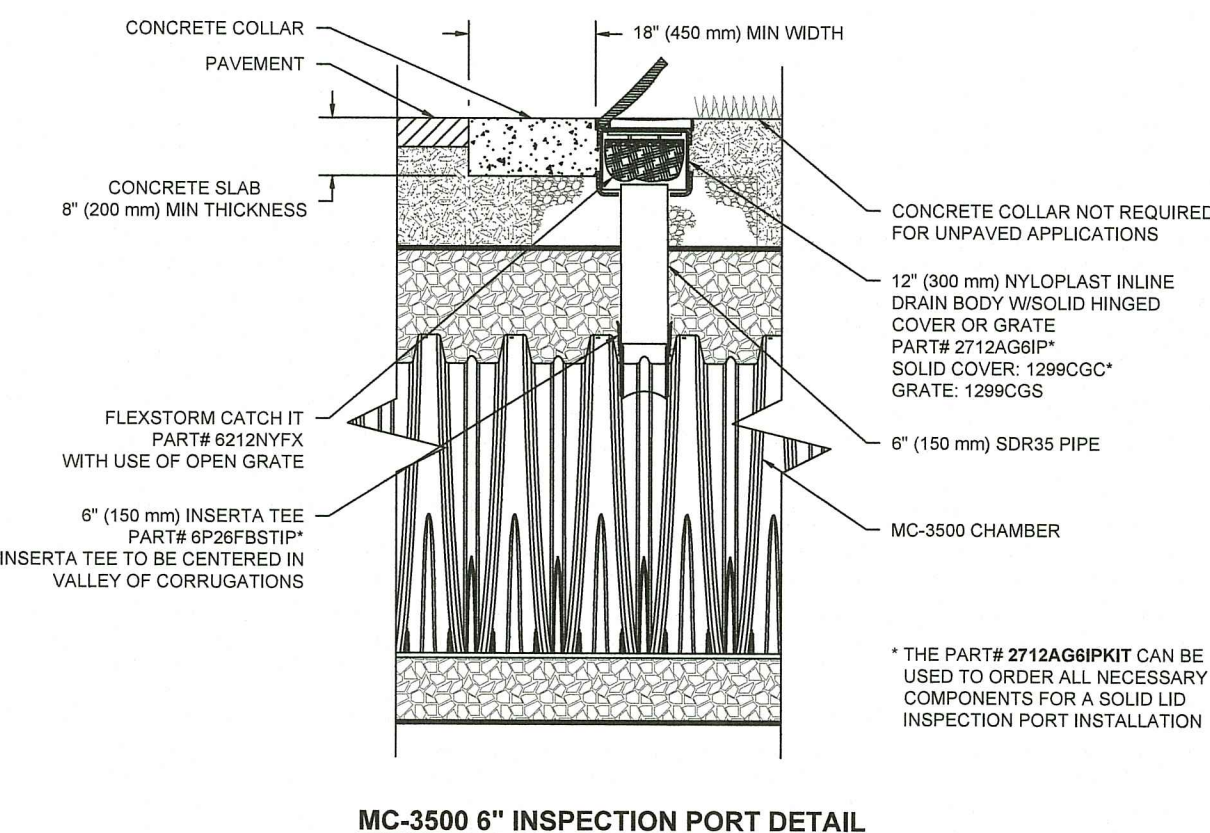


INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
 A. INSPECTION PORTS (IF PRESENT)
 A.1. REMOVE OPEN LID ON NYLOPLAST INLINE DRAIN
 A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 A.3. USING A FLASHLIGHT AND STADIUM ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 B. ALL ISOLATOR ROWS
 B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
 B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
 B.3. MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 B.4. FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 B.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
 STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
 A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
 B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
 C. VACUUM STRUCTURE SLUAM AS REQUIRED
 STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
 STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



36 STORMTECH MC-3500 CROSS SECTION DETAIL
 NOT TO SCALE

37 STORMTECH MC-3500 ISOLATOR ROW DETAIL
 NOT TO SCALE

STORMWATER CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH MC-3500 OR APPROVED EQUAL.
- CHAMBERS SHALL BE MANUFACTURED FROM VIRGIN POLYPROPYLENE OR POLYETHYLENE RESINS.
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL MEET ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F 2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. THE CHAMBER MANUFACTURER SHALL SUBMIT THE FOLLOWING UPON REQUEST TO THE SITE DESIGN ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE:
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY AASHTO FOR THERMOPLASTIC PIPE.
 - A STRUCTURAL EVALUATION SEALED BY A REGISTERED PROFESSIONAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET. THE 50 YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418 OR ASTM F2922 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
 - STRUCTURAL CROSS SECTION DETAIL ON WHICH THE STRUCTURAL EVALUATION IS BASED.
- THE INSTALLATION OF CHAMBERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S LATEST CONSTRUCTION GUIDE.

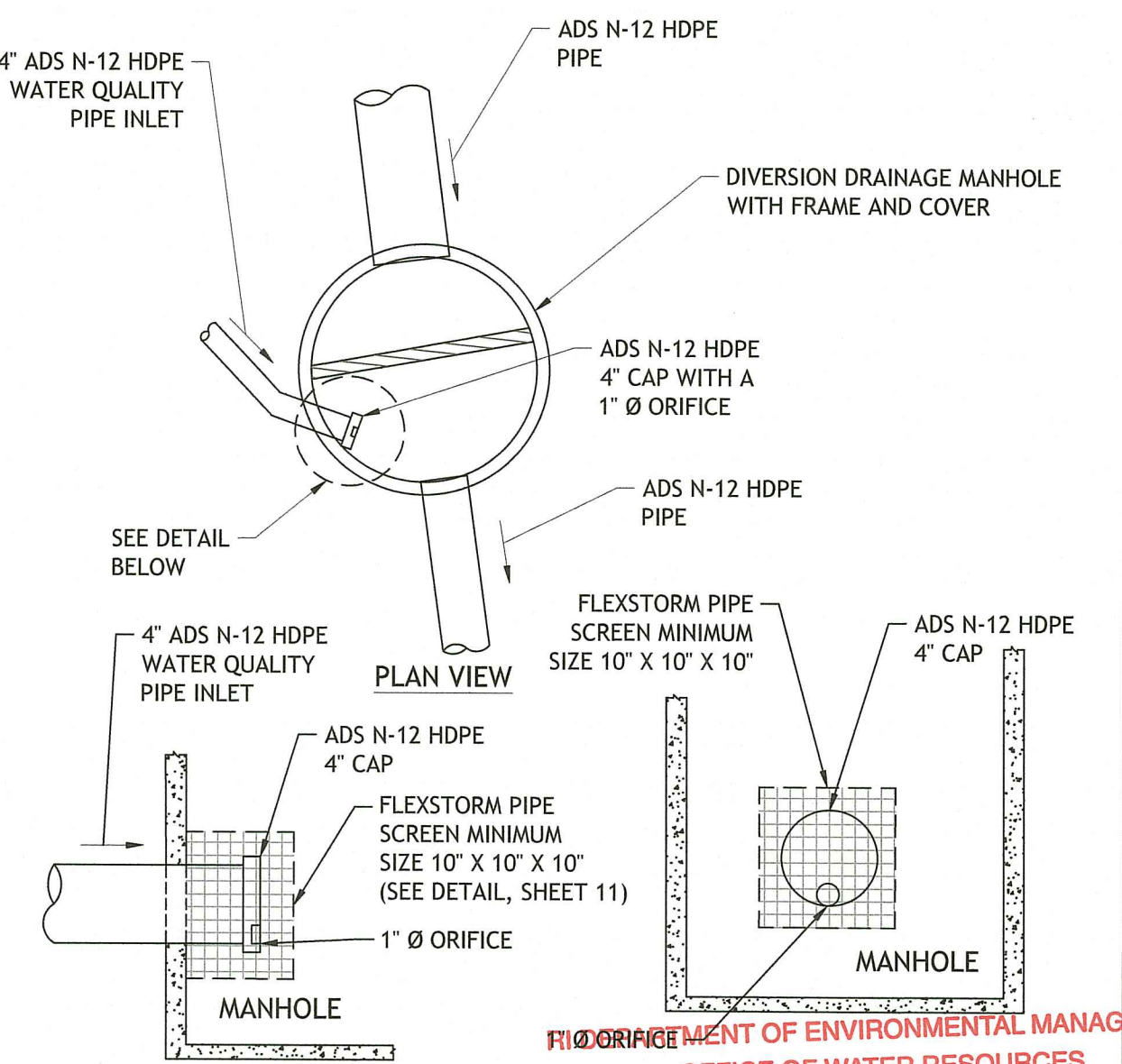
NOTES FOR THE INSTALLATION OF THE MC-3500 SYSTEM

- STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONESHOTTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELLED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEALED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM - 6" SPACING BETWEEN THE CHAMBER ROWS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4"-2".
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

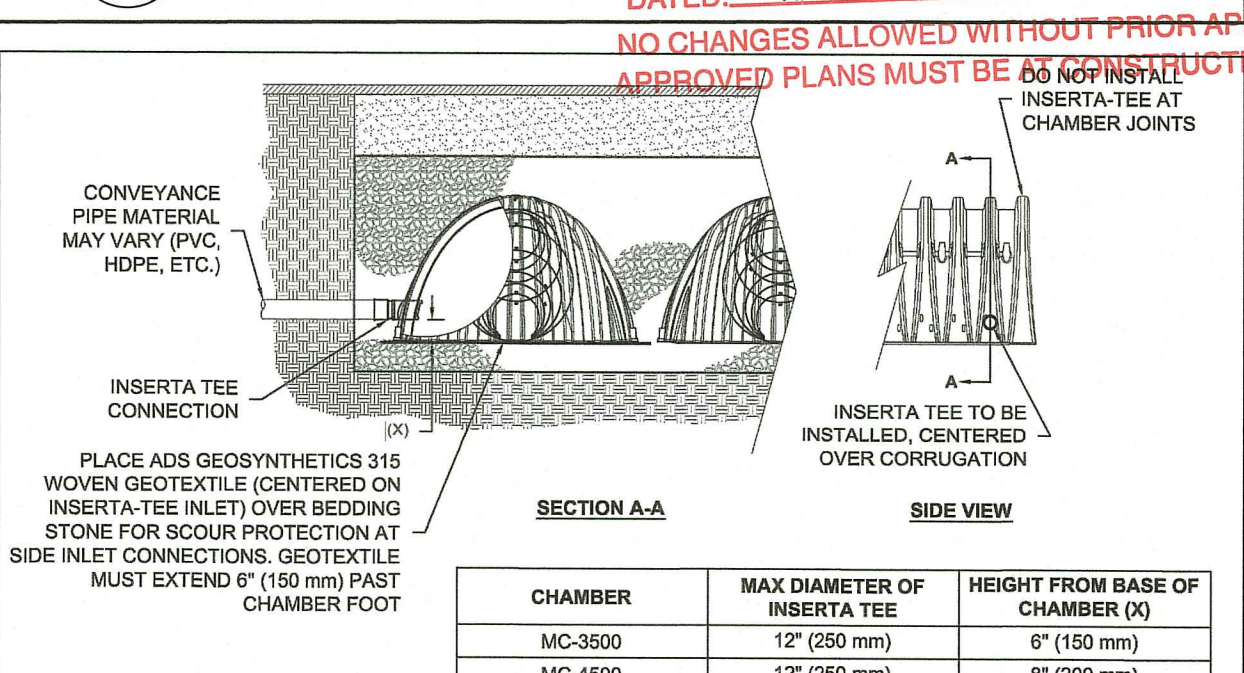
NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH MC-3500 & MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER Tired LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
- FULL 35" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

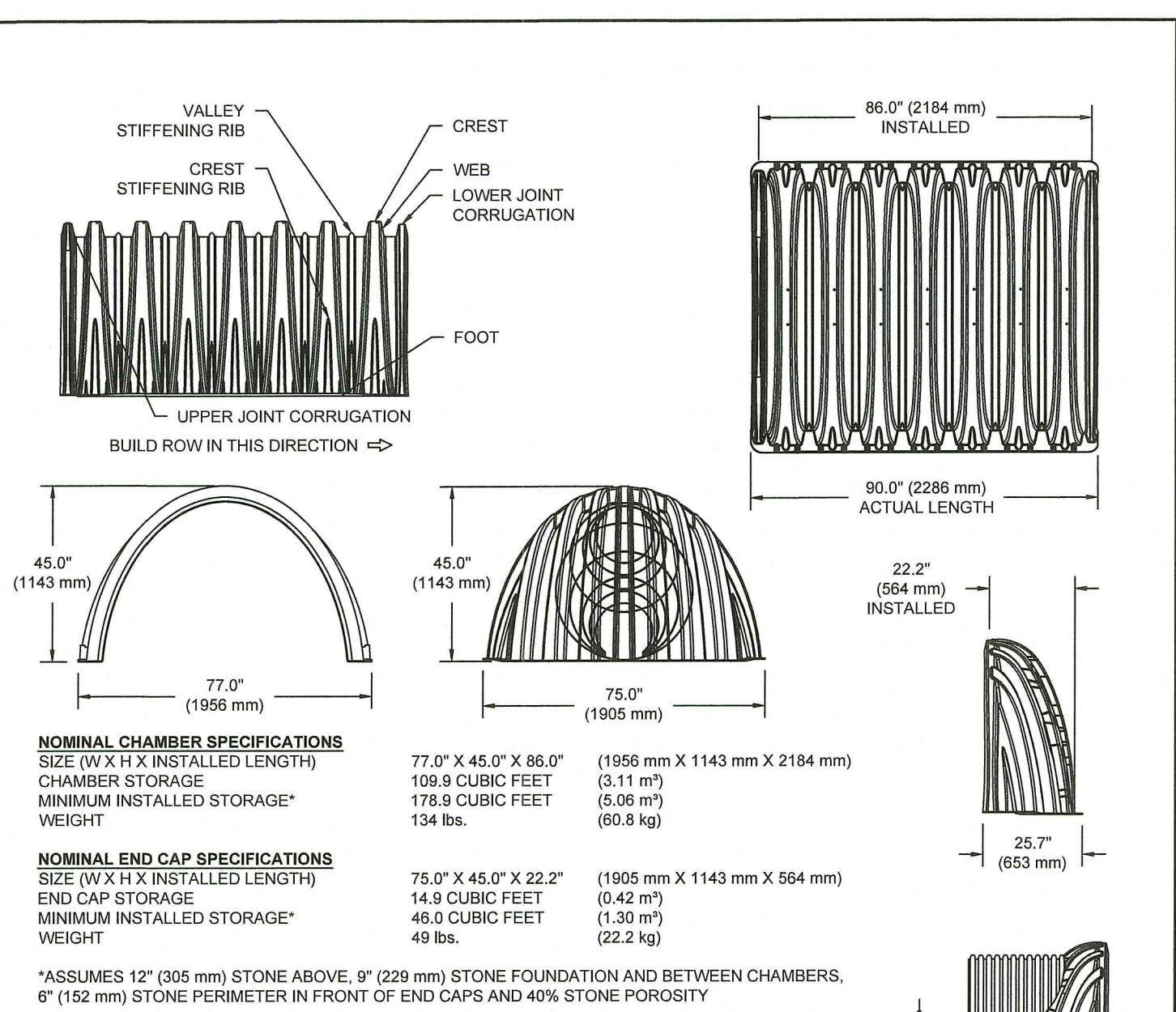
USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.
 CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



40 WATER QUALITY DISCHARGE PIPE DETAIL
 NOT TO SCALE



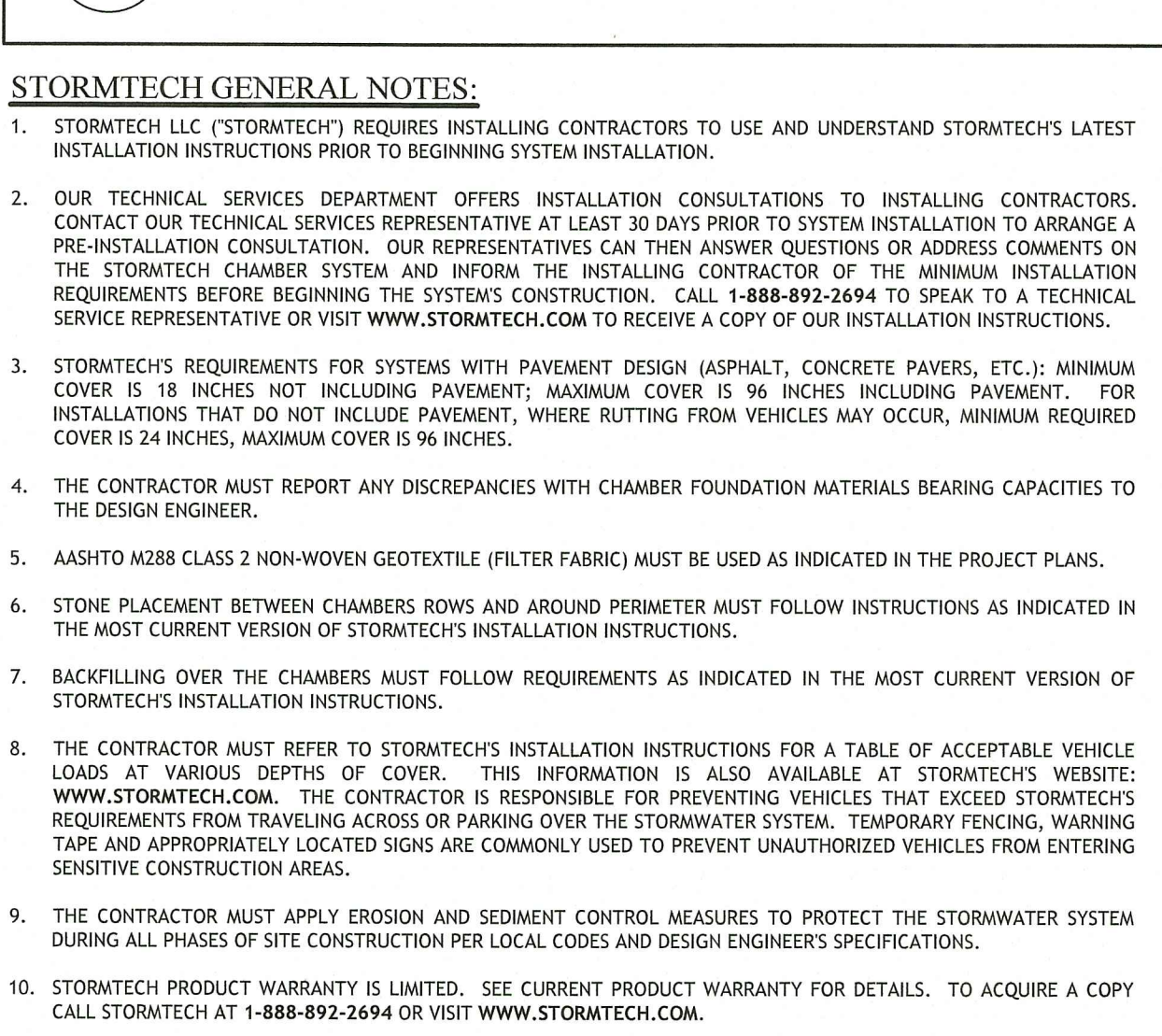
41 INSERTA TEE INLET CONNECTION DETAIL
 NOT TO SCALE



PART #	STUB	B	C
MC3500EPP06T	6" (150 mm)	33.21" (844 mm)	—
MC3500EPP06B	—	—	0.66" (17 mm)
MC3500EPP08T	8" (200 mm)	31.16" (791 mm)	—
MC3500EPP08B	—	—	0.81" (21 mm)
MC3500EPP10T	10" (250 mm)	29.04" (738 mm)	—
MC3500EPP10B	—	—	0.93" (24 mm)
MC3500EPP12T	12" (300 mm)	26.36" (670 mm)	—
MC3500EPP12B	—	—	1.35" (34 mm)
MC3500EPP14T	14" (350 mm)	23.39" (594 mm)	—
MC3500EPP14B	—	—	1.50" (38 mm)
MC3500EPP18T	18" (450 mm)	20.03" (509 mm)	—
MC3500EPP18B	—	—	1.77" (45 mm)
MC3500EPP24T	24" (600 mm)	14.48" (368 mm)	—
MC3500EPP24B	—	—	2.06" (52 mm)
MC3500EPP24WC	30" (750 mm)	—	2.76" (70 mm)

38 MC-3500 TECHNICAL SPECIFICATION
 NOT TO SCALE

39 STRUCTURE CONNECTION INSTALLATION DETAIL
 NOT TO SCALE



STORMTECH GENERAL NOTES:

- STORMTECH LLC ("STORMTECH") REQUIRES INSTALLING CONTRACTORS TO USE AND UNDERSTAND STORMTECH'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION.
- OUR TECHNICAL SERVICES DEPARTMENT OFFERS INSTALLATION CONSULTATIONS TO INSTALLING CONTRACTORS. CONTACT OUR TECHNICAL SERVICES REPRESENTATIVE AT LEAST 30 DAYS PRIOR TO SYSTEM INSTALLATION TO ARRANGE A PRE-INSTALLATION CONSULTATION. OUR REPRESENTATIVES CAN THEN ANSWER QUESTIONS OR ADDRESS COMMENTS ON THE STORMTECH CHAMBER SYSTEM AND INFORM THE INSTALLING CONTRACTOR OF THE MINIMUM INSTALLATION REQUIREMENTS BEFORE BEGINNING THE SYSTEM'S CONSTRUCTION. CALL 1-888-892-2694 TO SPEAK TO A TECHNICAL SERVICE REPRESENTATIVE OR VISIT WWW.STORMTECH.COM TO RECEIVE A COPY OF OUR INSTALLATION INSTRUCTIONS.
- STORMTECH'S REQUIREMENTS FOR SYSTEMS WITH PAVEMENT DESIGN (ASPHALT, CONCRETE PAVERS, ETC.); MINIMUM COVER IS 18 INCHES NOT INCLUDING PAVEMENT; MAXIMUM COVER IS 96 INCHES INCLUDING PAVEMENT. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE RUTTING FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 24 INCHES, MAXIMUM COVER IS 96 INCHES.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE DESIGN ENGINEER.
- AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
- STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
- BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH'S INSTALLATION INSTRUCTIONS.
- THE CONTRACTOR MUST REFER TO STORMTECH'S INSTALLATION INSTRUCTIONS FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER. THIS INFORMATION IS ALSO AVAILABLE AT STORMTECH'S WEBSITE: WWW.STORMTECH.COM. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH'S REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORMWATER SYSTEM. TEMPORARY FENCING, WARNING TAPE AND APPROPRIATELY LOCATED SIGNS ARE COMMONLY USED TO PREVENT UNAUTHORIZED VEHICLES FROM ENTERING SENSITIVE CONSTRUCTION AREAS.
- THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS.
- STORMTECH PRODUCT WARRANTY IS LIMITED. SEE CURRENT PRODUCT WARRANTY FOR DETAILS. TO ACQUIRE A COPY CALL STORMTECH AT 1-888-892-2694 OR VISIT WWW.STORMTECH.COM.

JOE CASALI ENGINEERING, INC.
 CIVIL - SITE DEVELOPMENT - TRANSPORTATION
 DRAINAGE - WETLANDS - ISDS - TRAFFIC - FLOODPLAIN
 300 POST ROAD, WARWICK, RI 02888
 401.944.1300 401.944.1313 FAX: WWW.JOECASALI.COM

JOSEPH A. CASALI
 No. 7250
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL
 2-16-2023

SELF-STORAGE FACILITY
850 MANTON AVENUE
PROVIDENCE, RHODE ISLAND
AP 34, LOT 381

REVISIONS:

NO.	DATE	DESCRIPTION
R1	6/14/2022	RIDEM FILING
R2	2/16/2023	RIDEM RTC

DESIGNED BY: WMLJR
 DRAWN BY: SEPS/D
 CHECKED BY: JAC
 DATE: MARCH 2022
 PROJECT NO: 20-56a

PRELIMINARY,
 NOT FOR CONSTRUCTION

DRAINAGE DETAILS III