



CITY OF HOUSTON

Sylvester Turner

Mayor



HOUSTON AIRPORT SYSTEM

George Bush Intercontinental ~ William P. Hobby ~ Ellington Airport

Mario C. Diaz
Director of Aviation

November 21, 2023

SUBJECT: Addendum No. 5

REFERENCE: Invitation To Bid (ITB) for the IAH Term C Helix Ramp Bearing & Misc. Repairs at George Bush Intercontinental Airport; Solicitation No. H06-HELIXC-2024-006; Project No. 235A

To: All Prospective Bidders:

This Addendum is issued for the following reasons:

I. Replace the following pages with the attached document outlined below:

1. Sheet No. A1-201A.

II. Add the following pages with the attached documents as outlined below.

1. Document 00821 Wage Scale and Payroll Requirements for Building Construction.
2. LymTal Spec Data Sheet provided for Question #6.

III. To Respond to the following Questions.

1. **Question:** 5/SF502; 1 and 2/SF204 through SF206 indicate that the existing expansion joints are to be removed and replaced with a new winged expansion joint. Further, the documents note that the existing shelf/block out is to be repaired to a condition acceptable by the manufacturer for joint installation. However, upon further site review, the existing joint is not winged and does not have an existing block out/shelf. See attached sketch of existing condition and site photo. Please confirm that the intent of the drawings is to demolish the existing angles, build a new shelf and install the joint. Please also note that this type of repair has the potential to expose the ends of the PT tendons. Please advise if the tendons run parallel or perpendicular to the expansion joints in these locations.

Response: Detail 07/A1-201A has been added to sheet A1-201A showing expansion joint in armored condition.

Addendum No. 5

November 21, 2023

IAH Term C Helix Ramp Bearing & Misc. Repairs at George Bush Intercontinental Airport

Solicitation No. H06-HELIXC-2024-006

Project No. 235A

2. **Question:** Addendum #4 changed Item #38 of the Bid Form from "Fluorogold Sliding Plates" to "Cosmec XL Bronze Self-Lubricating Bearings". I have contacted the Cosmec sales office, and they have informed me that they are not manufacturing products in bronze at this time and that they have not for the past couple of years. Please provide guidance as to what product is specified for use in this application in light of the production issue.

Response: The original Fluorogold slide plates with stainless steel backer plates or equivalent Cosmec brand slide bearing plate assembly may be used. Existing plates must be measured, and the bearing condition assessed prior to purchasing the new devices. The intent is for the new ones to replicate or improve the bearing capacity and slide performance.

3. **Question:** The project specifications and the pre-bid presentation indicate that contractors are to comply with Davis-Bacon wages. The bid documents did not include a wage determination sheet for the bidder's use. Please issue a wage determination sheet.

3. **Response:** Document 00821 Wage Scale and Payroll Requirements for Building Construction has been attached to this addendum.

4. **Question:** Would it be possible for you to provide a workable Word document for the new 9-page Bid Form since we are unable to convert the Acrobat file into a workable format. We would certainly appreciate it. Thank you for your consideration.

Response: Please contact David Martinez for a Word document of the Bid Form.

5. **Question:** Is it acceptable to substitute the Wabo winged expansion joint as follows: Direct Substitution - Iso-Flex Dura-Block by LymTal International. This substitution is an apples-to-apples substitute for the specified joint. See attached data sheets. Indirect Substitution - Iso-Flex J Series Wing Standard or J Series Wing Joint Raised Condition by LymTal International. This substitution, in the opinion of this bidder, better serves the site condition of the throat/shelf/waterproofing needs. See attached data sheets.

Response: Please refer to the response provided to Question #1.

6. **Question:** Is it permissible to utilize a traffic coating system manufactured by LymTal International, Inc.? See attached product data sheets.

Response: Yes, this traffic coating system will be acceptable.

When issued, Addendum shall automatically become part of the solicitation documents and shall supersede any previous specification(s) and/or provision(s) in conflict with the Addendum. Addendum will be incorporated into the Agreement as applicable. It is the responsibility of the bidder(s) to ensure that it has obtained all such letter(s). By submitting a bid on this project, bidder(s) shall be deemed to have received all Addendum and to have incorporated them into their bid.

November 21, 2023
IAH Term C Helix Ramp Bearing & Misc. Repairs at George Bush Intercontinental Airport
Solicitation No. H06-HELIXC-2024-006
Project No. 235A

If further clarification is needed regarding this solicitation, please contact Senior Procurement Specialist, David Martinez via email at david.martinez@houstontx.gov.

DS
DE

DocuSigned by:

Cathy Vander Plaats

02232028DE99414...

DS
AE

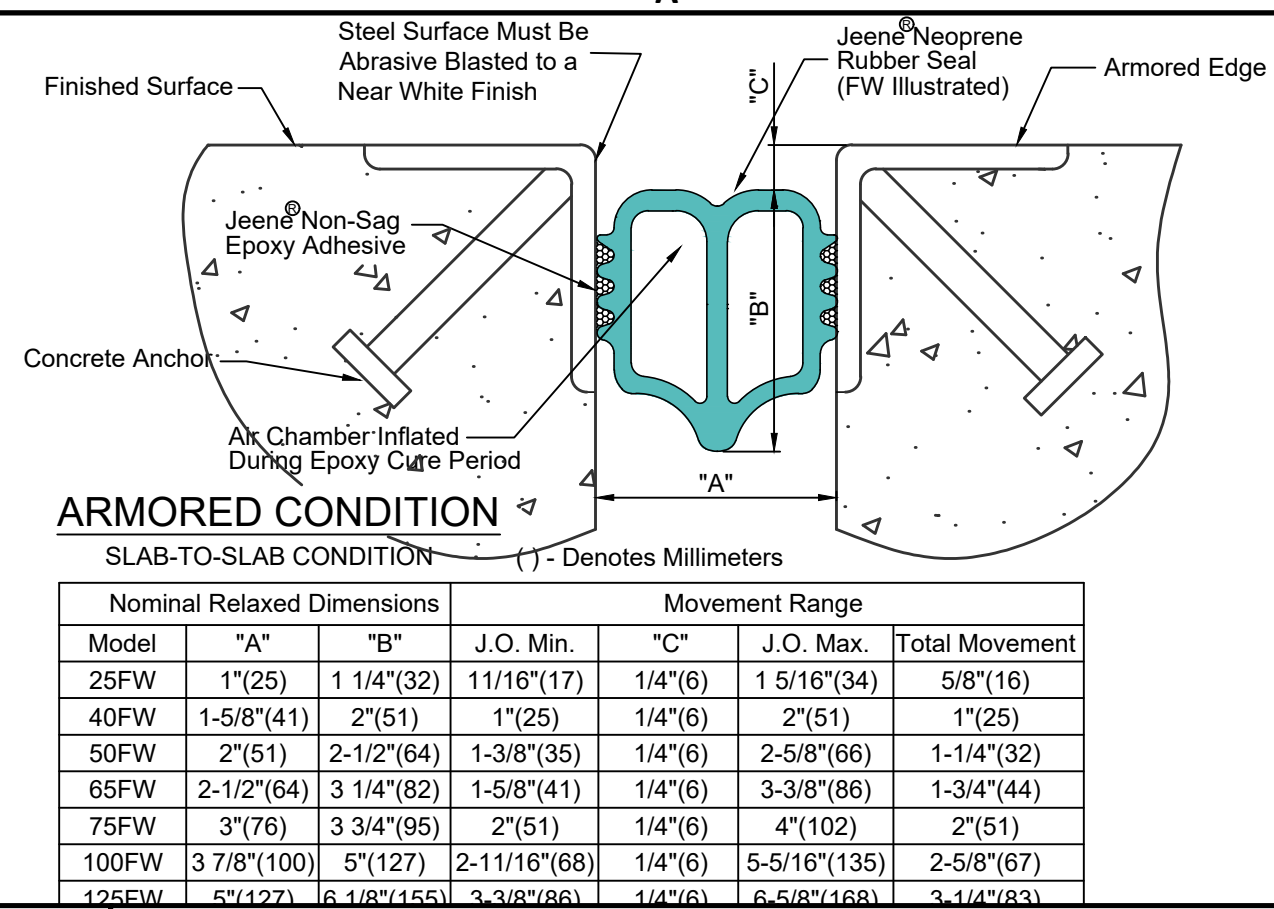
Cathy Vander Plaats
Aviation Procurement Officer
Houston Airport System

CVP/dm

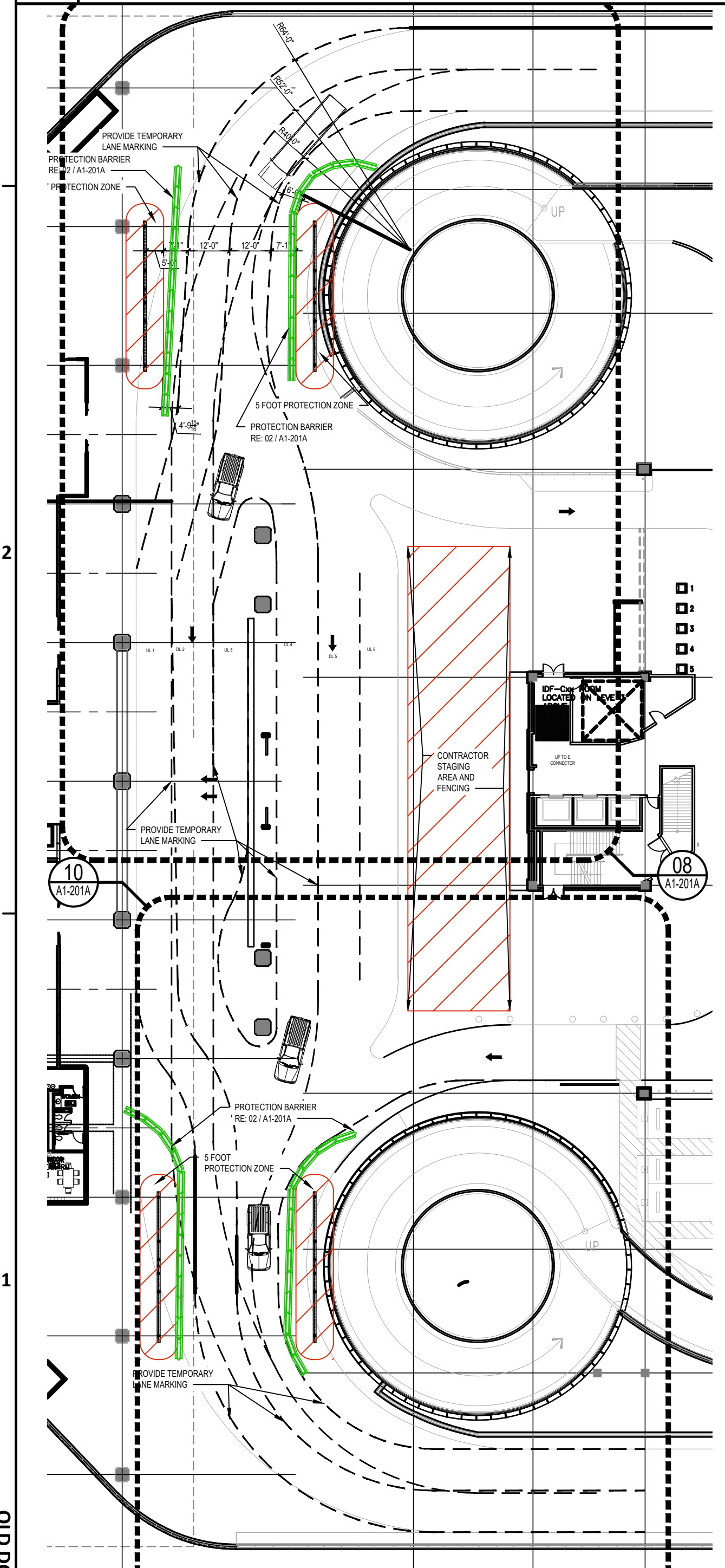
cc: Alfredo Oracion
Dallas Evans
Solicitation File

Attachments:

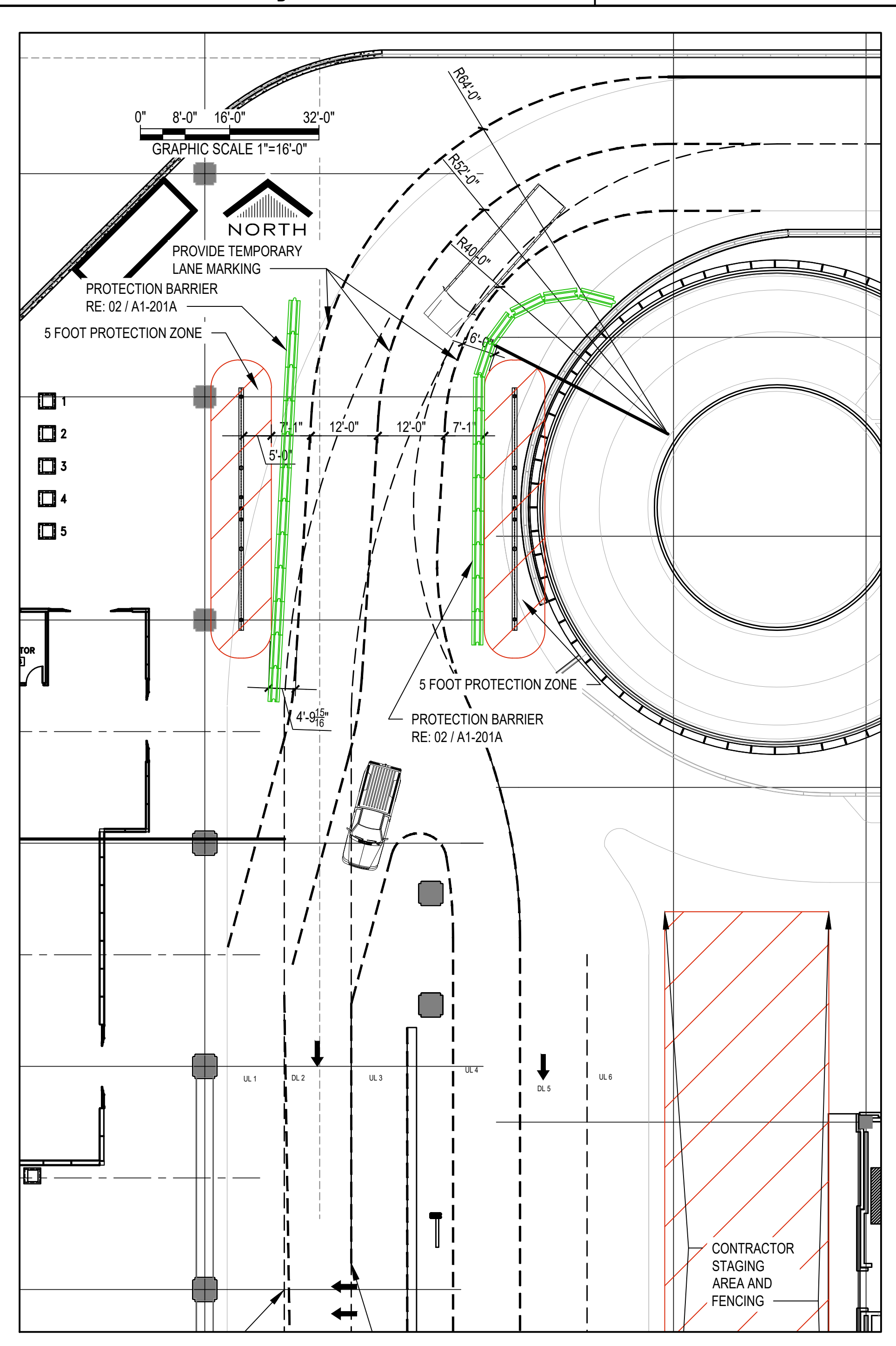
1. Sheet No. A1-201A.
2. Document 00821 Wage Scale and Payroll Requirements for Building Construction.
3. LymTal Spec Data Sheet provided for Question #6.



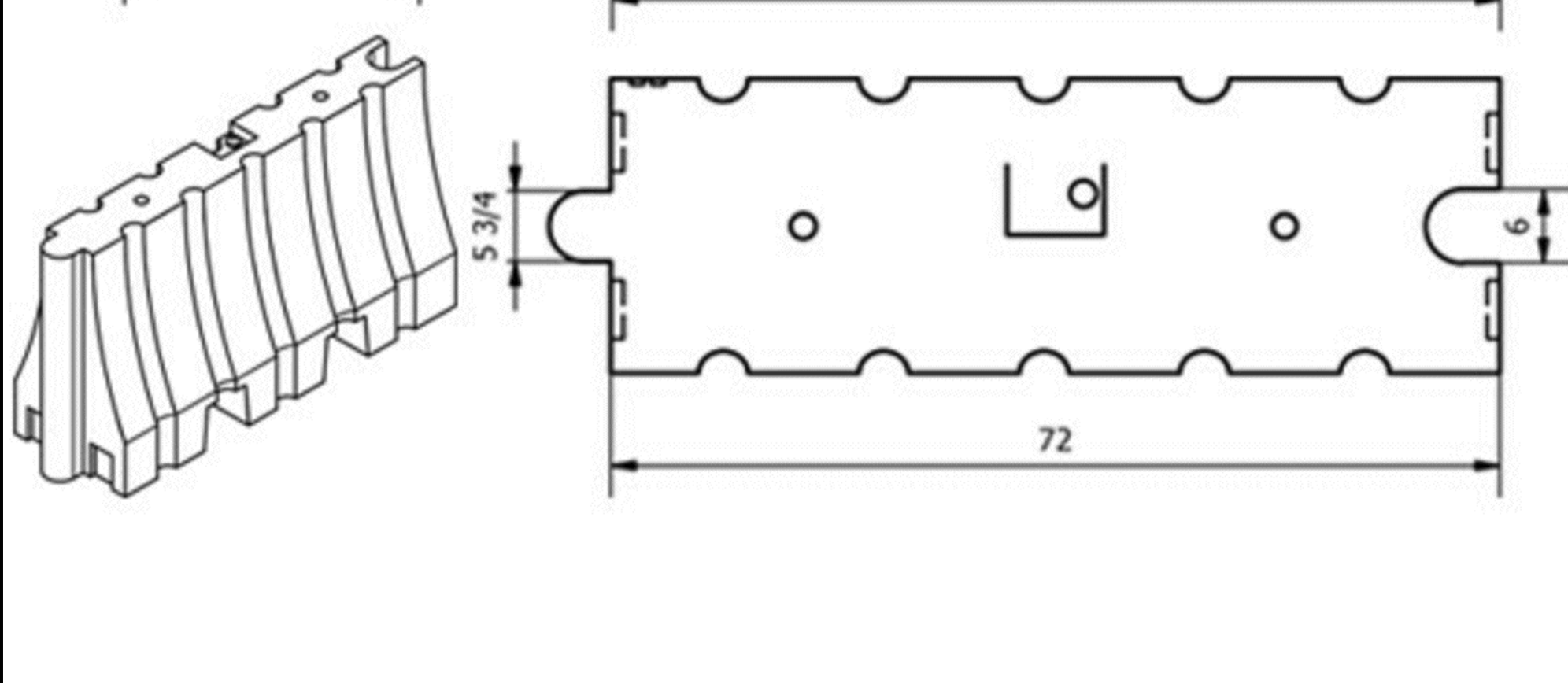
07 EXPANSION JOINT DETAIL ARMORED CONDITION
1:1



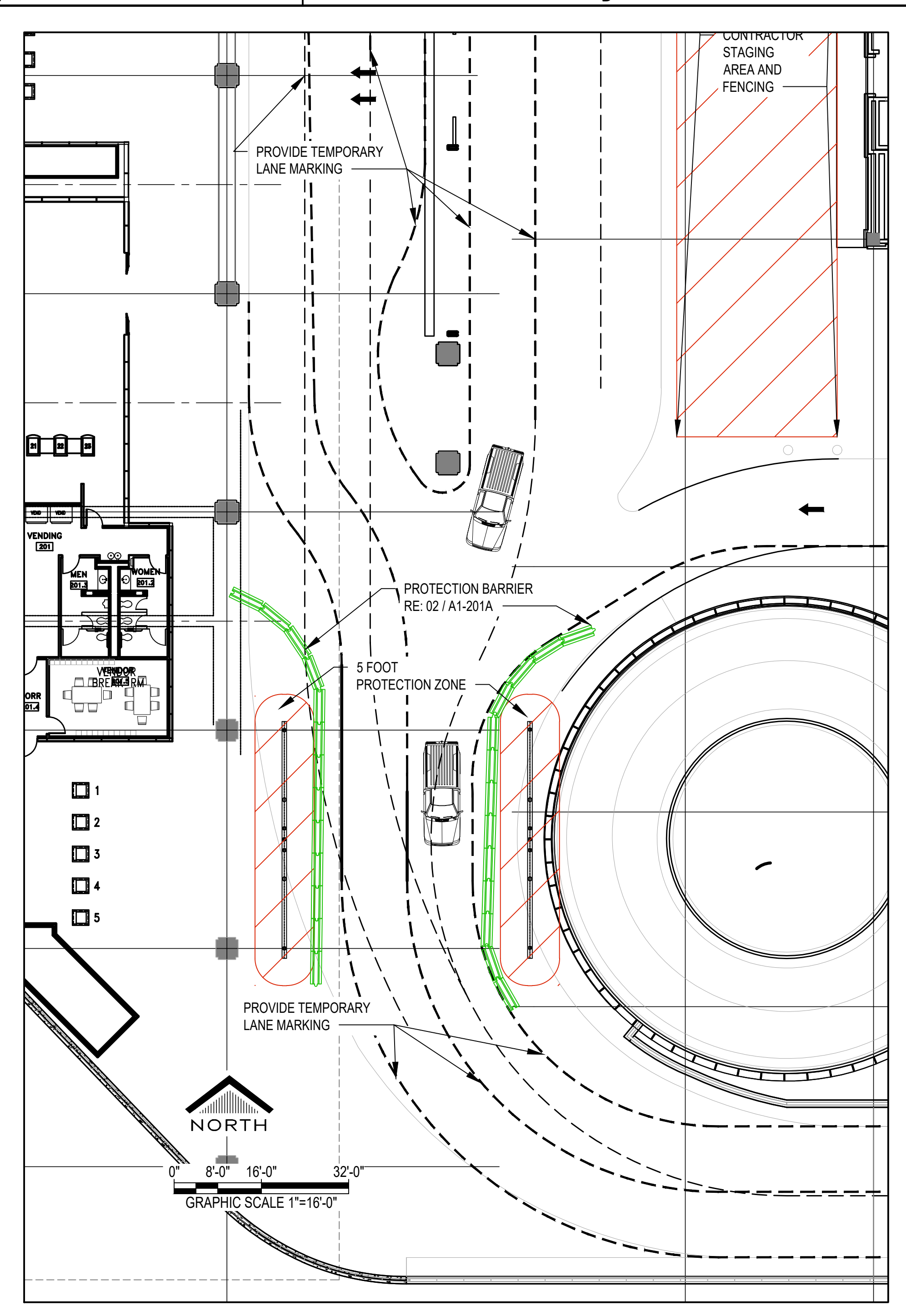
01 LEVEL 2
1" = 30"



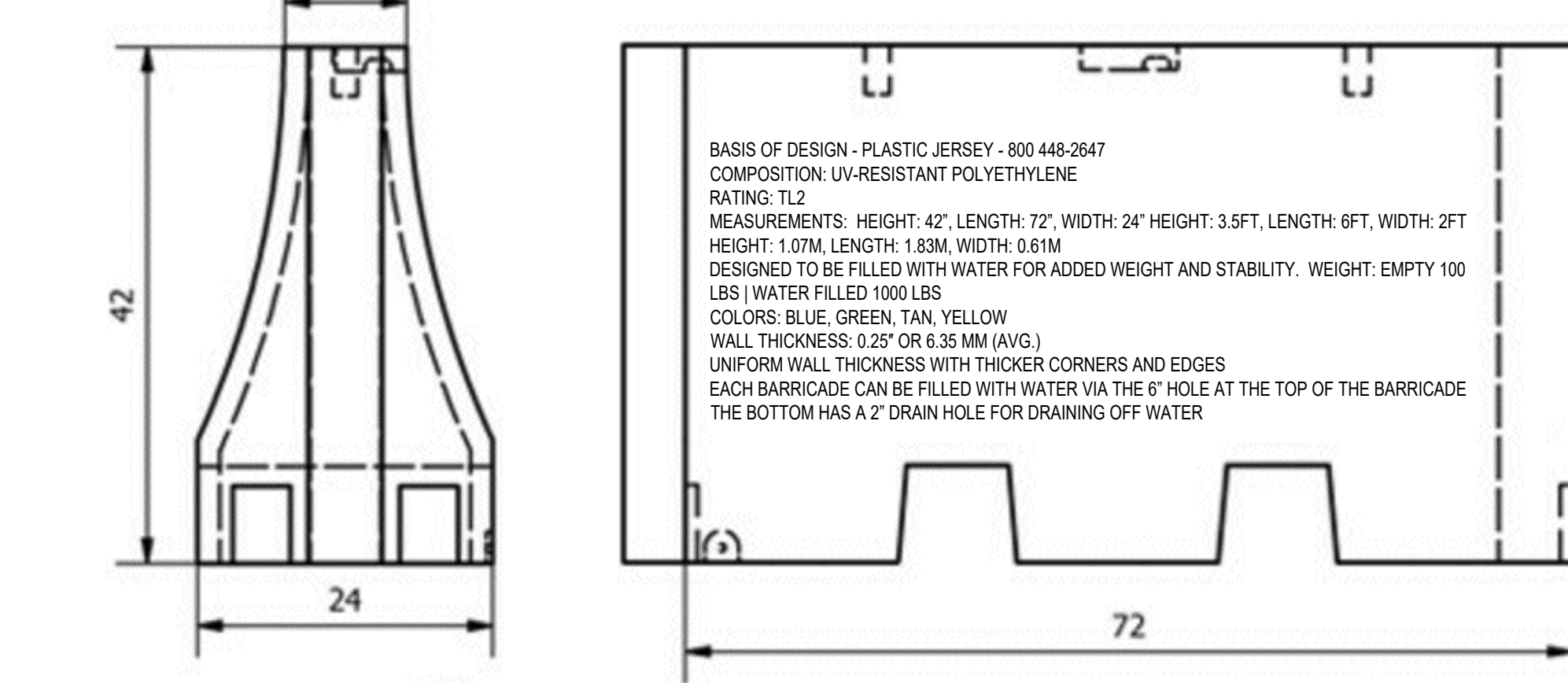
08 LEVEL 2 NORTHEAST RAMP PHASE 1
1/16" = 1'-0" XREF



02 RRM SAFETY BARRICADES 72 IN X 42 IN WATER-FILLED BARRIER
1" = 1'-0"



10 LEVEL 2 SOUTHEAST RAMP PHASE 2
1/16" = 1'-0" XREF



01 LEVEL 2
1" = 30"

HOUSTON AIRPORTS

TERMINAL C AT IAH - 2800 N TERMINAL RD
HOUSTON, TX 77032

AH TERMINAL C HELIX RAMP BEARING AND MISC REPAIRS

C.I.P. No. A.I.P. No.
C.O.H. No. D.O.A. No.

MWA ARCHITECTS
11767 KATY FREEWAY SUITE 430
HOUSTON, TEXAS 77079-2338
ISSUED FOR ADDENDUM 3
11/17/2023

DESIGNER PROJECT No.: 19-21
PROJECT STATUS: ISSUED FOR CONSTRUCTION

REVISIONS

No.	DESCRIPTION	DATE	BY
A	ISSUED FOR REVIEW 11/16/2022	11/16/2022	J TOHILL
B	ISSUED FOR PERMIT 12/15/2022	12/15/2022	J TOHILL
C	ISSUED FOR BID 01/20/2023	01/20/2023	J TOHILL
0	ISSUED FOR CONSTRUCTION 05/08/2023	05/08/2023	J TOHILL
1	ISSUED FOR ADDENDUM 3 11/17/2023	11/17/2023	J TOHILL

DESIGNER: J TOHILL
DRAWN BY: J TOHILL
CHECKED BY: TBD
ISSUE DATE: 11/17/2023
APPROVED BY:
APPROVAL DATE:

DIRECTOR
of
HOUSTON AIRPORT SYSTEM

Review/ Approval Category
IFP
ISSUED FOR REVIEW

09/25/2023

08 A1-201A
10 A1-201A

LEVEL 2 CONSTRUCTION LAYDOWN AREA

SHEET No. A1-201A SCALE: AS NOTED

SHEET SIZE: 22" X 34" ANSI-D

E:\2019\19-21 HAS - IAH TC STRUCTURAL & PONDING\DWGS\A1-201A LEVEL 2 CONSTRUCTION LAYDOWN AREA.DWG
 FILE NAME:
 OLD DCA No. :
 DCA DWG FILE:
 PLOT DATE: 17 November 2023 2:39:17 PM

Document 00821

WAGE SCALE AND PAYROLL REQUIREMENTS FOR BUILDING CONSTRUCTION

Wage Scale Requirements

- 1.1 Contractor and its Subcontractors must pay the general prevailing wage rates for building construction for each craft or type of worker or mechanic employed in the execution of any building construction or repair under the Contract in accordance with Chapter 2258 of the Texas Government Code and City of Houston, Texas Ordinance Nos. 85-2070, 2000-1114, 2001-152, 2006-91 and 2006-168, and 2009- 247 all as amended from time to time. City Council has determined the prevailing wage rate in the locality in which the work is being performed, which is set forth in Exhibit "A".
- 1.2 This prevailing wage rate does not prohibit the payment of more than the rates stated.
- 1.3 In bidding, Contractor warrants and represents that it has carefully examined the classifications for each craft or type of worker needed to execute the Contract and determined that such classifications in Exhibit "A" include all necessary categories to perform the work under the Contract.
- 1.4 The wage scale for building construction is to be applied to work on a building including an area within 5 feet of the exterior wall.
- 1.5 If Contractor believes that an additional classification for a craft or type of worker is necessary to perform work under the Contract, it must submit with its bid a request to the Contract Compliance Division of the Office of Business Opportunity ("OBO") to use an additional labor classification not listed in Exhibit "A" and specify the proposed new classification. OBO shall determine whether a proposed classification is already covered in Exhibit "A", and, if it is, specify which classification is appropriate. OBO's decision is conclusive. If OBO decides that a new classification is necessary, it will determine the appropriate prevailing wage rate for any resurveyed, amended, new, or additional craft or type of worker not covered by Exhibit "A". Such determination must be decided in accordance with procedures established by OBO, and in compliance with Chapter 2258 of the Texas Government Code and City of Houston, Texas Ordinance Nos. 85-2070, 2000-1114, 2001-152, 2006-91, 2006-168, and 2009-247 subject to City Council approval.
- 1.6 Contractor must not use any labor classification not covered by Exhibit "A" until such classification is established and approved for use by OBO.
- 1.7 A Contractor or Subcontractor who violates Chapter 2258 of the Texas Government Code must pay to the City, \$60 per each worker employed for each calendar day or part of the day that the worker is paid less than the wage rates set forth in Exhibit "A".
- 1.8 The City may withhold money required to be withheld under Chapter 2258 of the Texas Government Code from the final payment to Contractor or earlier payments if City Council makes a determination that there is good cause to believe that Contractor has not complied with these provisions and Chapter 2258 of the Government Code, in which case the City may

withhold the money at any time subsequent to the finding by City Council.

1.9 Contractor and Subcontractors must keep records specifying:

- (1) the name and classification of each worker employed under the Contract; and
- (2) the actual per diem wages paid to each worker, and the applicable hourly rate.

The records must be open at all reasonable hours for inspection by the officers and agents of the City.

1.10 The hourly cost of salary for non-exempt workers for labor in excess of 40 hours per worker per week, shall be calculated at 1.5 times the worker's base pay, plus 1.0 times fringe benefits, for the applicable craft and level.

Certified Payroll Requirements

- 2.1 Employees are paid weekly, and payrolls are submitted weekly using the City of Houston's electronic payroll submission module, unless the prime Contractor has been instructed to do otherwise by the Office of Business Opportunity. When no work is done after a Contractor has started work, the Contractor is required to submit a weekly compliance statement indicating no work was performed. The payrolls must reflect the exact work and classification of the workers, the exact amount that they were paid. Workers must be paid the contracted amount (prevailing wage rates). The Contractor will be penalized \$60.00 a day for each employee who is underpaid per Texas Government Code §2258-023 for all contracts.
- 2.2 Payrolls must be submitted electronically & indicate whether the worker worked inside or outside the building area when both wage rates are applicable to the project.
- 2.3 Payrolls must be submitted each week until all work by the contractor is complete and the electronic payroll submission is marked as final in the system.
- 2.4 Payrolls must cover a seven-day period from the start of the work week and must be consecutive seven-day periods until all work is complete.
- 2.5 Payrolls must have employees' names, addresses, last four digits of the social security numbers, and job classifications. The job classifications must be the same as the classifications on the prevailing wage rate schedule.
- 2.6 A payroll deduction authorization form must be submitted for each employee for any deductions other than Federal and FICA taxes and court ordered child support.
- 2.7 Employees must be paid overtime (time and a half) for all hours worked over 40 hours a week on both federally and City-funded contracts.
- 2.8 The Contractor has the responsibility to comply with all Internal Revenue Service rules and regulations. Contractors who submit certified payrolls with **Owner Operators (truckers)** must submit a signed tax liability statement from each Owner Operator acknowledging their responsibility for Federal Income Tax and FICA reporting obligations.
- 2.9 If the Contractor wants to use the apprentice wage rates for an employee, the apprenticeship

certificates must be submitted to the Office of Business Opportunity in advance of the employee working on the project and appearing on the payroll. Contractor must comply with posted number of journeymen to apprentices as listed on the wage rate.

- 2.10 A poster of the Prevailing Wage Rate Schedule should be clearly displayed on each job site from the time the project starts until the work is completed, or in case of annual service agreements, in the Contractor's office.
- 2.11 The Contractor shall submit the "Certificate from Contractor Appointing Officer or Employee to Supervise Payment of Employees" (Exhibit "B") to the Monitoring Authority listed in Document 00495 prior to final execution of the contract.
- 2.12 During the course of the work, Subcontractors shall submit the "Certificate from Subcontractor Appointing Officer or Employee to Supervise Payment of Employees" (Exhibit "C") to the Monitoring Authority listed in Document 00495.
- 2.13 Upon completion of the Project, as part of the contract-awarding department's total clearance process, the Office of Business Opportunity's Contract Compliance Section must review whether the Wage Rate and Payroll Requirements were met and report the results to the department.

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EXHIBIT "A"

**CITY OF HOUSTON, TEXAS
LABOR CLASSIFICATIONS AND PREVAILING WAGE RATES FOR BUILDING CONSTRUCTION
2023**

Worker Classification	Ratio	Base Rate	Fringe Benefit	Wage Total
Acoustical Ceiling Mechanic		\$17.27	\$3.98	\$21.25
Asbestos Abatement Worker (ceilings, walls, floors only)	Ratio 1/3	\$14.00	\$0.00	\$14.00
Asbestos Worker/ Heat & Frost Insulator (Duct, Pipe and Mechanical System Insulation)	Ratio 1/1 – Apprentice	\$26.88	\$15.41	\$42.29
Boilermaker*	Ratio 5/1 – Apprentice	\$29.47	\$24.10	\$51.57
Bricklayer *	Ratio 1/3 – Mason Tender Brick	\$18.87	\$0.00	\$18.87
Carpenter (excludes acoustical ceiling installation, drywall hanging, form work and metal stud installation)*	Ratio 2/1 – Apprentice	\$25.86	\$9.08	\$34.94
Caulker		\$15.36**	\$0.00	\$15.36
Cement Mason/Concrete Finisher*	Ratio 1/3 – Mason Tender Concrete	\$13.93**	\$0.00	\$13.93
Drywall Finisher/Taper*	Ratio 1/3 – Apprentice	\$16.27	\$3.66	\$19.93
Drywall Hanger and Metal Stud Installer*	Ratio 1/3 – Apprentice	\$17.44	\$3.93	\$21.37
Electrician (Excludes Low Voltage Wiring and Installation of Alarms)	Ratio 3/2 – Apprentice	\$33.20	\$10.37	\$43.57
Electrician (Alarm Installation Only)*	Ratio 1/1 – Apprentice	\$17.97	\$3.37	\$21.34
Electrician (Low Voltage Wiring Only)*		\$18.00	\$1.68	\$19.68
Elevator Mechanic*, a, b	Ratio 1/1 – Apprentice	\$47.04	\$36.885	\$83.925
Floor Layer: Carpet		\$20.00	\$0.00	\$20.00
Form worker *		\$12.77**	\$0.00	\$12.77
Glazier*	Ratio 1/3 – Apprentice	\$23.27	\$7.12	\$30.39
Insulator – Batt*		\$14.87**	\$0.73	\$15.60
Ironworker, Ornamental		\$26.76	\$7.88	\$34.64
Ironworker, Reinforcing*	Ratio 1/3 – Apprentice	\$12.14**	\$0.00	\$12.14
Ironworker, Structural*	Ratio 1/3 – Apprentice	\$26.76	\$7.88	\$34.64
Laborer, Common or General		\$11.76**	\$0.00	\$11.76
Laborer, Landscape and Irrigation		\$9.52**	\$0.00	\$9.52
Laborer, Mason Tender - Brick		\$13.47**	\$0.00	\$13.47
Laborer, Mason Tender - Cement /Concrete		\$10.48**	\$0.00	\$10.48
Laborer, Pipelayer		\$12.94**	\$0.00	\$12.94
Laborer, Roof Tearoff		\$11.28**	\$0.00	\$11.28
Lather*	Ratio 1/3	\$19.73	\$0.00	\$19.73
Operator, Backhoe / excavator / trackhoe		\$13.94**	\$0.00	\$13.94
Operator, Bobcat / skid steer / skid loader		\$13.93**	\$0.00	\$13.93
Operator, Bulldozer		\$22.75	\$0.00	\$22.75
Operator, Drill		\$16.22	\$0.34	\$16.56
Operator, Forklift		\$16.00**	\$0.00	\$16.00
Operator, Grader/blade		\$13.37**	\$0.00	\$13.37
Operator, Loader		\$13.55**	\$0.94	\$14.49
Operator, Mechanic		\$17.52	\$3.33	\$20.85

CITY OF HOUSTON
STANDARD DOCUMENT

WAGE SCALE
FOR BUILDING CONSTRUCTION

Operator, Paver (asphalt, aggregate, and concrete)		\$16.03 **	\$0.00	\$16.03
Operator, Roller		\$16.00 **	\$0.00	\$16.00
Painter* (brush, roller, and spray) excludes drywall finishing/taping	Ratio 1/3 – Apprentice	\$17.24	\$4.41	\$21.65
Pipe Fitter (including HVAC Pipe installation)*	Ratio 1/1 – Apprentice	\$37.03	\$12.56	\$49.59
Plasterer	Ratio 1/3 – Plasterer Tenders	\$26.04	\$9.02	\$35.06
Plumber*	Ratio 3/2 – Apprentice	\$37.83	\$11.71	\$49.54
Power Equipment Operator, Crane		\$34.85	\$9.85	\$44.70
Roofer*	Ratio 1/3 – Apprentice	\$15.40 **	\$0.00	\$15.40
Sheet Metal Worker (excludes HVAC Unit Installation)*	Ratio 2/1 – Apprentice	\$29.70	\$13.85	\$43.55
Sheet Metal Worker (HVAC Duct Installation only)*	Ratio 2/1 – Apprentice	\$29.70	\$13.85	\$43.55
Sheet Metal Worker (HVAC Unit Installation only)*	Ratio 2/1 – Apprentice	\$20.05	\$2.24	\$22.29
Sprinkler Fitter (Fire sprinklers)*	Ratio 1/1 – Apprentice	\$31.68	\$22.50	\$54.18
Tile Finisher*	Ratio 1/3 – Apprentice	\$12.00 **	\$0.00	\$12.00
Tile Setter*	Ratio 1/3 – Apprentice	\$16.17 **	\$0.00	\$16.17
Truck Driver, 1/Single Axle Truck		\$14.18 **	\$0.00	\$14.18
Truck Driver, Dump Truck		\$12.39 **	\$1.18	\$13.57
Truck Driver, Flatbed Truck		\$19.65	\$8.57	\$28.22
Truck Driver, Semi-Trailer Truck		\$12.50 **	\$0.00	\$12.50
Truck Driver, Water Truck		\$12.00 **	\$4.11	\$16.11
Waterproofers		\$14.39 **	\$0.00	\$14.39
Welders - Receive rate prescribed for craft performing operation in which welding is incidental.				
* Apprentices- must be in an approved USDOL Program and cannot exceed ratios				
** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$16.20) or 13658 (\$12.15). Please see the Note at the top of the wage determination for more information.				
a – 6% under 5 years based on regular hourly rate for all hours worked. 8% over 5 years based on regular hourly rate for all hours worked.				
b – Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; Friday after Thanksgiving Day; Christmas Day; and Veterans Day.				

Building Construction Prevailing Wages Classification Definitions

Asbestos Worker/Insulator * - Ratio 1 Journeyman / 1 Apprentice (1 Journeyman / 1 Apprentice)
(Including application of all insulating materials, protective coverings, coatings and finishing to all type of mechanical systems). Applies insulating material to exposed surfaces of structures, such as air ducts, hot and cold pipes, storage tanks, and cold storage rooms: Reads blueprints and selects required insulation material (in sheet, tubular, or roll form), such as fiberglass, foam rubber, styrofoam, cork, or urethane, based on material's heat retaining or excluding characteristics. Brushes adhesives on or attaches metal adhesive-backed pins to flat surfaces as necessary to facilitate application of insulation material. Measures and cuts insulation material to specified size and shape for covering flat or round surfaces, using tape measure, knife, or scissors. Fits, wraps, or attaches required insulation material around or to structure, following blueprint specifications. Covers or seals insulation with preformed plastic covers, canvas strips, sealant, or tape to secure insulation to structure, according to type of insulation used and structure covered, using staple gun, trowel, paintbrush, or caulking gun.

Asbestos Abatement Worker * (Ceilings, Floors, & Walls only)
Removes asbestos from ceilings, walls, beams, boilers, and other structures, following hazardous waste handling guidelines: Assembles scaffolding and seals off work area, using plastic sheeting and duct tape. Positions mobile decontamination unit or portable showers at entrance of work area. Builds connecting walkway between mobile unit or portable showers and work area, using hand tools, lumber, nails, plastic sheeting, and duct tape. Positions portable air evacuation and filtration system inside work area. Sprays chemical solution over asbestos covered surfaces, using tank with attached hose and nozzle, to soften asbestos. Cuts and scrapes asbestos from surfaces, using knife and scraper. Shovels asbestos into plastic disposal bags and seals bags, using duct tape. Cleans work area of loose asbestos, using vacuum, broom, and dustpan. Places asbestos in disposal bags and seals bags, using duct tape. Dismantles scaffolding and temporary walkway, using hand tools, and places plastic sheeting and disposal bags into transport bags. Seals bags, using duct tape, and loads bags into truck.

Boilermaker * - Ratio 5 Journeymen / 1 Apprentice
Assembles, analyzes defects in, and repairs boilers, pressure vessels, tanks, and vats in field, following blueprints and using hand tools and portable power tools and equipment: Locates and marks reference points for columns or plates on foundation, using master straightedge, squares, transit, and measuring tape, and applying knowledge of geometry. Attaches rigging or signals crane operator to lift parts to specified position. Aligns structures or plate sections to assemble boiler frame, tanks, or vats, using plumb bobs, levels, wedges, dogs, or turnbuckles. Hammers, flame cuts, files, or grinds irregular edges of sections or structural parts to facilitate fitting edges together. Bolts or arc-welds structures and sections together. Positions drums and headers into supports and bolts or welds supports to frame. Aligns water tubes and connects and expands ends to drums and headers, using tube expander. Bells, beads with power hammer, or welds tube ends to ensure leak proof joints. Bolts or welds casing sections, uptakes, stacks, baffles, and such fabricated parts as chutes, air heaters, fan stands, feeding tube, catwalks, ladders, coal hoppers, and safety hatch to frame, using wrench. Installs manholes, hand holes, valves, gauges, and feed water connection in drums to complete assembly of water tube boilers. Assists in testing assembled vessels by pumping water or gas under specified pressure into vessel and observing instruments for evidence of leakage. Repairs boilers or tanks in field by unbolting or flame cutting defective sections or tubes, straightening plates, using torch or jacks, installing new tubes, fitting and welding new sections and replacing worn lugs on bolts. May rivet and caulk sections of vessels, using pneumatic riveting and caulking hammers.

Bricklayer * (See Mason Tender) - Ratio 1 Journeyman /3 Mason Tender Brick

Lays building materials, such as brick, structural tile, and concrete cinder, glass, gypsum, and terra cotta block (except stone) to construct or repair walls, partitions, arches, sewers, and other structures: Measures distance from reference points and marks guidelines on working surface to lay out work. Spreads soft bed (layer) of mortar that serves as base and binder for block, using trowel. Applies mortar to end of block and positions block in mortar bed. Taps block with trowel to level, align, and embed in mortar, allowing specified thickness of joint. Removes excess mortar from face of block, using trowel. Finishes mortar between brick with pointing tool or trowel. Breaks bricks to fit spaces too small for whole brick, using edge of trowel or brick hammer. Determines vertical and horizontal alignment of courses, using plumb bob, gauge line (tightly stretched cord), and level. Fastens brick or terra cotta veneer to face of structures, with tie wires embedded in mortar between bricks, or in anchor holes in veneer brick. May weld metal parts to steel structural members. May apply plaster to walls and ceiling, using trowel, to complete repair work.

Carpenter * (Including Acoustical Ceiling Work) - Ratio 2 Journeymen /1 Apprentice

Constructs, erects, installs, and repairs structures and fixtures of wood, plywood, and wallboard, using carpenter's hand tools and power tools, and conforming to local building codes: Studies blueprints, sketches, or building plans for information pertaining to type of material required, such as lumber or fiberboard, and dimensions of structure or fixture to be fabricated. Selects specified type of lumber or other materials. Prepares layout, using rule, framing square, and calipers. Marks cutting and assembly lines on materials, using pencil, chalk, and marking gauge. Shapes materials to prescribed measurements, using saws, chisels, and planes. Assembles cut and shaped materials and fastens them together with nails, dowel pins, or glue. Verifies trueness of structure with plumb bob and carpenter's level. Erects framework for structures and lays subflooring. Builds stairs and lays out and installs partitions and cabinetwork. Covers sub floor with building paper to keep out moisture and lays hardwood, parquet, and wood-strip-block floors by nailing floors to sub floor or cementing them to mastic or asphalt base. Applies shock-absorbing, sound-deadening, and decorative paneling to ceilings and walls. Fits and installs prefabricated window frames, doors, doorframes, weather stripping, interior and exterior trim, and finish hardware, such as locks, letter drops, and kick plates. Constructs forms and chutes for pouring concrete. Erects scaffolding and ladders for assembling structures above ground level. May weld metal parts to steel structural members.

Cement Mason/Concrete Finisher *(Mason Tender Cement/Concrete) - Ratio 1 Journeyman /3

Mason Tender Cement

Finisher; concrete floater Smooths and finishes surfaces of poured concrete floors, walls, sidewalks, or curbs to specified textures, using hand tools or power tools, including floats, trowels, and screeds: Signals concrete deliverer to position truck to facilitate pouring concrete. Moves discharge chute of truck to direct concrete into forms. Spreads concrete into inaccessible sections of forms, using rake or shovel. Levels concrete to specified depth and workable consistency, using hand held screed and floats to bring water to surface and produce soft topping. Smooths, and shapes surfaces of freshly poured concrete, using straightedge and float or power screed. Finishes concrete surfaces, using power trowel, or wets and rubs concrete with abrasive stone to impart finish. Removes rough or defective spots from concrete surfaces, using power grinder or chisel and hammer, and patches holes with fresh concrete or epoxy compound. Molds expansion joints and edges, using edging tools, jointers, and straightedge. May sprinkle colored stone chips, powdered steel, or coloring powder on concrete to produce prescribed finish. May produce rough concrete surface, using broom. May mix cement, using hoe or concrete-mixing machine. May direct sub grade work, mixing of concrete, and setting of forms.

Drywall Finisher/Taper

Wallboard and plasterboard; sheetrock taper; taper and bedder; taper and floater. Seals joints

between plasterboard or other wallboards to prepare wall surface for painting or papering; Mixes sealing compound by hand or with portable electric mixer, and spreads compound over joints between boards, using trowel, broad knife, or spatula. Presses paper tape over joint to embed tape into compound and seal joint, or tapes joint, using mechanical applicator that spreads compound and embeds tape in one operation. Spreads and smooth's cementing material over tape, using trowel or floating machine to blend joint with wall surface. Sands rough spots after cement has dried. Fills cracks and holes in walls and ceiling with sealing compound. Installs metal molding at corners in lieu of sealant and tape. Usually works as member of crew. May apply texturing compound and primer to walls and ceiling preparatory to final finishing, using brushes, roller, or spray gun. May countersink nails or screws below surface of wall prior to applying sealing compound, using hammer or screwdriver.

Drywall Hanger

Dry-wall installer; gypsum dry-wall systems installer. Plans gypsum drywall installations, erects metal framing and furring channels for fastening drywall, and installs drywall to cover walls, ceilings, soffits, shafts, and movable partitions in residential, commercial, and industrial buildings: Reads blueprints and other specifications to determine method of installation, work procedures, and material, tool, and work aid requirements. Lays out reference lines and points for use in computing location and position of metal framing and furring channels and marks position for erecting metalwork, using chalk line. Measures, marks, and cuts metal runners, studs, and furring channels to specified size, using tape measure, straightedge and hand and portable power cutting tools. Secures metal framing to walls and furring channels to ceilings, using hand and portable power tools.

Measures and marks cutting lines on drywall, using square, tape measure, and marking devices. Scribes cutting lines on drywall, using straightedge and utility knife and breaks board along cut lines. Fits and fastens board into specified position on wall, using screws, hand tools, portable power tools, or adhesive. Cuts openings into board for electrical outlets, vents, or fixtures, using keyhole saw or other cutting tools. Measures, cuts, assembles, and installs metal framing and decorative trim for windows, doorways, and vents. Fits, aligns, and hangs doors and installs hardware, such as locks and kick plates (Includes Installing Metal Studs).

Electrician * Ratio 3 Journeymen /2 Apprentice

Plans layout, installs, and repairs wiring, electrical fixtures, apparatus, and control equipment: Plans new or modified installations to minimize waste of materials, provide access for future maintenance, and avoid unsightly, hazardous, and unreliable wiring, consistent with specifications and local electrical codes. Prepares sketches showing location of wiring and equipment, or follows diagrams or blueprints, ensuring that concealed wiring is installed before completion of future walls, ceilings, and flooring. Measures, cuts, bends, threads, assembles, and installs electrical conduit, using tools, such as hacksaw, pipe threader, and conduit bender. Pulls wiring through conduit. Splices wires by stripping insulation from terminal leads, using knife or pliers, twisting or soldering wires together, and applying tape or terminal caps. Connects wiring to lighting fixtures and power equipment, using hand tools. Installs control and distribution apparatus, such as switches, relays, and circuit-breaker panels, fastening in place with screws or bolts, using hand tools and power tools. Connects power cables to equipment, such as electric range or motor, and installs grounding leads. Tests continuity of circuit to ensure electrical compatibility and safety of components, using testing instruments, such as ohmmeter, battery and buzzer, and oscilloscope. Observes functioning of installed equipment or system to detect hazards and need for adjustments, relocation, or replacement (Including Pulling Wire and Low Voltage Wiring and Installation of Fire Alarms, Security Systems, Telephones, and Computers).

Elevator Mechanic * - Ratio 1 Journeyman /1 Apprentice

FOOTNOTES: a. - Employer contributes 8% of basic hourly rate for over 5 years' service and 6% of

basic hourly rate for 6 months to 5 years' service as Vacation Pay Credit. Paid Holidays: New Year's Day; Memorial Day; Independence Day Labor Day; Thanksgiving Day; Friday after Thanksgiving Day; Christmas Day.

Erector; elevator installer; elevator mechanic. Assembles and installs electric and hydraulic freight and passenger elevators, escalators, and dumbwaiters, determining layout and electrical connections from blueprints: Studies blueprints and lays out location of framework, counterbalance rails, motor pump, cylinder, and plunger foundations. Drills holes in concrete or structural steel members with portable electric drill. Secures anchor bolts or welds brackets to support rails and framework, and verifies alignment with plumb bob and level. Cuts prefabricated sections of framework, rails, and other elevator components to specified dimensions, using acetylene torch, power saw, and disk grinder. Installs cables, counterweights, pumps, motor foundations, escalator drives, guide rails, elevator cars, and control panels, using hand tools. Connects electrical wiring to control panels and electric motors. Installs safety and control devices. Positions electric motor and equipment on top of elevator shaft, using hoists and cable slings.

Formbuilder/Formsetter

Constructs built-in-place or prefabricated wooden forms, according to specifications, for molding concrete structures: Studies blueprints and diagrams to determine type and dimension of forms to be constructed. Saws lumber to blueprint dimensions, using handsaw or power saw, and nails lumber together to make form panels. Erects built-in-place forms or assembles and installs prefabricated forms on construction site according to blueprint specifications, using hand tools, plumb rule, and level. Inserts spreaders and tie rods between opposite faces of form to maintain specified dimensions. Anchors and braces forms to fixed objects, using nails, bolts, anchor rods, steel cables, planks, and timbers.

Glazier

Installs glass in windows, skylights, store fronts, and display cases, or on surfaces, such as building fronts, interior walls, ceilings, and tabletops: Marks outline or pattern on glass, and cuts glass, using glasscutter. Breaks off excess glass by hand or with notched tool. Fastens glass panes into wood sash with glazier's points, and spreads and smoothes putty around edge of panes with knife to seal joints. Installs mirrors or structural glass on building fronts, walls, ceilings, or tables, using mastic, screws, or decorative molding. Bolts metal hinges, handles, locks, and other hardware to prefabricated glass doors. Sets glass doors into frame and fits hinges. May install metal window and doorframes into which glass panels are to be fitted. May press plastic adhesive film to glass or spray glass with tinting solution to prevent light glare. May install stained glass windows.

Insulator (Batt and Foam)

Applies batt and form insulation to walls, ceilings and other surfaces according to manufacturers specifications and blue print instructions. May use sealants such as cement plaster or asphalt compound to seal insulation; may spread concrete over floor slabs to form wearing floor: brushes adhesives, cuts insulating materials to specified shape to cover surfaces; uses tape or other sealants to adhere insulation to surfaces. May use staple gun, towel, paintbrushes and caulking guns.

Ironworker (Reinforcing)

Positions and secures steel bars in concrete forms to reinforce concrete; places rods in forms, spacing and fastening together with wire and pliers. Cuts bars using hacksaw, bar cutters or acetylene torch. Bends steel rods with hand tools or rod bending machine; reinforces concrete with wire mesh; welds reinforcing bars together.

Ironworker (Structural)

Erector; ironworker; steel erector; structural-iron erector; structural-iron worker; structural steel erector. Performs any combination of following duties to raise, place, and unite girders, columns, and other structural-steel members to form completed structures or structure frameworks, working as member of crew: Sets up hoisting equipment for raising and placing structural-steel members. Fastens steel members to cable of hoist, using chain, cable, or rope. Signals worker operating hoisting equipment to lift and place steel member. Guides member, using tab line (rope) or rides on member to guide it into position. Pulls, pushes, or pries steel members into approximate position while member is supported by hoisting device. Forces members into final position, using turnbuckles, crowbars, jacks, and hand tools. Aligns rivet holes in member with corresponding holes in previously placed member by driving drift pins or handle of wrench through holes. Verifies vertical and horizontal alignment of members, using plumb bob and level.

Lather

Fastens wooden, metal, or rockboard lath to walls, ceilings, and partitions of buildings to provide supporting base for plaster, fireproofing, or acoustical material, using hand tools and portable power tools: Erects horizontal metal framework to which laths are fastened, using nails, bolts, and studgun. Drills holes in floor and ceiling, using portable electric tool, and drives ends of wooden or metal studs into holes to provide anchor for furring or rockboard lath. Wires horizontal strips to furring to stiffen framework. Cuts lath to fit openings and projections, using hand tools or portable power tools. Wires, nails, clips, or staples lath to framework, ceiling joists, and flat concrete surfaces. Bends metal lath to fit corners, or attaches preformed corner reinforcements. Wires plasterer's channels to overhead structural framework to provide support for plaster or acoustical ceiling tile.

Painter (Brush, Roller, and Spray)

Applies coats of paint, varnish, stain, enamel, or lacquer to decorate and protect interior or exterior surfaces, trimmings, and fixtures of buildings and other structures: Reads work order or receives instructions from supervisor or homeowner regarding painting. Smooths surfaces, using sandpaper, brushes, or steel wool, and removes old paint from surfaces, using paint remover, scraper, wire brush, or blowtorch to prepare surfaces for painting. Fills nail holes, cracks, and joints with caulk, putty, plaster, or other filler, using caulking gun and putty knife. Selects premixed paints, or mixes required portions of pigment, oil, and thinning and drying substances to prepare paint that matches specified colors. Removes fixtures, such as pictures and electric switchcovers, from walls prior to painting, using screwdriver. Spreads dropcloths over floors and room furnishings, and covers surfaces, such as baseboards, doorframes, and windows with masking tape and paper to protect surfaces during painting. Paints surfaces, using brushes, spray gun, or paint rollers. Simulates wood grain, marble, brick, or tile effects. Applies paint with cloth, brush, sponge, or fingers to create special effects. Erects scaffolding or sets up ladders to perform tasks above ground level.

Pipe fitter* (HVAC Pipe Only) - Ratio 1 Journeymen /1 Apprentice (See Schedule included)

Lays out, assembles, installs, and maintains pipe systems, pipe supports, and related hydraulic and pneumatic equipment for steam, hot water, heating, cooling, lubricating, sprinkling, and industrial production and processing systems, applying knowledge of system operation, and following blueprints: Selects type and size of pipe, and related materials and equipment, such as supports, hangers, and hydraulic cylinders, according to specifications. Inspects work site to determine presence of obstructions and to ascertain that holes cut for pipe will not cause structural weakness. Plans installation or repair to avoid obstructions and to avoid interfering with activities of other workers. Cuts pipe, using saws, pipe cutter, hammer and chisel, cutting torch, and pipe cutting machine. Threads pipe, using pipe threading machine. Bends pipe, using pipe bending tools and pipe bending machine. Assembles and installs variety of metal and nonmetal pipes, tubes, and fittings, including iron, steel, copper, and plastic. Connects pipes, using threaded, caulked, soldered, brazed, fused, or cemented joints, and hand tools. Secures pipes to structure with brackets, clamps,

and hangers, using hand tools and power tools. Installs and maintains hydraulic and pneumatic components of machines and equipment, such as pumps and cylinders, using hand tools. Installs and maintains refrigeration and air-conditioning systems, including compressors, pumps, meters, pneumatic and hydraulic controls, and piping, using hand tools and power tools, and following specifications and blueprints. Increases pressure in pipe system and observes connected pressure gauge to test system for leaks.

Pipe Fitter* (Excluding HVAC Pipe)

Lays out, assembles, installs, and maintains pipe systems, pipe supports, and related hydraulic and pneumatic equipment for steam, hot water, heating, cooling, lubricating, sprinkling, and industrial production and processing systems, applying knowledge of system operation, and following blueprints: Selects type and size of pipe, and related materials and equipment, such as supports, hangers, and hydraulic cylinders, according to specifications. Inspects work site to determine presence of obstructions and to ascertain that holes cut for pipe will not cause structural weakness. Plans installation or repair to avoid obstructions and to avoid interfering with activities of other workers. Cuts pipe, using saws, pipe cutter, hammer and chisel, cutting torch, and pipe cutting machine. Threads pipe, using pipe-threading machine. Bends pipe, using pipe bending tools and pipe bending machine. Assembles and installs variety of metal and nonmetal pipes, tubes, and fittings, including iron, steel, copper, and plastic. Connects pipes, using threaded, caulked, soldered, brazed, fused, or cemented joints, and hand tools. Secures pipes to structure with brackets, clamps, and hangers, using hand tools and power tools. Installs and maintains hydraulic and pneumatic components of machines and equipment, such as pumps and cylinders, using hand tools. Installs and maintains refrigeration and air-conditioning systems, including compressors, pumps, meters, pneumatic and hydraulic controls, and piping, using hand tools and power tools, and following specifications and blueprints. Increases pressure in pipe system and observes connected pressure gauge to test system for leaks. May weld pipe supports to structural steel members. May observe production machines in assigned area of manufacturing facility to detect machinery malfunctions. May operate machinery to verify repair. May modify programs of automated machinery, such as robots and conveyors, to change motion and speed of machine, using teach pendant, control panel, or keyboard and display screen of robot controller and programmable controller. May be designated Steam Fitter (construction) when installing piping systems that must withstand high pressure

Plasterer* See Plaster Tender - Ratio 1 Journeyman /3 Plaster Tenders

Applies coats of plaster to interior walls, ceilings, and partitions of buildings, to produce finished surface, according to blueprints, architect's drawings, or oral instructions, using hand tools and portable power tools: Directs workers to mix plaster to desired consistency and to erect scaffolds. Spreads plaster over lath or masonry base, using trowel, and smoothes plaster with darby and float to attain uniform thickness. Applies scratch, brown, or finish coats of plaster to wood, metal, or board lath successively. Roughens undercoat with scratcher (wire or metal scraper) to provide bond for succeeding coats of plaster.

Plumber* (Excluding HVAC Pipe) - Ratio 3 Journeymen /2 Apprentice

Assembles, installs, and repairs pipes, fittings, and fixtures of heating, water, and drainage systems, according to specifications and plumbing codes: Studies building plans and working drawings to determine work aids required and sequence of installations. Inspects structure to ascertain obstructions to be avoided to prevent weakening of structure resulting from installation of pipe. Locates and marks position of pipe and pipe connections and passage holes for pipes in walls and floors, using ruler, spirit level, and plumb bob. Cuts openings in walls and floors to accommodate pipe and pipe fittings, using hand tools and power tools. Cuts and threads pipe, using pipe cutters, cutting torch, and pipe-threading machine. Bends pipe to required angle by use of pipe-bending machine or by placing pipe over block and bending it by hand. Assembles and installs valves, pipe

fittings, and pipes composed of metals, such as iron, steel, brass, and lead, and nonmetals, such as glass, vitrified clay, and plastic, using hand tools and power tools. Joins pipes by use of screws, bolts, fittings, solder, plastic solvent, and caulks joints. Fills pipe system with water or air and reads pressure gauges to determine whether system is leaking. Installs and repairs plumbing fixtures, such as sinks, commodes, bathtubs, water heaters, hot water tanks, garbage disposal units, dishwashers, and water softeners. Repairs and maintains plumbing by replacing washers in leaky faucets, mending burst pipes, and opening clogged drains.

Roofer

Covers roofs with roofing materials other than sheet metal, such as composition shingles or sheets, wood shingles, or asphalt and gravel, to waterproof roofs: Cuts roofing paper to size, using knife, and nails or staples it to roof in overlapping strips to form base for roofing materials. Installs gutters and down spouts. Aligns roofing material with edge of roof, and overlaps successive layers, gauging distance of overlap with chalk line, gauge on shingling hatchet, or by lines on shingles. Fastens composition shingles or sheets to roof with asphalt, cement, or nails. Punches holes in slate, tile, terra cotta, or wooden shingles, using punch and hammer. Cuts strips of flashing and fits them into angles formed by walls, vents, and intersecting roof surfaces. When applying asphalt or tar and gravel to roof, mops or pours hot asphalt or tar onto roof base. Applies alternate layers of hot asphalt or tar and roofing paper until roof covering is as specified. Applies gravel or pebbles over top layer, using rake or stiff bristled broom.

Sheet metal worker * Ratio 2 Journeymen /1 Apprentice (Including Setting HVAC Duct & System Installs)

Fabricates, assembles, installs and repairs sheet metal products, including sheet metal roof (also see Roofer). Operates soldering and welding equipment to join together sheet metal parts. Seals seams and joints with sealant. Installs roof sheets, trims, flashing, gutters down spouts and other related items. Performs other related duties.

Sprinkler Fitter (Fire) * - Ratio 1 Journeyman /1 Apprentice

Lays out, assembles, installs, and maintains pipe systems, pipe supports, and related hydraulic and pneumatic equipment for steam, hot water, heating, cooling, lubricating, sprinkling, and industrial production and processing systems, applying knowledge of system operation, and following blueprints: Selects type and size of pipe, and related materials and equipment, such as supports, hangers, and hydraulic cylinders, according to specifications. Inspects work site to determine presence of obstructions and to ascertain that holes cut for pipe will not cause structural weakness. Plans installation or repair to avoid obstructions and to avoid interfering with activities of other workers. Cuts pipe, using saws, pipe cutter, hammer and chisel, cutting torch, and pipe cutting machine. Threads pipe, using pipe-threading machine. Bends pipe, using pipe bending tools and pipe bending machine. Assembles and installs variety of metal and nonmetal pipes, tubes, and fittings, including iron, steel, copper, and plastic. Connects pipes, using threaded, caulked, soldered, brazed, fused, or cemented joints, and hand tools. Secures pipes to structure with brackets, clamps, and hangers, using hand tools and power tools. Installs and maintains hydraulic and pneumatic components of machines and equipment, such as pumps and cylinders, using hand tools. Installs and maintains refrigeration and air-conditioning systems, including compressors, pumps, meters, pneumatic and hydraulic controls, and piping, using hand tools and power tools, and following specifications and blueprints. Increases pressure in pipe system and observes connected pressure gauge to test system for leaks. May weld pipe supports to structural steel members. May observe production machines in assigned area of manufacturing facility to detect machinery malfunctions. May operate machinery to verify repair. May modify programs of automated machinery, such as robots and conveyors, to change motion and speed of machine, using teach pendant, control panel, or keyboard and display screen of robot controller and programmable controller.

Tile Finisher

Supplies and mixes construction materials for TILE SETTER (construction) 861.381-054, applies grout, and cleans installed tile: Moves tiles, tile setting tools, and work devices from storage area to installation site manually or using wheelbarrow. Mixes mortar and grout according to standard formulas and request from TILE SETTER (construction), using bucket, water hose, spatula, and portable mixer. Supplies TILE SETTER (construction) with mortar, using wheelbarrow and shovel. Applies grout between joints of installed tile, using grouting trowel. Removes excess grout from tile joints with wet sponge and scrapes corners and crevices with trowel. Wipes surface of tile after grout has set to remove grout residue and polish tile, using nonabrasive materials. Cleans installation site, mixing and storage areas, and installation machines, tools, and equipment, using water and various cleaning tools. Stores tile setting materials, machines, tools, and equipment. May apply caulk, sealers, acid, steam, or related agents to caulk, seal, or clean installed tile, using various application devices and equipment. May modify mixing, grouting, grinding, and cleaning procedures according to type of installation or material used. May assist TILE SETTER (construction) to position and secure metal lath, wire mesh, or felt paper prior to installation of tile. May cut marked tiles to size, using power saw or tile cutter.

Tile Setter

Applies tile to walls, floors, ceilings, and promenade roof decks, following design specifications: Examines blueprints, measures and marks surfaces to be covered, and lays out work. Measures and cuts metal lath to size for walls and ceilings with tin snips. Tacks lath to wall and ceiling surfaces with staple gun or hammer. Spreads plaster base over lath with trowel and levels plaster to specified thickness, using screed. Spreads concrete on sub floor, with trowel and levels it with screed. Spreads mastic or other adhesive base on roof deck, using serrated spreader to form base for promenade tile. Cuts and shapes tile with tile cutters and biters. Positions tile and taps it with trowel handle to affix tile to plaster or adhesive base.

Truck Driver

Drives truck with capacity of more than 3 tons, to transport materials to and from specified destinations: Drives truck to destination, applying knowledge of commercial driving regulations and area roads. Prepares receipts for load picked up. Collects payment for goods delivered and for delivery charges. May maintain truck log, according to state and federal regulations. May maintain telephone or radio contact with supervisor to receive delivery instructions. May load and unload truck. May inspect truck equipment and supplies, such as tires, lights, brakes, gas, oil, and water. May perform emergency roadside repairs, such as changing tires, installing light bulbs, tire chains, and spark plugs. May position blocks and tie rope around items to secure cargo during transit.

Laborers

Common Laborer

Performs any combination of the following tasks in erecting, repairing and wrecking buildings; dig, spread and level dirt and gravel; lift carry and hold building materials, tools and supplies; clean tools, equipment, materials and work areas; mix, pour and spread concrete, asphalt, gravel and other materials; join, wrap and seal sections of pipe; routine non-machine tasks such as removing forms from set concrete, filling expansion joints with asphalt, and placing culverts in trench. May also signal construction equipment operators; measure distances from grade stakes, drive stakes and stretch lines; bolt, nail align and block up under forms; mix and finish poured concrete, erect scaffolding; spread paint or coating to seal surfaces; caulking compounds to seal surfaces; remove projections from concrete, and mount pipe hangers.

Mason Tender Brick

Mason Tender Cement

Pipe layer

Lay pipe for storm or sanitation sewers, drains, and water mains. Perform any combination of the following tasks: grade trenches or culverts, position pipe, or seal joints.

Plaster Tender

Tends machine that pumps plaster or stucco through spray gun for application to ceilings, walls, and partitions of buildings: Starts and stops machine on signals from PLASTERER (construction). Fills hopper of machine with plaster. Turns valves to regulate pump and compressor. Assists in erecting scaffolds.

Power Equipment Operator:

Asphalt Paver (operator)

Operator; bituminous-paving-machine operator; blacktop-paver operator; blacktop spreader; mechanical-spreader operator; paving-machine operator, asphalt or bituminous. Operates machine that spreads and levels hot-mix bituminous paving material on sub grade of highways and streets: Bolts extensions to screed to adjust width, using wrenches. Lights burners to heat screed. Starts engine and controls paving machine to push dump truck and maintain constant flow of asphalt into hopper. Observes distribution of paving material along screed and controls direction of screed to eliminate voids at curbs and joints. Turns valves to regulate temperature of asphalt flowing from hopper when asphalt begins to harden on screed.

Backhoe (operator)

Operates power-driven machine, equipped with movable shovel, to excavate or move coal, dirt, rock, sand, and other materials: Receives written or oral instructions from supervisor regarding material to move or excavate. Pushes levers and depresses pedals to move machine, to lower and push shovel into stockpiled material, to lower and dig shovel into surface of ground, and to lift, swing, and dump contents of shovel into truck, car, or onto conveyor, hopper, or stockpile. Observes markings on ground, hand signals, or grade stakes to remove material, when operating machine at excavation site.

Crane (operator)

Operates electric-, diesel-, gasoline-, or steam-powered guy-derrick or stiff-leg derrick (mast supported by fixed legs or tripod), to move products, equipment, or materials to and from quarries, storage areas, and processes, or to load and unload trucks or railroad cars: Pushes and pulls levers and depresses pedals to raise, lower, and rotate boom and to raise and lower load line in response to signals.

Forklift (operator)

Drives gasoline-, liquefied gas-, or electric-powered industrial truck equipped with lifting devices, such as forklift, boom, scoop, lift beam and swivel-hook, fork-grapple, clamps, elevating platform, or trailer hitch, to push, pull, lift, stack, tier, or move products, equipment, or materials in warehouse, storage yard, or factory: Moves levers and presses pedals to drive truck and control movement of lifting apparatus. Positions forks, lifting platform, or other lifting device under, over, or around loaded pallets, skids, boxes, products, or materials or hooks tow trucks to trailer hitch, and transports load to

designated area. Unloads and stacks material by raising and lowering lifting device.

Slab & Wall Saw (See Related Power Equipment Operator Above)
Use associated power equipment operators already defined.

Apprentices

Apprentices may be used in any of the crafts listed above where noted, if they are currently certified in a program recognized by the Bureau of Apprenticeship and Training, U.S. Department of Labor, providing the proper ratio between journeyman and apprentice is observed. Apprentice certification certificates must be supplied with the first weekly payroll upon which the apprentice's name appears.

Welder - Receive rate prescribed for craft performing operation to which welding is incidental.

Pipe fitters * Apprentice Schedule (Excluding HVAC Pipe)

Journeyman	Indentured Apprentice	Apprentice Applicant	Total
1	1	0	1 to 1
3	2	1	3 to 3
5	3	2	5 to 5
8	4	3	8 to 7
12	5	4	12 to 9
16	6	5	16 to 11
20	7	6	20 to 13
25	8	7	25 to 15
30	9	8	30 to 17
40	10	9	40 to 19
50	11	10	50 to 21

NOTE: Continue after 50 Journeyman — ONE (1) Indentured Apprentice and one (1) Apprentice Applicant for every ten (10) Journeyman

*** When Apprentices are shown, Helpers cannot be utilized**

APPRENTICES (see definitions)

Registered Apprenticeship Ratios

For All Apprentices

Apprentice duties consist but are not limited to reading blue prints, lay out, fabrication, installation, and assembly. Other duties are the setting up and operation of fabrication machines, using hand tools, power tools, lifting/handling devices, sealing if necessary according to their particular craft. Apprentices also are trained in the preparation process of a job that include but not limited to staging, planning, distribution, and sectioning of materials. Apprentices may be used in any of the crafts listed where noted on the Prevailing Wage Rate Schedule, if they are currently certified in a program recognized by the Bureau of Apprenticeship and Training, U.S. Department of Labor, providing the proper ratio between journeyman and apprentice is observed. Apprentice certification certificates must be supplied with the first weekly payroll upon which the apprentice's name appears. Laborers cannot be utilized when Apprentices are shown

Asbestos Worker / Insulator

City of Houston allows the use of 1 Journeyman and 1 Apprentice, the Apprentice can be used with the first Journeyman. No other Apprentices can be added until the 2th Journeyman is added. All Apprentices are to be under the direct supervision of a Journeyman.

- 1 Journeyman w/ 1 Apprentice
- 2 Journeymen w/ 2 Apprentices

Boilermakers

City of Houston allows the use of 5 Journeymen and 1 Apprentice, the Apprentice can be used with the first Journeyman. No other Apprentices can be added until the 6th Journeyman is added. All Apprentices are to be under the direct supervision of a Journeyman.

- 1-5 Journeymen w/ 1 Apprentice
- 6-10 Journeymen w/ 2 Apprentices

Carpenter

City of Houston allows the use of 2 Journeymen and 1 Apprentice, the Apprentice can be used with the first Journeyman. No other Apprentices can be added until the 4th Journeyman is added. All Apprentices are to be under the direct supervision of a Journeyman.

- 1-2 Journeymen w/ 1 Apprentice
- 3-4 Journeymen w/ 2 Apprentices
- 5-6 Journeymen w/ 3 Apprentices

Electrician

City of Houston allows the use of 3 Journeymen and 2 Apprentices, the Apprentice can be used with the first Journeyman. No other Apprentices can be added until the 3rd Journeyman is added. All Apprentices are to be under the direct supervision of a Journeyman. All Journeymen and Apprentices must hold a current license from the State of Texas.

- 1 Journeyman w/ 1 Apprentice
- 2 Journeymen w/ 1 Apprentice
- 3 Journeymen w/ 2 Apprentices
- 4 Journeymen w/ 3 Apprentices
- 5 Journeymen w/ 3 Apprentices
- 6 Journeymen w/ 4 Apprentices
- 7 Journeymen w/ 4 Apprentices
- 8 Journeymen w/ 4 Apprentices
- 9 Journeymen w/ 4 Apprentices
- 10 Journeymen w/ 5 Apprentices

Plumbers

City of Houston allows the use of 3 Journeymen and 2 Apprentices, the Apprentice can be used with the first Journeyman. No other Apprentices can be added until the 3rd Journeyman is added. All Apprentices are to be under the direct supervision of a Journeyman. All Journeymen and Apprentices must hold a current license from the State of Texas.

- 1 Journeyman w/ 1 Apprentice
- 2 Journeymen w/ 1 Apprentice
- 3 Journeymen w/ 2 Apprentices
- 4 Journeymen w/ 3 Apprentices
- 5 Journeymen w/ 3 Apprentices
- 6 Journeymen w/ 4 Apprentices
- 7 Journeymen w/ 4 Apprentices
- 8 Journeymen w/ 4 Apprentices
- 9 Journeymen w/ 4 Apprentices
- 10 Journeymen w/ 5 Apprentices

Sprinkler Fitter

City of Houston allows the use of 1 Journeyman and 1 Apprentice, the Apprentice can be used with the first Journeyman. No other Apprentices can be added until the 2th Journeyman is added. All Apprentices are to be under the direct supervision of a Journeyman.

- 1 Journeyman w/ 1 Apprentice
 - 2 Journeymen w/ 2 Apprentices
- Sheetmetal Worker

City of Houston allows the use of 2 Journeymen and 1 Apprentice, the Apprentice can be used with the first Journeyman. No other Apprentices can be added until the 4th Journeyman is added. All Apprentices are to be under the direct supervision of a Journeyman.

- 1-2 Journeymen w/ 1 Apprentice
- 3-4 Journeymen w/ 2 Apprentices
- 5-6 Journeymen w/ 3 Apprentices

Pipefitter

City of Houston allows the use of 1 Journeymen and 1 Apprentice, the Apprentice can be used with the first Journeyman. No other Apprentices can be added until the 4th Journeyman is added. All Apprentices are to be under the direct supervision of a Journeyman.

- 1 Journeyman w/ 1 Apprentice
- 2 Journeymen w/ 1 Apprentice
- 3 Journeymen w/ 2 Apprentices
- 4 Journeymen w/ 3 Apprentices
- 5 Journeymen w/ 3 Apprentices
- 6 Journeymen w/ 4 Apprentices
- 7 Journeymen w/ 4 Apprentices
- 8 Journeymen w/ 4 Apprentices
- 9 Journeymen w/ 4 Apprentices
- 10 Journeymen w/ 5 Apprentices

Welders

Receive rate prescribed for craft performing operation in which welding is incidental

Pipefitters * Apprentice Schedule (Excluding HVAC Pipe)

NOTE: Continue after 50 Journeyman - ONE (1) Indentured Apprentice and one (1) Apprentice Applicant for every ten (10) Journeyman

Journeyman	Indentured Apprentice	Apprentice Applicant	Total
1	1	0	1 to 1
3	2	1	3to 3
5	3	2	5 to 5
8	4	3	8 to 7
12	5	4	12 to 9
16	6	5	16 to 11
20	7	6	20 to 13
25	8	7	25 to 15
30	9	8	30 to 17
40	10	9	40 to 19
50	11	10	50 to 21

When Apprentices are shown, Helpers cannot be utilized

If there are questions as to the classification of a worker, contact the Contract Compliance Officer in writing with a description of the work to be performed. After reviewing the Contract Compliance Officer will respond in writing with the classification and wage rate to be paid the worker in question.

EXHIBIT "B"

CERTIFICATE FROM CONTRACTOR APPOINTING OFFICER OR EMPLOYEE
TO SUPERVISE PAYMENT OF EMPLOYEES

Project Name _____

Project WBS#: _____ Date _____

Email Address: _____

(I) (We) hereby certify that (I am) (we are) the **Prime Contractor** for _____

(specify type of job)

in connection with construction of the above-mentioned Project, and that (I) (we) have appointed _____, whose signature appears below, to supervise the payment of (my) (our) employees beginning _____, 20____; that he/she is in a position to have full knowledge of the facts set forth in the payroll documents and in the statement of compliance required by the Copeland Act and the City of Houston, which he/she is to execute with (my) (our) full authority and approval until such time as (I) (we) submit to the City of Houston a new certificate appointing some other person for the purposes hereinabove stated.

(Identifying Signature of Appointee) Phone: _____

Attest: _____
(Name of Firm or Corporation)

By: _____
(Signature)

By: _____
(Signature)

(Title)

(Title)

NOTE: This certificate must be executed by an authorized officer of a corporation or by a member of a partnership, and shall be executed prior to and be submitted with the first payroll. Should the appointee be changed, a new certificate must accompany the first payroll for which the new appointee executes a statement of compliance required by the Copeland Act and the City of Houston.

EXHIBIT "C"

CERTIFICATE FROM SUBCONTRACTOR APPOINTING OFFICER OR EMPLOYEE TO
SUPERVISE PAYMENT OF EMPLOYEES

Project Name _____

Project WBS#: _____ Date _____

Email Address: _____

(I) (We) hereby certify that (I am) (we are) the **Sub Contractor** for _____

(specify type of job)

in connection with construction of the above-mentioned Project, and that (I) (we) have appointed _____, whose signature appears below, to supervise the payment of (my) (our) employees beginning _____, 20____; that he/she is in a position to have full knowledge of the facts set forth in the payroll documents and in the statement of compliance required by the Copeland Act and the City of Houston, which he/she is to execute with (my) (our) full authority and approval until such time as (I) (we) submit to the City of Houston a new certificate appointing some other person for the purposes hereinabove stated.

(Identifying Signature of Appointee) Phone: _____

Attest: _____
(Name of Firm or Corporation)

By: _____
(Signature)

By: _____
(Signature)

(Title)

(Title)

NOTE: This certificate must be executed by an authorized officer of a corporation or by a member of a partnership, and shall be executed prior to and be submitted with the first payroll. Should the appointee be changed, a new certificate must accompany the first payroll for which the new appointee executes a statement of compliance required by the Copeland Act and the City of Houston.

END OF DOCUMENT

Iso-Flex® Primers

PRODUCT DESCRIPTION

Iso-Flex Primers are used in combination with Iso-Flex polyurethane sealants, elastomeric coatings and elastomeric membrane materials.

Primers are normally used with all substrates for all Iso-Flex sealants, coatings and membranes except as recommended by the manufacturer. Primers are used to wet the substrate surface and to provide reactive points for chemically bonding the Iso-Flex compound to the primer. All Iso-Flex Primers should be applied to a clean, dry, open surface.

LIMITATIONS

Each Iso-Flex Primer has a minimum and maximum dry time, which provides a window for sealant and coating installation. These times will vary from product to product, and with the temperature. *However, in all cases the Primer should be allowed to cure until it is totally tack-free (TTF) to the touch before proceeding to the next application.* Consult the manufacturer for additional information.

INSTALLATION

Iso-Flex Primers should be applied to a clean, dry, open, sound surface. Oily films should be removed prior to application.

Recommendations: All Iso-Flex Primers have been tested on various substrates, immersed in water at 75°F for 7 days, and adhesive values determined. Contact the manufacturer for specific values.

Because of the wide variety of substrate materials available, it is recommended that field adhesion tests be run before general application is attempted. Consult the manufacturer for advice and testing when adhesion quality is uncertain.

PRECAUTIONS

To ensure safe installation of Iso-Flex Primers, please refer to the Material Safety Data Sheets (MSDS) that accompany each product shipment for detailed health and safety information prior to use.

WARRANTY

LymTal warrants that its products are manufactured free of defects and conform to the technical data listed. Under this warranty we will replace, at no charge, any material proven defective when applied in accordance with our written instructions for applications recommended by us as suitable for the subject product. LymTal shall not be liable for any injury, loss or damage, direct or consequential, arising out of the use of the product.

ISO-FLEX PRIMERS, TECHNICAL DATA FROM LABORATORY TEST

Primer	Composition	Solids Content	Mix Ratio (Base:Cure)	Pot Life @ 70°F	Estimated Dry Time @ 70°F	Maximum Dry Time @ 70°F	Substrate	Packaging
Primer #10	Two-Component Polyurethane	60%	1:1 by volume base : cure	2 hours	1 hour before proceeding	4 hours	Concrete, Wood Silica exposed surfaces	1 quart
Primer #20	One-Component Polyurethane	70%	----	----	1 hour before proceeding	6 hours	Concrete, Steel Wood, Silica exposed surfaces	1qt / 1gal / 5gal
Primer #20 Low Odor	One-Component Polyurethane	77%	----	----	1 hour before proceeding	6 hours	Concrete, Steel Wood, Silica exposed surfaces	1qt / 1gal / 5gal
Primer #42	One-Component Polyurethane	10%	----	----	30 minutes	24 hours	Aluminum, Glass Ceramic, Misc. plastics, pre-primer for Primers #10 & #750 on Epoxy mortar and granite	1 quart
Primer #50	Two-Component Silane/Siloxane	2%	----	----	30 minutes	8 hours	Concrete	1 quart
Primer #55	Two-Component Polyurethane	72%	----	3 hours	1-2 hours	12 hours	Steel	1 quart
Primer #750	Two-Component Polyurethane	60%	1:1 by volume base:cure	4 hours	1 hour	8 hours	Concrete, Wood Silica exposed surfaces	10gal / 110gal
Primer #757	Two-Component Water Based Epoxy	35%	1:4 by volume base : cure	40 minutes	4 hours	24 hours	Concrete	1¼ gal / 5gal
Primer Epoxy SF	Two-Component Epoxy	100%	4:1 by volume base : cure	20 minutes	12 hours	24 hours	Concrete, Wood Silica exposed surfaces	1gal / 5gal

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LymTal International, Inc.

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Iso-Flex® 750 Base Coat

PRODUCT DESCRIPTION

Iso-Flex 750 Base Coat is a two-component, high solids, chemically curing, polyurethane waterproofing coating. A primer is used to continuously bond the base coat to the substrate. The Iso-Flex 750 Base Coat is then covered by a variety of aggregate loaded traffic toppings. The composition and thickness of such toppings will be dependent upon the service conditions.

BASIC USES

Typical applications for Iso-Flex 750 Base Coat include parking structures, stadiums, mechanical room floors, plazas, roof decks, recreation decks and other concrete, masonry or wood structures where continuously bonded waterproofing coatings are required.

ADVANTAGES

- Iso-Flex 750 Base Coat can be recoated in as little as 4-6 hours.
- Iso-Flex 750 Base Coat develops a continuous bond to most substrates and is impervious to water and/or chloride penetration.
- The coating never age hardens, remains flexible over a wide temperature range, and is able to successfully bridge existing small cracks.
- Iso-Flex 750 Base Coat can be covered with a variety of traffic toppings, providing flexibility for various service conditions and aesthetics.

LIMITATIONS

- Iso-Flex traffic coating should be applied to concrete surfaces having a moisture vapor transmission (MVT) rate of no more than 3 lbs/1000SqFt/24 Hours. For conditions in excess of this threshold please contact LymTal Technical Service Dept. for recommendations.
- Due to variation in substrate porosity, surface profile and aggregate used, achievable coverage rates can vary.
- Application must be to clean, sound, dry substrates at temperatures above 40°F (5°C).

- Curing compounds, form release agents, sealers, or other contaminants may interfere with adhesion.
- Adequate ventilation must be provided as recommended by the manufacturer.

TECHNICAL DATA FROM LABORATORY TESTS

(Field Properties May Vary)

Property	Test Method	Test Result
Weight Per Gallon		9.5 lbs/gal
Hardness (Shore A)	ASTM D2240	70-80
Viscosity @ 77°F(25°C)	ASTM D2196 #4 RVT @ 20 rpm	4000-8000 cps
Flash Point	ASTM D93	169°F (76.1°C)
Cure Time @ 77°F(25°C)	ASTM C920	6-8 hours
Abrasion Resistance	ASTM D4060 Tabor 1,000 Rev. CS 17 Wheel, 1000g	Loss 0.01 grams
Adhesion Strength	ASTM D4541	>350 psi
Weathering Resistance	ASTM G53-83	Yellowing, Chalking
Water Resistance	ASTM D471	<1.0%
Permeability	ASTM E398	1.6 perms
Peel Adhesion	ASTM C794	50 pli
Permanent Set	ASTM	<10%
Tensile Strength	ASTM D412	1200 psi
Ultimate Elongation	ASTM D412	350%
Tear Resistance	ASTM D1004	100 pli
% Yield (Wet→Dry)		96%
Pot Life @ 77°F(25°C)	ASTM C603	30 mins
Shelf Life @ 77°F (25°C) in sealed containers		6 months

STANDARD COLOR

Grey

PACKAGING

Iso-Flex 750 Base Coat is available in 5 gallon containers.

INSTALLATION

Preliminary: Surfaces to receive Iso-Flex 750 Base Coat must be clean, dry, sound, relatively smooth and free of voids, ridges and sharp projections. New concrete surfaces should be water cured or cured with compatible curing compounds. New concrete must cure for approximately 28 days before coating. Contact LymTal for more details.

Surface Preparation: Shotblasting must be employed to provide a sound, clean substrate. In areas where shotblasting is not feasible, consult the manufacturer for other methods of surface preparation.

Detailing: Joints or cracks should be pretreated prior to general application by sealing, grinding out and sealing or overbanding with compatible Iso-Flex products, as recommended. Terminations and penetrations should also be sealed prior to general application.

Application: Iso-Flex 750 Base Coat must be mixed and applied in accordance with manufacturer's specific recommendations.

PRECAUTIONS

To ensure safe installations of Iso-Flex 750 Base Coat, please refer to the Material Safety Data Sheets that accompany each product shipment.

WARRANTY

LymTal warrants that its products are manufactured free of defects and conform to the technical data listed. Under this warranty we will replace, at no charge, any material proven defective when applied in accordance with our written instructions for applications recommended by us as suitable for subject product. LymTal shall not be liable for any injury, loss or damage, direct or consequential, arising out of the use of the product.

Revised: 09/2018

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Iso-Flex® 750/760 Intermediate Coat

PRODUCT DESCRIPTION

Iso-Flex 750/760 Intermediate Coat is a two-component, high solids, chemically curing, polyurethane coating. It cures quickly to a high durometer, tough elastomer that bonds continuously to primed concrete or a base membrane. Iso-Flex 750/760 Intermediate Coat has a low viscosity, and effectively encapsulates small aggregates to provide a tough, durable wear course for vehicular traffic. The thickness and aggregate loading will be dependent upon the service conditions.

BASIC USES

Typical application of Iso-Flex 750/760 Intermediate Coat is as a wear course when installing the Iso-Flex 750 Coating Systems in areas of parking structures, stadiums, loading docks, etc. that are exposed to severe traffic conditions. The product may also be used as a patching compound prior to applying Iso-Flex 750 Base Coat.

ADVANTAGES

- Iso-Flex 750/760 Intermediate Coat develops a continuous bond to Iso-Flex Base Coat.
- The product remains flexible over a wide temperature range.

LIMITATIONS

- Iso-Flex traffic coating should be applied to concrete surfaces having a moisture vapor transmission (MVT) rate of no more than 3 lbs/1000SqFt/24 Hours. For conditions in excess of this threshold please contact LymTal Technical Service Dept. for recommendations.
- Due to variation in substrate porosity, surface profile and aggregate used, achievable coverage rates can vary.
- Application must be to clean, sound, dry substrates at temperatures above 40°F (5°C).
- Curing compounds, form release agents, sealers, or other contaminants may interfere with adhesion.

Adequate ventilation must be provided as recommended by the manufacturer.

TECHNICAL DATA FROM LABORATORY TESTS

(Field Properties May Vary)

Property	Test Method	Test Result
Weight Per Gallon		9.2 lbs/gal
Hardness (Shore A)	ASTM D2240	80-90
Viscosity @ 77°F(25°C)	ASTM 2196 #4 RVT @ 20 rpm	1000-2000 cps
Flash Point	ASTM D93	> 200°F (93°C)
Cure Time @ 77°F(25°C)	ASTM C920	6-8 hours
Weathering Resistance	ASTM G53-83	Yellowing
Tensile Strength	ASTM D412	2000 psi
Ultimate Elongation	ASTM D412	150%
Tear Resistance	ASTM D1004	180 pli
% Yield (Wet→Dry)		99%
Pot Life @ 77°F(25°C)	ASTM C603	25-30 min
Shelf Life @ 77°F(25°C) (in sealed containers)		6 months

PACKAGING

Iso-Flex 750/760 Intermediate Coat is available in 5 gallon containers.

STANDARD COLOR

Concrete Grey

INSTALLATION

Iso-Flex 750/760 Intermediate Coat must be installed over freshly cured Iso-Flex Base Coat or freshly primed concrete. The Iso-Flex 750/760 Intermediate Coat is quickly spread by squeegees and rollers to the correct wet millage, and then saturated to excess with approved aggregate.

PRECAUTIONS

To ensure safe installation of Iso-Flex 750/760 Intermediate Coat, please refer to the Material Safety Data Sheets that accompany each product shipment

WARRANTY

LymTal warrants that its products are manufactured free of defects and conform to the technical data listed. Under this warranty we will replace, at no charge, any material proven defective when applied in accordance with our written instructions for applications recommended by us as suitable for subject product. LymTal shall not be liable for any injury, loss or damage, direct or consequential, arising out of the use of the product.

Revised: 04/2022

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Iso-Flex® 760 Aromatic Lock Coat

PRODUCT DESCRIPTION

Iso-Flex 760 Aromatic Lock Coat is a two-component, high solids, chemically curing, polyurethane coating. It cures quickly to a high durometer, tough elastomer that bonds continuously to concrete or a base membrane. Iso-Flex 760 Aromatic Lock Coat has a low viscosity, and effectively encapsulates small aggregates to provide a tough, durable wear coarse for vehicular traffic. The thickness and aggregate loading will be dependent upon the service conditions.

BASIC USES

Typical application of Iso-Flex 760 Aromatic Lock Coat is as a top coat when installing the Iso-Flex 760 Coating Systems in areas of parking structures, stadiums, loading docks, etc. that are exposed to traffic.

ADVANTAGES

- Iso-Flex 760 Aromatic Lock Coat develops a continuous bond to Iso-Flex Base Coat.
- The product remains flexible over a wide temperature range.
- Iso-Flex 760 Aromatic Lock Coat cures at cold temperatures (less than 32°F).

LIMITATIONS

- Iso-Flex traffic coating should be applied to concrete surfaces having a moisture vapor transmission (MVT) rate of no more than 3 lbs/1000SqFt/24 Hours. For conditions in excess of this threshold please contact LymTal Technical Service Dept. for recommendations.
- Due to variation in substrate porosity, surface profile and aggregate used, achievable coverage rates can vary.
- Application must be to clean, sound, dry substrates at temperatures above 40°F (5°C).
- Curing compounds, form release agents, sealers, or other contaminants may interfere with adhesion.

Adequate ventilation must be provided as recommended by the manufacturer.

PACKAGING

Iso-Flex 760 Aromatic Lock Coat is available in 5 gallon containers.

STANDARD COLOR

Gray

TECHNICAL DATA FROM LABORATORY TESTS

(Field Properties May Vary)

Property	Test Method	Test Result
Weight per Gallon		9.2 lbs/gal
Hardness (Shore A)	ASTM D2240	80-90
Viscosity @ 77°F(25°C)	ASTM 2196 #4 RVT @ 20 rpm	1000-2000 cps
Flash Point	ASTM D93	> 200°F (93°C)
Cure Time @ 77°F(25°C)	ASTM C920	6-8 hours
Weathering Resistance	ASTM G53-83	Yellowing
Tensile Strength	ASTM D412	2000 psi
Ultimate Elongation	ASTM D412	150%
Tear Resistance	ASTM D1004	180 pli
% Yield (Wet→Dry)		99%
Pot Life @ 77°F(25°C)	ASTM C603	25-30 minutes
Shelf Life @ 77°F(25°C) (in sealed containers)		6 months

INSTALLATION

Iso-Flex 760 Aromatic Lock Coat must be installed over freshly cured Iso-Flex Base Coat, freshly cured Intermediate Coat or freshly primed concrete. The Iso-Flex 760 Aromatic Lock Coat is quickly spread by squeegees and rollers to the correct wet millage, and then saturated to excess with approved aggregate.

PRECAUTIONS

To ensure safe installation of Iso-Flex 760 Aromatic Lock Coat, please refer to the Material Safety Data Sheets that accompany each product shipment.

WARRANTY

LymTal warrants that its products are manufactured free/ of defects and conform to the technical data listed. Under this warranty we will replace, at no charge, any material proven defective when applied in accordance with our written instructions for applications recommended by us as suitable for subject product. LymTal shall not be liable for any injury, loss or damage, direct or consequential, arising out of the use of the product.

Revised:09/2018

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Iso-Flex® 760 Aliphatic Lock Coat

PRODUCT DESCRIPTION

Iso-Flex 760 Aliphatic Lock Coat is a two-component, high solids, chemically curing, polyurethane coating. It cures quickly to a high durometer, tough elastomer that bonds continuously to other urethane elastomers and sand saturated surfaces. Iso-Flex 760 Aliphatic Lock Coat has a low viscosity, and effectively encapsulates small aggregates to provide a tough, durable wear course for vehicular traffic. The thickness and aggregate loading will be dependent upon the service conditions.

BASIC USES

Iso-Flex 760 Aliphatic Lock Coat is used as a lock coat for a sand saturated wear course or a seeded and back rolled wear course for Iso-Flex 760 Low Odor Coating Systems. Typical applications include parking structures, stadiums, loading docks, etc. that are exposed to traffic and direct ultraviolet light.

ADVANTAGES

- Iso-Flex 760 Aliphatic Lock Coat develops a continuous bond to Iso-Flex sand saturated surfaces and Iso-Flex Base Coats.
- The product remains flexible over a wide temperature range.
- Iso-flex 760 Aliphatic Lock Coat exhibits exceptionally high elastomeric properties and excellent wear and weathering resistance.

LIMITATIONS

- Iso-Flex traffic coating should be applied to concrete surfaces having a moisture vapor transmission (MVT) rate of no more than 3 lbs/1000SqFt/24 Hours. For conditions in excess of this threshold please contact LymTal Technical Service Dept. for recommendations.
- Due to variation in substrate porosity, surface profile and aggregate used, achievable coverage rates can vary.
- Application must be to clean, sound, dry substrates at temperatures above 40°F (5°C).

- Curing compounds, form release agents, sealers, or other contaminants may interfere with adhesion.
- Adequate ventilation must be provided as recommended by the manufacturer.

PACKAGING

Iso-Flex 760 Aliphatic Lock Coat is available in 5 gallon containers.

STANDARD COLOR

Concrete Grey

TECHNICAL DATA FROM LABORATORY TESTS

(Field Properties May Vary)

Property	Test Method	Test Result
Weight per Gallon	—	9.1 lbs/gal
Hardness (Shore A)	ASTM D2240	88-96
Viscosity @ 77°F(25°C)	ASTM 2196 #4 RVT @ 20 rpm	2000-3000 cps
Flash Point	ASTM D93	171°F(77.2°C)
Cure Time @ 77°F(25°C)	ASTM C920	24 hours
Abrasion Resistance	ASTN D4060 Tabor 1000 rev, CS 17 Wheel, 1000g	Loss 0.009g
Weathering Resistance	ASTM G53-83	No Visual Effect
Tensile Strength	ASTM D412	3500 psi
Ultimate Elongation	ASTM D412	330%
Tear Resistance	ASTM D1004	350 pli
% Yield (Wet→Dry)		96%
Pot Life @ 77°F(25°C)	ASTM C603	30-40 minutes
Shelf Life @ 77°F(25°C) (in sealed containers)		6 months

INSTALLATION

Iso-Flex 760 Aliphatic Lock Coat must be installed over a freshly placed Iso-Flex 760 sand loaded Intermediate Coat or Iso-Flex Base Coat. The Iso-Flex 760 Aliphatic Lock Coat is quickly spread by squeegees and rollers to the correct wet millage.

PRECAUTIONS

To ensure safe installation of Iso-Flex 760 Aliphatic Lock Coat, please refer to the Material Safety Data Sheets that accompany each product shipment.

MAINTENANCE

Iso-Flex 760 Aliphatic Lock Coat can be spot patched as required.

WARRANTY

LymTal warrants that its products are manufactured free of defects and conform to the technical data listed. Under this warranty we will replace, at no charge, any material proven defective when applied in accordance with our written instructions for applications recommended by us as suitable for subject product. LymTal shall not be liable for any injury, loss or damage, direct or consequential, arising out of the use of the product.

Revised 09/2018

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