

**GENERAL NOTES**

The City of Gahanna requirements and standards and the City of Columbus Construction and Material Specifications (CMS), 2012 edition, including all supplements thereto, shall govern the construction items in this project unless otherwise noted.

**OWNERSHIP OF PLANS:** The site plans and design information for this project are the property of the Engineer. Any change in the sealed plans without the approval of the Engineer will remove all liability for execution of this project from the Engineer. If the plans or the design are altered without the approval of the Engineer, no part of the plans will be considered sealed or approved by the Engineer.

These plans and construction details are copyrighted by the Engineer and may not be used for any other Project at this site or any other site without the written consent of the Engineer.

The Engineer will incur no liability for these plans until the plans have been reviewed and approved by the reviewing agencies.

**PRE-CONSTRUCTION CONFERENCE:** The Contractor shall schedule a pre-construction conference with the City of Gahanna a minimum of five business days prior to any construction activities including clearing, delivery of equipment or material or construction office. Attendees shall include the Contractor, Developer, Testing Agency, City Engineer and Design Engineer.

The Contractor shall notify the City of Gahanna at least three business days prior to commencing work.

**STANDARD DRAWINGS:** These plans are not complete without a set of the specified Standard Drawings by the City of Gahanna and the City of Columbus. Copies are available at the Office of the City Engineer.

**PERMITS:** The Contractor shall obtain all necessary permits.

**EXISTING UTILITIES:** The information shown concerning existing utilities is not represented, warranted or guaranteed to be complete or accurate. It is the Contractor's responsibility to physically locate and verify, in the field, all utility locations and elevations, whether shown on this plan or not prior to the beginning of his construction operations. The Contractor shall support, protect, and restore all existing utilities and their associated items. The cost of this work shall be included in the price bid for the various items.

The Contractor shall notify all utility owners, in accordance with Section 153.64, Ohio Revised Code, at least forty-eight (48) hours prior to the beginning of any work, coordinate his work with them, and keep the utility owners apprised of his schedule and requirements until all work is completed. The Contractor shall provide the Engineer with evidence of having notified the utilities and providing them with his work schedule prior to beginning any work.

Notice shall be given to the Ohio Utilities Protection Service (telephone 800-362-2764), for the member utilities at least 48 hours prior to performing any construction activities.

Member Utilities in the area include:

Water, Sanitary Sewer and Storm Sewer Facilities:	City of Gahanna	614-342-4050
	City of Columbus	614-645-8156
Electric Power:	AEP	
Telephone:	AT&T	
Cable:	Time Warner Cable	
	WOW Cable	
Natural Gas:	Columbia Gas	

**SAFETY OF CONSTRUCTION:** The Contractor and Sub-Contractor shall be solely responsible for all OSHA, federal, state, and local safety requirements, together with exercising precautions at all times for the protection of persons (including employees) and property. It is also the sole responsibility of the Contractor and Sub-Contractor to initiate, maintain and supervise all safety requirements, precautions and programs in connection with the work.

**MISCELLANEOUS WORK:** No extra compensation shall be paid to the Contractor for compliance with any of the requirements indicated on the plans. All payments shall be deemed to be included in the various items, as bid upon, unless otherwise specifically provided.

**SURPLUS EXCAVATION:** The Contractor shall dispose of all excess excavation offsite. Topsoil may be stockpiled and reused in areas to be grassed at a depth of at least 4" free of debris and rocks larger than 2".

This site is designed to be balanced in terms of earth excavation and fill. Spoil from Evelyn drive, the stormwater detention basins and the public utilities is to be placed as shown on the plans, with at least 4" of topsoil dressed on top. This will leave sufficient room for basement excavation on each lot.

The cost of spoil placement and grading is to be included under excavation and fill.

**CLEARING AND GRUBBING**

**DEBRIS:** All debris material shall be disposed of in a manner suitable to the Inspectors. On site burial will be confined to an area designated by the Owner. The preferred disposal method is removal from the site to an approved disposal facility.

Clearing and Grubbing includes the removal of three large trees marked on Lots 1 and 2 and the removal of selected dead and fallen trees at the west end of the project. No grubbing shall be performed in the wooded area on the west and north sides of the site. Stumps shall remain in these areas.

Existing trees are to be preserved and protected. No construction traffic is permitted within the drip edge of existing trees except where indicated on the plans.

**FIELD TILE and SUBSURFACE DRAINS:** Where field tile and subsurface drains are detected during construction, the existing subsurface drains shall be repaired if damaged and connected to the storm sewer system at catch basins or detention basin structures.

**STORMWATER CONNECTIONS:** Floor drains, roof drains, foundation drains, downspout drains, storm sewers, ground water drains and all other clean water connections to the sanitary sewer are prohibited.

**SANITARY SEWERS:** The Contractor shall excavate and expose the existing end of the 8" sanitary sewer at Station 0+53 and verify the pipe slope from the downstream manhole to the existing end of pipe. If the pipe slope is different from that shown on the plans, the Engineer shall develop shop drawings adjusting the elevation of Manhole 1 and the pipe slopes from MH1 to MH4 and from MH1 to MH2. If the pipe slope does not meet minimum grade requirements (0.40% for 8" diameter pipe) then the Engineer and City Engineer will determine if a change order is needed to (1) correct the grade of the existing pipe or (2) add a manhole at the end of the existing pipe.

**TESTING:** The contractor shall arrange either an infiltration/exfiltration test or an air test with the City of Gahanna at the Contractor's expense. Leakage shall be limited to 100 gallons per inch diameter per mile of pipe per 24 hours, adjusted for the actual length of pipe tested. All sanitary sewers and services shall be tested per COC Item 901.20.

All sanitary sewer installed using PVC Pipe will be subject to a mandrel deflection test per COC Item 901.21.

**CROSSINGS:** Where the sanitary sewer crosses a storm sewer, the trench shall be backfilled according to the drawing for Anti-Infiltration and Inflow Barrier Detail. The cost shall be included in the price for the various sanitary sewer items.

Separation of Sanitary Sewers and Water Mains shall meet the 10 Feet Standards. All waterlines shall be located a minimum of 10 feet horizontally and 1.5 feet vertically from the sanitary sewers.

**MARKING:** Approved Wye-Poles shall be furnished and placed at all Wyes and at the end of service lines. No Tees are permitted in place of Wyes. Wye poles shall extend 24" above grade.

Manholes shall be adjusted to the proposed grade for the finished subdivision as part of the contract. Manhole castings shall be stamped *SANITARY*.

**MATERIALS:** Minimum sanitary sewer pipe material shall be PVC ASTM D 3035, SDR35 pipe and premium joints per ASTM D 3212.

Manholes shall meet COC AA-S102 Type "C" except that manhole steps shall be eliminated.

The Contractor shall provide soils testing and inspection, supervised by a Professional Engineer, to certify to the City of Gahanna that in situ soil and backfill within the Right-of-ways and easements shall meet required soil bearing capacity and meet COC and ODOT specifications.

All pipe, fittings, structures and castings shall be inspected and approved by the City of Columbus. Such materials shall be stamped or otherwise marked by the City. Any material that is not marked shall not be permitted for installation.

**DEWATERING:** The Contractor shall be responsible for all dewatering operations as required to install the project. Installation of any well points shall meet the permitting requirements of the Ohio Department of Natural Resources.

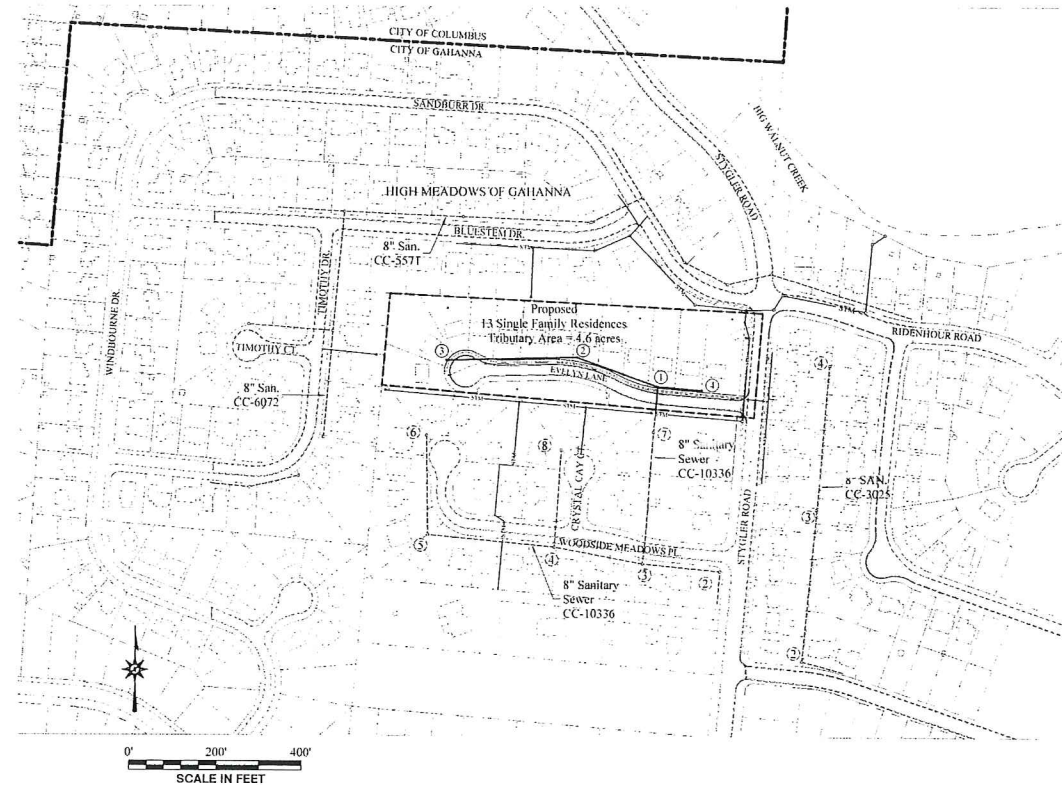
The Contractor shall install and maintain any erosion and sediment control practice necessary to control sediment caused by dewatering.

**SEDIMENT and EROSION CONTROL:** The Contractor shall coordinate installation of the sanitary sewer with the erosion control plan in the subdivision plans. No work shall be performed without the erosion control practices in place.

**DUST CONTROL:** The contractor shall furnish and apply water and calcium chloride for dust control as directed by the engineer.

# A BUSTEREVE LLC DEVELOPMENT OAK GROVE SUBDIVISION SANITARY CONSTRUCTION PLANS

## CITY OF GAHANNA, OHIO IMPROVEMENT SA 1019



**LEGEND**

Existing Topographic Line  
Proposed Topographic Line  
Spot Elevation  
Water Line  
Drainage Channel  
Tree and Tree Line  
Road Centerline  
Property Line (offset)  
Property Line  
Work Limits  
Right-of-Way  
Easement  
Proposed Fence

**UTILITIES LINES**  
(If not indicated by symbol)

Sanitary Sewer  
Storm Sewer  
Water Supply Line  
Natural Gas Pipeline  
Underground Electric Line  
Underground Telephone Cable  
Fiber Underground Utility  
Exp. Fence  
Proposed Fence

**STRUCTURES**

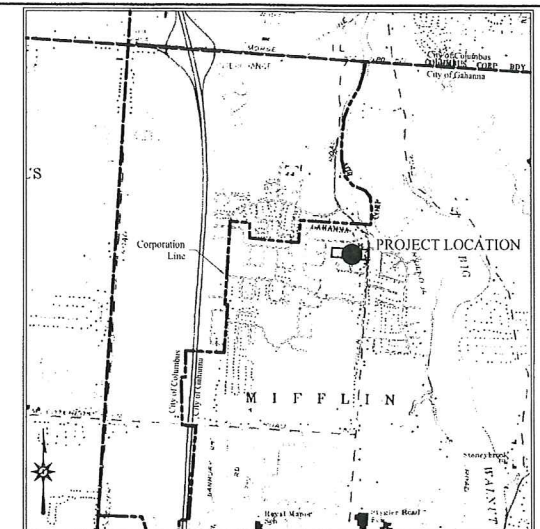
Manhole  
Water Valve Box  
Catch Basin  
Power Pole  
Telephone Pole  
Lightpole

Fire Hydrant  
Sign  
Elec. Transformer  
Telephone Jct. Box  
Existing Monument  
New Monument  
Benchmark

ESTIMATED SANITARY SEWER QUANTITIES FOR OAK GROVE OF GAHANNA			
ITEM	DESCRIPTION	AMOUNT	UNIT
<b>Sanitary Sewer (Separate Plans)</b>			
801	8" Sewer Pipe	661	LF
804	Manholes AA S-120	4	EA
918	House Connections (to Easement limits) AA-S160	13	EA
<b>TOTAL SANITARY IMPROVEMENTS = \$41,915.00</b>			

STRUCTURE LOCATIONS		
STRUCTURE	NORTH (ft)	EAST (ft)
EXG. PIPE	744,668.3	1,859,539.2
MH1	744,720.1	1,859,543.3
MH2	744,788.2	1,859,355.2
MH3	744,781.7	1,859,050.2
MH4	744,711.4	1,859,645.9

STATE PLANE COORDINATES 3402 OHIO SOUTH (NAD83)



**LOCATION MAP**  
USGS 7.5' Quad Northeast Columbus, Ohio (Maptech, Inc.)  
1"=2000'

**BENCHMARKS**  
Vertical Datum is NAVD88.  
**TBM01 - 839.54** Top of west bolt of the top flange of a Fire Hydrant located at station 103-90, 20 feet right of Stygler Road centerline in front of 960 Stygler Road. Fire Hydrant is tagged with an aluminum marker 0361. Bolt is 2.0 feet above grade.

**Franklin County Bench Mark A 26 - 805.21** Top of Brass Plug on top of the southwest abutment of the bridge at the south entrance to the drive to Stonybrook United Methodist Church on Cherry Bottom Road, 0.05 miles north of U.S. 62, 46.3 feet west of the centerline of Cherry Bottom Road, 18.5 feet south of the centerlines of the entrance drive.

**Basis of Bearings:** GPS data collected using the N.G.A.A., National Geodetic Service, *National Spatial Reference System* translated to State Plane Coordinates 3402 SOUTH OHIO (NAD83).

TITLE	SHEET
SANITARY SEWER PLAN/PROFILE	2

STANDARD DETAILS USED IN THESE DRAWINGS	
INDEX	DESCRIPTION
AA-S102	TYPE "C" MANHOLE w/o Steps
AA-S110	INSIDE AND OUTSIDE DROP DETAILS
AA-S149	TYPE I BEDDING FOR FLEXIBLE SEWER PIPE
AA-S150	TRENCH INSTALLATION WITH MAX WIDTH SPECIFIED
AA-S151	TYPE I BEDDING FOR RIGID SEWER PIPE
AA-S160	TYP. SANITARY HOUSE CONNECTION

**CITY OF GAHANNA APPROVAL**  
The signatures below signify only concurrence with the purpose and general location of the project. All technical details remain the responsibility of the Engineer preparing the plans.

*Wendy McCallister* 9/19/14  
City Engineer, City of Gahanna Date

*Jeffrey Fitch* 9/30/14  
Water Resources Engineer, City of Gahanna Date

*Russell J. Jones* 9/30/14  
Superintendent, Division of Streets, City of Gahanna Date

*Dottie A. Franey* 9-30-14  
Director of Public Service, City of Gahanna Date

*Greg E.* 9/30/14  
Director of Finance, City of Gahanna Date

*Alicia W. Steinhorn* 9-30-14  
Mayor, City of Gahanna Date

**CITY OF COLUMBUS APPROVAL**  
The signatures below indicate concurrence only with the purpose and general location of the project. All technical details remain the responsibility of the engineer preparing the plans.

*Don J. Blum* 9/10/14  
Administrator, Division of Sewerage and Drainage, City of Columbus Date

*Shen D. Dennis my Anthony* 9-12-2014  
Director, Department of Public Utilities, City of Columbus Date

BUSTEREVE LLC DEVELOPMENT  
SANITARY SEWER PLANS for  
OAK GROVE OF GAHANNA  
4185 STYGLER ROAD  
GAHANNA, OHIO

REVISIONS:  
08/14/14 Lowered sanitary sewer 1-2.3 and 1-4 by 2.0 feet at the request of builder. No change on Sheet 1  
09/21/14 Addressed comments of COC 08/25/14.

APPROVED: *Wendy McCallister*  
DATE: 09/17/2014  
CASEY C. ELLIOTT, ENGINEER  
212 WEST HIGH STREET  
COLUMBUS, OHIO 43240  
Professional Seal: PS 1759-2012

STATE OF OHIO  
CASEY C. ELLIOTT  
REGISTERED PROFESSIONAL ENGINEER

Contract: 13107

1/2

**ESTIMATED QUANTITIES FOR OAK GROVE OF GAHANNA**

ITEM	DESCRIPTION	AMOUNT	UNIT
<b>Excavation and Fill</b>			
201	Clearing and Grubbing	1	LS
203	Excavation	1,885	CY
	Including Topsoil Excavation	660	CY
203	Embankment Placement (Evelyn Lane)	116	CY
203	Embankment at CB04	30	CY
	Spoil Placement and grading (includes waste from pipe trenches)	3,317	CY
<b>Evelyn Lane</b>			
204	Subgrade Compaction and Test Rolling	2,177	SY
305	Concrete Base (7" Depth) Roller Compacted Concrete	403	CY
401	Asphalt Base Course (1.75" Course)	101	CY
404	Asphalt Finish Course (1.25" Course)	72	CY
608	Curbs Ramps	2	EA
609	Curbs Standard, Reverse and Flat	1,497	LF
	Concrete	143	CY
	Aggregate	139	CY
	4" Underdrain	1,497	LF
511	Sidewalks - concrete (Contract only - not on lots)	2.6	CY
630	Signage (Traffic control and entrance sign)	4	EA
642	Traffic Paint	1	LS
614	Construction Traffic Control	1	LS
630	ALTERNATE - Entrance Sign Assembly	1	EA
1000	OPTION 1 - Street Lighting Materials and Installation (City of Gahanna specifications - Standard Drawing SLD-5 Luminaire/Pedestal poles)	5	EA
1000	ALTERNATE - Street Lighting Materials and Installation (City of Gahanna specifications Standard Drawing SLD-4) Contractor to submit shop drawings	3	EA
<b>Stormwater Pipe</b>			
901	4" dia. COC 720.12 Corrugated Plastic Pipe w/ smooth interior	266	LF
901	8" dia. COC 720.12 Corrugated Plastic Pipe w/ smooth interior	210	LF
901	10" dia. COC 720.12 Corrugated Plastic Pipe w/ smooth interior	355	LF
901	12" dia. COC 720.12 Corrugated Plastic Pipe w/ smooth interior	30	LF
901	12" dia. COC 706.02 Reinforced Concrete Pipe	25	LF
604	COC Type AA S-133A Catch Basins	3	EA
604	COC Type AA S-133A Catch Basins w/ Special Side Inlet	1	EA
604	COC Type S AA-133B Catch Basin w/ Special Side Inlet	1	EA
604	COC AA S-125A Curb Inlet	2	EA
604	Adjust Grade of Catch Basin CB1	1	EA
<b>Bioretention Area at CB01</b>			
	Planting Layer (Sand, soil and mulch)	109	CY
	Filter Sand (ASTM C33) as specified	14	CY
	Filter Aggregate (COC 703 No.8)	14	CY
	Gravel Layer (COC 703 No.57)	55	CY
207	Filter Fabric silt fence	210	LF
<b>Bioretention Area at CB04</b>			
	Planting Layer (Sand, Soil and mulch)	82	CY
	Filter Sand (ASTM C33) as specified	10	CY
	Filter Aggregate (COC 703 No.8)	10	CY
	Gravel Layer (COC 703 No.57)	41	CY
207	Filter Fabric silt fence	236	LF
<b>Seeding, Mulching and Erosion Control</b>			
207	Temporary Seeding and Mulching	2.40	AC
207	Filter Fabric silt Fence or Sediment	850	LF
207	Erosion Control and Street Cleaning	1	LS
207	Construction Entrance	1	EA
207	Concrete Cleanout	1	EA
207	Oil Change Pad	1	EA
207	Sediment Trap Assembly CB01	1	EA
207	Sediment Trap Assembly CB04	1	EA
207	Inlet Protection	9	EA
616	Dust Control	1	LS
659	Seeding and Mulching	2.40	AC
918	House Connections (to Easement limits) AA-S160	13	EA
<b>Water Service Lines</b>			
801	8" Water Main	763	LF
802	8" Gate Valve	1	EA
802	45 deg Elbows	2	EA
803	8"x12" Tapping Sleeve	1	EA
805	Water Service Taps (up to Curb Stops)	13	EA
806	18" Casing Pipe	54	LF
809	Fire Hydrant (City of Gahanna)	3	EA

TOTAL ROADWAY IMPROVEMENTS = \$152,291.40  
 TOTAL WATER IMPROVEMENTS = \$61,014.00  
 TOTAL STORM SEWER IMPROVEMENTS = \$29,273.00

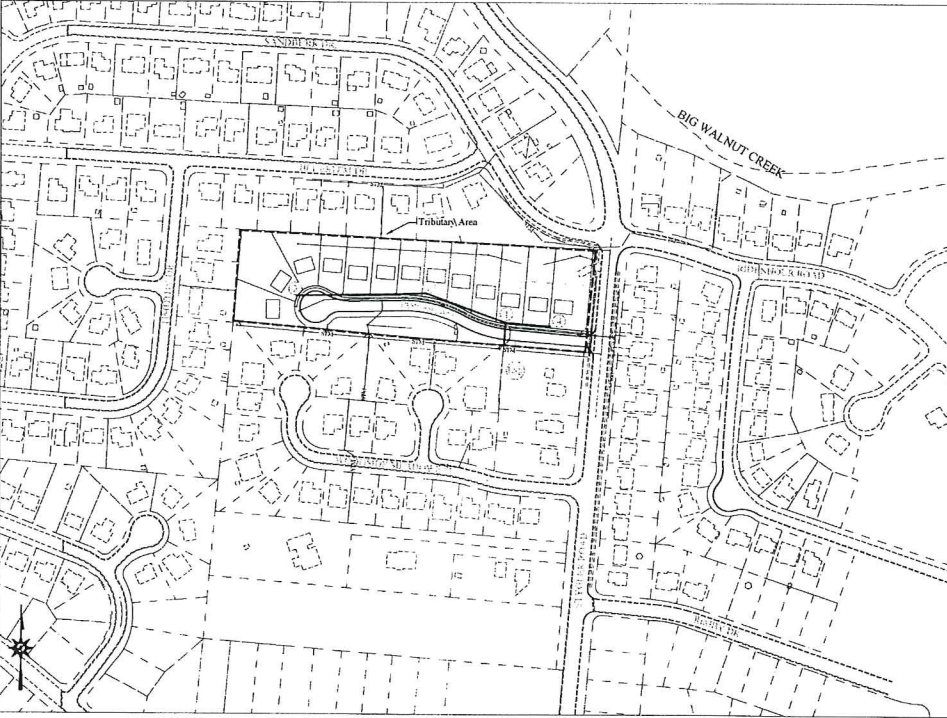
# A BUSTEREVE LLC DEVELOPMENT

# OAK GROVE SUBDIVISION

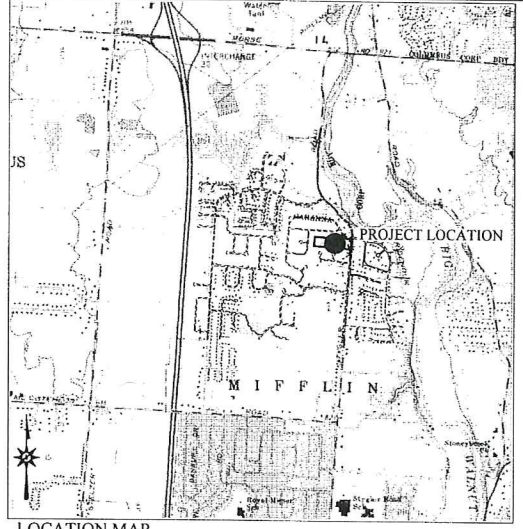
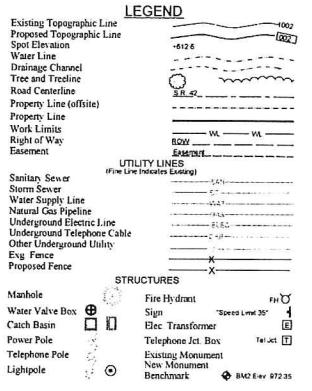
## CONSTRUCTION PLANS

### CITY OF GAHANNA, OHIO

### IMPROVEMENT ST 1018



TRIBUTARY MAP



LOCATION MAP  
 USGS 7.5' Quad Northeast Columbus, Ohio (Maptech, Inc.)  
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**BENCHMARKS**  
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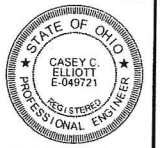
INDEX OF DRAWINGS	
TITLE	SHEET
COVER	S1
CONSTRUCTION NOTES and SWPPP PLAN	S2
EROSION CONTROL PLAN	S3
GRADING PLAN	S4
STORMWATER PLAN	S5
STREET PLAN/PROFILE	S6
WATER LINE PLAN/PROFILE	S7
TREE PLANTING PLAN	S8

STANDARD DETAILS USED IN THESE DRAWINGS			
INDEX	DESCRIPTION	INDEX	DESCRIPTION
G-25	TYPICAL HYDRANT DETAILS - HYDRANT TYPE "B"	L-6309B	TYPICAL TRENCH FOR WATER MAIN UNDER PAVEMENT
SLD-1 TO 5	STREET LIGHTING - PEDESTAL LUMINAIRE	L-6309E	OUTSIDE OF PAVEMENT INFLUENCE OF PAVEMENT-BACKFILLING WITHIN ROW FOR WATER MAIN
AA-S102	TYPE "C" MANHOLE	L-6310	BACKING FOR VERTICAL BENDS
AA-S110	INSIDE AND OUTSIDE DROPS	L-6311	BACKING FOR BENDS
AA-S15A	CURB INLET	L-6312	BACKING FOR TEES
AA-S133A	STANDARD CATCH BASIN (SMALL PIPE)	L-6316	COLUMBUS STANDARD HEAVY DUTY VALVE BOX
AA-S149	TYPE I BEDDING FOR FLEXIBLE SEWER PIPE	L-6324	CASING PIPE SPACERS AND END SEALS
AA-S160	TYP SANITARY HOUSE CONNECTION	L-6440	ALLOWABLE LEAKAGE TABLE
AA-S168	PRECAST PIPE HEADWALL	L-7001	THRUST BLOCK DETAIL END OF PIPE STANDARDS
L-1043	POLYETHYLENE ENCASUREMENT FOR D.I. PIPE	L-7002	DRAIN TILE REPLACEMENT
L-1004	POLYETHYLENE ENCASUREMENT FOR SERVICE TAPS ETC	L-9901	CURB BOX INSTALLATION
L-6306	CONCRETE VALVE SUPPORTS	2319	STREET NAME SIGN (ADAPT FOR GAHANNA STANDARDS)
L-6309A	TYPICAL TRENCH FOR WATER MAIN		CURB RAMP TYPE A

**CITY OF GAHANNA APPROVAL**  
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*[Signature]* 9/30/14  
 City Engineer, City of Gahanna Date  
*[Signature]* 9/30/14  
 Working with Resources, City of Gahanna Date  
*[Signature]* 9-30-14  
 Superintendent, Division of Streets, City of Gahanna Date  
*[Signature]* 9-30-14  
 Director of Public Service, City of Gahanna Date  
*[Signature]* 9-30-14  
 Director of Finance, City of Gahanna Date  
*[Signature]* 9-30-14  
 Mayor, City of Gahanna Date

BUSTEREVE LLC DEVELOPMENT  
 COVER SHEET  
 OAK GROVE OF GAHANNA  
 4185 STYGLER ROAD



Approved: *[Signature]*  
 PE 048721 PS 7759  
 Date: 09/07/2014  
 CASEY C. ELLIOTT  
 PROFESSIONAL ENGINEER  
 613 WEST HIGH STREET  
 COLUMBUS, OHIO 43260-1307 FAX: 614-294-8212

Contract: 13107

**S1**