

PROJECT PARCEL SITE  
TOWN OF FRANKLIN ASSESSOR'S MAP DATA  
PARCEL ID  
313-059-000

# PLANS TO ACCOMPANY PERMIT DOCUMENTS FOR 55 CONSTITUTION BOULEVARD FRANKLIN, MASSACHUSETTS ISSUE DATE: OCTOBER 17, 2024



LOCATION MAP  
SCALE: 1" = 2000'

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## PERMITS

LOCAL	GOVERNING BODY	STATUS
SITE PLAN REVIEW	TOWN OF FRANKLIN PLANNING BOARD FRANKLIN TOWN HALL 355 EAST CENTRAL STREET FRANKLIN, MA 02038 ATTN: AMY LOVE	FILED 2024.10.18
NOTICE OF INTENT/ ORDER OF CONDITIONS	TOWN OF FRANKLIN CONSERVATION COMMISSION FRANKLIN TOWN HALL 355 EAST CENTRAL STREET FRANKLIN, MA 02038 ATTN: BREEKA LI GOODLANDER	FILED 2024.10.18
STORMWATER MANAGEMENT PERMIT	TOWN OF FRANKLIN STORMWATER DIVISION 257 FISHER STREET FRANKLIN, MA 02038 ATTN: DEREK ADAMS	FILED 2024.10.18
BUILDING PERMIT	TOWN OF FRANKLIN BUILDING DEPARTMENT FRANKLIN TOWN HALL 355 EAST CENTRAL STREET FRANKLIN, MA 02038 ATTN: LLOYD "GUS" BROWN	TO BE FILED
ORDER OF RESOURCE AREA DELINEATION (ORAD)	TOWN OF FRANKLIN CONSERVATION COMMISSION FRANKLIN TOWN HALL 355 EAST CENTRAL STREET FRANKLIN, MA 02038 ATTN: BREEKA LI GOODLANDER	MASSDEP FILE #159-1296 ISSUED 2024.07.12 EXPIRES 2027.07.12
FEDERAL	U.S. ENVIRONMENTAL PROTECTION AGENCY NEW ENGLAND REGION 5 POST OFFICE SQUARE SUITE 100 BOSTON, MA 02109	TO BE FILED 14 DAYS PRIOR TO CONSTRUCTION

## PREPARED BY

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## UTILITY CONTACTS

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 TODD P. MOREY, P.E. 48865 CIVIL			Project No. C-1381 Original Issue Date: October 17, 2024		2 PARK PLAZA SUITE 200 BOSTON, MA 02116 PHONE: 617-242-1120 *PLANNING *ENGINEERING *PERMITTING *MANAGEMENT												
I HEREBY ACKNOWLEDGE THAT THESE PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECT SUPERVISION AND THAT I AM REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS TO PRACTICE AS A PROFESSIONAL ENGINEER.		<table border="1"> <thead> <tr> <th>REVISION</th> <th>DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td></tr> </tbody> </table>				REVISION	DATE										
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### GENERAL NOTES

- THE CONTRACTOR SHALL NOTIFY THE HIGHWAY DEPARTMENT AT LEAST FORTY-EIGHT (48) HOURS IN ADVANCE OF ANY ROADWORK OR MUNICIPAL CONSTRUCTION.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR THE ELEVATION OF THE EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, SURVEY INFORMATION BY THE PROJECT SURVEYOR, AND MEASUREMENTS TAKEN IN THE FIELD WHERE POSSIBLE. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AND DISSECT (UNBIDDING SAFE) AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. THE CONTRACTOR SHALL CONTACT THE HIGHWAY DEPARTMENT TO MARK OUT ALL TOWN OWNED UTILITIES 72 HOURS PRIOR TO ANY CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN. THE CONTRACTOR SHALL NOT RELOCATE ANY TOWN OWNED UTILITY WITHOUT PRIOR APPROVAL OF THE HIGHWAY DEPARTMENT. ALL UTILITY WORK WITHIN THE RIGHT OF WAY SHALL BE PERFORMED BY A LICENSED DRAIN LAYER UNDER THE SUPERVISION OF THE HIGHWAY DEPARTMENT.
- MAINTENANCE OF EROSION CONTROL MEASURES IS OF PARAMOUNT IMPORTANCE, AND THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL EROSION CONTROL MEASURES SHOWN ON THE PLANS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE INSTALLED AS DEEMED NECESSARY BY ONSITE INSPECTIONS BY THE OWNER OR THEIR REPRESENTATIVES AND THE MUNICIPAL CODE ENFORCEMENT OFFICER AT NO ADDITIONAL COST TO THE OWNER.
- ALL MATERIAL SCHEDULES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL PREPARE HIS OWN MATERIAL SCHEDULES BASED ON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.
- ALL MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE TOWN SPECIFICATIONS, MASSACHUSETTS DEPARTMENT OF TRANSPORTATION SPECIFICATIONS, MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION STANDARDS, AWWA STANDARDS AND OTHER RELATED INDUSTRY STANDARDS.
- THIS PROJECT IS SUBJECT TO ALL TERMS AND CONDITIONS OF ALL REGULATIONS ADMINISTERED BY THE MASSACHUSETTS ENVIRONMENTAL POLICY ACT, MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION, MASSACHUSETTS DEPARTMENT OF TRANSPORTATION, HIGHWAY DIVISION, LOCAL UTILITY COMPANIES AND MUNICIPAL OFFICIALS.
- THE CONTRACTOR SHALL REVIEW ALL RELEVANT FEDERAL, STATE AND MUNICIPAL PERMITS ASSOCIATED WITH THIS PROJECT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CERTIFY THAT ALL RELEVANT REQUIREMENTS REGARDING CONSTRUCTION, TESTING, AND REPORTING OF THE PERMITS HAVE BEEN MET AND THE PROJECT HAS BEEN CONSTRUCTED IN COMPLIANCE WITH THESE PORTIONS OF THE PERMITS.
- ALL SIGNAGE SHALL CONFORM TO THE STANDARDS FOR SIZE, HEIGHT, LOCATION, AND REFLECTIVITY SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION.
- ALL CURBS SHALL CONFORM TO THE SPECIFICATIONS OR THE MORE STRINGENT OF THE HIGHWAY DEPARTMENT OR THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION, HIGHWAY DIVISION.
- ALL DIMENSIONING UNLESS OTHERWISE NOTED IS TO THE FACE OF CURB, EDGE OF PAVEMENT OR FACE OF BUILDING.
- THE PROJECT IS TO BE SERVED BY PUBLIC WATER, PRIVATE SEWER, AND UNDERGROUND CABLE, TELEPHONE, AND ELECTRIC UTILITIES.
- AN APPROVED SET OF PLANS AND ALL APPLICABLE PERMITS MUST BE AVAILABLE AT THE CONSTRUCTION SITE.
- ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
- PROPERTY MARKERS AND STREET LINE MONUMENTS SHALL BE PROPERLY PROTECTED AT ALL TIMES DURING CONSTRUCTION TO ENSURE INTEGRITY. IF DISTURBED, THEY SHALL BE REPLACED BY A REGISTERED SURVEYOR AT THE CONTRACTOR'S EXPENSE.
- ADA ACCESSIBLE RAMPS SHALL BE PROVIDED ALONG SIDEWALKS AND AT ALL ROADWAY CROSSINGS. ALL ADA RAMPS SHALL CONFORM TO MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB) STANDARDS AS WELL AS MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARDS.

### GRADING & DRAINAGE NOTES

- ALL STORM DRAIN PIPE SHALL BE HIGH DENSITY POLYETHYLENE PIPE (HDPE), SMOOTH BORE INTERIOR, PROVIDING A MANNING'S ROUGHNESS COEFFICIENT OF 0.010 OR LESS UNLESS OTHERWISE NOTED.
- THE PROJECT ELEVATIONS ARE BASED ON NGVD 1929 VERTICAL DATUM. THE HORIZONTAL AND VERTICAL CONTROL FOR THE PROJECT WAS PERFORMED BY THE PROJECT SURVEYOR. SITE BENCHMARK(S) SHALL BE LOCATED BY THE PROJECT SURVEYOR PRIOR TO CONSTRUCTION ACTIVITY.
- ALL EXCESS SOIL EXCAVATED FROM THE PROJECT SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
- ALL DISTURBED AREAS NOT TO BE PAVED, SODDED, OR OTHERWISE TREATED SHALL RECEIVE 6" LOAM, FERTILIZER, SEED AND MULCH.
- COMPACTION REQUIREMENTS:

LOCATION	MINIMUM COMPACTION
SUBBASE AND BASE GRAVEL BELOW PAVED AREAS	95%
SUBGRADE FILL BELOW PAVED AREAS	92%
TRENCH BEDDING MATERIAL	95%
LOAM AND SEED AREAS	90%

ALL PERCENTAGES OF COMPACTION SHALL BE OF THE MAXIMUM DRY DENSITY AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED AND CONTROLLED IN ACCORDANCE WITH ASTM D 1557

- SOIL REQUIREMENTS: MASSACHUSETTS HIGHWAY DEPARTMENT, STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES. M1.03.0 GRAVEL BORROW: SHALL CONSIST OF INERT MATERIAL THAT IS HARD, DURABLE, STONE AND COURSE SAND, FREE FROM LOAM AND CLAY, SURFACE COATINGS, AND DELETERIOUS MATERIAL. MAXIMUM SIZE OF STONE IN GRAVEL SHALL BE AS FOLLOWS: M103.1 TYPE "A" = 6 INCH, M103.0 TYPE "B" = 3 INCH, M1.03.0 TYPE "C" = 2 INCH, M103.0 TYPE "D" = 1.5 INCH.

SIEVE DESIGNATION	PERCENT PASSING
3/4 INCH	100
1/2 INCH	50 - 85
No. 4	40 - 75
No. 50	8 - 28
No. 200	0 - 10

M1.03.1 PROCESS GRAVEL FOR SUBBASE: THE APPROVED SOURCE OF BANK-RUN GRAVEL MATERIAL SHALL BE PROCESSED BY MECHANICAL MEANS. THE EQUIPMENT FOR PRODUCING CRUSHED GRAVEL SHALL BE ADEQUATE SIZE AND WITH SUFFICIENT ADJUSTMENTS TO PRODUCE THE DESIRED MATERIALS. THE PROCESSED MATERIAL SHALL BE STOCKPILED IN SUCH A MANNER TO MINIMIZE SEGREGATION OF PARTICLE SIZES. ALL PROCESSED GRAVEL SHALL COME FROM APPROVED STOCKPILES. GRAVEL SHALL CONSIST OF INERT MATERIAL THAT IS HARD, DURABLE STONE AND COURSE SAND, FREE FROM LOAM AND CLAY, SURFACE COATINGS, AND DELETERIOUS MATERIAL.

SIEVE DESIGNATION	PERCENT PASSING
3 INCH	100
1 1/2 INCH	70 - 100
3/4 INCH	50 - 85
No. 4	30 - 60
No. 200	0 - 10

- M2.01.0 CRUSHED STONE : CRUSHED STONE SHALL CONSIST OF ONE OR THE OTHER OF THE FOLLOWING MATERIALS. (1) DURABLE CRUSHED ROCK CONSISTING OF THE ANGULAR FRAGMENTS OBTAINED BY BREAKING AND CRUSHING SOLID OR SHATTERED NATURAL MATERIAL FROM A DETRIMENTAL QUANTITY OF THING, FLAT, ELONGATED OR OTHER OBJECTIONABLE PIECES. (A DETRIMENTAL QUANTITY WILL BE CONSIDERED AS ANY AMOUNT IN EXCESS OF 15% OF THE TOTAL MASS. (2) DURABLE CRUSHED GRAVEL STONE OBTAINED BY ARTIFICIAL CRUSHING OF GRAVEL BOULDERS OR FELDSTONE WITH A MINIMUM DIAMETER BEFORE CRUSHING OF 200 MILLIMETERS. THE CRUSHED STONE SHALL BE REASONABLY FREE FROM CLAY, LOAM OR DELETERIOUS MATERIAL AND NOT MORE THAN 1.0% OF SATISFACTORY MATERIAL PASSING A 75 MICROMETER SIEVE WILL BE ALLOWED TO ADHERE TO THE CRUSHED STONE. WHERE CRUSHED STONE IS TO BE USED FOR SURFACING, THIS REQUIREMENT SHALL BE NOT MORE THAN 0.5% OF SATISFACTORY MATERIAL PASSING A 75 UM SIEVE.

M2.01.1 CRUSHED STONE FOR DRAINAGE FOUNDATIONS : (1 1/2" STONE)

SIEVE DESIGNATION	PERCENT PASSING
2 INCH	100
1 1/2 INCH	95 - 100
1 INCH	35 - 70
3/4 INCH	0 - 25

M2.01.4 CRUSHED STONE : (3/4" STONE)

SIEVE DESIGNATION	PERCENT PASSING
1 INCH	100
3/4 INCH	90 - 100
1/2 INCH	10 - 50
3/8 INCH	0 - 20
No. 4	0 - 5

- M2.01.7 DENSE GRADE CRUSHED STONE FOR SUB-BASE : SUBBASE MATERIAL COMBING CRUSHER-RUN COARSE AGGREGATES OF CRUSHED STONE (TRAP ONLY, MEETING M2.01.0.1) AND FINE AGGREGATES OF NATURAL SAND OR STONE SCREENING UNIFORMLY PREMIXED WITH A PREDETERMINED QUANTITY OF WATER. COARSE AGGREGATE SHALL CONSIST OF HARD, DURABLE PARTICLES OF FRAGMENTS OF STONE MATERIALS THAT BREAK UP WHEN ALTERNATELY FROZEN AND THAWED OR WETTED AND DRIED SHALL NOT BE USED. COARSE AGGREGATE SHALL HAVE A PERCENTAGE WEAR, BY THE LOS ANGLES TEST, OF NOT MORE THAN 45. FINE AGGREGATE SHALL CONSIST OF NATURAL OR CRUSHED SAND. THE COMPOSITE MATERIAL SHALL BE FREE FROM CLAY, LOAM OR OTHER PLASTIC MATERIAL, AND SHALL CONFORM TO THE FOLLOWING GRADING REQUIREMENTS:

SIEVE DESIGNATION	PERCENT PASSING
2 INCH	100
1 1/2 INCH	70 - 100
3/4 INCH	50 - 85
No. 4	30 - 55
No. 50	8 - 24
No. 200	3 - 10

- ADJUST ALL MANHOLE COVERS, CURB BOXES, ETC. WITHIN LIMITS OF WORK TO FINISHED GRADE.
- CONTRACTOR SHALL PROVIDE A FINISH PAVEMENT SURFACE FREE OF LOW SPOTS AND PONDING AREAS.

- ALL SUBGRADE SURFACES SHALL BE SLOPED AT NO LESS THAN 1% TO PROMOTE ADEQUATE DRAINAGE TOWARDS DRAINAGE AREAS.
- PROVIDE STABILIZATION OR SEPARATION GEOTEXTILE FABRIC OVER UNSTABLE SOILS AS DIRECTED BY THE OWNERS REPRESENTATIVE OR ENGINEER.
- CATCH BASINS SHALL BE INSPECTED IN THE SPRING AND FALL. ANY STRUCTURES WHICH ARE INSPECTED AND HAVE AN ACCUMULATED SEDIMENT DEPTH OF 12" SHALL BE CLEANED. DISPOSAL OF ACCUMULATED SEDIMENT SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, INSTALLATION, OPERATION AND REMOVAL OF APPROPRIATE EXCAVATION Dewatering SYSTEMS AS WELL AS THE PROTECTION OF EXPOSED SUBGRADE SOILS AT NO ADDITIONAL COST TO THE OWNER. WATER EXTERIOR EXCAVATIONS SHALL BE CONTROLLED AND PROMPTLY REMOVED TO AVOID SUBGRADE DISTURBANCE. SURFACE WATER RUNOFF SHALL BE DIRECTED AWAY FROM EXPOSED SOIL SURFACES.
- ALL EXISTING STRUCTURES, FENCES, TREES, ETC. WITHIN THE CONSTRUCTION AREA, UNLESS SPECIFICALLY NOTED TO REMAIN, SHALL BE REMOVED.
- ALL DRAINAGE STRUCTURES SHALL BE PRECAST UNLESS OTHERWISE NOTED.
- ALL DRAINAGE STRUCTURES AND STORM SEWER PIPE SHALL MEET HEAVY DUTY TRAFFIC (H-20) LOADING AND BE INSTALLED ACCORDINGLY.

### EROSION CONTROL NOTES

- ALL SEDIMENT / EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY EXCAVATION OR DEMOLITION WORK, ONCE ALL SEDIMENT AND EROSION CONTROL MEASURES ARE INSTALLED, THE PLACED AND GENERAL CONTRACTOR SHALL NOTIFY THE HIGHWAY DEPARTMENT FOR INSPECTION BEFORE STARTING ANY DEMOLITION OR EXCAVATION WORK.
- LAND DISTURBING ACTIVITIES SHALL BE ACCOMPLISHED IN A MANNER AND SEQUENCE THAT CAUSES THE LEAST PRACTICAL DISTURBANCE OF THE SITE.
- PRIOR TO BEGINNING ANY CLEARING OR LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL THE PERIMETER SILT FENCE OR EROSION CONTROL BARRIERS AND THE STABILIZED CONSTRUCTION ENTRANCES.
- ALL GROUND AREAS GRADED FOR CONSTRUCTION SHALL BE GRADED, LOAMED AND SEEDED AS SOON AS POSSIBLE. PERMANENT SEED MIXTURES SHALL CONFORM TO THE SEEDING PLAN CONTAINED IN THE EROSION AND SEDIMENT CONTROL NOTES AND DETAILS IN THIS SET.
- PRIOR TO PAVING, THE CONTRACTOR SHALL FLUSH SILT FROM ALL STORM DRAIN LINES.
- SILT FENCES SHALL BE INSPECTED, REPAIRED AND CLEANED AS NOTED IN THE EROSION CONTROL NOTES AND DETAILS FOR THIS PROJECT.
- THE CONTRACTOR SHALL REPAIR AND ADD STONE TO THE CONSTRUCTION ENTRANCES AS THEY BECOME SATURATED WITH MUD TO ENSURE THAT THEY FUNCTION AS INTENDED DURING CONSTRUCTION. ALL PUBLIC STREETS SHALL BE SWEEP AS NECESSARY.
- SILT REMOVED FROM AROUND INLETS AND BEHIND THE SILT FENCES SHALL BE PLACED ON A TOPSOIL STOCKPILE AND MIXED INTO IT FOR LATER USE IN LANDSCAPING OPERATIONS.
- THE CONTRACTOR IS CAUTIONED THAT FAILURE TO COMPLY WITH THE SEQUENCE OF CONSTRUCTION, EROSION/SEDIMENT CONTROL PLAN, AND OTHER PERMIT REQUIREMENTS MAY RESULT IN MONETARY PENALTIES. THE CONTRACTOR SHALL BE ASSESSED SUCH PENALTIES AT NO COST TO THE OWNER.

### UTILITY NOTES

- ALL WATER UTILITY MATERIALS AND INSTALLATION METHODS SHALL CONFORM TO TOWN WATER & SEWER DEPARTMENT STANDARDS. ALL WATER DISTRIBUTION PIPING SHALL BE CLASS 52 DUCTILE IRON PIPE. DISINFECTION OF WATER LINES SHALL CONFORM TO LOCAL REQUIREMENTS AND AWWA STANDARDS. THE CONTRACTOR SHALL COORDINATE ALL CONNECTIONS TO THE MUNICIPAL SYSTEM WITH THE TOWN WATER & SEWER DEPARTMENT.
- WATER SERVICES INTENDED TO BE REUSED SHALL BE CAPPED AND BRACED WITH MECHANICAL JOINT FITTINGS AND APPROPRIATELY SIZED THRUST BLOCK(S) UNTIL THE NEW SERVICE IS TO BE CONNECTED.
- ANY DAMAGE TO UTILITIES PUBLIC OR PRIVATE RESULTING FROM THE PROPOSED UTILITY WORK SHALL BE ADDRESSED IMMEDIATELY BY AND AT THE EXPENSE OF THE APPLICANT, REGARDLESS OF WHETHER THE DAMAGE MANIFESTS ITSELF IMMEDIATELY OR NOT.
- ANY DISTURBANCE TO PUBLIC PROPERTY (SIDEWALK, CURBING, PAVEMENT, ETC. WITHIN THE TOWN RIGHT OF WAY SHALL BE RETURNED TO LIKE OR BETTER CONDITION, MEETING ALL APPLICABLE CURRENT TOWN STANDARDS.
- THE LOCATION OF THE ELECTRIC, TELEPHONE, AND CABLE SERVICES ARE APPROXIMATE. THE CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE UTILITY COMPANIES FOR EXACT LOCATIONS.
- SANITARY SEWER PIPE SHALL BE POLYVINYL CHLORIDE (PVC) PIPE MEETING THE REQUIREMENTS OF SDR-35 FOR GRAVITY PIPE AND SDR-11 FOR PRESSURE PIPE AND OTHER PERMIT REQUIREMENTS AS NOTED ON THE PLANS. ALL SEWER MATERIALS AND INSTALLATION METHODS SHALL CONFORM TO THE DEPARTMENT OF WATER & SEWER STANDARDS.
- COORDINATE ALL UTILITY WORK WITH THE APPROPRIATE UTILITY COMPANY. ALL UTILITY WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE STANDARDS OF THAT UTILITY.
- UNDERGROUND ELECTRICAL, TELEPHONE, AND CABLE CONDUIT SHALL CONFORM TO THE MATERIAL REQUIREMENTS OF THAT UTILITY.
- ALL UNDERGROUND CONDUITS SHALL HAVE NYLON PULL ROPES TO FACILITATE PULLING CABLE.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOXES, FITTINGS, CONNECTORS, COVER PLATES AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THE DRAWINGS TO RENDER INSTALLATION OF THE UTILITIES COMPLETE AND OPERATIONAL AT NO EXTRA EXPENSE TO THE OWNER.
- A 10 FOOT MINIMUM EDGE TO EDGE HORIZONTAL SEPARATION SHALL BE PROVIDED BETWEEN ALL WATER AND SANITARY SEWER LINES. AN 18 INCH OUTSIDE TO OUTSIDE VERTICAL SEPARATION SHALL BE PROVIDED AT ALL WATER AND SANITARY SEWER CROSSINGS.
- THRUST BLOCKS SHALL BE SOLID PRECAST CONCRETE BLOCK PLACED BETWEEN BLOCK OF FITTING AND TRENCH WALL, IN A MANNER TO PREVENT BLOWOFF OF THE FITTING. IN AREAS WHERE THRUST BLOCKS ARE UNABLE TO BE USED TO PROPERLY RESTRAIN THE FITTINGS, THREADED RODS SHALL BE USED TO ANCHOR THE CONNECTION TO THE MAIN.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RECORD DRAWINGS THROUGHOUT THE PROJECT AND PROVIDING THE OWNER WITH A SET OF THE FINAL RECORD DRAWINGS WHEN THE PROJECT IS COMPLETE.
- ALL TRENCHING, PIPE LAYING AND BACKFILLING SHALL BE IN ACCORDANCE WITH LOCAL REQUIREMENTS AND FEDERAL OSHA REGULATIONS.
- ALL WATER VALVES AND APPURTENANCES SHALL OPEN LEFT.
- FIRE HYDRANTS SHALL BE TOWN OF DOUGLAS APPROVED.

- THE CONTRACTOR IS RESPONSIBLE FOR DIGGING TEST HOLES AND VERIFYING ANY EXISTING UTILITY OR STRUCTURE PRIOR TO CONSTRUCTION. CONTRACTOR SHALL VERIFY THAT BASED ON THE EXACT LOCATION OF EXISTING UTILITIES THERE ARE NO CONFLICTS BETWEEN THEM AND THE PROPOSED UTILITIES.
- THE CONTRACTOR SHALL REFER TO ARCHITECTURAL AND PLUMBING PLANS AND SPECIFICATIONS FOR ACTUAL LOCATION OF ALL DRAIN LATERALS AND UTILITY ENTRANCES TO INCLUDE SANITARY SEWER LATERALS, DOMESTIC AND FIRE PROTECTION WATER SERVICE, ELECTRIC, TELECOMMUNICATIONS AND NATURAL GAS SERVICE.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION.
- ABANDONED EXISTING UTILITIES AND UTILITIES TO BE ABANDONED SHALL EITHER BE ABANDONED IN PLACE AS NOTED OR SHALL BE REMOVED AND DISPOSED OF AS SPECIFIED. ANY UTILITIES 4 INCHES AND LARGER SHALL BE REMOVED. UTILITIES GREATER THAN 8 FEET BELOW GRADE MAY BE ABANDONED IN PLACE IF NOT IN CONFLICT WITH OTHER UTILITIES OR LOCATED WITHIN FUTURE BUILDING FOOTPRINTS. WHEN ABANDONED UTILITIES ARE TO BE LEFT IN PLACE, PLUG OR CAP THE ENDS OF THE CONDUITS AND PIPES. REMOVE ABANDONED UTILITY MANHOLES TO A MINIMUM DEPTH OF 4 FEET BELOW FINISHED GRADE AND PUNCTURE OR BREAK THE BOTTOM SLABS OF MANHOLES AND SIMILAR STRUCTURES TO ALLOW DRAINAGE. BACKFILL ABANDONED MANHOLES WITH SAND. BACKFILL AND CAP EXCAVATIONS FROM REMOVAL OF UTILITY FACILITIES AS REQUIRED TO RESTORE THE ORIGINAL GRADE.

### ACCESSIBILITY NOTES

- GENERAL NOTES:
- SPECIAL ATTENTION SHALL BE GIVEN TO COMPLIANCE WITH THE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (AAB) RULES AND REGULATIONS AND THE AMERICANS DISABILITIES ACT STANDARDS FOR ACCESSIBLE DESIGN (ADAA).
  - IT IS ESSENTIAL THAT CONTRACTORS BE AWARE OF THE SITE ACCESSIBILITY REQUIREMENTS. THESE NOTES AND DETAILS ARE INTENDED TO ASSURE THAT CONTRACTORS ARE AWARE OF THE REQUIREMENTS AT THE TIME WHEN THEY ARE BIDDING THE PROJECT. IF SLOPES / GRADINGS ARE NOT ACHIEVABLE, THE CONTRACTOR IS REQUIRED TO CONTACT THE OWNER IMMEDIATELY, BEFORE MOVING FORWARD WITH THE WORK.
  - THE CONTRACTOR SHALL NOTIFY THE ARCHITECT AND CIVIL ENGINEER IMMEDIATELY OF ANY CONFLICT BETWEEN THESE NOTES AND DETAILS AND OTHER PROJECT DRAWINGS, WHETHER BY BEALS ASSOCIATES, INC. OR OTHERS. THE CONTRACTOR SHALL NOT PROCEED WITH THE WORK FOR WHICH THE ALLEGED CONFLICT HAS BEEN DISCOVERED UNTIL SUCH ALLEGED CONFLICT HAS BEEN RESOLVED. NO CLAIM SHALL BE MADE BY THE CONTRACTOR FOR DELAY DAMAGES AS A RESULT OF RESOLUTION OF ANY SUCH CONFLICT(S).
  - AAB REGULATIONS DO NOT ALLOW ANY TOLERANCE ON SLOPE REQUIREMENTS AND THE MAXIMUM SLOPES LISTED BELOW CAN NOT BE EXCEEDED.
  - IT IS RECOMMENDED THAT THE CONTRACTOR USE A 2-FOOT DIGITAL LEVEL TO VERIFY SLOPES PRIOR TO PLACING THE FINISHED SURFACE. IT IS FURTHER RECOMMENDED THAT FORMS BE CHECKED PRIOR TO PLACING CONCRETE OR ASPHALT.
  - THESE ACCESSIBILITY NOTES AND DETAILS ARE INTENDED TO DEPICT SLOPE AND DIMENSIONAL REQUIREMENTS ONLY. REFER TO SIDEWALK, CURBING, AND PAVEMENT DETAILS FOR ADDITIONAL INFORMATION.
- ACCESSIBLE ROUTE NOTES:
- AT LEAST ONE ACCESSIBLE ROUTE SHALL BE PROVIDED WITHIN THE SITE FROM ACCESSIBLE PARKING SPACES AND ACCESSIBLE PASSENGER LOADING ZONES; PUBLIC STREETS OR SIDEWALKS; AND PUBLIC TRANSPORTATION STOPS TO THE ACCESSIBLE BUILDING OR FACILITY THEY SERVE.
  - AT LEAST ONE ACCESSIBLE ROUTE SHALL CONNECT ACCESSIBLE BUILDINGS, ACCESSIBLE FACILITIES, ACCESSIBLE ELEMENTS, AND

- ACCESSIBLE SPACES THAT ARE ON THE SAME SITE.
- DIRECTIONAL SIGNAGE INDICATING THE ROUTE TO THE NEAREST ACCESSIBLE BUILDING ENTRANCE SHALL BE PROVIDED AT INACCESSIBLE BUILDING ENTRANCES.
  - TRANSITIONS BETWEEN RAMPS, WALKS, LANDINGS, GUTTERS OR STREETS SHALL BE FLUSH AND FREE OF ABRUPT VERTICAL CHANGES (1/4 INCH MAXIMUM VERTICAL CHANGE).
- WALKWAYS:
- WIDTH OF WALKWAYS SHALL NOT BE LESS THAN 48 INCHES, EXCLUDING CURB STONES.
  - WALKWAYS SHALL PROVIDE A MINIMUM OF 36 INCHES CLEAR, UNOBSTRUCTED PATH OF TRAVEL PAST ALL OBSTRUCTIONS, I.E. UTILITY POLES, SIGNS, FIRE HYDRANTS, ETC.)
  - WALKING SURFACES SHALL HAVE A MAXIMUM RUNNING SLOPE OF 5.0% AND A MAXIMUM CROSS SLOPE OF 2.0%.
  - AT THE INTERSECTION OF TWO SIDEWALKS, THERE SHALL BE A LEVEL LANDING WITH NO SLOPE GREATER THAN 2% IN ANY DIRECTION.
  - ANY WALKING SURFACE WITH A RUNNING SLOPE GREATER THAN 5.0% IS CONSIDERED A RAMP AND SHALL COMPLY WITH THE GUIDELINES FOR RAMPS OR CURB CUT RAMPS.
  - ACCESSIBLE ROUTE SURFACES SHALL BE STABLE, FIRM AND SLIP RESISTANT.
  - IF CATCH BASINS OR OTHER GRATINGS ARE LOCATED WITHIN AN ACCESSIBLE ROUTE, THEN AN ADA GRATE SHALL BE USED WITH SPACES NO GREATER THAN 1/2 INCH WIDE IN THE DIRECTION OF TRAVEL.

- RAMPS:
- ANY PART OF AN ACCESSIBLE ROUTE WITH A RUNNING SLOPE GREATER THAN 5% SHALL BE CONSIDERED A RAMP OR A CURB CUT RAMP.
  - THE MAXIMUM RUNNING SLOPE FOR A RAMP SHALL BE 7.5% AND THE MAXIMUM CROSS SLOPE SHALL BE 1.5%
  - THE CLEAR WIDTH OF A RAMP SHALL BE 48 INCHES MINIMUM AS MEASURED BETWEEN THE HANDRAILS.
  - THE MAXIMUM RISE FOR ANY RAMP RUN SHALL BE 30 INCHES.
  - LANDINGS SHALL BE PROVIDED AT THE TOP AND BOTTOM OF RAMPS. LANDINGS SHALL HAVE A SLOPE NOT STEEPER THAN 2.0% IN ANY DIRECTION. THE LANDING CLEAR WIDTH SHALL BE AT LEAST AS WIDE AS THE WIDEST RAMP RUN LEADING TO THE LANDING. THE LANDING CLEAR LENGTH SHALL BE SIXTY (60) INCHES LONG MINIMUM. RAMPS THAT CHANGE DIRECTIONS BETWEEN RUNS AT LANDINGS SHALL HAVE A CLEAR LANDING OR SIXTY (60) INCHES BY SIXTY (60) INCHES MINIMUM.
  - EDGE PROTECTION COMPLYING WITH AAB AND ADAAG REQUIREMENTS SHALL BE PROVIDED ON EACH SIDE OF RAMP RUNS AND ON EACH SIDE OF RAMP LANDINGS.
  - WHERE DOWNRAIS ARE LOCATED ADJACENT TO A RAMP LANDING, MANEUVERING CLEARANCES REQUIRED BY 521 CMR FIGURES 264 AND 266 SHALL BE COMPLIED WITH.

- CURB CUT RAMPS:
- CURB CUT RAMPS ARE REQUIRED AT THE CORNER OF EACH INTERSECTION AND WHERE A PEDESTRIAN PATH OF TRAVEL CROSSES A ROAD, DRIVEWAY OR OTHER VEHICULAR WAY.
  - THE MAXIMUM RUNNING SLOPE OF A CURB CUT RAMP SHALL BE 7.5% AND THE MAXIMUM CROSS SLOPE SHALL BE 1.5%.
  - CURB CUT RAMPS MAY EXTEND UP TO 15 FEET IN LENGTH.
  - MAXIMUM SLOPES OF ADJOINING GUTTERS AND ROAD SURFACES IMMEDIATELY ADJACENT TO THE CURB CUT RAMP SHALL NOT BE STEEPER THAN 5%. THE ADJACENT SURFACES AT TRANSITIONS AT CURB CUT RAMPS TO WALKS, CUTTERS AND STREETS SHALL BE AT THE SAME LEVEL.
  - THE MINIMUM CLEAR WIDTH OF A CURB CUT RAMP SHALL BE 36 INCHES, EXCLUSIVE OF FLARED SIDES, IF PROVIDED.
  - LANDINGS SHALL BE PROVIDED AT THE TOP OF CURB CUT RAMPS. THE CLEAR LENGTH OF THE LANDING SHALL BE 48 INCHES MINIMUM. THE CLEAR WIDTH OF THE LANDING SHALL BE AT LEAST AS WIDE AS THE CURB CUT RAMP, EXCLUDING FLARED SIDES, LEADING TO THE LANDING. LANDINGS SHALL HAVE A SLOPE NOT STEEPER THAN 2% IN ANY DIRECTION.
  - IF A CURB CUT RAMP IS LOCATED WHERE PEDESTRIANS MUST WALK ACROSS THE RAMP, OR WHERE IT IS NOT PROTECTED BY HANDRAILS OR GUARDRAILS, IT SHALL HAVE FLARED SIDES.
  - WHERE PROVIDED, CURB CUT RAMP FLARES SHALL NOT EXCEED 10%. IF THE CLEAR LENGTH OF THE LANDING IS LESS THAN FORTY-EIGHT (48) INCHES THAN THE SLOPE OF THE FLARED SIDES SHALL NOT EXCEED 8.33%.
  - CURB CUT RAMPS AND THE FLARED SIDES OF CURB CUT RAMPS SHALL BE LOCATED SO THAT THEY DO NOT PROJECT INTO VEHICULAR TRAFFIC LANES PARKING SPACES OR PARKING ACCESS AISLES. CURBS AT MARKED CROSSINGS SHALL BE WHOLLY CONTAINED WITHIN THE MARKINGS, EXCLUDING ANY FLARED SIDES.
  - CURB CUT RAMPS SHALL BE LOCATED OR PROTECTED TO PREVENT THEIR OBSTRUCTION BY PARKED VEHICLES.
  - CURB CUT RAMPS SHALL HAVE A TWENTY-FOUR (24) INCH DEEP DETECTABLE WARNING PANEL COMPLYING WITH ADAAG, EXTENDING THE FULL WIDTH OF THE RAMP. REFER TO DETECTABLE WARNING DETAILS AND NOTES FOR PLACEMENT.
  - WHERE PROVIDED, STOP LINES SHALL BE LOCATED IN ADVANCE OF CURB CUT RAMP.
  - WHERE PROVIDED, DRAINAGE INLETS SHALL BE LOCATED UPSTREAM OF CURB RAMPS AND NOT IN THE RAMP AREA.
  - CURB CUT RAMP TYPE AND LOCATION ARE SHOWN ON PLAN.
- ACCESSIBLE PARKING SPACES:
- ACCESSIBLE PARKING SPACES SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTES OF TRAVEL FROM ADJACENT PARKING TO AN ACCESSIBLE BUILDING ENTRANCE.
  - ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL BE AT LEAST 8 FEET WIDE. WHERE PARKING SPACES AND ACCESS AISLES ARE MARKED WITH LINES THE WIDTH MEASUREMENTS SHALL BE MADE FROM CENTERLINE OF THE MARKINGS.
  - PARKING ACCESS AISLES SHALL BE PART OF AN ACCESSIBLE ROUTE TO THE BUILDING OR FACILITY ENTRANCE AND SHALL COMPLY WITH PROVISIONS FOR ACCESSIBLE ROUTES.
  - TWO (2) ACCESSIBLE PARKING SPACES MAY SHARE A COMMON ACCESS AISLE.
  - ACCESS AISLES SHALL EXTEND THE FULL LENGTH OF THE PARKING SPACE THEY SERVE.
  - ACCESS AISLES SHALL NOT OVERLAP THE VEHICULAR WAY. ACCESS AISLES SHALL BE PERMITTED TO BE PLACED ON EITHER SIDE OF THE PARKING SPACE EXCEPT FOR ANGLED VAN PARKING SPACES WHICH SHALL HAVE ACCESS AISLES LOCATED ON THE PASSENGER SIDE OF THE PARKING SPACES.
  - SURFACES OF PARKING SPACES AND ACCESS AISLES SERVING THEM SHALL BE STABLE, FIRM AND SLIP RESISTANT. ACCESS AISLES SHALL BE AT THE SAME LEVEL AS THE PARKING SPACES THEY SERVE.
  - PARKING SPACES AND ACCESS AISLES SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 2.0% IN ANY DIRECTIONS.
  - PARKED VEHICLE OVERHANGS SHALL NOT REDUCE THE REQUIRED CLEAR WIDTH OF AN ACCESSIBLE ROUTE.
  - PARKING SPACES FOR VANS AND ACCESS AISLES AND VEHICULAR ROUTES SERVING THEM SHALL PROVIDE A VERTICAL CLEARANCE OF 8 FEET 2 INCHES (8'2") MINIMUM. SIGNS SHALL BE PROVIDED AT ENTRANCES TO PARKING FACILITIES INFORMING DRIVERS OF CLEARANCES AND THE LOCATION OF VAN ACCESSIBLE PARKING SPACES.
  - EACH ACCESSIBLE PARKING SPACE SHALL BE PROVIDED WITH SIGNAGE DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY. EACH ACCESS AISLE SHALL BE CLEARLY MARKED BY MEANS OF DIAGONAL STRIPES. SIGNS SHALL BE INSTALLED AT A CLEAR HEIGHT OF BETWEEN 5 FEET AND 8 FEET TO THE TOP OF THE SIGN AND SHALL NOT INTERFERE WITH AN ACCESSIBLE ROUTE FROM AN ACCESS AISLE. SIGNS LOCATED WHERE THEY MAY BE HIT BY VEHICLES BEING PARKED SHALL BE INSTALLED WITH BOLLARD PROTECTION.
  - ACCESSIBLE PARKING SPACE, ACCESS AISLE STRIPING, AND INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL BE PAINTED BLUE.

- PASSENGER LOADING ZONES:
- PASSENGER LOADING ZONES SHALL PROVIDE VEHICULAR PULL-UP SPACE 8 FEET WIDE MINIMUM AND 20 FEET LONG MINIMUM.
  - PASSENGER LOADING ZONES SHALL PROVIDE A CLEARLY MARKED ACCESS AISLE THAT IS 5 FEET WIDE MINIMUM AND EXTENDS THE FULL LENGTH OF THE VEHICLE PULL-UP SPACE THEY SERVE.
  - ACCESS AISLE SHALL ADJOIN AND ACCESSIBLE ROUTE AND NOT OVERLAP THE VEHICULAR WAY.
  - VEHICLE PULL-UP SPACES AND ACCESS AISLES SERVING THEM SHALL BE LEVEL WITH SURFACE SLOPES NOT EXCEEDING 2.0% IN ANY DIRECTION. ACCESS AISLES SHALL BE AT THE SAME LEVEL AS THE VEHICLE PULL-UP SPACE THEY SERVE.
  - SURFACES OF VEHICLE PULL-UP SPACES AND ACCESS AISLES SERVING THEM SHALL BE STABLE, FIRM AND SLIP RESISTANT.
  - VEHICLE PULL-UP SPACES, ACCESS AISLES SERVING THEM AND A VEHICULAR ROUTE FROM AN ENTRANCE TO THE PASSENGER LOADING ZONE, AND FROM THE PASSENGER LOADING ZONE TO A VEHICULAR EXIT SERVING THEM, SHALL PROVIDE A VERTICAL CLEARANCE OF 8 FEET 6 INCHES (8'6") MINIMUM.
- BUILDING ENTRANCES:
- ALL PUBLIC ENTRANCES SHALL BE ACCESSIBLE.
  - THE APPROACH TO AN ACCESSIBLE ENTRANCE SHALL BE A PAVED WALK OR RAMP WITH A SLIP RESISTANT SURFACE, UNINTERRUPTED BY STEPS.
  - THE EXTERIOR LANDING AT THE ENTRANCE DOOR SHALL HAVE A LEVEL LANDING MEASURING AT LEAST 5 FEET BY 5 FEET AND SHALL NOT SLOPE MORE THAN 2% IN ANY DIRECTION.
  - THE LEVEL LANDING SHALL EXTEND A MINIMUM OR 18 INCHES WIDER THAN THE LATCH ON THE PULL SIDE OF THE DOOR.

### SITE PREPARATION NOTES

- THE SITE SHALL BE STRIPPED OF EXISTING IMPROVEMENTS WITHIN THE PERIMETER CITY SIDEWALKS AND OWNERS PROPERTY. ALL MATERIALS FROM DEMOLITION SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR UNLESS OTHERWISE NOTED BY THE OWNER, ENGINEER, OR GOVERNING AGENCIES. REFER TO THE BUILDING AND SITE DEMOLITION PLANS FOR THE PROJECT.
- REMOVAL OF EXISTING IMPROVEMENTS SHALL BE AS REQUIRED FOR THIS PROJECT. THE MATERIALS REMOVED FROM THE SITE SHALL BE DISPOSED OF IN A PROPER AND LEGAL MANNER PER FEDERAL, STATE, AND/OR LOCAL LAWS AND ORDINANCES.
- IF ANY HAZARDOUS MATERIALS ARE ENCOUNTERED THE OWNER SHALL BE NOTIFIED. THOSE MATERIALS SHALL BE REMOVED AND DISPOSED OF IN A MANNER AS APPROVED BY ALL GOVERNING AGENCIES AND IN A LANDFILL OR DISPOSAL FACILITY LICENSED TO ACCEPT HAZARDOUS MATERIALS.
- PREDEMOLITION PHOTOGRAPHS SHALL BE TAKEN THAT SHOW THE EXISTING CONDITIONS OF THE SITE AND ADJOINING BUILDINGS TO REMAIN. PHOTOS SHALL INCLUDE DAMAGE TO FINISH SURFACES THAT MIGHT BE MISCONSTRUED AS DAMAGE CAUSED BY DEMOLITION OPERATIONS.
- EXISTING BUILDING ADDITIONS, PAVEMENTS, SIDEWALKS, CURBS, DRIVEWAYS, ELECTRICAL TRANSFORMERS, DITCHES, DRAINAGE PIPES AND STRUCTURES, FENCES, LAWNS, TREES, BUSHES, MAILBOXES, SIGNS, POWER POLES, ETC. TO REMAIN SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR. ANY DAMAGE DURING CONSTRUCTION SHALL BE RESTORED, RECONSTRUCTED OR REPLACED TO AT LEAST THEIR ORIGINAL CONDITION OR AS REQUIRED OR DICTATED BY FEDERAL, STATE, COUNTY, CITY OR LOCAL GOVERNING AGENCIES. ANY UTILITIES REQUIRED TO REMAIN IN SERVICE FOR EXISTING BUILDING ADDITIONS, TO REMAIN SHALL BE PROTECTED.
- SAW CUT THE EDGES OF PAVED AREAS CLEAN, NEAT AND TRUE TO LINE SO NO UNWANTED CHIPPING OR BREAKING OF EXISTING PAVEMENT TO REMAIN WILL OCCUR.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSPECT EACH DAY AND REMOVE ALL MUD, DIRT, GRAVEL AND LOOSE MATERIALS TRACKED, DUMPED, SPILLED OR WIND BLOWN FROM THIS SITE ONTO OTHER STREETS, RIGHT OF WAYS, PUBLIC OR PRIVATE STREETS OR ROADS, DRIVEWAYS, YARDS OR SIDEWALKS. THE CONTRACTOR SHALL REDUCE AIRBORNE DUST DURING THE ENTIRE DEMOLITION SCHEDULE. WATER MAY BE USED AS A REDUCER.
- THE CONTRACTOR SHALL MAINTAIN EROSION CONTROL DEVICES AS REQUIRED DURING DEMOLITION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER AND ALL THE UTILITY COMPANIES AND DEPARTMENTS 72 HOURS OR AS REQUIRED BEFORE DEMOLITION IS TO START TO VERIFY ANY UTILITIES THAT MAY BE PRESENT ON SITE. ALL VERIFICATIONS, LOCATIONS, SIZE AND DEPTHS SHALL BE MADE BY THE APPROPRIATE UTILITY COMPANIES OR DEPARTMENTS. WHEN EXCAVATING AROUND OR OVER EXISTING UTILITIES, THE CONTRACTOR MUST NOTIFY THE UTILITY COMPANY SO A REPRESENTATIVE OF THE UTILITY MAY BE PRESENT DURING THE EXCAVATION TO INSTRUCT AND OBSERVE DURING THE EXCAVATION. VERIFY THAT UTILITIES HAVE BEEN DISCONNECTED AND CAPPED BEFORE STARTING BUILDING DEMOLITION OPERATIONS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR OR CONTRACTORS TO OBTAIN ALL FEDERAL, STATE, COUNTY, CITY, AND LOCAL PERMITS FOR ANY AND ALL WORK REQUIRED UNLESS OTHERWISE NOTED. THIS SHALL INCLUDE ALL SUBMITTALS AS REQUIRED INCLUDING STORMWATER RUNOFF CONTROL. THE CONTRACTOR OR CONTRACTORS ARE RESPONSIBLE TO PAY FOR ALL REQUIRED PERMITS BY ANY OR ALL AGENCIES MENTIONED ABOVE UNLESS OTHERWISE NOTED BY THE CONTRACT OR SPECIFICATIONS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY WITH EACH UTILITY COMPANY AND OR AGENT WHO IS RESPONSIBLE TO REMOVE OR RELOCATE EACH EXISTING UTILITY, IT FURTHER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO BEAR THE COST FOR THE REMOVAL, TERMINATION OR RELOCATION OF THE UTILITIES IF THE RESPONSIBILITY IS NOT COVERED BY THE UTILITY COMPANY.
- ALL CONTRACTORS SHALL TAKE PARTICULAR CARE WHEN EXCAVATING IN AND AROUND EXISTING UTILITY LINES AND EQUIPMENT. ACTUAL FIELD LOCATIONS OF ALL THE EXISTING UTILITIES ARE THE CONTRACTORS RESPONSIBILITY AND MUST BE LOCATED EITHER BY THE REPRESENTATIVE OF THE UTILITY COMPANY OR BY A PRIVATE UNDERGROUND UTILITY LOCATING COMPANY PRIOR TO THE START OF DEMOLITION ACTIVITIES.
- REMOVAL OF EXISTING CONCRETE OR OTHER PAVED AREAS SHALL INCLUDE ALL AGGREGATE BASE MATERIALS. AREAS TO BE REMOVED SHALL BE SAW CUT LEAN, NEAT AND TRUE TO LINE. REMOVE ALL NONORGANIC MATTER THAT WOULD INTERFERE WITH THE GROWTH OF TURF OR PLANT MATERIAL.
- THE CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO COMMENCEMENT OF DEMOLITION OPERATIONS. NO DEMOLITION, GRADING OR OTHER WORK SHALL COMMENCE WITHIN EASEMENTS ON ADJACENT PROPERTIES UNTIL A COORDINATION MEETING HAS BEEN HELD BETWEEN THE CONTRACTOR, OWNER, HIS REPRESENTATIVES AND OTHER STIPULATED PARTIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE AT HIS EXPENSE ALL VEHICULAR AND PEDESTRIAN TRAFFIC CONTROL DEVICES REQUIRED BY FEDERAL, STATE, COUNTY, CITY AND LOCAL AGENCIES.
- EXISTING BUILDINGS TO BE DEMOLISHED SHALL BE REMOVED IN THEIR ENTIRETY INCLUDING BASEMENT WALLS, SLABS, AND FOUNDATIONS.
- RECYCLED CRUSHED OR PULVERIZED CONCRETE OR MASONRY MAY BE USED AS BACKFILL OR IN NEW CONSTRUCTION ONLY IF APPROVED BY THE ENVIRONMENTAL, GEOTECHNICAL, AND STRUCTURAL ENGINEERS.
- PERFORM CLEARING, GRUBBING, STUMP REMOVAL, TOPSOIL STOCKPILE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS INCLUDING REMOVAL OF TREES, SHRUBS, STUMPS AND ROOT SYSTEMS TO A MINIMUM DEPTH TO ERADICATE THEM FROM SUB-GRADE, A MINIMUM DEPTH OF 42".
- THE CONTRACTOR MUST VISIT THE SITE AND STUDY EXISTING PHYSICAL CONDITIONS, REVIEW DRAWINGS, AND REACH THEIR OWN CONCLUSIONS ON WORK NECESSARY TO ACCOMPLISH INTENDED RESULTS DESCRIBED BY THE PROJECT DOCUMENTS.
- INSTALL ORANGE SAFETY FENCE OR TEMPORARY CHAIN LINK FENCE AROUND THE PERIMETER OF THE DEMOLITION AREA. NO DEMOLITION EQUIPMENT OR DEMOLITION OPERATIONS SHALL OCCUR OUTSIDE OF THIS PERIMETER FENCING.
- INSTALL SILT FENCE BARRIER ADJACENT TO SAFETY FENCE ALONG DOWNGRADIENT SIDE OF SITE IN ACCORDANCE WITH STANDARD BMP MEASURES.
- KEEP PUBLIC STREETS CLEAR OF DUST, MUD AND DEBRIS. SURFACE MUST BE SWEEP AT THE CLOSE OF EACH WORK DAY AND AT OTHER INTERVALS AS NECESSARY TO AVOID TRACKING OF MUD OR CREATION OF DUST. INSTALL A STONE STABILIZED CONSTRUCTION ENTRANCE AT PRIMARY ACCESS ROUTE INTO WORK ZONE. MAINTAIN AND REPLACE AS NECESSARY.
- THE OWNER MAKES NO REPRESENTATION AS TO THE VOLUME OF MATERIALS ATTENDANT WITH DEMOLITION. UPON COMPLETION OF THE BUILDING/FOUNDATION AND UTILITY DEMOLITION WORK, THE ENTIRE DISTURBED AREA SHALL BE REFILLED TO EXISTING SUBGRADE ELEVATION IN LIFTS (MAXIMUM THICKNESS 8 INCHES) COMPACTED TO 95% OPTIMUM DRY DENSITY (ASTM D1557) WITH MATERIAL MEETING THE FOLLOWING GRADATION:

SIEVE SIZE	PERCENT FINER BY WEIGHT
6 INCH	100
NO.1/4"	25 - 100
NO.40	0 - 50
NO.200	0 - 7

- CONTACT DISGASE AT LEAST 72 HOURS, NOT INCLUDING SATURDAYS, SUNDAYS, AND LEGAL MASSACHUSETTS HOLIDAYS, BUT NOT MORE THAN 20 CALENDAR DAYS PRIOR TO THE COMMENCEMENT OF EXCAVATION.
- THE CONTRACTOR SHALL REMOVE ALL EXISTING UNDERGROUND UTILITIES AS ENCOUNTERED DURING BUILDING DEMOLITION.OTE POSITIVE DRAINAGE.


  
 BEALS ASSOCIATES, INC.

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 PHONE: 617-242-1131
   
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 PLANNING - ENGINEERING - PERMITTING - MANAGEMENT

Owner/Applicant
   
 NPJV Constitution

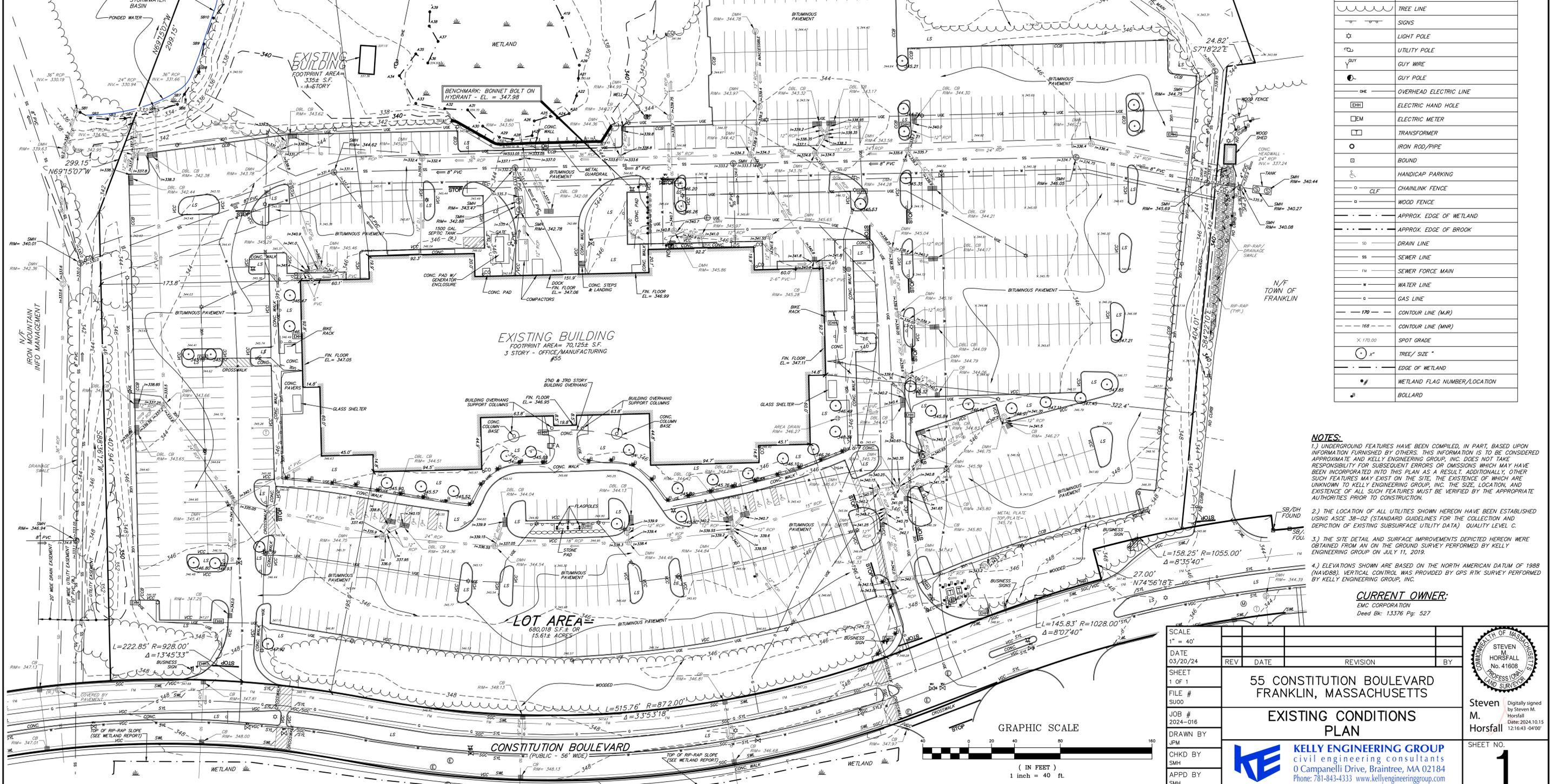


KELLY ENGINEERING GROUP SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION METHODS, TECHNIQUES, OR PROCEDURES UNLESS BY THE CONTRACTOR, NOR FOR THE SAFETY OF PUBLIC OR CONTRACTOR'S EMPLOYEES, OR FOR THE FAILURE OF THE CONTRACTOR TO CARRY OUT THE WORKING ACCORDANCE WITH THE CONTRACT DOCUMENTS.  
 NO PART OF THIS DOCUMENT MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC, MECHANICAL, PHOTOCOPIING, RECORDING OR OTHERWISE, WITHOUT THE PRIOR WRITTEN PERMISSION OF KELLY ENGINEERING GROUP. ANY REPRODUCTION OF THIS DOCUMENT WITHOUT THE WRITTEN PERMISSION OF KELLY ENGINEERING GROUP SHALL RENDER IT INVALID AND UNUSABLE.

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**PLAN REFERENCES:**  
 1.) AS-BUILT SITE PLAN BY ENGINEERING DESIGN CONSULTANTS, DATED JUNE 28, 2006, AND PROVIDED BY THE TOWN OF FRANKLIN.  
 NORFOLK COUNTY REGISTRY OF DEEDS PLANS AS FOLLOWS:

- 2.) PLAN NO. 47 OF 1995
- 3.) PLAN NO. 58 OF 1998
- 4.) PLAN NO. 59 OF 1998
- 5.) PLAN NO. 228 OF 1999
- 6.) PLAN NO. 392 OF 1997
- 7.) PLAN NO. 659 OF 1998
- 8.) PLAN NO. 683 OF 1999
- 9.) PLAN NO. 878 OF 1994
- 10.) PLAN NO. 879 OF 1994
- 11.) PLAN NO. 101 OF 2008

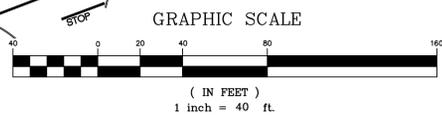


LEGEND	
SOC	SLOPED GRANITE CURB
VOC	VERTICAL GRANITE CURB
CCB	CAPE COD BERM
LS	LANDSCAPED
SWL	SOLID WHITE STRIPE LINE
SYL	SOLID YELLOW STRIPE LINE
⊙	SEWER MANHOLE
⊕	HYDRANT
⊖	WATER VALVE
⊗	WATER MANHOLE
⊘	WATER HAND HOLE
⊙	DRAIN MANHOLE
⊠	CATCH BASIN/ DOUBLE CB
⊔	ROOF DRAIN/DOWN SPOUT
⊕	GAS VALVE
⊖	GAS METER
—○—	TREE LINE
—○—	SIGNS
☆	LIGHT POLE
⊕	UTILITY POLE
—○—	GUY WIRE
—○—	GUY POLE
—○—	OVERHEAD ELECTRIC LINE
⊠	ELECTRIC HAND HOLE
⊖	ELECTRIC METER
⊠	TRANSFORMER
⊕	IRON ROD/PIPE
⊠	BOUND
⊠	HANDICAP PARKING
⊠	CHAINLINK FENCE
⊠	WOOD FENCE
⊠	WOOD SHED
⊠	APPROX. EDGE OF WETLAND
⊠	APPROX. EDGE OF BROOK
—○—	DRAIN LINE
—○—	SEWER LINE
—○—	SEWER FORCE MAIN
—○—	WATER LINE
—○—	GAS LINE
—○—	CONTOUR LINE (M/R)
—○—	CONTOUR LINE (M/NR)
—○—	SPOT GRADE
—○—	TREE / SIZE "
—○—	EDGE OF WETLAND
⊕	WETLAND FLAG NUMBER/LOCATION
⊕	BOLLARD

**NOTES:**  
 1.) UNDERGROUND FEATURES HAVE BEEN COMPILED, IN PART, BASED UPON INFORMATION FURNISHED BY OTHERS. THIS INFORMATION IS TO BE CONSIDERED APPROXIMATE AND KELLY ENGINEERING GROUP, INC. DOES NOT TAKE RESPONSIBILITY FOR SUBSEQUENT ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED INTO THIS PLAN AS A RESULT. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO KELLY ENGINEERING GROUP, INC. THE SIZE, LOCATION, AND EXISTENCE OF ALL SUCH FEATURES MUST BE VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION.  
 2.) THE LOCATION OF ALL UTILITIES SHOWN HEREON HAVE BEEN ESTABLISHED USING ASCE 38-02 (STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA) QUALITY LEVEL C.  
 3.) THE SITE DETAIL AND SURFACE IMPROVEMENTS DEPICTED HEREON WERE OBTAINED FROM AN ON THE GROUND SURVEY PERFORMED BY KELLY ENGINEERING GROUP ON JULY 11, 2019.  
 4.) ELEVATIONS SHOWN ARE BASED ON THE NORTH AMERICAN DATUM OF 1988 (NAD83). VERTICAL CONTROL WAS PROVIDED BY GPS RTK SURVEY PERFORMED BY KELLY ENGINEERING GROUP, INC.

**CURRENT OWNER:**  
 EMC CORPORATION  
 Deed Bk: 13376 Pg: 527

SCALE 1" = 40'	DATE 03/20/24	REV	DATE	REVISION	BY
SHEET 1 OF 1	FILE # SU00	55 CONSTITUTION BOULEVARD FRANKLIN, MASSACHUSETTS			
JOB # 2024-016	DRAWN BY JPM	EXISTING CONDITIONS PLAN			
CHKD BY SMH	APPD BY SMH	<b>KELLY ENGINEERING GROUP</b> civil engineering consultants 0 Campanelli Drive, Braintree, MA 02184 Phone: 781-843-4333 www.kellyengineeringgroup.com			
					Steven M. Horsfall Digitally signed by Steven M. Horsfall Date: 2024.10.15 12:16:43 -0400
SHEET NO.					1

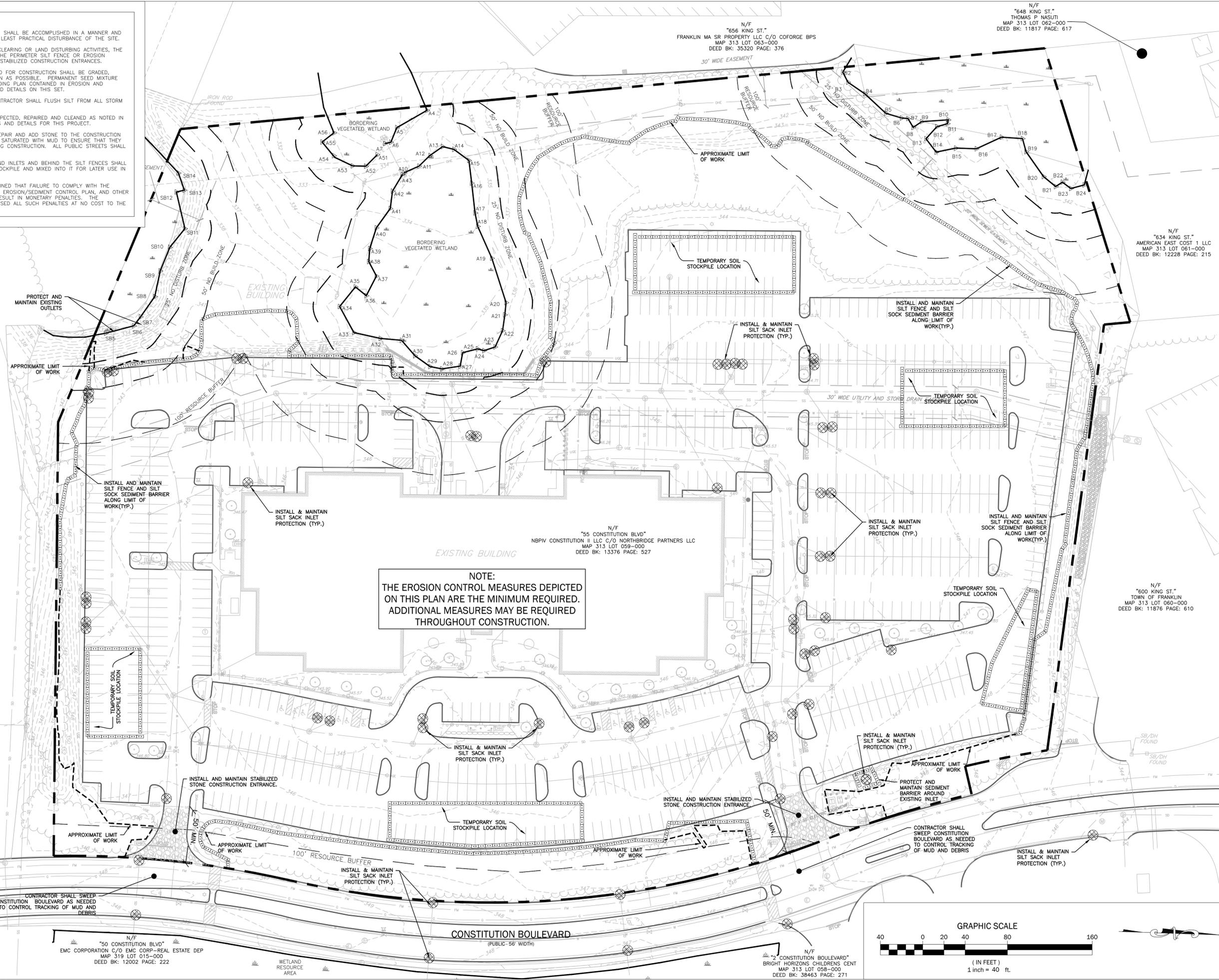




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- EROSION CONTROL NOTES**
1. LAND DISTURBING ACTIVITIES SHALL BE ACCOMPLISHED IN A MANNER AND SEQUENCE THAT CAUSES THE LEAST PRACTICAL DISTURBANCE OF THE SITE.
  2. PRIOR TO BEGINNING ANY CLEARING OR LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL THE PERIMETER SILT FENCE OR EROSION CONTROL BARRIERS AND THE STABILIZED CONSTRUCTION ENTRANCES.
  3. ALL GROUND AREAS GRADED FOR CONSTRUCTION SHALL BE GRADED, LOAMED AND SEEDED AS SOON AS POSSIBLE. PERMANENT SEED MIXTURE SHALL CONFORM TO THE SEEDING PLAN CONTAINED IN EROSION AND SEDIMENT CONTROL NOTES AND DETAILS ON THIS SET.
  4. PRIOR TO PAVING, THE CONTRACTOR SHALL FLUSH SILT FROM ALL STORM DRAIN LINES.
  5. SILT FENCES SHALL BE INSPECTED, REPAIRED AND CLEANED AS NOTED IN THE EROSION CONTROL NOTES AND DETAILS FOR THIS PROJECT.
  6. THE CONTRACTOR SHALL REPAIR AND ADD STONE TO THE CONSTRUCTION ENTRANCES AS THEY BECOME SATURATED WITH MUD TO ENSURE THAT THEY FUNCTION AS INTENDED DURING CONSTRUCTION. ALL PUBLIC STREETS SHALL BE SWEEP AS NECESSARY.
  7. SILT REMOVED FROM AROUND INLETS AND BEHIND THE SILT FENCES SHALL BE PLACED ON A TOPSOIL STOCKPILE AND MIXED INTO IT FOR LATER USE IN LANDSCAPING OPERATIONS.
  8. THE CONTRACTOR IS CAUTIONED THAT FAILURE TO COMPLY WITH THE SEQUENCE OF CONSTRUCTION, EROSION/SEDIMENT CONTROL PLAN, AND OTHER PERMIT REQUIREMENTS MAY RESULT IN MONETARY PENALTIES. THE CONTRACTOR SHALL BE ASSESSED ALL SUCH PENALTIES AT NO COST TO THE OWNER.

N/F  
"77 CONSTITUTION BLVD"  
IRON MOUNTAIN INFO MANAGEMENT  
MAP 320 LOT 006-000  
DEED BK: 32508 PAGE: 480



**NOTE:**  
THE EROSION CONTROL MEASURES DEPICTED  
ON THIS PLAN ARE THE MINIMUM REQUIRED.  
ADDITIONAL MEASURES MAY BE REQUIRED  
THROUGHOUT CONSTRUCTION.

N/F  
"55 CONSTITUTION BLVD"  
NBPIV CONSTITUTION II LLC C/O NORTHBRIDGE PARTNERS LLC  
MAP 313 LOT 059-000  
DEED BK: 13376 PAGE: 527

N/F  
"656 KING ST."  
FRANKLIN MA SR PROPERTY LLC C/O COFORGE BPS  
MAP 313 LOT 063-000  
DEED BK: 35320 PAGE: 376

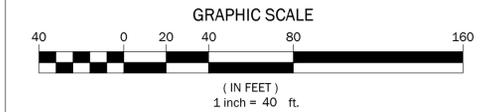
N/F  
"648 KING ST."  
THOMAS P NASUTI  
MAP 313 LOT 062-000  
DEED BK: 11817 PAGE: 617

N/F  
"634 KING ST."  
AMERICAN EAST COST 1 LLC  
MAP 313 LOT 061-000  
DEED BK: 12228 PAGE: 215

N/F  
"600 KING ST."  
TOWN OF FRANKLIN  
MAP 313 LOT 060-000  
DEED BK: 11876 PAGE: 610

N/F  
"50 CONSTITUTION BLVD"  
EMC CORPORATION C/O EMC CORP-REAL ESTATE DEP  
MAP 319 LOT 015-000  
DEED BK: 12002 PAGE: 222

N/F  
"2 CONSTITUTION BOULEVARD"  
BRIGHT HORIZONS CHILDRENS CENT  
MAP 313 LOT 058-000  
DEED BK: 38463 PAGE: 271



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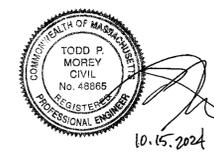
**BEALS ASSOCIATES INC.**  
2 PARK PLAZA SUITE 200 BOSTON, MA 02116  
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PLANNING - ENGINEERING - PERMITTING - MANAGEMENT

**Owner/Applicant**  
NBPIV Constitution II LLC  
401 Edgewater Place, Suite 205  
Walden, MA 01880

**NORTHBRIDGE**

**55 Constitution Boulevard**  
Franklin, MA

No.	Revision	Date



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Proj. No.: C-1381 | Issue Date: 10.17.24  
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Sheet Title  
**EROSION AND SEDIMENTATION CONTROL PLAN PHASE I**  
Sheet Number  
**C110**

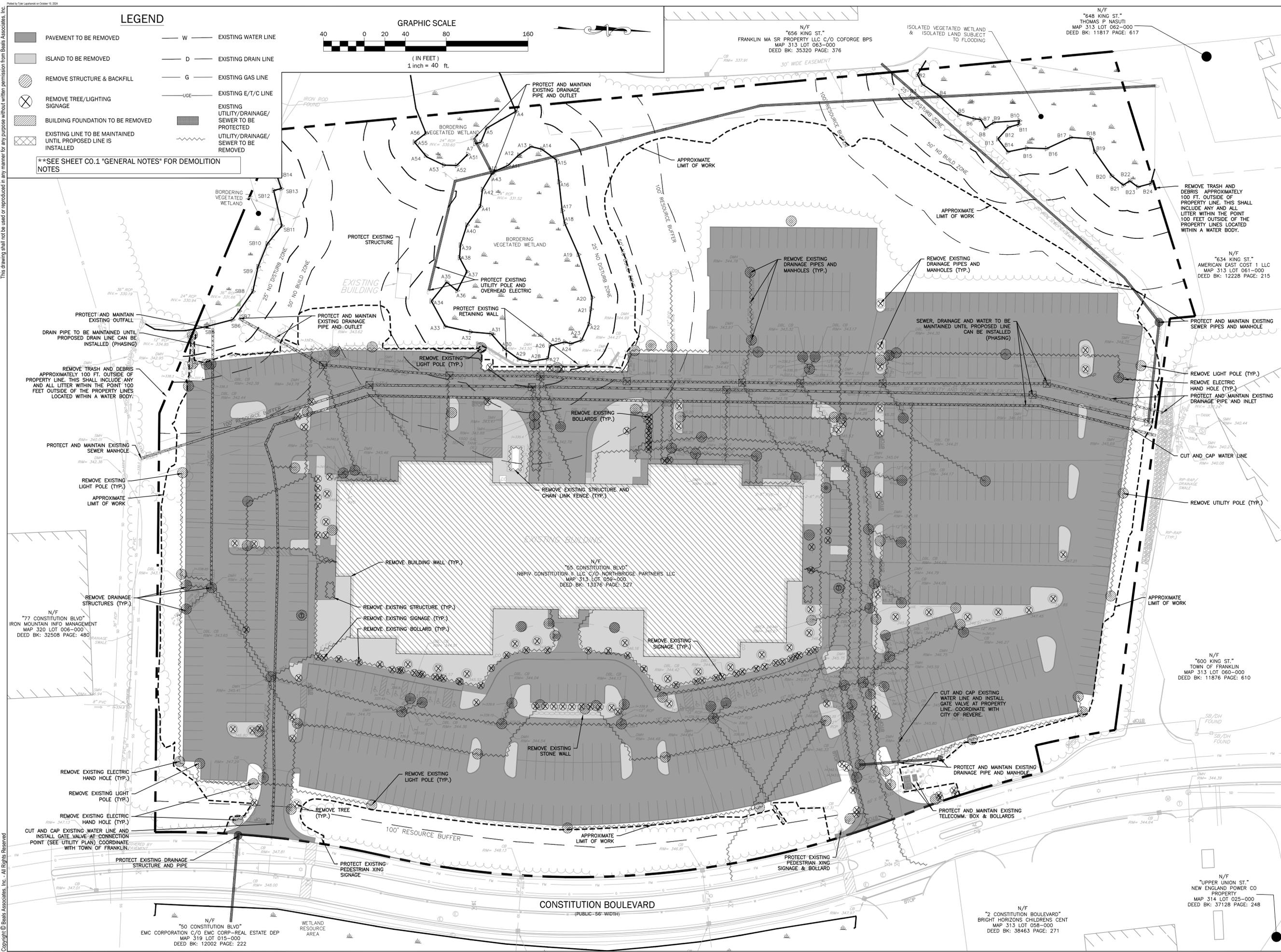
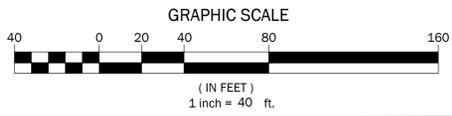
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**LEGEND**

- PAVEMENT TO BE REMOVED
- ISLAND TO BE REMOVED
- REMOVE STRUCTURE & BACKFILL
- REMOVE TREE/LIGHTING SIGNAGE
- BUILDING FOUNDATION TO BE REMOVED
- EXISTING LINE TO BE MAINTAINED UNTIL PROPOSED LINE IS INSTALLED
- W EXISTING WATER LINE
- D EXISTING DRAIN LINE
- G EXISTING GAS LINE
- UGE EXISTING E/T/C LINE
- EXISTING UTILITY/ DRAINAGE/ SEWER TO BE PROTECTED
- UTILITY/ DRAINAGE/ SEWER TO BE REMOVED

**\*\*SEE SHEET CO.1 "GENERAL NOTES" FOR DEMOLITION NOTES**



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**NORTHBRIDGE**

**55 Constitution Boulevard**  
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**DEMOLITION REMOVALS AND PROTECTION PLAN**  
 Sheet Number

C111

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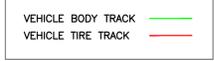
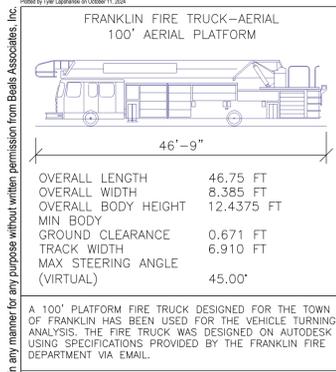






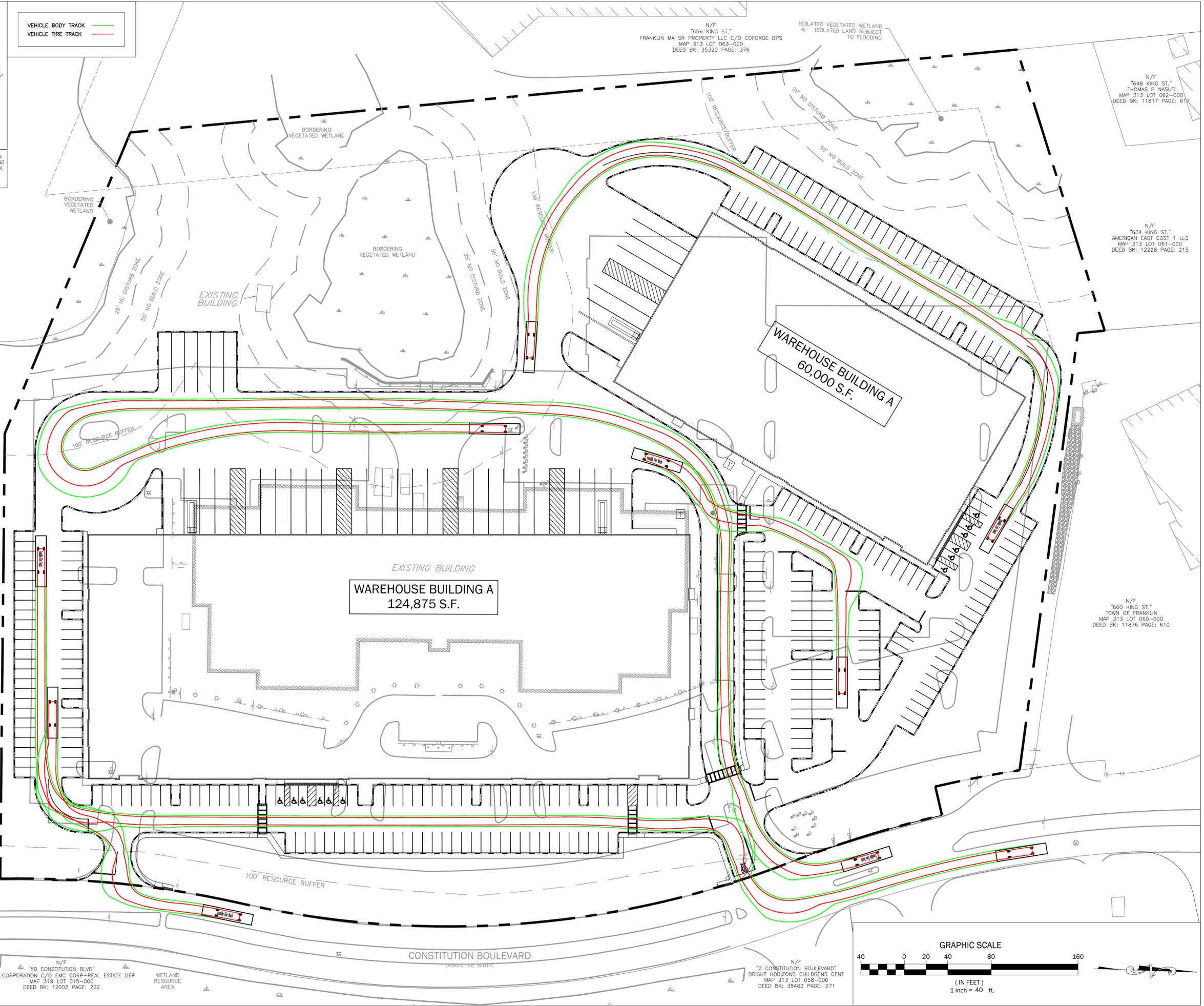






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N/F "77 CONSTITUTION BLVD" IRON MOUNTAIN INFO MANAGEMENT MAP 320 LOT 006-000 DEED BK: 32508 PAGE: 480

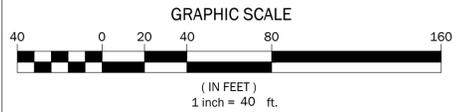


N/F "50 CONSTITUTION BLVD" EMC CORPORATION C/O EMC CORP-REAL ESTATE DEP MAP 319 LOT 015-000 DEED BK: 12002 PAGE: 222

WETLAND RESOURCE AREA

CONSTITUTION BOULEVARD (PUBLIC-56' WIDTH)

N/F "2 CONSTITUTION BOULEVARD" BRIGHT HORIZONS CHILDRENS CENT MAP 313 LOT 058-000 DEED BK: 58463 PAGE: 271



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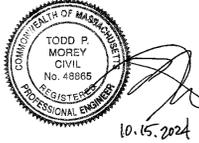
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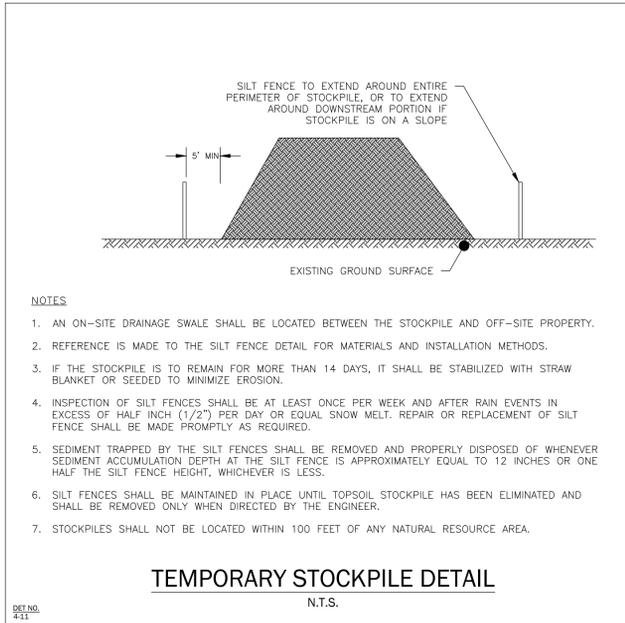
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Sheet Title  
**FIRE TRUCK TURNING ANALYSIS**

Sheet Number  
**C201**

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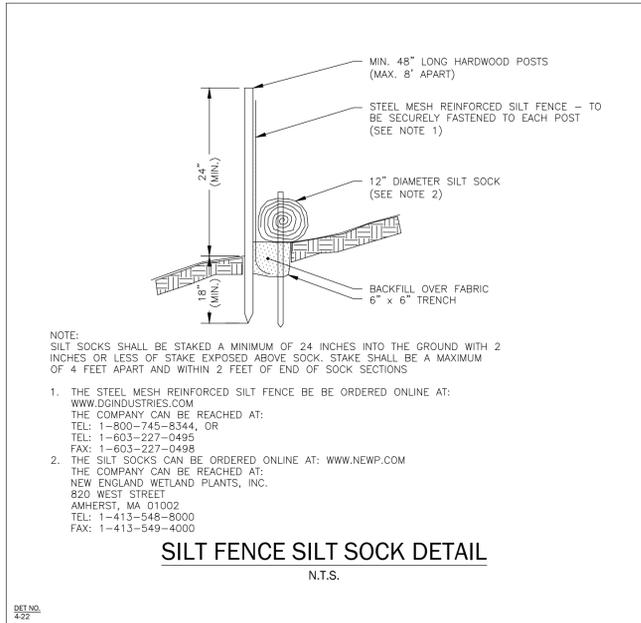




- NOTES**
1. AN ON-SITE DRAINAGE SWALE SHALL BE LOCATED BETWEEN THE STOCKPILE AND OFF-SITE PROPERTY.
  2. REFERENCE IS MADE TO THE SILT FENCE DETAIL FOR MATERIALS AND INSTALLATION METHODS.
  3. IF THE STOCKPILE IS TO REMAIN FOR MORE THAN 14 DAYS, IT SHALL BE STABILIZED WITH STRAW BLANKET OR SEED TO MINIMIZE EROSION.
  4. INSPECTION OF SILT FENCES SHALL BE AT LEAST ONCE PER WEEK AND AFTER RAIN EVENTS IN EXCESS OF HALF INCH (1/2") PER DAY OR EQUAL SNOW MELT. REPAIR OR REPLACEMENT OF SILT FENCE SHALL BE MADE PROMPTLY AS REQUIRED.
  5. SEDIMENT TRAPPED BY THE SILT FENCES SHALL BE REMOVED AND PROPERLY DISPOSED OF WHENEVER SEDIMENT ACCUMULATION DEPTH AT THE SILT FENCE IS APPROXIMATELY EQUAL TO 12 INCHES OR ONE HALF THE SILT FENCE HEIGHT, WHICHEVER IS LESS.
  6. SILT FENCES SHALL BE MAINTAINED IN PLACE UNTIL TOPSOIL STOCKPILE HAS BEEN ELIMINATED AND SHALL BE REMOVED ONLY WHEN DIRECTED BY THE ENGINEER.
  7. STOCKPILES SHALL NOT BE LOCATED WITHIN 100 FEET OF ANY NATURAL RESOURCE AREA.

**TEMPORARY STOCKPILE DETAIL**  
N.T.S.

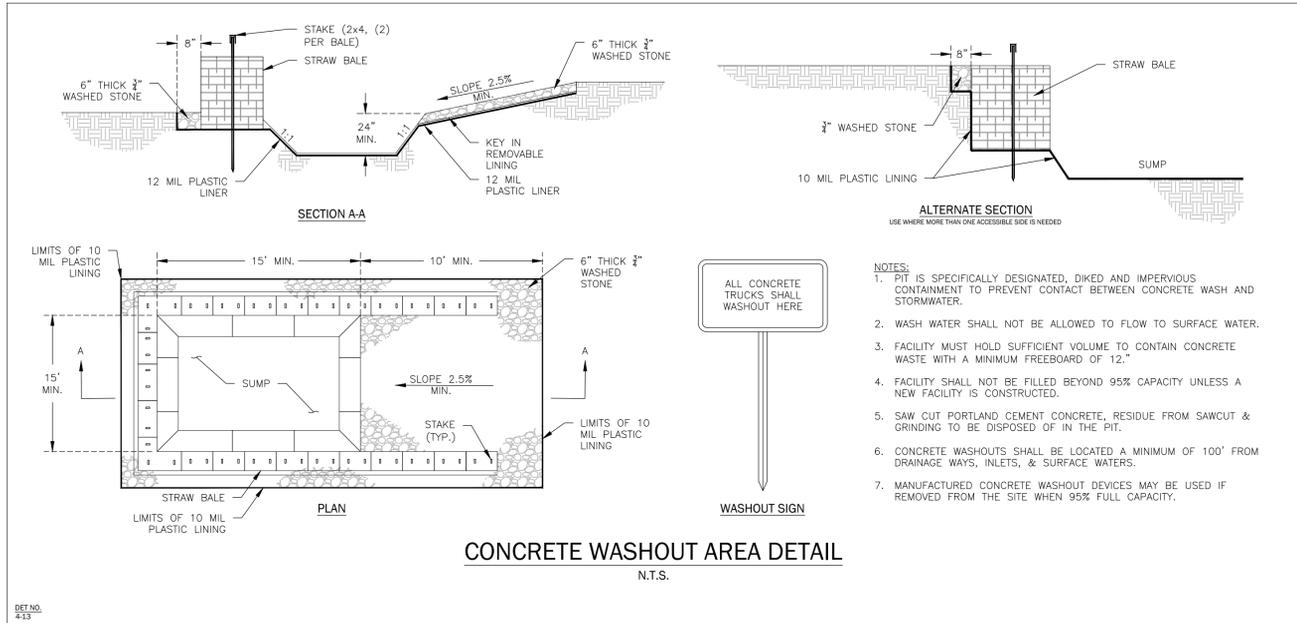
DET. NO. 431



- NOTE:**  
SILT SOCKS SHALL BE STAKED A MINIMUM OF 24 INCHES INTO THE GROUND WITH 2 INCHES OR LESS OF STAKE EXPOSED ABOVE SOCK. STAKE SHALL BE A MAXIMUM OF 4 FEET APART AND WITHIN 2 FEET OF END OF SOCK SECTIONS.
1. THE STEEL MESH REINFORCED SILT FENCE BE ORDERED ONLINE AT: WWW.DGINDUSTRIES.COM. THE COMPANY CAN BE REACHED AT: TEL: 1-800-745-8344, OR TEL: 1-603-227-0495, FAX: 1-603-227-0498
  2. THE SILT SOCKS CAN BE ORDERED ONLINE AT: WWW.NEWP.COM. THE COMPANY CAN BE REACHED AT: NEW ENGLAND WETLAND PLANTS, INC. 820 WEST STREET AMHERST, MA 01002 TEL: 1-413-548-8000 FAX: 1-413-549-4000

**SILT FENCE SILT SOCK DETAIL**  
N.T.S.

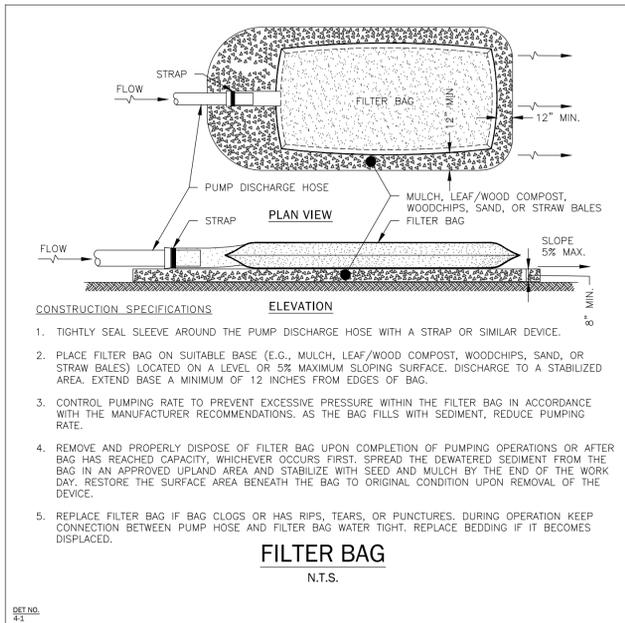
DET. NO. 432



- NOTES:**
1. PIT IS SPECIFICALLY DESIGNATED, DIKED AND IMPERVIOUS CONTAINMENT TO PREVENT CONTACT BETWEEN CONCRETE WASH AND STORMWATER.
  2. WASH WATER SHALL NOT BE ALLOWED TO FLOW TO SURFACE WATER.
  3. FACILITY MUST HOLD SUFFICIENT VOLUME TO CONTAIN CONCRETE WASTE WITH A MINIMUM FREEBOARD OF 12."
  4. FACILITY SHALL NOT BE FILLED BEYOND 95% CAPACITY UNLESS A NEW FACILITY IS CONSTRUCTED.
  5. SAW CUT PORTLAND CEMENT CONCRETE, RESIDUE FROM SAWCUT & GRINDING TO BE DISPOSED OF IN THE PIT.
  6. CONCRETE WASHOUTS SHALL BE LOCATED A MINIMUM OF 100' FROM DRAINAGE WAYS, INLETS, & SURFACE WATERS.
  7. MANUFACTURED CONCRETE WASHOUT DEVICES MAY BE USED IF REMOVED FROM THE SITE WHEN 95% FULL CAPACITY.

**CONCRETE WASHOUT AREA DETAIL**  
N.T.S.

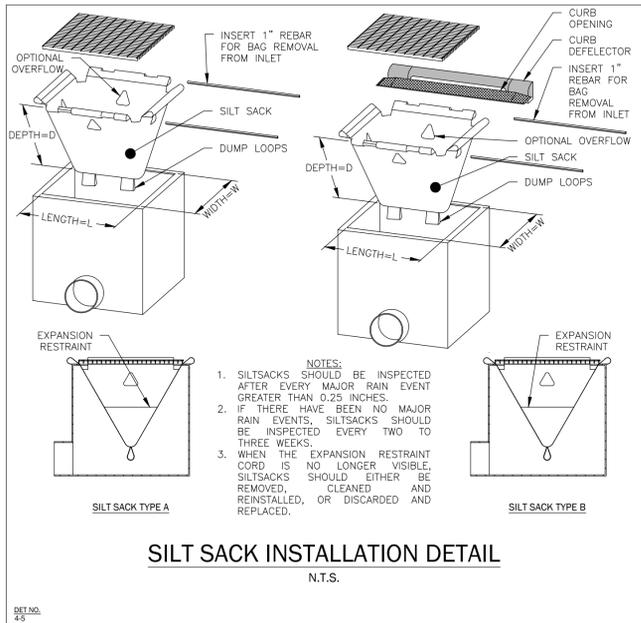
DET. NO. 433



- CONSTRUCTION SPECIFICATIONS**
1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
  2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
  3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
  4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
  5. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

**FILTER BAG**  
N.T.S.

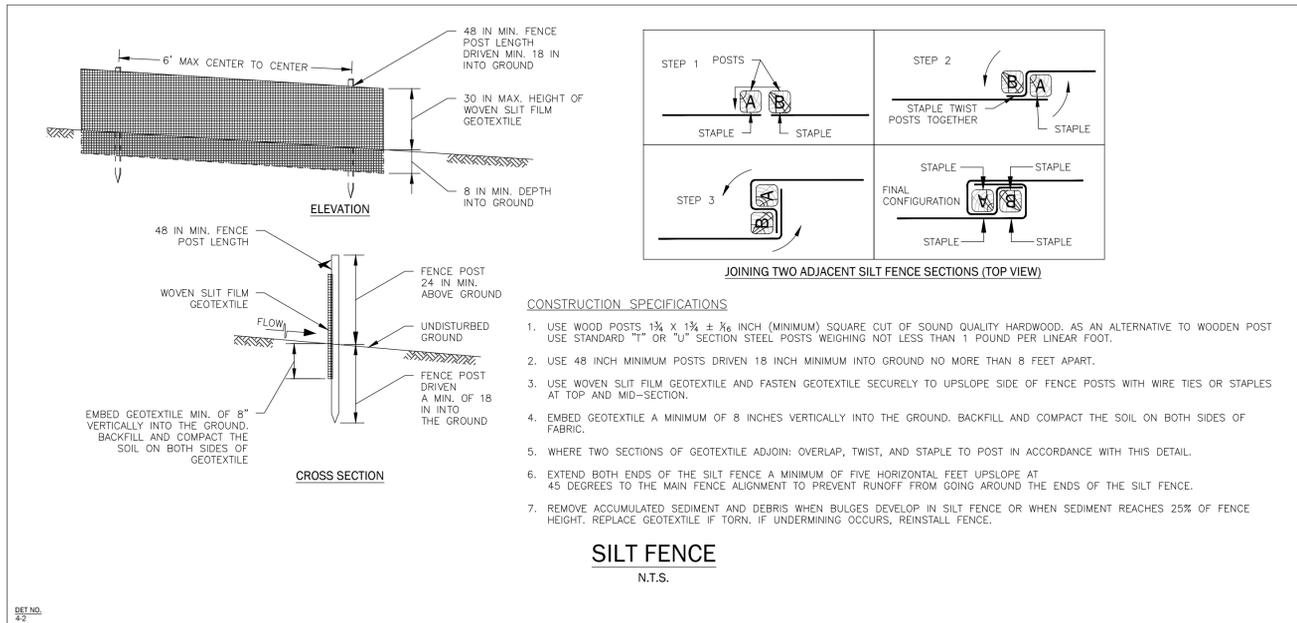
DET. NO. 434



- NOTES:**
1. SILTSACKS SHOULD BE INSPECTED AFTER EVERY MAJOR RAIN EVENT GREATER THAN 0.25 INCHES.
  2. IF THERE HAVE BEEN NO MAJOR RAIN EVENTS, SILTSACKS SHOULD BE INSPECTED EVERY TWO TO THREE WEEKS.
  3. WHEN THE EXPANSION RESTRAINT CORD IS NO LONGER VISIBLE, SILTSACKS SHOULD EITHER BE REMOVED, CLEANED AND REINSTALLED, OR DISCARDED AND REPLACED.

**SILT SACK INSTALLATION DETAIL**  
N.T.S.

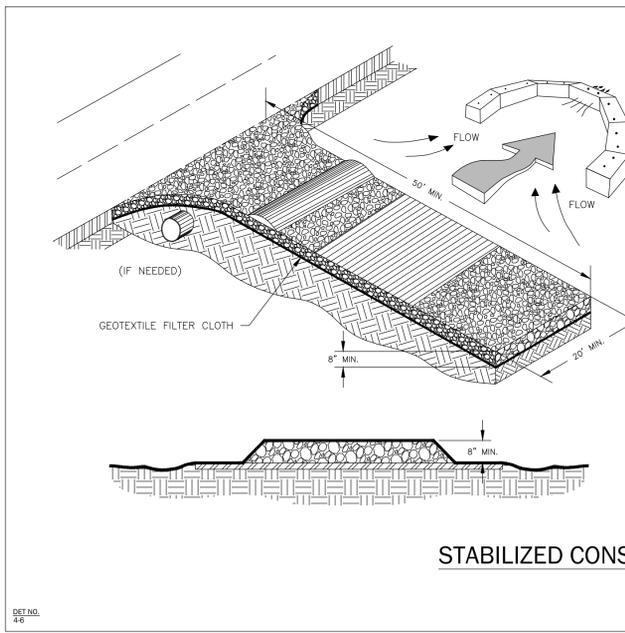
DET. NO. 435



- CONSTRUCTION SPECIFICATIONS**
1. USE WOOD POSTS 1 3/4" X 1 3/4" ± 1/16" INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD, AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
  2. USE 48 INCH MINIMUM POSTS DRIVEN 18 INCH MINIMUM INTO GROUND NO MORE THAN 8 FEET APART.
  3. USE WOVEN SILT FILM GEOTEXTILE AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
  4. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
  5. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
  6. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
  7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

**SILT FENCE**  
N.T.S.

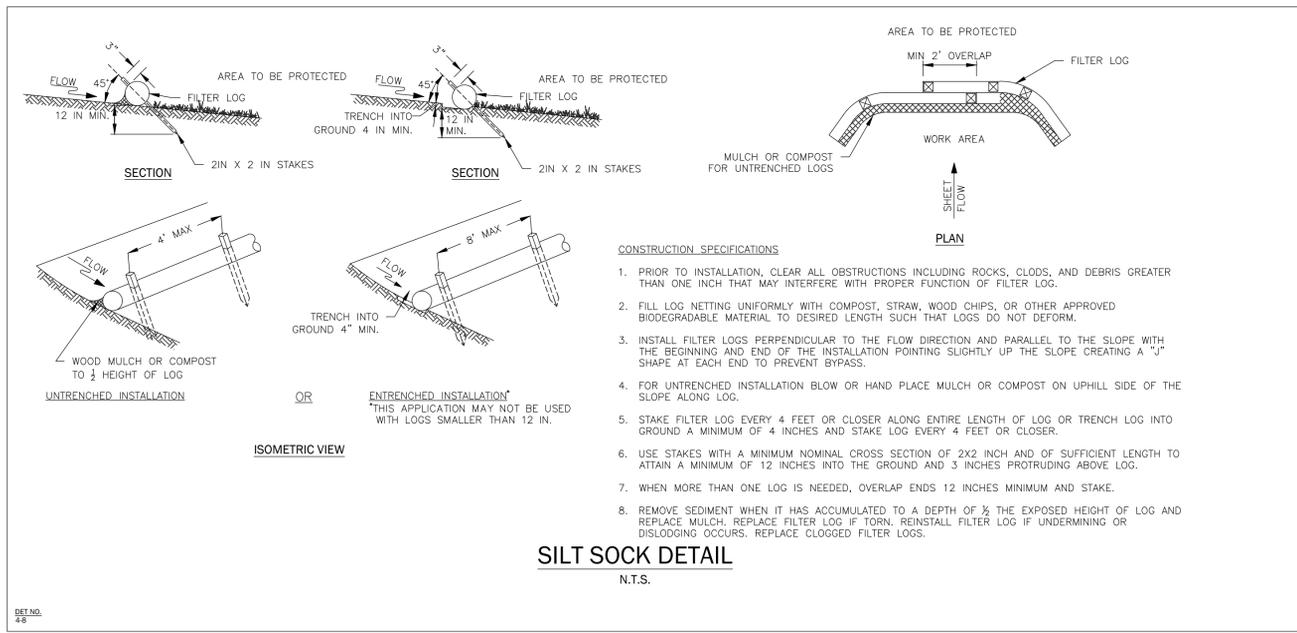
DET. NO. 436



- NOTES:**
1. STONE SHALL BE COURSE AGGREGATE, 3 INCH STONE.
  2. THE LENGTH OF THE CONSTRUCTION EXIT SHALL NOT BE LESS THAN 50 FEET, EXCEPT FOR A SINGLE FAMILY RESIDENTIAL LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
  3. THE MINIMUM THICKNESS OF THE STABILIZED EXIT SHALL NOT BE LESS THAN 8 INCHES.
  4. THE WIDTH SHALL NOT BE LESS THAN THE FULL WIDTH OF THE INGRESS OR EGRESS POINT OR 20 FEET, WHICHEVER IS GREATER.
  5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE. FILTER CLOTH IS NOT REQUIRED FOR A SINGLE FAMILY RESIDENTIAL LOT.
  6. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
  7. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SIDE SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR PIPE.
  8. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT WILL REMOVE MUD AND DIRT.
  9. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE THROUGH THE USE OF SAND BAGS, GRAVEL, BOARDS OR OTHER APPROVED METHODS.
  10. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEAN OUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED PROMPTLY.

**STABILIZED CONSTRUCTION ENTRANCE**  
N.T.S.

DET. NO. 436



- CONSTRUCTION SPECIFICATIONS**
1. PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
  2. FILL LOG NETTING UNIFORMLY WITH COMPOST, STRAW, WOOD CHIPS, OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH SUCH THAT LOGS DO NOT DEFORM.
  3. INSTALL FILTER LOGS PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE WITH THE BEGINNING AND END OF THE INSTALLATION POINTING SLIGHTLY UP THE SLOPE CREATING A "J" SHAPE AT EACH END TO PREVENT BYPASS.
  4. FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHILL SIDE OF THE SLOPE ALONG LOG.
  5. STAKE FILTER LOG EVERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF LOG OR TRENCH LOG INTO GROUND A MINIMUM OF 4 INCHES AND STAKE LOG EVERY 4 FEET OR CLOSER.
  6. USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2X2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE LOG.
  7. WHEN MORE THAN ONE LOG IS NEEDED, OVERLAP ENDS 12 INCHES MINIMUM AND STAKE.
  8. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF 1/2 THE EXPOSED HEIGHT OF LOG AND REPLACE MULCH, REPLACE FILTER LOG IF TORN. REINSTALL FILTER LOG IF UNDERMINING OR DISLODGING OCCURS. REPLACE CLOGGED FILTER LOGS.

**SILT SOCK DETAIL**  
N.T.S.

DET. NO. 438

No.	Revision	Date

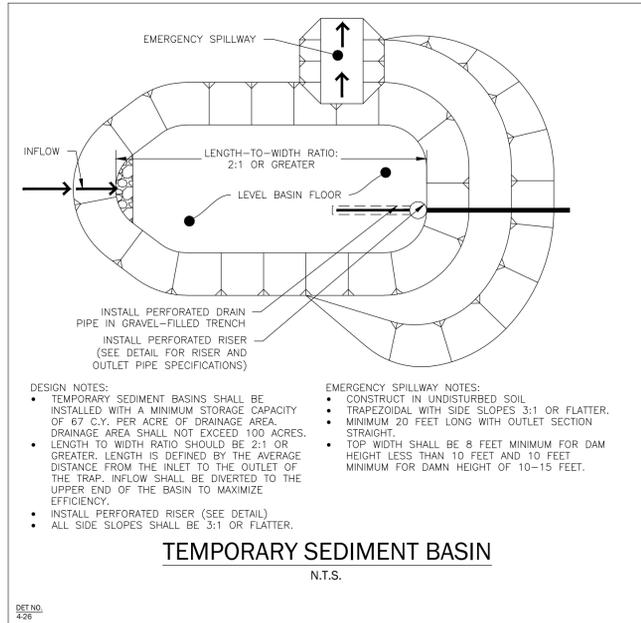
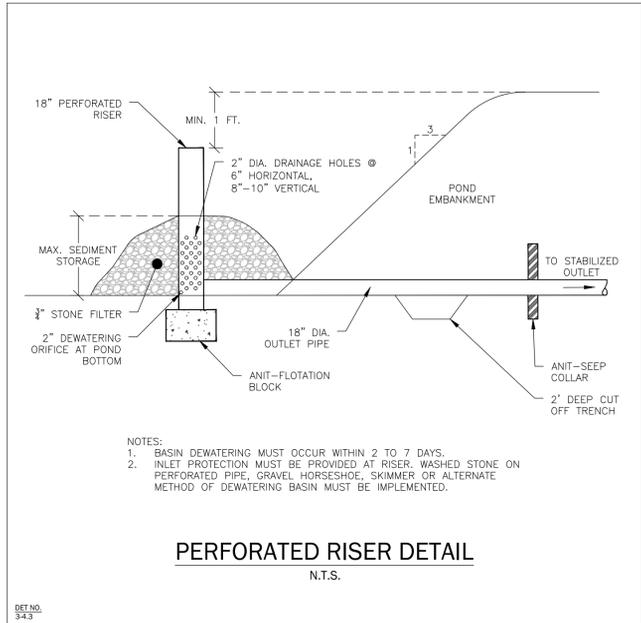
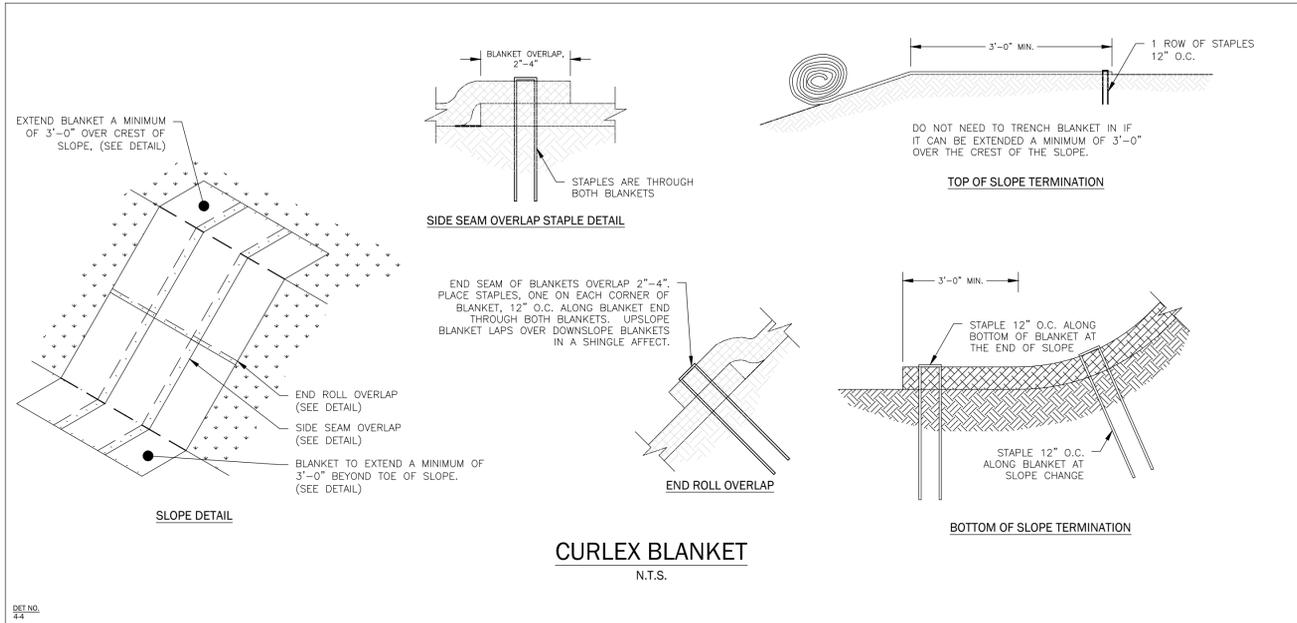


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Sheet Title  
**EROSION CONTROL DETAILS**

Sheet Number  
**C500**



No.	Revision	Date

TODD P. MOREY  
 CIVIL  
 No. 48865  
 REGISTERED PROFESSIONAL ENGINEER  
 10.15.2024

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Sheet Title  
**EROSION CONTROL DETAILS**

Sheet Number  
**C501**

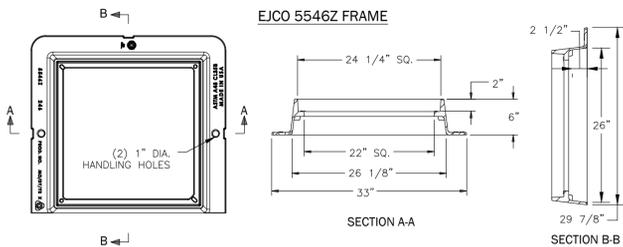
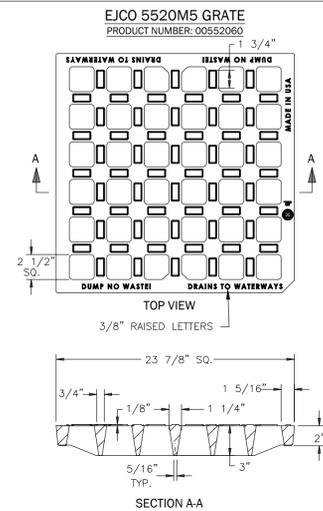








DET. NO.  
3-4



EJCO CATCH BASIN FRAME TABLE			
LOCATION/ALIGNMENT	NUMBER OF FLANGES	FRAME PRODUCT NUMBER	GRATE PRODUCT NUMBER
SINGLE GRATE CATCH BASIN (EJCO 5546Z)			
CURB ALIGNED	3	00554613	00552060
NON CURB ALIGNED	4	00554611	00552060
DOUBLE GRATE CATCH BASIN (EJCO 5448Z)			
CURB ALIGNED	3	00544814	00552060
NON CURB ALIGNED	4	00544812	00552060

**CATCH BASIN GRATE AND FRAME DETAIL**

(DETAILS OBTAINED FROM EJCO)  
N.T.S.

Owner/Applicant  
NBPIV Constitution II LLC  
401 Edgewater Place, Suite 205  
Waldenfield, MA 01880

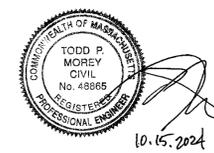
**NORTHBRIDGE**

**BEALS ASSOCIATES INC.**

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Sheet Title  
**STORMWATER DETAILS**

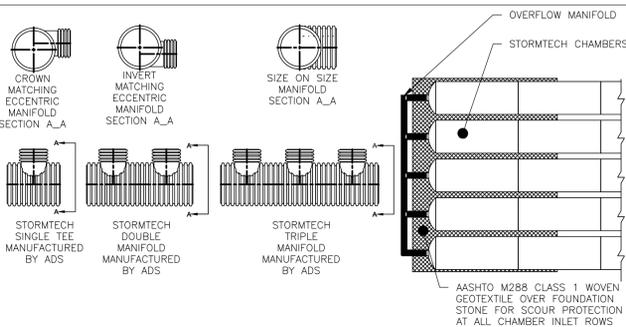
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Sheet Number  
**C522**

Not for Construction

- STORMTECH ("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 SERVICE REPRESENTATIVES AT LEAST 30 DAYS PRIOR TO SYSTEM INSTALLATION TO ARRANGE A PREINSTALLATION 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 860-529-8188 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 FOR THE SC-740, DC-780 AND SC-310 CHAMBERS IS 18" (457 MM) NOT INCLUDING PAVEMENT; MAXIMUM COVER FOR THE SC-740 AND SC-310 CHAMBERS IS 96" (2.4 M) INCLUDING PAVEMENT DESIGN; MAXIMUM COVER FOR THE DC-780 CHAMBER IS 12" (3.6 M) INCLUDING PAVEMENT DESIGN. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE RUTTING FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 24" (610 MM), MAXIMUM COVER IS AS STATED ABOVE.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH THE BEARING CAPACITY OF THE SUBGRADE MATERIALS TO THE DESIGN ENGINEER.
- AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (ADS601 OR EQUAL) (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS.
- STONE PLACEMENT BETWEEN CHAMBER ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH MC-3500 / MC4500 CONSTRUCTION GUIDE.
- BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF STORMTECH MC-3500 / MC-4500 CONSTRUCTION GUIDE.
- THE CONTRACTOR MUST REFER TO STORMTECH MC-3500 / MC-4500 CONSTRUCTION GUIDE FOR A TABLE OF ACCEPTABLE VEHICLE LOADS AT VARIOUS DEPTHS OF COVER. THIS INFORMATION IS ALSO AVAILABLE AT THE STORMTECH WEBSITE: WWW.STORMTECH.COM. THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING VEHICLES THAT EXCEED STORMTECH REQUIREMENTS FROM TRAVELING ACROSS OR PARKING OVER THE STORMTECH 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 STORMTECH SYSTEM DURING ALL PHASES OF SITE CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS.
- STORMTECH PRODUCT WARRANTY IS LIMITED. CONTACT STORMTECH FOR WARRANTY INFORMATION.

### STORMTECH GENERAL NOTES



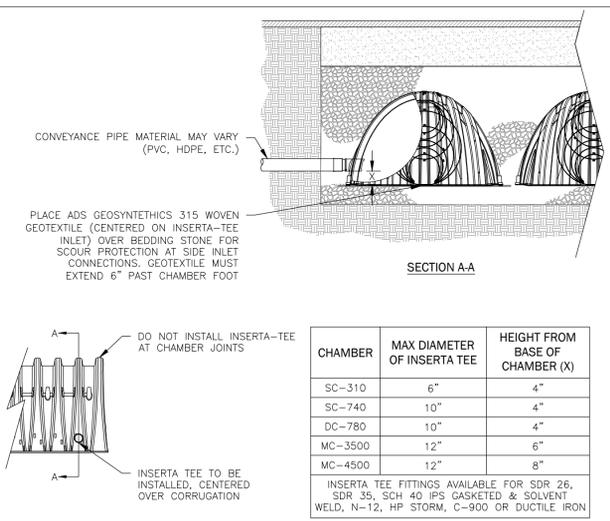
STUB SIZE	HEADER PIPE SIZES						
	24"	18"	15"	12"	10"	8"	6"
12"	AVAIL	AVAIL	AVAIL	AVAIL	---	---	---
10"	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL
8"	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL
6"	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL	AVAIL

AVAIL - STANDARD HEADERS AVAILABLE

MANIFOLDS ARE DESIGNED TO BE COUPLED TO STORMTECH PREFABRICATED END CAPS. WHEN USING STANDARD END CAPS, CORRUGATED PIPE UP TO 10 INCHES CAN BE INSERTED DIRECTLY INTO THE END CAP. FOR 12" INLET PIPES, A CORRUGATED TO SMOOTH PIPE ADAPTER IS REQUIRED.

### TYPICAL MANIFOLD DETAIL

N.T.S.



CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6"	4"
SC-740	10"	4"
DC-780	10"	4"
MC-3500	12"	6"
MC-4500	12"	8"

INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON

### INSERTA TEE DETAIL

N.T.S.

- CHAMBERS SHALL BE STORMTECH CHAMBERS SPECIFIED ON PLANS, OR APPROVED EQUAL.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE OR POLYETHYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2922 (POLYETHYLENE) OR ASTM F2418-16A (POLYPROPYLENE). "STANDARD SPECIFICATION FOR CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS 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:
  - LONG-DURATION DEAD LOADS AND
  - SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES
- CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO TO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
  - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
  - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
  - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, A) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 4200 LBS/IN/IN. AND B) TO RESIST SOFTENING DURING HOT, SUNNY INSTALLATION CONDITIONS, CHAMBERS SHALL BE PRODUCED FROM LIGHT, REFLECTIVE GOLD OR YELLOW COLORS.
- 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 MUST BE USED AS PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY

### STORMWATER CHAMBER SPECIFICATIONS

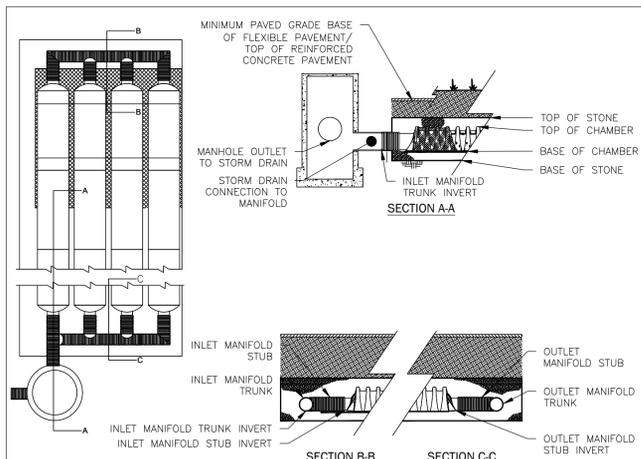
PIPE DIA.	FLOW (CFS)
6"	0.4
8"	0.7
10"	1.0
12"	2.0
15"	2.7
18"	4.0
24"	7.0
30"	11.0
36"	16.0
42"	22.0
48"	28.0

PIPE DIA.	SC-310 ENDCAPS		SC-740/DC-780 ENDCAPS		MC-3500 ENDCAPS		MC-4500 ENDCAPS	
	TOP OF ENDCAP	BOTTOM OF ENDCAP	TOP OF ENDCAP	BOTTOM OF ENDCAP	TOP OF ENDCAP	BOTTOM OF ENDCAP	TOP OF ENDCAP	BOTTOM OF ENDCAP
6"	5.8"	0.5"	18.5"	0.5"	33.21"	N/A	N/A	N/A
8"	3.5"	0.6"	16.5"	0.6"	31.16"	N/A	N/A	N/A
10"	1.4"	0.7"	14.5"	0.7"	29.04"	N/A	N/A	N/A
12"	N/A	0.9"	12.5"	1.2"	26.36"	1.35"	35.69"	1.55"
15"	N/A	0.5"	9"	1.3"	23.39"	1.5"	32.72"	1.7"
18"	N/A	0.5"	5"	1.6"	20.03"	1.77"	29.36"	1.97"
24"	N/A	N/A	N/A	0.1"	14.48"	2.06"	23.05"	2.26"

TABLE OF STANDARD DISTANCES FROM BASE OF CHAMBER TO INVERT OF INLET AND OUTLET MANIFOLDS ON STORMTECH END CAPS.

### STORMTECH ELEVATIONS

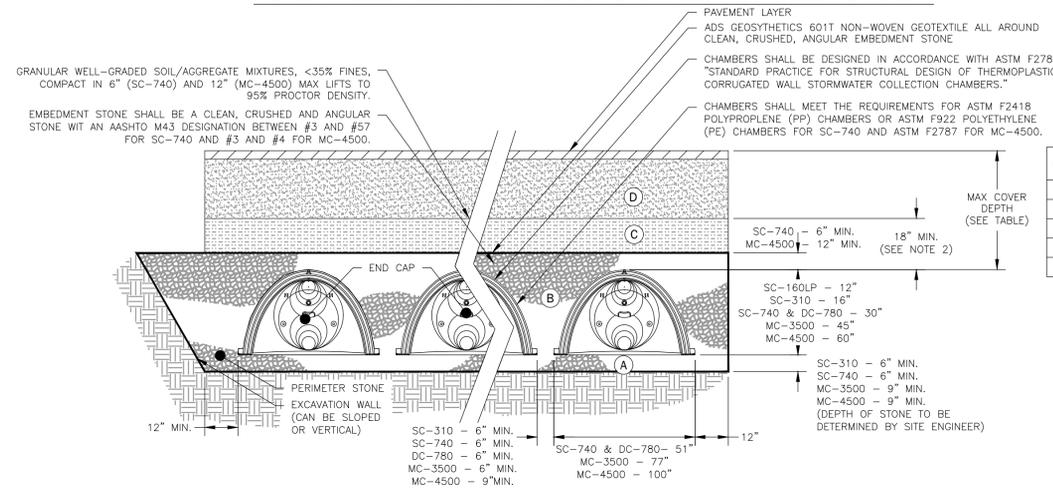
N.T.S.



ACCEPTABLE FILL MATERIALS				
	MATERIAL LOCATION	DESCRIPTION	AASHTO M43 MATERIAL CLASSIFICATION	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 FINISH GRADE ABOVE. NOTE THAT PAVEMENT SUB-BASE MAY BE PART OF THIS LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER C STARTS FROM THE TOP OF THE EMBEDMENT STONE (B LAYER) TO 18" [457 mm] ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUB-BASE MAY BE A PART OF THIS LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, < 35% FINES. MOST PAVEMENT SUB-BASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145(1) A-1, A-2-4, A-3 OR AASHTO M43(1) 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTION AFTER 12" [305 mm] OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" [152 mm] LIFTS TO A MIN. 95% STANDARD PROCTOR DENSITY (ρ). ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs [53 kN]. DYNAMIC FORCE NOT TO EXCEED 20,000 lbs [89 kN].
B	EMBEDMENT STONE: EMBEDMENT STONE SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A LAYER) TO THE C LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4 - 2 INCH [19 - 51 mm]	AASHTO M145(1) 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED
A	FOUNDATION STONE: FOUNDATION STONE BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4 - 2 INCH [19 - 51 mm]	AASHTO M145(1) 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. 2, 3

- PLEASE NOTE:
- 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."
  - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
  - 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.

### ACCEPTABLE FILL MATERIALS: STORMTECH CHAMBER SYSTEM



CHAMBER	MAX COVER DEPTH
SC-310	8'-0"
SC-740	8'-0"
DC-780	12'-0"
MC-3500	8'-0"
MC-4500	7'-0"

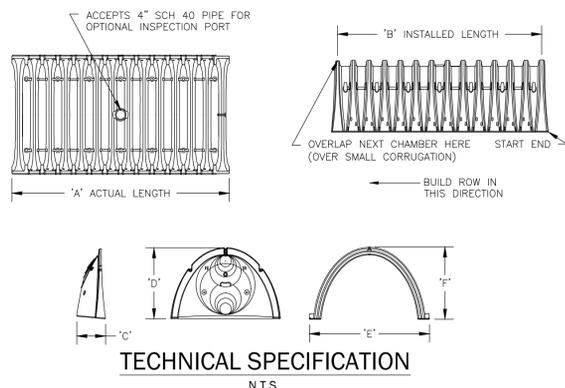
- NOTES:
- THE SUBGRADE OF THE EXCAVATION SHALL BE ABLE TO SUPPORT THE SYSTEM BASE WHILE REMAINING POROUS TO ALLOW FOR INFILTRATION. TO ACHIEVE THIS, THE SUBGRADE SHALL NOT BE COMPACTED BUT MUST SUPPORT A MINIMUM OF 2,000 PSF. IF THE BEARING CAPACITY OF THE SUBGRADE IS BELOW 2,000 PSF, A QUALIFIED ENGINEER SHALL BE CONSULTED FOR GUIDANCE ON BRINGING THE BEARING CAPACITY UP TO MINIMUM REQUIREMENTS WHILE NOT REDUCING THE INFILTRATION CAPACITY OF THE SOIL.
  - MINIMUM COVER TO BOTTOM OF FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING FROM VEHICLES MAY OCCUR, INCREASE COVER TO 24" FOR SC-740 AND 30" FOR MC-4500.

### STANDARD CROSS SECTION

N.T.S.

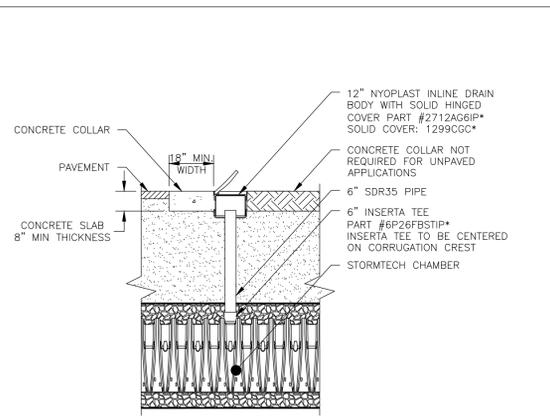
NOTE: THE DETAILS AND SPECIFICATIONS ON THIS SHEET ARE FOR ILLUSTRATIVE PURPOSES ONLY IN ORDER TO PROVIDE GENERAL INFORMATION ON STORMTECH PRODUCTS. CONTACT THE LOCAL SALES REPRESENTATIVE FOR UPDATED DETAILS AND SPECIFICATIONS.

CHAMBER	SCHEDULE					
	'A'	'B'	'C'	'D'	'E'	'F'
SC-310	90.7"	85.4"	9.9"	15.6"	34.0"	16.0"
SC-740	90.7"	85.4"	12.2"	29.3"	51.0"	30.0"
DC-780	90.7"	85.4"			51.0"	30.0"
MC-3500	90.0"	86.0"	25.7"	45.0"	77.0"	45.0"
MC-4500	52.0"	48.3"	35.1"	59.4"	100.0"	60.0"



### TECHNICAL SPECIFICATION

N.T.S.



\*THE PART #2712AG6PKIT CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

### 6" INSPECTION PORT DETAIL

N.T.S.

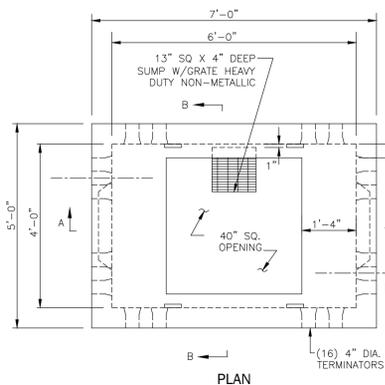
**BEALS ASSOCIATES INC.**  
 2 PARK PLAZA SUITE 200 BOSTON, MA 02116  
 PHONE: 617-251-1131  
 FAX: 617-251-1132  
 WWW.BEALSASSOCIATES.COM  
 PLANNING - ENGINEERING - PERMITTING - MANAGEMENT

**Owner/Applicant**  
**NBPV Construction II LLC**  
 401 Edgewater Place, Suite 205  
 Woburn, MA 01880  
**NORTHBRIDGE**

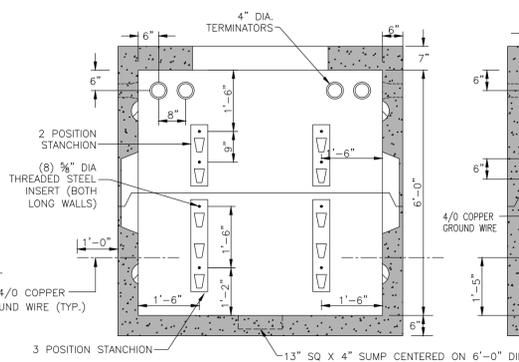
**55 Constitution Boulevard**  
**Franklin, MA**

Not for Construction  
**Permit Documents**  
 Designed by: BGJ Checked by: DPH  
 Proj. No.: C-1381 Issue Date: 10.17.24  
 Drawing Scale: N.T.S.  
 Sheet Title  
**INFILTRATION STORMWATER DETAILS**  
 Sheet Number  
**C523**





- NOTES:
1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
  2. DESIGN LOADING: AASHTO HS20-44, 0 TO 5 FEET COVER.
  3. DESIGN SPECIFICATIONS - ACI 318 & AASHTO LOAD FACTOR DESIGN METHOD.
  4. STEEL REINFORCEMENT CONFORMS TO ASTM A615, GRADE 60. MINIMUM STEEL COVER 1 1/2\"/>



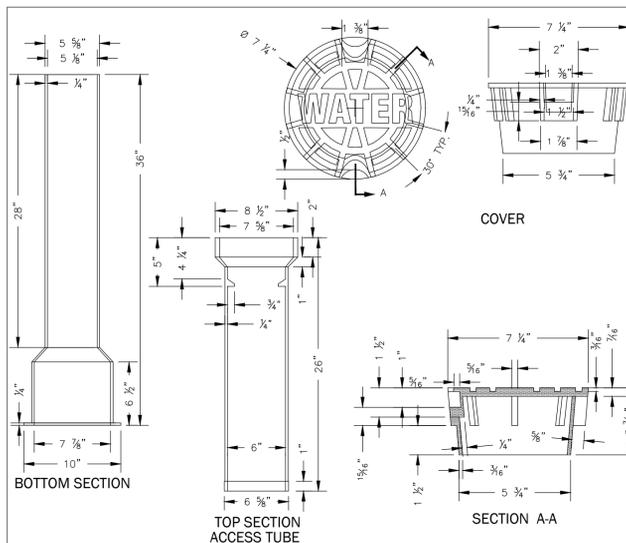
SECTION A-A  
OPPOSITE WALLS ARE MIRROR IMAGES



SECTION B-B  
OPPOSITE WALLS ARE MIRROR IMAGES

**4' x 6' x 6' ELECTRIC MANHOLE**  
N.T.S.

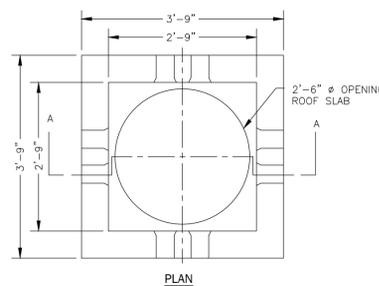
DET. NO. 75



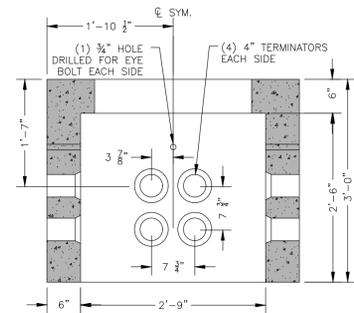
**BUFFALO TYPE VALVE BOX**  
N.T.S.

NOTE: ALL GATE VALVES AND HYDRANTS SHALL BE OPEN LEFT

DET. NO. 65

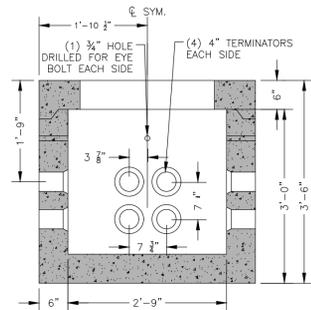


- NOTES:
1. CONCRETE: 5,000 PSI MINIMUM AFTER 28 DAYS.
  2. STEEL REINFORCEMENT CONFORMS TO ASTM A615, GRADE 60. MINIMUM STEEL COVER 1\"/>



SECTION A-A  
36\"/>

WEIGHT	
SHEA CONCRETE	2680 LBS



SECTION A-A  
48\"/>

WEIGHT	
SHEA CONCRETE	3690 LBS

**TELECOM MANHOLE**  
N.T.S.

DET. NO. 74

  
**BEALS ASSOCIATES, INC.**  
 2 PARK PLAZA SUITE 200 BOSTON, MA 02116  
 PHONE: 617-242-1130  
 FAX: 617-242-1131  
 WWW: BEALSASSOCIATES.COM  
 PLANNING • ENGINEERING • PERMITTING • MANAGEMENT

**Owner/Applicant**  
 NBPIV Constitution II LLC  
 401 Edgewater Place, Suite 205  
 Woburn, MA 01880  


55 Constitution Boulevard  
Franklin, MA

No.	Revision	Date

  
 TODD P. MOREY  
 CIVIL  
 No. 48865  
 REGISTERED PROFESSIONAL ENGINEER  
 10.15.2024

Not for Construction  
**Permit Documents**  
 Designed by: BGJ | Checked by: DPH  
 Proj. No.: C-1381 | Issue Date: 10.17.24  
 Drawing Scale: N.T.S.  
 Sheet Title  
**UTILITY DETAILS**

Not for Construction

Sheet Number  
**C531**

