GAS

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SERVICES UNIT **WELL PERMIT WASHTENAW COUNTY** THE FOLLOWING UTILITIES ARE LOCATED IN OR NEAR THE **RIGHT-OF-WAY FOR THIS PROJECT PUBLIC UTILITIES** OWNER WATER SEWER STORM CITY OF ANN ARBOR FIELD OPERATIONS SERVICE UNIT W.R. WHEELER SERVICE CENTER 4251 STONE SCHOOL ROAD SIGNS ANN ARBOR, MI 48108 SIGNALS STREET LIGHTS **FORESTRY PRIVATE UTILITIES OWNER**

DTE ENERGY

DTE ENERGY

COMCAST

AT&T

17150 ALLEN ROAD

MELVINDALE, MI 48122

8001 HAGGERTY ROAD

27800 FRANLKIN ROAD

SOUTHFIELD, MI 48034

550 S. MAPLE ROAD

ANN ARBOR, MI 48103

2800 N. GLENFILLE ROAD

RICHARDSON, TX 75082

BELLEVILLE, MI 48111

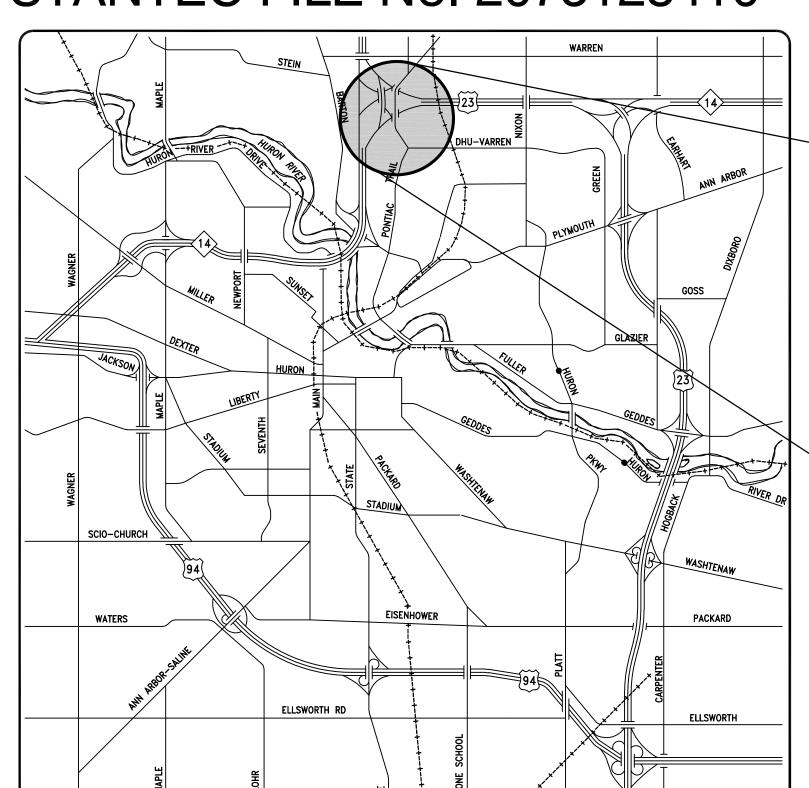
GRADING/SOIL EROSION &

PRIOR TO THE BEGINNING OF CONSTRUCTION.

PERMITS REQUIRED TO BE OBTAINED BY THE CONTRACTOR CONTRACTOR IS RESPONSIBLE FOR THESE PERMIT FEES. **ISSUING AUTHORITY** CITY OF ANN ARBOR PLANNING AND DEVELOPMENT CONTACT DAN WOODEN (734) 794-6350 MARK COZART (734) 794-6350 **KEVIN ERNST** (734) 794-6350 CHUCK FOJTIK (734) 794-6361 STEVE GOEBEL (734) 794-6364 CONTACT **JACK WYHATT** (313) 701-1355 CLAY COMBEE WESTERN WAYNE SERVICE CENTER | (734) 397-4112 THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO THE 1994 EDITION OF THE CITY OF ANN ARBOR PUBLIC SERVICES DEPARTMENT STANDARD SPECIFICATIONS RON SUTHERLAND AND IT'S DETAILS WHICH ARE INCLUDED BY REFERENCE. (313) 999-8300 THE OMISSION OF ANY CURRENT STANDARD DETAIL DOES NOT RELIEVE THE CONTRACTOR FROM THIS REQUIREMENT. **BRIAN BERRY** THE WORK SHALL BE PERFORMED IN COMPLETE (734) 996-2135 CONFORMANCE WITH THE CURRENT PUBLIC SERVICES STANDARD SPECIFICATIONS AND DETAILS. **DEAN BOYERS** (972) 729-6016

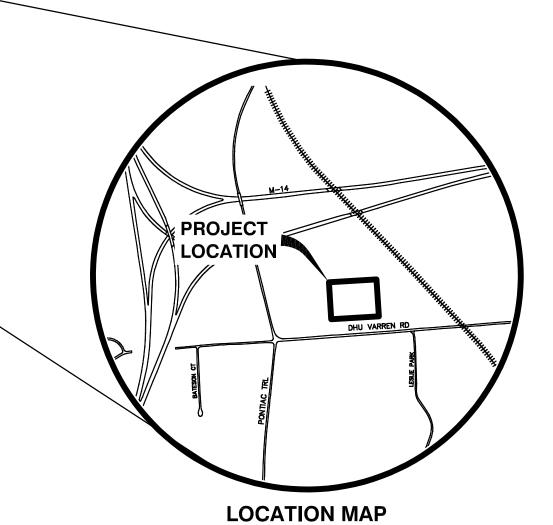
CITY OF ANN ARBOR FIELD OPERATIONS OLSON PARK IRRIGATION IMPROVEMENTS

JANUARY 2015 CITY ITB No. 4359 STANTEC FILE No. 2075128410



FOR PROTECTION OF UNDERGROUND UTILITIES AND IN
CONFORMANCE WITH PUBLIC ACT 53, THE CONTRACTOR
SHALL CALL 811 OR 1-800-482-7171 A MINIMUM OF THREE
FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS,
AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN
AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN
PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY
NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF
THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO
MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM.

SHEET INDEX					
SHEET	DRAWING No.	TITLE			
1	G-01	COVER SHEET			
2	G-02	GENERAL NOTES AND LEGEND			
3	G-03	STANDARD DETAILS SHEET			
4	C-01	SITE AND IRRIGATION PLAN			



PREPARED BY:



3754 Ranchero Drive Ann Arbor MI U.S.A. 48108-2771 Tel. 734.761.1010 Fax. 734.761.1200 www.stantec.com

VICINITY MAP



77	PREPARED UNDER THE SUPERVISION OF		
t's Below. Defore you dig.	GARY SACHARSKI, P.E., - MI LICENSE No. 47491 PROJECT ENGINEER 01/06/2015 DATE	ENGINEER'S SEAL	
			<

CITY DEPARTMENTAL REVIEW							
SURVEY	REVIEW ENGINEER	FIELD OPERATIONS	C.E.S. SUPERVISOR	TRAFFIC	SOIL EROSION	STORM WATER/ FLOODPLAIN	DRAWING No. 2075128410 - G-01
							SHEET No. OF 4

WATER SYMBOLS	MISC. SYMBOLS	UTILITY LINETYPES
+ + FIRE HYDRANT	? UNKNOWN MANHOLE	w WATER MAIN
GATE VALVE IN BOX		r STORM SEWER
GATE VALVE IN WELL	p TELEPHONE MANHOLE	SANITARY SEWER
STOP BOX	T TELEPHONE RISER	GAS MAIN
WATER VAULT		MISC. LINETYPES
WELL WELL	G GAS VALVE	BOUNDARY
STORM SYMBOLS	. (X) GAS VENT	BUILDING
CATCH BASIN (SQ)		CENTERLINE OF DITCH
CATCH BASIN (RD)	GAS BOX	——————————————————————————————————————
(RD)	E ELECTRICAL PICER	
STORM MANHOLE	E ELECTRICAL RISER	GRAVEL R.O.W.
NON-CURB CATCH BASIN (SQ)	TRANSFORMER	~~~~~~ TREELINE
SANITARY SYMBOLS		WETLAND
S SANITARY MANHOLE	UTILITY POLE	HATCHING
©0 CLEAN-OUT	LAMP POLE	ASPHALT
VEGETATION SYMBOLS	LAMP POLE	CONCRETE
	GUY ANCHOR	GRAVEL
TREE (DECIDUOUS)	GUY POLE	WETLAND
TREE (CONIFEROUS)	(MW) MONITORING WELL	
Zw.	MAIL MAILBOX	
STUMP		
ATT CHRID (PEODUO)	SOIL BORING	
SHRUB (DECIDUOUS)		
TRAFFIC SYMBOLS	SURVEY SYMBOLS	
POST		
PEDESTRIAN	TRAVERSE POINT	
SIGNAL	BENCH MARK	
HAND HOLE	IRON PIPE	
ORNAMENTAL LIGHT		
FLOOD LIGHT	O MON BOX	
	1	J

EXISTING

MISC. SYMBOLS

EXISTING

EXISTING

	PROPOSED	PROPOSED
WAT	ER SYMBOLS	UTILITY LINETYPES
	HYDRANT (PROFILE)	————— WATER MAIN
	HYDRANT (PLAN)	— — STORM SEWER
\otimes	WATER GATE WELL	—— —— SANITARY SEWER
	WATER GATE VALVE	MISC. LINETYPES
\bigcirc	WATER STOP BOX	BUILDING
W	WATER VAULT	——————— CENTERLINE OF DITCH
STOR	M SYMBOLS	—-— CENTERLINE OF ROAD
01010	W O I WIDOLO	FENCE
	INLET	SILT FENCE
	DOUBLE INLET	LOT/UNIT
	INLET JUNCTION	PHASE LINE
	CHAMBER	CURB
	ROUND CATCH BASIN	PERMIT
R	STORM MANHOLE	WATER EASEMENT
	DRAIN ARROW	STORM EASEMENT
	FLARED END SECTION (PLAN)	SANITARY EASEMENT
	FLARED END SECTION (PROFILE)	
		HATCHING
SANIT	ARY SYMBOLS	ASPHALT
\bigcirc	SANITARY MANHOLE	CONCRETE
\bigcirc	CLEAN-OUT	SIDEWALK
VEGE	TATION SYMBOLS	GRAVEL
•	TREE (DECIDUOUS)	PAVEMENT/WALK REMOVAL
	TREE (CONIFEROUS)	-14444444444-1- CURB REMOVAL
TRAF	FIC SYMBOLS	
	BARREL	
	SIGN	

PUSH BUTTON

DETECTABLE WARNING

CONSTRUCTION NOTES:

DRIVEWAYS AND ENTRANCES TO BUILDINGS AND PROPERTY SHALL NOT BE BLOCKED EXCEPT FOR SHORT DURATIONS AND ONLY WHEN APPROVED BY THE ENGINEER. VEHICULAR AND PEDESTRIAN ACCESS SHALL BE MAINTAINED AT ALL TIMES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE ALL NECESSARY DRIVEWAY CLOSURES WITH THE PROPERTY OWNER(S) AND RESIDENT(S) IN THE AREAS OF CONSTRUCTION.

- 2. THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES AND SERVICE LEADS ARE TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- 3. LOCATION AND DEPTH OF EXISTING UTILITIES AS DEPICTED ON THE PLANS IS APPROXIMATE AND SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO EXCAVATE AHEAD AND ADJUST DEPTH OF CONFLICT UTILITIES ACCORDINGLY. ANY DAMAGE TO UTILITIES IS THE CONTRACTOR'S RESPONSIBILITY TO AVOID AND/OR REPAIR AS NECESSARY.
- 4. DURING NON-WORKING HOURS NO TRENCH SHALL REMAIN OPEN; ANY OPEN TRENCH SHALL BE PROPERLY SECURED WITH PROTECTIVE FENCING. THIS WORK SHALL BE INCLUDED IN THE ITEM OF WORK "GENERAL
- 5. THE CONTRACTOR SHALL BACKFILL TRENCHES IN ACCORDANCE WITH TRENCH DETAIL SPECIFIED ON PLANS.
- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUOUS MAINTENANCE OF THE TEMPORARY ROAD SURFACE AND SOIL EROSION CONTROL MEASURES WITHIN THE CONSTRUCTION AREA UNTIL THE FULL COMPLETION OF THE PROJECT.
- 7. ALL CURB, SIDEWALK, AND DRIVEWAY APPROACH REMOVALS SHALL BE APPROVED BY ENGINEER BEFORE THE WORK IS DONE.
- EXISTING STREET NAME, GUIDE, AND REGULATOR SIGNS, AND MAILBOXES WHICH CONFLICT WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED PRIOR TO CONSTRUCTION, STORED IN A MANNER WHICH WILL PREVENT DAMAGE, AND RE-SET IN LOCATIONS AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID SEPARATELY, BUT SHALL BE INCLUDED IN "GENERAL CONDITIONS".
- 9. CONTRACTOR IS FULLY RESPONSIBLE FOR THE COORDINATION AND INSTALLATION OF THE CONTROL WIRING FROM THE EXISTING IRRIGATION CONTROLLER TO THE WELL PUMP STARTER.
- 10. ALL TREES WITHIN THE PARK SHALL BE PROTECTED FROM DAMAGE DUE TO CONSTRUCTION ACTIVITIES.
- 11. THE LOCATION OF THE EXISTING IRRIGATION SYSTEM IS APPROXIMATE. CONTRACTOR IS RESPONSIBLE FOR LOCATING IRRIGATION HEADS, PIPING AND VALVES PRIOR TO CONSTRUCTION. ANY DAMAGE TO THE EXISTING IRRIGATION SYSTEM IS THE RESPONSIBILITY OF THE CONTRACTOR.
- 12. CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY TURF AREAS THAT ARE DAMAGED DURING CONSTRUCTION. IF THE DAMAGED TURF IS WITHIN THE SOCCER FIELDS, IT MUST BE REPLACED WITH SOD.

SOIL EROSION CONTROL NOTES:

NOTE: A SOIL EROSION CONTROL IS NOT REQUIRED BECAUSE THE PROJECT IS NOT WITHIN 500 FEET OF A WATER BODY, AND IS LESS THAN 1 ACRE IN SIZE. HOWEVER, THE CONTRACTOR IS RESPONSIBLE TO PROVIDE THE NECESSARY EROSION CONTROL MEASURES SHOULD CIRCUMSTANCES WARRANT THEM DUE TO WEATHER, CONSTRUCTION OR OTHER REASONS, OR IF THE OWNER OR ENGINEER REQUIRE THEM.

GENERAL:

- 1. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN THE SOIL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AT ALL TIMES DURING CONSTRUCTION ON THIS PROJECT. ANY MODIFICATIONS OR ADDITIONS TO THE SOIL EROSION CONTROL MEASURES DUE TO CONSTRUCTION OR CHANGED CONDITIONS SHALL BE COMPLIED WITH AS REQUIRED OR DIRECTED BY THE OWNER, PROJECT ENGINEER, OR THE CITY OF ANN ARBOR. THE CONTRACTOR IS REQUIRED TO OBTAIN A SOIL EROSION CONTROL PERMIT ANYTIME THE DISTURBED AREA EXCEEDS 1 ACRE.
- 2. ALL SOIL EROSION AND SEDIMENTATION CONTROL WORK SHALL CONFORM TO THE PERMIT REQUIREMENTS OF THE CITY OF ANN ARBOR, CHAPTER 63, AND THE LAWS OF THE STATE OF MICHIGAN.
- 3. DAILY OR AFTER STORM EVENTS INSPECTIONS SHALL BE MADE BY THE CONTRACTOR. PERIODIC INSPECTIONS MAY BE MADE BY THE OWNER/PROJECT ENGINEER TO DETERMINE THE EFFECTIVENESS OF EROSION AND SEDIMENTATION CONTROL MEASURES. ANY NECESSARY CORRECTIONS SHALL BE MADE WITHOUT DELAY AND WITHOUT ADDITIONAL COST TO THE OWNER.
- 4. EROSION AND SEDIMENTATION FROM WORK ON THE SITE SHALL BE CONTAINED ON THE SITE AND NOT BE ALLOWED TO COLLECT ON ANY OFF-SITE AREAS OR WATERWAYS.
- 5. ALL MUD/DIRT TRACKED ONTO ROADS FROM THE SITE DUE TO CONSTRUCTION, SHALL BE PROPERTY REMOVED BY THE CONTRACTOR. IF SO ORDERED, THE CONTRACTOR SHALL EMPLOY A MECHANICAL STREET SWEEPER AT NO ADDITIONAL COST TO THE OWNER.
- 6. RESTORATION OF ALL DISTURBED AREAS, INCLUDING PLACEMENT OF TOPSOIL, SEED, FERTILIZER AND MULCH AND/OR SOD SHALL BE DONE WITHIN 5 DAYS OF THE COMPLETION OF FINAL GRADE.
- 7. CONSTRUCTION OPERATIONS SHALL BE SCHEDULED AND PERFORMED SO THAT PREVENTATIVE SOIL EROSION CONTROL MEASURES ARE IN PLACE PRIOR TO EXCAVATION IN CRITICAL AREAS AND TEMPORARY STABILIZATION MEASURES ARE IN PLACE IMMEDIATELY FOLLOWING BACKFILLING OPERATIONS.
- 8. SPECIAL PRECAUTIONS WILL BE TAKEN IN USE OF CONSTRUCTION EQUIPMENT TO PREVENT SITUATIONS THAT PROMOTE EROSION.
- 9. PROPER DUST CONTROL SHALL BE MAINTAINED DURING CONSTRUCTION BY USE OF WATER TRUCKS AND/OR CHLORIDE AS REQUIRED OR AS DIRECTED BY ENGINEER.
- 10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND REMOVAL OF SOME UPON AUTHORIZED COMPLETION OF THE PROJECT. COMPLETION OF PROJECT WILL NOT BE AUTHORIZED UNTIL ALL SITE WORK AND UTILITY CONSTRUCTION IS COMPLETE AND ALL SOILS ARE STABILIZED.
- 11. THE CONTRACTOR SHALL NOT GRADE INTO ADJACENT PROPERTIES. SILT FENCE SHALL BE INSTALLED AND MAINTAINED TO PREVENT GRADING, EROSION AND SEDIMENTATION INTO THEM.
- 12. TREE PROTECTION FENCING MUST REMAIN INTACT UNTIL RESTORATION OF THE SITE IS COMPLETE.

SEQUENCE OF EROSION CONTROL:

- 1. INSTALL SILT FENCE, TREE PROTECTION FENCING AND INLET FILTERS ON EXISTING STORM INLETS PRIOR TO ANY CLEARING OR EARTH MOVING OPERATION.
- 2. CONTRACTOR TO CONTINUALLY MAINTAIN EROSION AND SEDIMENTATION CONTROL MEASURES, AS REQUIRED TO ALLOW DRAINAGE AND SEDIMENT REMOVAL. REMOVE ANY ACCUMULATED SEDIMENT.
- 3. STRIP AND CLEAR MAINTAIN EROSION CONTROL MEASURES AROUND TEMPORARY STOCK PILES.
- ROUGH GRADE.
- 5. ENSURE ALL SOIL IS STABILIZED. REMOVE ALL TEMPORARY SOIL EROSION CONTROL MEASURES.

TEMPORARY SEEDING:

- 1. SEED IN ACCORDANCE WITH PROJECT DRAWINGS AND SPECIFICATIONS.
- 2. ANY DISTURBED AREA NOT PAVED, SEEDED, MULCHED, SODDED OR BUILT UPON BY NOVEMBER 15TH OR JUNE 30TH IS TO BE TEMPORARILY STABILIZED PER SPECIFICATIONS.

- 1. DURING CONSTRUCTION, ALL ROADS SHALL BE PROTECTED FROM UNVEGETATED AREAS WASHING ONTO ROAD SURFACE BY PLACEMENT OF SILT FENCE BEHIND CURB OR A 10 FOOT WIDE STRAW MULCH BLANKET BEHIND CURB OR OTHER APPROVED METHOD AND/OR AS SHOWN ON THE PLANS.
- 2. DURING CONSTRUCTION OF ANY PORTION OF THE PROJECT, ADJOINING ROADS SHALL BE MAINTAINED FREE OF DIRT, SILT AND CONSTRUCTION DEBRIS. CONTRACTOR REQUIRED TO USE VACUUM SWEEPER EQUIPMENT FOR CLEANING CONSTRUCTION SITE AND ADJOINING ROADS. THE USE OF BROOM SWEEPER IS NOT PERMITTED.

CATCH BASIN/MANHOLE PROTECTION:

1. PROTECT STORM SEWER CATCH BASINS WITH APPROVED INLET FILTERS IF REQUIRED.



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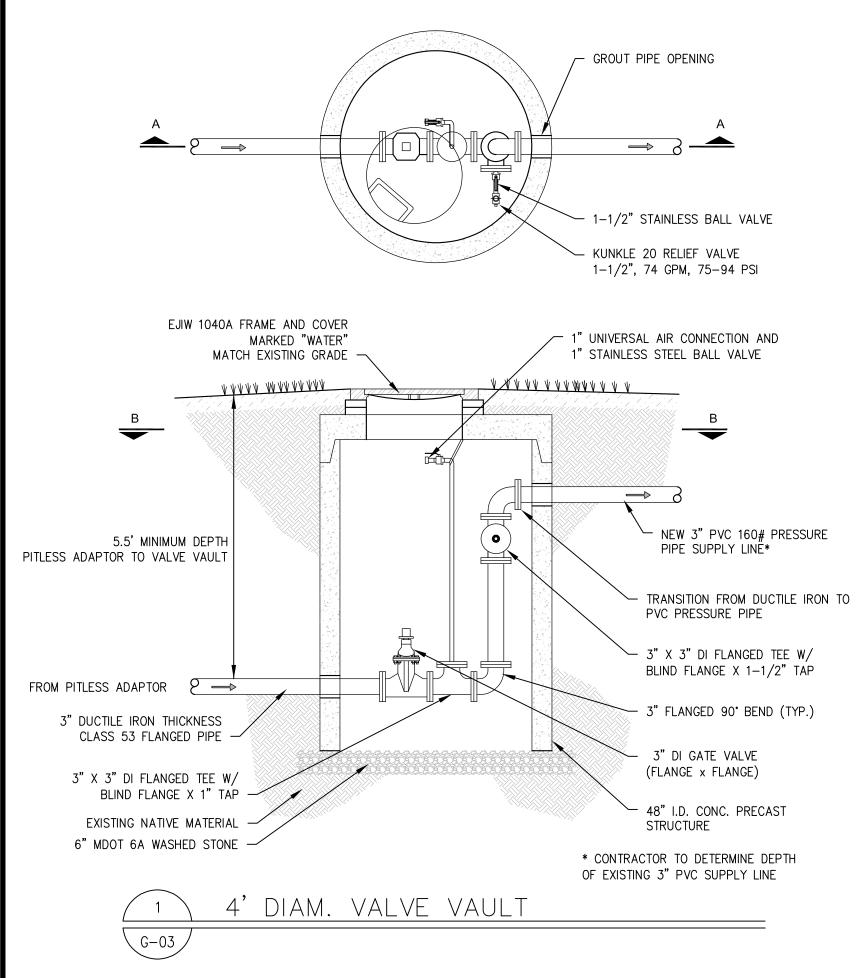


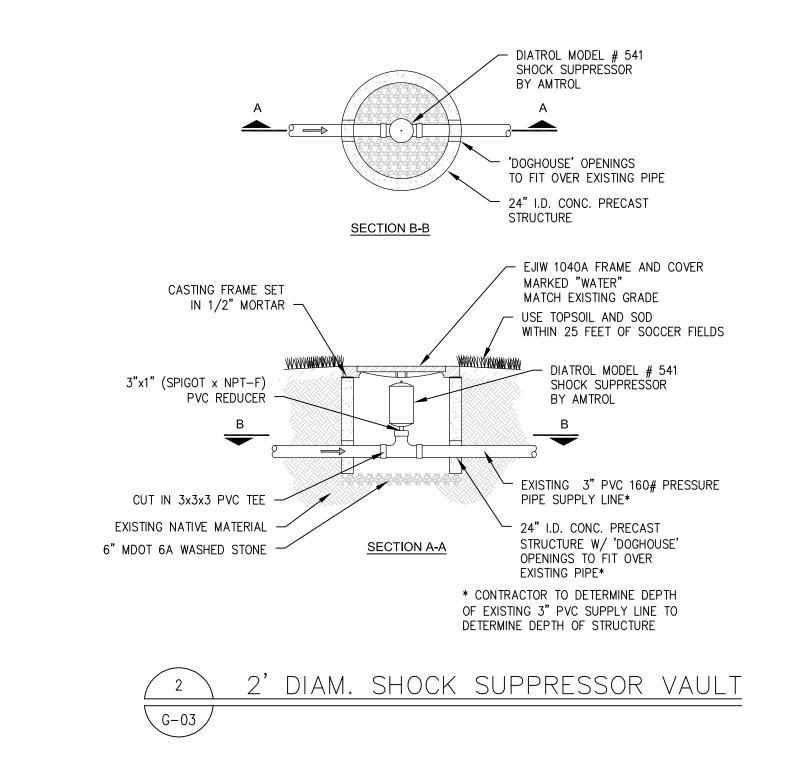
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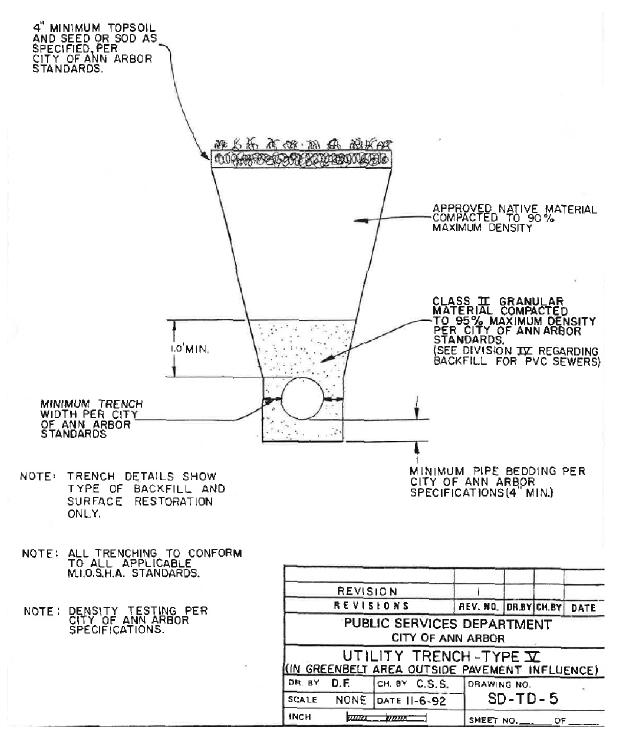
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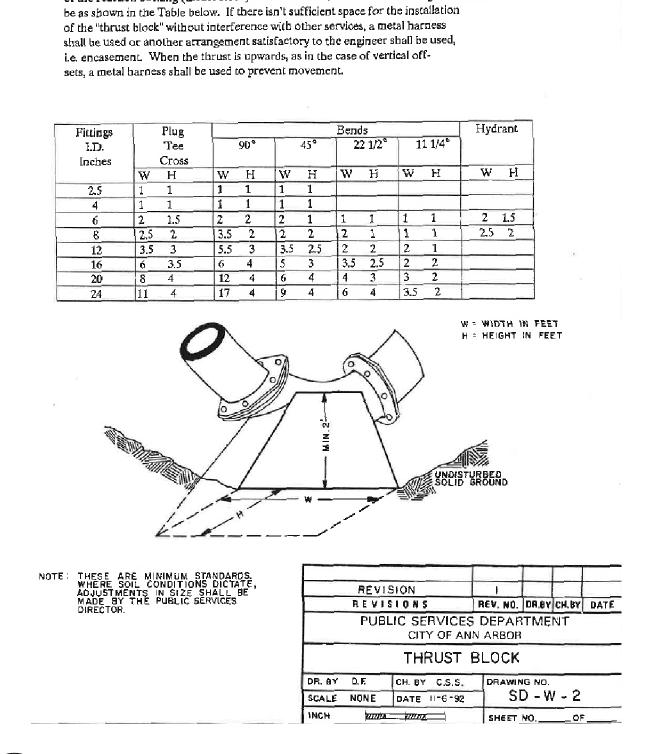
2 OF **4**







CITY OF ANN ARBOR TRENCH DETAIL

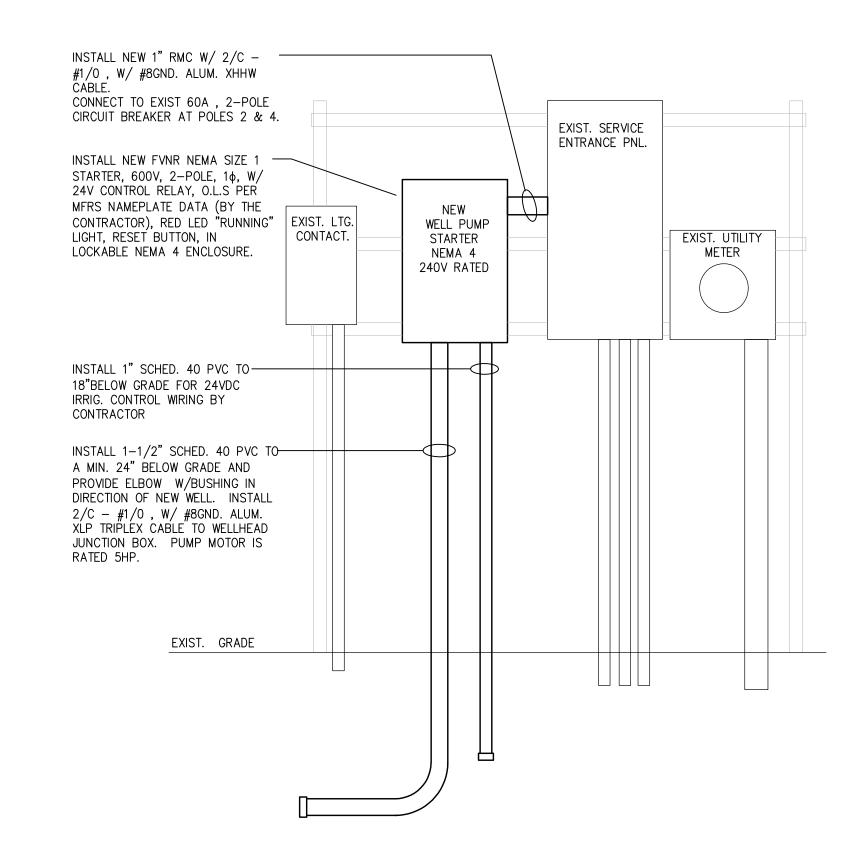


MINIMUM STANDARDS

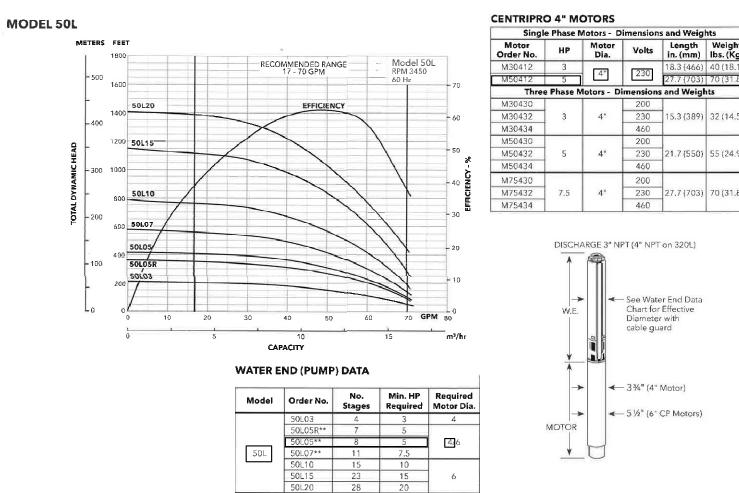
REACTION BACKING: The Class "A" concrete at the Fitting face shall extend

to within (2) inches of the bell and shall extend from the fitting face a mini-

mum of (2) feet to the UNDISTURBED SOLID GROUND. The dimensions of the reaction backing (thrust block) at the face of the undisturbed solid ground shall







NOTE: CONTRACTOR MAY PROPOSE AN ALTERNATE EQUAL PUMP AND MOTOR FOR APPROVAL IN LIEU OF THE UNIT SHOWN.

GOULDS - 50L SUBMERSIBLE WELL PUMP

CITY OF ANN ARBOR THRUST BLOCK DETAIL G-03

OLSON PARK
IRRIGATION IMPROVEMENT
STANDARD DETAILS SHEET - CITY OF ANN ARBOR FIELD OPERATIONS

Stantec

PREPARED BY:

SHEET No.

3 OF **4**