

## ADDENDUM NUMBER 2 TO THE CONTRACT DOCUMENTS

Date: March 25, 2021  
JACOBS Project No.: 674133CH

for the  
**2016 AMP06 - Leeds Parkway Drive Pump Station SSO Abatement**

### **To All Plan Holders:**

The following changes, additions, and/or deletions are hereby made part of the Contract Documents for the 2016 AMP06 – Leeds Parkway Drive Pump Station SSO Abatement Project dated February 2021, as fully and completely as if the same set forth fully therein:

The following provides a summary of questions, answers, and clarifications:

**Bid Opening** – The Bid opening has been rescheduled for April 7, 2021 at 2:00 pm local time at the original location.

### **Bid Form**

1. **Change** Bid Item 10 (Manholes) quantity to 44.

### **Specifications**

1. **Specification 31 23 23 Trench Backfill:**
  - a. **Replace** paragraph **2.09.A** with, *“A. Warning Tape: Provide 3M EMS Pathmarking Tape XR Series 7600. Provide with polyethylene film, 6 inches wide minimum, and 6 mils thick, with continuously inscribed with 1-inch high, permanent black lettering, with a description of the utility and colored as listed below.”*
  - b. **Replace** paragraph **3.06.A** with, *“A. Install 3M EMS Pathmarking Tape per manufacturers installation instructions. Install within 4 feet below finished grade.”*
2. **Specification 09 66 01: Delete** paragraph 2.01.B.2. Do not provide Spectra-Shield for monolithic linings on this project.

### **Drawing Modifications**

1. **P-01 – Delete** access road callout that references Detail 2.

### **Clarifications**

1. The list of attendees from the virtual Pre-Bid meeting is attached.

### **Questions and Answers**

The following questions were asked during the Pre-Bid Conference or emailed to the engineer with Jacobs responses provided:

#	Question	Answer
1	Please provide clarification as to the ARV you are requiring. The specs detail the type of valve but not the size.	The ARE model number D-023 is 3-inch. 3" for Val-Matic.
2	Please provide a detail for ALDOT and non-ALDOT paving.	See attached pavement detail. Use this detail for all paving replacements / repairs.
3	What should we do with water that is pumped out of the work shafts? For example, in open cut ditch lines we will be pumping back into the ground per section 31 23 19 control of water. However, at work shaft locations such as bore pits that option will not be available.	Water should be managed similar to that in Specification Section 01 57 15, Soil and Groundwater Management, Testing and Disposal, Article 3.02.B.2, Pump Station. If after collection of water and performance of testing the water is found to consistently have a lead level lower than the drinking water standard the practice of collecting, storing and further testing can be terminated based upon approval of the Contractor's Environmental Professional since it would be reasonable to assume the water complies with the drinking water standard. This also applies to dewatering of the pump station site. Any water directly discharged shall be managed in accordance with the CBMPP to prevent sediment and turbidity from leaving the project site.
4	Bid item 7b (soil management) – it states 25 locations. Can these locations be defined?	25 is the number of tests of stockpiled soil. This is not related to specific sites. Review pay item description in Section 01 25 00.
5	Should plug valve in manhole be a separate pay item, if not the plug valve has no pay item.	Include gate valve and (2) plug valves in the Pump Station and Site Improvements Bid Item 12.
6	If you intended to tie-in to the existing manholes I am 42 manholes to your 42 manholes. However we are going to have to by-pass around this manhole to work in the invert and then this MH would have to be vacuum tested.	There are 44 new manholes. Bid form quantity has been updated. See attached manhole table.
7	Please provide Measurement & Payment clarification concerning the auto relief valves, specifically where is the manhole is paid? In the plan view MH1 is listed and accounted for under MANHOLES. There is no MH callout at RR Avenue Sta 0+00 but the specs call for one there as well but have no # as at the other end. Then you have MH37 & 38 for the cut in ARV's. Should MH 1 be a part of the arv assembly and mh count for payment be deleted in proposal quantity?	Include combination air valves in the combination air valve bid item 3.c. Include associated manholes in the manhole bid item 10. See attached manhole table.

#	Question	Answer
8	Is a 24-hour operation required on the trenchless crossings?	There is not a blanket requirement for 24-hour operations, however, whenever there is a condition that is likely to endanger the stability of the excavation or adjacent structures, Contractor shall work with a full crew 24 hours per day including weekends and holidays, without interruption, until those conditions no longer jeopardize stability.
9	Settlement markers are different at railroad crossing than at other crossing?	Provide settlement monitoring per plans and specifications. For the Highway 78 crossing shown on Drawing C-08, provide an array over the centerline of the bore outside each edge of pavement.
10	Are there guided auger bore locations where pilot tube will not work due to rock?	In a forthcoming Addendum, Specification Section 33 05 23, Guided Auger Boring will be deleted in its entirety and will be replaced with Specification Section 31 79 25, Horizontal Auger Boring. Use of a pilot for guidance of the bored crossing will not be required.
11	Confirm fill type above pipes in along Highway 78?	Per paragraph 3.02 of Specification 31 23 23, within influence areas beneath piping and other facilities (e.g. pavement), backfill with structural fill / granular fill. See paragraph 1.02.I of 31 23 23 for definition of Influence Area.
12	Confirm if timeframe for work in and around Dry Creek. Is the timeframe a recommendation or a requirement? Confirm exact months.	In accordance with Specification Section 01 57 15 Soil and Groundwater Management, Testing and Disposal, Article 1.01, F. "Contractor should plan to perform excavation and installation of gravity sewers and force mains during the dry period of the year that typically runs from July through November..." Owner will not pay for management of surface water that enters the trenches due to the Contractor not installing appropriate BMPs to preclude this water from entering excavations.

#	Question	Answer
13	Confirm monolithic lining subcontractor's and contact numbers?	<p>1. Urethane Resin Liner: Spray Wall Sprayroq, Inc. Telephone: 800-634-0504</p> <p>2. Do not provide: <del>Spectra Shield Liner System</del> <del>CCI Spectrum, Inc.</del></p> <p>3. Cured-In-Place Epoxy Resin Liner: Poly-Triplex Liner System SunCoast Environmental International, Inc. Telephone: 800-585-9133</p> <p>4. Sprayed Applied Epoxy Resin Liner: Raven 405 Reynolds, Inc. Telephone: 800-321-0906</p> <p>5. Warren Environmental System M-201 and S-301 Warren Environmental, Inc. Telephone: 508-947-8539</p> <p>5. Fiberglass Insert: L.F. Manufacturing Fiberglass Insert R.E. Inman &amp; Associates, Inc. Telephone: 800-237-5791</p> <p>6. Fiberglass Reinforced Epoxy Resin Liner: PerpetuWall Protective Liner Systems Telephone: 770-482-5201</p> <p>7. GeoKrete Telephone: 713-750-9081</p>
14	Confirm number and timing for soil and ground water sampling requirements? Can these samples be taken all at once insitu or do they have to be done at the stockpile?	Review specification Section 01 57 15 Soil and Groundwater Management, Testing and Disposal, Article 3.01, General, 3.02.B.3 and 3.03.B.4. Contractor's Environmental Professional is responsible for development of the final testing plan. A preliminary plan is provided in the specification for advancement and use by the Professional.

#	Question	Answer
15	Can potentially contaminated soil be layed next to trench, then backfilled, then move excess to stockpile or does it have to be stockpiled and tested before being backfilled?	To the extent possible suitable excavated material should be used as backfill. Material used as backfill, within the same area where it was excavated, does not have to be tested. Review Specification Section 01 57 15 Soil and Groundwater Management, Testing and Disposal, Article 3.03 related to management, testing and disposal of excess soil.
16	<p>a. Please provide clarification on the intent of salvage rights.</p> <p>b. For the old city hall pump station, I read a sentence which said this building was to be put back in place once equipment was removed but it is in poor condition.</p> <p>c. Also the City Yard has a building (roof) shed over the ROW. Documents direct us to remove and replace. This structure does not look to code. To put this back up will probably mean we have to pull a bldg. permit and an electrical permit.</p>	<p>a. Per Specification 02 41 00: Salvage/Salvageable: Remove and deliver, to the specified location(s), the equipment, building materials, or other items so identified to be saved from destruction, damage, or waste; such property to remain that of Owner. Unless otherwise specified, title to items identified for demolition shall revert to Contractor.</p> <p>3.02.B: For pump station demo, Contractor shall coordinate with Owner to identify equipment that is to be removed, preserved, and delivered to a location specified by the Owner</p> <p>b. The old city hall pump station will be demolished once new gravity sewer is installed to permanently bypass it.</p> <p>c. Re. Dwg, C-17: Assume shed will need to be rebuilt per local building code.</p>
17	The area shown for the new pump station is a dump site that extends beyond the area proposed for the pump station. Does the Contractor have to clean up and haul off only the area within the new pump station or is the intent to clean up this total site for esthetic reasons?	Contractor is only responsible for the land that was purchased by Jefferson County as shown in the Contract Drawings. Clean up of areas beyond this is outside the scope of the project. The adjacent property should not be entered or used for storage of equipment and materials unless written approval is obtained from the owner and provided to the Engineer.
18	How is the temporary bypass mh paid? Under Mh's? With this mh and the arv manholes paid separately I come up with 39 mhs.	The new bypass manhole and ARV manholes are all included in bid item 10 Manholes. There are 44 new manholes, see attached manhole table.

#	Question	Answer
19	2 of the 4 ARV's shown in proposal are to be inserted in existing forcemain, please confirm. If this is true please provide a detail for these two as they will require either bypassing or working during shut-down times and they will require additional DIP if ES normal detail prevails.	Assume existing tees and isolation valves can be reused. Use doghouse type manhole.
20	Which manholes are in the 100-year floodplain, which will require straps, wrap, and watertight frame and cover?	See attached manhole table.
21	<ul style="list-style-type: none"> <li>a. Section A/S-01 does not indicate a waterstop in the footing or wall. Standard Detail 0315-154 only indicates one at the wall base. Will a waterstop be required at construction joints?</li> <li>b. Section A/S-01: Will the exposed surface of the wall be required to be Rubbed or just Pointed and Patched?</li> <li>c. Spec Section 03 3010, 3.04, G. Maximum Size of Concrete Placements: Will the limits in this section apply to non-hydraulic structures?</li> <li>d. G-11: Note 1 under Foundations, states that the contractor will hire the geotechnical engineer. Is that correct or will JeffCo hire out all testing?</li> <li>e. P-01 &amp; P-02: P-01 has note: Access road, (typ each side) See Detail 2, DWG D-06. Detail 2 shows Asphalt paving. P-02 indicates these areas to be conc pavement. Which is correct?</li> <li>f. P-02 shows concrete around the stormwater equalization tank. S-05 shows the foundation of the tank to be 1'4" larger than the tank. What is the thickness of this concrete and how is it reinforced?</li> <li>g. P-02 indicates a 6" curb at the northern side of the concrete around the stormwater equalization tank. Will that curb be required at all four sides of the concrete around the tank?</li> </ul>	<ul style="list-style-type: none"> <li>a. Waterstop is not required at earth retaining wall base but is required for water holding structures.</li> <li>b. Rub and patch until a structurally sound finish that is uniform in appearance is achieved.</li> <li>c. Yes.</li> <li>d. Observations and Inspections will be provided by the Owner. All testing will be performed by the Contractor. See Addendum 1 for further clarifications.</li> <li>e. Provide concrete pavement for these areas per P-02.</li> <li>f. See attached detail 3213-240 for Concrete Pavement. Use premolded joint filler between concrete pavement and tank foundation.</li> <li>g. Include curb on all four sides.</li> </ul>

#	Question	Answer
22	<p>a. Do we have to continuously store and test all ground water that is pumped?</p> <p>b. Will we be able to haul off contaminated water using vac trucks and tankers?</p> <p>c. Will we need a report for each soil and water test or just the test results? The pricing will be different.</p>	<p>a. Review previous response related to groundwater management and Specification Section 01 57 15 Soil and Groundwater Management, Testing and Disposal, Article 3.02.</p> <p>b. Hauling of contaminated water using vac trucks and tankers is acceptable to the Engineer. Contractor's Environmental Professional is responsible for development of the final plan for management, testing and disposal of water.</p> <p>c. Only the test result is required to define how the soil or water must be managed and disposed of.</p>
23	<p>For the Jack and Bore Items, will the pilot tube be required or is that just a recommendation? Several Jack and Bore subs are saying it might hurt more than help in this situation and some are saying they won't quote it with the Pilot Tube requirement.</p>	<p>In a forthcoming Addendum, Specification Section 33 05 23, Guided Auger Boring will be deleted in its entirety and will be replaced with Specification Section 31 79 25, Horizontal Auger Boring. Use of a pilot for guidance of the bored crossing will not be required.</p>
24	<p>Is GeoKrete an approved supplier for monolithic linings?</p>	<p>Yes.</p>
25	<p>We are working on spec for the natural gas back up pump and we are seeing a 25' suction lift. Can you verify that this is correct?</p>	<p>See Detail 4091-200 within the contract documents that defines the operating elevations for the pumps to be installed. The Self Priming EQ pump, as shown, goes into service when the wet well EL is at 620.00 and rising or 17 feet from the top of the wet well. It is expected that once primed the pump could, if required, lower the water elevation in the wet well below the required EL of 617.0. Prime assist is allowed as noted in the pump technical specification. The height of the housekeeping pad under the pump could be reduced to EL 635.8 which would put the impeller centerline at 638.8 based the data in the e-mail from Hydra Service DTD March 19, 2021. This would result in a suction lift of 18.8 feet when the pump was placed into service upon rising water level. No exception to the operation elevations was taken by the other named manufacturer.</p>
26	<p>Drop Manholes - as detailed on Dwg Sh 46. Can a Bid Item (per EACH) be added for these Drop Bowl Assemblies?</p>	<p>Include in Bid Item 10 (Manholes).</p>

#	Question	Answer
27	Please note the locations of the Combo Air Release Valve locations. Dwgs Sh 31 & 32 note 2 offsite locations we're to replace existing manholes with new Air Release Valve Manhole. Bid Item has a quantity of (4) Each.	See attached manhole table.
28	Once our ENG sets the ground settlement monitors & takes the initial readings per section 31 80 00, is it acceptable for the contractor to take the daily intermittent readings required or does the ENG or licensed surveyor have to perform that?	Monitoring shall be performed by qualified personnel and under the supervision of the Contractor's PLS. Results shall be certified by Contractor's PLS.
29	I did not see any mention of pollution insurance being required. Please confirm that pollution insurance is not required.	A separate pollution insurance is not required. See Specification 00822 for insurance requirements.
30	Dwg Sh 19 Note 7 states to "coordinate with other work on Dunnavant Road". Please clarify what this other work is and the timing/schedule of this other work.	ALDOT plans to repave Dunnavant Rd. Timing is unknown. Contractor shall coordinate with ALDOT so that this road is only repaved once. See Addendum 1 for more information.

Any prospective bidder questions not yet answered will be included in an upcoming Addendum.

Jacobs

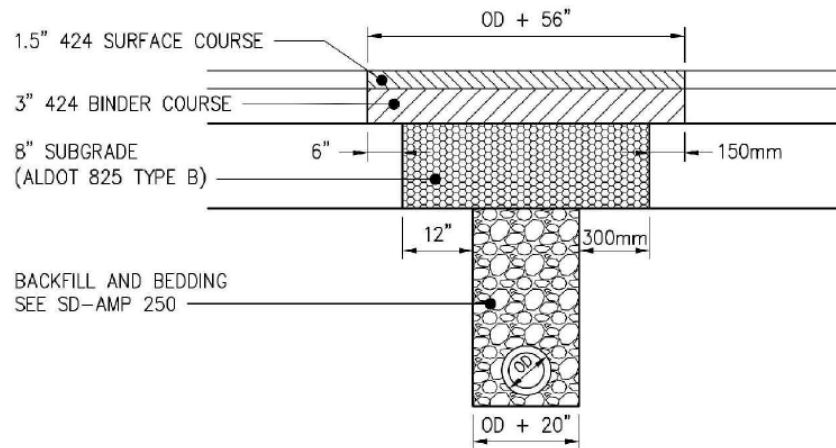


Derek Kelley, PE, CCM, PMP



Pre-Bid Meeting Attendance List

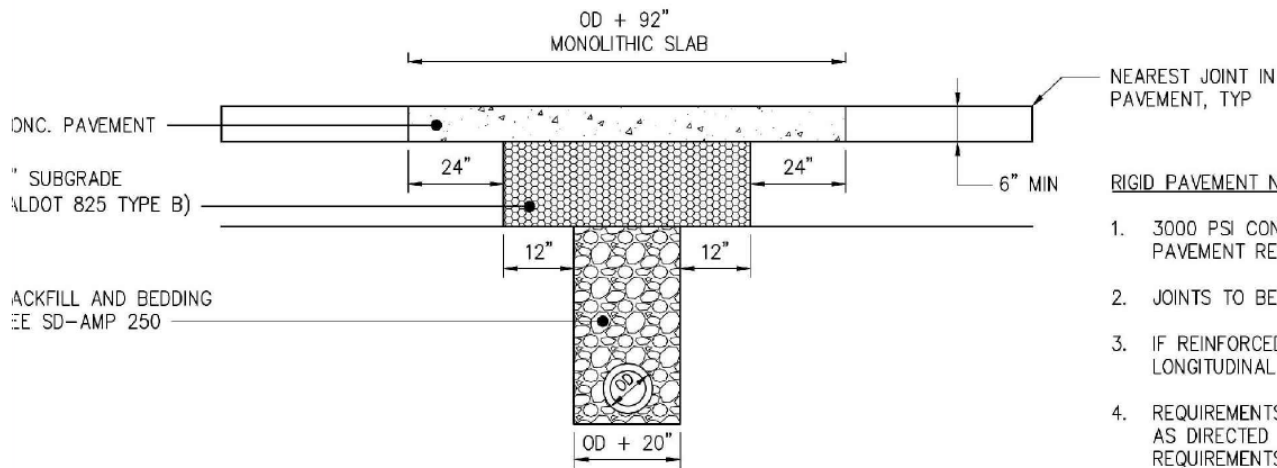
Full Name	User Action	Timestamp	
Powell, Tad	Joined	3/17/2021, 9:51:34 AM	Hazen
Lance Taylor	Joined before	3/17/2021, 9:51:34 AM	Taylor Corporation
Lance Taylor	Left	3/17/2021, 10:47:15 AM	Taylor Corporation
Lance Taylor	Joined	3/17/2021, 10:47:23 AM	Taylor Corporation
Tom Hale (Guest)	Joined before	3/17/2021, 9:51:34 AM	Baird
Joiner Pugh (Guest)	Joined before	3/17/2021, 9:51:34 AM	REV
Alan Chappell (Guest)	Joined	3/17/2021, 9:53:00 AM	Jordan
Rohling, Brian	Joined	3/17/2021, 9:53:36 AM	JCESD
+1 205-335-0506	Joined	3/17/2021, 9:56:04 AM	Russo, Cindy Johnson
+1 205-948-5015	Joined	3/17/2021, 9:56:20 AM	Russo, Tommy Smith
Bill Palmer (Guest)	Joined	3/17/2021, 9:56:36 AM	
Jeremy Stevens	Joined	3/17/2021, 9:56:41 AM	Wiggins Inc.
+1 205-233-8284	Joined	3/17/2021, 9:56:49 AM	Baird, Tom Hale
Beacham, Marvin	Joined	3/17/2021, 9:56:56 AM	Hazen
+1 251-948-7222	Joined	3/17/2021, 9:58:07 AM	Slaughter Construction
Steve Niemeyer	Joined	3/17/2021, 9:58:23 AM	JCESD
+1 205-792-8653	Joined	3/17/2021, 9:58:35 AM	Southern Civil
+1 205-792-8653	Left	3/17/2021, 10:22:46 AM	Southern Civil
Kelley, Derek/BHM	Joined	3/17/2021, 9:58:49 AM	Jacobs
Epstein, Aaron	Joined	3/17/2021, 9:58:51 AM	Geocomp
+1 256-504-8271	Joined	3/17/2021, 9:59:38 AM	Russo
Jones, Jeff/BHM	Joined	3/17/2021, 10:00:01 AM	Jacobs
White, Daniel	Joined	3/17/2021, 10:00:24 AM	JCESD
+1 205-482-8100	Joined	3/17/2021, 10:00:55 AM	Bama
Bennett, Ken	Joined	3/17/2021, 10:01:01 AM	JCESD
Lachenmyer, Celeste	Joined	3/17/2021, 10:01:11 AM	Hazen
+1 205-534-5434	Joined	3/17/2021, 10:03:23 AM	Mark Johnson
+1 404-655-4124	Joined	3/17/2021, 10:04:09 AM	Geocomp
+1 205-337-2459	Joined	3/17/2021, 10:08:00 AM	Sunbelt
Jake N. (Guest)	Joined	3/17/2021, 10:18:05 AM	Hydraservice



(A) FLEXIBLE PAVEMENT

FLEXIBLE PAVEMENT NOTES

1. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED.
2. SURFACE TREATMENT PAVEMENT JOINTS SHALL BE LAPPED AND FEATHERED.
3. PAVEMENT THICKNESSES SHOWN ARE MINIMUMS. CONTRACTOR SHALL RESTORE PAVEMENT TO MATCH EXISTING CONDITIONS WHEN THICKNESSES ARE GREATER THAN THE MINIMUM SHOWN.
4. TRENCH BACKFILL, SUBGRADE, AND ASPHALT PAVEMENT PLACEMENT AND COMPACTION SHALL MEET ALDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.
5. WHEN DIRECTED BY OR APPROVED BY ENGINEER, SUBGRADE SHALL BE NO. 57 STONE.
6. REQUIREMENTS FOR TEMPORARY PAVING OF THE TRENCH SHALL BE AS DIRECTED BY THE INSPECTOR BASED ON THE LOCAL REQUIREMENTS WHERE THE WORK IS BEING PERFORMED.



(B) RIGID PAVEMENT

RIGID PAVEMENT NOTES

1. 3000 PSI CONCRETE, HIGH EARLY CEMENT, TO BE USED FOR PAVEMENT REPLACEMENT
2. JOINTS TO BE MECHANICALLY SAWED.
3. IF REINFORCED, REINFORCING STEEL TO BE REPLACED IN KIND. LONGITUDINAL STEEL TO BE BUTT WELDED TO EXISTING.
4. REQUIREMENTS FOR TEMPORARY PAVING OF THE TRENCH SHALL BE AS DIRECTED BY THE INSPECTOR BASED ON THE LOCAL REQUIREMENTS WHERE THE WORK IS BEING PERFORMED.

REPLACEMENT OF ROADWAY STRUCTURE (TRENCHED CROSSING)

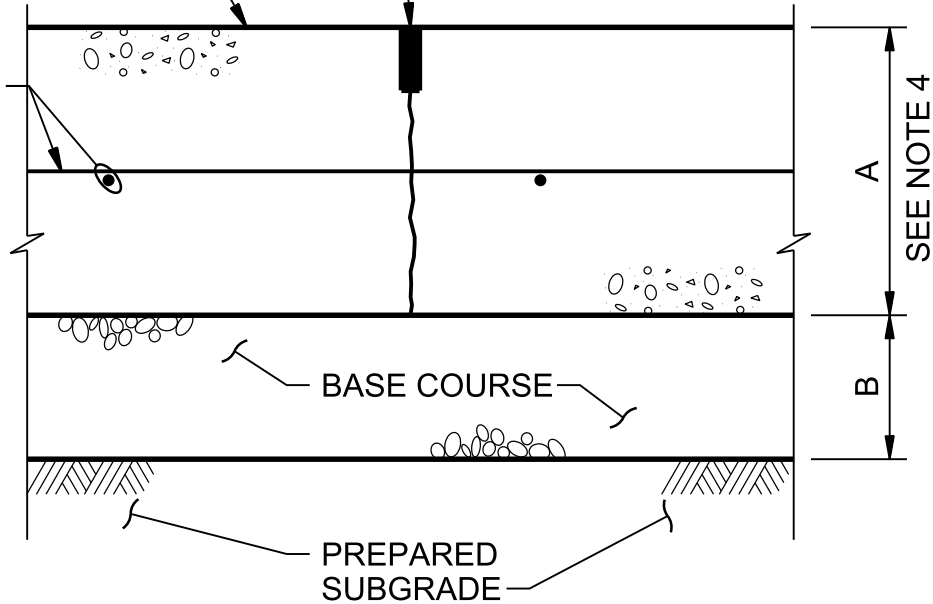
SD-AMP-3210-270

DIMENSION (INCHES)		REINFORCING
A	B	C
8"	6"	#5@12" CTD 2 1/2" COVER

CONTRACTION JOINT, SEE NOTE 1 AND 2

CONCRETE SLAB ON GRADE

REINFORCING, C



**NOTES:**

1. CONTRACTION JOINT SHALL BE MADE, CLEANED WITH COMPRESSED AIR, AND FILLED WITH SEALANT AS SPECIFIED. CUT 1" DEEP.
2. CONCRETE JOINT SPACING: EVERY 12', EACH WAY.
3. INSTALL 1/2" PREMOLDED JOINT FILLER FULL DEPTH WHERE CONCRETE PAVEMENT ABUTS CONCRETE CURB, BUILDING OR ANY RIGID STRUCTURE.
4. PROVIDE A 12" THICK BY 18" WIDE THICKENED EDGE AROUND PERIMETER OF SLAB. TRANSITION THICKENED EDGE TO NORMAL 8" THICKNESS IN 18".

**CONCRETE PAVEMENT**

NTS

© CH2M HILL  
NOTE TO DESIGNER:

3213-240

MANHOLE ID	Diameter (inches)	Rim	Invert	Pipe Invert Out	Pipe Invert(s) In	Notes
MH-0	60	632	629	629	629	Elevations Estimated. Contractor to verify. <b>Combination Air Valve</b> Manhole. Connection of new force main to existing.
MH-1	60	636.00	628.70	628.70	628.70	<b>Combination Air Valve</b> Manhole.
MH-1A	48	636.00	619.69	620.19	620.20	Wrapped joints and manhole frame. Contains <b>16-inch plug valve</b> .
MH-1B	48	633.40	619.82	620.32	620.52	<b>Watertight</b> bolt down lid, straps, wrapped joints and manhole frame.
MH-2	60	635.00	620.43	620.93	621.13	<b>Watertight</b> bolt down lid, straps, wrapped joints and manhole frame.
MH-3	60	636.31	620.88	621.38	621.58	<b>Watertight</b> bolt down lid, straps, wrapped joints and manhole frame.
MH-4	60	634.00	621.35	621.85	622.05	<b>Watertight</b> bolt down lid, straps, wrapped joints and manhole frame.
MH-5	48	636.91	622.11	622.61	622.81	<b>Watertight</b> bolt down lid, straps, wrapped joints and manhole frame.
MH-6	60	638.00	631.86	623.36, 634.09	623.56	<b>Watertight</b> bolt down lid, straps, wrapped joints and manhole frame. Manhole has inside drop. After installation of casing and DIP excavate down to casing and install manhole. Manhole is within ALDOT ROW. Manhole Lid Shall be flush with grade.
MH-7	60	638.00	623.33	623.83	624.03	<b>Watertight</b> bolt down lid, straps, wrapped joints and manhole frame. Manhole is within ALDOT ROW. Manhole Lid Shall be flush with grade.
MH-8	60	638.66	624.40	624.90	628.97	Manhole is within ALDOT ROW. Manhole Lid Shall be flush with grade. Wrapped joints and manhole frame. Manhole has <b>inside drop</b> .
MH-9	48	639.73	630.53	631.03	631.23	Manhole is within ALDOT ROW. Inside drop. Manhole Lid Shall be flush with grade. Wrapped joints and manhole frame.
MH-10	60	641.52	631.39	631.89	632.09	Manhole is within ALDOT ROW. Manhole Lid Shall be flush with grade. Wrapped joints and manhole frame. Manhole has <b>inside drop</b> (6" INV IN = 636.18).
MH-11	48	641.42	631.81	632.31	632.51	Manhole is within ALDOT ROW. Manhole Lid Shall be flush with grade. Wrapped joints and manhole frame.
MH-12	48	642.18	633.49	633.99	634.19	Manhole is within ALDOT ROW. Manhole Lid Shall be flush with grade. Wrapped joints and manhole frame.
MH-13	48	642.61	634.58	635.08	635.28	Manhole is within ALDOT ROW. Manhole Lid Shall be flush with grade. Wrapped joints and manhole frame.
MH-14	48	644.01	635.60	636.10	636.30	Manhole is within ALDOT ROW. Manhole Lid Shall be flush with grade. Wrapped joints and manhole frame.
MH-15	60	644.08	637.50	638.00, 640.67	638.57	Manhole is within ALDOT ROW. Manhole Lid Shall be flush with grade. Wrapped joints and manhole frame. Manhole has <b>inside drop</b> .
MH-16	48	647.21	638.80	639.30	639.50	Manhole is within ALDOT ROW. Manhole Lid Shall be flush with grade. Wrapped joints and manhole frame.
MH-17	48	648.52	639.76	640.26	640.46	Manhole is within ALDOT ROW. Manhole Lid Shall be flush with grade. Wrapped joints and manhole frame.
MH-18	48	648.37	648.17	641.22	641.42	Manhole is within ALDOT ROW. Manhole Lid Shall be flush with grade. Wrapped joints and manhole frame.
MH-19	48	649.06	n/a	n/a	n/a	<b>Existing manhole</b> to remain. Bypass manhole for downstream main sewer being replaced.
MH-20	48	640.05	634.13	634.63	634.83	Manhole is within ALDOT Highway. Manhole Lid Shall be flush with final pavement grade. Wrapped joints and manhole frame.

MANHOLE ID	Diameter (inches)	Rim	Invert	Pipe Invert Out	Pipe Invert(s) In	Notes
MH-21	60	643.66	634.99	635.49	635.69	Manhole is within ALDOT Highway. Manhole Lid Shall be flush with final pavement grade. Wrapped joints and manhole fram.e. MH has <b>inside drop</b> (8" INV IN ~ 640.02)
MH-22	48	643.66	635.43	635.93	636.13	Manhole is within ALDOT Highway. Manhole Lid Shall be flush with final pavement grade. Wrapped joints and manhole frame.
MH-23	48	642.38	635.99	636.49	636.69	Manhole is within road. Manhole Lid Shall be flush with final pavement grade. Wrapped joints and manhole frame.
MH-24	48	642.01	637.54	638.04	638.24	Manhole is within road. Manhole Lid Shall be flush with final pavement grade. Wrapped joints and manhole frame.
MH-25	48	642.00	637.83	638.33	640.51	Manhole is within just outside of road. Manhole Lid Shall be flush with final pavement grade. Wrapped joints and manhole frame.
MH-26	48	636.00	617.17	617.67	617.87	Wrapped joints and manhole frame.
MH-26A	48	636.00	617.49	617.99	618.01	Wrapped joints and manhole frame. Manhole contains <b>10-inch plug valve</b> .
MH-26B	48	632.70	617.95	618.15	618.35	<b>Watertight</b> bolt down lid, straps, wrapped joints and manhole frame. Top of lid to be flush with final pavement.
MH-27	48	630.96	618.11	618.61	618.81	<b>Watertight</b> bolt down lid, straps, wrapped joints and manhole frame.
MH-28	48	630.00	618.45	618.95	619.15	<b>Watertight</b> bolt down lid, straps, wrapped joints and manhole frame.
MH-29	48	630.00	620.02	620.52	620.72	<b>Watertight</b> bolt down lid, straps, wrapped joints and manhole frame.
MH-30	48	630.14	620.62	621.12	621.32	<b>Watertight</b> bolt down lid, straps, wrapped joints and manhole frame. Top of lid to be flush with pavement.
MH-31	48	630.31	622.32	622.82	623.90	<b>Watertight</b> bolt down lid, straps, wrapped joints and manhole frame. Top of lid to be flush with pavement.
MH-32	48	631.50	624.96	625.46	625.66	Existing sewer invert elevation estimated. Contractor to field verify. Standard frame and cover. Wrap joints and manhole frame.
MH-32A	48	631.72	625.26	625.76	626.00	Existing sewer invert elevation estimated. Contractor to field verify. Standard frame and cover. Wrap joints and manhole frame.
MH-33	48	632.49	625.26	625.76	626.00	Standard frame and cover. Wrap joints.
MH-34	72	616.34	609.60	610.10	612.30	<b>Watertight</b> bolt down lid, straps, wrapped joints and manhole frame. Remvoe and replace existing manhole along 24-inch main.
MH-35	60	618.33	611.86	612.36	612.56	<b>Watertight</b> bolt down lid, straps, wrapped joints and manhole frame.
MH-36	60	632.06	622.50	623.00	624.92.00, 626.20	Manhole is within ALDOT Highway. Manhole Lid Shall be flush with final pavement grade. Wrapped joints and manhole frame. MH has <b>inside drop</b> .
MH-36A	48	632.00	626.00	626.20	626.20	Elevations estimated. Contractor to field verify. MH is on existing 8" upstream of MH-36. For temporary bypass of force main. <b>Has 8" GV</b> .
MH-37	60	647.00	641.50	643.00	643.00	Elevations estimated. Contractor to field verify. <b>Combination Air Valve</b> Manhole along existing force main.
MH-38	60	645.00	635.50	637.00	637.00	Elevations estimated. Contractor to field verify. <b>Combination Air Valve</b> Manhole along existing force main.

## General Notes:

1. All manhole shall be designed and rated for HS-20 loading.
2. All manholes shall have monolithic lining in accordance with specifications