

IMPERVIOUS AREA PRE-CONSTRUCTION

0.4 ACRE IMPERVIOUS AREA

POST-CONSTRUCTION 1.1 ACRE NEW IMPERVIOUS AREA 38% PERCENT IMPERVIOUSNESS CREATED BY CONSTRUCTION ACTIVITY

RUNOFF COEFFICIENT

PRE-CONSTRUCTION COEFFICIENT OF RUNOFF = (2.5 Acre) x (0.4) + (0.4 Acre) x (0.9)

POST-CONSTRUCTION COEFFICIENT OF RUNOFF

(PAVEMENT / BUILDING AREA) = (1.4 Acre) x (0.4) + (1.5 Acre) x (0.9)

SITE INFORMATION

SITUATED IN THE CITY OF CLEVELAND, CUYAHOGA COUNTY, BOUND BY MARTIN LUTHER KING DRIVE TO THE WEST, WADE OVAL DRIVE TO THE EAST, EAST BOULEVARD ON THE NORTH, AND THE EXISTING CLEVELAND MUSEUM OF NATURAL HISTORY TO THE SOUTH.

CONTACT PERSON ROBERT HANNA CLEVELAND MUSEUM OF NATURAL HISTORY RHANNA@CMNH.COM 216-231-4600 EXT. 3255

LIMITS OF CLEARING AND GRADING PLAN

ESTIMATED PROJECT START DATE: OCTOBER 15, 2017

ESTIMATED PROJECT COMPLETION DATE: NOVEMBER 15, 2017

THE PROPOSED PROJECT LIMITS OF CLEARING AND GRADING AREA ARE AS DELINEATED ON TREE PROTECTION PLAN SHEETS. THE PROPOSED GRADES AT THE BACK OF CURBS WILL MATCH THE EXISTING GRADES WITH NO ADJUSTMENTS TO THE ROADWAY PROFILE.

PROJECT DESCRIPTION THIS PROJECT CONSISTS OF THE NEW PARKING GARAGE & THE WEST GARDEN AT THE EXISTING CLEVELAND MUSEUM OF NATURAL HISTORY IN CLEVELAND. THE DEMOLITION WORK INCLUDES, BUT IS NOT LIMITED TO, THE REMOVAL OF EXISTING STRUCTURES & ANIMAL ENCLOSURES INCLUDING BELOW GRADE FOUNDATIONS, CHAIN-LINK FENCES, REMOVAL OF RELOCATION OF EXISTING UTILITY CONNECTIONS, ASPHALT AND CONCRETE PAVEMENT REMOVAL AND SITE CLEARING AND GRUBBING FOR EXISTING OPEN SPACE AREAS. THE UTILITIES AND INFRASTRUCTURE TO BE DEMOLISHED OR RELOCATED ARE AS FOLLOWS: SITE CLEARING, EXISTING ELECTRICAL, GAS LINES, STORM SEWERS, FENCES, CONCRETE SIDEWALKS, AND

THE PROPOSED WORK INCLUDES, BUT IS NOT LIMITED TO, THE INSTALLATION OF A PARKING GARAGE, SCHRECKENGOST SIGN, PIERS & FOUNDATIONS, ON-GRADE DRIVEWAYS AND SIDEWALKS, ASPHALT PAVEMENT REPLACEMENT, CONCRETE PAVEMENT, TREES, VEGETATION, STORM SEWERS, CATCH BASINS, SANITARY SEWERS, MANHOLES, FIRE MAIN, DOMESTIC WATER LINES, ELECTRICAL LINES, LIGHTING, SIGNAGE, EXCAVATION, EMBANKMENT.

THE PROJECT AREA IS 2.9± ACRE. THE PROJECT AREA IS TO BE DISTURBED WITH CLEANING AND GRUBBING, EXCAVATION, EMBANKMENT, DEMOLITION, FOUNDATIONS, UTILITY INSTALLATION, AND SITE RESTORATION.

THE SUBSEQUENT RECEIVING WATER FOR THIS PROJECT IS DOAN BROOK.

SOILS INFORMATION PROJECT SITE CONSISTS OF 100% BrF SOIL TYPE SOIL TYPE: BrF - BRECKSVILLE SILT LOAM - AS DESCRIBED IN THE SOIL SURVEY OF

CUYAHOGA COUNTY, OHIO. CONSTRUCTION SEQUENCE

- 1. TREE PROTECTION AND LANDSCAPE REMOVAL AND SELECTIVE SITE DEMOLITION AND SALVAGE OF BOULDERS AS DIRECTED
- 2. INSTALLATION OF TEMPORARY SEDIMENT EROSION CONTROL MEASURES INCLUDING SILT FENCE AND INLET PROTECTION AT ALL EXISTING AND PROPOSED INLETS
- CONSTRUCT RIGID CONCRETE LEVEL SPREADER
- 4. MODIFY EXISTING OUTLET CONTROL STRUCTURE
- 5. REMOVE AND RELOCATE BOULDERS
- 6. INSTALL BIO-RETENTION FILTER BED AREAS AND PERFORATED UNDERDRAINS AND CLEANOUTS
- 7. SITE RESTORATION INCLUDING GRADING, TOPSOIL, SEEDING AND MULCHING
- 8. REMOVAL OF TEMPORARY SEDIMENT EROSION CONTROL MEASURES UPON COMPLETION OF CONSTRUCTION AND FULL ESTABLISHMENT OF FINAL VEGETATION.

OFF SITE SEDIMENT TRACKING

QUALITY CONTROL

THE CONTRACTOR SHALL PROVIDE REGULAR SWEEPING OF ADJACENT STREETS DURING CONSTRUCTION AND REMOVE ANY LITTER CAUSED BY THEIR OPERATIONS.

- 1. LAND-DISTURBING ACTIVITIES MUST COMPLY WITH ALL APPLICABLE LOCAL CODES, REGULATIONS AND ORDINANCES. ALL LAND-DISTURBING ACTIVITIES SHALL BE SUBJECT TO INSPECTION AND SITE INVESTIGATION BY THE LOCAL JURISDICTIONAL AUTHORITY AND/OR THE STATE EPA. FAILURE TO COMPLY WITH LOCAL CODES, REGULATIONS AND/OR ORDINANCES IS SUBJECT TO LEGAL ENFORCEMENT ACTION. IN ADDITION, DUMPING OF MATERIALS INTO THE RIVERS AND/OR STORM SEWERS WILL NOT BE PERMITTED.
- 2. PROJECT WILL COMPLY WITH CLEVELAND CODIFIED ORDINANCES AND OHIO EPA CONSTRUCTION GENERAL PERMIT #OHCO00004.
- 3. ALL EROSION AND SEDIMENTATION CONTROL MEASURES ARE TO BE INSPECTED AT LEAST ONCE EVERY 7 DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES PER 24 HOUR PERIOD. IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE IS IN NEED OF REPAIR OR MAINTENANCE, WITH THE EXCEPTION OF A SEDIMENT SETTLING POND, IT MUST BE REPAIRED OR MAINTAINED WITHIN 3 DAYS OF THE INSPECTION. SEDIMENT SETTLING PONDS MUST BE REPAIRED WITHIN 10 DAYS OF THE

4. AN INSPECTION CHECKLIST WILL BE COMPLETED AND SIGNED BY A QUALIFIED INSPECTOR

- AFTER EVERY INSPECTION. COPIES OF THE INSPECTION CHECKLIST ARE TO BE SUBMITTED TO THE GENERAL CONTRACTOR.
- 5. ALL SWPPP INSPECTION LOGS AND CHECKLISTS ARE TO BE KEPT FOR A PERIOD OF THREE (3) YEARS AFTER THE TERMINATION OF CONSTRUCTION ACTIVITIES GENERAL
- 1. ALL DEWATERING FLOWS SHALL BE SILT-FREE PRIOR TO DISCHARGE, AND DISCHARGE SHALL BE DIRECTED TO STABILIZED SITES SUCH AS STREAMS, PONDS, STORM SEWERS OR EXISTING GRASSED DRAINAGE WAYS ACCEPTABLE TO THE OWNER. NOT ONTO EXPOSED SOILS OR ANY OTHER SITE WHERE FLOWS COULD CAUSE EROSION.
- 2. THE CONTRACTOR SHALL INITIATE APPROPRIATE VEGETATIVE PRACTICES ON ALL DISTURBED AREAS WITHIN SEVEN (7) DAYS IF THEY ARE TO REMAIN DORMANT (UNDISTURBED) FOR MORE THAN FOURTEEN (14) DAYS. FOR AREAS WITHIN FIFTY (50) FEET OF ANY STREAM, FIRST ORDER OR LARGER (CREEK IS FIRST ORDER), SOIL STABILIZATION PRACTICES SHALL BE INITIATED WITHIN TWO (2) DAYS ON ALL INACTIVE, DISTURBED AREAS AND WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. IF DUE TO WEATHER, FINAL GRADING CANNOT BE ACCOMPLISHED IMMEDIATELY, MULCHING AND TEMPORARY SEEDING IF FEASIBLE, OR SOME OTHER TYPE OF TEMPORARY EROSION CONTROL MEASURES MUST BE USED WITHIN SEVEN (7) DAYS UNTIL LONG-TERM RESTORATION CAN OCCUR. WHEN SEASONAL CONDÍTIONS PROHIBIT THE APPLICATION OF TEMPORARY OR PERMANENT SEEDING, NON-VEGETATIVE SOIL STABILIZATION PRACTICES SUCH AS MULCHING AND MATTING SHALL BE USED. ANY AREAS AT FINAL GRADE OR THAT WILL LIE DORMANT FOR ONE YEAR OR MORE REQUIRE PERMANENT SEEDING WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE.
- 3. ANY AREAS AT FINAL GRADE OR THAT WILL LIE DORMANT FOR MORE THAN ONE YEAR OR MORE SHALL BE PERMANENTLY SEEDED WITHIN SEVEN DAYS OF THE MOST RECENT DISTURBANCE. THE SEEDED AREA WILL BE CONSIDERED STABILIZED WHEN THERE IS A 70% VEGETATIVE DENSITY.
- 4. PRESERVATION SHALL TAKE PRECEDENCE OVER REMOVAL WITHIN THE TEMPORARY WORK LIMITS. REMOVE ONLY THOSE TREES. SHRUBS AND STRUCTURES NECESSARY TO COMPLETE CONSTRUCTION AND MAINTAIN THE NEW FACILITIES. REPLACEMENT "IN-KIND" OF REMOVED ITEMS SHOULD OCCUR WHEREVER POSSIBLE.

5. STOCKPILED TOPSOIL AND MATERIALS SHALL BE PROTECTED WITH EROSION CONTROL

- BARRIERS OR TEMPORARY SEEDING. 6. EXCESS SOIL THAT IS STOCKPILED MUST BE EITHER REMOVED OR REGRADED WITHIN 14
- DAYS OF THE COMPLETION OF THE CONSTRUCTION. 7. NO FILL, TOPSOIL OR HEAVY EQUIPMENT SHALL BE STORED WITHIN 200 FEET OF A
- 8. ALL DISTURBED VEGETATION IS TO BE RESEEDED AS PART OF RESTORATION UNLESS THE AREAS WILL BE PAVED OR OCCUPIED.
- 9. ONLY WATER WILL BE USED AS A DUST PALLIATIVE. 10. CONTRACTOR SHALL INSPECT ALL INSTALLATIONS OF SOIL EROSION AND SEDIMENTATION CONTROL METHODS DAILY, ANY DAMAGED OR NON FUNCTIONAL AREAS SHALL BE

STREAM BANK OR WITHIN THE DRIPLINE OF TREE AREAS OR WITHIN HABITAT PROTECTION

REPAIRED IMMEDIATELY AND MAINTAINED THROUGH THE DURATION OF THE PROJECT OR UNTIL STABILIZED VEGETATION IS ESTABLISHED.

- 11. SEDIMENT CONTROL STRUCTURES SHALL BE FUNCTIONAL THROUGHOUT EARTH DISTURBING ACTIVITY. SEDIMENT PONDS AND PERIMETER SEDIMENT BARRIERS SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING AND WITHIN SEVEN DAYS FROM THE START OF GRUBBING. THEY SHALL CONTINUE TO FUNCTION UNTIL THE ENTIRE DEVELOPMENT AREA IS RESTABILIZED.
- 12. IN THE EVENT OF CONFLICT BETWEEN THESE REQUIREMENTS AND POLLUTION CONTROL LAWS, RULES OR REGULATIONS OF OTHER FEDERAL, STATE, OR LOCAL AGENCIES, THE MORE RESTRICTIVE LAWS, RULES OR REGULATIONS SHALL APPLY.
- 13. ALL CONSTRUCTION AND DEMOLITION DEBRIS (C&DD) WASTE SHALL BE DISPOSED OF IN AN OHIO EPA APPROVED C&DD LANDFILL AS REQUIRED BY THE OHIO REVISED CODE (ORC) 3714.
- 14. THE PROPOSED PROJECT AREA CONTAINS NO WETLANDS OR OTHER SPECIAL AQUATIC FEATURES THAT WILL REQUIRE PROTECTION OR PERMITTING.
- 15. NO CONTAMINATED SOILS ARE EXPECTED DURING CONSTRUCTION ACTIVITIES.

16. NO OPEN BURNING WILL BE PERMITTED DURING CONSTRUCTION ACTIVITIES.

- 17. "CLEAN HARD FILL" MATERIALS ARE EXPECTED TO BE USED DURING CONSTRUCTION AND THIS MATERIAL SHALL NOT CONTAMINATED BY SOLID WASTES OR CONSTRUCTION AND DEMOLITION DEBRIS. IF THESE TYPES OF WASTE ARE INTERMIXED WITH CLEAN HARD FILL THE MATERIALS MUST BE HANDLED AND DISPOSED OF AS SOLID WASTE, INFECTIOUS WASTES, HAZARDOUS WASTES OR CONSTRUCTION AND DEMOLITION DEBRIS. "CLEAN HARD FILL" CONSISTS ONLY OF REINFORCED OR NON-REINFORCED CONCRETE, ASPHALT PAVEMENT, BRICK, BLOCK, TILE, AND/OR STONE.
- 1. FILTER FABRIC MATERIAL FOR SILT FENCE SHALL BE PURCHASED IN A CONTINUOUS ROLL. CUT TO THE LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS.
- 2. THE HEIGHT OF A SILT FENCE SHALL NOT EXCEED 36 INCHES (HIGHER FENCES MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE).
- 3. POSTS SHALL BE SPACED A MAXIMUM OF 10 FEET APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND (MINIMUM 18 INCHES). 4. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 4 INCHES WIDE AND 4 INCHES DEEP

FOR THE SILT FENCE ALONG THE LINE OF POSTS, UPSLOPE FROM THE BARRIER.

5. THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER

BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

- MATERIAL. 6. THE SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE,
- 7. THE CONTRACTOR SHALL MAINTAIN SILT FENCE UNTIL UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.
- SILT FENCE MAINTENANCE
- 1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. EXTRA CARE SHALL BE TAKEN TO MAINTAIN SILT FENCE NEAR POND,
- . SHOULD THE FABRIC ON THE SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
- . SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE

4. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND **GENERAL NOTES**

- 1. ALL GRADES SHOWN ARE FINAL FINISH GRADES.
- 2. MEET ALL EXISTING GRADES FLUSH, INCLUDING EXISTING CURBS.
- 3. ALL LAWN AREAS TO MEET PAVEMENT EDGES FLUSH, UNLESS NOTED OTHERWISE ON THE
- 4. ALL LAWN AREAS TO HAVE 2% MIN. SLOPE UNLESS OTHERWISE NOTED.
- 5. ALL PROPOSED CURBS ARE 6" HIGH, UNLESS NOTED OTHERWISE ON PLAN. 6. REMOVE UNSUITABLE MATERIALS TO A DEPTH OF AT LEAST 18" BELOW GRADE SUBGRADE

ELEVATIONS AND REPLACE W/ ENGINEERED FILL, PER THE PROJECT GEOTECHNICAL

- 7. REFER TO UTILITY PLAN FOR HORIZONTAL LOCATIONS OF DRAINAGE STRUCTURES. 8. ALL SITE UTILITIES, INCLUDING SITE DRAINAGE, ARE SHOWN FOR REFERENCE ONLY. SEE SITE ELECTRICAL AND SITE UTILITY PLANS.
- 9. NO OPEN BURNING IS PERMITTED EXPECT PER OAC 3745-19. OPEN BURNING IS PERMITTED IN RESTRICTED AREAS FOR BARBEQUES, HEATING AND CERTAIN OCCUPATIONAL

HAZARDOUS WASTE MANAGEMENT

ALL HAZARDOUS WASTE MATERIALS SUCH AS OIL FILTERS, PETROLEUM PRODUCTS, PAINT AND EQUIPMENT MAINTENANCE FLUIDS WILL BE STORED IN STRUCTURALLY SOUND AND SEALED IN SHIPPING CONTAINERS, WITHIN THE HAZARDOUS WASTE MATERIALS STORAGE AREA. HAZARDOUS WASTE MATERIALS WILL BE STORED IN APPROPRIATE AND CLEARLY MARKED CONTAINERS AND SEGREGATED FROM OTHER NON HAZARDOUS WASTE MATERIALS. SECONDARY CONTAINMENT WILL BE PROVIDED FOR ALL WASTE MATERIALS IN THE HAZARDOUS MATERIALS STORAGE AREA AND WILL CONSIST OF COMMERCIALLY AVAILABLE SPILL PALLETS. ADDITIONALLY, ALL HAZARDOUS WASTE MATERIALS WILL BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. HAZARDOUS WASTE MATERIALS WILL NOT BE DISPOSED OF INTO ON-SITE DUMPSTERS. NOTICES THAT STATE THESE PROCEDURES WILL BE POSTED IN THE OFFICE TRAILER AND THE INDIVIDUAL WHO MANAGES DAY TO DAY OPERATIONS WILL BE RESPONSIBLE FOR SEEING THAT THESE PROCEDURES ARE FOLLOWED. THE HAZARDOUS WASTE MATERIALS STORAGE AREAS WILL BE INSPECTED WEEKLY AND AFTER STORM EVENTS. THE STORAGE AREAS WILL BE KEPT CLEAN, WELL ORGANIZED AND EQUIPPED WITH AMPLE CLEANUP SUPPLIES AS APPROPRIATE FOR THE MATERIALS BEING STORED. MATERIAL SAFETY DATA SHEETS, MATERIALS INVENTORY AND EMERGENCY CONTACT NUMBERS

SPILL PREVENTION AND CONTROL PLAN

WILL BE MAINTAINED IN THE OFFICE TRAILER.

- 1. VEHICLE MAINTENANCE: VEHICLES AND EQUIPMENT WILL BE MAINTAINED OFF-SITE. ALL VEHICLES AND EQUIPMENT INCLUDING SUBCONTRACTOR VEHICLES WILL BE CHECKED FOR LEAKING OIL AND FLUIDS. VEHICLES LEAKING FLUIDS WILL NOT BE ALLOWED ON-SITE. DRIP PANS WILL BE PLACED UNDER ALL VEHICLES AND EQUIPMENT THAT ARE PARKED
- 2. HAZARDOUS MATERIAL STORAGE: HAZARDOUS MATERIALS WILL BE STORED IN ACCORDANCE WITH SECTION 4.1, AND FEDERAL AND MUNICIPAL REGULATIONS.
- 3. SPILL KITS: SPILL KITS WITH INSTRUCTIONS SHALL BE PROVIDED AND WITHIN THE MATERIALS STORAGE AREA, FUEL CONTAINMENT AREA AND CONCRETE WASHOUT AREAS.
- 4. SPILLS: ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. SPENT ABSORBENT MATERIALS AND RAGS WILL BE HAULED OFF-SITE IMMEDIATELY AFTER THE SPILL IS CLEANED UP FOR DISPOSAL AT A LANDFILL. SPILLS LARGE ENOUGH TO DISCHARGE TO SURFACE WATER WILL BE REPORTED TO THE NATIONAL RESPONSE CENTER AT 1-800-424-8802.
- 5. MATERIAL SAFETY DATA SHEETS, A MATERIAL INVENTORY, AND EMERGENCY CONTACT INFORMATION WILL BE MAINTAINED AT THE ON-SITE PROJECT TRAILER.
- 6. FOR SPILLS OF 25 GALLONS OR MORE OF PETROLEUM WASTE, THE CONTRACTOR MUST CONTACT THE OHIO EPA (1-800-282-9378). THE CITY OF CLEVELAND FIRE DEPARTMENT (216-664-6800), AND THE LOCAL EMERGENCY PLANNING COMMITTEE (LEPC) WITHIN 30 MINUTES OF THE SPILL.
- 7. FOR SPILLS OF 25 GALLONS OR LESS OF PETROLEUM WASTE, THE CONTRACTOR SHALL CLEANED UP IMMEDIATELY UPON DISCOVERY. SPENT ABSORBENT MATERIALS AND RAGS WILL BE HAULED OFF-SITE IMMEDIATELY AFTER THE SPILL IS CLEANED UP FOR DISPOSAL AT A LANDFILL. SPILLS LARGE ENOUGH TO DISCHARGE TO SURFACE WATER WILL BE

REPORTED TO THE NATIONAL RESPONSE CENTER AT 1-800-424-8802.

- 8. PLACE ABOVE GROUND STORAGE TANKS AT LEAST 50 FEET AWAY FROM STREAMS, PONDS, DITCHES, AND STORM SEWERS.
- 9. PROVIDE SECONDARY CONTAINMENT AROUND ABOVE GROUND TANKS. SECONDARY CONTAINMENT MUST BE ABLE TO CONTAIN 110% OF THE VOLUME OF THE FUEL STORAGE TANK AND SHOULD BE IMPERMEABLE TO THE MATERIALS BEING STORED. METHODS INCLUDE BERMS, DIKES, LINERS AND DOUBLE WALLED TANKS.
- 10. INSTRUCT EMPLOYEES IN ALL ASPECTS OF PROPER STORAGE AND HANDLING OF FUEL AND OTHER PETROLEUM PRODUCTS. INSTRUCT EMPLOYEES TO BE PRESENT DURING ALL
- FUEL TRANSFERS AND IMMEDIATELY CLEAN UP SPILLS AND CONTAMINATED SOIL.
- 11. INSPECT FUELING AREAS AND STORAGE TANKS REGULARLY FOR DAMAGES OR LEAKS. 12. FUEL STORAGE AREAS MUST BE KEPT SECURE WHEN NOT IN USE.

SPECIFICATIONS FOR PERMANENT SEEDING

THE CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE ARCHITECT IN THE SELECTION OF THE PERMANENT SEEDING SPECIFICATION. PLANTING TIME: PROCEED WITH - AND COMPLETE - LAWN WORK AS RAPIDLY A PORTIONS OF THE SITE BECOME AVAILABLE, WORKING WITHIN SEASONAL LIMITATIONS FOR EACH KIND OF LANDSCAPE WORK REQUIRED. NORMAL SEEDING TIMES ARE AS FOLLOWS: 1. MARCH 15 TO JUNE 10

2. AUGUST 15 TO OCTOBER SEEDING DURING OTHER THAN NORMAL SEEDING TIMES SHALL BE PERFORMED ONLY WITH THE PRIOR WRITTEN PERMISSION OF THE LANDSCAPE ARCHITECT WITH THE UNDERSTANDING THAT THE CONTRACT

WILL THEREFORE BE ALTERED BY THE CHANGE ORDER.

10%

KENTUCKYBLUEGRASS

GRASS SEED: PROVIDE FRESH, CLEAN, NEW CROP SEED COMPLYING WITH TOLERANCE FOR PURITY AND GERMINATION ESTABLISHED BY THE OFFICIAL SEED ANALYSTS OF MINIMUM PERCENTAGES OF PURITY, GERMINATION AND MAXIMUM PERCENTAGES OF WEED SEED, AS FOLLOWS: OLIGER SEED COMPANY (330) 724-1266 FESCUE PLUS MIX

BOTANICAL AND COMMON NAME SECOND MILLENNIUM	PERCENTAGE BY WEIGHT (MINIMUM)	PERCENTAGE PURITY (MIMIMUM)	PERCENTAGE GERMINATION (MINIMUM)	PERCENTAGE WEED SEED (MINIMUM)
TALL FESCUE	20%	85%	80%	1.00%
INFERNO TALL FESCUE	20%	85%	80%	1.00%
CROSSFIRE II TALL FESCUE	20%	85%	80%	1.00%
AVENGER TALL FESCUE	20%	85%	80%	1.00%
BRIGHTSTAR SLT PERENNIAL RYEGRASS	10%	85%	80%	1.00%
RROOKI AWN				

PERFORM ALL LIMING, FERTILIZING, RAKING, AND COMPACTING OPERATIONS ONLY AT TIMES WHEN LOCAL WEATHER AND OTHER CONDITIONS AFFECTING SUCH WORK ARE NORMAL AND FAVORABLE TO THE PROPER PROSECUTION OF THE PARTICULAR WORK WITHIN THE DATES SPECIFIED OR WITHIN AN EXTENDED PERIOD OF TIME APPROVED BY THE OWNER'S REPRESENTATIVE. FERTILIZING AND LIMING: THE CONTRACTOR SHALL INTRODUCE A 10-20-10 FERTILIZER AT THE RATE OF

85%

80%

20 POUNDS PER 100 SQUARE FEET. LIME OR OTHER ADDITIVES AT THE RATE APPROVED BY THE ARCHITECT. THE ABOVE ITEMS SHALL BE WORKED INTO THE TOP 2 INCHES OF SOIL AND SMOOTHED TO GRADE TO PREPARE A PROPER BED FOR SEEDING. SOW SEED AT THE RATE OF 5 POUNDS PER 1000 SQUARE FEET FOR EACH AREA, UNIFORMLY, AND BY BROADCAST, DRILL, OR HAND SEEDING METHOD. IMMEDIATELY AFTER SOWING, RAKE DRAG, OR OTHERWISE TREAT THE AREA SO AS TO COVER THE SEED TO A DEPTH OF OF APPROXIMATELY 1/4 INCH. NO SEEDING SHALL BE DONE DURING WINDY WEATHER, OR WHEN THE GROUND SURFACE IS MUDDY, FROZEN OR OTHERWISE NON-TILLABLE.

EXISTING ON-SITE TOPSOIL MAYBE USED. CONTRACTOR MAY NEED TO FURNISH ADDITIONAL TOPSOIL IN

WHEN LANDSCAPE WORK IS COMPLETED, INCLUDING MAINTENANCE, THE LANDSCAPE ARCHITECT WILL MAKE AN INSPECTION TO DETERMINE ACCEPTABILITY. CONTRACTOR SHALL PROVIDE TOPSOIL TO A DEPTH OF 4" FOR ALL AREAS TO RECEIVE SEEDING.

SPECIFICATIONS FOR TEMPORARY SEEDING

ORDER TO PROVIDE AN ADEQUATE AMOUNT TO COMPLETE THE SEEDING OPERATIONS.

TEMPORARY SEEDING SPECIES SELE	ECTION		
SEEDING DATES	SPECIES	LB/1,000 SQ.FT.	PER ACRE
MARCH 1 TO AUGUST 15	OATS TALL FESCUE ANNUAL RYEGRASS	3 1 1	4 BUSHEL 40 LB 40 LB
	PERENNIAL RYEGRASS TALL FESCUE ANNUAL RYEGRASS	5 1 1 1	40 LB 40 LB 40 LB
AUGUST 16 TO NOVEMBER 1	RYE TALL FESCUE ANNUAL RYEGRASS	3 1 1	2 BUSHEL 40 LB 40 LB
	WHEAT TALL FESCUE ANNUAL RYEGRASS	3 1 1	2 BUSHEL 40 LB 40 LB
	PERENNIAL RYEGRASS TALL FESCUE ANNUAL RYEGRASS	5 1 1 1	40 LB 40 LB 40 LB

NOVEMBER 1 TO SPRING SEEDING USE MULCH ONLY, SODDING PRACTICES OR DORMANT

- NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED AND SUBMITTED TO LANDSCAPE ARCHITECT FOR APPROVAL. 1. STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS AND SEDIMENT TRAPS SHALL BE INSTALLED AND STABILIZED WITH TEMPORARY SEEDING PRIOR
- TO GRADING THE REST OF THE CONSTRUCTION SITE. 2. TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR REWORKED FOR 14 DAYS OR MORE. THESE IDLE AREAS SHOULD BE SEEDED AS SOON AS POSSIBLE AFTER GRADING OR SHALL BE SEEDED WITHIN 7 DAYS. SEVERAL APPLICATIONS OF TEMPORARY SEEDING ARE NECESSARY ON TYPICAL CONSTRUCTION PROJECTS.
- 3. THE SEEDBED SHOULD BE PULVERIZED AND LOOSE TO ENSURE THE SUCCESS OF ESTABLISHING VEGETATION. HOWEVER, TEMPORARY SEEDING SHALL NOT BE POSTPONED IF IDEAL SEEDBED PREPARATION IS NOT POSSIBLE.
- 4. SOIL AMENDMENTS APPLICATION OF TEMPORARY VEGETATION SHALL ESTABLISH ADEQUATE STANDS OF VEGETATION WHICH MAY REQUIRE THE USE OF SOIL AMENDMENTS. SOIL TESTS SHOULD BE TAKEN ON THE SITE TO PREDICT THE NEED FOR LIME AND FERTILIZER.
- 5. SEEDING METHOD SEED SHALL BE APPLIED UNIFORMLY WITH A CYCLONE SEEDER, DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER, WHEN FEASIBLE, SEED THAT HAS BEEN BROADCAST SHALL BE COVERED BY RAKING OR DRAGGING AND THEN LIGHTLY TAMPED INTO PLACE USING A ROLLER OR CULTIPACKER. IF HYDROSEEDING IS USED, THE SEED AND FERTILIZER WILL BE MIXED ON-SITE AND THE SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION. SPECIFICATIONS FOR MULCH
- 1. THE CONTRACTOR SHALL COORDINATE WITH THE LANDSCAPE ARCHITECT IN THE SELECTION OF THE MULCH SPECIFICATION AND ALL NON-ORGANIC MULCH TYPES ALSO NEED TO BE APPROVED BY THE
- 2. MULCH AND/OR OTHER APPROPRIATE VEGETATIVE PRACTICES SHALL BE APPLIED TO DISTURBED AREAS WITHIN 7 DAYS OF GRADING IF THE AREA IS TO REMAIN DORMAT(UNDISTURBED) FOR MORE THAN 45 DAYS OR ON AREAS AND PORTIONS OF THE SITE WHICH CAN BE BROUGHT TO FINAL GRADE.
- 3. MULCH SHALL CONSIST OF ONE OF THE FOLLOWING:

MUSEUM ANIMAL KEEPERS.

- A. STRAW STRAW SHALL BE UNROTTED SMALL GRAIN STRAW APPLIED AT THE RATE OF 2 TONS/AC. OR 90LBS/1,000 SQ. FT. (TWO TO THREE BALES). THE STRAW MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THE SOIL SURFACE IS HAND-SPEAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQ FT SECTIONS AND PLACE TWO 45-LB. BALES OF STRAW IN EACH SECTION.
- B. HYDROSEEDERS WOOD CELLULOSE FIBER SHOULD BE USED AT 2,000 LB/AC OR 46 LB/1,000 SQ.
- C. OTHER OTHER ACCEPTABLE MULCHES INCLUDE MULCH MATTINGS APPLIED ACCORDING TO MANUFACTURE'S RECOMMENDATIONS OR WOOD CHIPS APPLIED AT 10-20 TONS/AC.
- 4. MULCH ANCHORING MULCH SHALL BE ANCHORED IMMEDIATELY TO MINIMIZE LOSS BY WIND OR RUNOFF. THE FOLLOWING ARE ACCEPTABLE METHODS FOR ANCHORING MULCH.
- A. MECHANICAL USE A DISK, CRIMPER, OR SIMILAR TYPE TOOL SET STRAIGHT TO PUNCH OR ANCHOR THE MULCH MATERIAL INTO THE SOIL. STRAW MECHANICALLY ANCHORED SHALL NOT BE FINELY CHOPPED BUT BE LEFT GENERALLY LONGER THAN 6 INCHES.
- B. MULCH NETTINGS USE ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS, FOLLOWING ALL PLACEMENT AND ANCHORING SUGGESTIONS. USE IN AREAS OF WATER CONCENTRATION AND STEEP SLOPES TO HOLD MULCH IN PLACE.
- C. ASPHALT EMULSION FOR STRAW MULCH, APPLY AT THE RATE OF 160 GAL/AC (0.1 GAL/SY) INTO THE MULCH AS IT IS BEING APPLIED OR AS RECOMMENDED BY THE MANUFACTURE.
- D. SYNTHETIC BINDERS FOR STRAW MULCH, SYNTHETIC BINDERS AS ACRYLIC DLR(AGRI-TAC), DCA-70, PETROSET, TERRA TACK OR EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER.
- E. WOOD CELLULOSE FIBER WOOD CELLULOSE FIBER MAY ME USED FOR ANCHORING STRAW. THE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 LB.AC. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LB/100 GAL OF WOOD CELLULOSE FIBER.

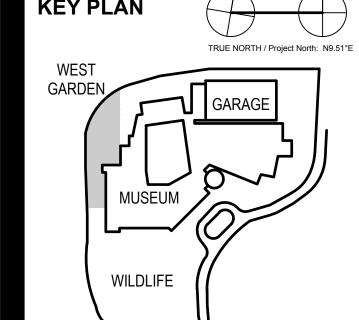
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HEET REVISIONS: **BULLETIN #2** 10-14-2015

SHEET ISSUE DATE: 09-01-2015



MUSEUM OF

NATURAL

HISTORY 1 WADE OVAL DRIVE.

UNIVERSITY CIRCLE CLEVELAND, OHIO 44106

WEST GARDEN

09-26-2017 ISSUED FOR BID / PERMIT

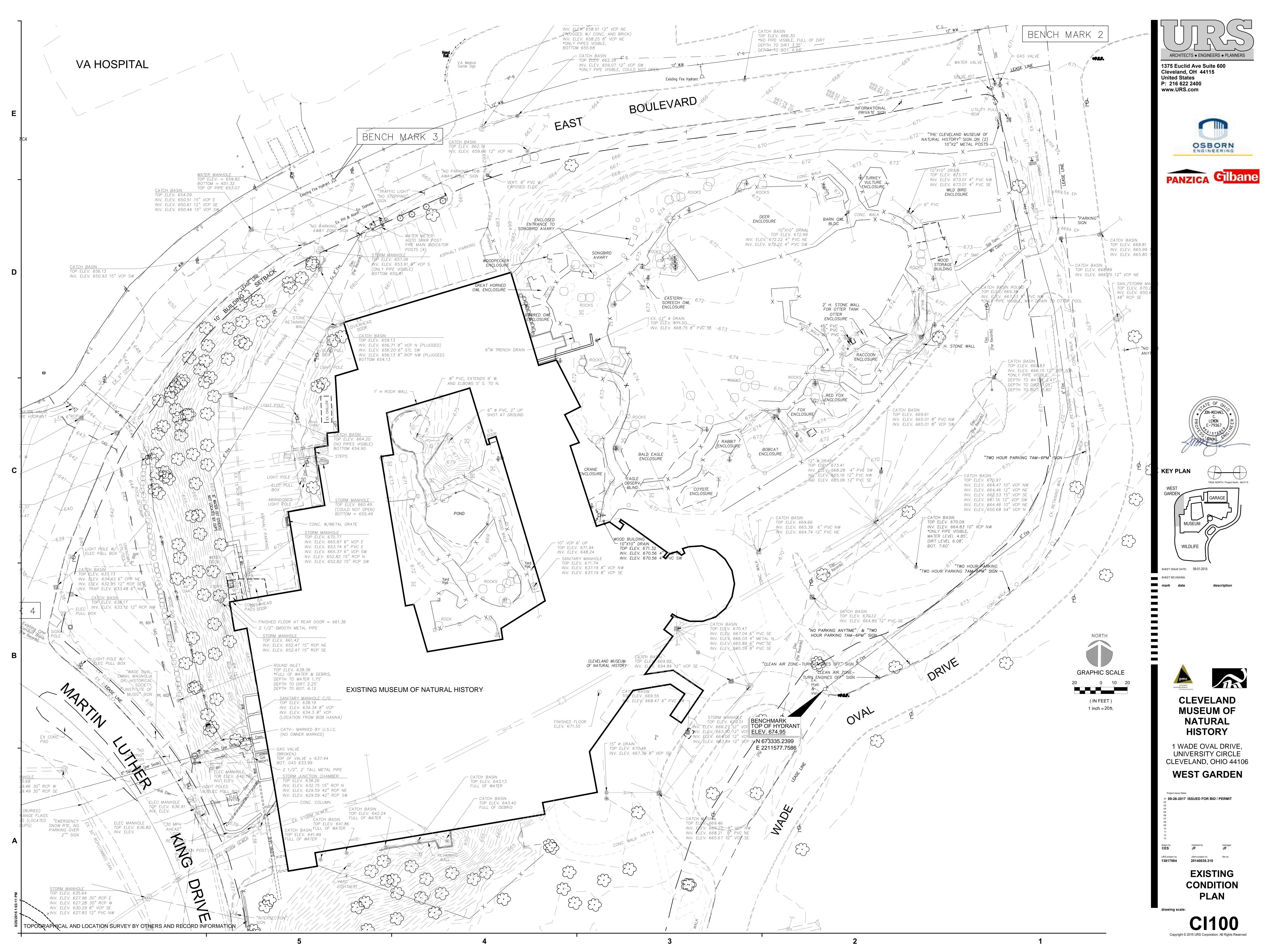
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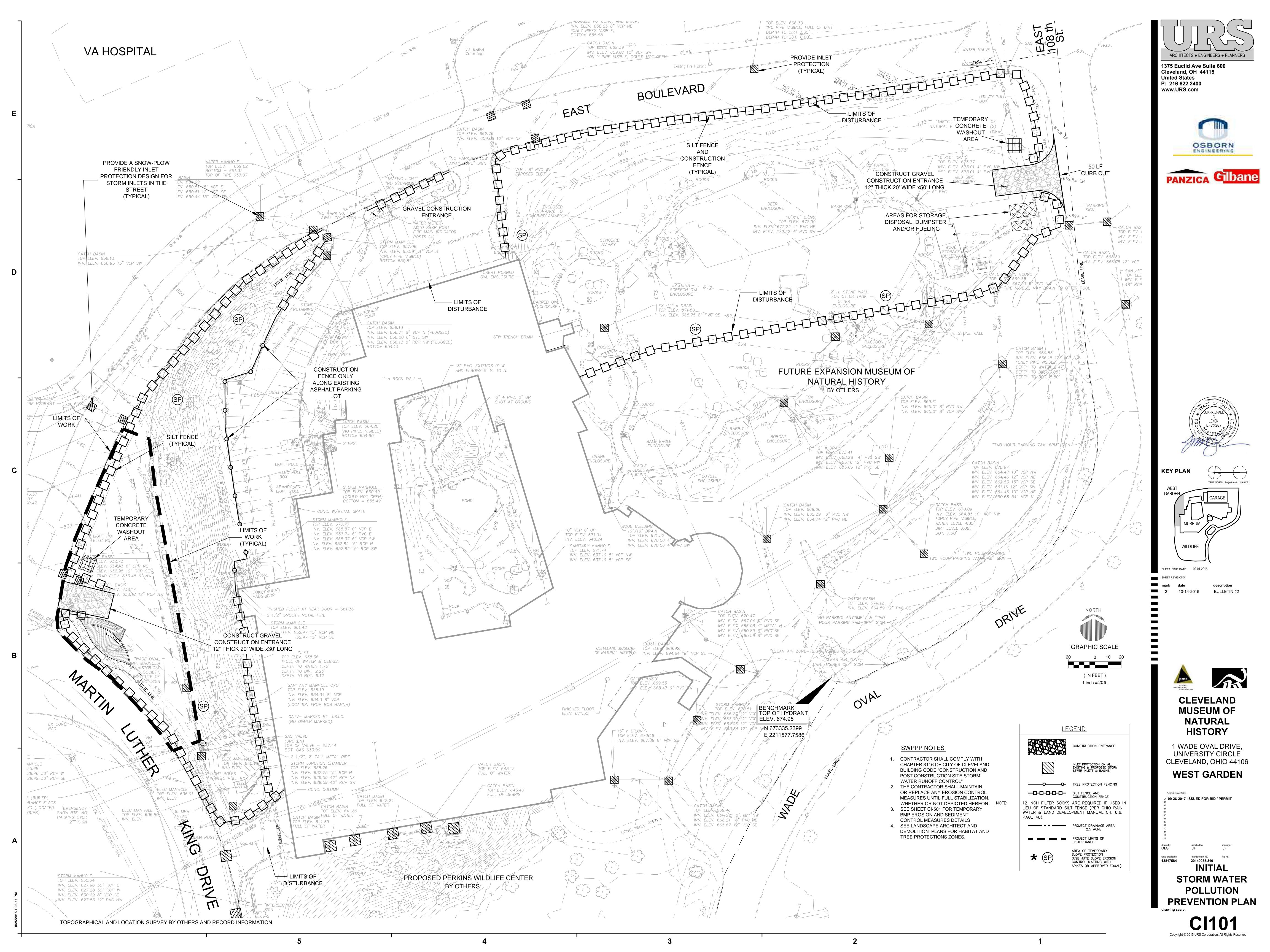
13817584 20140035.310 **GENERAL**

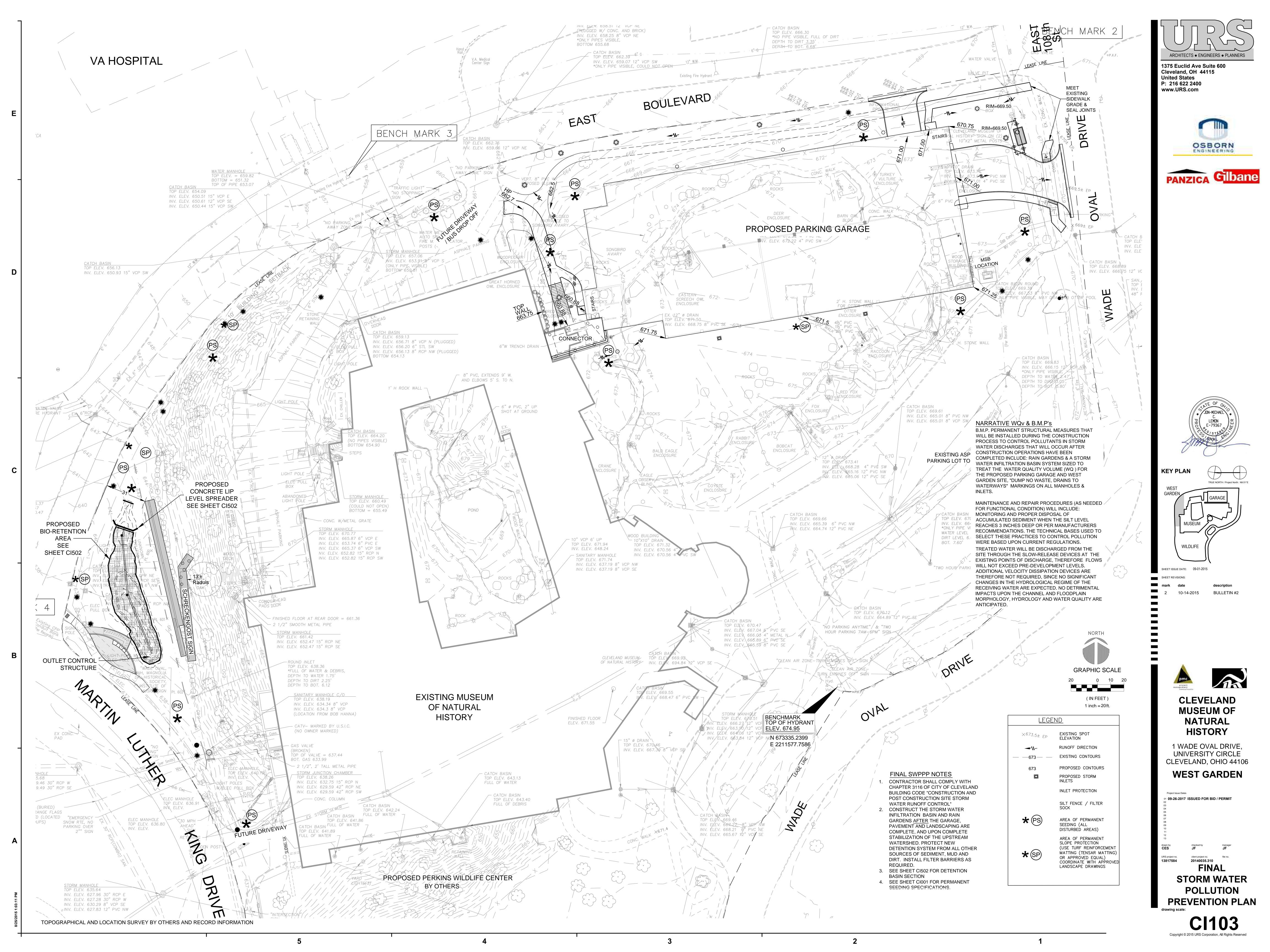
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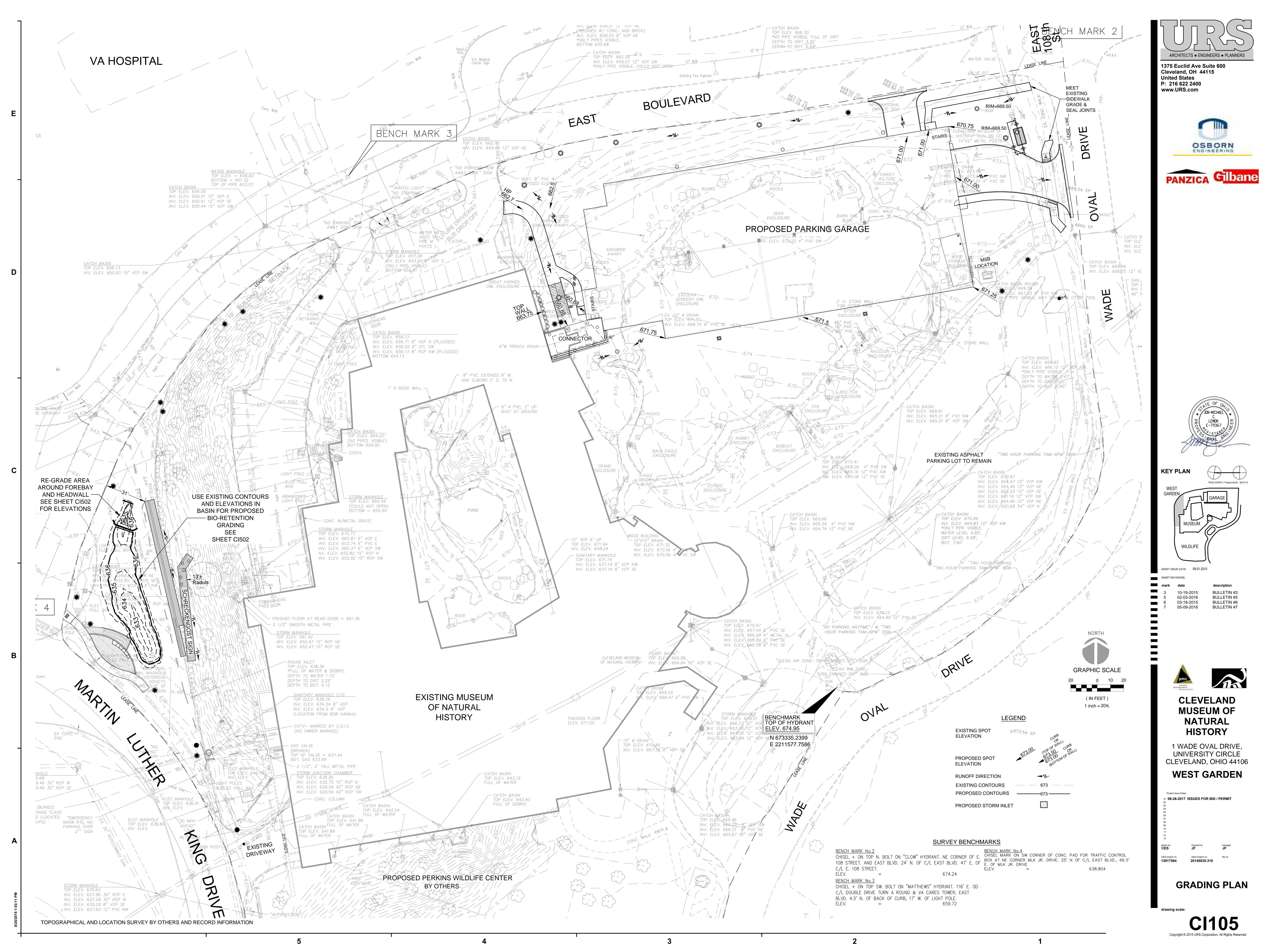
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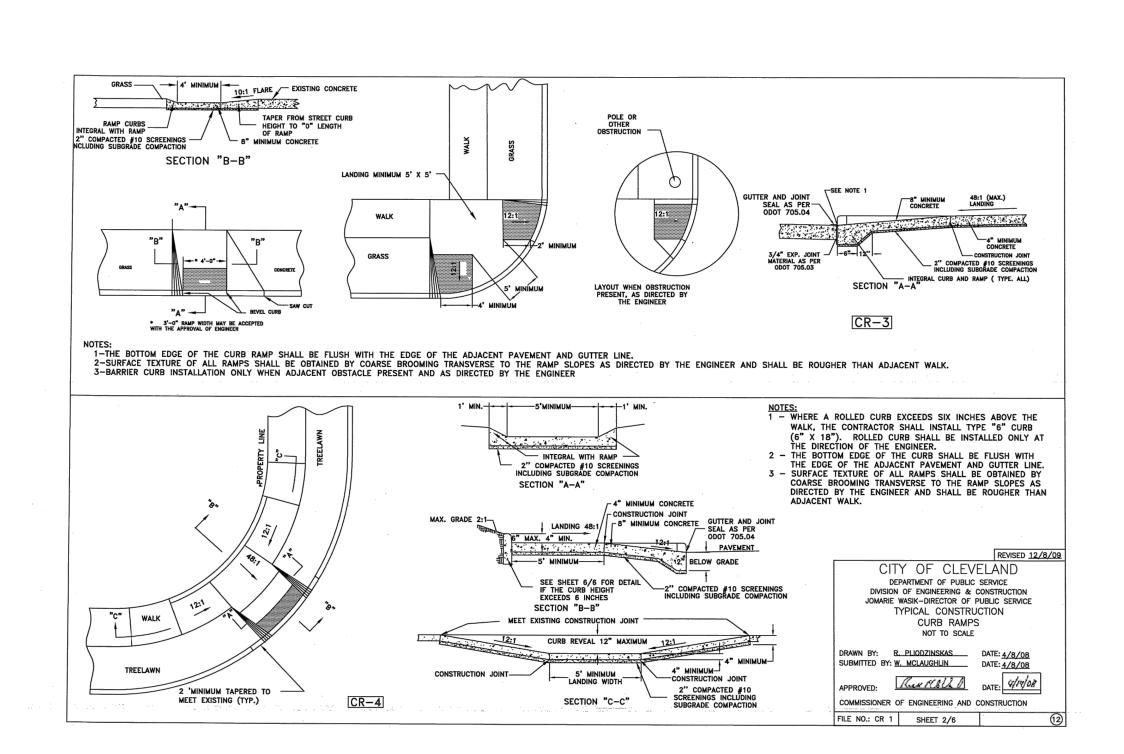
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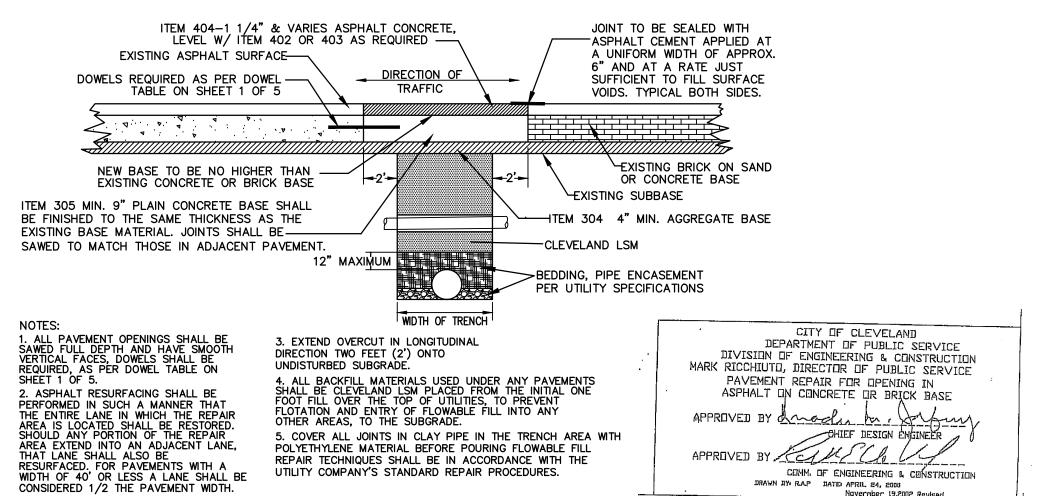












PAVEMENT REPAIR FOR OPENING IN ASPHALT ON CONCRETE OR BRICK BASE

CONCRETE NOTES AND SPECIFICATIONS:

COMPRESSIVE STRENGTH OF 4,000 P.S.I. WITH 6% AIR ENTRAINMENT.

SAWCUTS (ALTERNATE: IMPRESS OR HAND TOOL ALL JOINTS)

Principle of the Control of the Cont City of Cleveland CONCRETE DESIGN MIX

All applicable work items shall be bid using the concrete mix design

specified in this section. Under this section of these specifications the contractor is required to submit a separate mix design for each combination of cement type, aggregate type and concrete supplier they

will use under this contract. Each mix shall be designed in accordance

4,000 PSI for 28 days compressive

strength test. Four cylinders will be

taken and tested as per ASTM C-39-94.

One to be tested at seven days and the

remaining three will be tested at twentyeight) days. Acceptance will be based on

the average results of the three

650 lbs. per cubic yard. The cement shall conform to ASTM C-150-94 or C-

Nominal three inches (3") as per ASTM

C-94-94 (2"-4" actual). _The use of

chemical admixtures meeting ASTM C-

494, to increase the slump to a

maximum of 7", may be used with prior

written approval of the Engineer. If this

option is selected the admixture and

resultant maximum slump shall be

Four percent (4%) to seven and one half percent(7 1/2%) ASTM C-173-94 or

No. 57 for course aggregate shall be

fine aggregate as per ASTM C-33-94.

If crushed air-cooled blast furnace slag is used it shall meet all of the

submitted as a part of the concrete mix design.

requirements of ODOT 703.01 and 703.02. Copies of all tests and certifications for the crushed air-cooled blast furnace slag, if used, shall be

When high early strength is required, ASTM C-150-94 Type III A cement

The contractor is required to furnish a signed affidavit, in triplicate, from each

concrete supplier to the Commissioner giving dry weight and type of cement,

of concrete. The contractor shall also furnish twenty-eight (28) day cylinder tests

(per testing section) as verification that the materials used and the proportions

Hot and cold weather protection (blankets, heaters, ice etc.) shall be included in

The contractor is required to comply with all the above requirements. The contractor shall require that all of the sub-contractors placing concrete under this

saturated surface-dry weight and the type of fine and course aggregate, quantity, type and name of each admixture and weight of water per cubic yard

or admixtures in accordance with ASTM C-494-94 shall be used.

selected will produce concrete of the quality specified.

contract also comply with all of the above requirements.

limestone, gravel or crushed aircoolblast furnace slag. Both course &

submitted for approval.

0.45 Maximum

with ASTM-C94-94 Option C and as herein modified.

Minimum twenty-eight (28)

Minimum Cement Content

Water Cement Ratio

Air Content

Aggregate Size

the unit price bid.

2. CONCRETE PAVEMENT CONSTRUCTION SHALL BE ACCORDANCE WITH THE ORDINANCES,

SPECIFICATIONS AND CONSTRUCTION STANDARDS OF THE CITY OF CLEVELAND. WHERE A

4. COMPACT SUBGRADE TO 98% OF MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT.

NEW CONCRETE UNTIL THE FLEXURAL STRENGTH OF THE CONCRETE REACHES 700 P.S.I. 7. ACCEPTED SUBGRADE AND BASE SHALL BE PROTECTED; ANY RUTS OR OTHER DAMAGE THERETO

SHALL BE IMMEDIATELY CORRECTED. (AT NO EXTRA COST TO THE CONTRACT).

6. CONCRETE STRENGTH SHALL BE DETERMINED BY TESTS OF SPECIMENS CONDUCTED BY A TESTING LABORATORY APPROVED BY THE ENGINEER. AT LEAST TWO TEST CYLINDERS SHALL BE

TESTED FOR 28-DAY COMPRESSIVE STRENGTH FROM EACH 250 CUBIC YARDS, AND TWO TEST

BEAMS SHALL BE TESTED FOR 7-DAY FLEXURAL STRENGTH FROM EACH 250 CUBIC YARDS OR

FRACTION THEREOF. THAT ARE PLACED EACH DAY, TRAFFIC SHALL NOT BE PERMITTED ON THE

8. CONSTRUCT CONTRACTION JOINTS (2-1/2) SAWCUT WITH O.D.O.T. 705.04 SEALER) AT MAX. 16'

MATERIAL O.D.O.T. 705.03) AS DIRECTED AND WHEN ABUTTING EXISTING PAVEMENT OR CURBS.

TRANSVERSE AND LONGITUDINAL INTERVALS. SAW JOINTS AS SOON AS POSSIBLE AFTER

PLACING CONCRETE. CONSTRUCT EXPANSION JOINTS (1" PREFORMED EXPANSION JOINT

9. SAWCUT ALL JOINTS AS SOON AS SAW CAN BE PUT ON PAVEMENT WITHOUT CHIPPING OF

10. CONTRACTOR SHALL CLEAN AND SEAL ALL JOINTS AND CRACKS WITH ODOT 705.04 SEALER

(SILENCURE-A BY CHEMMASTERS PER MANUFACTURER'S RECOMMENDATIONS OR EQUAL)

11. APPLY COMBINATION CURING AND ANTI-SPALLING COMPOUND TO FINISHED CONCRETE

5. CONCRETE FOR PAVEMENT, WALKS AND STRUCTURES SHALL OBTAIN A MINIMUM 28-DAY

SPECIFIC ITEM IS NOT COVERED BY THE CITY OF CLEVELAND STANDARDS, THE LATEST EDITION OF O.D.O.T. CONSTRUCTION AND MATERIAL SPECIFICATIONS ITEM 451 & 452 REINFORCED &

I. SEE THE CITY OF CLEVELAND CONCRETE DESIGN MIX

NON-REINFORCED SHALL GOVERN.

3. REPAIR SUBGRADE AS DIRECTED

JOINT SEALER FINISHED GRADE POURED CONCRETE CURB POROUS MATERIAL PAVEMENT (NO. 57 STONE) IF REQUIRED RECONNECT EXISTING CURB DRAIN WITH COMPACTED SUBGRADE 4" ASTM F-758 PVC CURB DRAIN (ODOT 203) PS 46 PSI WITH PERFORATIONS

1. CONTRACTOR SHALL COMPLY WITH THE CITY OF CLEVELAND

2. CONSTRUCT TRANSVERSE EXPANSION JOINTS (705.03) AT

PRODUCE A UNIFORM, GRITTY, TRANSVERSE TEXTURE.

SIDEWALK——

SLOPE TO CURB @

4" COMPACTED —— O.D.O.T. 304 AGGREGATE BASE

◄¼— 1/4" / FT. **◄¼**-

CONCRETE SIDEWALK

NO SCALE

6" CONCRETE SIDEWALK

CLEVELAND STANDARD

SIDEWALK SPECIFICATIONS

DOWNWARD, INSTALL CAPS @

UPSTREAM ENDS & CONNECT TO

STORM INLETS OR STORM

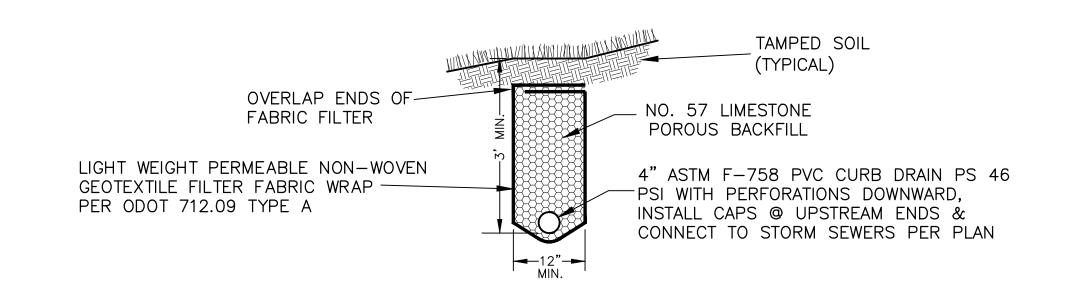
PER CITY OF

AND DETAILS

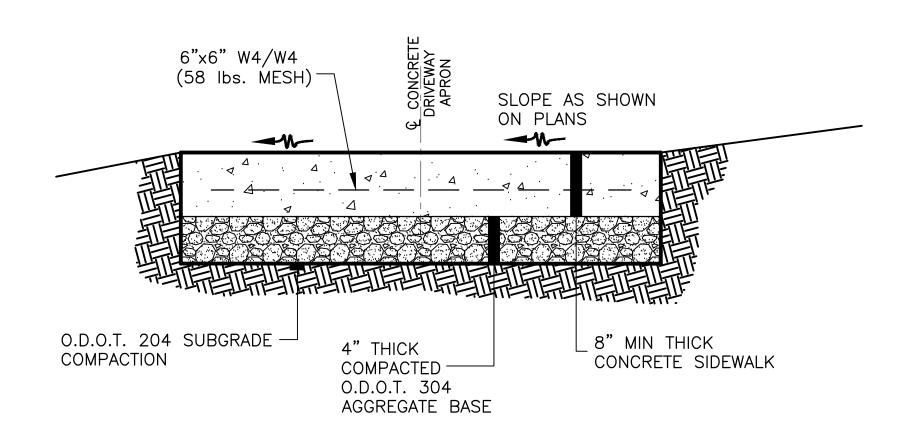
INTERVALS OF NOT MORE THAN 25 TO 30 FEET. PLACE FILLER AT THE TRANSVERSE JOINTS FOR THE FULL DEPTH/WIDTH OF THE CONCRETE WALK AND TRULY NORMAL TO GRADE. TEXTURE THE FINAL SURFACE BY USE OF AN ACCEPTED BROOM TO

DRIVE APRON AND SIDEWALK STANDARDS.

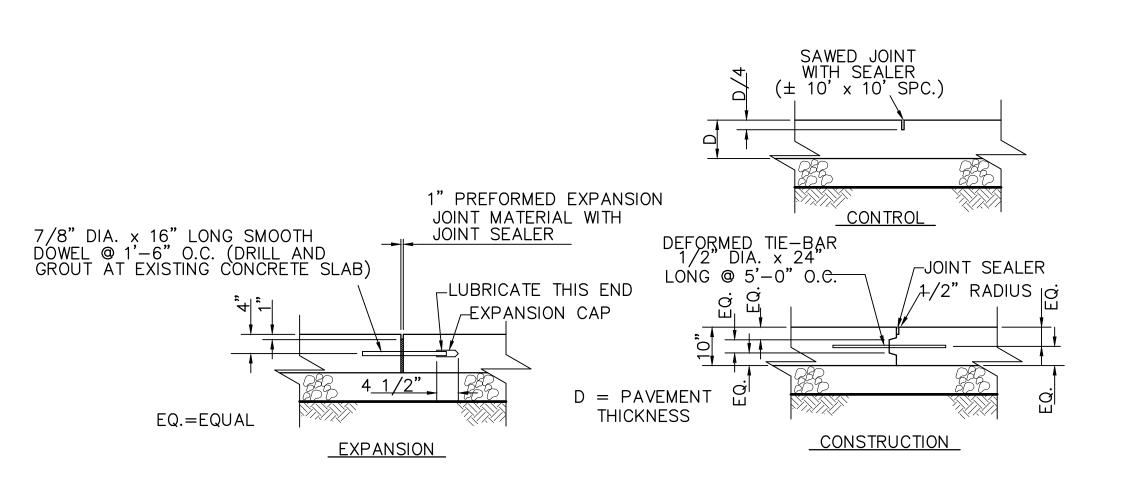
MANHOLES **6" CONCRETE CURB REPLACEMENT**



UNDERDRAIN (UD) NO SCALE



DRIVEWAY APRON TYPICAL SECTION



CONCRETE PAVEMENT JOINT DETAILS NOT TO SCALE

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United States

P: 216 622 2400

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OSBORN ENGINEERING





WILDLIFE SHEET ISSUE DATE: 09-01-2015





HISTORY 1 WADE OVAL DRIVE, UNIVERSITY CIRCLE

CLEVELAND, OHIO 44106

WEST GARDEN

Project Issue Dates 1 09-26-2017 ISSUED FOR BID / PERMIT URS project no.

13817584

PAVEMENT SECTION & DETAILS

20140035.310

drawing scale: Copyright © 2015 URS Corporation, All Rights Reserved 4. Stone – Graded roadways and other suitable areas will be

provide control of soil emissions.

currents and blowing soil.

as needed to accomplish

or scraper.

stabilized using crushed stone or coarse gravel as soon as

practicable after reaching an interim or final grade. Crushed

stone or coarse gravel can be used as a permanent cover to

Barriers – Existing windbreak vegetation shall be marked

may be placed perpendicular to prevailing air currents at

intervals of about 15 times the barrier height to control air

mechanical spreader as loose, dry granules or flakes at

a rate that keeps the surface moist but not so high as to

cause water pollution or plant damage. Application rates

should be strictly in accordance with suppliers' specified

. Operation and Maintenance - When Temporary Dust Control

measures are used; repetitive treatment should be applied

Street Cleaning - Paved areas that have accumulated

sediment from construction should be cleaned daily, or as

needed, utilizing a street sweeper or bucket -type endloader

and preserved. Snow fencing or other suitable barrier

6. Calcium Chloride - This chemical may be applied by

Specifications

2. Watering – Spray site with water until the surface is wet before and during grading and repeat as needed, especially on haul roads and other heavy traffic routes. Watering shall be done at a rate that prevents dust but does not cause soil erosion. Wetting agents shall be utilized according to manufacturers instructions.

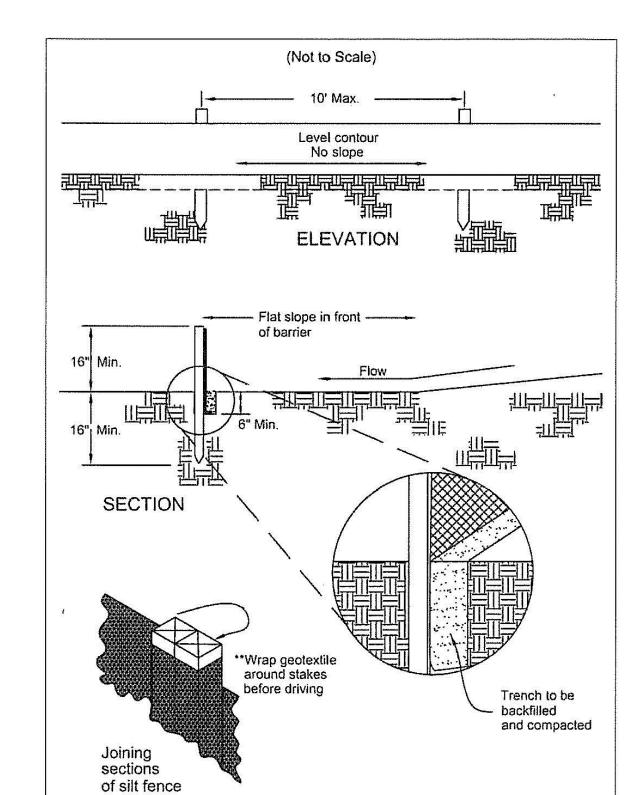
3. Spray-On Adhesives – Apply adhesive according to the following table or manufacturers' instructions.

Table 7.5.1 Adhesives for Dust Control

Water Dilution (Adhesive: Water)	Nozzle Type	Application Rate Gal./Ac.		
12.5:1	Fine	235		
4:1	Fine	300		
7:1	Coarse	450		
3.5:1	Coarse	350		
	(Adhesive: Water) 12.5:1 4:1 7:1	(Adhesive: Water) Type 12.5:1 Fine 4:1 Fine 7:1 Coarse		

DUST CONTROL

Specifications for Silt Fence



Specifications **Silt Fence**

1. Silt fence shall be constructed before upslope land distur- 9. Seams between sections of silt fence shall be spliced 2. All silt fence shall be placed as close to the contour as possible so that water will not concentrate at low points in the fence and so that small swales or depressions that may carry small concentrated flows to the silt fence are dissipated along its length. 3. Ends of the silt fences shall be brought upslope slightly so

that water ponded by the silt fence will be prevented from flowing around the ends. Silt fence shall be placed on the flattest area available Where possible, vegetation shall be preserved for 5 feet (or as much as possible) upslope from the silt fence. If vegetation is removed, it shall be reestablished within 7

days from the installation of the silt fence. 6. The height of the silt fence shall be a minimum of 16 inches above the original ground surface. 7. The silt fence shall be placed in an excavated or sliced trench cut a minimum of 6 inches deep. The trench shall be made with a trencher, cable laying machine, slicing machine, or other suitable device that will ensure an

adequately uniform trench depth. 8. The silt fence shall be placed with the stakes on the downslope side of the geotextile. A minimum of 8 inches of geotextile must be below the ground surface. Excess material shall lay on the bottom of the 6-inch deep trench. The trench shall be backfilled and compacted on both sides of the fabric.

together only at a support post with a minimum 6-in. overlap prior to driving into the ground, (see details). 10. Maintenance—Silt fence shall allow runoff to pass only as diffuse flow through the geotextile. If runoff overtops the silt fence, flows under the fabric or around the fence ends, or in any other way allows a concentrated flow discharge, one of the following shall be performed, as appropriate: 1) the layout of the silt fence shall be changed, 2) accumulated sediment shall be removed, or 3) other practices shall be installed. Sediment deposits shall be routinely removed when the

deposit reaches approximately one-half of the height of

Silt fences shall be inspected after each rainfall and at least daily during a prolonged rainfall. The location of existing silt fence shall be reviewed daily to ensure its proper location and effectiveness. If damaged, the silt fence shall be repaired immediately.

Fence post – The length shall be a minimum of 32 inches. Wood posts will be 2-by-2-in. nominal dimensioned hardwood of sound quality. They shall be free of knots, splits and other visible imperfections, that will weaken the posts. The maximum spacing between posts shall be 10 ft. Posts shall be driven a minimum 16 inches into the ground, where possible. If not possible, the posts shall be adequately secured to prevent overturning of the fence due to sediment/water loading. 2. Silt fence fabric - See chart below.

FABRIC PROPERTIES	VALUES	TEST METHOD
Minimum Tensile Strength	120 lbs. (535 N)	ASTM D 4632
Maximum Elongation at 60 lbs	50%	ASTM D 4632
Minimum Puncture Strength	50 lbs (220 N)	• ASTM D 4833
Minimum Tear Strength	40 lbs (180 N)	ASTM D 4533
Apparent Opening Size	≤ 0.84 mm	ASTM D 4751
Minimum Permittivity	1X10-2 sec1	ASTM D 4491
	-1	1

UV Exposure Strength Retention 70% ASTM G 4355

1. THE CONSTRUCTION DRIVE AS SHOWN ON PLANS WILL BE LOCATED WHERE VEHICULAR TRAFFIC WILL BE LEAVING THE SITE ONTO A PUBLIC RIGHT-OF-WAY STREET, ROADWAY, OR PARKING AREA.

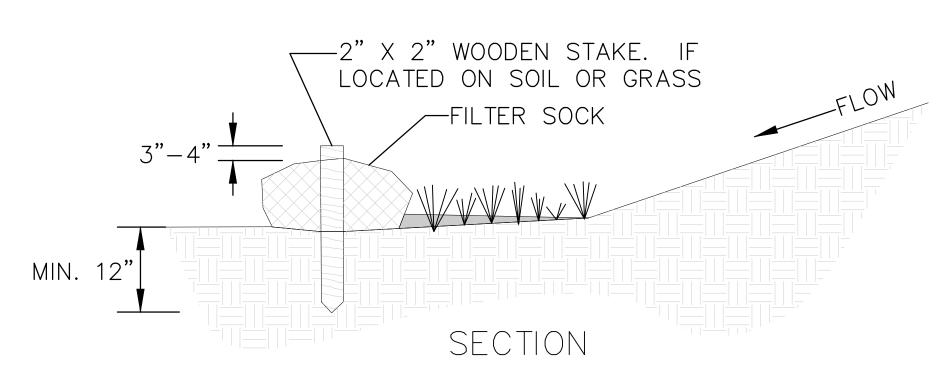
2. PAD WIDTH - 20'-0" MINIMUM BUT NOT LESS THAN FULL WIDTH OF ALL POINTS OF VEHICULAR EGRESS. PAD LENGTH - 50'-0" MINIMUM. MAINTAIN THE EXIT TO PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. PROVIDE PERIODIC TOP DRESSING WITH 1.5-3.5"

STONE, AS CONDITIONS DEMAND. IMMEDIATELY REMOVE ALL MATERIALS

SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLE OR SITE ONTO ROADWAY, INTO STORM DRAINS OR DITCHES. 4. CLEAN WHEELS TO REMOVE MUD PRIOR TO EXITING CONSTRUCTION SITE. WHEN WASHING IS REQUIRED, DO SO ON AREAS STABILIZED WITH CRUSHED STONE DRAINING INTO AN APPROVED SEDIMENT TRAP OR

SEDIMENT BASIN. 5. PROTECT OR REMOVE AND REPLACE ANY CURB THAT MAY EXIST. COARSE AGGREGA N.S.A. R-2 (1.5-1 INCH STONE)

EROSION CONTROL DETAILS CONSTRUCTION DRIVE



WEED. PATHOGEN AND INSECT FREE AND FREE OF ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH. THEY SHALL BE DERIVED FROM A WELL-COMPOSED SOURCE OF ORGANIC MATTER AND CONSIST OF A PARTICLE RANGING FROM 3/8" TO 2".

2. FILTER SOCKS SHALL BE 3 OR 5 MIL CONTINUOUS. TUBULAR, HDPE 3/8" KNITTED MESH NETTING MATERIAL, FILLED WITH COMPOST PASSING THE ABOVE SPECIFICATIONS FOR COMPOST PRODUCTS.

INSTALLATION:

3. FILTER SOCKS WILL BE PLACED ON A LEVEL LINE ACROSS SLOPES, GENERALLY PARALLEL TO THE BASE OF THE SLOPE OR OTHER AFFECTED AREA. ON SLOPES APPROACHING 2:1, ADDITIONAL SOCKS SHALL BE PROVIDED AT THE TOP AND AS NEEDED MID-SLOPE.

4. FILTER SOCKS INTENDED TO BE LEFT AS A PERMANENT FILTER OR PART OF THE NATURAL LANDSCAPE, SHALL BE SEEDED AT THE TIME OF INSTALLATION FOR ESTABLISHMENT OF PERMANENT VEGETATION.

1. MATERIALS - COMPOST USED FOR FILTER SOCKS SHALL BE 5. FILTER SOCKS ARE NOT TO BE USED IN CONCENTRATED FLOW SITUATIONS OR IN RUNOFF CHANNELS.

MAINTENANCE:

6. ROUTINELY INSPECT FILTER SOCKS AFTER EACH SIGNIFICANT RAIN, MAINTAINING FILTER SOCKS IN A FUNCTIONAL CONDITION AT ALL TIMES.

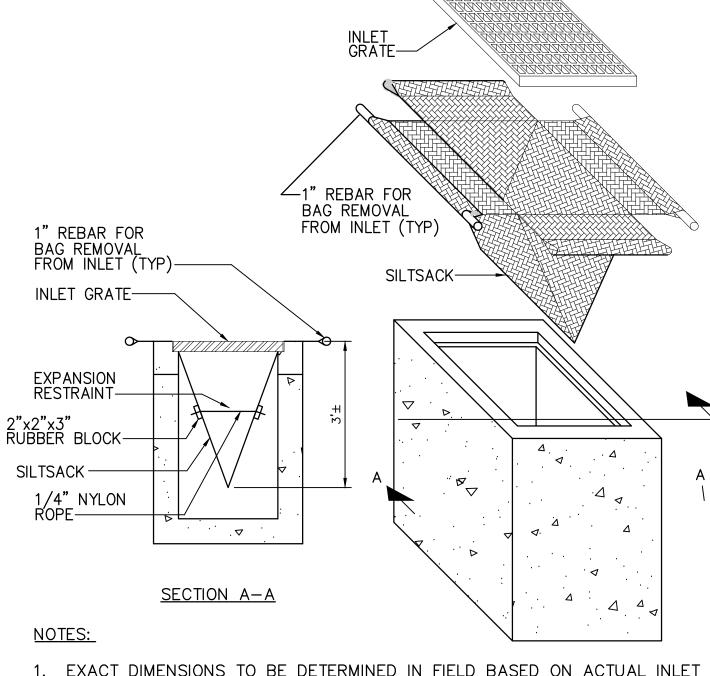
REMOVE SEDIMENTS COLLECTED AT THE BASE OF THE FILTER SOCKS WHEN THEY REACH 1/3 OF THE EXPOSED HEIGHT OFF THE PRACTICE.

8. WHERE THE FILTER SOCK DETERIORATES OR FAILS, IT WILL BE REPAIRED OR REPLACED WITH A MORE EFFECTIVE ALTERNATIVE.

REMOVAL - FILTER SOCKS WILL BE DISPERSED ON SITE WHEN NO LONGER REQUIRED IN SUCH A WAY AS TO FACILITATE AND NOT OBSTRUCT SEEDINGS.

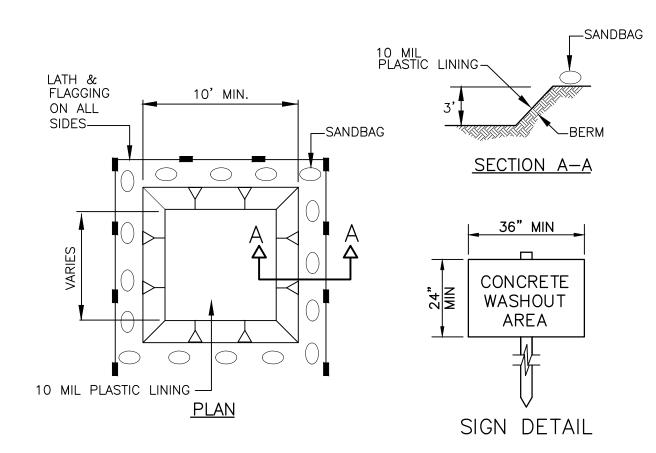
FILTER SOCK DETAIL

NOT TO SCALE



1. EXACT DIMENSIONS TO BE DETERMINED IN FIELD BASED ON ACTUAL INLET DIMENSIONS. SILTSACK BY ATLANTIC CONSTRUCTION FABRICS, INC. OR APPROVED EQUAL.

2. SEDIMENT MUST BE REMOVED AFTER EACH STORM EVENT. SILTSACK INLET PROTECTION DETAIL NOT TO SCALE

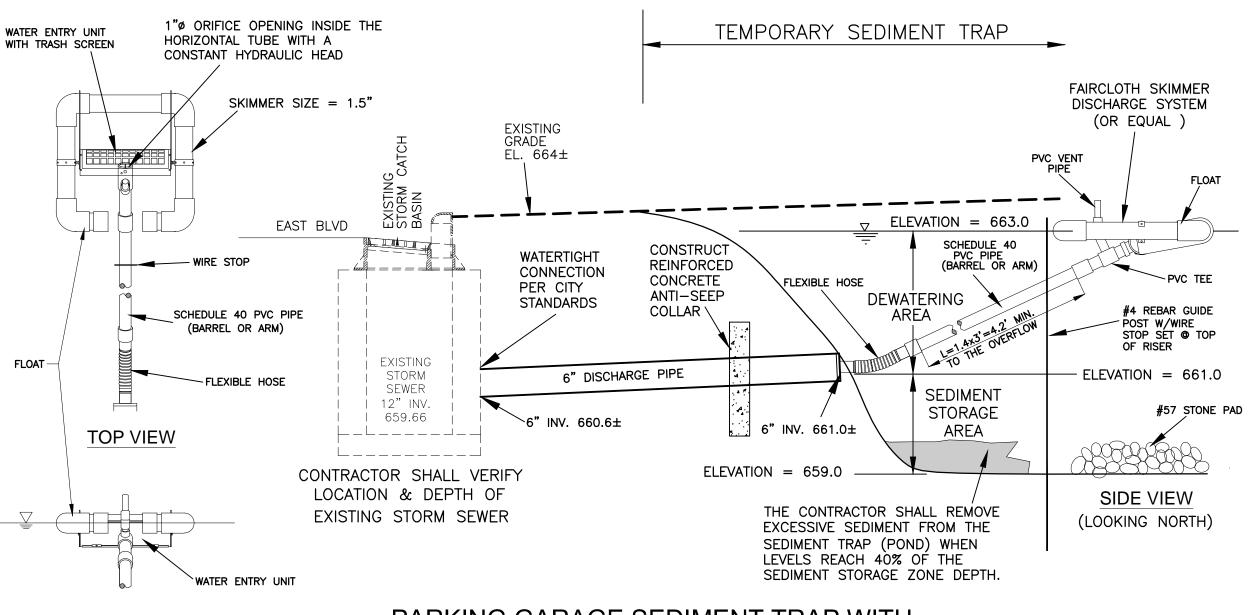


-A CONCRETE WASHOUT AREASHALL BE DESIGNATED TO CLEAN CONCRETE TRUCKS AND TOOLS. AT NO TIME SHALL CONCRETE PRODUCTS BE ALLOWED TO ENTER STREAMS OR DRAINS. -TEMPORARY CONCRETE WASHOUT FACILITIES (TYPE BELOW GRADE) SHOULD BE CONSTRUCTED AS SHOWN ON THE DETAIL, WITH A RECOMMEND MINIMUM LENGTH AND MINIMUM WIDTH OF 10 FT. THE QUANTITY AND VOLUME SHOULD BE SUFFICIENT TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. -LATH AND FLAGGING SHOULD BE COMMERCIAL TYPE.

-PLASTIC LINING MATERIAL SHOULD BE A MINIMUM 10 MIL POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR THERE DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL

NOT TO SCALE

ALTERNATE: APPROVED FABRIC WASHOUT BAGS. TEMPORARY CONCRETE WASHOUT FACILITY



PARKING GARAGE SEDIMENT TRAP WITH **END VIEW** FAIRCLOTH SKIMMER DISCHARGE SYSTEM (OR EQUAL) AND EARTH EMBANKMENT NO SCALE

SEDIMENT TRAP NOTES:

1.) THE CONTRACTOR SHALL TEMPORARILY DIVERT ALL UPSTREAM RUNOFF

TO THE TEMPORARY SEDIMENT TRAPS.

2.) EMBANKMENT/SPILLWAY MUST BE COMPACTED.

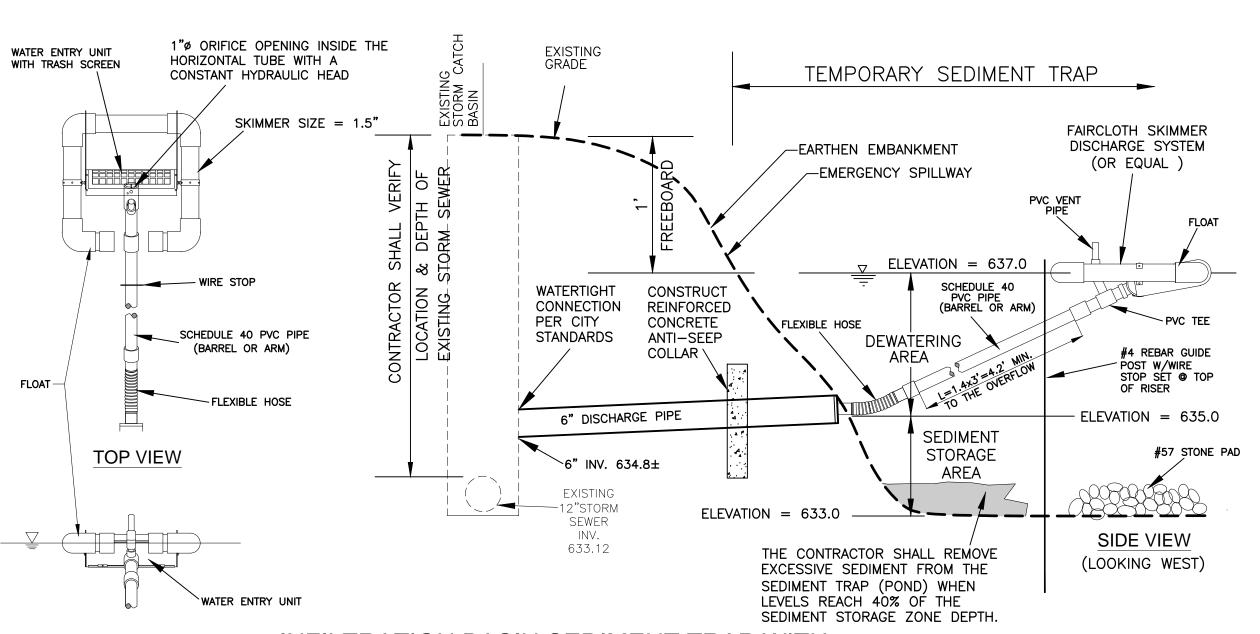
3.) EROSION PROTECTION MUST BE INSTALLED ALONG THE EMBANKMENT / SPILLWAY.

4.) THIS DEVICE IS DESIGNED TO TEMPORARILY STORE RUNOFF FOR UP TO 48 HOURS, PROVIDING SUFFICIENT TIME FOR SEDIMENT TO SETTLE OUT.

5.) INSPECT SYSTEM REGULARLY TO ENSURE IT IS FUNCTIONING IN A CORRECT MANNER.

6.) REMOVE TEMPORARY SKIMMER DEVICE UPON 100% STABILIZATION OF THE SITE AND THE UPSTREAM WATERSHED, AND REESTABLISH EXISTING STORM SEWER WITH WATER TIGHT CONNECTIONS.

7.) UPON COMPLETION OF CONSTRUCTION AND INSTALLATION OF PERMANENT SEEDING, THE CONTRACTOR SHALL REMOVE AND HAUL-AWAY OFFSITE ALL ACCUMULATED SEDIMENT TO RE-ESTABLISH NATIVE SOIL'S INFILTRATION RATES.



INFILTRATION BASIN SEDIMENT TRAP WITH **END VIEW** FAIRCLOTH SKIMMER DISCHARGE SYSTEM (OR EQUAL) AND EARTH EMBANKMENT NO SCALE

Specifications **Sediment Traps**

1. Work shall consist of the installation, maintenance and 7. Temporary seeding shall be established and maintained removal of all sediment traps at the locations designated on the drawings. 2. Sediment traps shall be constructed to the dimensions

land disturbance. 3. The area beneath the embankment shall be cleared, grubbed and stripped of vegetation to a minimum depth of six (6) inches. The pool shall be cleared as needed to facilitate sediment cleanout.

4. Fill used for the embankment shall be evaluated to assure its suitability and it must be free of roots or other woody 10. Warning signs and safety fence shall be placed around vegetation, large rocks, organics or other objectionable materials. Fill material shall be placed in six (6) inch lifts and shall be compacted by traversing with a sheepsfoot or other approved compaction equipment. Fill height shall be increased five (5) percent to allow for structure/foundation settlement. Construction shall not be permitted if either the earthfill or compaction surface is frozen. 5. The maximum height of embankment shall be five (5)

feet. All cut and fill slopes shall be 2:1 (H:V) or flatter. 6. A minimum storage volume below the crest of the outlet of 67 yd3. for every acre of contributing drainage area shall be achieved at each location noted on the drawings with additional sediment storage volume provided below this elevation.

over the useful life of the practice.

8. The outlet for the sediment trap structure shall be constructed to the dimensions shown on the drawings. specified on the drawings and operational prior to upslope

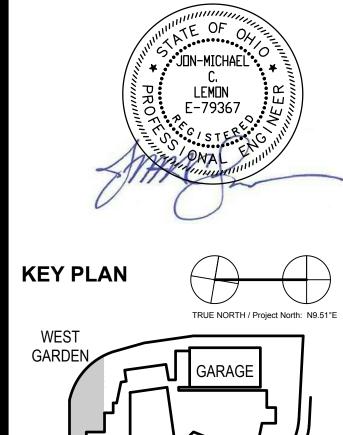
9. The outlet shall be constructed using the materials specified on the drawings. Where geotextile is used, all overlaps shall be a minimum of two (2) feet or as specified by the manufacturer, whichever is greater. All overlaps shall be made with the upper most layer placed last. Geotextile shall be keyed in at least 6" on the upstream side of the

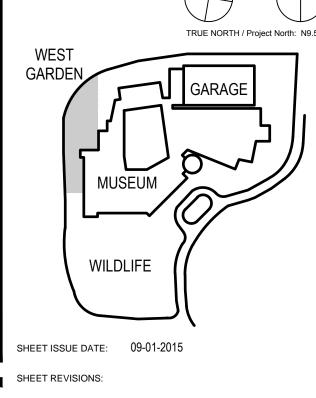
> the traps and maintained over the life of the practice. . After all sediment-producing areas have been permanently stabilized, the structure and all associated sediment shall be removed. Stabile earth materials shall be placed in the sediment trap area and compacted. The area shall be graded to blend in with adjoining land surfaces and have positive drainage. The area shall be immediately seeded.

ARCHITECTS ● ENGINEERS ● PLANNERS 1375 Euclid Ave Suite 600 Cleveland, OH 44115 **United States** P: 216 622 2400 www.URS.com









BULLETIN #2 10-14-2015 12-17-2015 RFI 107 WG **BULLETIN #5** 02-03-2016 **BULLETIN #6** 03-18-2016





HISTORY 1 WADE OVAL DRIVE, **UNIVERSITY CIRCLE**

CLEVELAND, OHIO 44106

WEST GARDEN

Project Issue Dates 1 09-26-2017 ISSUED FOR BID / PERMIT

URS project no. client project no. 13817584 20140035.310

DETAILS

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drawing scale:

M.N.S. MAG NAIL SET EX. STORM MANHOLE ● IPS IRON PIN SET w/ID CAP (s) EX. SANITARY MANHOLE PAS. PK NAIL SET o EX. POST € EX. GUY WIRE EX. ELECTRIC MANHOLE ■ EX. ELECTRIC BOX RIGID CONCRETE LEVEL SPREADER TOP 636.58 --- X --- EX. FENCE LINE 💩 EX. GAS VALVE LEVEL SPREADER INTO SIDE OF BASIN TYPICAL OF BOTH SIDES REMOVE BOULDERS

- AND REPLACE ELSEWHERE S STORM SEWER EX. GAS METER --- SAN --- EX. SANITARY SEWER de EX. GAS MARKER EX. WATER MAIN - re. EX. TELEPHONE MARKER G EX. GAS LINE 2'Wx22'Lx5'DEEP 🗓 EX. UTILITY VALVE OHE SOME EX. OVERHEAD ELEC. LINE T EX. UNDERGROUND ELEC. LINE ϕ EX. LIGHT POLE R.E. WARNER AS-BUILT 637 CONTOUR ϕ EX. UTILITY POLE EXISTING INFLOW STORM PIPE ♦ EX. SOIL BORING 🏝 EX. WATER VALVE 18" INV. 636.00 (EX. WATER METER MANHOLE PROPOSED BIORETENTION 🙏 EX. FIRE HYDRANT © EX. DECIDUOUS TREE TYPE - FILTER BED AREA TOP ELEVATION = 636.08 SURFACE AREA = 2,000 SF PROPOSED FOREBAY 🔅 EX. CONIFEROUS TREE TYPE C) EX. SHRUB 3' DEEP 4" INV. 635.75 — (IN FEET) CLEANOUT NIM 636.25 6" UD S INV 633.00 1 inch = 20 ft.PAINTING NOTE:
FOR AESTHETICS REASONS
PAINT ALL EXPOSED PVC
PIPES IN THE BASIN WHICH
INCLUDE CLEANOUT PIPES,
CAPS, AND UNDERDRAIN PIPE
BLACK (OR AS DIRECTED)
USING PLASTIC—RATED SPRAY
PAINT. USE KRYLON FUSION
OR EQUAL. CAPPED CLEANOUT RIM 636.25 6" UD INV 632.50 EX. GRASS MARTIN LUTHER KING JR. DR. • PEAK RUNOFF USED EX. FLOWER BED (10YR ST) = 9 CFS• LENGTH OF WALL = 22' (10' MIN.) • WIDTH OF WALL = 2' (2' MIN.) • DEEP OF WALL = 5' • DEPTH OF FOREBAY = 3' (6" MIN.) CMNH SEARS GARDEN AS-BUILT DETENTION BASIN PLAN LENGTH OF FOREBAY = 15ⁱ THE MIN. LENGTH OF FOREBAY IS WITH BIO-RETENTION AREA 1/2 DISTANT FROM ST. INLET TO WALL (10')

WIDTH VARIES RAISE & BULKHEAD EX. INFLOW WITH CONCRETE & ST PIPE DOWELS (REBAR) 18" INV. 636.00 3" OF EX. 6" x 24" WINDOW TO ELEVATION 636.75 (ORIFICE) PLUG EX. 1" DIA (ORIFICE) WITH A -3" THICK WOOD WATERTIGHT SEAL FIBER MULCH – ELEV. 636.08 – LAYER ELEV. 635.75 24" MIN PLANTING PLANTING 3" MIN. CLEAN COMPACTED MEDIUM — ELEV. 633.75-6" MIN. THICK CONCRETE SAND -. FILTER LAYER - ELEV. 633.25-15" MIN. DRAINAGE 3" MIN. #8 STONE -LAYER OR #78 (PEA GRAVEL) — ELEV. 632.00 — —18" S INV. = 631.45 15" THICK NO. 57 STONE 4" PVC PERFORATED UNDERDRAIN INSTALLED FLUSH WITH SURFACE CAPPED AT DOWNSTREAM END WITH HOLES ORIENTED 6" PVC PERFORATED DOWNWARD AND NOT TO BE CONNECTED TO UNDERDRAIN WITH HOLES THE OUTLET CONTROL STRUCTURE ORIENTED DOWNWARD EX. OUTFLOW (PAINT UNDERDRAIN PIPE BLACK USING CONNECT TO OUTLET PLASTIC-RATED SPRAY PAINT. USE KRYLON CONTROL STRUCTURE WITH FUSION OR EQUAL.) WATERTIGHT CONNECTION

CMNH SEARS GARDEN DETENTION BASIN OUTLET CONTROL STRUCTURE / BIO-RETENTION TYPICAL SECTION

 THE EXISTING SOIL SHALL BE REMOVED AND REPLACED TO CONSTRUCT THE BIO RETENTION AREAS

2. THE PLANTING SOIL SHALL CONSIST OF A MIXTURE OF SAND (75%), COMPOST (10%) AND TOPSOIL (15%) AND SHALL BE A UNIFORM MIX, THAT IS FREE OF STONES. STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER

THAN (2) INCHES.

BIO-RETENTION AREA NOTES 3. THE PLANTING SOIL SHALL BE TESTED AND SHALL MEET THE FOLLOWING CRITERIA: USE KURTZ BROS. HYDRO CLEAR BIORETENTION SOIL MIX OR EQUAL THE MIX SHALL MEET THE FOLLOWING SPECIFICATIONS OR EQUAL:

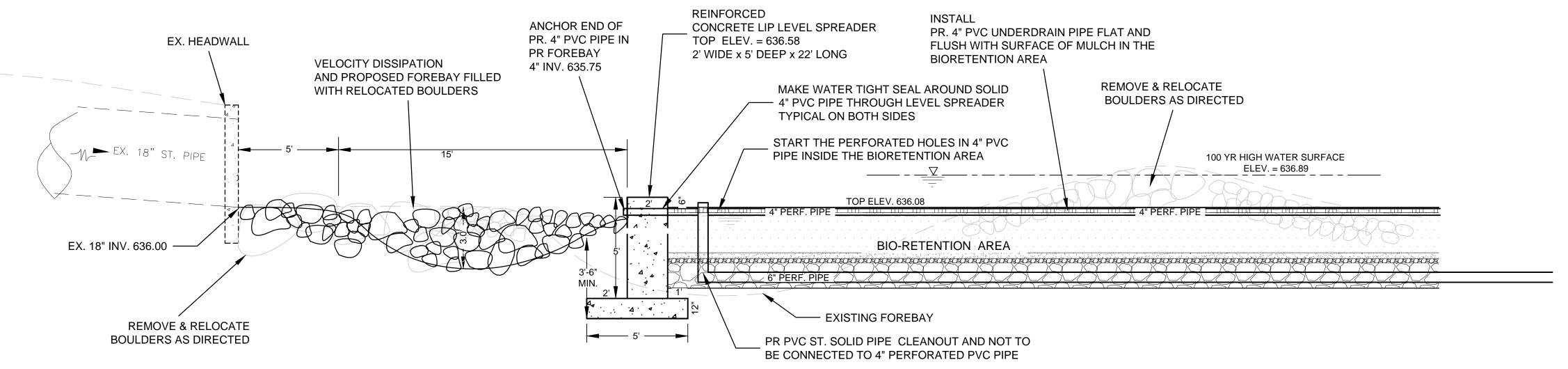
TEXTURE CLASS:LOAMY SAND >80% SAND, <10% CLAY pH RANGE: 5.2 - 8.0 SOLUBLE SALTS:500 ppm MAXIMUM

ORGANIC MATTER: 3-5% BY WEIGHT PHOSPHORUS CONTENT: SOIL P-INDEX SHOULD FALL BETWEEN 15 & 60 mg/kg (ppm) BY MEHLICH 3 SOIL TEST CERTIFICATION: SOIL MIXES MUST BE CERTIFIED BY A QUALIFIED LABORATORY

4. PRIOR TO ACCEPTANCE, CONTRACTOR SHALL FLUSH PERFORATED PIPES TO REMOVE ANY SEDIMENTS.

GENERAL B.M.P. MAINTENANCE NOTES

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL MEASURES DURING CONSTRUCTION UNTIL FULL STABILIZATION INCLUDING THE FOLLOWING:
- THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES AT LEAST ONCE EVERY 7 DAYS AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN 0.5 INCH PER 24 HOUR PERIOD.
- REMOVAL OF ALL ACCUMULATED SEDIMENT IF THE INSPECTION REVEALS THAT A CONTROL PRACTICE IS IN NEED OF REPAIR OR MAINTENANCE, WITH THE EXCEPTION OF A SEDIMENT SETTLING POND, IT MUST BE REPAIRED OR MAINTAINED WITHIN 3 DAYS OF THE INSPECTION. SEDIMENT SETTLING PONDS MUST BE REPAIRED WITHIN 10 DAYS OF THE INSPECTION.
- REPAIR OF DAMAGED STRUCTURES AND RESEEDING AS NEEDED.
- 2. UPON COMPLETION OF CONSTRUCTION AND STABILIZATION OF THE CONSTRUCTION SITE, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE THE FOLLOWING MAINTENANCE PRACTICES:
- INSPECT THE STRUCTURAL POST-CONSTRUCTION CONTROLS FOR EMBANKMENT AND OUTLET DAMAGE, PROPER FLOW, AND SEDIMENT ACCUMULATIONS.
- INSPECT ALL DRAINAGE FACILITIES ASSOCIATED WITH STORM WATER DRAINAGE INCLUDING PIPES, SWALES AND DITCHES.
- INSPECTION SHALL TAKE PLACE MONTHLY.
- 3. THEREAFTER, ALL INSPECTIONS AND MAINTENANCE SHALL BE THE FINANCIAL RESPONSIBILITY OF OWNER AND CONDUCTED BY QUALIFIED INSPECTION PERSONNEL AND PERFORM AS DIRECTED AND STORM EVENT INSPECTIONS



RIGID CONCRETE LIP LEVEL SPREADER TYPICAL SECTION

NO SCALE

SWP3 Amendment Log

Project Name:

Amendment No.	Description of the Amendment	Date of Amendment	Amendment Prepared By
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SWP3 Grading and Stabilization Activities Log

Project Name:

Date Grading Activity Initiated	Description of Grading Activity	Date Grading Activity Ceased (Indicate Temporary or Permanent)	Date When Stabilization Measures are Initiated	Description of Stabilization Measure and Location
			5	
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SWP3 Corrective Action Log

nspection Date	Inspector Name	Description of Correctiove Action Needed (From Inspection Report)	Corrective Action Taken	Date Action Taken
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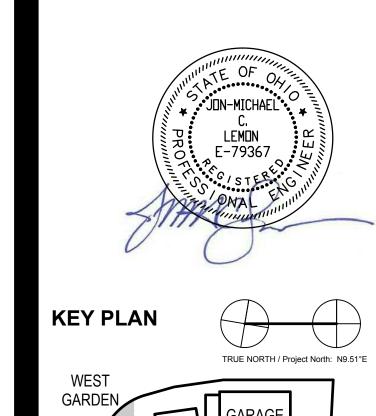
ARCHITECTS ● ENGINEERS ● PLANNERS 1375 Euclid Ave Suite 600

Cleveland, OH 44115

United States P: 216 622 2400 www.URS.com







WILDLIFE SHEET ISSUE DATE: 09-01-2015

> **BULLETIN #2** 02-03-2016 **BULLETIN #5** 03-18-2016 **BULLETIN #6**





1 WADE OVAL DRIVE, UNIVERSITY CIRCLE

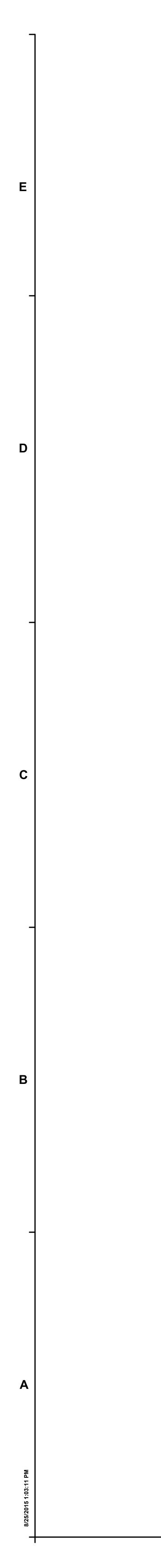
CLEVELAND, OHIO 44106

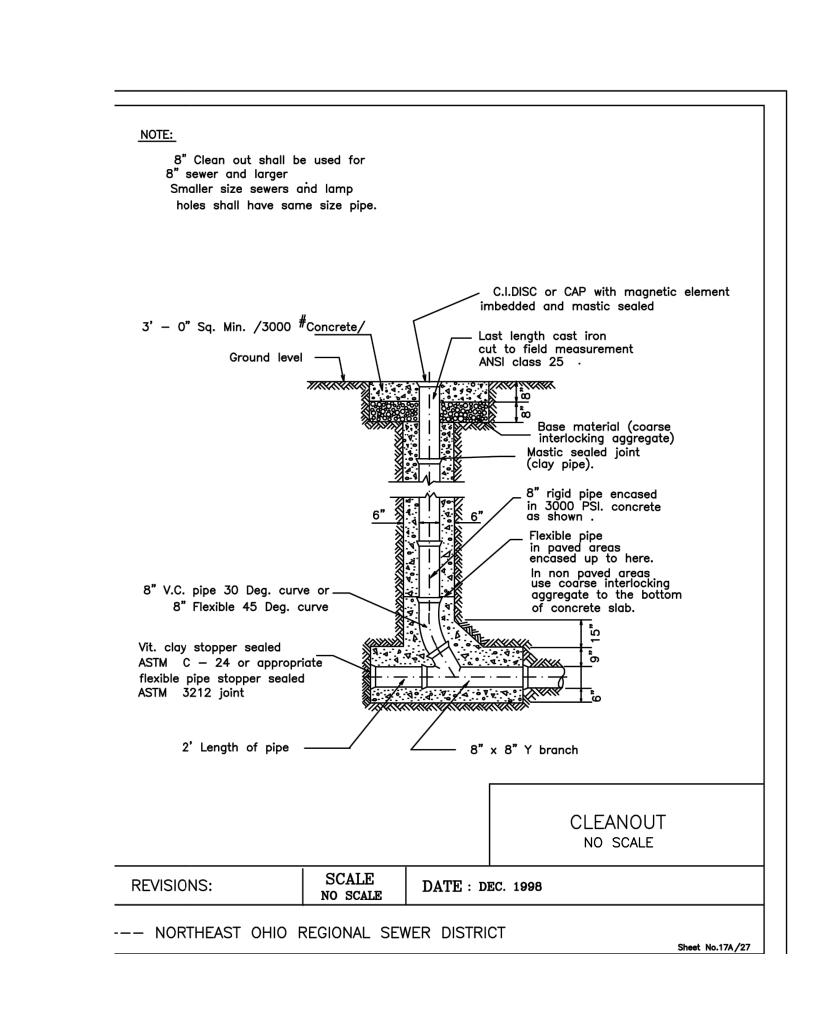
WEST GARDEN

01 09-26-2017 ISSUED FOR BID / PERMIT

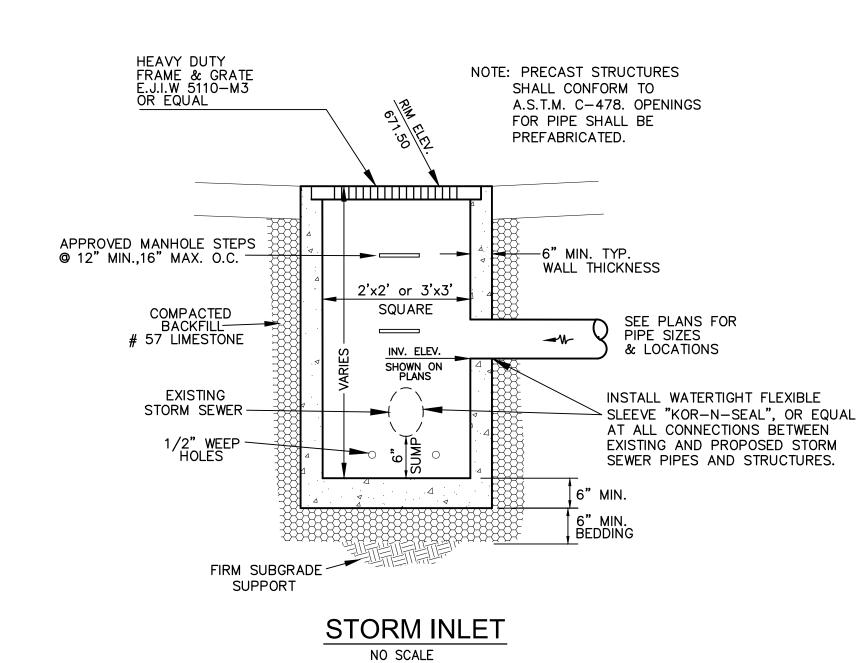
SWPPP DETAILS

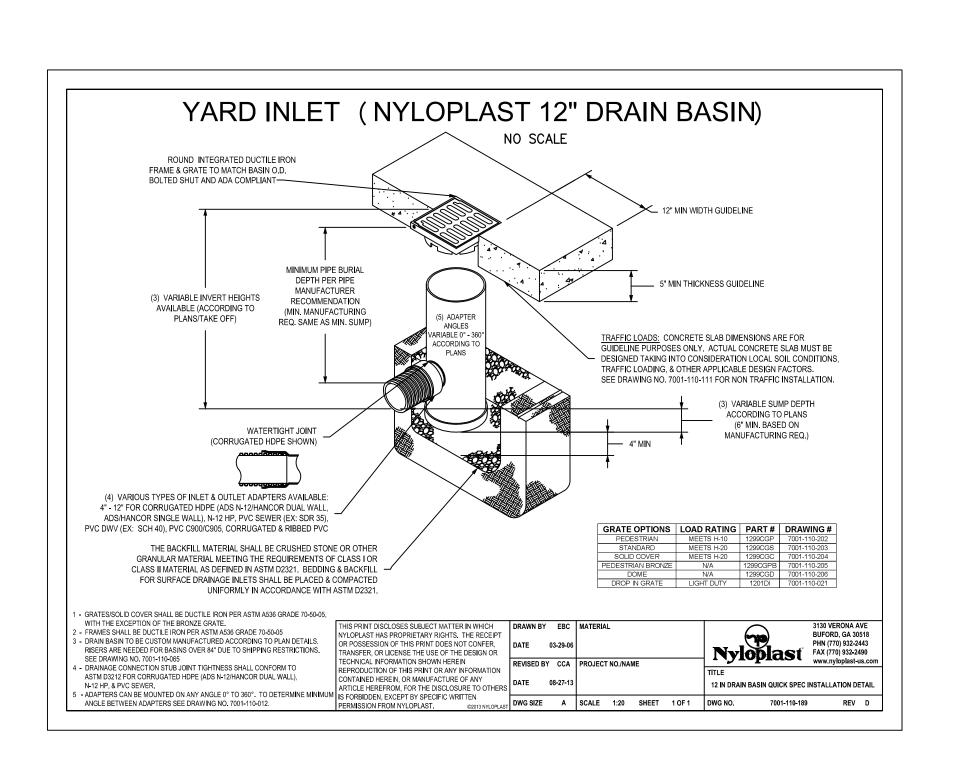
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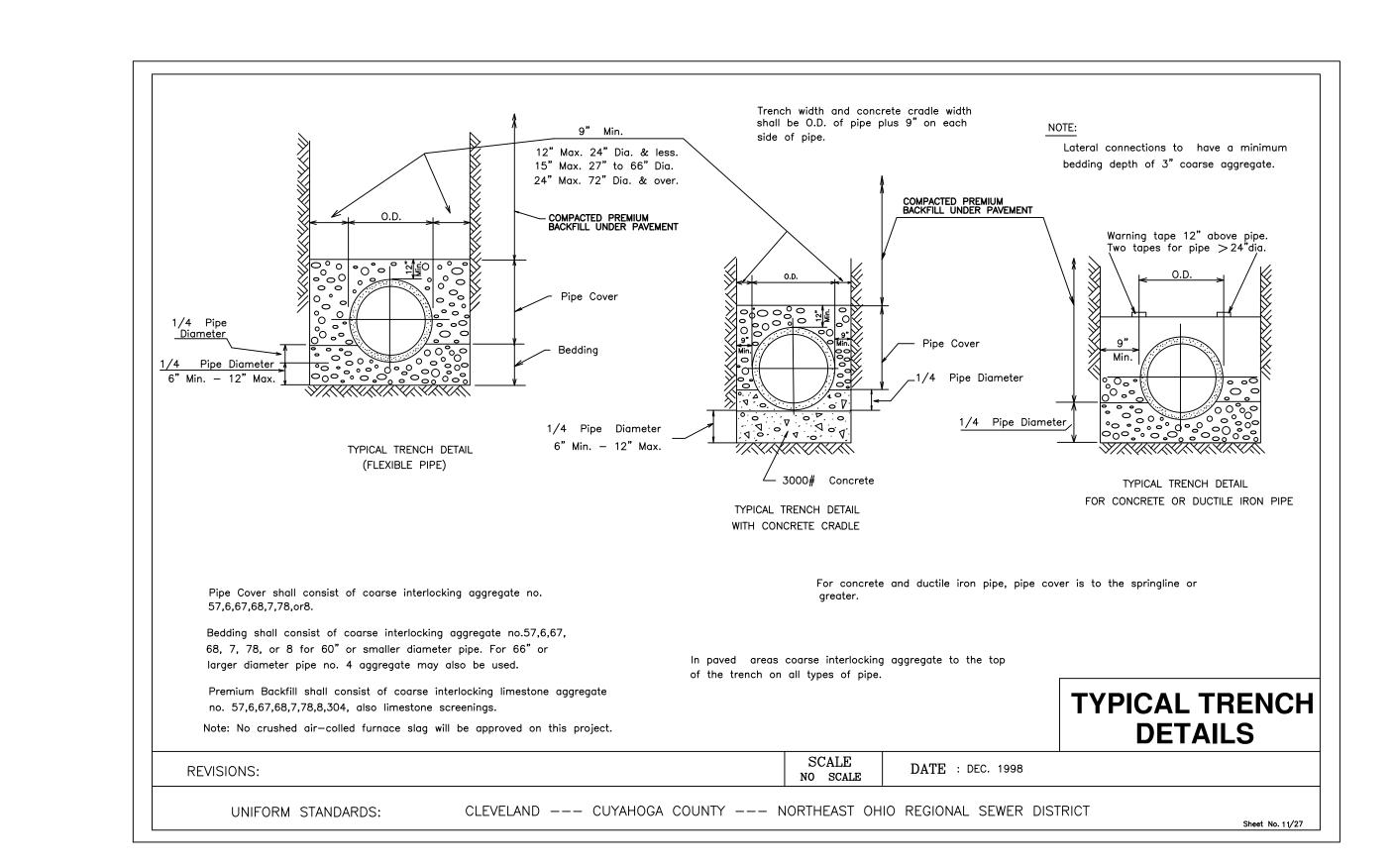


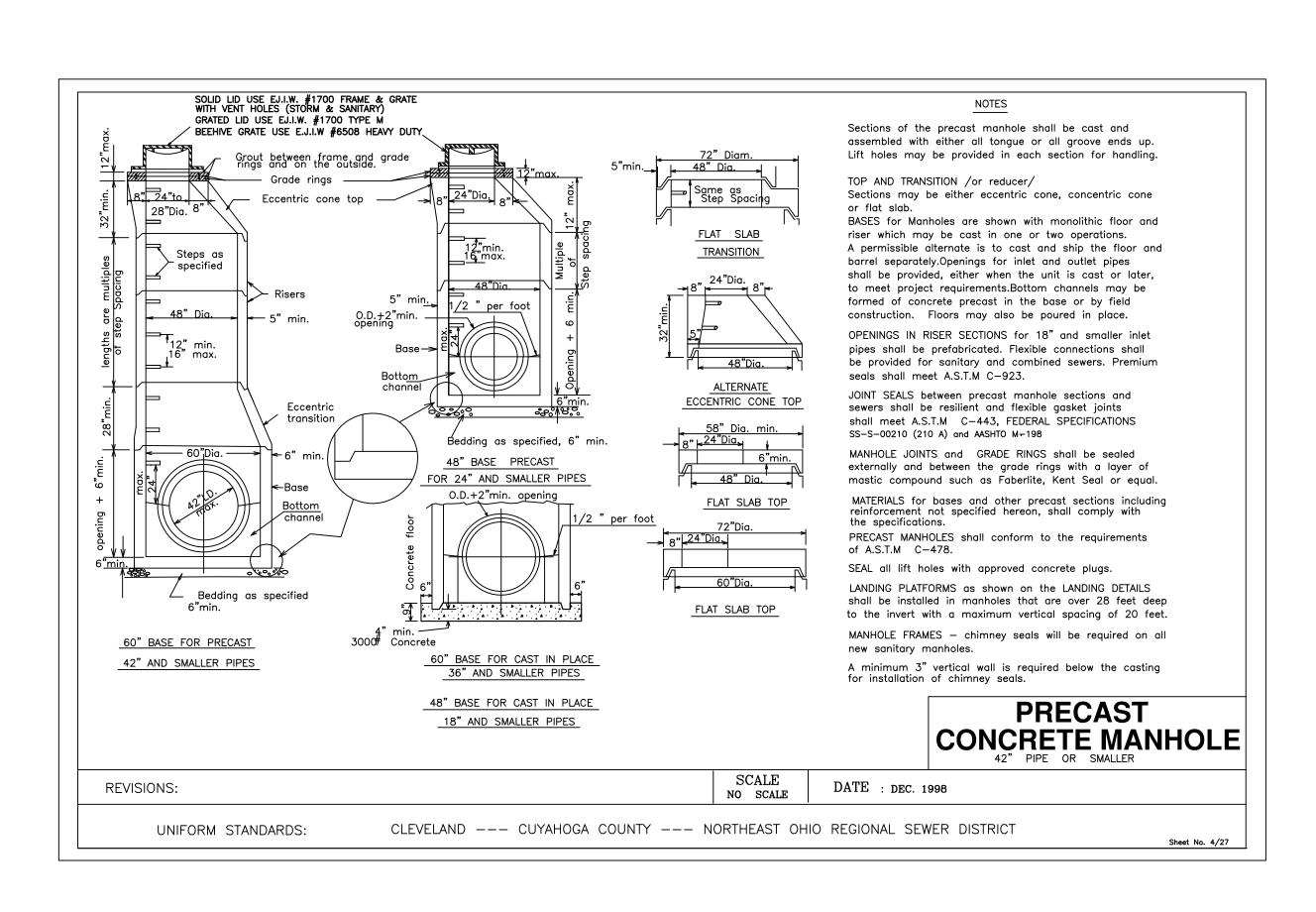


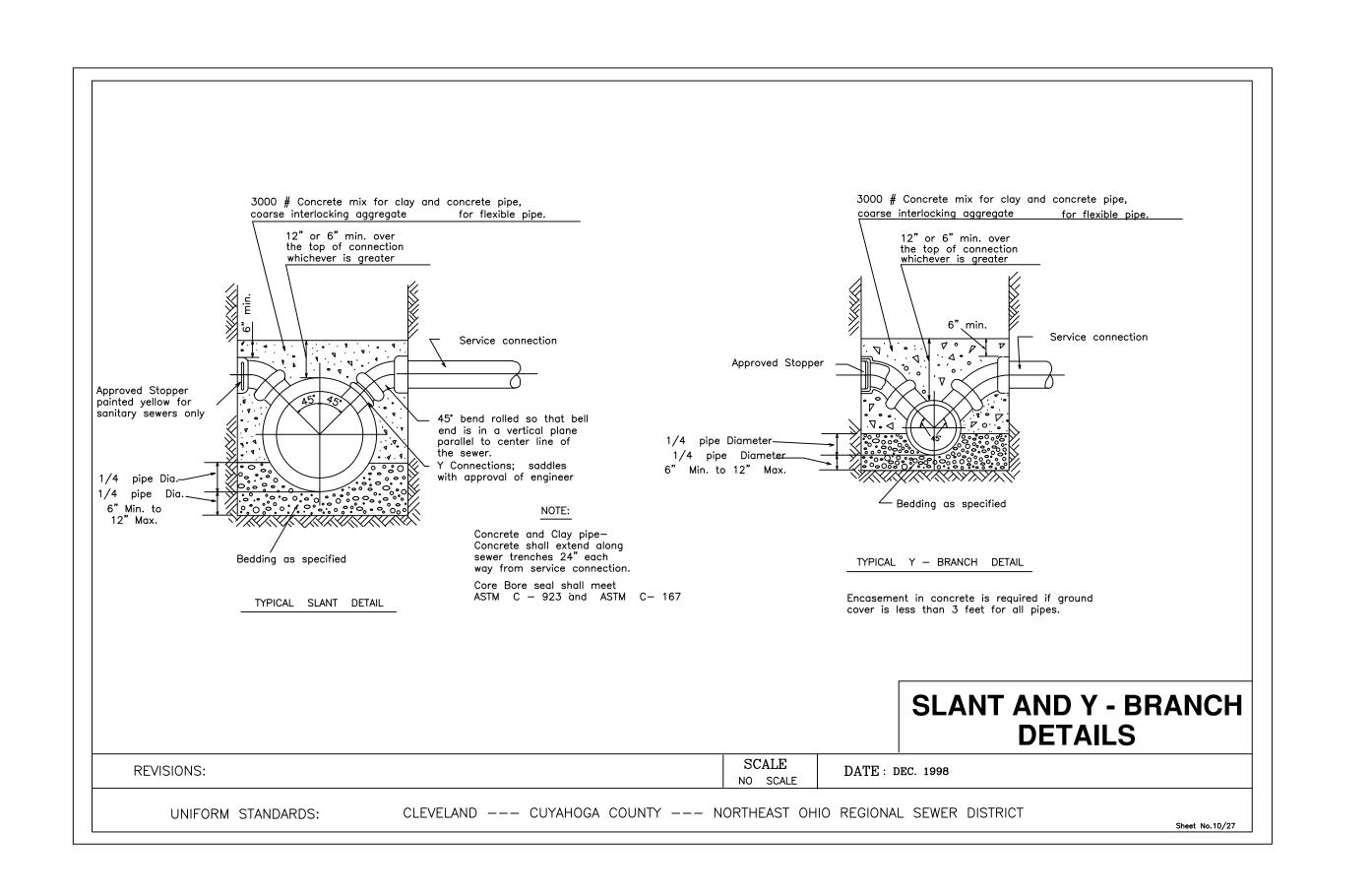
NOTE: ALL CAST IRON CATCH BASINS, GRATES, AND INLET COVERS SHALL HAVE THE FOLLOWING MESSAGE ON THEM "DUMP NO WASTE, DRAINS TO WATERWAYS".









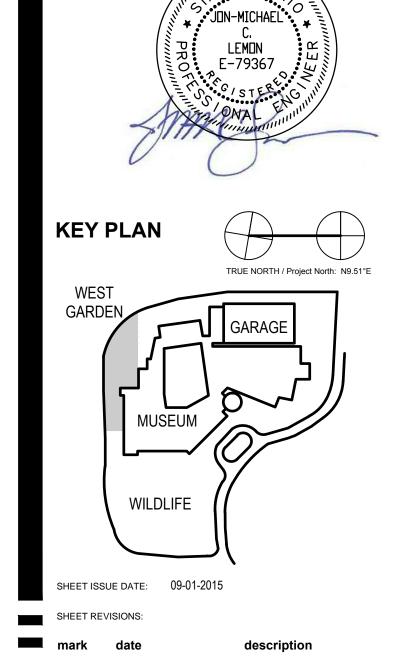




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BULLETIN #5



DETAILS
drawing scale:

SEWER

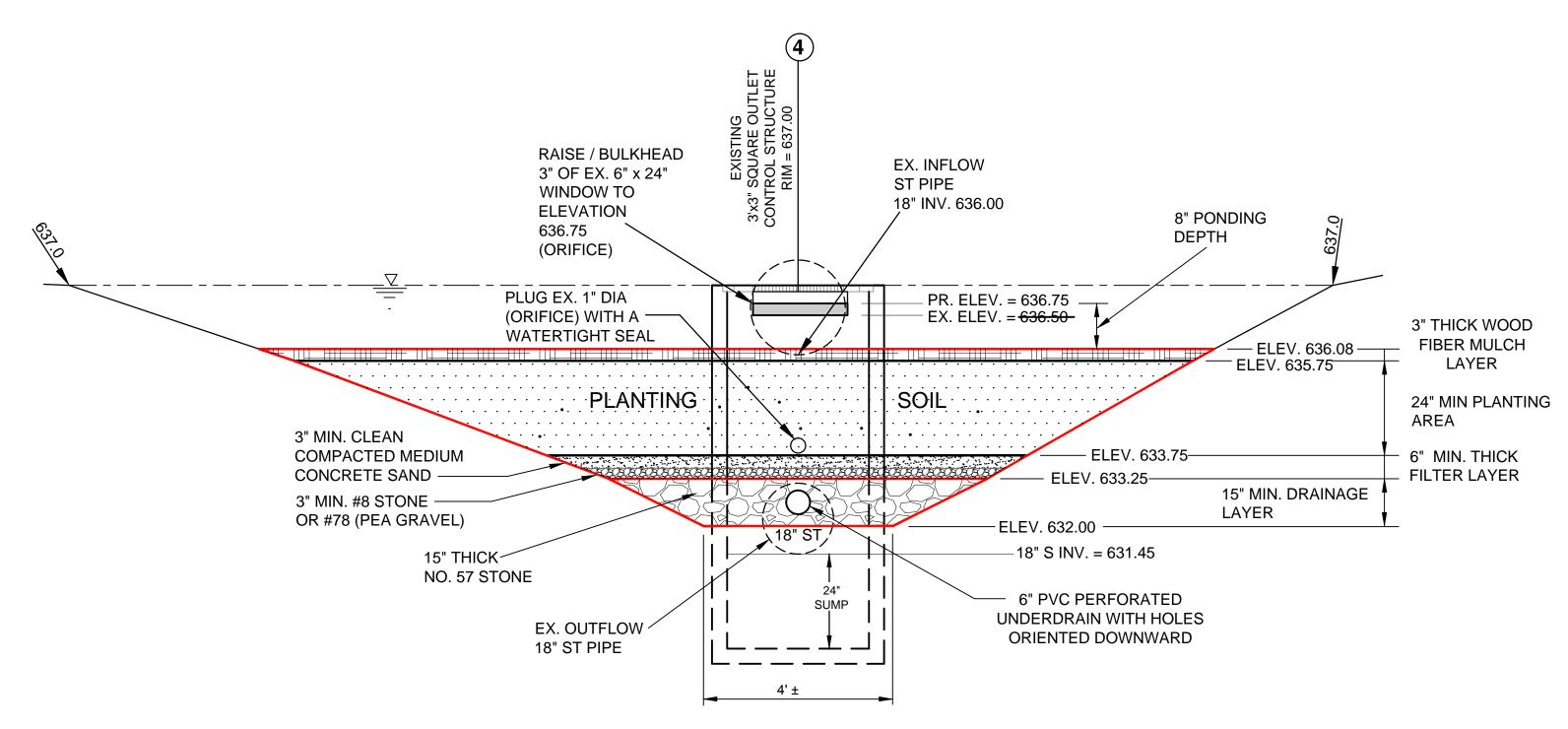
client project no.

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URS project no.

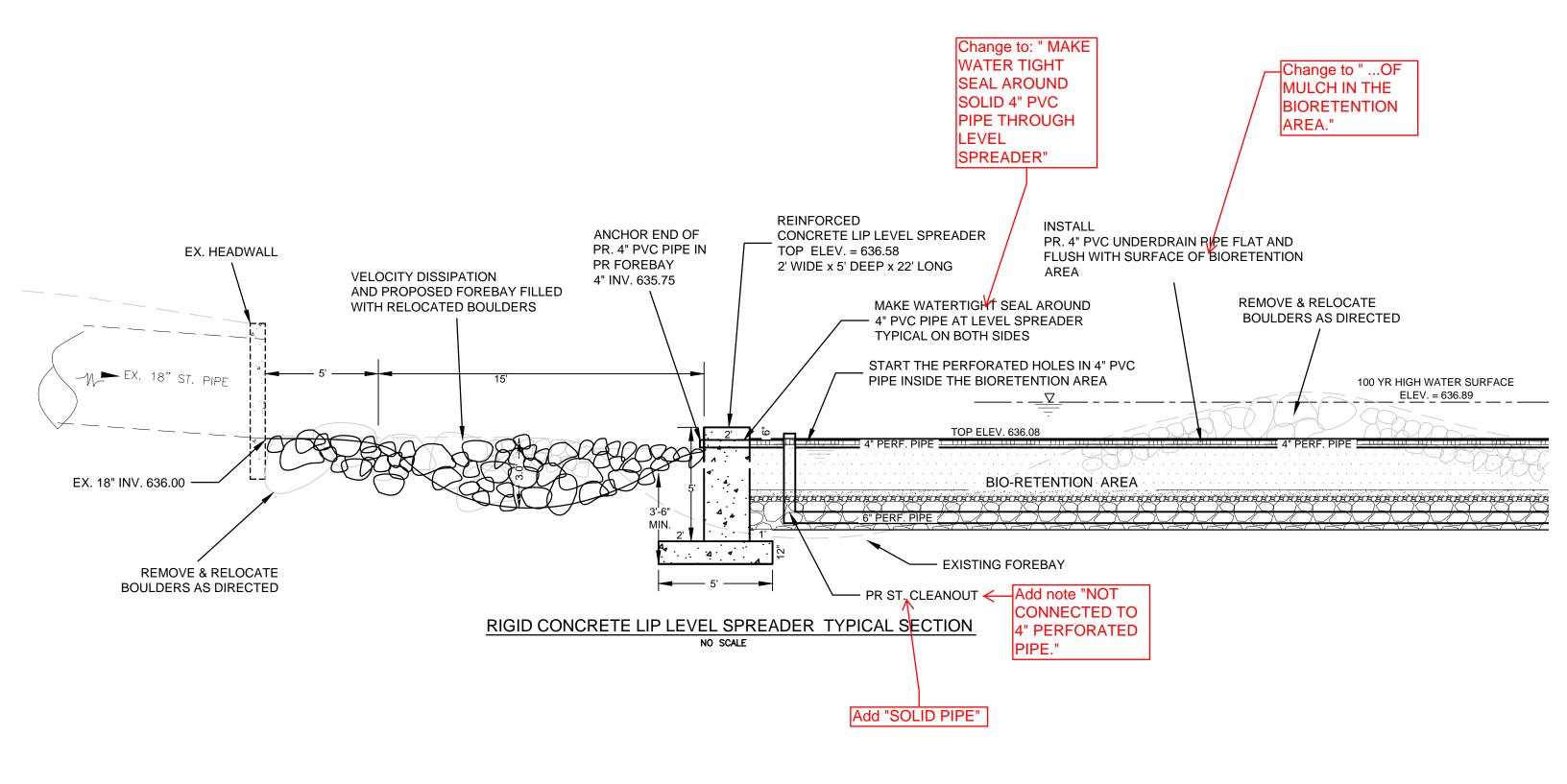
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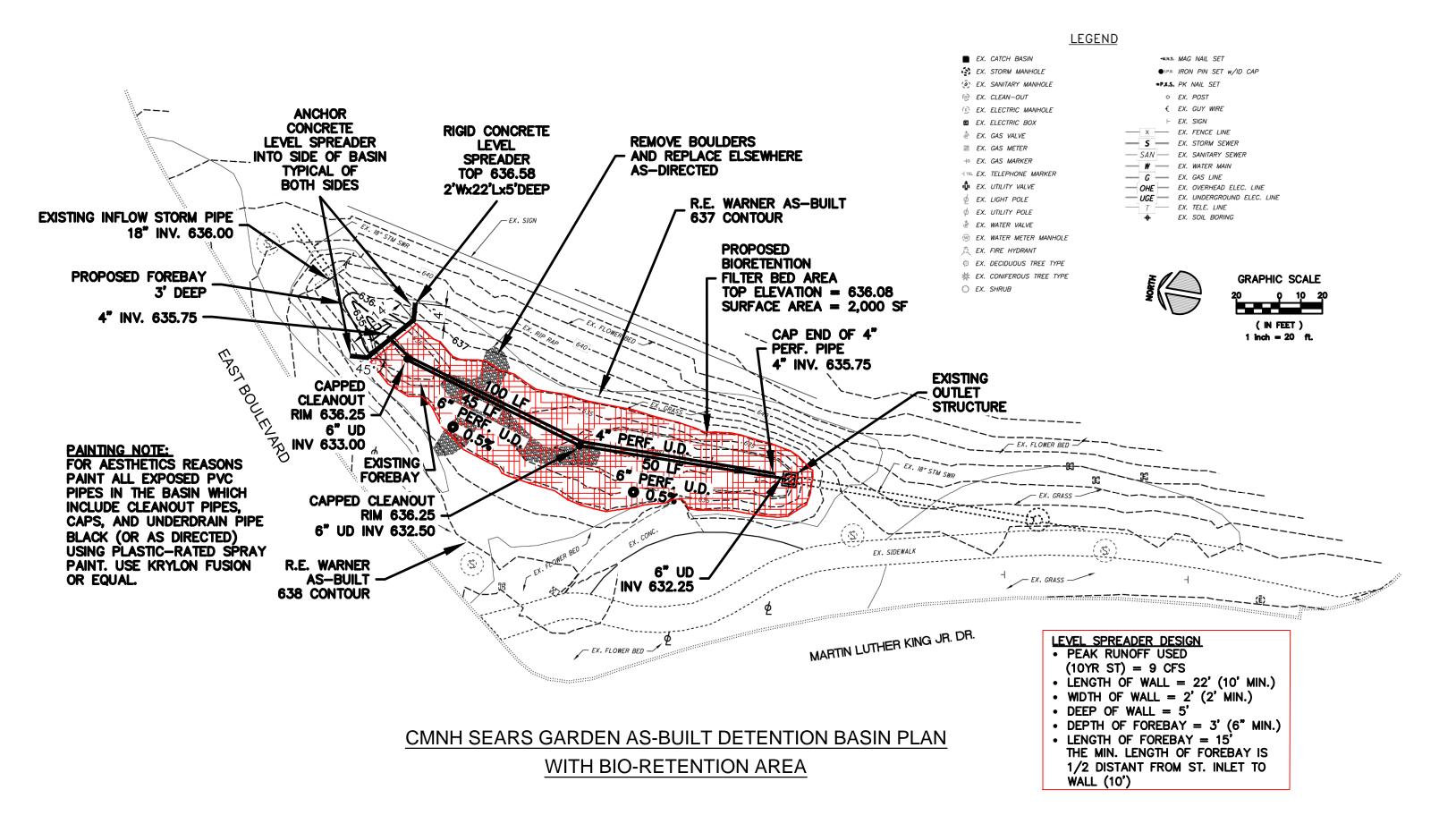
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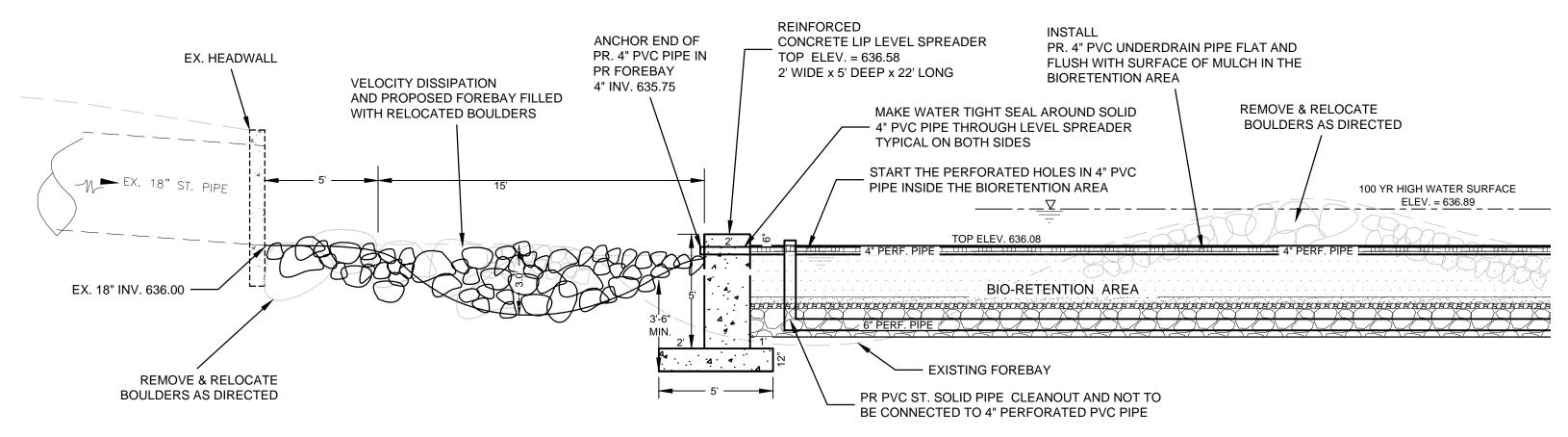


CMNH SEARS GARDEN DETENTION BASIN
OUTLET CONTROL STRUCTURE / BIO-RETENTION TYPICAL SECTION

SCALE:1"=2'







RIGID CONCRETE LIP LEVEL SPREADER TYPICAL SECTION NO SCALE