General Demolition & Removal Notes

1. All existing on-site structures, sidewalks, concrete or asphalt surfaces, curbing, utility poles, sewer structures, utility services, fences, trees, shrubs, and debris noted for removal on the drawings shall be demolished and removed from the site and properly disposed of all in a manner approved by the regulating governmental agencies.
2. Contractor shall be responsible for determining the amount of removals, demolition, clearing and grubbing, stripping of vegetation, pavement breaking, and hauloff. Any quantities provided by the Engineer as shown on the plans shall be verified prior to submitting a bid for the project.
3. Contractor shall obtain all necessary state and local permits required for hauling and disposal of demolition, clearing, and non-suitable materials from the project site. Hauling methods and conditions of the permit shall be strictly adhered to.
4. Contractor shall preserve and protect all existing improvements (which are not to be removed) within the project limits or adjacent thereto from damage as a result of his activities in the performance of work. Any disturbed offsite property (i.e. bushes, fences, mailboxes, walks, pavement, etc.) shall be replaced, in kind, at the contractor's expense.
5. Contractor shall stockpile topsoil for use by the landscaping contractor and in areas to receive sod or seed.
6. Underground facilities, structures and utilities have been plotted from available surveys, records and information and, therefore, do not necessarily reflect the actual existence, nonexistence, size, type, number of, location or depth of these facilities, structures and utilities. The Contractor shall be responsible for verifying the actual location of all underground facilities, structures and utilities, either shown or not shown on these plans. The underground facilities, structures and utilities shall be located in the field prior to any grading, excavation or construction of improvements. Should the actual location, size or depth or any underground facilities, structures or utilities differ from those indicated on these plans, the Contractor shall immediately notify Clayton Engineering prior to proceeding with the installation of any proposed improvements in the area where the difference exists. These provisions shall in no way absolve any party from complying with the Underground Facility Safety and Damage Prevention Act, Chapter 319, RSMO.
7. There are no existing trees in the disturbance area.

General

1. Contractor to verify location and flowline of all existing utilities prior to connection or crossing. All connections and crossings to be made in accordance with local codes and/or utility company requirements.
2. Contractor to notify Engineer as soon as possible if conditions on ground differ from those shown on plans.
3. The original of this drawing is on file at the office of The Clayton Engineering Company. Any modifications to this drawing shall release said Clayton Engineering Company, the Engineer and/or the Surveyor whose seal appears hereon from any liability resulting from said unauthorized modifications.
4. Project Benchmark: Center of headwall on the W. side of Highway `K` at Belleau Creek. Elevation = 511.13.
5. Temporary Site Benchmark: S.W. corner of Concrete Pad on QuikTrip property. Elevation = 517.99.
6. Provide adequate off-street parking for construction employees. Parking on non-surfaced areas shall be prohibited in order to eliminate the condition whereby mud from construction and employee vehicles is tracked onto the pavement causing hazardous roadway and driveway conditions.
7. All utilities will be located underground. Electric shall be served from a new pole set next to an existing pole at the southwest corner of the QuikTrip property and underground through existing easements to a proposed transformer pad at the northeast corner of the proposed retail building, or as directed by AmerenUE.

Grading

1. Contractor shall obtain a copy of the Geotechnical Report. The Report shall govern over any discrepancies between the Report and the plans or notes.
2. All grading shall be within 0.5 feet more or less of the contours shown on the grading plan, unless otherwise directed by the Owner or Engineer.
3. All fills are to be left with a temporary lip (berm) at the top of the slope at the end of each day's operations.
4. The General Contractor shall be responsible for rough grading of all landscape areas. Grade to match top of proposed pavement elevation, not top of curb elevation. All areas shall be free of debris. Landscape Contractor shall be responsible for a minimum of 6" of topsoil in all landscape areas.
5. All fill placed under proposed storm and sanitary sewers, proposed roads, and/or paved areas shall be compacted to 95% of maximum dry density as determined by the modified AASHTO Compaction Test T 180 (Current A.S.T.M. Specification D-1557), and verified by a Soils Engineer prior to installing pipe. All fill placed in proposed roads shall be compacted from the bottom of the fill up. All tests shall be verified by a soils engineer concurrent with grading and backfilling operations. Ensure the moisture content of the soil in fill areas is to correspond to the compactive effort as defined by the Standard or Modified Proctor Test. Optimum moisture content shall be the same test that was used for compaction. Soil compaction curves shall be submitted to the City of O'Fallon prior to the placement of fill. Proof rolling may be required to verify soil stability at the discretion of the City of O'Fallon.
6. Damage to offsite streets and downstream properties due to soil erosion or siltation shall be prevented by erecting silt barriers or basins, or by utilizing similar devices to effect soil stabilization prior to the start of any grading operations.
7. All protective measures shall be installed downslope of every location where the original ground is to be disturbed.
8. Storm water pipes, outlets and channels shall be protected by silt barriers and kept free of waste and silt at all times prior to final surface stabilization and paving.
9. No slope shall be greater than 3:1.
10. All areas not sodded but disturbed by grading operations shall be protected by seeding and mulching as soon as possible or if left bare for more than 2 weeks.
11. Inspection of, and necessary repairs made within 24-hours, to the erosion and silt control measures must be made daily and/or following periods of precipitation of one-half inch or more.
12. The Contractor shall assume complete responsibility for controlling all siltation and erosion of the project area. The Contractor shall use whatever means necessary to control erosion and siltation including, but not limited to, staked straw bales and/or siltation fabric fences (possible methods of control are detailed in the plan). Erosion control shall commence with grading and be maintained throughout the project until acceptance of the work by the Owner and/or the City of O'Fallon. The Contractor's responsibilities include all design and implementation as required to prevent erosion and the depositing of silt. The Owner and/or the City of O'Fallon may at their option direct the Contractor in his methods as deemed fit to protect property and improvements. Any depositing of silt or mud on new or existing pavement shall be removed immediately. Any depositing of silts or mud in new or existing storm sewers or swales shall be removed after each rain and affected areas cleaned to the satisfaction of the Owner and/or the City of O'Fallon.
13. Sod shall be installed in the right-of-way. Everywhere else may be seeded at owner's direction.
14. Developer must supply City construction inspectors with soil reports prior to or during site soil testing.

Storm & Sanitary Sewers

1. All materials and methods of construction for sewers to meet the most recent requirements of the City of O'Fallon, Missouri and the current Plumbing Code.
2. All sanitary connection pipe and fittings shall be polyvinyl chloride pipe (PVC) with the material meeting and the pipe conforming to current ASTM Specification D-3034, SDR-35, and shall be bedded to meet manufacturer's specifications. Joints for PVC pipe shall be gasketed O-ring type that conforms to current ASTM Specification D-3212.
3. Cleanouts to consist of 6 inch on 4 inch wye turned up, 4 inch elbow and riser. Cap with a round frame and cover, Neenah Foundry Company R-1976 or equivalent, approved by the Engineer. Frame to be set in concrete collar.
4. Brick shall not be used in the construction of storm or sanitary sewer structures.
5. 5/8" diameter trash bar shall be installed in all inlets.
6. All storm & sanitary manholes & inlets shall have a 0.2' drop through the structures.
7. Rip rap shown at flared ends will be evaluated in the field after installation for effectiveness and field modified if necessary to reduce erosion on and off site.
8. Joints shall be gasketed O-ring type.

Water Lines

1. The 2" Service Line shall be flexible or rigid Type "K" or "L" copper.
2. All Valve Boxes shall be Mueller Buffalo Screw Type or equivalent, approved by the Engineer. Top shall be set even with finish grade.
3. Meters will be furnished and set by Alliance Water Resources. Subcontractor to furnish and set Meter Boxes. Boxes to be of a type approved Alliance Water Resources.
4. Fire Hydrants to be 3-way dry barrel and shall conform to AWWA Specification C-502; Mueller Centurion A-422, Breakaway Type, or approved equal, with control valve at connection to main. Hydrant elbow shall be provided with a 6" mechanical joint connection and a minimum valve size of 4-1/2" diameter, or approved equal.
5. Thrust blocks shall consist of poured in place concrete and shall be placed at all changes in direction, tees and ends of water lines over 3 inches in diameter, except for Rodded Hydrant lines.
6. All water lines shall be laid at least 10 feet horizontally, from any sanitary sewer, storm sewer, or manhole. Whenever water lines must cross sanitary sewers, laterals or storm drains the water lines shall be laid at such an elevation that the bottom of the water line is 18 inches above the top of the drain or sewer. A full length of water pipe shall be centered over the sewer line to be crossed so that the joints will be equally distant from the sewer and as remote therefrom as possible. This vertical separation shall be maintained for that portion of the water line located within 10 feet, horizontally, of any sewer or drain it crosses.
7. All water lines to be tested and disinfected in accordance with the current Missouri State Division of Health's requirements and project specifications.
8. Water line tap shall be a wet tap.
9. All water line construction shall be per the Alliance Water Resources and the City of O'Fallon. Minimum cover is 42 inches over the top of the pipe.

Streets and Paving

1. All materials and methods of construction for the entrance from Mexico Road to meet the requirements of the city of O'Fallon, Missouri.
2. All sidewalks, curb ramps, ramps and accessible parking spaces shall be constructed in accordance with the current approved "American with Disabilities Act Accessibility Guidelines" (ADAAC) along with the required grades, construction materials, specifications and signage. If any conflict occurs between the above information and the plans, the ADAAC guidelines shall take precedence and the Contractor prior to any construction shall contact the Project Engineer.
3. All trenches under, or adjacent to proposed pavement shall be backfilled to subgrade elevation with compacted 3/4" minus crushed limestone. Crushed limestone shall be compacted to 90% density as determined by the Standard Proctor Test AASHTO T-99 (ASTM D-698). All other trenches within the road right of way shall be backfilled with suitable earth embankment material free from rubbish and debris and lumps, clods or rocks larger than 2 inches placed in 6" layers and compacted to the same density as above. Trenches not in road right-of-way or under or adjacent to pavement may be backfilled with earth embankment material defined above, jetted and neatly mounded to allow for subsequent settlement, unless otherwise directed by the Engineer.
4. Subgrade for parking pavement shall be compacted with a self-propelled steel wheel roller weighing not less than 10 tons. Pavement shall consist of 8" Rolled Stone base course with a 3" Type 'C' Asphaltic Concrete surface course. The base course shall be placed in two or more layers of approximately equal thickness, rolled and compacted. The surface course shall be spread in a single layer, rolled and compacted using not less than a 10 ton two wheel roller. Concrete pavement for the trash enclosure and adjacent pick up area shall consist of 5" of rolled stone base with 6" of non-reinforced concrete.
5. Contractor shall guarantee paving for one year after final completion of construction against settlement, low spots or raveling out of surface. Make any repairs necessary during guarantee period to maintain paving in original condition, including cost of repainting within repaired areas. Repairs shall include but not be limited to removing defective paving and replacing with new paving. (No overlays will be allowed).
6. Bike rack indicated on the plans shall be a Dero Rolling Rack Mini 2H as manufactured by Dero Bike Rack Company, 2657 32nd Avenue South, Minneapolis, Minnesota 55406, phone: 888-337-6729, fax: 612-331-2731 or located on the web at www.dero.com, or approved equal.

Lighting

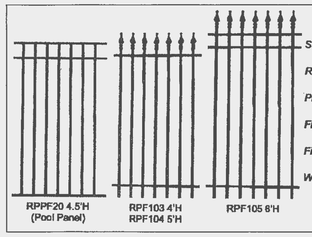
1. Lighting values will be reviewed on site prior to the final occupancy inspection. Corrections will need to be made if not in compliance with City standards.

Signage

1. All sign locations and sizes must be approved separately through the Planning Division.
2. All sign post and backs and bracket arms shall be painted black using Carboline Rustbond Penetrating Sealer SG and Carboline 133 HB paint (or equivalent as approved by the City and MoDOT).

Fencing

1. Fencing on top of the proposed retaining wall indicated on the plans shall be 4' high black wrought iron fence per the City of O'Fallon code. Posts shall be black. Fence shall be installed per manufacturer's recommendations.
2. Coordination is essential between fence contractor and retaining wall contractor/manufacturer.



Commercial Classic Wrought Iron

Section: 8 feet wide.

Rails: 1.5" X .5" 1/8" punched channel.

Pickets: .75" X 16 ga. square tubing; 4.57" on cent

Finials: 6" safety ball welded.

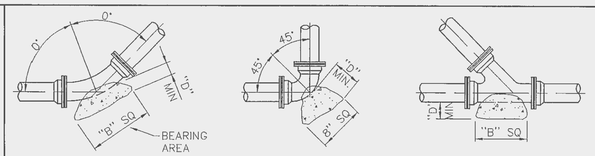
Finish: Black powder coated.

Warranty: 10 year fence; 1 year finish

USE COMMERCIAL CLASSIC WROUGHT IRON FENCE,
BY R&T FENCE COMPANY, INC., MODEL #RPF103,
OR APPROVED EQUAL, MINIMUM 42" HIGH.
(FENCE AVAILABLE AT WWW.FENCE-DEPOT.COM)

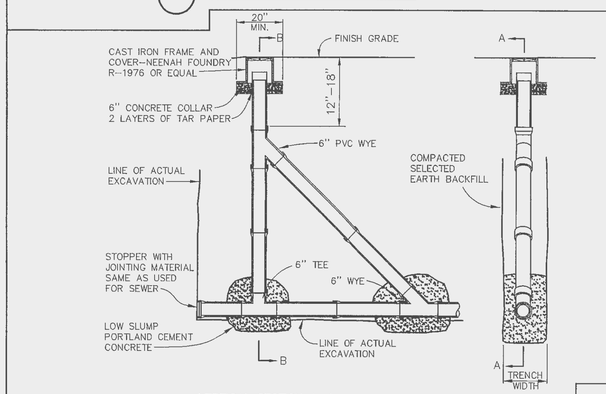
FENCE DETAIL

N.T.S.



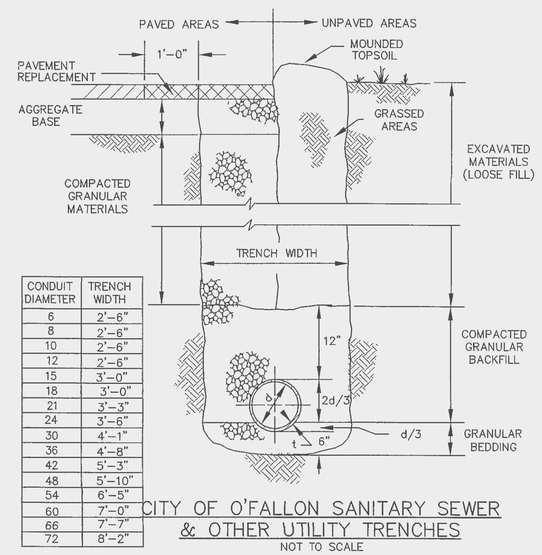
PIPE DIA.	90° BENDS		45° BENDS		22.5° BENDS		WYES & TEES	
DIM.	B	D	B	D	B	D	B	D
2"	1.0	0.7	1.0	0.7	1.0	0.7	1.0	0.7
3"	1.0	0.7	1.0	0.7	1.0	0.7	1.0	0.7
4"	1.0	0.7	1.0	0.7	1.0	0.7	1.0	0.7
6"	1.4	1.0	1.0	1.0	1.0	1.0	1.6	1.0
8"	1.8	1.0	1.4	1.0	1.0	1.0	2.2	1.0
10"	2.3	1.2	1.7	1.2	1.2	1.2	2.7	1.2
12"	2.7	1.4	2.0	1.4	1.4	1.4	3.2	1.4
14"	3.2	1.5	2.4	1.5	1.7	1.5	3.8	1.5
16"	3.6	1.7	2.7	1.7	1.9	1.7	4.3	1.7

THRUST BLOCKS



CLEANOUT / SAMPLING TEE

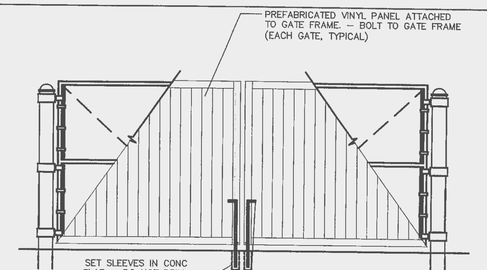
N.T.S.



CONDUIT DIAMETER	TRENCH WIDTH
6	2'-6"
8	2'-6"
10	2'-6"
12	2'-6"
15	3'-0"
18	3'-0"
21	3'-3"
24	3'-6"
30	4'-1"
36	4'-8"
42	5'-3"
48	5'-10"
54	6'-5"
60	7'-0"
66	7'-7"
72	8'-2"

CITY OF O'FALLON SANITARY SEWER & OTHER UTILITY TRENCHES

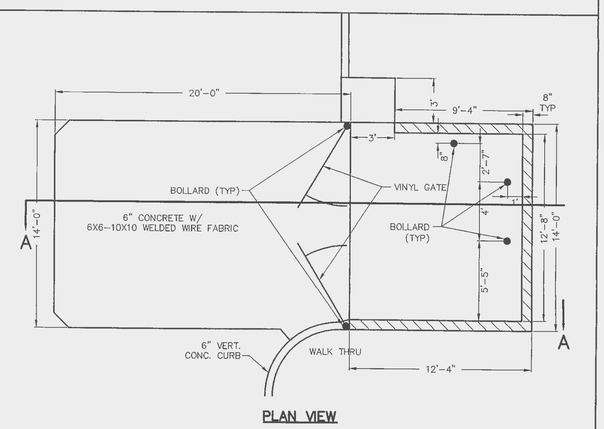
NOT TO SCALE



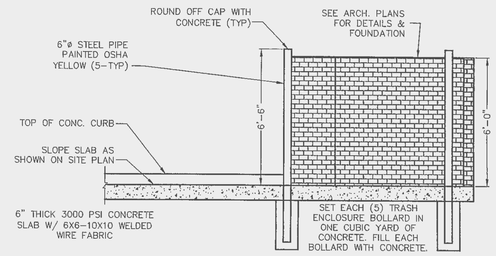
NOTE:
VINYL PANEL STYLE TO BE VERTICAL BOARD WITH RAISED RAIL TRIM @ TOP, BOTTOM, & SIDES.

TRASH ENCLOSURE VINYL GATE DETAIL

NOT TO SCALE



PLAN VIEW

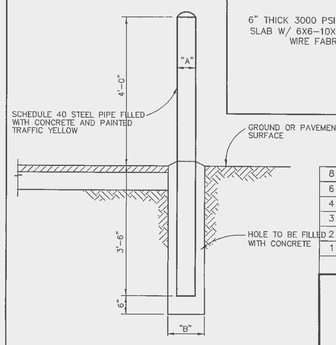


SECTION A-A

TRASH ENCLOSURE

N.T.S.

"A" Dim.	"B" Dim.
4"	16"
6"	18"
8"	20"



NOTE:
HOLE FOR BOLLARD MAY BE DRILLED AFTER PAVEMENT INSTALLATION AT CONTRACTORS OPTION. DO NOT USE THIS DETAIL FOR BOLLARDS IN THE TRASH ENCLOSURE AREA

PIPE BOLLARD

N.T.S.

8	09/29/05	GMS	NO CHANGES TO THIS SHEET
6	8/26/05	GMS	FIELD CHANGES - NO CHANGES TO THIS SHEET
4	06/16/05	GMS	CITY COMMENTS - ADDED FENCE HEIGHT TO FENCE DETAIL
3	05/26/05	EAS	CITY COMMENTS
2	05/10/05	GMS	FIRE DISTRICT COMMENTS - ADDED HYDRANT
1	05/04/05	GMS	CITY COMMENTS

REVISIONS

DETAIL SHEET
RETAIL CENTER
HWY "K" & Mexico Road
O'Fallon, Missouri 63366

Prepared for:
CLEAN-N-CRUISE L.L.C.
2010 Bluestone Drive
St. Charles, MO 63303
(636) 669-9111, fax: (636) 669-9117

STATE OF MISSOURI
GREG MICHAEL STALEY
NUMBER E-28986
PROFESSIONAL ENGINEER
9/29/2005

the clayton engineering company, inc.
ENGINEERS • SURVEYORS • PLANNERS
11920 WESTLINE INDUSTRIAL DRIVE
ST. LOUIS, MISSOURI 63146
(314) 692-8888 FAX: (314) 692-8688
clayton-engineering.com

Designed	EAS/GMS
Drawn	EAS
Checked	GMS
Date	03/17/05
Project Number	99007-5
Sheet Number	5 of 6

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