BURTEN, BELL, CARR DEVELOPMENT, INC. COLFAX GREEN LINKS GREEN INFRASTRUCTURE IMPROVEMENTS

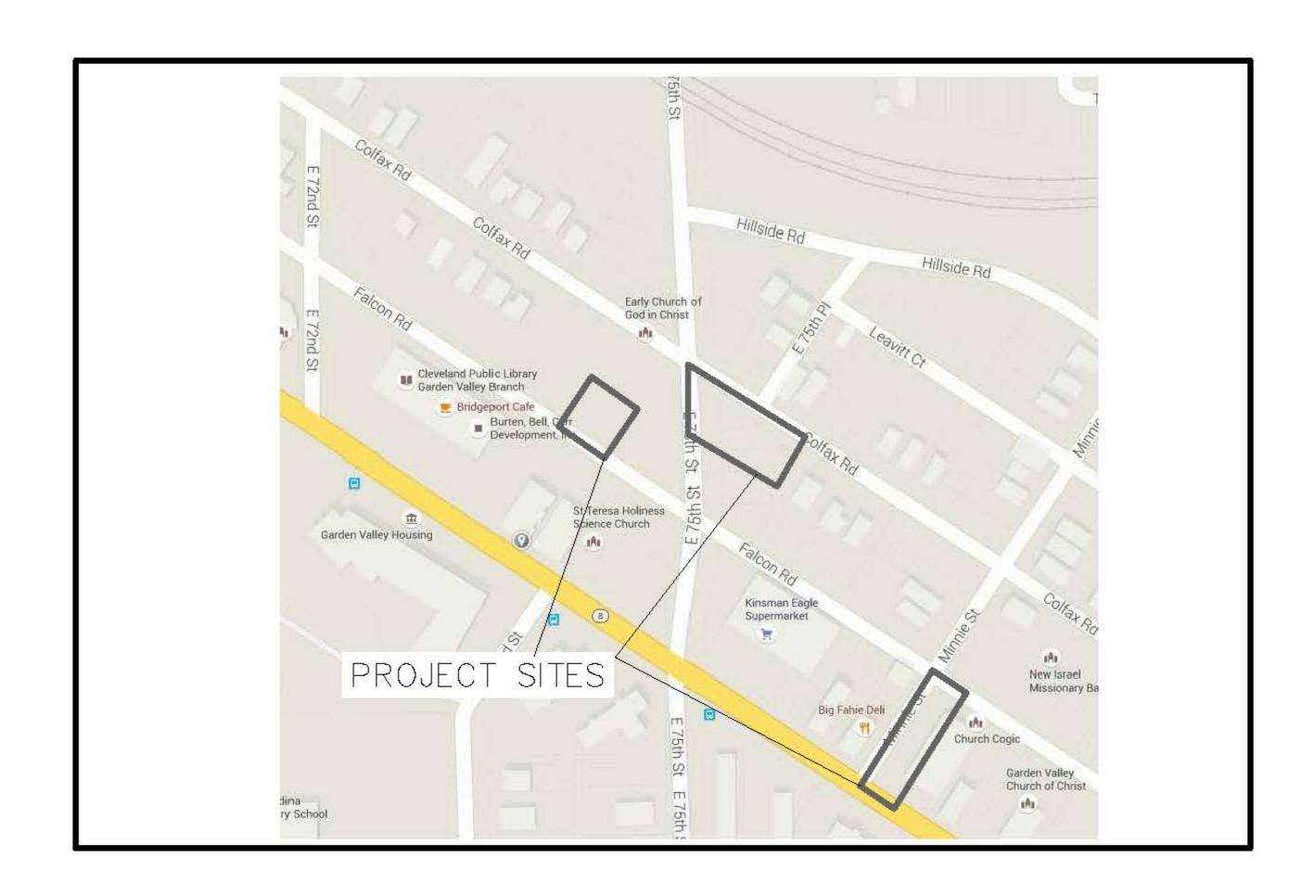
CLEVELAND, OHIO

INDEX OF SHEETS

COLFAX ROAD EXISTING CONDITIONS AND DEMO FALCON AVENUE EXISTING CONDITIONS AND DEMO MINNIE AVENUE EXISTING CONDITIONS AND DEMO COLFAX ROAD RAINGARDEN LAYOUT FALCON AVENUE RAINGARDEN LAYOUT MINNIE AVENUE RAINGARDEN LAYOUT COLFAX ROAD SWPPP PLAN C4-02 FALCON AVENUE SWPPP PLAN C4-03 MINNIE AVENUE SWPPP PLAN SWPPP NOTES & DETAILS

SWPPP NOTES & DETAILS

C5-01 CIVIL DETAILS



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and the second	800-362-2764 (TOLL F OHIO UTILITIES PROTECTION SERVICE NON-MEMBER IST BE CALLED DIRECTL	10.50
	CALL 614-715-2984 & GAS PRODUCERS UNDERG ROTECTION SERVICE (OGPUPS)	



COLFAX GREEN GREEN

INFRASTRUCTURE **IMPROVEMENTS**

> CITY OF **CLEVELAND**

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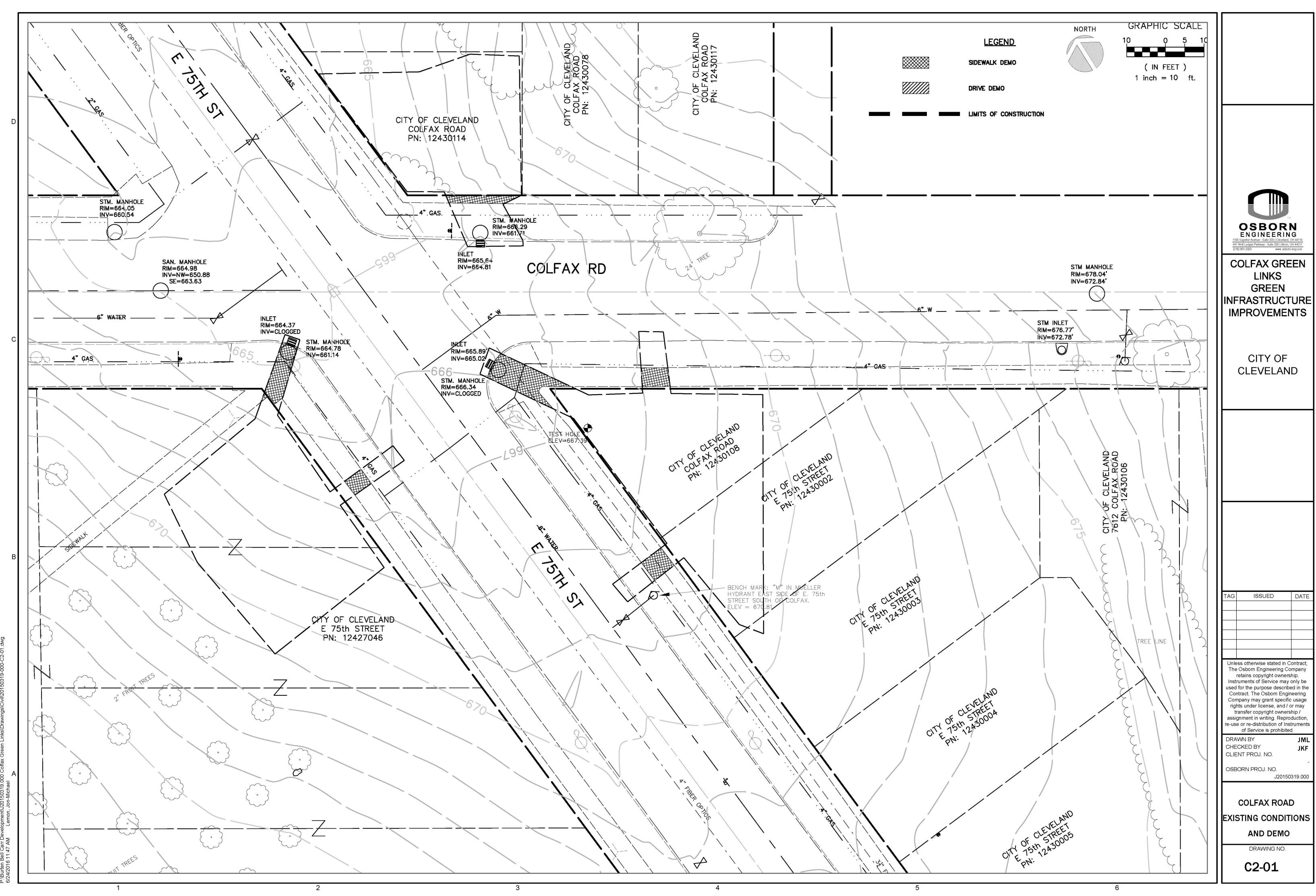
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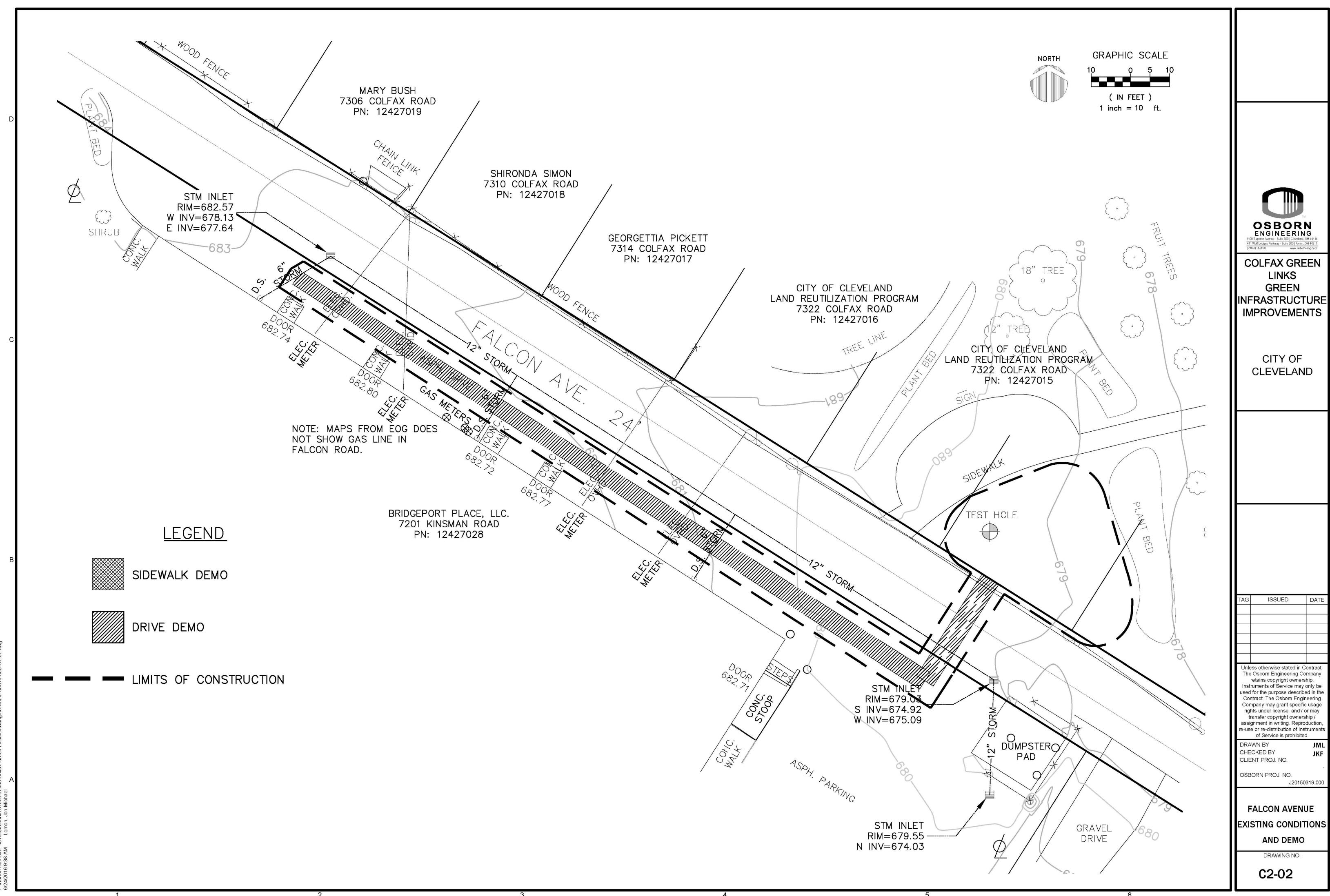
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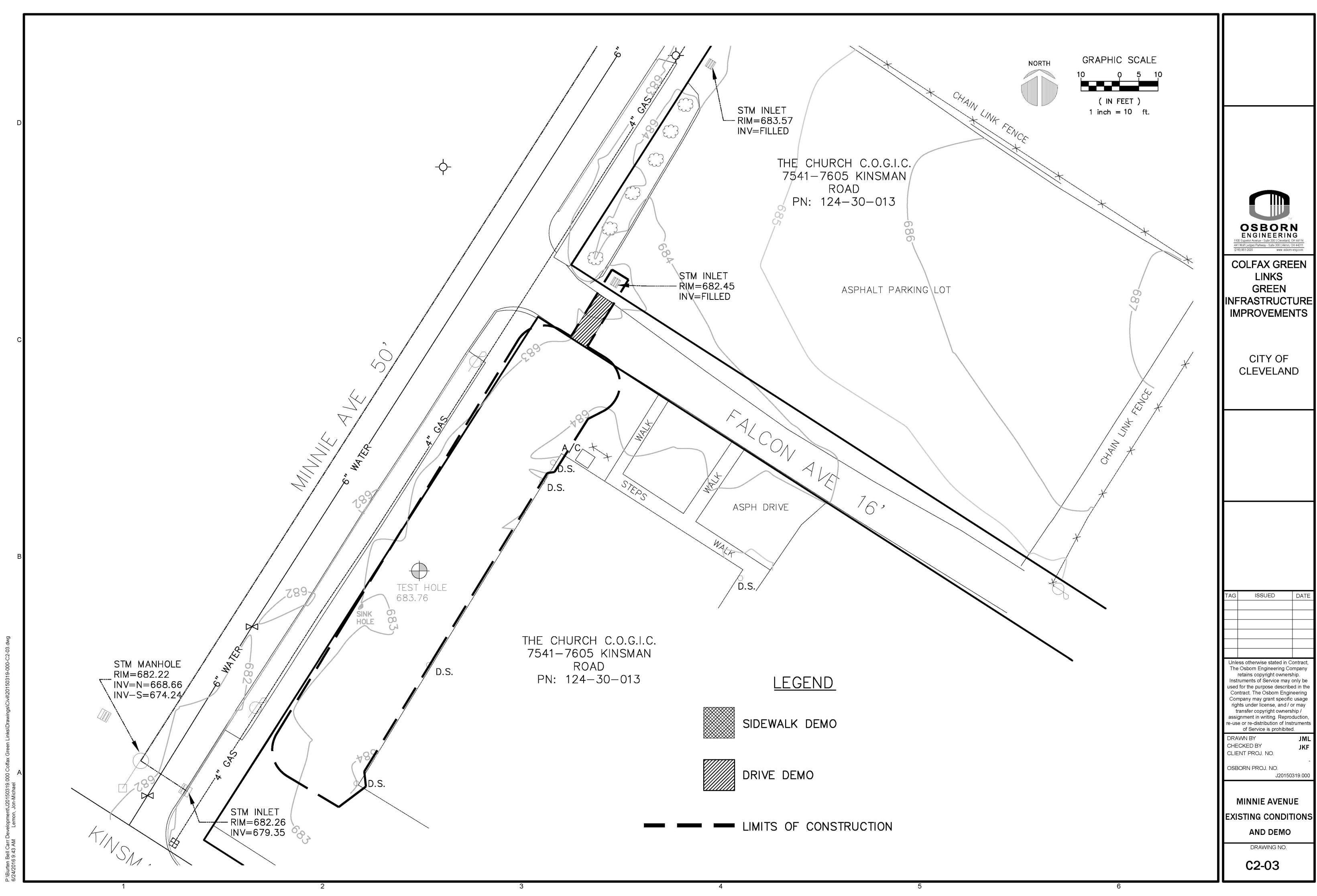
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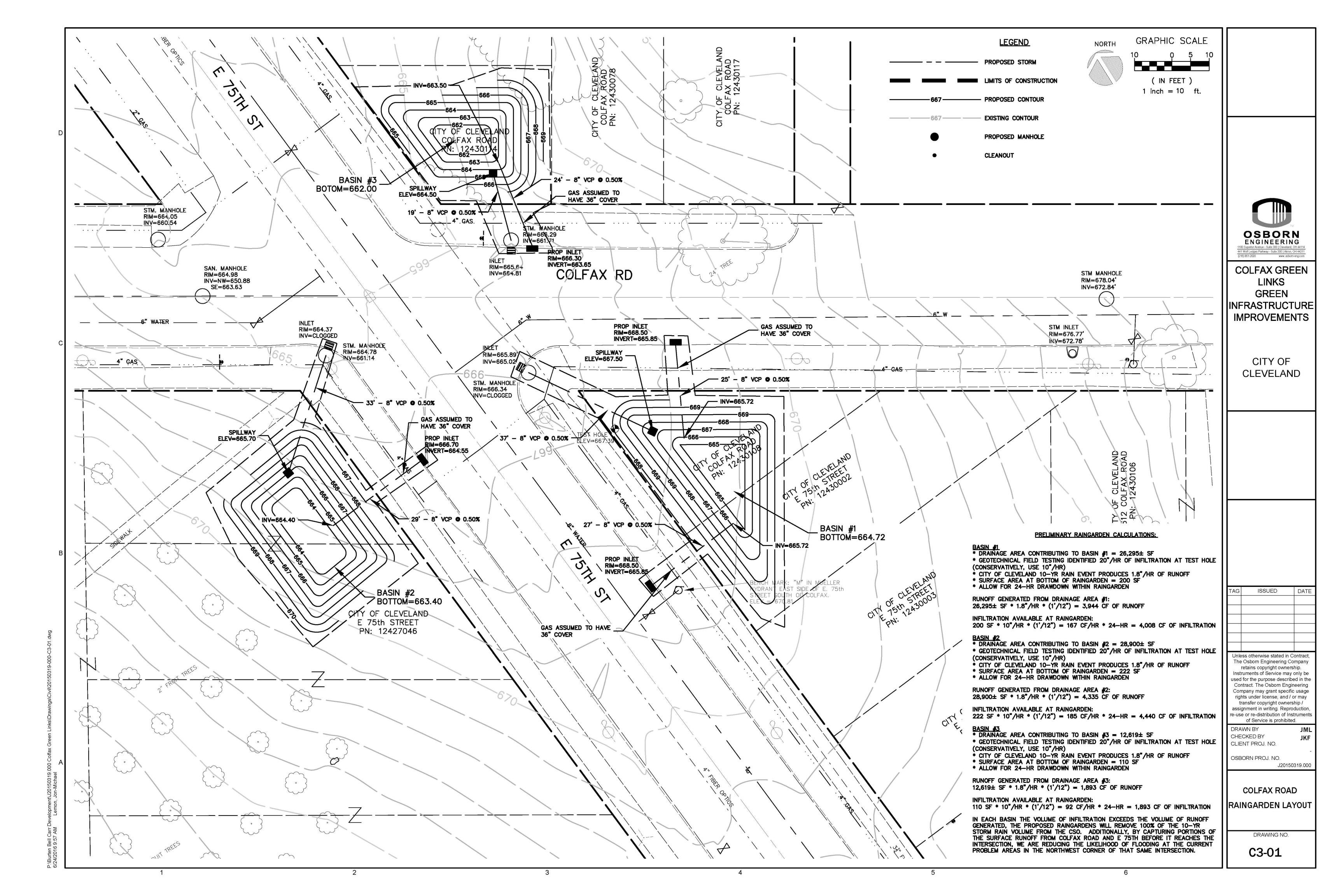


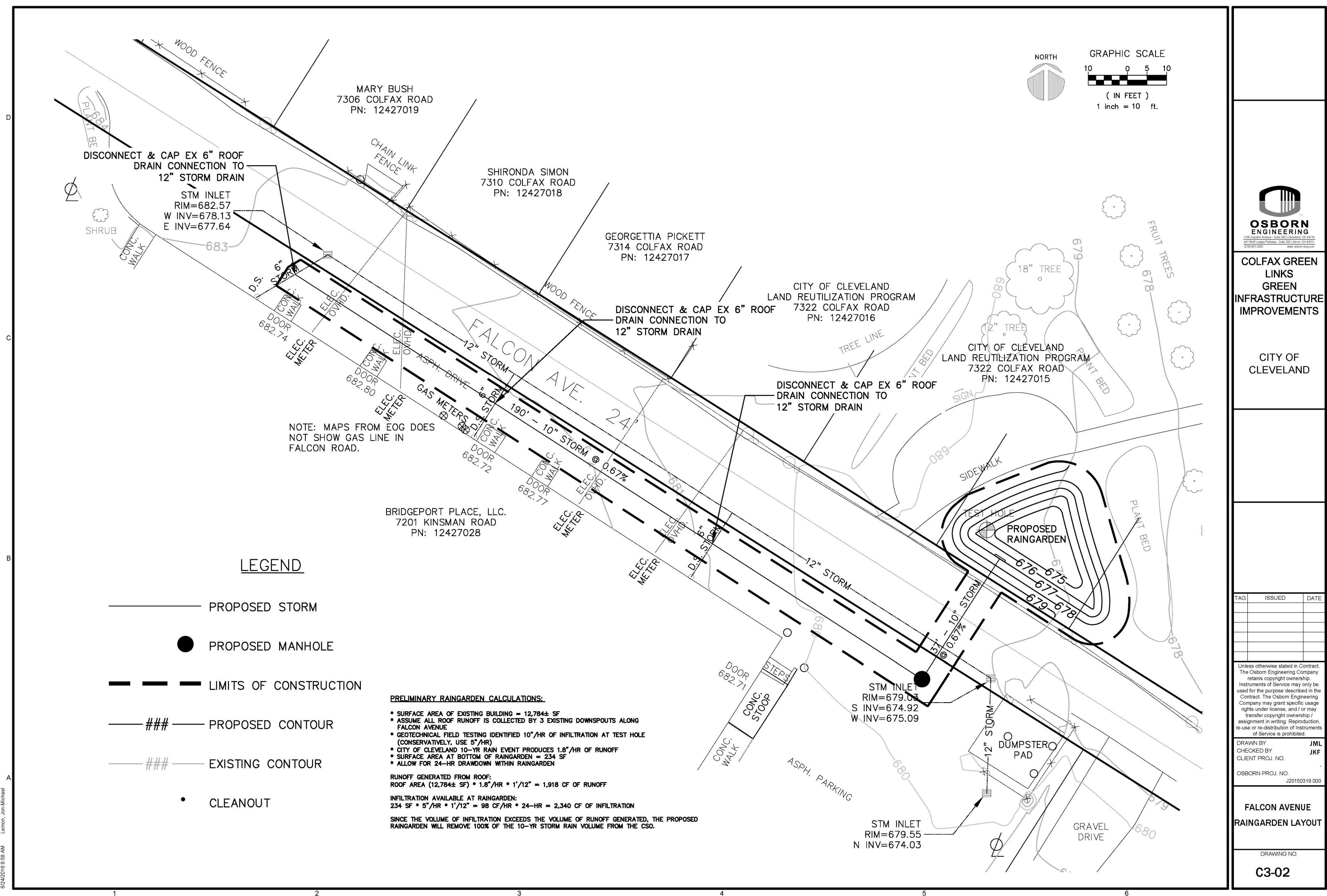
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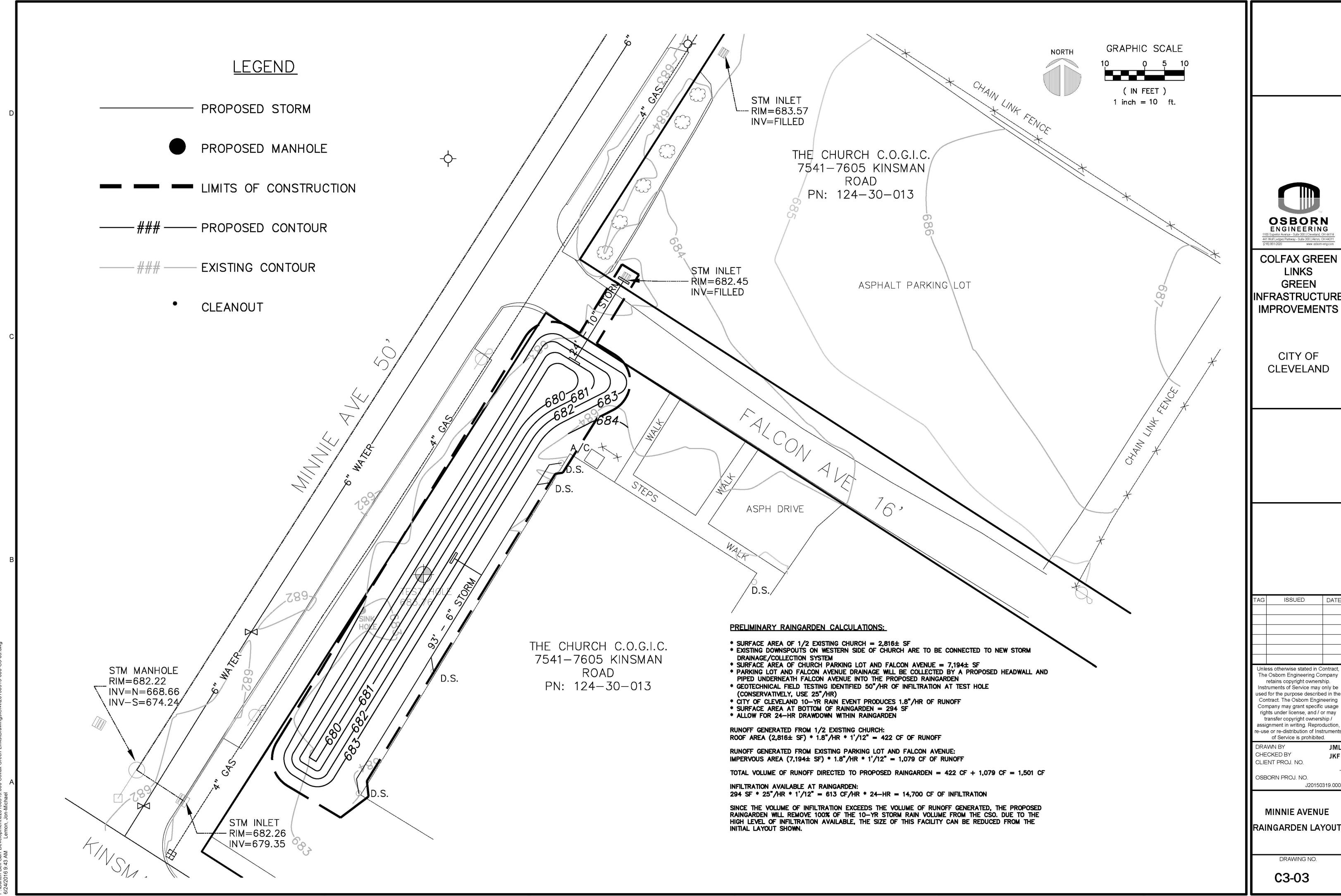
EXISTING CONDITIONS







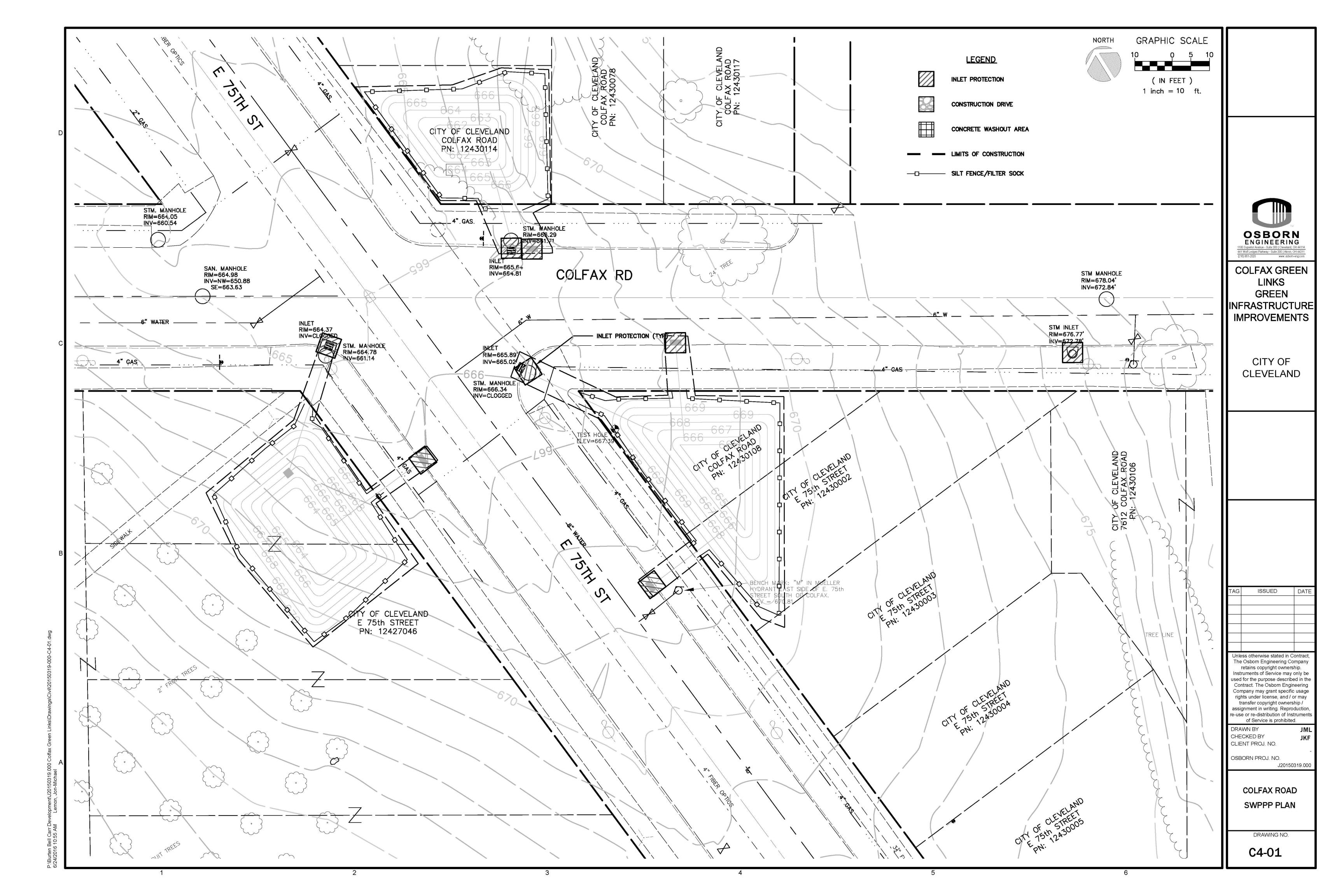


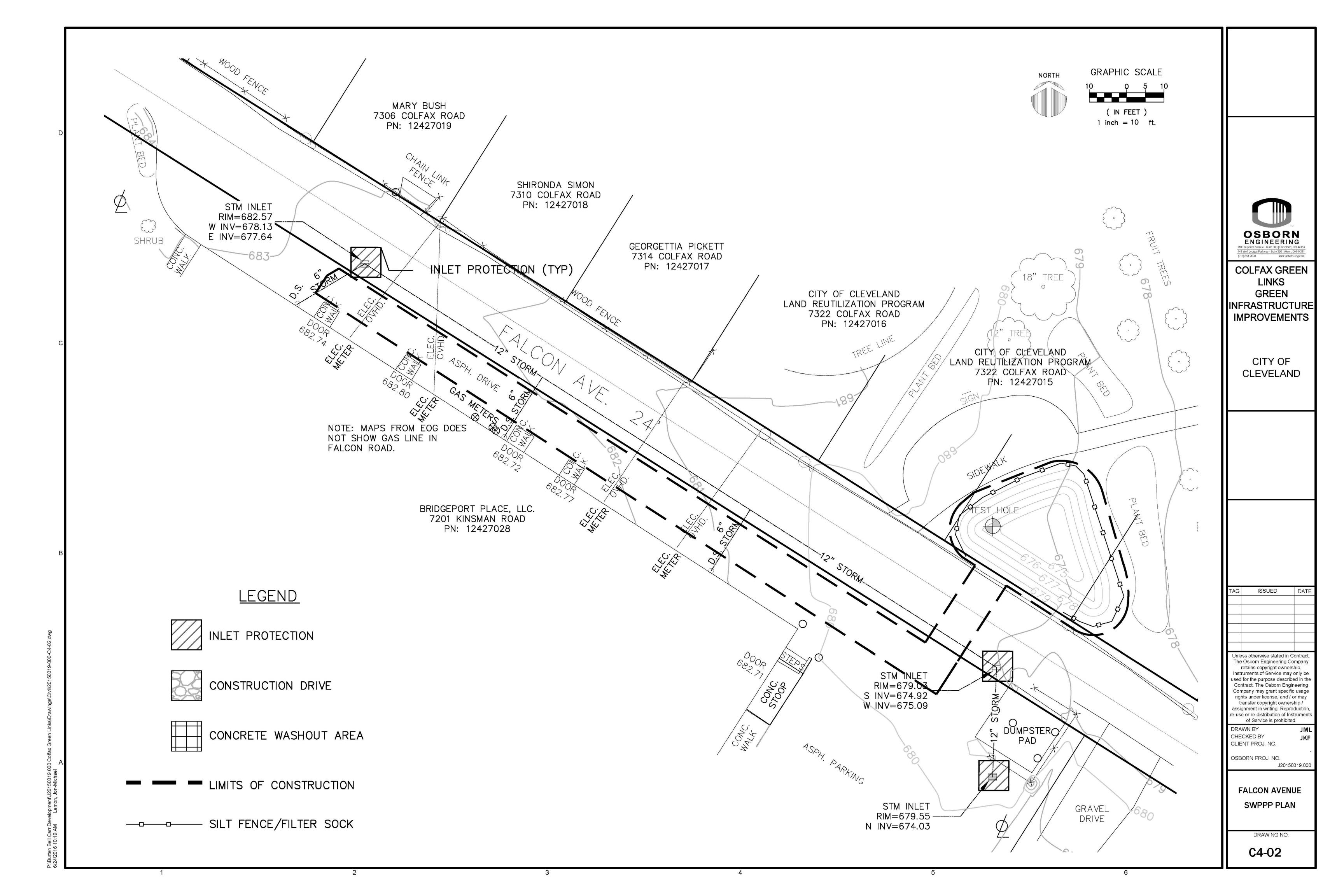


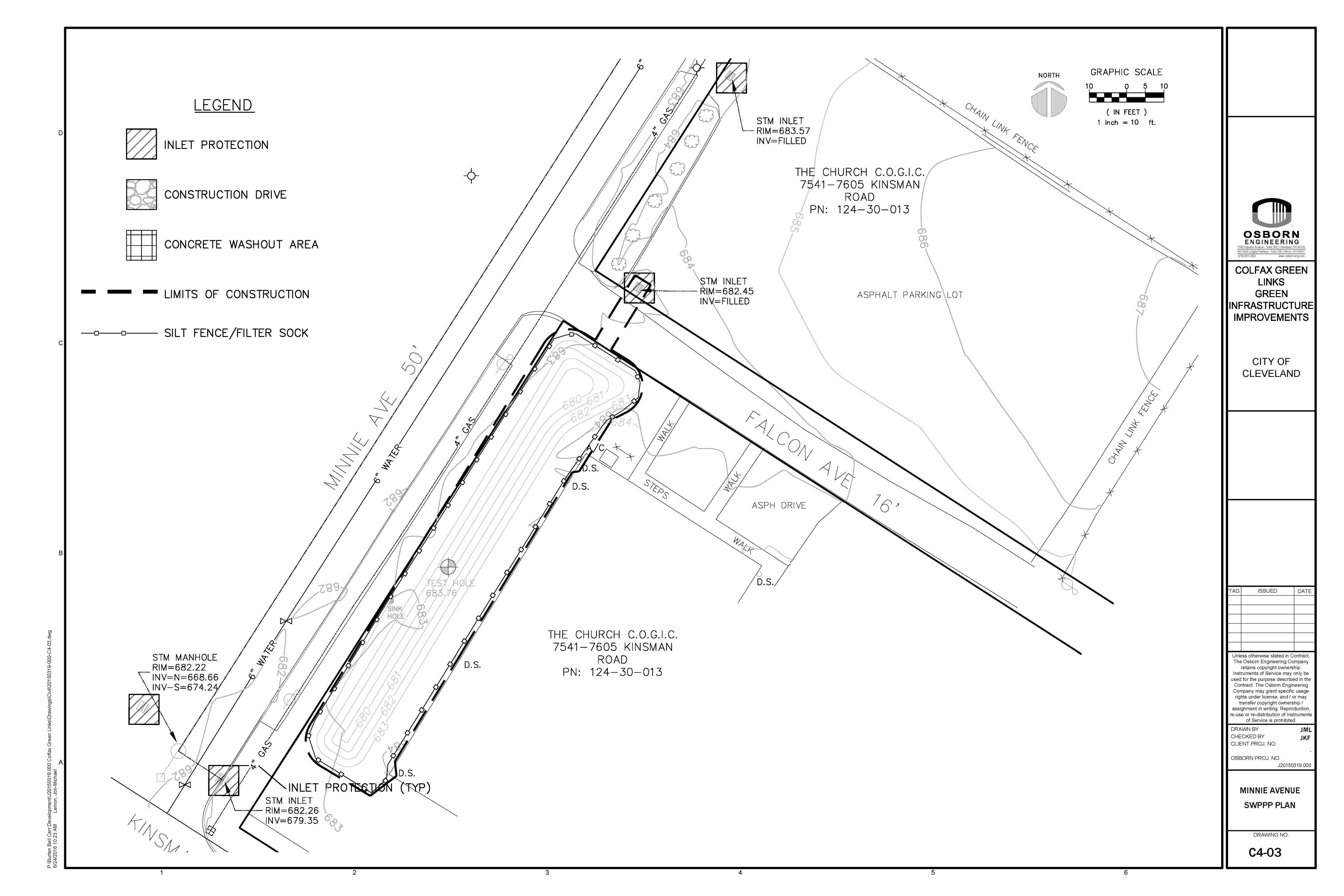
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RAINGARDEN LAYOUT







SITE EROSION AND SEDIMENT CONTROL INFORMATION

THE PROJECT INVOLVES THREE (3) SEPARATE AREAS THAT WILL BE IMPROVED TO REMOVE SURFACE AND ROOF RUNOFF FROM THE CITY STORM SEWER SYSTEM AND INFILTRATE IT INTO THE GROUND. THIS PRACTICE WILL REDUCE INFLOW TO THE CSO, RECHARGE THE REGIONAL GROUNDWATER TABLE AND WILL ALLOW FOR AREAS OF BEAUTIFICATION IN OPEN SPACE FOR NEIGHBORHOOD RESIDENTS TO ENJOY.

		COLFAX SITE	UNITS	FALCON SITE	UNITS	MINNIE SITE	UNITS
	TOTAL AREA OF SITE	0.32	ACRES	0.08	ACRES	0.08	ACRES
	TOTAL AREA DISTRURBED	0.32	ACRES	0.08	ACRES	0.08	ACRES
	EXISTING IMPERVIOUS AREA	0.13	ACRES	0.01	ACRES	0.010	ACRES
	EXISTING PERVIOUS AREA	0.19	ACRES	0.08	ACRES	0.07	ACRES
	PROPOSED IMPERVIOUS AREA	0.13	ACRES	0.01	ACRES	0.01	ACRES
	PROPOSED PERVIOUS AREA	0.19	ACRES	0.08	ACRES	0.07	ACRES
RUN	IOFF CALCULATIONS						
PRE-CONSTRU	CTION RUNOFF COEFFICIENTS						
	IMPERVIOUS AREA	0.13	ACRES	0.01	ACRES	0.01	ACRES
	PERVIOUS AREA	0.19	ACRES	0.08	ACRES	0.07	ACRES
	TOTAL AREA	0.32	ACRES	0.08	ACRES	0.08	ACRES
	WEIGHTED "C"	0.56		0.34		0.38	
POST-CONSTRUCTION RUNOFF COEFFICIENTS							
	IMPERVIOUS AREA	0.13	ACRES	0.01	ACRES	0.01	ACRES
	PERVIOUS AREA	0.19	ACRES	0.08	ACRES	0.07	ACRES

- A. THE EXISTING SOILS FOR THE PROJECT SITE ARE "SP FILL AND GRAVELLY SAND".
- B. THE EXISTING SITES CONTAIN AN EXISTING STRIP-OFFICE BUILDING WITH PARKING LOT, 3 EXISTING HOMES AND AN OPEN GREEN SPACE AREA & AN EXISTING CHURCH WITH PARKING LOT.

C. CONSTRUCTION SEQUENCE

- 1. INSTALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES.
- 2. CONSTRUCT NEW RAINGARDEN AREAS FOR INFILTRATION AND GROUNDWATER RECHARGE.
- 3. INSTALL NEW CURB INLETS AND STORM PIPES.
- 4. REPAIR CURBS AND SIDEWALKS WHERE UTILITIES WERE INSTALLED.
- 5. REMOVE TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES UPON FULL ESTABLISHMENT OF FINAL VEGETATION.
- G. PROPOSED STORM WATER COLLECTED IS TO BE DISCHARGED INTO EXISTING ON-SITE COMBINED SEWERS WHICH DISCHARGE INTO THE NORTHEAST OHIO REGIONAL SEWER DISTRICT (NEORSD) SYSTEM.
- H. THERE ARE NO SURFACE WATER LOCATIONS WITHIN 200 FEET OF THE PROJECT SITE.
- I. ALL STORM WATER COLLECTED IS TO BE DISCHARGED INTO ON-SITE STORM SEWERS WHICH OUTLET INTO CITY OF CLEVELAND COMBINED SEWER OR THE NEORSD SYSTEM.
- J. SWPPP CONTACT: JON-MICHAEL C. LEMON, PE, PROJECT MANAGER (216) 861-2020.
- K. THE POST-CONSTRUCTION BMP WILL BE PROVIDED IN THE GRASSED AREAS OF THE PROJECT. ALL LAWN AREAS WILL BE ATOP A MINIMUM OF 12" PLANTING SOIL.
- L. THE CONTRACTOR MUST USE TEMPORARY SEEDING MEASURES ON ANY CLEARED AND/OR STOCKPILED AREAS THAT ARE UNDISTURBED FOR MORE THAN 14 DAYS. ANY AREAS THAT WILL REMAIN UNDISTURBED FOR MORE THAN ONE YEAR MUST BE PERMANENTLY SEEDED.

POST CONSTRUCTION BMP RATIONALE STATEMENT

BASED UPON THE AVAILABLE INFILTRATION RATES AT EACH OF THE 3 PROJECT SITES, RUNOFF FROM SURROUNDING IMPERVIOUS AREAS WILL BE ABLE TO BE REMOVED FROM THE NEORSD CSO. BY REMOVING SURFACE AND ROOFTOP RUNOFF FROM THE LOCAL NEORSD SYSTEM, LOCAL ROADWAY PONDING WILL BE ALLEVIATED AND THE LIKELIHOOD OF LOCAL FLOODING WILL BE DECREASED.

PROJECT SITE INFORMATION

ADDRESS: BURTEN, BELL & CARR DEVELOPMENT, INC.

7201 KINSMAN ROAD, SUITE 104

CLEVELAND, OHIO 44104

CONTACT: ERICK RODRIGUEZ (818) 257-1691

CONTRACTOR: T.B.D

SWP3 CONTACT (OSBORN): JON-MICHAEL C. LEMON, PE (216) 861-2020

> PROPOSED PROJECT START DATE: AUGUST 1, 2016 ESTIMATED COMPLETION DATE: OCTOBER 1, 2016

STORMWATER CONTROL MEASURES

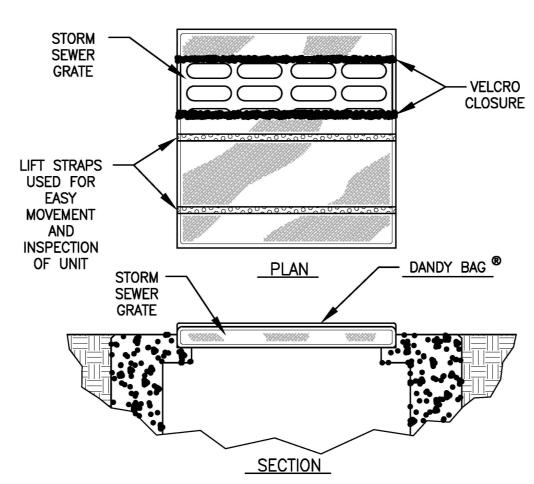
PROPOSED STORMWATER MEASURES CONSIST OF A SERIES OF INFILTRATION BASINS OR RAINGARDENS THAT INTRODUCE CURRENT SURFACE AND ROOFTOP RUNOFF INTO THE GROUNDWATER.

SOIL TYPE

THE PREDOMINANT SOIL TYPES FOUND ON SITE WERE FILL AND GRAVELLY SAND (SP).

GRADING AND STABLIZATION ACTIVITES LOG Project Name: **SWPPP Contract:** Date Grading Date When easure and Location Ceased(Indicate Measures are Temporary or

GRADING AND STABILIZATION ACTIVITIES LOG EXAMPLE



<u>SPECIFICATIONS</u>									
Test	Met	thod	Units		MARV	٦			
ASTM	D ·	4632	kN (lbs)	1.62	(365) X 0.89 (200))			
ASTM	D ·	4632	%		24 X 10				
ASTM	D '	4833	kN (lbs)		0.40 (90)				
ASTM	D ;	3786	kPa (psi)		3097 (450)	П			
ASTM	D ·	4533	kN (lbs)	0.51	(115) X 0.33 (75	$\overline{)}$			
ASTM	D ·	4355	%		90				
ASTM	D	4751	Mm (US Std Sieve)		0.425 (40)	П			
ASTM	D	4491	1/min/m² (gal/min/ft²)		5907 (145)				
ASTM	D	4491	Sec ⁻¹		2.1				
	ASTM ASTM ASTM ASTM ASTM ASTM ASTM	ASTM D	ASTM D 4632 ASTM D 4632 ASTM D 4833 ASTM D 3786 ASTM D 4533 ASTM D 4355 ASTM D 4751 ASTM D 4491	Test Method Units ASTM D 4632	Test Method Units ASTM D 4632	Test Method Units MARV ASTM D 4632 kN (lbs) 1.62 (365) X 0.89 (200 kg) ASTM D 4632 % 24 X 10 ASTM D 4833 kN (lbs) 0.40 (90) ASTM D 3786 kPa (psi) 3097 (450) ASTM D 4533 kN (lbs) 0.51 (115) X 0.33 (75 kg) ASTM D 4355 % 90 ASTM D 4751 Mm (US Std Sieve) 0.425 (40) ASTM D 4491 1/min/m² (gal/min/ft²) 5907 (145)			

THE DANDY BAG WILL BE MANUFACTURED IN THE U.S.A. FROM A WOVEN MONOFILAMENT FABRIC THAT MEETS OR EXCEEDS THE INCLUDED SPECIFICATIONS:

ALL DANDY BAGS CAN BE ORDERED WITH OPTIONAL OIL ABSORBENT PILLOWS

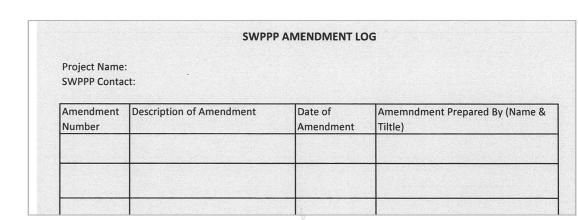
DANDY BAG INLET PROTECTION NOT TO SCALE

REQUIRED LONG TERM MAINTENANCE

- 1. THE OWNER SHALL MAINTAIN A STAND-ALONE DOCUMENT WHICH SHALL INCLUDE THE SWPPP AND THE FOLLOWING:
- THE DESIGNATED ENTITY FOR STORM WATER INSPECTION AND MAINTENANCE
- RESPONSIBILITIES. ROUTINE AND NON-ROUTINE MAINTENANCE TASKS.
- SCHEDULE FOR INSPECTION AND MAINTENANCE.
- ANY NECESSARY LEGALLY BINDING MAINTENANCE EASEMENTS AND AGREEMENTS. • MAP SHOWING ALL ACCESS AND MAINTENANCE EASEMENTS.
- 2. THE OWNER SHALL MAINTAIN A STAND-ALONE INSPECTION AND MAINTENANCE DOCUMENT. THESE RECORDS MAY BE REQUESTED AND REVIEWED BY THE CITY OR THE OHIO EPA AND THEY MAY INSPECT THE PROPERTY AT ANY TIME. THE FOLLOWING ITEMS SHALL BE INCLUDED ON THE STORM WATER SITE INSPECTION FORM:
- PROJECT NAME AND LOCATION. DATE OF INSPECTION, INSPECTOR'S NAME, AFFILIATION, CONTACT INFORMATION
- AND QUALIFICATIONS.
- WEATHER CONDITIONS AT THE TIME OF THE INSPECTION INCLUDING PRECIPITATION, TEMPERATURE, ETC.
- IS THERE DEBRIS IN THE AREA?
- ARE THE STORM INLETS FREE OF DEBRIS?
- DO THE PLANTS APPEAR HEALTHY?
- IS MULCH IN GOOD STANDING OR DOES IT NEED REDRESSING? ARE UPSTREAM DRAINAGEWAYS IN GOOD STANDING AND FREE OF DEBRIS?
- IS MAINTENANCE REQUIRED? DATE AND DETAILED DESCRIPTION OF MAINTENANCE PERFORMED.
- 3. GRASS AND LANDSCAPED AREAS: THE OWNER SHALL INSPECT ALL GRASS AREAS TO ENSURE GOOD STANDING AS THE SEEDED/SODDED AREAS ARE A BMP. THE
- RECOMMENDED OPERATION AND MAINTENANCE SCHEDULE IS AS FOLLOWS: • FERTILIZER: APPLY A BALANCED COMMERCIAL GRADE FERTILIZER A MINIMUM OF FOUR (4) TIMES ANNUALLY. ADJUST TYPE, FREQUENCY AND QUANTITY OF FERTILIZER TO PROVIDE LUSH AND HEALTHY TURF AT ALL TIMES. SPILLED OR
- INTO STORM INLET BASINS IS PROHIBITED. HERBICIDE: DEVELOP AND MAINTAIN A BROADLEAF WEED AND FOREIGN GRASS CONTROL PROGRAM CONSISTING OF BOTH POST AND PRE-EMERGENT CHEMICAL CONTROL. MAINTAIN TURF IN A WEED-FREE CONDITION.

EXCESS FERTILIZER SHALL BE SWEPT AND PROPERLY DISPOSED OF. FLUSHING

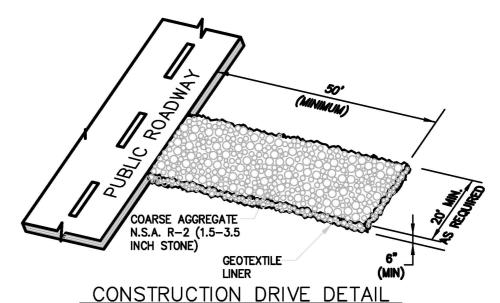
- MOWING: MOW TURF GRASS AREAS AT REGULAR INTERVALS TO KEEP TURF HEIGHT FROM EXCEEDING THREE (3) INCHES. MAINTAIN TURF GRASS HEIGHT AT 2 1/2 TO 3 1/2 INCHES AT SUBSEQUENT CUTTINGS DEPENDING ON THE TIME OF YEAR. REMOVE NO MORE THAN ONE-THIRD (1/3) OF THE GRASS LEAF AT ANY CUTTING. MOW TURF GRASS AT INTERVALS OF NOT MORE THAN TEN (10) DAYS DURING THE GROWING SEASON. MOW IN SUCH A MANNER AS TO PREVENT CLIPPINGS FROM BLOWING ONTO SIDEWALKS AND OTHER PAVED AREAS. CLEANUP AFTER MOWING SHALL INCLUDE SWEEPING OR BLOWING TO CLEAR WALKS AND PAVEMENT OF MOWING DEBRIS. FLUSHING CLIPPINGS INTO STORM INLET BASINS IS PROHIBITED. MOW NATIVE GRASS AREAS NO MORE THAN THREE (3) TIMES PER YEAR TO A HEIGHT OF NO LESS THAN FOUR (4) INCHES.
- TRIMMING: TRIM GRASSES AROUND VALVE BOXES, POLES AND OTHER STRUCTURES WITH STRING TYPE TRIMMERS. DO NOT TRIM GRASS AROUND TREE TRUNKS WITH MECHANICAL TRIMMERS. REMOVE GRASS ADJACENT TO TREE TRUNKS BY METHODS THAT WILL NOT CAUSE DAMAGE TO THE TREES.
- WATER: MAINTAIN AND OPERATE THE IRRIGATION SYSTEM IN SUCH A MANNER AS TO PROVIDE SUFFICIENT WATER TO PENETRATE SOIL TO A MINIMUM DEPTH OF EIGHT (8) INCHES IN SHRUB AND/OR TREE BEDS AND SIX (6) INCHES IN TURF AREAS. WATER AT A RATE THAT WILL PREVENT SATURATION OF THE SOIL.
- MISCELLANEOUS ITEMS: THE RECOMMENDED INSPECTION AND MAINTENANCE SCHEDULE
- STORM INLET BASINS AND MANHOLES SHALL BE INSPECTED AT LEAST EVERY SIX (6) MONTHS FOR SEDIMENT AND DEBRIS AND CLEANED AS NECESSARY.



SWPPP AMMENDMENT LOG EXAMPLE

<u>NOTES</u>

- 1.) LOCATE STONE PAD AT ANY POINT 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.
- 3.) 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
- 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.



NOT TO SCALE

OSBORN ENGINEERING **COLFAX GREEN**

LINKS **GREEN** INFRASTRUCTURE **IMPROVEMENTS**

> CITY OF CLEVELAND

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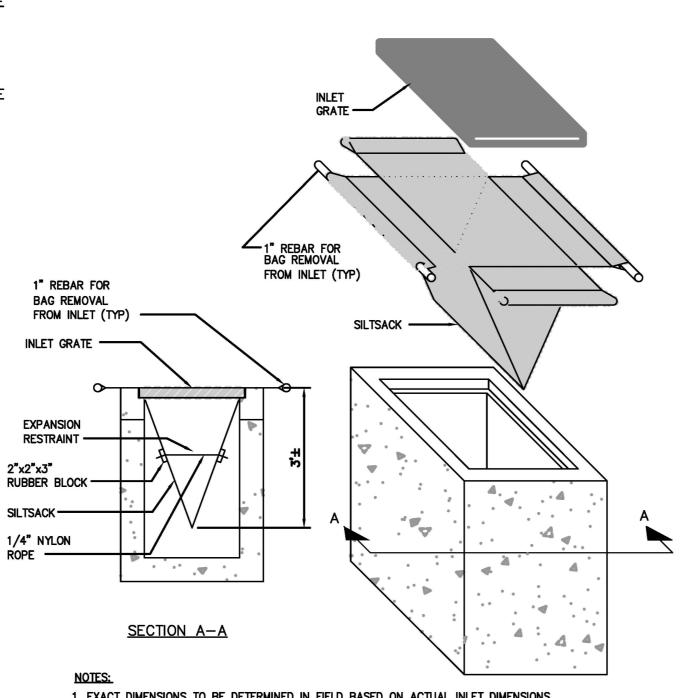
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SWPPP **DETAILS**

DRAWING NO.

C4-04



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

STORM SEWERS WILL NOT BE PERMITTED. 2. ALL EROSION AND SEDIMENT CONTROL PRACTICES ARE SUBJECT TO FIELD MODIFICATION AT THE DISCRETION OF THE LOCAL JURISDICTIONAL AUTHORITY AND/OR THE STATE EPA.

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, IT MUST BE REPAIRED OR MAINTAINED WITHIN 3 DAYS OF THE INSPECTION.

4. CONTRACTOR TO MAINTAIN GRADING AND STABILIZATION LOGS THROUGHOUT CONSTRUCTION. 5. CONTRACTOR TO MAINTAIN SWP3 AMENDMENT AND MODIFICATION LOG THROUGHOUT CONSTRUCTION.

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

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 CONDITIONS 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

6. EXCESS SOIL THAT IS STOCKPILED MUST BE EITHER REMOVED OR REGRADED WITHIN 15 DAYS OF THE

COMPLETION OF THE CONSTRUCTION. 7. NO FILL, TOPSOIL OR HEAVY EQUIPMENT SHALL BE STORED WITHIN 200 FEET OF A STREAM BANK OR WITHIN THE DRIPLINE OF TREE AREAS. 8. ALL DISTURBED VEGETATION IS TO BE RESEEDED AS PART OF RESTORATION UNLESS THE AREAS WILL BE

PAVED OR OCCUPIED. ONLY WATER OR CALCIUM CHLORIDE WILL BE USED AS A DUST PALLIATIVE.

10. A WATER TRUCK MUST BE THE METHOD OF APPLICATION FOR HAUL ROADS, ACCESS ROUTES, CONSTRUCTION AREAS AT LEAST TWICE PER DAY.

11. CONTRACTOR SHALL INSPECT ALL INSTALLATIONS OF SOIL EROSION AND SEDIMENTATION CONTROL METHODS DAILY, ANY DAMAGED OR NON FUNCTIONAL AREAS SHALL BE REPAIRED IMMEDIATELY AND MAINTAINED THROUGH THE DURATION OF THE PROJECT OR UNTIL STABILIZED VEGETATION IS ESTABLISHED. 12. 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 (7) DAYS FROM THE START OF GRUBBING. THEY SHALL CONTINUE TO FUNCTION UNTIL THE UPSLOPE DEVELOPMENT AREA IS RESTABILIZED. 13. 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.

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.

THE TRENCH SHALL BE BACKFILLED AND THE SOIL COMPACTED OVER THE FILTER MATERIAL THE SILT FENCES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE BUT NOT BEFORE

UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED. THE CONTRACTOR SHALL MAINTAIN SILT FENCE UNTIL UPSLOPE AREA HAS BEEN PERMANENTLY STABILIZED.

SILT FENCE MAINTENANCE SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DUF PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. EXTRA CARE SHALL BE

TAKEN TO MAINTAIN SILT FENCE NEAR POND (IF APPLICABLE). 2. 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

3. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN

DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER. . 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 SEEDED.

SPECIFICATIONS FOR MULCH

1. MULCH AND/OR OTHER APPROPRIATE VEGETATIVE PRACTICES SHALL BE APPLIED TO DISTURBED AREAS WITHIN 7 DAYS OF GRADING IF THE AREA IS TO REMAIN DORMANT(UNDISTURBED) FOR MORE THAN 14 DAYS OR ON AREAS AND PORTIONS OF THE SITE WHICH CAN BE BROUGHT TO FINAL GRADE. 2. MULCH SHALL CONSIST OF ONE OF THE FOLLOWING:

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.

3. 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

SPECIFICATIONS FOR TEMPORARY SEEDING

TEMPORARY SEEDING SPECIES SELECTION						
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	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	1 1	40 LB 40 LB			

CELLULOSE FIBER.

NOVEMBER 1 TO SPRING SEEDING USE MULCH ONLY, SODDING PRACTICES OR DORMANT SEEDING. NOTE: OTHER APPROVED SEED SPECIES MAY BE SUBSTITUTED.

ANNUAL RYEGRASS

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 TEMPORARY SEED SHALL BE APPLIED BETWEEN CONSTRUCTION OPERATIONS ON SOIL THAT WILL NOT BE GRADED OR REWORKED FOR 21 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.
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

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. 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

DONE IMMEDIATELY AND WITHOUT INTERRUPTION. SPECIFICATIONS FOR PERMANENT SEEDING

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

PLANTING TIME: PROCEED WITH - AND COMPLETE - LAWN WORK AS RAPIDLY AS PORTIONS OF THE SITE BECOME AVAILABLE, WORKING WITHIN SEASONAL LIMITATIONS FOR EACH KIND OF LANDSCAPE WORK REQUIRED. NORMAL SEEDING TIMES ARE AS FOLLOWS:

MARCH 15 TO JUNE 10

AUGUST 15 TO OCTOBER 1

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. 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	PERCENTA BY WEIGHT (MINIMUM)	AGE PERCENTA PURITY (MIMIMUM)	GERMINATIO	
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%
BROOKLAWN KENTUCKYBLUEGRASS	10%	85%	80%	1.00%

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 20 POUNDS PER 100 SQUARE FEET. LIME OR OTHER ADDITIVES AT THE RATE APPROVED BY THE ARCHITECT. THE ABOVE ITEMS THE RATE APPROVED 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 APPROXIMATELY 1/4 INCH.

NO SEEDING SHALL BE DONE DURING WINDY WEATHER, OR WHEN THE GROUND SURFACE IS MUDDY, FROZEN OR

WHEN LANDSCAPE WORK IS COMPLETED, INCLUDING MAINTENANCE, THE LANDSCAPE ARCHITECT WILL MAKE AN INSPECTION TO DETERMINE ACCEPTABILITY.

NON SEDIMENT POLLUTANT CONTROLS

HAZARDOUS WASTE MANAGEMENT

ALL HAZARDOUS WASTE MATERIALS SUCH AS OIL FILTERS, PETROLEUM PRODUCTS, PAINT AND EQUIPMENT MAINTENANCE FLUIDS WILL BE STORED 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 WASTER 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 STAT 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 WASTER 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 WILL BE MAINTAINED IN THE OFFICE TRAILER.

WASTE MANAGEMENT

CONSTRUCTION DEBRIS DUMPSTER. ALL WASTE MATERIALS WILL BE COLLECTED AND DISPOSED OF INTO METAL TRASH DUMPSTER LOCATED IN THE MATERIALS STORAGE AREAS. DUMPSTER WILL HAVE A SECURE WATERTIGHT LID, BE PLACED AWAY FROM STORM WATER CONVEYANCES AND DRAINS AND MEET ALL FEDERAL, STATE AND MUNICIPAL REGULATIONS. ONLY TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE DEPOSITED INTO THE DUMPSTER. NO CONSTRUCTION MATERIALS WILL BE BURIED ON-SITE. NOTICES THAT STATE THESE PRACTICES SHALL BE POSTED IN THE OFFICE TRAILER AND THE INDIVIDUAL WHO MANAGES DAY TO DAY OPERATIONS WILL BE RESPONSIBLE FOR SEEING THAT THESE PRACTICES ARE FOLLOWED. THE DUMPSTER WILL BE INSPECTED WEEKLY AND IMMEDIATELY AFTER STORM EVENTS. THE DUMPSTER WILL BE EMPTIED WEEKLY. IF THE TRASH AND CONSTRUCTION DEBRIS ARE EXCEEDING THE DUMPSTER CAPACITY THEN THE DUMPSTER WILL BE EMPTIED MORE FREQUENTLY. ALL CONSTRUCTION AND DEMOLITION DEBRIS WILL BE DISPOSED IN AN OHIO EPA APPROVED C&DD LANDFILL AS REQUIRED BY OHIO REVISED CODE 3714.

MATERIALS STAGING AREA

CONSTRUCTION EQUIPMENT AND MAINTENANCE MATERIALS WILL BE STORE AT THE STAGING AND MATERIALS STORAGE AREAS. GRAVEL BAG BERMS WILL BE INSTALLED AROUND THE PERIMETER TO DESIGNATE THE STAGE AND MATERIALS STORAGE AREA. A WATERTIGHT SHIPPING CONTAINER WILL BE USED TO STORE HAND TOOLS, SMALL PARTS AND OTHER CONSTRUCTION MATERIALS. NON-HAZARDOUS BUILDING MATERIALS SUCH AS PACKAGING MATERIALS (WOOD, PLASTIC, GLASS) AND CONSTRUCTION SCRAP MATERIALS (BRICK, WOOD, STEEL METAL SCRAPS AND PIPE CUTTINGS) WILL BE STORED IN SEPARATE COVERED STORAGE FACILITY ADJACENT TO THE SHIPPING CONTAINER. ALL HAZARDOUS WASTE MATERIALS SUCH AS OIL FILTERS, PETROLEUM PRODUCTS, PAINT AND EQUIPMENT MAINTENANCE FLUIDS WILL BE STORED IN STRUCTURALLY SOUND AND SEALED CONTAINERS UNDER COVER WITHIN THE HAZARDOUS MATERIALS STORAGE AREA.

VERY LARGE ITEMS SUCH AS FRAMING MATERIALS AND STOCKPILES LUMBER, WILL BE STORED IN THE OPEN

MATERIAL STORAGE AREA. SUCH MATERIALS WILL BE ELEVATED ON WOOD BLOCKS TO MINIMIZE CONTACT WITH

CEMENT WASHOUT FACILITY A DESIGNATED TEMPORARY, ABOVE-GRADE CONCRETE WASHOUT AREAS WILL BE CONSTRUCTED ON THE SITE, AS DETAILED ON THE SITE MAP. THE TEMPORARY CONCRETE WASHOUT AREA WILL BE CONSTRUCTED AS SHOWN IN THE PLANS, WITH A RECOMMENDED MINIMUM LENGTH AND MINIMUM WIDTH OF 10 FEET, BUT WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. THE WASHOUT AREA WILL BE LINED WITH PLASTIC SHEETING AT LEAST 10 MILS THICK AND FREE OF ANY HOLES OR TEARS. SIGNS WILL BE POSTED MARKING THE LOCATION OF THE WASHOUT AREA TO ENSURE THAT

CONCRETE EQUIPMENT OPERATORS USE THE PROPER FACILITY. CONCRETE POURS WILL NOT BE CONDUCTED DURING OR BEFORE AN ANTICIPATED STORM EVENT. CONCRETE MIXER TRUCKS AND CHUTES WILL BE WASHED IN THE DESIGNATED AREA OR CONCRETE WASTES WILL BE PROPERLY DISPOSED OF OFF-SITE. WHEN THE TEMPORARY WASHOUT AREA IS NO LONGER NEEDED FOR THE CONSTRUCTION PROJECT, THE HARDENED CONCRETE AND MATERIALS USED TO CONSTRUCT THE AREA WILL BE REMOVED AND DISPOSED OF ACCORDING TO THE MAINTENANCE SECTION BELOW, AND THE AREA WILL BE STABILIZED FOR DESIGN SPECIFICATIONS, SEE DETAIL SHEET. THE WASHOUT AREAS WILL BE INSPECTED DAILY TO ENSURE THAT ALL CONCRETE WASHING IS BEING DISCHARGED INTO THE WASHOUT AREA, NO LEAKS OR TEARS ARE PRESENT, AND TO IDENTIFY WHEN CONCRETE WASTES NEED TO BE REMOVED. THE WASHOUT AREAS WILL BE CLEANED OUT ONCE THE AREA IS FILLED TO 75 PERCENT OF THE HOLDING CAPACITY. ONCE THE AREA'S HOLDING CAPACITY HAS BEEN REACHED, THE CONCRETE WASTES WILL BE ALLOWED TO HARDENED; THE CONCRETE WILL BE BROKEN UP, REMOVED, AND DISPOSED OF. THE PLASTIC SHEETING WILL BE REPLACED IF TEARS OCCUR DURING REMOVAL OF CONCRETE WASTES FROM THE WASHOUT AREA.

EQUIPMENT/VEHICLE FUELING AND MAINTENANCE PRACTICES

SEVERAL TYPES OF VEHICLES AND EQUIPMENT WILL BE USED ON-SITE THROUGHOUT THE PROJECT, INCLUDING GRADERS, SCRAPERS, EXCAVATORS, LOADERS, PAVING EQUIPMENT, ROLLERS, TRUCKS AND TRAILERS, BACKHOES, AND FORKLIFTS. ALL MAJOR EQUIPMENT/VEHICLE FUELING AND MAINTENANCE WILL BE PERFORMED OFFSITE. WHEN VEHICLE FUELING MUST OCCUR ON—SITE, THE FUELING ACTIVITY WILL OCCUR IN THE STAGING AREA. ALL EQUIPMENT FLUIDS GENERATED FROM MAINTENANCE ACTIVITIES WILL BE DISPOSED OF INTO DESIGNATED DRUMS STORED ON SPILL PALLETS. ABSORBENT, SPILL-CLEANUP MATERIALS AND SPILL KITS WILL BE AVAILABLE AT THE COMBINED STAGING AND MATERIALS STORAGE AREA. DRIP PANS WILL BE PLACED UNDER ALL EQUIPMENT RECEIVING MAINTENANCE AND VEHICLES AND EQUIPMENT PARKED OVERNIGHT. INSPECT EQUIPMENT/VEHICLE STORAGE AREAS AND FUEL TANKS WEEKLY AND AFTER STORM EVENTS. VEHICLES AND EQUIPMENT WILL BE INSPECTED ON EACH DAY OF USE. LEAKS WILL BE REPAIRED IMMEDIATELY, OR THE PROBLEM VEHICLE(S) OR EQUIPMENT WILL BE REMOVED FROM THE PROJECT SITE. KEEP AMPLE SUPPLY OF SPILL—CLEANUP MÀTERIALS ON—SITE AND IMMEDIATELY CLEAN UP SPILLS AND DISPOSE OF MATERIALS

SPILL PREVENTION AND CONTROL PLAN

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 OVERNIGHT. 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 WILL BE WITHIN THE MATERIALS STORAGE 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 LARGER THAN 25 GALLONS MUST CONTACT OHIO EPA AT 800-282-9378, FIRE DEPARTMENT, AND LOCAL EMERGENCY PLANNING COMMITTEE WITHIN 30 MINUTES OF THE SPILL.

5. MATERIAL SAFETY DATA SHEETS, A MATERIAL INVENTORY, AND EMERGENCY CONTACT INFORMATION WILL BE MAINTAINED AT THE ON-SITE PROJECT TRAILER.

DUST SUPPRESSANTS 1. ONLY WATER OR CALCIUM CHLORIDE WILL BE USED AS A DUST PALLIATIVE.

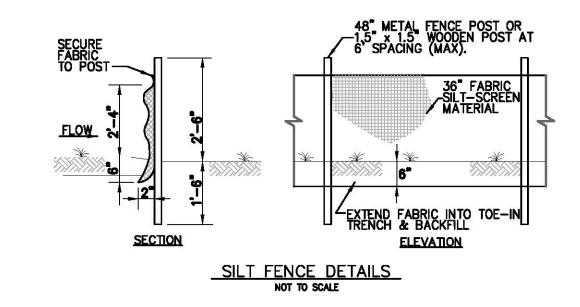
2. A WATER TRUCK MUST BE THE METHOD OF APPLICATION FOR HAUL ROADS, ACCESS ROUTES, AND CONSTRUCTION AREAS AT LEAST TWICE PER DAY.

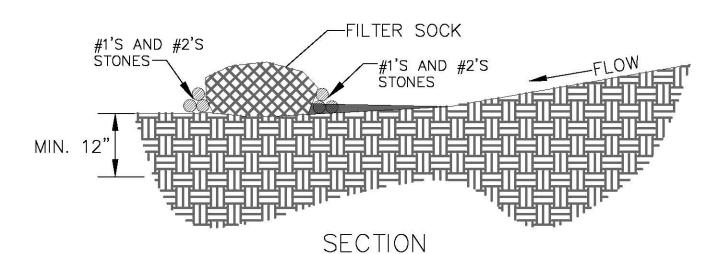
 QUALIFIED INSPECTION PERSONNEL TO PERFORM WEEKLY INSPECTIONS OF ALL BMP'S AND AN INSPECTION WITHIN 24 HOURS AFTER EVERY RAIN EVENT OF 0.5 INCHES WITHIN A 24 HOUR PERIOD. AN INSPECTION CHECKLIST WILL BE COMPLETED AND SIGNED BY THE INSPECTOR AFTER EVERY INSPECTION. CHECKLISTS SHALL BE FILED AND WILL BE KEPT ON RECORD 3 YEARS AFTER TERMINATION OF CONSTRUCTION ACTIVITIES. BMP'S NOT MEETING THE INTENDED FUNCTION OR REQUIRED INSTALLATION SHALL BE RE-INSTALLED WITH 10 DAYS OF THE INSPECTION.

SILT FROM CONSTRUCTION OPERATIONS SHALL NOT BE PERMITTED TO ENTER THE STORM SEWER SYSTEM, WHEN CONSTRUCTION OCCURS NEAR STORM SEWER INLETS, INLET FILTERS SHALL BE USED TO PREVENT SILT FROM ENTERING THE STORM SEWERS.

CONTAMINATED SOILS

CONSTRUCTION ACTIVITIES SHALL BE HALTED IF CONTAMINATED SOILS ARE DISCOVERED AND AN ENVIRONMENTAL PROFESSIONAL SHALL BE CONTACTED TO DETERMINE APPROPRIATE ACTIONS.





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

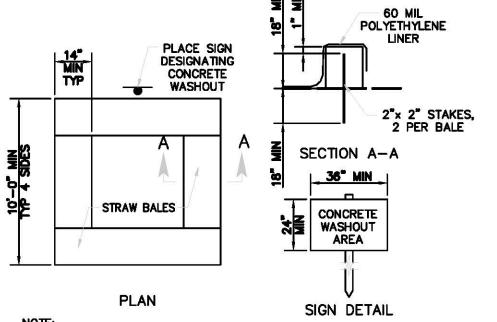
MAINTENANCE:

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

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.

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



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. CONCRETE WASHOUT BASIN DETAIL

NOT TO SCALE

FILTER SOCK DETAIL

OSBORN ENGINEERING **COLFAX GREEN**

LINKS GREEN INFRASTRUCTURE **IMPROVEMENTS**

> CITY OF **CLEVELAND**

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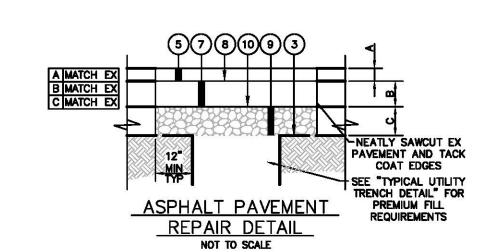
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SWPPP

DETAILS

DRAWING NO.



LEGEND

1 NOT USED (2) NOT USED

3 SUBGRADE COMPACTION (ODOT 203)

4 NOT USED

(5) ASPHALT WEARING COURSE (ODOT ITEM 448 TYPE 1, PG 64-22) 6 NOT USED

(7) ASPHALT LEVELING COURSE (ODOT ITEM 448 TYPE 2, PG 64-22) (8) TACK COAT (0.075 GAL/SQ YD) (ODOT ITEM 407)

9 AGGREGATE BASE (ODOT ITEM 304)

10 PRIME COAT (0.35 GAL/SQ YD) (ODOT ITEM 408)

1.) ASPHALT PAYING WORK AND MATERIALS TO BE AS SPECIFIED.

WITH NORMAL SOIL AND SITE CONDITIONS THIS STANDARD PRECAST MANHOLE MAY BE USED FOR ANY REQUIRED

SECTIONS OF THE PRECAST MANHOLE SHALL BE CAST AND ASSEMBLED WITH EITHER ALL TONGUE OR ALL GROOVE ENDS UP. LIFT HOLES MAY BE PROVIDED IN EACH SECTION FOR

EXPANSION JOINT--PAVEMENT SURFACE AGGREGATE BASE-COMPACTED -SUBGRADE EXPANSION JOINT-STANDARD W/ CONC VERT CURB

FOR ALL CONCRETE SIDEWALKS.

USE 3/8"x 4" EXPANSION JOINTS AT CHANGE OF DIRECTIONS, CURBS, RIGID STRUCTURES, AND RIGID PAVEMENT. ON STRAIGHT RUNS PROVIDE EXPANSION JOINTS EVERY 24 FEET.

USE READY-MIX CONCRETE (CITY OF CLEVELAND MIX DESIGN) WITH 4,000 PSI STRENGTH © 28 DAYS.
 USE REINFORCEMENT - 6x 6 - WI.4x WI.4 W.W.M.

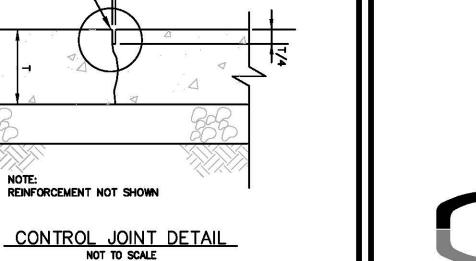
5. BROOM FINISH ACROSS DIRECTION OF TRAVEL.
6. CONTRACTOR TO PROVIDE AND HAVE APPROVED A JOINTING PLAN

4. TOOL ALL EXPOSED EDGES AND JOINTS TO 3/4" RADIUS.

1/2" PREMOLD TEXPANSION JOINT - SLEEVE (SEE NOTES) GROOVED SAWCUT HB DOWEL T=5", A=6" MIN, B=#5 (5/8") T=8", A=7" MIN, B=#8 (1")

 REINFORCEMENT NOT SHOWN
 TEAR-AWAY EXPANSION JOINT BY CEVA, TERRASTRIP OR APPROVED EQUAL. FILLER WITH SELF LEVELLING SEALANT. 3. 1/4" RADIUS, BOTH SIDES.
4. CAULK JOINT WITH COLORED CAULK TO MATCH

EXPANSION JOINT DETAIL NOT TO SCALE



1/4" TO 1/2"

OSBORN ENGINEERING

COLFAX GREEN LINKS **GREEN** INFRASTRUCTURE **IMPROVEMENTS**

> CITY OF **CLEVELAND**

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CIVIL

DRAWING NO.

FRAME & COVER GRADE RINGS *
OR BRICKS STEP ALTERNATE ECCENTRIC CONE TOP O.D. +2" MIN 58" DIA. MIN. AS PER 706.13-FLAT SLAB TOP ∠AS PER 706.13 48" PRECAST BASE FOR 27" AND SMALLER PIPE ALTERNATE

REINFORCED PRECAST MANHOLE DETAIL NOT TO SCALE

TOP AND TRANSITION (OR REDUCER): SECTIONS MAY BE EITHER ECCENTRIC CONE OR FLAT SLAB. FOR MANHOLES ARE SHOWN WITH MONOLITHIC FLOOR AND RISER WHICH MAY BE CAST IN ONE OR TWO OPERATIONS. A PERMISSIBLE ALTERNATE IS TO CAST AND SHIP THE FLOOR AND BARREL SEPERATELY. OPENINGS FOR INLET AND OUTLET PIPES SHALL BE PROVIDED, EITHER WHEN THE UNIT IS CAST OR LATER, TO MEET PROJECT REQUIREMENTS. BOTTOM CHANNELS MAY BE FORMED OF CONCRETE PRECAST IN THE BASE OR BY FIELD CONSTRUCTION AS SHOWN ON THE OPENINGS IN RISER SECTIONS:
FOR 18" AND SMALLER INLET PIPES MAY BE PREFABRICATED
OR CORE DRILLED IN THE FIELD PROVIDED THE SIDES OF THE
PIPE THE SPRINGLINE DO NOT PROJECT INTO THE CONNECTIONS:
BETWEEN PRECAST MANHOLE SECTIONS AND PIPES ON SANITARY SEWERS MAY BE SEALED WITH RESILIENT CONNECTORS CONFORMING TO ASTM C923. JOINT SEAL:
BETWEEN PRECAST MANHOLE SECTIONS ON SANITARY SEWERS
SHALL BE RESILIENT AND FLEXIBLE GASKET JOINTS PER CMS
604.06 FOR BASES AND OTHER PRECAST SECTIONS, INCLUDING REINFORCEMENT NOT SPECIFIED HEREON, SHALL COMPLY WITH THE REQUIREMENTS OF CMS 706.13 STEPS:
SHALL BE POLYPROPYLENE AND CONFORM TO THE MATERIAL
REQUIREMENTS OF CMS 711.13. ALL STEPS SHAL HAVE A
DEPRESSED TREAD OR A 1/2" MINIMUM CLEAT HEIGHT AT
ENDS. FRAME AND COVER: STORM MANHOLE: EJIW 1040 TYPE B OR APPROVED EQUAL EJIW 1040 TYPE M1 OR APPROVED EQUAL

> GRATE: THE "V" GRATE SHALL BE PROVIDED UNLESS
> THE PLANS SPECIFICALLY REQUIRE THE DIAGONAL
> GRATE. IF THE DIAGONAL GRATE IS SPECIFIED, IT SHALL
> BE PLACED SO THAT THE DIAGONAL BARS DIRECT DRAINAGE FLOW TOWARD THE CURB. CASTINGS: THE DESIGN SHALL BE ESSENTIALLY THE SAME AND EQUALLY AS STRONG AS THOSE SHOWN.
> MINIMUM MASS: CURB CASTING 170 Ibs., STANDARD GRATE 125 lbs., FRAME 320 lbs., AND "V" GRATE 104 BEARING AREAS: THE FRAME AND GRATE SHALL BE SO FITTED AND FINISHED AS TO PROVIDE A FIRM AND EVEN SEAT. NO PROJECTIONS SHALL EXIST ON BEARING AREAS OF EITHER CASTING AND THE GRATE SHALL SEAT IN ITS FRAME WITHOUT ROCKING. WALLS: WHEN USED IN PLACE OF CONCRETE, BRICK SIDE WALLS SHALL BE 8" NOMINAL THICKNESS. PRECAST CONSTRUCTION: PERMITTED, EXCEPT FOR THE APRON. CONCRETE SHALL MEET THE REQUIREMENTS OF CMS 708.13 WITH A MINIMUM OF 4% ENTRAINED AIR IN THE HARDENED CONCRETE. PRECAST WALLS SHALL HAVE A MINIMUM THICKNESS OF 8" AND REINFORCING SHALL BE SUFFICIENT TO PERMIT SHIPPING AND PLACEMENT WITHOUT DAMAGE. MINIMUM DEPTH: THE MINIMUM DEPTH SHALL BE THE OUTSIDE DIAMETER (O.D.) OF THE OUTLET PIPE PLUS OPENINGS: PIPE OPENINGS SHALL BE THE O.D. OF THE PIPE BEING SUPPLIED PLUS 2" WHEN FABRICATED OR FIELD CUT. THE INTERSTITIAL SPACE SHALL BE FILLED WITH GROUT PER CMS 601. DOWELS: FOUR 1"x 18" DOWELS ARE REQUIRED FOR CONCRETE PAVEMENT OR GUTTER BLOCKOUT. SEE STD. CONST. DWG. BP-2.2 FOR DOWEL DETAILS. BLOCKOUT: BLOCKOUTS SHALL BE PAVED WITH CLASS C CONCRETE IN PCC PAVEMENT OR GUTTER AND PAID FOR AS PART OF THE PAVEMENT OR GUTTER WITH NO DEDUCTION IN PAVEMENT, CURB OR GUTTER QUANTITIES BECAUSE OF THE CASTINGS. A CLASS C CONCRETE

APRON THE SIZE OF THE 2'-0" GUTTER SHALL BE CAST IN PLACE IN ASPHALT PAVEMENT (NO DOWELS

REQUIRED) WITH THE COST INCLUDED IN THE CATCH BASIN BID PRICE. NO DEDUCTION TO BE MADE IN CURB QUANTITIES.

LOCATION: T.B.D.

O.D. NOTES:

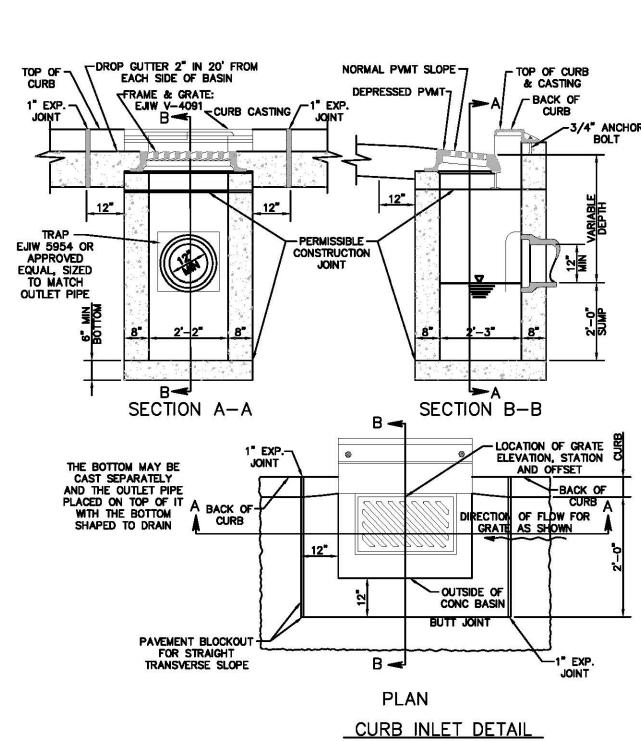
1. LOW STRENGTH MORTOR (LSM) BACKFILL (FLOWABLE FILL) SHALL MEET THE SPECIFICATIONS OF ODOT CMS ITEM 613 (TYPE 1) AND SHALL BE PLACED IN ALL LOCATIONS UNDER OR WITHIN TWO (2) FEET OF PAVEMENT AND

2. COMMON FILL MATERIAL MAY BE USED IN OTHER AREAS.

3. PIPE COVER SHALL CONSIST OF COARSE INTERLOCKING AGGREGATE No. 6, 67, 7, 78 OR 8.

4. BEDDING SHALL CONSIST OF COARSE INTERLOCKING AGGREGATE No. 6, 67, 68, 7, 78 OR 8.

> TYPICAL TRENCH DETAIL NOT TO SCALE



NOT TO SCALE

WITHIN TWENTY (20) FEET OF BUILDINGS.

DETAILS

C5-01