

August 6, 2019

Mr. Mccray:

Downtown Boxing Gym Youth Program has a very exciting opportunity to reduce our energy cost by over 80% with the donation of geothermal heating/cooling along with a donation of building envelope improvements (new roof is 90% complete). With a waiting list of over 1300 students you can only imagine what this cost savings will do for our program.

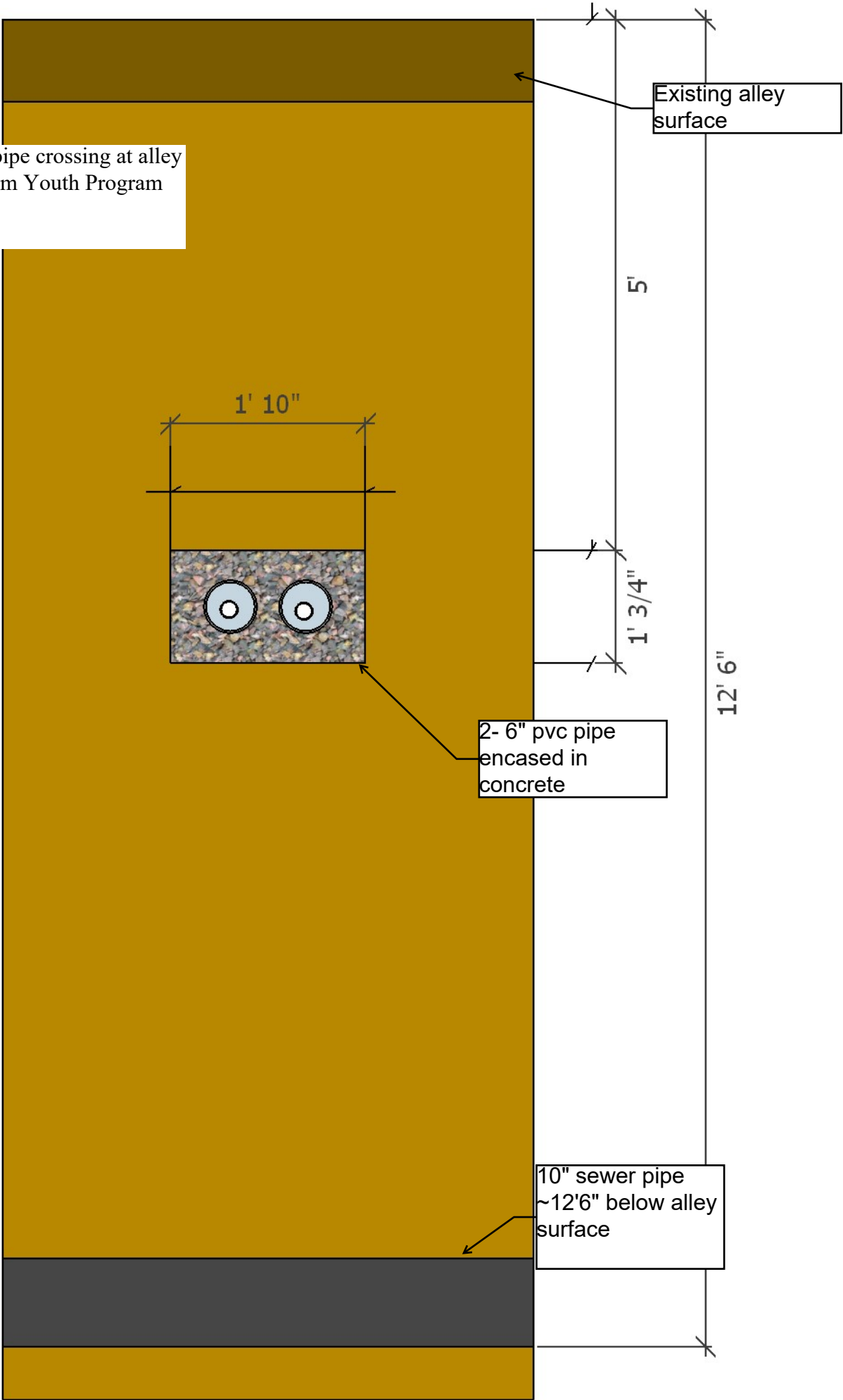
The geothermal wells will be drilled in our property that runs adjacent to our building (see photo attached). **We are requesting approval of an encroachment so that we can bring 2 - 6" pipes encased in concrete across the alley. The pipes will be 5' below ground level and will run perpendicular to the building** (see cross section attached).

Please let me know if you require additional information or if you have any additional questions. I can be reached at JHauser@downtownyouthboxing.org or on my cell 248-933-3358

Thank you in advance for your assistance on this matter.

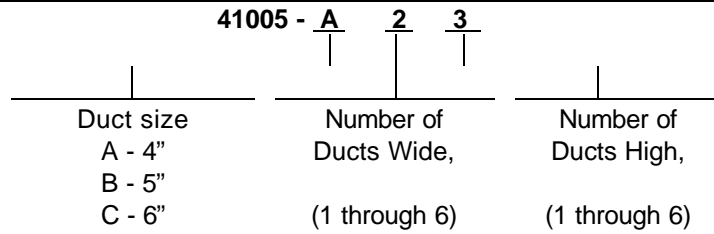
Respectfully,
Jessica Hauser, Executive Director

Proposed geothermal pipe crossing at alley
Downtown Boxing Gym Youth Program
6445 E Vernor Hwy
Detroit 48207



CONDUIT SECTIONS

Conduit Detail Number system:



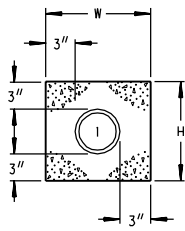
Duct center-to-center spacing

Duct Size	Required Center to Center Spacing
4"	6"
5"	7-1/2"
6"	8-1/2"
3" minimum spacing between conduit and all concrete faces.	

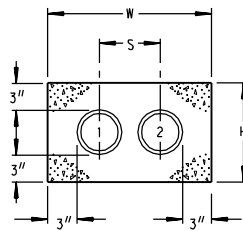
DIMENSIONS OF DUCT BANK									
Width X Height	4" Duct			5" Duct			6" Duct		
	W	H	S	W	H	S	W	H	S
1 x 1	10-1/2"	10-1/2"	6"	11-3/4"	11-3/4"	7-1/2"	12-3/4"	12-3/4"	8-1/2"
2 x 1	16-1/2"	10-1/2"	"	19-1/4"	11-3/4"	"	21-1/4"	12-3/4"	"
1 x 2	10-1/2"	16-1/2"	"	11-3/4"	19-1/4"	"	12-3/4"	21-1/4"	"
3 x 1	22-1/2"	10-1/2"	"	26-3/4"	11-3/4"	"	29-3/4"	12-3/4"	"
1 x 3	10-1/2"	22-1/2"	"	11-3/4"	26-3/4"	"	12-3/4"	29-3/4"	"
2 x 2	16-1/2"	16-1/2"	"	19-1/4"	19-1/4"	"	21-1/4"	21-1/4"	"
3 x 2	22-1/2"	16-1/2"	"	26-3/4"	19-1/4"	"	29-3/4"	21-1/4"	"
2 x 3	16-1/2"	22-1/2"	"	19-1/4"	26-3/4"	"	21-1/4"	29-3/4"	"
3 x 3	22-1/2"	22-1/2"	"	26-3/4"	26-3/4"	"	29-3/4"	29-3/4"	"
3 x 4	22-1/2"	28-1/2"	"	26-3/4"	34-1/4"	"	29-3/4"	37-3/4"	"
4 x 3	28-1/2"	22-1/2"	"	34-1/4"	26-3/4"	"	38-1/4"	29-3/4"	"
3 x 5	22-1/2"	34-1/2"	"	26-3/4"	41-3/4"	"	29-3/4"	46-3/4"	"
5 x 3	34-1/2"	22-1/2"	"	41-3/4"	26-3/4"	"	46-3/4"	29-3/4"	"
3 x 6	22-1/2"	40-1/2"	"	26-3/4"	49-1/4"	"	29-3/4"	55-1/4"	"
6 x 3	40-1/2"	22-1/2"	"	49-1/4"	26-3/4"	"	55-1/4"	29-3/4"	"
4 x 4	28-1/2"	28-1/2"	"	34-1/4"	34-1/4"	"	38-1/4"	38-1/4"	"

42 - LAYOUT OF CONDUIT AND MANHOLES

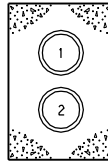
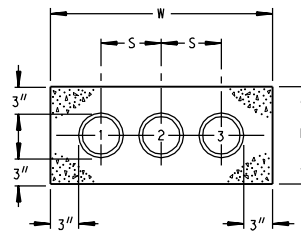
CONDUIT SECTIONS

DETAIL
42005- 11

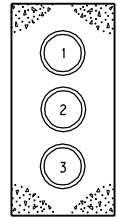
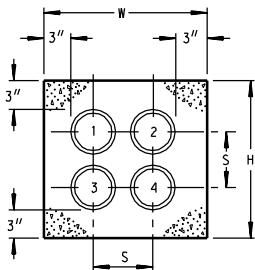
1-DUCT

DETAIL
42005- 21
ORDINARY

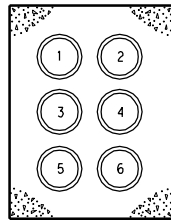
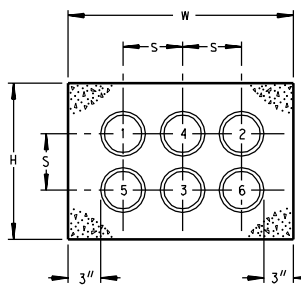
2-DUCTS

DETAIL
42005- 12
SPECIALDETAIL
42005- 31
ORDINARY

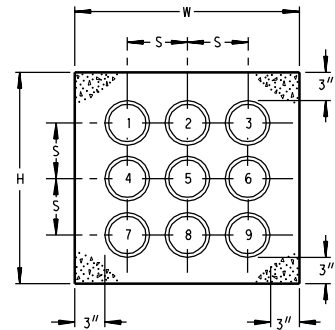
3-DUCTS

DETAIL
42005- 13
SPECIALDETAIL
42005- 22

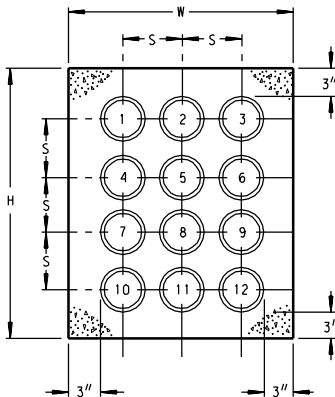
4-DUCTS

DETAIL
42005- 23
SPECIALDETAIL
42005- 32
ORDINARY

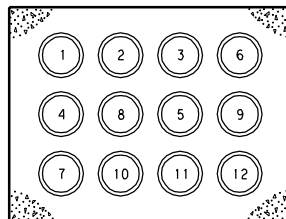
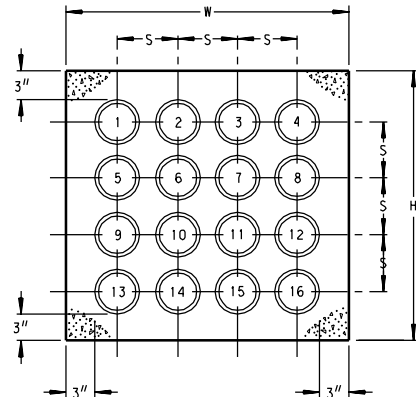
6-DUCTS

DETAIL
42005- 33

9-DUCTS

DETAIL
42005- 34
ORDINARY

12-DUCTS

DETAIL
42005- 43
SPECIALDETAIL
42005- 44

16-DUCTS

NOTE:
CROSS SECTIONS OF CONDUIT ARE ALWAYS PLOTTED AS
SEEN BY AN OBSERVER LOOKING NORTH OR WEST ALONG CONDUIT.

DEPTH OF CONDUIT

Minimum depth from ground surface or probable future ground surface to the top of the concrete envelope around the ducts shall be 30", ordinarily (42" on unpaved street). A lesser depth may be used only when specially ordered. Greater depth is usually necessary to clear obstructions.

Maintain a minimum of 5' of cover from top of structure to pavement surface for all runs installed parallel to the right of way lines in highways under the jurisdiction of the Michigan State Highway Department ("I", "US", and "M" routes) and all primary county roads. Lesser depth will not be permitted unless so ordered or shown on layout drawing. For main streets within cities not under the jurisdiction of the State or a County, the layouts will be specifically designated where it will be necessary to maintain 5' of cover.

Minimum depth applies at the lowest point on the ground surface, except for minor depressions which will be filled up in the near future.

Upper surface of pavement or sidewalk shall be considered as ground surface.

Allowance must be made for probable paving and curbs in unpaved streets and alleys. Depth below railway tracks shall be measured from the base of the rail. (See Railroad Crossings on page 1-43-12.)

GRADE

Normally, no minimum grade is required on conduit runs. Laterals to cable poles, service entrances, etc. shall have a minimum grade to the manhole of 0.4 ft. per 100 ft. or shall be drained by installation of a conduit drain box (See page 1-43-24.)

Any extreme horizontal and/or vertical deviations that are not shown on the construction plans, that could affect the cable pulling, the field man should consult [Underground Design](#).

EXCAVATING

The trench shall be excavated to depth and grade to accommodate the conduit with a minimum of refilling. Any filling necessary shall be done with good earth, well tamped. The trench shall be of the proper width to allow the minimum thickness of 3" of concrete outside the ducts on each side of the conduit. Forms for the concrete envelope are not necessary, except where trench width is excessive.

Normally the trench shall be straight from manhole to manhole. Curves or bends shall not be used unless indicated on the layout drawing, or, with special permission, to avoid unforeseen obstructions.

Grade stakes shall be set in the side of the trench at approximate 25' intervals.

The foreman or field man in charge of the work is responsible for keeping the trench free of water and protecting it against damage by cave-ins, etc.